

ROUTER-TABLE CABINET

I've seen a lot of router table systems, tried many and had a number of different designs in my shop over the years. However, I always found something lacking in the designs and often promised myself that I would

build a router table cabinet to suit my needs one day. Well, that day has arrived, and I'm pleased with the results.

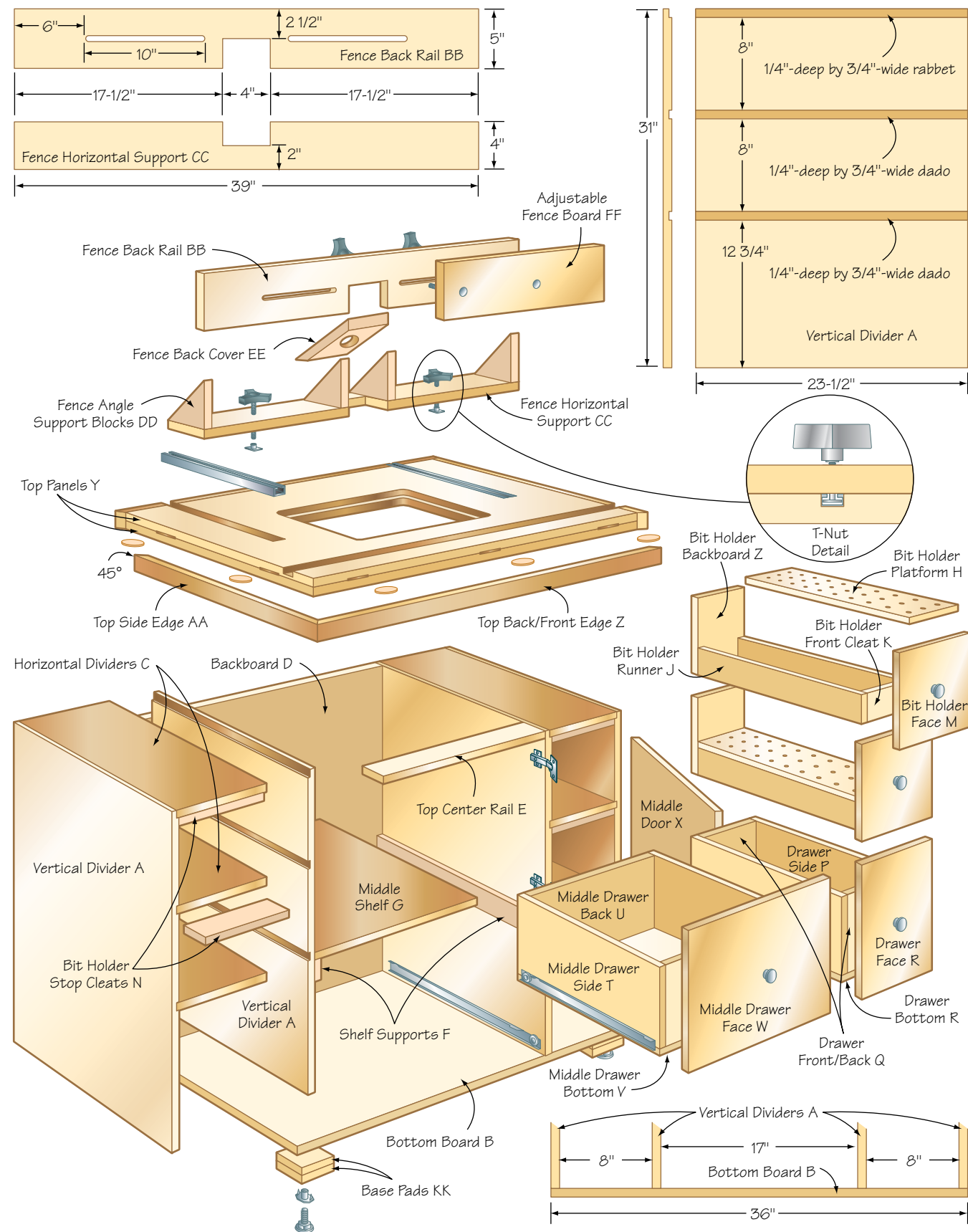
My list of design demands included an adjustable fence that had an opening range of at least 12". How many times have you wanted to run a groove in a wide board and couldn't because your router fence system opened only a couple of inches? My dream table had to have a miter slide track, be at least 35" high and have a large, solid-surface table to support boards properly. I was really tired of balancing large panels on small flimsy tables.

