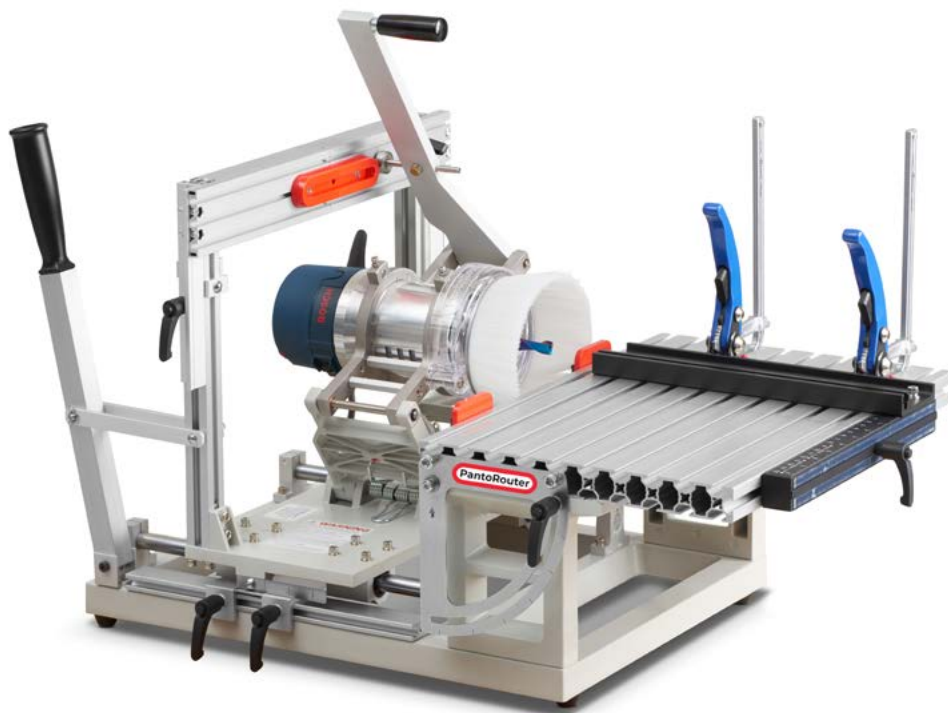




Assembly Guide



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SAFETY:

Woodworking is inherently dangerous. There are hazards inherent to using the PantoRouter® and many other tools in the shop, whether operated by hand or electric power. Some of these hazards are discussed below. Use common sense when operating the PantoRouter® and all woodworking tools, and use this tool in accordance with the instructions. **YOU ARE RESPONSIBLE FOR YOUR OWN SAFETY.**

Read and understand the Assembly Guide, the How-To Guide and the Warning Label on the PantoRouter®. Failure to follow instructions or heed warnings may result in electric shock, fire, serious personal injury or property damage. Save these instructions and refer to them whenever necessary.

Warning: This product can expose you to chemicals including wood dust, which is known to the State of California to cause cancer. The exposure can come from drilling, sawing, sanding or machining wood products. For more information go to www.P65Warnings.ca.gov/wood. In addition, some types of dust created by sawing, sanding, grinding, milling, drilling and other construction and woodworking activities also contain chemicals known to cause cancer, birth defects or other reproductive harm. In addition, wood dust has been listed as a known human carcinogen by the U.S. Government. The risk from exposure to these chemicals and to dust varies depending on how often you do this type of work. To reduce your exposure, work in a well ventilated area and work with approved safety equipment including dust collection, properly fitted dust masks or respirators designed to filter out such dust and chemicals.



YOU ARE RESPONSIBLE FOR YOUR OWN SAFETY.

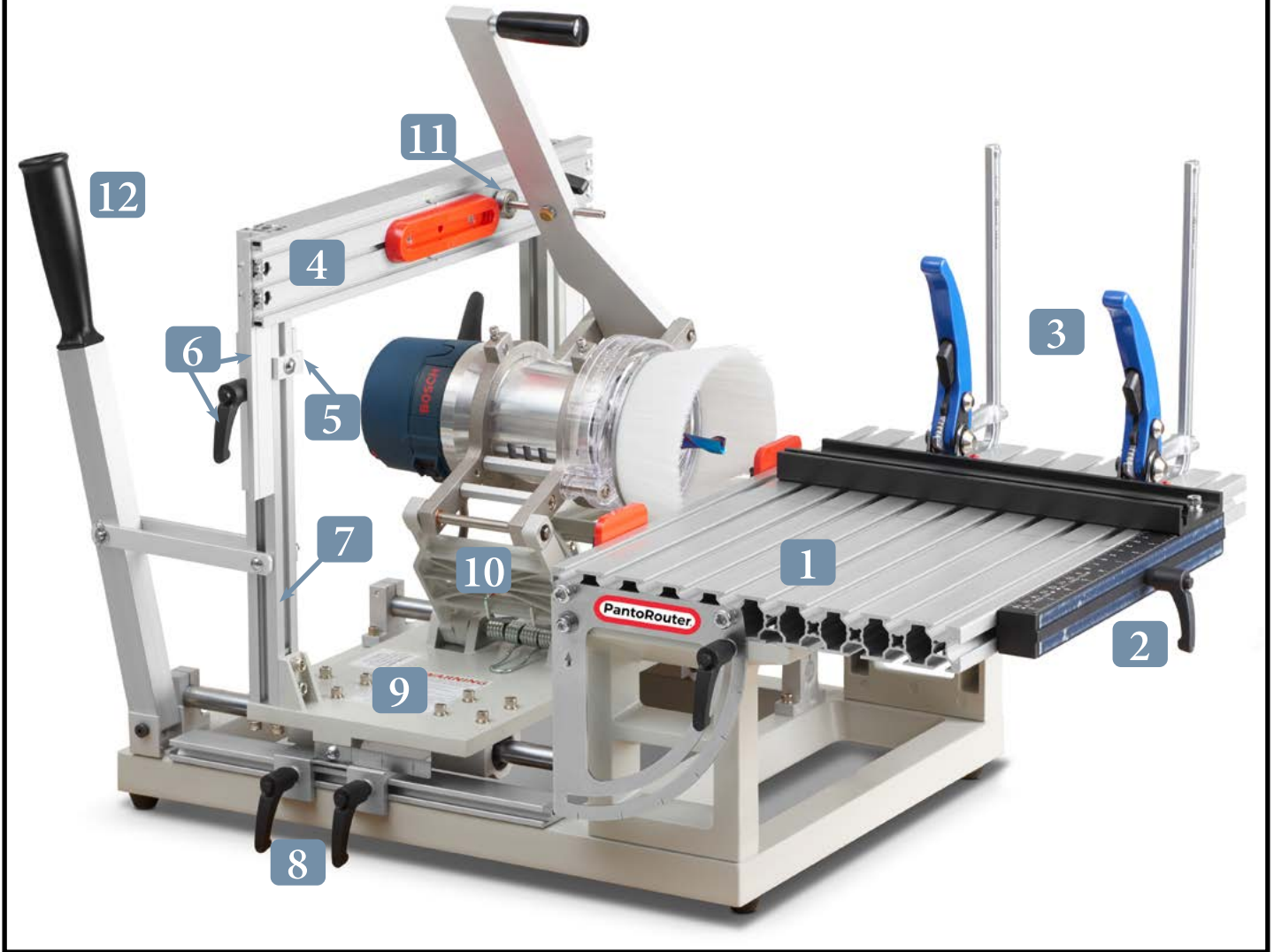
TO REDUCE THE RISK OF INJURY, THE USER MUST:

- READ AND UNDERSTAND THE OPERATING GUIDES BEFORE OPERATING PRODUCT.
- WEAR EYE PROTECTION, EARPLUGS AND DUST MASK.
- DO NOT WEAR GLOVES, NECKTIES, JEWELRY OR LOOSE CLOTHING. CONTAIN LONG HAIR.
- KNOW HOW TO SHUT OFF ROUTER IN AN EMERGENCY.
- DISCONNECT ROUTER FROM POWER SOURCE BEFORE SERVICING OR CHANGING ROUTER BIT.
- DO NOT ADJUST THE ROUTER UNTIL IT HAS BEEN DISCONNECTED FROM POWER.
- SECURELY MOUNT THE ROUTER IN MOUNTING BRACKET BEFORE TURNING POWER ON. IF ROUTER MOTOR CANNOT BE SECURELY MOUNTED AS DESCRIBED IN THE ASSEMBLY INSTRUCTIONS, DO NOT USE THE PANTOROUTER®. CHECK ROUTER MOUNT SECURITY PRIOR TO EACH OPERATION.
- CLAMP MATERIAL TO BE CUT SECURELY TO TABLE BEFORE STARTING ROUTER.
- NEVER USE A BIT NOT SPECIFICALLY DESIGNED FOR USE IN A WOODWORKING ROUTER.
- KEEP HANDS AND CLOTHING AWAY FROM SPINNING ROUTER BIT.
- DO NOT OPERATE THIS MACHINE WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.
- WHEN SERVICING, USE ONLY IDENTICAL PARTS.
- FAILURE TO COMPLY WITH THESE WARNINGS MAY RESULT IN SERIOUS PERSONAL INJURY

