



Router table with lift out router table plate and optional bit organizer.



Router table rear view with EZ mount fence and optional bit organizer.

This Router Table compares with store bought router tables that sell for over \$150. The one pictured above was made from small pieces of odd and end wood I had in my junk corner. The top and the sliding fence plates are made from 1" thick countertop material. I chose counter top material because the plastic laminate provides a low friction surface for the workpiece to slide over.

You can purchase countertop material from your local home center but if there is a cabinet shop near you, they may have some sink cutouts they would like to get rid of. I used an old table top someone was throwing away.

The lift out router plate, miter track, T-Track, knobs, and safety shield were purchased from Rockler.

This fence design uses my own EZ-Mount clamps. They're easy to make and allow you to slide the fence on and off without completely removing the knobs. They lock the fence down as securely as the traditional design with slots in the table top.

This project makes extensive use of pocket hole joints. The joints are designed so the pocket holes are hidden after assembly. Pocket holes are the easiest way to make strong and accurate joints in wood. If you haven't been using pocket holes before, you'll wish you had started using them long ago.

### Materials List

| Qty | Item            | Material                                                            |
|-----|-----------------|---------------------------------------------------------------------|
| 1   | Top             | 16" By 22" using Countertop material with plastic laminate coating. |
| 2   | Front & Back    | 18" by 2 1/4" using 3/4" stock                                      |
| 2   | Ends            | 10 1/2" by 2 1/4" using 3/4" stock                                  |
| 1   | Front Stiffener | 15" by 2 3/4" using 3/4" stock                                      |
| 1   | Rear Stiffener  | 16 1/2" by 1 1/4" using 3/4" stock                                  |
| 2   | Legs            | 12" by 5 1/2" using 3/4" stock                                      |

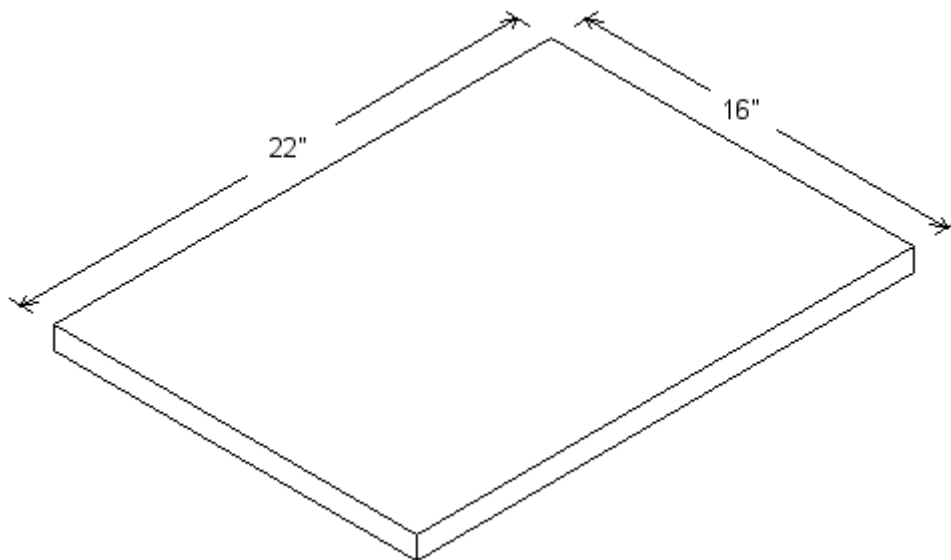
|   |                    |                                                    |
|---|--------------------|----------------------------------------------------|
| 2 | Feet               | 16" by 3 1/2" using 3/4" stock                     |
| 1 | Router Table Plate | 8" by 11" by 1/4" thick aluminum plate             |
| 1 | Miter Guage Track  | 22" by 1" by 1/2" thick aluminum miter guage track |
| 1 | Bit Safety Guard   |                                                    |

## Router Table Drawings

Please read and follow all tool manufacturers safety and operating instructions before operating equipment. Always wear eye and hearing protection.

### Top

16" by 22" Countertop Material

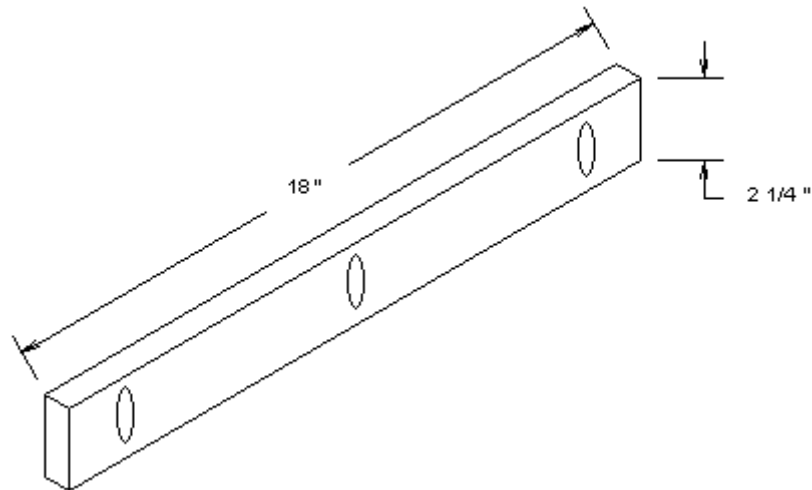



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### Front & Back Pieces

(2 Required)