Accessory storage and proper dust collection rounded out my list of "wants" for the ideal router cabinet. I hesitate to say ultimate router station because there's always something missing that I'll discover later, but this cabinet is close to perfect for my work and it didn't cost a fortune to build.

I used $\frac{3}{4}$ "-thick MDF sheet material. It's a great board for this application because the MDF is heavy, which will keep the cabinet stable, and it's easy to machine. I've detailed two leg options, one for a movable cabinet and the other for a cabinet that will be permanently located. The knobs and aluminum tracks are available at all woodworking outlets and are reasonably priced.

Have fun building of this router cabinet. You'll have easy access to the router and good dust collection. I'm sure you'll appreciate the bit storage slide-outs and great storage drawers for all your router accessories.





MATERIALS LIST n INCHES

REFERENCE	QUANTITY	PART	STOCK	THICKNESS	WIDTH	LENGTH	COMMENTS
A	4	vertical dividers	MDF	3/4	23 1/2	31	
B	1	bottom board	MDF	3/4	23 1/2	36	
C	6	horizontal dividers	MDF	3/4	8 1/2	23 1/2	
D	1	backboard	MDF	3/4	31 3/4	36	
E	1	top center rail	MDF	3/4	3	17	
F	2	shelf supports	MDF	3/4	3	23 1/2	
G	1	middle shelf	MDF	3/4	17	23 1/2	
H	4	bit holder platforms	MDF	3/4	7 5/16	22	
J	8	bit holder runners	MDF	3/4	2 1/2	22	
K	4	bit holder front cleats	MDF	3/4	2 1/2	6 7/16	
L	4	bit holder backboards	MDF	3/4	7 5/16	7 15/16	
M	4	bit holder front faces	MDF	3/4	9	8 1/2	
N	4	bit holder stop cleats	MDF	3/4	2	8	
P	4	drawer sides	MDF	3/4	9 1/4	22	
Q	4	drawer fronts & backs	MDF	3/4	9 1/4	5 1/2	
R	2	drawer bottoms	MDF	3/4	7	22	
S	2	drawer faces	MDF	3/4	9	13 7/8	
T	2	middle drawer sides	MDF	3/4	7 3/4	22	
U	2	drawer front & back	MDF	3/4	7 3/4	14 1/2	
V	1	drawer bottom	MDF	3/4	16	22	
W	1	middle drawer face	MDF	3/4	17 3/4	13 7/8	
X	1	middle door	MDF	3/4	17 3/4	17 1/4	
Y	2	top panels	MDF	3/4	37 3/4	27 3/4	
Z	2	top back & front edges	hardwood	3/4	1 1/2	39 1/4	
AA	2	top side edges	hardwood	3/4	1 1/2	29 1/4	
BB	1	fence back rail	MDF	3/4	5	39	
CC	1	fence horizontal support	MDF	3/4	4	39	
DD	4	fence angle support blocks	MDF	3/4	4	4	angle-cut
EE	1	fence back cover	MDF	3/4	4	5 1/4	angle-cut
FF	2	adjustable fence boards	MDF	3/4	5	19 1/2	

- HARDWARE**
- 4 Drawer knobs or pulls
 - 3 Sets of 22" drawer glides
 - 2 - 107° Hidden hinges and plates
 - 1 - 48"-Long aluminum miter slide track
 - 1 - 48"-Long aluminum T-track
 - 6 - 1" by 1/4"-Diameter threaded knobs
 - 1 Power bar with switch
 - 1 1/2" PB screws as detailed
 - 5/8" PB screws as detailed
 - Glue
 - Pocket screws
 - Brad nails
 - 2" Screws
 - T-nuts

BASE OPTION #1

GG	2	sides	MDF	3/4	3	20	
HH	2	front & back boards	MDF	3/4	3	4 1/2	
JJ	1	top	MDF	3/4	6	20	
	2	heavy-duty wheels, 3 3/4" high					

