**FRENCH MARQUETRY TECHNIQUES**








ISSUE #119
APR/MAY 2019


# CANADIAN Woodworking & HOME IMPROVEMENT

20 YEARS AND BUILDING 20th ANNIVERSARY

## Choose Your Best Finish

**ALSO IN THIS ISSUE:**



## 9 Tips For Buying & Renovating a Home

**TOP 10**
Tools and Tips for Spring Yardwork
p.10


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CANADIAN Woodworking & HOME IMPROVEMENT

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APRIL/MAY 2019

## FEATURES






## DEPARTMENTS



## COVER STORY

Cover photo by Rob Brown



# editor's letter

rbrown@canadianwoodworking.com

Woodworkers across the country are going to start opening up their detached garage shops in the next while and doing more work outdoors. Although I have a heated shop to work in now, I remember when I used to watch the weather forecast to see when I'd be able to start work on my next project.

We have a few projects to inspire you to get into the shop in this issue, as well as a few skill-based articles that will allow you to broaden the types of projects you feel comfortable doing.

If project ideas are what you're after, you should check out our plans for an exterior door surround and a planter box. There's no better time than spring to spruce up the exterior of your home. Merv Krivoshein's hexagonal planter box is a fairly quick project to build, and will add a splash of colour to your patio or walkway. If the entryway of your home could use a facelift, read about how Mark Salusbury designed and built a door surround with customized details. If it's still too cold to even think about going outside, have a look at the turned wave platter we've featured in this issue, and try your hand at making one. Lisa Chemerika did a great job at designing and turning this unique piece. Summer will be here soon, and a one-of-a-kind serving tray is both handy and gorgeous.

You have enough projects in the hopper, but your skills could use some honing? How about learning how to do marquetry? French artisans have been creating some of the world's leading examples of marquetry for centuries, and you can learn how they did it by reading an article from Paul Miller, the instructor at the Canadian School of French Marquetry on Vancouver Island. And we can all brush up on our design skills. Ken Guenter, former instructor at Camosun College, shares his thorough approach on using referent-based design to assist you with designing beautiful pieces of furniture. It's a technique that anyone can use, and I bet you'll be surprised with the results. Last, but not least, our cover story is about how to choose the best finish for the different projects you do. There's no one perfect finish. Learning about the pros and cons of each finish, as well as considering the different aspects of what a finish does, is a crucial step in selecting a finish.

On top of that, articles on many other woodworking topics are included in this issue. Enjoy. As always, I enjoy hearing from readers, so if you have anything on your mind, please send me an email. I look forward to hearing from you.

*— Rob Brown*

CANADIAN Woodworking & HOME IMPROVEMENT

Issue #119

PUBLISHERS
Paul Fulcher, Linda Fulcher

EDITOR
Rob Brown

ART DIRECTOR
Jonathan Cresswell-Jones

CONTRIBUTORS
Lisa Chemerika, Carl Duguay, Ken Guenter, James Jackson, Merv Krivoshein, Paul Miller, Ron North, Mark Salusbury

PREPRESS
Bonnie Wittek

PROOFREADER
Katharine Boggess

SUBSCRIPTIONS/INQUIRIES
Jennifer Taylor 1-800-204-1773

ADVERTISING
(519)449-2444

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PO BOX 286 DARTMOUTH, NS B2Y 3Y3

E-mail: circdept@canadianwoodworking.com



TEL. (519)449-2444 FAX (519)449-2445
e-mail: letters@canadianwoodworking.com
website: www.CanadianWoodworking.com



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**Paul Fulcher**
Publisher & Advertising Director
pfulcher
@canadianwoodworking.com

**Jennifer Taylor**
Circulation
circdept
@canadianwoodworking.com

**Carl Duguay**
Web Editor
cduguay
@canadianwoodworking.com

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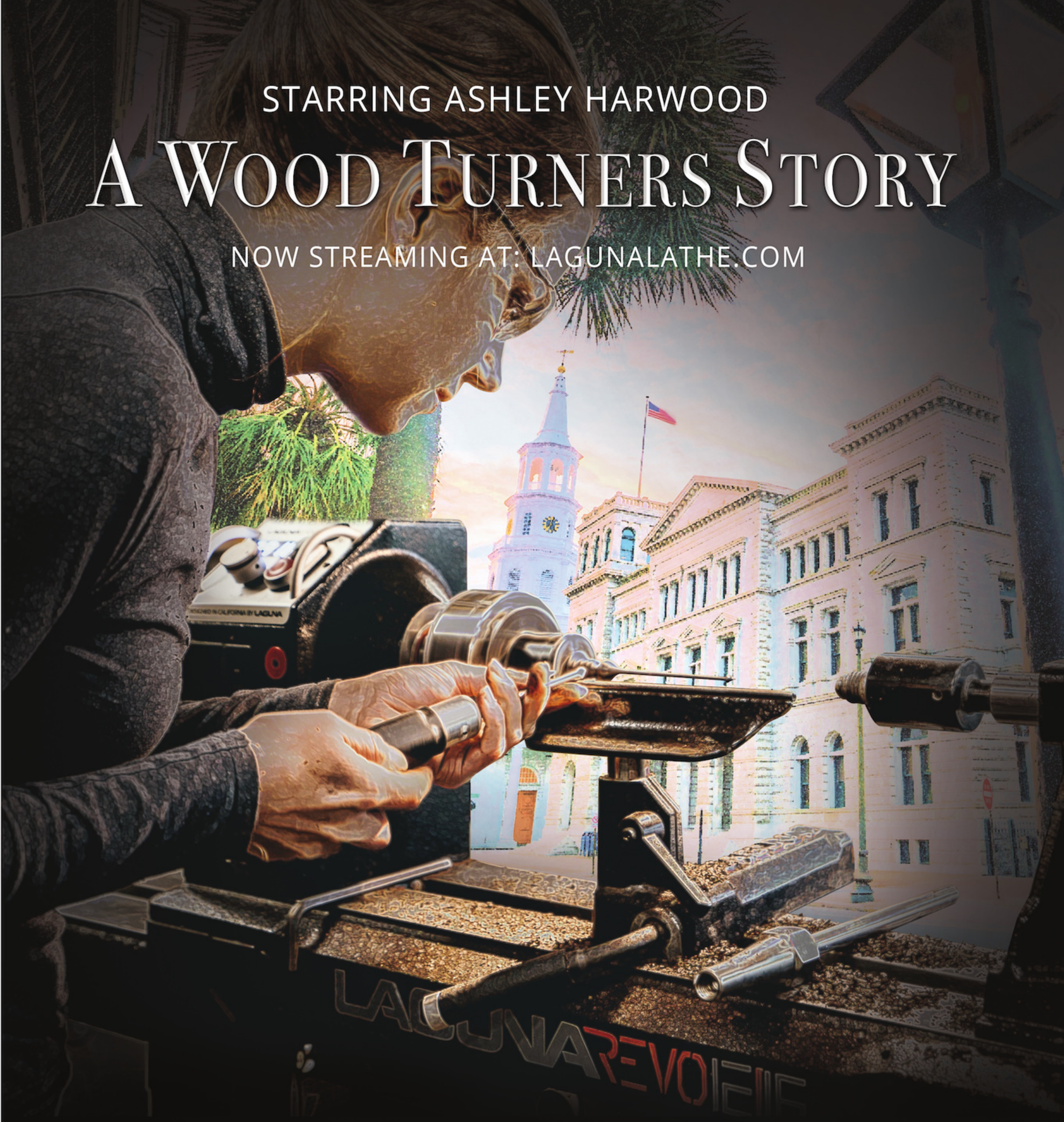


LAGUNA

A Laguna Production Directed by Justin Mabie

LAGUNA ARTISANS

# letters

## Love the lighting issue!

I enjoy reading projects from most of your issues, but I really liked the themed issues you put together. The lighting-themed issue from Dec/Jan 2019 has a lot of great projects in it – ones I never really even considered, until now. I always thought lighting was hard to make, but I'm going to start with the cover project (Build a Floor Lamp) then go from there. The finished look of the back-lit Japanese paper is quite incredible, and the wood base seems not overly difficult, yet very stylish.


This winter is going to be brighter than past years!

Kim E.

Peterborough, ON

***Hi Kim,***
***I'm glad you enjoyed our themed issue on lighting. I had a lot of fun putting it together. Most of the projects in it were on the simpler side to build, so should be great for pretty much anyone to take on. If you're interested in more lighting projects we've ran a few over the years. You might enjoy reading an article titled "Japanese Paper Lantern" (Apr/May 2006). It's a curved-front lantern with a Japanese paper shade. Another fun lighting project is "Build a Tea-Light Candle Holder" (Feb/Mar 2012). It features a scroll saw design that holds three tea-lights. — Rob Brown, Editor, CW&HI***

## Lighting Project Adaptation

Hi Rob,

I just completed the tea light project in your Dec/Jan 2019 issue. Here are some photos of my adaptation. To suit my own skill set and equipment, I opted to screw the copper sheets to the backs of the 1" thick cedar bases. As they are gifts for family and friends who have done a lot of canoe-camping together, stylized outlines of favourite lakes were wood-burned onto the faces of the holders.


Thanks for your original idea.
John M.
Peterborough, ON

## Loyal Subscriber Draw Winner

### Ron Rathburn/Trent Lakes, ON

Ron has had a passion for woodworking most of his adult life. Now that he is retired he is enjoying his hobby full time. Ron recently moved into a new shop with more space to create some of the larger projects that he never had room for. From small cutting boards and turned rolling pins, to oak roll-top desks and rocking moose for his grandkids, Ron enjoys a wide range of projects and builds.

Ron let us know that he is a regular customer at Lee Valley, so his prize will go to good use!


## Fantastic Filler Article

I just wanted to let you know that I appreciated the information on Pore Fillers. In the very near future I will be needing to fill the pores of a large walnut jewelry box I'm working on, so this information is vital to me.

Several years back I used CrystalLac, but felt that it took forever to fill the pores. I had never heard of Target emtech HSF500, but just placed an order for the 32 ounce can. I think some luthier on YouTube also mentioned "Target", but that meant nothing since he did not elaborate. I also love shellac and have used it for years. I purchase my shellac from ShellacFinishes and have seen a demo of its use. After testing the Target filler I may order a can of the (expensive) Seallac and see how it compares to the Target filler.

I must add that some of the pore filling demos that I have seen seem counter productive in that the filler is applied and then sanded off to "flatten" the surface. I understand why that is done, but I think it makes a bit more sense to apply the filler several times using the filler thinned down, allowing each coat to dry throughly and then sanding the surface to "flatten" it. This, IMO, would reduce some of the sanding sessions. At one time I thought one thick heavy coat of filler would do the same thing, but this may not allow the innermost filler to dry sufficiently and could produce dimples when the filler had completely dried later on. I look forward to testing all of my novice theories in the very near future.

Thanks again for a very informative article.

Phillip B.
via email

## Subscription Draw Winners

**Brad F.**
**Brantford, ON**
has won an Accu-Cut Circular Saw Guide from Kreg.


**Ian C.**
**Okotoks, AB**
has won a $250 gift card from **Lee Valley**.


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- Table tilt: 15° left, 45° right
- Floor-to-table height: 43⅝"
- Cutting capacity/throat: 13½"
- Max. cutting height: 6"
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## Tool Reviews

**Bosch 12V Edge Router**

**Jabra In-Ear Noise Cancelling Bluetooth Headphones**

**Kreg Drawer Slide Jig**



View these reviews and more at: canadianwoodworking.com/**reviews**

## Events

### Montreal Wood Convention

Mar 19-21, 2019
Montreal, PQ

### Artistry in Wood, Juried Exhibition 2019

Apr 6, 2019
Kingston, ON

## Best Build

Check out the **Woodworking** section of our forum for our latest "Best Build" thread – a dining table. This month's winner, Peter Froh, wins a **Veritas Dual Marking Gauge** from Lee Valley.

To find out more about this project, go to: **forum.canadianwoodworking.com** or simply go to **CanadianWoodworking.com** and click **FORUM**.

## Forum Thread

Check out these home improvement threads and many others at ***forum.canadianwoodworking.com***

- **Finger Jointed Studs?** – Learn about why some dimensional lumber is finger jointed, and others aren't, and what they should and shouldn't be used for.
- **Tear Down vs. Remodel** – It's the age-old question…start from scratch or fix what you have. Many different viewpoints will give you a better idea what you should do.

Got a question? Join our forum so you can ask our skilled and experienced members any home improvement question you like. It's free, and is just a click away.

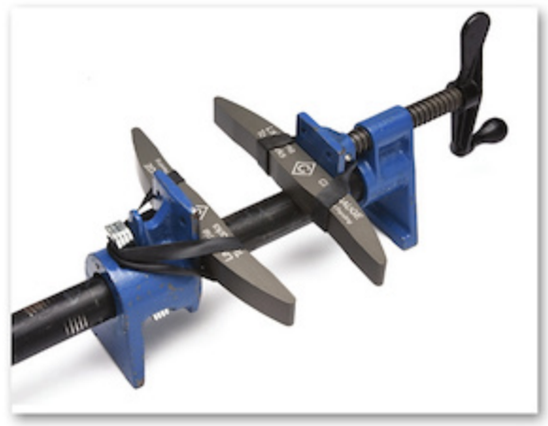
## Free Plan

### English Garden Bench

This classic English style garden bench is a great introduction to basic mortise and tenon construction and a comfortable addition to any deck or garden.

## Product Watch

### ClampGAUGE



Here is a very practical and durable looking clamping accessory. It's a precision machined clamp attachment bar, made of aluminum instead of wood, that you can use with most conventional woodworking clamps. The ClampGAUGE is designed to bottom out when the correct amount of clamping pressure is applied to a panel during glue-up. It distributes clamping force over a broader area and makes it easier for the user to know when sufficient clamping force has been applied.
**LakeErieToolWorks.com**

### Aura Bluetooth Door Lock

Here is an affordable way to upgrade to a smart lock with simple programming capabilities through a mobile device. You can generate and manage up to 250 user codes for family, friends, trades people who need access to your home while you're away, and the like. It also has both user key code and traditional physical key access for those who don't use a mobile device or if your mobile device isn't working. The Aura uses Weiser patented SmartKey Security to defeat common and forced entry break-in methods like lock picking, lock bumping and torque attacks.
**WeiserLock.com**

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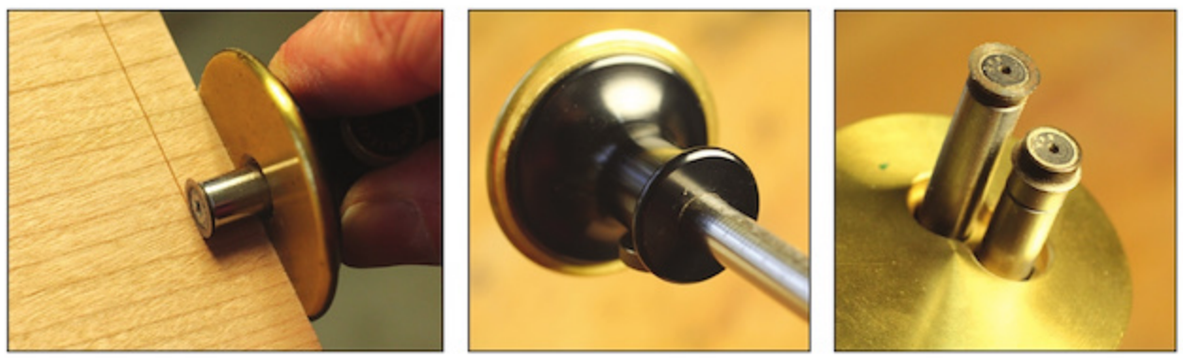
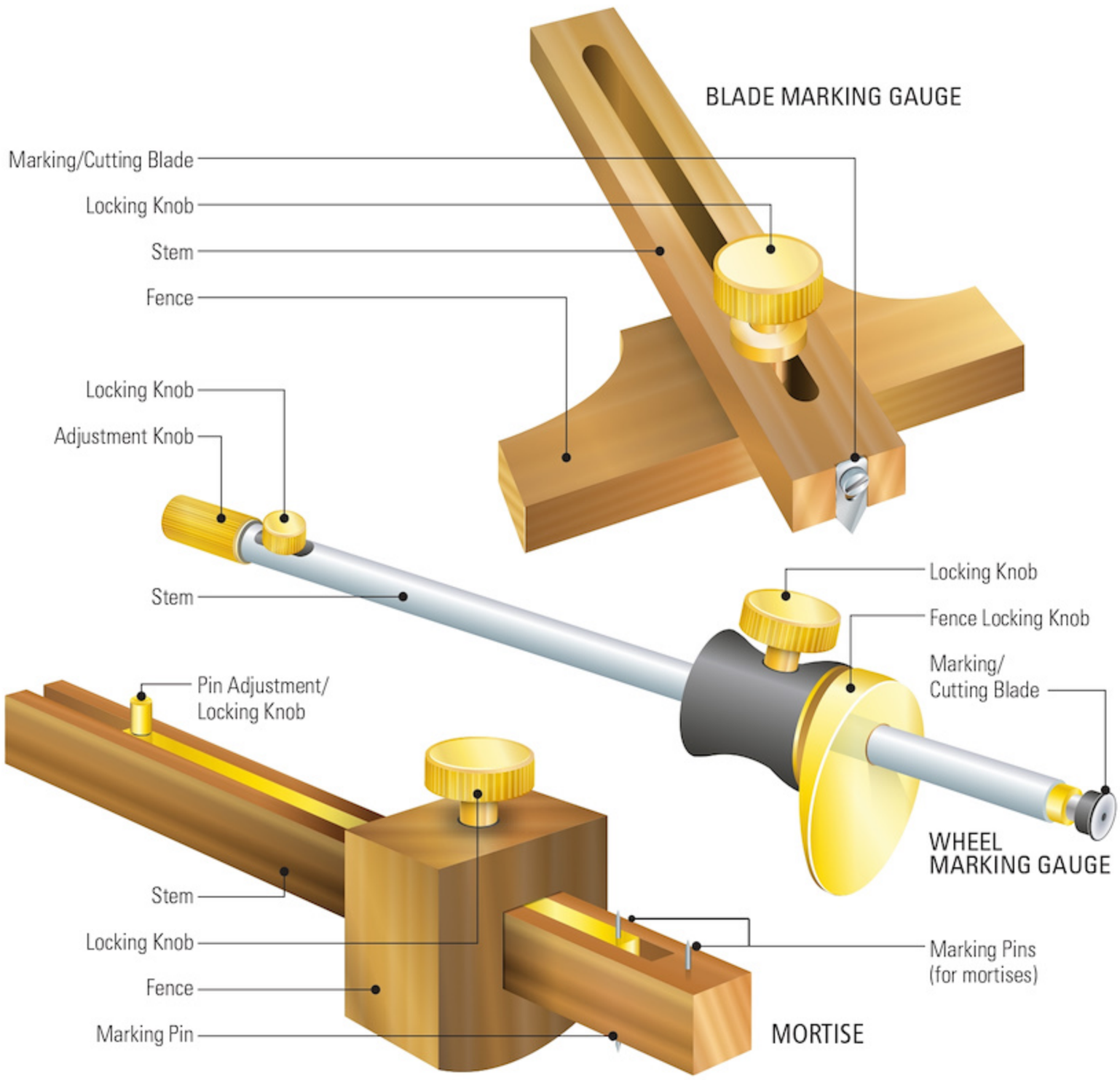
# Marking and Cutting Gauges






Marking and cutting gauges are precision tools that enable you to scribe lines parallel to the edge of your stock – typically up to about 6" from the edge. A **marking gauge** uses a single round pin to score a line. There is an oversized style of marking gauge that enables you to scribe lines much farther from the edge of a board (from 12" or so to several feet), referred to as a panel gauge. A marking gauge with two pins, that enables you to scribe both sides of a mortise simultaneously, is called a mortise gauge.

A **cutting gauge** uses a blade (with either a finger nail or pointed blade profile) or a round wheel (in which case the gauge is often referred to as a wheel marking gauge). Japanese-style cutting gauges use a blade that has a tapered profile. You can also use a cutting gauge to rip thin veneer.

All these gauge designs feature a movable fence that rides along a stem, and can be locked in place with a knob. Some gauges feature an adjustment knob that enables you to fine-tune the position of the pin or blade. Some gauges are available with dual posts, which assist with marking double lines for mortises.

Marking gauges are often made of wood, while cutting gauges, particularly those that use wheel cutters, are made of steel.

**Price Range:** $25 - $200
**Types of Cutters:** Pin, blade, wheel
**Common Marking Distance:** Up to 6"
**Materials:** Wood, steel, brass, aluminum
**Top Brands:** LeeValley.com (Veritas), Jessem.com (Wood Sabre), Glen-Drake.com (Tite-Mark), HNTGordon.com.au, CrownHandTools.ltd.uk

## Get the Most Out of Your **Marking and Cutting Gauges**

### Keep Them Sharp
Like any cutting tool, these gauges work best when the pin, blade or wheel is sharp. Fortunately, most are quick and easy to sharpen.

### Don't Fear the Grain
Many woodworkers find that the pin of a marking gauge works best when scribing in the direction of the grain, while the blade of a cutting gauge scores a cleaner line across the grain. Both types of gauges will work in both instances if you're careful.

