

WOODWORKER'S JOURNAL

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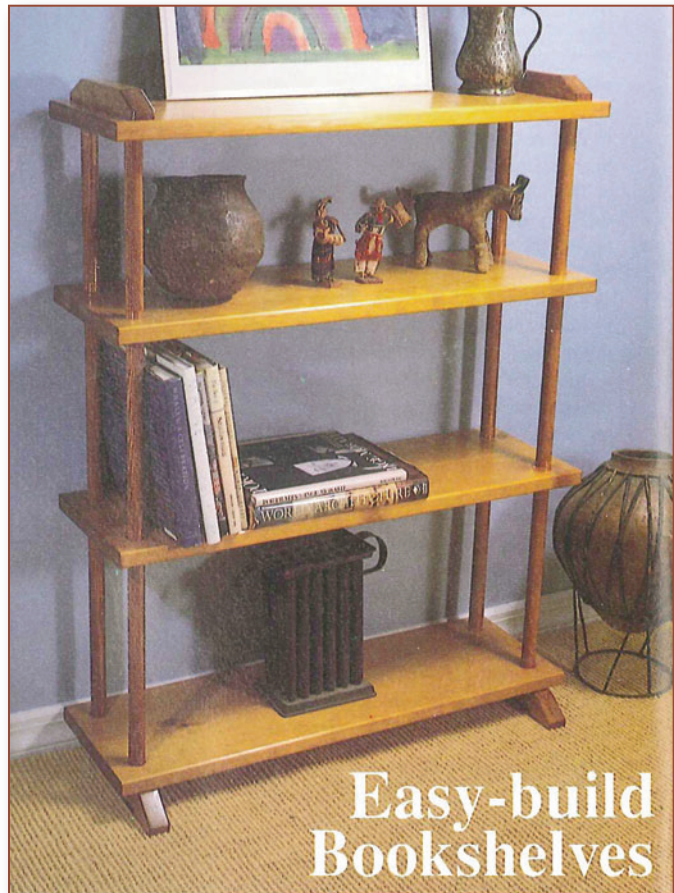
Classic Project



In this plan you'll find:

- Step-by-step construction instruction.
- A complete bill of materials.
- Construction drawings and related photos.
- Tips to help you complete the project and become a better woodworker.

Easy-build Bookshelves



To download these plans, you will need **Adobe Reader** installed on your computer. If you want to get a free copy, visit: <http://adobe.com/reader>.

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Bookshelves can be as basic as boards laid across concrete blocks, or stacks of old apple crates. But if you'd like something that's both simple and elegant, then a bit more thought is required. Our easy-build bookshelves combine several important features—simple design, low cost, and knock-down capability.

A Flexible Design

We show a 4-shelf unit with 3 ft. long shelves, but using the same basic concept, you can build a unit of just about any length, height or shelf width. We've seen units sized to fill an entire wall, that quickly turn a room into a mini library. For a longer unit, just add central legs, spaced no more than about 3 ft. apart. Although our shelf unit has evenly spaced shelves, and is sized for hardcover books, you can custom-size the shelf width and spacing for just about any purpose—from oversize photo albums or an encyclopedia set, to paperbacks. However, if your unit height exceeds about 5 ft., it's a good idea to anchor the top of the shelf unit to the wall with a few angle brackets, to avoid any possibility of it tipping over.

