THE HAND TOOL SCHOOL

Bedside Table

Process Guide

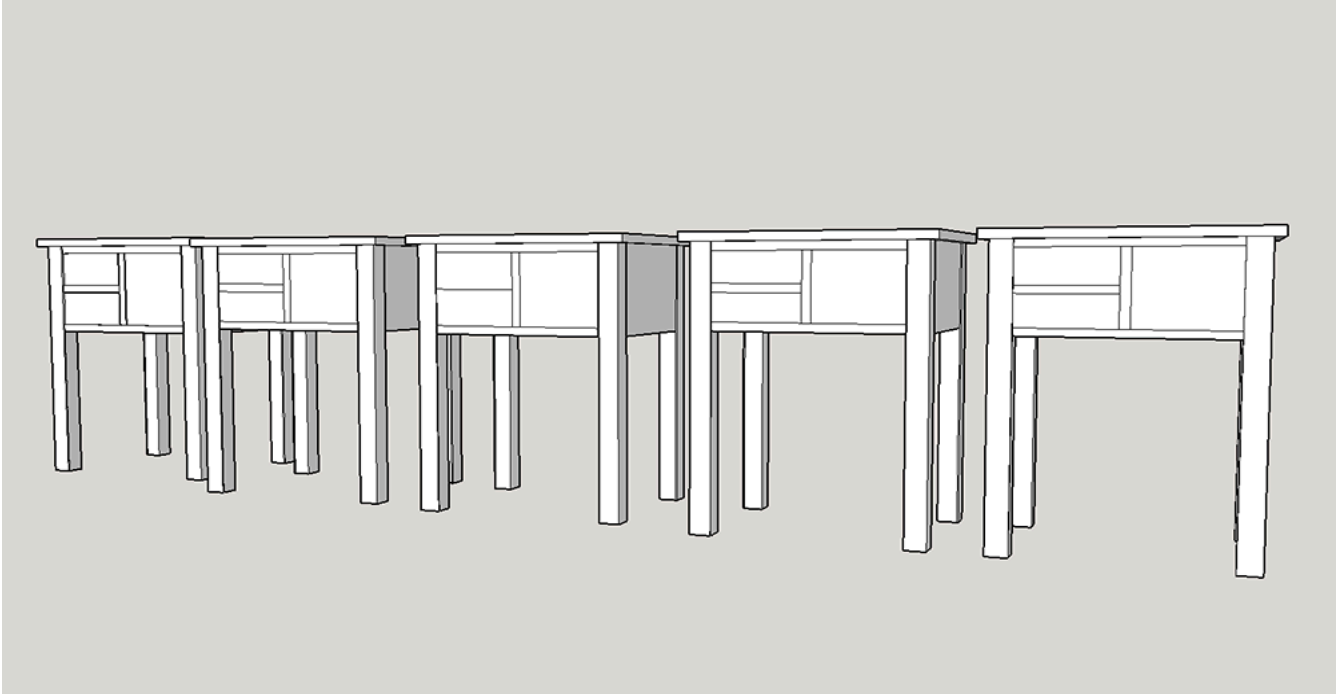
The Design & Materials

• I love tables, specifically side tables. This form is so simple and lends itself to little details that can define the period or define your personal style. They can make a statement while being small enough not to define the entire feel of a room. So with this in mind I wanted this little table to pop and be a little high style surprise in my guest room.

• I knew I wanted multiple drawers and wanted to play with a 3 drawer, asymmetric layout. But making sure the drawers were big enough to be functional was tricky and I used SketchUp to mock up several blocky models to refine the proportions of the table. If the case was too tall, it lost its delicate feel, too wide and it lost its semblace as a side table and became a sofa table. Getting this just right took several iterations and SketchUp earned its keep as my design tool.