### Do the Tilt
Gauges are easier to control if you tilt the beam so that the marking pin or cutter blade cutter is at an angle to the registration line on your stock.

### Don't Squint
Scribed lines can be difficult to see, especially on darker woods. Use a sharp pencil to darken the scribe line before starting your joinery work.

### Go Micro
If you do a lot of precision work, then opt for a gauge that has a micro-adjuster, which makes it much easier and quicker to fine tune your setting.

Photos by Rob Brown Illustration by Len Churchill

# Classic Machinery

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topten

# Top 10 Tips and Tools for Spring Yard Work


Spring is almost here. Prepare for the warmer weather now, so you can get outside and make the most of it.

BY CARL DUGUAY

**1 Rake it up –** Once the last of the white stuff is gone, and the ground begins to warm up, it's time for a general clean up. Cut back any dead, diseased or overgrown branches, plants, grass and weeds, and then rake up the leaves, twigs and other debris. It's a good time to re-seed any bare patches on the lawn and add a thin layer of compost.

**2 Compost it –** All the debris from your clean up should go into the compost pile. If you don't like the idea of an open pile, it's easy to construct a compost bin. You'll find lots of plans on the Internet.

**3 Mulch –** Once the soil has warmed up, and there's not much chance of frost or freezing rain, it's time to apply mulch – about 4" to 6" - around trees, shrubs, and flower and garden beds. You can't go wrong with shredded bark.

**4 Aerate –** Aerating the lawn allows oxygen, water, and nutrients to more easily reach grass roots. If your lawn is small, use a manual hand aerator. Otherwise you can rent a powered aerator (or hire a landscaper to do the job for you).

**5 Wheelbarrow –** Unless you intend to do a lot of concrete work, a wheelbarrow with a replaceable plastic bucket and large inflatable rubber tires is a good choice. Otherwise choose a metal bucket. If you have back or lifting problems, consider a battery-powered model, such as the Makita DCU180ZX2 Power-Assist Wheelbarrow, which gives up to 2 hours of runtime.

**6 Shovel –** For digging, turning over soil, mixing compost, and digging around root crops, a shovel with a steel blade and pointed or slightly rounded tip works well. For heavy duty work, I like a D-handle shovel with a long handle; for light duty work, choose one with a short handle and correspondingly smaller blade.

**7 Leaf rake –** Avoid flimsy all-plastic rakes at any cost. Choose one with a long, comfortable handle and an 18" to 24" span of flexible metal tines.

**8 Bypass pruners –** These pruners will give clean cuts through all manner of vines and branches up to about 1/2" diameter. Choose a model that fits your hand size and shape and that isn't too hard to use. Look for corrosion-resistant models with hardened steel blades.

**9 Folding hand saw –** If you have a lot of trees to manage, then loppers are a good choice for cutting large branches. However, for most homeowners, a folding hand saw with 4 to 6 tpi impulse hardened teeth, like the EC662 Quick-Cut saw from Lee Valley, will work just as effectively, at a fraction of the cost.

**10 String trimmer –** Trimmers make quick work of taming grass along walkways, driveways and flower beds. Battery-powered models are quieter than gas or electric trimmers, and just as effective. You'll want as much battery power as you can get – minimum 40 Volts, with a 16" bar and tool-free chain adjustment.

CARL DUGUAY
cduguay@canadianwoodworking.com

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Photo by Lee Valley

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# Stephen Dalrymple

## …on creating relevant work, 3D models and the pitfalls of figured wood.

BY ROB BROWN

**How long have you been building furniture?**
5 years

**What sort of furniture do you specialize in?**
Seating, objects, lighting.

**Tell us a couple interesting things about your personal life.**
I spent eight years as a high school English teacher in Toronto. In my spare time I'm an avid collector of jazz records from the 1950s and 60s.

**If you were not a furniture maker what would you be?**
A graphic designer.

**In order, what are the three most important items in your shop apron?**
A pen, a measuring tape, headphones for music

**Do you prefer hand tools or power tools?**
I can't say that I prefer one over the other. I enjoy the meditative, considered approach that comes with hand tools, but am equally excited by a power tool's… well… power. It's amazing what you can do, and how efficiently you can do it, with modern, powered machinery.

**Solid wood or veneer?**
Solid.

**Figured wood or straight grain?**
There are occasions where you want to accentuate a piece by using straight grain, and there are times when you want to accentuate the luxury of materials by using a well-considered composition of figured boards or veneers. The pitfall in using figured grain is that it can be used as a substitute for skill or refinement. It's easy to plane a board of curly maple and pop the grain with a coat of oil – people will be impressed! – but in the end, this only highlights the contribution made by the tree.

**Inherited Vintage Stanley Sweetheart or fresh-out-of-the-box Veritas?**
Inherited Stanley Sweetheart.

**Flowing curves or geometric shapes?**
Geometric shapes. In general, I like reducing my ideas to simple, striking forms.

**Favourite wood?**
White oak. I love how it smells when I cut into it, and I love the variety of visual textures it can offer. I also cook with oak offcuts in my barbecue. White oak smoke imparts a beautiful flavour to a roasted chicken.

Photos by Stephen Dalrymple

## Stephen Dalrymple, 40, www.stephendalrymple.com

**Location & size of studio –**
Toronto, ON, 150 sq. ft.

**Education –**
Studied furniture craft and design at Sheridan College

**Piglet Tray** – This end grain white oak tray was Dalrymple's first real experiment with CNC fabrication. The body of the tray is quite thin, at about 1/8".

# quotes

I do a lot of design work from the "think-tank" – a studio I share at home with my partner. It's on the third floor of a Victorian commercial building in Parkdale, Toronto. The studio has an abundance of art supplies, and a computer that I use for digital design and 3D modelling. The walls are covered with sketches that I've been working on.

I work full time as Director of Creative Development for Coolican & Company. I typically spend evenings and weekends working at home on my own designs. I often work late into the night, and shuffle off to bed when I can't keep my eyes open anymore.

I love chisels. When I was in school I spent a year amassing a full collection of E.A. Berg socket chisels with Karelian birch handles. They are lovely to hold, a delight to sharpen, and, of course, a pleasure to use.

I get inspiration from the human body. Plants. Animals. Buildings. Furniture. Music. Art. Anything, really...

My work often has a strong narrative element; It probably communicates my interest in hearing and telling stories.

I spend a lot of time on Instagram, looking at the work of a broad range of international designers.

In terms of design, be open to every idea that pops into your head. In doing so, try to discover the voice and vision that is uniquely yours. If you can do this – if you can create work that is personal, genuine, and in some way original – it is more likely to attract others.

Usually when I pay too much attention to aesthetics and too little to function, some of my designs fall short of my expectations.

Some people just want to make hand-cut dovetails all day long, while others find great pleasure in driving screws. I say, if it feels good, do it.

Since beginning as a woodworker I now use more digital design and fabrication processes, and I am more likely to work in materials other than wood.

I'm interested in how to make the woodworking community more diverse. Most woodshops are dominated by white guys, and while that's okay I think it would be really interesting to hear the voices and see the work of more women, people of colour, and anyone else whose voice is less represented in creative fields.

Unless you've done it, it's hard to imagine how much time it takes to design, prototype and build a custom piece of furniture.

I think the onus is on the maker to create relevant work. I believe it's important for makers to understand the cultural, economic and technological trends of their time, and to respond to that. There's truth to the adage, "if you build it, they will come", but if you build things that are anachronistic or out of touch, people will not be interested in what you are doing.

Sergio Rodrigues, Hans Wegner, Patricia Urquiola, and Egon Schiele have all influenced me.

I think furniture makers will become increasingly aware of sustainability when choosing wood, opting for domestic, responsibly harvested species over flashy tropical stuff.

I want to design more lighting.

## Go Online for More

SLIDESHOWVisit our website to view a slideshow of Dalrymple's work.

ROB BROWN
rbrown@
canadianwoodworking.com

# Camosun College's 30th Anniversary Exhibition

In mid-2018 Camosun College put on an exhibition called "Making It" to celebrate their 30th anniversary, and to showcase some of the great makers that have graduated from their Fine Furniture Program.

BY ROB BROWN

Sandra Carr
Class of 1996-97
Lounge Chair
**Douglas fir, powder-coated steel**

Photos by Ken Guenter

Stephane Dimopoulos
Class of 2008-09
D4 Lounge Chair
**Walnut, plywood**

Ian Eardmann
Class of 2003-04
No Name
**Garry oak**

Mike Randall
Class of 2010-11
HUG
**Ash, canvas, steel**

Karen Trickett
Class of 1989-90
Dining Chair – Version 2
**Sapele mahogany, figured western maple, leather**

Yoshi Konomoto
Class of 2016-17
Cherry Perch
**Cherry**

Joe Gelinas
Class of 1994-95
Redwood Bench
**California redwood**

Philip Smith
Class of 1987-88
Josephine
**Western curly maple, planchonia**



Melissa Miralles
Class of 2013-14
Sartoria
**Eastern maple, leather, lace, lute, chenille fabrics**

Phil Testemale
Class of 1999-2000
Hikari Bench
**Cherry, jatoba**

Roshan Ganief
Class of 2008-09
Reclaimed Destiny Chair
**Reclaimed red oak**

Meagan Schafer
Class of 2003-04
Fawn Stool Classic and
Fawn Stool Geometric
**Cherry, walnut**

Cameron Dobson
Class of 2014-15
Art Nouveau in Arbutus
**Pacific madrone**

Adrian Sitter
Class of 2006-07
Kitten Around
**Poplar, upholstery**

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SLIDESHOW: Visit the Videos section of our website to view a slideshow of all 36 pieces in this exhibition.

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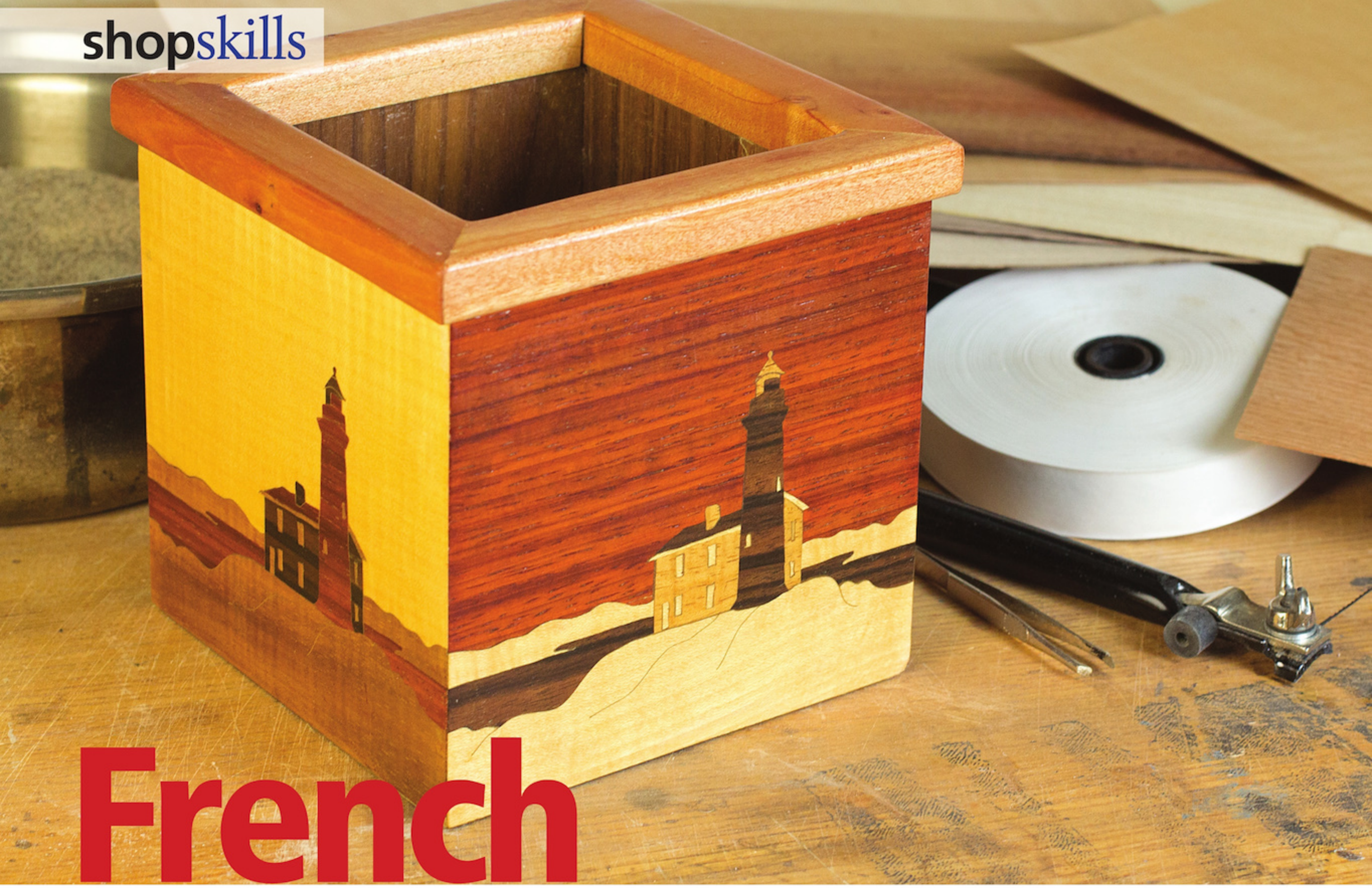


# French Marquetry Techniques

Marquetry has been adorning and ornamenting some of the most beautiful pieces of furniture in the world for many centuries. It's a craft whose details used to be kept top secret, but now we all can learn how the masters of the past created these great works.

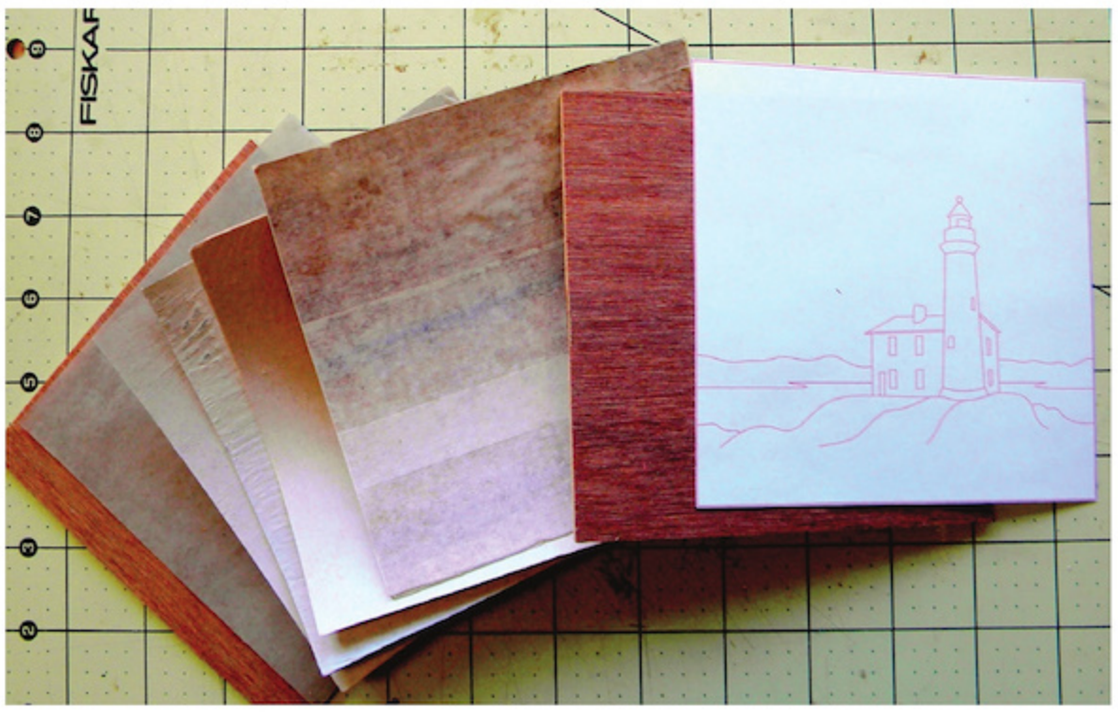
BY PAUL MILLER

*Marquetry* is loosely defined as pictures cut from thin veneers of wood, bone, shell, and/or metal for subsequent application to furniture, boxes, etc. or simply to hang as wall art. *French Marquetry* refers to marquetry done in the style and with the tools and methods developed in France by the great masters of the 17th and 18th centuries.

These styles can be divided into three basic methods: *Boulle*, named for the great master Andre Charles Boulle; *painting in wood,* a style designed to imitate the painting styles of the day and to conserve the valuable and exotic veneers; and *piece by piece,* a revolutionary technique that was enabled by the development of the Chevalet de Marqueterie by the guild of ebenistes in Paris. The exact time of the emergence of the chevalet is unknown, as the guild kept it a closely held secret for many years.

I operate The Canadian School of French Marquetry (CSFM), on Vancouver Island. This article describes the most basic elements of cutting marquetry in the French style. At

Photos by Paul Miller Lead Photo by Rob Brown



**All in Order** – Once all the layers of veneer have been faced with a layer of paper, Miller assembled them in order into a packet so he could start cutting. In this packet there are four layers of veneer, grease paper below the veneer layers, sandwiched on either side by a 1/8"-thick plywood backer. The pattern gets adhered to the top.

CSFM we use the chevalets and also follow the traditional ways in using hot animal protein glue, but you can certainly follow the instructions here and do your cutting with a hand fret saw and bird's mouth or with a scroll saw. The chevalet is a precision instrument and is capable of making cuts that are, to me anyway, impossible on anything else. If you use another saw to cut your pieces you may decide to omit the tiniest parts in this lighthouse motif. It will still look fine.

Just as an example of what type of project can be done I'm going to describe the process of making a simple four-sided box that could store pens and pencils, but this same style of marquetry could be used to adorn just about any type of woodworking project.

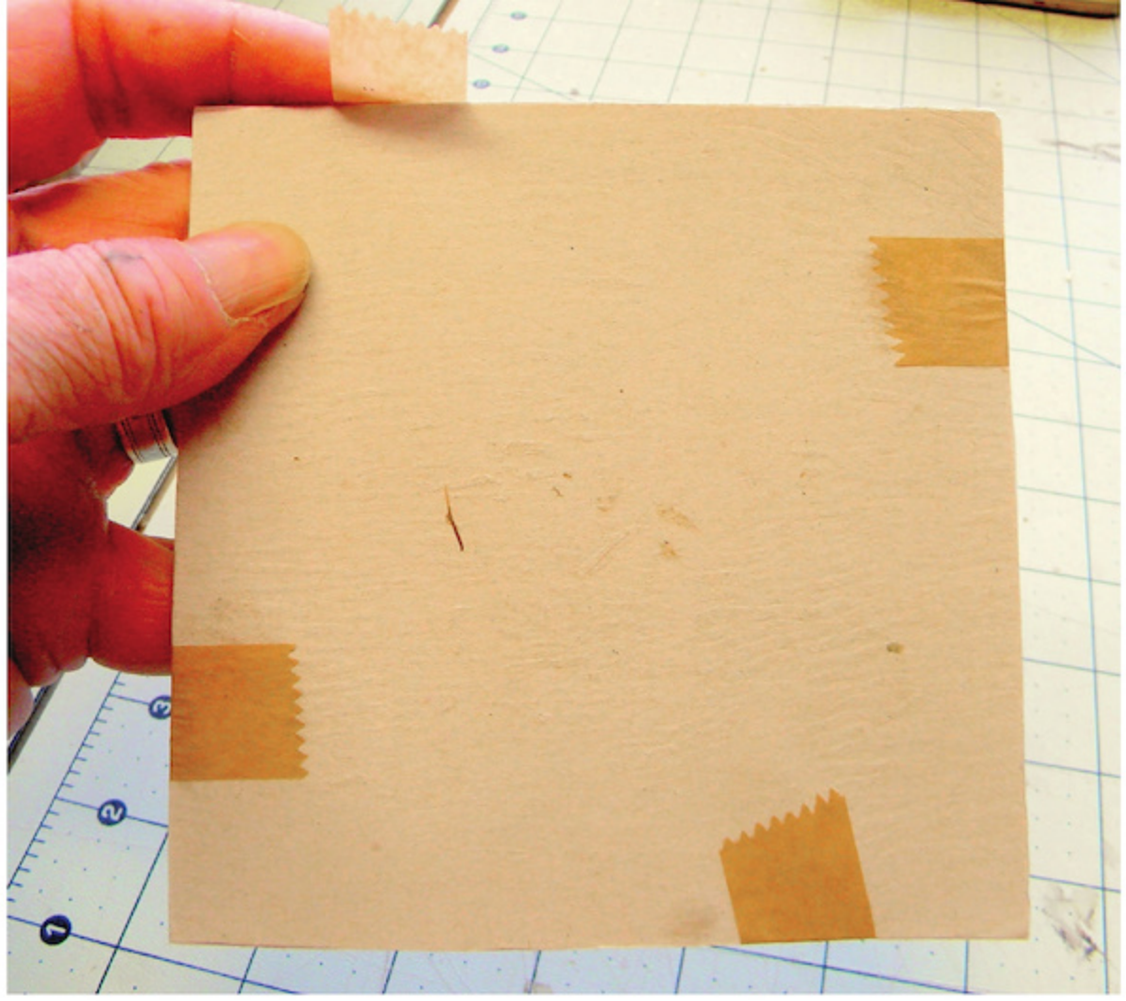
## Making the packet

To make a packet for cutting marquetry in Boulle style, start by assembling one piece of veneer of each colour you would like to use, two backers (1/8" plywood), your pattern, and a piece of grease paper. We make our grease paper from bacon fat and newsprint, but you can also use wax paper, or even omit it entirely.