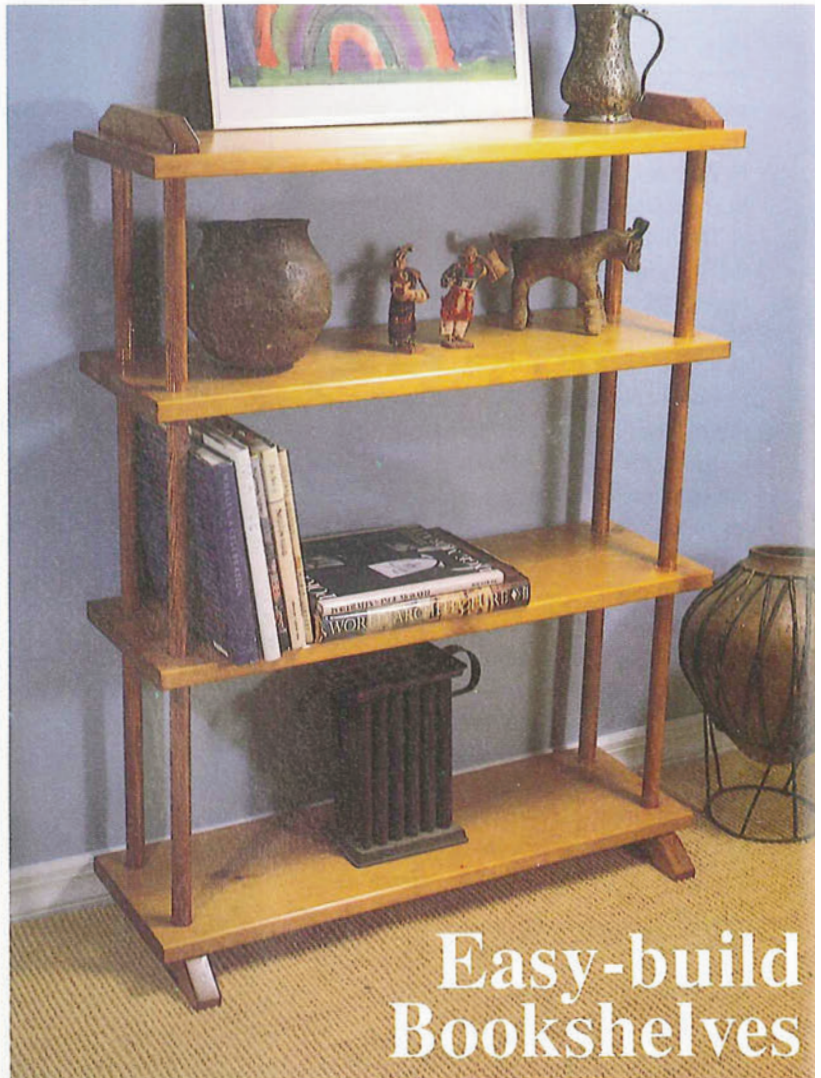
Cut Parts to Size

The What To Buy illustration shows exactly what you'll need to buy to build the shelf in the photo. The four legs (A) are obtained from two 8 foot lengths of 1¹/₈ in. diameter closet pole. The four shelves (B) can be crosscut from a 5/4 in. pine board measuring 11¹/₄ in. wide by 12 ft. long (don't worry about the length lost from the saw kerfs—it won't be missed). The actual thickness of 5/4 stock is about 1¹/₈ in.

The foot and cleat parts (C, D) are obtained from a single 3/4 in. thick board measuring 4¹/₂ in. wide by 4 ft. long. As illustrated, crosscut the board into two 24 in. lengths, then glue up the two halves in a stack lamination. Rip the laminated board down the center, crosscut to separate the cleat and foot parts, then make rips and crosscuts to establish final sizes. But don't cut the bevels on the feet or cleats yet. Temporarily clamp the feet back together as indicated to bore the 3/4 in. diameter holes establishing the ends of the foot reveal. Use a jigsaw or band saw to remove the waste between the holes, then smooth the cut line with files and sandpaper. A 1/4 in. diameter by 3 ft. long dowel will be more than enough to yield the shelf pins (E).

Drill the Holes

With your parts cut to size, next bore the holes in the shelves, feet and cleats for the legs, and in the legs for the shelf pins. A pair of simple jigs come in handy for making the larger holes. For the holes in the shelves, make a right-angle jig, as shown in Figure 1, then clamp the jig to the drill press so the bit center point is 2 in. from the jig legs. A Forstner bit is the best type of bit for boring the shelf holes, since it cuts smooth and clean, with little tearout. However, check that the hole size will be right for the closet rod that you purchased. Closet rod can vary considerably from the specified diameter, and since the shelf assembly is a friction fit, you should avoid sloppy, oversize holes. If your closet rod is off-size, consider using an adjustable



Easy-build Bookshelves

drill bit, and set the cutter to equal your closet rod diameter.