BASE OPTION #2

KK	8	base pads	MDF	3/4	3	3	
	4	metal adjustable leveling feet					

MATERIALS LIST n MILLIMETERS

REFERENCE	QUANTITY	PART	STOCK	THICKNESS	WIDTH	LENGTH	COMMENTS
A	4	vertical dividers	MDF	19	597	787	
B	1	bottom board	MDF	19	597	914	
C	6	horizontal dividers	MDF	19	216	597	
D	1	backboard	MDF	19	806	914	
E	1	top center rail	MDF	19	76	432	
F	2	shelf supports	MDF	19	76	597	
G	1	middle shelf	MDF	19	432	597	
H	4	bit holder platforms	MDF	19	202	559	
J	8	bit holder runners	MDF	19	64	559	
K	4	bit holder front cleats	MDF	19	64	163	
L	4	bit holder backboards	MDF	19	202	202	
M	4	bit holder front faces	MDF	19	229	216	
N	4	bit holder stop cleats	MDF	19	51	203	
P	4	drawer sides	MDF	19	235	559	
Q	4	drawer fronts & backs	MDF	19	235	140	
R	2	drawer bottoms	MDF	19	178	559	
S	2	drawer faces	MDF	19	229	352	
T	2	middle drawer sides	MDF	19	197	559	
U	2	drawer front & back	MDF	19	197	369	
V	1	drawer bottom	MDF	19	406	559	
W	1	middle drawer face	MDF	19	451	352	
X	1	middle door	MDF	19	451	438	
Y	2	top panels	MDF	19	959	705	
Z	2	top back & front edges	hardwood	19	38	997	
AA	2	top side edges	hardwood	19	38	743	
BB	1	fence back rail	MDF	19	127	991	
CC	1	fence horizontal support	MDF	19	102	991	
DD	4	fence angle support blocks	MDF	19	102	102	angle-cut
EE	1	fence back cover	MDF	19	102	133	angle-cut
FF	2	adjustable fence boards	MDF	19	127	496	

BASE OPTION #1

GG	2	sides	MDF	19	76	508	
HH	2	front & back boards	MDF	19	76	115	
JJ	1	top	MDF	19	152	508	
	2	heavy-duty wheels, 95mm high					

BASE OPTION #2

KK	8	base pads	MDF	19	76	76	
	4	metal adjustable leveling feet					

HARDWARE

- 4 Drawer knobs or pulls
- 3 Sets of 559mm drawer glides
- 2 - 107° Hidden hinges and plates
- 1 - 1219mm-Long aluminum miter slide track
- 1 - 1219mm-Long aluminum T-track
- 6 - 25mm by 6mm-Diameter threaded knobs
- 1 Power bar with switch
- 38mm PB screws as detailed
- 16mm PB screws as detailed
- Glue
- Pocket screws
- Brad nails
- 51mm Screws
- T-nuts



STEP 1 Prepare the four vertical dividers A by cutting them to size and forming the dadoes and rabbets in each panel as shown. All the rabbets and dadoes are 3/4" wide by 1/4" deep.



STEP 2 The bottom board B is secured to the dividers with glue and 1 1/2" screws in pilot holes. Align the two sets of dividers, spaced 8" apart, with the dadoes and rabbets facing each other. The middle section should be 17" wide between panels. Keep the screws 1" away from any panel end and use four screws per divider, driven through the bottom board.



STEP 3 Install the six horizontal dividers C in the dadoes and rabbets. Use glue and clamps to secure the sections.



STEP 4 Attach the backboard D to the cabinet using glue and 1 1/2" screws. If you've carefully cut the back panel square, the cabinet will be properly aligned.



STEP 5 The top center rail E is attached with one 3/4"-thick edge facing forward. Secure it with biscuits, or pocket screws and glue if you don't have a biscuit joiner. This rail will be attached to the underside of the tabletop.

This cabinet is on its back with the top facing the camera.



STEP 6 If you plan to use base option #1, attach two heavy-duty locking wheel assemblies to one side of the cabinet.

