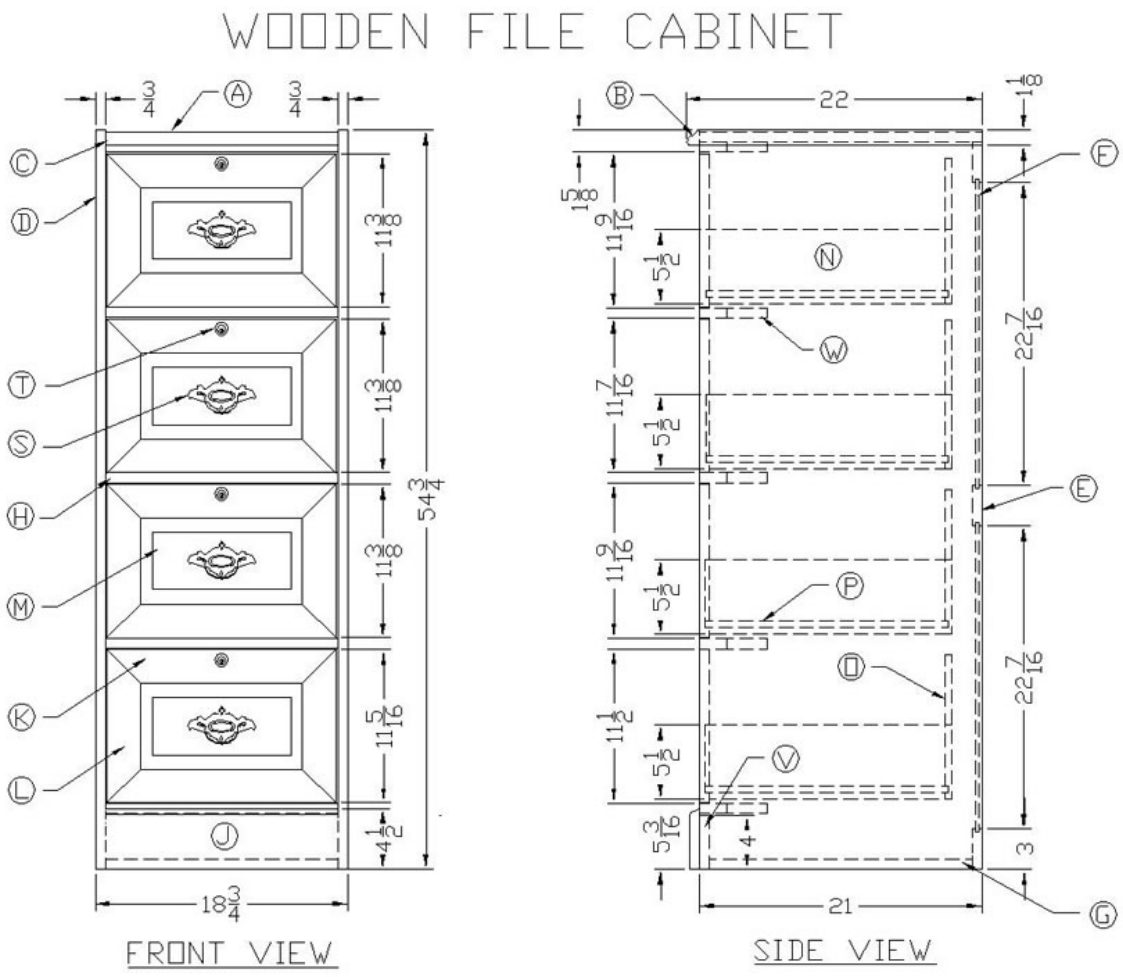
# How to Make a Wooden File Cabinet

This handsome four drawer file cabinet is constructed of a combination of solid walnut and walnut veneer. It features four letter sized drawers with side-mounted glides.

The drawers are also designed for hanging files. Its rich exterior finish, and stylish drawer front design would enhance any commercial or home office. The brass pulls compliment the file cabinet, and the key locks provide security for sensitive information.

One can make this cabinet for much less than the retail price for similar cabinets, and also achieve the satisfaction of building a fine piece of furniture that could become a family heirloom.