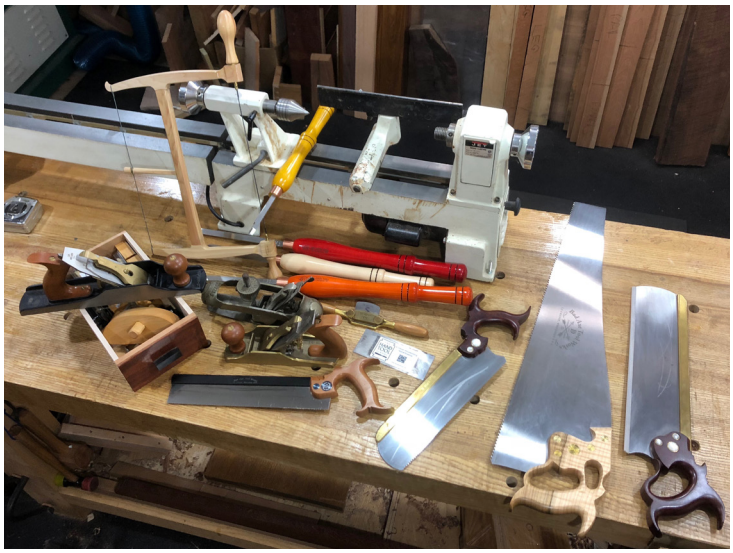
• Finally I wanted to have turned legs and contrast in the drawer fronts. In fact this table started because of the Birdseye Maple that I've had in my shed for years.

• All of these elements together definitely puts this table in the Sheraton Style with a hint of Shaker asymmetry that I really love.



Tools Needed

- Lathe: roughing gouge, skew chisel, parting tool
- Back saws: tenon, dovetail, carcass
- Various chisels 1/4, 3/8
- Planes: Jack and Smoother
- Rip Saw
- Compass Plane or Spokeshave
- Scratch Stock or Veritas Inlay kit and Router plane
- Card Scraper
- Turning Saw



Side Table Parts List

Drawer Part Sizes are Approximate and should be finalized from the final assembled case

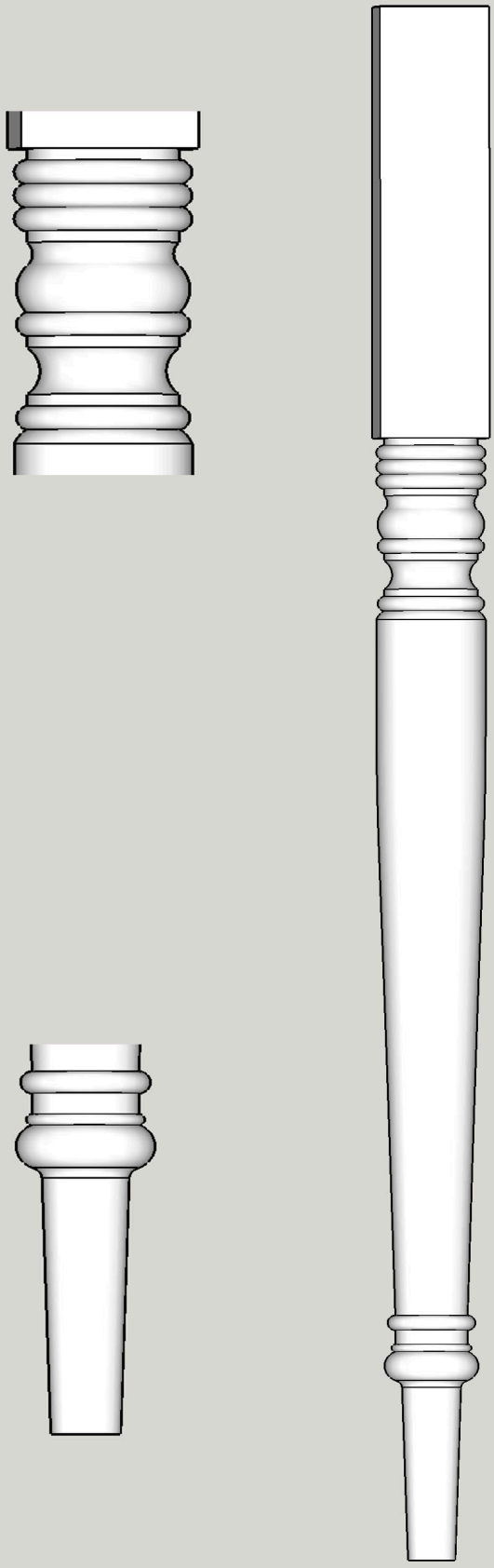
- **4 Legs:** 1 3/4 x 1 3/4 x 27
- **Top:** 3/4 x 17 x 21
- **2 Sides:** 3/4 x 7 1/4 x 14 1/2
- **Back:** 3/4 x 7 1/4 x 18 1/2
- **Upper & Lower Front Rails:** 3/4 x 2 1/8 x 18 1/2
- **Vertical Drawer Blade:** 3/4 x 2 x 6 3/4
- **Horizontal Drawer Blade:** 3/4 x 2 x 9 3/4
- **5 Drawer Runners:** 3/4 x 2 1/2 x 13 1/2
- **5 Drawer Guides:** 3/4 x 3/4 x 10

