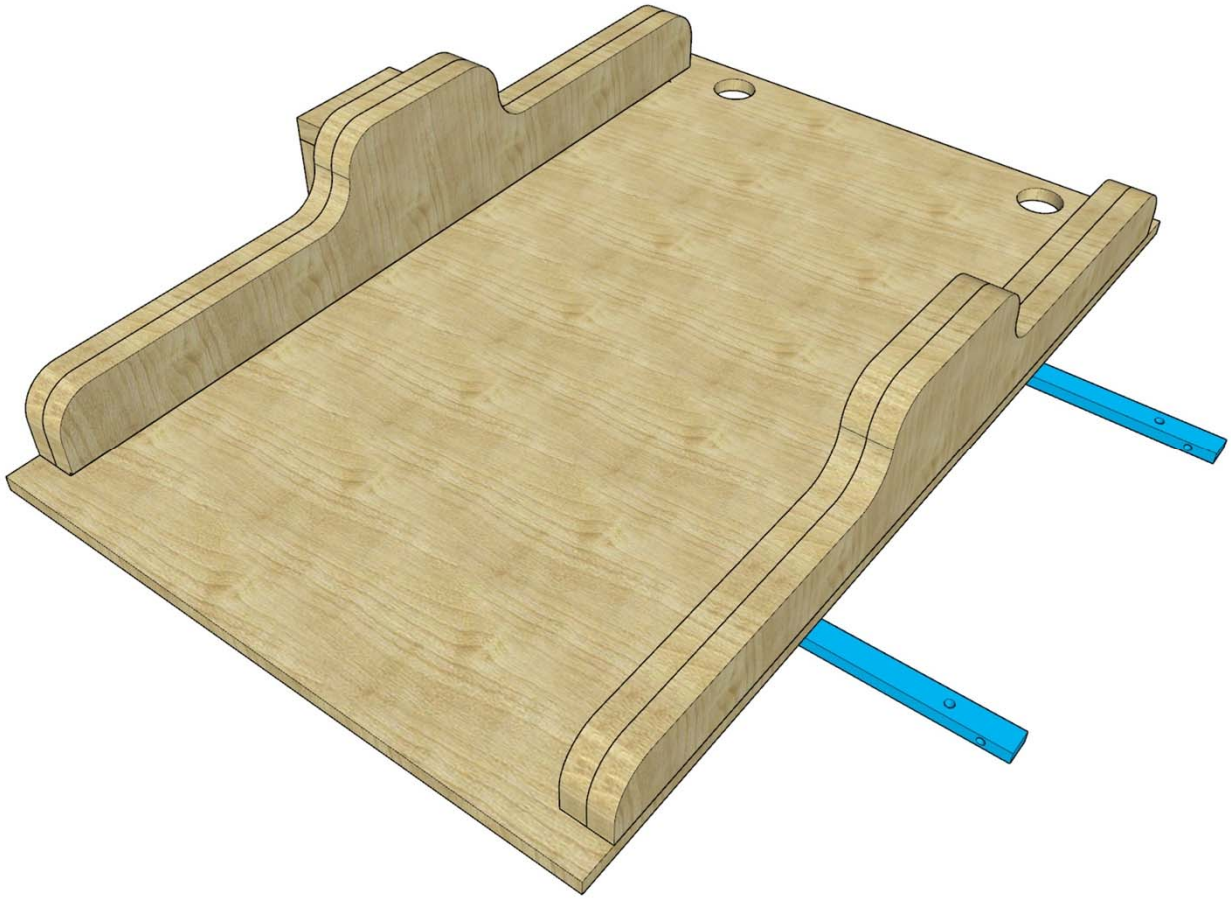
INSTRUCTIONS

for Building the

Table Saw Crosscut Sled

Rev. 1



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A Few Remarks About Making the Table Saw Crosscut Sled

Robert Penoyer

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A WARNING – PLEASE READ

Woodworking can be dangerous! It's up to you to determine if you can safely use the tools and perform the tasks needed to complete this and any other woodworking project. If you are unsure, STOP! Get advice from someone knowledgeable or do some careful studying on your own. Be safe!

Always wear at least an appropriate N95 dust mask or respirator when sanding or spraying finishes. For advice about dust masks and respirators, visit this link:
https://woodworkingtoolkit.com/best-dust-masks-respirators/

READ, UNDERSTAND, AND FOLLOW ALL OF THE INSTRUCTIONS AND WARNINGS THAT CAME WITH YOUR TOOLS. BE CAREFUL!

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Why Build This Project?

The Table Saw Crosscut Sled is an important addition to any woodshop that has a table saw. Use the sled to cut accurate right angles on larger panels or use it to cut smaller pieces with ease and relative safety. It's constructed with 1/2" and 3/4" plywood and two commercially available guide rails.

Key Design Features of the Table Saw Crosscut Sled

- Simple design that's easy to build
- The Base is 30" wide by about 19" deep
- Able to make square cuts up to 16" long
- The 24" long guide rails extend ahead of the sled to engage your saw's miter slots and align the sled well before any workpiece reaches the blade
- The rear fence is 5" high in the center but just 2 1/2" high elsewhere to enable easy use of stop blocks secured by clamps
- Two large holes are drilled in the base to make the sled easy to store away on hooks

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Details of the SketchUp File and Equivalent PDF File

File *Sled_07_SKETCHUP_VERSION_8.skp* is the SketchUp design for the Table Saw Crosscut Sled. All of the dimensions and other necessary details are incorporated here. If you should find a dimension or other detail missing, it can be determined by examining this file. And, you can orbit and move the model around for a better look at everything.

