

Woodsmith. PLANS

# Small-Scale Home Office





▲ Sliding doors on the left and right provide easy access to storage cubbies. We left ours open, but you could easily add shelves to break up the interior.



► Keeping the clean and simple design of this desk in mind, we opted for a low-key storage option in the form of a simple, commercially available slideout tray.



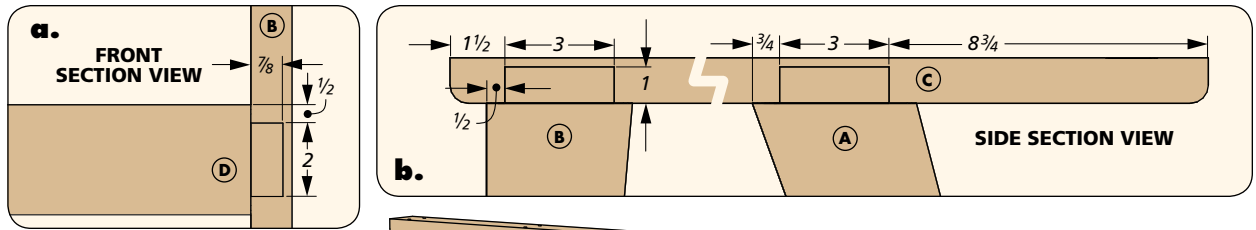
# Small-Scale Home Office

This sleek and modern desk and wall shelf combo is the perfect workstation that the whole family can share, anywhere in the house.

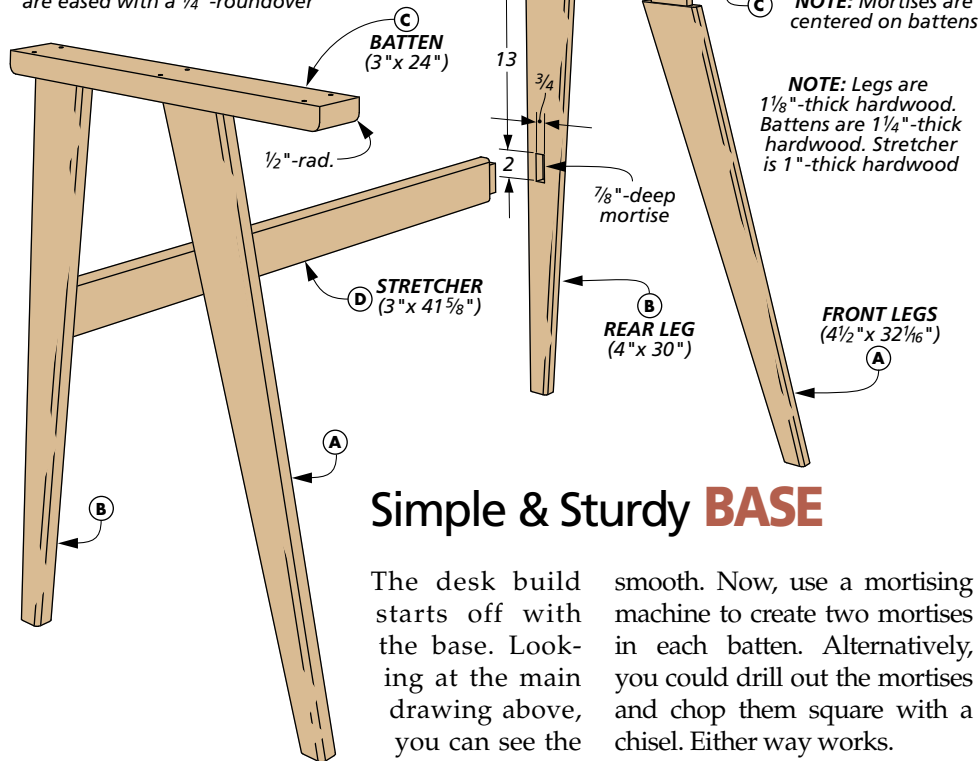
**W**hat can I say — the year 2020 has been an interesting one. Among the many challenges this year has presented, one of the largest was learning to work remotely. To compound this “work from home” model, many parents found their children migrating to online learning as well.

While I was amazed how well most of the school districts handled the remote learning, I was vastly unprepared to have my children learning from home. All of a sudden, many parents, myself included, were forced to put together a “learning area” for our kids. In a response to this, Chris Fitch designed the desk and shelf you see here.

**SLEEK DESIGN.** Looking at the desk, you can see that not only is it the perfect place for a student to learn at, but its modern design makes it equally attractive for an adult working at home. The maple construction comes together quickly, and a pull-out tray keeps all your supplies close at hand. For a little more storage, Chris designed a simple wall shelf to sit above the desk. It matches the desk nicely and offers more storage than the desk alone. An additional benefit is that it transforms the desk from just a table into more of a work area.



