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Bench Top Router Table

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Cut List Bench Top Router Table

27- 3/4 x 2 x 21 laminations for the top

2- 3/4 x 2 x 20 feet

4- 3/4 x 2 x 16 side rails

2- 3/4 x 2 x 14-1/2 rear rails

6- 3/4 x 2 x 11-1/4 legs

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Small Bench

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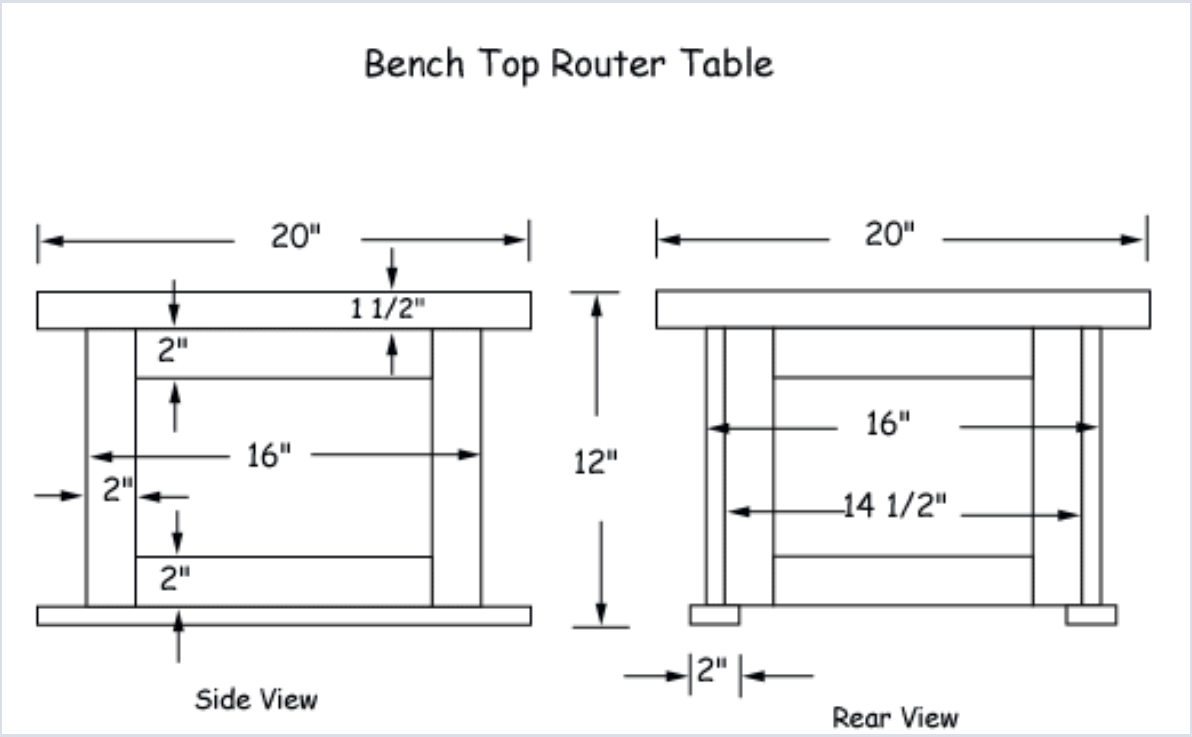

Resources For Building A Bench Top Router Table

Clamps | Drill Bits | Hand Drills | Routers | Router Bits

Rockler Bench Top Router Table
Mount your router into this economical unit.

If you don't have space in your shop for a floor mounted router table, or if you want a simpler route to a router table so to speak, consider this project. Remember, also, that at times it is handy to have two router tables and you certainly don't need to build two floor mounted units. This smaller model is easy to build, store, and use, and will function just as well for most routing purposes as any other larger model.

On this router table you'll make a heavy duty top, using stack laminations of hardwood. This takes time to make, but over the long run a top like this will hold up to crushing by clamps and other hard use. If you prefer, you can use a particleboard or plywood top to make it easier.

Benchtop Router Table With Porter Cable 690 Router

Begin by getting out all the parts. Note that they are all the same width, but most of the parts for the undercarriage are shorter than those needed for the top. This is useful for making efficient use of your stock. As you look for length combinations in your stock that will give you the numerous 20" long pieces needed for the top, often you will find combinations that give you, say, two 20" and one 18". "Darn," you think, "if only it were two inches longer!" Well don't go buy a board stretcher yet, just use that 18" piece for one of the 16" side rails.

As you get out the pieces, remember that you can use pieces with bad defects in the stack lamination. There is no need to cut out all the knots and rough edges, so long as each part has one clean edge that you can turn upward for the top. Glue together all the pieces for the top in one gluing operation. Use a lot of glue on the lamination faces, because you are gluing a broad area and much of the glue will be absorbed. If you lay down only a thin layer you run the risk of it all being absorbed so that the joint itself is starved. Keep hot water and rags close by to deal with the mess.

