

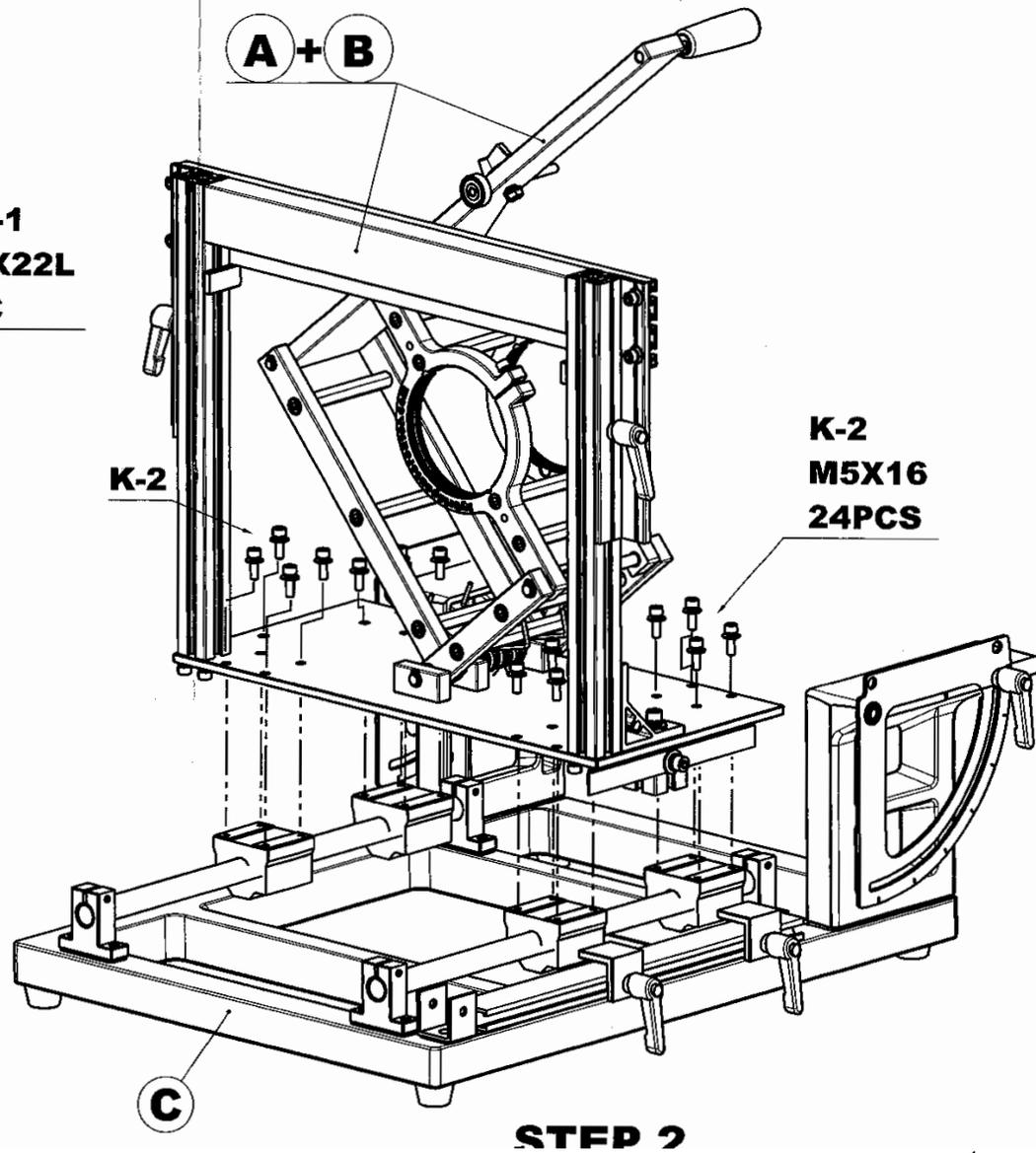
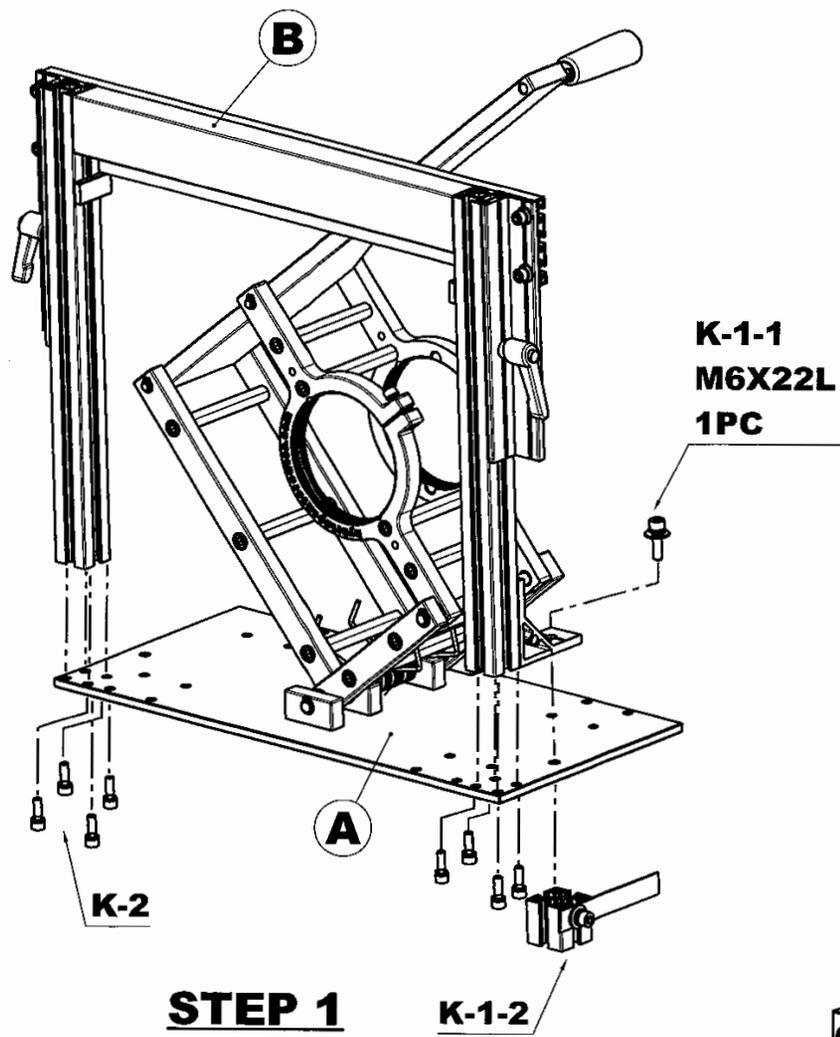