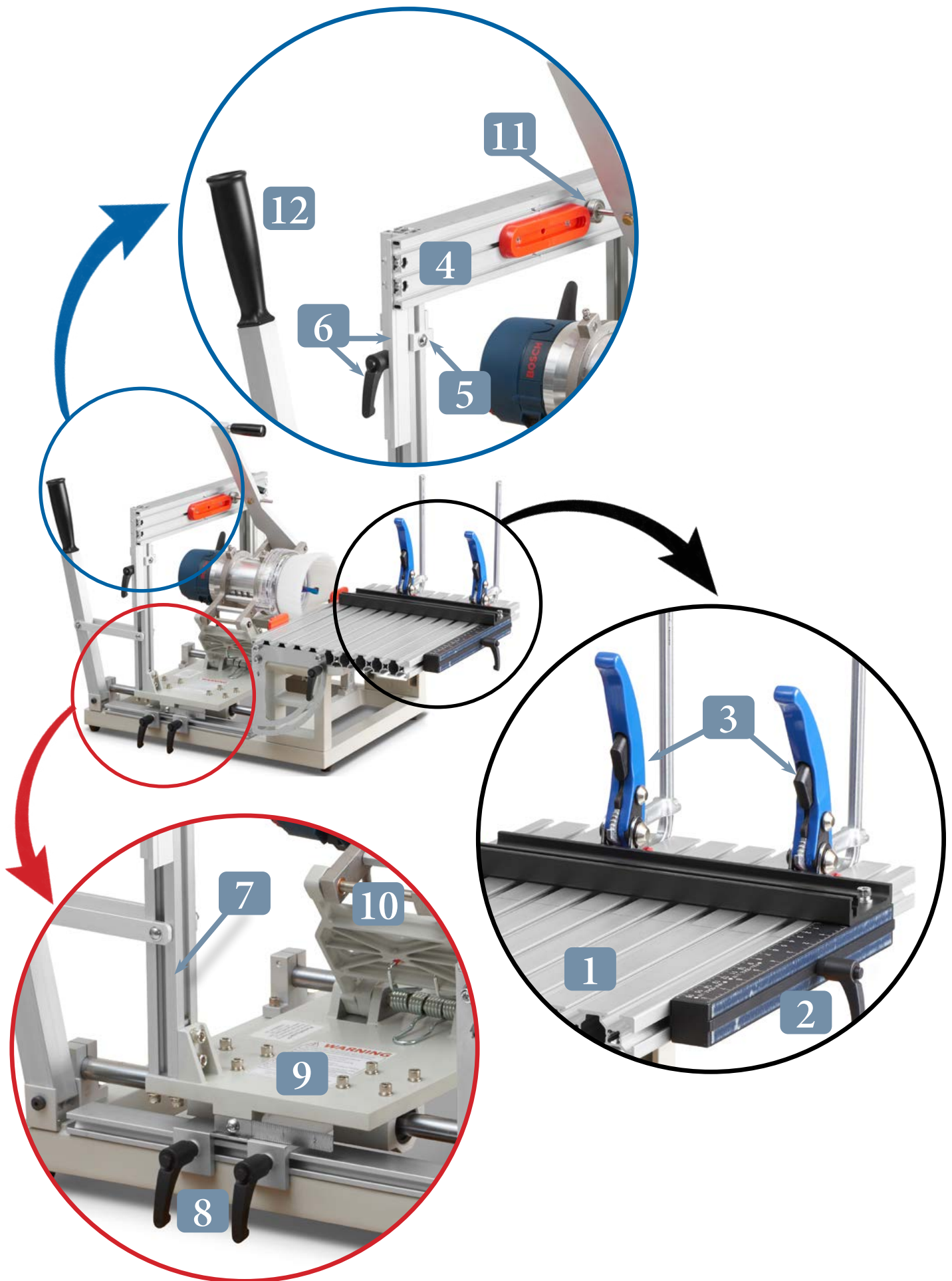
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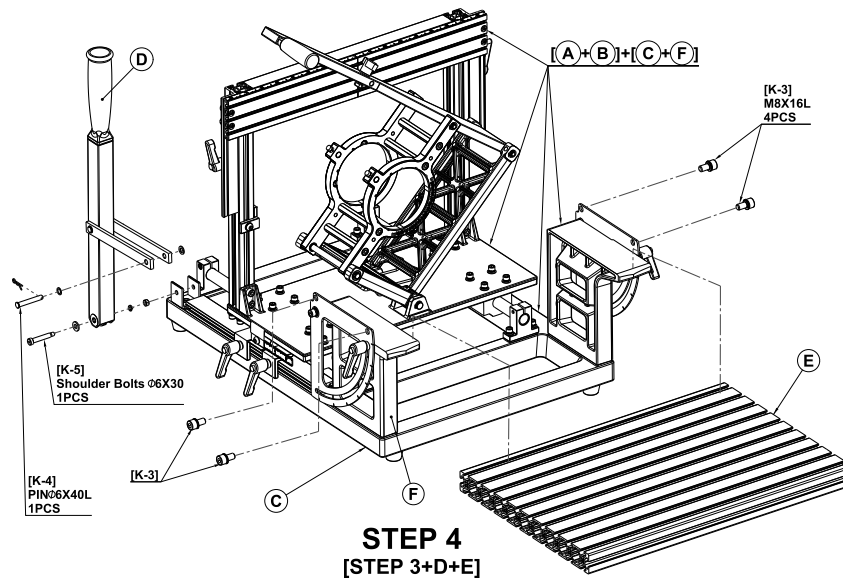
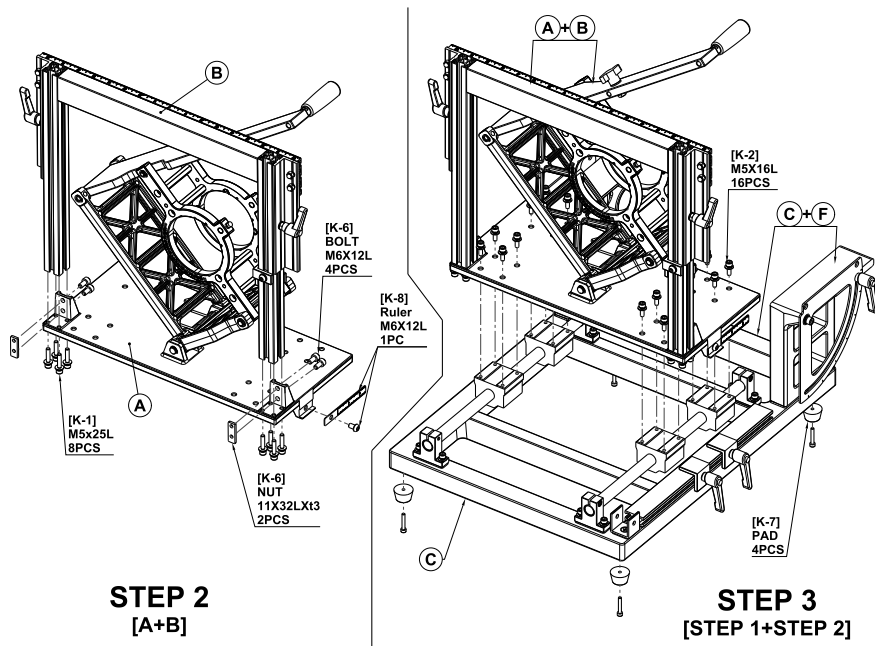
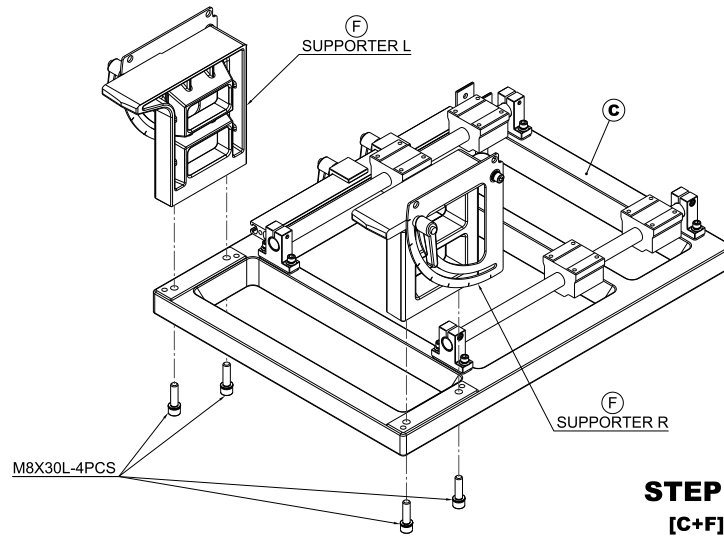
Basic Components of the PantoRouter®

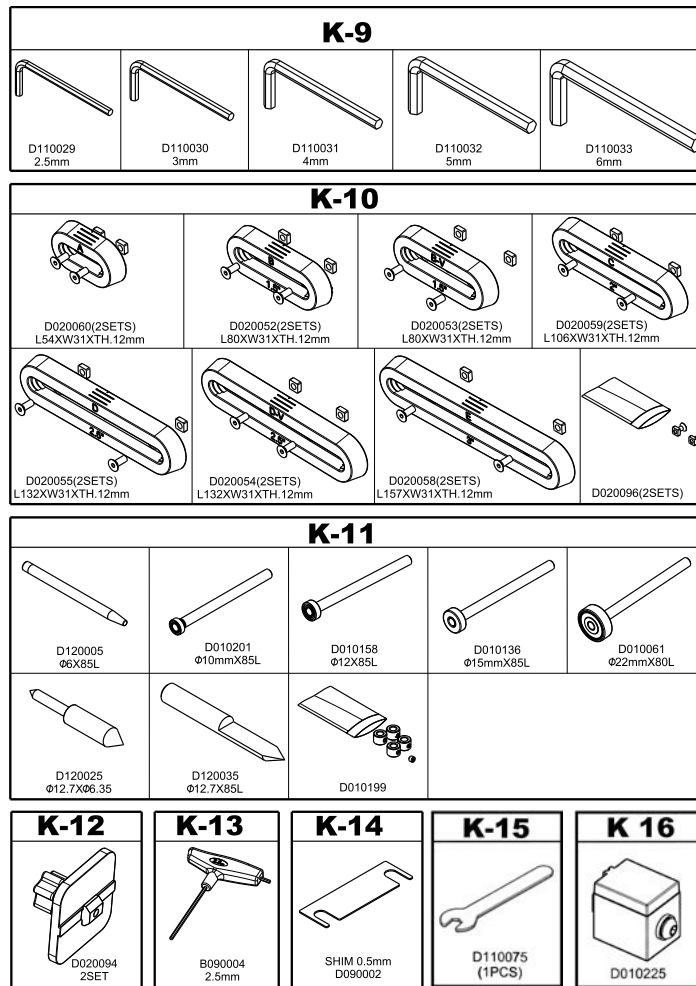


1. Table
2. Centering Scale Fence
3. T-Slot Lever Clamps
4. Template Holder With Template
5. Thickness Gauge
6. Template Holder Slider and Locking Lever
7. Template Holder Support Frame
8. Depth Stops - front and back
9. Pantograph Carriage
10. Pantograph
11. Guide Bearing
12. Plunge Lever



General Assembly Diagram





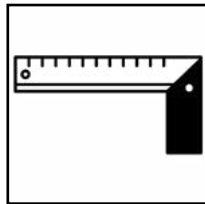
Recommended additional tools for assembly & setup:



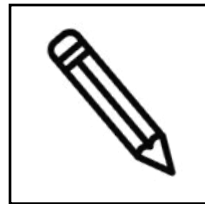
Calipers



Utility Knife



12" square



Sharp pencil



Small combo
Square



No drills or
Impact drivers

The box marked “Hardware” or “Kits” contains the screws, small parts and hex wrenches needed to assemble the PantoRouter®. You can find this Kits box in the smaller of the two packages the PantoRouter® arrived in. A digital or analog caliper will help to dial-in the Thickness Gauge for ultimate precision. We recommend not using a battery-operated drill or impact driver for assembling the PantoRouter®.

You'll notice we use mostly recycled and recyclable cardboard for packaging and we ask that you re-use or recycle when you're finished with your assembly. We're always available by phone or email if we can help in any way!



PantoRouter® Assembly Guide

©WoodCraft Solutions LLC, March 2024

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 Guide for basic instruction and some ideas to help you get started.



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.

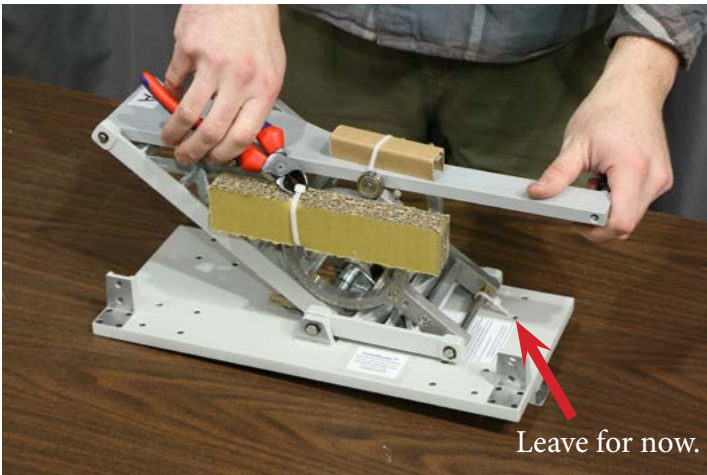
First, open the box marked Kits or Hardware where you'll find all of the fasteners and hex wrenches. Together with this guide, you should be up and PantoRouting in short order.

Kits K-1 and K-6 contain the screws for mounting the template holder frame to the pantograph carriage, and K-2 contains the screws to secure the carriage to the glide-shaft bearings.

Open K-1, K-2, K-6 and K-9; the hex wrenches you'll need for assembly. It's helpful to keep the label together with the screws from that bag for easy identification.



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.



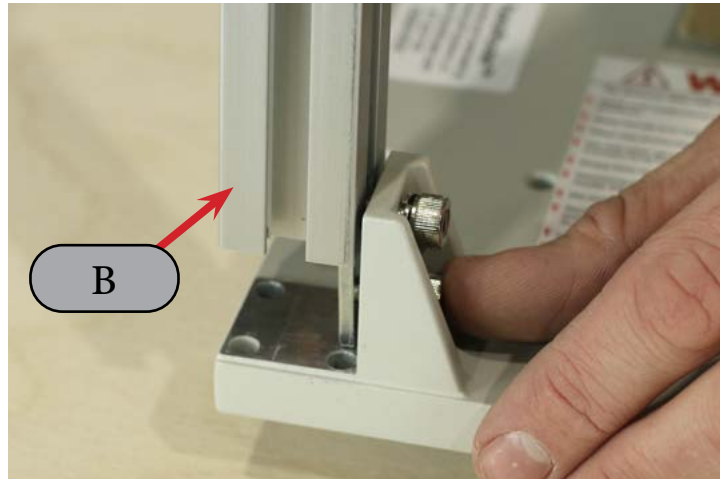
Cut the straps holding the padding material but don't cut the nylon tie straps holding the pantograph to the carriage base yet.