NOTE: Legs and stretcher are eased with a 1/4"-roundover



NOTE: Mortises are centered on battens

NOTE: Legs are 1/8"-thick hardwood. Battens are 1/4"-thick hardwood. Stretcher is 1"-thick hardwood

## Simple & Sturdy BASE

The desk build starts off with the base. Looking at the main drawing above, you can see the parts that form the base. The first thing to take care of is creating the legs.

**ANGLED LEGS.** The front legs are set at an angle in relation to the top. The back legs also have a taper along the front edge. Create the legs by laying out the taper on your stock (here, we used maple) and use double-sided tape to hold the stock down to a sled, with the taper aligned to the edge. Then, cut the taper at the table saw, with the sled running along the fence. Now, you can set the legs aside for a bit while you work on other parts.

**BATTENS.** A pair of battens are used to attach the legs to the top (detail 'b'). Create the battens by cutting them to size and cutting the radius on the ends at the band saw before sanding them

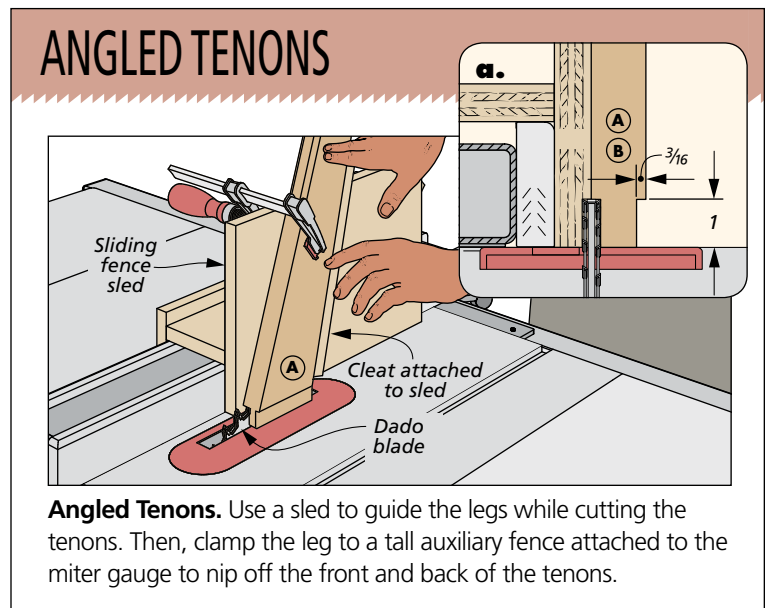
smooth. Now, use a mortising machine to create two mortises in each batten. Alternatively, you could drill out the mortises and chop them square with a chisel. Either way works.

**TENONS.** At the table saw, you can cut the tenons on the legs. This process is shown below. You'll need a way to hold the legs at an

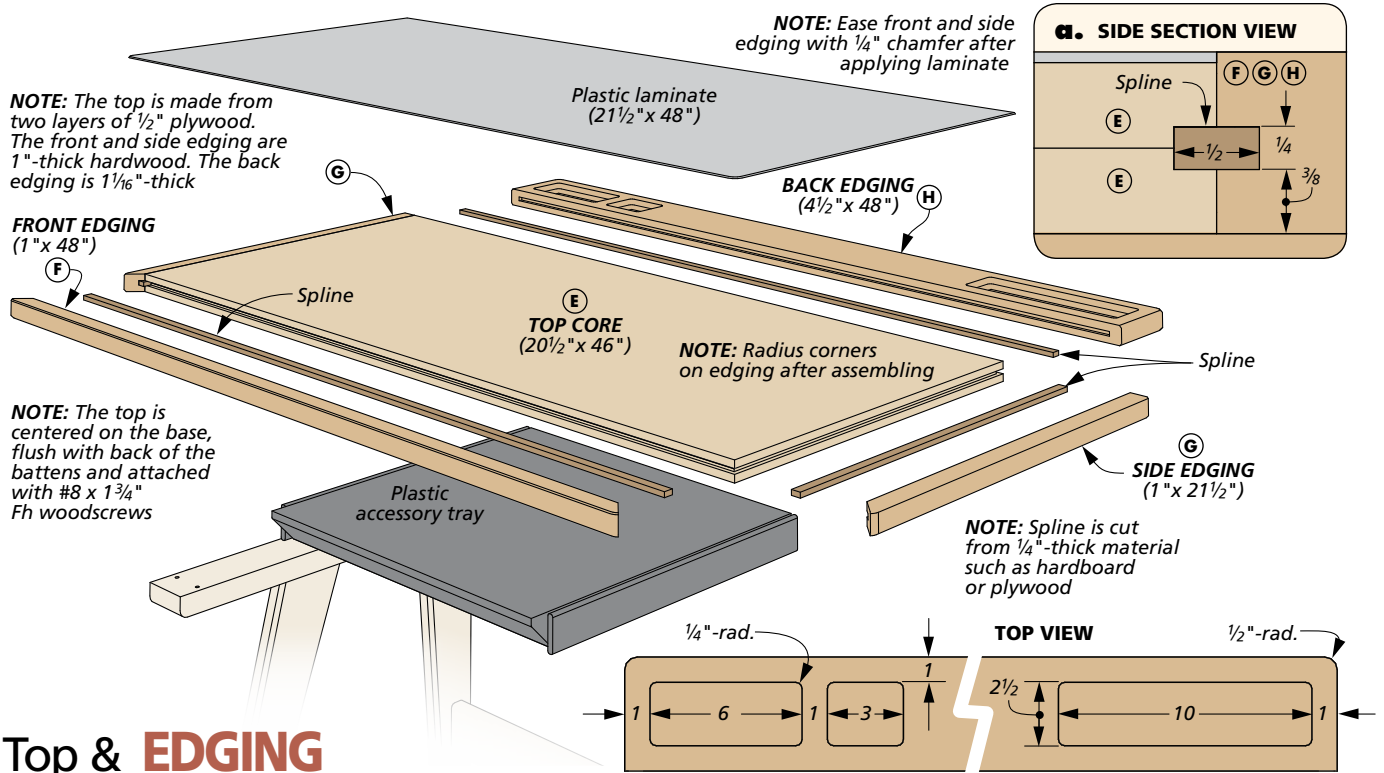
angle to create the tenons. Here, I used a jig that straddles the rip fence (available on page 6). The leg is supported by a cleat and clamped in place. Then, it's business as usual to cut the tenons. Sneak up on the fit, and test the tenons in the mortises.

