

# FREE

## The Antique Quilt Display Rack\*

Display and Store up to Six Quilts on this Stylish Rack



If you're like most people, your family heirlooms are precious to you. Such was the case with the author's daughter when she wanted to display one of her great, great grandmother's antique quilts for all to see. The project began with a sketch of the idea. The final result was a red oak frame with simple lines and easy-to-construct plans.

In the case of this particular project, what makes it truly unique was the source of the wood used in its construction. Several years ago, the author's family church replaced their old, red oak pews. He decided to buy several of them...not really knowing what he was going to do with them at the time. Then came the quilt rack request from his daughter, and a "mission" was launched. All of the pieces of this project (except for the dowel stretchers) were cut from the pews, giving them a new life that will be passed on from generation-to-generation.

The wood you use for yours, of course, probably won't come from old church pews, but that won't make much difference. It's a project we're sure you'll enjoy building, so let's get started.

## Tools Needed

Tool	Cost approx
Air Compressor	\$129.49
Applicators	\$.39
Band Saw	\$389.95
Beading Bit	\$24.35
Belt Sander	\$159.99
Bench Drill Press	\$215.93
Brushes	\$2.79
Chamfer Bit	\$15.74
Circle Cutter	\$32.62
Cloth	\$2.49
Contour Sanding Drum	\$325.00
Drum Sander, oscillating	\$211
Dust Mask	\$39
Jointer	\$689
Lathe	\$489
Lathe Duplicator	\$461.99
Lights tasks	\$49
Outside Calipers	\$20.78
Palm Sander	\$39
Pencil/Pens	\$12
Rabbiting Bit 3/8"	\$12.39
Roller Bench	\$159
Roman Ogee Bit	\$22.34
Router w/table	\$589
Saw Blades	\$75
Safety Glasses	\$12
Safety Shoes	\$122
Sanding Block	\$3
Scroll Saw	\$49
Set of Dividers	\$12.39 ea
Spray Gun	\$139
Square	\$12
Staging areas and tables as needed.	\$89 and up each
Table Saw	\$579
Tape Measure	\$12
Various Clamps	\$7-\$15 each
Water	\$1.10 per bottle
Wipes	\$1.10 per roll
Power Drill	\$89.
Hand saw	\$18

\$200+ should buy the necessary tools to get the basic shape made. Another \$60 - \$129 should cover the material. Your free Quilt Rack just cost you \$300. If you got the tools and material already go for it. Track your labor time. Use \$8.25/hr. Now how much did it cost?

## FOLLOW SAFETY INSTRUCTIONS PER TOOL MANUFACTURER

### Getting Started

Since you won't need a lot of wood for this project, it should be fairly inexpensive to build. And, if you get started and discover that some of the thicknesses you need are either not readily available or just too expensive, you can always glue-up thicker pieces from thinner ones. **IMPORTANT:** When working with glued-up stock, it's always a good idea to allow the glued-up pieces to dry thoroughly for 24 hours or so before machining them. Un-cured glue-ups could separate during machining, causing injury.

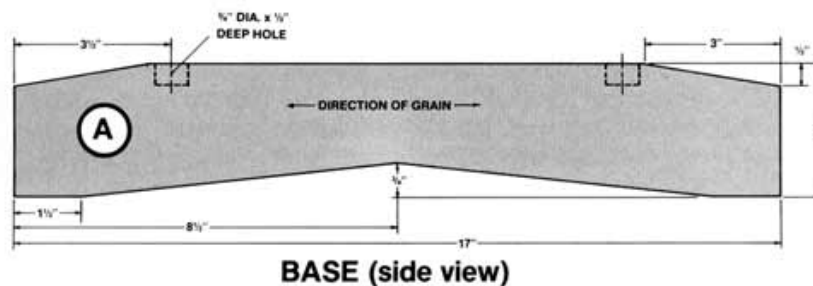
### Making the Bases

Let's get started with the Bases (A). Begin by cutting the two Base blanks to size, according to the Bill of Materials. As mentioned earlier, if 2-1/4" stock is not readily available, just glue-up three pieces of 3/4" to 1" thick stock to make your 2-1/4" blanks. These glued-up pieces will actually be stronger than a single piece of 2-1/4" stock, plus you'll get an attractive end grain pattern that you wouldn't get with a single piece of stock. Once your pieces are glued-up, be sure to wipe off any excess glue with a damp cloth before it dries.