Make all pieces the same size, and reinforce each piece of veneer on one side. We do this with hot hide glue and newsprint, but you can use veneer tape. This step helps keep the wood fibers together.

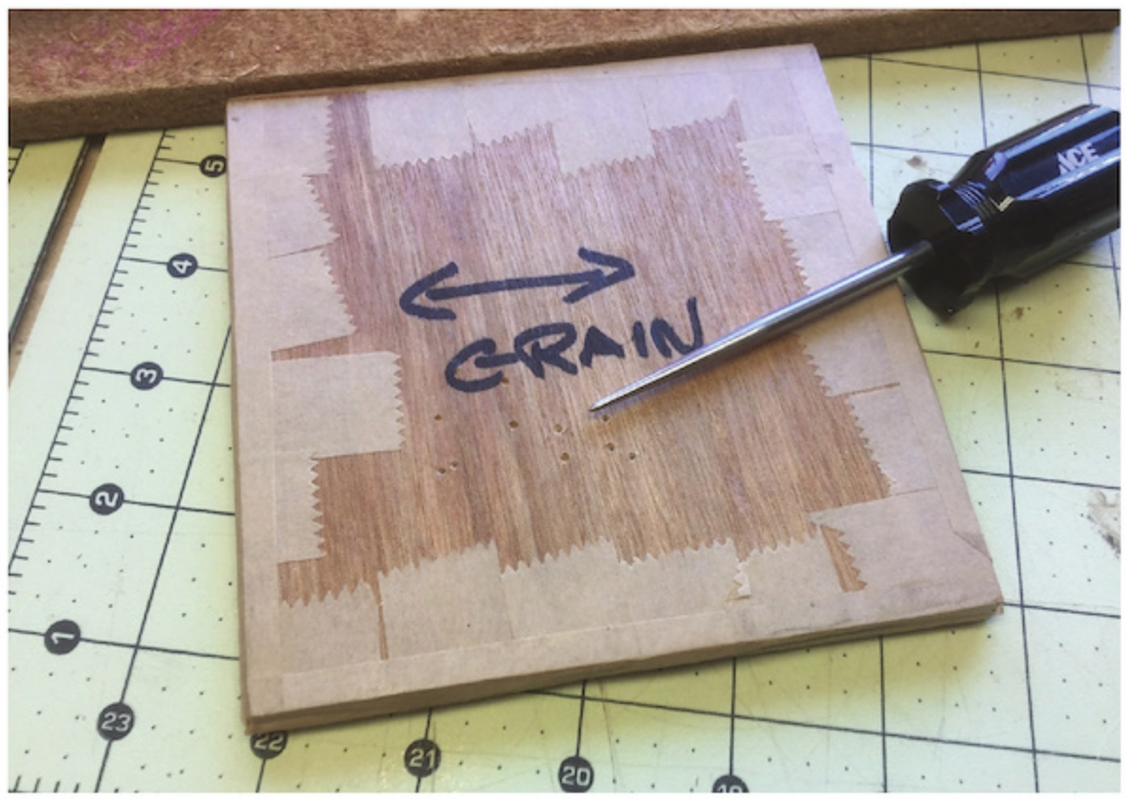
Mark one of the backers to indicate the grain orientation. All layers should be assembled with the same orientation. Now start putting the packet together. With the marked side down, place the grease paper on the backer, followed by the first piece of veneer, paper side up. Tape with veneer tape at the left side of each edge. Remember to align the grain with the marking. Next, add the rest of the veneer layers, paper up, and tape as above, but move the tape slightly on each successive layer to avoid stacking the different layers of tape on top of each other. Finally, add the top backer and apply the pattern. Again, we use hot hide glue, but spray adhesive will do.

With the packet assembled, drill tiny access holes for the saw blade in every "island" or closed line. Turn the packet over, and open the holes a little with an awl on the back for easier threading of the blade.

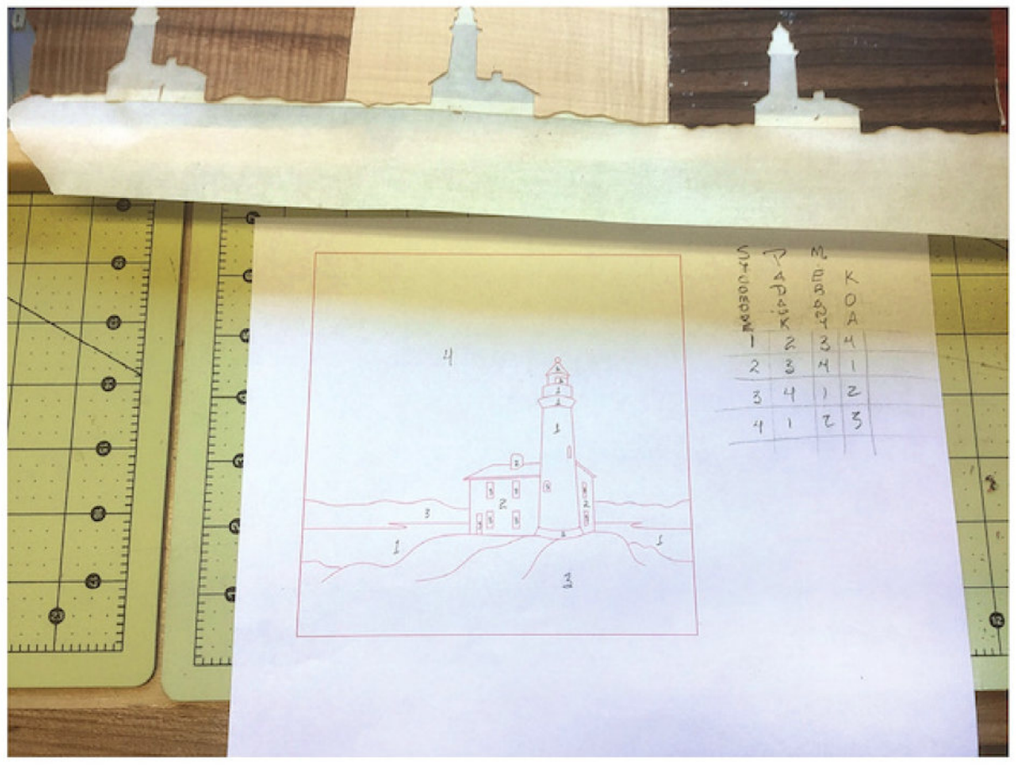


**Tape it Together** – Here, the third layer is added to the first two layers. To join the first two layers, tape was used right beside the corners. To add the third layer, the pieces of tape were offset by about the width of the tape.

**Drill Some Holes** – A small drill bit will give your saw blade access into the contained areas in the center of the packet that need removing.



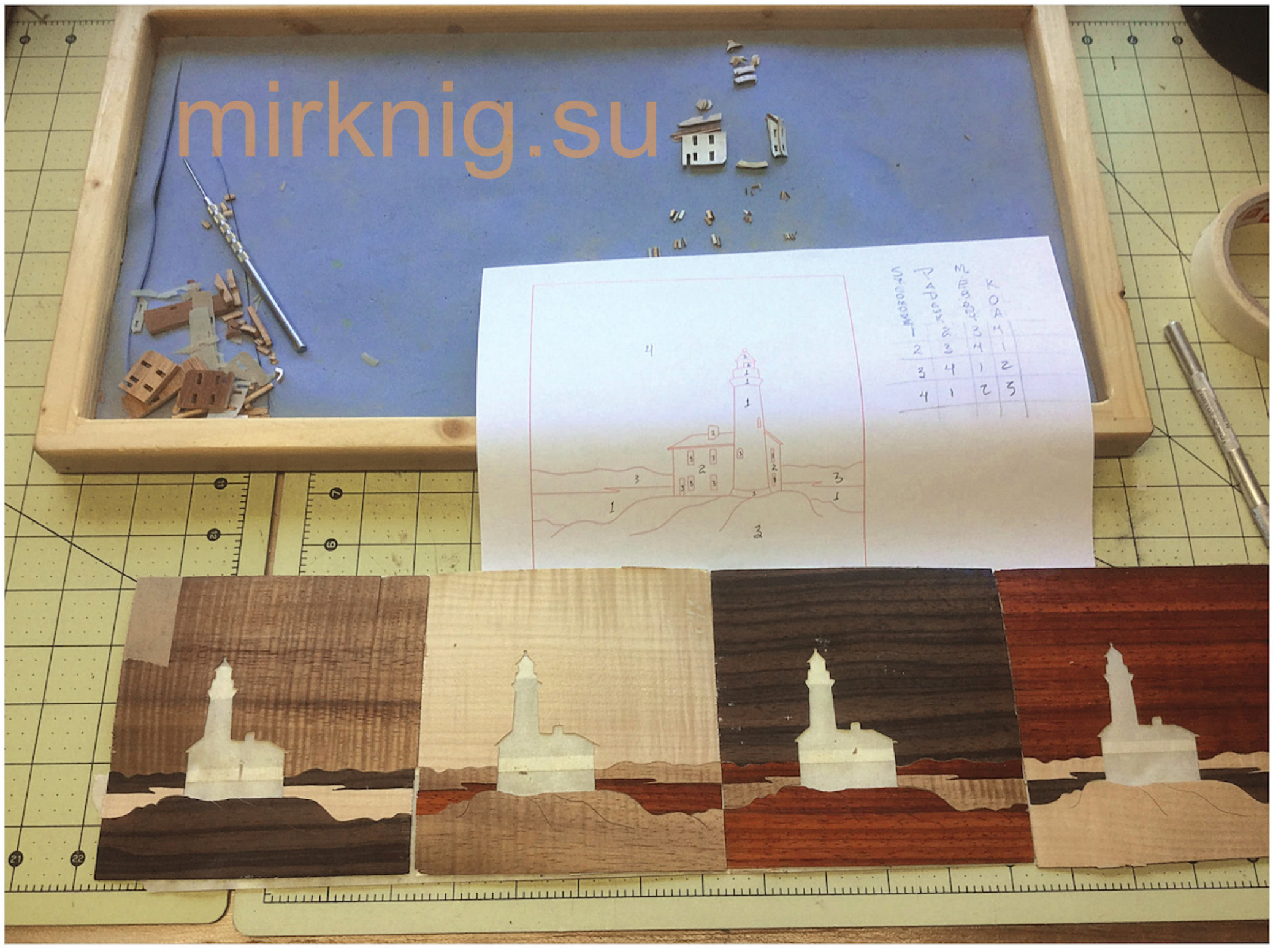

**Ready for Cutting** – The packet, complete with tiny holes, is now ready to be cut into pieces. It's easiest to ensure the holes are clear of debris at this point so inserting the blade into the holes will go smoothly. Notice the layer of tape around the edge to keep the pieces in place during the cutting stage.

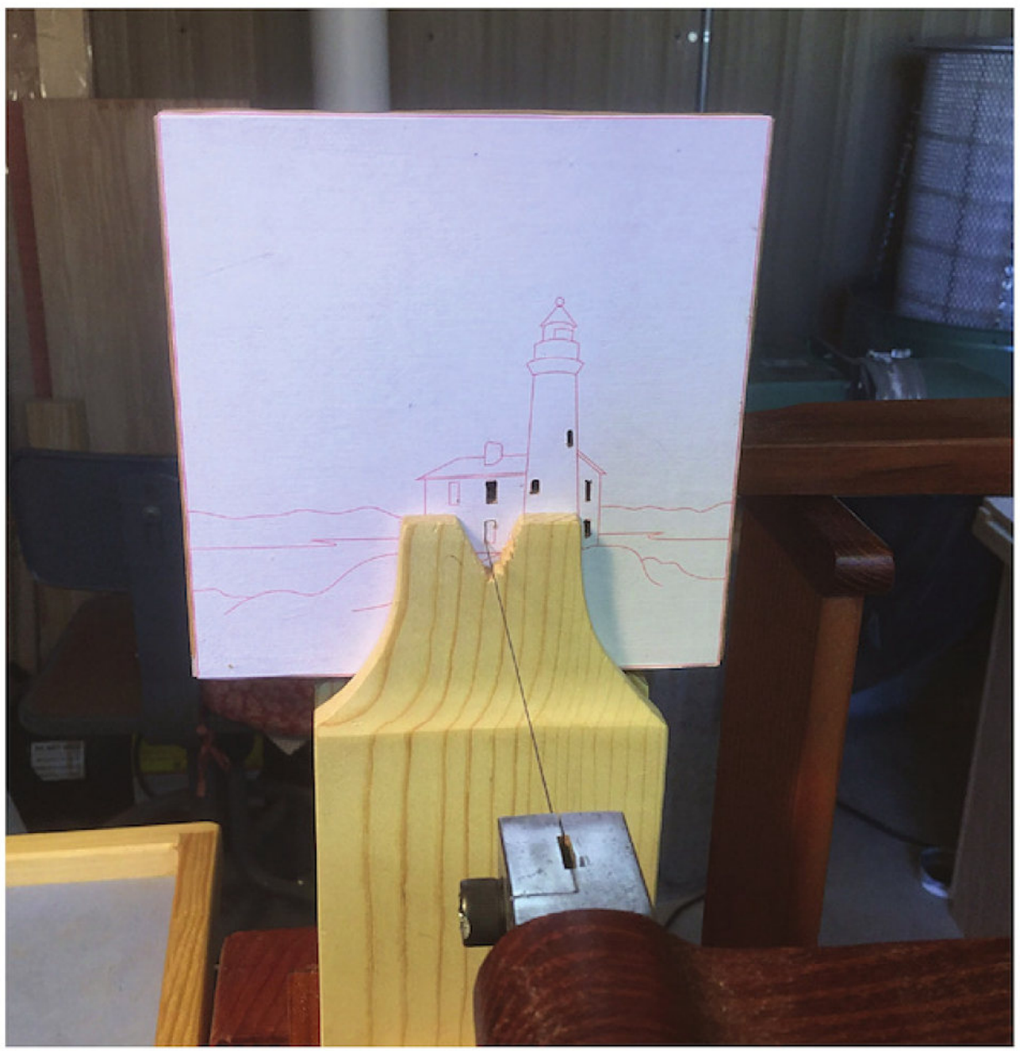


**Keep Track** – Make a list of what species will go where, so patterns with multiple layers that are the same will look right. At the top of this photo you can see the backgrounds are all taped together. Have a layer of tape ready to secure the smaller parts in place.

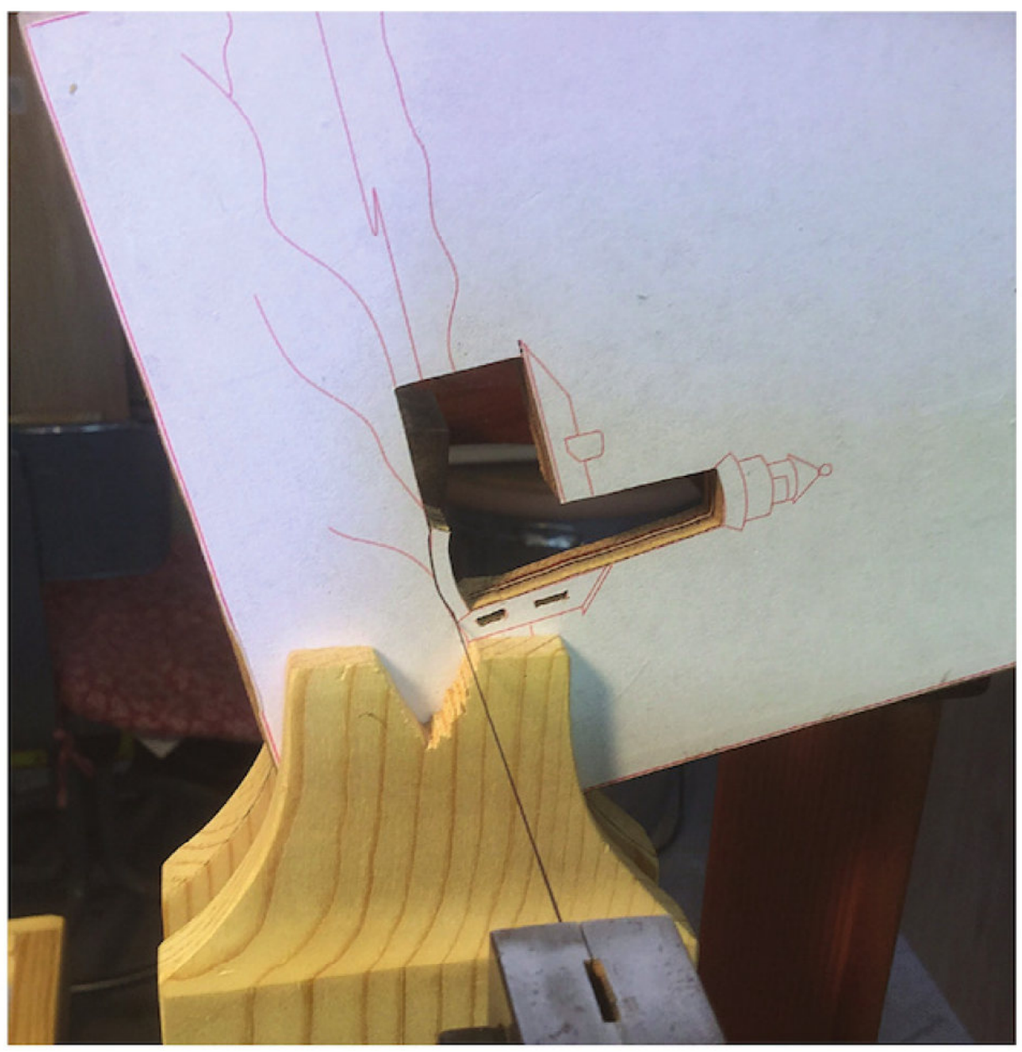
**Fill the Voids** – At this point Miller fills the kerf gaps with a mastic made of hot hide glue and very fine wood dust. He works it into any gaps or kerfs to help level the finished surface.

**Almost There** – Now the background and foreground are mostly done. All that's left are the smaller pieces that make up the lighthouse.





**Start Small** – The first step is to cut the smallest pieces from the packet, then start moving towards the outside.



**Getting Bigger** – With the small pieces cut, you can work your way to the outside while cutting the larger pieces.

## Cutting the pieces

Now you can start to cut the pieces. At CSFM we use the Chevalet de Marqueterie for all cutting, but if you don't happen to have one of those you can use a scroll saw or a hand fret saw. You can visit the CSFM's website to view our chevalets and download plans. The very smallest parts will be a challenge, and you may choose to omit them.

Start by cutting all of the isolated pieces. If you miss one, it can't be cut afterwards. Once they're all done start cutting the larger pieces, working from the centre and toward the outside. As you remove the pieces, place them in a tray in an exploded view of the picture.

When you finish the centre pieces, cut away the mountain / sky line, and remove the sky piece. Then remove the mountains and the water, and finally cut the "engraving lines" in the rocks at the bottom. Slit the tape around the sky and rock parts, and remove the veneers.