**A QUICK STRETCHER.** The last thing to do on the base is to make the stretcher to connect the back legs. This is simply cut to size and a tenon is cut on both ends. You'll also need to cut the matching mortises in the rear legs. Mortising machine for me when it comes to these, but again, choose your own adventure. Before assembling anything, spend a minute at the router table adding a roundover to the edges of the legs.

**GLUE IT UP.** At this point, let's see some progress. Start by gluing the legs into the battens. Then, join the two leg assemblies with the stretcher. With the base drying, it's time to concentrate on the top.



**Angled Tenons.** Use a sled to guide the legs while cutting the tenons. Then, clamp the leg to a tall auxiliary fence attached to the miter gauge to nip off the front and back of the tenons.



## Top & EDGING

The top of the desk is built from two layers of plywood covered in plastic laminate. Hardwood edging wraps the plywood, with the back edging being wider to accommodate a few routed dishes for storage.

**PLYWOOD CORE.** Cut the plywood cores to size and glue them together. I left the top core

slightly oversized, and used a flush trim bit to trim it down to size. Now, cut a groove along the edges of the top with a slot cutter in a router. This groove will hold a hardboard spline, as you see in detail 'a.'

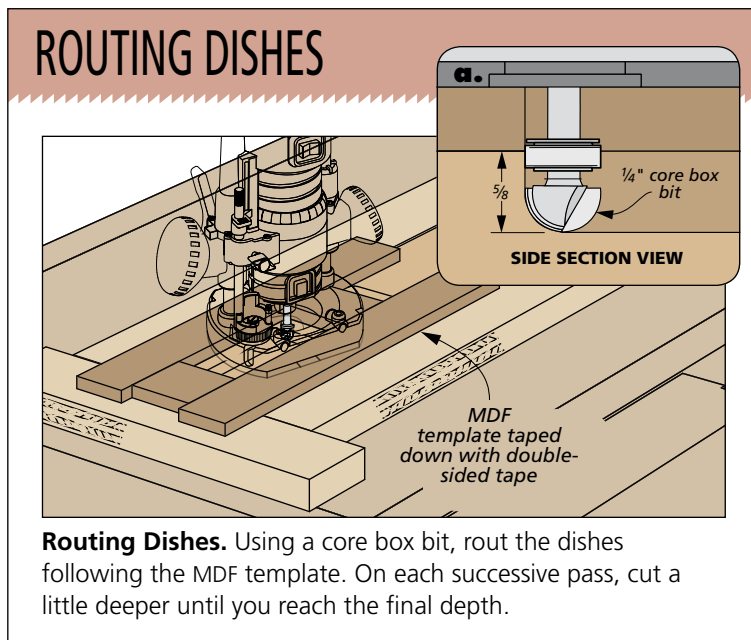
**EDGING.** Create the edging by cutting extra long blanks to size, then rout a groove down

