Table Saw Safety Is Serious Business


Possibly one of the most dangerous pieces of equipment in the workshop is the table saw. As woodworkers we often take this tool for granted because of its simplicity in purpose and the fact that it is so common in many workshops. Because of this it is easy to become complacent in maintaining our safety vigilance. However, a sharp, multi-toothed blade spinning at an incredible speed should heighten the awareness of the need for caution when working with this tool.

The saw blade is obviously sharp so therefore caution must be exercised whenever working near the blade. The blade has been designed to cut through heavy, dense wood which is much harder than skin and bone. According to the US Consumer Product Safety Commission there are over 60,000 related injuries every year.

Another cause of table saw accidents is what is called ‘kickback’. Kickback happens when the blade catches the wood and throws it back towards you. It can very easily be thrown back hard enough to injure you. Kickback can be caused by a variety of different things including:

1. Internal stress in the wood pinches the blade.
2. The wood moves up or sideways during a cut
3. The wood is pinched between the rear of the blade and the fence.
4. Underpowered saw.

See the post link for an excellent demonstration of kickback!!!

As you can see, minimizing the opportunity for kickback and the potential for blade related injuries is of major importance. However, while there is the possibility for injury while working with a table saw it should not be feared. With awareness, understanding and respect the table saw is an invaluable tool. Adherence to safety guidelines and proper techniques will minimize the chance of an injury occurring.

Although no where near complete, here is a collection of safety tips and techniques for the table saw that I have collected:

1) The first step should be, as with any tool, read the manual. Read all warning labels and the owner’s manual before operating the saw.

2) Use blade guards, anti-kickback devices (prowls), and splitters. These devices are the first-line of defence in table saw safety. It is unfortunate but removal of these devices seems to be the number one cause of table saw injury. If the ones that came with your saw are not suitable do not remove them, instead – replace them! There are a wide variety of after market devices sold that you can use. An added expense but still cheaper than a thumb!

    a. There are times when the blade guard, anti-kickback device and splitter may be in the way and possibly adds to the danger, for example, when ripping thin strips of
wood. In this case, remove these devices and use push sticks. Be extremely cautious and replace the guards, etc. immediately!

3) Minimize the blade height. The idea behind this is that with less blade protruding above the wood the less chance of you getting cut. And if you were to get cut there would be less damage. However, if the blade is set too low it can cause kickback and other non-safety issues like motor drag, burning, etc. The rule of thumb I use 1/4" to 1/2" below the gullet. (Your hands should never be near the blade area anyway so in a way this tip is really moot).

4) Use push sticks or similar devices whenever your hands may go within 6" of the blade.

5) Don’t go near the blade until you can count the teeth! Wait until the blade comes to a complete stop before you remove your wood, etc. While the blade is moving at any speed it has the potential to kick the wood and/or cut you.

6) Do not wear gloves while operating your table saw. Gloves cause a loss to your sense of touch as well as a possible loss of gripping power. Most gloves are also loose fitting which gives the chance for the blade to catch on them. However, use a glove whenever you are changing the blade. Sometimes the blade is on tight and you need a strong grip to remove the holding nut. This gives opportunity for slippage which can cause cuts to your hand. As well, you can also use a commercially available blade holder.

7) After finishing your work the saw blade should be lowered below the table. This way it cannot be bumped into and offers protection if the saw is accidently turned on.

8) Use the proper blade for the job. This will minimize risk associated with a particular job. For example, using a crosscut blade for ripping may cause binding and kickback. There are combination blades available that work well for both crosscutting and ripping.

9) Use a sharp, clean blade. When your blade is sharp and clean it will cut smoother and easier therefore you will not be prone to force your wood. Forcing the wood through the blade as opposed to guiding it through can cause binds and kickback.

10) Always feed your wood past the saw blade when finishing a cut. Pieces that are not fed past the blade can get caught and drawn back into the blade, causing kickback.

11) Be attentive. A lot of mistakes happen when you are not focusing on the work at hand. If you find that your mind is wandering stop and take a break.

12) Take your time. Rushing is just a recipe for disaster.
Always unplug the power before changing the blade or doing any other maintenance on the saw. It's a good idea to get into the habit of hanging the cord over the table. This way you have a visual clue that it's unplugged or not.

Use featherboards and/or hold downs. Using these items greatly increases the safety factor simply because their purpose is to take the place of your hands when feeding the wood through your saw. They keep the wood snugly against the fence and table, minimizing movement that could cause a bind and kickback.

The fence and miter gauge should never be used together. Use the fence for ripping and the miter gauge for crosscutting.

Do not stand behind the wood when feeding it through the saw. This moves you out of the line of fire in case of a kickback.

Adjusted so the blade so that it is parallel with the fence and the miter slots. If it is not parallel, the wood can easily become pinched between the blade and the fence causing kickback.

Feed the wood through the saw with a controlled feed rate. Do not force the wood through the blade.

Have a clean, smooth table top. Less friction requires less force.

Never ‘freehand’ a cut. You will undoubtedly cause a bind. Always use either the fence or miter gauge.

Avoid using the fence to guide a piece that is wider than it is long. Use the miter gauge.

Be alert. Do not use the table saw if you are tired, have been drinking, or are on medication.

Ensure that the stop button is easily accessible.

Turn off the saw before removing small cut off pieces. In addition to usually being dangerously close to the blade they can easily be knocked into the blade turning them into projectiles.

Ensure that there is nothing in the way of the exiting wood which will obstruct the feed process, forcing the cut to stop midway.

Do not cut a piece of wood that is too large to handle. Employ the help of another or use in-feed and out-feed tables.
27) Check your wood carefully for flaws before cutting. Cutting through a loose knot or warped and twisted boards can be dangerous.

28) Use eye protection. Safety glasses will protect your eyes from flying chips and dust. Use a faceshield if the saw is throwing large chips.

29) Use ear protection. The table saw motor can be extremely loud causing ear injury.

30) Use dust protection. The table saw is notorious for making dust which should not be inhaled. Use a combination of a dust mask, dust collector and dust filter.

31) Keep the floor in front of the saw free of debris and sawdust. You don’t want to slip and fall on to a running blade, or in the very least, a cast iron table.

32) Remove the ‘dangles’. Do not wear long sleeves and loose fitting clothing, remove neckties and jewelry and tie back long hair. These items can get caught in the blade and pull you into it very quickly.

33) Do not reach over the saw blade when it is running. This puts you off balance and you could slip into the blade.

As with all tools, whether it is a table saw, a lawn mower or your car, it is best operated defensively. Know the tool, know its capabilities and know yours as well.