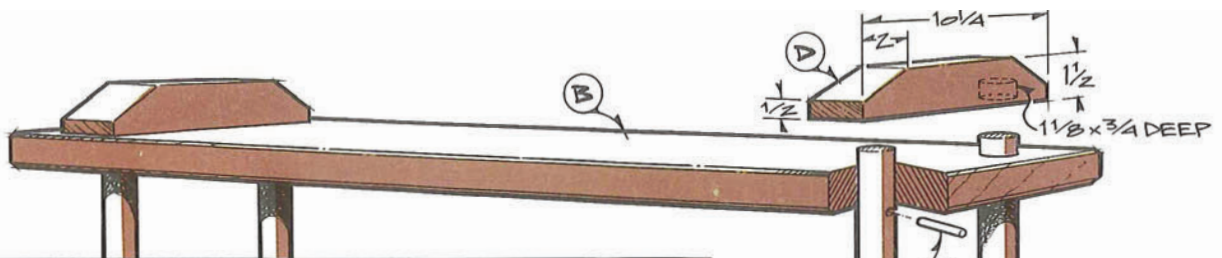
For the holes in the feet and cleats, locate the hole center points, then clamp the part to the drill press table before making each hole. Note that the foot holes are drilled 1 in. deep, and the cleat holes are 3/4 in. deep. Use a simple V-block jig to hold the legs while you bore the 1/4 in. diameter shelf pin holes (Figure 2). Lay out the hole locations on one leg, then transfer the marks to the three remaining legs. Slide the leg along the V-block, drilling the holes at the index points.

Finishing Up

All that's left is to cut the bevels on the foot and cleat parts, chamfer the edges of these parts and the shelves, and apply a finish. The parts should be finished before the shelves are assembled. We used Minwax's Puritan Pine stain, and followed with several coats of penetrating oil.

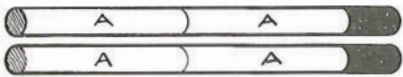
To assemble the bookshelf, mount the legs to the feet, then slide the shelves on one by one, adding the pins to provide the three upper shelves with support. Finally, press the cleats into place over the leg ends. In use, you'll find that the more books—and weight—that are added to the shelves, the sturdier the assembly becomes. Since no glue is used, the bookshelf can be quickly knocked down for moving or storage.



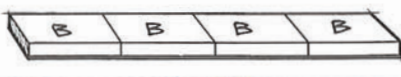


WHAT TO BUY

BUY ② 8 FOOT LENGTHS OF 1/8 DIA. CLOSET ROD



BUY ① 12 FOOT LENGTH OF 1/8 THICK x 11 1/4 WIDE PINE



BUY ① 4 FOOT LENGTH OF 3/4 THICK x 4 1/2 WIDE PINE

STEP 1 - CROSS CUT IN HALF



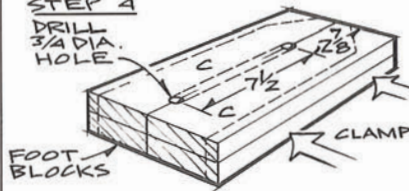
STEP 2 - STACK + GLUE, THEN LAYOUT FOOT + CLEAT PARTS



