

Woodsmith **PLANS**

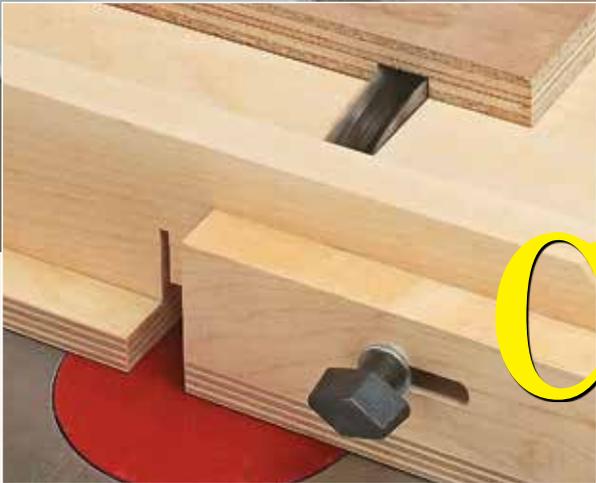
PRECISION CROSSCUT SLED





precision

Crosscut Sled



▲ **Zero-Clearance Base.** Whether you're making a simple crosscut or cutting dados, rabbets, or box joints, the adjustable base ensures less chipout.



▲ **Add-On Accessories.** The versatile fence design allows you to easily add accessories like featherboards, stop blocks, or a box joint attachment.

Accurate and chip-free crosscuts plus a versatile fence make this a must-have jig for your table saw.

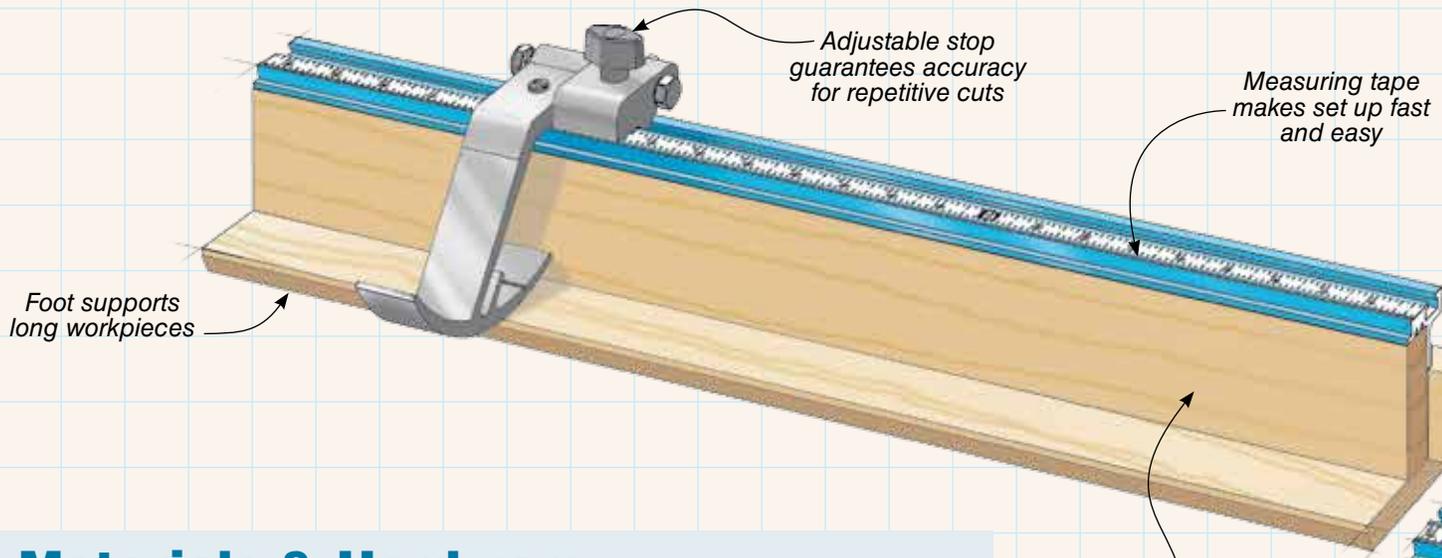
A crosscut is one of the most basic woodworking tasks. And I know that when I'm crosscutting on the table saw, I like the foolproof accuracy a shop-made sled provides. A solid but lightweight sled like this one makes cutting longer and wider workpieces easier.