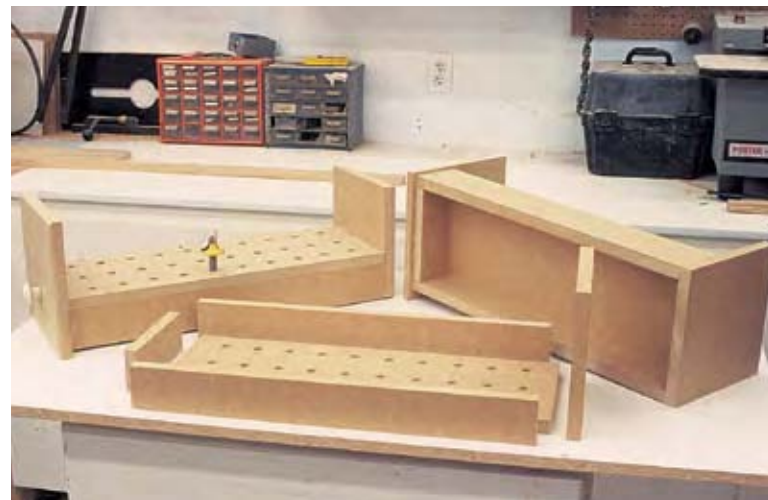


STEP 7 The other half of base option #1 is a box made with $\frac{3}{4}$ " MDF using the parts GG, HH and JJ. It's attached to the bottom of the cabinet with $1\frac{1}{4}$ " screws and glue. If the cabinet has to be moved often, you can lift the fixed base end and push it along the floor on the wheels.

The height of my fixed base portion is $3\frac{3}{4}$ " to match the wheel height. If you do use this setup, purchase the wheels first so the correct height can be verified. After installing both options, I've decided to use base #2 on my cabinet, as described in step 29.



STEP 8 Install the two shelf supports F in the middle section. They are secured with glue and $1\frac{1}{4}$ " screws. Their top edges are $12\frac{3}{4}$ " above the bottom board. Cut the middle shelf G to the size indicated in the materials list and secure it to the cleats with glue and brad nails.



STEP 9 The four bit holder slide-outs are made with $\frac{3}{4}$ "-thick MDF. Each holder board has a series of holes for $\frac{1}{4}$ "- and $\frac{1}{2}$ "-diameter router bits. I spaced my holes 2" apart with the two outside rows $1\frac{1}{2}$ " in from each board's edge and the third row in the center.

The holder platforms H are attached to the runners J with glue and $1\frac{1}{2}$ " screws. The runners are flush with the outside long edges of the holder platforms. A front lower cleat K is also attached to the holder platform in the same way. The backboards L are attached to the rear of each assembly with glue and $1\frac{1}{2}$ " screws. Use a $\frac{1}{4}$ " roundover bit in your router to soften the front edges of the slide-out faces M. Once the face is aligned on the slide-out, attach each face with $1\frac{1}{4}$ " screws through the front lower cleat.



STEP 10 Cut and attach the four stop cleats N with glue and $1\frac{1}{4}$ "-long screws. These cleats will stop the slide-out when fully extended. When it's necessary to remove or install the slide-outs, simply tip them upward to move past the stop cleats.



STEP 11 The two outside lower drawer boxes are 7" wide by 10" high by 22" deep and made with $\frac{3}{4}$ "-thick MDF. Attach the drawer sides P to the back and front boards Q using glue and $1\frac{1}{2}$ " screws. The bottom boards R are also secured to the sides, front and bottom board edges with $1\frac{1}{2}$ " screws and glue to form the drawer boxes. Use 22" bottom-mount drawer glides, or full-extension glides if you prefer, to install the drawer boxes in the cabinet.



STEP 12 The lower outside drawer box faces S have their front edges rounded over using a $\frac{1}{4}$ " router bit. They are secured to the drawer boxes with $1\frac{1}{4}$ " screws through the inside of the box. Install the faces so they are aligned with the slide-out fronts, leaving a $\frac{1}{8}$ " gap between each front.



STEP 13 The lower middle drawer box is $8\frac{1}{2}$ " high by 16" wide by 22" deep. Build the box using $\frac{3}{4}$ " MDF with parts T, U and V following the same steps as the outside lower drawer boxes. Mount this box using 22" drawer glides.