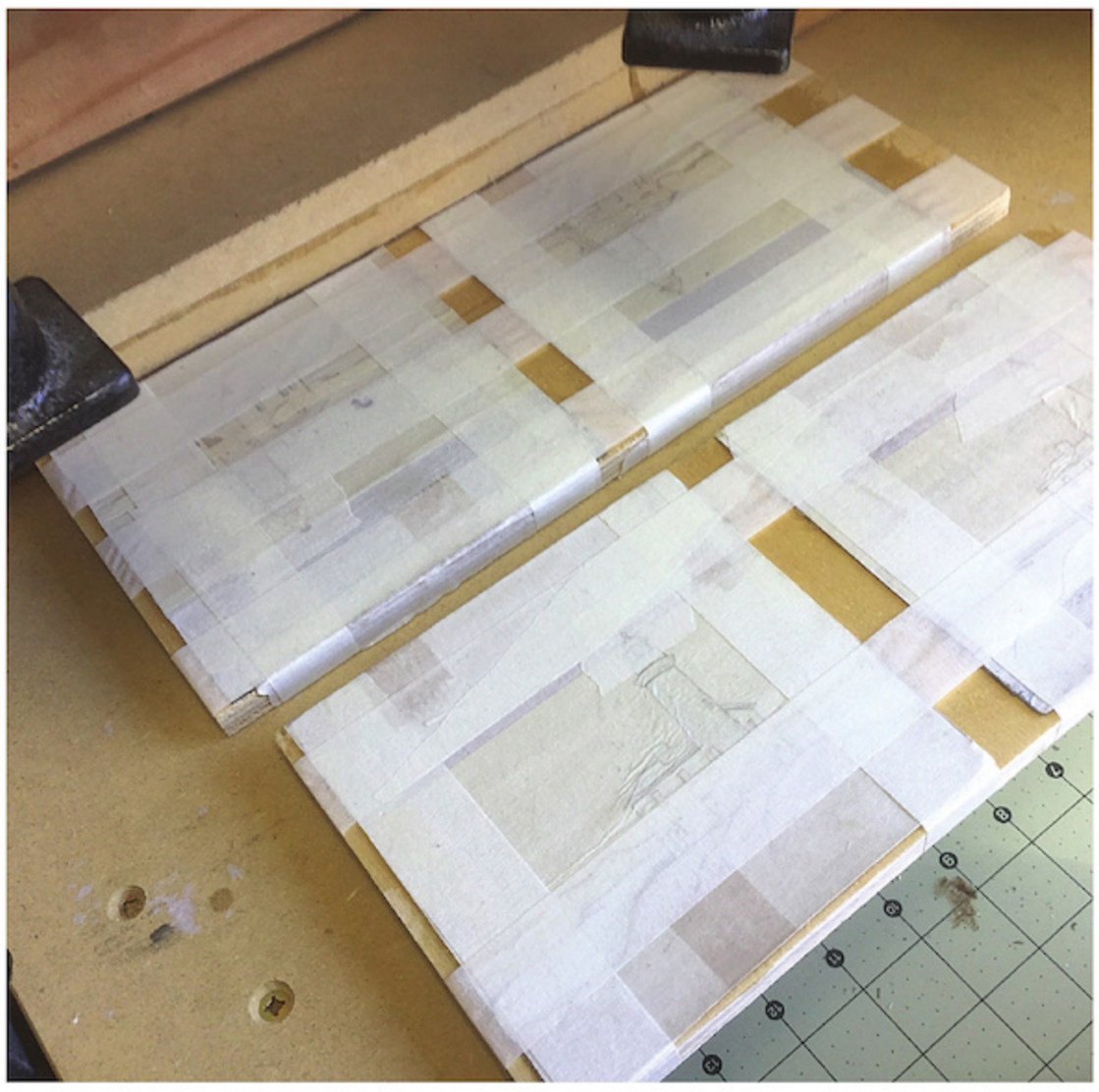
## Assemble the marquetry

Now you're ready to assemble the pieces in a mix-and-match kind of way. The more complex the piece the more care must be taken to get this right. If you only have two colours, organization isn't that important, but as we have four colours here I chart it to insure success. Below is a chart that will guide the distribution of elements during assembly along with a numbered copy of the pattern.

We will make up four motifs and will call them A, B, C, and D. Reading the chart you can see that in motif "A" all the pieces


**Be Orderly** – Keep your parts organized as well as possible. This is even more important with more complex designs.

**Engraving Lines** – Cutting kerfs into the parts will add a strong visual element to your design.



**Ready to Press** – With the four pieces of marquetry assembled, they can be pressed to the substrates. Miller uses a screw press, but a vacuum bag or clamps and cauls also work well.

marked #1 will be sycamore, #2 padauk, #3 ebony, and #4 pieces will be koa. If you follow the chart for each motif, things will fall together easily.

Start by applying wide masking tape to the paper side of the all the sky pieces. Add enough to cover the motif area. Then turn it over and start assembling the background pieces, working until it's complete. The smaller pieces are usually last.

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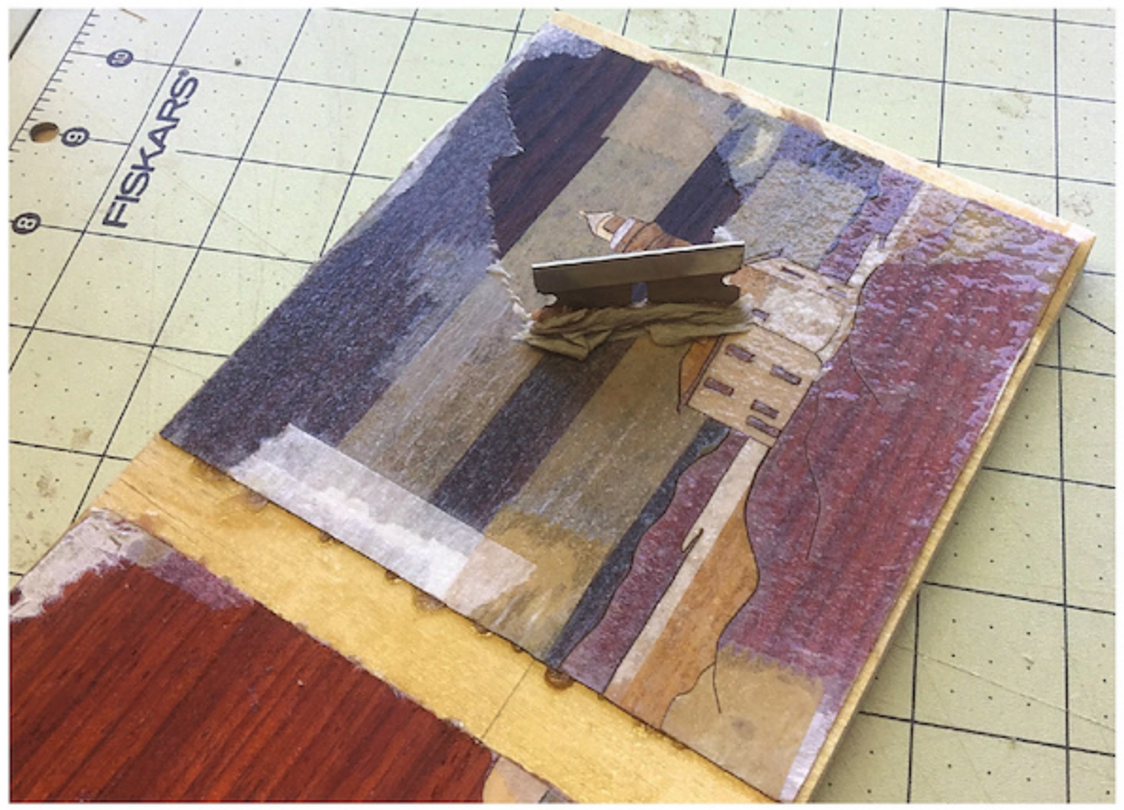
RELATED ARTICLES: Painting with Wood: Knife Cutting Marquetry Basics *(Aug/Sept 2011)*




**Remove the Paper** – You can remove the paper and veneer tape with a sharp knife blade or scraper, then proceed to use the panels as you would any other workpiece to complete your project.

At this point we fill the kerf gaps with a mastic made of hot hide glue and very fine wood dust. If you don't have hot hide glue, ordinary wood glue will work. The side you are working on here will be the back of the veneer and will eventually get glued down to the substrate.

## Press your panels

Now it's time to press the marquetry to your substrate. I am using 1/2" plywood here. Apply glue to both surfaces, tape securely in place and press. I use a screw press, but a vacuum bag or simple cauls will also get the job done.

When your glue has cured, remove the masking tape and scrape the paper or veneer tape off the surface with some water and a razor blade or craft knife. Your marquetry panels are now complete, and you may use them to adorn whatever catches your fancy.

PAUL MILLER
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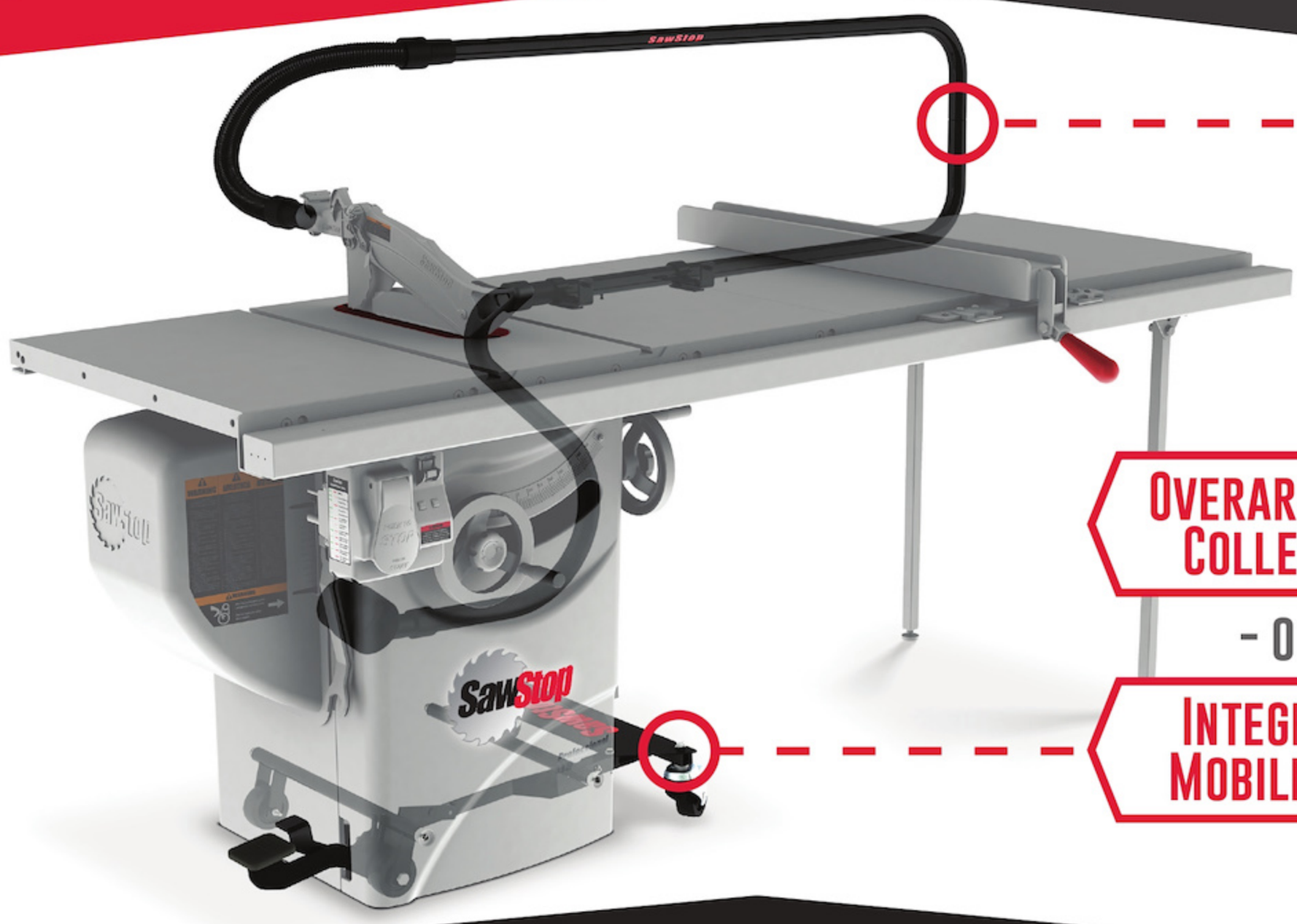


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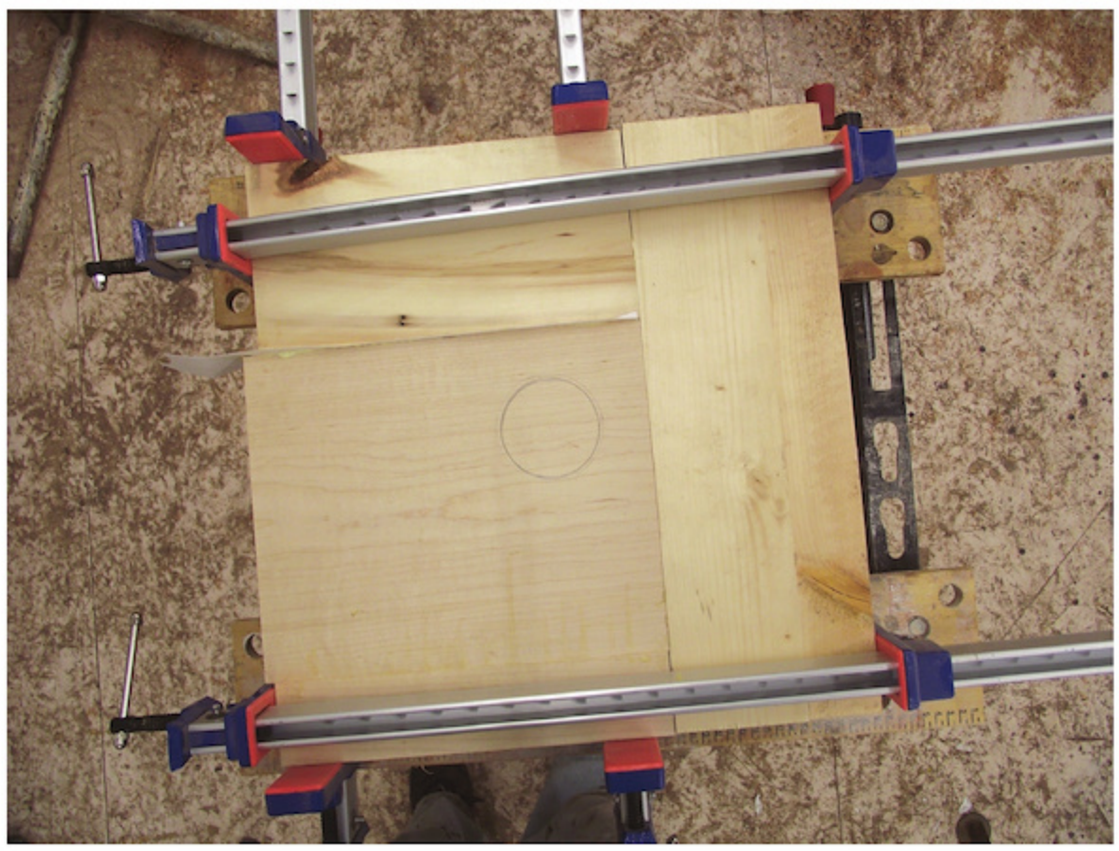
# Build a TURNED WAVE PLATTER

Photos by Lisa Chemerika (Lead Photo by Rob Brown)

# Use your lathe to turn an offset platter with wave-like undulations on its surface. It's easier than you'd think.

BY LISA CHEMERIKA



**Careful Planning** – To lay out the blank, Chemerika marked the location of the center recess that holds the salsa dish, then worked forward from there, adding on enough waste material on the other two sides to make it safe to turn. Notice the piece of paper in the joints between the waste and workpiece.

**Hole-Free Workpiece** – In order to avoid driving screws directly into the workpiece, Chemerika attached a piece of plywood to the back of the workpiece that she could attach the face plate to. She included a piece of paper between the plywood and workpiece so she could easily remove it later.

This project started, like most of my projects, by someone telling me I couldn't do it on a lathe. As we all know, lathes rotate wood that is centered on a chuck, and you can only cut away wood while the piece of wood is evenly turning around that axis. This means you cannot make off-center cuts in the wood with the usual mounting.

I'm always up for a challenge and thought to myself, "How hard could it be?" Those of you who are on the Canadian Woodworking & Home Improvement forum, and are familiar with my signature, know the rest of that sentence... "People do this every day." After discussing the possibilities with a few of the members, I set to work to figure it out.

I'm like most of you; I have lots of great pieces of wood stashed away for that someday when I find the perfect use for it. I have been very lucky in the past and have bought lumber on the CW&HI forum and was able to find someone who could bring it to Manitoba. I have mostly maple, cherry and walnut, but a number of exotics as well. I make use of this wood in my shop for furniture, cutting boards and art pieces. I have boxes and shelves of "left-overs," and we all know the leftovers can sometimes be better than the original meal.

I smile as I see lots of ghosts of past projects, but when I spotted a maple square 12" × 12" × 2" I had an idea to make this offset platter. I wanted a heavier platter, and I didn't think 1" material would be beefy enough. You could use whatever wood you found that would make a big enough and deep enough recess for the dish you chose.

## What comes first? The dish or the platter?

My dish size is based on a very nice pottery dish made by a talented local potter, Sue Devar. It's easier to find the dish first and make the hollow to fit it rather than the other way around. A dish too big or too small for the wood you want to use will not look as good as designing the wood to fit the dish. Also you can finish the plate with the colors of the dish in mind if you want. I use aniline dye to get a complementary color that worked well. I know lots of people love things to look like they belong together. You know who I'm talking about here.

On my maple square I determined where the center of the dip dish recess would be and what the overall size would be. I wanted the recess to be the focal point of the platter and have waves around it to hold crackers or chips. I didn't want the dish to overhang the edge of the platter because I want to reduce the tipping hazard. I marked the circumference of the dish bottom on the square of maple so I could see where the center of the built-up blank needed to be.

I then found some scrap wood and glued it to the sides of my maple to build out a square big enough to provide the waste block required for safe turning. Using scrap material of a similar density works nicely to keep the blank balanced as it rotates. I had some 2" spruce, which is less dense than maple, but I'll tell you how I overcame this difference shortly.

**Mounted and Ready** – Now that the workpiece is ready for turning, mount it on the lathe, set your tool rest, and give it a spin.

**Turned Platter** – With the center recess carefully formed, the waves shaped, and the surfaces sanded, you can remove the platter from the lathe.

Turners often will attach two pieces of wood with glue, but with a layer of heavy paper between the two pieces of wood. It makes a solid enough glue joint to hold the wood together but is easy to get apart later. I save old poster-style calendars for the heavy paper, but any paper thick enough to separate the parts will work. The reason I do this is so I do not have screw holes or other defects in my project when I am finished. I used card paper between the waste and the maple for easier removal later on.

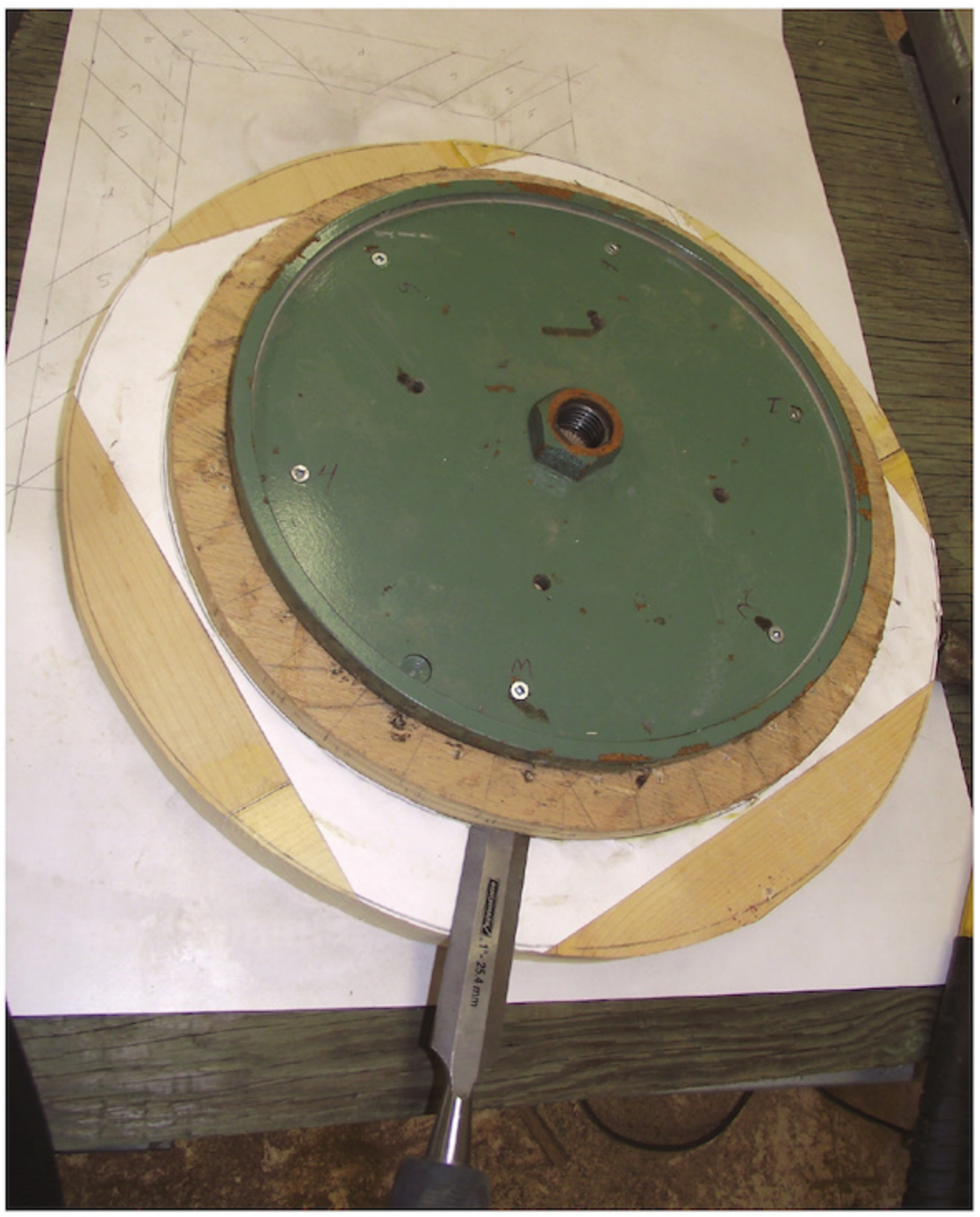
## Trim and mount the blank

I cut out a round blank, with the dip bowl recess marks centered on it. I then mounted it on the lathe, by gluing on a round of scrap wood, again using heavy paper in between. I then could screw through a face plate only into the scrap wood on the blank and have no screw holes in my workpiece.

