

<b>Garmong Construction Services</b>					
<i>EMPLOYEE SAFETY POLICY HANDBOOK – Hand Tools</i>					
<b>Last Revised:</b>	<b>January 25, 2012</b>	<b>By</b>	<b>Douglas Mahurin, MS, CSP</b>	<b>This Copy Printed:</b>	<b>1/25/2012 4:42:00 PM</b>

## **Hand and Power Tools**

All tools and equipment shall be inspected prior to each use. Such tools and equipment will be operated and maintained following the Manufacturer’s Requirements and Safe Operating Procedures contained in their Manuals.

**Tool/ Extension Cord Inspection** will be completed on a monthly schedule. Upon successful completion of an inspection the tool/cord will be identified with color coded tape. Previous color coded tape will be removed as new is put on. Color codes shall be changed as follows:

<b>Jan – white</b>	<b>Feb – white and blue</b>	<b>Mar – white and blue and white</b>
<b>Apr – green</b>	<b>May – green and white</b>	<b>Jun – green and white and green</b>
<b>Jul – red</b>	<b>Aug – red and white</b>	<b>Sep – red and white and red</b>
<b>Oct – yellow</b>	<b>Nov – yellow and white</b>	<b>Dec – yellow and white and yellow</b>

Superintendents are responsible for the tools on their jobs. Shop employees are responsible for the tools assigned to their trucks. All tools and equipment are to be secured at the end of each shift.

Damaged or defective tools should be re-tagged on the job and returned to the shop along with a tool transfer form giving the nature of the damage or defect. Do not try to repair a tool on site.

Company tools shall not be loaned to others with prior approval from the Project Manager.

### **Safety Reminders for Power Tools:**

1. **Know Your Power Tools** – Learn its applications & limitations if you are unfamiliar with.
2. **Keep Guards in Place** – There are very few legitimate reasons for removing a guard. Grinders do require guards in place to operate!
3. **Ground All Tools** – Never remove the ground prong. A tool must be double insulated or have a three-prong cord before it may be used.
4. **Don’t Force a Tool** – Use the tool within its limitations.
5. **Use the Right Tool** – Use the tool for what it was designed for.
6. **Wear the Required PPE** – For protection in case something goes wrong.
7. **Secure the Work** – Use clamps or a vise to hold work.
8. **Don’t Overreach** – Keep proper footing and balance at all times.
9. **Disconnect Tools** – When idle; before servicing; when changing blades, bits, etc.
10. **Avoid Accidental Starting** – Don’t carry plugged-in tool with finger on switch.
11. **You have to be able to READ THE LABEL to use the Tool** – If you can’t read the label, then you cannot use that tool!
12. **Use Side Handles when supplied with the Tool. Grinders** that have a side handle supplied must be used with the side handle secured and in place.
13. Powered abrasive **grinding**, cutting, polishing, and wire buffing wheels create special safety problems because they may throw off flying fragments.

Before an abrasive wheel is mounted, it should be inspected closely and sound- or ring-tested to be sure that it is free from cracks or defects. To test, wheels should be tapped gently with a light non-metallic instrument. If they sound cracked or dead, they could fly apart in operation and so must not be used. A sound and undamaged wheel will give a clear metallic tone or “ring.”

To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place, without distorting the flange. Follow the manufacturer’s recommendations. Care must be taken to assure that the spindle

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wheel will not exceed the abrasive wheel specifications.

Due to the possibility of a wheel disintegrating (exploding) during start-up, the employee should never stand directly in front of the wheel as it accelerates to full operating speed.

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.

In addition, when using a powered **grinder**:

- Always use eye protection (goggles) and face protection (face shield).
- Turn off the power when not in use.
- Never clamp a hand-held grinder in a vise.

14. **Pneumatic tools** must be checked to see that the tools are fastened securely to the air hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool must also be used and will serve as an added safeguard.

If an air hose is more than ½-inch (12.7 millimeters) in diameter, a safety excess flow valve must be installed at the source of the air supply to reduce pressure in case of hose failure. When using pneumatic tools, a safety clip or retainer must be installed to prevent attachments such as chisels on a chipping hammer from being ejected during tool operation.

Pneumatic tools that shoot nails, rivets, staples, or similar fasteners and operate at pressures more than 100 pounds per square inch (6,890 kPa), must be equipped with a special device to keep fasteners from being ejected, unless the muzzle is pressed against the work surface. Eye protection is required, and head and face protection is recommended for employees working with pneumatic tools.