File *Sled_07_SKETCHUP_VERSION_8.pdf* contains all of the images and dimensions from the SketchUp file. Use this file if you're not familiar with, or don't use, SketchUp.

If you would like to view the SketchUp file (.skp) without the expense of paying for SketchUp, you can download the free SketchUp Viewer here:

https://www.sketchup.com/products/sketchup-viewer

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Use the Included SketchUp or PDF File to Follow Along with These Descriptions

There are 7 pages in this design. The heading of each section below corresponds to the name of a particular SketchUp/PDF page.

Assembly

This is a perspective view of the entire assembly. A limited number of dimensions and other details are shown in this view.

The Base is 1/2" Baltic birch plywood. Each Fence is made from two layers of 3/4" Baltic birch plywood that have been glued together.

The two Guide Rails are purchased items. Information about those is provided later.

Assembly Bottom

This is a view of the bottom of the Base with the two guide rails attached. More information about the purchased Guide Rails is provided later.

No dimensions are given for the locations and spacing of the Guide Rails because this will vary from saw to saw. Details for attaching the Guide Rails to the Base are given later.

Notice that the near ends of the Guide Rails are set away from the back edge of the Base. This is done for two reasons. First, the spacing helps to extend the Guide Rails out from the front edge of the Base to better ensure that the sled is in full alignment with your saw's miter slots before the workpiece contacts the saw's blade.

Second, the nearest of the three mounting holes in the Guide Rails is assured of being accessible after the Rear Fence is secured to the Base. This will permit easy access to the 1/4-20x3/4" mounting screws that are inserted from the top of the Base and into each Guide Rail.

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Finally, notice the note that the 12 1/2" hole location is specifically called out. The three 1/4-20 threaded holes in the Rockler 26232 guide rail are arranged such that the middle hole is not centered on the rail. It's 12 1/2" from one end and 11 1/2" from the other end. Using the largest dimension available gives the guide rails the greatest strength for resisting side-to-side movement.

Guide Rail

This view shows the dimensions of the Guide Rails. These particular rails are 3/4" wide and 3/8" deep, which permits them to fit the miter slots of most table saws.

You should check the dimensions of your saw's miter slots before committing to this particular brand and model.

The Guide Rail used in this sled design is the 24" *Rockler Aluminum Miter Bar*, part number 26232:

https://www.rockler.com/rockler-18-24-aluminum-miter-bar

Guide rails from at least two other vendors are also available. *Be sure before ordering that anything you choose from the following list will suit your needs and fit the miter slots in your saw:*

Kreg KMS7303 30-Inch Jig and Fixture Bar
https://www.amazon.com/gp/product/B0002QZ4SA/ref=pe_3730140_566859580_em_1p_1_lm

POWERTEC 71519 24-Inch Miter Gauge Jig and Fixture Bar
https://www.amazon.com/gp/product/B082XRHS55/ref=pe_3730140_566859580_em_1p_4_lm

Base

This drawing provides some of the details of the Base. Three lines are included in the image. A line at both the front and back of the Base show approximately the inner edge of the respective Fence.

If the sled is to be used on the Bosch 4100XC-10 table saw: The line at the left designates the location of the left edge of the Base. That is, to nominally center the Base on the blade, the Base should overhang the top of the table by 2 1/4". *This dimension does not apply if your sled will be used on a different saw.*

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The two 1 1/2" holes at the left are for storing the sled on hangers spaced 12" apart.

Rear Fence

The Rear Fence is the one closest to the operator of the saw. It's constructed by stacking and gluing two pieces of 3/4" Baltic birch plywood. *This Fence, of the two Fences in this project, is most critical in its construction.*

Make the Fence as straight as possible: Any distortion of the front surface of the Rear Fence will result in crosscuts that are not square.

Notice the note on the drawing to "*Cut a 1/8"x1/8" rabbet along the bottom of the front edge.*" This rabbet will help to prevent dust and debris from collecting along the front edge of the Fence. Any dust or debris along the front edge of the Fence can upset the squareness of the cut if it gets between the Fence and the workpiece.

Blade Guard: Notice the Blade Guard on the Rear Fence. Also, see Figure 1.

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Figure 1. The Blade Guard

THE BLADE GUARD IS INTENDED TO HELP PREVENT YOUR HANDS AND FINGERS FROM RECEIVING A VERY SERIOUS INJURY FROM THE SAW'S BLADE. ALWAYS KEEP YOUR HANDS OUTSIDE OF THE BLADE GUARD!

BE SURE THAT THE BLADE GUARD IS INCLUDED IN THE ASSEMBLY! DO NOT ATTEMPT TO OPERATE THE SAW AND SLED WITHOUT A BLADE GUARD.

The Blade Guard Top is a 2"x4" piece of 3/4" Baltic birch. It's located high enough to avoid the blade cutting into it at the blade's highest setting.

The Blade Guard Sides are 2"x3" pieces of 3/4" Baltic birch.

All of the Blade Guard pieces are simply glued onto the Rear Fence.

