Impact Wrenches

Impact wrenches are used for tightening and loosening nuts and bolts, and sometimes for light drilling. The tool's high torque output is preferred to many other tools (such as a standard drill) because it minimizes torque reaction. Impact wrenches do, however, pose some risks that require your attention.

Good Personal Safety is a Must

Following good safety practices when using power tools 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.

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.

- Use only sockets that are specifically designated "impact wrench sockets". Other sockets which are made for hand tool use will not withstand impact wrench use. They are subject to premature failure, breaking and possibly causing injury.
- Always check the socket carefully for wear, cracks or damage before use.
- Other accessories for impact wrenches are available, such as chucks, drill bits and driver bits. Be sure the accessory is specifically made for your job.

Before Impacting...

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

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.

- Always be sure you have firm footing.
- Be sure no one is below you when using the tool in high locations.

Never use a wire, soft pin or nail to hold the socket onto the square anvil of the impact wrench. If the proper retaining device on the tool is broken, have the tool repaired before use.

While Impacting...

- NEVER overreach! For maximum control, hold the impact wrench firmly with both hands after securing the workpiece.
- Don't force the impact wrench. It will do the job better and safer at the rate for which it was intended. Always check maximum operating speeds established for sockets used on your impact wrench.
- Avoid over-impacting, particularly on small bolt sizes. Small bolts could easily be broken or the threads stripped. Over-impacting can cause early failure of fasteners or other damage, and can lead to accidents.
- On jobs where a low or critical level of torque is required, impact each fastener lightly, and then do the final tightening with a hand torque wrench. The proper torque may differ depending upon the kind or size of the bolt.

When Done...

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

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

Always Remember...

- To reduce the risk of injury, unplug the impact wrench before changing sockets or other accessories.
- Do not use an impact wrench in wet or damp environments.

While Cutting ...

Concentrate on what you are doing and be aware of kickback (a sudden reaction to a pinched, bound or misaligned blade). Kickback can cause an uncontrolled tool to lift up and out of the workpiece toward the operator and is the result of tool misuse and/or incorrect operating procedures or conditions. Take these specific precautions to help prevent kickback when using a jig saw:

- NEVER overreach! For maximum control, hold the saw firmly after securing the workpiece.
- Be alert to the possibility of the blade binding and kickback occurring.
- Never remove the saw from a cut while the blade is moving. When making a partial cut, or if power is interrupted, release the trigger immediately and don't remove the saw from the work piece until the blade has come to a complete stop. A saw tooth could grab the work piece, causing loss of control.

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

- Release the trigger immediately if the blade binds or the saw stalls.

Overheating a saw blade can cause it to warp and result in kickback. Buildup of sap on the blade, insufficient blade set, dullness, and unguided cuts, can all cause an overheated blade and kickback.

- When starting the cut, firmly position the saw plate/shoe on the workpiece before turning on the tool. Always keep firm contact between the plate/shoe and the workpiece. Small or thin material may flex or vibrate with the blade, causing loss of control.
- Before starting a cut, turn the tool "ON" and allow the blade to reach full speed. The saw can chatter or vibrate if the blade speed is too slow when beginning the cut and kickback may occur.

Keep your hands away from all cutting edges and moving parts. Never place your fingers in line with the blade.

- When plunge (pocket) cutting, use a blade designed for that purpose and follow the tool manufacturer's instructions.
- Pinch Points! Keep hands from between the gear housing and saw blade clamp (plunger). The reciprocating blade clamp (blade plunger) can pinch your fingers.
- Switch the tool off after a cut is completed, and keep the saw away from your body until the blade stops. The blade may coast for a time, posing the risk of serious cuts.

When Done...

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

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.
- To reduce the risk of injury, always unplug the saw when moving from a workstation.

Jointers/planers are used to resurface wood and like materials to provide a straight, smooth surface.

Good Personal Safety is a Must

Following good safety practices when using a power tool 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 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.
- 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.
- Always use push blocks/sticks when jointing or beveling wood or when planing.

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 keep cutter blades (knives) sharp and clean of rust and pitch to avoid excessive blade friction.
- Use only cutter blades (knives) recommended by the tool manufacturer. This is extremely important for your personal safety.
- Never operate the tool without the cutter blade (knife) cover securely in position.
- Do not attempt to sharpen blades while they are installed in the cutter head unless a proper blade sharpening attachment is provided.
- Do not use cracked or damaged blades. Check blades for cracks or damage before use. Replace cracked or damaged blades immediately.
- Make sure that the blade flange fits in the arbor hole when installing the blade.

Know your Workpiece

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

Examine the workpiece carefully before cutting. Do not joint or plane chipboard, panel board or any stock containing nails, paint or varnish.

- Be cautious of knots in wood. Knots can be thrown out of the work piece or cause kickback.
- Properly support long lengths of material to maintain control. Use work supports or stands as needed.
- Never joint or plane wood narrower than ¾ inch or thinner than ¾ inch. Never joint or plane wood shorter than 12 inches.

When using a portable jointer/planer, always place the workpiece on a stable workbench and secure it firmly with a clamp or vise to avoid losing control.

Before Cutting...

Before cutting with a jointer/planer, 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 tool damage.

- Obtain advice from a qualified person if you are not thoroughly familiar with the operation of this tool.
- Do not operate the tool until it is completely assembled and installed according to the manufacturer instructions.
- Check that all guards are in place and return quickly to normal rest positions. If a guard seems slow to return or "hangs up", have it adjusted, repaired or replaced immediately. Never use a tool without a properly operating guard.
- Set up and secure blades and worktables according to the operator's manual.
- Make sure blades are securely locked in the cutter head and that the unused portion of the blade is covered with the guard before tool use.
- Maintain proper adjustment of infeed and outfeed tables.
- Avoid awkward operations and hand positions where a sudden slip could cause a hand to move into the blade.
- Hold the tool firmly with both hands.
- Run the tool for a while without the blade pointing toward anybody. Check for vibration or wobbling that could indicate poor installation or a poorly balanced blade.
- Never reach your hands underneath the work piece while the blade is rotating.

