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## I. PURPOSE

The purpose of this program is to provide establish requirements for the safe operation of hand and power tools and other portable tools, including proper guarding. All hand and power tools shall be maintained in a safe condition.

This program applies to all Gallant Builders (Gallant) employees who use hand and power tools.

## II. SCOPE

This program is applicable to all Gallant employees and subcontractors while engaged in work at Gallant facilities and/or sites.

## III. RESPONSIBILITIES

Any tool which is not in compliance with any applicable requirement of this plan is prohibited and shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.
Managers/Supervisors

Ensure that all employees using portable tools have been trained and fully understand the operations and maintenance procedures of such tools, including their proper use.

Provide and train employees with all additional PPE that may be needed for the safe operation of portable tools.

**EMPLOYEES**
Shall ensure they have and properly use the correct tool for each task.
Shall follow manufactures safety and operating instructions before using

## IV. REQUIREMENTS

**GENERAL**
All tools, regardless of ownership, shall be of an approved type and maintained in good condition.
Tools are subject to inspection at any time.

All employees have the authority and responsibility to condemn unsafe tools, regardless of ownership.

Unsafe tools shall be tagged with a **“DO NOT USE OR OPERATE”** tag to prevent their use.

Employees shall always use the proper tool for the job to be performed. Makeshift and substitute tools shall not be used.

Hammers with metal handles, screwdrivers with metal continuing through the handle, and metallic measuring tapes shall not be used on or near energized electrical circuit 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 bags/buckets firmly attached to hand lines.

Tools shall never be placed unsecured on elevated places.

Impact tools such as chisels, punches, and drift pins that become mushroomed or cracked shall be dressed, repaired, or replaced before further use.

Chisels, drills, punches, ground rods, and pipes shall be held with suitable holders or tongs (not with the hands) while being struck by another employee.

Shims shall not be used to make a wrench fit.

Wrenches with sprung or damaged jaws shall not be used.

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 unless suitable protectors are in use to protect the edge.

They shall not be carried in pockets unless suitable protectors are in use to protect the edge.

Wooden handles that are loose, cracked, or splintered shall be replaced. The handle shall not be taped or lashed with wire. The handle shall not be taped or lashed with wire.

Tools shall not be left lying around where they may cause a person to trip or stumble.

When working on or above open grating, a canvas or other suitable covering shall be used to cover the grating to prevent tools or parts from dropping to a lower level where others are present or the danger area shall be barricaded or guarded.

The insulation on hand tools shall not be depended upon to protect users from high voltage shock (except approved live line tools).

**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.

All powered tools shall be examined prior to use to ensure general serviceability and the presence of all applicable safety devices.

Powered tools shall be used only within their design and shall be operated in accordance with manufacturer's instructions. The use of electric cords for hoisting or lowering tools shall not be permitted.

All tools shall be kept in good repair and shall be disconnected from the power source while repairs or adjustments are being made.

Electrical tools shall not be used where there is hazard of flammable vapors, gases, or dusts without a valid Hotwork Permit.

Ground fault circuit interrupters or use of an Assured Grounding Program shall be used with portable electric tools. This does not apply to equipment run off of portable or truck mounted generators at 5kw or less that are isolated from ground or to equipment ran directly off of secondary electric lines.

**PNEUMATIC TOOLS**

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 where reduced to less than 30 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 manufacturers stated safe operating pressure for hoses, pipes, valves, filters, and other fitting shall not be exceeded.

The use of hoses for hoisting or lowering tools shall not be permitted.

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.

Compressed air tools, while under pressure, must not be left unattended.

All connections to air tools shall be made secure before turning on air pressure.

Air at the tool shall not be turned on until the tool is properly controlled.

All couplings and clamps on pressurized air hose shall be bridged (pinned) with suitable fasteners.

Hose and hose connections used for conducting compressed air to utilization equipment shall be designed for the pressure and service to which they are subjected.

Use only approved end-fitting clamps (screw type heater hose clamps are not acceptable).

While blowing down hose, do not point it toward people.

Power tools are to be operated only by competent persons who have been trained in their proper use.

Conductive hose should not be used near energized equipment.

Foot protection shall be worn while operating paving breakers, tampers, rotary drills, clay spades, and similar impactor-type tools or at other times when instructed by supervision.

All pneumatically driven nail guns, staplers, and other similar equipment provided with automatic fastener feed, which operate at more than 100 psi (pressure) at the tool shall have a safety device on the muzzle to prevent the tool from ejecting fasteners, unless the muzzle is in contact with the work surface.

