

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.

## Abrasive Cut-Off Machines and Dry-Cut Machines

Abrasive cut-off machines and dry-cut machines are used to cut metal. Some machines are capable of cutting masonry materials. Abrasive machines use abrasive wheels to grind through ferrous metals, while dry-cut machines use special toothed saw blades to cut through ferrous and nonferrous metals.

### Good Personal Safety is a Must

Following good safety practices when using abrasive cut-off machines and dry-cut machines 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.
- Never alter a guard or use the tool with a guard missing. Be sure all guards are in place and working properly before each use. Do not defeat guards.

### Choose the Right Tool and Blade or Wheel

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.

- Do not attempt to install a toothed blade on an abrasive cut-off machine, or an abrasive wheel on a dry-cut machine. The cut-off machine's guard will only protect the user when an abrasive wheel is used, and the dry-cut machine's guard will only protect the user when a toothed blade is used. Never alter a guard or use the machine with a guard missing.



Check this carefully: Does your blade or wheel have the proper size and shape arbor hole?

Never force a blade or wheel onto an arbor or alter the size of an arbor. Do not use a blade or wheel that does not fit the arbor, as vibration may result. If the blade or wheel doesn't fit the arbor, get one that does.

- Keep the arbor and blade or wheel clean. Buildup on the surface of the arbor and blade or wheel could cause excessive friction.

### RPM

Make sure the speed marked on the blade or wheel is at least as high as the no load RPM on the tool.



Use sharp blades and wheels. Damaged or dull blades could throw teeth, posing a serious injury risk. Damaged or dull wheels can create excessive friction, causing the wheel to warp or bind. A sharp blade or wheel will tend to cut its way out of a pinching condition.

### Know your Workpiece

Take time to review your work and make sure that all necessary precautions have been taken before making a cut.

- Support long workpieces at the same height as the machine.
- Never attempt to cut materials larger than the rated capacity, as this may result in personal injury.
- Always place the workpiece securely between the vise and fence when making cuts. Never make freehand cuts. Holding the workpiece by hand is unstable and may lead to loss of control.



Never cut small workpieces that put fingers near the cutting blade or wheel.

- Never try to remove or clamp the workpiece while the blade or wheel is rotating.

### Before Cutting...

Before working with an abrasive cut-off machine or dry-cut machine, make sure the machine and its accessories are in proper working order. Failure to do so can increase your risk of injury and result in blade or wheel pinching, binding or stalling, and loss of control.

- Set the machine securely on a flat, level surface.



Before installing a blade or wheel, always check for damage. Check wheels for cracks and blade teeth for damage. Replace cracked abrasive wheels or damaged blades immediately.

- Make sure the blade has adequate blade set. Blade set provides clearance between the sides of the blade and the workpiece, thus minimizing the probability of binding. Some saw blades have hollow ground sides instead of blade set to provide clearance.

### Blade Set



- Make sure that all mounting flanges, related washers, fasteners and other mounting hardware are in good condition. Make sure this hardware is properly positioned and secured on the arbor before each use. Always use the mounting hardware supplied with the machine.



With the machine unplugged and the machine head all the way down, manually spin the blade or wheel to check for blade/wheel clearance and alignment. The blade or wheel should rotate freely and not contact the table.

- Be sure all guards are in place and working properly before each use. Do not defeat guards. If the lower guard appears loose or if it does not move to cover the blade or wheel when the head is up, take the machine to an authorized service center for repairs.

### While Cutting ...

- Do not use cutting fluids on the blade, wheel or workpiece.
- Allow the motor to reach full speed before contacting the workpiece.



Never place your body or fingers in line with the blade or wheel while cutting.

- Use only the edge (not the sides) of the abrasive wheel for cutting. Do not allow the abrasive wheel to twist or bind.
- Do not force cutting. Always start the cut gently. Do not bump or bang an abrasive wheel or blade down on the work piece to start a cut. Excessive force only causes operator fatigue, increased wear and reduced control.
- Make sure the blade or wheel contacts the center of the workpiece for the safest, most efficient cutting.
- If the blade or wheel binds or stops rotating, or the motor sounds like it is straining, release the switch immediately to reduce the risk of damage to the machine.



Never reach under the machine or workpiece. The blade is exposed under the workpiece and the guard cannot protect your body here.

- Never remove the machine from a cut while the wheel or blade is rotating. When making a partial cut, or if power is interrupted, release the switch immediately. Don't remove the machine from the workpiece until the wheel or blade has come to a complete stop.
- Release the switch immediately if the wheel or blade binds or the machine stalls.
- Turn off the machine after a cut is complete, and keep the blade or wheel away from your body until it has stopped. Be aware that blades and wheels may coast after the machine is turned off.

### When Done...



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

Store blades and wheels with care. Do not drop them or subject them to excessive heat, cold or humidity.

### Always Remember...

- Be alert at all times, especially during repetitive operations. Don't be tempted into carelessness due to a false sense of security. Blades are extremely unforgiving.



When cutting metals, sparks or hot fragments could cause fires or burns. Never touch a work piece until it cools. Let the blade or wheel cool properly before changing.



When starting the machine after an idle period, always let the machine run with the blade or wheel completely recessed into the guard for one full minute before making a cut. If an abrasive wheel wobbles or vibrates, discard it and replace immediately.

- To reduce the risk of injury, always unplug the machine when leaving a workstation. Lock machines in the down position before transporting or when not in use.