The rock-solid fence design on this sled means you'll get square cuts every time. And it's designed so you can add a variety of

accessories, like a flip stop, ruler, and the box joint jig shown at left.

But this sled has another unique feature — a "zero-clearance" base. The sliding base extension allows the sled to hug both sides of the blade. That means your cuts are cleaner with less chipout.

With all these features, this sled is sure to become your go-to table saw jig and one you're likely to leave on your saw most of the time.

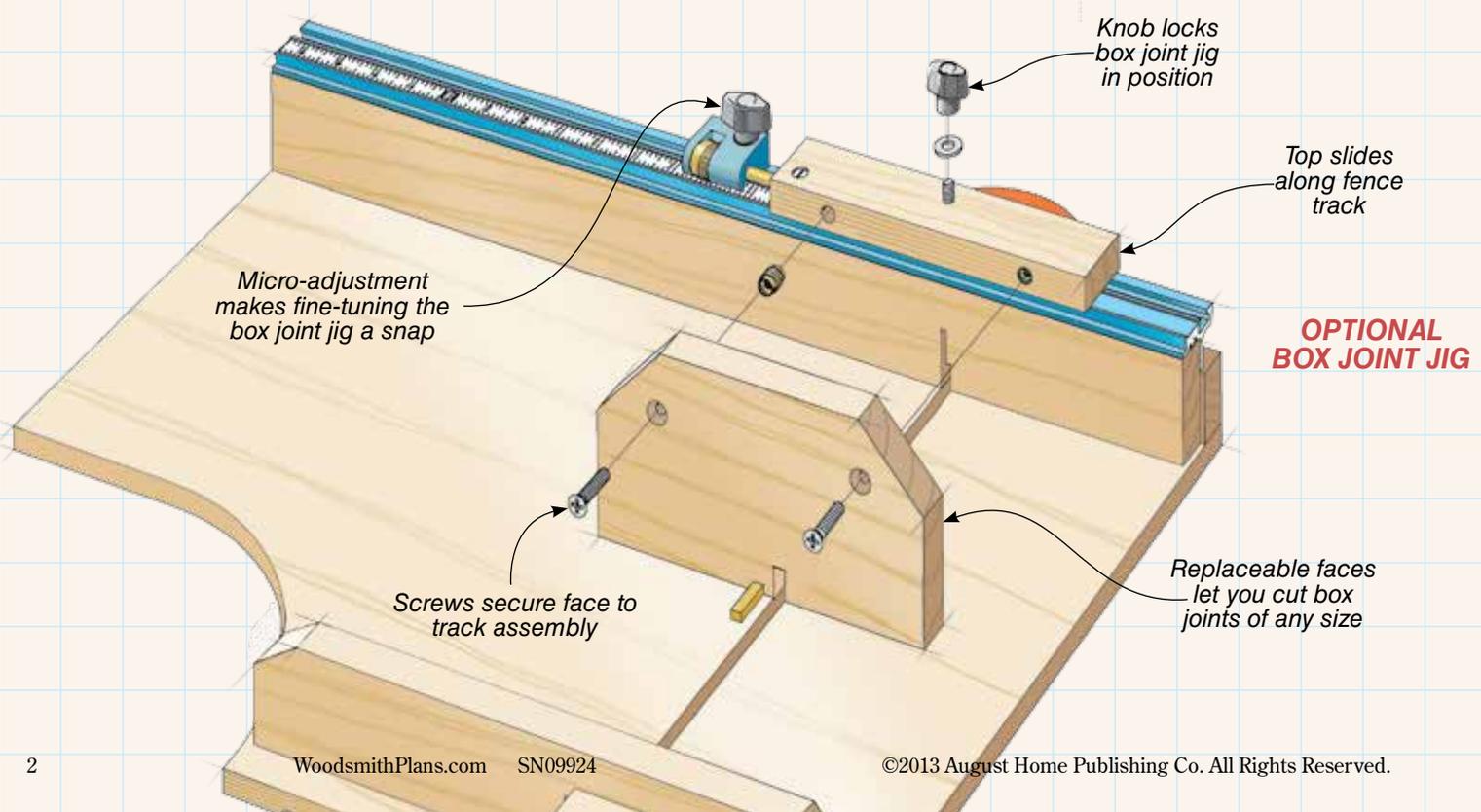


Materials & Hardware

A	Base (1)	16½ x 18 - ½ Ply.	• (1) 4' Measuring Tape (Left-to-Right)
B	Rear Fence (1)	¾ x 2¼ - 24	• (4) ¼"-20 Knobs w/Insert
