



Project 11010EZ: Gun/Bookcase/Curio Cabinet

No man can be all things to all people, but this cabinet comes as close to fitting multiple uses as any inanimate object can. We've pictured it as a gun cabinet and a bookcase, but that's just for starters. A glance at the exploded view will tell you that the piece is comprised of two separate sections, a lower base section, and an upper cabinet section. Either can be used as a separate unit. The base section makes a fine floor cabinet, and the upper cabinet section can either sit on a surface or be wall-hung.

Whether your cabinet is destined for display and storage of a firearms collection, or for housing first editions of Tolstoy and Thoreau behind its glass-paneled doors, building the piece will be about the same. The only difference worth noting is the substitution of shelves for the stock and barrel rests, should your target be more a literary objective than ordnance reserve. We think the addition of surface bolts and locks on the doors is valuable no matter what's stored within.

As for stock selection, we chose red oak, for several reasons. Price was the first consideration. On a piece like this, where considerable stock is needed, the savings can be substantial. But moreover, with the cabinet's traditional look and functional design, what better choice could we have made for this piece than stalwart and sturdy oak.

Gun/Bookcase/Curio Cabinet Materials List

Part	Description	Size	No. Req'd
BASE			
A	Side	3/4" x 15-1/4" x 18-5/8"	2
B	Top/Bottom	3/4" x 16" x 34-1/2"	2
C	Back	1/4" x 18" x 33-3/4"	1
D	Shelf	3/4" x 12" x 32-7/8"	1
E	Bracket Foot (Front)	3/4" x 4-3/4" x 36"	1
F	Bracket Foot (Side)	3/4" x 4-3/4" x 16-3/4"	2
G	Back Foot	3/4" x 4" x 8"	2
H	Foot Block	1-1/2" x 1-1/2" x 4"	4
I	Glueblock	3/4" x 3/4" x 3-3/8"	8
J	Bullnose Molding	3/4" x 3/4"	about 6'
K	Door Stile	3/4" x 2-1/4" x 17-1/2"	4
L	Door Rail	3/4" x 2-1/4" x 14-3/4"*	4
M	Door Panel	1/2" x 13-1/4" x 13-5/8"***	2
N	Stop	1/4" x 1" x 2" 2	
CABINET			
O	Side	3/4" x 10-3/4" x 53-1/2"	3
P	Top	3/4" x 10-3/4" x 31-1/4"	1
Q	Bottom	3/4" x 11-1/2" x 32"	1
R	Back	1/4" x 31-1/4" x 52-3/4"	1
S	Beaded Filter	3/4" x 2" x 32"	1
T	Top Molding	3/4" x 3/4"	about 5'
U	Cap Molding	3/4" x 1-3/8"	about 5-1/2'
V	Bottom Molding	3/4" x 3/4"	about 5'
W	Door Stile	3/4" x 2-1/4" x 50-3/4"	4
X	Door Rail (Top)	3/4" x 2-1/4" x 13-1/2"	2
Y	Door Rail (Bottom)	3/4" x 2-3/4" x 13-1/2"	2
Z	Glass	1/8" x 12" x 46-1/4"****	2
AA	Retainer	1/4" x 1/4"	about 20'
OPTIONAL			
BB	Stock Rest (for guns)	3/4" x 3" x 30-3/8"	1
CC	Barrel Rest (for guns)	3/4" x 1-1/2" x 30-3/8"	1
DD	Shelf (for books, etc.)	3/4" x 10-1/2" x 30-3/8"	as req'd

