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This month's newsletter will be short as Marvin has written a great article on making your own Homemade Friction Policy and I have taken a crack at writing beginners how to get started woodturning article. I apologize, but people complain when I send attachments. Both articles will be added to the website in a more easy to read format.

At the meeting I will demonstrate turning a platter similar the attached photo. If you are interested please come and enjoy.

Please bring back your "bowling-pin magic", piece or pieces. The voted-upon winner will receive a $25 gift certificate.

We will hear from Jason and Ana on the National Symposium in PA that just occurred. Jason presented two rotations on his Torus. Ana ran all the video for the whole symposium.

Dale Gillaspy is stepping into the Vice Presidents role for the remainder of the year.

We have on-line registration started for the DWR and Glenn Lucas in Feb 2016.

We have Alan Lacer, Master of the Skew, coming for all-day demo and classes in November.

Jason has a special request to make at the Saturday meeting.

I just returned from the Big Island for my annual family vacation to visit my father who is retired in Kona. I was very sad to see my favorite gallery in Kapaau is closed and looking for a new home. I missed my black-sand beach day hike into Pololu Valley with my wife and kids. There

are now three really good woodturning-woodworking art galleries on the Kona side of the island. Cliff Johns Gallery between Captain Cook and Kailua Kona, Harbor Gallery in Kohala and Gallery of Great Things in Waimea. Every one is a must stop for Hawaiian woodworking. A new place we found is the Isaacs Art Center associated with the Hawaii Preparatory Academy, which has an annual woodworking show for furniture and a great exhibit of Hawaiian paintings as well. When I am there I just love the KOA at $28 BF for non curly and Mango at $13.25 BF for curly. Maybe when I retire I can be a Hawaiian woodworkers. They are truly blessed with great woods to work with. My folks are growing for me a pheasant-wood tree, which is very rare. This tree is now about 30 feet tall and its coming down before they sell the property in Captain Cook.

See you next Saturday at the Pyle Center at noon to watch my platter demonstration.

Chip Hidinger -- President, Arizona Woodturners Association

Article by Marvin Fretwell

MAKE YOUR OWN FRICTION POLISH

Background

Almost every new woodturner spends many dollars trying out various commercial finishes for their new, prized turnings. And almost every old woodturner has settled on one or two favorite finishes. It is an area of little consensus. Beauty is in the eye of the beholder, and there is little agreement between woodturners on what is the ideal finish. So ... I'm not proposing that this should be your favorite finish. I do propose, however, that many, many woodturners who have tried friction polish have quickly incorporated it into their finishing strategies.

Friction polish is, at its simplest, just an oil and shellac mix in an alcohol solvent. Friction polishing involves applying the polish using friction to cure it. The polish presented here is very specific as to the materials used, which makes it more versatile than many other formulations. Friction polish is just a modern-day rediscovery (with some modification of application methodology) of the old French-Polish finish that was made famous by the French Louis XVI-period style of furniture; on which a shellac and oil mixture were applied as a finish using heat from friction to cure the finish.

According to Wikipedia: "*French polishing is a wood finishing technique that results in a very high gloss surface, with a deep colour and chatoyancy. French polishing consists of applying many thin coats of shellac dissolved in alcohol using a rubbing pad lubricated with oil.*"

All modern friction polishes provide this same very high gloss surface, depth of color, and chatoyancy. If high gloss is not your preference, an overcoat of a satin wiping poly will give you a more subdued finish, and you still get to keep the depth of color and chatoyancy that this finish provides.

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You can buy commercially prepared friction polish, but this homemade polish is far cheaper; and I contend that it is also superior. The reason the homemade friction polish is superior is because it contains no wax, which greatly expands its versatility. This no-wax feature can be very important, as is explained shortly.

Myland's High Build Friction Polish costs about $24.00 per 500 mL (500 milliliters) bottle, in 2015, and contains wax, as do all the other commercial friction polishes I have investigated. So, you can spend $24 for a friction polish that is limited to being the final finish (because of the wax), or you can make the same amount of homemade, dewaxed friction polish for about $4.00, and not be limited to it being the final finish.