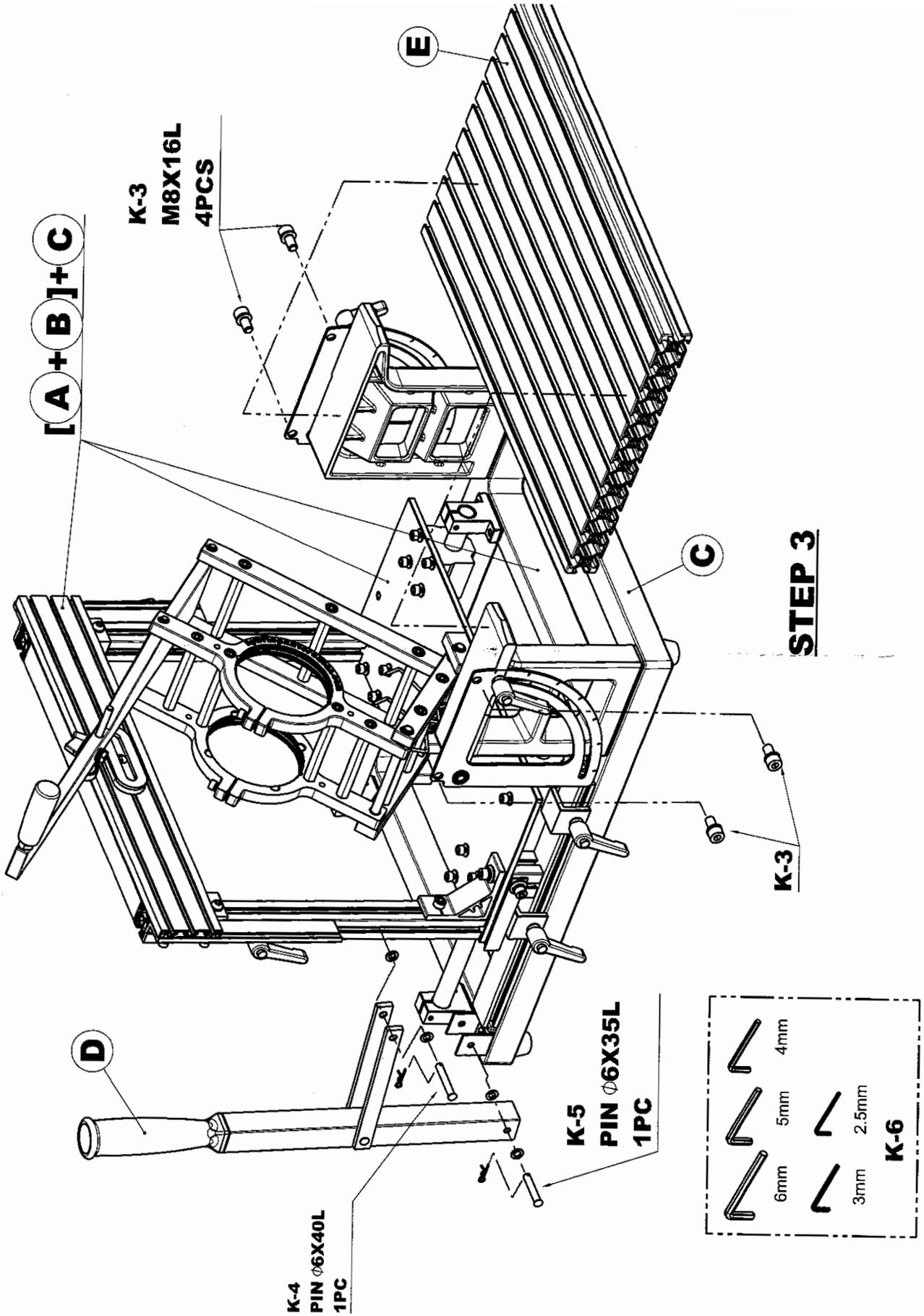
# Assembly Guide



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# PantoRouter™ Assembly Guide

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We thank you for your PantoRouter™ purchase and we hope you find great pleasure in creating all kinds of traditional and innovative joinery. There's no better jig for mortise and tenons, box joints and machine-cut dovetails, but this is just the beginning of the tasks you can master with the PantoRouter™.

Your PantoRouter™ experience starts with a few minutes of assembly then grab our How-To Guides for basic instruction and some ideas to help you get started.

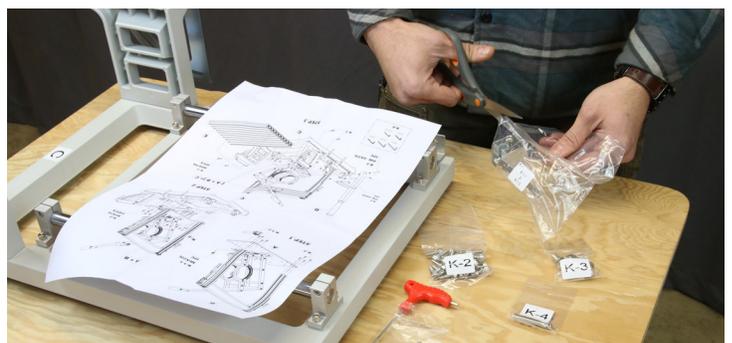
First, open the KITS box where you'll find all of the fasteners and hex wrenches. Together with this guide, you should be up and PantoRouting in short order.

