



# Stumpy Nubs Woodworking Journal

ISSUE #2



A CLASSIC ROUTER PLANE  
YOU CAN MAKE YOURSELF!

- **PUSH VS CLIMB: MAKING SENSE OF ROUTER CUTTING DIRECTIONS**
- **CUT BETTER RABBETS ON THE TABLE SAW**
- **HOW TO USE A ROUTER PLANE EFFECTIVELY**
- **TUNE-UP YOUR POWER JOINTER & PLANER**
- **QUICK-TIPS & MORE!**



## The Secret Bookcase



**Dura-GRIT**

*Ready SET Go!*  
WOODWORKING CARBIDE TOOL SETS

True Edges 90°  
100x Life Carbide Disc

PUSH Carve Door Strike  
Easily Cope Baseboard Trim

[duragrit.com/WWS](http://duragrit.com/WWS) [duragrit.com/4WW](http://duragrit.com/4WW)



# KODIAK SHARPENING SYSTEM

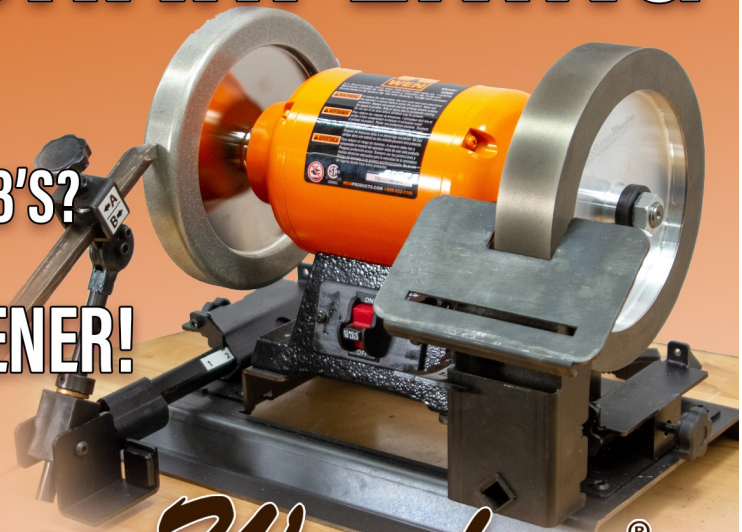
KNOW YOUR ABC'S & 123'S?  
THEN YOU CAN BE  
AN EXPERT SHARPENER!

ONLY AVAILABLE AT

WoodTurners *Wonders*®

WWW.WOODTURNERSWONDERS.COM

678-400-8181



*The Hedgehog*®

FEATHERBOARDS.COM



# CONTENTS



## Behind the Sawdust:

Do you hate ads? . . . . . 5

Quick-Tips . . . . . 6

## Furniture Project:

Secret Bookshelf . . . . . 9

Jointer/Planer Tune-Up. . . . . 13



## Shop Project:

Homemade Router Plane . . . . . 17

Router Plane Techniques. . . . . 20



## Router Workshop:

Climb-Cutting. . . . . 25

## Table Saw Skills:

Better Rabbets. . . . . 29



## Stumpy Nubs Woodworking Journal

Stumpy Nubs Woodworking Journal  
(ISSN Pending) is a digital-only publication  
published by Midwestern Trading Co  
P.O. Box 102, Saint Charles, MI 48655.

Copyright© 2022 MWTco

Subscription information: [www.stumpynubs.com](http://www.stumpynubs.com)

Advertising inquiries: [support@stumpynubs.com](mailto:support@stumpynubs.com)

YouTube: StumpyNubsWorkshop

Instagram: Stumpynubs

Twitter: @stumpynubs

Facebook: StumpyNubsWoodworkingJournal

Published four times yearly.





# BEHIND THE SAWDUST

with Stumpy Nubs

## Welcome to the second issue of the all new *Stumpy Nubs Woodworking Journal!*

It's taken a while to get here, but I think you will find the pages that follow to be well worth the wait!

My vision for this *Journal*, which began with the original multimedia issues back in 2015, was always for it to be more than just a newsletter. I wanted something that felt like a traditional woodworking magazine. What that means isn't entirely clear yet. We are still evolving. This is no surprise because we are living in a new world where print media is fading and digital media, in all its many forms is ascending. Each issue of this publication breaks new ground as a born-digital periodical that is entirely financed without reader subscription fees.

That brings me to the proverbial elephant in the room- or rather, on the page. We can not make this publication without the support of our advertising partners. I know everyone hates ads, but if you give me a chance to explain how our sponsor relationships work, both in this *Journal* and on our YouTube channel, I think you may see them in a different light.

We all have bills to pay. You can imagine how expensive it is to make more than a hundred high-quality woodworking videos each year, *and* to produce a free woodworking magazine. Someday, we may have to charge our viewers and readers a fee for these valuable educational resources. But for the last decade someone else has been picking up the tab for you- our sponsors and brand partners.

These are not big corporations that just throw money at us so we will sell them your eyeballs. A brand can not simply pay their way into

our videos or onto these pages, because there is a sacred trust between us and our subscribers. If I endorse a product, it had better be a good one that adds real value to your workshop, and that comes from a someone who will stand behind it!

We turn down most of the sponsorship offers we receive because the products and services they offer do not meet our strict standards. When we do consider partnering with a new brand, it is because I already personally use the products in my own shop.

We also do not jump from brand to brand as many others do, because the partners we choose to work with are worth sticking with. Almost all of our sponsors have been with us for many years and will still be with us for years to come.

That often means working with smaller brands with whom we can build relationships and grow over the long haul. I'd rather take less money to work with a family business I can count on than take big sponsorship dollars from corporate giants who have no loyalty to our audience. I've turned down a lot of lucrative deals over the years for that very reason.

It would be nice to live in a world where it costs nothing to produce all of this free content you enjoy. We don't live in that world. But our sponsors provide more than just financial support. They also offer products of real value. As you look at the ads in this publication and in our videos I hope you consider that they aren't only there to pay our bills; they are yet another valuable resource we offer to help make your shop time more effective and enjoyable.

Please click on some of the ads in this publication. Your support is very much appreciated!

-James Hamilton



## HOW TO COIL A BAND SAW BLADE

Perhaps one of the great mysteries of woodworking is how to coil a bandsaw blade for convenient storage without cutting yourself or cursing. The process is surprisingly easy once you get the hang of it. The blade will teach you if you pay attention.

I recommend practicing with a narrow blade, perhaps 1/4-inch, which will be less stiff and therefore easier to coil. Go through the motions slowly, paying attention to how the blade reacts. You'll get it!

1. Place your foot on the bottom of the loop as you hold the top with both palms facing upward.
2. Close your hands to grip the blade and twist your wrists inward, turning your palms toward each other as you begin to bend at the waist, bowing the center of the blade away from your knees.
3. Continue to twist your wrists until the back of your hands are outward. As you do, continue to bend the blade away from your body. It will naturally begin to coil, especially at the top. Let it.
4. Bend at the waist and push the top coil downward to your foot. The blade will continue to coil naturally. Take note of what it is doing; it will teach you how it wants to be folded.
5. Organize the coil with your hands as it takes its final shape near your foot.
6. Lift your foot and even out the coils. Tie with string and store.





## CLEAN UP GLUE SQUEEZE-OUT

There's a lot of debate about how to best deal with glue squeeze-out. You may wipe it up with a damp cloth, let it partially dry before scraping it off, or let it fully dry and jack-hammer it away. Whatever method you choose, the less you leave behind the better off you will be.

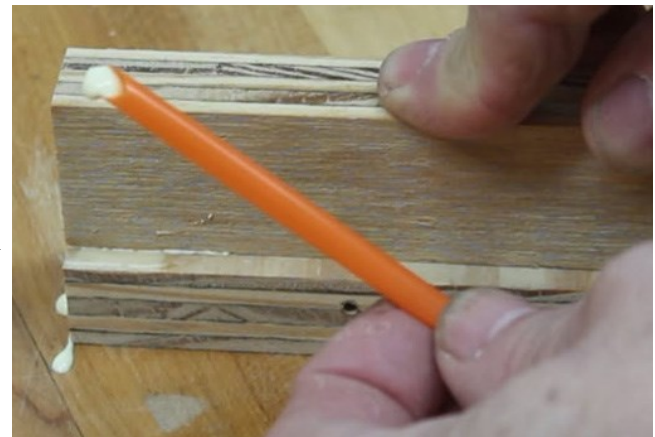
To remove most of the glue while it's still wet, try cutting the end of a drinking straw at an angle. This creates a scoop with a sharp point that fits into the seam where two right-angled workpieces meet. It's a proactive solution that will reduce your cleanup work later.