Check the machined surfaces to make sure they're clean and smooth. If needed, remove paint but don't use sand cloth. A sharp blade will clean the surface in a few seconds.



Loosely thread the K-6 cap screws into the nut plates on both sides.

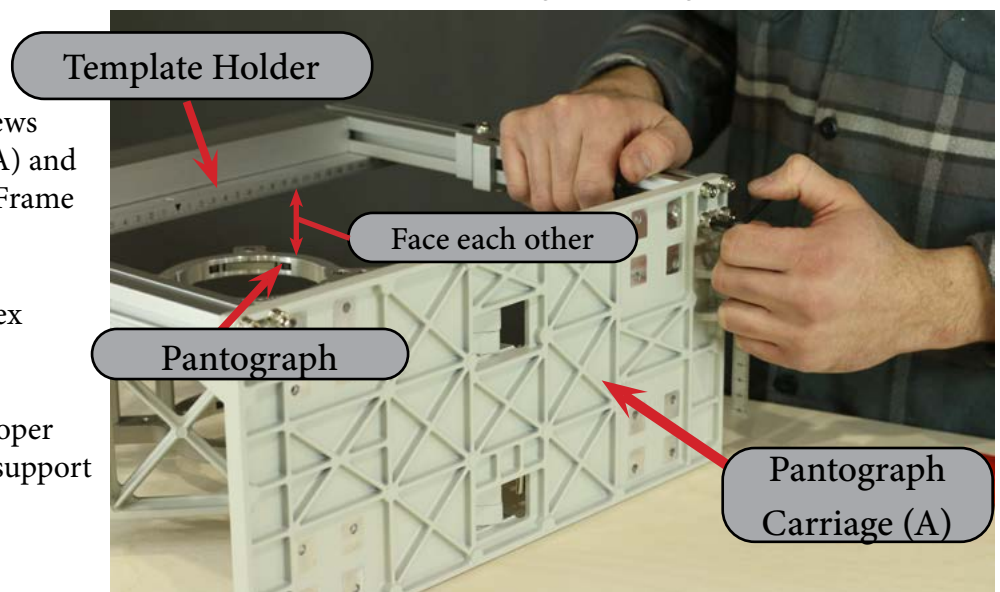


Slide the template holder support frame (B) into place with the nut plates in the slots on both sides then snug but don't tighten the cap screws. Make sure the Template Holder is facing the pantograph.

Hand-thread the eight K-1 cap screws through the pantograph carriage (A) and into the Template Holder Support Frame (B).

Tighten the cap screws using the hex wrench provided.

Refer to the photo on page 4 for proper orientation of the template holder support & template holder assemblies.





Using the hex wrench provided in Kit-9 tighten the cap screws to the plate nuts to secure the template holder frame. Clip the wire ties to access these cap screws.

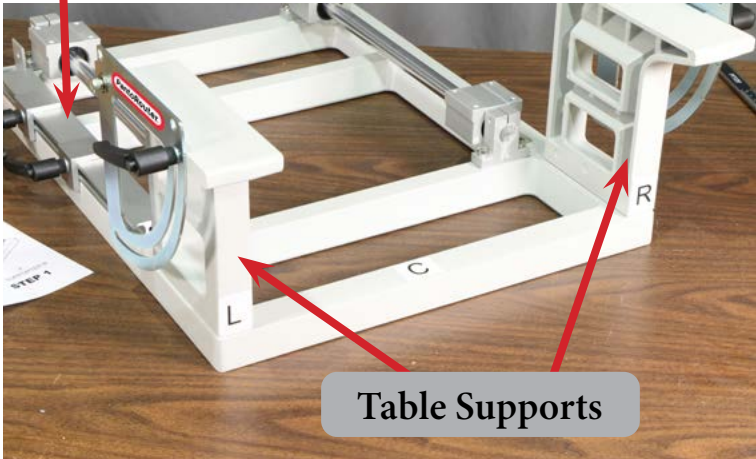
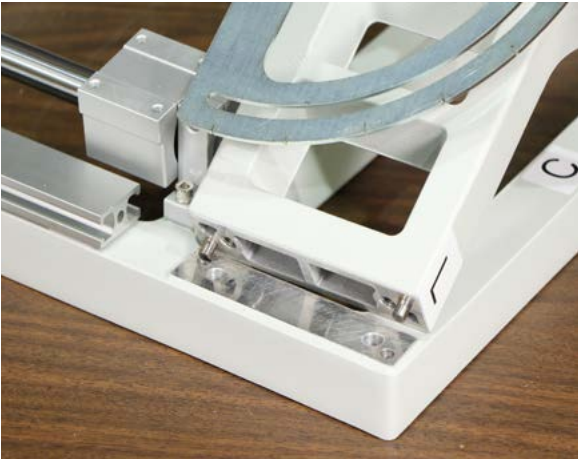
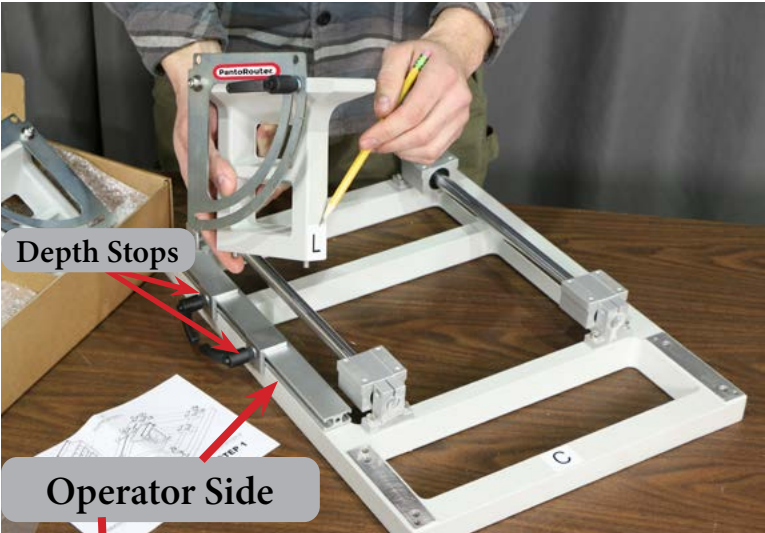


Clean the machined landing pads from the underside of the pantograph carriage if needed.

Set the assembled pantograph carriage aside and work on the base assembly.

Operator Side

Throughout the Assembly and How-To Guide, the left side of the machine labeled with the “L” sticker will also be referred to as the operator side. This is the side you will be standing on when using the PantoRouter®, you will notice the depth stops and both operating handles of the PantoRouter® are all accessible on the operator side.



Install both table supports from Box-F. The mounting screws for the table supports also come from Box-F.

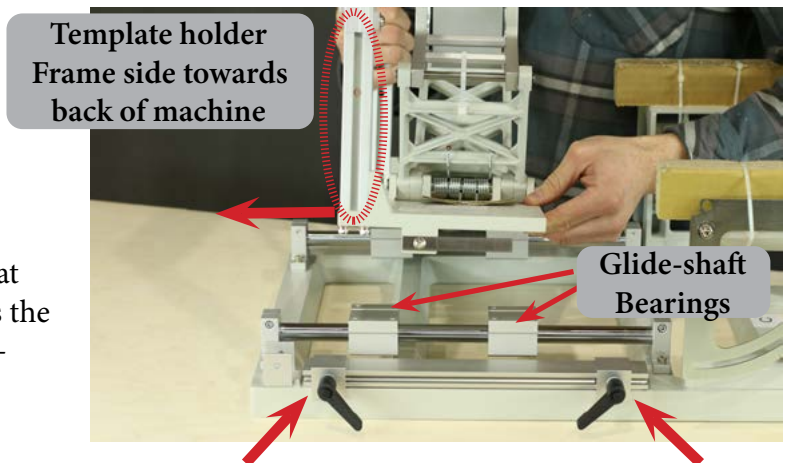
The Left and Right supports are not interchangeable and both have locating pins to align the support to the base frame. The part identification labels can be removed as you complete the assembly.

Install the rubber feet to the bottom of the base frame without over-compressing the rubber.



Relocate the depth stop angles to the ends of their track for the depth stop scale-holder post to clear. Position the pantograph carriage on the glide-shaft bearings and align the screw holes.

Make sure the side of the pantograph carriage that has the template holder support frame is towards the back of the machine and not facing the table supports.

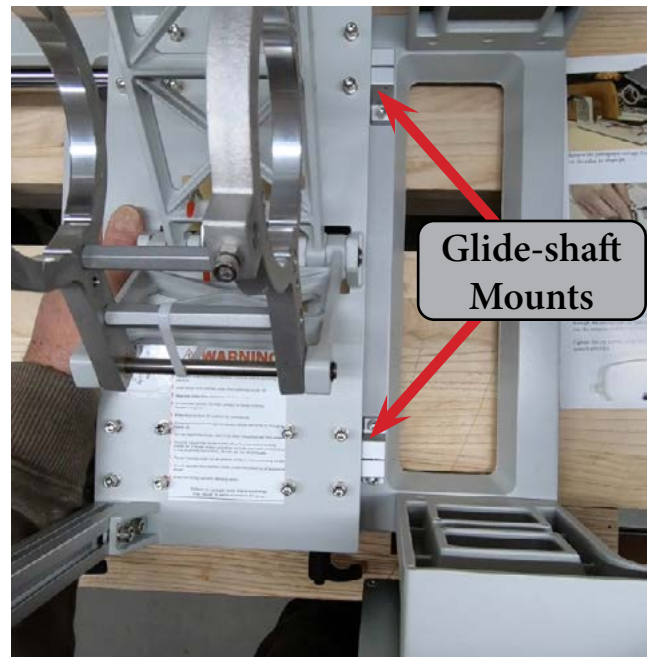


Hand-thread the 16 screws (K-2) through the pantograph carriage into the glide-shaft bearings but leave them loose.

Move the carriage forward until the carriage base contacts both glide shaft mounts. Press forward to align the pantograph carriage, then tighten all 16 screws to secure the pantograph carriage to the glide-shaft bearings.

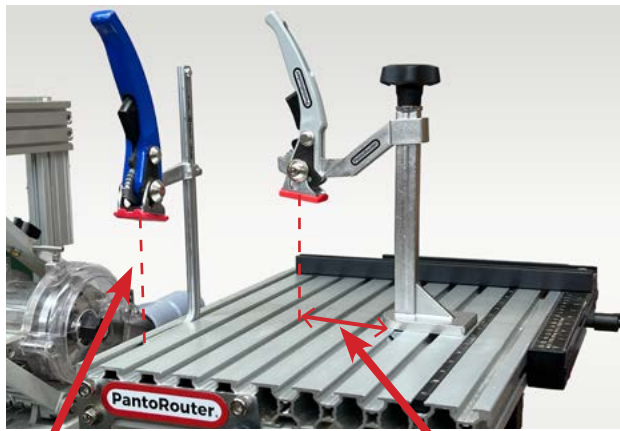
The pantograph carriage should now move freely on the glide shafts.

It is normal for the glide-shaft bearings to make some sound when initially moving the PantoRouter® carriage. With normal use, the hundreds of ball bearings will seat during a brief break-in period and the sound will diminish.



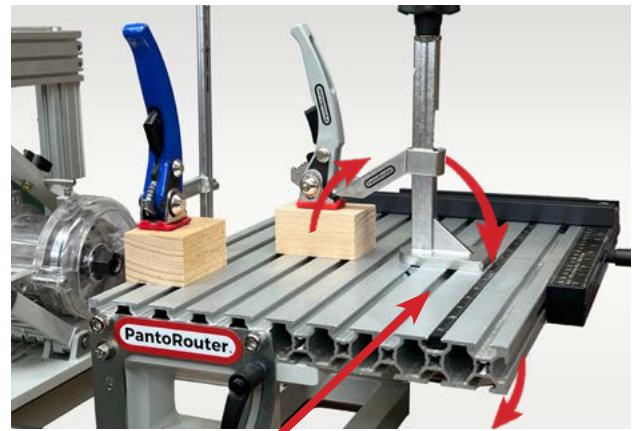
You can now clip any remaining tie straps and remove the cardboard cushions from under the springs on the pantograph assembly.