C	Front Fence (1)	¾ x 2¼ - 13½	• (4) ¼"-20 x 1¾" Threaded Rods
D	Sliding Base (1)	16½ x 5⅞ - ½ Ply.	• (4) ¼" Washers
E	Adjustment Blocks (2)	¾ x 1½ - 5⅞	• (4) ¼"-20 Threaded Inserts
F	Guard (1)	3⅞ x 5 - ¼ Plastic	• (2) #6 x ⅝" Rh Woodscrews
G	Fence Rail (1)	¾ x 1½ - 42	• (1) Micro-Adjuster*
H	Fence Face (1)	¾ x 2¼ - 24	• (1) ¼"-20 x 1½" Hex Bolt*
I	Fence Foot (1)	3 x 24 - ½ Ply.	• (1) ¼" Washer*
J	Top (1)	¾ x 1½ - 8*	• (1) Knob with ¼"-20 Insert*
K	Face (1)	¾ x 4¼ - 8*	• (1) ¼"-20 Cross Dowel*

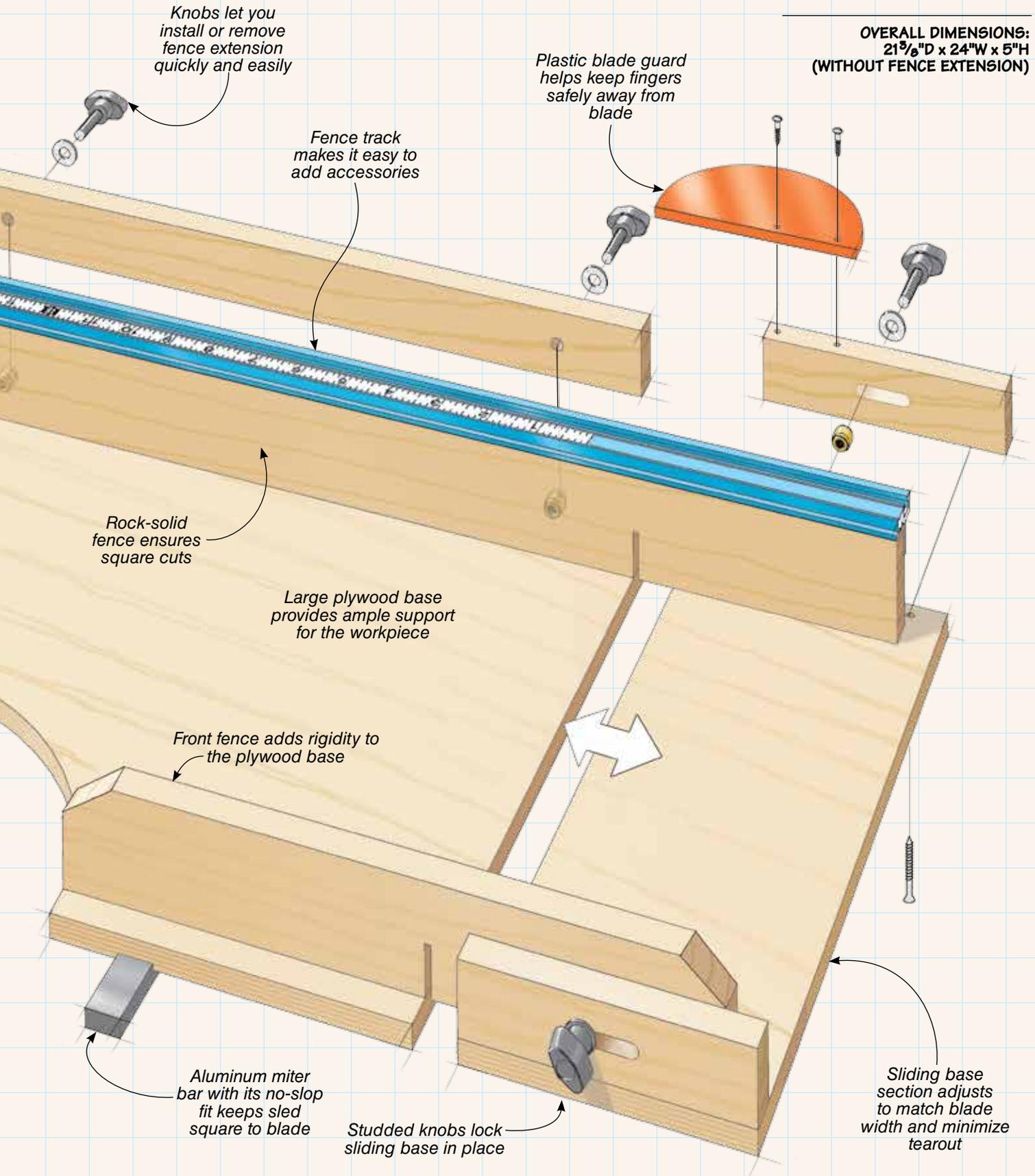
- (1) ⅜" x ¾" - 20" Aluminum Miter Bar
- (3) #8 x ⅝" Fh Woodscrews
- (10) #8 x 1¼" Fh Woodscrews
- (2) 24" Aluminum Fence Tracks w/Screws
- (1) Flip Stop