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Front Fence

The Front Fence is the one farthest from the operator of the saw. Like the Rear Fence, this Fence is constructed by stacking and gluing two pieces of 3/4" Baltic birch plywood. The alignment and straightness of this Fence are not critical to the correct operation of the sled. Its only purpose is to give the sled structural stability.

Notice that the height of the Front Fence is 1/2" shorter than the Rear Sled.

Fence Pattern

The purpose of this view is to facilitate the making of a pattern from MDF or hardboard/Masonite. Each square in the pattern is 1/2".

Notice that the pattern is 28" long but the Fence is only 27 7/8" long. That length was chosen because that's the length of the material that I had on hand.

Another option for marking and cutting a pattern is to use the dimensions in the Rear Fence image. Each radius is 1 1/4" and the center of each radius can be determined from the dimensions on the drawing.

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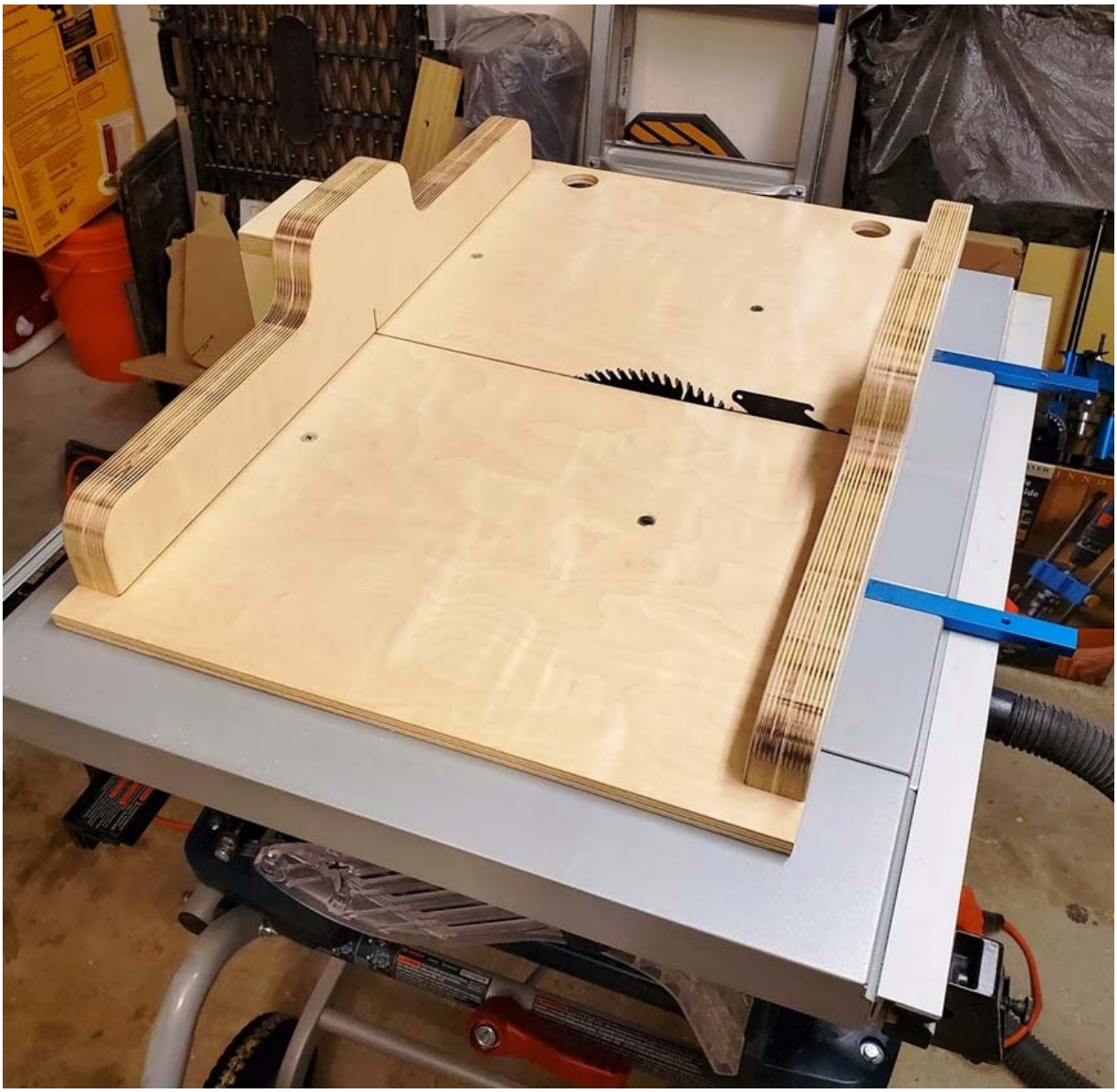

Figure 2. The Table Saw Crosscut Sled

Cut the Base to Final Size

Cut a piece of 1/2" Baltic birch to its final size of 30"x19 1/8". Though Baltic birch has a reputation for being flat and stable, check to ensure that the Base is very flat.

Put the Base aside for now.

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Cut the Blade Guard Parts to Final Size

Cut a piece of 3/4" Baltic birch to dimensions of 2"x4". Cut two more pieces to 2"x3".

Put the Blade Guard parts aside for now.

Prepare Some 3/4" Baltic Birch to Fabricate Both Fences

Each Fence is formed by stacking and gluing 2 pieces of 3/4" Baltic birch. Because it's very important that the Rear Fence be straight and true, be sure the wood you select for the Fences is as flat and true as possible.