The density of the two different woods in the turning blank make it unbalanced. To help the blank run more smoothly, I screwed pieces of wood onto the back of the spruce parts of the blank until it was better balanced. If you loosen the belt on the lathe so the blank will turn freely on its own, you can see where the heavier part of the blank is, as it will gravitate to the lowest spot of the rotation of the lathe. If you keep adding or moving weights until the lathe will rest at any place in the rotation without moving, the balance is pretty close.

## Turn the waves

When the blank has been turned so all sides and faces are resurfaced, with the rotation of the lathe we call this "trued up". I then started to turn the platter. I started with the hollow for the dish, which was centered on the blank. I tested the fit of the dish as I went to ensure it sat in the recess nicely. I then started shaping the grooves for the chips. With a little bit of math I was able to mark on the blank the approximate locations of the tops of the waves, as well as the bottoms of the valleys. Luckily the size of the chips doesn't really factor in, as they just sit wherever they fall on these waves. I tried to make the waves look like they were spreading out from the center of the blank, like the natural ripples of water when a raindrop hits it. When done turning the waves, I sanded and dismounted the platter from the lathe.



**Tap, Tap, Tap** – A few taps of a well-positioned chisel will separate the workpiece from the plywood sub-base.

## Remove the workpiece

The paper between the plywood and my workpiece made the removal of the blank easy. Just a few taps with a chisel is all it took.

I used the band saw to separate the maple from the scrap spruce wood blank. These are straight cuts, so any saw could be used. The saw cuts should be in the spruce and not the maple. You might even be able to use a chisel to open up the joint along the paper line. Paper was sanded off the edges, and then the whole piece finish sanded and prepared for finishing.

## Finishing

I wiped the platter down with a wet rag to raise the grain, and when it dried I sanded it smooth with a fine grit. I find maple a little dull on its own, so I used a mix of water-based aniline dyes to make the plate a rich dark red/brown. Mixing colors is not easy for most of us. I try to use very small amounts of the dye powder dissolved in hot water. Writing down the colors and ratios used will help when you want to mix enough for your whole project. I keep sampling the color on a scrap of wood of the same species. I want to make sure I like it before I use it on my project. When the dye was dry, I coated it with a few coats of polyurethane to get a nice shiny finish, sanding between coats.

## Platter #2

After I made the platter above, I thought the spruce waste pieces were just that…a waste. I was thinking there could be a use for them, as additional serving pieces. I glued up some birch I had to make a 24" × 1"-thick, round lathe blank.

I followed the same steps to mount the blank on the lathe by gluing it to a waste block and screwing that to a faceplate just the same as the first platter. I turned the same pattern on the face of the blank, released the blank from the faceplate and sanded off the paper from the back. I followed the same pattern as the first platter, leaving the dip hollow on the center piece. I then cut up my turning into the three pieces, in the shape you can see. Now I have the chips and dip platter, plus two additional serving platters that fit together nicely.

The platters can be put together into one, very big, round serving arrangement, or it can be placed separately over a serving table. I had many people tell me what a great idea it was to have all the different serving options and it that fits into the cupboard nicely for storage.

So I think I can safely say that these platters can be done on the lathe, they can be made with little lathe experience or skill, they can be made from shop scraps, and they can adorn your next party table. They just can't stop your spouse from eating all the chips.

LISA CHEMERIKA
ourliser@gmail.com

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# How to CHOOSE A FINISH

There are lots of reasons to choose one specific finish over another. Read about some of the main considerations when choosing a finish for your next project.

BY ROB BROWN

Selecting and applying a finish to a newly completed project is likely the most feared and misunderstood aspect of woodworking. If this step goes poorly, the entire project might be ruined. If it goes well, it's the first thing everyone will notice each and every time they see your project. Wood finishing is likely the biggest single step in furniture making. Stack the deck in your favor and understand what the reasons are for choosing a wood finish.

## Pros and cons

Everything has pros and cons, and that's the basis for this discussion on choosing a finish. The demands a piece of furniture or woodwork puts on a finish are going to be slightly different with each piece. Will the chair live indoors, or out? Will the table be in a high-traffic area, or a quiet dining room? Do you have the ability to spray a finish, or not? Will the finish provide the look you're wanting on the wood you've used? These questions, and many more, need to be answered before you can make a final decision on what finish to use.

Sometimes the decision is easy, and other times there won't be a clear winner, but at least being familiar with this process will give you a way to sort through all the finishes on the market. I think many woodworkers apply the same finish to every project they complete, mainly because they're familiar with how to apply it properly and what the end result will look like. That doesn't mean it's the best finish for the job, though.

Photos by Rob Brown

## Indoors vs. outdoors

Let's start this off with a fairly easy one. If the piece will be outdoors you'll need to use an exterior finish. An exterior film finish is more flexible than an interior film finish, and will more easily move with the wood during constant changes in humidity. You can also apply an exterior finish that isn't a film finish. Many different options are available that will stand up to the elements quite well.

There's nothing wrong with using an exterior finish on a piece of furniture that will remain indoors, but the other way around is often a recipe for disaster.

## Level of protection

A table in a busy family kitchen is going to have just about everything thrown at it. A finish that will at least stand up against abrasion, moisture and heat can offer a decent amount of protection to a kitchen table. Having said that, you may very well still wear through the finish in a matter of a decade or so, then have to reapply it. Polyurethane is a great finish for this situation, as is a traditional varnish.

On the other hand, if the piece of furniture will remain in a seldom-used dining room, protection isn't going to be the main concern. You can focus on the other characteristics you want out of a finish.

Also, some finishes will protect against things like chemicals and water, so if you have a very specific and unique use for the piece you're finishing you should look into what will best help you choose and apply a lasting finish.

## General appearance

Finishes look different depending on the species of wood they're applied to. I find one clear topcoat may muddy the look of a wood, while appearing quite clear on another wood. A different clear topcoat may cause one type of wood to appear too dark the moment it's applied, while another wood won't look any darker. Make a sample panel and test out a finish on the species you're using before deciding what finish you'll use.

A film finish is one that builds up a layer – or film – on the wood and offers a thick look similar to a thin layer of clear plastic. Some like the look of a thick film finish, while others can't stand it.

Some finishes change colour much more than others. Oil-based finishes tend to yellow a lot more than water-based finishes, and that should be factored into the decision. Keep in mind that an oil-based varnish, for example, yellows as time goes on. The look you'll get after a day of curing is going to be quite a bit different than the look after a few months, and again after a few years. Remove a tabletop that was finished with an oil-based product after 5 years of use. You'll clearly see where UV rays never got to the area that was covered by the aprons, and will be a lot lighter in colour.

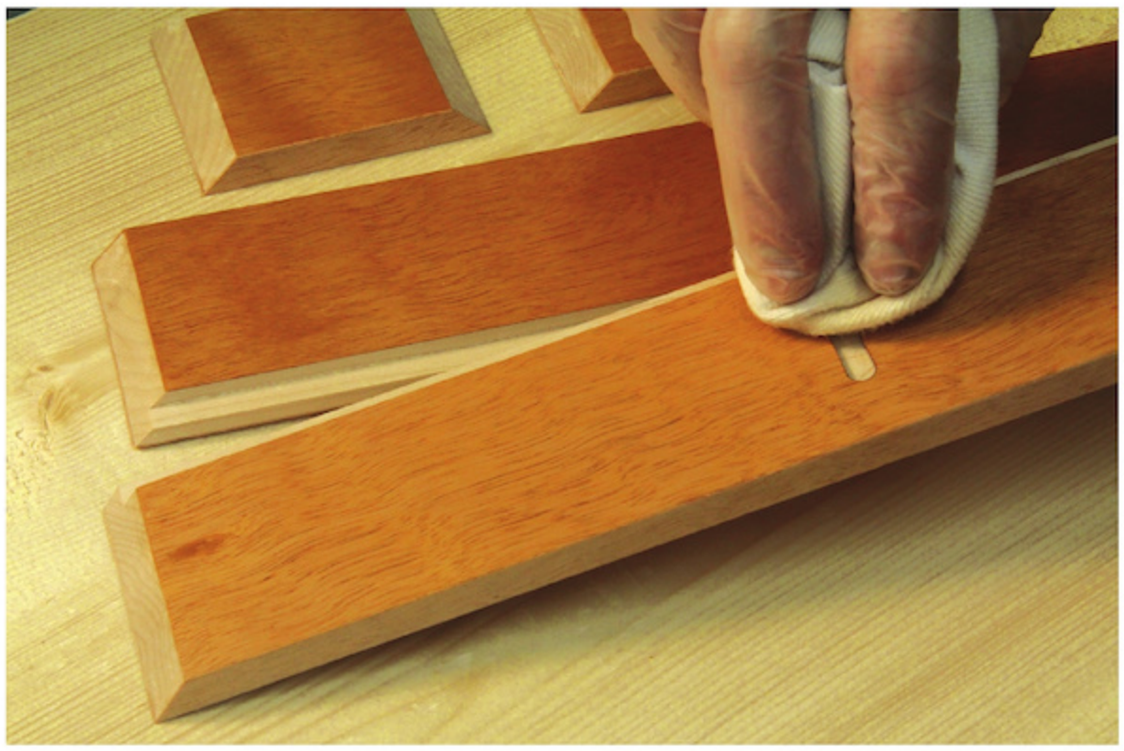

**Protect From the Elements** – A quality exterior finish will do a great job at protecting wood for rot and discolouration when out of doors.

**Weather Wreaks Havoc** – Sun and rain both punish a finish. An exterior film finish looks great when new, but needs to be maintained, and that's not always easy. A exterior penetrating finish looks different than a film finish, but has less maintenance.


**Always Test First** – Unless you've used a specific finish on a specific species of wood it's always a good idea to apply some of that finish to a sample panel before committing that finish to the project.

**Light Darkens a Finish** – This center section of the underside of this elliptical coffee table was covered for the last 10 years. The perimeter was exposed and is now much darker. This shows how much wood and finishes – especially oil-based finishes – can darken with age. Even water-based finishes darken over time, though not as much as oil-based finishes.


**Application** – Most finishes can be applied any way you'd like, but some lend themselves to being applied one way. What skills and equipment you have might affect the finish you choose.



**A Quick Finish** – Padded on shellac dries quickly, which makes it great for projects that need to get finished quickly.

## Application type

All finishes can be applied by any method, but some tend to lend themselves to a certain type of application a bit more than others. An oil/varnish mixture could be sprayed on, but it will still have to be wiped in, and the amount of excess finish that would have to be removed after spraying it on could be substantial. Lacquer is usually sprayed on, as it tends to dry quickly. Brushing lacquer onto a large panel will often result in a slightly uneven finish, unless you have extensive experience with this sort of an approach. A film finish is usually brushed or sprayed, as it would take far too many wiped-on coats to form a proper film.

## Dealing with sawdust

Some would say to only finish in a dust free environment, and I can see their point. The problem is, in the real world we don't all have space or money for a dedicated finishing area to ensure dust-free application, and applying a finish in the same space we create sawdust is our only option. Cleaning the area is a good first step, but also selecting a finish that can handle a bit of dust is also a smart idea. A thick coat of sprayed-on polyurethane will take a long time to dry, and dust will have what seems like eons to settle on it before the dust doesn't settle in the wet finish. On the other hand, a wipe-on oil/varnish mixture will go on much thinner, and if any dust settles on it before it cures it can likely be removed quite easily.

## Creating a more balanced panel

Applying a finish to both sides of the wood, in order to decrease moisture transfer, is a good idea. This approach by no means locks the piece of wood in place, but it does slow the transfer of moisture into, and out of, the wood, minimizing seasonal wood movement. As a general rule a thicker finish does this best, but if minimizing the amount of wood movement is critical to a project you're working on, you should do some research into what types of finish are best for minimizing moisture transfer.

## Are you in a rush?

It's Christmas Eve and the only thing stopping you from going to bed is the fact that you have to apply a finish to the picture frame you're making for your spouse. What type of finish do you use? One that dries fast. Shellac dries quite fast. Water-based polyurethane


**A Safe Finish** – Using a finish that is as safe as possible is a priority for some people, depending on what project they're finishing.


**Add Some Colour** – Some woodworkers do their best to avoid adding artificial colour to wood, while others often opt to add a stain, glaze or shading to the piece. There's no right or wrong answer, so feel free to do what you like best.

dries a lot quicker than oil-based polyurethane, but you still likely won't be able to get three coats on in an evening. How fast a finish dries is rarely critical, but if it is you'll want to be familiar with a number of different finishes. Generally speaking, stay away from oil-based products, as they dry slowly.

## Safety

Food-safe finishes may need to be considered for items that will come in contact with food. I've heard that once a finish is fully cured, all finishes are safe for food, though some people will want the added insurance of using a finish that has never had anything harmful in it.

Safe application is another thing. Some finishes contain harmful chemicals and may irritate your skin or lungs during the finishing process. Using low-VOC finishes is also something to consider. Whether it's during the application process, or while a finish is off gassing after it's applied, a low-VOC finish will be safer to have in your shop and home.

**How Much Shine?** – Some topcoats have a higher sheen than others. You can often select the level of sheen you would like. You can always rub out a top coat to increase the sheen, or rub it with steel wool and wax to adjust the sheen.

## Staining, glazing and shading

With so many options for adding colour to wood, I'll only briefly cover this aspect of finishing. A stain is applied directly to the wood. A glaze is applied between coats of finish. Shading is done by adding a colour to the topcoat before you apply it. The choice of which, if any, of these steps to incorporate into your finishing schedule is strictly a matter of colouring the wood so it looks good to you. There is no benefit beyond that.



**It's Up to You** – Brown chose a water-based topcoat for this piece, as he wanted to keep the bird's eye maple as light as possible. He also wanted to ensure the wenge used in the piece would look nice, so he made a finishing panel before proceeding to test how the two species looked with the same finish.

**How to Treat Figure** – Brown opted for a simple shellac clear coat on this curly sycamore panel, but someone else might have selected a stain to further accentuate the curly figure in this panel. There's no definitively right or wrong answer, so do whatever you feel is best.

## Sheen

Very much a personal choice. If you want a high sheen you will likely have to select a film finish, and ensure the pores of all porous or semi-porous woods are filled, in order to be pleased with the result. Although it's not necessary, finishes with a high sheen are usually sprayed on.

## Personal preference

I've briefly mentioned this a few times above. You might prefer the feel of one finish to another. Or maybe it's the colour of a finish you prefer. Listen to your gut when you have a preference, as long as you're not overlooking an important factor. Once the more scientific metrics like abrasion resistance and interior vs. exterior have been dealt with, not everyone is going to agree on what the best finish for a specific situation is, and that's fine.


ROB BROWN
rbrown@canadianwoodworking.com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# Build a HEXAGONAL PLANTER

Building projects for the great outdoors is always a fun thing to do, and this planter will surely turn heads

BY MERV KRIVOSHEIN

Most indoor woodworking projects are only seen by a few people. It's only when you start to create projects for the great outdoors that you can show off your work to lots of other people. This planter is quite unique and can be customized in terms of height and colour quite easily. Even some faux finishing techniques would come in handy with this project, and make for a great look, if that's the look you are after.

The main tool needed is a mitre saw. It will do a great job at cutting the compound angled cuts to the ends of the workpieces. A pin nailer, cordless drill and band clamp will also come in very handy during assembly. If you don't have a mitre saw, you could use a mitre gauge in your table saw and tilt your blade to the proper angle.

## Get cutting

When cutting the boards to length to form the different levels of this planter, the length of the boards in each level differs by 2". For instance, the top level includes pieces that are 13" long overall,

Photos by Tracy Munday Illustration by Len Churchill

**The First Cut** – The first cut has the offcut on the right side of the blade. Also notice the different red marks on the rear fence, which will eventually assist with cutting the workpieces to length.

while the level below it has pieces with an overall length of 11".

I used pressure-treated lumber, but any lumber that fares well in the outdoors would do just fine. Starting with rough lumber, dressing it to a thickness between 1" and 1-1/2", then ripping it to a width of around 6" is also a great approach, as you'll be sure to have straight stock to work with. The exact stock thickness and width isn't crucial, but variations will provide slightly different looks.

Angle your mitre saw's blade to 22.2° off that of the fence, then tilt the blade to 20.7°. You can see in the photo which way I tilted and angled the blade, and where the finished workpiece was positioned during the cut, but it can be done other ways too. This will leave you with the sides set at a 45° angle.

With my setup, the board on the left side of the blade is clamped down so my hands are not close to the saw blade. The offcut is on the right side of the blade, at least for the first cut in each board. The remaining cuts all have the finished workpiece on the right side of the blade. Make your first cut to the end of one of the boards.

To make repeatable cuts easier, using some sort of a stop often works well. I didn't want to trap one of the workpieces between the blade and a stop and have it either get damaged, or worse yet, damage the saw or myself. Instead, I added a few marks on the back fence of the mitre saw so I could visually align the board with the line when cutting multiple parts. I was able to be accurate enough for this specific project, and I didn't have anything go wrong while making any of these cuts.

With the first cut made on one end of the board, the board is flipped over, and the angle cut is moved to the desired measurement on the fence. Cut six 13" sections from one of the 8' boards. Cut your 11" sections from the second board. If you're using standard 2×6 stock it might not be perfectly straight, nor be exactly the same width as another board. With this in mind, the workpieces for each layer tend to fit together better if cut from the same board. Cut your 9" sections from the third board. With the leftover material, you can cut 12 sections 7" long, which will make up the remaining two smallest layers. If you're at all unsure about cutting short pieces from the offcuts, it might

**Clamp it in Place** – If holding the workpiece in place with your hand doesn't feel secure enough for you add a clamp to the situation. This extra step may only be needed if the stock is at all cupped or twisted.

**Align With Marks** – Rather than use physical stops, Krivoshein opted for adding marks to the rear fence that would help him locate the workpieces while cutting the different parts to length.

be safer to have an additional board on hand so you don't have to cut the short pieces from the offcuts.

## Assemble the layers

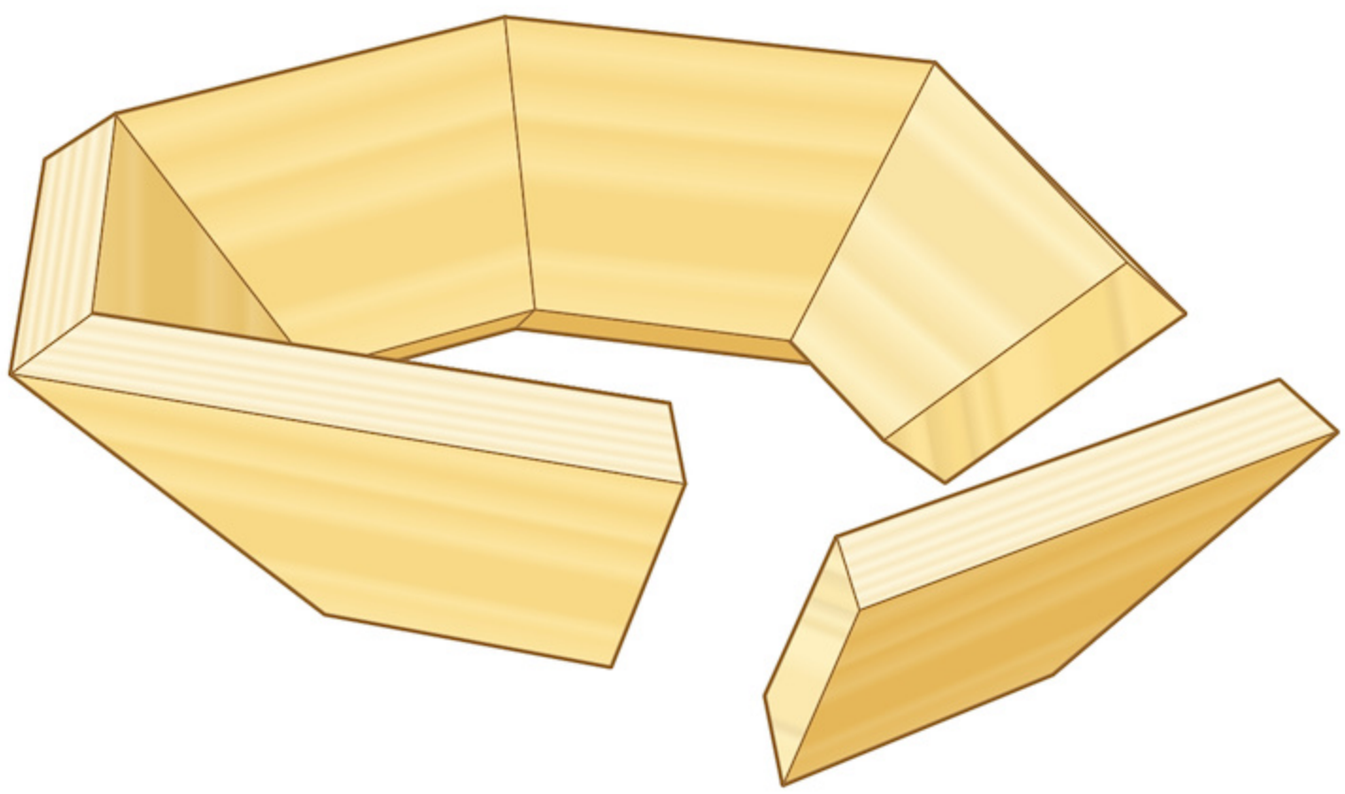
I used a sheet of styrofoam to work on top of during assembly. The styrofoam sheet prevents the blocks from slipping during

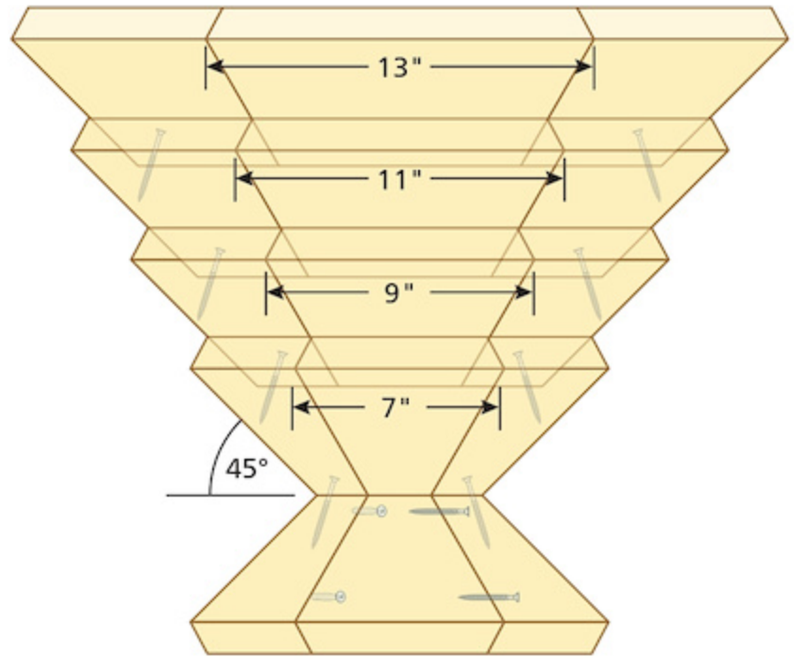
**Band Clamp** – A band clamp will bring the parts together with some pressure. Glue can be used at this stage, though not using glue will still result in a fairly strong planter.