- **2 Small Drawer Fronts:** 3/4 x 2 1/2 x 9
- **Large Drawer Front:** 3/4 x 5 3/4 x 6
- **4 Small Drawer Sides:** 1/2 x 2 1/2 x 16
- **2 Small Drawer Backs:** 1/2 x 2 x 9
- **2 Larger Drawer Sides:** 1/2 x 5 3/4 x 16
- **Large Drawer Back:** 1/2 x 5 1/4 x 6
- **2 Small Drawer Bottoms:** 1/2 x 16 x 9
- **Large Drawer Bottom:** 1/2 x 16 x 6

- **Veneer for Banding:** Holly, Satinwood, Black Dyed Castello
- **Drawer Hardware:** available at frame stores or big box retailers

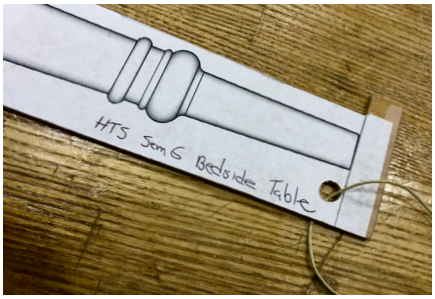
Print the full sized template before turning

Template can be Downloaded from the Resources Sidebar on the website



Turning the Legs

Careful Layout Means Easy Duplication

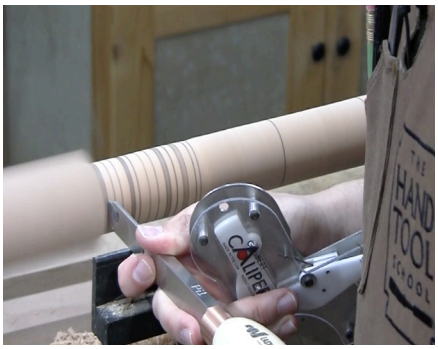


Print out the full sized PDF drawing and mount it to plywood or stiff cardboard using spray adhesive. Include a tab at the bottom of the drawing to act as a fence so you can repeatedly layout the leg on each blank

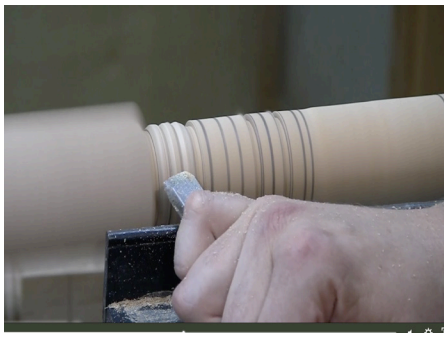
With a leg blank 2-3" longer than needed chucked into the lathe (use a chuck not a drive center) mark the pommel transition and use a saw to sever the fibers on all 4 faces.

Turn the leg below the pommel to a cylinder equal to the maximum diameter on the template (the top beads)

Use the template to mark the location of all the elements on the legs including intermediate points of the taper

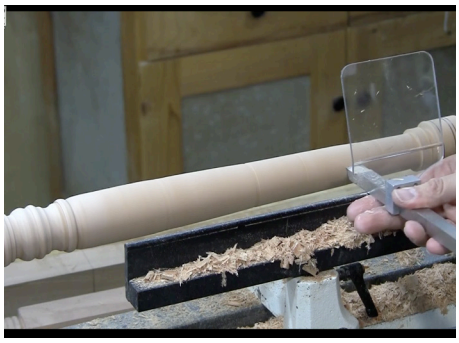


Using a parting tool turn to the desired diameter at each element. Set your calipers from the template itself for this task.