Begin by rough cutting a piece of 3/4" Baltic birch to about 10 1/2"x28 1/2". This will ultimately become the Rear Fence.

Rough cut another piece of 3/4" Baltic birch to about 9 1/2"x28 1/2". This will ultimately become the Front Fence.

Label and Cut Each Piece: Refer to Figure 3. Label one side of each piece A and the other side B. Then cut down the center of each piece. Keep the separate sides together with their A and B labels facing up.

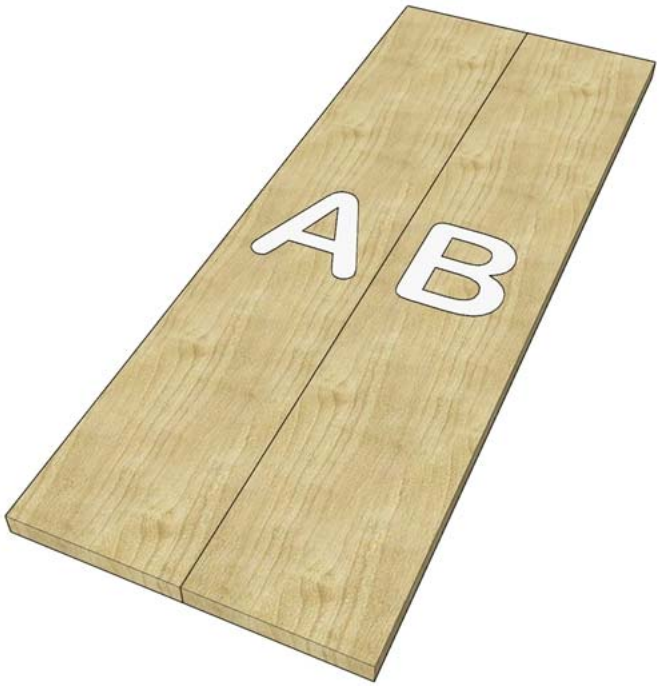

Figure 3. Label and Cut Each Piece

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Prepare to Glue and Clamp: The best way to glue and sandwich the pieces together is to clamp the sandwich against a very flat surface. For example, the cast iron top of a table saw or router table is very flat. If you have either of those, or perhaps a very flat table or workbench, then clamp the sandwich against that surface while the glue cures. If you don't have such a surface, then the procedure in the following paragraph will optimize the flatness of the sandwich.

Bookmatch and Glue the Pieces: **Be sure to understand this process before gluing and clamping.** Bookmatching is folding the A face toward the B face and folding the B face toward the A face. Why do this? If there are any bows or curves in the larger piece before you cut it, then those bows and curves will tend to oppose each other when you bookmatch the two halves. Thus, when clamped together, the resulting "sandwich" tends to be flatter.

Perform all of these steps for both Fences:

1. Prepare a lot of clamps
2. Spread a thin, uniform layer of glue on the A face and the B face
3. Bookmatch the pieces together
4. Align the edges of the two pieces as closely as possible
5. Place a lot of clamps around the sandwich as shown in Figure 4
6. Let the glue cure overnight

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Figure 4. Use Lots of Clamps

Notice several things in Figure 4:

- The edges of the two plywood pieces are closely aligned
- The clamps are spaced relatively uniformly
- Wax paper is placed below the glue-up to keep the wet glue off of the table

Prepare the Fence Pattern

You will need a pattern for use with a router or router table to cut the profile of each Fence.

1. Select a piece of MDF (Medium Density Fiberboard) or hardboard/Masonite for your pattern
2. Cut the material 5" wide by 27 7/8" long. Ideally, one edge of the material will be a factory-cut edge. Make the factory-cut edge the bottom (straight) edge of the fence pattern as noted in the Fence Pattern image.
3. Use the dimensioning of the Rear Fence image or the square grid of the Fence Pattern image to carefully draw the Fence profile on the pattern
4. Cut out the pattern using a bandsaw or jigsaw. Leave the lines!

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5. Carefully sand all of the cut edges to smooth contours that exactly follow the lines. If you used a factory-cut edge for the straight edge, that shouldn't need any sanding.

Rough Cut the Rear Fence Profile

1. Place the pattern on the sandwich that you prepared for the Rear Fence
2. Align the straight edge of the pattern about 1/16" in from the edge of the sandwich
3. Use a pencil to mark all of the edges of the pattern onto the sandwich
4. Remove the pattern from the sandwich
5. Use a bandsaw or jigsaw to rough cut the sandwich while staying 1/8" to 1/4" outside of the line. A band saw is best for this cut since its blade tends to stay vertical. *Beware that the blade of a jigsaw can bend and undercut the piece so that the cut might fall inside the profile on the opposite side of the sandwich from he jigsaw. Stay far enough from the line to prevent this from happening.*

Rough Cut the Front Fence Profile

You must ensure that one edge of the Front Fence sandwich is absolutely straight. Do this by cutting one edge of the sandwich on your table saw. Keep track of this edge.

Offset the straight edge of the pattern 1/2" *outside* the saw-cut edge of the sandwich you prepared for the Front Fence. (Recall that the Front Fence is 1/2" shorter than the Rear Fence.)

Follow Steps 3-5 of the *Rough Cut the Rear Fence Profile* procedure, above. No cutting of the saw-cut edge is needed.