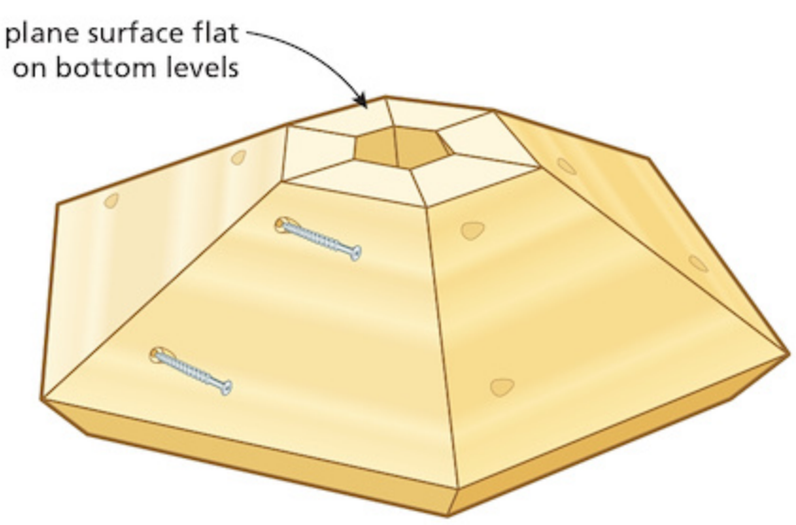
**Add Screws** – Drill countersink holes into the adjoining workpiece, then drive at least a few screws home to secure each joint.

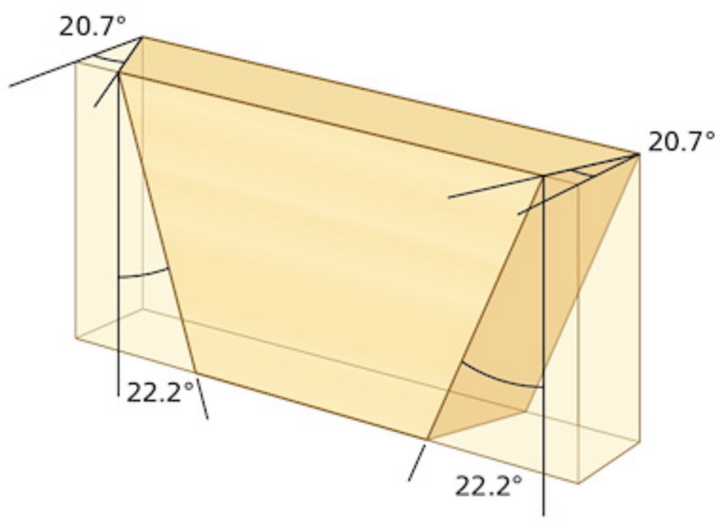
assembly, because they will all be resting on their edges. Set up six mating blocks to form your first layer. Glue will increase the overall strength of the assembly, but even without glue the planter finishes up quite solidly. Wrap the strap of the web clamp around the base (pointed ends of the hexagonal layer) and tighten the strap snug. Make sure the outer edges are flush. If they're moving around on you, it might be a good time to use a pin nailer to keep the edges steady and properly located.

Once all six pieces are aligned and the band clamps are snugged up, drill countersink holes parallel to the edge of the adjoining board so screws don't split the boards. I opted for two screws per joint. Drive in 2" Robertson deck screws into the predrilled hole. Rotate the hexagonal layer, and repeat this procedure until all six





**Flush it Up** – The joint between the two smallest layers should be fairly even, and not rock at all. A hand plane will flatten the two edges of these layers and ready them for assembly.

**Keep it Level** – As you assemble the layers, check for level in multiple directions. While doing this be sure to support your planter on a level worksurface.

sections are screwed together. Turn the layer over, and check your mitres to make sure they are as tight as possible, making any adjustments where necessary. Remove the strap once all twelve screws have been installed. Repeat the previous process until all five layers are complete.

**Caulking Covers Gaps** – Some quality exterior caulking goes a long way toward creating a nice, gap-free planter that will look great once it's painted. Ensure it's smooth and even before it dries.

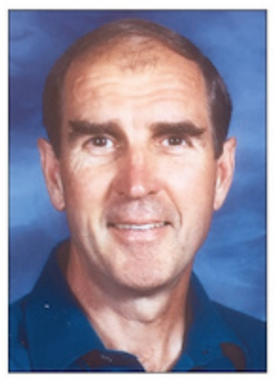
## Bring it all together

Hand plane the smaller sections so they fit together flush, with no wobbling and minimal gaps.

Set up the two smaller sections on a level surface, with their smaller diameters facing each other. Once you're sure the upper edge of the top layer is level, pre-drill from the inside on a slight slant (toward outside), 1" from the edge. Use a 2-1/2" screw to secure the parts together. Repeat this on every other board. This holds each layer together. Set up the next 9" layer on top of the smaller layer and place a level across the top edge, then screw it down. Repeat this process until all layers are level and assembled. The layers don't need to be as level as a kitchen countertop, but they should be close enough that nobody can see any discrepancies between them.

## Fill the gaps and finish

Using a caulking gun, apply paintable caulking to fill the screw holes and crevices where each layer fits into the other. Take a bit of time here, as any gaps will only become more visible as time goes on. Once the caulking has thoroughly dried you can paint the planter the desired colour. At this point it's a matter of filling it with soil, planting some flowers, putting the planter where your neighbours can see it, and enjoying the spring.



MERV KRIVOSHEIN
swervyn9@telus.net

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# Brush on – The Right Way



You can get beautiful results applying film finishes – shellac, varnish, polyurethane, waterborne, and lacquer – with a brush. But, to do so, you need to select the right brush and use the right technique.

BY CARL DUGUAY

In addition to using the right brush and the correct technique, practice counts as well – lots of it. Like most things in life, repetition builds skill. You don't expect to cut perfect dovetails the first time round, nor should you expect to achieve a perfect finish without practicing your brushing technique.

Most of my finishing is done with shellac or varnish. Occasionally I'll use a waterborne finish for light-coloured woods when I want a super clear finish with minimal amber or yellow tone. All these film finishes are tough, wear well, have good abrasion and water resistance, and can be rubbed to produce an exceptionally even, smooth surface.

Surface preparation is an important factor in getting a good finish. You want to select the right abrasive to get the smoothest surface. Similarly, when it comes to brushing on a finish, you want to use the right brush. The most important part of a brush is its filaments (also referred to as "bristles" or "hairs"). It's the filaments, along with your brushing technique, which will have the greatest impact on the quality of your finish. With proper care, brushes will last for years, so save yourself a lot of frustration by using quality brushes right from the start and keeping the brushes in top condition. The shape of the brush tip is also important. Avoid brushes that are trimmed flush across the end. A chisel tip will give you much better performance. Cheap brushes will invariably result in inferior-looking finishes.

## Types of brushes

Basically, there are three kinds of filaments used in brushes: natural – made from hog bristle or from ox or badger hair;

Photos by Rob Brown (Photo Lead by Bubutu | Dreamstime.com)

synthetic – made from polyester or nylon; and natural/synthetic blends. The general consensus is to choose natural brushes for shellac and varnish, and synthetic for waterborne finishes. However, I've had good success using natural/synthetic brushes and synthetic brushes with shellac and varnish when I thin the finish by 10 to 20 percent with its solvent. The material used for the brush handle (wood or plastic) is less important than how it feels in your hand. For more controlled brushing, a handle length of 5" to 6" works well.

## Natural brushes

Natural brushes work well on shellac and varnish because they carry more finish than synthetic brushes, so you can lay on more finish with each brush stroke, and maintain a wet edge as you work. When buying a natural brush, look for filaments that have flagged ends – a split at the end of each individual filament. The flagged ends enable the brush to hold more finish and release it with minimal brush marks.

There are two general types of natural brushes. The most common are made from the hair of hogs, typically referred to as "bristle" or "China bristle". If a brush is labelled "bristle" then it's made of hog hair. Hog hairs have naturally split ends. They also taper from the base to the tip, which makes the hair strong yet gives it a lot of spring, so that it maintains its shape in use.

Higher-quality natural brushes are made from ox or badger hair, which is a softer, finer, and more pliable filament than ox bristle. You pay a premium for ox or badger brushes, but they can leave a finish that is as good as it gets.

With any natural brush you'll want to remove any dust or loose filaments before you first use the brush. Shake it out vigorously, then dip it about half of its length into the appropriate solvent for the finish you'll be using, and then gently tap it against the side of the container.

## Synthetic brushes

For waterborne finishes use synthetic brushes, because the water in the finish will cause natural filaments to swell and lose their stiffness. Most synthetic brushes have polyester or nylon filaments, or some combination of the two. Neither is as absorbent as natural filaments, which means you have to load up the brush more frequently. Most manufacturers whip the filaments to split the ends into flagged ends to give a smoother finish. Chinex is a brand name for a synthetic brush with flagged tips, while Taklon is another brand name for brushes with very fine filaments, meant to mimic badger hair.

## Brush widths

For large surfaces use a 2" to 4"-wide brush, while for smaller panels, frames, edge work and legs, choose a narrower 1" to 1-1/2" brush. It's true that an angled (or "sash") brush allows finer control in corners and tight spaces, but rather than adding yet another brush to my kit I simply switch to a narrower brush, which I find works just as well.

If you typically work with small items, then pick up a couple of small artist brushes (available with both natural and synthetic filaments). They excel at working in tight spaces, and the super-fine filaments allow the finish to flow onto the work easily with virtually no visible marks.

**Flagged Ends** – When the tips of the filaments are split they are said to have 'flagged ends'. This allows for more even flow out of the finishing material on the wood, and causes less brush strokes.

**Brush Widths** – It can be very handy to have brushes of different widths to use on different sizes of surfaces. Brushes over 2" wide are great for coating large areas, whereas smaller brushes work best for narrower and smaller parts.

## Vary the load

When applying a finish, think about scale. A large surface can absorb finish at a faster rate than a smaller surface or narrow trim work. Using a heavier load on the larger surface makes it easier to maintain a wet edge. Conversely, applying too much finish to a carved or contoured piece will result in runs and sags that can be difficult to correct. With practice, and paying attention to the feel of the brush as you apply the finish, you'll learn to identify the correct load for each situation.

When loading the brush, you only need to dip the bottom third or half of the brush into the finish, and then wait for the finish to wick into the brush. Before moving the brush to the project, adjust the amount of the load by lightly pressing the brush against the side of the container.

## Smooth strokes

Rather than brushing from one end of a panel to the other end, begin by placing the brush a couple of inches from the end of the panel and move the brush to one end in a continuous smooth stroke. After completing that stroke, return to the starting point and brush back to the opposite end. As you get to either end of the

**Chisel Edged Brushes** – A good quality brush isn't cut off square, but tapered slightly toward the leading and trail faces. This allows for a smoother, more even application of finish on wood.

**Disposable Brushes** – Though not nearly as a nice to work with as a good quality brush, disposable brushes can be thrown away when you're done with them. They can be used for rougher tasks around the shop, or for jobs that don't require a beautiful finish.

panel the brush should just glide off the top without moving down the edge of the panel. After completing the first pass, go back and use the tip of the brush to gently work the finish across the edge.

## Keep brushes clean

Brush cleaning doesn't have to be arduous or time consuming. If you're applying a finish over a day or two, then don't bother cleaning the brush. Instead, suspend it in a container of the solvent for the finish – just make sure the tip doesn't stand on the base of the container or it will curl up. Before using it again, lightly press the excess solvent out of the brush on the side of the container.

To clean a brush used for varnish or water-based, you want to rinse the brush several times in the solvent for the finish you're using (mineral spirits for varnish, water for water-based). I do this three or four times and then wash the brush several times with warm water and dish soap. For a varnish brush, rinse the brush first with a citrus-based cleaner and then again with water to remove the final traces of solvent from the brush.

Shake out any excess moisture by swinging it up and down several times, and then wrap the filaments with a piece of paper – you can use strips from paper grocery bags. This allows the bristles to dry and keeps dust from getting into the filaments.

## My brush kit

My particular brush kit consists of two brushes for each type of finish. For shellac I use a 2"-wide ox-hair and a 3/4" synthetic; for varnish, a 2" and a 1" bristle brush; and for waterborne finishes a 2" and a 3/4" synthetic. The type of woodworking you do will obviously affect your choice of brush.

Buy good brushes, practice applying the finishes you intend to use, take the time to clean the brushes after use, and you're three quarters of the way to a perfect finish. The last quarter comes from experience.


CARL DUGUAY
cduguay
@canadianwoodworking.com


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# 9 Things to Look For When Buying or Renovating

Here are a few of the most critical points to consider when buying a home or deciding to take on a major renovation. There are so many aspects involved in taking on any of these projects, but this list will at least get you starting thinking in the right direction, and pave the way for a great long-term home investment or a successful renovation.

BY RON NORTH

After many years of inspecting buildings of all types and sizes, I have learnt why some projects go smoothly and others not so much. It isn't possible to point to specific building code requirements. However, general procedures on how to approach a contemplated purchase or renovation can be helpful and prevent or diminish costly errors.

Photos by Ron North Lead Photo: Scanlockephotography | Dreamstime.com

**Bigger Problems** – This foundation crack is a problem. Notice it is wider at the top. This indicates the ground has subsided at one end of the wall. The reason for that settlement should be investigated.

**Not So Bad** – Cracks are never a good thing, but this one is less worrisome from a structural point of view. The width of the crack is not too large, is consistent top to bottom, and the wall is not out of alignment. The issue of possible water penetration should be addressed, though.

**Minor Differences Can Be Bad** – It doesn't take much of an elevation difference to cause problems between properties. The house on the left had water entering the crawlspace. The home on the right did not, even though the floor level is only about a meter higher.

## 1 Review the Property File

Prospective buyers should review the property file of the home. The municipal building inspector's office will have records regarding the building. Depending on the age of the building, there may be plans showing the layout of the building that can be compared to what the buyer has seen on site. It should be a red flag if there are large discrepancies between the two. The municipality will be able to tell you what permits have been issued over the age of the building. Building inspectors will be happy to help with this information gathering. If there is no record of a permit for changes that you know have been made, be careful. At the very least, the issue should be explained by the seller. For example, the name of the contractor (if there was one) and invoices describing the work performed. The buyer can then decide whether to proceed and if so, make allowances in the bid price to carry out necessary corrections.

## 2 How Old Is the Building?

If it was built before 1990, there is a strong possibility hazardous materials may have been incorporated in the construction of the building. This may not be an issue if a renovation is not contemplated. However, if a renovation is to be carried out, testing of material will likely be required by either work safe or municipal regulations. There will be the cost of testing, but also the removal of any hazardous materials (asbestos, for example), which could be significant.

## 3 Cracks!

It may seem obvious, but cracks are not a good thing. If you see a crack, something has moved and might still be moving. Remember, a crack is just the symptom of a bigger problem. Some small hairline cracks are probably not an issue, but it would be worthwhile to have a knowledgeable person look at them with you. Cracks in the foundation, especially ones that open up wider at the top or bottom of a wall, can speak to a larger problem. Also, foundation cracks that become out of alignment are concerning. Cracks in other locations such as floor slabs, brick facing or sidewalks running alongside the building should be investigated as they are a result of deficiencies that may need repair.

## 4 The Lay of the Land

The inspection before the inspection starts. While walking up to the home from the street, look at the ground around the

**Looking for Trouble** – A severely sloped driveway such as this should be avoided. The drainage system would need to be well thought out and professionally installed to avoid a flooded basement.

**Keep the Water Away** – A 3" diameter PVC pipe has been installed to collect roof water and direct it away from the foundation, greatly reducing the likelihood of basement water problems.

building. Perfect is a house that sits on a lot where the land gently slopes away from the structure in all directions. Worst is the building sitting in a hollow that will channel all the rain on the yard and even the neighbourhood towards the house. Usually it's something between these two extremes. So if there is part of the property that slopes and may direct water towards the house, at least make sure the two or three meters of the ground abutting the foundation wall slopes away from the house. Consider also the type of foundation. If it is a slab on grade, there is less of a chance for water problems. If there is a crawlspace, there could be issues. In the basement be even more wary and check for signs of water damage that may have already taken place. Regardless of foundation type, if the downspouts are connected to the foundation perimeter drain, they should be disconnected and re-assigned to a separate drain (usually 75 mm diameter) connected to the storm sewer downstream of the foundation drain connection.

## 5 Don't Underestimate Planning

If you are planning a renovation, focus on the most important issue – planning. Not just where a wall is to be removed, or a bathroom added, but also when these are to take place. Consider the order in which specific parts of the project will be performed. It is obvious that a foundation needs to be in place before the roof is constructed. The timing of other items may not be so apparent. For example, you may need to order the roof trusses early enough so that they are on site when needed, to get your new addition weather-tight. This would be true for other products such as windows and cabinets as well. You should also consider the timing and availability of sub-trades you may be hiring. There is no point in arranging for the counter top to be measured if the cabinet installer isn't available. Larger commercial projects produce a project timeline with dates and estimates on how long each aspect of the work will take. Your addition or renovation project doesn't need to use such a detailed document, but a page or two of the major steps will help you to stay on track and avoid unnecessary delays, or heaven forbid, undoing work to allow items to be completed or corrected.

## 6 Have Good Plans Made Up

Good plans and drawings help everyone. Better for bidding by contractors; more accurate drawings result in a more accurate bid. Vague plans force the contractor to give higher bids to cover the unknowns on the plans. The building permit process also goes smoother and faster. If the contractor can build the home from the plans without asking any questions (not including colours and finishes), then there is enough information included.

## 7 Be Realistic

Do a realistic assessment of your abilities. I am always amazed when a homeowner (friend, relative or co-worker) with little to no construction experience takes on a renovation project. I guess one has to admire their fearlessness, but their wisdom

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**Plan Accordingly** – The steps needed for this addition are definitely not in the correct sequence. The existing roof should have been removed before installing floor joists, building walls, and then starting work on construction of the new roof. (Photo: M. French)

is in question. Even a person with reasonable knowledge should hire qualified sub trades such as plumbers and electricians when the project scope grows. Generally, if the work involves changing an old plumbing or electrical fixture, most people can handle the job. Reconfiguring pipes and wires can quickly get complicated. Homeowners can do this work on their own house. However, if you are going to tackle the project, do your homework. Further, some work may actually be cheaper to contract out. You pay retail for supplies, possibly buy tools for a specific purpose that will never come up again, and you may be taking time off work. All these factor into the actual cost of the project. It will also likely take you much longer to finish the job than a professional would take.

## 8 Ask Questions

Don't be afraid to ask the building inspector questions. Remember, inspectors like building things. They were very likely involved in the construction industry in some capacity before they became building inspectors. The issue you may have on your project may be new to you, but the building inspector may have dealt with it many times before and seen a variety of solutions from different contractors.

## 9 Ask More Questions

You may not always like the answer, but knowing what is required in advance is preferable to a surprise halfway through a project. The building inspector would rather solve an issue at the counter or over the phone than on site after the mistake is already made.

