This small, wall-mounted corner cabinet is very handy for storing cups, glasses or other items in a room where space is at a premium. The basic construction is not very complex or time consuming which frees you to do the fun part of the project, the carving. The vertical "S" curve pattern on either side of the door is a kind of running carving which is done very systematically, whereas the outline of the vine in the door, and the grooves around it, are done with a V-parting tool following a sketched design.

Parts List- Corner Cabinet

1- 1/2 x 10-3/8 x 32 back

1- 1/2 x 9-7/8 x 32 back

2- 1/2 x 2 x 32 front sides

1- 1/2 x 5 x 12-1/2 top plate

2- 1/2 x 1-3/4 x 27 door stiles

2- 1/2 x 1-3/4 x 9-3/4 door top and bottom rails

2- 1/2 x 1-1/4 x 9-3/4 door mid rails

2- 1/2 x 1-1/4 x 9-3/4 door mullions

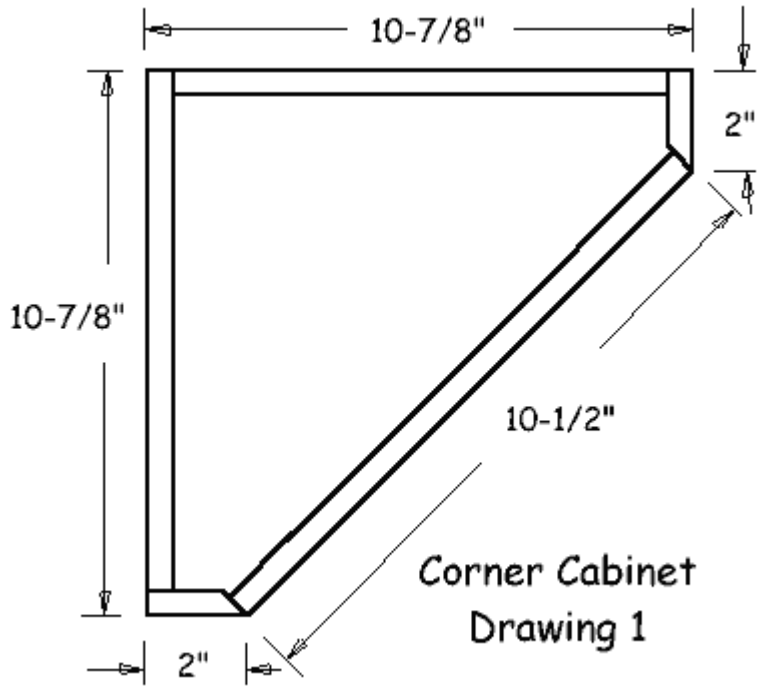
4- 1/2 x 4-3/8 x 9-1/2 panels

1- 1/2 x 3-1/2 x 9-1/2 bottom panel

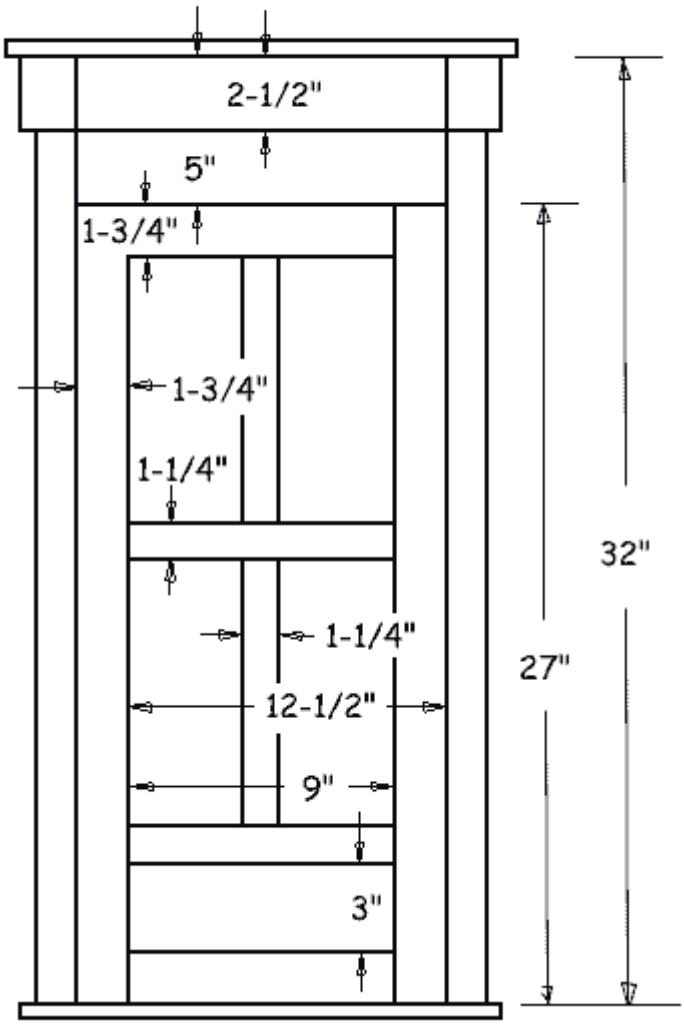
1- 1/2 x 12-1/2 x 36 top, bottom and two shelves, nested along their angles.