18" by 2 1/4" using 3/4" stock

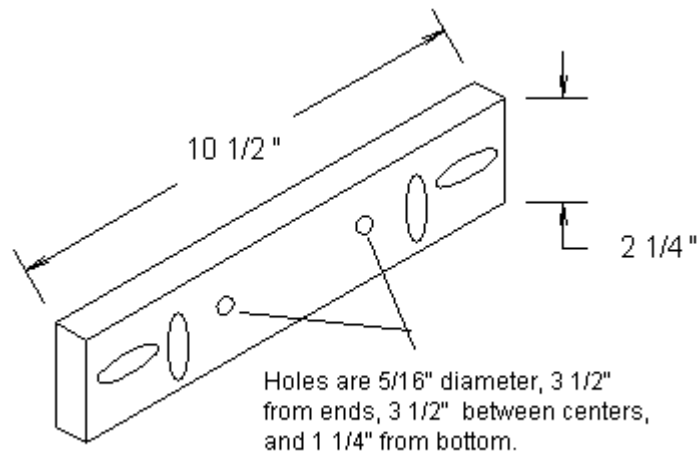


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### Ends

2 (Required)

10 1/2" by 2 1/4" using 3/4" stock



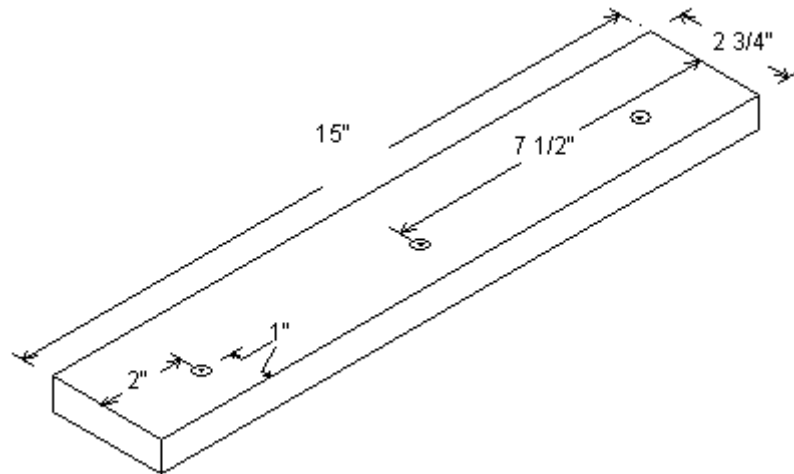
The end pieces require two 5/16" diameter holes. This allows for a little bit of adjustment when mounting the legs so the bottom will sit flat on the work table.

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### Front Stiffener

2 (Required)

15" by 2 3/4" using 3/4" stock



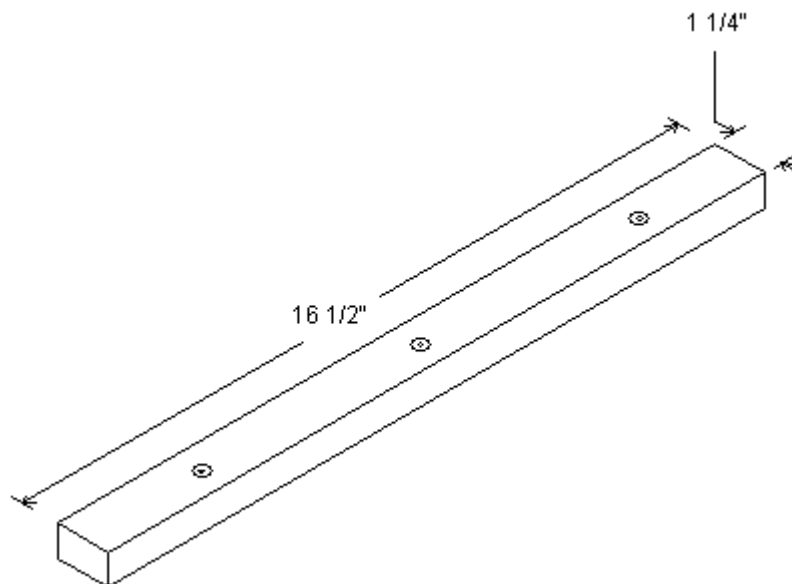
This piece requires three screw holes for mounting the stiffener to the underside of the top. They are shown as countersunk holes but you could just as well use pan head screws. The stiffeners provide extra strength to keep the router table surface flat and provide extra thickness of material for the miter track screws. Note that the screw holes are one inch from the edge. This is so the screws don't hit the miter gauge track.

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### Rear Stiffener

2 (Required)

16 1/2" by 1 1/4" using 3/4" stock



The rear stiffener also requires three screw holes but the location is not critical.

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### Legs

2 (Required)

12" by 5 1/2" using 3/4" stock

Holes are 1/4" diameter, 1" from ends, 3 1/2" between centers, and 1 1/4" from top.

Pocket Holes are 1 1/4" from edges.

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Pocket Holes are 1 1/4" from edges.