## MITER GAUGE PROTRACTOR

That fancy miter gauge with all those laser cut notches for perfect angle accuracy isn't only useful for your table saw. It may also be used as a protractor to lay out angled lines on workpieces.

Set it to your desired angle, place the body against the workpiece edge, and use the bar as a rule to pencil in your line.



**FastCap®** ...Lean Innovations that Change the World

## ProCarpenter™ Tape Measures

**7 Innovative Features**



**Featured Tape Measures**  
Metric/Standard  
Standard Reverse  
Standard Story Pole

## GlüBot Family

GlüBot, HighBot & Babebot



## 3<sup>rd</sup> Hand Family



**Featured 3<sup>rd</sup> Hand Products**  
3-H Little  
3-H Upper Single  
3-H Mag Door System



**www.fastcap.com**

# TAYLOR TOOLWORKS

**High Quality. Best Value. Wide Selection.**  
**Woodworking Tools & Accessories**

**Taytools.com**  
Family Owned Since 2010



DIFFICULTY: ★★☆☆☆  
COST: \$150-200  
TIME: 2 DAYS



# THE SECRET BOOKSHELF

**Build high-quality furniture without a workshop!**

I love this project! It was fun to build and the quality of the finished piece surpasses what I see in furniture stores for twice the price. And unlike a store-bought piece, it is easily customizable to fit whatever space you have available. I also enjoy asking visitors to inspect it for “the secret.” They are never able to find it until I relent and reveal the removable top panel to their surprise.

But what I like most about this project is how

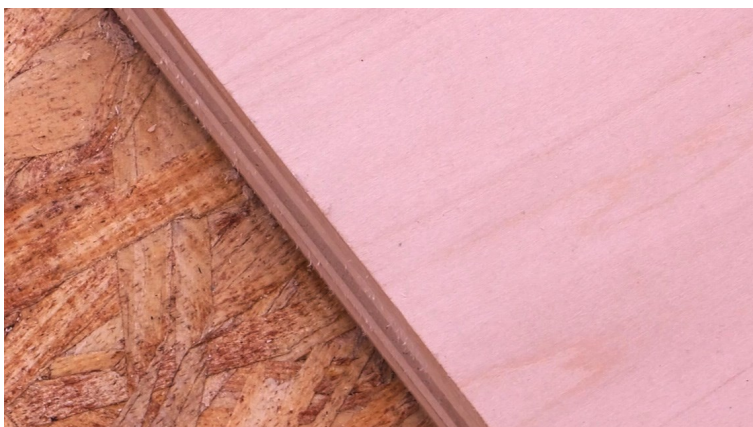
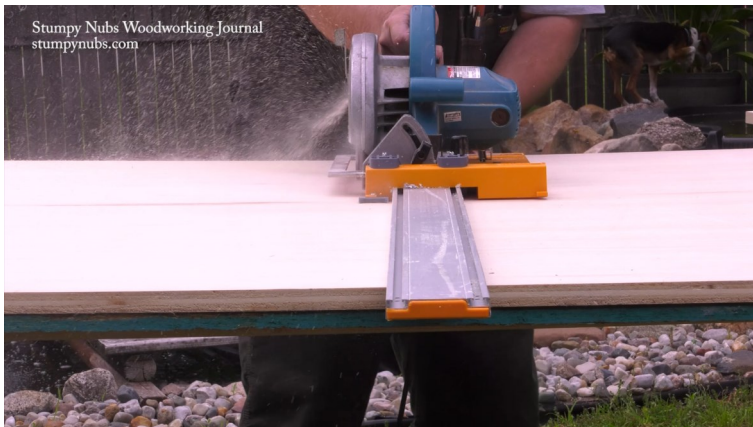
it may be built in the backyard without any special tools! Only a circular saw and an edge-guide is required to cut the parts from plywood. Assembly is made faster with the use of pneumatic nails, but since this is a painted project, finishing nails may be driven by hand and the holes filled with putty.

I have a well-equipped workshop, but it was nice to work outdoors for a change. I think you’ll enjoy yourself, as well!

## **This Project Will Teach You These Skills:**

Working with a circular saw and edge-guide, creating dados through layering, installing adjustable shelves and applying edge banding.

**\*Plans for this project may be purchased at [stumpynubs.com](http://stumpynubs.com)**



## BUILD NOTES

The circular saw edge guide I used in this project is made by Bora Tools and is [available here](#). If you do not wish to invest in an edge guide you may make one yourself. Simple versions are not difficult to make and many good designs are found on the internet.

I do recommend investing in a new [60-tooth saw blade](#) to ensure good, crisp cuts through the fragile outer plywood veneers.

A pair of sawhorses and some OSB or some other inexpensive sheet good (supported by 2X4s) will make a sturdy worksurface on which to cut your plywood. Set your circular saw's depth to about 7/8-inch so it will cut through the plywood and just barely into the OSB surface beneath.

While it may be tempting to use lower cost pine plywood, I strongly recommend birch or maple because the quality is significantly better and the surface will be smooth under paint. MDF also paints well, but the joints will not be as strong and may fail after several moves. If you invest in good materials, this will be an heirloom project that will last for generations.

**This article is not intended to provide all the build details. It is intended to teach some of the lessons contained in the project to those who may not wish to actually build it. You may use these lessons as a help in your own projects, or you may purchase a set of detailed plans from our website at [stumpynubs.com](#) and build this one. Plan sales are one of the ways we finance all the free education we produce. Thanks for your support!**





The sides of the bookcase are made from two layers of plywood laminated together. Some may consider this to be over-building and wonder if a single layer would be sufficiently strong and less costly. The answer is “yes” on both points. But the layering process has a purpose— it allows us to create dados and other joinery without the need of special tools and techniques. For example, the center image above illustrates how a rabbet is created by mounting the inner layer a few inches short of the end of the outer layer.

Likewise, a dado is formed by inserting a scrap of plywood between two sections of the inner layer. Once the layer’s panels are secure,

the scrap may be removed and a perfect dado will remain.

Creating joinery through layers is an excellent way to build high-quality furniture with limited tools. But it does require a little more plywood. If you have the tools and expertise required to cut the joinery in a more traditional way, you may alter the design accordingly. But I enjoyed the simplicity of this layering process as a nice change of pace.

Laminating two layers of plywood together to create the sides also gives the bookcase a more robust appearance. I am not a fan of 3/4-inch material for large casework. I think it looks too thin. You will be glad you made the sides double thick especially if you wish to make the shelves from plywood, which is not as stiff as solid hardwood. This will allow you to attach 1-1/2 inch edging to the front of the shelves without making them look out of place compared to the thinner sides. The wide edging greatly stiffens the shelves without the need of a double layer of plywood there. And the overhang will conceal the shelf pins later.





The secret compartment is built into the top of the bookcase and made to look like a moulding. This process provides a lesson in cutting parts to fit rather than to the sizes on a cut list.

The removable panel is made from two layers. The inner layer must fit perfectly between the sides of the bookcase because friction is what will hold it in place. In cases such as this, I'll intentionally cut the piece oversized. Then I "sneak up" on the perfect fit through incremental adjustments at the saw and multiple test-fittings. The panel should fit so well that it remains in place without assistance.

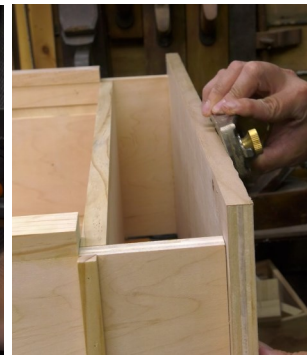
Note that the friction-fit is on the *ends* of the panel, not the two long *edges*. Wood will not change in length, but it will swell and shrink along its width with changes in humidity. If it

fits tightly along its width now, it may become too tight down the road.

The outer layer is glued to the inner one as it sets in place, making accurate alignment simple. The result is seen in the lower left image above.

This portion of the project will require some stick-on banding to cover any visible plywood edges. I don't like to use edge banding if I can avoid it because I don't think it is as durable as solid wood banding. But it does have it's place, and this is a good example.

