

All power tools can be dangerous if both general and tool specific safety instructions are not followed carefully. General safety instructions apply to all power tools, both corded and cordless.

## Start with a Safe Work Area



Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.



Do not operate power tools in explosive atmospheres, near flammable liquids, gases, or dust. Power tools create sparks, which may ignite the dust or fumes.

- Keep bystanders, children, and visitors away when using a power tool. Distractions can cause you to lose control.



## Electricity can be Dangerous

Grounded tools (three pronged cords) must be plugged into a properly grounded installed outlet. Never remove or cut off the grounding prong or modify the plug in any way. Do not use any adapter plugs.



Double Insulated tools have a polarized plug (one blade is wider than the other.) This plug will fit into an outlet only one way. Do not change the plug in any way.



Do not use AC only rated tools with a DC power supply.



Store battery packs away from other metal objects like paper clips, coins, keys, nails, screws, or other small metal objects. These things can make a connection from one terminal to the other, shorting the battery terminals together and causing burns or fire.



- When using a power tool, don't touch grounded surfaces such as pipes, radiators, ranges and refrigerators. There is a higher risk of electric shock if your body is grounded.

## GFCI

In damp locations, only plug your tool into a Ground Fault Circuit Interrupter (GFCI). If the work area does not have a permanent GFCI on the outlet, use a plug-in GFCI. Wear rubber gloves and footwear.



Don't use or leave power tools in the rain or wet conditions.



Do not abuse the cord, carry the tool by its cord, or pull the cord to unplug it. Keep the cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.



Always hold the tool by the insulated gripping surfaces. Contact with hidden wiring or its own cord will make exposed metal parts of the tool "live" and shock the operator.

## Rules about Extension Cords

- When using a power tool outside, use an extension cord marked for outdoor use with "W-A" or "W". These cords are made for outdoor use.
- Extension cords with 3-prong grounding plugs must be plugged into 3-prong outlets when using grounded tools.
- Replace damaged or worn cords immediately.

## Amps

The wire gauge and length of the extension cord must be able to handle the amps of the tool. Find the Amps (A) on the tool's nameplate and use the chart to determine the necessary wire gauge for your extension cord length.

Nameplate Amps	Extension Cord Gauge			
	Cord Length in Feet			
	25'	50'	100'	150'
0-6	18	16	16	14
6-10	18	16	14	12
10-12	16	16	14	12
12-16	14	12	Not Recommended	

## Good Personal Safety is a Must

Following good safety practices when using all power tools is a must. Make a habit of including safety in all of your activities.



Always read and understand the tool's operator's manual, tool markings and the instructions packaged with the accessory before starting any work.

- Stay alert, watch what you are doing and use common sense when using a power tool.



Do not use tools when you are tired or under the influence of drugs, alcohol, or medication.

- Dress right. Do not wear gloves, loose clothes or jewelry. Contain long hair. Loose clothes, gloves, jewelry, or long hair can be caught in moving parts.
- Keep handles dry, clean and free from oil and grease.
- Be sure the power tool's switch is OFF before plugging it in or inserting a battery pack. Do not carry tools with your finger on the switch.



Remove adjusting keys and wrenches before turning the tool ON.

- Always keep a firm footing when using power tools. Be sure you have balance and control before you start the job.



Use safety equipment. Always wear eye protection. A dust mask, non-skid safety shoes, hard hat, or hearing protection must be used when needed. The reference to “safety goggles” or “safety glasses” in product specific sections provides potential options - always refer to the tool’s operator’s manual for the specific eye protection recommended, which should be marked as complying with current national standards.

- Unplug tool/remove battery before changing accessories.



Keep hands away from rotating or moving parts.

### Do the Job Safely

- Use the power tool accessories only for the jobs for which they were designed.



Secure and support the workpiece. Use clamps and a stable work surface. Do not hold the work by hand or against your body.

- Keep guards in place and working properly.
- Do not force the tool. Use the right tool for your job. It will do the job better and safer.
- Use only accessories recommended by the tool manufacturer. Accessories that may be suitable for one tool may become hazardous when used on another tool.



Do not touch the drill bit, blade, cutter or the workpiece immediately after operation; they may be very hot and may burn you.

- If a method of dust collection is available with the power tool, it should be used to reduce the risk of dust-related hazards.

### Maintenance Keeps Tools Working Safely and Effectively

- Do not use a tool if the switch does not turn it on and off. It must be repaired.



Look at the tool before using it. Are moving parts misaligned or binding? Is anything broken? Damaged tools must be fixed before using them. Develop a maintenance schedule for your tool.

- Maintain accessories carefully. Keep blades and bits sharp and clean.
- Take your tool to be serviced by qualified repair people. Service or maintenance performed by unqualified personnel could result in a risk of injury. For example: internal wires may be misplaced or pinched, safety guard return springs may be improperly mounted.
- When servicing a tool, use only identical replacement parts. Follow instructions regarding maintenance in the tool’s operator’s manual. Use of unauthorized parts or failure to follow the maintenance instructions may create a risk of electric shock or injury.
- Clean and lubricate a tool only as directed in its operator’s manuals. Certain cleaning agents such as gasoline, carbon tetrachloride, ammonia, etc. may damage plastic parts.
- Maintain labels and nameplates. These carry important information. If unreadable or missing, contact the manufacturer for a replacement.

### When Done, Store the Tools out of Harm’s Way



To avoid accidental starting, unplug the cord, remove batteries or lock off the switch when the tool is not being used, when changing accessories, and when adjusting or cleaning tools.

- Keep tools out of the reach of children and people unfamiliar with the tools.

## Drills, Hammer-Drills, Rotary Hammers and Hammers

the most widely used power tools in the world. They are grouped into three general categories: drills; hammer-drills/rotary hammers; and hammers. They are used to drill holes and drive fasteners into a wide variety of materials.