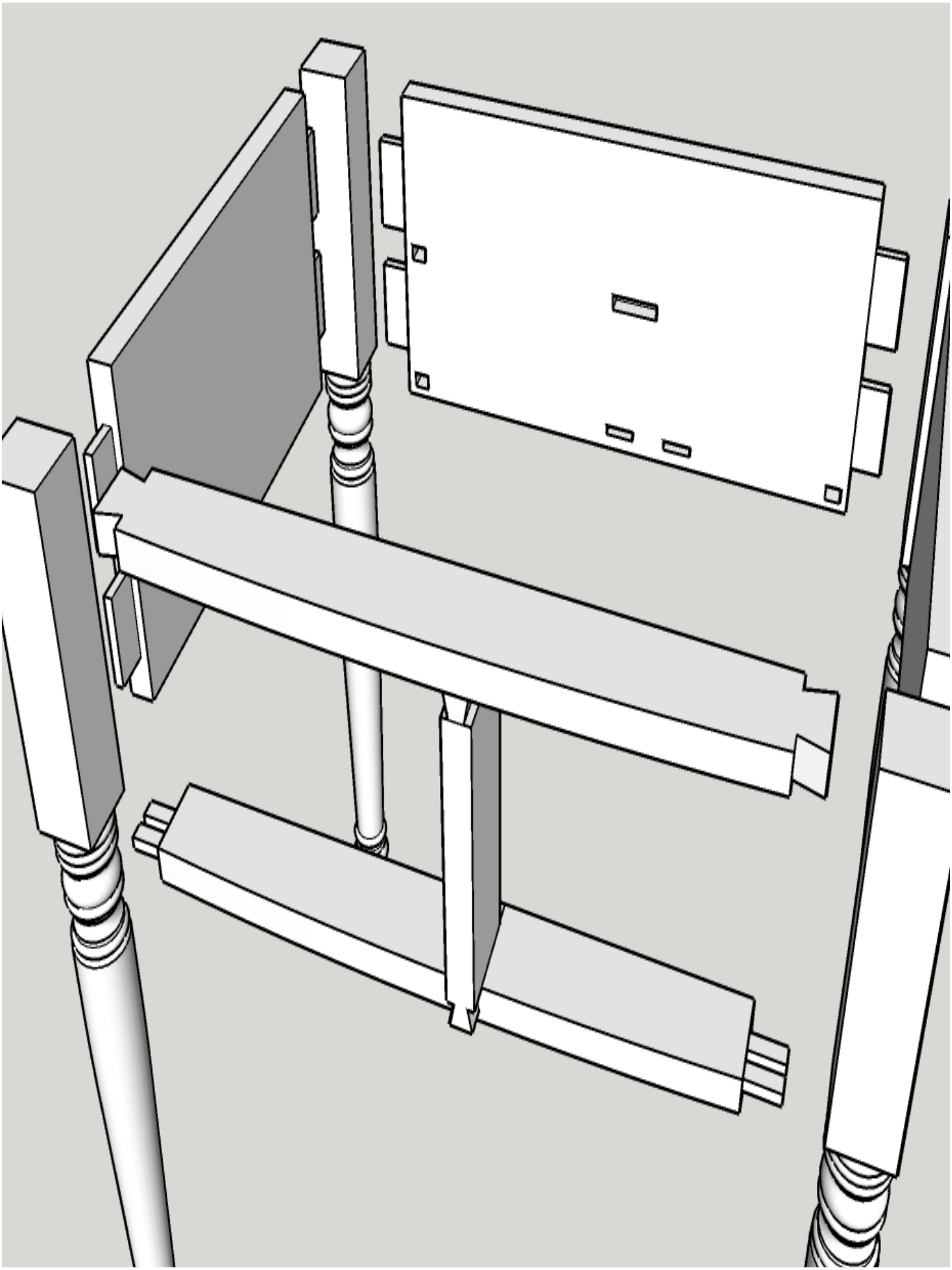
Using a skew chisel roll the beads then coves for the top section above the taper. A skew is necessary to reach between the tightly spaced beads.

Use the skew chisel to turn the lower beads and foot taper.



Using your roughing gouge or skew turn the taper connecting the top and bottom then finish off everything with a light sanding.

Repeat the layout and turning of each section just as with the first leg and creating duplicates will be much like a paint by numbers. Consistency in process is key.



Building the Case

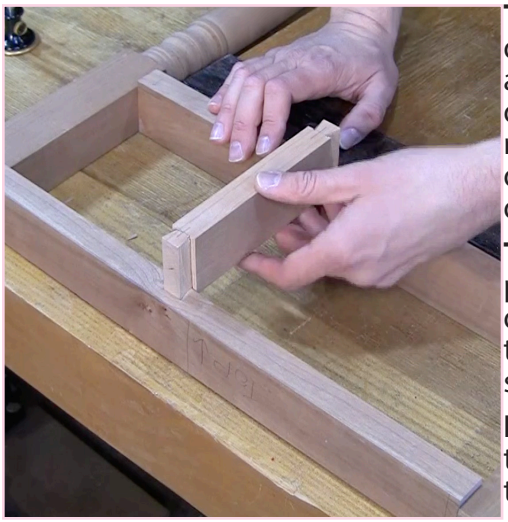
Twin Tenons and Eliminating Variables Keep the Case Square. Where possible slave parts to one another to ensure they are duplicate in size.