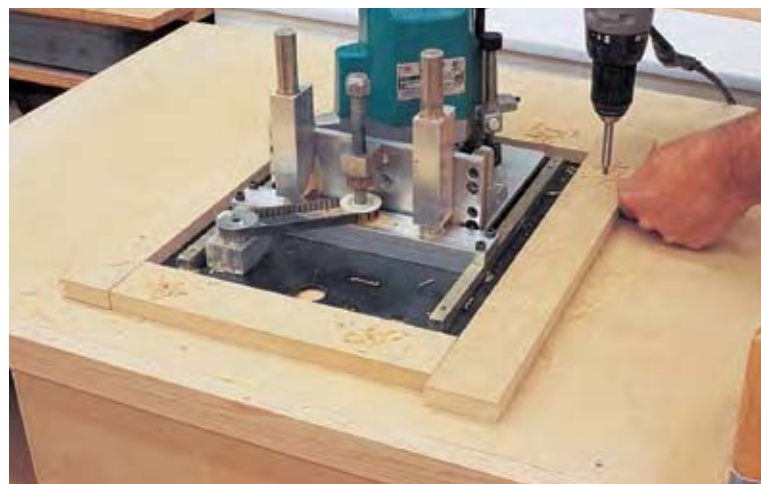
STEP 14 Round over the front edges of drawer face W using a $\frac{1}{4}$ " router bit. Attach it to the drawer box with $1\frac{1}{4}$ " screws, being careful to leave equal spacing on both sides, with its top aligned to the two outside drawer faces.



STEP 15 Cut the door X to size and round over the front face edges. I used full-overlay 107° hinges with standard mounting plates. Drill 35mm holes, 1/8" from the door edge, to secure the hinges. Hold the door in its normally open position, with a 1/8"-thick spacer between the door and cabinet edge, and secure the mounting plates with 5/8" screws.



STEP 16 The top is made by gluing two 3/4"-thick MDF panels together. Cut both panels Y a little oversize so they can be trimmed to a finished size when the adhesive has cured. The top is banded with 1 1/2"-high by 3/4"-thick hardwood and is secured in place with biscuits. Cut the edges Z and AA to size with 45° miters on each end to join the corners.



STEP 17 Turn the top upside down on the router cabinet. It should overhang the front edge by 1 1/2" and the sides by 1 5/8". I will be using a Rout-R-Lift plate made by JessEm Tool Company, but any plate can be installed using the following method. Place the router plate on the center of the table and 5" back from the front edge of the top. Fasten strips of wood around the plate with screws. These strips will be used as a template to guide your router.



STEP 18 The router base should have a bushing guide installed to run against the strips of wood. The size of the bushing should equal the depth of cut for the wing or slot cutter bit that will be used to form a groove on the top side of the table to inset the router plate flush with the top face. My wing bit cuts 1/2" deep, so I want the hole to be smaller than the strip edges by 1/2" on all sides. Cut the hole using the guide bushing and router bit.



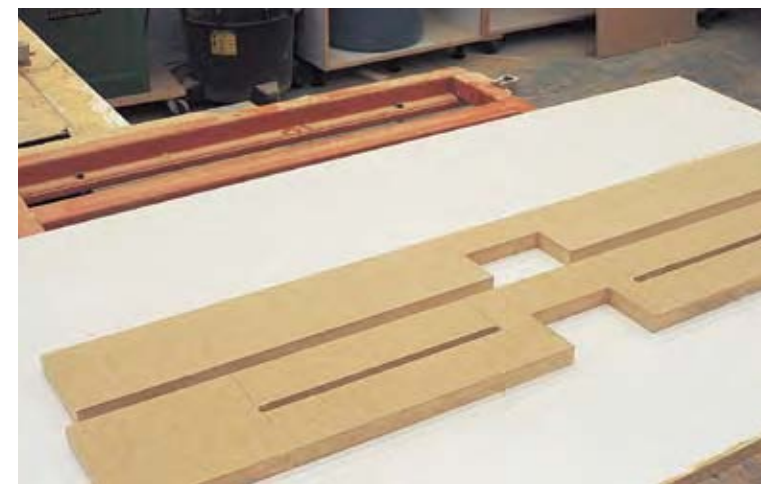
STEP 19 Flip the top right side up and use the wing cutter to groove the top. The router plate should be flush with the tabletop's surface. I hand-formed the corners to match my router plate. It may also be necessary in your case to use a sharp knife and chisel to carve the corners. Fasten the top to the cabinet using 2" screws through the horizontal supports and middle top rail.