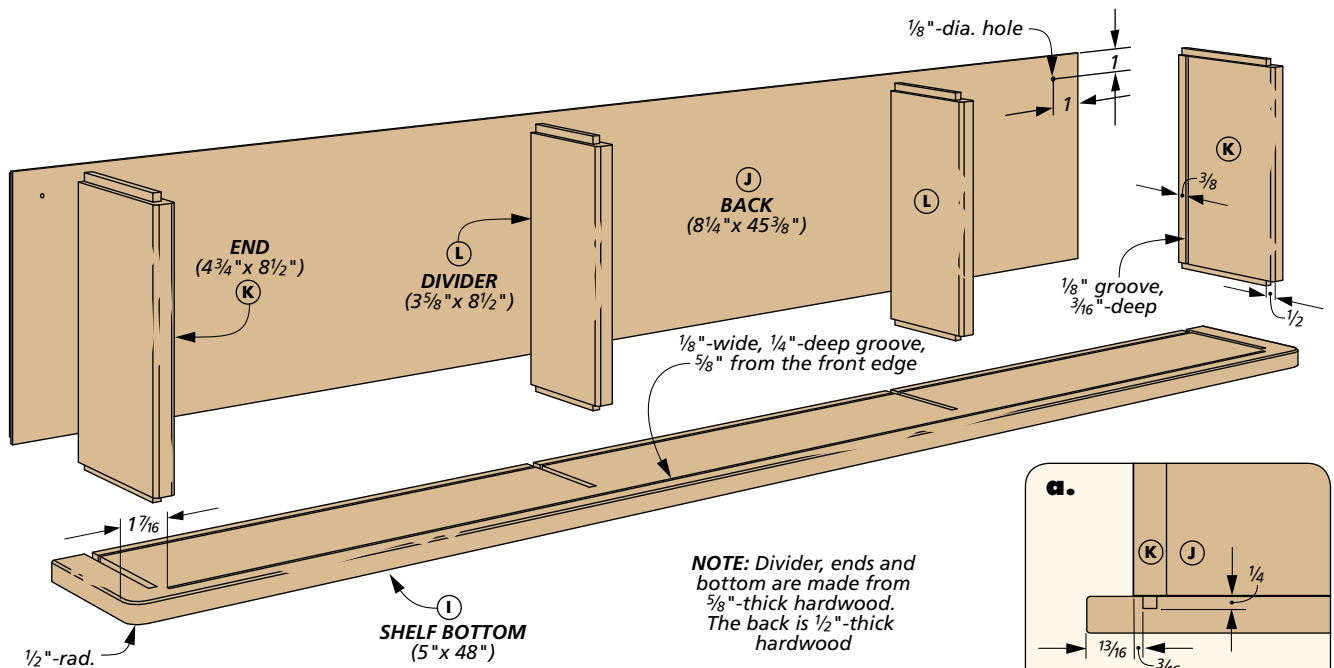
the center for the spline. Test fit the edging in place and mark the miter locations on the ends. After cutting the miters, install the edging with glue and splines.

**LAMINATE NEXT.** Before adding the back edging let's attach the laminate to the top. Apply contact cement to both the laminate and the desk top. Once it's dry, stick the laminate down with a roller. Now you can flush trim the laminate to the back edge and chamfer the front and side edging.

**BACK EDGING.** The back edging is wider and thicker than the other edging. Cut it to length and draw a couple of lines on your router table showing where the front and back of your bit are. These will help you rout the stopped groove for the spline.

Before attaching the edging on the top, rout some dishes for storage. You can see this setup to the left. Use some scrap MDF held to the edging with some double-sided tape. Then, rout out the dishes with a bowl and tray or core box bit.





## Floating **SHELF**

With the desk complete, you can tackle the shelf. Like the desk, the shelf is built out of hard maple. The shelf needs to be assembled in a particular order, but because the top and bottom are almost identical, you'll make them at the same time.

**TOP & BOTTOM.** The groove in the top is slightly wider than the groove in the bottom (detail 'b' on the next page). Cut the top and bottom to length, and radius the corners of each at the band saw.

Be careful as you lay out the stopped dados. Any variance here will cause the shelf to be out of square. I clamped the top and bottom back-to-back and laid everything out at once. Use a piece of MDF as a fence to guide your router. Here, I prefer to use a router with a plunge base. You can see the router setup in the box on the next page. Rout the dados for the end panels, along with the dividers in both parts.

**STOPPED GROOVES.** Now is the time to rout the stopped grooves in the top and bottom. This can

be done at the router table with a pair of straight bits. Rout the back groove, along with the door groove in each part. Remember that the top groove is a little wider.

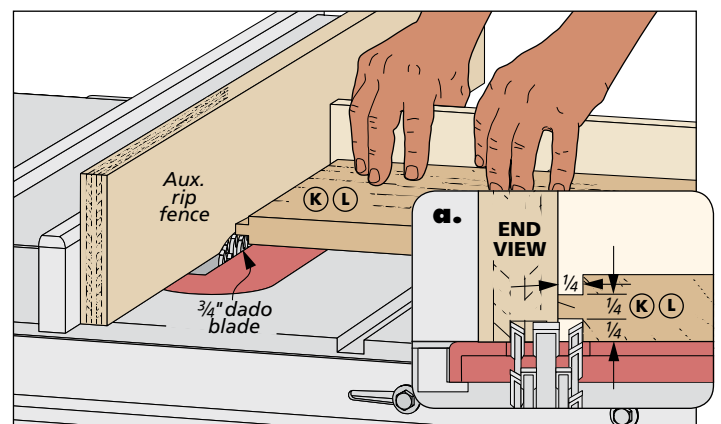
Finally, cut the back panel to size and rout a rabbet along each edge. This will from a

tongue to fit in the grooves. you just cut. This is quick and easy at the table saw.