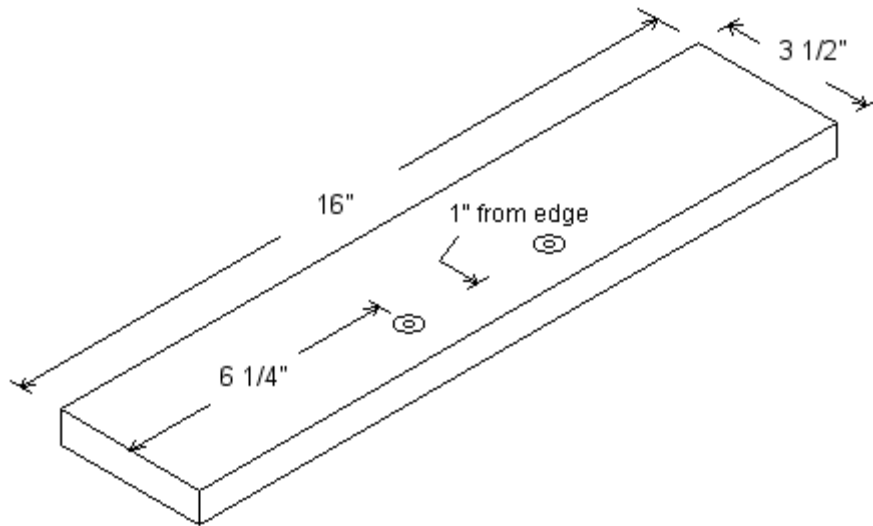
The legs need two 1/4" diameter holes at the top for mounting them to the ends. The two pocket holes on the bottom are for mounting the legs to the feet. As usual, the location of the pocket holes is not critical.

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### Feet

2 (Required)

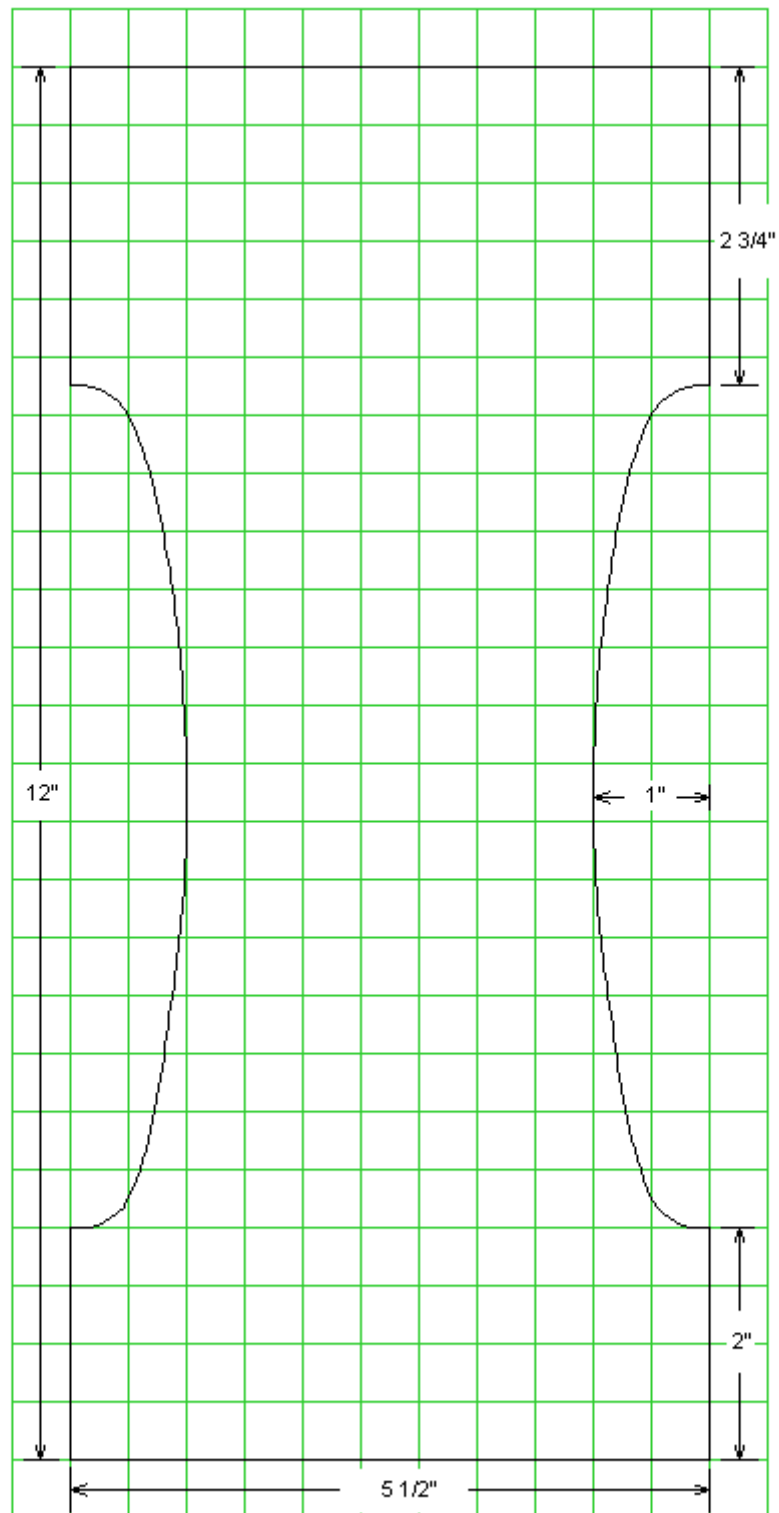
16" by 3 1/2" using 3/4" stock



The two screw holes in the feet are for attaching the optional bit organizer.

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### Leg Layout Grid



One square equals  $\frac{1}{2}$ ".

