



## Global Services

### EHS Policy / Procedure

### Power and Hand Tools Policy

**Approved: October 1, 2016**

**Distribution: Safety Share Point Site**

**Reference:**

GSSP-023

**Revision:**

0.0

**Effective Date:**

1<sup>st</sup> Dec 2016

# Power and Hand Tools Procedure

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## 1.0 PURPOSE

The purpose of this policy is to provide employees with the basic safety procedures and safeguards associated with hand and portable power tools.

## 2.0 SCOPE

This policy applies to all hand and portable power tool used by Vertiv Employees while at work.

## 3.0 REFERENCE DOCUMENTS

Local Government Standards when more restrictive than Vertiv Standards

## 4.0 DEFINITIONS

### 4.1 Hand tool:

Any tool that is hand held, powered by an employee such as a hammer or screwdriver or powered by another power source such as electricity, battery, air or hydraulics, such as portable drill, circular saw, jack or grinder.

### 4.2 Portable grinding:

A grinding operation where the grinding machine is designed to be hand held and may be easily moved from one location to another.

### 4.3 Safety Guard:

Devices designed and installed on any type of tool to protect or prevent contact with the point of operation or restrain flying material from coming in contact with the operator.

## 5.0 RESPONSIBILITIES

To ensure that this Hand and Power Tool Policy is implemented and maintained in accordance with the procedures listed in this policy, the following Vertiv personnel are given the following responsibilities.

### 5.1 Safety Manager:

The Safety Manager has the responsibility for overseeing the Hand and Power Tool Policy which includes:

- Conducting an annual Hand and Power Tool Policy audit to determine effectiveness and compliance with the procedures established by this policy which includes noting deficiencies and/or observations of non-compliance and establishing corrective action plans to address noted items.

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- Annually reviewing and updating this policy as necessary to reflect changes in Local and/or Vertiv requirements.
- Performing an initial safety inspection on all new and existing equipment, determining necessary PPE, guarding, and use of equipment.
- Developing and communicating hand/power tool safety requirements.
- Assessing each job/task to determine PPE requirements according to the Personal Protective Equipment Policy.
- Ensuring signs are posted on equipment stating additional PPE, as required, and equipment specific cautions and warnings.
- Assisting in determining fire protection requirements.
- Scheduling and coordinating with Human Resources, the initial training and refresher training classes for all new Employees and temporary workers prior to working with power and hand tools.
- Ensuring that qualified personnel conduct the training classes and the content of the courses is in accordance with this policy.

## 5.2 Managers

Managers have the primary responsibility for the implementation of the Power and Hand Tools Policy within their areas of responsibility. Manager's responsibilities include:

- Ensuring proper tools are available, used correctly, inspected, and personnel are trained and/or qualified to use the tools.
- Before use all tools regardless of employee owned or company owned must be approved by the manager for use.
- Tagging out all defective tools until repaired and safe to use.
- Allowing only qualified personnel to use or repair equipment
- Ensuring applicable equipment is marked with:
  - Voltage and amps or watts.
  - Manufacturer's name or logo.
  - Listing agency.
  - Operating speeds (RPM) and limitations.
  - Recognized hazards (properly labelled).
- Ensuring that difficult-to-read or missing operating control labels are immediately replaced.
- Conducting and updating training on the specific power and hand tools and their associated hazards with the employees that work with those tools.
- Ensuring that all employees (both new and current) are informed when a new tool is introduced into the work area (Update Training).
- Initiating enforcement actions if warranted.
- Informing contractors on the requirements of Powered and Hand Tools Policy.
- Maintaining operating procedures and manuals from the manufacturer.
- Determining the frequency of equipment preventative maintenance (PM) using manufacturer recommendations for assistance.