Cut wide tenons on the sides and back of the case and then use a fret saw to cut them into double tenons to allow for wood movement with these wider sides. Chop the mortises to the full width at 1/4" deep then deepen to a full 1" at the double tenon locations.

The double tenon reduces the total tenon size and subsequently reduces wood movement, or one tenon can be left dry while the other is glued.

The top front rail is half blind dovetailed into the top of the legs.

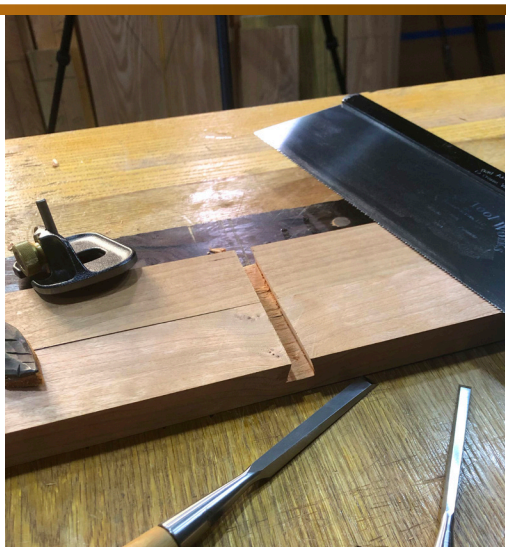
The bottom front rail uses a twin tenon so that the entire long grain structure of the leg isn't remove thus weakening the entire leg. This twin tenon is cut as one like the sides and then sawn apart. Chopping the mortise is best by boring first with a 3/8 auger bit and then refine the 3/8 square mortises with a chisel.



The center and horizontal drawer blades can be milled and dovetails cut so that shoulder perfectly fits between the rails. Start with the vertical divider and fit it into a sliding dovetail first.

Then move on to the horizontal pieces. The dovetails are 3/8" deep in both instances. Gang the rails together and cut the socket as one.

Now shape the bow front on the rails by connecting the center point to the legs in a curve.



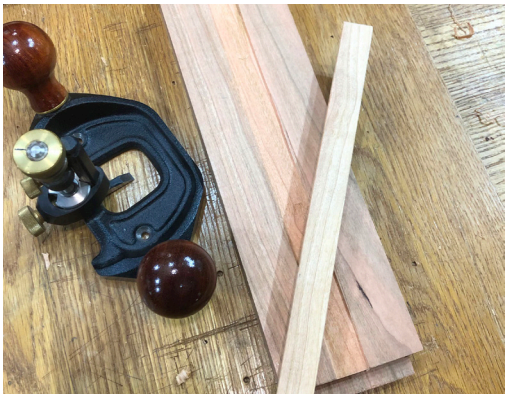
Internal Case Parts: Drawer Runners

- Species for the runners and guides can be your choice of primary wood or any secondary species. You will most likely have many offcuts laying about and while the parts list calls for 2" width, they can be narrower or wider than that.
- Capture the length of the runners using a pinch stick or make a story stick from the case itself. Since you can't glue up the case without these internal parts made, use clamps to pull the outer case together tightly and get an accurate measurement from front to back on the interior. Remeber this is the shoulder to shoulder dimension NOT the overall length with tenons.
- Finally mill your parts longer than final size and LABEL them.

- Cut the tenons to full width to establish the shoulder to shoulder fit on the assembled case.
- Then you can postion in place to make the notch around the back leg location and saw that away. Again label your parts as this notch marks the runners as left and right side
- Saw the tenons to final size. This doesn't have to be an exact number but shoot for a width at least twice the thickness.
- The center runner tenons should be located to flank the center divider dovetail socket and should be laid out from the case itself.

