

Making a Pen Blank Cutoff Sled for the Bandsaw

By Bob Swartzendruber swartzen@pocketmail.com

Cutting pen blanks to length is a routine part of making pens, and perhaps the most dangerous part of the job. I'll describe a cutoff sled that makes the job easier, and adds a bit of safety.

Photo 1 shows my cutoff sled in place, ready to use. The dimensions aren't critical, mine is 10.5 x 7.5 inches, made from $\frac{1}{4}$ " plywood. The cross bar is $\frac{3}{4}$ " stock about 2" wide. The stop block is $\frac{3}{4}$ " stock about 1 x 1.5".

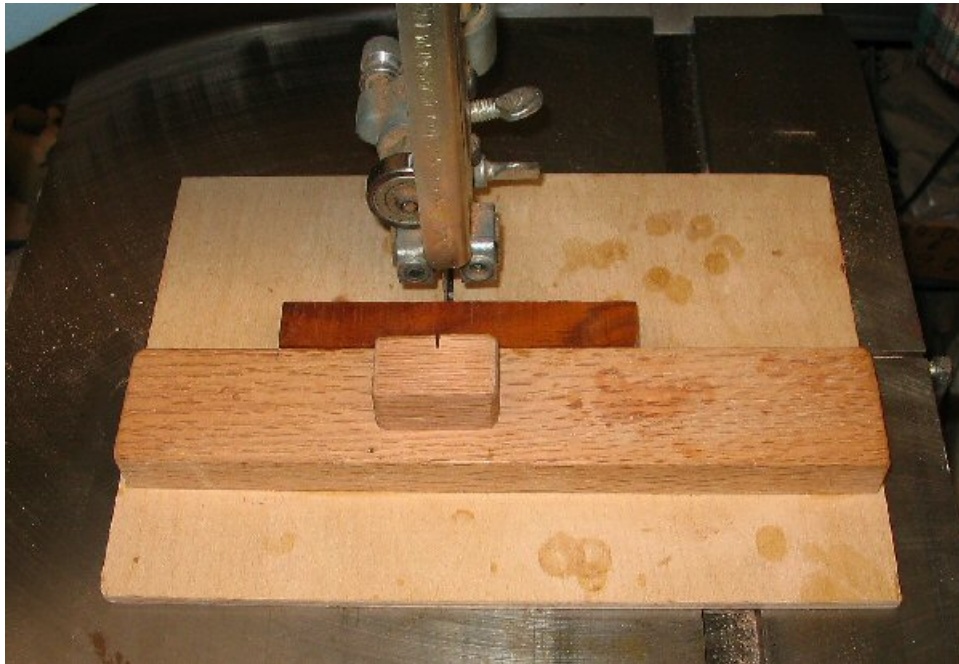


Photo 1:

Ready to cut a blank on the sled. Light colored wood makes the blank and the blade more visible, and the stop block on top of the rail prevents the cut from continuing out the back of the sled.

Construction begins with cutting the base of the sled from available plywood. A light color wood is preferred, to make the pen blank and the saw blade more visible. Then cut and sand a piece of hardwood for the rail that fits into the table slot. A nice tight fit is needed, and it will quickly wear in a little and slide smoothly. I added a coat of wax after the rail was glued in place. Photo 2 shows the rail on the underside of the sled.

The top side of the sled gets a cross bar, from whatever wood is handy. A $\frac{3}{4}$ " thick cross bar will allow blanks up to 1" thick to be cut with the sled.

The tricky part comes next. The rail and the cross bar need to be at right angles to each other. Of the several ways to do that, I think the easiest is to make sure the sled base has 90 degree corners, then mount the table slot rail parallel to one

edge, and mount the cross bar parallel to an adjacent edge. Just mark with a pencil and glue to the line. My rail is 2" from the right-hand edge of the sled base, and the cross bar is 1.5" from the back edge of the sled base.



Photo 2:

A hardwood rail mounted on bottom of the sled fits into the miter gauge slot on the saw. Machine the rail to fit snugly in the slot as it will wear with use. A bit of wax will help it slide smoothly.



Photo 3: Lower the blade guide until it hits the stop block.

Once the glue is dry, it's time to cut the slot in the base. Position the sled with the rail in the table slot, turn on the bandsaw, and cut a slot up to the edge of the cross bar, and about 1/8" into it. Turn off the bandsaw. As shown in Photo 3, lower the bandsaw's upper blade guides until they clear the cross bar, but are

low enough to hit the stop block, and position the stop block to hit the blade guide assembly with the blade buried in the 1/8" deep slot you just cut in the cross bar. Obviously the stop block is to keep you from cutting your sled into two pieces. Glue it in place.

To use the cutoff sled, first lower the blade guide assembly until the stop block will hit it. Position the pen blank against the cross bar, sliding it sideways to make the cut where you want it. Note that the slot cut into the sled bed is a handy indicator of where the blade will be traveling. Keep your fingers away from the slot and the blade. Once the blank is positioned on the sled, hold it with your fingers away from the blade and simply slide the sled forward until the stop block hits. Pull the sled back slowly, away from the blade, and position the blank for the second cut. Yeah, it's that easy, and that's why the sled is so nice to have.