A simple household iron may be used to melt the glue. As you apply pressure be sure the iron does not pull the banding away from the corner of the panel. If possible, you could leave the banding a little long, trimming off the overhanging bit after it is fully laminated to the edge.







# JOINTER/PLANER TUNE-UP

Get dramatically better results from these sometimes frustrating machines.

Woodworking machines require periodic maintenance to keep them running smoothly and cutting accurately. In this article I'll offer some tips for tuning up your jointer and thickness planer, including how to solve the common

problems of slipping feed rollers and end-snipe.

Of course, **you should always unplug your machines before doing any maintenance.**

Don't rely upon the switch to keep your fingers on the ends of your arms.

## PLANER TUNE-UP

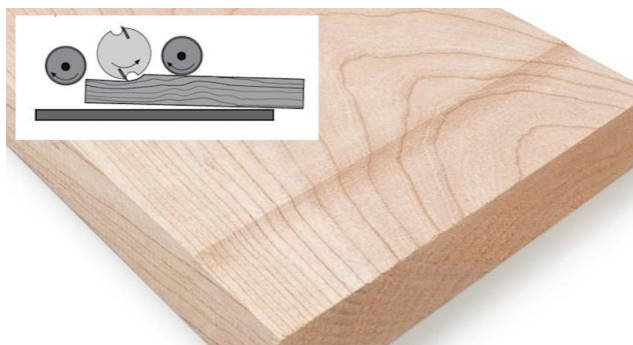
Every year or so you should examine your planer's belts, chains and gears. If a belt is worn or loose, replace it before it causes bigger problems. I like to lubricate the gears and chain with white lithium grease because it won't attract dust that may quickly gunk everything up again.

If your feed rollers are slipping during use the cause is likely a buildup of resin from sappy woods, especially pine. Wipe the rollers with a solvent such as naphtha or mineral spirits (white spirits). If you don't have access to such solvents, a cleaner such Simple Green may work as

well. Avoid anything that may be harmful to rubber or plastic.

Do not turn the machine on so the rollers will spin as you clean them. If the cloth gets sucked into the machine, you'll have a mess. If your hand gets sucked in, you'll have a bigger mess. Wipe the portion of the roller that you can access with the machine unplugged, then remove your hand, plug the machine back in and briefly turn it on to rotate the rollers to a new position. Repeat this wipe, rotate, wipe process a few times and you will have covered the entire roller surface.

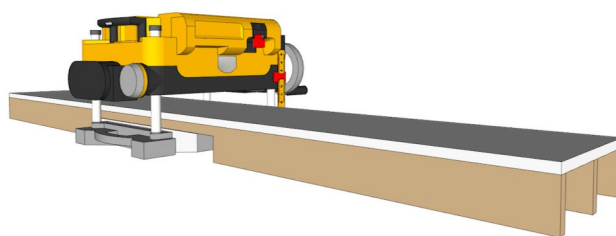




Use the same cleaner to remove any gunk from the tables, then apply a thin coat of paste wax. Do not get any wax on the rollers, just on the tables. Once that dries, buff it smooth and you will be shocked how much better the wood will feed through the machine.

Other than slipping rollers, one of the biggest complaints some people have about their planers is snipe at the end of the workpiece. This is caused by the end of the board tipping upward into the cutterhead near the end of the feeding process. To avoid this, you must support the board to keep it flat as it travels through.

Ensure that the infeed and outfeed tables are all even. If this doesn't solve the problem, you may need more infeed/outfeed support, especially for longer boards. Roller stands may help. Another solution may be to build table that



slides inside the machine and provides a long, consistently flat surface. Melamine is a good choice for this because it is slippery. MDF or plywood may work as well if you wax it.

Changing the knives on many benchtop planers is easy because indexing pins make alignment fast. The downside of those pins are they don't allow for much sharpening because you can't advance the knives forward as they become narrower through multiple sharpenings.

There are jigs for sharpening planer knives, but it can be difficult to achieve good results. Online sources such as [mywoodcutters.com](http://mywoodcutters.com) offer affordable replacement knives, even for old and out of production machines. It is worth keeping an extra set to keep on hand so you never have to stop in the middle of a project and wait a couple of weeks for new, sharp knives to arrive.



## JOINTER TUNE-UP

Jointer knives rarely have indexing pins. This means you can sharpen them more than many planer knives. But it may be a pain to reinstall and realign them. Jointer knives must set so that,

at the apex of their rotation, they are flush with the upper surface of the outfeed table. Magnetic jigs help with this alignment, but many jointer knives have a nasty habit of shifting back out of





position as you tighten the set screws. I wish there was a trick to make the task easy, but most machines are just a pain.

If the knives are properly set but you're getting snipe on the end of your boards, the cause is most likely a misaligned outfeed table. Use a straight edge to adjust the table so that the knives will just barely scrape its edge as you rotate them. Many jointers have mechanisms for raising and lowering the outfeed side. Others may require shims.

After the outfeed table is set, raise the infeed table to the same level and ensure that the two are coplanar from one end of the machine to the



other. If one or both tables are sagging at their ends, you must shim them to bring everything back to the same plane.

While you should also check that your fence is square as part of this maintenance process, I find that fences must be checked every time you use the machine because many tend to move out of alignment over time.

Another thing you should keep an eye on is the guard. If you have the common “pork chop” style, be sure the spring is adjusted so it will swing back in place on its own. People have lost fingers because their jointer’s guard was not in place.

## HELICAL CUTTERHEADS

The final, and ultimate upgrade for a jointer or a planer is a helical head with carbide cutters. Helical heads improve dust collection, reduce machine noise, and leave incredibly smooth surfaces

on even the toughest grain. It is far easier to rotate the cutters on a helical head than it is to change conventional knives, and each cutter has four carbide edges which last many, many times longer than high speed steel.

Helical heads are expensive upgrades, but what you save in replacement knives over a few years may greatly offset the expense in a shop that uses their jointer or planer reasonably often. And they are a pleasure to use!

I recommend *mywoodcutters.com* for helical head upgrades because they carry both of the top brands and they provide excellent customer service. They are also a supporter of this journal. You will find detailed videos about the pros and cons of helical cutterheads on the *Stumpy Nubs Woodworking* YouTube channel. -SN



**TORMEK**

## NEW DIAMOND WHEELS



### DC-250 & DC-200

Diamond Wheel Coarse

- 360 Grit
- Fast Sharpening
- Tool Shaping



### DF-250 & DF-200

Diamond Wheel Fine

- 600 Grit
- All-Around Sharpening
- Smooth Finish



### DE-250 & DE-200

Diamond Wheel Extra Fine

- 1200 Grit
- Minimal Steel Removal
- Mirror Finish

The 250mm wheels are compatible with the Tormek T-8 and T-7 and the new 200mm wheels are compatible with the Tormek T-4 Original, Tormek T-4 Bushcraft and T-3.

# MY WOOD CUTTERS

**Professional Cutting Tools for Woodworkers**



**"SHELIX"**

Helical Cutter Heads for most Planers, Jointers, and Shapers



**Planer & Jointer Knife Sets**



**Shaper Cutter Heads for corrugated knives**



**Stock & Custom Molding Knives for most common Machines**



**Lux Cut III Helical Heads For most common Planers and Jointers**

**... AND MUCH MORE!**

<https://mywoodcutters.com>



○ **DIFFICULTY:** ★★☆☆☆  
**COST:** \$25-40  
**TIME:** 1 DAY



# ○ **HOMEMADE ROUTER PLANE**

**A micro-adjustable, fully featured tool for fine tuning your joinery.**

Few tools have changed the way I work as much as the router plane. I am not saying it is the most used tool in my shop, but it is perhaps one of the most versatile. Yet, few modern woodworkers know what a router plane is!