While Cutting ...

- Never make freehand cuts. Holding the work piece by hand is unstable and may lead to loss of control.
- Keep your hands, fingers and body away from the cutting area. Contact with a blade will cause serious injury.
- Don't try to remove too much material in one pass. Never remove more than 1/8 inch per pass.
- Keep the exhaust port pointed away from yourself and bystanders.
- Don't reach into the exhaust chute to unclog chips. Stop the tool and unplug it from the power source. After making sure that blade has stopped, clear the chute with something other than your bare hand.
- Always be sure that the tool is switched off and unplugged before making any adjustments.

Never feed the workpiece in the direction of cutting blade rotation. It can cause the cutter blade to grab and pull the workpiece.

- Use push blocks to hold down the work piece to protect your hands and fingers. Your hands and fingers should never pass directly over the cutter head when feeding a workpiece.

When Done...

- When done, lock the switch in the "off" position to prevent unauthorized use.

Metal Cutting Saws (Portable)

Hand-held metal cutting saws take chips or shavings out of metal workpieces. Metal cutting saws are not recommended for all types of metals and metal thicknesses. Refer to the saw's operator's manual for specific recommended applications.

Good Personal Safety is a Must

Following good safety practices when using metal cutting saws 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.

Wear gloves when handling the workpiece after the cut. The workpiece may be hot and have sharp edges.

- 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.

Do not use near flammable liquids or in explosive atmospheres, near fumes, gases or dust. The hot chips or shavings and sparks may ignite the dust or fumes. Remove materials or debris that may become ignited from work area.

Choose the Right Tool and Blade

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 for use, the proper tool and accessory will do the job safer and faster.

- Do not use a metal cutting saw that is too heavy for you to easily control.

Use sharp blades. Damaged or dull blades could throw teeth, posing a serious injury risk. A sharp blade will tend to cut its way out of a pinching condition.

Use the correct blade for your tool. Check this carefully: Does it have the proper size and shape arbor hole?

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

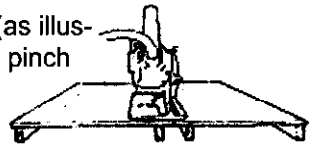
- Never use damaged or incorrect blade flanges or bolts.

Do not use any type of abrasive cut-off wheel or dry diamond cutting blades.

Know your Workpiece

Take time to review your work and make sure that all necessary precautions have been taken before making a cut. Metal cutting saws are used to cut a variety of materials, each having its own specific setup requirements.

- Support large panels (as illustrated) so they will not pinch the blade.



- Avoid cutting small workpieces that can't be properly secured, and workpieces on which the base of the saw (shoe) cannot properly rest. Injury could result from small pieces being thrown back at the operator if the blade pinches and binds.

Do not use cutting oils or lubricants. Liquids can damage the saw, causing an electrical hazard.

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 Cutting...

Before cutting with a metal cutting saw, 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 kickback, blade pinching, binding or stalling, and loss of control. These situations may cause the saw to jump back at the operator and can result in a serious injury.

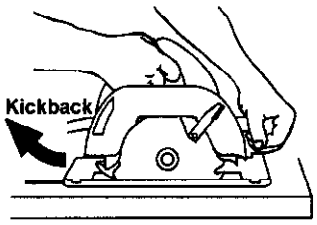
Check blades carefully before each use for proper alignment and possible defects. Never use a bent, broken or warped saw blade.

- 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.

- Be sure the blade flanges (washers) are correctly assembled on the shaft and that the blade is properly supported.
- Check for proper blade guard operation before each cut. The guards should return to their normal position quickly. If a guard seems slow to return or "hangs up", repair or adjust it immediately. Never alter or defeat the guard (e.g., tying back or removing the guard).
- Be sure the tool switch works properly. Do not use a tool if the switch does not turn it off when returned to the off position.
- Tighten depth levers securely.
- The lower guard should be pulled back manually only for special cuts such as "Pocket Cuts" and "Compound Cuts". Raise the lower guard using the lower guard lever. As soon as blade enters the material, release the lower guard.

While Cutting ...

Concentrate on what you are doing and be aware of kickback (a sudden reaction to a pinched, bound or misaligned blade). Kickback can cause an uncontrolled tool to lift up and out of the workpiece toward the operator and is the result of tool misuse and/or incorrect operating procedures or conditions. Take these specific precautions to help prevent kickback when using any type of metal cutting saw:



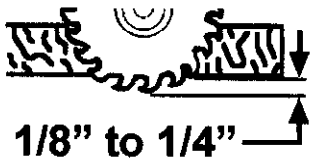
Before starting a metal cutting saw, be sure the power cord and extension cord are out of the blade path and are long enough to freely complete the cut. A sudden jerk or pull on the cord can cause loss of control of the saw and a serious accident.

Clamp workpieces securely. Check frequently to be sure clamps remain secure. A moving workpiece can cause loss of control and result in injury.

- Never hold a workpiece in your hand or across your leg when sawing.
- Do not use cutting oil. The use of cutting oil may cause a fire.

Keep hands away from cutting area and blade. Keep your second hand on other saw handle or motor housing. If both hands are holding the saw, they cannot be cut by the blade.

- NEVER overreach! For maximum control, hold the saw firmly with both hands after securing the workpiece.
- Set blade depth to no more than 1/8 in. to 1/4 in. greater than the thickness of the material being cut.



- Minimize blade pinching by placing the saw shoe on the clamped, supported portion of the workpiece, and allowing the cut off piece to fall away freely.
- When you start your saw allow the blade to reach full speed before the workpiece is contacted.

Be alert to the possibility of the blade binding and kickback occurring.

If a fence or guard board is used, be certain the blade is kept parallel with it.

- Never remove the saw from a cut while the blade is rotating. When making a partial cut, or if power is interrupted, release the switch immediately and don't remove the saw from the workpiece until the blade has come to a complete stop. A saw tooth could grab the workpiece, causing loss of control.

