



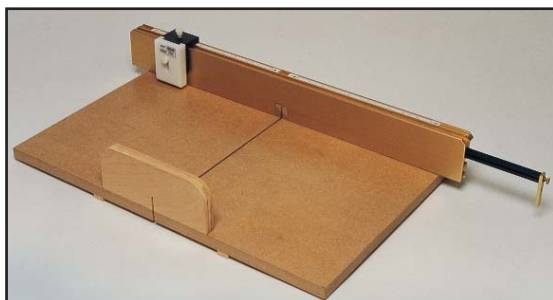
# From the Original Woodworker's Notebook

By  
Ronald Woodhull

## THE SLIDING CROSSCUT SAW TABLE

### A NOTE ON SAFETY

*Safety is the responsibility of all woodworkers. Do not attempt any project or procedure without all safety devices intact. Any deviations in stock dimensions and/or any change in project will affect the end result of any project. When circumstances require the use of different materials, alter project dimensions as required. Read all instructions for any project before starting the project.*



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Phone: (210) 524-9104  
Fax: (210) 377-1282  
Website: [www.jointech.com](http://www.jointech.com)  
email: [woodworkersnotebook@jointech.com](mailto:woodworkersnotebook@jointech.com)

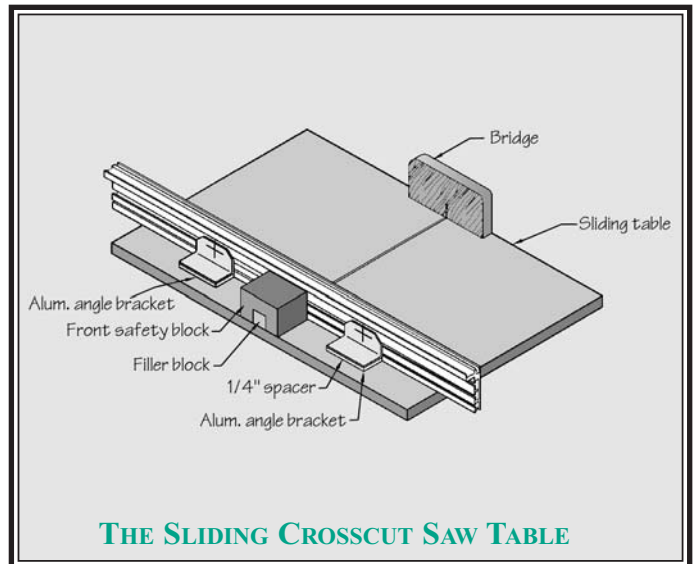
## The tool I can't be without...

The safest and most accurate way to crosscut a board on your table saw is not with a miter gauge, but a sliding table. The sliding table not only moves the work through the cutting path but also provides support under the piece as well as behind it. The sliding table supports both halves of the piece after the cut is made, making it less likely to kick back. This makes it much safer than a miter gauge. The bottom panel is zero clearance with the saw blade which results in a very smooth cut.

The following paragraphs will guide you through the process of making a sliding saw table. The accuracy of the projects made with your tool will be as good as the tool you use to make them. Take your time, measure twice, use your square and cut once.

### Materials

This project makes use of the **Jointech IPM** aluminum fence. A wood fence can be used. However, use of the aluminum fence will allow use of all the **Jointech** accessories, stops, featherboards etc. If you have purchased a **SmartFence** to upgrade your Joinery woodworking system this is what you can do with your old standard fence. The sliding table described here is a small table designed to handle 4/4 or 5/4 boards up to 12" wide and any length you are comfortable with. A larger top can be made following the same instructions using a wider and longer table top.