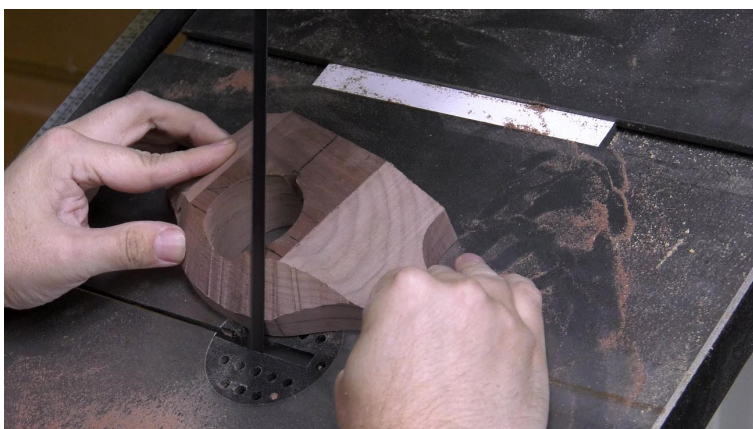
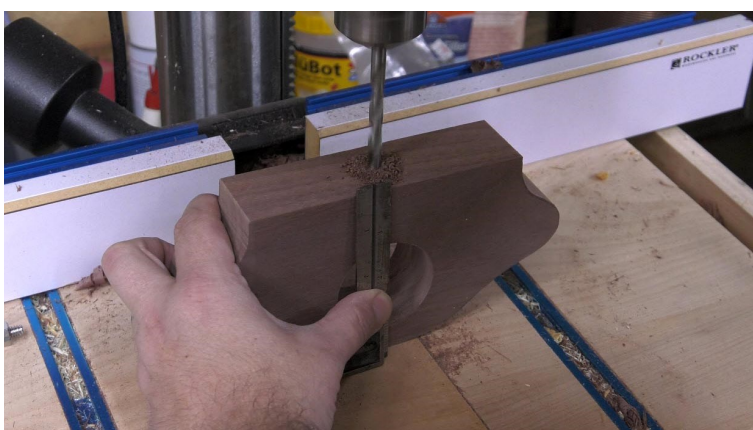
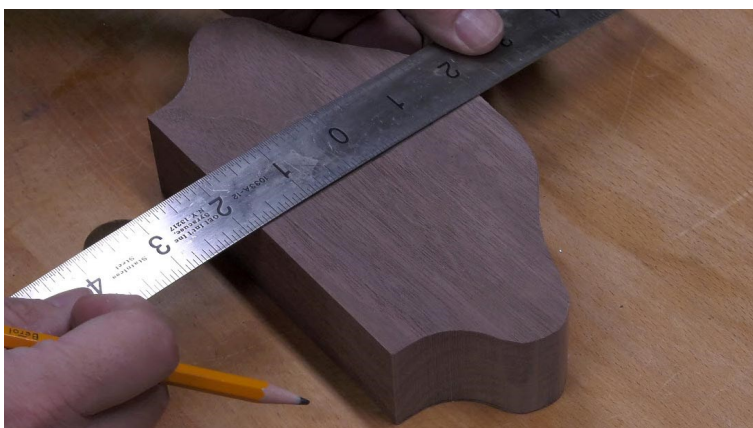
Despite the similarity of the name, router planes aren't for cutting the same profiles your power router may cut. A router plane is for cutting and tuning specific types of joinery. Think of it as a tool for cutting to a precise depth.

○ I often use mine to even out the bottoms of dados and grooves that a power tool may have cut inconsistently due to a bow in the workpiece. In seconds a router plane can shave away the small bumps at the groove's bottom and ensure a better fitting joint.

I also use my router plane to fine-tune tenons that may be inconsistent in width, or for cleaning up rabbets, or any number of other uses. It is a tool that is well known to traditional woodworkers and may be one of the best kept secrets in the power tool workshop.

This homemade version includes some of the features found in expensive store-bought models. The depth of the cut is micro-adjustable and there is a handy stop that may be set to the final depth you wish to achieve, allowing you to incrementally adjust the cut until you reach that level.

This project is so easy to make, there is no reason every shop can't have a router plane!



## BUILD NOTES

The shape of your plane's body is a matter of personal preference; however you do want a relatively large footprint since this will help the plane function more easily, as you will see in the technique demonstrations to follow.

One lesson I learned during my build was to bore the hole (seen in the third photo from the top) *before* cutting the curves on the opposite side. This will make it easier to hold the block still as you bore an accurate hole.

I used my bandsaw to rough out the shape, including the bevels on the top. This required tilting the table. I don't recommend free-hand work at the band saw. You can always use a sander to complete the work the saw cannot.

My design is roughly based upon Stanley's popular model which was made for the better part of a century. It seems to be the perfect size and shape. Duplicating it perfectly is impossible because a wood body must be more bulky than cast iron for reasons of strength.

The handles on my version are simple wood drawer pulls like you may find in a hardware store.

This article is not intended to provide all the build details. It is merely an introduction to the ideas behind it. You may use these ideas as a starting point to design and build your own project, or you may purchase a set of detailed plans from our website at [stumpynubs.com](http://stumpynubs.com). Plan sales are one of the ways we finance all the free education we produce. Thanks for your support!





Perhaps the most difficult part of the build is cutting the groove that holds the shaft of the cutter, and the mortise that accepts the eye-bolt which secures the cutter in place.

The groove must be perfectly perpendicular to the sole and perfectly plumb, or the cutter will not function properly. I used a triangular file to remove a little bit of material at a time, stopping frequently to insert the cutter and check it's alignment. This allowed me to make small corrections as the groove became deeper.



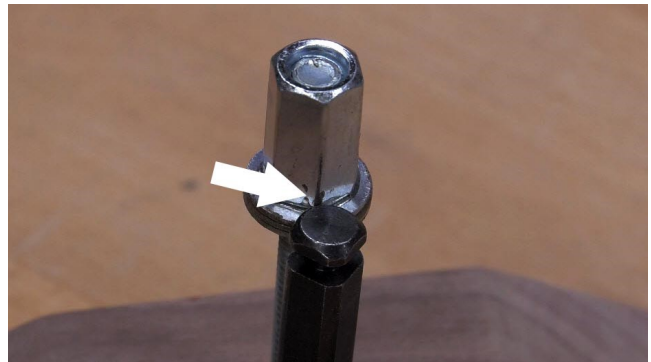
The mortise must be cut across the groove, and it need not be as precise. Still, it was tricky because the shape of the plane's body interfered with my chisel. The mortise is cut only part way into the body and a hole is counter-bored from the opposite side. The shaft of the eye bolt slips into the hole and as a nut is tightened, the head of the bolt is drawn into the mortise, securing the cutter in it's groove.



Another challenge presented itself when I installed the threaded post behind the cutter. This must be perfectly parallel to the cutter's shaft where it is held in place with epoxy.

The depth of cut is adjusted by means of a stack of washers attached to the bottom of a knob, which threads onto the post. The washers fit into a groove at the top of the cutter's shaft.

You could make your own cutter if you were so inclined. A large allen key will provide the rough shape and hard steel you need, but you will spend a lot of time grinding. I think it's better to buy high-quality router plane cutters from Lee Valley. ([Available here](#)) They are not ob-



scenely expensive and they come ready to use in various sizes.

All of these challenges were overcome with some tips and tricks that you will find in the downloadable project plans at [stumpynubs.com](http://stumpynubs.com).

I like making my own tools, and I like using them even more. I think you will as well! -SN





# ROUTER PLANE TECHNIQUES

How an old hand tool still has a place in the modern workshop

I have often said the router plane may be the best kept secret in woodworking. When properly utilized, this simple hand tool can be the perfect compliment to your power tool workshop.

While your modern machines may be designed to make precise cuts, your materials don't always play nice with the machines. A board may seem flat, but even a small cup or bow can affect how it lays upon a saw top or a router table. Inconsistencies in pressure and any number of other factors can lead to inconsistent cuts and poorly fitting joinery.

A router plane may be used to correct these inconsistencies, fine-tuning the joinery cut by other tools. This is due to the fact that a router plane may be set to a precise cutting depth, and

maneuvered in ways that a power tool can not.

Through the pages that follow you will learn some basic router plane techniques that are sure to be useful in your workshop, even if you prefer power tools for most tasks.

If you do not own a router plane, I might suggest you make your own. Instructions are [available here](#). Or, you may purchase one of the vintage models made by Stanley, which are fairly common wherever antique tools are sold. Lee Valley and other modern tool companies also make good router planes. These cost more, but they will be complete with all the parts and accessories you may need. Whatever you do, I highly recommend you learn what a router plane can do for you!



## TUNING DADOS AND GROOVES



If a board is cupped, a dado is likely to be shallower in its center than it is at its ends. A bow along a board's length may cause a similar affect when a groove is formed. To correct this problem, set the router plane's cutter to the depth you wish for the entire groove.