Many people like friction polish as a final finish, but I don't; because it seldom retains its initial, dazzling luster over time. Nonetheless, I use friction polish on most of my turnings now; as a quick and outstanding sealer/undercoat suitable for just about any other finish I want to apply over it. The homemade friction polish -- because it contains no wax -- is an ideal undercoat for varnish, wiping poly, and lacquer finishes. (Try using a waxed friction polish as a seal/under coat at your own risk!) I used to apply many, many coats of wiping poly to get the finish I liked. Now, I apply friction polish and a couple of coats of wiping poly, save a bucket-load of time, and get a superior finish.

If I want to bring out a deeper color in a turning, I will apply two coats of BLO (boiled linseed oil) first; which accentuates the color of most woods, then I seal the turning with friction polish, and then I apply wiping poly. If this sounds like a lot of work, or a lot of drying time, it isn't. I apply two coats of linseed oil on the lathe, with the piece turning slow-w-w-l-y, or by hand, and let it soak in for 5 minutes, wipe off the excess, and without waiting for the BLO to dry, I apply two quick coats of friction polish, which dry very rapidly, while you apply friction. I then let the piece set overnight, and in the morning I can apply wiping poly.

Making the Friction Polish

To make your homemade High Build Friction Polish that has no wax in it, mix these ratios:

- **-- 1part Zinsser Bullseye Sealcoat** (is a 2 lb. cut; does not contain wax),
- **-- 0.4 parts DNA** (denatured alcohol),
- **-- 0.7 parts BLO** (boiled linseed oil).

To help you with the math, I've pre-calculated these ratios for 16 oz. and 12 oz. of friction polish:

To make 16 oz. of Friction Polish:
-- 213 mL Sealcoat Shellac
-- 85 mL Denatured alcohol
--ν 150 mL Boiled Linseed Oil
Makes about 450 mL, or 16 oz. (1 pt.)

To make 12 oz. of Friction Polish:
-- 160 mL Sealcoat Shellac
-- 64 mL Denatured alcohol
-- 112 mL Boiled Linseed Oil
Makes about 335 mL, or 12 oz.

Notes:

1. If you want a no-wax friction polish, then the ***Zinsser Bullseye Sealcoat*** is the ONLY Zinsser

shellac you should buy; because it is the only one they sell that has been dewaxed. Why did they dewax it? Because it is intended as a sealcoat, and wax in a sealcoat is a real no-no.

2. If you have on hand or prefer dewaxed shellac flakes, you can use those instead of buying the Zinsser Bullseye Sealcoat. Just make a 2 lb. cut and use it like the Zinsser Bullseye Sealcoat. I don't do this, because it is more expensive, and because of the hassle factor. The Zinsser product keeps well, and works for me.

3. Most modern kitchen measuring cups now include milliliter (mL) measurements, and they will work, but they're pretty course in terms of precision, so I recommend you buy a cheap plastic graduated cylinder, such as aspiring chemistry students use in their laboratory. Amazon.com sells 100ml graduated cylinders for about $5 to $8. (Simply search Amazon using this term: "graduated cylinder 100ml".) Shipping can be free if you combine your order with other items to total more than $35. Otherwise, expect to pay more for shipping than for the cylinder. A good way to get the free shipping is to get several other woodturners to combine their order with yours, to meet the $35 minimum for free shipping.

4. I use empty plastic Coke bottles to store my friction polish. They're made of a plastic that will not let the alcohol evaporate through the thin plastic walls. Don't use polyethylene bottles, because they are permeable to alcohol (and many other solvent) vapors.

5. My homemade friction polish has a more yellowish cast than the Mylands High Build Friction Polish's brownish cast. The yellow comes from the lighter color linseed oil which I purchased, On wood, the two friction polishes look exactly the same in terms of coloration, but the home-made polish actually has a higher gloss, no doubt due to the absence of wax in the polish.

6. These measurements are not critical. It really won't matter if you are off by 5 mL on any of the components.

7. Be sure to slosh a small amount (15 mL) of DNA in the graduated cylinder afterwards, to clean it, and leave the cylinder upside down to drain for several minutes before putting it away.