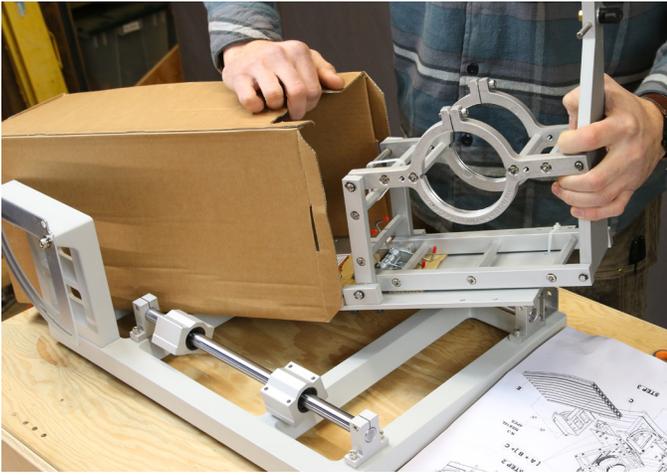
Inspect the pieces for any possible shipping damage then lay them out and refer to the diagram to get a good idea of how they'll all fit together.

Kit K-2 contains the cap screws for mounting the template holder frame to the pantograph carriage, and the carriage to the glideshaft mounts.

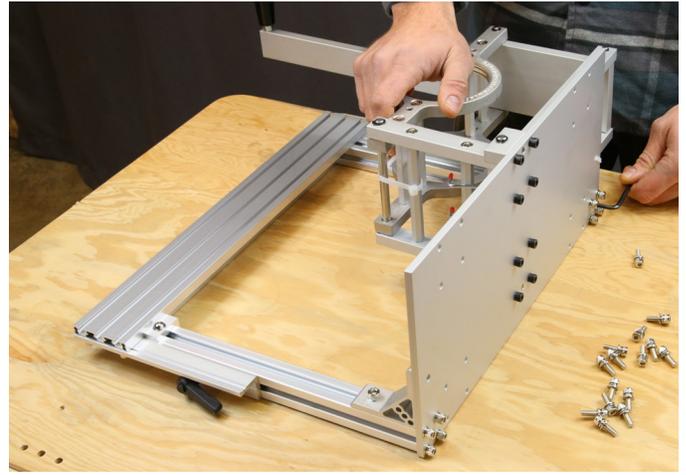
Kit K-1 has the pre-assembled depth stop post and scale. Open K-1, K-2 and K-6; the hex wrenches you'll need for assembly.

We recommend using the supplied hex wrenches or similar hand-held wrenches. Using a drill or impact driver for assembly can over-drive screws or strip threads.





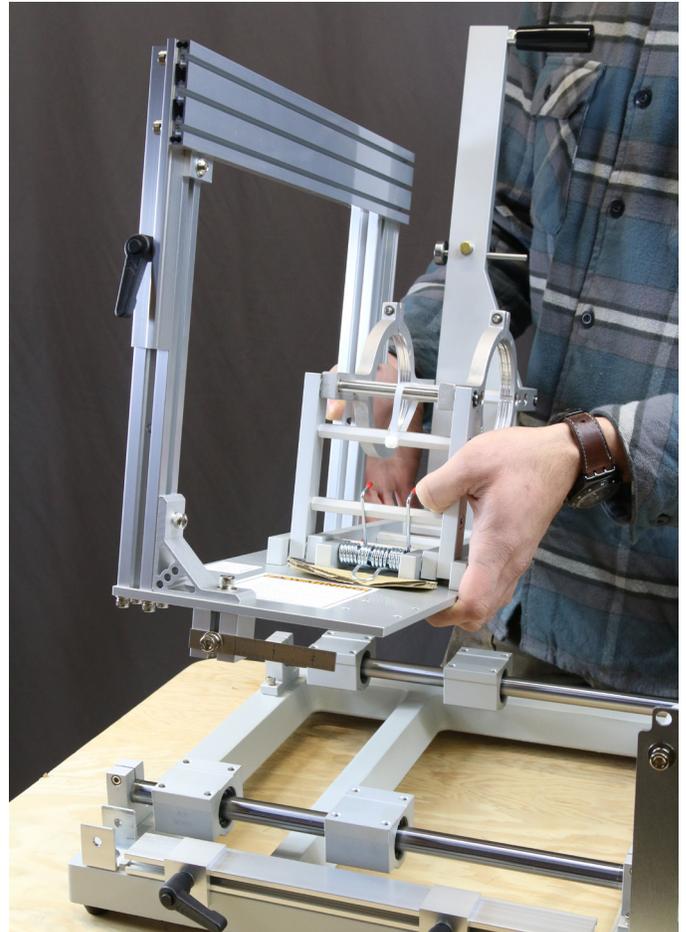
Remove the pantograph carriage from Box-A but don't cut the nylon tie straps yet.



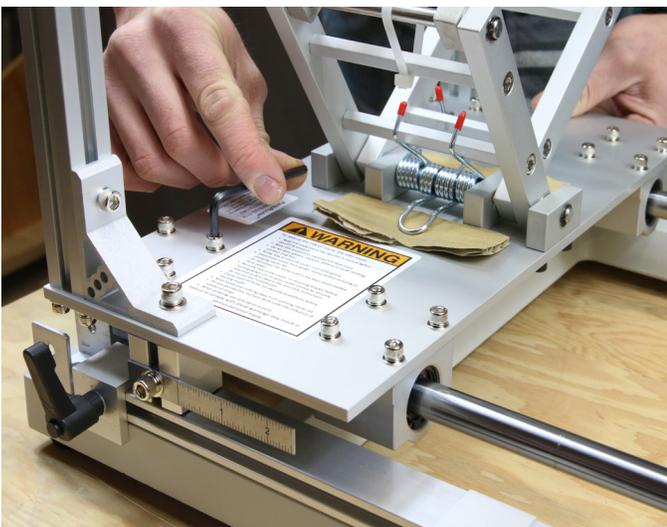
Hand-tighten eight cap screws that fasten the template holder frame (Box-B) to the pantograph carriage, then secure them all with the hex wrench.



