

A Quick Lesson In Safe Cutting

by Don Zepp



One morning when we were setting up the batter boards for a new project, I noticed one of my men throw the circular saw violently to the ground. Even though he was about 120 feet away, I knew he had been cut. I ran to him as fast as I could, and what I saw when I got to his side sickened me. The blade had entered the back of his left hand and had come out through the palm. I was wearing a clean, white tee shirt, which I wrapped around his hand, and then we rushed him to the hospital.

That was about 30 years ago, but I have never forgotten the experience. It gave me a whole new outlook on safe cutting techniques for ordinary hand-held electric circular saws. Since then I have been careful to instruct all new carpenters in these techniques from the start, and so far I haven't had to witness any similar scenes.

Prevent Kickback

The most dangerous thing about a hand-held power saw is kickback, which happens only when the blade is pinched. This usually occurs in one of five ways:

- Twisting the saw to follow a line
- Cutting with a dull blade
- Using the wrong type of blade
- Restricting the off cut
- Cutting a large panel that drops

Here's a quick run-down on how to avoid each of these problems.

Start Straight

An inexperienced carpenter will often try to twist the saw to keep the blade on the line. This is one of the most common causes of kickback. With a blade that has wide-set teeth, such as those you find on a chisel-tooth combination blade, you can slowly come back to a line because of the wide kerf. But even here you can

feel the saw trying to kick back. The best thing to do is to start the cut with the saw's table parallel to the blade and hold it that way for the duration of the cut. If you do start askew, don't back out of the cut. Stop the saw and start over.

Change Blades Often

A dull blade heats up quickly, which often causes the blade to bend. When this happens, it pinches on the side of the cut and can easily kick back. I see this most often when a carpenter has hit a few nails. Rather than ruin another blade, that carpenter will press on with the dull blade.

I encourage carpenters to change the blade after hitting the first nail, even though this will slow down the job slightly. If you change the blade immediately, that blade can easily be resharpened. If you wait, it will probably get ruined; the blade will likely lose its temper, and several teeth. Plus, it may be so distorted that it will be extremely difficult to get off.

If you're set up to change a blade, it can be done relatively quickly. One thing to remember: *To loosen the blade, turn the stud in the same direction the spindle turns when running.* This will hold true for any saw — whether it is a direct-drive model or a worm-drive saw — and for most other wood working machines, as well. Place the wrench that came with the saw on the nut and give it a couple of sharp raps with a block of wood. The wood won't damage the wrench, and the force will quickly loosen the retaining stud.

Also, remember to use the right blade for the job. Too often a carpenter will use a nice finish blade for framing, which can cause the blade to overheat, pinch, and kick back. Once again, if you think in terms of

changing the blade, you'll be more willing to change the blade when you switch from one cutting job to another.

For cutting dry finish materials, you want a fine cut without a lot of tearout, so it's worth using a blade with numerous teeth that have a little set as possible. I like a hollow-ground planer blade for this work. Also, for finish work I prefer to use a crosscut blade for crosscutting and a rip blade for ripping, instead of a general-purpose combination blade. But when I switch over to heavy-cutting tasks, such as framing, I use a chisel-tooth combination blade with a wide set and a thick, sturdy plate. Framing lumber is not only thicker than most finish materials, but is often wet, so it is more likely to bind a blade. Wide-set teeth will clear the kerf, and a thick plate will be more resistant to warping as the blade heats up.

Some of the newer blades have an "anti-kickback" design featuring a raised shoulder in front of each deep gullet. This limits how deep a bite the blade can take, and reduces the chance of the blade binding from over-feeding. While this feature helps, you should never force the saw through a cut anyway. Always cut just as fast as the saw will let you without an appreciable change in rpm. You can hear that.

Never Restrict the Offcut

Restricting the offcut is one of my pet peeves. Enthusiastic helpers are always trying to hold the cut-off end of a board. *Never* let anyone do this. Instead let the board fall free. Even a 10-foot offcut will drop without pinching the blade if you zip through it cleanly with a sharp blade and it is allowed to fall free.

The same is not necessarily true of plywood, however. You can't zip through the wide cut fast enough to keep the offcut from getting hung up and binding.

I see two common mistakes with plywood cutting: (1) when trimming plywood that hangs over the edge of a deck or roof, the large offcut drops down and pinches the blade; and (2) when cutting panels on horses, the panel will sag towards the cut and bind the blade. Both can be disastrous.

When cutting sheet materials like plywood or particleboard, always work off the ground or the deck and fully support the panel perpendicular to the cut. For supports, I always use about a half dozen pieces of 2x4. I then set the depth of cut to about 1/8 inch beyond the panel thickness. Because the offcut is well-supported, it won't pinch the blade. ■

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TOOLBITS

Nailing into masonry. Cal Schindel of Missoula, Mont. writes: The most valuable tool tip we've discovered is that the Senco SN4 framing nailer will shoot a 6d galvanized nail into mortar joints and soft brick, and the holding is excellent. We've had two jobs recently where we've used the nailer to secure 2-inch galvanized Z-channel to the inside of masonry walls. We insulated the cavity with rigid foam insulation and then screwed our drywall to the channel. On a third job, we used the nailer to attach furring to concrete block for siding. We had to use the flush nailing attachment (part #RM3094) on the nose of the gun to prevent the Senco from driving the nails through the channel. In terms of both time and money, this method is far better than every other method we've used.

(Note: Senco has recently upgraded the SN4. The new SN70 reportedly has more power and is a pound lighter. It also has a removable leather grip on the handle, which definitely scores high in the cool category. — The Editors)

Demolition vacuum. William Meyer and Sons (8261 Elmwood Ave., Skokie, IL 60077; 708/673-0312) makes the Klean-King line of pow-

erful specialty vacuum cleaners, including the Porta-Vac for residential hvac duct cleaning and, for chimney sweeps, the Ash Vac. But one of the most interesting models is the Insul-Vac — a large vacuum mounted on a dolly and powered by a 1-cylinder, 5-hp gas engine. This vacuum is designed to suck loose fill insulation out of wall cavities and attics through 6-inch-diameter hose and spew it into a dumpster or into 2-cubic-yard, disposable bags. According to the manufacturer, this vacuum can move 2 cubic yards of debris in about a half hour through 100 feet of hose.

The Insul-Vac is sold direct from William Meyer and Sons for about \$1,650. It is used primarily by "disaster restoration specialists" to remove insulation damaged by fire, smoke, or water. On these jobs, workers have to remove a lot of insulation, and they can't always safely crawl through attics to remove debris by hand. If you don't do enough of this type of work to justify the price, you might still look for one at a rental yard. It's well worth the trip across town to pick it up, especially when you consider the alternative — shovels, buckets, and brooms.

— C.D.



The chances of cutting a nail during this demolition project are high. When this happens change the blade immediately. If you don't, the blade will heat up and become ruined, and you risk a dangerous kickback.