HARDWARE

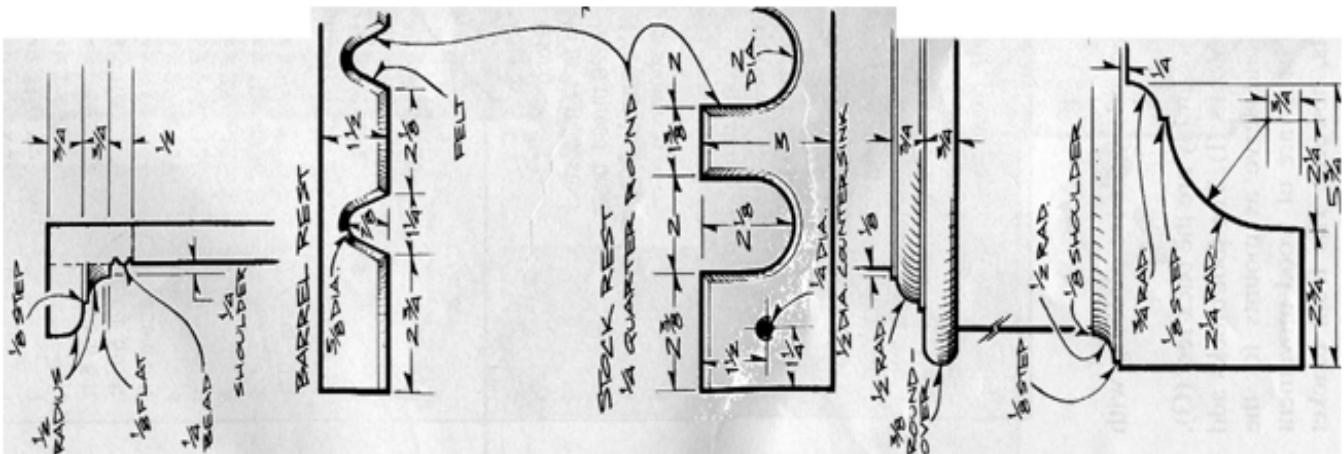
EE	Brass Butt Hinge	2-1/2" x 1-3/4"	5 pair
FF	Surface Bolt (Base)	4' long	2
GG	Surface Bolt (Cabinet)	6' long	2
HH	Door Lock	to fit 3/4" thick stock	2
II	Threaded Insert	1/4"-20 thread, brass	4
JJ	Flathead Machine Screw	1-1/2" long, 1/4-20 thread	4
KK	Leveler	as shown	4