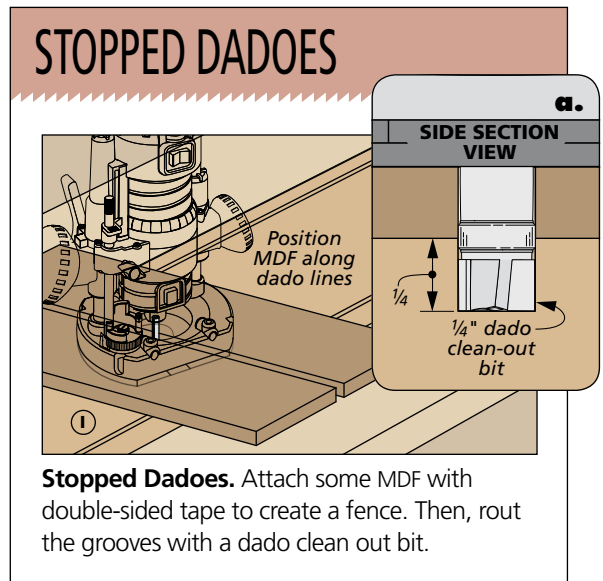
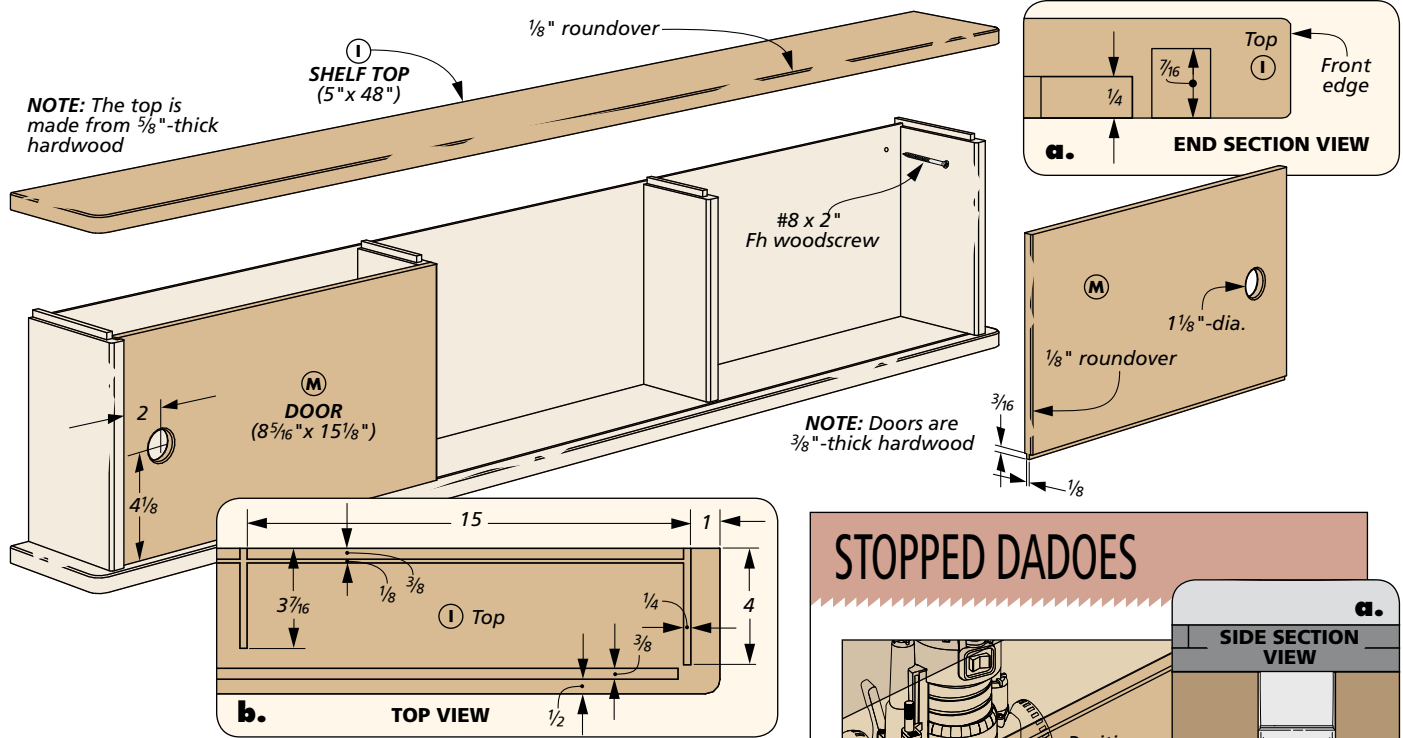
### **DIVIDERS, DOORS & ASSEMBLY**

Making the sides, dividers, and doors are the final steps before assembling the shelf. The sides and dividers follow a similar

## DIVIDER TENONS



**Table Saw Tenons.** Cut the end and divider tenons using a dado blade. Stand the parts on end and guide them with the miter fence to nip the front edge of the tenon off.



process, so start with those first.