8. Make sure you label your bottles! We don't want anyone trying to drink this stuff.

How to Apply the Friction Polish

Okay, so now you have made your own friction polish, and you are anxious to try it out. How do you apply it? It is amazingly simple.

Leave your workpiece mounted on your lathe, and set the lathe speed to its lowest. Using a soft paper kitchen towel, or an old cut-up T-shirt folded multiple times to form a pad, pour a liberal amount of friction polish onto the pad. Gently apply the pad to the outside surface of the turning, liberally applying polish. Work quickly. Once you have the entire outside saturated, start pressing down with the pad, to create friction. The piece will dry so fast you'll be shocked. Literally less than a minute.

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Inspect your work. Note areas where the finish looks thin. Reapply a good coat to the thin areas, and a thinner coat to the entire outside, and then apply friction pressure again. In seconds, your second coat will be dry.

If all the wood pores are well sealed, and the finish is satisfactory, that is it. You're finished with the friction polishing. It can be your final finish, or the base coat for whatever top-coat finish you wish.

However, if the finish, after the second coat, is not quite what you want, don't apply a third coat just yet. Take a clean cloth, with no friction polish on it, and buff the outside applying enough pressure to build up some friction heat. This will cure the two coats more, so you can apply a third, or even fourth coat after a few minutes of this heating process.

Once finished with the outside of the piece, you can finish the inside of it the same way. I don't recommend doing the inside and outside of a bowl at the same time, because your friction polish will dry on one surface before you have time to apply friction, and your resultant finish will probably not please you.

I got started using friction polish when a good friend and fellow woodturner left a bottle of it with me and literally demanded I try it. I wasn't much interested, and it sat for about 2 or 3 months. Then, I tried it, still not interested, but just so I could tell Tom I had; and as they say, the rest is history! Give it a try.

-- Marvin O. Fretwell
7/12/2015

Article by Chip Hidinger

New to Woodturning and Confused with all the Choices?

This brief paper covers a number of things I wish someone had told me when I was just a beginning woodturner. This advice could have saved me considerable money and a lot of frustration. I'll cover topics such as which lathe to buy, which kind of chuck to buy, the importance of mentoring, the most essential woodturning and sharpening tools, and a bit about sanding and finishing.

One question often asked by new members of the AWA (Arizona Woodturners Association) is about woodturning tools. I brainstormed with several Club members as to which five tools you need the most when starting out. Of course, this is subjective and really depends on what area of woodturning interests you. I am going to give you my opinion, which is based on my experiences.

Why is that valid? Because I am a generalist. After eight years of woodturning I find myself President of the AWA, a club of 250 members that hosts a bi-annual symposium, the Desert

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Woodturning Roundup, and hosted the American Association of Woodturners National Symposium in 2014 in Phoenix. I do not consider myself a good woodturner. Yes, I do demo's for clubs and I can make just about anything. I am an executive during the day and turn wood for relaxation. I grow bored easily and can't stand production work. So in the woodturning world, I think that makes me a generalist. That is, I will make anything until I perfect it (in my mind or my wife's) and move on. Normally the first attempt has issues and is not so good, but by the beta version I am happy with the results. Maybe I'm not the best qualified person to write this article as I don't get to turn enough; that is, certainly not every day and sometimes not even every week or month. However, as one of our Board members said to me "You have every tool known to mankind." Before we start, there are many ways to solve a puzzle and different solutions that will give you a similar finished product.

Next we come to the why of this article. Partly because I can save you a lot of money by suggesting five tools that I use 99 percent of the time. I will even cheat at the end and give a top-10 list. However, the real reason is found in these e-mails from new club member(s):

> "*Thanks Chip. I am relatively new to woodturning and would appreciate this. I took some beginning classes at Rockler and joined the club in order to learn more. After attending a couple of meetings I quickly realized how little I know and also realized some of the guys are pros. My intention was to build some salad bowl sets for my kids just like my grandfather made for his grandkids. I have now destroyed a fair amount of maple and regressed to just making pens. The only thing that keeps me going is the encouragement I have received at the meetings, that is, to just keep trying. Still, it would be great to have some more tips and or lessons. Thanks for everything see you at the next meeting*." -- Anonymous
>
> "*I have been turning about 3 years, A mentor would have been great ... and still would be. I have asked and got help for specific issues when I have needed them. Now whether in your mentors group or as a separate class it would be helpful (to me and I hope others) on identifying unknown woods. I have been embarrassed to often not having my wood identified correctly*." -- Another Anonymous

Numerous request, such as these, also made me realize our monthly meeting is not enough training for our new members. We need a mentor program. This pending program is still in the infantile stages, but we have Club members stepping up and volunteering. Mentoring will be a benefit of a paying your AWA annual dues. It also supports our status as a 501(c)3 non-profit.