## Technical Information for Building a Wooden File Cabinet

## A. Materials List:

| QUANTITY | LETTER | NAME | SIZE | MATERIAL |
|---|---|---|---|---|
| 1 | A | Top | 3/4" X 17 1/4" X 21" | Walnut Plywood |
| 2 | B | Top Side Moldings | 3/4" x 1 1/4" x 22" | Walnut |

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| 1 | C | Top front Molding | 1" x 1 1/8" x 17 1/4" | Walnut |
| 2 | D | Sides | 3/4" x 21" x 53 5/8" | Walnut Plywood |
| 3 | E | Top Back Frames | 3/4" x 3" x 17 1/4" | Walnut |
| 2 | F | Back Panels | 1/4" x 17 1/4" x 22 15/16" | Hardboard |
| 1 | G | Bottom | 3/4" x 17 1/4" X 19 1/2" | Walnut Plywood |
| 5 | H | Front Horizontal Frames | 3/4" x 1 1/2" x 17 1/4" | Walnut |
| 4 | I | Side Nailers | 3/4" x 1" x 15" | Walnut |
| 1 | J | Bottom Front Molding | 3/4" x 4 1/2" x 18 3/4" | Walnut |
| 8 | K | Horizontal Drawer Frames | 3/4" x 2 1/2" x 17" | Walnut |
| 8 | L | Vertical Drawer Frames | 3/4" x 2 1/2" x 11 3/8" | Walnut |
| 4 | M | Drawer Panels | 1/2" x 7 1/16" x 12 3/4" | Walnut |
| 8 | N | Drawer Sides | 1/2" x 5 1/2" x 18 1/4" | Walnut Plywood |
| 4 | O | Drawer Backs | 1/2" x 10  5/8" x 16 1/4" | Walnut Plywood |

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| 4 | P | Drawer Bottoms | 1/2" x 15 5/8" x 18" | Walnut Plywood |
| 8 | Q | Drawer Bottom Supports | 1/2" x 1/2" x 17 1/2" | Walnut |
| 8 | R | Drawer Guides | 18" | Steel |
| 4 | S | Drawer Pulls | 5" | Brass |
| 4 | T | Drawer Key Locks | | Brass |
| 8 | U | Hanging File Racks | 18" | Steel |
| 1 | V | Bottom Front Frame | 3/4" x 4" x 17 1/4" | Pine |
| 8 | W | Triangular Braces | 3/4" x 3" x 3" | Pine |

**WOOD SPECIES**

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|---|---|
|  |  |
| Black Walnut | Ponderosa Pine |

## B. Patterns:

1. From a 3/4" thick sheet of walnut plywood, us a table saw and a radial arm saw, or a power miter saw, to cut out the top (A), sides (D), and the bottom (G) to their proper dimensions. From a 1/2" sheet of walnut plywood cut out the four drawer backs (O) and the drawer bottoms (P). From a 1/4" sheet of hardboard cut out the two back panels (F).
2. From a 1" thick piece of walnut cut out the top-front molding (C).
3. Use a planer to plane the remainder of the walnut lumber 3/4" thick. Use a jointer to joint one edge of each piece of lumber.

4. Using a table saw and a power miter saw cut the top-side moldings (B), back frames (E), front horizontal frames (H), bottom-front molding (J), horizontal drawer frames (K), and the vertical drawer frames (L) to their proper dimensions.
5. Use a router and a 1 1/4" ogee bit to shape the front edge of the top-front molding (C). Use a 3/4" ogee bit to shape the top edge of the bottom-front molding (J) and the inside edges of the horizontal & vertical drawer frames (K) and (L).
6. Trace shape of the top-front molding (C) onto the front side of top-side moldings (B). Cut out the shape with a band saw and sand the shape smooth with a spindle sander.
7. It will require a 3/4" x 8" x 52" walnut board to make the four drawer panels (M). Plane the board 1/2" thick. Rip the board 7 1/16" wide. Use a power miter saw to cut the panels 12 3/4" long.
8. To shape the back faces of the drawer panels (M) , use a shaper and 3/4" straight bit. Adjust the bit to cut 3/8" high and set the fence 5/32" from the bit. Hold the panels in the vertical position and cut the four back faces of each panel. To shape the front faces of the drawer panels, adjust the straight bit to cut 1" high. The fence should remain 5/32" from the bit.
9. Cut slots in the inside edges of the horizontal and vertical drawer frames (K) & (L) using a table saw and a 3/16" dado blade. Adjust the blade height to 3/8" and set the fence 5/32" from the blade. Cut the slot on one edge of each horizontal and vertical drawer frame. The slot should be cut 5/32" from the back face of each frame. These slots will accommodate the drawer panels.
10. Adjust the blade on a power miter saw to 45 degrees. Cut the corners of each horizontal and vertical drawer frame (K) & (L).
11. To strengthen the miter joints of the drawer fames, cut a slot in the corner of each frame for a spline. This can be accomplished by clamping a drawer frame onto another board with a hand screw clamp. The mitered corner of the drawer frame must be flush with bottom edge of the board it is clamped onto. Adjust the blade height to 1/4" and lock the fence so that the blade will cut into the center of the drawer frame. A blind spline is desirable, so the cut must be started 1/2" from the top edge of the drawer frame and end 1/2" before the bottom edge. The spline should be approximately 1 1/2" long. Clamp a board onto the face of the table saw to

