



## October 2013



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“WHAT WAS THE BEST THING BEFORE SLICED BREAD?”

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**Topic of the Month:** Turn the easy way, define the four cuts of tool control

One of our AAW board members noted recently that his experience of turning was “hard work”. He cited his arms, his back, and his legs ached. As MLK said “I have a dream” and I have a dream too. My dream is that everyone learn the tool control methods that make turning easy and a

whole lot more fun. In the good old days, it took a lot of strength and endurance to turn. Now it is not a strength thing, it is a finesse thing. The tools and the lathe do all the work. We used to use bowl gouges with lead shot in them to try to absorb the beating we put our bodies through just to rough out a bowl blank. We were drawn to heavy tools so the tools would take some of the punishment off our bodies.

I am not *just* talking about the hollowing system and laser use. I am referring also to the skills we use on the outside of hollow forms or any other turning we choose to do. In my ***Bowl Basics DVD*** I have broken down the tool control into four cuts. When you put a sharp edge against the wood only one of four cuts will happen. It does not matter what tool you have in your hand one of four things will happen. Once you understand the four cuts and the rules involved, the hard work and fear goes away. If you follow the rules you will never get a catch again. I hear turners all the time refer to catches as if they are normal, "Everyone gets a catch now and then" they say. I disagree!

Here I define the four cuts: push cut, pull cut, scrape cut, and sheer scrape cut. The first is the push cut. The push cut with a bowl gouge is the work horse and we use it a majority of the time. It is used to hog off. It is used on spindle work. It is used on the inside of bowls. The push cut can be aggressive and take a large amount of wood away with each pass. It can be a small finishing cut leaving a great finish on the wood that needs little sanding. It can be a shaping cut. It can be a refining cut. The flute is facing the direction of the cut. The handle is parallel to the floor or slightly down. None of the cuts have the handle up with a bowl gouge. The flute is tilted on a 45 degree angle to the wood direction so the tip of the gouge is slicing on an angle and leaves a clean surface on the wood. The direction of the cut (all cuts) is always going downhill to the grain, slicing supported fibers. This slicing action will always leave a better surface and takes less sanding than with scraping mode. The first and foremost rule for the push cut is the bevel is supporting the cut. The bevel is the directional finder. The bevel is the controlling factor. The bevel prevents catches. The bevel is necessary all the time. In fact, I have a procedure of lining up the bevel with the existing surface of the wood before I take EVERY cut. The A-B-C's: Anchor, Bevel, and then a Cut. A cut without the bevel will get you a catch.

The second cut is the pull cut and is used when it is necessary to shape, if the handle gets in the way of the lathe and I cannot use the push cut. The main use of the pull cut is on the outside of a bowl where the head stock will be in the way and I cannot use the push cut. Three rules are: (1) The handle is way down, like at a 45 degree angle down and tucked into your thigh. (2) Use the tip only. Do not get a shaving going down on the wing of the bowl gouge. And (3) Bevel support is on the side of the gouge. (In contrast to the push cut where the bevel is supported at the tip of the gouge.) To start a pull cut the flute is pointing almost straight up. This is one of the hardest cuts to master because we don't use it very often. It takes small shaping cuts. It is not usually a finish cut and we do not hog off with it.

The third cut is the scraping cut. We can scrape with many tools. The new rule for scraping is that the cutting edge must touch the wood at less than a 90 degree angle to the surface of the wood. When we scrape with the bowl gouge we twist the flute in and face directly at the wood surface. We use the broad brush of the wing and stay away from the tip and the corner of the wing. When we are doing hollow forms with the HSS cutter we are in scraping mode. We cut slightly above the center line to keep from violating the 90 degree rule. I don't use the scraping cut much because the push and pull cuts leave a better surface on the wood with less torn out grain and less sanding.

The last and fourth cut is the sheer scraping cut. This is scraping on a steep angle. So with the bowl gouge we would scrape with the handle down, way down, the steeper the angle the cleaner the cut. In a bowl, I use the sheer scrape to refine and finish the outside of my bowls. The importance of grain orientation comes in here again. On the outside of a hollow form we need to have the angle of the cut facing downhill. Downhill on an end grain hollow form (or spindle mode) is from the largest diameter to the smaller diameter. On a bowl, to go downhill with supported fibers we must make the cut on the bottom outside of a bowl from the base to the rim. The steep angle is peeling the fibers with little angel hair shavings downhill.

The carbide cutter I have on my hollowing system uses the bevel supported push cut and a negative rake scrapping cut, both with the little 3/16 inch nanograin carbide cutter.

All this is hard to visualize from text. My goal here is to outline the four cuts. The DVD would let you see the cuts in action or check my YouTube clips to get a glimpse of the cuts as I make them. But the better and faster way is to seek out a mentor in your club and get some help from someone that has the skills. We need to prevent catches, prevent torn out grain, we need to prevent vibration problems, and we need to limit sanding. When you want to learn techniques, you go to school. When you have troubles you want to fix you go to the doctor. I prefer to prevent the problems, not put a band aid on them once they crop up. Trial and error is a hard way to pick up these skills.