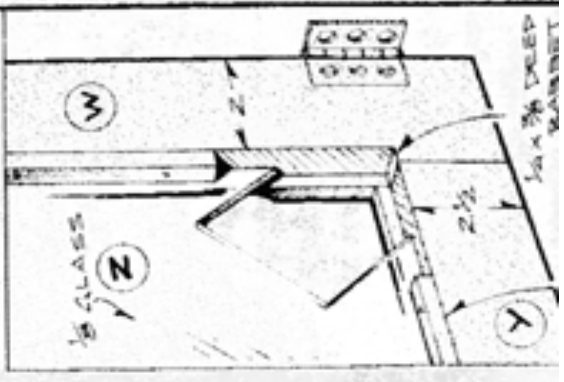
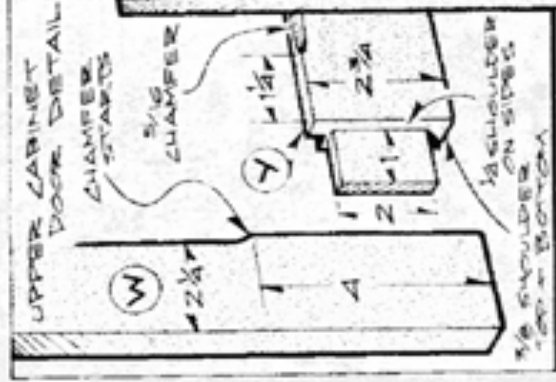
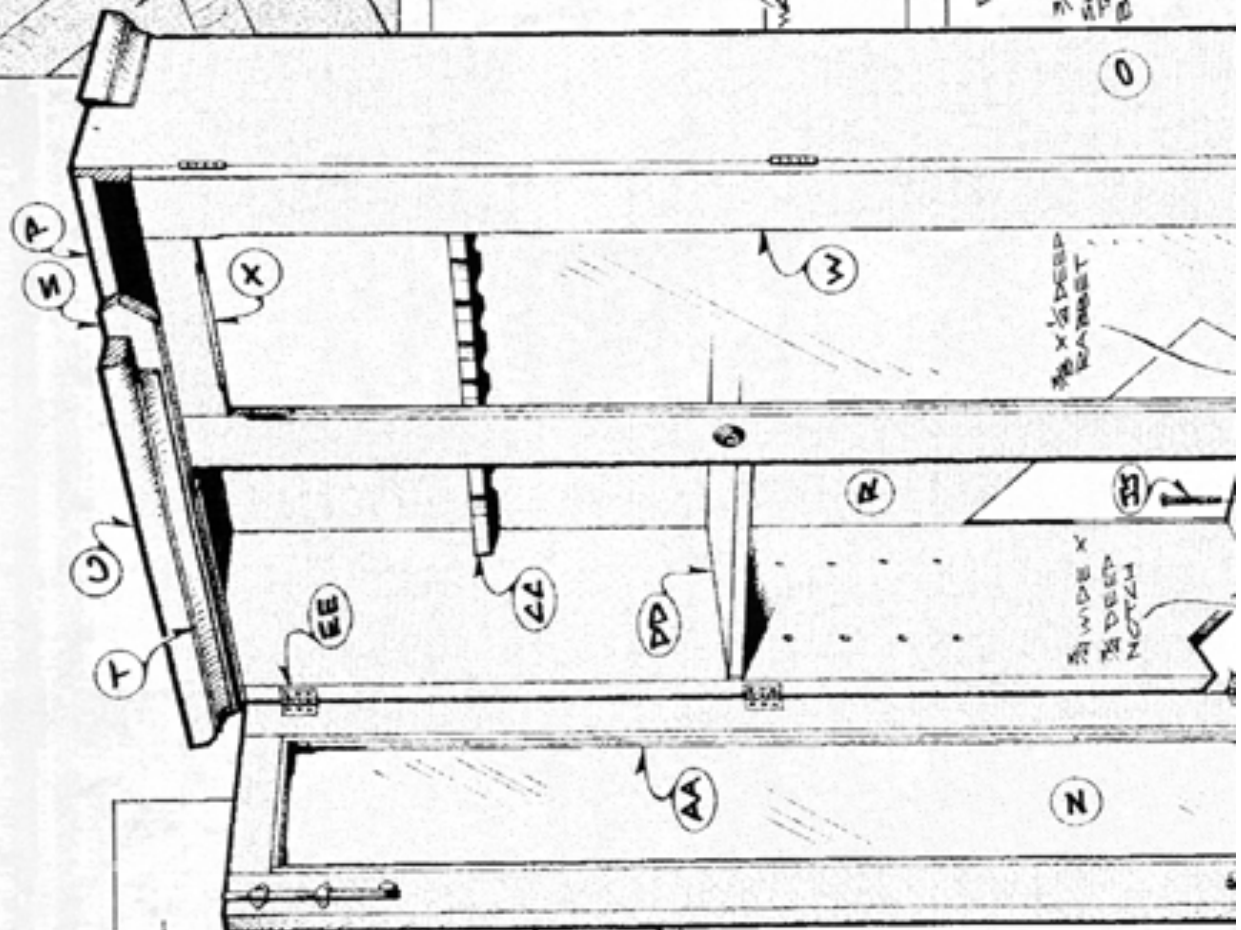