Finish Cut the Rear Fence Profile

Using strategically located pieces of double-sided tape, secure the Fence Pattern to the rough-cut Rear Fence sandwich. Carefully align the Pattern to the lines that you drew on the sandwich. As you did earlier, keep the straight edge of the Pattern about 1/16" away from the straight edge of the sandwich.

Press down on the Pattern at the locations of all of the tape pieces to ensure that it's secured to the Rear Fence sandwich.

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1. Set up a flush-cutting trim bit or pattern bit in your router or router table so that the bearing is aligned with the Pattern
2. Carefully flush-cut the profile onto the Rear Fence along all edges, excluding the straight edge
3. Carefully remove the Pattern from the new Rear Fence
4. Remove all of the tape

Finish Cut the Front Fence Profile

Using strategically located pieces of double-sided tape, secure the Fence Pattern to the rough-cut Front Fence sandwich. Carefully align the Pattern to the lines that are drawn on the sandwich. *The Pattern's straight edge should be offset 1/2" from the saw-cut edge of the sandwich.*

Press down on the Pattern at the locations of all the tape pieces to ensure that it's secured to the Front Fence sandwich.

1. Set up a flush-cutting trim bit or pattern bit in your router or router table so that the bearing is aligned with the Pattern
2. Carefully flush-cut the profile onto the Front Fence
3. Carefully remove the Pattern from the new Front Fence
4. Remove all of the tape

Round-over the Fence Edges

Use a 1/8" radius round-over bit in your router or router table to round over all of the edges of both Fences, *but* do *not round over the straight edges.*

Cut a Rabbet in the Rear Fence

Use a table saw or router to cut a 1/8"x1/8" rabbet along the bottom of the front edge of the Rear Fence as shown in Figure 5. The rabbet will provide a place for dust and debris to go so it's less likely to get between the Fence and the workpiece where it could upset the squareness of the cut.

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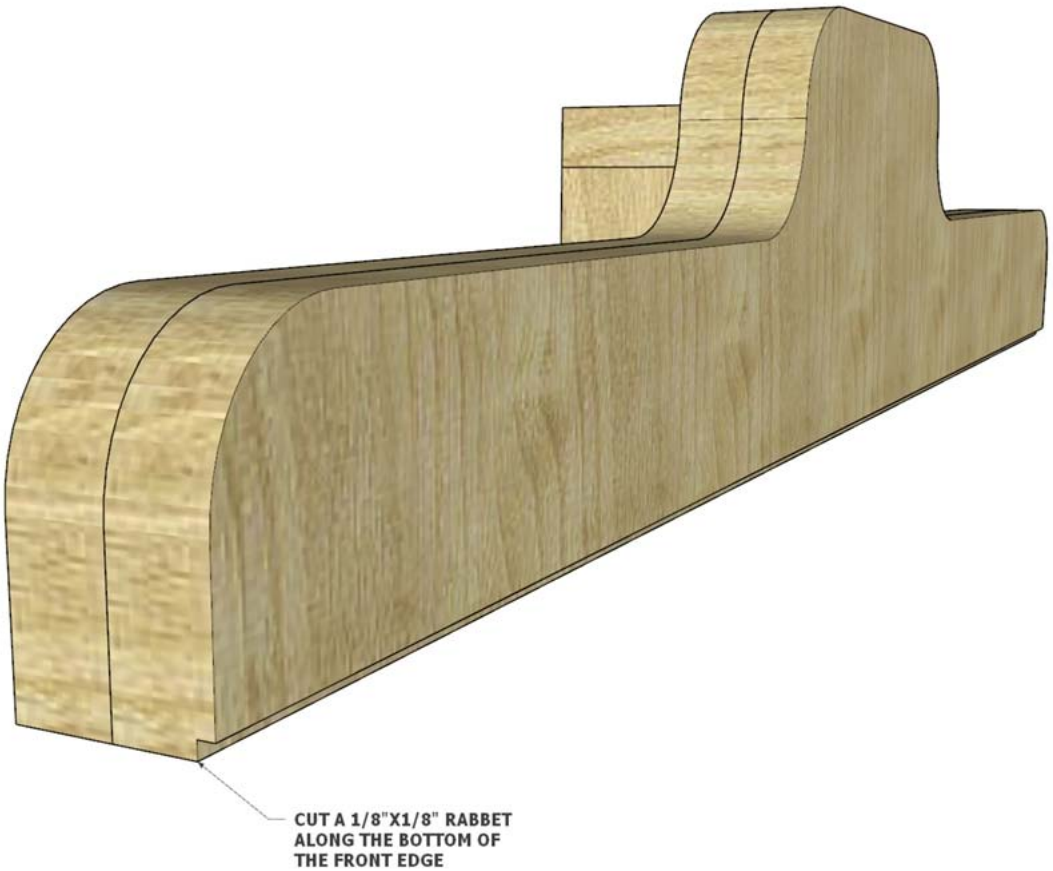

Figure 5. Cut a Rabbet in the Rear Fence

Attach the Blade Guard to the Rear Fence

Follow the dimensions in the Rear Fence image to glue and clamp the Blade Guard parts into place. Refer to Figure 1 for more clarity.