### Good Personal Safety is a Must

Following good safety practices when using drills and hammers is a must. Make a habit of including safety in all your activities.



Always read and understand the tool's operator's manual, tool markings and the instructions packaged with the accessory before starting any work.



Always wear safety goggles or safety glasses with side shields complying with current national standards, and a full face shield when needed.



Use the appropriate mask or respirator in dusty work conditions.

Wear proper hearing protection, as needed.

Dress right. Do not wear gloves, loose clothes or jewelry. Contain long hair. Loose clothes, gloves, jewelry, or long hair can be caught in moving parts.

- Crowded, cluttered work areas that can cause tripping or loss of balance are particularly dangerous.

### What Type of Tool do you Have?

Using the right tool will get the job done faster and more safely.



Drills are used to create a hole with a rotating drill bit in wood, metal and plastics. Drills are rated by the maximum bit capacity of their chuck (1/2", 3/8", etc.). These tools are often well suited for driving screws.



Hammer Drills and Rotary Hammers use impacting action in combination with rotation of the specially designed "percussion bit" to drill holes in masonry materials. In the rotary mode they can also be used to drive fasteners into concrete, masonry, pavement, and similar materials. Often, these tools have different operating modes; hammering with rotary motion, rotation-only, and hammering-only.



Hammers (also called breakers, chipping hammers or percussion hammers) have a back-and-forth hammering action, without rotation. They are most often used for light-to-medium demolition or shaping of concrete, masonry, asphalt and similar materials.

### Choose the Right Tool and Bit

Choosing the correct tool and the proper accessory for your application can help to reduce the risk of serious injury. When used according to the manufacturer's instructions, the proper tool and accessory will do the job safer and faster.



Does the bit shank fit properly into the chuck? Check the tool's operator's manual for the type of shank necessary (e.g., SDS, Hex, Round, Spline).

- Is the drill's capacity adequate for the accessory? Make sure the size of the bit is equal to or less than the capacity on the tool's nameplate.

### Know your Workpiece



Know what is behind a workpiece before you do the job. Do not cut into existing walls or other blind areas where electrical wiring, water, or gas pipes may exist. If this situation is unavoidable, disconnect all fuses/circuit breakers, and shut off any water and gas lines feeding this work site.

### Before Drilling or Hammering...

Before working, make sure the tool and its accessories are in proper working order. Failure to do so may increase your risk of injury and may result in binding, stalling, and loss of control. These situations may cause the tool to twist or an accessory to break, causing an injury.

- Be sure the trigger turns the tool "on" when it is pulled and "off" when it is released. A trigger "lock-on" and lock release must also work correctly.



Check carefully for loose power cord connections and frays or damage to the cord and plug. Replace damaged tool /extension cords immediately. For grounded tools, equipped with a three-prong plug, make sure the grounding prong is in good condition.

- For tools with a chuck, be sure the chuck is tightly secured to the spindle. This is especially important on reversible type drills. The chuck could loosen and come off the drill.

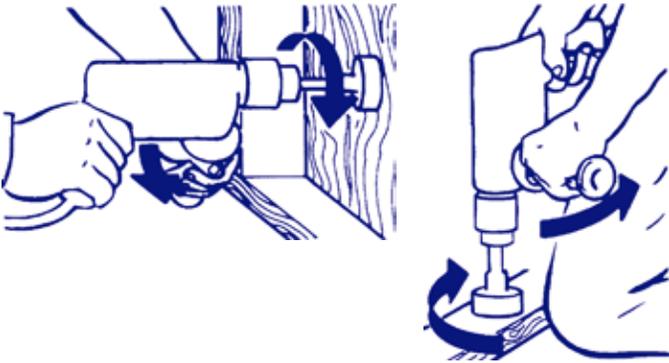
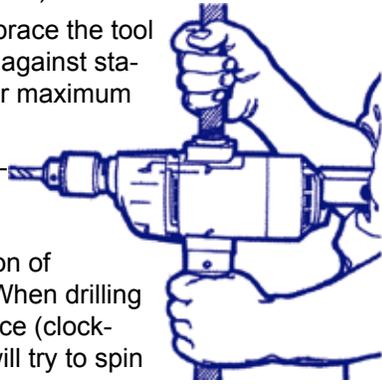


Tighten the bit securely in the chuck. Remove all chuck keys or wrenches before starting the drill.

- Tighten any auxiliary (side) handles provided with the tool.

### When Drilling or Hammering...

- Firmly grasp the trigger handle and auxiliary handle (if provided) to maintain control.
- Always hold or brace the tool securely. Brace against stationary things for maximum control.
- In a binding situation, the tool will react in the opposite direction of the turning bit. When drilling into the workpiece (clockwise), the tool will try to spin counterclockwise.
- Don't force the tool— apply enough pressure to



keep the bit cutting or chipping smoothly. If the motor slows down, relieve the pressure. Too much pressure can damage the bit and cause you to lose control of the tool.

- If the bit binds in the workpiece, release the trigger immediately. Unplug the tool, and then free the bit from the workpiece. Do not use a lock-on button when drilling in warped, pitched, knotty, or imbedded materials (e.g., reinforcing bars in concrete) where binding may be more common. Do not try to free a jammed bit by starting and stopping the tool.
- As you get close to breaking through the workpiece, reduce pressure and allow the bit to pass through the hole easily.
- Always keep a firm footing when using power tools. Be sure you have balance and control before you start the job.
- Remove material or debris from the area, especially if it could be ignited by hot chips or friction.

### When Done...



Unplug tool immediately after use, before removing or changing the bit and before performing any service or maintenance on the tool.



Store the tool in a dry place.