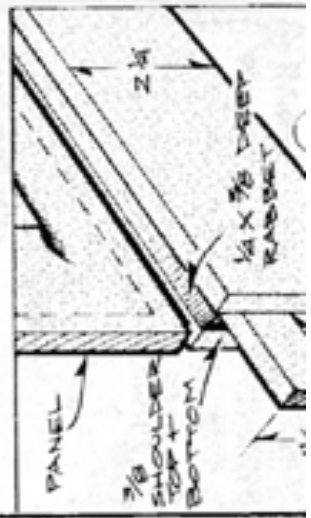
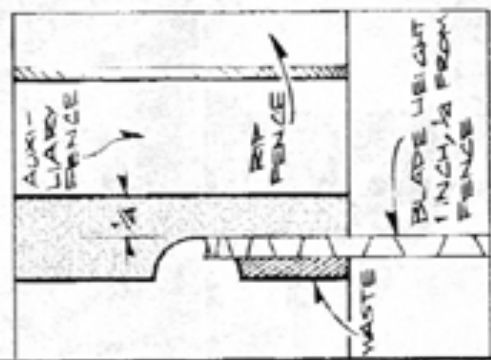
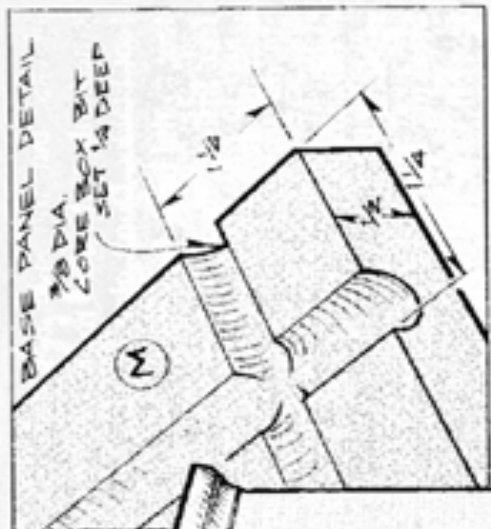
* Length includes tenons.