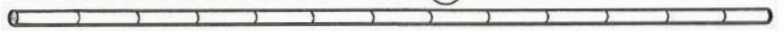
STEP 3 - RIP + CROSS CUT



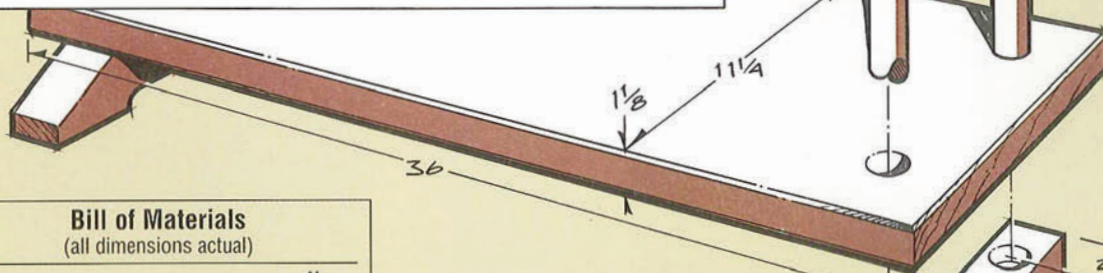
STEP 4 DRILL 3/4 DIA. HOLE



BUY ① 3 FOOT LENGTH OF 1/4 DIA. DOWEL STOCK



SPACE SHELVES EVENLY APART IF SHELVES ARE 1/8 IN. THICK SPACE 13 1/4 APART



Bill of Materials (all dimensions actual)

Part	Description	Size	No. Req'd.
A	Leg	1 1/8 dia. x 46 long	4
B	Shelf	1 1/8 x 11 1/4 x 36	4
C	Foot	1 1/2 x 2 x 13 1/4*	2
D	Cleat	1 1/2 x 1 1/2 x 10 1/4*	2
E	Shelf Pin	1/4 dia. x 15/8 long	12

* Note that parts are made from laminating two pieces of 3/4 in. thick stock in What To Buy illustration.

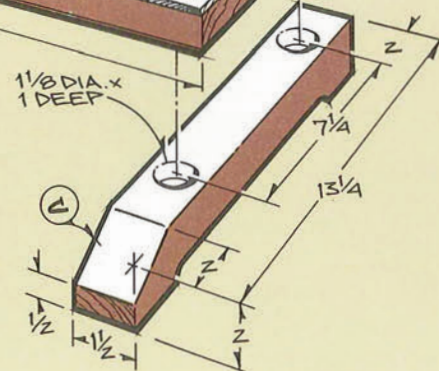


FIG. 1

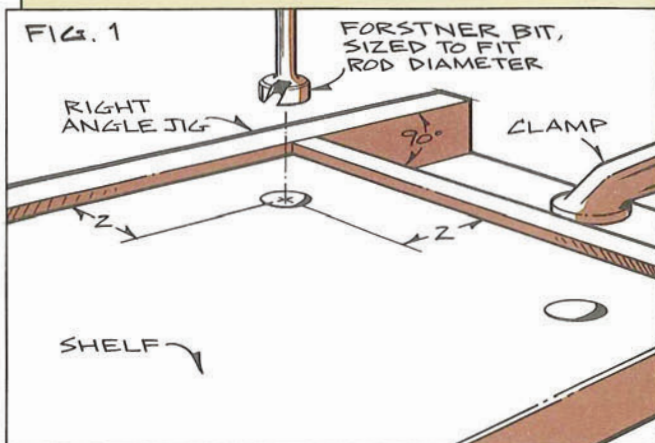
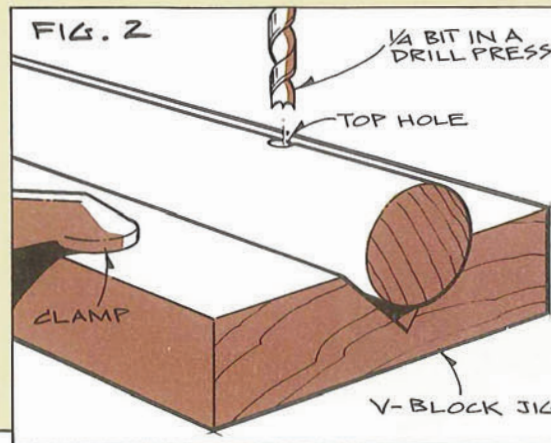


FIG. 2



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Thank you again for your purchase, and happy woodworking!

Matt Becker
Internet Production Coordinator