## 5.3 Employees

Employees are responsible for:

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- Inspecting equipment prior to and after use. (Inspecting tools after use give you the ability to get the tool repaired or replaced before needing it for the next job.)
- Be trained to recognize obvious defects such as cut, frayed, spliced or broken cords; missing or deformed grounding prongs, and reported immediately.
- Using the proper equipment for the work being done.
- Tagging unsafe or defective equipment, removing from service, and notifying Management.
- Employees must report all shocks immediately, no matter how minor, and cease using the tool. Tools that cause shocks should be examined and repaired before further use. If tool cannot be repaired then it should be replaced.
- Using equipment as directed in the manufacturer's/owner's safety manual unless an approved plan or procedure specifies using the equipment in a different way.
- Applying safe practices when using tools:
  - Selecting the right tool for the job.
  - Keeping tools in good condition.
  - Using tools correctly.
  - Keeping tools in a safe place.
  - Always carrying tools in a safe place.
- Wearing equipment specific PPE as required.
- Knowing where sources of power and hand tool information are located and understand how to use them.
- Ensure that you have accounted for all company and personal tools, test and protective equipment before equipment is energized and before you leave the job site.
- Portable power tools must never be used in hazardous environments where flammable vapours, gases or dusts might be present.

## 6.0 TOOL TYPES

### 6.1 Insulated/insulating

Those covered with insulating material in order to protect the user from electric shock and to minimize the risk of short circuits between parts at different potentials. Or those made predominantly of insulating material, except for metal inserts at the working head or active part or used for reinforcement but with no exposed metal parts. In either case, to protect the employee from electric shocks, as well as, to prevent short-circuits between exposed parts at different potentials.

- Either insulated or insulating hand tools are acceptable as long as the tools are approved by your manager, meet the Vertiv requirements and bear the following symbol.



- Always use the hand tool with the most insulating material. Many tools manufactured today come with a rubber coating over the handles; this does not mean that the tool is safe for electrical work.
- **Insulated tools are required when working on or near energized circuit (within the restricted approach boundary).** Always follow the manufacturer's recommendations for use. Insulated tools

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are designed to reduce (not eliminate) injury should the tool come in contact with an energized source.

- The insulation on hand tools shall not be depended upon to protect users from shock.
- **Storage** – Insulated or insulating hand tools should be stored properly to minimize risk of damage to the insulation due to storage or transportation. These tools should be stored generally separated from other tools to avoid mechanical damage or confusion. Furthermore, these tools should be protected from excessive heat as well as UV-radiation.
- **Inspection Before and After Use** – Before and after each use, the hand tool should be inspected visually by the user. Inspect for any wear, cuts, nicks, burns, or cracking of the insulation. If there is any doubt concerning the safety of the tool it should either be scrapped or subject to examination by a competent person and retested if necessary.
- **Never change or modify (shave or remove) the insulation from the insulated tool.**
- **Surface Contaminants** – Surface contaminants that can compromise the insulation properties should be removed from insulated tools immediately. Tools should be cleaned and dried before storage. Follow manufacturer's recommendations for cleaning.
- **No taped tools are permitted.**

## 6.2 Counterfeit Tools

- Counterfeit tools pose a serious threat to the safety of its users. These tools appear very authentic from their exterior appearance. Everything is copied to closely resemble the real thing. Counterfeit tools have been found to be built with lower grade components. As a result, some of the counterfeit tools may not work right from the start and may fail quickly. Counterfeits can be of poor quality and possibly dangerous since they are not tested or approved by Underwriters Laboratories (UL) or Canadian Standards Associations (CSA), CE marked or other Government Standards.

## 6.3 Hand Tools Non Powered

- Employees shall always use the proper tool for the job performed. Makeshift and substitute tools shall only be used with proper authorization and under Management supervision.
- Hammers with metal handles, screwdrivers or knives with metal continuing through the handle, and metallic measuring tapes shall not be used on or near energized electrical circuits or equipment.
- 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 buckets or firmly attached to hand lines.
- Tools shall never be placed unsecured on elevated places.
- As impact tools such as chisels, punches, drift pins, etc. become mushroomed or cracked, they shall be dressed, repaired, or replaced before further use.
- Pipe shall not be used to extend a wrench handle for added leverage.
- 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.
- Wooden handles that are loose, cracked, or splintered shall be replaced. The handle shall not be taped or lashed with wire.
- All cutting tools such as saws, wood chisels, drawknives, or axes shall be kept in suitable guards or in special compartments.
- Tools shall not be left lying around where they may cause a person to trip or stumble.