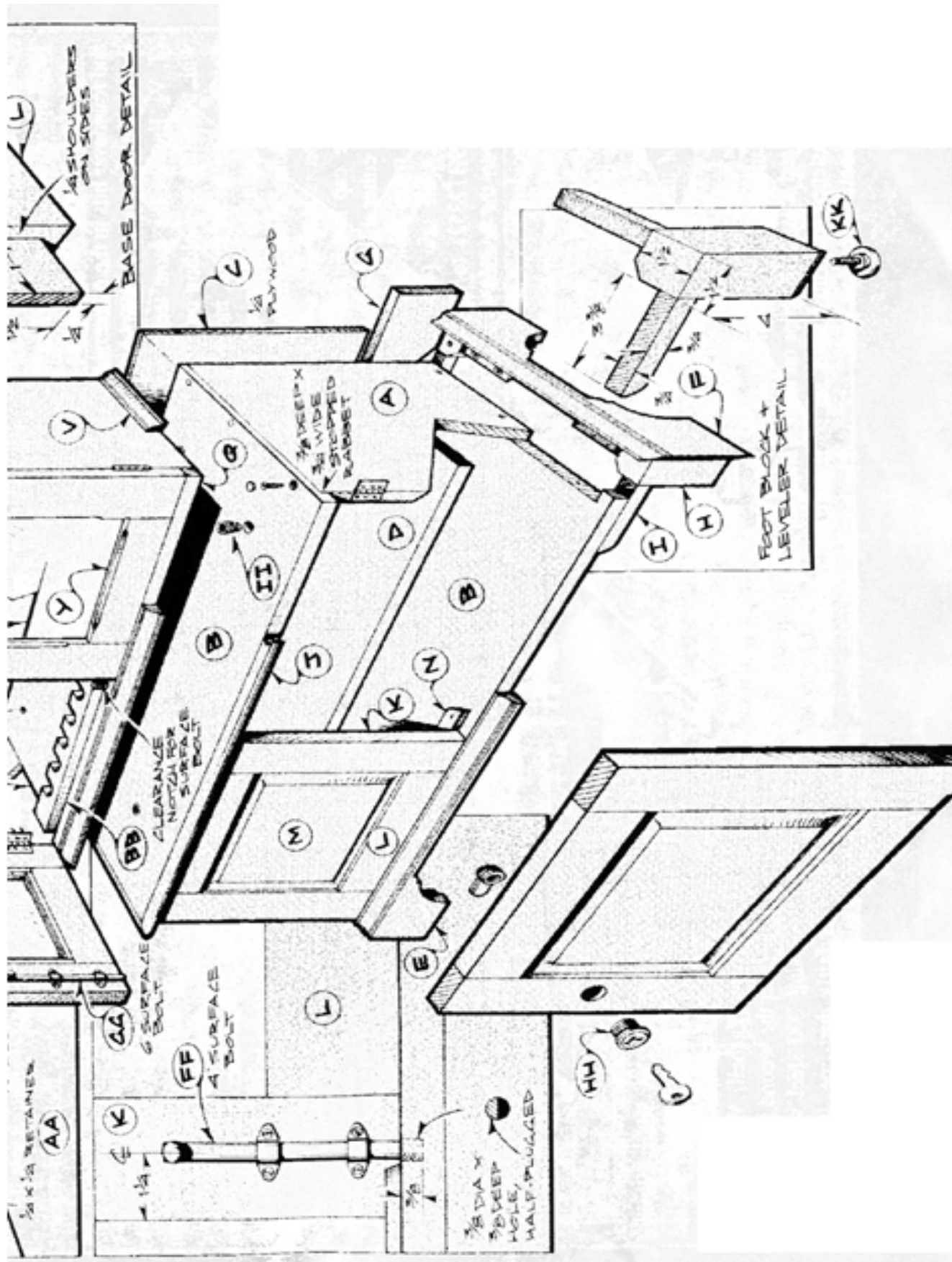
** Door panel as sized allows 1/4" across with and 1/8" top-to-bottom wood movement.