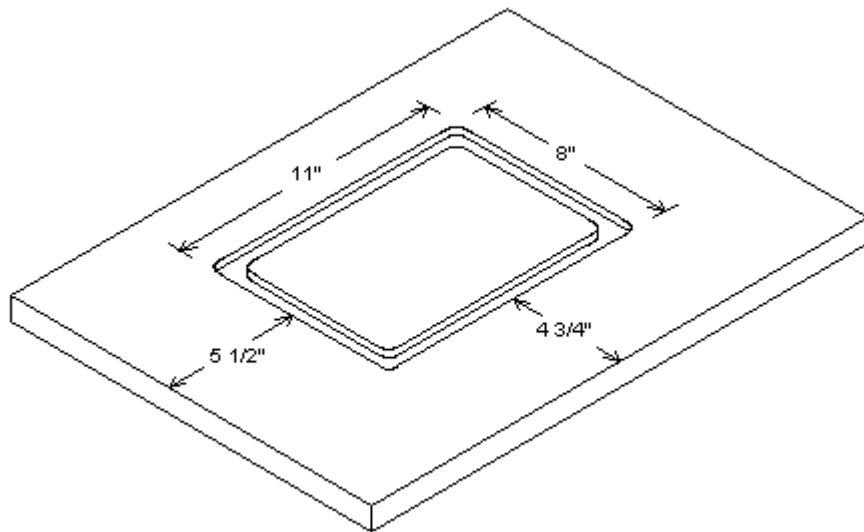
The curved cutouts on the sides of the legs aren't necessary but I thought they added a little to the style of the router table. You can use the above grid to draw the curves on your workpiece.

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## Router Table Instructions

Please read and follow all tool manufacturers safety and operating instructions before operating equipment. Always wear eye and hearing protection.

### Router Plate Cutout Dimensions



To cut out the recess for the router plate, you can make a frame to guide your router as shown in Figure 1 below. You'll need a 3/4" wide straight bit for this.

To determine the dimensions of the frame, put a 3/4" straight bit in your router and set the depth to about 1/8". (Just deep enough to make a measurement.) Clamp a straight edge to a piece of scrap stock and cut a 3/4" slot with your router as shown in Figure 2. Measure the distance from the slot to the edge guide. Lets call this distance "**X**". This is the distance of the edge of your router base to the edge of the bit. Since the router plate cutout needs to be 8" by 11", the height of the frame should be 8" plus two times the distance "**X**" and the width of the frame should be 11" plus two times distance "**X**". For my router, the inside dimensions of this frame turned out to be a little more than 13" by 16". But your router may be different so be sure to get the exact measurement and make your frame accordingly. I recommend you practice on some scrap material before making the cut on your good countertop material.

You can assemble the frame with pocket holes as shown in Figure 1.

When your frame is finished and you're sure it will result in the proper size cutout, clamp it to the countertop material so the cutout will be centered side to side and the front of the cutout will be 4 3/4" from the front edge of the material. This allows room

for the miter guage slot.

You should set the router to cut a slot about  $\frac{5}{16}$ " deep. (The router plate is  $\frac{1}{4}$ " thick but you need to have the recess a little deeper so you can set it to be flush with the table surface. You do this by putting a flathead screw in each corner as shown in Figure 3. Then, you can adjust the screw height so the plate is flush with the top on all four corners. **Be sure the frame and workpiece are securely clamped to a solid work table or workbench and follow all safety precautions that came with your router. Never use power tools without safety glasses and don't wear loose clothing. Your clothing can get caught up in moving parts with any type of power tool.**