Most of the materials for this project come from the cut off box (I prefer not to call it a scrap box). A strip of  $\frac{3}{4}$ " hardwood (straight) about 4" longer than your saw table's length. A piece of  $\frac{3}{4}$ " plywood 3" x 8". A piece of wood 2 x 4 x 6" long. A  $1\frac{1}{2}$ " x  $1\frac{1}{2}$ " x  $\frac{1}{8}$ " thick aluminum angle  $6\frac{1}{8}$ " x  $\frac{1}{8}$ " long. A piece of  $\frac{3}{4}$ " MDF (preferred) or  $\frac{3}{4}$ " plywood 16" x 24". If your piece is wider than 16" don't cut it, make a wider base. It is not necessary to have the base absolutely square but it does make it a lot easier to work with. At this point it would be a good idea to tune up your table saw, especially setting the blade parallel to the miter gauge slots.

## Construction

### CAUTION!

Use a zero clearance insert in the saw table when cutting narrow strips.

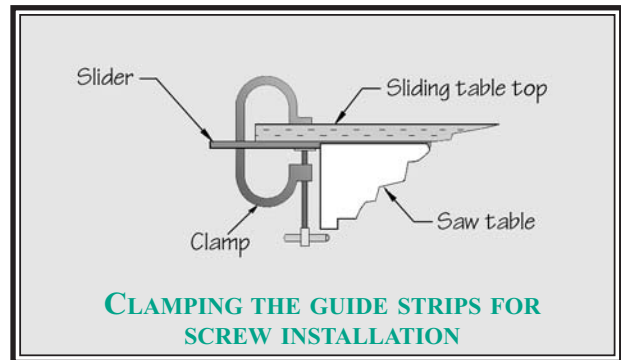
Most lumber mills plane hardwood stock to  $\frac{25}{32}$ " thick which leaves you with a  $\frac{3}{4}$ " board after sanding. This thickness is ideal for our usage. Cut two strips  $\frac{5}{16}$ " thick. Fit check the two strips in the saw table miter gauge slot. The strips must fit snug. If the strips are too tight and if you have a **SmartFence**, set the fence up in the jointer configuration. Shave the strips  $\frac{1}{64}$ " at a time until you achieve a smooth sliding fit with no perceptible side to side play. Strips can also be fitted with a hand plane or scraper. If the board is too thin to start with, rip saw the  $\frac{3}{4}$ " board to  $\frac{13}{16}$ " and resaw into two  $\frac{5}{16}$ " pieces and repeat the fit procedure.

From a piece of  $\frac{3}{4}$ " MDF cut a 16" x 24" board to use as the sliding table top.

Lower the table saw blade all the way down. Place the MDF board on the saw table top with the 24" width centered on the saw blade kerf.

Extend the front edge (the side near the operator) about 2" over the edge of the saw table. Slide the guide strips in the two miter slots and leave them extended toward the operator about an inch beyond the sliding table top edge. Align the sliding table to be parallel with the saw table top. Perfect alignment is not necessary, it is for appearance only and does not affect the use of the tool. The guide strips should slide freely in the miter slots and not drag on the sliding table top. With the guide strips clamped to the sliding table top and in the miter slots, drill and countersink each strip for a #4 x  $\frac{3}{4}$ " flathead screw about one inch in from the edge of the sliding table. Install a screw in each hole and remove the clamps. (do not over tighten the screws, they will expand the guide strips). Push the table forward until the sliding table overhangs the rear edge about 2". Repeat the clamp and

screw installation as before. Remove the clamps and invert the sliding table top. Drill and countersink for at least one more screw in each guide.



Put the sliding table back in place on the saw table. Normally the guides will bind up in the miter slots due to the wood expanding around the screws. Mark the surfaces of the miter slot sides with chalk or pencil lead, and push the guides through the slots once or twice to mark the guides high spots. With a scraper or a sharp wood chisel used as a scraper remove the high spot marks. Repeat this process until the table assembly moves freely through the full stroke on the table.

Make the bridge from scrap  $\frac{3}{4}$ " plywood, 3" x 8". Locate the bridge even with the back edge of the sliding table and centered on the width of the table. Glue and clamp in place. Put one flathead screw through the sliding table into the bridge,  $\frac{3}{4}$ " in from each end to stabilize the bridge until the glue is dry.