### LIST OF MATERIALS - (finished dimensions in inches)

A	Bases (2)	2-1/4 x 3 x 17
B	Legs (4)	1-1/2 x 1-1/2 x 30
C	Top Caps (2)	1-1/2 x 6 x 12
D	Stretchers (5)	1 dia. x 30 long dowel rods

Btl	Glue	Small bottle
pt	Stain	Polyurethane (water base)
gal	Top Coat	Simi Gloss polyurethane (water base)
qt	Sanding sealer	Polyurethane (water base)
Blt	Water	As needed
Pkg	Sandpaper	80,100, 200, 320 grit

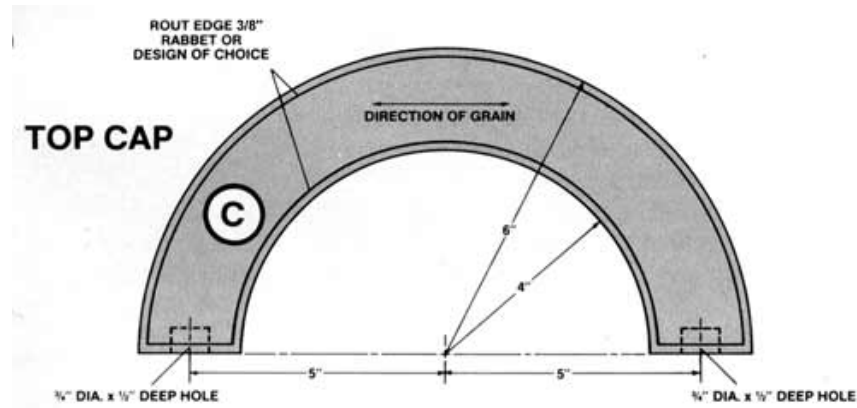


After the glue has dried for 24 hours, cut your bases to 3" x 17", then use your Jointer or Thickness Planer to thin them down to 2-1/4", if necessary. As shown in the diagram, the Bases have a 3" long chamfer that slopes down 1/2" at the ends of each side.

There's also a peak in the bottom, starting 1-1/2" in from each end that rises and meets in the center, 3/4" up from the bottom. Mark these lines on your Base pieces and cut them using your Bandsaw or Scroll Saw. Sand all areas smooth, then use a 3/4" Brad Point Bit to bore two 1/2" deep holes for the leg tenons, as shown in the diagram.

### Making the Top Caps

The Top Caps (C) need to be cut with extreme care. Start with two pieces of stock 1-1/2" x 6" x 12". If you're unable to make them from solid stock, glue-up some stock from thinner pieces, just as you did for the Bases. Once the glue has set-up for 24 hours or more, there are two ways you can go about marking and cutting these pieces:



The first is to either make a template from the diagram or use a pencil compass or set of dividers to mark two half-circles with 4" and 6" radii... then simply cut them out, using your Bandsaw.

**The second** is to use your Bandsaw with the Bandsaw Circle Cutter to cut the curves. **NOTE:** If you decide to use this approach, you'll have to start with blanks that are 6-1/2" to 7" wide instead of 6" wide, so your Circle Cutter has a place for its center to "seat" on your workpiece.