Ron has been a building inspector, chief building inspector and manager in the Victoria BC area since 1979. His recently completed book "Building Inspector Memories" is available on Amazon.

RON NORTH
ronor@shaw.ca

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# REFERENT-BASED DESIGN

How is it that we learn to create? Is it possible to learn creativity? Is there a skill set from which aspiring artists and designers can extract the tools needed to realize their vision? Let's discuss these questions, and my approach for teaching and learning the creative process as it relates to design in my Fine Furniture class at Camosun College in Victoria, B.C.

Photos by Ken Guenter

BY KEN GUENTER

The information that's available to us for the purpose of design is seemingly endless. Everything that we experience with our senses can be put to the service of creativity. While this may be so, without some sort of focus it is easy to become over stimulated, and the information becomes a confusion of images, sounds, and experiences. The sensory overload that we are exposed to every day can be overwhelming if we do not develop strategies to cope with the mass of input and sort the useful information to serve our purposes. To many who pursue a creative path this skill may seem intuitive, as they seem to be able to absorb and digest the information pertinent to their goal, while filtering out other distractions. Others can be intentionally taught the creativity of design.

## Where do ideas come from?

Design concepts require the generation of ideas that usually come from our own experiences. Everything that our senses detect becomes part of our personal inventory. As our lives become full of responsibilities, the "cotton wool of daily life" takes over, giving us a uniformity of perception. Unless something is extraordinary it goes unnoticed. This makes it hard to grasp life's aesthetic details.

I teach design and technical skills in a fine furniture-making program at a community college. The ten-month program attracts adult students with diverse backgrounds and a wide range of interests and expectations. I have developed a model to teach design that will not alienate those with little arts training, but at the same time will engage students who have spent years in the arts. The technique used allows students of various ages to access and retrieve their own personal inventory of mental and visual stimuli.

This model uses familiar referent-based stimuli that are easily accessed by students, designers and teachers alike. The model is centered on referent-based strategies to define and apply the formal properties of a design. The key to this model is the categorization of potential referents in order to focus the attention of the designer during the creative process. The four categories of referents are: natural, historical, cultural and manufactured. These are the things we all experience in our daily lives that we can refer to when thinking of a new design.

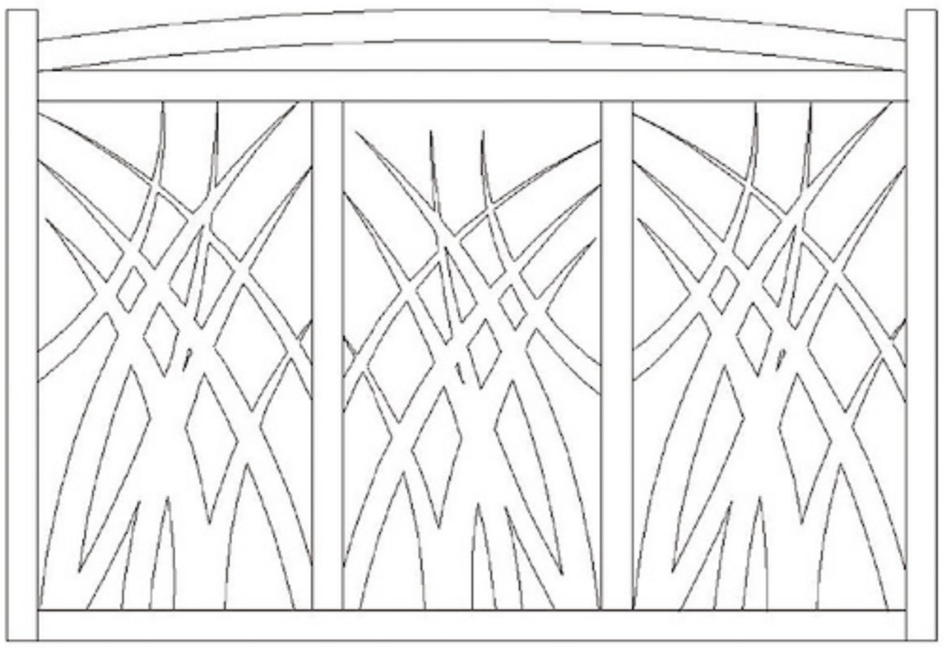
It has been my experience that when people begin the design process they do not have a plan to see them through to completion. The referent model is anchored on the practical side by a strong emphasis on studio practice, including the tension between form and function. Design instruction includes the design's impact on the environment, and client/designer relationships are considered when the product is undertaken. While the approach to each one of the referent categories may seem similar, each carries its own set of challenges.

## The four referent categories

The referent categories sometimes overlap. The natural referent is the most unambiguous of the four. When a constituent from the natural world is used as impetus for a design, its representation is most often recognizable. A tree is a natural form, at times nurtured and manipulated by human hands, but for the most part it is a product of nature. Its form and structure is unlikely to be confused with objects from the manufactured realm. There may be a cultural and/or historical association with a referent chosen from the natural world, but as a design referent there is less crossover into the other categories.

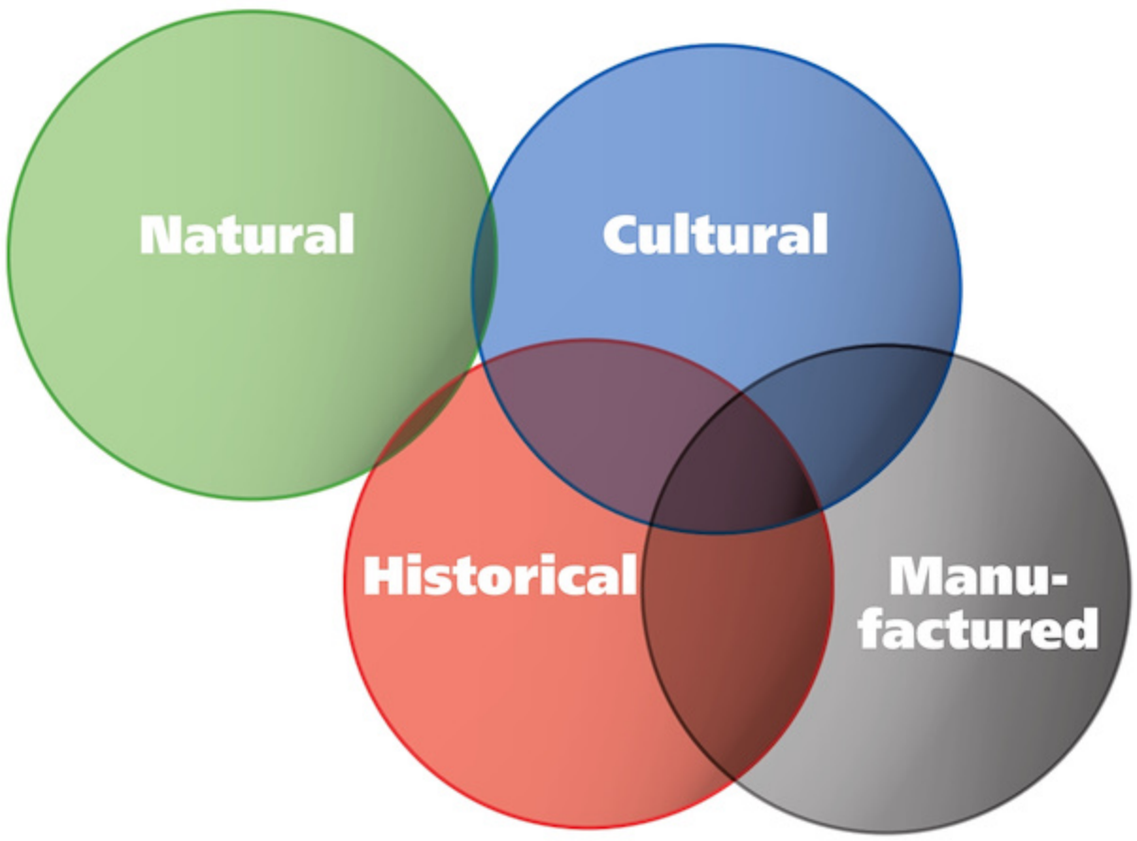
The employ of any given referent will be largely determined by the

**Nature** – Tall grasses, seen pretty much everyday in the warmer months, are something many of us walk past without even noticing. Their flowing lines are a great starting point for design discussion.



**Bringing Nature to Life** – Guenter designed this garden gate after studying the form of some tall grass.

**Historical** – After seeing this old copper tub (right) Guenter went on to design and build a piece with similar lines and colour (above).




need for the idea or problem. Most referents will have a number of ways they can be interpreted, lending depth to the presentation of the final product. I have my students work through a variety of projects that require them to complete an assigned object using an assigned referent. Students use the natural referent to create a serving tray, a historical reference to create a bookend – eventually working their way through all of the various options and exercises the model affords.

The remainder of this article explores the use of one of the referents in design: historical, and provides an example from my own practice for an exhibition held by the University of Victoria. The other referents can all play out in a similar manner as you'll see below, but each and every time the details are a bit different depending on the referent selected.

## Case study: Historical referents

The histories that make up our communities are rich with imagery that can be harvested in the service of the creative process. The Greek and Roman architectural orders are perhaps the most familiar historical referents in western culture. We see examples of this in the buildings and furniture around us to such an extent that we take them for granted. The furniture of the Renaissance was a re-birth of the classical style in human scale. The scale that was to become the hallmark of Renaissance architecture was recreated in many of the cabinets and applied intarsia made by artisans in Florence and Udine.

London's neo-classical designer Thomas Hope discovered the classical proportions while on his Grand Tour of southern Europe in the eighteenth century, armed with pencil, brush, and sketchbook. Being a member of a family of considerable wealth, his tour was one of comfort and luxury. This is reflected in his interpretation of the classical cultures of Italy and Greece. Because of his observations he became an influential figure in the creation of England's Regency furniture style.

In Austria, the neo-classical style of Biedermeier, and in France, the style of Napoleon, drew upon Rome, the emperors and their gods. The many classical revivals of the Victorian era, the sumptuous Art Deco period and the audacious decoration of postmodern design are all testament to the 3,000-year hold that classical antiquity has on us. Artisans, artists and architects all embraced the rediscovery of the ancient knowledge of Greece and Rome.

How the historic referent affects the end product depends on a number of variables. Firstly, there will be a cultural bias when studying a historic period. Political and cultural histories are written and interpreted by many people with different agendas. Information, both visual and written, has been handed down through the generations, and the events of the day will colour the interpretation.

## Times have changed

Secondly, the physical tools we use for our research will also influence the way we understand and re-interpret the information we receive. This is true for all four referent groups to a greater or lesser extent. However, for the historical referent, the research process becomes especially important.

As the tools of documentation began to include the camera, photography became not only a tool for documentation but a medium for the creation of art. New technology provides for a new look at ancient antiquity. Today it is possible to view new worlds, both contemporary and ancient, in the comfort of our own homes. Those who have never directly experienced the marvels of the world (a privilege previously reserved for the wealthy and adventurous) can now see them as if they were actually there. From photographs and the Internet come new interpretations of history and representations of the forms of classical antiquity.

Real and virtual images are available to us in unprecedented quantity. We have a plethora of publications providing interpretations of other periods and cultures in varied forms and with different agendas. I try to help my students understand how to access referents that will contribute to their success as designers.

One approach to the use of historical referents is the use of an existing historical artifact as inspiration for a contemporary project. In 2003, I co-curated and participated in an exhibition entitled, "They Don't Make Them Like They Used To" (www.maltwood.uvic.ca/furniture/guenter_k.htm). Participants were asked to select an item of furniture from the University of Victoria's Maltwood collection (which dates from 1480–1970) as inspiration for their piece in the exhibition.


**Manufactured** – One of Guenter's students, Colin Benoit, designed this table, while Brad Olthof, Frances Bryant-Scott and Donna Ashmore built it. It's pretty obvious what inspired the student during the design process.

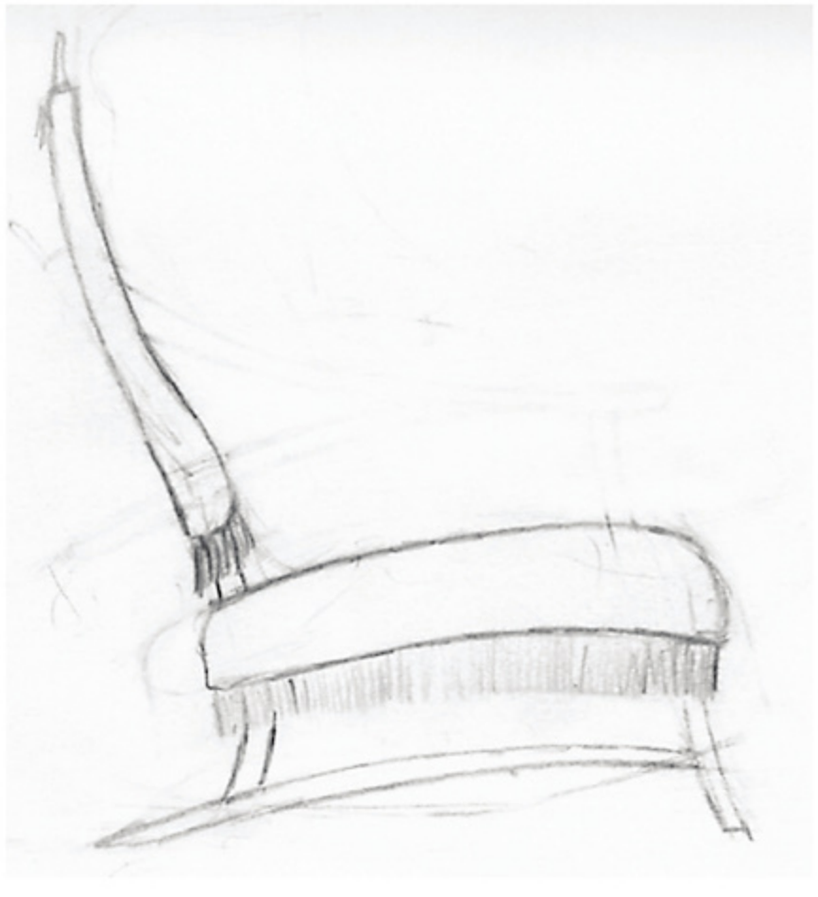
**Starting Point** – In order to be a part of an exhibition, Guenter needed to create a contemporary interpretation of a piece in the Maltwood collection. He chose a late Italian Renaissance style box-form chair, circa 1560.

The curators of the exhibition presented the problem: create a contemporary interpretation of a piece in the Maltwood collection. My choice was a late Italian Renaissance style box-form chair (sedia) circa 1560. It was upholstered and featured fringes, with a small amount of carving and gold leaf on a walnut frame. As part of my research process, a few ideas were recorded in my sketchbook from my initial viewing, and information contained on the museum's accession label was documented. Details were recorded with a digital camera.

## Putting the theory into practice

One of the first steps after choosing a referent is to research the context within which the referent was created; seeking important information that could be useful to the design process. Types of material, joinery technique and upholstery styles provide information that can be used in service of an updated version, or as a springboard to a new direction. The object's context will often explain social and political norms that have had an impact on the aesthetic of the referenced period. I make reference in this context to the dichotomy of art and craft that is generally attributed to art historian Vasari.

My approach to the contemporary interpretation of the Maltwood's Italian Renaissance sedia was to sketch the chair's general line and shape, but rather than using the straight lines that defined the historical



**Sketch the General Form** – In the process of designing his chair for the exhibition, Guenter took some aspects of the original chair, and added some curves to the overall form.

**Mock It Up** – To further refine the design a model was created. Here, proportion and shape could be adjusted until Guenter was confident with the piece.

**Finished Piece** – The fluted detail on the front and side aprons was heavily inspired by the fringe of the original piece. You'll notice many similarities, as well as many differences, between the original chair and this contemporary version.

period of the referent, I chose to employ curved lines. The curves began to appear in my earliest sketches.

I was intrigued with the upholstery (especially the fringes) that bordered the bottom of the seat and back cushions. This detail was photographed and sketched to see how it could be incorporated into the design.

As I was looking at examples of Renaissance architecture it seemed to me that the fluting detail used on so much of the architecture could be incorporated in the chair and used as a replacement for the fringe on the original's upholstery.

The curved lines and revised seating configuration that I used for the contemporary chair suited the uniform colour of the walnut used in the historical referent. This also references the wood that was used extensively in Italy during the late Renaissance.

The most important historical discoveries in design come about through research. The end product will be influenced in some form by personal experience and will depend on the direction and depth of your research. The more varied and democratic the approach to research, the more in depth the artist/designer's results will be. The historical referent provides a strong springboard for combining research and creativity in design.

**Interesting Detail** – Guenter was intrigued by the fringe of the chair, and in his research he learned a lot about the design and construction of pieces from this period.


Since retiring from Camosun College's Fine Furniture program in June 2017, Ken has returned to his furniture design and building practice.

KEN GUENTER
kenguenter@shaw.ca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# Making an Entrance.... GRAND!

Photos by Mark Salusbury  Illustration by Len Churchill

Your home's front entrance is the first thing that greets both you and your visitors, making a statement about you, your home and what's within.

BY MARK SALUSBURY

An attractive door is just the beginning. You can make arriving at your home a true experience by coordinating lighting and trim to create a harmonious theme, which can stand gem-like alone, or impart its elements throughout your home to please the eye from room to room. This door surround project is a great start to improving the overall look of your home.

The features of the chosen door set the scene; look at the features you like about its style and the placement of its elements. Next, select lighting to illuminate and also to echo the style, features, and aspect ratio of the door's primary element.

In the door shown, the primary element is a glass "light" with simple art deco style wrought metal grillwork as its main feature. Lamps were chosen to repeat and complement the grillwork, turning a style into a theme. Now to head to the shop and design a frame to take the theme to the next level.

## Think like an architect

The plan is to create a pair of side columns to visually support an entablature top, in this case because the door has a lot of blank siding above it. If the door had been tightly confined above by a soffit, narrower built-up trim, similarly styled, would complete the scene. The columns and entablature assemblies are simply crafted from a panel of wood with details applied to celebrate the elements of the door and lamps.

The bottom line is, the best door surround for your home might be very different than the one I built, so put some thought into overall design elements before moving forward.

I used select grade pine; straight, flat boards without knots and pitch. But any clear, straight-grained wood that can be made weather tight works well.

The door jamb here is capped with a 1-1/4"-deep aluminum molding that I didn't want to disturb, so I made my columns 1" thick from 3/4"-thick panels with 1/4"-thick detail pieces applied, creating a nice +1/8" setback shadow line between molding and my trim, once installed.

To decide on the length and placement of the elements on my trim, I referenced the doors window and grillwork. A horizontal element defines a change in the wrought metal grill, so I transferred that elevation as where I'd anchor my design; above that line I applied my feature details and capital, and below that, a simple border. At the bottom, a base panel is applied for the design to visually rest on. I chose 7" for the column width, roughly a golden ratio of the door's 36" width. As for height, I designed the panel to come flush with the door's top molding for the entablature to rest on, and I left space below the column for airflow, deterring decay.

The entablature assembly begs to have attractive visual mass; it should honestly appear to be supporting the structure above it, even though it's just trim. Too wimpy and it just won't feel right, plus it won't create a shadow line where it rests on the columns, defining that junction. The frieze component I decided on is 1-3/8" thick to which I applied a 1-3/4"-wide bull-nose molding top (cornice) and bottom (architrave) to add visual mass and definition.

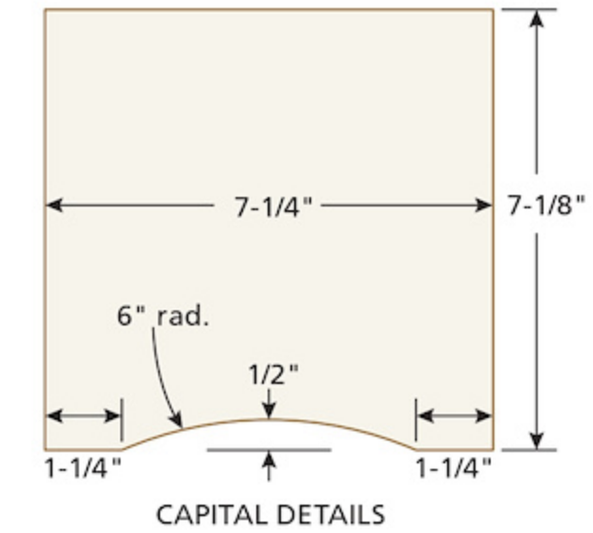
To soften the linear / rectangular features, a curved arch is shaped within the frieze panel and at the bottom of each column's capital. The house has an arch feature below the peak of the porch roof above the door, and the grillwork in the door reflects that detail; I carry that feature on in my design.

After a few sketches to compare design options, with the final design selected and given dimensions, it's go time.