Set Up the Guide Rails

Place each Guide Rail into each miter slot in your table saw. Carefully adjust the set screws so that each rail slides freely in the slot with minimum side-to-side slop. It's important for both rails to slide *freely* so that the assembly still slides freely when both are mounted on the base. Good judgment is important while making these adjustments.

Attach the Guide Rails to the Base

MUCH OF THE FOLLOWING PROCEDURE IS SPECIFIC TO THE BOSCH 4100XC-10 TABLE SAW AND THE ROCKLER 26232 GUIDE RAILS. MAKE ANY NEEDED MODIFICATIONS TO THIS PROCEDURE IF YOU'RE USING ANY OTHER SAW OR GUIDE RAILS.

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1. Place a couple of pennies in each of the table saw's miter slots. Place the Guide Rails on top of the pennies. The pennies will raise the Guide Rails above the surface of the saw. Make sure the 12 1/2" dimension shown in the Assembly Bottom image is in each miter slot.
2. Apply double-sided tape to the tops of the Guide Rails *but do not block the 1/4-20 threaded holes*
3. Ensure that the near end of each Guide Rail is located 1/2" in from the near edge of your saw's top
4. Carefully lower the Base onto the two Guide Rails so that the near edge of the Base is aligned with the near edge of your saw's top and left edge of the Base extends 2 1/4" past the left edge of the saw's top as shown in the Assembly image
5. Press the Base firmly down onto the tape on the Guide Rails
6. Carefully remove the Base with the Guide Rails and place the assembly upside down onto a flat surface
7. Use a pencil to *carefully* mark the locations of the 1/4-20 threaded holes in the Guide Rails onto the bottom of the Base. *This must be done carefully and accurately.*
8. Carefully remove the Guide Rails from the base without bending or damaging the Guide Rails
9. Leave the pennies where they are in the miter slots
10. Remove all of the tape
11. Carefully drill a *perpendicular* 1/16" hole at the center of each marked hole location
12. Carefully redrill the holes using progressively larger bits. Each previous hole will help to accurately guide the drill bit for the next drilling operation. Do this until you finally use a 1/4" drill bit.
13. Turn the Base over and drill a countersink into each hole. The countersink must be wide enough to allow the head of a 1/4-20x3/4" flathead screw to sit below the surface of the Base.
14. Place the Guide Rails into the miter slots just as you did when you used double-sided tape to secure them. Do not use tape this time.
15. Place the Base over the Guide Rails and use four 1/4-20x3/4" flathead screws to secure the Base to the Guide Rails
16. Snug the screws but do not tighten them fully. Ensure that the Base and Guide Rail assembly can slide freely along the top of the saw. Make any needed adjustments to cause the Base to slide freely with little or no side-to-side play
17. Continue tightening the screws while checking the smoothness of the sled until the screws are fully tightened

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Drill Holes for Storage

Drill two 1 1/2" holes into the Base as shown in the Base image of the SketchUp/PDF drawing. Use these to hang up the crosscut sled on hooks for storage.

Mount the Front Fence Onto the Base

Make sure your saw is turned off and unplugged!

1. Raise the blade in your saw just above the top of the saw
2. Place the Base assembly (with Guides attached) onto your saw's top with the Guide Rails in the miter slots
3. Slide the Base assembly forward until the leading edge of the Base is against the blade
4. Use a pencil to mark the Base on each side of the blade as shown in Figure 6

Figure 6. Place a Mark on the Sled at Each Side of the Blade

5. Lower the blade below the saw's top
6. Carefully remove the Base assembly from the saw and place it on a flat surface
7. Measure and mark the center of the Front Fence

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8. Place the Front Fence on the Base with the marks aligned as shown in Figure 6
9. Carefully clamp the Front Fence to the Base
10. Turn the Base and Front Fence over
11. Predrill and countersink 6 or 8 holes through the Base and into the Front Fence in preparation for driving 1 1/2" flathead screws. Refer to Figure 7 as a guide. (Do not attempt to attach the Rear Fence at this time.)

Figure 7. Hole and Screw Pattern

12. Drive 1 1/2" flathead screws into the predrilled holes
13. Remove the clamps
14. Along the edge of the Base opposite the Front Fence, use a pencil to mark a reference line 3/4" in from the edge. This will be used as a guide to locate the screws that will be used to secure the Rear Fence.

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Attach the Rear Fence to the Base Before the Alignment Procedure

The alignment of the Rear Fence is critical. That alignment is the key to a well-built crosscut sled.

1. Begin by raising the blade in your table saw so that it can cut past the top surface of the Base
2. Plug the saw in and turn it on
3. Place the partially built Base assembly onto your table saw with the Guides in the miter slots and slide it *CAREFULLY* into the running blade
4. Cut through the Base until the blade is about 4 inches from the rear edge of the Base. Stop there.
5. Turn the saw off
6. Unplug the saw
7. Measure and mark the center of the Rear Fence
8. Place the Rear Fence along the rear edge of the Base so that its center mark is lined up with the kerf cut that you just made with the blade
9. Clamp the Rear Fence to the Base assembly at both ends of the Fence such that its back edge is flush with the back edge of the Base
10. Predrill and countersink a single hole for a 1 1/2" screw through the bottom of the Base and into the Rear Fence near the right end of the Fence. Do this from below while the assembly is still on the saw. The hole should be about 1 1/2" in from the end of the Rear Fence.
11. Drive a 1 1/2" flathead screw into the hole
12. Remove both clamps