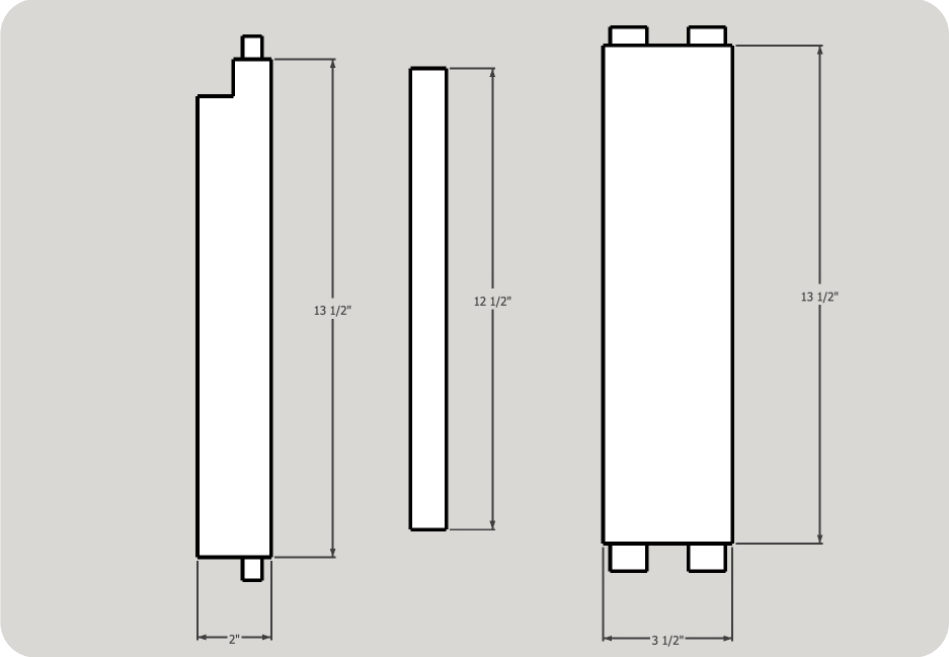
- Starting with the front assembly show each runner to the legs and rails and locate the mortises.
- Using the same mortise gauge used to layout the tenons mark the case lower rail and drawer blade with the gauge to precisely locate where the mortise should be in the vertical plane.
- The tiny size of these mortises is best drilled out then squared with a chisel.
- With the front mortises done, loosely assemble the case and show a square to the runners in order to locate the mortise on the back of the case. Trace around the tenons and chop the mortises as you did on the front of the case.

- Drawer guides can be made any thickness as even 1/4" is enough to keep the drawer running true. These should be made to be a bit smaller than the space so as to have some wiggle room to position them exactly. You may even want to wait to glue them in place until the drawers are made in case you end up with a sligthly out of square drawer.
- The center guide on the lower runner however needs to be precisely placed since a drawer rides on both sides. Cut a shallow groove in the runner so that the guide can be glued without fear of it slipping to one side or the other.