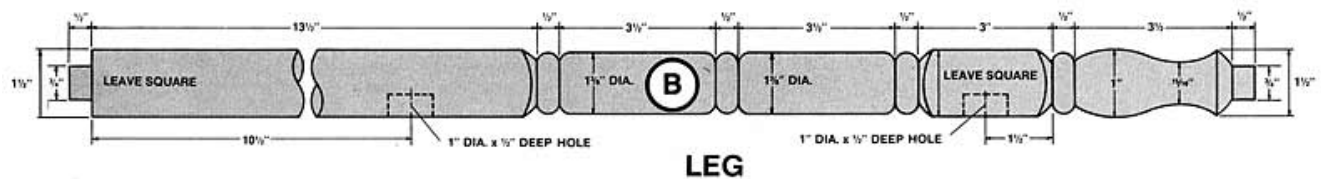
When cutting the Caps, don't forget to stay **OUTSIDE** your lines by 1/32" to 1/16" to allow for sanding down to the finished dimension. Use your Disc Sander for the convex (outside) edges and your conventional Drum Sander or Contour Sanding Drum for the concave (inside) edges.

As an added touch, you should rout decorative edges on the curves of the Top Caps. In our example, we used a hand-held router and a 3/8" rabbeting bit to create this detail. However, you could also use your Router Package and a Roman Ogee, Chamfer or Beading Bit to accomplish the same task. It's your choice.

### Turning the Legs

Since some of the areas of the Legs (B) are to remain square, your stock needs to be cut, planed and sanded smoothly to size **before** turning. Start by sizing your turning stock to 1-1/2" x 1-1/2" x 30", as per the Bill of Materials. Follow our design for the legs as shown in drawing "B", or create your own design. Just remember that the areas marked "leave square" must not be turned to allow for the attachment of the stretchers,

as shown in the diagram. As with the Top Caps, there are two ways you can go about turning these Legs:



**The first** is to turn each Leg freehand, following our diagram and using a set of Outside Calipers to periodically check your diameters at various points along the length of each Leg.

**The second** is to create a hardwood template for your design...or to turn your first leg and use it for your design to duplicate your other three legs using a Lathe Duplicator. Using this second approach will help ensure that all four Legs match perfectly.

**IMPORTANT TURNING TIP:** Extra care must be taken when forming the tenons on the ends of your legs. These tenons must be exactly 3/4" in diameter to fit into the mating holes on the Top Caps (C) and Bases (A). If you mess up and remove too much stock (resulting in a tenon that's less than 3/4" in diameter), you can often correct this by hand-planing a 1/2" wide shaving of straight-grained hardwood about 3" long. Then, glue and wrap the shaving around your tenon and allow it to dry for about 24 hours. At this point, you can either re-turn your tenon or simply sand down the shavings carefully until the tenon fits snugly into your hole.