If the bottom of the groove is very inconsistent, you may wish to work your way down to the full optimal depth, shaving off the highest spots first, then going incrementally deeper to avoid taking too great a cut at one time. Some router planes have stop collars and depth stops



for this purpose. You might set such a stop to the full optimal depth, then work to it through smaller adjustments.

The width of the cutter need not be equal to the width of the dado or groove. You may use multiple passes to complete the job with the existing edges of the groove serving as your guide.

If you will be working across the grain, as will be the case when tuning a dado, you should use a knife to sever the fibers on each side of the dado. This will allow the router plane's cutter to remove the material cleanly.

## TUNING RABBETS



A rabbet is worked much like a dado, beginning with severing the fibers along the inner shoulder with a knife.

In this case, though, the technique is slightly different. Instead of pulling the tool toward you along the entire width of the rabbet, you will make small cuts in circular motions.

Begin by placing one side of the plane on the face of the workpiece, holding it down firmly as



the rest of the body extends off the end of the board. That handle becomes a pivot point as your other hand to turns the router toward your body, moving the cutter into the material. Repeat this process, taking bites all along the rabbet while keeping half the sole flat on the face of the board. This will leave a lot of shredded fibers behind which may then be cleaned up with a final, straight pass along the entire rabbet.



You may also support the overhanging portion of the plane's sole with another workpiece of equal thickness. Two identical rabbets could also be cut at the same time if they are placed end-to-end. This will make it more difficult to take circular bites, forcing you to cut the fibers as you would a dado. But the process will achieve good results if you are able to secure your workpieces to the bench to prevent movement.

## TUNING TENONS



A tenon is just a series of rabbets, and the process of tuning one with a router plane is not too different. One hand holds the sole of the plane flat on the board's face while the other hand twists the plane, cutting into the wood in a circular motion.

If you haven't caught on yet, the purpose of the circular motion is to make it easier to hold the workpiece still as you work without clamping it down. The wide cheeks of a tenon are also better cut in this motion because it makes the process more manageable, as you will better understand once you've tried it.



Many tenons are centered on the end of a workpiece. To maintain this balance, what you do to one face you must also do to the opposite face. Keep this in mind if you are using the router plane to adjust the fit of a slightly oversized tenon. Remove only half of the excess thickness from a single face.





## CUTTING A HINGE MORTISE



A router plane may be the fastest way to cut a mortise for a hinge.

The depth of cut is set by placing a hinge under each side of the plane's sole, dropping the cutter until it touches the benchtop.

Use a knife to sever the fibers around the perimeter of the hinge, then cut the material away with the plane while using firm pressure to



keep the sole flat on the edge of the workpiece. If you have difficulty preventing the plane from tipping you may clamp a second board to your workpiece to temporarily make it “thicker” and better support the plane.

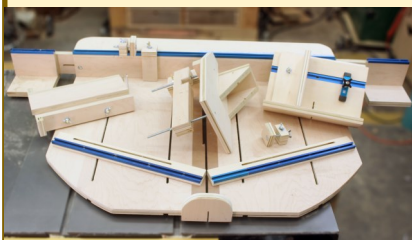
This process is similar to how you might cut such a mortise with a small electric router. You just don't need electricity and you don't have to find your router bit!

-SN



## THE ULTIMATE TABLE SAW SLED SET

Table saw sleds aren't just for crosscuts— at least THESE sleds aren't! The “Mini Sled” is for day-to-day cutting. The “Mega Sled” is for larger work. The “Miter Sled” is for frames and boxes. All the attachments are for cutting finger joints, splines, dovetails, tenons and more RIGHT ON THE SLED! Check them out in the plans section at [stumpynubs.com](http://stumpynubs.com)!





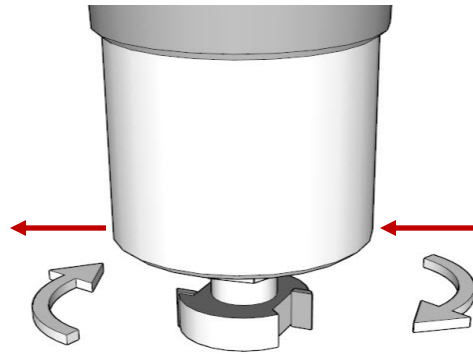


# CLIMB-CUTTING

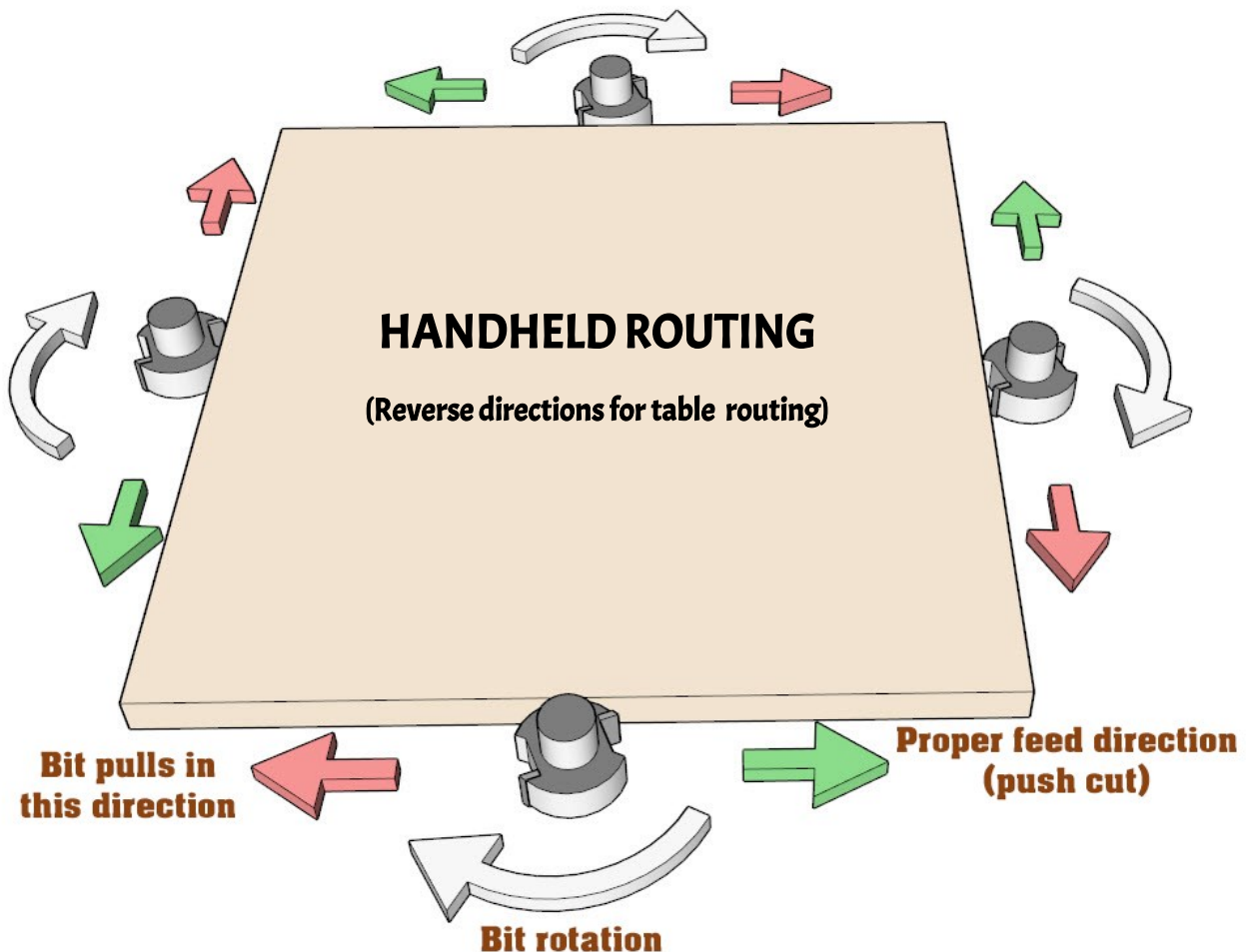
A useful technique when done safely.

Think of a router bit as a small wheel. When using a handheld router the bit is typically pointing downward, spinning in a clockwise direction (from your perspective above the bit). If you place the bit against the edge of a workpiece, it will try to pull your router from right-to-left. If you were to allow it to travel around the outer perimeter of a square or circular workpiece, the natural pull of the bit would carry it in a clockwise direction.