Secure the depth stop post with scale (K-1-2) to the pantograph carriage with cap screw (K-1-1).

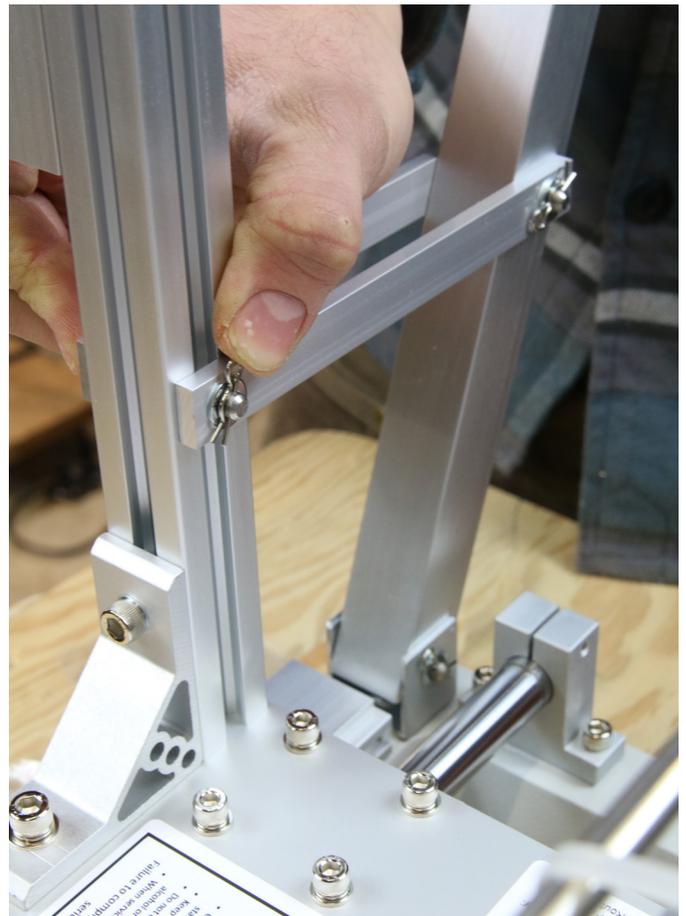


Position the pantograph carriage on the glideshaft bearings and align the screw holes. You might need to relocate the depth stop angles for the depth stop post to clear (above). Clip the nylon tie holding the pantograph to the table but leave the one on the pantograph in place. Tighten all 16 screws to secure the pantograph carriage to the glideshaft bearings (left).





Insert pin K-5 through the plunge lever bracket as shown with a washer on both sides. Secure with locking clip. Note the K-5 pin is shorter than K-4.



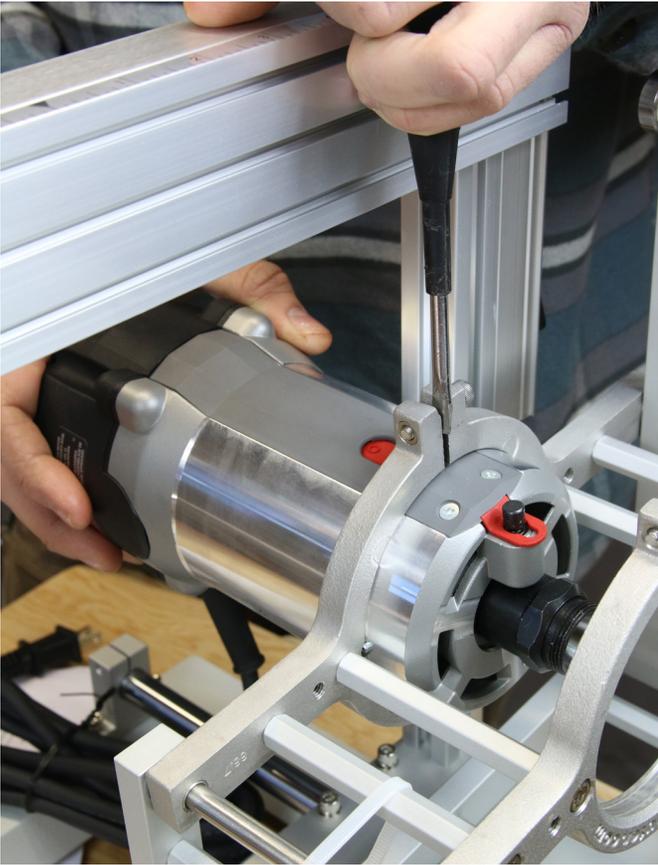
Insert K-4 through the plunge lever arms and template holder support post using a washer on both sides and lock with the clip. The lever should now control the movement of the pantograph carriage. Loosen and move the depth stops to feel the full range of motion.



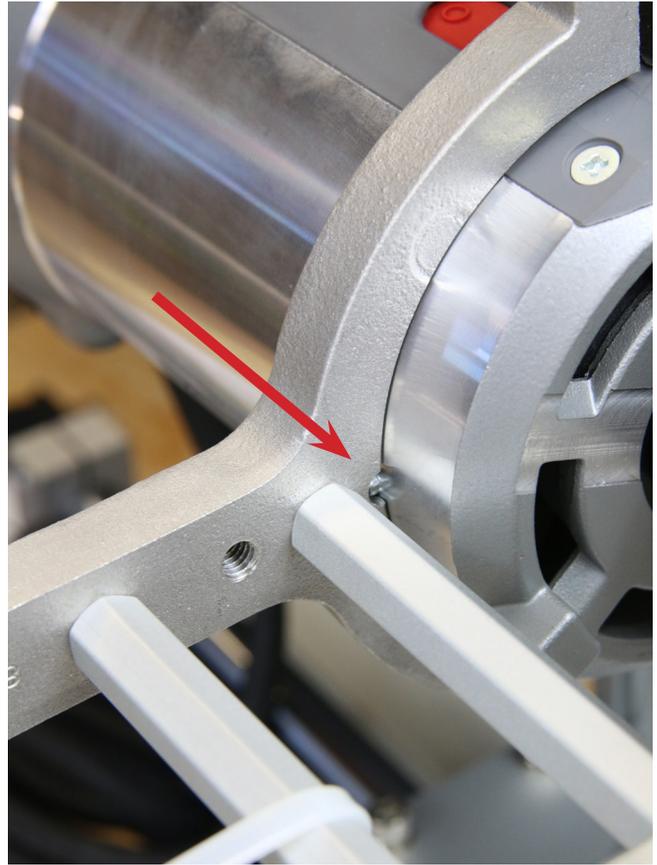
Hand-tighten all four table mounting cap screws (K-3) then secure the table to the protractor. You can now loosen both protractor lock knobs and test the tilting table.