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

- Release the switch immediately if the blade binds or the saw stalls.
- Turn off the tool after a cut is completed, and keep the saw away from your body until the blade stops. The blade may coast for a time, posing the risk of serious cuts.

Overheating a saw blade can cause it to warp and result in kickback. Insufficient blade set, dullness, and unguided cuts, can all cause an overheated blade and kickback.

When Done...

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

Some metal cutting saws have chip or shaving collectors that must be emptied. Chips and shavings will be hot immediately after being cut. Wear gloves when handling. Always unplug the saw before emptying the container. Do not dispose of chips and shavings in receptacles containing flammable materials such as paper or wood. NEVER operate saw when guards and chip container are not installed. Serious injury may occur.

Miter saws are used for crosscutting, mitering or beveling wood, nonferrous metals and plastics. These saws cut through the work piece at a set miter angle. Some also can cut at both miter and a beveled angle.

Good Personal Safety is a Must

Following good safety practices when using miter saws 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

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.

Check this carefully: Does your blade have the proper size and shape arbor hole? Never force a blade onto an arbor or alter the size of an arbor. Do not use a blade that does not fit the arbor, as vibration may result. If the blade doesn't fit the arbor, get one that does.

Use sharp blades. Damaged or dull blades could throw teeth, posing a serious injury risk. A sharp blade will tend to cut its way out of a pinching condition.

- Make sure the arbor and blade are clean. Buildup on the surface of the arbor and blade will increase excessive friction.

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

- When installing or changing a blade, match the direction of the arrow on the blade with the direction of the arrow on the tool casting to be sure you install it properly.
- Be sure the blade screw is tight to prevent slipping or loosening during use.
- Never attempt to cut materials larger than the rated capacity listed in the saw operator's manual, as this may result in personal injury.

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 saw table.
- Always place the workpiece securely on the table and against the 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 would require you to put fingers near the cutting blade.

Use clamps to secure the workpiece to the table and avoid injuries

- Never try to remove or clamp the workpiece to the saw while the blade is rotating.
- Do not cut stone, brick, concrete, or ferrous metals (iron, steel, stainless steel, or alloys of these metals) with a miter saw. Particles created by cutting these materials can jam the blade guard and possibly cause personal injury.

Remove all nails from the workpiece before cutting, if present.

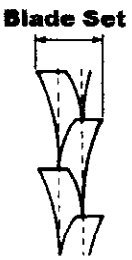
Before Cutting...

Before working with a miter saw, make sure the tool and its accessories are in proper working order. Failure to do so can increase your risk of injury and result in kickback, blade pinching, binding or stalling, and loss of control.

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

Before installing a blade, always inspect it for damage. Visually check blade teeth for damage. Replace 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.



- Make sure that all mounting flanges, related washers, fasteners and other mounting hardware are in good condition and are properly positioned and secured on the arbor before each use. Always use mounting hardware supplied with the saw.
- 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.
- If the lower guard appears loose or if it does not move to cover the blade when the head is up, take the saw to an authorized service center for repairs. Clean the lower guard often to help visibility and movement.
- Be sure angle mechanisms are tightened securely before making a cut.

While Cutting ...

Concentrate on what you are doing and be aware of kickback (a sudden reaction to a pinched, bound or misaligned blade). Kickback can cause the head of the tool to lift up and out of the workpiece toward the operator and is the result of tool misuse and/or incorrect operating procedures or conditions. Take these specific precautions to help prevent kickback when using any type of miter saw:

- When you start your saw, allow the blade to reach full speed before the workpiece is contacted.
- Do not force cutting. Always start the cut gently. Do not bump or bang a blade down on the work piece. Your saw will perform best at the rate for which it was designed. Excessive force only causes operator fatigue, increased wear and reduced control.
- If the blade stops rotating or if the motor sounds like it is straining, release the trigger switch immediately to reduce the risk of damage to the saw.

Be alert to the possibility of the blade binding and kickback occurring.

- Never remove the saw from a cut while the blade is rotating. When making a partial cut, or if power is interrupted, release the trigger immediately. Don't remove the saw from the workpiece until the blade has come to a complete stop. A saw tooth could grab the work piece, causing loss of control.
- Release the switch immediately if the blade binds or the saw stalls.
- Never reach under the saw blade or perform "cross handed" operation, i.e. with your left hand suporting the workpiece on the right side of the blade (or vice versa)

Switch the tool off after completing a cut, and keep your body away from the blade until it stops. The blade may coast for a time, posing a risk for serious cuts.

Overheating a saw blade can cause it to warp and result in kickback. Buildup of sap on the blades, insufficient blade set, dullness, and unguided cuts, can all cause an overheated blade and kickback.

When Done...

To reduce the risk of injury, always unplug the saw when moving from a workstation. Lock miter saws in the down position before transporting or when not in use.

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

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.

Radial arm saws, because of their versatility, are widely used in home, professional, and vocational work shops. They demand a thorough understanding by the operator of all procedures.

Good Personal Safety is a Must

Following good safety practices when using a radial arm saw 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.
- Do not use the tool until it is completely assembled and installed according to the manufacturer's instructions. Check adjustments often.
- Never operate a radial arm saw with tools, debris or loose objects on the table.
- 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 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.

Use sharp, clean blades. A sharp blade will tend to cut its way out of a pinching condition. A buildup of pitch or sap on the surface of the saw blade increases blade thickness and friction.

- Use the correct blade for your tool. The saw blade should never extend beyond the saw table in any operation you perform.
- Never use a bent, broken or warped saw blade. Throw it away immediately and get a new one.
- Only use accessories specifically recommended in the tool operator's manual.

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

- Some accessories, such as a dado or molding head, require special safety precautions and equipment. Refer to the tool's operator's manual and instructions that come with the accessory.

Do not use grinding or wire brush wheels on your radial arm saw. Radial arm saws are not equipped with the proper guards to use grinding wheels or wire brush wheels.