Place the sliding table on the saw table with both guides in the miter slots. With the saw turned off and the sliding table clear of the blade area, raise the saw blade to  $1\frac{3}{4}$ " above the saw table surface, then turn on the saw. Push the sliding table forward into the saw blade and cut to about one half the width of the sliding table top. Turn off the saw and lower the blade below the saw table surface. Unplug the saw.

## Wood Fence Installation

For a wood fence, use a piece of hardwood (preferably maple)  $1\frac{3}{4}$ " x 3" x 24". Select a piece that is straight. The piece should be jointed on one edge. This can be done on a jointer, a table saw, or on your router table if you have a **SmartFence**. This is what I use. Set up the **SmartFence** as a jointer. I use a 1" diameter x 2" cutting height,  $\frac{1}{2}$ " shank bit for my jointer bit. Joint the maple blank on one edge to get a smooth flat edge 90 degrees from the face which we will mark and call face "A".

With the sliding table installed on the saw table and overhanging the forward edge of the saw table about four inches, place the jointed edge of the maple fence down on the sliding table top with face "A" toward the saw blade. Locate the fence such that you have  $12\frac{1}{4}$ " between the inside of the bridge to the inside of the maple fence.

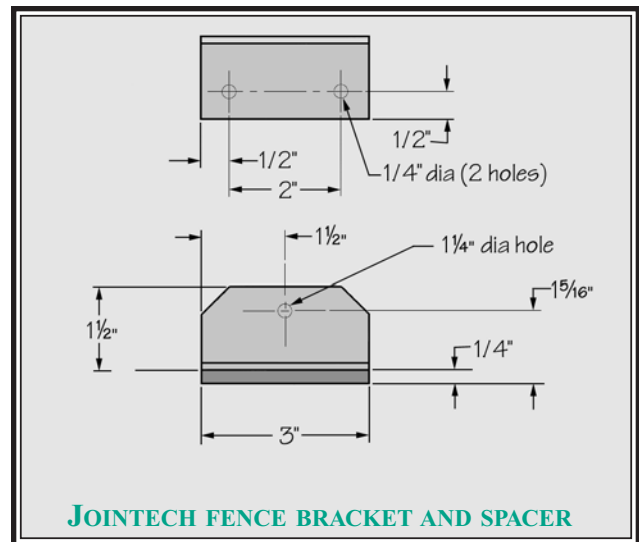
Place a straight edge in the saw kerf and use a framing square or a large triangle to square the fence to the saw kerf. When you have it square clamp the fence to the sliding table top. Pre-drill through the sliding table top and into the fence and install two 2" drywall screws, one at each end about 2" in from each end. Remove the clamps and check the fence for square with the saw kerf. If it is square add two more screws, do not place the screws near where the saw blade will be. If it was not square remove one of the screws and use the original procedure to square the fence. Clamp the fence and insert another screw. Do not use the original screw hole.

## Installing the Jointech IPM Fence

For maximum stability the **Jointech** fence should be mounted using the center T-slot on the fence back. From the bottom of the fence to the center of the slot is  $1\frac{5}{16}$ ". The nearest aluminum angle I could find is  $1\frac{1}{2}$ " x  $1\frac{1}{2}$ " x  $\frac{1}{8}$ ". In order to have adequate edge distance for the  $\frac{1}{4}$ " diameter screws, I added a  $\frac{1}{4}$ " spacer under the brackets on installation.

Make the aluminum brackets as shown in the drawing. Make spacers from  $\frac{1}{4}$ " plywood.

Loosely install the brackets on the **Jointech** fence with  $\frac{1}{4}$ " screws and nuts, with the nuts installed in the center T slot. Place the loose assembly on the sliding table top and set the outer edge of each bracket about 3" in from the sliding table edge. The brackets must be on the  $\frac{1}{4}$ " spacers. Tighten the screws to the fence to lock the brackets in place.



Place a straight edge in the saw kerf and using a framing square or a large triangle, square the fence to the saw kerf. Clamp the brackets to the sliding table top. Install one screw in each bracket and remove the clamps. Recheck the fence for square with the saw kerf and adjust if necessary. When you are satisfied that the fence and saw kerf are square install the remaining screws.

