

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.

## Sanders (Stationary and Portable)

Sanders come in wide variety of designs, such as belt sanders, drum sanders, disc sanders, random orbit sanders or pad sanders. Sanding is often a long job. For this reason, it is very important that you do not lose concentration and that your working environment is set up correctly. If you use the sander unsafely or incorrectly, you could be injured.

### Good Personal Safety is a Must

Following good safety practices when using a sander 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. Sanding dust may affect your breathing and overcome you if you are not protected against it – particularly when working with many of the exotic (tropical) hardwoods or products containing hazardous substances.

- Wear proper hearing protection, as needed.
- Dress right. Do not wear loose clothes or jewelry. Contain long hair. Loose clothes, 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.

### Choose the Right Tool and Accessory

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.



Always unplug the sander before changing any accessories.

Stationary sanders may have multiple features, such as belt and disc sanding. Portable sanders are normally single feature sanders (disc, pad, or belt). Exercise caution and alertness to avoid injuries, such as skin abrasions or pinching, that can result from contacting the sanding medium or other moving parts – belts, pulleys, and arbors.

- Don't use small sanders for big jobs or large sanders for small jobs.
- Abrasive belts should be the width recommended by the manufacturer.
- Do not use excessively oversized sanding disc paper. Follow tool manufacturer's recommendations when selecting sanding paper.

### Know your Workpiece

Take time to review your workpiece and make sure that all necessary precautions have been taken before sanding.



Always support your workpiece on a stationary sander with the table or backstop.

- Use jigs or fixtures to hold your workpiece in position whenever possible.
- Never hold the workpiece by hand, as this is unstable and may lead to loss of control.
- Avoid working on small pieces of material which can't be properly secured. Injury could result from small pieces being thrown by the spinning sanding pad.
- Remove material or debris from the area that might be ignited by sparks from sanding metal.
- On stationary sanders, maintain a 1/16 inch maximum clearance between the table and the sanding disc or belt.

### Before Sanding...

Before working with a sander, make sure the tool and its accessories are in proper working order. Failure to do so may increase your risk of injury.

- Adequate ventilation of your work area is very important when using any type of sander. The use of exhaust type systems or bag collection is also recommended. Dust can explode if the concentration becomes too great. Wood dust and the finishes from woodwork are very combustible.



Do not use the dust collection bag when sanding metal. Using the dust collection bag when sanding metal creates a fire hazard, which could damage the tool and lead to serious personal injury.

- Before connecting the sander to the power supply, be sure the switch and switch lock (if provided) are in the "OFF" position. If not, the sander will start immediately and could result in injury.



Keep power supply and cords from entanglement with the moving parts of the sander. Damaged cords can result in an electrical shock.

- Do not work with a faulty tracking belt sander. Stop using it until the problem is fixed.
- When adjusting the tracking of a portable belt sander, be sure that the sander is supported and positioned properly to avoid accidental contact with yourself or nearby objects.

## While Sanding...

- Always keep your body well clear of moving parts such as belts, pads and pulleys.
- Hold portable sanders firmly with both hands. Never lock a portable sander in the “ON” position when the job may require stopping the sander quickly, such as using a sanding disc on a car fender. The rotating disc could get jammed and cause injury.
- It should never be necessary to force a portable sander. The weight of the tool applies adequate pressure. Forcing too much pressure can cause stalling, overheating of the tool, burning of the workpiece, and possible kickback of the tool or workpiece.



If sander is equipped with a dust bag, empty it frequently and when you are done sanding. Spontaneous combustion may result from a mixture of some wood finishing chemicals with dust particles. Be extremely careful of dust disposal, as materials in fine dust may be explosive.

## When Done...

- When you are done sanding, switch the tool to the “OFF” position and hold the tool motionless until the sanding disc comes to a complete stop. Never try to remove sand paper while the sanding pad is still rotating.
- Never lay down the portable tool until the sanding pad or belt has come to a complete stop. The spinning pad or belt may grab a work surface and pull the tool out of your control.



Unplug, clean and store the tool in a safe, dry place after use.

## Always Remember...



With portable sanders, be careful not to expose the tool to liquids, or to use in damp, wet locations.