That is the way a router *wants* to pull itself– but we don't want the tool calling the shots. It's better to show the router who's the boss and *push* against its will. This means pushing a handheld

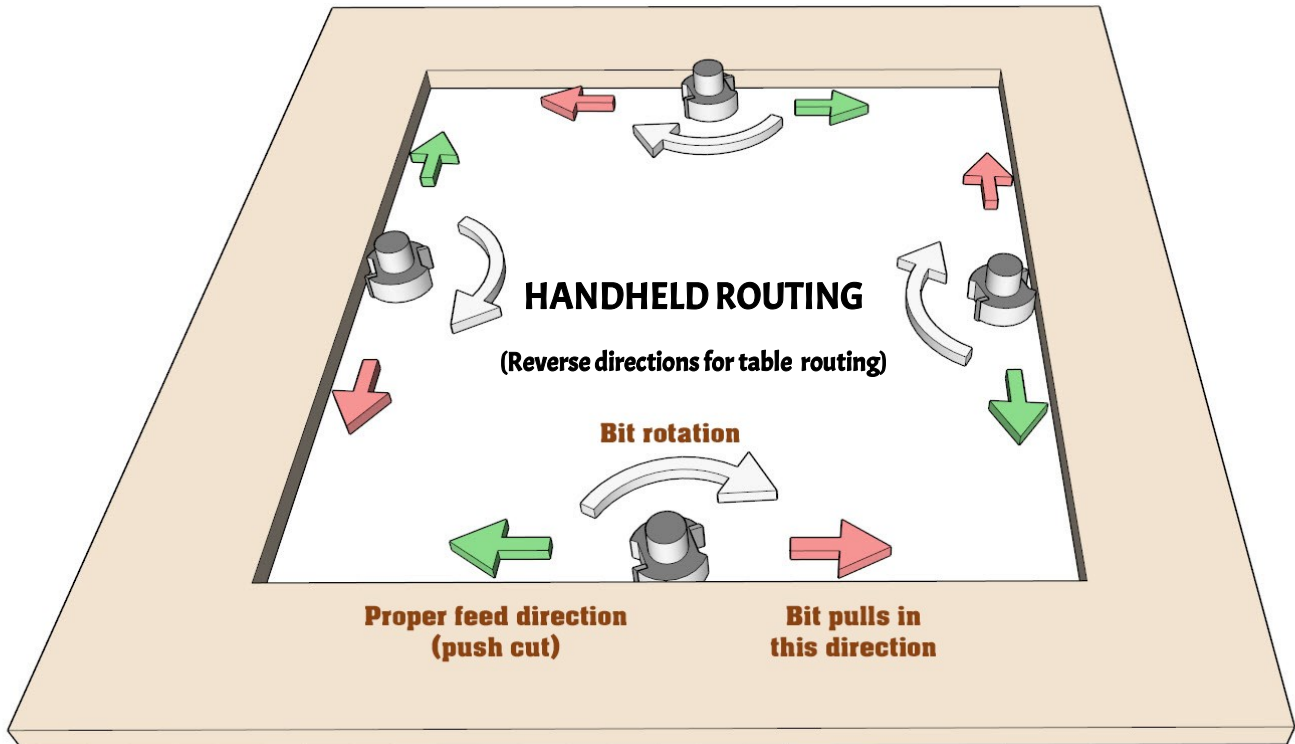


router across an edge from left-to-right and *counterclockwise* around the outer perimeter of a workpiece. This is called a “push cut”, and it affords greater control over the tool.



However, everything reverses if you are routing *inside* a cutout, such as within a frame. In this case the opposite side of the router bit makes contact with the material, and it will attempt to

pull the router in the opposite direction. A proper push cut within a cutout or frame should be in the *clockwise* direction.



It can all be very confusing, but there is a simple trick which may help you remember which direction to push the router. It is called “the rule of thumb.” Extend the thumb and index finger of your right hand. With the palm facing downward, place the tip of your thumb on the edge you wish to cut, and your index finger will point in the direction you should push a handheld router.

## Climb-Cutting

“Tear-out” or “chip-out” can happen when the wood grain slopes toward the edge of the workpiece and against the rotation of the router bit. The bit’s cutters may lever up the wood’s fibers, leaving a ragged or splintered edge. One way to prevent this is by letting the router have its way. By reversing the router’s feed direction, you allow the bit’s cutters to engage the wood in a



downward motion. Instead of levering up the wood fibers, they push them down.

However, as previously explained, this will allow the bit to gain traction against the wood. The bit will “climb” the edge of the workpiece, pulling the router in same direction as you are attempting to feed it. This is called a “climb



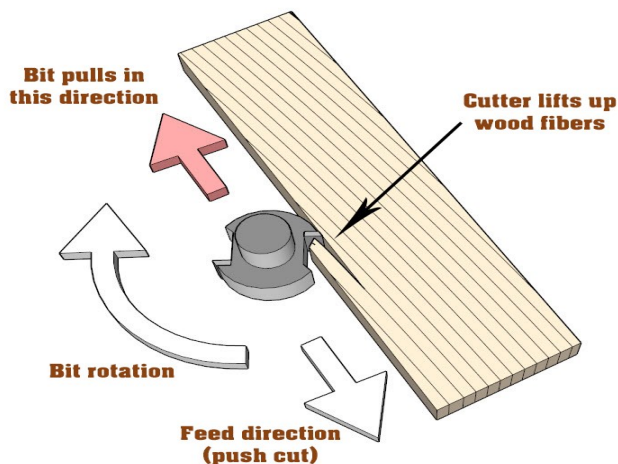
cut.” It requires a firm grip to control the tool, but it may produce a cleaner edge when the direction of the grain goes against you.

To safely make a climb-cut you must properly secure your workpiece. Rather than routing the full profile in a single pass, take two or three shallow passes to reduce the cutter’s leverage against the wood and make the tool easier to control. In fact, you might form most of the profile in the push cut direction, then take a final

pass in the climb-cut direction to remove the last bit of material and any tear-out the push-cut passes may have created.

As a rule, use a push-cut whenever possible and a climb-cut only when you must, and only with a handheld router. Never climb-cut at the router table. It is too difficult to maintain control of the workpiece and your hands may be pulled into the router bit.

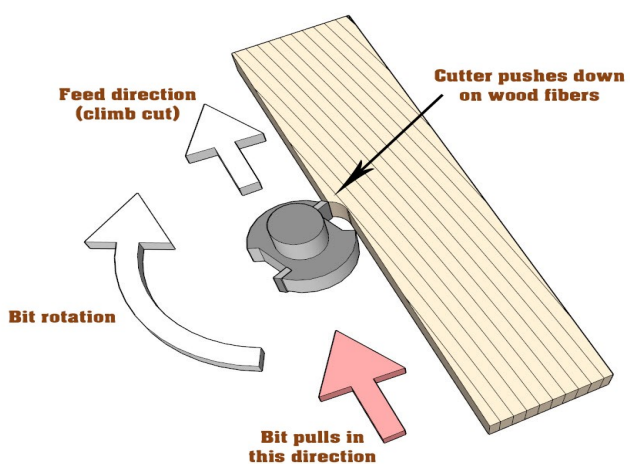
## HANDHELD ROUTING ONLY—DO NOT CLIMB CUT AT THE ROUTER TABLE



### Other Times to Climb

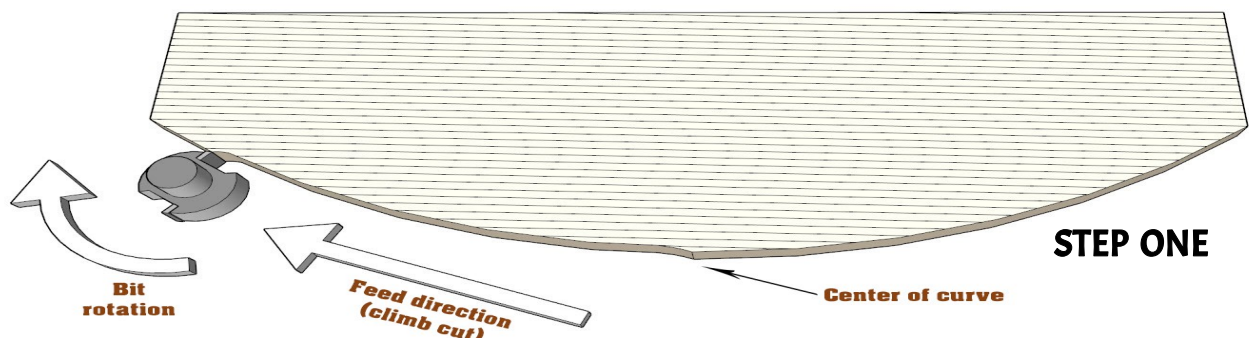
Often, a work piece’s grain direction will change at the apex of a curve. If you were to push-cut around the entire curve, you would be working against the grain for half of the cut, and with the grain for the other half, potentially spoiling that portion of the edge. This is an ideal opportunity to try out your climb-cutting skills.