I personally am not shy, and if something interests me I ask the member and go over to their house. However, many members are embarrassed with their skills and not willing to do that. For example: we have another club member who turns out great finishes yet doesn't think he is very skilled. I have actually purchased a piece of his work because I admired it. I encourage you to participate in the AWA President's Challenge each month or put pieces on the critique table.

Back to what tools you need to start out. First if you don't start on a decent lathe, your turning experience will be horrible, or at least super frustrating. My father in law is an example of someone who was interested in turning wood. He went to Harbor Freight and bought a cheap, sloppy Chinese lathe. You couldn't even move the banjo without a wrench. I don't know about

you, but I move my banjo a lot when turning. You should too, if you're supporting your tools properly. I told him, after one teaching session, that the lathe was garbage and to throw it out. You are doing yourself a disservice not starting on a decent lathe.

My recommendation for a first lathe is a variable-speed mini lathe. Why variable speed? Humans are lazy; variable speed makes it super easy to adjust the speed of the piece you are turning, for safety. Recently at a demo I had to turn on a lathe on which you manually had to move the belts on the pulley system to change speeds. I had a hard time adjusting the speed and at numerous times found myself turning at the incorrect speed for what I was doing. When I turn any item there are times when I need to turn slow (roughing the wood to balance it), fast once roughed for good clean cuts, and slow again when sanding.

A little disclaimer here, I am not sponsored or have ownership in any woodturning tools or items for sale, besides what I make myself, which are usually given as gifts.

You cannot go wrong with a variable-speed Jet Mini or Midi Lathe. I have one to this day in my shop and use it for small items such as pens, jewelry, and small bowls. The swing is 10 inches, so small bowls are easily turned. (Swing is the maximum circumference of a bowl or platter that can be turned.) I bought a lathe-bed extension for a turning project, but never use it now.

If you want to get serious and buy a full-size lathe, then the Powermatic 3520B is, in my humble opinion, the best deal and most versatile lathe on the market. There are many other nice lathes that do all the same things, but most cost 2-3X of the Powermatic. I have kids to send to college, so the Powermatic was my logical choice. I looked online for the best deal on a new one, and had it drop shipped to my home. This was the best deal I could find. However, now I would suggest you go online to find your best price and then see if one of your local woodworking stores will match the price. Jet and Powermatic annually have a 15 percent off sale as well. I did buy the Powermatic lathe extension and use it ALL the time for getting the tailstock out of my way.

There are many lathes on the market and a lot of folks settle just fine with a mid-size Jet Lathe with a 16 inch swing. Whatever lathe you are looking at, try and turn on it first. Also, consider the height of the lathe and if you can adjust it. This can make your back much more comfortable, which will help many of you with the chronic problem of TMB (to many birthdays).

You don’t have to have the Powermatic, but it will tackle almost all you ask of it. I have three lathes in my shop, but use the Powermatic or Jet mini 99 percent of the time. Probably 90/10 is their usage ratio. The vibrations of bowl turning are dampened by the heavier mass of larger lathes. Most people will quickly want a bigger lathe once they become more experienced. They will then be selling their used mini or midi at a loss. Not a bad loss, as lathes tend to hold their value, but still a loss. Or you will be like a lot of us and have two lathes.

The next thing is how do you hold turning items on the lathe? Again, this is personal preference and there are many ways to skin a cat or mount a piece of wood for turning. Did I mention that I am human and therefore lazy? Most turners end up using four-jaw chucks to hold their wood

when they turn. In my opinion, this should be your second purchase following your lathe; but made the same day.