1- 3/4 x 2-1/2 x 18 top mould

16- 1/2 x 1/2 x 2 screw blocks

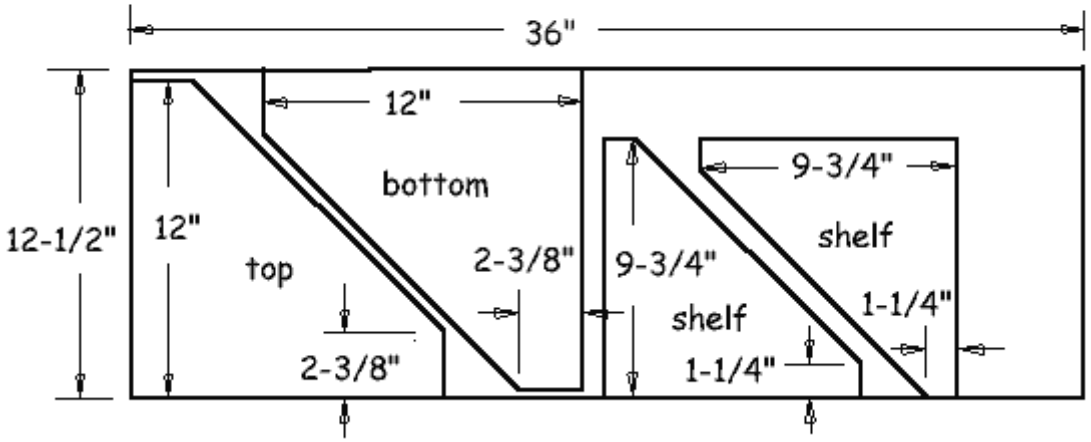


Corner Cabinet Drawing 2



Corner Cabinet Drawing 3

Making The Top, Bottom and Shelves



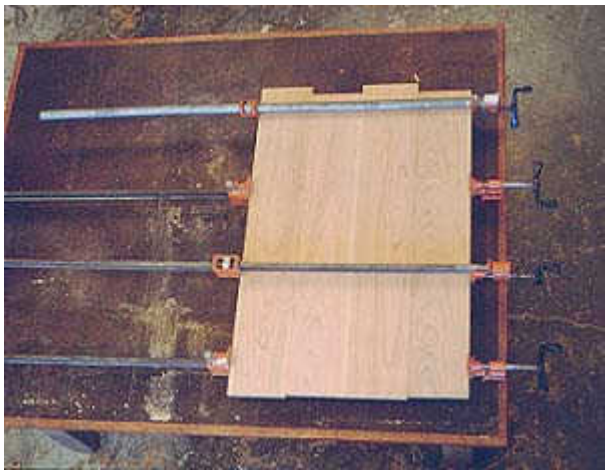


Photo 1- Edge-glue boards together to get the widths required. I use a biscuit joiner to put biscuit splines between the boards to keep them lined up at the glue up. Dowels can serve the same function, or run a groove down each edge at the table saw and fit in a spline. Aligning the boards flush to each other without anything to keep them there is not too difficult, but generally just a pain in the neck. When you adjust one it throws the other out of whack. Refer to Murphy's Law.

If you need clamps, click here.
If you are considering buying a biscuit joiner, click here.