Initial Alignment of the Rear Fence

1. Lower the saw blade completely
2. Be sure that the saw is unplugged
3. Place a thin piece of wood into the kerf cut made by the blade. If an appropriate thin piece of wood isn't available, place the thick blade of a straightedge or a combination square into the kerf cut.
4. Place one edge of an accurate, large square such as a framing square against the object that you placed into the kerf cut and place the other edge against the face of the Rear Fence. Move the left end of the Rear Fence until the square is flush against both the straightedge and the Rear Fence.
5. Carefully clamp the left end of the Rear Fence to the Base without moving the Fence

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6. Predrill and countersink a hole for a 1 1/2" screw through the bottom of the Base and into the Rear Fence about 1 1/2" in from the left end of the Rear Fence. Do this from below while the assembly is still on the saw.
7. Drive a 1 1/2" flathead screw into the hole
8. Remove the clamp
9. Remove the framing square and the object that you placed in the cut
10. Raise the blade high enough to cut through the Base
11. Plug in the saw
12. Start the saw
13. Push the new sled assembly into the blade and all the way through the back of the sled ***being sure to keep your hands and fingers outside of the Blade Guard***
14. Turn the saw off

Use the 5-cut Method to Align the Rear Fence

Understanding the 5-cut Method

The 5-cut method is a clever and precise way to accurately align the Rear Fence so that it's perpendicular to the blade of the saw. *Your crosscut sled will become an important and reliable tool in your workshop if you follow the procedure correctly.*

To begin your understanding of the 5-cut method, please watch this YouTube video. Watch to gain understanding and appreciate the general idea, but do not perform the steps. I will offer some additional information after the video to make the procedure clearer. I will also provide you with a specific procedure:

William Ng is a master woodworker. Watch as he explains the 5-cut method.
https://youtu.be/UbG-n--LFgQ

Why 5 Cuts?

The first cut simply provides a starting point and a reference for the 4 cuts that follow. That is, you begin with a known straight cut reference and then make 4 cuts to complete the test of the crosscut sled.

Perform the 5-cut Test

1. Select a fairly large piece of material, ideally about 14" or 14 1/2" square. This will use most of the capacity of this crosscut sled with room to spare.

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2. Place a large, obvious mark near the edge of the material where you will make the first cut. Make sure the mark is large enough that some of it remains on the test piece after some material has been sawed off.
3. Place the workpiece firmly against the left side of the Rear Fence with the marked edge on the side toward the blade
4. Use the sled to cut along the marked edge by pushing the sled through the cut and removing a small amount of material, roughly 1/4". **BE SURE TO KEEP YOUR HANDS AND FINGERS OUTSIDE OF THE BLADE GUARD. GET USED TO RESPECTING THE BLADE GUARD.**
5. Pull the sled back so that the test piece is away from the blade
6. Discard the offcut
7. Rotate the workpiece clockwise putting the newly cut edge firmly against the Rear Fence and make a new cut, again removing about 1/4" of material
8. Repeat Steps 5-7 until the marked edge is again in position to be cut
9. Cut the marked edge by removing a wider slice this time with a width of about 1" or less
10. Turn the saw off and wait for the blade to come to a complete stop
11. Using Figure 8 as a reference, mark an "F" on the end of the offcut that is farthest from you and "N" on the end of the offcut that is nearest to you