The best four-jaw chuck on ~~in~~ the market, in my opinion, is the VicMarc, which comes standard with dovetail jaws. Why do I prefer dovetail jaws? Dovetail jaws hold workpieces very firmly and when used correctly can even hold finish turnings without marring them. I don't believe any other type jaw can match this capability, and many seasoned turners agree with me. I started with OneWay chucks and still use them, but they are ALL converted to dovetail jaws (which were expensive to convert).

I also probably have eight or more chucks. You don't need this many as jaws can be interchangeable, it just takes a couple minutes with an allen key. The budget equivalent is the Nova chuck, also standard with dovetail jaws, and lots of club members have turned on them for years. They have a maximum speed stamped into the side of them and I turn faster than that A LOT.

I seldom use a face plate to turn, but many woodturners who turn segmented bowls use them a lot. Most lathes come with a face plate, so you probably won't have any expense to try one out.

Please be safe and start all your work between centers until its balanced, then move it to the chuck or face plate. Since we are discussing turning between centers and safety I would suggest you purchase a Steb Center drive. It has a spring loaded center and will usually slip and let a catch spin instead of rotating the workpiece so powerfully that the workpiece is forced off the lathe.

Speaking of safety you clothing and hair are important. If you have long hair, tie it back. You should not wear clothes that could get caught in the lathe. You should wear a turners smock, shoes, and a dust mask. I am guilty of turning in flip flops, but have found some gators from a fellow club member, that go over my shoes and keep the shavings out of my socks when wearing shorts. Lastly some kind of dust mask and face shield is important for your health. There are many choices out there. I have personally been using the older Trend Air Shield and won't turn without it.

So how do you finish the bottom of a bowl? You can certainly jam chuck most pieces. I live in the desert and we don't have lots of free extra wood laying around, so I don't jam chuck that much, as I don't want to waste wood, but this is the most inexpensive solution. This is also the first way you should learn to finish the bottom of your work. I would soon suggest a Vacuum chuck as you improve your woodturning skills. I went on-line and paid something like $300 for my first vacuum system. However, there are local resources where I bought my second one used for $35. By the way, the local one worked better, but if you buy used you want to make sure it will draw at least 21 inches of mercury at 3 cfm in order to adequately hold your work on when vacuum chucking the bottom of a piece. I also need to mention this is a delicate process, and you should cut into the piece not across it when vacuum chucked.

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We're finally talking woodturning tools in this section. However, this is subject~~ive~~ to what you want to turn. Most turners start turning spindles both for safety reasons and because the basics of tool handling are best learned on spindle turning. These are my five top tools:

1. 1/2-inch bowl gouge (American measurement; which is the diameter of the gouge shaft.)
2. spindle roughing gouge (the bigger the better)
3. detail gouge (sometimes called spindle gouge in either 3/8 inch or 1/4 inch).
4. parting tool (the thinner the better) and/or the diamond shaped.
5. medium scraper (the rounded edge type).

Later, when you have advanced in your turning, there are a few more tools you will want next:

6. 5/8-inch bowl gouge (later when you start to turn bigger bowls/items). Most people buy the Ellsworth bowl gouge with his grind, or reshape a standard-grind gouge to that shape.
7. Hunter brand carbide cutter for reaching far over into the bowl to finish the bottom. Note: this can also be done with a scraper or a traditional grind bowl gouge, particularly on smaller bowls. I just find the Hunter Tool the easiest.
8. negative-rake scraper (suggest you purchase the Thompson 1-inch curved standard scraper in 3/8" thickness and grind the negative rake yourself). Powdered metal tool is preferable.
9. Traditional (or Irish) ground 5/8-inch bowl gouge ground at almost 90 degree bevel works wonders on the bottom of a bowl.
10. Bedan -- I use this for rounding a tenon or cutting the dovetail on a tenon to hold onto the chuck.