Airless spray guns of the type which atomize paints and fluids at high pressures (1,000 pounds or more per square inch) shall be equipped with automatic or visible manual safety devices which will prevent pulling of the trigger to prevent release of the paint or fluid until the safety device is manually released.

In lieu of the above, a diffuser nut (which will prevent high pressure), high velocity release (while the nozzle tip is removed), plus a nozzle tip guard (which will prevent the tip from coming into contact with the operator), or other equivalent protection, shall be provided.

**POWDER ACTUATED TOOLS (TOOLS ACTUATED BY AN EXPLOSIVE CHARGE)**

Only those employees who have been certified in their use shall operate these tools.

Explosive charges shall be carried and transported in approved containers.

Operators and assistants using these tools shall be protected by means of eye, face, and hearing protection.

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 to determine its suitability and to eliminate the possibility of hazards to the operator and others.

Prior to use, the operator shall ensure that the protective shield is properly attached to the tool.

Before using a tool, the operator shall inspect it to determine to his satisfaction that it is clean, that all moving parts operate freely, all guards and safety devices are in place, and that the barrel is free from obstructions.

Before using tools the operator shall read and become familiar with the manufacturers operating guidelines and procedures.

When a tool develops a defect during use, the operator shall immediately cease to use it, until it is properly repaired in accordance with the manufactures specifications.

Tools shall not be loaded until just prior to the intended firing time, nor shall an unattended tool be left loaded. Empty tools are to be pointed at any workmen.

In case of a misfire, the operator shall hold the tool in the operating position for at least 30 seconds. He shall then try to operate the tool a second time. He shall wait another 30 seconds, holding the tool in the operating position; then he shall proceed to remove the explosive load in strict accordance with the manufacturer's instructions.

A tool shall never be left unattended in a place where it would be available to unauthorized persons.

Fasteners shall 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 easily penetrated shall 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.

Tools shall not be used in an explosive or flammable atmosphere.

The firing mechanism shall be designed so that the tool cannot fire during loading or preparation to fire or if the tool is dropped while loaded.

Firing the Power Actuated Fastening Tool shall be dependent upon at least two separate and distinct operations of the operator.

Each Power Actuated Fastening Tool is required to have a manufacturer’s redundant safety system (two safeties).

**HYDRAULIC POWER TOOLS**

The fluid used in hydraulic powered tools shall be fire-resistant fluids approved under Schedule 30 of the U.S. Bureau of Mines, Department of the Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed.

The manufacturer's safe operating pressures for hoses, valves, pipes, filters, and other fittings shall not be exceeded.

All hydraulic tools, which are used on or around energized lines or equipment, shall use non-conducting hoses having adequate strength for the normal operating pressures.

**HYDRAULIC JACKS**

LOADING AND MARKING

- The operator shall make sure that the jack used has a rating sufficient to lift and sustain the load.
- The rated load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, or other suitable means.

OPERATION AND MAINTENANCE

- In the absence of a firm foundation, the base of the jack shall be blocked. If there is a possibility of slippage of the cap, a block shall be placed in between the cap and the load.
- The operator shall watch the stop indicator, which shall be kept clean, in order to determine the limit of travel. The indicated limit shall not be overrun.
- After the load has been raised, it shall be cribbed, blocked, or otherwise secured at once.

- Hydraulic jacks exposed to freezing temperatures shall be supplied with adequate antifreeze liquid.
- All jacks shall be properly lubricated at regular intervals.

Each jack shall be thoroughly inspected before each use. Jacks, which are in unsafe condition, shall be tagged accordingly, and shall not be used until repairs are made.

**ABRASIVE BLAST CLEANING NOZZLES**

- The blast cleaning nozzles shall be equipped with an operating valve, which must be held open manually. A support shall be provided on which the nozzle may be mounted when it is not in use.
- Fuel Powered Tools
- All fuel-powered tools shall be stopped while being refueled, serviced, or maintained, and fuel shall be transported, handled, and stored in accordance with the Flammable and Combustible Liquids Program

When fuel powered tools are used in enclosed spaces, the applicable requirements for concentrations of toxic gases and use of personal protective equipment, shall be adhered too.

**GUARDING PORTABLE TOOLS**

Guards shall be in place and operable at all times while the tool is in use. The guard may not be manipulated in such a way that will compromise its integrity or compromise the protection in which intended. Guarding shall meet the requirements set forth in ANSI B15.1.