use as a stop for the cut. Cut a slot into the mitered end of each drawer frame.

12. It will require a 3/4" x 6" x 13' board to cut out the drawer sides (N). Plane the board 1/2" thick. Joint one edge of the board. Use a table saw to rip the board 5 1/2" wide, and a radial arm saw to cut off eight drawer sides 18 1/4" long. Use a hand router and a 3/8" round over bit to shape the top edges of each drawer side. The drawer side should be routed from both sides in order to get the desired shape.
13. From a 3/4" thick pine board cut out the side nailers (I), bottom-front frame (V), and the triangular braces (W). Plane the remainder of the pine board 1/2" thick. Cut out the drawer bottom supports (Q).
14. Attach an adjustable dado head on the table saw and adjust the cut width to 1/2". Adjust the fence 3/16" from the cutter. Cut a groove on the bottom- inside portion of each drawer side (N) and each drawer back (O). These grooves are to accommodate the drawer bottoms (P). Adjust the cutter to 1/4" and the fence 1/4" from the dado blade. Cut a groove in one edge of the top and bottom back frames (E). Cut a groove in both edges of the middle back frame.
15. Use a band saw to cut a 1/2" x 5 1/2" notch out of the side edges of each drawer back (O) to accommodate the drawer sides (N).
16. Use a drill press and a 1" Foerstner bit to drill a hole in each top horizontal drawer frame (K) to accommodate the locks. The holes should be centered horizontally and 7/8" down from the top edge of the drawer frame. **NOTE:** The hole diameter may vary slightly depending on the type of lock used. The height of the holes should allow the drawer key locks (T) to be flush with the top of the drawer front assembly.
17. Use a drill press and a 1/8" diameter drill bit to drill holes to make the slots for the drawer key locks (T). The slots should be made horizontally in the bottom faces of the front horizontal frames (H). They should be1/8" x 1" x 1/4" and be centered horizontally and 1" in from the front edge of each front horizontal frame.
18. Drill two holes in through each drawer panel (M) to accommodate the drawer pulls (S). **NOTE:** The diameter and positioning of the holes will be determined by the size and type of drawer pulls used.

## C. Cutting Procedures:

1. Rough sand all solid walnut parts with an orbital sander and 80 grit sandpaper.
2. Intermediate sand with an orbital sander and 120 grit sandpaper.
3. Rough and intermediate, sanding should be completed before assembly procedure.
4. Finish sand all parts with an orbital sander and 220 grit sandpaper **after the assembly procedure**.
5. Hand sand all edges, and details, with 220 grit sandpaper just **prior to the finish procedures**.

## D. File Cabinet Sanding Procedures:

1. Place the two sides (D) on their back edges. Place two of the back frames (E) between them to insure proper spacing. Place wood glue on the ends of the bottom-front horizontal frame (H) and clamp it in position between the sides flush with the bottom of the sides. Secure with a bar clamp. Place glue on the ends of the other front horizontal frame (H) and clamp them into position according to the drawing dimensions.
2. Turn the assembly over so that the back is in the up position. Glue and clamp a back frame (E) flush with the back and bottom of the sides. Place a back panel (F) into the slot in the back frame and glue and clamp the center-back frame into place. Repeat this procedure for the other back panel and the top- back frame. Allow glue to dry overnight, then remove the clamps and use a nail gun with 1 1/2" nails to secure the sides to the front and back frames.
3. Glue and nail the top (A) and bottom (G) into place.
4. Glue the side nailers (I) horizontally to the insides of the assembly at the top and bottom. To add additional strength, use #8 x 1 1/4" flathead screws to secure them to the top and sides as well as the bottom and sides. Also screw the top-front horizontal frame (H) to the top (A).
5. Glue the triangular braces (W) onto the front horizontal frames (H) and the inside faces of the sides (D). Secure them #8 x 1 1/4" wood screws.
6. Glue and nail the front-top molding (C) molding onto the front edge of the top (A). In the same manner, attach the top-side moldings (B) onto the top of the sides (D). Nail the side moldings to the top (A) and the ends of the top-front molding (C).
7. Glue the bottom-front molding (J) in place. Secure the molding with wood screws from the back surface of the bottom-front frame (V).