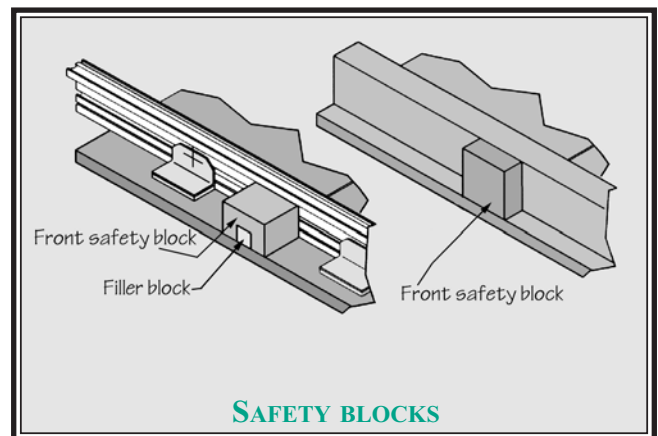
To fill in the fence cutout, cut a piece of wood stock to 1" x 1" x 3" and round off the two corners to fit the cutout. Check that the cutout in the fence is centered on the saw kerf, if it is not, loosen the two screws holding the fence to the brackets and slide the fence to center it. Tighten the two screws. Coat the bottom of the filler block with glue and slide it into the opening in the **Jointech** fence. Take care the block does not extend through the fence, stop about  $\frac{1}{64}$ " short of going all the way through. Clamp the block in place to let the glue dry. No screws here!

## The Safety Block and Stop

I have been using a sliding saw table in one form or another for several years and I had never fitted them with either a stop or a safety block. I had never cut a finger or thumb but about a year ago after I trimmed a thumb nail, I decided I had better add some safety precautions.

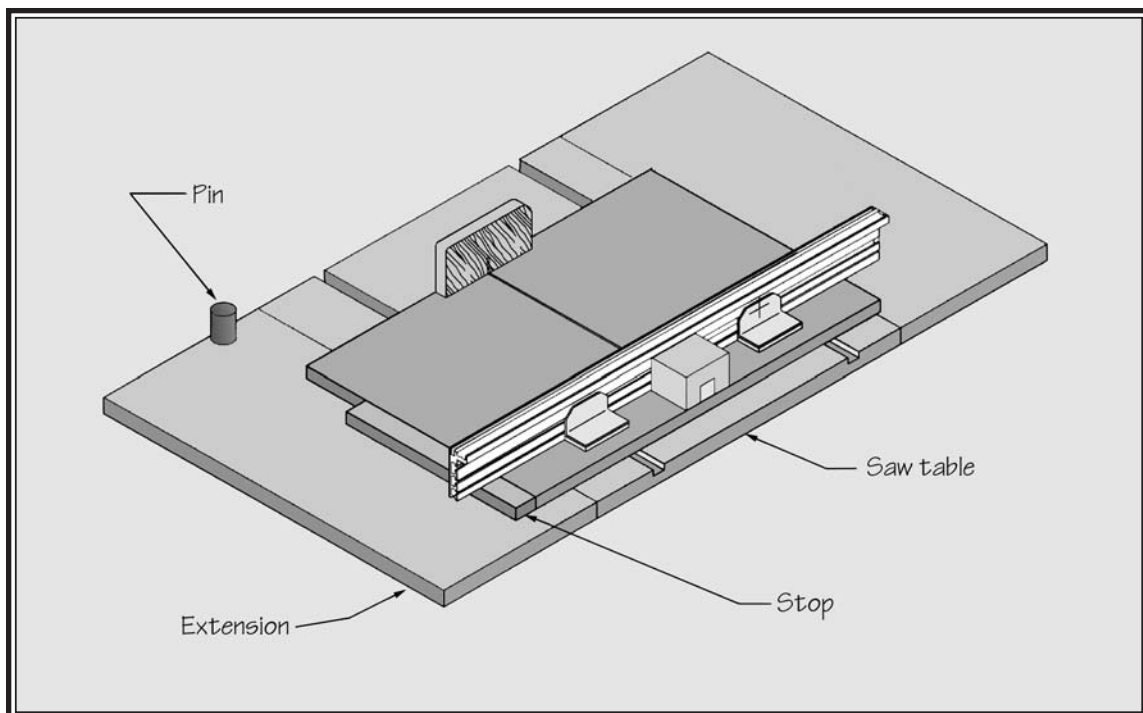
For a wood fence, cut a block  $1\frac{1}{4}$ " thick x 3" high x 3" long. Glue and clamp the block to the operator side of the fence and centered on the line where the saw kerf will be.