PORTABLE CIRCULAR SAWS

- All portable, power-driven circular saws having a blade diameter greater than 2 in. shall be equipped with guards above and below the base plate or shoe.
- The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts.
- The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work.
- When the tool is withdrawn from the work, the lower guard shall automatically and instantly return to covering position.
- All cracked saw blades shall be removed from service.

**SWITCHES AND CONTROLS**

All hand held powered tools, circular saws, drills, tappers, fastener drivers, horizontal or vertical angle grinders, etc., shall be with a constant pressure switch or control, and may have a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

All hand-held powered circular saws having a blade diameter greater than 2 inches, electric, hydraulic or pneumatic chain saws, and percussion tools without positive accessory holding means shall be equipped with a constant pressure switch or control that will shut off the power when the pressure is released. All hand-held gasoline powered chain saws shall be equipped with a constant pressure throttle control that will shut off the power to the saw chain when the pressure is released.

The operating control on hand-held power tools shall be so located as to minimize the possibility of its accidental operation, if such accidental operation would constitute a hazard to employees.

Grounding of portable electric powered tools shall meet the electrical requirements that can be found in the Electrical Safety Program. All electric power tools shall be equipped with a three-prong plug.

**PORTABLE ABRASIVE WHEELS**

*Safety Guards Exceptions*

- Wheels used for internal work while within the work being ground.
- Mounted wheels used in portable operations 2 inches and smaller in diameter.
- Types 16, 17, 18, 18R, and 19 cones, plugs, and threaded hole pot balls where the work offers protection.

Guards shall be made of steel or other material with adequate strength.

A safety guard shall cover the spindle end, nut and flange projections. The safety guard shall be mounted so as to maintain proper alignment with the wheel, and the strength of the fastenings shall exceed the strength of the guard.

Exception: safety guards on all operations where the work provides a suitable measure of protection to the operator may be so constructed that the spindle end, nut and outer flange are exposed. Where the nature of the work is such as to entirely cover the side of the wheel, the side covers of the guard may be omitted.

Exception: the spindle end, nut, and outer flange may be exposed on portable machines designed for, and used with, type 6, 11, 27, and 28 abrasive wheels, cutting off wheels, and tuck pointing wheels.

**MOUNTING AND INSPECTION OF ABRASIVE WHEELS**

Immediately before mounting, all wheels shall be closely inspected and a ring test performed, to make sure they have not been damaged in transit, storage, or otherwise.
Ring test – “tap" wheels about 45 degrees each side of the vertical centerline and about 1 or 2 inches from the periphery; then rotate the wheel 45 degrees and repeat the test; a sound and undamaged wheel will give a clear metallic tone - If cracked, there will be a dead sound and not a clear "ring.”

The spindle speed of the machine shall be checked before mounting of the wheel to be certain that it does not exceed the maximum operating speed marked on the wheel.
Grinding wheels shall fit freely on the spindle and remain free under all grinding conditions.

A controlled clearance between the wheel hole and the machine spindle (or wheel sleeves or adaptors) is essential to avoid excessive pressure from mounting and spindle expansion.
The machine spindle shall be made to nominal (standard) size plus zero minus .002 inch, and the wheel hole shall be made suitably oversize to assure safety clearance under the conditions of operating heat and pressure.

All contact surfaces of wheels, blotters, and flanges shall be flat and free of foreign matter.
When a bushing is used in the wheel hole it shall not exceed the width of the wheel and shall not contact the flanges.

**PORTABLE GRINDERS**

Special "revolving cup guards" which mount behind the wheel and turn with it shall be used. They shall be made of steel or other material with adequate strength and shall enclose the wheel sides upward from the back for one-third of the wheel thickness. It is necessary to maintain clearance between the wheel side and the guard. The clearance shall not exceed one-sixteenth inch.

Vertical portable grinders, also known as right angle grinders, shall have a maximum exposure angle of 180 degrees and the guard shall be located between the operator and the wheel during use. Adjustment of the guard shall ensure that pieces of an accidentally broken wheel will be deflected away from the operator.

**OTHER PORTABLE GRINDERS**

The maximum angular exposure of the grinding wheel periphery and sides for safety guards used on other portable grinding machines shall not exceed 180 degrees and the top half of the wheel shall be enclosed at all times.

**PERSONAL PROTECTIVE EQUIPMENT**

Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dust, fumes, mists, vapors or gases shall be provided with the particular PPE necessary to protect them from the hazard.