The next logical question about tools is which manufacturer and I think this is subjective. An important consideration is the steel. Should you buy HSS (High Speed Steel) or some type of PM (fused Powdered Metal) steel? PM steel will hold an edge longer than HSS. I use both a lot. It really depends on your application. For a bowl gouge you're going to use a lot, I would suggest you send the extra $10-15 per tool for the PM version. Currently I am partial to Crown and Thompson Tools. If I could have just one tool for bowl turning it would be a PM bowl gouge with a signature grind from David Ellsworth. It is the most versatile of the bowl gouges I own. I can turn a bowl without any problem with just that one tool.

The next item you HAVE to have is a grinding system to keep your tools sharp. The sharper the safer! You should set up your sharpening system next to your lathe. Earlier I mentioned that humans are lazy. If you have to walk across your shop you will not sharpen as often as you should.

Something that took me years to learn when sharpening was a soft touch. You should only be sharpening your bevel, not regrinding your tool (note: this is true for flat work with chisels as well). No more than one or two quick passes on the grinding wheel and you are back in business. A tool will last you years if sharpened correctly. I recommend an 8-inch slow speed grinder (use what you have if you already own a grinder) and a set of CBN (cubic boron nitride;

superior to diamond for cutting hard steel) wheels to start with. CBN wheels do not need to be dressed nor balanced after initial installation and you can quickly add an edge to your tool and be back to turning. They grind so well and cool it is a challenge to ruin the temper on your tool, which is not the case with traditional wheels. Yes, they are expensive, but they will be the last wheels you buy and many of the woodturning clubs do "club buys" that make the wheels much more affordable. An important consideration in buying grinding wheels is whether or not you intend to sharpen PM gouges. Regular aluminum oxide grinding wheels will not properly sharpen PM steel. So, if you want to buy PM gouges, you logically must also purchase a CBN grinding wheel. CBN wheels also produce longer lasting edges on HSS.

Hands down the best tool on the market to help you sharpen your woodturning gouges (that aren't carbide) to a consistent profile is the Oneway Wolverine system. As you progress in your woodturning you might eventually start grinding your gouges freehand, but this approach is NOT recommended for beginning woodturners.

Then, there are the jigs so you can repeatedly have the same grind off your grinder. Most folks have the Ellsworth sharpening jig for their bowl gouges to put a fingernail grind on their gouges. This jig works in the Wolverine System. I am now personally hooked on Hannes Tool Sharpening System and use it in my shop.

I jig ground my tools when I sharpened when I first started turning, then went to freehand (after years of turning) when I took a Richard Raffan class and love the speed of sharpening free hand. Currently, on my bowl gouges I use the Hannes Tool Sharpening System for the repeatability of the grind. I keep mentioning bowl gouges because you will be using your bowl gouge (whether 1/2 inch or 5/8 inch) 90 percent of the time when turning a bowl.

You will then need a way to sand and finish your work. You can do this by just hand sanding both on and off the lathe. On the lathe is much easier to sand, but most pieces will need some hand finishing off the lathe. The wonderful thing about turning versus flat woodworking is I can finish a piece in a couple of hours versus weeks or months. I would suggest having a small rotary sander such as a Grex or even just a portable power hand drill with some 3-inch hook and loop pads would work fine. This is where a Chinese knock off has served me fine for five plus years.

For finish I would probably start with a wipe on finish of some kind that can be applied on the lathe with good results. My go too finishes are wipe on poly if I want a hard shiny finish. (Shiny sells) or my favorite which is Doctors Walnut Oil Formula with all the stuff he adds. Another is Mylands High Build Friction Polish which just works really well and is easy to use, however over time loses its luster. Rattle-can lacquer is often a finish I use as well.

I'm sure there are a lot of things I'm missing here, But I also feel confident that I could accomplish my goals of turning beautiful bowls with this setup. Getting into turning is not a cheap hobby by any means. You can offset the cost a lot by buying used equipment; but don't buy cheap stuff thinking you can upgrade later. You will ultimately be frustrated and may even give up -- which would be a shame. Buying high-quality used equipment and tools is always a viable option if you're seeking the biggest bang for your buck. The AWA Google Group is a

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great way to query fellow woodturners if you have a specific item in mind that you want to purchase used.

Lastly, as you have all heard the old saying there are many ways to skin a cat; well, there are even more ways to turn a bowl! So let the turning begin!

-- Chip Hidinger; 7/13/2015