Stiffening Bar Installation. If you purchased one of the rotating clamp packs with your PantoRouter®, install the Stiffening Bars prior to mounting the table to the machine. When using the standard T-slot clamps that come with the PantoRouter®, the clamping force being applied is parallel to the T-slot and table Stiffening Bars are not necessary. However any time clamping force is being applied perpendicular to the T-slot whether with rotating lever or air clamps, Stiffening Bars must be installed on the under side of the table to prevent the table from flexing.



Clamping pressure
directly over
T-slot Foot

Clamping pressure
Offset from T-slot Foot

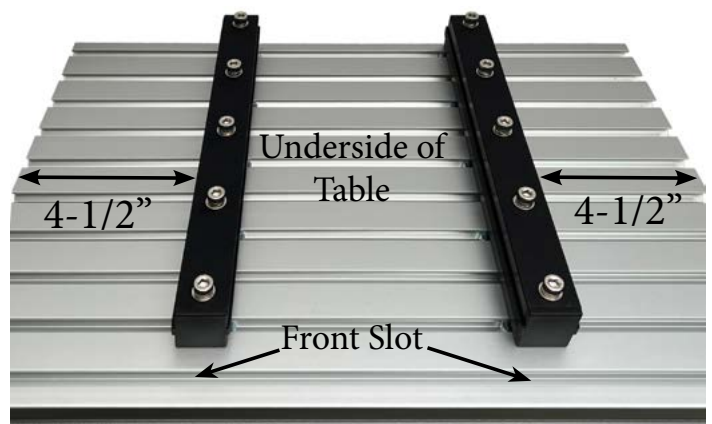


Without stiffening bars, offset
Clamping pressure can flex table.



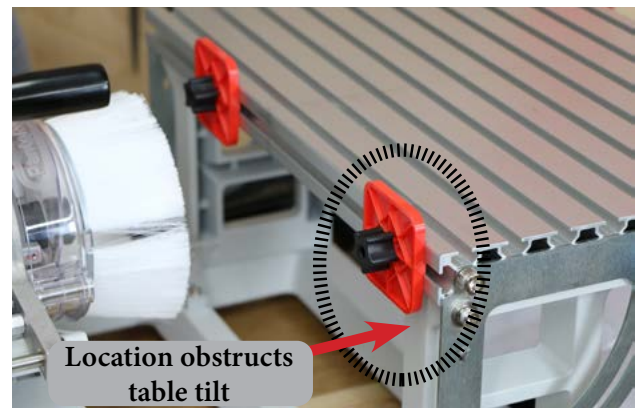
Place the aluminum table upside down on a flat surface and slide the stiffening bars into the table slots leaving the slot closest to the front open.

Locate the bars 4-1/2" (114mm) from either side and use a square to align them perpendicular to the table slots. Tighten the bolts with a 5mm wrench and then re-install the table using the four table mounting screws.



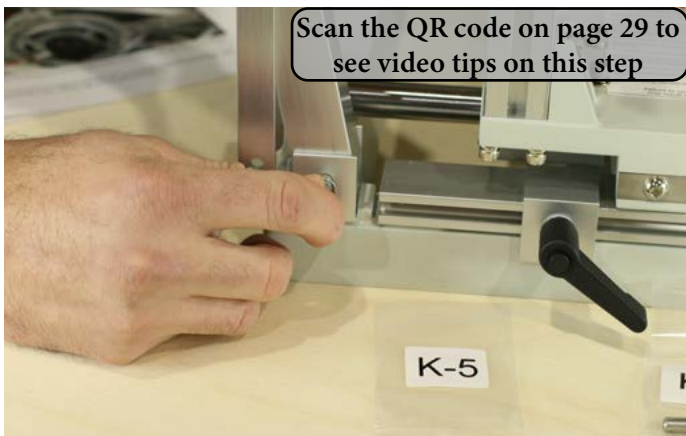


Loosen both Tilting Table Lever Knobs and hand-thread all four table mounting cap screws (K-3). The table is fully reversible if a face or edge gets damaged. In the assembly and How-To Guide, the edge of the table closest to the router will be referred to as the Front of the table and the Back is farthest from the router. Check the top horizontal surface of the two table supports to be sure they're clean of debris and the table is sitting flat on both sides, then lock the two Tilting Table Lever Knobs. Next, secure the table to the protractor by tightening the four screws with the provided hex wrench (K-9).



You can now loosen the lever knobs and test the tilting table. Install the front fence/stops to the front of the table.

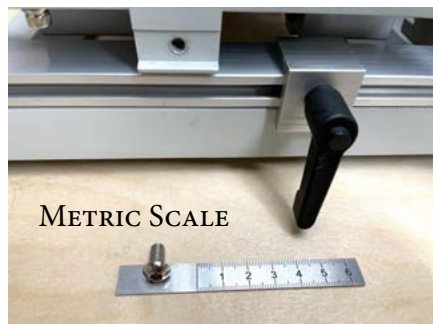
Note: the table will not tilt to a full 90° when the fence/stops are in front of the table supports. Move them inboard to clear the table supports or remove them if they're not needed when the table is tilted fully vertical.



Insert cap screw K-5 through the plunge lever (D) mounting bracket as shown with a washer and nut on the back. Snug the screw to give a small degree of resistance to the plunge. This can be adjusted for more or less friction as you get to know the PantoRouter®.



Insert pin K-4 through the plunge lever arms and template holder support post using a washer on both sides and lock with the clip.



Choose the inch or metric side of the depth stop scale then mount it on the depth stop using a business card or four thicknesses of paper for clearance over the front depth stop angle.

Bosch 1617EVS Router (other brands will mount differently)

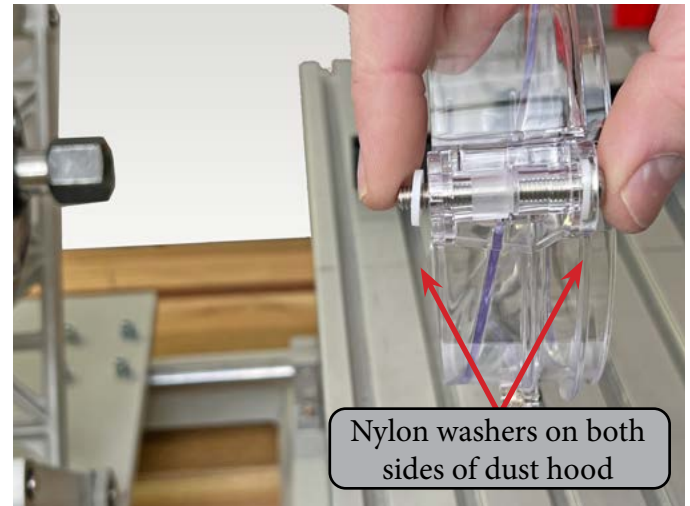
To install the router in the pantograph, start by locking the front and back depth stops so the pantograph carriage is stationary.



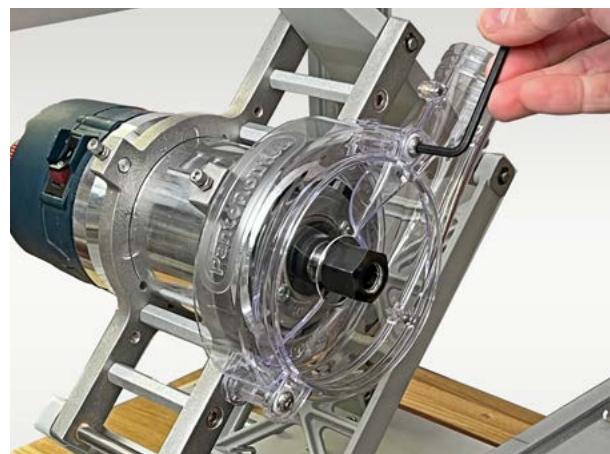
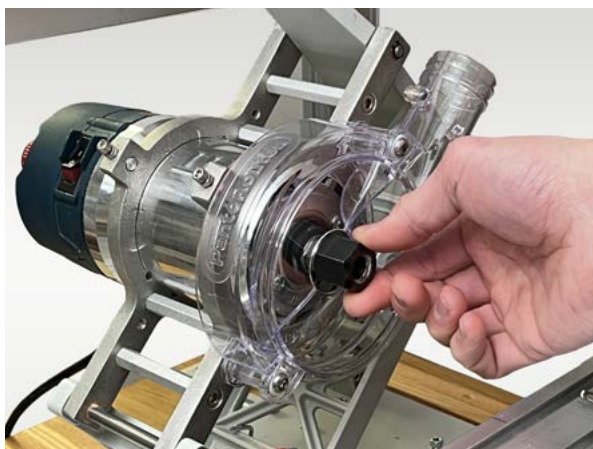
With the router unplugged, insert the Bosch router into the mounts as far as it will go, then rotate so the power switch and variable speed control dial are in-line with the router motor locking screws. **Don't tighten the router mount lock screws yet.**



Two screws and four nylon washers are packed along with the dust collection hood and brush. Insert the two screws with nylon washers through the dust hood mounting holes then place another nylon washer on the end of each screw. Loosely thread them into the tapped holes in the pantograph.

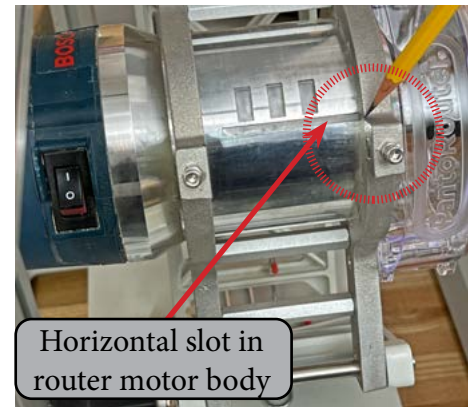
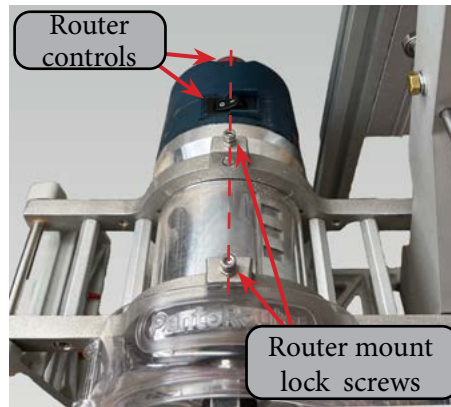


Align the dust hood so the collet opening is centered around the collet, then slowly spin the collet, it should spin freely and not contact the hood. Tighten the two dust hood mounting screws. Tightening these screws will push the router back in the mounts.

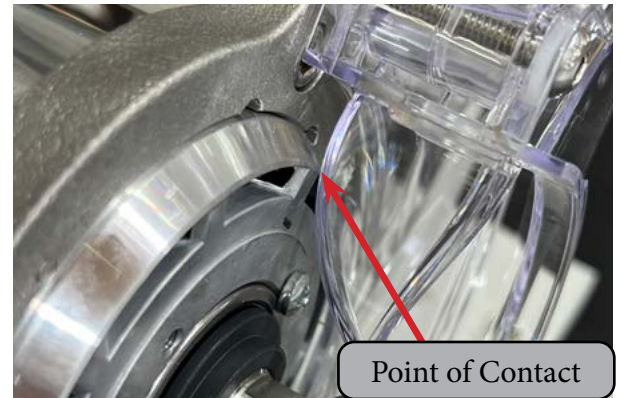


For safe operation, it is important to **make sure the router controls are in line with the Router Locking Screws before tightening**. A small ruler resting on top of the two Router Locking Screws can help with proper alignment.