GETTING STARTED

Begin by edge gluing boards to get the wide parts (photo 1); the backs, the top and bottom, and the two shelves. The latter four are all triangles and can be nested on one piece to save stock. If you don't have a planer to make the 1/2" stock required, try visiting a local cabinet shop and offer to pay them to do it. For a lengthy treatment on making thin stock on this site click here.

DOOR

Photo 2- These grooves serve both as mortises for rails and grooves for panels. If your stock is not uniform in thickness, don't flip faces as the text says, because the groove will vary as the thickness does. In this case, always keep the same part face against the fence in all passes and make careful adjustments of the fence location using test pieces to ensure that the groove is as close to centered as possible.
If you are considering buying a table saw or blade, click here.

Make and assemble the door before carving it. This is a frame and panel door, with solid panels held in grooves in the surrounding frame parts. The frame joinery is a form of mortise and tenon which can be done entirely on the table saw. First get out your stock, all of which is 1/2" thick. Cut grooves at 3/8" deep by 3/16" wide on the saw as in photo 2. Do so on the inside edges of both stiles and the top and bottom rails, as well as both edges on the midrails and mullions (the vertical separators between panels).

Your table saw's dado set probably won't go as small as 3/16", so cut the grooves with your regular blade, making two passes. Set the blade at 5/32" from the fence, make one cut, then reverse the part so the opposite face is against the fence and cut again. The result is a 3/16" groove that is well centered. But note that this technique works best when the stock is very uniform in thickness (see photo 2 caption).

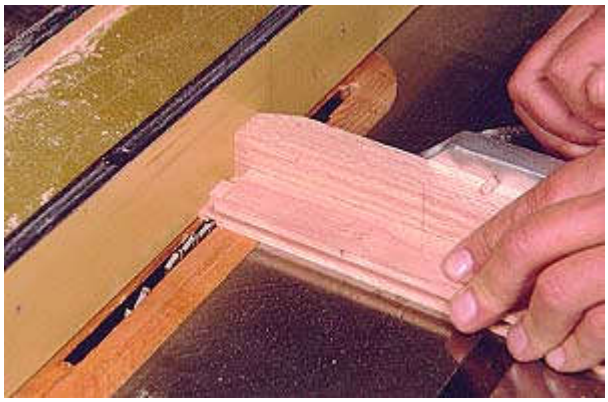


Photo 3- Cutting these tenons will go faster if you have a dado cutter for your table saw, but you can do just fine with a regular combination blade. If your stock varies in thickness you must use a different setup for your thinner and thicker parts. Try this- run all parts at a setup that works for the thinnest rails, then customise the tenons on the thicker ones until they fit.

If you are looking for a dado set, click here.
If you are looking for a miter gauge, click here.

Now set the fence at 3/8" from the outside of the blade, and lower the blade to less than 1/8" above the table. Put your miter fence on the saw, and screw a backup piece onto the fence as in photo 3. Cut the tenons on the rails and mullions as shown in the photo. First make a test cut, and make multiple passes to cut out the waste. With the blade at less than 1/8" high above the table, the resulting tenon will be too thick. Raise the blade a hair and cut again, and fit again, and continue until the tenon is brought to a snug fit with the grooves. The resulting joints will appear as in photo 4.

Photo 4- The finished joints will appear as shown. This is a small joint, but then it's a small door. Still, it's important to get a good fit between the tenons and the mortise grooves for a good glue bond.

To guarantee a good glue bond with these joints, its best to clamp the groove walls onto the tenons with C-clamps and glue blocks. But you can't do this on the center joints if you glue up the door all at once because the panels are in the way, so do the glue up in two stages. Before you put the panels in the frame, indeed before you make them, glue together the mullions to the rails (except the bottom rail) as in photo 5. Carefully center the mullions in the grooves on the rails. Note in the photo that one of the stiles is located on the ends of the rails. It is dry fitted there during this primary glue up for the sole purpose of aligning the parts.

Photo 5- Glue the central dividers (mullions) to the rails before making the panels and gluing up the whole door. Carefully center them on the rails. The long stile is not glued to the rails in this photo, it's just there for alignment. The C-clamps squeeze the mortise walls onto the tenons for a good glue bond. They don't need to be very tight, just light pressure.