**SMALL TENONS.** After cutting the dividers and sides to size, you'll need to cut a tenon on each end to fit in the stopped grooves you routed in the top and bottom. Do this at the table saw, as seen in the box on the previous page. Make a pass along each face before standing the workpiece on end and nibbling off the front edge of the tenon.

Sand the doors so they slide smoothly. Finally, drill the finger hole in each door.

After a final sanding, all that's left on the desk and shelf is to add a finish, like spray lacquer. Then, you can bring the desk inside, and mount the shelf to the wall with screws. Then, it's time to get some actual work done.

**ONE MORE GROOVE.** Before cracking open the glue bottle, you'll need to rout a groove along the inside face of the end panels. These are to hold the tongue on the back panel. With that done, you can assemble the shelf. Glue the dividers and sides into the top and bottom, but install the back without glue so it may float in the grooves. With clamps applied, set the shelf to the side and make the doors.

**THE DOORS.** The doors are simply hardwood panels cut to size. There is a small tongue along the bottom edge, that's easy enough to cut at the table saw. The doors slide into the top groove then drop into the bottom groove.

### Materials, Supplies & Cutting Diagram

<b>A</b> Front Legs (2)	1 1/8 x 4 1/2 - 32 1/16	<b>I</b> Shelf Bottom/Top (2)	5/8 x 5 - 48
<b>B</b> Rear Legs (2)	1 1/8 x 4 - 30	<b>J</b> Back (1)	1/2 x 8 1/4 - 45 3/8
<b>C</b> Battens (2)	1 1/4 x 3 - 24	<b>K</b> Shelf Ends (2)	5/8 x 4 3/4 - 8 1/2
<b>D</b> Stretcher (1)	1 x 3 - 41 5/8	<b>L</b> Shelf Dividers (2)	5/8 x 3 5/8 - 8 1/2
<b>E</b> Top Cores (2)	1/2 ply - 20 1/2 x 46	<b>M</b> Doors (2)	3/8 x 8 5/16 - 15 1/8
<b>F</b> Front Edging (1)	1 x 1 - 48		
<b>G</b> Side Edging (2)	1 x 1 - 21 1/2		
<b>H</b> Back Edging (1)	1 1/16 x 4 1/2 - 48		

- (1) 24" x 48" plastic laminate
- (1) Plastic slideout tray
- (12) #8 x 1 3/4" Fh woodscrews

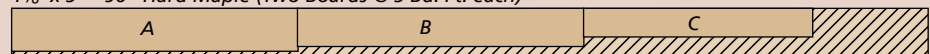
1/2" x 5" - 84" Hard Maple (Two Boards @ 3.0 Sq. Ft. each)



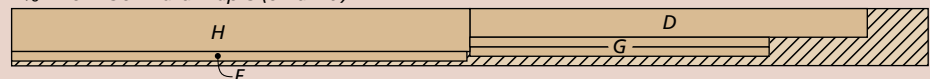
3/4" x 5 1/2" - 72" Hard Maple (Two Boards @ 2.8 Bd. Ft. each)



