

The Garden Bench

This attractive, slat-back Bench makes a perfect back yard spot for whiling away a beautiful Spring or Summer morning

If you've priced sturdy, well-designed outdoor furniture lately, you can probably guess how far ahead you'll be if you can build it yourself! Depending upon the wood used in its construction, a traditional, English-style bench like this one with mortise-and-tenon joinery could easily set you back over a thousand dollars ! However, given a couple of weekends, you could craft a beautiful bench like this one at a fraction of that cost — and enjoy it for years to come.

The bench shown here was made out of teak...an extremely attractive, weather-resistant wood that is probably the most durable of all outdoor woods, but unfortunately, is also very costly. Depending upon where you live, there are many other, less costly alternatives. In the Western United States, you might consider redwood, Western red cedar or white cedar. East of the Mississippi, cypress makes a good choice. And no matter where you live, there's always pressure-treated lumber, oak and similar hardwoods. Another "exotic" that is both attractive and durable is African Bubinga. Retailing for around \$10 a board foot, it has the dark brown appearance of rosewood at a fraction of the cost.

If you choose the most universally available pressure-treated option, it's best to purchase wider, thicker boards than you'll need, then rip, resaw and plane them down to their required dimensions. This way, you'll be eliminating any rough-sawn surfaces and end up with a much nicer looking bench in the end. Also, it's important to be sure all pressure-treated lumber is well dried and that it has been stored indoors, out of the weather. If not, don't buy it ! Starting with wet pressure treated lumber can lead to twisting, warping and other problems that could easily ruin your project as it dries out.

Mortise-and-tenon joinery is used extensively in this project and makes for a project that's both attractive and durable. These plans are for a six-foot bench. However, you could easily make a bench that's longer — or shorter, and more chair-like, if you prefer. Just remember that if you're planning to make a longer bench, depending upon the wood you use, you may also have to increase the thickness of the seat boards to prevent breakage. This plan is easy to adapt to virtually any length.

Step 1: Cut all of your stock to size, according to the List of Materials...or the adjusted dimensions you prefer.

Step 2: Transfer the pattern for the back legs (B) to a piece of 4" x 6" stock...and the patterns for the back rail (F) and arm rests (E) to 2" x 6" material. Do not cut the contours at this time.

Step 3: Using a square, accurately mark the locations of the mortises and tenons on all parts.

Step 4: Cut all mortises in the front and back legs (A, B). You can do this by boring a series of 1/2" diameter holes with your drill press, then squaring them up with a bevel-edged chisel. A better alternative is to use a Hollow Chisel Mortising Attachment. This handy accessory will create precision mortises of the desired size in a single action, saving you time and effort. **NOTE:** Due to the length and bulk of the parts for this project, be sure to properly support your stock when cutting your mortises. If you're using a Model 510 MARK V or a unit equipped with the Pro Fence System

upgrade, be sure to use your Floating Extension Table, Telescoping Legs and Connector Tubes to provide additional support. If you're using a Model 500 MARK V, a Roller Support Stand can be most helpful.

Step 5: Using a 3/4" wide Dado set-up on your Table Saw, cut the tenons on parts C, D, E, F, G, & J to fit your mortises. Again, due to the length and bulk of the parts for this project, be sure to properly support your stock with Extension Tables or a Roller Support Stand when cutting your tenons.

Step 6: Before removing your Dado Assembly, cut the 3/4" wide x 1/2" deep grooves in the upper and lower Back Rails (F & G).

Step 7: Using a Bandsaw, cut out the contours on the upper Back Rail (F), Legs (B), Seat Supports (C), Arm Rests (E) and Support Brackets (L). Use your 2-1/4" Shopsmith Drum Sander Attachment to remove all sawing marks from the edges of parts B, C, E, & F and the Extra Long Drum Sanding Set to smooth the smaller curves in the Support Brackets (L).

Step 8: Check the Arm Rests (E) for fit with the back legs (B) — they should fit so they're parallel with the ground when the Bench is fully assembled. Use your Disc Sander to bevel the back ends of the Arm Rests so they fit flush with the sides of the Back Legs (B). Next, drill the Arm Rests (E) and Back Legs (B) to accept 1/2" diameter x 3" long dowel pins.

Step 9: Assemble the sides one at a time. Be sure to use a weatherproof indoor/outdoor glue such as Franklin TiteBond II and clamp all parts together firmly and set the glued-up assemblies aside while the glue sets up.

Step 10: Attach the Splats (H) and Splat Spacers (I) to the upper and lower Back Rails (F & G) with glue. It's best to lay the complete assembly flat on the floor or a benchtop while putting it together. Use your glue between the Splats and Spacers sparingly and pull everything together tightly from side-to-side with pipe clamps. Use Bar Clamps to pull the Upper Back Rail (F) and Lower Back Rail (G) together from top-to-bottom while the glue sets up. **IMPORTANT:** You'll have to move quickly when assembling this portion of the project. Having an assistant to help you is highly recommended.

Step 11: Once the Back Assembly has dried completely, remove the clamps and clean-up any glue squeeze-out before proceeding. Attach the Back Assembly and the Seat Stretcher (J) to the completed Side Assemblies with glue and pipe clamps. Set aside to dry.

Step 12: Use glue and 6d galvanized finish nails to attach the Brackets (L) to Front Legs (A) and Seat Stretcher (J), as shown.

Step 13: Use 8d galvanized finish nails or stainless steel wood screws to attach the Seat Boards (K) to the Seat Supports (C). Cut two 7/16" thick spacers and use them to guarantee even spacing between the Seat Boards during assembly. The front Seat Board will have to be cut to fit between the two Front Legs (A).

Step 14: Reinforce all joinery with two 10d galvanized finish nails per joint.

Step 15: Round off all edges with a rasp or coarse sandpaper, then finish sand the Bench thoroughly to remove all roughness and splinters prior to finishing.

Step 16: Apply the finish of your choice. Remember that although certain outdoor woods (redwood, cedar and pressure treated woods) don't necessarily have to be finished and will "weather" nicely over time, applying a finish will extend the usable life of all outdoor projects. Many such finishes combine attractive stains with a clear over-coat that provides a barrier against ultraviolet rays to ensure that your color remains consistent over long periods. Talk to the technicians at your local paint store or home center for finishing suggestions.

List of Materials

(finished dimensions in inches)

A	Front Legs (2)	3-1/2 x 3-1/2 x 22-1/2
B	Back Legs (2)	3-1/2 x 5-1/2 x 33
C	Seat Supports (2)	1-1/2 x 3 x 18
D	Leg Rails (2)	1-1/2 x 3 x 18
E	Arm Rests (2)	1-1/2 x 5-1/2 x 22
F	Upper Back Rail	1-1/2 x 5-1/2 x 68
G	Lower Back Rail	1-1/2 x 3 x 68
H	Splats (16)	3/4 x 2-5/8 x 14
I	Splat Spacers - center (30)	1/2 x 3/4 x 1-3/8
	Splat Spacers - ends (4)	1/2 x 3/4 x 1-3/16
J	Seat Stretcher	1-1/2 x 3 x 68
K	Seat Boards (6)	1-1/8 x 2-5/8 x 72
L	Brackets (2)	3/4 x 3-1/2 x 3-1/2
	Dowel Pins (8)	1/2 dia. x 3
	Stainless Steel Screws (12)	#8 x 1-3/4
	or 8d Galvanized Finish Nails (12)	
	10d Galvanized Finish Nails (28)	
	6d Galvanized Finish Nails (4)	