* Indicates items for optional box joint jig shown in the drawing below



Exploded View Details

OVERALL DIMENSIONS:
21³/₈"D x 24"W x 5"H
(WITHOUT FENCE EXTENSION)



INSERTS. You'll find it's easier to install the threaded inserts before you attach the fences to the base. The inserts are used for adjusting the sliding base and attaching the fence extension you'll make later.

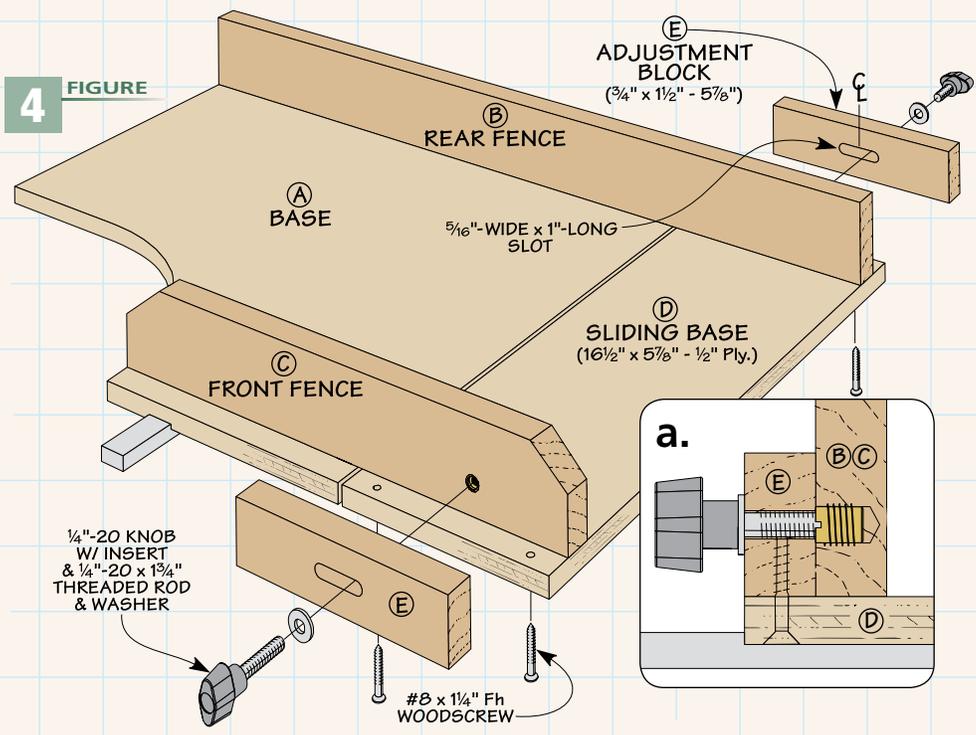
ADDING THE REAR FENCE. If you look at Figures 3 and 3a, you'll see that the fences are inset from the edges of the base. This provides room for the adjustment blocks used to position the sliding base.