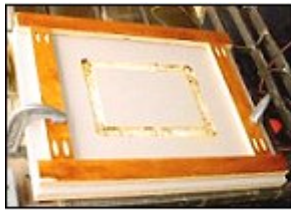


Figure 1

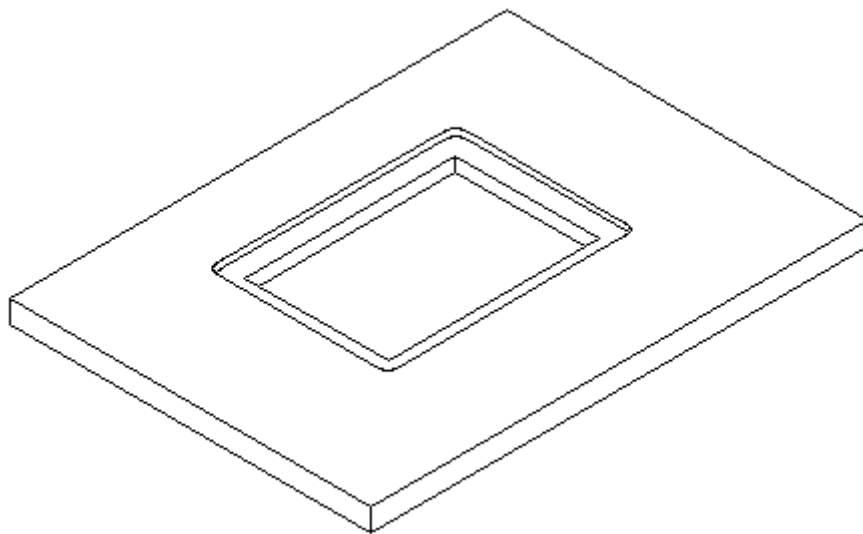


Figure 2



Figure 3

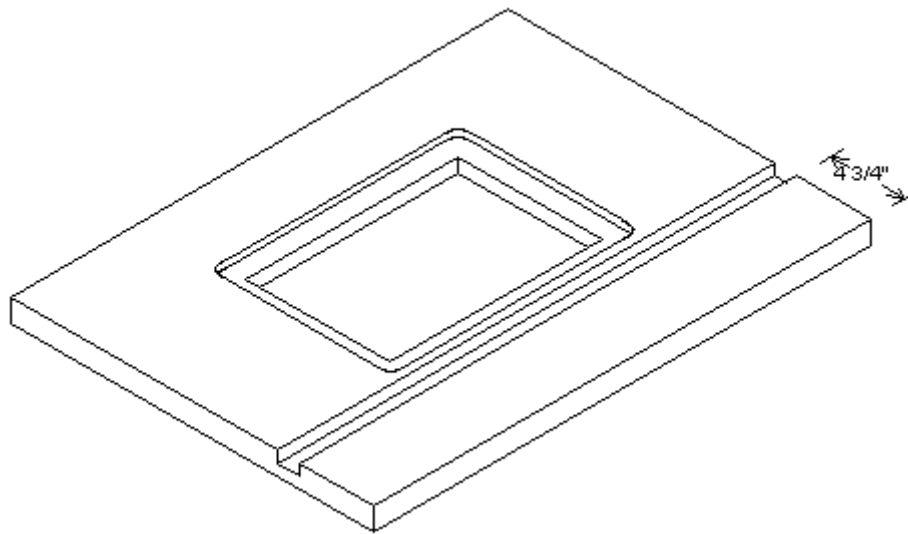
### Router Plate Cutout Step 2



You can remove the center of the cutout with a jig saw. Try to leave as much material around the edge as possible. If your jig saw blade makes a  $\frac{1}{16}$ " wide cut, the recess should have about an  $\frac{11}{16}$ " wide edge around it. Wait until the stiffeners are installed before putting the corner adjustment screws in place.

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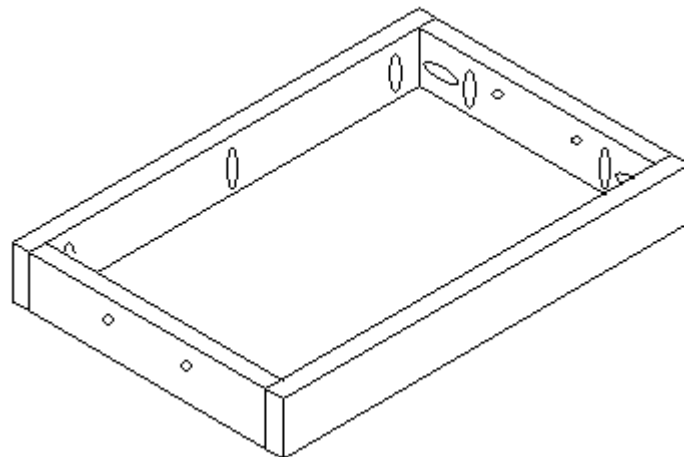
### Slot for the Miter Guage



Cut a slot 1" wide by 1/2" deep and 4 3/4" from the front edge as shown above. You can use either your table saw or router for this cut.

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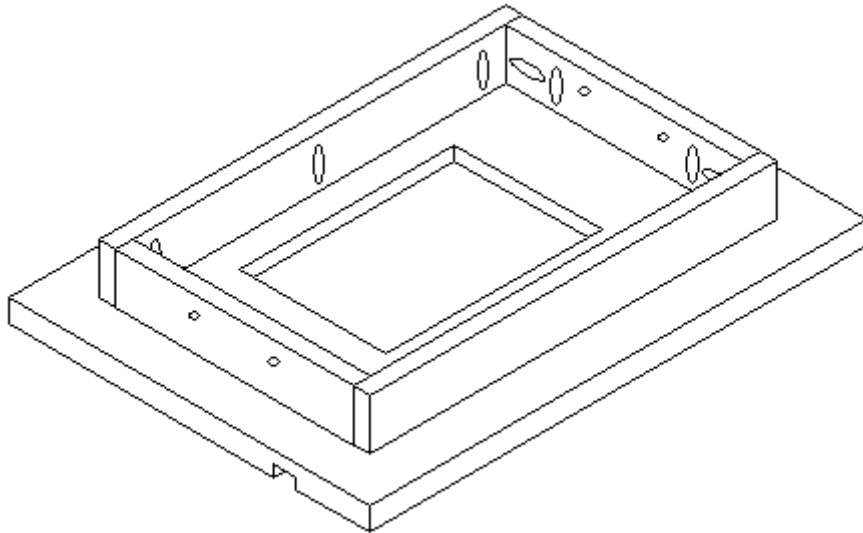
### **Assemble the Sides**



Assemble the four sides with a pocket hole screw in each corner as shown above.

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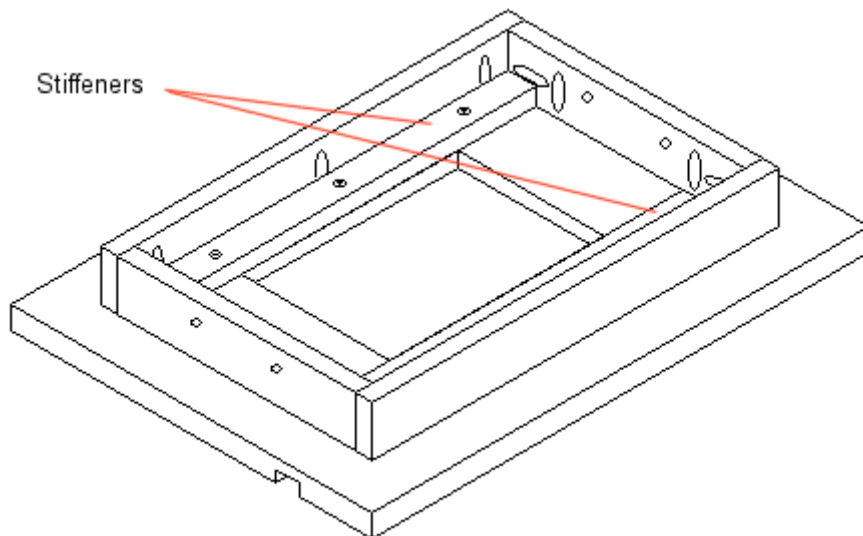
### **Attach Side Assembly to Top**



Attach the assembled sides to the underside of the top with pocket hole screws as shown above. It should be centered from front to back and side to side.