*** Glass dimensions as given allow no clearance. It's best to bring the doors to the glazier and have the glass cut to fit.

Gun/Bookcase/Curio Cabinet Complete Schematic







BASE DOOR DETAIL

1/2" SHOULDERS ON SIDES

1/2"

1/2"

(L)

(C) 1/2" PLYWOOD

(G)

(A) 3/4" X 3/4" WIDE STOPPED RABBET

FOOT BLOCK + LEVELER DETAIL

(F) 1/2"

(H) 3/4"

(I) 1/2"

(K) 1/2"

(V)

(Y)

(BB) CLEARANCE NOTED FOR SURFACE BOLT

(B)

(II)

(S)

(N)

(K)

(M)

(L)

(AA) 3/8" X 1/2" RETAINER

(AA) 6" SURFACE BOLT

(FF) 4" SURFACE BOLT

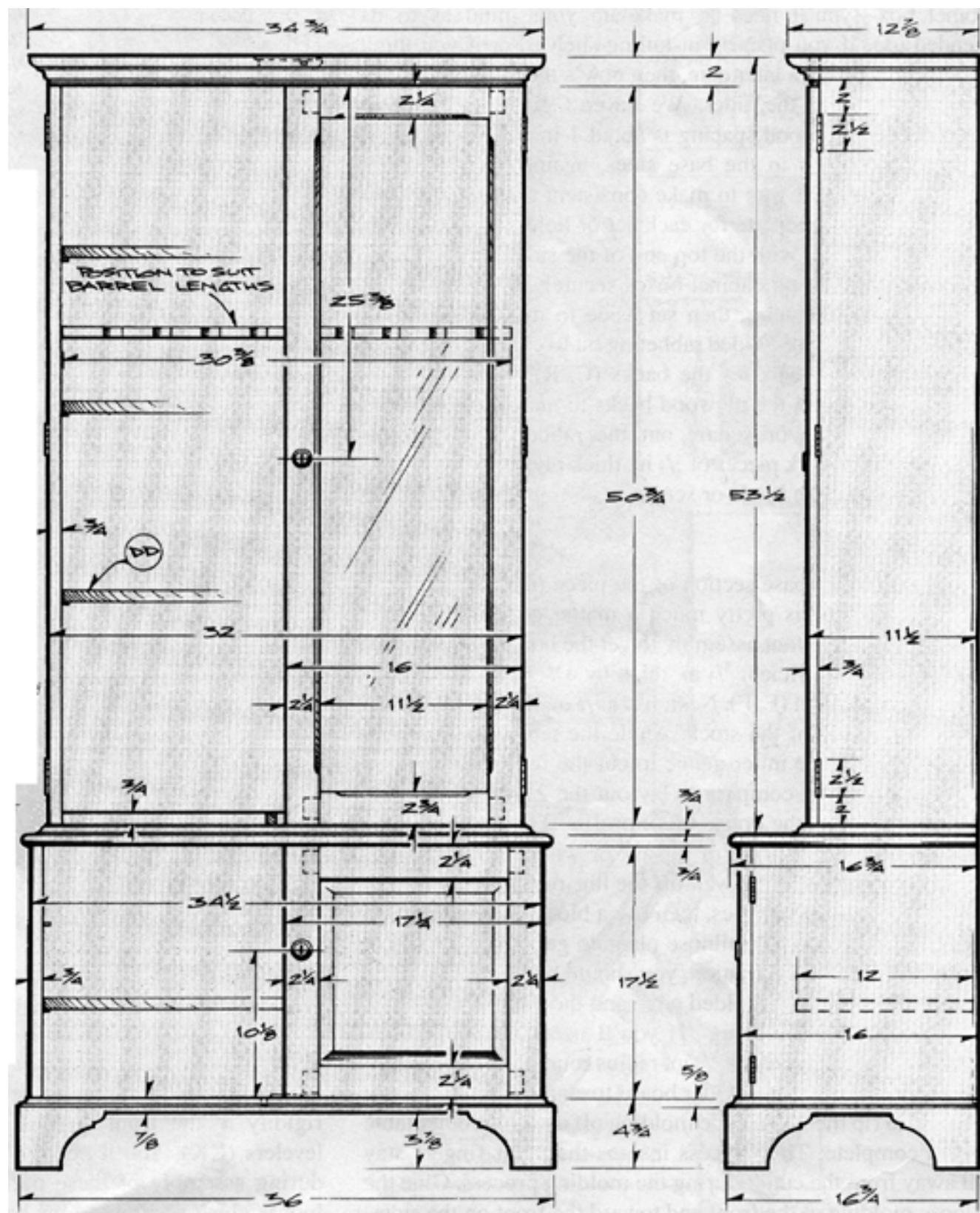
(K)

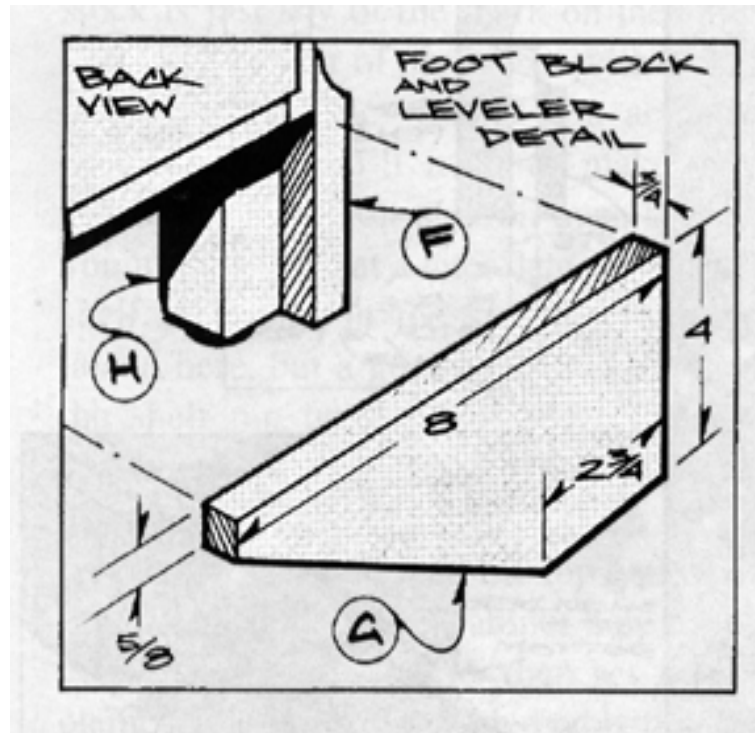
(L)

(E)

(HH)