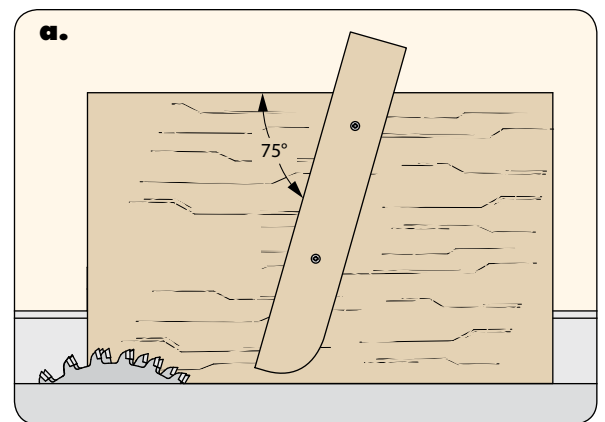
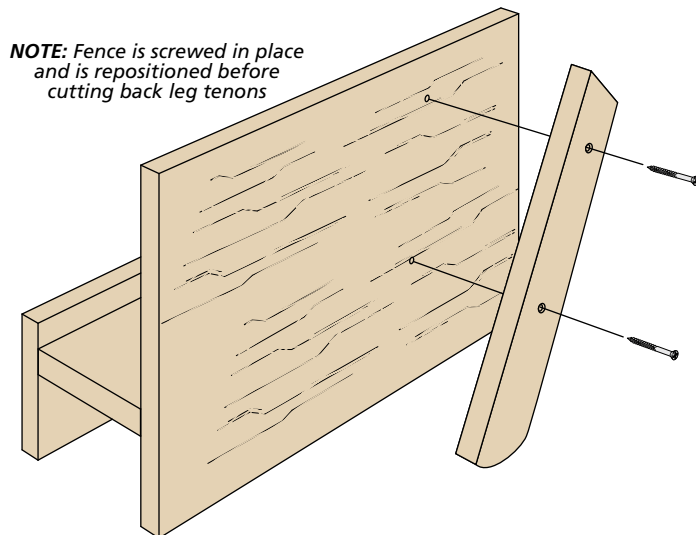
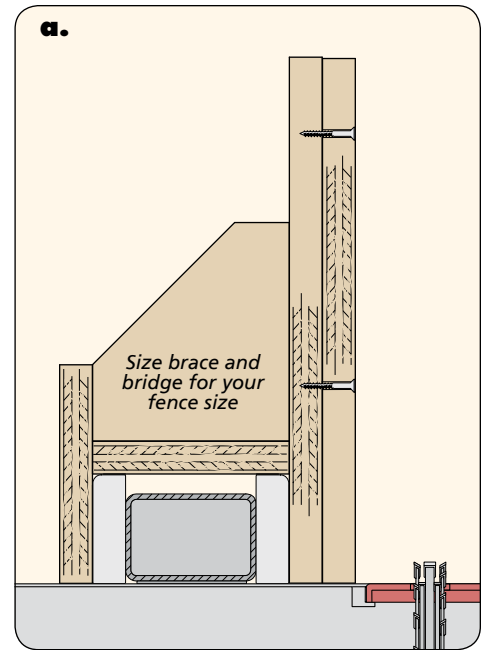
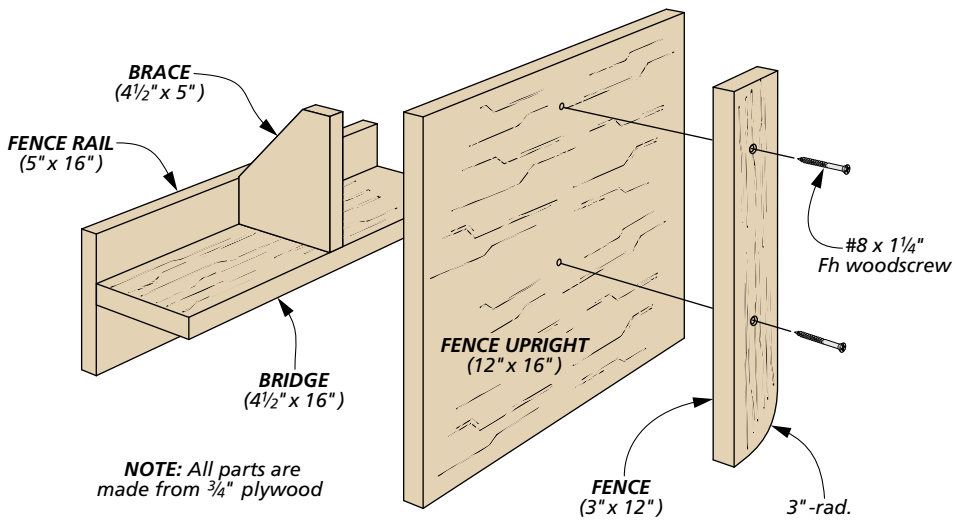
1 1/8" x 5" - 96" Hard Maple (Two Boards @ 5 Bd. Ft. each)



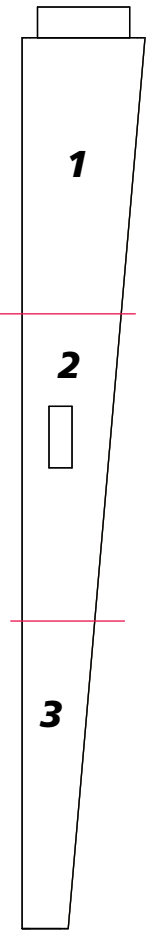
1 1/8" x 6" - 96" Hard Maple (6 Bd. Ft.)