8. Slots in the drawer fronts for the hanging file racks (U) can be made using a drill press and a 1/8" drill bit. Set the drill depth for 3/8". Clamp a board on the drill press table 1" from the center of the drill chuck for the legal files. Start the drilling 5/8" from the top of the drawer front and continue for 3/4". A start and stop point should be marked on the drill press table for accuracy. Repeat the same process 2 1/2" from the center of the drill chuck for the regular size files. This process should also be completed from the opposite edge of the drawer front. Repeat these steps for the other three drawer fronts.
9. Slots in the drawer backs (O) for the hanging file racks (U) can be accomplished using a table saw. Set the table blade height to 1/4" and adjust the fence 1/2" from the blade. Set the inside face of the drawer back against the fence and make a 3/4" cut down from the top for the legal files. Adjust the fence 2" from the blade and repeat the 3/4" cut for the regular files. This process should completed from the opposite edge of the drawer back. Repeat these steps for the other three drawer backs.
10. Place a small amount of glue on the edges of a drawer panel (M) and tap the vertical drawer frames (L) into place. Glue a 1/8" x 1 1/2" spline into the slots of the miter joints. Place glue on the mitered edges of the vertical and horizontal drawer frames and use bar clamps to secure them. Use a try square to square the drawer front assembly. Repeat the procedure for the other three drawer front assemblies.
11. Place glue in the grooves of the drawer sides (N) and slide the bottom into the grooves. Place glue in the dado and notched areas of the drawer back (O) and attach it to the drawer bottom and sides. Nail the drawer assembly with a nail gun and 1" nails.
12. Attach an adjustable dado head on the table saw and set the width to 1/4" and the height to 3/8". Adjust the fence 1/2" from the blade and cut dadoes vertically into the back surface of the drawer front assembly. The dadoes should be 5 3/4" on each side to accommodate the drawer sides. Also a blind dado should be cut horizontally to accommodate the drawer bottom. This dado should be 7/16" up from the bottom of the drawer assembly.
13. Glue and nail the front drawer assembly onto the drawer. Glue and nail 3/16" x 3/16" supports to underside of the drawer bottom.
14. Repeat steps 11 through 13 to complete the other three drawers.

15. Screw the drawer guides (R) onto the outside of each drawer side (N). The drawer guides should be attached 3/4" up from the bottom edges of the drawer sides. The track portions of the drawer guides should be attached to the inside of the sides (D).

## E: Assembly Procedures:

1. Use plastic wood dough to fill all nail holes, cracks and imperfections.
2. Use an orbital hand sander and 220 grit sandpaper to finish sand the entire project.
3. Hand sand all edges with 220 grit sandpaper.
4. If stain is desired, apply with a brush and allow to penetrate for 5-10 minutes, and then remove with a clean rag.
5. Allow stain to dry 6 hours and then repeat with a second coat.
6. Apply a clear finish coat such as Varathane, Polyurethane, lacquer, etc. using a pure-bristle brush. Allow to dry 12 hours.
7. Lightly hand sand finish with 220 grit sandpaper.
8. Apply second coat of clear finish.
9. If additional finish coats are desired, repeat steps #6 & 7.
10. Allow to dry 24 hours for the finish to dry.

**Notes:** 1. Be sure to match the color of the wood dough to the stain color. 2. Use a tack rag after each sanding procedure to remove the dust.

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## F. Finishing Procedures::

1. Attach the drawer pulls to the drawer panels (M).
2. Slip the drawer key locks (T) through the holes in the top horizontal drawer frames and screw them into the back side of the frames. Test the locks and make adjustments as necessary.
3. Slip the hanging file racks (U) into the slots provided in the drawer backs (O) and the horizontal drawer frames (H).

***Congratulations, your wooden file cabinet is finished and ready to use!**