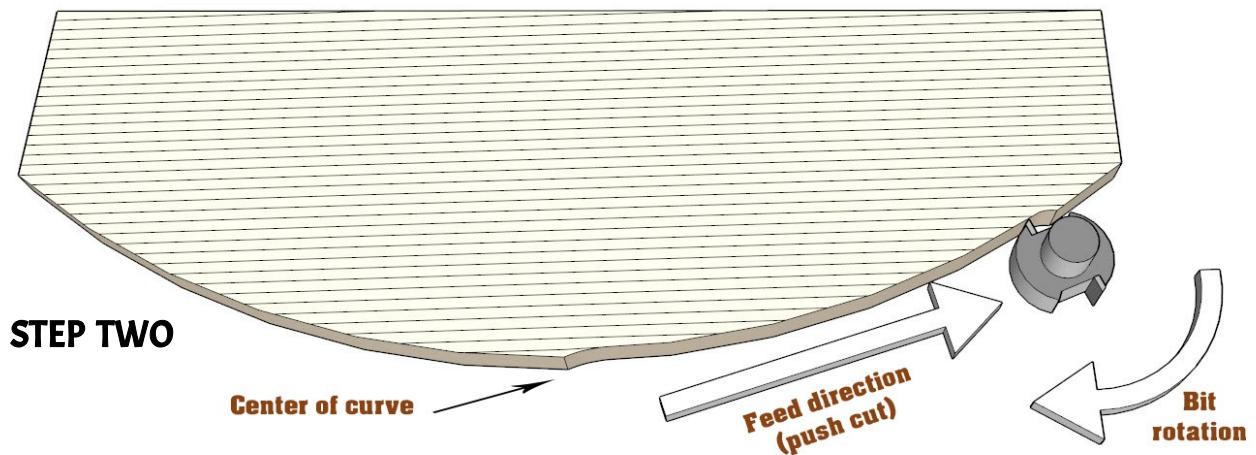
Rather than starting at a corner of the work piece, start at the center of the curve. Make a climb-cut along the portion of the curve where



you would otherwise be cutting against the grain. Then you may return to the center of the curve and rout the balance of the edge with a push-cut.

Note that you should do the climb-cut *first*. This is because you may be taking multiple shallow passes for that portion of the cut in order to maintain full control of the tool. Once you’ve completed the climb-cut, your router bit’s depth will be in its final position, ensuring that the profile on the push-cut half of the curve matches exactly.

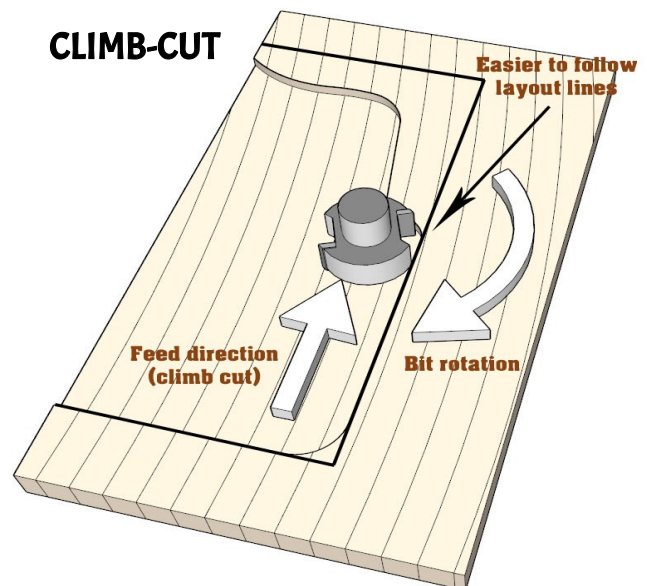
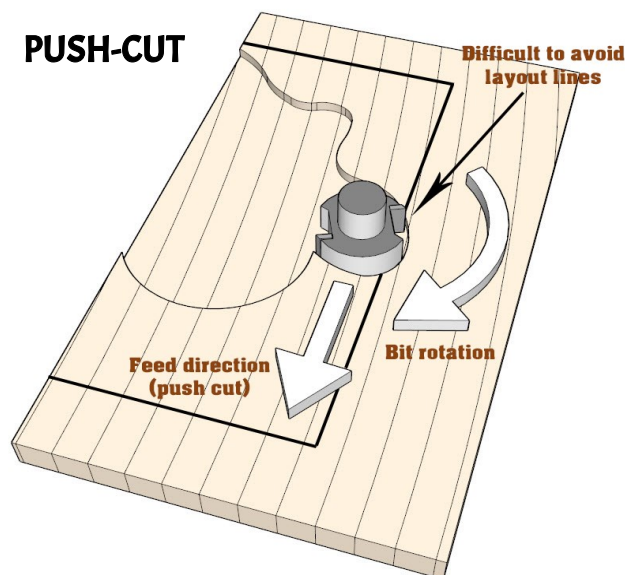




### Climb-cutting Mortises and Inlays

If you've ever tried to rout into open space with a straight router bit, such as to create a large hinge mortise or inlay, you may have noticed that the bit tends to wander and before you know it you've crossed your layout line.

In open space, it is sometimes easier to control the router if you are making a climb-cut rather than a push cut, allowing the bit's cutters to pull the router along as you maintain control through a firm grip and light passes. You still must be careful if you are free-handing near your layout lines, but it will be easier than with a push-cut.



### Jointing Veneers

Edge-jointing veneers with a router is a very common practice where you sandwich a stack of veneers between two panels, leaving a tiny bit of the edges exposed so that you may trim them nice and straight with a straight bit. If you rout against the grain, the thin layers are defenseless and the results can be catastrophic. Before you

turn your veneer into a handful of splinters, consider climb-cutting to avoid working against the grain.

**Don't forget, these techniques apply only to handheld routing. Climb-cutting on a router table is an entirely different matter, and in most cases, it should be avoided altogether.**

-SN





## BETTER RABBET JOINTS

**These skills will make you a better overall woodworker!**

Rabbets, or rebates as some folks call them, are essential woodworking joints. They add glue surface for a stronger bond, and they make project parts easier to align and assemble, especially when applying clamps. The skills required to

make a good rabbet joint are also transferrable to other parts of woodworking including more advanced joinery. If you take the time to learn how to make perfect rabbet joints, you will become a better woodworker, overall.



### SINGLE-CUT RABBETS

Some prefer to cut with the workpiece between the fence and the blade. I'm not a fan of this method for two reasons: First, if the panel twists during the cut there is a small chance of a kickback due to the fact that you do not have the benefit of a riving knife while using a dado set. But the biggest reason I don't like this method is because many projects require a lot of rabbets. And while the width and depth of the rabbets may be the same throughout the project, the width of the individual project parts may

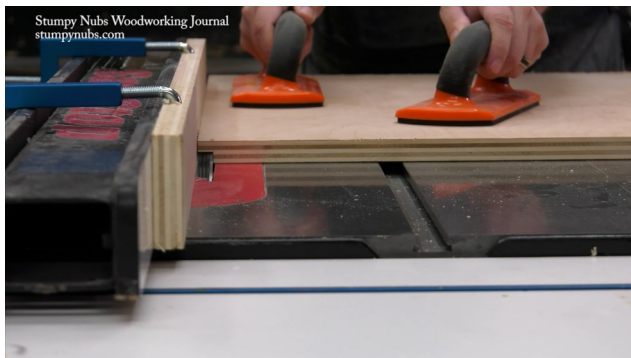
vary. By placing the blade next to the fence, you eliminate the need to change your rabbeting set-up when the dimensions of the parts change.