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## 6.4 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 unless:
  - The tool is an approved double-insulated type, or
  - The tool is connected to the power supply by means of an isolating transformer or other isolated power supply, such as a 24-V dc system.
- The cord of an electric power tool is the lifeline. It should be kept free of oil, grease, and other material that might ruin the rubber cover. Tangling knots or dragging across sharp surfaces should be avoided.
- All power tools, unless they are double insulated and so marked, are required to be grounded through an additional grounding conductor in the cord and the grounding prong of the attachment plug. The integrity of this grounding circuit is necessary for the protection of life and should be inspected visually before and after each use. Experience has shown that the grounding prong of the power plug is frequently cut off for use in ungrounded receptacles. This practice is not permitted.
- Never operate power tool if the safety interlocks are not working correctly.
- If a cord is cut, broken, spliced, or frayed; the attachment plug is damaged; or the grounding prong is removed, it should be immediately removed from service until it can be repaired.
- All powered tools shall be examined before and after use to ensure general usability 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 vapours, gases, or dusts.
- Work Permits may be required in specific areas.
- Tools connected to a central power supply, including portable generators shall be protected by a Ground Fault Circuit Interrupter (GFCI).
- 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 power supply through an isolating transformer with an ungrounded secondary.

## 6.5 Pneumatic Tools

- Compressed air and compressed air tools shall be used with caution.
- Before making adjustments 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.

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- Only competent persons who have been trained in their use shall operate pneumatic tools.
- Inspect tools, fittings and hoses to ensure that they are in good condition.
- A pneumatic tool used where it may contact exposed live electrical parts shall have a nonconductive 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.
- Pneumatic tools shall never be pointed at another person.
- Pneumatic power tools shall be secured to the hose 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 psig.
- Compressed air shall not be used to blow dust or dirt from clothing.
- The use of hoses for hoisting or lowering tools is not permitted.
- The manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings shall not be exceeded.

## 6.6 Hydraulic Tools

- Manufacturers' safe operating pressures for hydraulic tools, hoses, valves, pipes, filters, and fittings shall not be exceeded.
- Pressure shall be released before connections are broken unless quick-acting, self-closing connectors are used.
- Employees shall not use any part of their bodies to locate and attempt to stop a hydraulic leak.
- The fluid used in hydraulic-powered tools shall be fire resistant and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed.

## 6.7 Explosive/Powder Actuated Tools

- Vertiv employees are not allowed to use any type of tool that is powered by explosive cartridges.

## 7.0 GUARDING

- Hazardous moving parts of a power tool need to be safeguarded. For example, belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded if such parts are exposed to contact by employees.
- Guards, as necessary, should be provided to protect the operator and others from the following:
  - Point of operation.
  - In-running nip points.
  - Rotating parts.
  - Flying chips and sparks.
- Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of breakage.
- Safety guards must never be removed when a tool is being used.
- When power operated tools are designed to accommodate guards, they shall be equipped with such guards when in use.

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- In addition, when using a powered grinder:
  - Always use eye protection (Both safety glasses and face shield).
  - Turn off the power when not in use.
  - Never clamp a hand-held grinder in a vice.