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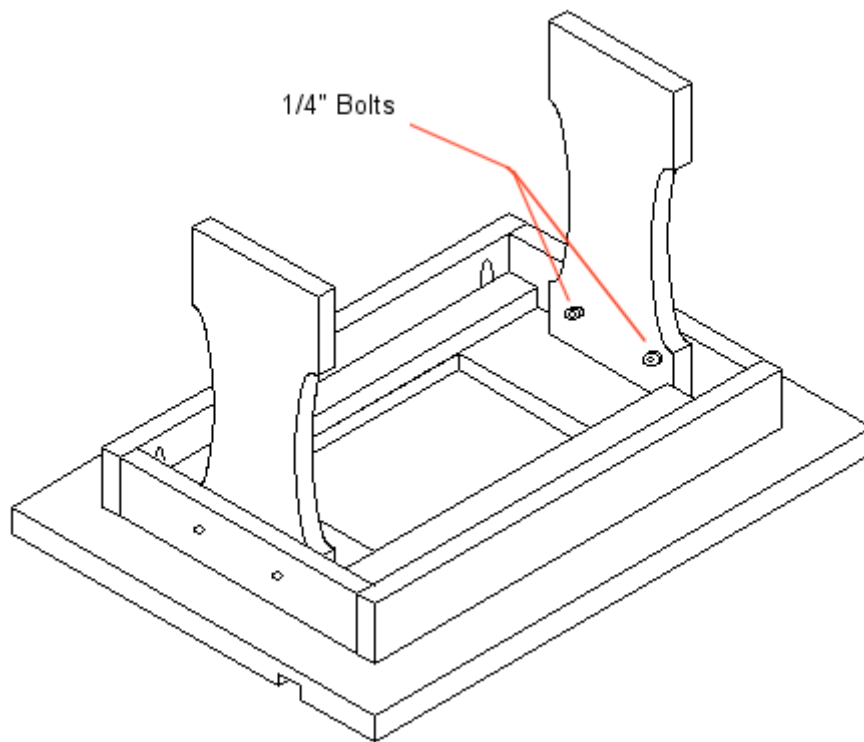
### **Attach Stiffeners to Top**



Attach the two stiffeners to the underside of the top as shown above. Note that the front stiffener is shorter and wider than the rear one. The front one needs to be centered side to side so the legs have room to fit. See the next drawing.

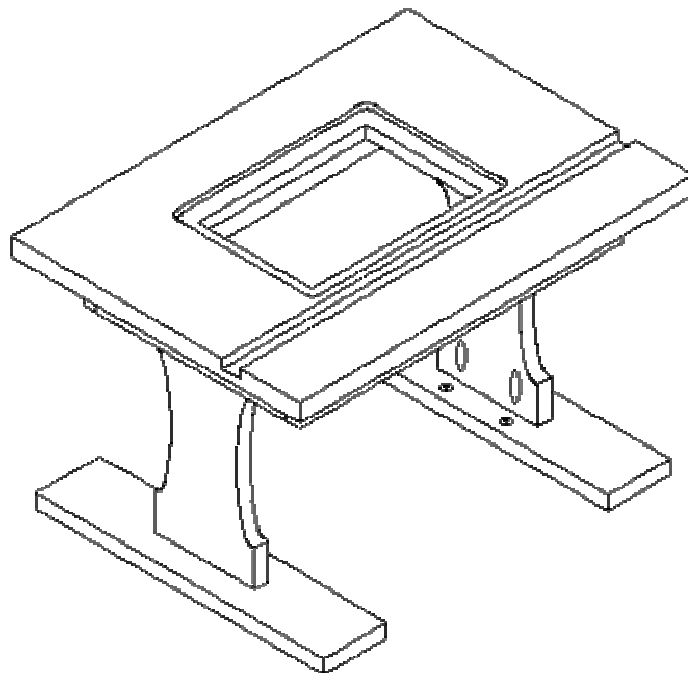
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### **Attach legs**



Attach the legs with two 1/4" by 2" bolts as shown. You can use carriage bolts for this if you like. The holes in the sides are a little larger and this gives you some movement in the legs to ensure they sit flat on the worktable.