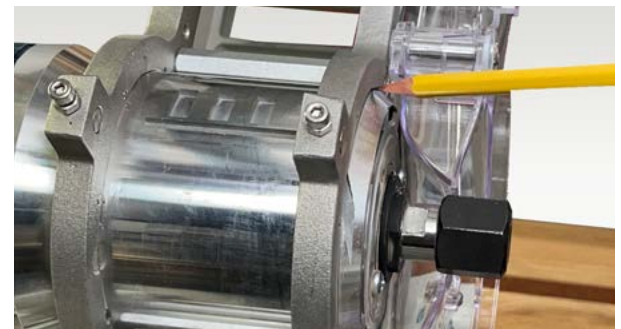
When properly aligned, you will notice that the long horizontal groove in the router motor body lines up with the edge of the raised section of casting that accepts the locking screw. The groove should not be directly under the locking screw.



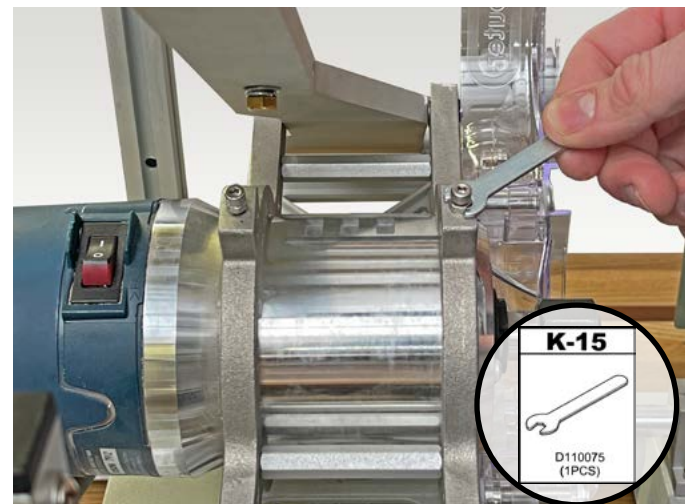
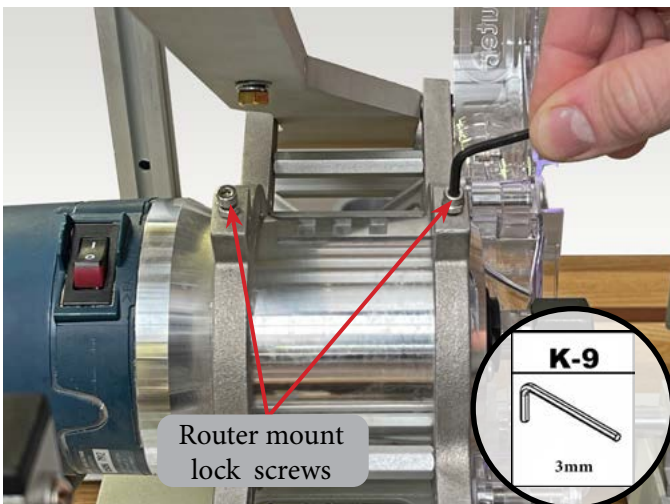
With the dust hood open, there will be a single point of contact between the dust hood and the front of the router body behind the hinge of the dust hood.



Nudge the router back in the router mount so it just clears the dust collection hood. The chamfer on the front of the router body should be even with the front of the router mount casting.

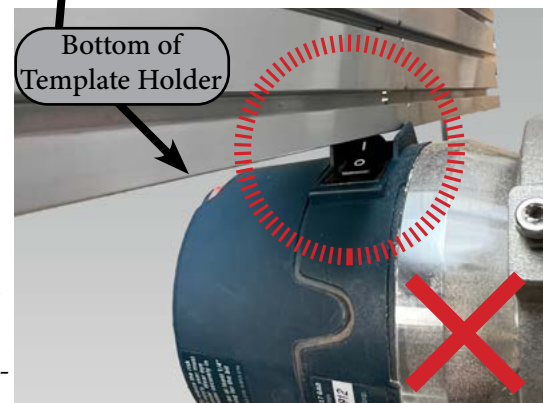
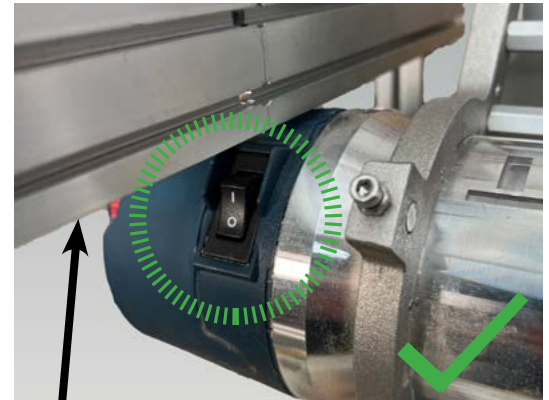


With the lock nuts threaded all the way up to the head of the router mount screws, tighten the front and back lock screws using the 3mm hex wrench (K-9). Once the router is securely held, use the provided small end wrench (K-15) to tighten both lock nuts.



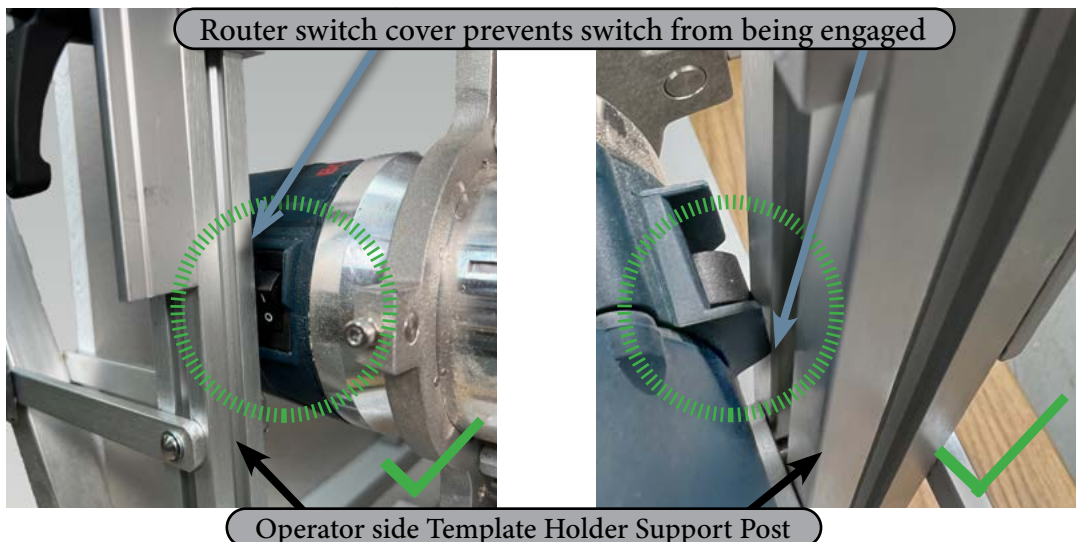
⚠ SAFETY CHECK ⚠

Slowly move the Pantograph Arm through its full range of motion paying close attention to the template holder support frame and the bottom of the template holder. The router switch cover will contact the template holder support frame in some locations, however, there should be no position in which the router switch itself can be turned on or off by coming in contact with the machine.



Loosen and slide the Template Holder down so the bottom edge of the Template Holder is below the template holder support frame. lift the router handle up until the router body contacts the bottom of the Template Holder, make sure the switch does not contact as demonstrated in the two photos to the right.

Pull the router handle towards the operator side until the router body contacts the Template Holder Support Post, make sure the switch does no contact as demonstrated in the two photos below.



The last step is to snap on the dust collection hood brush, and you're ready to PantoRout!

Tip: The brush attaches to the dust hood by snapping into place with spring tension. The fit can be made tighter by overlapping the two ends and squeezing it into a slightly smaller circle.



We recommend using a hose that fits over the discharge port, not inside it. We supply an excellent hose with some of our packages and it sometimes helps to soften the hose end cuff by holding it under hot tap water. Once warmed-up it should slip onto the dust collection hood and as it cools it will grip tenaciously.

We prefer to use a dust extractor or Shop-Vac with a cyclone chip separator rather than hooking up to large dust collection ducting. We have found the higher air velocity collects more chips and fine dust particles keeping your shop cleaner and your lungs healthier.

ADDITIONAL SAFETY RECOMMENDATIONS

Always unplug the router during setup processes and while changing router bits.

We highly recommend using a NVR-type* safety switch with the PantoRouter® woodworking machine. It helps to prevent the router from turning on unintentionally and requires reset after power loss.

* no-voltage release.

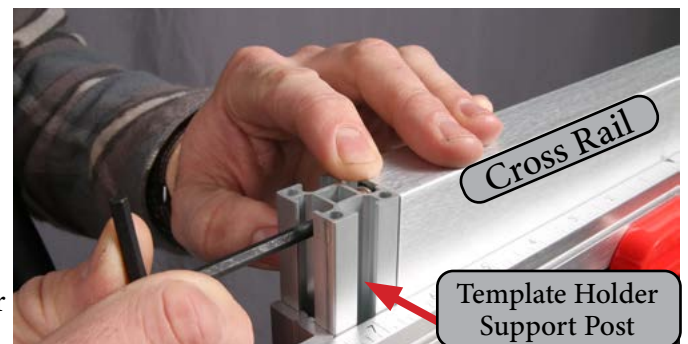
Scan the QR code on page 29 to find the NVR switch on our web-store.



Align the Template Holder Support Frame

The template holder support frame assembly is aligned at the factory but can shift slightly in transit so the following procedure might be necessary to bring it back into perfect alignment. Many people can feel variation of about a thousandth of an inch (0.025mm), so aligning by touch is often adequate.

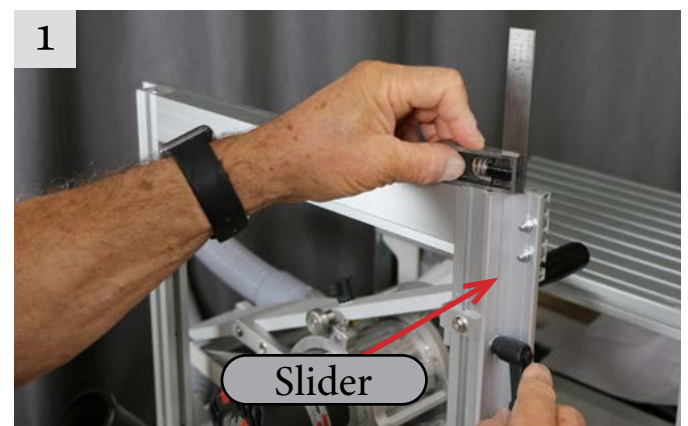
If adjustment is needed, loosen the screws holding the template holder support frame cross rail to the Template Holder Support posts. There are two holes on each side to access these screws. Flush the top, front and back of the cross rail to the posts then re-tighten the screws on both sides.



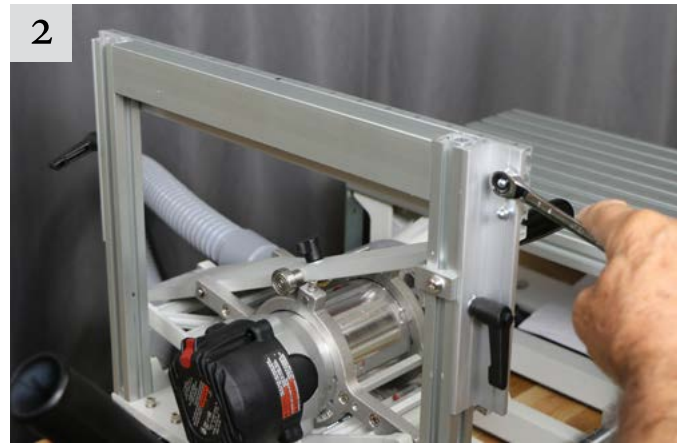
Calibrate the Template Holder

Alignment of the template to the pantograph and table is critical for accurate joinery. The template holder must be perfectly aligned to the frame and must slide freely on the posts. Adjusting it is quick and easy using the following method.