15. **Use of heavy jackhammers** (60 pound or greater) can cause fatigue and strains. Heavy rubber grips reduce these effects by providing a secure handhold. Workers operating a jackhammer must wear safety glasses and safety shoes that protect them against injury if the jackhammer slips or falls. A face shield also should be used.

16. **SAFETY SWITCHES**

The following hand-held powered tools must be equipped with a momentary contact “on-off” control switch: drills, tappers, fastener drivers, horizontal, vertical and angle grinders with wheels larger than 2 inches in diameter, disc and belt sanders, reciprocating saws, saber saws, and other similar tools. These tools also may be equipped with a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

The following hand-held powered tools may be equipped with only a positive “on-off” control switch: platen sanders, disc sanders with discs 2 inches or less in diameter; grinders with wheels 2 inches or less in diameter; routers, planers, laminate trimmers, nibblers, shears, scroll saws and jigsaws with blade shanks <-inch wide or less.

Other hand-held powered tools such as circular saws having a blade diameter greater than 2 inches, chain saws, and percussion tools without positive accessory holding means must be equipped with a constant pressure switch that will shut off the power when the pressure is released.

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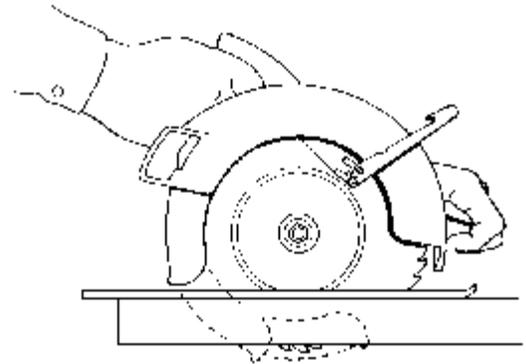
### 17. GUARDS

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, and
- flying chips and sparks.

Safety guards must never be removed when a tool is being used. For example, portable circular saws must be equipped with guards. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except when it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work.



### Powder-Actuated Tools

Powder-actuated tools operate like a loaded gun and must be treated with extreme caution. In fact, they are so dangerous that they must be operated only by specially trained employees.

When using powder-actuated tools, an employee must wear suitable ear, eye, and face protection. The user must select a powder level – high or low velocity – that is appropriate for the powder-actuated tool and necessary to do the work without excessive force.

The muzzle end of the tool must have a protective shield or guard centered perpendicular to and concentric with the barrel to confine any fragments or particles that are projected when the tool is fired. A tool containing a high-velocity load must be designed not to fire unless it has this kind of safety device.

To prevent the tool from firing accidentally, two separate motions are required for firing. The first motion is to bring the tool into the firing position, and the second motion is to pull the trigger. The tool must not be able to operate until it is pressed against the work surface with a force of at least 5 pounds (2.2 kg) greater than the total weight of the tool. If a powder-actuated tool misfires, the user must hold the tool in the operating position for at least 30 seconds before trying to fire it again. If it still will not fire, the user must hold the tool in the operating position for another 30 seconds and then carefully remove the load in accordance with the manufacturer's instructions. This procedure will make the faulty cartridge less likely to explode. The bad cartridge should then be put in water immediately after removal. If the tool develops a defect during use, it should be *tagged* and must be *taken out of service immediately* until it is properly repaired.

Safety precautions that must be followed when using powder-actuated tools include the following:

- Do not use a tool in an explosive or flammable atmosphere.
- Inspect the tool before using it to determine that it is clean, that all moving parts operate freely, and that

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the barrel is free from obstructions and has the proper shield, guard, and attachments recommended by the manufacturer.

- Do not load the tool unless it is to be used immediately.
- Do not leave a loaded tool unattended, especially where it would be available to unauthorized persons.
- Keep hands clear of the barrel end.
- Never point the tool at anyone.

When using powder-actuated tools to apply fasteners, several additional procedures must be followed:

- Do not fire fasteners into material that would allow the fasteners to pass through to the other side.
- Do not drive fasteners into very hard or brittle material that might chip or splatter or make the fasteners ricochet.
- Always use an alignment guide when shooting fasteners into existing holes.
- When using a high-velocity tool, do not drive fasteners more than 3 inches (7.62 centimeters) from an unsupported edge or corner of material such as brick or concrete.

When using a high velocity tool, do not place fasteners in steel any closer than ½-inch (1.27 centimeters) from an unsupported corner edge unless a special guard, fixture, or jig is used.