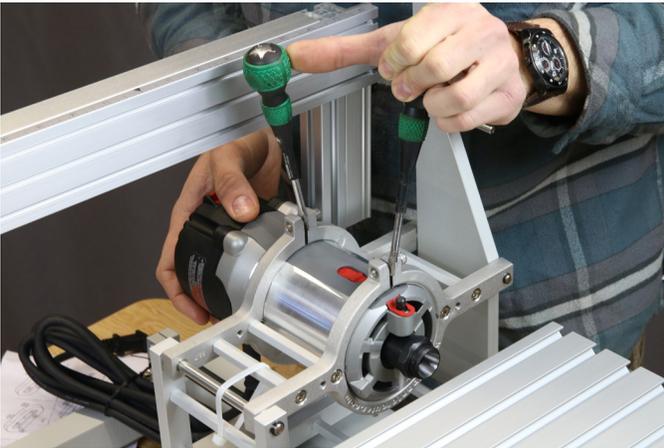
The Porter Cable 8902 router supplied with our ALL-IN Package has a rack gear not used by the PantoRouter. Remove the two small screws and the gear. Do not remove the pins in the side of the router. The router mounts have notches to allow the router to pass through with the pins in place.



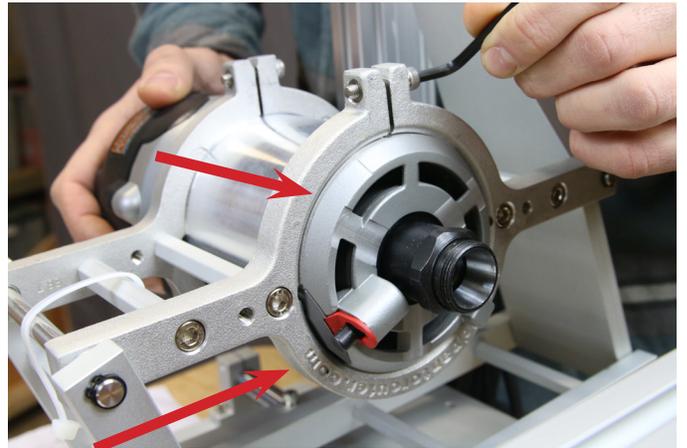
Loosen the two router mount cap screws but don't remove them. Use a screwdriver to gently pry the mount open so the router will start through.



Rotate the router so the pins pass through the notches in the router mount then push the router forward to the second mount.



This is the only tricky part about the assembly. Both mounts need to be opened for the router to slide into the front mount so use two screwdrivers to hold the mounts open as you push and rotate the router into position.



Push the router forward until the full dimension of the router body is just flush with the front face of the router mount.

Rotate the router so the rotor lock button is aligned with the "m" in [www.hybridpantorouter.com](http://www.hybridpantorouter.com) cast into the router mount. Tighten both router mount cap screws.

The dust collector hood attaches using two different screws. The brass-colored flat countersunk screw goes on the discharge port side of the router mount. Use a small shaft screwdriver through the access hole to tighten it.



The silver machine screw (hex) secures the other end as shown. If the router is mounted correctly the operator can access the router rotor lock button through the opening for single-wrench bit changes.



We recommend using a hose that fits over the discharge port, not inside it. In our online store, we sell a five-foot section of hose with end cuffs to fit perfectly over the PantoRouter dust collection hood.

You can now remove the remaining nylon tie strap and cardboard cushions from the pantograph assembly.

Now that the basic assembly of the PantoRouter is complete continue on to:

- 1- Setup and use the thickness gage
- 2- Scribe the centerline on the table
- 3- Assemble the centering-scale fence.



# Setting the Thickness Gage

Start by marking the center of a workpiece.



Locate the MT-3H red template at the zero mark side-to-side and in the center slot of the template holder. It is not critical that the template be precisely centered left to right, but should be close. Insert a tapered guide shaft in the center hole of the centered template and lock the shaft in place.

Install the centering jig in the router in place of a bit. Loosen the template holder hold-down levers and move the pantograph so the centering jig is at the centerline of the workpiece. Lock the template holder.



With the template holder locked in place and the tapered shaft holding the pantograph on center, hold the workpiece under the template holder horizontal rail and slide the thickness gage up so it contacts the bottom of the workpiece. Lock it in place by tightening the machine screw.

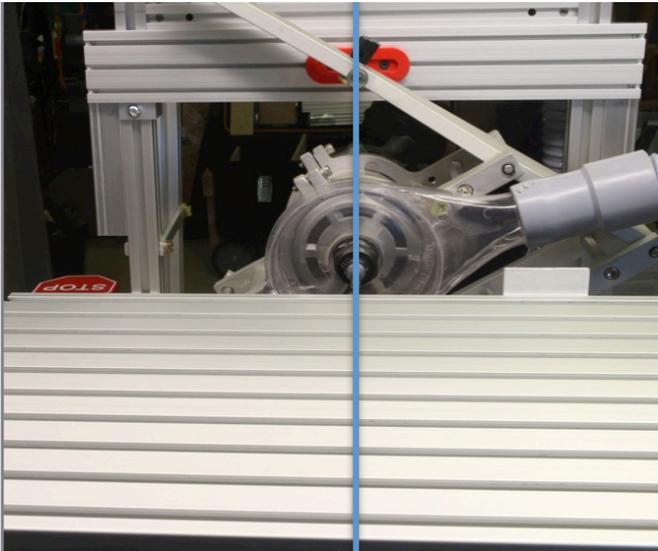
## Using the thickness gage:

Mortises and tenons can be located in the center of the workpiece regardless of the thickness of the board. Rest the board on the thickness gage and lower the template holder rail to contact the top surface. Lock the template holder using the two lever knobs and the bit should cut the mortise or tenon in the center of your workpiece. If it's slightly off you can micro-adjust the thickness gauge by moving it up or down as needed.