1. Move the operator's side Template Holder Slider so it is flush with the top of the template holder support post then lock the slider with the lever knob. Don't worry about anything else at this point, just the slider and the top of the operator's side template holder support post.



2. Keep the operator's side slider locked in place and use the 8mm wrench provided in your PantoRouter® package to loosen all four acorn nuts holding the template holder to the sliders on both sides. A 5/16" wrench or nut driver will also work for this.



3. Align the slider opposite the operator to the top of the template holder support post and lock the lever knob.

Both sliders should now be flush with the tops of the template holder support posts and the template holder should be slightly loose on the sliders.

Important Note: Any time the template holder is moved and locked into place, **DO NOT OVER TIGHTEN THE TEMPLATE HOLDER LEVER KNOB**. It does not require immense pressure to secure the template holder and over time over-tightening can cause the threads to strip and require replacement.

4. Align the template holder to the top of both template holder support posts then tighten the four acorn nuts with the 8mm wrench. Be careful to not over-tighten these small nuts.



5. Double check template holder alignment on both sides.



6. The template holder should now slide up and down freely and it should stay aligned to the template holder support frame. It's a good idea to periodically check the template holder alignment by touch or using a straight-edge to make sure it's still accurate.

To watch a video on this process on our website, go to "Dialing in the PantoRouter®" video on the "Videos & Tutorials" page Or simply scan the QR code on page 29.

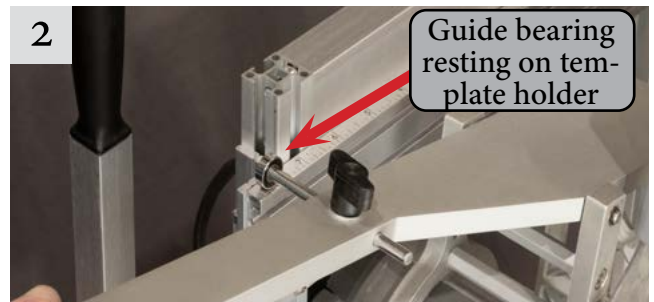


Calibrate the Pantograph

The template and template holder must be coplanar to the table and the workpiece to produce high quality joinery. This can be quickly checked after the template holder support frame and template holder have been calibrated.

1. Cut a setup block from a piece of fine grain wood so it's square on the end then stand it up on the operator's side of the table. A piece about 1.5" X 1.5" X 3" (38x38x75mm) works well.
2. Mount the centering jig with two pointed ends in the router. Either end is okay.
Insert the 22mm (~7/8") guide bearing in the pantograph handle with the bearing resting on top of the template holder.

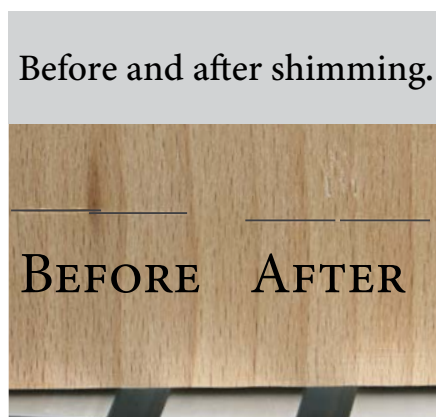
Lock the template holder on both sides with the centering jig about an inch (25mm) above the table.
3. Roll the guide bearing across the top of the template holder to scribe a small line about 1/2" (13mm) long in the setup block as shown. It's easiest to see the line when scribing across the side grain, and we highlighted the line with pencil for clarity.
4. Move the guide bearing to the far side of the template holder, which moves the centering jig across the table. Scribe a second line next to the first.



5. The two scribe marks should be identical or very nearly so. If they are off by more than the width of the scribe line, shims will be required under the glide shaft mounts on the low side.



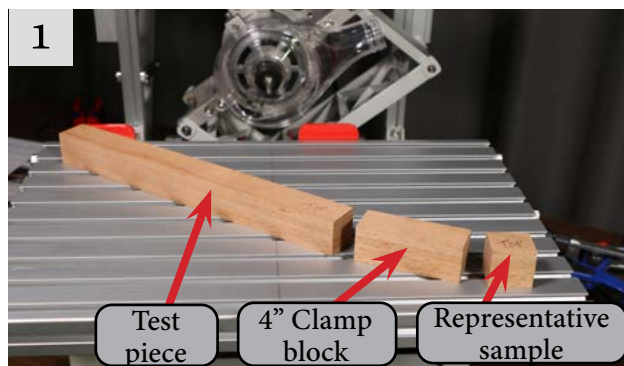
6. Shims are provided in the Kits or hardware box (K-14). Always shim under both glide-shaft mounts on the glide-shaft needing to be raised. The photo below shows inserting shims under the operator's side glide shaft mounts but it's more likely the side opposite the operator will need to be raised for perfect alignment. Loosen the Glide Shaft Mounts on the low side and slip a shim under each mount to be sure the pantograph is raised evenly. Retest and it should be dead-on!



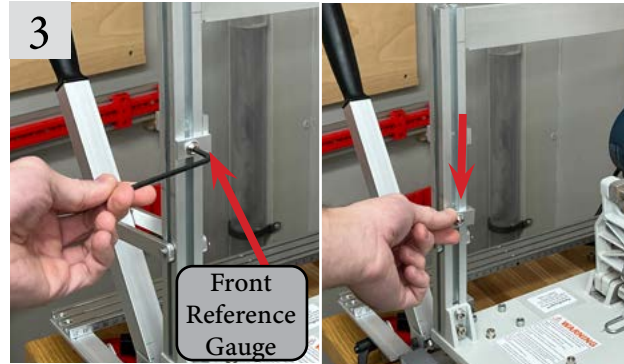
Set the Thickness Gauge XL (K-16)

Please read through this section before cutting

Prepare a sample piece about 1-1/2" (38mm) square and about 18" (460mm) long. Make sure the sides are parallel and there is no snipe on the ends. Cut a 1" (25mm) long section (representative sample) and another section about 4" (100mm) long that we'll use later for clamping. Mark "TOP" on the same face of each piece.



Loosen both Template Holder lever knobs and slide the Template Holder off of the machine. Set it aside for steps 3 and 4.



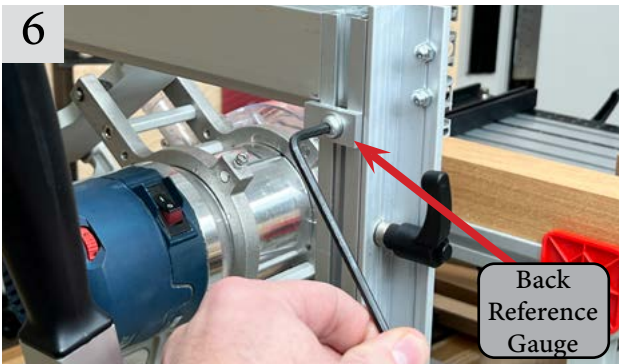
Using the 4mm hex wrench provided, loosen the locking screw of the front reference gauge and slide it down and out of the way.



Slide the Thickness Gauge XL (K-16) into the same front T-slot of the Template Holder Support post as the Front Reference Gauge.



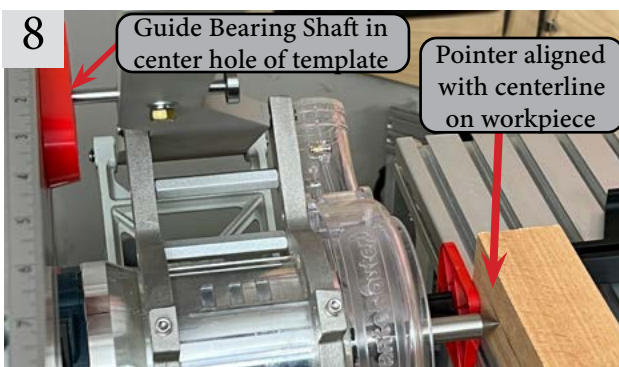
Slide the Template Holder back onto the machine until it is roughly even with the Template Holder Support Frame and lock both lever knobs.



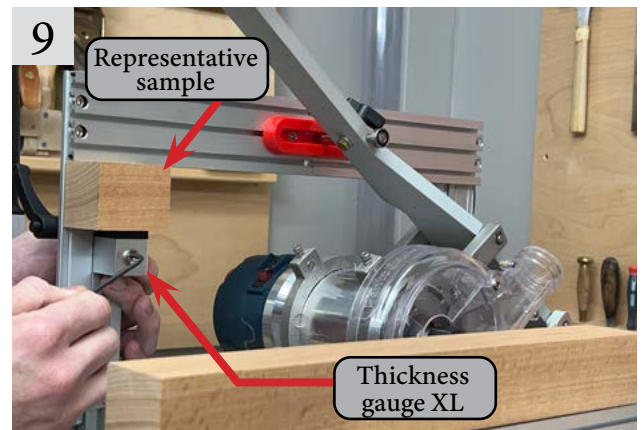
Loosen the locking screw of the Back Reference Gauge and slide it up, then tighten the screw to temporarily hold it up and out of the way.



Slide the 2-inch "C" template on the Template Holder. Insert one of the non-tapered 6mm guide bearing shafts through the center hole of the template and into the center hole of the template holder and tighten the template screws. Then, slide a non-tapered guide bearing shaft through the pantograph arm and lock it into the center hole of the template.



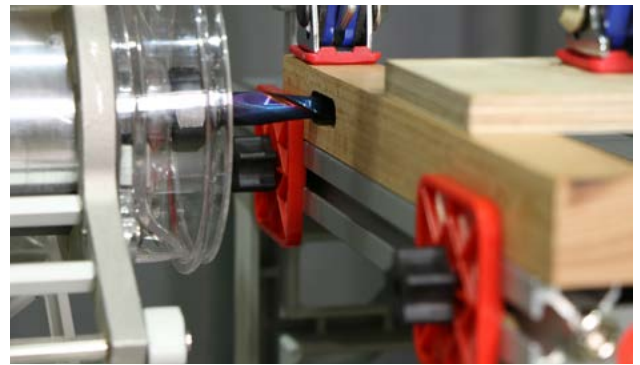
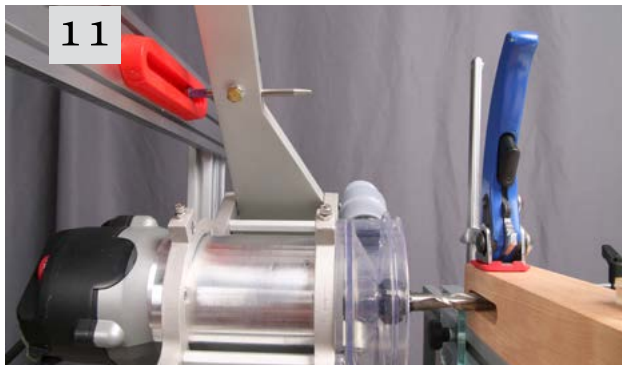
Mark the center of the longest test piece from step 1 and install the centering jig in the router. Loosen the template holder locking levers and adjust the template holder up or down until the pointer is located on the marked center line. Lock the template holder with the lever knobs on both sides.



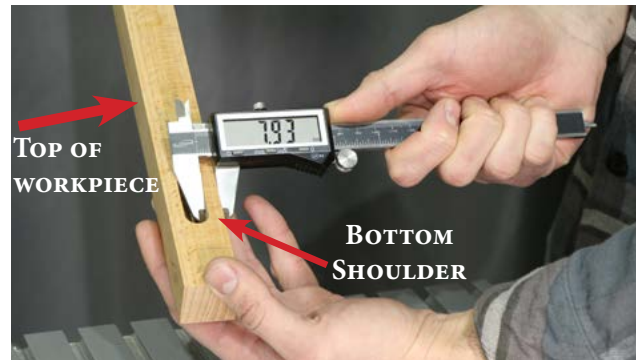
Place the representative sample of the workpiece up against the bottom of the Template Holder with the side marked "Top" up. Move the thickness gauge up to the workpiece and tighten the thickness gauge using a 3mm hex wrench.