The accuracy of the sled depends on the rear fence being square to the blade, so take extra care when installing it. To do this, I fastened the fence to the sled with one screw at the far end of the sled. Then after squaring it up, fasten the fence at the opposite end with one screw and make some test cuts. Once everything checks out, add the remaining screws to lock it down to the base.

FRONT FENCE. The front fence comes next. The important thing here is it needs to be parallel to the rear fence so the extension can slide in and out freely.

SLIDING BASE & DETAILS

Now you can turn your attention to the sliding base (Figure 4). All you need to add here are the two

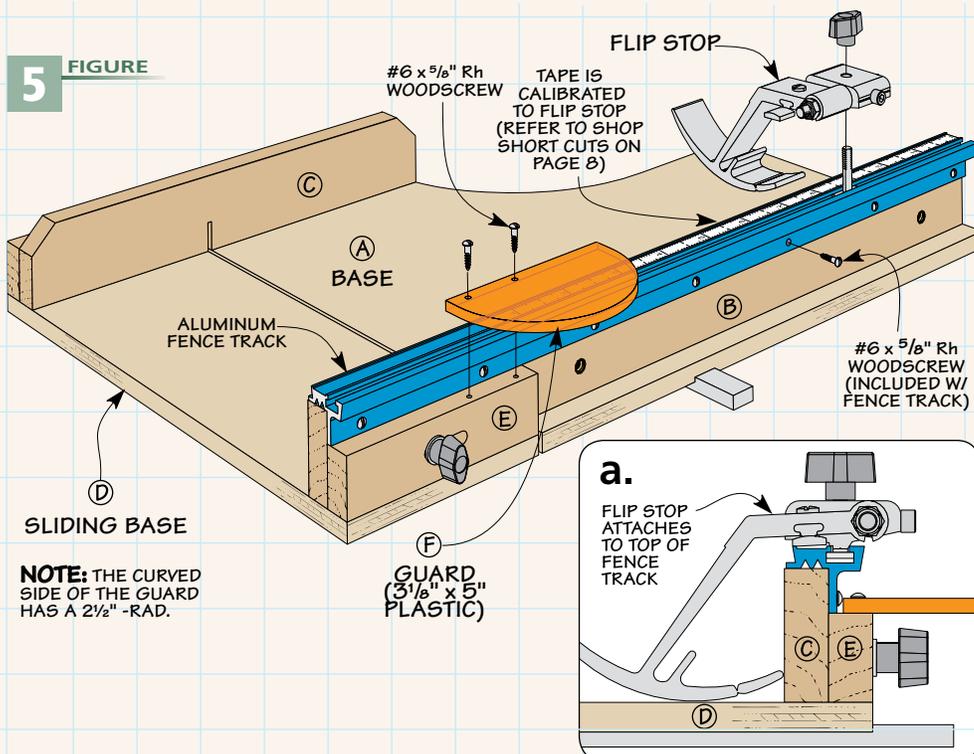


adjustment blocks. The slots allow the sliding base to hug the blade as you're crosscutting. When you fasten the blocks to the sliding base, they'll sit flush with the front and back edges of the base (Figure 4a).

Adding a little hardware comes next. Make the studded knobs to ensure they are just the right length to engage the threaded insert. To do this, use a dab of epoxy to lock the threaded rod into the knob.

FINAL DETAILS. To finish up the rear fence, you'll add a commercial fence track, measuring tape, flip stop, and finally, the blade guard, as shown in Figure 5.

At this point, you have a fully functional sled that's sure to become a mainstay in your shop. And on page 6, you can see step-by-step how to make the fence extension that extends the capacity of the sled.



▲ **Blade Guard.** The guard helps keep your fingers away from the spinning blade as it exits the sled.

adding the fence Extension



◀ **Long-Reaching Support.**
The fence extension gives you the capability to accurately cut long workpieces with ease.