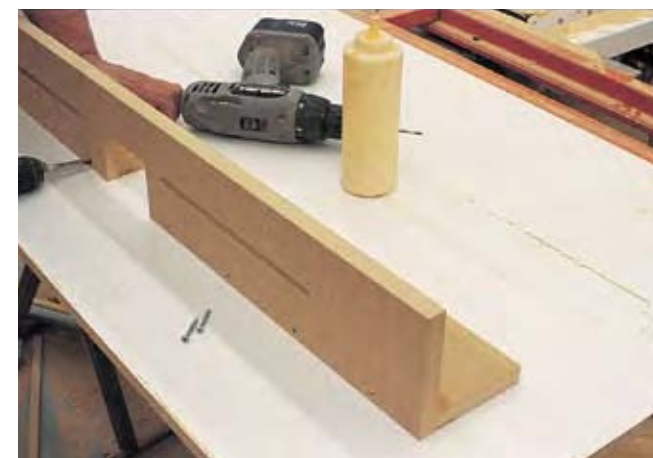
STEP 20 I installed a 3/4" miter slide track in my tabletop. Cut the groove for the slide track as close to the front edge of your router plate as possible. This track required a 1"-wide groove cut parallel to the router plate. I drilled the track and secured it to the top with 5/8" screws. The track is available through most woodworking supply stores.



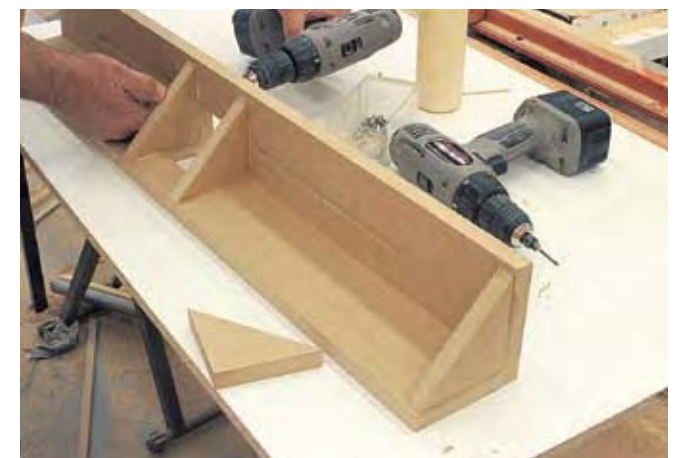
STEP 21 The T-track, which will be used to lock the adjustable fence, is also attached to the top in grooves. Rout the grooves on each side, parallel to the plate, and match the size of track you purchased, making sure they are flush with the tabletop surface. Once again, the tracks are secured with 5/8" screws.



STEP 22 All of the fence parts are made with 3/4"-thick MDF. The fence back rail BB has two 3/8"-wide grooves routed into the center and through the board. The grooves start 6" from each end and stop 16" from each end. This rail also requires a 4"-wide by 2 1/2"-high notch, centered on the length of the board. The horizontal support CC also has a notch that is 4" wide by 2" high in the center of the board. Both notches can be cut with a band saw or jigsaw.



STEP 23 Attach the fence back rail BB to the horizontal support CC with 1 1/2" screws and glue at about 4" on center.



STEP 24 The four right-angle fence supports DD are 4" x 4" blocks of 3/4" MDF cut at 45°. Use glue and 1 1/2" screws to attach the supports to the fence assembly. One support is installed at either end and the remaining two on each side of the cutout notch in the fence boards.



STEP 25 The back cover EE for the fence cutout has a 45° miter on both ends. Apply glue to all edges and secure the cover with a few brad nails on the top and bottom edge.