Know your Workpiece

Radial arm saws are used to cut a variety of materials, each having its own specific setup requirements. Take the time to review your work and make sure that all necessary precautions have been taken before making a cut.

- Do not cut wet wood. It produces higher friction against the blade. The blade will also tend to load up with wet sawdust increasing the risk of kickback.
- Cut only wood, wood-like, or plastic materials. Do not cut metal.
- Do not cut more than one piece at a time.

Be very cautious of stock which is pitchy, knotty or warped. These are most likely to create pinching conditions and possible kickback.

Before Cutting...

Before using a radial arm saw, 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 kickback, blade pinching, binding or stalling, and loss of control. These situations may cause the workpiece and/or the motor and carriage to jump and can result in an injury.

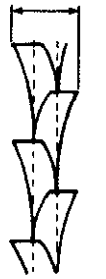
Always unplug the tool before installing, adjusting, and changing any accessory.

Do not set up the work with the blade rotating. Turn off and unplug the tool before making adjustments.

- Check blades carefully before each use for proper alignment and possible defects. Never use a bent, broken or warped saw blade.

Make sure the blade is installed to rotate in the correct direction.

- 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.

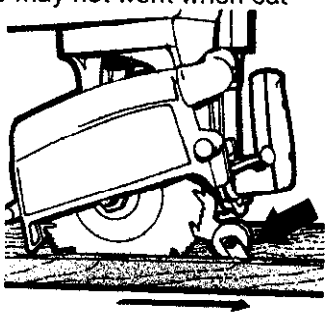


- Check for proper blade guard operation before each cut. The guards should return to their normal position quickly. If a guard seems slow to return or "hangs up", repair or adjust it immediately.
- Be sure the tool switch works properly. Do not use a tool if the switch does not turn it off when returned to the off position.
- When ripping, make sure the blade is exactly parallel to the fence. If the fence closes in toward the rear of the blade, it will tend to wedge the wood against the blade and may cause kickback.
- Anti-kickback devices should be positioned to just clear the workpiece.
- When ripping, the upper guard must be positioned to hold down the workpiece on the table. Make certain that the anti-kickback device fingers are sharp, free-moving and adjusted to stop kickback and assure proper operation. See your operator's manual.
- Keep your radial arm saw in correct adjustment and alignment. Use only sharp accessories that were designed for your saw. Follow your operator's manual carefully.

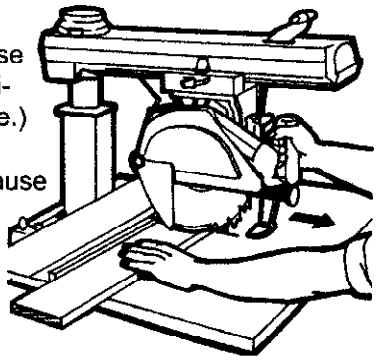
While Cutting ...

Concentrate on what you are doing and be aware of kickback (a sudden reaction when a workpiece binds between the saw blade and the fence during a ripping operation). Kickback can cause the workpiece to be thrown back toward the operator. Kickback is the result of tool misuse and/or incorrect operating procedures or conditions. Take these specific precautions to help prevent kickback when using any type of radial arm saw:

- Feeding a workpiece in the wrong direction when ripping is extremely dangerous. Follow the instructions provided with and on the saw very carefully.
- Do not release your feed pressure on a workpiece when ripping until it clears the blade.
- If a guard jams, shut off tool power and allow the blade to stop before freeing the guard.
- Position the workpiece so the cut off piece falls away from the table.
- Anti-kickback devices may not work when cutting smooth, hard surfaces. Always cut with the smooth, hard surface down, on the table.



- A spreader should always be used when rip cutting. The spreader must be precisely lined up with the blade.
- For ripping short or narrow stock, always use a pushstick between the blade and the fence. Do not rip a workpiece that is shorter than the diameter of the saw blade.
- Do not cut freehand (failing to use the fence to stabilize the workpiece.) Free-handing a workpiece can cause crooked cuts and potential kickback.



- Always hold the workpiece firmly against the fence when crosscutting. Pull the saw toward you and through the workpiece just far enough to complete the cut.
- When you start your saw allow the blade to reach full speed before contacting the workpiece.
- Avoid standing or permitting others to stand directly behind the workpiece when making a ripping cut.

Never reach near, along side, or around the saw blade. This is particularly dangerous.

Never place arms, hands or fingers in the path of the blade. This is especially dangerous during a crosscutting job.

- Hold onto the saw handle until the blade comes to a complete stop.

When Done...

When a crosscut job is complete, return the carriage to the full rear position behind the fence.

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

The reciprocating saw can be used to cut metal, pipe, wood, nail-embedded wood and other materials. By design, it is a simple tool to handle. Its few demands for safe use, however, are very important.

Good Personal Safety is a Must

Following good safety practices when using reciprocating saws 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.

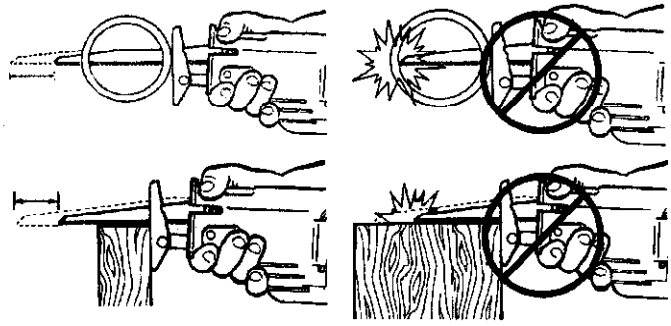
- Crowded, cluttered work areas that can cause tripping or loss of balance are particularly dangerous.

Choose the Right Tool and Blade

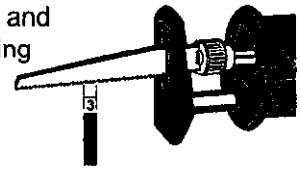
Choosing the correct tool and the proper accessory for your application can help to reduce the risk of serious injury. When used according to the manufacturer's instructions, the proper tool and accessory will do the job safer and faster.