The crosscut sled by itself is a must-have addition to any table saw. But for cutting longer workpieces, this add-on fence extension lends a helping hand. The extra length plus the “foot” on the extension both

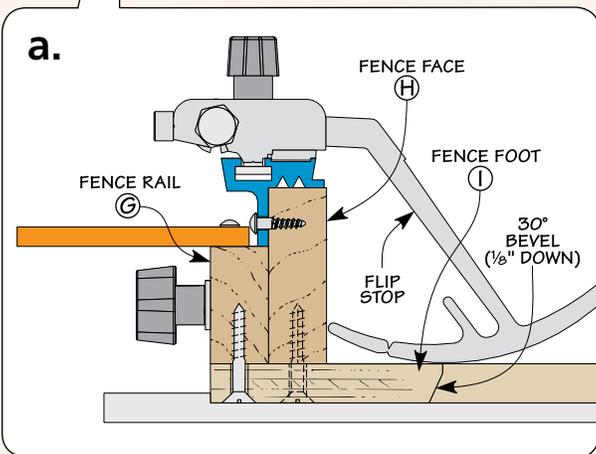
work to support a long workpiece for making precise cuts. The extension mounts to the sled’s fence with studded knobs (Figure 6).

START AT THE RAIL. Figure 6 shows you how the fence extension is put together. I started with the fence rail. It’s the “backbone” of the extension. After cutting it to size, you can drill the oversize holes for the studded knobs.

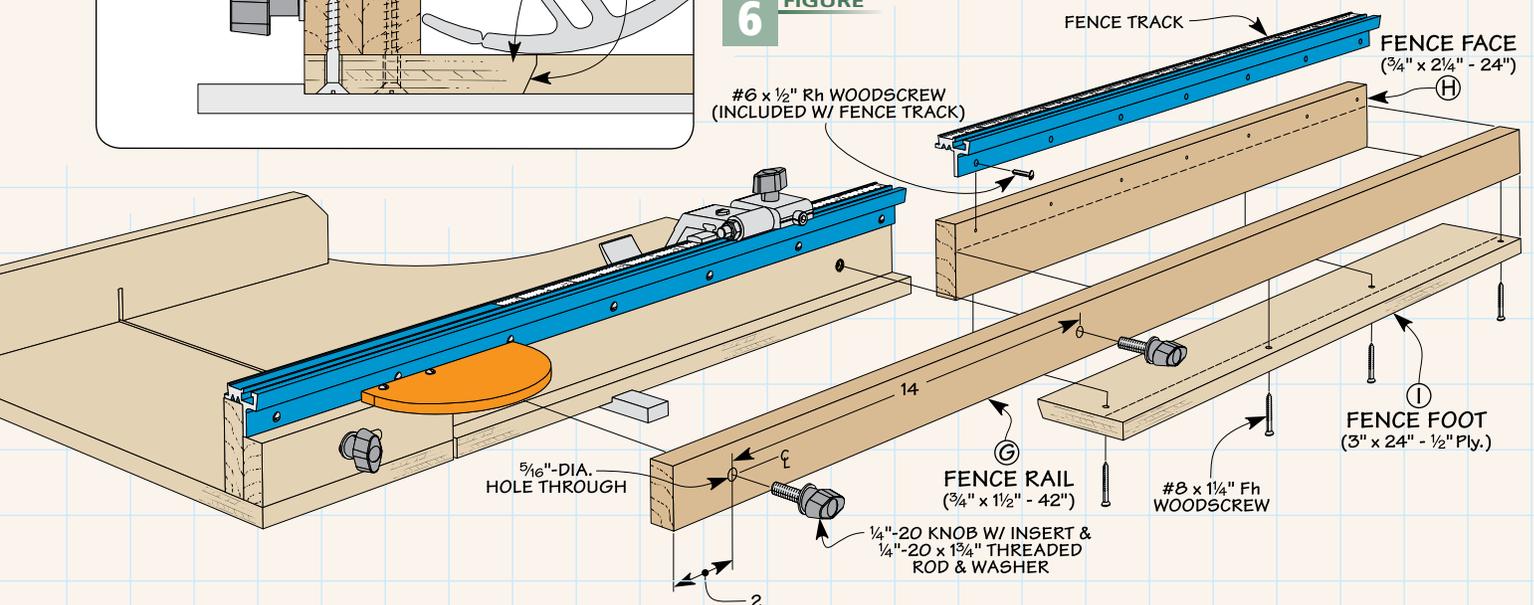
FENCE FACE. The fence extension’s face is just like the one on the sled’s rear fence. The difference is the addition of the foot. After cutting the face to final size, you can cut the foot with its beveled front edge. (This helps the fence slide over your saw’s table).