Slide the Front Reference Gauge up until it contacts the bottom of the Thickness Gauge XL, then lock the screw with a 4mm hex wrench.



Using the horizontal template and a 1/2" bit, cut a mortise about 3/4" (19mm) deep. The 10mm guide bearing should be all the way to the back of the mortise slot in the center of the template. Plunge gently as you slowly move the bit back and forth to cut the mortise.



Measure the shoulders of the workpiece and note which is thicker, the top or bottom shoulder. The thickness gauge needs to be moved in the direction of the thicker shoulder by the difference between the two measurements. In this case it's 0.46 mm toward the top. You can also test using thousandths of an inch.



Loosen the Thickness Gauge XL and insert a feeler gauge of the desired thickness on top of the Front Reference Gauge then lower the Thickness Gauge XL and tighten the screw. Raise the Front reference gauge up to contact the bottom of the Thickness Gauge XL once again.

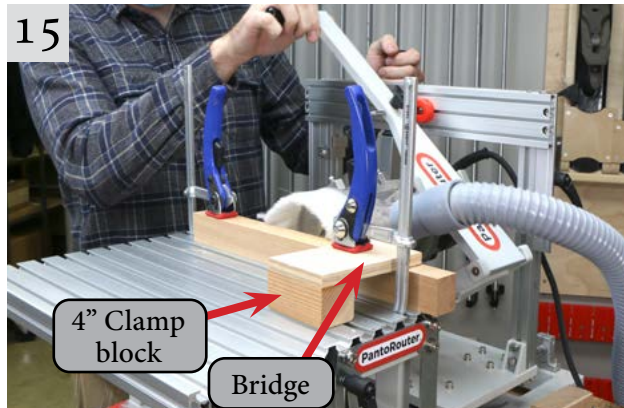


Loosen the template holder and move it up. Insert the workpiece or the representative sample with the “Top” up, then lower the template holder to squeeze the workpiece against the thickness gauge and lock the template holder using both lever knobs.



Re-measure and adjust as necessary by repeating steps 11-14 until you are satisfied with the result. We can typically get it within a tenth of a millimeter, or less than four thousandths of an inch.

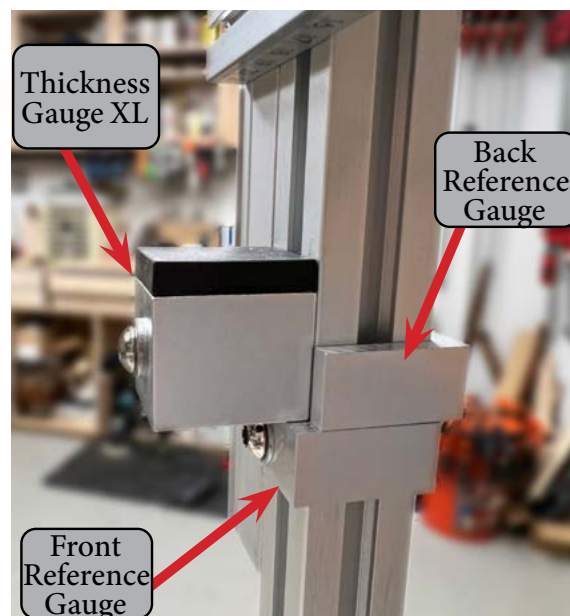
It's rare that you would need to move your thickness gauge, but if you do, it will be downward to get it out of the way of a low cut on a dovetail, box joint array or compound angle. In that situation, loosen the Thickness Gauge and Front Reference Gauge, but do not move the Back Reference Gauge. When you're done with the operation, you can slide the Thickness Gauge XL and Front Reference Gauge back up until the mating surfaces of the two Reference Gauges meet and tighten them both without needing to recalibrate.



Cut another mortise using this new setting. Notice the bridge for clamping during mortise operations. It's made using the 4" (100mm) off-cut from step 1 of this process and any small scrap piece 1/2" (13mm) or thicker will work as a bridge. The universal rotating air or lever clamps can also be used for this operation.



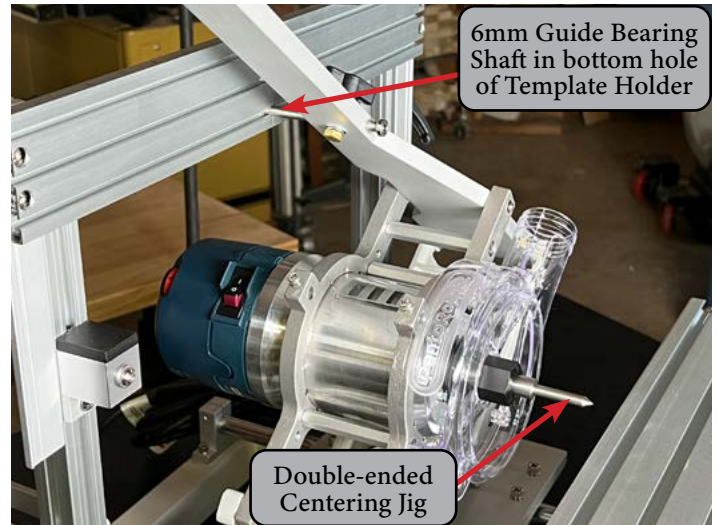
Once you are satisfied with the results of the Thickness Gauge XL, lower the Back Reference Gauge until it contacts the top edge of the Front Reference Gauge, and lock it in place.



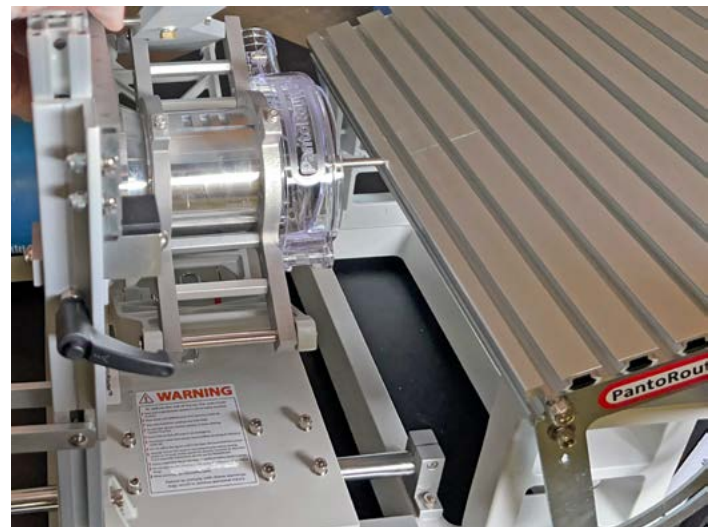
Find and Mark the Table Centerline



The PantoRouter® transfers the shape of the template mounted on the template holder to the workpiece located on the table. Aligning the template, router bit and workpiece are essential to accurate joinery, and this is made fast and easy using the Centerline and Centering Scale Fence.

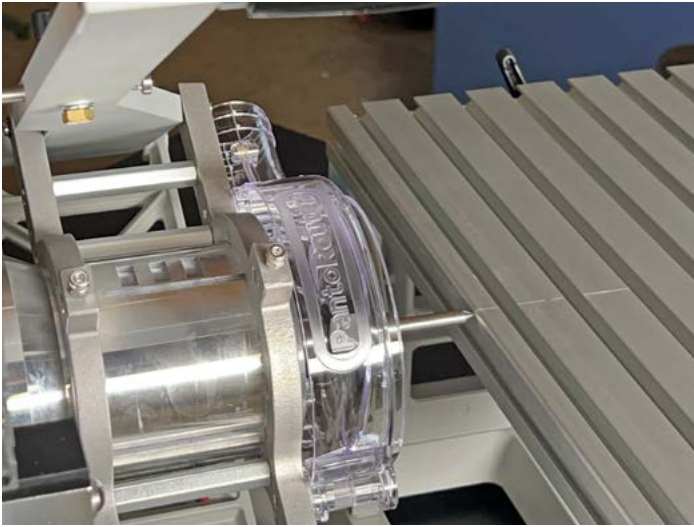


Insert a non-tapered 6mm Guide Bearing Shaft in the bottom centering hole of the template holder and install the double ended centering jig in the router collet, then tighten the collet using the two provided wrenches. Loosen the two template holder lever knobs and the front and back depth stop. With this setup, the router should have free range of motion in the Y and Z axis but the X axis is fixed.



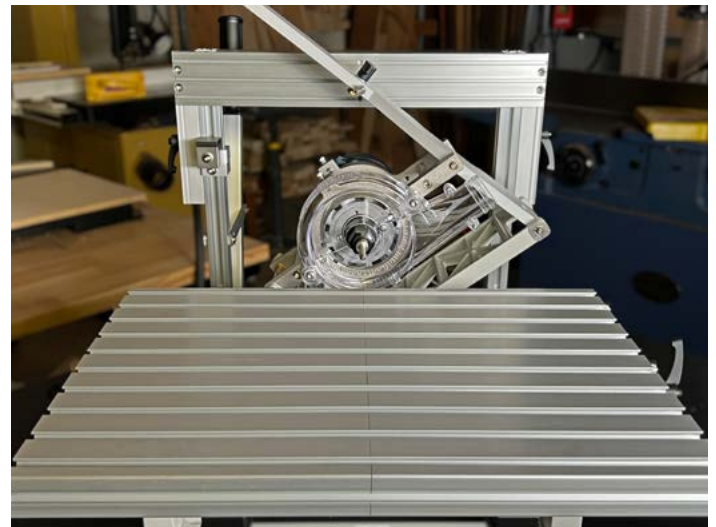
Loosen the two Tilting Table Lever Knobs and raise the table up to the vertical position. With the right hand holding the table gently slide the pantograph carriage forward with the left hand until the point of the centering jig lightly contacts the aluminum table. Slowly tilt the table down to a horizontal position while using the left hand to adjust the height of the template holder and the location of the pantograph carriage so the point of the centering jig maintains light contact with the table surface.

Important Note: Make sure all calibration steps on page 17-23 have been followed prior to making any scribe lines on the table.



Continue the scribe line down the front Vertical face of the table.

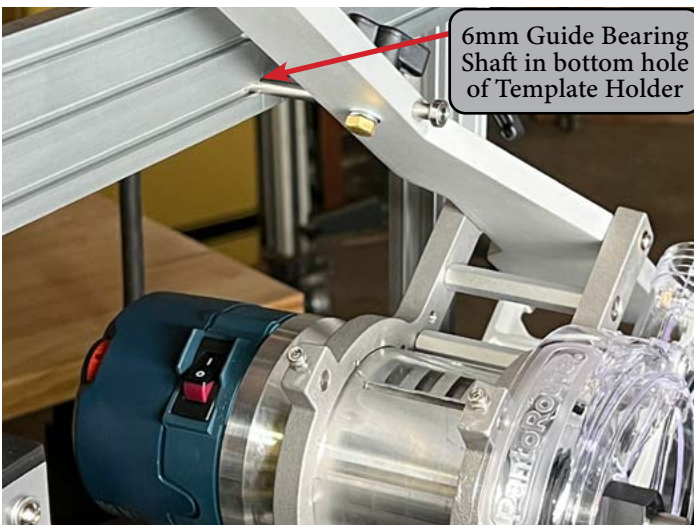
The intention is to create a light and consistent scribe line on the table that is perfectly aligned with the centering hole of the template holder, it does not need to be deep into the aluminum surface.



Using a reliable 12" square and a sharp pencil registered in the scribe line, carry the line all the way from the front of the table to the back and down the front and back edges of the table.

Alternative No-Scribe Method to Mark the Table Centerline

If you would prefer to not make any scribe marks on the table, follow this alternative method for marking the table center line.