Use sharp blades. Dull blades can produce excessive heat, make cutting difficult, result in forcing the saw, and possibly cause an accident.

- When changing blades, be sure the spindle and blade clamp areas are clean. Metal chips and sawdust may prevent the blade from being held securely.
- Blades can break. Use the blade and accessories recommended for the job being done. Check your operator's manual carefully about this.
- To minimize blade flexing and provide a smooth cut, use the shortest blade that will do the job but will extend beyond the workpiece throughout the stroke. Blades may shatter if they impact the work or shoe. Do not use the saw without the shoe for secure control and to avoid damage to the tool and blade.



- When cutting metal, choose a blade that will allow for at least three blade teeth to be in the material at all times. Less than three teeth will result in teeth snagging and breakage. However, using blades with too fine a tooth will slow your cut.



- Use clean saw blades. A buildup of pitch or sap on the surface of the saw blade increases blade thickness and blade friction.

Know your Workpiece

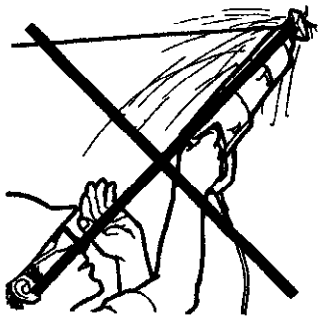
Take time to review your work and make sure that all necessary precautions have been taken before making a cut. Reciprocating saws are used to cut a variety of materials, each having its own setup requirements.

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.

- Support large workpieces so they will not pinch the blade. Use a straight edge as a guide for ripping.
- Avoid cutting small workpieces that can't be properly secured, and workpieces on which the base of the saw (shoe) can not properly rest. Injury could result from small pieces being thrown at the operator if the blade pinches and binds.
- Be very cautious of stock which is pitchy, knotty

or warped. These are most likely to create pinching conditions.

- When possible, avoid cutting above shoulder height.



Before Cutting...

Before cutting with a reciprocating saw, make sure the tool and its accessories are in proper working order. Failure to do so may increase your risk of injury, blade pinching, binding or stalling, and loss of control. These situations may result in an injury.

Unplug the saw before making any adjustments or changing the blade.

Check blades carefully before each use for proper alignment and possible defects. Never use a bent, broken or warped saw blade.

Make sure the blade has adequate blade set. Blade set provides clearance between the sides of the blade and the workpiece, thus minimizing binding.

- Be sure the tool switch works properly. Do not use a tool if the switch does not turn it off when returned to the off position.
- When using a variable speed saw, use higher speeds for soft materials and lower speeds for harder materials to avoid blade damage.

While Cutting ...

- Position yourself to maintain full control of the saw. When possible, avoid cutting above shoulder height.

Keep hands away from the blade and shoe.

Before starting, be sure the power cord and extension cord are out of the blade path and are long enough to freely complete the cut. A sudden jerk or pull on the cord can cause loss of control of the saw and a serious accident.

Clamp workpieces securely. Check frequently to be sure clamps remain secure. A moving workpiece can cause loss of control and result in injury.

- Never hold a workpiece in your hand or across your leg when sawing.
- NEVER overreach! For maximum control, hold the saw firmly with both hands after securing the workpiece.
- When you start your saw allow the blade to reach full speed before contacting the workpiece.
- Always hold the shoe of the saw firmly against the work to prevent operator injury and blade breakage. Striking the blade end against the workpiece can cause loss of control and damage to the saw.
- Be alert to the possibility of the blade binding.
- When making anything other than a through cut, allow the saw to come to a complete stop before removing the blade from the workpiece. This prevents blade breaking and possible loss of saw control.
- When plunge cutting, maintain firm contact between the saw's shoe and the workpiece. Lower the blade into the workpiece using the shoe as a pivot. Once the shoe is flat against the workpiece, begin the desired cut.
- Do not plunge cut into a metal workpiece. Instead, using a drill or chisel, make a pilot hole larger than the widest portion of the blade. Insert the blade, placing the shoe flat against the workpiece, and begin the desired cut.

When Done...

- Switch off the tool after a cut is completed, and keep the saw away from your body until the blade stops. The blade may coast for a time, posing the risk of serious cuts.

Remember that the blade and blade clamp may be hot immediately after cutting. Avoid contact until they have cooled.

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

Die Grinders

Die grinders perform a wide variety of jobs, typically in a confined space. Die grinders are a special version of end grinders to be used with mounted wheels or accessories 2" or less in diameter. Due to the small accessory diameters, die grinders are designed to work without a guard, therefore requiring a special attention while operating. You must have a thorough understanding of all procedures for each job you perform.

Good Personal Safety is a Must

Following good safety practices when using a die grinder 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 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.
- 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.
- Do not operate the power tool near flammable materials. Sparks could ignite these materials.

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.

- Use the correct accessory for your tool. Check this carefully: Does it fit the spindle of the tool. Accessories with spindles that do not match the tool will wobble and vibrate and may cause loss of control.
- Some die grinders are designed to be used with wheel types that may require different guards. Follow the tool and accessory manufacturers' instructions for selecting guards and grinding wheels. Just because an accessory can be attached to a tool, does not mean it is safe to do so.
- Accessories must be used only for recommended jobs. For example: do not grind with the side of a cut-off wheel. It will shatter, causing a serious risk for injury.
- Be sure to properly secure all die grinder accessories that use a collet.
- Be careful not to over-tighten the spindle nut of the tool. Too much pressure will deform the flanges and stress the wheel.

RPM Make sure the speed marked on the accessory is at least as high as the no load RPM marked on the tool. The wrong accessory can shatter during use, possibly causing injury.

Know your Workpiece

Take time to review your work piece and make sure that all necessary precautions have been taken before grinding.

- Use grinding wheels when working with hard materials – such as steel. Use rotary cutters for soft materials – such as aluminum, brass, copper and wood. If you use wheels on soft material, it will cause over loading, and could cause the wheel to shatter or disintegrate. Dangerous flying objects could result.