To make assembly of the fence extension easier and eliminate gaps between the sled’s fence and the extension, I fastened the fence rail to the sled first. Then just butt the end of the foot against the sled and fasten it to the rail. You can do the same with the fence face. Finally, you can install the fence track along the top edge and add the measuring tape.

HANDY HELPER. After making a few cuts with this sled, you’ll wonder how you got along without it. But to make it even more useful, take a look at page 7. There you’ll make an attachment to help you cut more accurate box joints.



6 FIGURE



Box-Joint Attachment

The crosscut sled makes an ideal platform for cutting box joints, as seen in the photo. It's easy to make and takes most of the "trial and error" out of cutting box joints.

The jig consists of a top piece that slides along the fence track. The micro-adjust mechanism takes the guesswork out of cutting box joints by allowing you to fine-tune its position. Finally, interchangeable faces make it easy to cut a wide range of box joint sizes.

MICRO-ADJUSTMENT. It's best to start with the top piece so you can accurately fit the micro-adjuster (drawing below). You can cut the top to length, but leave it a little wide to make it easier to locate the holes for the cross dowel that accepts the stud on the adjuster.

To do this, install the micro-adjuster on the fence track. Now place the oversized top piece on top of the track, overlapping the front and back edges. Use the threaded stud of the micro-adjuster to locate the holes for the stud and cross dowel (detail 'a'). With these holes drilled and the cross dowel

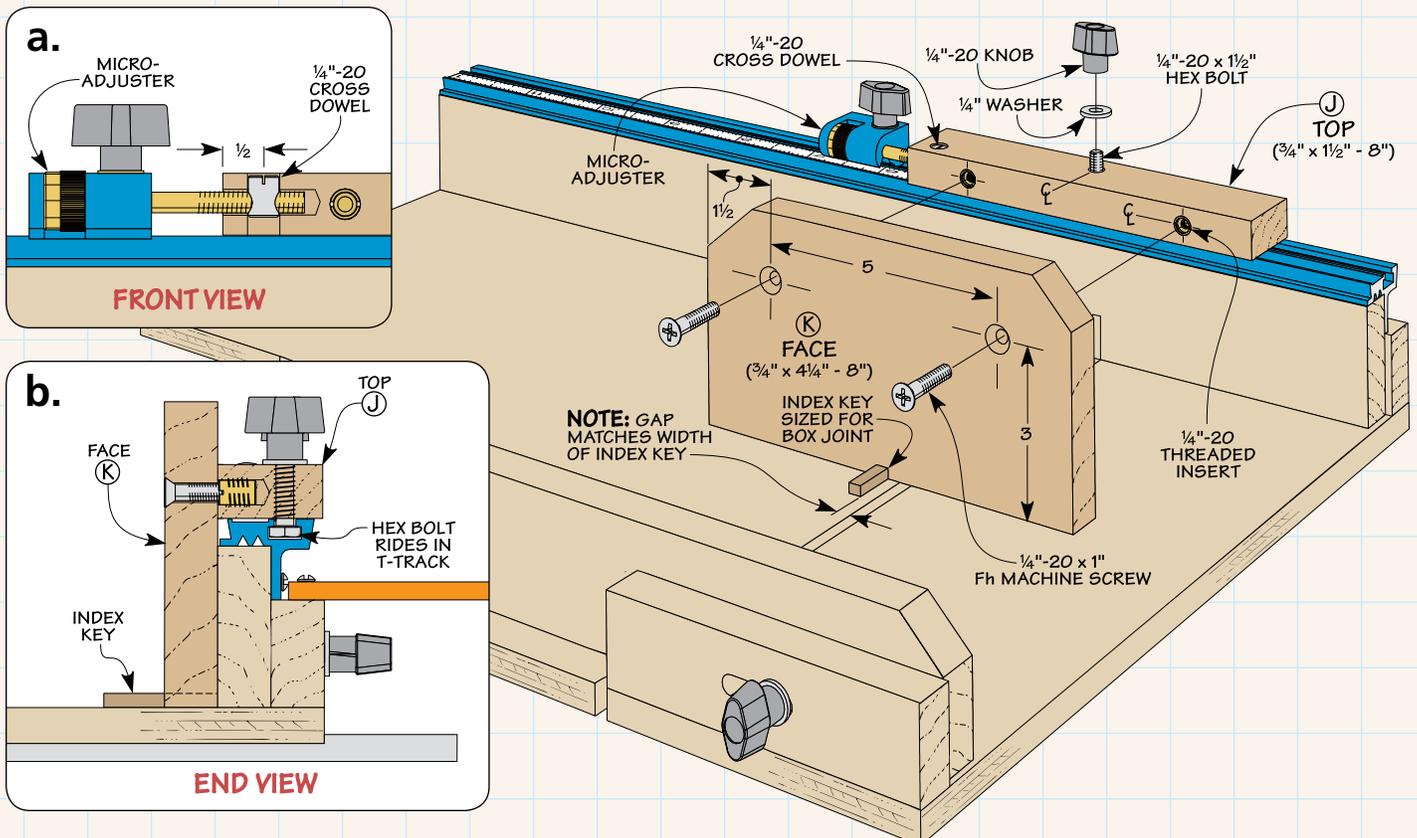
in place, go ahead and thread the micro-adjuster into the dowel. Now you can mark the width of the top using the fence edges as a guide and rip the top to width. Finally, after drilling the holes for the adjustment knob and inserts, thread the inserts in place.