# Desk Tenon Jig



# Desk Leg Patterns



*NOTE: Set printer to actual size*

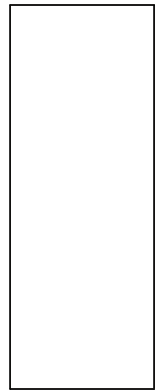


*NOTE: Attach templates together at red, alignment line*



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# 2

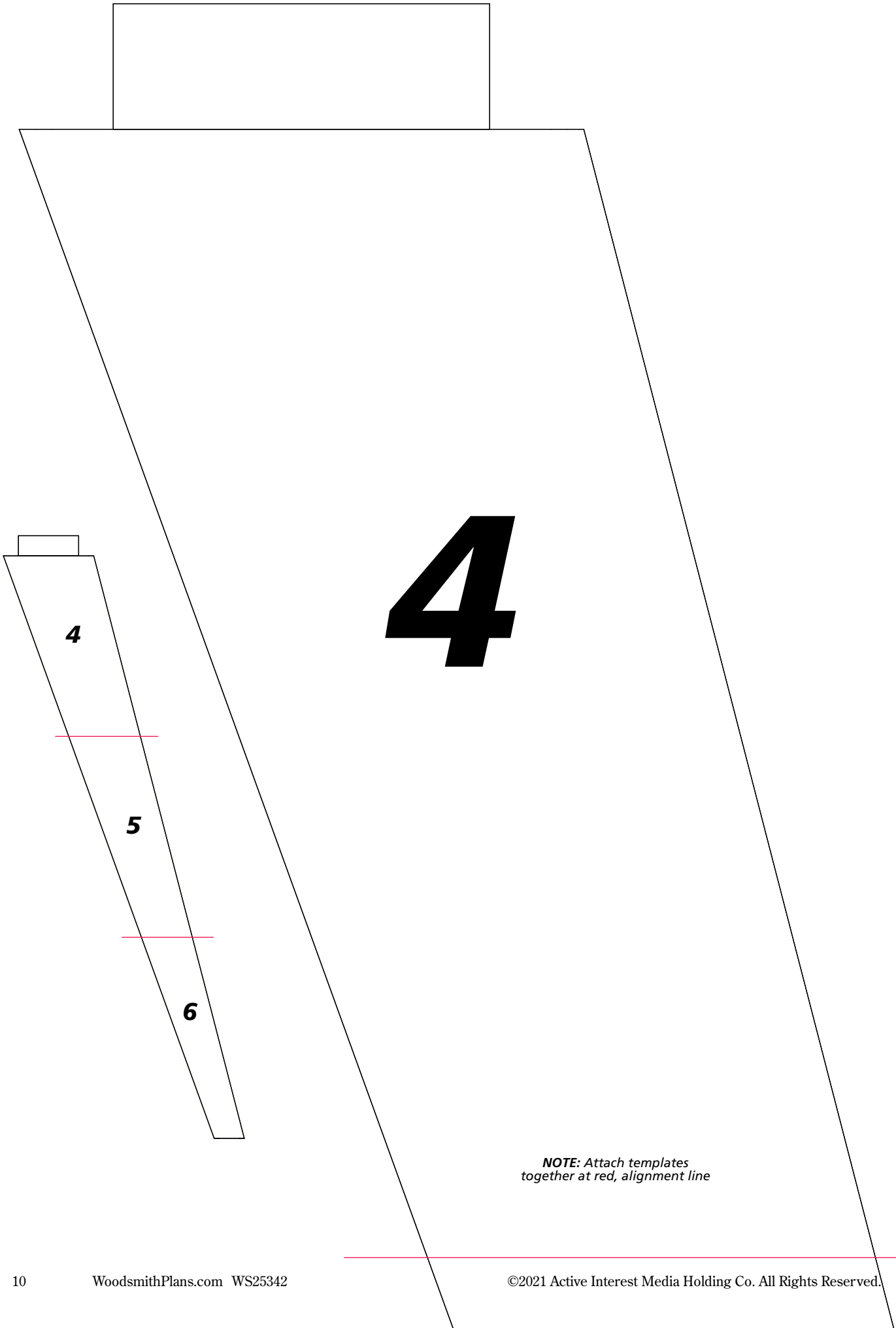


*Mortise*



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**3**



**4**

**4**

**5**

**6**

*NOTE: Attach templates together at red, alignment line*

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A large, bold, black number '5' is centered on the page. The number is set within a large, thin-lined triangle that points downwards. A thin red horizontal line is positioned at the top of the page, and another is at the bottom.

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6

**MAIL  
ORDER  
SOURCES**

Cabinet Parts  
CabinetParts.com

Rockler  
rockler.com

## Project Sources

- **Rockler**  
*Organizer Drawer . . . . . 68264*
- **Cabinet Parts**  
*Plastic Laminate French Blue . . . . .*  
NMR3003T-T-H5

The desk and shelf were finished with a couple of coats of spray lacquer prior to applying the plastic laminate.

Manufacturers and retailers will periodically redesign or discontinue some of their items. So you'll want to gather all the hardware, supplies, and tools you need before you get started. It's easy to adjust dimensions or drill different-sized holes to suit your hardware.