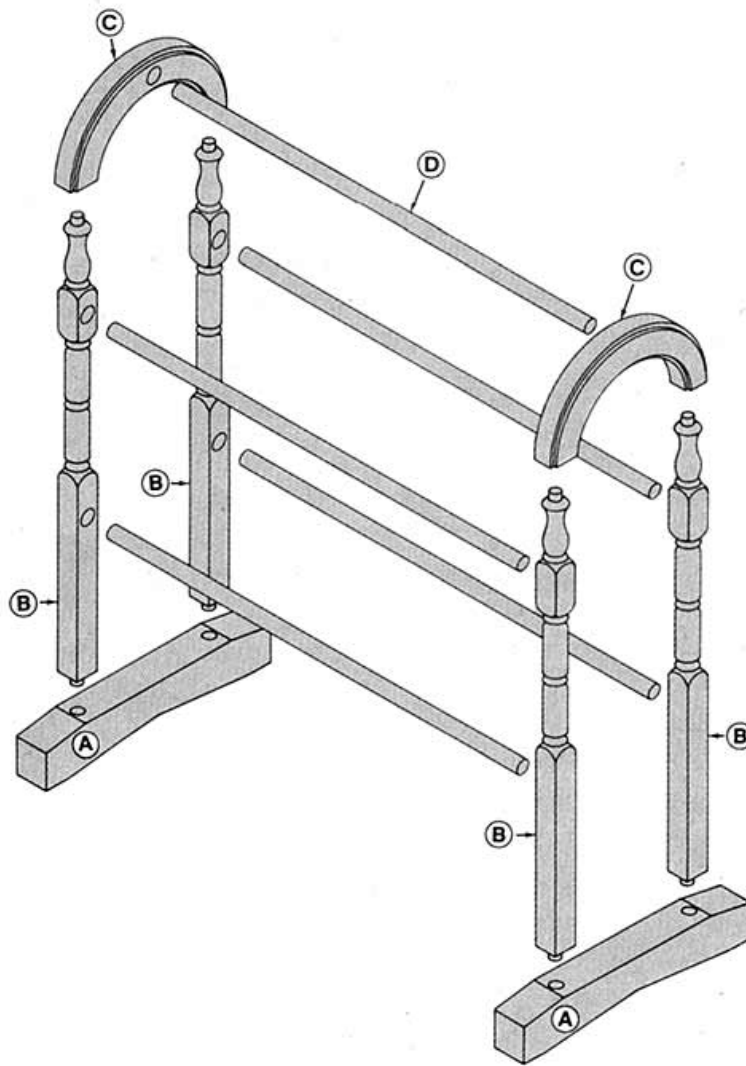
### Assembling and Finishing

The only remaining pieces to be made are the Stretchers (D). In our case, they're simply 1" diameter oak dowel rods, cut off to a 30" length.

The final step is assembly. Begin by dry-fitting all the parts together just to be sure everything fits properly (see the exploded view drawing). If everything fits as it should, disassemble, then glue and clamp the components together, being sure to check each step for squareness as you go. Be sure to use a damp cloth to wipe away any excess glue as you go so your stain coats evenly.



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Depending on the type of wood you decide to use, you may want to use a sanding sealer before you apply your final finish. This will seal and make all surfaces uniform, helping you achieve the even-looking stain coverage you want. When the sealer has dried thoroughly, lightly sand everything with 400-grit or finer sandpaper. Use a tack cloth to remove and dust, then apply your choice of finish. We used a clear oil finish to bring out the rich red color of our oak Rack.

Now you are ready to start your own business. Cut corners as you can to get started.

<b>Hidden</b>	<b>Cost per mo</b>
Accounting/Bookkeeper	\$110
Advertising - mag, tv, radio	\$1200 per issue, \$1500 (60 spots per mo)
Attorney Retainer	\$100 (litigation \$300/hr)
Building Maintenance	\$129.00
Building Rental/Lease	\$1.24 per sq. ft (1200 sq ft)
Business Insurance	\$110
Business License	\$15
Business Vehicles(3)	\$150
Disability Insurance	\$79
Electrical Power	\$875
Gas (heat)	\$175
Hospital Insurance	\$879
Inventory tax	1% of stock on hand /yr
Packaging	\$4-\$18 ea
Payroll	\$13.25 per hr each employee & up
Product Liability Insurance	\$79
Shipping	DSL, UPS, USPS, Global Rates vary
Telephone cell	\$59.49 per employee
Telephone Office	\$310
Vehicle(s) Registration	\$300
Web site maintenance	\$12.50
Re-investment	20% profit goes back into the business development

This should cover the business cost.

Now you have to pay your mortgage, power, gas, electric, credit cards purchases, telephone, cable, groceries, car payment, insurance, clothing, entertainment, vacation, schooling for kids, college fees, creature comforts. All these things add up. How many do I have to make before I see a profit I can live on? I found that it cost 3 times as much to maintain a business then a household of 5 and pets.

1. Mark up prices depends on consumer demand for services or products.
2. What will the consumer market pay?
3. Price it to high and the product stays on the shelf.
4. Pricing to low the buyer may think it is cheaply made.
5. Stay away from the cheapskates, they will nickel and dime you to death.
6. Identify your customer, servicing them truthfully.
7. What cost can be passed on to the customer?
8. How do I figure the cost?
9. Basic material (wood, hardware) times 5 = a Wholesale price you can live with.

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[www.WorkingQuiltRack.com](http://www.WorkingQuiltRack.com)