If you are looking for C-clamps, click here.

Once these parts are out of clamps, dry assemble the door with all the frame parts and carefully measure the sizes of the openings for the panels. On the one hand you want the panels to fit perfectly in the openings so the door appears as one flat surface with a minimum of gaps, on the other hand you have to leave some room for the panels to expand and contract in the openings. Subtract a fat 32nd from the opening sizes for the panel sizes along the panel widths, and 1/64th along their lengths.

The actual panel sizes, however, are larger than these openings by the width of the tongues you put on the panels. Add 1/2" to all the dimensions you came up with from the openings to make 1/4" tongues all around. Get out your panels according to this list.

Photo 6- Cutting the panel tongues on the panels. The height of the cutter is going to determine the exact fit of the panels in the door frame parts. Test fit them while you have the setup going so you can make adjustments if necessary. Leave some room along the panel width for moisture related expansion.

Cut the tongues on the panels with a table saw setup much like the one you used for the grooves, except this time you cut to the outside rather than to the inside, and you can set up a dado to do it as in photo 6. The 2x4 clamped to the table in that photo is strictly a safety device. Since on this cut the blade is to the outside of the work, and since the parts are small and you must apply firm pressure against the fence for accuracy, this fence is a good idea to prevent your fingers from slipping into the blade.

First use a test piece the same thickness as your panels and cut the tongue too thick to start, then move the fence a hair for a thinner tongue until you get a tongue that is an easy- but not loose- fit in the groove.

Adjust the height of the blade to 1/4". This adjustment determines the final fit of the panel shoulders in the door frame, and this is what you see on the finished door. So start with the height at just less than 1/4", then dry fit the panel to see how it lines up. Raise the blade and take off more if necessary.

Photo 7- Gluing up the door. Wet out the parts, put on the bar clamps, then the C-clamps, then remove the bar clamps. Before you put on the C-clamps, be sure the door is flat.

Put the panels in their grooves and glue the rails onto the stiles. Pull the stiles together with bar clamps (no need to clamp very hard) and then apply C-clamps as before with blocks to bring the groove walls solidly onto the tenons (photo 7). Once the C-clamps are on you can remove the bar clamps.

CARVING

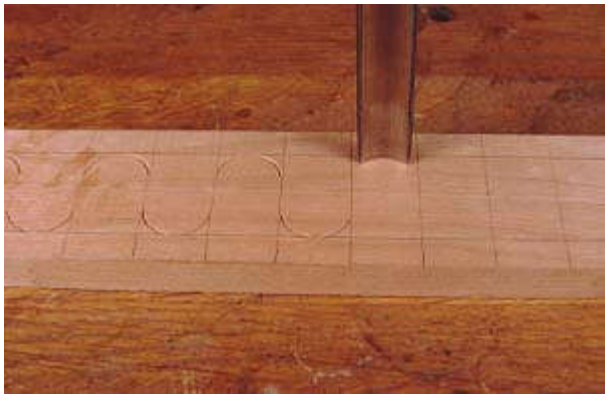


Photo 8- Using a carving gouge to establish the half circles in the carving design.

If you are looking for carving tools, click here.

While the door is drying start the carving on the front side pieces. Rip them to width, cut to length, then get out your carving tools. Before you lay out the "S" pattern of this design, you need to know what chisel you will use to make it. The pattern depends on the diameter of the half circle cut by the gouge you use. My #8 by 5/8" gouge has a diameter of 3/4", so I marked out spaces at that dimension as in photo 8. But you could use one with a greater or lesser diameter to suit your tooling or your desires.

Mark out the spaces between half circles as described above, and also scribe two longitudinal lines 1/2" from each edge to establish the lateral position of each half circle. Begin carving by cutting half circles within your scribe marks as shown in photo 8. Cut down to a depth of 1/16" or so. Make this entire series of cuts on both pieces before you go ahead with the next step of clearing out the waste in each half circle. The only reason for this is efficiency; it will take less time if you are not switching from chisel to chisel at each half circle. This kind of methodical carving with a repeating design is called running carving and can be done with an infinite number of designs.

Photo 9- Connect the half circles with a straight bench chisel. Angle these cuts to follow the slope of the design.