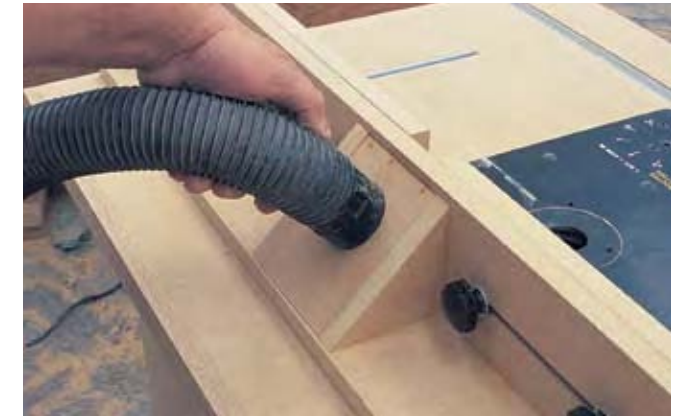
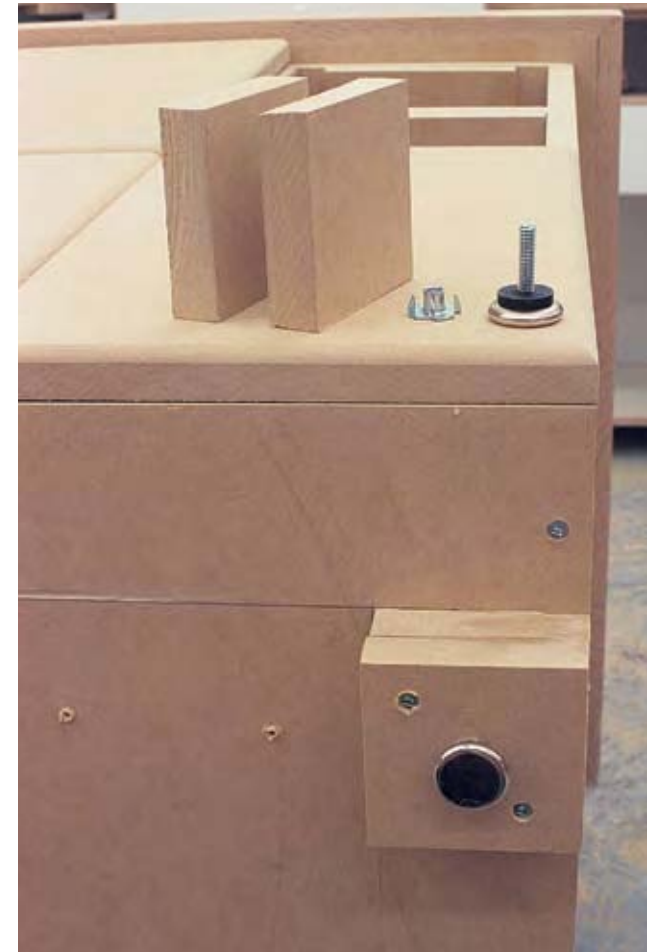
STEP 26 Drill a 2¼"-diameter hole in the center of the back cover. This will be used to friction-fit a vacuum hose.



STEP 27 Center the fence assembly on the router table and drill two ⅜"-diameter holes in the horizontal support over the center of each T-track. Use a T-nut and knob with a 1"-long by ¼"-diameter threaded shaft screwed into the nut. Tighten the knobs and verify that the fence locks securely.



STEP 28 The adjustable fence boards FF have two T-nuts driven into the front faces. Counterbore the hole so the nuts are slightly below the fence face. Position the nuts so both fences can come together in the center and travel about 4" out from the center.



STEP 29 (left) I will be using base option #2, as illustrated. Two pads KK are glued together and attached to the bottom, 3" back from the front edge of the cabinet and on both back corners. Drill holes for ¼"-diameter T-nuts and install a threaded metal foot in the center of each block as shown.

STEP 30 (above) My 2¼"-outside-diameter vacuum hose on my shop vacuum is a snug fit in the dust hole and provides good particle removal.

CONSTRUCTION NOTES

You will need four sheets of ¾"-thick MDF to build this cabinet. I used about 13' of hardwood to edge the top, as well.

I used MDF, but any ¾" sheet material will be fine, and the same construction dimensions and procedures can be used. If you decide to use another material, look for a smooth surface so your router work will slide easily on the top.

Pay special attention to the final height of your cabinet. My cabinet, with the adjustable legs in base option #2, puts my top surface at about 35" above the floor. That's a comfortable height for me, but your requirements may be different. Adjust the vertical divider heights to meet your needs.

All of the aluminum track, knobs and related hardware are sold at most woodworking stores. Woodworkers tend to make jigs and shop-built tool accessories, so this line of hardware has become very popular.

I considered adding a dust collection port in the router compartment, but the dust doesn't seem to be that great a problem. My vacuum pulls most of the dust at the fence; however, routing a material that creates fine dust may cause a buildup in the compartment. If that's the case, drilling a dust port and making a Y-fitting so the vacuum could collect from the fence and router compartment would be an easy fix.



STEP 31 I purchased and attached a construction-grade power bar, made by Belkin Components, called a SurgeMaster HD. This device is designed to control electrical equipment such as saws, compressors and routers. The vacuum cleaner and router will be plugged into the power bar and controlled by a switch. I will also have spare plugs that are overload protected, which I can use in the shop for other electrical equipment.