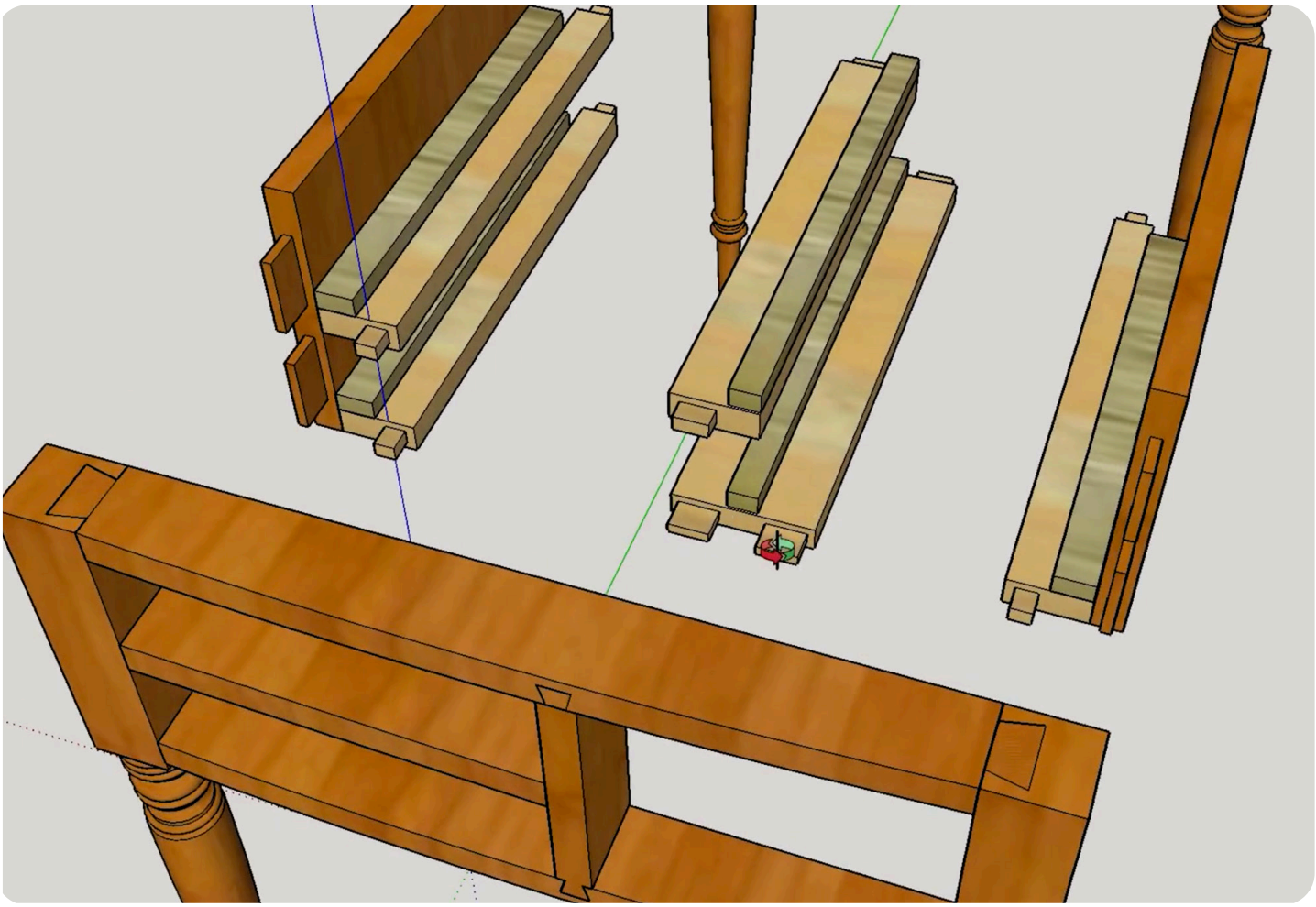
Similar, But Different

- Label, label, label your parts. While 4 of the 5 runners are the same size, they are left and right specific with the notch location and the tenon location.
- Capture the length of the runners on the case itself while clamped in order to insure you have the proper shoulder to shoulder dimension for each piece.
- Drawer guides should be size to be smaller than allowable space so they can be positioned precisely during glue up



Drawer Runners & Guides Position

Guides can be any height but are positioned to restrain the drawer side to side. Runners are tenon'd into the case back and front rail and are notched around leg posts

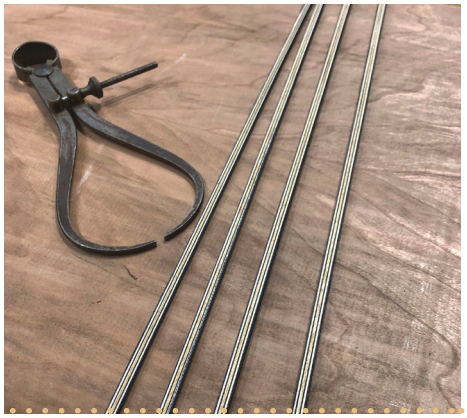


The Top: Inlaid Banding

- Mill the top so that it overhangs the sides by 1" and is flush at the back while leave approximately 2" overhanging the front.
- Trace the shape of the curved front rail onto the top using a scribe or washer with a 1" offset.
- Now saw and refine the bow front of the top. A spokeshave works great here or a compass plane is purpose built for this task.
- With the top shaped you can install Figure 8 fasteners into the top of the case and predrill and screw the top to the case.
- Then remove it for the inlay work.

- The banding is made up of 8 layers of veneer approximately 1/32" thick. The pattern and thickness is up to you and the veneer you can acquire. My pattern is as follows:
- Castello, Satinwood, 2 layers Holly, Black Castello, Satinwood, Castello
- Cut the veneer into 2" wide strips with a knife then glue and stack in a U shaped veneer press.