Once the half circles are cut, use a regular bench chisel to connect their ends as in photo 9. Angle the chisel toward the half circle, to follow the angle of the final surface which slopes down toward the half circle. Point the bevel of the chisel toward the waste, because the flat of the chisel leaves a cleaner edge, and it is the edge not wasted away that will be seen.

Photo 10- Make a sloping cut down into each of the half circles as shown.

Finally use a gouge with a very shallow arc to waste away the material inside the half circles, and between the bench chisel cuts (photo 10). My #3 by 1/2" gouge did the job well. Sharpen this chisel to its best, because you are cutting across the grain and the sharper it is, the smoother the finished surface will be. Slope the cut down toward the half circle, and dish it out following the radius of the gouge you use.

When the door is out of clamps, trace a vinelike design onto it, such as in the photos. Note that this design goes on the panels only, and not on the frame parts. Also, this design stays within 1/4" of the edge of the panels, to avoid chipping the edges as you carve. Sketch out your own design if you find the inspiration, and it needn't be cut only within the panels.

Photo 11- Sketch a tree or vine trunk at the bottom panel, and extend its branches up into the higher panels. Sketch and erase until you have a pleasing pattern. Then carefully outline the pattern as shown.

Use a #12 or #15 V-parting tool to outline the vines as in photo 11. Again, sharpen the tool well for best results, because as you cut directly across the grain, a dull tool will push and crush the fibers rather than sever them. Work slowly and coax the tool through the wood rather than forcing it quickly- you may find that it will jump ahead of you, beyond the pattern!

Photo 12- Texture the background around the branches with parallel lines. Go slowly and gently so you don't slip ahead farther than you intended.

With the outline finished, cut the parallel grooves between the vines which provides a textured background (photo 12). Again go carefully or the tool may slip and cut through a vine. I confess this happened to me once or twice (okay- three times!) but it was easily repaired by gluing back in the small chip that was cut out. Note that the grooves follow the grain direction of the panel, so that the grooves on the bottom panel are horizontal whereas elsewhere vertical.

CARCASE

Photo 13- Make a shallow reference groove where the carcase parts join so that when you put it together the parts have a shoulder to sit against, keeping them in alignment.

Cut the 45o angle on the inside edge of the two front side pieces. This is just as easily done on a jointer as a table saw. Then get out the two backs, cut to length and rip to width. Set up the table saw to cut a very shallow rabbet in the side pieces and in one of the backs where the pieces butt together. Make this rabbet 1/2" wide, and only 1/32" or so deep (photo 13). The sole purpose of this rabbet is to help you locate the butt joint during assembly. Otherwise the parts would slip all over with glue in there. Be careful that the blade doesn't burn the wood in the rabbet, because that is the glue surface and glue doesn’t stick very well to burnt wood.

Photo 14- You'll need an armful of barclamps to glue on the side pieces as shown. If you don't have this many, do one at a time, or use no clamps and attach them with glue and nails. Pre- drill for the nails in this case so the wood doesn't split, and use small-headed finish nails.

If you need bar clamps such as those shown, click here.

Glue the two backs together. Use nails to hold them together. If your cabinet is made of hardwood, predrill holes for the nails, much as you would for screws, to prevent splitting. Softwood like pine may not require holes. With the nails in place you don't have to wait for the glue to dry before you do more assembly, so glue and clamp on the front side pieces as in photo 14. No nails here- you don't want any nail holes next to your nice carving! Use clamping strips between the clamps and the front side pieces to prevent the clamps damaging the surface.

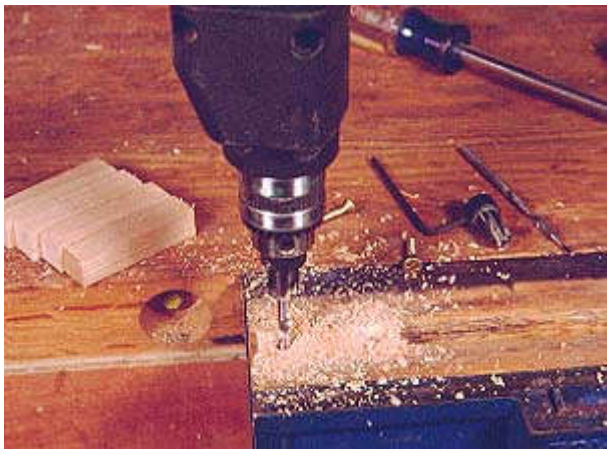


Photo 15- There's a screw block under all those chips from the drill bit! With any screw block it helps to bore out the holes before you go to assembly. This extra step makes the assembly procedure a joy instead of a nightmare.