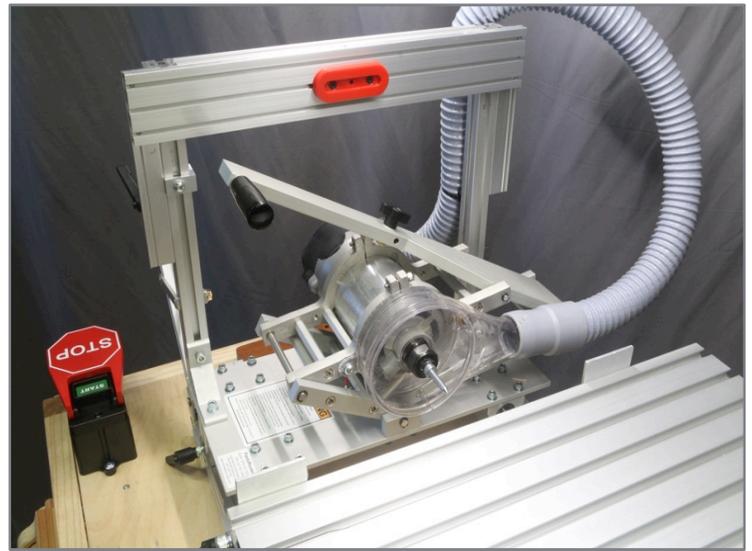
# Finding and marking the Table Centerline and Setting up and using the Centering-Scale Fence

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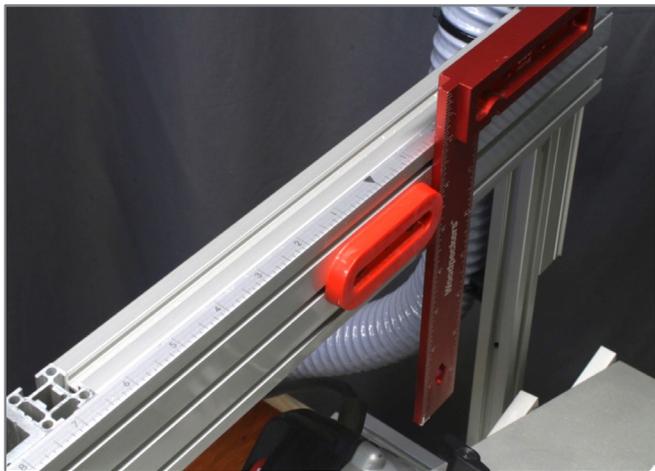
The PantoRouter™ transfers the shape of the template mounted on the template holder to the workpiece located on the table. Marking or scribing a line on the tabletop as a reference guide is very useful, especially when using the Centering Scale Fence. Start by mounting an MT-3H template near the center of the template holder. Use one or two squares to locate the sides of the template equidistant from the center mark on the top of the template holder. When the template is perfectly centered, lock it in place with the two black hex screws.



The template center, bit and table center should all line up for easy positioning of the workpiece.



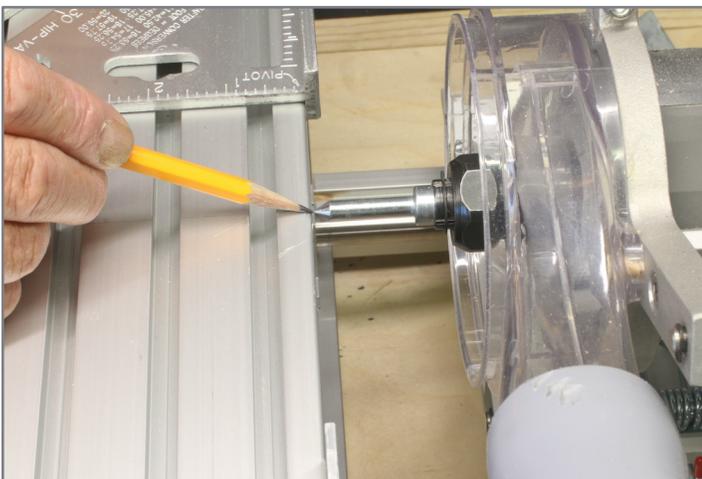
Locate the MT-3H near the center.



Use one or two squares to align the template to center. The edges on either side should be equidistant from the center of the template holder. Using the metric side is helpful because there are more lines but either side will work.

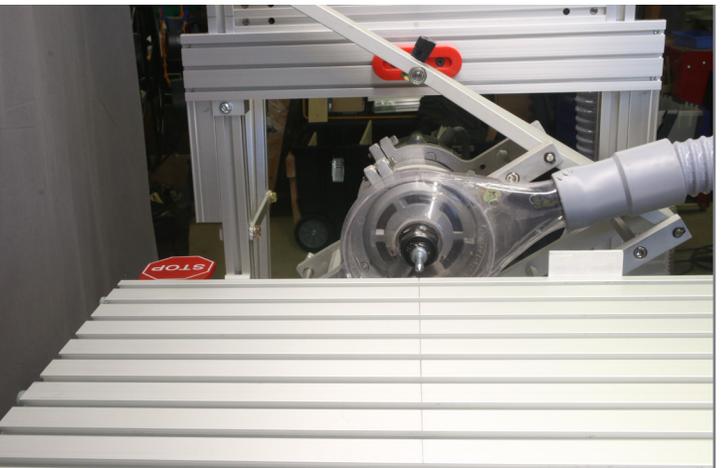


Insert the tapered guide bearing into the center hole of the MT-3 template and mount the centering jig in the router collet. Plunge the pantograph carriage forward and lower the template holder so the tip of the centering jig rests gently on the top edge of the table. This is dead center so carefully mark this position and use a square to draw or scribe a line from this point down the center of the table.



Mark the table center.