- With the veneer blank dry saw off strips slightly fatter than the depth of the final inlay. This can be 1/32" or you can go all the way up to 1/4" if you like. This is too much work in my opinion and a waste of the banding stock you have created. I ended up with 1/16" thick strips.
- Using a straight edge to guide my saw I sawed away the 1/16" strips of veneer. You need 4 to wrap the top.
- Go ahead and cut a 45 degre miter into one end of each of the strips making sure you leave enough material to fit each side of the top.



- The inlay channel is cut using the Veritas inlay cutter for the router plane. This can also be done using a drill bit in a block of wood as a scratch stock. One the outline of the channel is cut the waste in between is removed like a dado using the router plane. The channel does not need to be very deep but it should be a snug fit to the banding.
- Now fit the banding piece by piece, marking and mitering the second end of each piece. Ideally each piece should be a hair longer than the channel so pressure is put on the miter joint when the pieces are fit into place.
- Clamp with blue tape, then scrape/plane flush to the surface.

Drawers

- Saw and mill the drawer front stock and individually fit each front to the case. Ensure that you have enough thickness in the drawer fronts to allow for the overlap of the half blind dovetails while still being able to sculpt the fronts to match the bow front of the case.
- Mill the side and back parts for each drawer fitting them exactly to the case or even leaving the sides a bit shorter since it is the drawer fronts that will dictate the final fit.
- Use through dovetails at the back of the drawer box and half blind dovetails at the front.
- Plow a groove through the front and sides and then saw the back so that matches the top of the groove in the sides.

- Glue up the drawers. I use large rubber bands to clamp small boxes like these but with well fit dovetails clamps may not even be necessary.
- Smooth plane the sides and back and then check the fit of the drawers to the case.
- In a perfect world they will fit right away but most likely they will need trimming to fit well and to even out the reveal around the fronts.
- The amount of reveal around the front is up to you but I aim for as tight a fit as possible so there is just a bit of a friction fit when the drawer front slides home.
- Even out the reveal on the bottom of the drawer by using a small chamfer to create the effect of a gap.

- Slide the drawers into the case so that the dovetails are inside by at least 1/8" or more. Mark around the perimeter of the drawer to capture the curvature of the front of the case.
- Use a spokeshave or smooth plane to sculpt the front of the drawers to match the front. Work lightly to avoid tearout as there is not much material to remove here.
- I used plywood for the drawer bottoms so I could glue wrapping paper to the faces for a little surprise inside each drawer.
- Finally use the drawer bottoms as a drawer stop to set the reveal on the drawers perfectly. Since the plywood won't move appreciably you can trim it to a perfect show front.

A Fine, but Easy, Finish

- Scrape and smooth plane every surface. Ideally most of the smoothing was done before glue up and there will be minimal clean up required at this point.
- The finish used is EnduroVar satin so stir the finish thoroughly and brush on the first coat, then if necessary wipe back any excess.
- The first coat will mostly likely not require any wiping as the wood will soak in the finish fast
- A small foam brush is great for the turning but keep a rag handy to catch any drips that occur. The technique here is to load the brush with varnish and flood the surface to get into the fine details. With this method, drips will occur.
- Look for any white spots where varnish is pooling and wipe those away.

- Let each coat dry for 30 minutes to an hour. Water based finishes applied thinly dry really fast.
- Use a 600 grit sanding sponge between coats of finish to smooth out any dust nibs and level the surface.
- Use a clean cloth to wipe off the sanding powder and examine the surfaces under raking light to check for any uneveness in the finish.
- Apply the next coat of varnish. 3 coats are the minimum but I went all the way to 4 on the case and a 5th, thinned out coat for the top. I thinned that last coat by half with water to really let it flow easily. Though honestly EnduroVar flows pretty well that I'm not sure this was entirely necessary.

- The drawer fronts were finished with EnduroVar like the rest of the project, but the sides and interiors were finished with a 1 lb cut of Shellac. This is a traditional method to keep the varnish smell down on the inside of a case and Shellac is an easy finish to repair with wear over time.
- The drawer pulls are centered on the drawer fronts using an X pattern connecting corner to corner then drill for the posts. Install the pulls then screw the top back on to the case.
- Finally I applied a coat of paste wax to the outside of the drawers and the runners inside the case to allow the drawers to run smoothly.
- Apply felt to the bottom of the legs to prevent them from scratching hardwood floors and let the piece slide easily on any floor.
- Step back and pat yourself on the back for what you created!