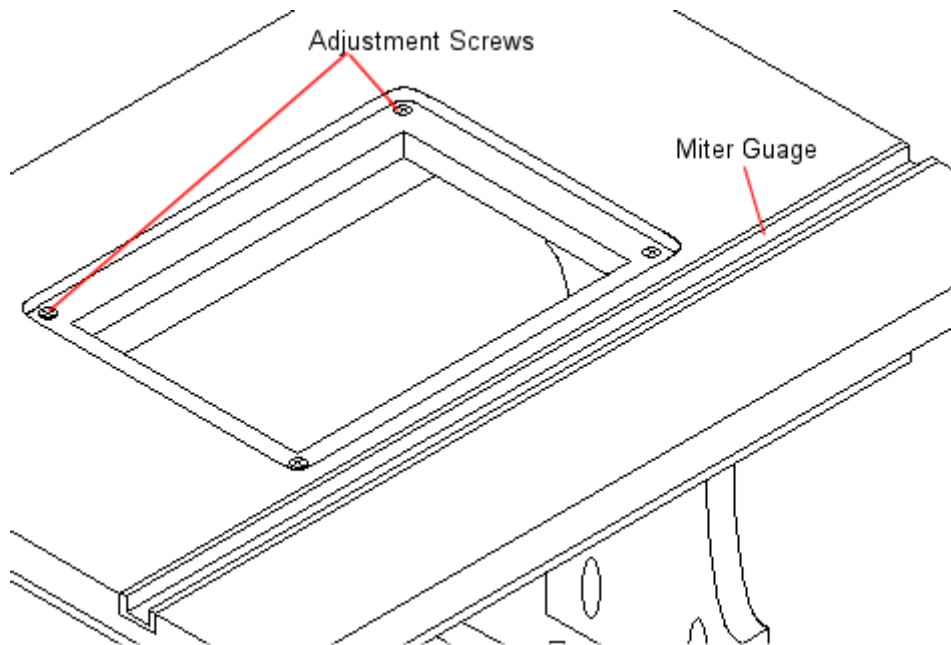
### **Attach Legs to the Feet**



Attach the legs to the feet with pocket hole screws as shown. The legs should be centered from side to side and end to end of the feet. If you are including the bit organizer, be sure the holes for the bit organizer are on the inside of the legs.

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### Attach the Adjustment Screws and Miter Guage



Predrill a hole in each corner of the cutout and install the adjustment screws as shown above. Next, install the miter guage with flathead screws as shown above.

Now, you need to adjust the screws so the router plate sits flush with the surface of the table top.

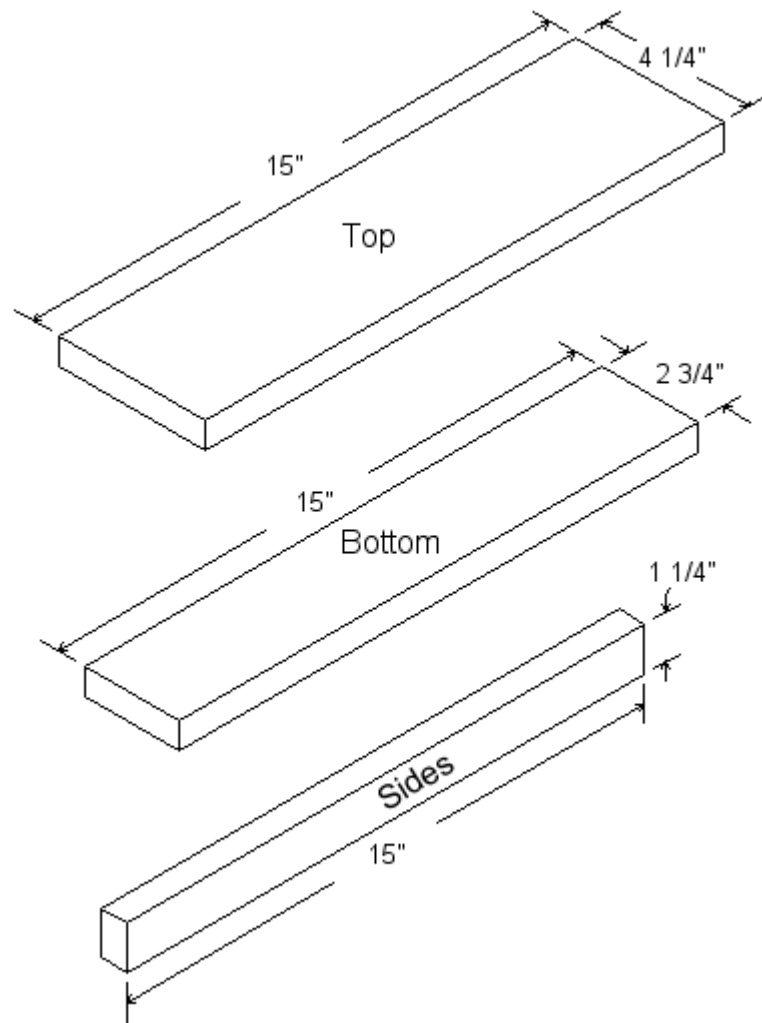
## Router Bit Organizer Plans

Please read and follow all tool manufacturers safety and operating instructions before operating equipment.  
Always wear eye and hearing protection.

### Materials List

| Qty | Item   | Material                       |
|-----|--------|--------------------------------|
| 1   | Top    | 15" By 4 1/4" using 3/4" stock |
| 1   | Bottom | 15" by 2 3/4" using 3/4" stock |
| 2   | Sides  | 15" by 1 1/4" using 3/4" stock |

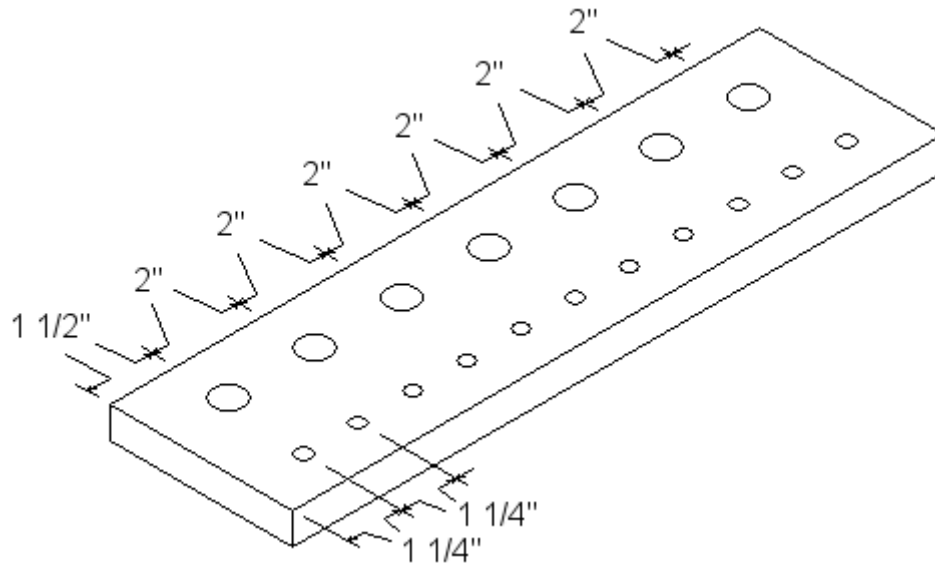
### Bit Organizer Parts Dimensions



Cut the top, bottom, and 2 sides from 3/4" stock as shown above.