JIG FACE. Now you're ready to work on the face of the jig. There are only a couple of things you need to do here. First, drill countersunk holes for machine screws that fasten the face to the top. Then you'll need to cut a notch so you can glue the index key in place. (The width of the notch and key determine the size of the box joints.) The great thing is, you can make a separate face for each size of box joint you need to cut.

USING THE JIG. Using the jig is a simple process and similar to other box joint jigs you may have used. But the advantage this jig has is the micro-adjuster. It's easy to zero in on the perfect fit of your box joint just by turning the knurled knob. And in no time, you'll be making perfect box joints.



▲ **Box Joints.** Turn the crosscut sled into a precise box joint jig with this commercial micro-adjuster.



Shop Short Cuts

Driving Inserts in Straight

I use a lot of threaded inserts in the shop for building jigs. But driving them in straight can be a chore.

To help with the task, I use my drill press and a shop-made driver, (photos at right). First, cut the head off of a bolt. Then, thread two nuts on the bolt, followed by a washer and the threaded insert.

Now, chuck the bolt in your drill press. For this operation, you're going to turn the chuck by hand, so leave the power off and clamp the workpiece in place. Using the handle on the drill press, lower the insert into the pilot hole while turning the chuck until the insert is fully seated.



Zeroing Out the Tape

A self-adhesive measuring tape can be tricky to install accurately. So it pays to take your time.

For the crosscut sled, you need to align the tape with the cursor on the flip stop. To do this, align the flip stop next to the teeth of the blade, like you see here. Now, make a pencil mark on the fence that's aligned with the thin line on the cursor. This is where you'll align the "zero" mark of the tape.

With the flip stop up and out of the way, you can start to apply the tape. I usually remove just a few inches of the backing to help me get started. Once the end of the tape is located, apply pressure and remove the backing as you go. Finally, tweak the position of the cursor if needed.



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ORDER
SOURCES**

Woodsmith Store
800-444-7527

**Kreg Tool
Company**
800-447-8638
kregtool.com

Reid Supply
800-253-0421
reidsupply.com

Rockler
800-279-4441
rockler.com

Project Sources

Most of the supplies for the precision crosscut sled were found at *Kreg Tool Company*, including the runners (KMS7303), fence tracks (KMS7712), flip stop (KMS7801), left-to-right measuring tape (KMS7724), and micro-adjuster (KMS7215).

The knobs (DK-228) were purchased from *Reid Supply*, and you can find the cross dowels (31823) at *Rockler*.