Always place the work piece securely in a vise or clamp securely. Never make freehand cuts. Holding the work piece by hand is unstable and may lead to loss of control.

- Support panels or any oversized workpiece to minimize the risk of wheel pinching and kickback. Large workpieces tend to sag under their own weight. Supports must be placed under the workpiece near the line of cut and near the edge of the workpiece on both sides of the wheel.

Before Grinding...

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

- Be sure the switch is in the "off" position before plugging it in.
- Do not use a tool if the switch does not turn it off when returned to the "off" position after release.

Always unplug the grinder before making accessory installations.

- When installing a mounted grinding wheel, burr or cutter in the collet, keep distance between the back of the wheel and the front of the collet (overhang) at a maximum of ½ inch. This prevents spindle bending and wheel damage that could cause injury.
- Never use cracked or damaged accessories. Carefully check them before each use.
- Always check accessory for tightness on the tool before each use. A loose cutter or wheel can be thrown from the rotary grinder and can cause serious injury. If the grinder is dropped, inspect it for damage, such as a cracked accessory, broken collet, or bent mandrel. Repair or replace damaged parts to prevent further breakage and thrown objects.
- Never over-tighten a collet. It can damage the cutter or wheel.

Allow new wheels to run for a minimum of 1 minute to check for proper balancing.

- For maximum control, hold the grinder firmly with both hands.
- Always hold the accessory end of the tool away from you and co-workers to prevent possible injuries.
- Die grinders operate at high speeds. To avoid injury, be very careful not to contact the accessory end or be hit by thrown objects.
- If the die grinder vibrates during use, stop immediately and check for the grinding points. Dull grinding points could force the collet out of the tool. Replace or sharpen the grinding accessory.

While Grinding...

- Too much pressure during use can bend or break the collet, mandrel, or accessory. If the grinder runs smoothly when not under load, but does not run smoothly under load, then too much pressure is being used.
- If the tool does not run smoothly when not under load, the accessory may be bent or out of balance. Replace the accessory.
- Never use a rotary die grinder with the cutter pointing toward you. If the grinder should slip, the accessory could cause injury.
- Never hold the workpiece by hand. Keep your hands and fingers away from the working area. Contact with the cutter or wheel will cause injury.
- When stopping a cut, switch off the tool and hold the tool motionless until the accessory comes to a complete stop. Never attempt to remove a wheel from the cut while the wheel is in motion to avoid accidental contact.
- Do not restart the cut in the work piece. Let the cutter or wheel reach full speed and then carefully re-enter the cut.

When Done...

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

To avoid burns, wait before touching workpieces. Allow time to cool.

Always Remember...

- Store tools and accessories with care. Do not drop them or subject them to excessive heat, cold or humidity.

The widespread use of routers is based on their ability to perform an extensive range of smooth finishing and decorative cuts.

Good Personal Safety is a Must

Following good safety practices when using routers 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.

Choose the Right Tool and Accessory

Choosing the correct tool and the proper accessory for your job 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.

RPM Use only those accessories with speeds rated at least as high as the no-load RPM on the tool. The wrong accessory can shatter during use, possibly causing injury.

- Never use dull or damaged bits. Sharp bits must be handled with care. Damaged bits can snap during use. Dull bits tend to over load, causing possibility of bit breakage.
- Never use bits that have a cutting diameter greater than the opening in the router base.

Know your Workpiece

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

Always make sure the work surface is free from nails and other foreign objects. Cutting into a nail can cause the bit and the tool to jump and damage the bit.

- Never lay the workpiece on top of hard surfaces like concrete, stone, etc. The bit may hit the surface and cause the tool to jump up. This can be very dangerous.

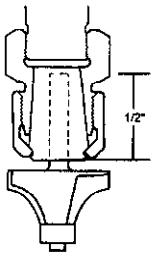
Always place the workpiece securely in a vise or other recommended clamping device. Holding the work piece by hand is unstable and may lead to loss of control.

Before Routing...

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

- After changing the bits or making any adjustments, make sure the collet nut and any other adjustment devices are securely tightened. Loose adjustment devices can unexpectedly shift, causing loss of control; loose rotating components will be violently thrown. Install router bits securely and according to the operator's manual.
- Always use the wrenches provided with the tool to make adjustments. Using the correct wrench enables a more secure grip on the tool and may prevent slipping leading to potential injury.

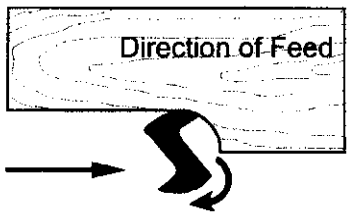
While Routing...



- Never start the tool when the bit is touching the workpiece. The bit may grab the workpiece and cause loss of control. Follow the tool manufacturer's procedure for setting the depth of cut. Tighten adjustment locks. Make certain that the bit shaft is engaged in the collet at least ½ inch.
- Always inspect the router bit before each use and NEVER use a bit if the carbide is cracked or appears damaged in any way.
- Never use a router with the bit pointing toward you. If the router should slip, the bit could cause serious injury. Always face the bit away from your body.
- If the router does not run smoothly, the bit may be bent or out of balance. Replace the bit immediately.
- For maximum control, hold the router firmly with both hands. The reaction torque of the motor can cause the tool to twist.

Keep your hands and fingers away from the work area. Contact with the bit will cause serious injury.

- Always feed the bit into the workpiece in the same direction as the bit rotation (same direction as the chips are being thrown). When the router is positioned between your body and the side of the routed workpiece, the direction of the router feed is to the right. If the router is positioned on the side of the workpiece away from your body the direction of the router feed is to the left.



- Feeding the tool in the wrong direction causes the cutting edge of the bit to climb out of the work piece and pull the tool toward the operator, and may result in loss of control and injury. Follow the instructions provided with and on the tool very carefully.

When Done...

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

Never touch the bit during or immediately after use. The bit is too hot to be touched with bare hands.