If you need tapered drill bits with counter sinks, click here.
If you need a hand drill, click here.

Make 16- 1/2" x 1/2" x 2" screw blocks for securing the top, bottom, and shelves. Drill two screw holes with countersinks through one face of each block as in photo 15. Then mark out the location of each block on the inside of the carcase. One by one place each block in position and mark the location of its screw hole with a pencil placed in the hole. Why not just put the block in place and drill a hole through block and carcase at once? Because the bit will make the block wander all over the place and it won't get located correctly. After marking out the location of the holes, drill an appropriately sized hole on the mark and screw down the block (photo 16).

Photo 16- Put the screw blocks in place, and use the holes in them to mark the location of the screws in the carcase. Put a nail in the hole and tap in with a hammer enough to leave a mark. Remove the block and nail, drill for the screw, then install the block. You need to do some tests to determine the optimum hole size and

depth for your screws. A piece of masking tape on the drill bit shows you how far to bore down.

The front plate that goes above the door gets glued to two special glue blocks attached to the inside of the two front side pieces (see drawing). Cut a 45o angle into these for the front plate to contact, and glue these onto the front side pieces using the front plate itself as a guide to show where to locate the blocks. Then, let the blocks dry without the front plate in place. You'll need it to be out of the way for more clamps on the blocks. When the blocks are dry, glue in the front plate. This is a challenge because there are no good surfaces for bar clamps to contact and you can't get in from behind with screws. Band clamp to the rescue! Photo 17. Place a piece of scrap over the front plate so the pressure from the band is applied on the front plate itself and not on the inner edges of the side pieces.

Photo 17- A band clamp (also called strap or web clamp) is the ideal tool for clamping odd shapes like this. The C-clamp just held the spacer in place while the band clamp was installed. An alternative to a band clamp is nylon string. It stretches a bit, so if you wrap it tightly around the piece numerous times the combined wrappings can apply adequate pressure for a good glue bond.

If you need band clamps, click here.

Make the molding for the top, using whatever router bit pattern you choose, then cut to fit and glue in place (once the top plate is out of clamps!). To determine the exact size of the top and bottom, place the cabinet on the stock for these pieces and trace the outer edge of the cabinet onto the stock. Add 1/2" along the leading edges. Measure the sizes for the shelves and trace them too. Nest the triangles on your stock for maximum stock use. Cut out the top and bottom pieces, and the shelves, with a band saw or hand saw. Clean up this edge with a block plane. Rout an ogee or other pattern into the exposed edges of the top and bottom on the router table as in photo 18.

Photo 18- Rout a pattern in to the top edge. Make sure you make the top large enough that the pattern is beyond the top mold pieces.

If you need a router table, click here.
For a selection of router bits, click here.

Clamp the top and bottom in place, drill holes through the blocks and install screws. Make and install two small stops for the door, as in photo 19, to prevent it from closing too far in. Cut out mortises for your hinges, and note that you will have to angle the screws that hold the hinge leaves to the side piece, otherwise they will come out on the face. The angled screw heads will stick up a bit, so get hinges that have a fair distance between leaves when in closed position. Install whatever knob and catch you prefer, such as a small ball catch.

Photo 19- Two little custom fitted door stops, one at the top and one at the bottom, will prevent the door from swinging in too far.

Use a good quality finish for an ornate cabinet such as this. I used orange shellac, a one pound cut with three or four coats. The orange hue it leaves goes nicely with the cherry. Wipe-on oil, such as Watco, is a good choice here too because the cabinet will get a lot of wear like a table top would. Be careful not to allow the finish to puddle in the carvings.

Tools and Hardware Resources

Clamps
Plate Joiners
Table Saws and Accessories
Dado Sets

Mitre Gauges
Carving Tools
Tapered Drill Bits
Hand Drills
Router Tables
Router Bits