Scribe or mark the table center line.



Continue the centerline to the opposite end of the table.

Use the centerline to locate your workpiece so the mortise and tenon or other joinery will be centered.

To center your workpiece on the table you can mark the center of your workpiece then locate it on the marked or scribed centerline.

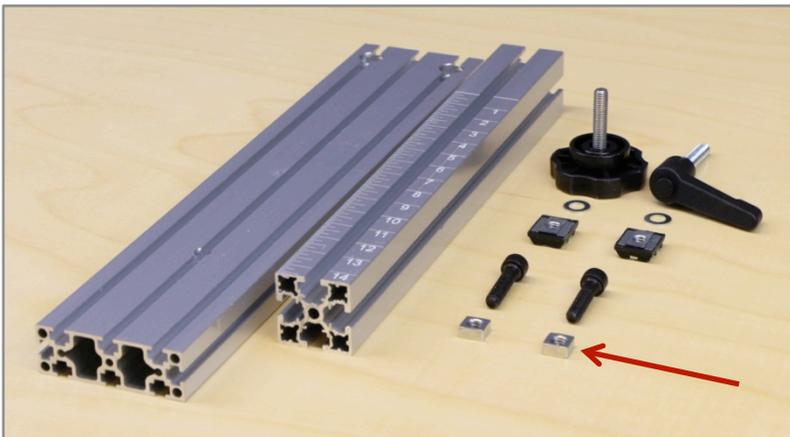
You can also use the centering-scale fence accessory to reference the centerline, which auto-centers the workpiece.



Centering-Scale Fence Accessory

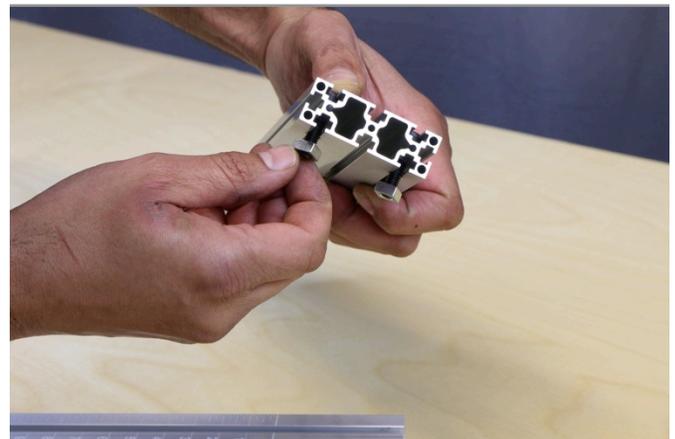
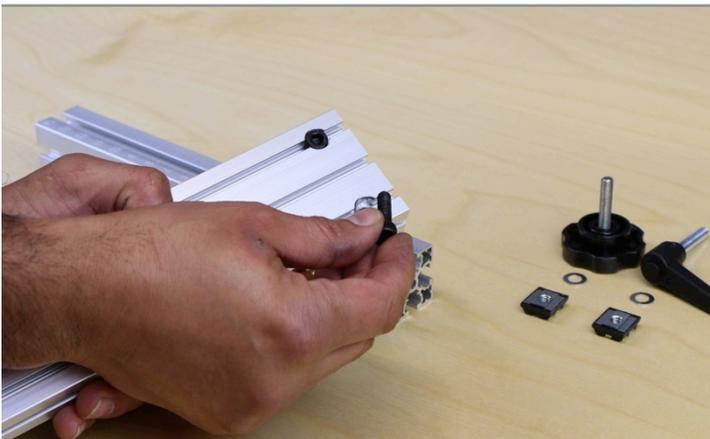
## Setting up and using the Centering-Scale Fence

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The Half-Scale Fence comes with the fence rail (left), scale rail (center) and hardware including two knobs, two washers, two sliding nuts, two M6 cap screws and two T-nuts

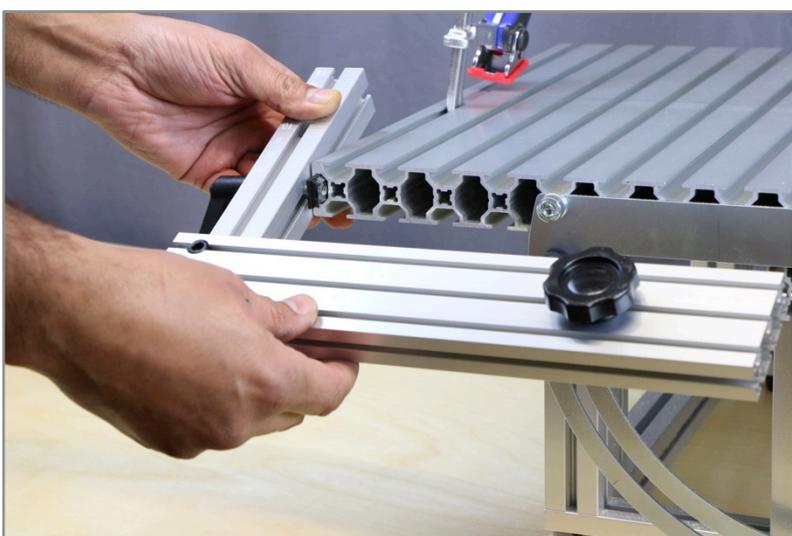
These square nuts have been replaced by special locking T-nuts.