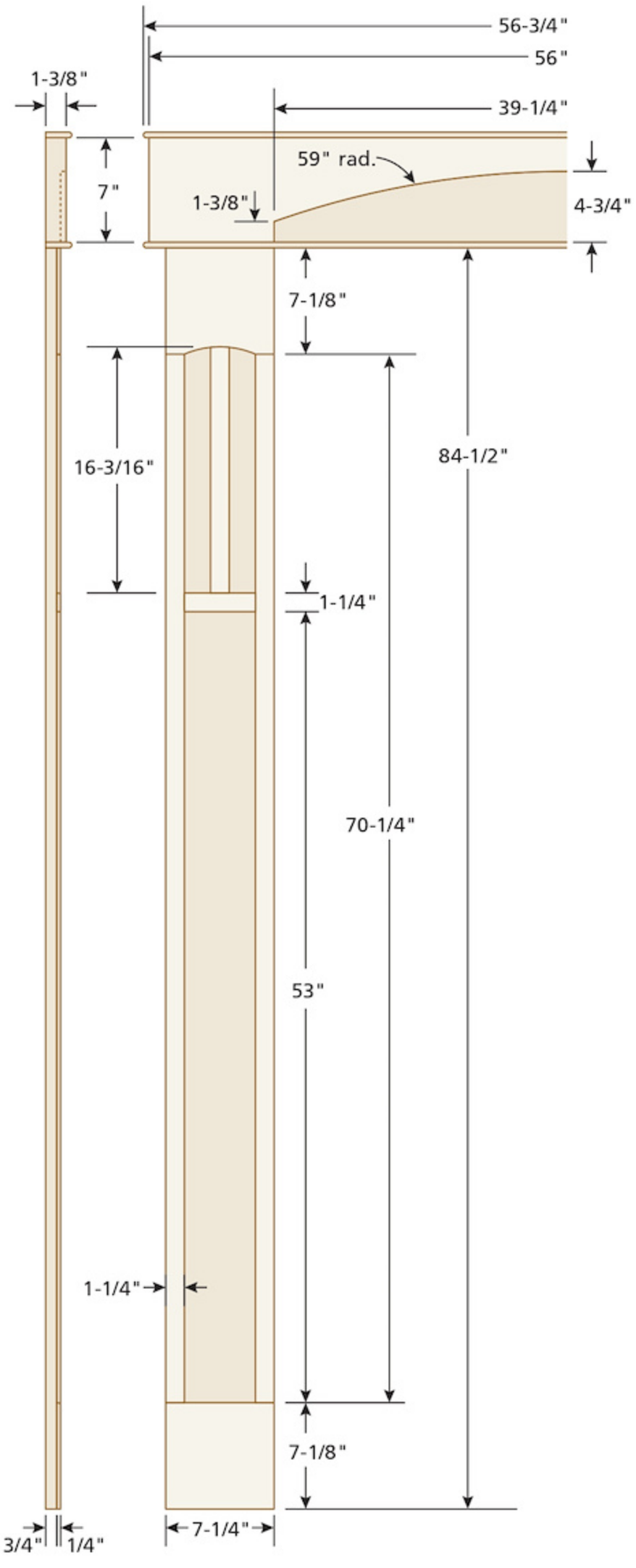
## Breakout time

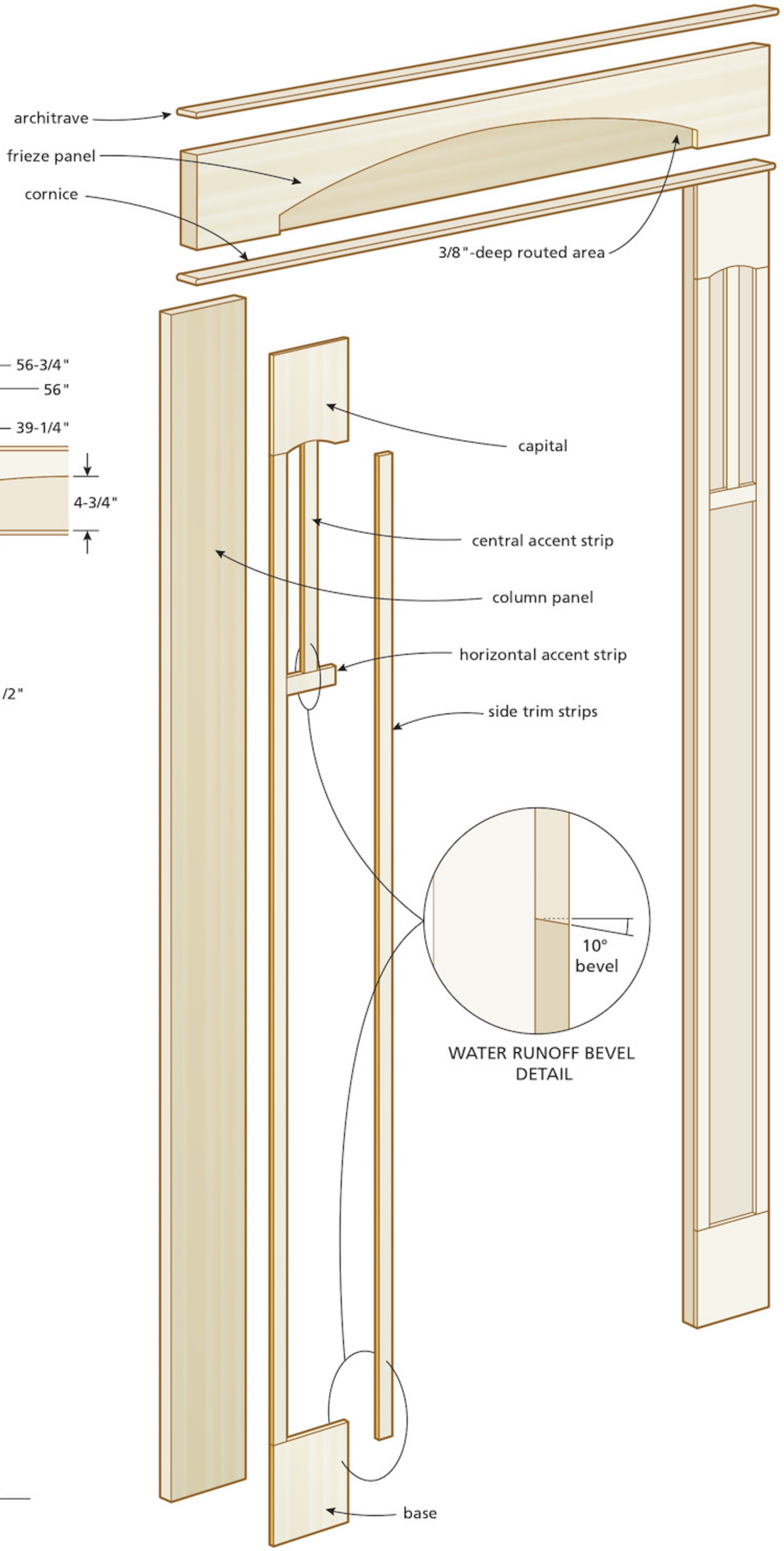
Stock gets cut to rough length, one edge jointed and each piece ripped to final width plus a 1/32" for cleanup and sanding after assembly. I prepared enough stock for the column and frieze panels, plus enough so I could rip and resaw the strips for the detail elements from the same 3/4" stock as the panels. Likewise, the 3/8"-thick trim strips to border the frieze. Prior to ripping the narrow strips, I sanded the faces of all my 7" stock, both sides, with a random orbital sander and P120-grit discs, removing mill glaze and prepped for gluing and finishing later.

The 3/4" stock for the detail pieces were then ripped into 1-1/4" strips. I left the 7"-wide stock for the capitals and bases +15" long to avoid machining short pieces next. Now all parts were resawn in half and planed to a final 1/4" thickness.



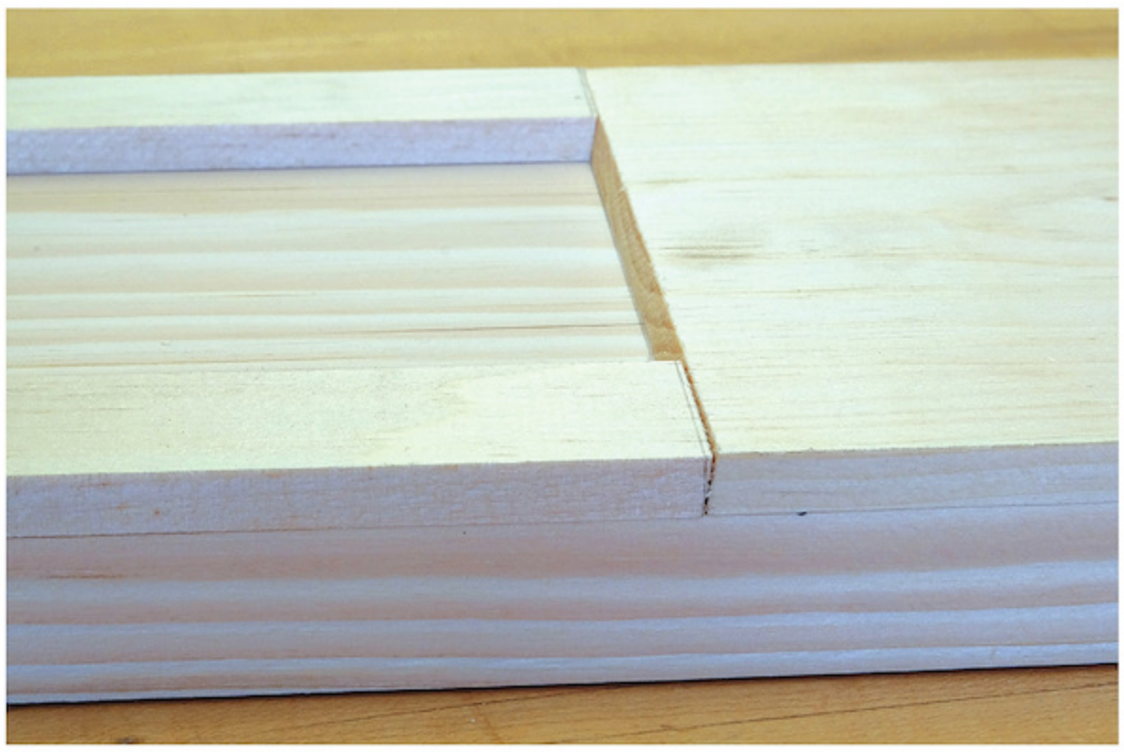

CAPITAL DETAILS




WATER RUNOFF BEVEL DETAIL

**Nice Curves** – Cutting and smoothing a pleasing shape for the underside of the capital is an important task. The radius has to be just right, and the operation must be done smoothly.



**Angled Edges** – In order to ensure water will run off any horizontal surfaces, rather than sit and cause problems, Salusbury machined a 10° angle into the horizontal surfaces of the trim. He also cut the mating trim at 10° to ensure a tight fit.

## Pleasing curves

The capital and base panels are cut to 7" in length, so once installed, the bottom of the capital meets the top of the vertical elements laterally, in line with the top of the door's window for horizontal continuity. To create the capital's arch profile, I marked the part's centerline, plus points 1-1/4" in from each edge of the piece of stock and drew a 6" radius from point to point. I experimented earlier to find a pleasing radius by tracing around paint cans, sanding discs, trash cans ... anything circular; a 12" lathe faceplate was just right. Next the arch profile was carefully cut at the band saw and sanded to final shape at my belt sander, making sure to stay within the 1-1/4" margins.

With layout lines drawn on the back panels for accurate placement of the detail elements, now's the time to cut all the detail parts to length and chamfer the ends where the parts will meet. I carefully crosscut a 10° bevel across the bottom of the capital, and the top edge of the short detail cross-member and base panel, plus a mating bevel at the ends of all vertical intersecting strips. Thus, where the parts butt together will be tightly overlapped and once finished, any weather-related moisture may run off and away for durability and cleanliness. Also, the top of the short vertical detail strip, central to the design, needs to be radiused to match the arch radius and its bottom edge beveled at 10°.

## The entablature

The entablature references all its features by centering itself above all the vertical elements of the door, moldings and soon-to-be columns below it. By summing the width of the door and moldings, the two columns plus adding a decorative 1" extension at both sides, I arrived at a finished stock length of 56" for my 36"-wide entrance door. From a 60" length of 10" wide 8/4 stock, I jointed and dressed down the 7"-wide frieze panel to 1-3/8" thickness plus two 1-3/4"-wide strips left a fat 3/8" thickness to trim the frieze top and bottom.

I wanted the frieze arch to become a strong visual extension of the door's side molding, creating a soft frame above the door. Referencing the outer edges of the door moldings, I drew vertical lines 39-1/4" apart and marked points 1-3/8" in from the bottom edge. Using these points, plus the panel's center line, I arrived at a pleasing arch profile that worked well with the width of the frieze as well as the shape of the arch in the wrought metal grill of the door below. Satisfied, I accurately recreated and smoothed the shape on some utility 3/4" plywood to create a routing jig I could reposition incrementally over my stock to rout, then sand the arch profile 3/8" deep across the face of the frieze. Next, the still-fat cornice and architrave parts were dressed down and sanded to an accurate 3/8", cut to final length of 56-3/4" and given a 3/8"-radius bull-nose profile along the soon-to-be leading edge and ends.

## Check the fit

With all column and frieze parts now cut and trimmed to final length, it's time to dry fit all components at once on the marked-out base components to make sure everything fits together accurately. Once satisfied, disassemble and orderly arrange the parts, preparing for a smooth-paced final assembly. On a cleared workbench, assembly and glue-up of both columns should take under 30 minutes, so both assemblies can be clamped at once.

**Even Arcs** – Salusbury cut an arc into plywood, making a routing template so he could smoothly rout the arc into the trim that makes up the face of the frieze.

## Assemble the parts

I use Titebond Type III wood glue, mainly for its strength, extended working time and here because it's waterproof for solid exterior projects. A moderate coat spread over the detail parts using a 2" disposable brush with the bristles clipped to 3/4" bristle length will hold confidently; I apply just enough glue for a very slight weeping all around the joint once the parts are clamped. But first the parts have to be positioned and registered in place accurately using 5/8" pins or brads.

Assembly of the first column begins by attaching its capital using a square to precisely position the part during gluing and pinning. Next, the side detail strips get applied snugly to the capital and flush with the edge of the back panel. Then the base panel gets applied snug to the side strips, all bonded using Titebond III with a few pins/brads to register the parts in place. Next, referencing the capital's center line and column's layout lines I'd marked earlier, the short vertical detail strip gets centered and applied. Lastly, it's time to tightly fit the short horizontal detail between the long side verticals; with the 10° edge up, slip it under the bottom edge of the short vertical piece and secure it with glue and a couple of pins.

Now set aside the finished column and deftly repeat the build to make the second column.

With both completed, on a perfectly flat surface, create a sandwich by placing one assembly face up and the other face down on top of each other, separated uniformly by thin stock or plastic film, and apply clamps all around the stack to bond the components of each assembly tightly together.

While that's drying, the entablature can be assembled by centering the cornice and architrave pieces above and below the frieze panel, flush along the back and with a proud 3/8" reveal along the front and ends. Aiming for a tight, uniform glue-up, Titebond III, pins/brads and clamps will create a strong, weather-tight bond.

**Machined and Ready** – Dry fit all the parts before starting to add glue. You can even add some small pencil lines on the base to help with alignment during assembly.

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**Start Square** – When installing the capital, use a square to pin it in place perpendicular to the base it gets glued to.

**Clamp Them Together** – To evenly distribute pressure, Salusbury glued and pinned the column parts together, placed them face to face, then clamped them. If you don't think you can get the second column assembled in time, it might be an idea to place a plywood caul, about the same overall size of the column, on top of the trim in the first column and apply pressure with clamps before moving to the second column.

## Apply a good finish

An hour or so later – assemblies cured, glue squeeze-out pared away, all edges eased and surfaces sanded – comes painting. I believe in doing things once, well. From experience, with paint, the only way to avoid repairing blistering and peeling caused by the elements and seasonal moisture exchange within wood is to finish all surfaces, all around – even those that will never see the light of day. I've had great success with Benjamin Moore "Fresh Start" latex primer followed by Benjamin Moore "Aura" latex paint. Fresh Start is a tenacious sealer / primer that I apply generously over all surfaces to keep the wood's seasonal moisture in check and prep the surfaces to be exposed for two coats of paint. After a thorough overall priming/sealing I wait two days before a light de-nib sanding. Then I apply my first coat of Aura, and a full day or more later I apply my second coat, allowing all the primer and paint products to fully cure, regardless of the temperature and ambient humidity.

**Other Applications** – Don't be afraid to use the same, or at least very similar, details around other parts of your home for continuity. Here, Salusbury cut and applied trim to either side of his garage doors, which brings the entry and garage door design aspects together cleanly.

## Install the parts

Once the columns and entablature trim assemblies are ready for installation I clean and inspect the siding surface they will go over and locate as many structural components I can nail into for solid installation. Because a door is framed within an assembled stud structure, there's a lot of solid surface behind the siding both beside and above the entrance system. I used 2-1/2" finishing nails, countersunk and filled flush with Lepage 2 in 1 Seal & Bond, the same compound I used to caulk around all seams where my trim assemblies abut the siding. As a latex product it's friendly to apply, and because it's an adhesive as well as a sealer it'll add an extra measure of confidence by bonding my trim panels to the house.

So that's how I crafted a welcoming entrance for my home. How will you create a fine entrance for yours? As I mentioned, I incorporated many details of my existing home into the design of this surround, and I'm very pleased with the final result. This design might not speak to your design aesthetic, nor your home's existing design elements. If that's the case, use my design details as a starting point, and with the help of the Internet and some trusted design magazines come up with an approach you will be proud of. Just don't underestimate the importance of creating a welcoming, beautiful front entrance for your home.

MARK SALUSBURY
salusbury@nexicom.net

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beginner's journey

# A Beginner Woodworker's Paradise

For someone getting into woodworking, getting a formal education is worth its weight in gold.

BY JAMES JACKSON

I pulled the goggles down over my eyes and picked the spray finish gun up from off the table to my left. In front of me, a beautiful round side table is awaiting the final coat of finish. I'd never spray finished anything before, or even handled a finish gun, so I was a little nervous.

I timidly pulled the trigger and moved my hand back and forth just a few inches above the table, and I watched as the finish covered every inch of bare wood. Before I knew it, I was done. I placed the gun back on the table and lifted the goggles from my eyes.

And the table I'd just finished disappeared.

"Wow, are you sure you should be working in media? You did a great job," laughed David Blackler, finishing technologist at Conestoga College.

The goggles I was wearing weren't for eye protection – they were part of a cutting-edge virtual reality teaching program used by the college at the Woodworking Centre of Ontario. The program is incredibly lifelike and has been a boon for the college as it works to train the next generation of woodworkers.

The system allows Blackler to train students on how to use the spray gun and properly apply finish before they ever step foot inside an actual spray booth. The computer tracks the sprayer's speed, the angle of the gun, the distance from the object being finished, and can even calculate the cost of the spray used on a given project. The table I just finished cost a little more than $1 to spray. And according to Blackler, I was a natural.

It's all part of what the college says is the largest woodworking training centre in North America. It's 52,000 sq. ft. in size, and about 40,000 sq. ft. of that is dedicated shop space. Hundreds of students work their way through the college's two- or three-year instructional program each semester, and there's even a cabinetmaker apprenticeship program.

I recently went on a tour of the facility and quickly learned the VR program isn't the only high-tech device in the facility. There're electronic CNC machines, computer-assisted saws, and two 150-horsepower dust collectors hum overhead to keep the air breathable. There's also a big collection of band saws, jointers, table saws, edge banders, and more. It's a woodworker's paradise.

It's also a far cry from the former woodworking centre on campus. Now occupied by the bookstore, it was just 4,000 sq. ft. and had to operate 16 hours a day to ensure all the students had access to the tools.

When they expanded 30 years ago, however, enrolment shot up from about 30 new students every year to about 100. And who knows, if this whole journalism thing doesn't end up working out for me maybe I'll consider adding myself to that list. It would seem I've already got a pretty good handle on the spray finishing side of things.

***To read more about how to learn the craft of woodworking, check out our Oct/Nov 2012 issue. It has articles on other woodworking institutions in Canada, how to get your kids into woodworking, and a collection of student work from across the country.***

JAMES JACKSON
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Photo by James Jackson

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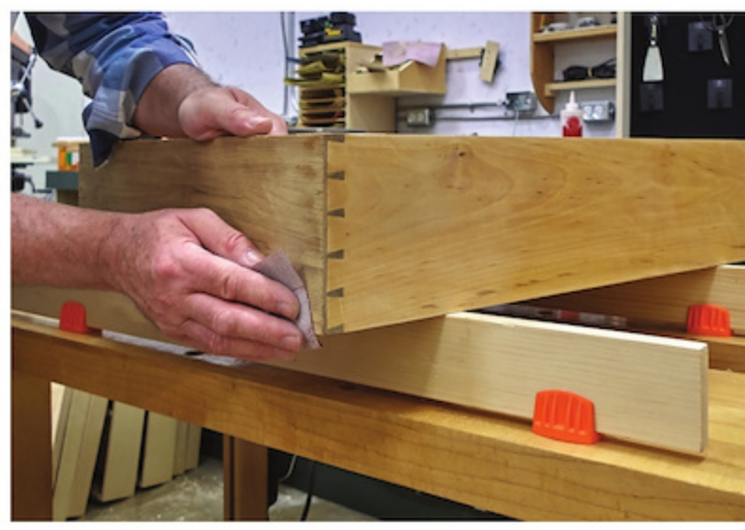

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