Keep a close eye on how flat your glue up is. Put your clamps onto a flat surface to begin with so that what is put on them will be relatively flat too. As you tighten the clamps on the laminations some of them will slide and shift around under pressure and with the slippery glue. Lay a straight edge across the top and correct any discrepancies greater than 1/8". Later you'll rout off that last 1/8", but for now just guarantee that they stay close.

Note that the whole thing can become twisted, like an oriental fan beginning to open. Conceptually this is a neat idea but it's devastating for your router table, so watch that the two end laminations stay parallel. To do so use winding sticks, which are two straight sticks, of uniform width, about three feet long. Place one on one of the end laminations (perpendicular to them), the other on the other end. Stand to the side and align your line of sight along the top edge of both sticks. If the two laminations are not parallel, you will immediately see the discrepancy along the winding sticks. A little out of parallel is not bad at this stage, but use the winding sticks to guarantee that things aren't real bad.

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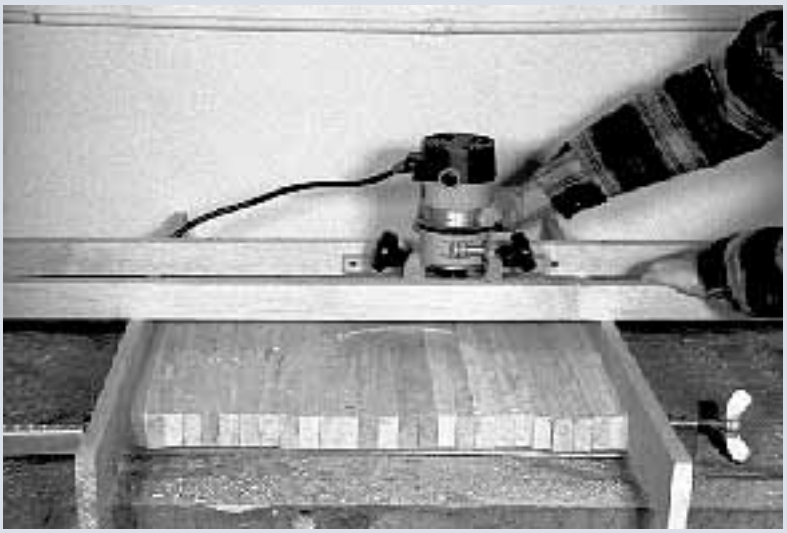

Photo 1- Flatten the router table top with this router jig, which causes the router to travel in straight lines in both directions.

If you need a router, click here.

When the lamination is dry, set up to flatten it by clamping two boards with straight edges onto either side of the lamination as in photo 1. The top edges of these boards must meet three requirements. They must be straight, they must be parallel, and they must be clamped at close to equal distances from all four corners of the lamination. These boards act like winding sticks, so you can sight down them to ensure that they are parallel. Measure carefully to align the glue up with the tops of the

boards.

The last component in the operation is the router slide jig. This is simply two straight pieces of 1x2 with a plywood router mount in the middle, as shown in photo 1. The slide jig rides on top of the straight edge boards clamped to the glue up, and guides the router along a straight path between the two boards.

Mount a 1/2" or greater diameter straight flute bit in the router, and set the depth of cut so that it reaches the lowest area on the lamination surface. Wax the straight edges on the guide boards, turn on the router, and gradually move the router back and forth until you have skimmed over the entire surface of the lamination.

This procedure will produce a flat surface only if the guide boards and jig boards are straight and parallel. Another threat to flatness is distortion to the lamination from clamps. Your bar clamps may bow the glue up as pressure is applied. When you cut the surface it will be flat, but when you let off the clamps it springs back and is no longer flat. If your bar clamps bow the lamination, place clamp blocks between the clamp jaws and the wood they contact. Shift the location of these blocks up or down to change the point at which pressure is applied. When pressure is applied at the center of the lamination, it should not bow.

When the top is flat, flip it over and flatten the bottom. This is important so that when you screw the base on, the top won't distort if the screws pull on an uneven surface along the bottom. The top and bottom needn't be exactly parallel, but challenge yourself and see if you can get them close. It's perfect when the thickness is even all the way around.

Make three rectangular frames for the base of the table, using the legs and rails shown on the cut out list. Note that you may wish to increase the height of the six legs according to the height you require beneath the table to fit your particular router. The given dimensions allow one foot clearance beneath which is adequate for most routers.

