

## Some tips for cutting fret slots using the C. B. Gitty miter box

To make good fretboards, you need to cut slots properly. A well cut slot has the following properties:

1. Correct location
2. Correct depth
3. Correct width (kerf)
4. Square to the center of the fretboard

For years, I've made some decent necks using a coping saw and a shop-built square, but it wasn't easy. There are lots of power-tool options for making accurate fret slots (Del Puckett has a setup I'd like to try. See it on [YouTube](#))

C. B. Gitty has a nifty little miter box (Item 41-008-01) made of laser cut plywood specifically made for the common 1.5" x .75" stock used 3 and 4 string CBG necks. I bought it along with the fret saw (Item 48-007-01). Since I got them, I've made a few necks and have come up with a few mods and tips to make the setup work much better.

### Depth control

From measuring the tang on the fret wire, I decided to cut the slots about 0.065" deep. My first try was to measure the distance from the top of the box to the top of the neck blank, then the distance from the saw teeth tips to the spine of the saw. From those, I calculated the size of a spacer block to limit the saw cut depth. Seemed foolproof, but...then I discovered the spine of the saw isn't necessarily parallel with the teeth!

OK, a different method was needed. I decided to use hot glue to attach a tongue depressor to the saw blade to limit how far it would go into the box.



Tongue Depressor hot glued to the saw blade acts as the depth stop

To set the depth, I put a piece of stock in the box, then rested the saw on it. I placed a tongue depressor on top of the box as a spacer representing the intended cut depth (the tongue depressor was 0.065" thick). Holding the spacer in place, I used hot glue to attach a second tongue depressor to the saw blade as the depth stop. It is important to hold the saw firmly on the neck blank, the spacer firmly on top of the box, and the depth stop firmly on the spacer.



Setting the depth – saw blade resting on neck blank, tongue depressor spacing the depth stop off the top of the box while gluing the second tongue depressor to the saw blade

This worked! Well, almost. One side was cut deeper than the other. I checked to see if the stop was attached parallel to the saw teeth, and they were. The only other possibility – the sides of the box were not the same height. The box parts are laser cut, so that wasn't the problem, it had to be my assembly! No matter. I sanded the high side carefully so they are now equal. The cut depth is perfect now – just saw until it stops cutting!

#### Cut location

For a while, I was marking the fret locations by measuring and drawing lines across the blank using a square. This is fine, but if you are using a miter box, the cut will be square anyway, so all you really need to define the location is a POINT. I use a sharp awl to make a small prick mark in the stock. When I position the stock in the box, I rest the saw blade on it and slide the stock until I can see the prick mark from both sides of the blade (or until I can't see it from either side...). I like to locate the material and clamp the stock in place before cutting. Always make sure the stock is firmly in contact with the back wall of the box before cutting!



Fine awl was used to make precisely located prick marks. One mark is barely visible beneath the saw blade.

#### Securing the box

Holding the box securely is a tremendous help to making accurate cuts. I screwed mine to a scrap of neck material so I could clamp it in a vise. The scrap was several inches longer than the box on either side so I could clamp the neck blank securely. I added a small shim to compensate for the thickness of the miter box's bottom.



The box is screwed to a scrap of neck stock so it can be held in a vise. The extension allows the neck to be clamped while its being slotted. The shim compensates for the thickness of the box's bottom.

A few other items...

Cutting tools work best with low friction. I use paraffin wax to lube the saw blade, depth stop and miter box slot. (I also put wax on screw threads to ease installation. Very helpful for tiny tuning machine screws!)

Tighten the slot – the tighter the slot on the box, the less slop in the cut. I added a few layers of tape to both sides of the slot until the saw slid but didn't wobble. You have to make sure

you use the same amount on both sides of the box to keep the cut square. (I imagine you can use this trick to adjust the squareness, too, if you have a problem with that).

If you don't use a separate fingerboard and you glue your neck scarf before you cut, you will have problems getting the first several frets cut because the head stock will get in the way. The solution is to cut another guide slot closer to one end of the box. You have to do this carefully - any error cutting this guide will be duplicated in every slot you cut! Maybe Gitty would consider adding this extra slot to their laser cutting program...

I hope these tips help!