

## Do It Yourself

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### Open Bookcase: Shelves and Final Assembly

From "[Wood Works](#)"

episode WWK-603 -- [More Projects](#) »

In this segment of *Wood Works*, the shelves of the open-design bookcase are added, and the case is bridged to the base in the final assembly.

Materials:

Cherry stock for shelves

Maple stock for risers

Table saw

Drill press

Hand-held drill; counter-sink bit; screwdriver attachment

Sharp chisel

Needle rasp

Yellow woodworker's glue

Sheet-metal screws

Safety glasses or goggles

**Safety Alert:** *Always* wear safety goggles or safety glasses, and follow proper safety precautions, when working with wood, power-tools, saws, drills, routers, etc.

### Shelves and Final Assembly

We cut the stock for the four shelves out of cherry (**figure A**) at the table saw. Each shelf is 18-3/4 inches long by 11-5/8" wide by 3/4 inches thick.

The shelves were left 1/16" shy in length to make it easier to set them in place. We also left them about 1/8" less than the actual depth of the case. This provides a 1/16" recess on the front and back to create a shadow-line detail (**figure B**).



Once completed, the case will rest atop a pedestal base with curved legs and aprons sculpted to complement the curves. We opted to ebonize our base using a stable, black wood-dye.



Figure A



Figure B

To join the case to the pedestal, we used two risers made from maple (**figure C**). The dimensions of the riser are: 11-3/8" (L) x 1-3/8" (W) x 1" (thick). Rather than glue the assembly together, we opted to attach the risers to the base using sheet-metal screws. Though not typically used in fine woodworking, in this case the screws are ideally suited for stability and to allow for wood movement (since the grain of the risers runs perpendicular to the grain of the base). We used two screws to attach each riser to the pedestal, and two more screws coming *up* through each riser to attach the assembly to the case.



Figure C

- Once the placement of the screw-holes has been measured and marked, use the drill-press to bore the first screw-hole using a 1/8" bit. This hole will attach the riser to the base. Then drill two pilot-holes side-by-side, using a 1/4" bit, to create the slot that will attach the risers to the case (**figure D**).



Figure D

- Chisel away the excess wood between the two holes to create a slot that will allow for wood movement (**figure E**). This double-width hole (or slot) will accommodate the potential expansion and contraction of the grain.



Figure E

**Wood Works Factoid:** Wood can potentially move up to 1/8 of an inch for every 12 inches of width.

- Use a needle-rasp to fine-tune the inside of the slots.
- Before attaching the risers to the base with the screws, use a counter-sink bit to pre-drill (**figure F**) so that the screw-heads will sit flush with the riser stock.
- Drill pilot holes into the base for screws, use yellow woodworker's glue to secure the riser into position, and finish the job by securing the risers to the base with the screws (**figure G**).



Figure F



Figure G

- Flip the base onto the bottom of the case, making certain that it's centered (**figure H**).
- Attach the base using washers and sheet-metal screws (**figure I**). Secure them using a nut-driver attachment.

In the segment that follows, the case and pedestal are separated and sanded, and some finishing touches are added -- including an ebonized finish for the base.

#### RESOURCES:

#### Woodworking Techniques: Best Methods for Building Furniture from Fine Woodworking

Model: 1561583456

Author: Fine Woodworking Magazine

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#### David Marks Website

David Marks, DIY's *Wood Works* host, is a master woodworker. For more information on cut sizes and project details, please contact him via his Website at [www.djmarks.com](http://www.djmarks.com)

#### Fine Woodworking

A magazine devoted to high-quality craftsmanship in woodworking.

The Taunton Press Inc

Newtown, CT 06470



Figure H



Figure I

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• **ALSO IN THIS EPISODE:**

[Open Bookcase: Stock Prep and Base Assembly](#)

[Open Bookcase: Dovetail Joinery and Case Assembly](#)

[Open Bookcase: Shelves and Final Assembly](#)

[Open Bookcase: Finishing Touches](#)