Heavy Duty Tenoning Jig

Toggle Clamps

Carriage Tenoning Jig

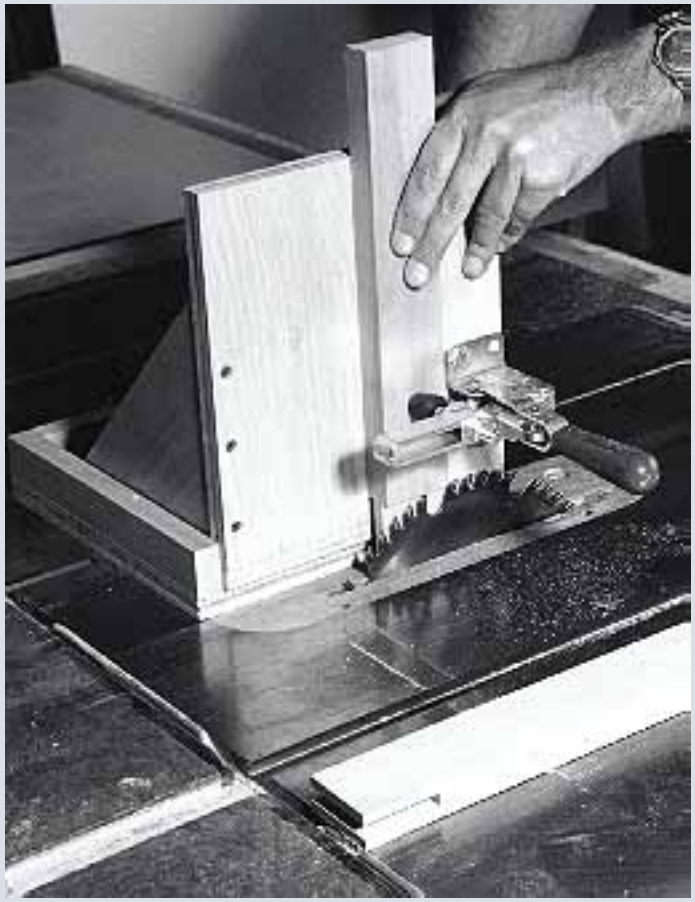

Photo 2- You can use a simple tenoning jig such as this to cut open mortise and tenon joints on the ends of parts.

If you need a toggle clamp, click here.

Use a table saw tenoning jig to cut open mortise and tenon joints to join the parts of the three frames as in photo 2. Or, cut the rails shorter and use dowels and a dowel jig. Either way, glue up the frames, then clamp the smaller of the three between the inside faces of the two larger ones as in photo 3, and screw them together. Use 2" screws and predrill holes for them. Next take this frame and clamp it to the underside of the top as shown in photo 4. Use 2-1/2" screws to secure the frame and top together as shown, again predrilling for the screws.

Tapered Drill Bits With Countersinks

Black and Decker 3/8" Drill

Your basic hole puncher.

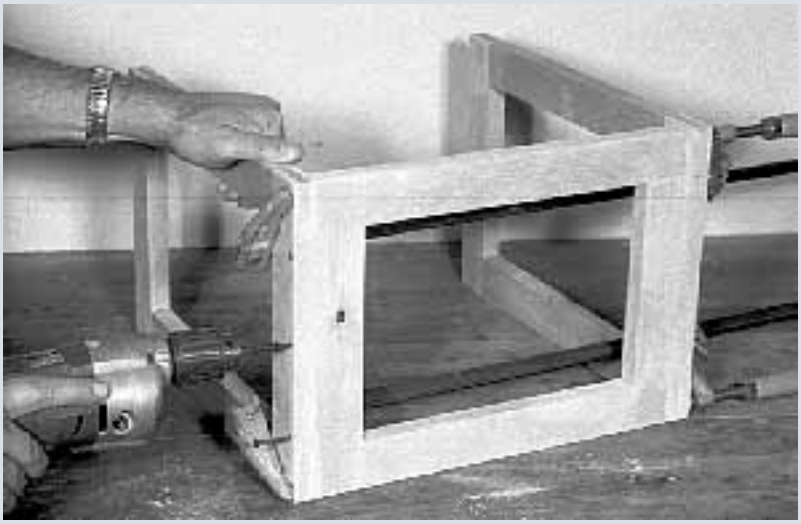

Photo 3- Screw together the three frames that make up the base.

If you need a handdrill, click here.
If you need drill bits, click here.

Lastly screw the two feet onto the bottom of the two side frames. The function of these is primarily to give you an easy area to clamp to for securing the table to your bench top.

Bessey Tradesman Bar Clamps

Photo 4- Screw the base to the table top through the top rails as shown, and lastly screw the feet onto the bottom rails.

Now you've got a router table, but you need to get a router into it. For that, go to Mounting a Router in a Bench or Table Top, on this site.

Quilt Rack

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