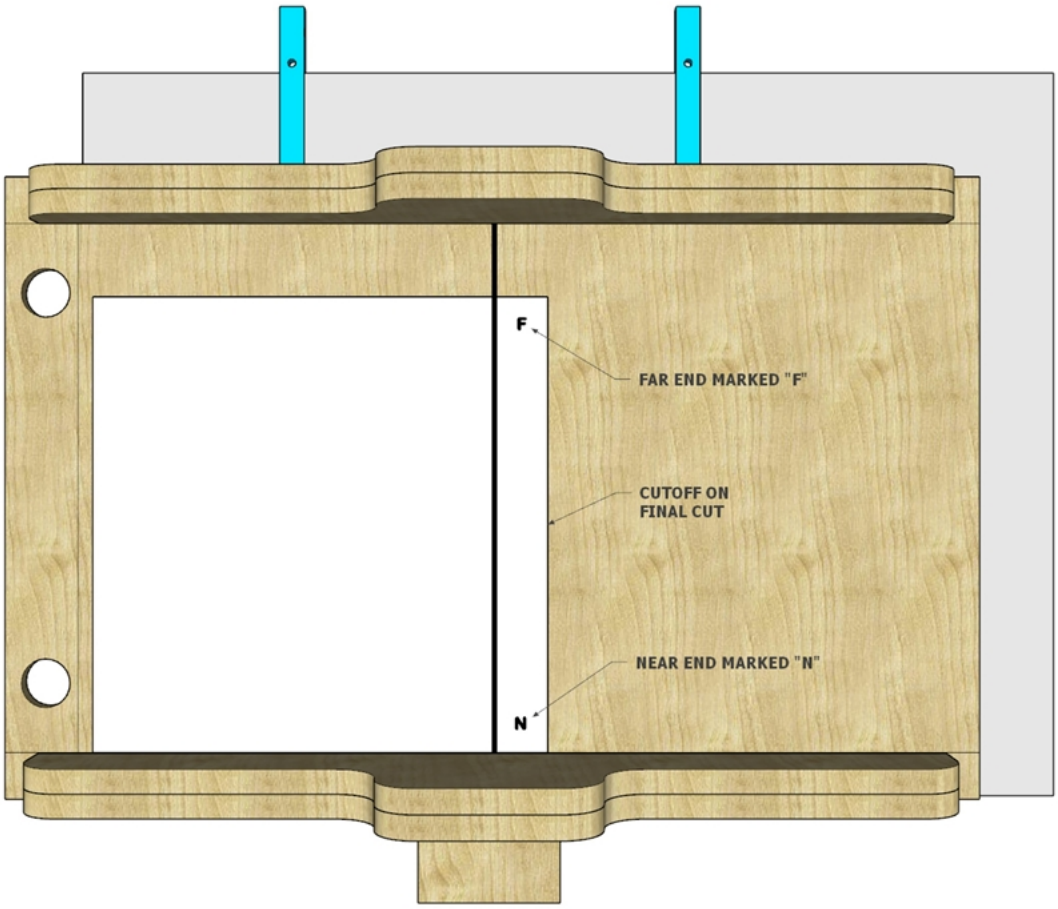

Figure 8. Cutoff Marked with F and N

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12. Using a digital or dial caliper, measure the width of the cutoff at the F end and write the measurement near the F
13. Do the same at the N end

Which end is bigger, and why does it matter?

- If the far (F) end is bigger, the left end of the Rear Fence must be pulled back
- If the near (N) end is bigger, the left end of the Rear Fence must be pushed forward
- If the widths are the same or within a few thousandths of an inch of each other, then the Rear Fence is adjusted correctly

How much should the Rear Fence be moved?

This is where the process becomes simpler than the process described by William Ng on the link that's provided above.

- Estimate the total distance around the test workpiece. Let's say the total length of all 4 edges is 54 inches (for example, 13 1/2" + 13 1/2" + 13 1/2" + 13 1/2" = 54")
- The distance from the right pivot point on the Rear Fence, where the screw was driven in, to about 1/2" or 1" from the left end of the Fence is roughly 27" (i.e., 28 7/8" – 1 1/2" (for the screw inset from the end of the Fence) – 1/2" (a reference point that we'll set in from the left end of the Fence) = 26 7/8". Let's call it 27".

POSSIBILITY 1: <u>F is bigger than N</u> by more than a few thousandths of an inch, so the left end of the Rear Fence must be pulled back.

1. Let's say that the width at F was bigger than the width at N by 0.010" so that the left end of the Fence must be pulled back
2. Since the error was 0.010" over a distance of 54" and the length of the Fence from the pivot point to the reference point is 27", then the left end of the Fence must be moved $\frac{27}{54} \times 0.010" = \frac{1}{2} \times 0.010" = 0.005"$
3. Place the corner of a piece of hardwood or other hard material against the left side of the Rear Fence set in 1/2" from the end and clamp it to the Base as shown in Figure 9

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Figure 9. Corner of Sheet of Acrylic (or Other Hard Material) Clamped Against the Fence

4. Remove the screw from the bottom of the Base that secures the left end of the Rear Fence
5. Move the left end of the Rear Fence back a small amount and sandwich a 0.005" feeler gauge snuggly between the Fence and the corner
6. Carefully clamp the left end of the Rear Fence into place
7. Predrill and countersink a *new* hole from the bottom of the Base into the left end of the Rear Fence about 1/2" from the original hole. DO NOT USE THE SAME HOLE!
8. Drive a screw into the new hole
9. Repeat the 5-cut process beginning at Step 2 on Page 21 to check the result of your adjustment

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POSSIBILITY 2: <u>N is bigger than F</u> by more than a few thousandths of an inch, so the left end of the Rear Fence must be pushed forward.

1. Let's say that the width at N was bigger than the width at F by 0.010" so that the left end of the Fence must be pushed forward
2. Since the error was 0.010" over a distance of 54" and the length of the Fence from the pivot point to the reference point is 27", then the left end of the Fence must be moved $\frac{27}{54} \times 0.010" = \frac{1}{2} \times 0.010" = 0.005"$.
3. Clamp the corner of a piece of hardwood or other hard material to the Base at the left side of the Rear Fence set in 1/2", and space it from the Rear Fence using a 0.005" feeler gauge as shown in Figure 10

Figure 10. A Feeler Gauge Separates the Corner of a Sheet of Acrylic (or Other Hard Material) from the Rear Fence

4. Remove the feeler gauge
5. Remove the screw from the bottom of the Base that secures the left end of the Rear Fence

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6. Move the left end of the Rear Fence forward until it presses snuggly against the corner
7. Clamp the left end of the Rear Fence into place
8. Predrill and countersink a new hole from the bottom of the Base into the left end of the Rear Fence about 1/2" from the original hole. DO NOT USE THE SAME HOLE!
9. Drive a screw into the new hole
10. Repeat the 5-cut process beginning at Step 2 on Page 21 to check the result of your adjustment

POSSIBILITY 3: F and N are within a few thousandths of an inch of each other

1. You're done aligning the Rear Fence
2. Remove the crosscut sled from the saw and turn it upside down on a flat surface
3. Predrill and countersink at least 4 more holes evenly distributed along the bottom of the sled and into the Rear Fence
4. Drive a 1 1/2" flathead screw into each hole to complete securing the Rear Fence to the Base
5. Remove the clamp

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