- Never lay the tool down until the motor and bit have come to a complete standstill. The spinning bit can grab a surface and pull the tool out of your control.

Always Remember...

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

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.

Shapers and router tables are used to create decorative surfaces in wood and wood like materials.

Good Personal Safety is a Must

Following good safety practices when using a shaper or router table 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 Accessory

Choosing the correct tool and the proper accessory for your job 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.

- Use only the cutter recommended by the tool manufacturer. This is extremely important for your personal safety.
- Always keep cutters sharp and clean of rust and pitch to avoid excessive blade friction.
- Do not attempt to sharpen cutters while they are installed in the cutter head unless a proper sharpening attachment is provided.

Know your Workpiece

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

Examine the workpiece carefully before cutting. Do not shape chipboard, panel board or any stock containing nails, paint or varnish.

- Shaping narrow materials can be hazardous. Always use fixtures, featherboards, push blocks and/or other jigs to hold down the workpiece.
- Never make freehand cuts. Holding the work piece by hand is unstable and may lead to loss of control.
- Be cautious of knots in wood. Knots can be thrown out of the workpiece or cause kickback.
- Properly support long lengths of material to maintain control. Use work supports or stands as needed.

Before Shaping...

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

- Obtain advice from a qualified person if you are not thoroughly familiar with the operation of this tool.
- Do not operate the tool until it is completely assembled and installed according to the manufacturer instructions.
- Check that all guards are in place and return quickly to normal rest positions. If a guard seems slow to return or "hangs up", have it adjusted, repaired or replaced immediately. Never use a tool without a properly operating guard.
- Always use the guard as recommended by the tool manufacturer.
- Set up and secure cutters and worktables according to the operator's manual.
- Make sure cutters are securely locked in the cutter head and that the unused portion of the cutters are covered by the guard before tool use.

- Maintain proper adjustments for infeed and outfeed tables.
- Adjust the fence halves so the cutter opening is more than is required to clear the cutter blade.
- Lock the fence into position after making fence adjustments.

While Shaping...

- Avoid awkward operations and hand positions where a sudden slip could cause a hand to move into the cutter knives.
- Keep your hands, fingers and body away from the cutting area. Contact with a knife will cause serious injury.
- Never feed the workpiece in the direction of cutting blade rotation. Otherwise, the cutter blade can grab and pull the workpiece.

Always use a miter gauge and clamp for "end shaping" to maintain safe control of the work piece.

- Keep the exhaust port pointed away from yourself.
- Don't reach into the exhaust chute to unclog chips. Stop the tool and unplug it from the power source. After making sure that blade has stopped, clear the chute with something other than your bare hand.
- Never reach under the table while the tool is running to avoid personal injury.
- Always be sure that the tool is switched off and unplugged before making any adjustments.

When Done...

- When done, lock the switch in the "off" position to prevent unauthorized use.

Always Remember...

- Store cutters with care. Do not drop them or subject them to excessive heat, cold or humidity.

Table Saws are one of the most commonly used stationary power tools in woodworking shops. To use them safely, they must be properly set up, maintained with care, and specific operating procedures must be followed to prevent accidents.

Good Personal Safety is a Must

Following good safety practices when using table saws 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.
- Keep the saw table clear of other tools, workpieces, and debris.
- Only use table saws that are completely assembled and secured according to their instructions. A table saw should be equipped with a rip fence, miter gage, blade guard, riving knife or spreader and anti-kickback device.
- Children and onlookers should be kept out of the work area. They may distract the operator leading to an accident.
- 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

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.

Use sharp blades. Damaged or dull blades could throw teeth, posing a serious injury risk. A sharp blade will tend to cut its way out of a pinching condition.

Use the correct blade for your tool. Check this carefully: Does it have the proper size and shape arbor hole?

- Use the proper blade for the job. Watch out for overheating or vibrating blades.
- Use clean saw blades. A buildup of pitch or sap on the surface of the saw blade increases blade thickness and also increases blade friction.

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

Know your Workpiece

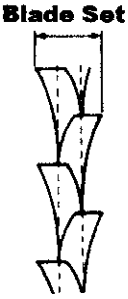
- Use auxiliary work stand/tables to properly support and control long or wide workpieces.
- Cut only wood, wood-like, or plastic materials. Do not cut metal.
- Avoid cutting small pieces of material which cannot be properly secured. Injury could result from small pieces being thrown back at the operator if the blade pinches and binds
- Be very cautious of stock that is pitchy, knotty or warped. These are most likely to create pinching conditions and possible kickback.
- Do not cut wet wood. It produces higher friction against the blade. Also the blade tends to load up with wet sawdust, creating a greater probability of kickback.
- Anti-kickback devices may not work when cutting smooth, hard surfaces. Always cut with the smooth, hard surface down, on the table.
- Check the workpiece for nails or other foreign objects.

Before Cutting...

Before working with a table saw, 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 kickback, blade pinching, binding or stalling, and loss of control. These situations may cause the workpiece to jump back at the operator that can result in an injury.

The saw should always be turned off and disconnected from its power source before making adjustments, installing accessories or making repairs.

Check blades carefully before each use for proper alignment and possible defects. Never use a bent, broken or warped saw blade.



- 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.

- Be sure the blade flanges (washers) are clean and correctly assembled on the shaft and that the blade is properly supported.
- Check often to assure that the blade guard functions properly and returns quickly to its rest position. If a guard seems slow to return or "hangs up", adjust, repair or replace it immediately.
- Be sure the tool switch works properly. Do not use a tool if the switch does not turn it off when returned to the off position.
- The rip fence must be parallel to the saw blade to prevent binding and possible kickback.

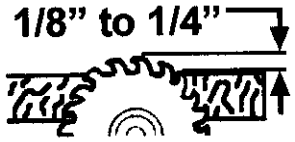
Make sure the blade is installed to rotate in the proper direction – towards the front of the saw.

Do not use grinding wheels, wire brushes, or abrasive wheels on a table saw.