Of course, you can't put the fence right against the blade unless you want to damage it's face. You'll need a sacrificial fence. This is simply a strip of good plywood that's held against your rip fence with clamps. You may wish to purchase specialty clamps that slip into holes in the edge of the sacrificial fence so they will not interfere with your cut.

Clamp the sacrificial fence in place and slowly raise your spinning dado set up into it. You should not set your blade to its full height yet. I prefer to initially set it a bit low. I also intentionally set my fence to expose a little less of the blade's width than my dado will require. Then I cut the first rabbet in two or three passes, mak-



Dado sets create momentum that may lift the workpiece, especially at the beginning and end of the cut. Stock that's not perfectly flat can also lead to inconsistent joinery. Push blocks with nice, grippy bottoms will make it a lot easier to apply pressure in two directions- downward and against the fence. You may even make a second pass just to be sure the rabbet was cut to a consistent width and depth along the entire edge.



ing small adjustments to the width and height until the fit is perfect. I can't stress enough how important it is to sneak up on the proper settings through test cuts. This is a fundamental principal of woodworking. Rulers are great, but your eyes are not perfect. Good joinery of all types require test cuts.



If you are cutting a rabbet on the end of a narrow workpiece, you must use a miter gauge or a sled to keep the part perpendicular to the fence during a cut. It is perfectly safe to use the miter gauge in conjunction with a fence in this case because we aren't creating a loose offcut that may kick back at you.



## DOUBLE-CUT RABBETS

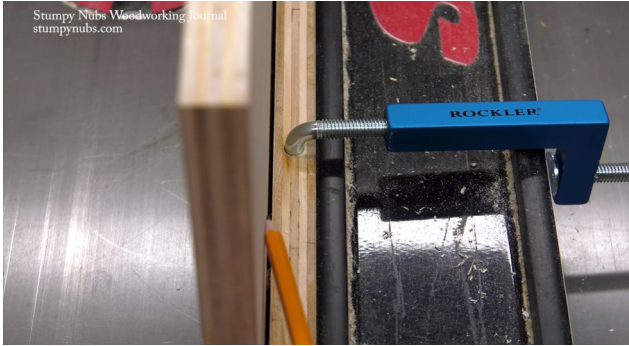
Double-cut rabbets do not require a dado set, but they are best made with a rip blade that features flat-ground teeth to produce a nice, crisp corner where the two cuts come together.

The first step in a double-cut rabbet is to cut the shoulder. Again, sneak up on it, both in

blade height and distance from the fence.

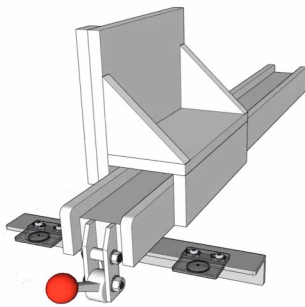
This time I prefer to cut with the fence away from the blade, on the opposite side of the panel, because I can use a riving knife with a rip blade which makes kickback very unlikely. This orientation also allows me to use the masking





tape trick. Apply one layer at a time to the fence as a way of micro-adjusting the width of the rabbet. This can be easier than trying to nudge the fence over as you dial in the setup.

For the second step of the double-cut process I recommend another type of sacrificial fence. This one is like the simpler version, with the addition of a second, taller panel to help support wide workpieces on edge. You do not glue



A simple tenon jig that slips on the top of your table saw fence and that's wide enough to slide down its length without any side-to-side play will enable you to safely create double-cut rabbets on the ends of narrow workpieces as well.

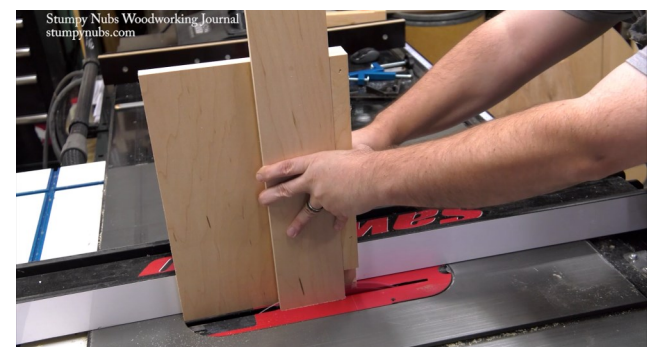
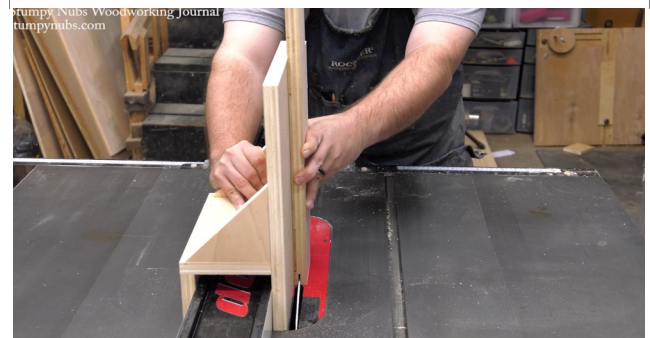
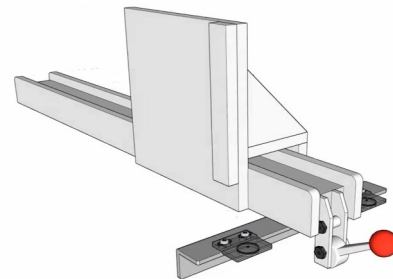
How may these rabbeting skills help you in other areas of woodworking? A dado or groove is just a rabbet moved away from an edge. Half-laps are just a pair of mating rabbets. Tenons are double-sided rabbets. Even a bridle joint is a double-rabbet inside and inside-out rabbet. If you perfect your rabbeting skills by sneaking up on the fit, applying even pressure throughout the cut and using the right jigs, you can then apply those same skills to many other tasks and become a better woodworker overall.

-SN



the two layers together so you may need to add shims or tape between them to square the fence panel to the top of your saw.

As you make this cut, be sure that the waste falls *away* from your fence so it doesn't get caught and become a projectile. Also notice how I use a push-block to apply even pressure, pressing against the fence and downward toward the table.





## INTRODUCING STUMPY NUBS WOODWORKING UNIVERSITY!

For years we've been providing free woodworking tips, tricks, projects and tutorials through our videos and the pages of our e-magazine, *Stumpy Nubs Woodworking Journal*. While there is much to learn from our free content, many wish to delve deeper into specific subjects that are of particular interest to them. Or they want to learn the craft in a more organized manner rather than the through the random and abbreviated format so common on YouTube and other websites.

### SNWU IS THE NEXT STEP IN YOUR EDUCATION:

SNWU isn't for the casual consumer of woodworking-related content. Our enrollees include new woodworkers who wish to learn the fundamentals so they work more safely and efficiently. Others are experienced woodworkers who desire a more intimate knowledge of specific tools or techniques. Still others are casual, weekend woodworkers looking to improve their workshops. And many are simply looking for a challenging project and the guidance they need to complete it.

### LEARN WHAT YOU WANT, WHEN YOU WANT:

Would you like to use your table saw or router more effectively? Would you like to learn to build and use essential shop jigs? What about improving your joinery skills so your future projects will last a lifetime?

While other online courses force you to build the projects that interest them, SNWU teaches you the skills and techniques you need to build your own projects. Choose from our growing selection of tool and technique-based courses and work on the parts of your craft that represent more pressing educational needs. Or select a project for a new challenge. Whatever you choose, you can learn at your own pace. Each course is yours forever; you can even download the articles so you can print them out and take them to the shop with you.

### AFFORDABLE AND COMPREHENSIVE CURRICULUM:

Are you a woodworker on a budget? **We are committed to keeping SNWU courses as affordable as possible, much less expensive than other online courses!** That's quite a bargain when you consider that our courses are not only extremely detailed, but they are carefully laid out to be easy to follow, understand and retain. Each lesson is broken down into bite-sized parts, with short video clips followed by photos and written instruction so you may enjoy the subject in an organized way and at your own pace.

### TRY IT FOR FREE:

Why not have a look for yourself? For a limited time we are offering out *Table Saw 101* course free-of-charge! This course covers the basics of table saw safety and use, and it's a good example of how our future courses will be laid out, broken down and presented in an organized way that's conducive to learning. Select the *Table Saw 101* course at [stumpynubs.com](http://stumpynubs.com) and get started!