(HH) 3/8" DIA X 3/8" DEEP HOLES, HALF-PLUGGED





Gun/Bookcase/Curio Cabinet Step-by-Step Instructions

1. Edge-join stock to make the various wide pieces: the base sides (A), the base top/bottom (B), the base shelf (D), the base door panel (M), the cabinet sides (O), the cabinet top (P), the cabinet bottom (Q) and, if you use it as a bookcase or curio cabinet, the optional shelves (DD).
2. Cut the parts to the required lengths and widths once your stock is out of clamps.
3. Determine whether or not you want to install shelves. If so, drill the shelf pin holes spaced 1" apart (a template works well here) in both the cabinet and base sides.
4. NOTE the joinery construction. Essentially you are building two simple boxes, and then adding details, moldings and doors to complete the construction.
5. Equip the table saw with a miter gauge to begin working on the joinery:
 - the 3/4" by 3/4" notch in the base bottom to accept the base sides
 - the 3/4" by 3/4" notch in the cabinet bottom to accept the cabinet sides
 - a stopped 3/8" deep by 3/4" wide rabbet in the base top
 - a 3/8" deep by 3/4" wide rabbet in the top end of the cabinet sides to fit the cabinet top
6. Raise the blade a little over 3/8" high to begin cutting the notches.
7. Mark on the saw table to indicate where the front edge of the blade is so that you can gauge where to stop your cut for each notch.
8. Mark the stock to indicate the location of each notch.

9. Advance the stock with the miter gauge so the mark on the stock is just shy of the mark on the saw table.
10. Back off the stock and stop the saw.
11. Use a sharp handsaw to finish each notch.
12. Raise the blade to 3/8" high to begin making the rabbets.
13. Make a mark to again indicate the front-most point of the blade.
14. Use repeated passes with the miter gauge to establish the rabbets, stopping each pass so the mark on your stock is just shy of the mark on the saw table.
15. Square the inside corner of the rabbet with a sharp chisel.
16. Anchor all these joints with screws placed through the sides and into the top and bottom.
17. Glue and clamp the base and cabinet boxes securely.
18. Check to make sure that the parts are square.
19. Set the parts aside to dry.
20. Use a bearing-guided rabbeting bit to cut the 1/4" deep by 3/8" wide rabbets for the backs (C, R).
21. Round the corners of the plywood backs to match the radius of your rabbeting bit.
22. Use brad or screws to attach the backs.
23. **NOTE** that completion of the base section of the piece (not including the door construction) is pretty much a matter of molding some edges and adding a foot assembly to get the box off the ground.
24. Cut sufficient 3/4" thick by 4-3/4" wide stock to yield the bracket feet (E, F).
25. Use a 1/2" radius cove cutter to mold one edge of the stock.
26. Angle the table saw blade 45 degrees.
27. Use the miter gauge to cut the feet to the desired lengths.
28. Use a compass to lay out the 2-1/4" and 3/4" radii that comprise the bracket foot profile.
29. Use the scroll saw and, staying well off the line on the long flat that connects the bracket profiles, cut the profile.
30. Use a block plane to smooth the flats.
31. Use a chisel or bullnose plane to get smoot the corners. **NOTE: As shown in the front elevation, you should have 7/8" of stock remaining between the molded edge and the flat.**
32. Equip the router table with a fence and a 3/8" radius round-over bit to being making the bullnose molding.
33. Select a board wider than the given dimensions to start.
34. Mold the bullnose.
35. Use the table saw to rip the 3/4" wide molding off once the router table work is complete. **NOTE:** This process insures that your fingers stay well away from the cutter during the molding process.