While Cutting ...

Concentrate on what you are doing and be aware of kickback (a sudden reaction to a pinched, bound or misaligned blade). Kickback can cause an uncontrolled workpiece to be thrown toward the operator and is the result of tool misuse and/or incorrect operating procedures or conditions. Take these specific precautions to help prevent kickback:

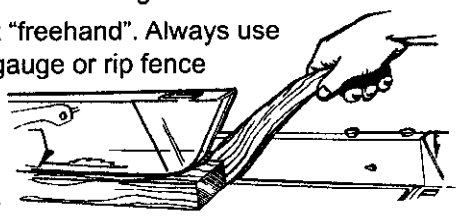
- Always keep the fence parallel to the blade.
- Always push the workpiece through the cut.
- Set blade height to no more than 1/8 in. to 1/4 in. greater than the thickness of the material being cut.



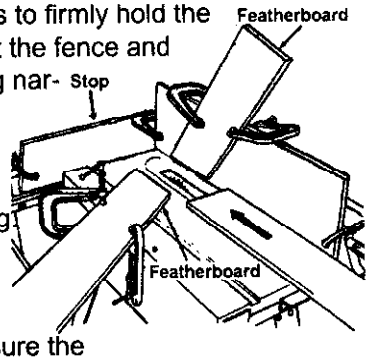
- Use the riving knife or the spreader for all "through-sawing" operations (where the saw blade cuts through the thickness of the workpiece).
- When using the table saw for non-through cutting operations, such as dadoing, grooving or moding, use pushsticks, pushblocks, featherboards, jigs or fixtures to keep your hands and fingers away from the saw blade.
- Do not use the fence as a cut-off stop when cross-cutting.
- Always use the miter gauge when cross-cutting, and hold the workpiece firmly against the miter gauge to assure a straight and even cut.
- When you start your saw, allow the blade to reach full speed before contacting the workpiece.

Be alert to the possibility of the blade binding and kickback occurring.

- Do not cut "freehand". Always use the miter gauge or rip fence to ensure a straight cut.



- Use pushsticks to keep your fingers away from the saw blade for short or narrow ripping operations.
- Use featherboards to firmly hold the workpiece against the fence and table when ripping narrow stock.



- Always use a spreader /splitter for through-sawing. This prevents the kerf from closing and pinching the blade. Make sure the spreader is properly aligned with the blade.
- Always use the anti-kickback pawls /fingers. If a kickback should occur, they are designed to engage the workpiece and keep it from being thrown back toward the operator. Keep the teeth of the pawls /fingers sharp.
- Feeding work too aggressively can overheat a saw blade causing it to bind or warp and create a kickback. Buildup of sap on the blades, insufficient set, dullness, and "freehand" cuts can all result in an overheated blade.

Never reach over or behind the saw. Keep arms, hands and fingers away from the blade.

- The saw blade may coast after the saw is turned off.

When Done...

- Turn off the saw after each completed job.

When done cutting, unplug the tool and lock the switch in the "off" position to prevent unauthorized use.

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

Safe, effective use of a wood lathe requires detailed study and knowledge of all procedures for using this tool.

Good Personal Safety is a Must

Following good safety practices when using wood lathes 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.
- Do not use the tool until it is completely assembled and installed according to the manufacturer's instructions. Check adjustments often.

Choose the Right Tools

Choosing the correct tool and the proper accessory for your job 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.

- Check the operator's manual for proper speed recommendations for the intended purpose and use.
- A lathe should not be altered in any way, or set up to perform any operation not covered in the operator's manual.
- Keep accessories sharp. Dull accessories can dig into the wood, causing the workpiece to be thrown.

Know your Workpiece

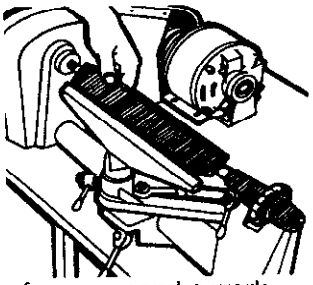
- Use only defect-free stock, without cracks, checks, knots and splits. Knots, for example, can fly out and cause serious injury.
- It is recommended that you rough out faceplate workpiece on a band saw or with hand tools before installing them on the lathe faceplate to prevent jams, slips, or thrown workpieces.
- Never remount a turned piece once it is removed from the faceplate.

Before Cutting...

- Make certain that the belt guard or cover is in place and the workpiece is free but firmly mounted between centers. Check that all clamping devices (locks), such as on the tailstock and tool rest, are tight and that the workpiece clears the tool rest and other machine parts before operating the tool.

Do not run a lathe in the wrong direction. This can cause the turning tool to be thrown from your hands. The lathe spindle must rotate so the top of the workpiece turns toward you.

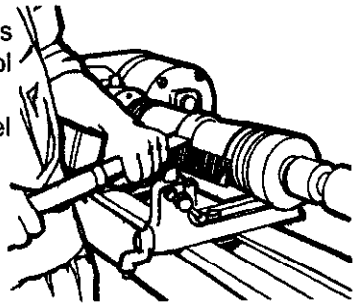
- The clearance between the workpiece and the tool rest should be only about 1/8". Rotate the workpiece by hand to be sure it clears the tool rest.



- Remove the tool rest before you sand a workpiece by hand.
- Clear the lathe bed of all objects before turning on the tool.

While Cutting ...

- Never adjust the tool rest with the lathe turned on.
- Hold turning chisels securely on the tool rest, and hold the handle of the chisel firmly.



- Always use the lowest speed when starting a new workpiece. Lathes should be operated at slow speeds until the workpiece is cylindrical. This helps avoid the possibility of an unbalanced piece jumping out at high speed and striking the operator.
- Clamp workpieces securely. Check frequently to be sure clamps remain secure. A moving workpiece can cause loss of control and result in injury.

When Done...

Unplug the lathe and lock the switch when not in use. Make sure the switch is in the off position to prevent accidental start-up.

Clean and store the tool in a safe, dry place.

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