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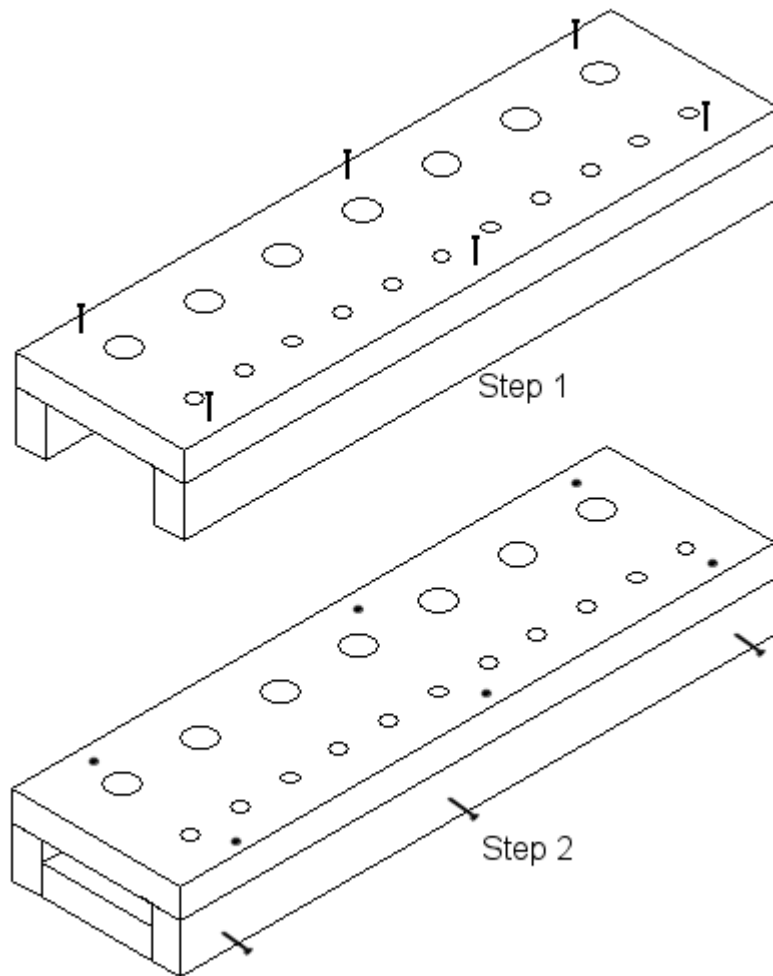
### Drill the Holes



Drill seven 9/16" holes along one edge of the top as shown. Then, drill eleven 9/32" holes along the other edge as shown. This will accomodate seven bits with 1/2" shanks and eleven bits with 1/4" shanks.

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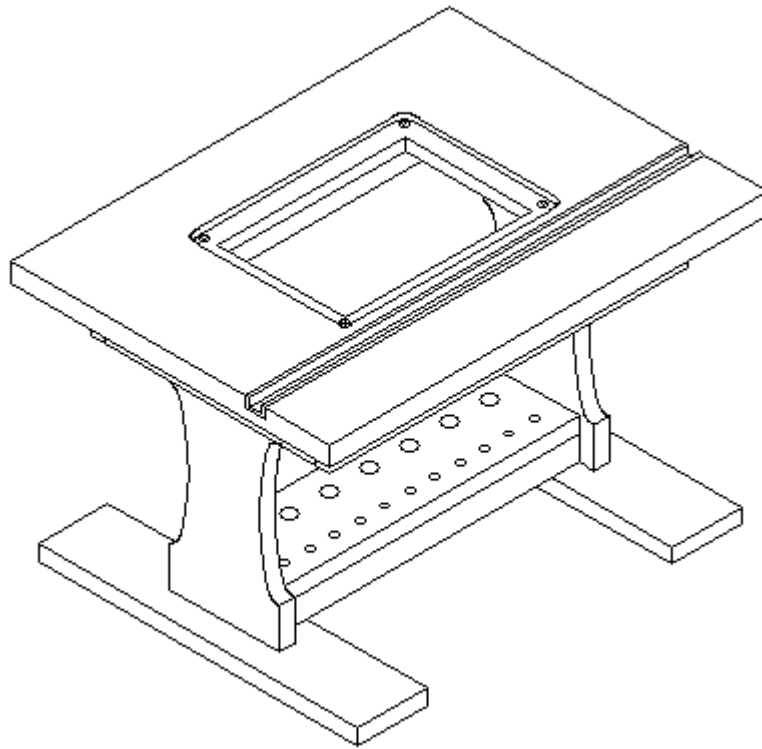
### **Assemble the Bit Organizer**



Attach the top to the sides with 1 1/2" long finishing nails as shown. Then insert the bottom between the sides as shown and attach with finishing nails.

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### **Attach the Bit Organizer to the Router Table**



You should already have two holes in each router table foot for attaching the bit organizer. Attach the finished bit organizer to the feet using two flathead screws from the bottom of each foot.