## 8.0 BENCH GRINDING

- Do not operate under the influence of drugs, alcohol or medication.
- Pedestal grinders must be securely bolted to the pedestal and the pedestal bolted to the floor to prevent tip over during use.
- Always wear eye protection (safety glasses and a face shield)
- Remove tie, rings, watch and other jewellery and roll up sleeves.
- Make sure the wheel guards are in place.
- Grinding creates heat; don't touch any portion of the work piece until you are sure it has cooled.
- Adjust the spark/tongue guard to 1/4 inch (6 mm) or less to the wheel, and re-adjust these guards as the wheels wear down to a smaller diameter.
- Be sure blotters and wheel flanges are used to mount the grinding wheels onto the shaft of the grinder.
- Stand to one side of the wheel when turning on power.
- Tool rests should be adjusted to 1/8 inch (3 mm) or less to the wheel and thoroughly tightened in place so they cannot shift position while in use.
- Inspect the wheels before turning on the power. **DO NOT** use wheels that have been chipped or cracked.
- When grinding use the face of the wheel only.
- Soft material such as aluminium, brass, bronze or plastics should not be used on grinding wheels as this could cause the wheel to "load up" and fail during use.
- Dress the wheel on the face only. Dressing the side of the wheel would cause it to become too thin for safe use.

**DO NOT** use a wheel that vibrates. Dress wheel, replace the wheel, or replace the bearings of the shaft if these are worn.

- Ring testing of grinding wheels must be performed whenever changing or replacing them.
- The side of the grinding wheel should not be used for grinding operations unless the wheel is designed for such work.
- Shut off the power and do not leave until the wheel has come to a complete stop and the work area is clean.



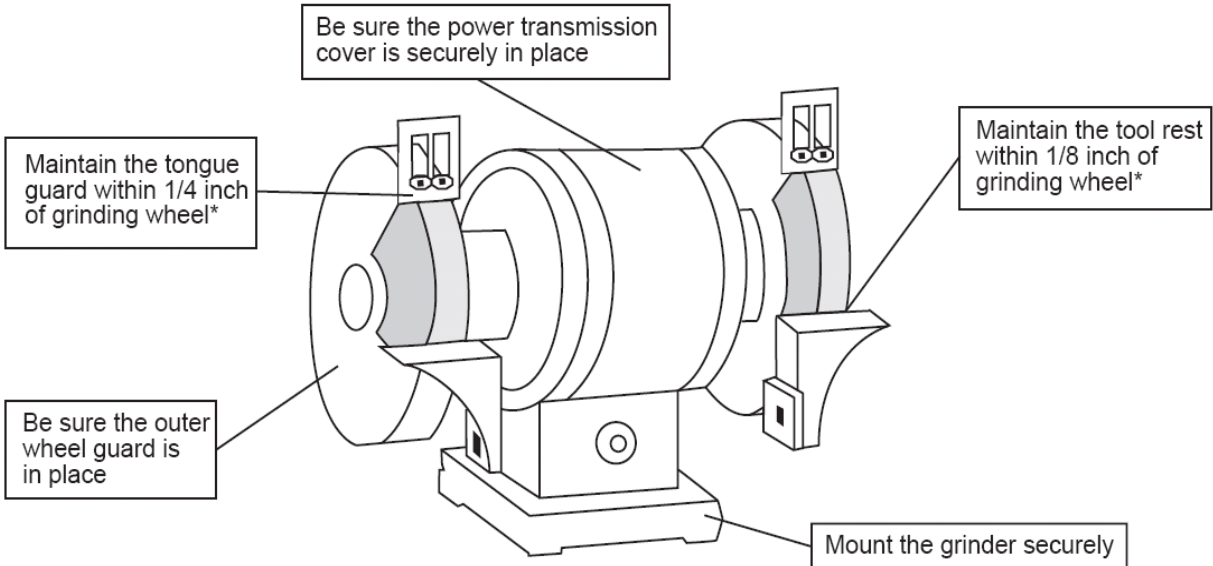
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- Post bench grinder safety rules at each bench grinder.

Make sure the manufacturer's recommended speed, as posted on the wheel, is compatible with your grinder

**Always protect your eyes--**  
wear only an eye or face shield bearing the logo **Z-87**



## 9.0 TOOL ACCOUNTABILITY

Vertiv has a tool accountability program. All employees are to adhere to the program at all job sites

- Check for presence of all tools prior to taking toolbox to job site
- Notify your manager of any tools that are missing from the company toolbox so the tools can be promptly replaced.
- Return tools to their designated place when you are finished using them
- Make sure you have accounted for all company and personal tools, test equipment & protective equipment before equipment is energized and before you leave the job site.