36. Glue the bullnose molding at the front and toward the front on the sides.
37. Use set and filled finishing nails to anchor the back half of the side bullnose molding.
38. NOTE that the foot blocks (H) add rigidity at the front corners and serve as mounts for the levelers (KK). When you glue the foot blocks and the back feet (G) to the glueblocks (I), be aware of any wood movement that might occur.
39. Glue the front bracket foot securely to the base front and the two foot blocks.
40. Glue the side bracket feet at the base front and the base blocks.
41. Slot and screw the pair of glueblocks at the back of the side bracket feet into the base bottom, rather than gluing the side bracket to the back foot blocks or the back feet. **NOTE: This arrangement allows the base box to respond to changes in humidity without breaking the back foot blocks or back feet off.**
42. Glue the back foot blocks to the back feet and the base bottom.
43. Drive a screw through the bottom into each foot block for extra strength.
44. Add the remaining glueblocks.
45. Equip the router table with 1/2" radius cove and roundover bits to begin making the molding for the various upper cabinet details.
46. Employ the same technique as with the bullnose molding on the base to make the respective top and bottom moldings (T, V), starting with wider stock, molding the edge, then ripping to get the required 3/4" final molding width.
47. Use the 1/2" radius roundover bit to shape the edge of the cap molding (U).
48. Equip the router table with a half-round beading bit to establish the bead detail on the beaded filler (S).
49. Glue the beaded filler along the front edge of the top.
50. Screw the filler into the front edges of the sides.
51. Glue the remaining moldings (the top, bottom and cap moldings) at the front and toward the front on the sides, as you did with the bullnose.
52. Use set and filled finish nails placed toward the cabinet back to fasten the molding.
53. NOTE that while both pairs of doors employ standard mortise-and-tenon construction, there are a few differences between the base and upper doors:
 - The groove in the base door stiles (K) and rails (L) is cut to accept the panel (M), while the rabbet in the upper door stiles (W) and rails (X, Y) is cut to fit the glass (Z) and retainer (AA).
 - The bottom door rail on the upper door is 2-3/4" wide, meaning that you'll need to make a slightly wider tenon and matching mortise to make the upper cabinet (see Upper Cabinet Door Detail).
 - A 5/16" wide chamfer detail that stops 1-1/4" from the corners appears on the inside edges of the upper cabinet door stiles and rails, while the lower cabinet does not have this feature.

54. Begin cutting each of the mortises and tenons by boring a series of holes with the drill press.
55. Use a sharp chisel to clean up the waste.
56. Use the table saw to cut the tenons to fit.
57. Use the router, edge guide, and a 3/8" diameter core box bit set for a 1/4" deep cut to establish the raised panel profile on the base door (see the Base Panel Detail).
58. Make enough passes with the router to get the full 1/4" depth.
59. Set up the table saw with a high auxiliary rip fence (1/4" from the blade) to clear the waste.
60. Use a scraper to clean the little remaining stock between the core-box and table saw cuts.
61. Use a pair of small brads at the panel center line, through the top and bottom rails (pre-drill for the brads), to center the panel within the frame.
62. Add a pair of doorstops (top and bottom) for the base doors.
63. (Optional Gun Rack Instructions) Size the stock and barrel rests (BB, CC) to fit eight firearms, including most rifles and single-barrel shotguns, then add a little felt to the barrel rest recesses. **NOTE: The bottom rest also serves as a door stop, and both rests are screwed in place to allow for future removal.**
64. (Optional Shelf Instructions) Make as many full-width shelves (DD) as you need. **NOTE: A full-width shelf will serve as a doorstop, but you may find that adding separate doorstops, both top and bottom, provides a more positive stop.**
65. Purchase all of hardware at a local hardware store.
66. Drill an appropriately sized hole through the two right-side doors for the lock cylinder.
67. Mount the door locks.
68. Use surface bolts to secure the left-side doors.
69. Bore 3/8" diameter holes and then half-plug them to fit the surface bolts on the base that go into the upper cabinet bottom.
70. Place the catch plate that comes with the surface bolt on the upper cabinet top. **NOTE: The catch plates have one added purpose, as they protect against the scratches that usually result from trying to slide the bolt home.**
71. Finish as desired and allow to dry.
72. Apply two coats of shellac and allow to dry.
73. Rub out with 000 steel wool.
74. Apply a coat of varnish. If your shop is fairly dust-free, you shouldn't have to rub out after the varnish.