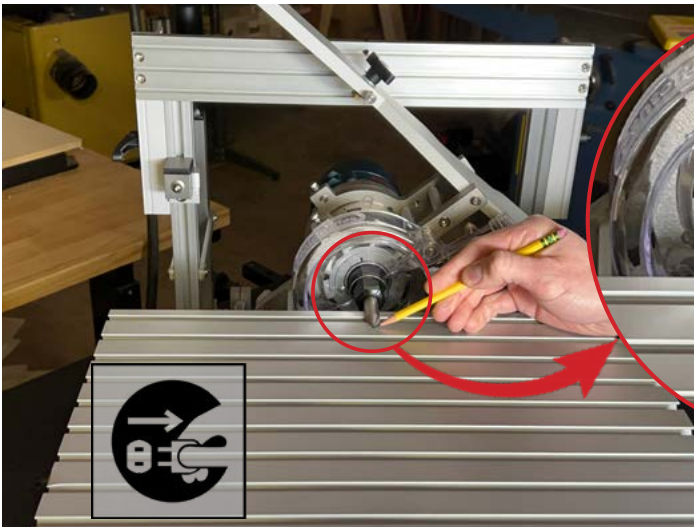


6mm Guide Bearing Shaft in bottom hole of Template Holder

Begin by installing the split-shaft centering jig in the router collet and insert a non-tapered 6mm Guide Bearing Shaft in the bottom centering hole of the template holder.

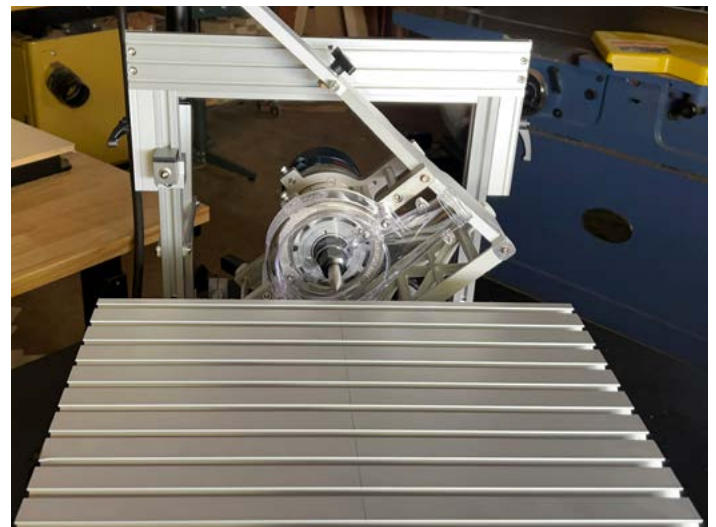


Split-Shaft Centering Jig



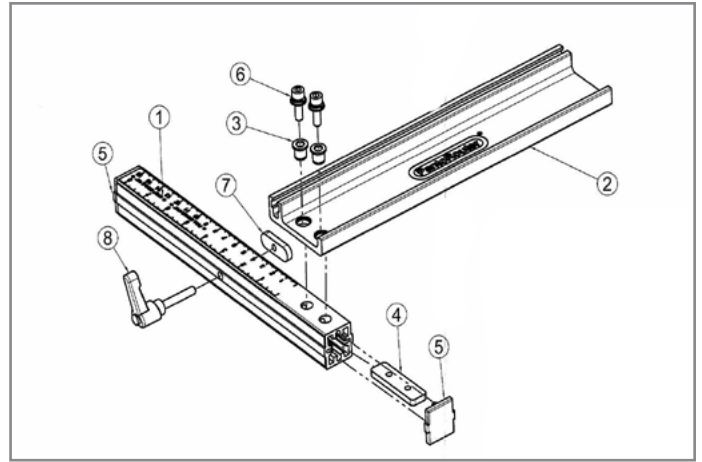
Manually rotate the router collet so the flat section of the Split-Shaft Centering Jig is facing down. Plunge the pantograph carriage forward and lower the template holder so the flat face of the centering jig rests gently on the top of the table surface.

Lock the pantograph carriage using the front and back depth stops on the operator's side. With a sharp pencil, make a small mark on the table at the point of the Split-Shaft Centering Jig. Double check the mark is perfectly aligned with the pointer, then lift the centering jig up off of the table surface and slide the router back.



This is dead center of the table relative to the center of the template and router, so carefully mark this position. Using a reliable 12" square and a sharp pencil registered on the previously made tick mark, carry the line all the way from the front of the table to the back and down the front and back edges of the table. This mark can be in pencil for now until you're confident in your setup, then you can scribe it into the aluminum.

Set-up the Centering Scale Fence



Setting up the centering scale fence is super easy and due to the precision-machined centering pins, the fence will be dead-on 90° without any adjustment.



Before assembly you'll need to decide which scale to use. We recommend using the metric (CM) scale since you don't really care the size when centering (the size was determined when you milled your wood), you just want to find the middle. It's much easier to find center, or half of 88mm than $3\frac{7}{16}$ inches.



To center your workpiece on the table, first measure the width using the outer scale then set that value on the inner scale at the centerline. Lock the fence and Boom....You're Centered!

PantoRouter® Swing-Stop Installation and Operation

Insert the lever knob collar through the hole in the PantoRouter® Swing-Stop and install the fender washer and T-track nut.



Locate the T-track nut in the fourth slot from the front of the table for tenons up to 1½" (38mm) long.

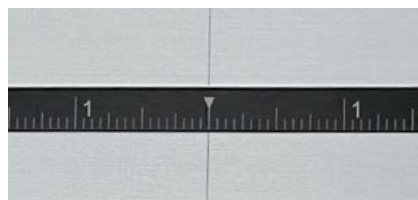


Locate the T-track nut in the third slot from the front of the table for tenons up to 2¾" (70mm) long.

PantoRouter® Centering Bar Installation and Operation



The Centering Bar can be located in any T-slot on your PantoRouter® table. We recommend the front slot of the table remain clear for easy and safe clamping options.



Select the metric or inch side of the bar to face up and make sure the two set screws are also facing up. Align the centerline of the centering bar to the previously scribed centerline of the table and tighten the set screws.



Use your split shaft centering jig that came with your PantoRouter® to accurately locate your centering scale fence.

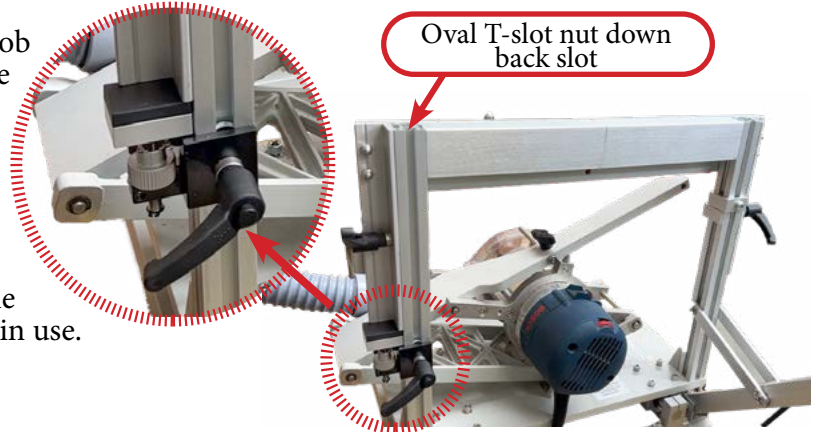
See the video link on page 29 for the centering bar and swing stop!

Template Holder Micro-Adjust

Installation and Operation

Before using the Micro-Adjust, it is imperative that the Template Holder is calibrated and dialed in correctly. Instructions on this process can be found on page 17 of the assembly guide or on page 54 of the How-to guide.

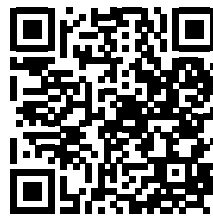
1. Unscrew the oval T-slot nut from the lever knob and drop it down the back T-slot of the Template Holder support post on the non-operator side.
2. Position the Micro-adjust onto the post with lever knob facing the back as shown. Screw the lever knob into the nut.
3. Slide the Template Holder Micro-Adjust all the way to the bottom of the post to store when not in use.



Video Links and Recommended Accessories



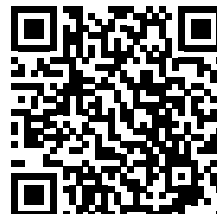
Recommended NVR Safety Switch
product page



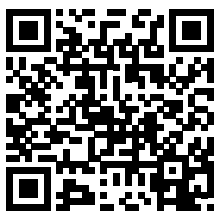
Learn more about the universal Rotating
clamp system, visit the clamp product page.



Hold-down Hardware Pack for mounting Jigs
and Fixtures to PantoRouter Table



Get inspired! Check out the Panto-Project
gallery and submit your projects here



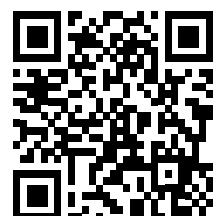
K-5 Plunge lever
hardware tips
video



Dialing-In the
PantoRouter®
Joinery Machine

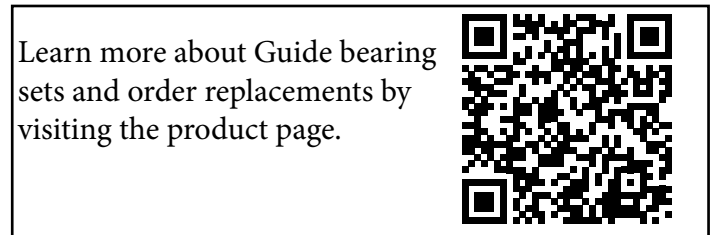
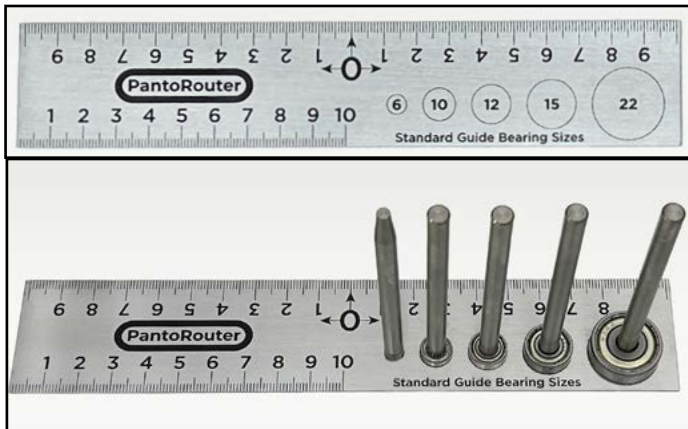


Centering bar
installation and
use



Swing stop
installation and
use

Bit and Guide Bearing Reference



Use the PantoRouter Setup Ruler to quickly identify guide bearing sizes



The Amana bits are excellent quality with three solid carbide spiral upcut bits and a 1/2" x 8° dovetail bit. The 1/2" spiral upcut bit has Amana's Spektra coating for long life. Scan the code to read more and order replacements.



The Specialty Bit Pack from Whiteside Machine Company is a curated set of router bits intended for decorative details, flush trimming joints, finger pulls, and much more! These bits might not be utilized every day but they are indispensable when the task calls for them.

Guide bearing quick select chart for Tenons

Bit and guide bearing selection

The thickness of the mortise is determined by the diameter of the router bit used.

The 1/2" bit makes good, clean cuts, and is our recommendation for tenoning operations. While most tenon sizes could be cut with multiple combinations of router bits and guide bearings, the 1/2" bit works for every tenon size. Use the guide bearing quick select chart below when using the 1/2" diameter bit for tenons.

<p>1/4" thick tenon = 10mm guide bearing with 1/2" bit</p> <p>5/16" thick tenon = 12mm guide bearing with 1/2" bit</p> <p>3/8" thick tenon = 15mm guide bearing with 1/2" bit</p> <p>1/2" thick tenon = 22mm guide bearing with 1/2" bit</p> <p>3/4" thick tenon = 35mm guide bearing with 1/2" bit</p> <p>1" thick tenon = 48mm guide bearing with 1/2" bit</p>
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NOTES:



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US 2020-0189053 A1, US 10,016,868 B2, 18832971.7 – EPO, US 11,517,988, US 11,628,588,
D993,557 S, WIPO DM/216 780, TM Reg 7,071,770, TM Reg. 4,972,348,
EU TM Reg. 016344319

And others foreign and domestic pending and applied for.

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