For the **Jointech** fence safety block, use a piece of 2" ( $1\frac{3}{4}$ ") stock  $2\frac{3}{4}$ " wide by  $2\frac{1}{4}$ " long. Cut a 1" x 1" dado to fit over the filler block. Install the safety block over the filler block, apply glue to the filler block and the table top. Clamp safety block in place until the glue dries. When the glue is dry, set the sliding table on the saw table clear of the blade and plug the saw in.



Finally we are almost finished. All that remains is to make a safety stop to keep from cutting through the safety block. With the sliding table clear of the saw blade, raise the saw blade to a height of  $1\frac{7}{8}$ " above the saw table top. Put a scrap of  $5/4$  material in the sliding saw table and very carefully cut through the piece of wood until the blade just severs the board. Without moving the sliding saw table shut off the saw. Mark the location of the sliding table on the saw table. There should never be any reason to cut further into the table than you have just done.

Unfortunately I cannot tell you how to implement a stop for your saw table. Each saw set up is different. I drilled a small hole in my saw table top and installed a pin in the hole. When I use the sliding table the pin contacts a piece of wood attached to the side of the sliding table. If your sliding table overhangs the the side of the saw table locate the stop block on the side.



## MATERIAL REQUIREMENTS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>SIZE</u>	<u>MATERIAL</u>
1	Jointech Fence	1	18 or 27 inch	Aluminum
1	Wood Fence (alternative)	1	1 <sup>3</sup> / <sub>4</sub> x 3 x 24	Hardwood
2	Table	1	3 <sup>4</sup> / <sub>4</sub> x 16 x 24	M.D.F. or Plywood
3	Spacer *	2	1 <sup>4</sup> / <sub>4</sub> x 3 x 1 <sup>1</sup> / <sub>2</sub>	Plywood
4	Bracket *	2	1 <sup>1</sup> / <sub>8</sub> x 1 <sup>1</sup> / <sub>2</sub> x 1 <sup>1</sup> / <sub>2</sub>	Aluminum
5	Filler Block **	1	1 x 1 x 3	Wood
6	Safety Block **	1	1 <sup>3</sup> / <sub>4</sub> x 2 <sup>3</sup> / <sub>4</sub> x 2 <sup>1</sup> / <sub>4</sub>	Hardwood
	Safety Block * (alternative)	1	1 <sup>1</sup> / <sub>4</sub> x 3 x 3	Hardwood
7	Guides	2	5 <sup>5</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>4</sub>	Hardwood
8	Bridge	1	3 <sup>3</sup> / <sub>4</sub> x 3 x 8	Plywood
9	Screw (guides)	6	#4 x 3 <sup>3</sup> / <sub>4</sub>	Flathead screw
10	Screw (bridge)	2	#6 x 1 <sup>3</sup> / <sub>4</sub>	Drywall screws
11	Screw (bracket to table)	2	1 <sup>1</sup> / <sub>4</sub> x 3 <sup>3</sup> / <sub>4</sub>	Hex lag bolt
12	Screw (bracket to fence)	2	1 <sup>1</sup> / <sub>4</sub> -20 x 3 <sup>3</sup> / <sub>4</sub>	Machine screw
13	Nut & Washers	2	1 <sup>1</sup> / <sub>4</sub> -20	Hex nut

\* Use with wood fence only

\*\* Use with **Jointech** fence only