

## TABLE SAWS

Power tools require operator respect in specific ways. They must be used carefully and kept in safe operating condition, whether they are in the hands of a professional tradesman, an amateur do-it-yourselfer, or a vocational student. *The demands of safety apply to all.* The material presented here is a compilation of carefully selected safe use precautions as they relate to specific electric power tool CAUTIONS, WARNINGS and DANGERS. The purpose is to highlight the safe use of specific tools that have a potential of causing injury if ignored. The warnings and instructions on the power tool and in its operator's manual provide the best source of safety information for the tool. Read and understand the contents and follow the advisements of operator's manuals on each specific power tool and all related accessories. This is considered essential to the safe operation of any power tool. Review PTI's *Safety is Specific* publication for general power tool safety.



Portable and stationary table saws are some of the most commonly used power tools on job sites and 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.

- Wear proper hearing protection, as needed.
- 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 or 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 make 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.
- 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 attempting to cut.

## 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, 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.
- Always use the guard, the riving knife and 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 molding, use push sticks, push blocks, feather-boards, 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 push-sticks to keep your fingers away from the saw blade for short or narrow ripping operations.
- Use feather-boards 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 or remove the battery and lock the switch in the “off” position to prevent unauthorized use. Clean and store the tool in a safe, dry place after use.

## NOTICE

The contents are not meant to be, nor should they be considered, an absolute or complete presentation of the safety measures and procedures that relate to using the power tools covered. Obviously every possible application cannot be foreseen. This brochure's purpose is to highlight only some important safety and safety related information compiled from the experience of Institute members and other reliable safety oriented sources. Individual manufacturers' tool operator's manuals, shipped with tools and accessories, are recommended as a final source for proper procedures for specific tool usage.