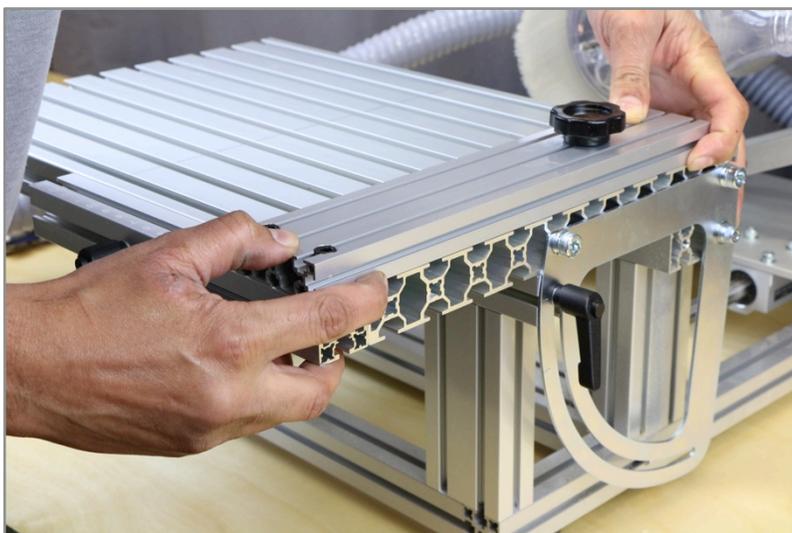
Drop the cap screws through the larger holes of the fence rail then loosely install the locking T-nuts. The tops of the cap screws will be about flush with the top of the fence.



Slide the locking T-nuts into the top slot of the centering-scale rail so the scale of your choice (inch-scale or metric) is facing up. Barely snug the cap screws but don't tighten yet.



Slide the black slider nuts into the slots in the back edge and top of the table keeping the whole assembly loose.



Align the edge of the fence with the side of the table and lock the round knob.

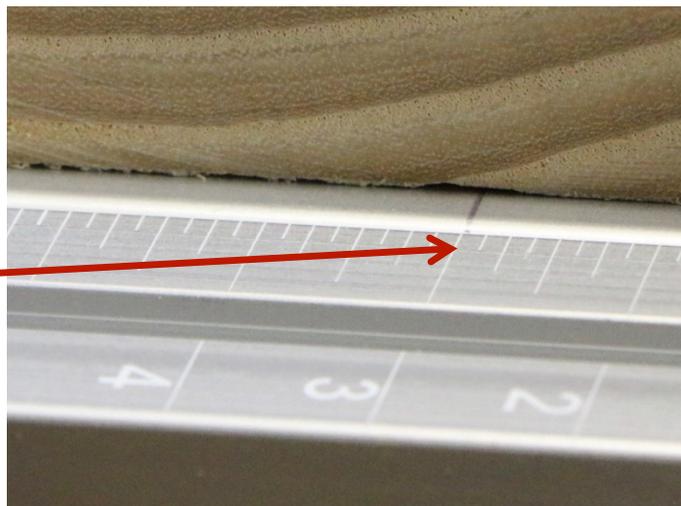


Align the laser-etched “Zero” mark with the edge of the fence rail then lock the lever knob.

Double check that the fence rail is flush with the edge of the table then lock the fence rail to the half-scale rail by tightening the cap screws.

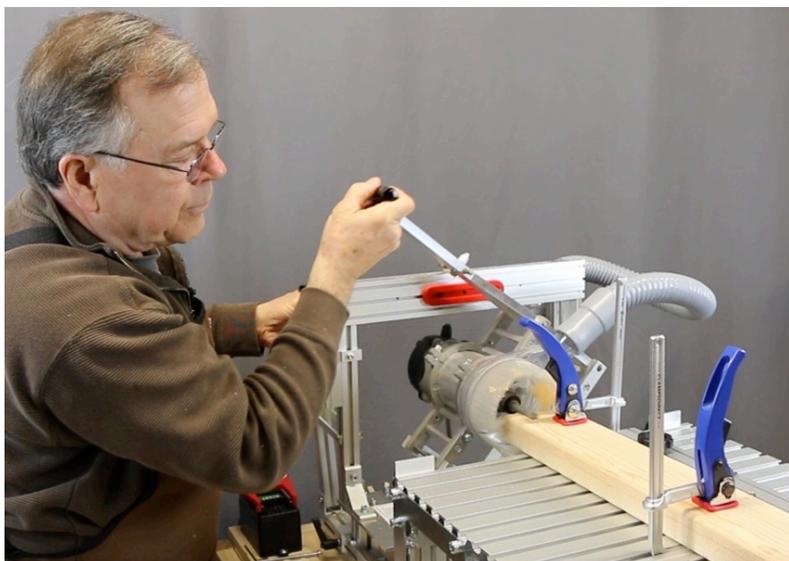
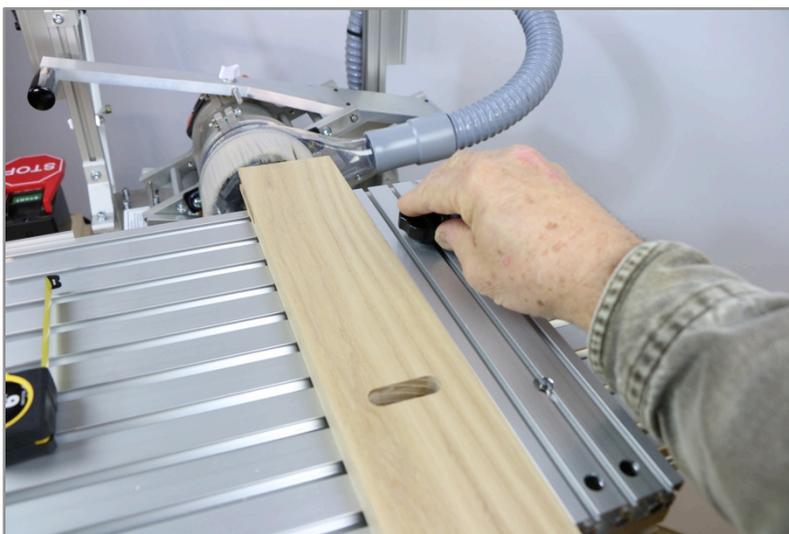


You can use the Centering-Scale Fence to center your workpiece. Measure the width of your piece then set the measured value at the centerline of your table. Since the scale on the fence is only half the actual measurement, the workpiece will be centered when positioned against the fence.





When using the Centering-Scale PantoRouter™ fence, always lock the back lever knob first, then the round fence knob. This helps to keep the fence square to the table.



The fence is designed so a clamp can pass in front of the fence at the front of the table, which allows the end closest to the router bit to be held very securely and keeps the clamp on the opposite side of the workpiece for visibility.

Happy PantoRouting!

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