We have recently had another serious injury at the lathe in our turning family. The best reason to learn to have fun and turn the easy way is that it is the safe way. A process in control builds in safeguards. Just a simple thing like getting a catch can hurt you if all the pieces of the turning puzzle are not in place. You are never too old to start using new methods to enjoy your time at the lathe and make turning physically easier. As we age it is harder to handle the weight and stress of hard work. Follow the fun and be safe.

## QUESTIONS AND ANSWERS

### COMPATIBILITY OF OTHER BRAND BORING BARS, AND BORING BAR CAPABILITIES

Hi Lyle,

I have an older model Woodfast Lathe with a 20" swing with a 42" bed. I also currently hollow with John Jordan's 3/4" tools. Do these work with your hollowing system? In other words, can I simply fasten the Jordan cutter bars to your D-handle and have it be stable? Is there any real advantage to using your boring bar instead? Also, realistically, how deep could I expect to hollow with your basic system and the Jordan tools? Kindly let me know, and thanks.

Tom

Hi Tom from Maryland,

Yes, any 3/4 inch bar will work in my handle. The advantage of my boring bar and cutter swivel assemblies is it removes the limitations of the fixed position cutters. The fixed position cutters work for most shapes but when you cannot reach a spot inside the vessel it will drive you crazy.

The limit of hang over the tool rest is the same for any 3/4 inch bar. The length of the bar is not an issue, it is the diameter of the bar. My system will give you the control to go deeper usually, then with hand held hollowing. If you want to go deeper, you need to use a larger diameter bar (my jumbo bar) to turn without vibration. I turn without vibration. Vibration is a NO-NO, bad things can happen when you force the tools to go beyond their capabilities and it is not safe. Limits might be 12-13 inches with the 3/4 inch bars and 16-17 inches with my jumbo bar that is 1 1/8 inch diameter, under ideal conditions.

### GRINDING WHEEL RECOMMENDATION

Dear Sir,

Please let me know what kind of wheel (+ John Jordan Jig) must be used to sharpen your 3/16 inch HSS cutter. And what kind of wheel (+ John Jordan Jig) must be used to grind the same cutter?

My grinder has two wheels:

- a 6", 40 mm wide, white, Aluminum Oxide (AlOx) wheel
- a O'Donnel 6", 25 mm wide, RBS\*46 g ruby wheel.

Sincerely yours,

Fernando

Hi Fernando location unknown,

I use an 80 or 60 grit AO wheel with the Wolverine grinding jig with the Jordan jig to hold the 3/16 inch HSS cutter. The 46 grit is a bit too course for sharpening but works nicely for shaping bowl gouge grinds. My instruction for setting up the JJ jig sets the cutter back 1/2 inch from the tip of the jig.

I recently had the pleasure of using the new CBN 180 grit wheel. That will be my next purchase.

### COMPARE DAVID ELLSWORTH GRIND TO THE JAMIESON SIGNATURE GRIND, AND UPGRADE TO NEW LATHE FOR HOLLOWING SYSTEM

Good Morning Lyle,

I started turning again the beginning of this year after many years of only flat work. I found a 1967 Powermatic Model 45 and rebuilt it to start out and see if turning is really for me, it is :-). I am hoping to step up to a Robust American Beauty as soon as the budget allows. I am leaning more towards turning vases, chalices and birdhouses from logs.

In your videos and newsletter you allude to Ellsworth on occasion. I took a class from David back in March and find a number of similarities in your techniques and methods. I like what I see in your methods as well as David's. Being near retirement age and having hip and back "stuff happening" makes David's tools less than comfortable to use. Don't misunderstand, they work well, especially on the American Beauty he has in his class. On my old Powermatic, having to lean in or climb on the lathe they are not quite as easy to use for extended periods.

All that to say, will your hollowing system work on my Model 45 and more importantly, will it work on the American Beauty in the future without major modifications? The Model 45 has a 10 " max over the Banjo and a 12 " max over the ways. I'm pretty sure you already know the American Beauty's maximum diameter is 25 " over the ways.

The grind on your tool appears to be very similar to David's, what exactly is the difference, if any?

I look forward to hearing your response, purchases over a certain amount require a discussion with the "household budget committee" and this has already been approved if the changeover does not require a major change or expense.

Robert

Hi Robert from Pennsylvania,

Nice to hear from you, thanks for the inquiry. Yes, many of the things I teach came from David. I use the same set up angles for my signature bowl gouge grind, but I have changed the profile of the sharpened edge. I removed David's hump. Three out of the four cuts we do, the hump gets in the way. David uses the hump for his finishing cut inside a bowl, so he needs it. I do not do the inside of bowls like David, so I take the hump off. It is much friendlier and has a bigger sweet spot without the hump.

Congratulations on your goal to get a Robust, I believe it is the best lathe on the market today. Brent does a fantastic job. The American Beauty will take a different back rest then the one you will get for the Powermatic. It is an easy fix to adapt it to the AB, or I have a policy that if you send me the old one I will replace it with a new back rest for the AB, you just pay shipping. Many people have used this trade in option when they upgrade lathes. Or you could take it down to your local welding shop and have a longer post welded on the old one.

I learned to hollow from David and others with the Stuart arm brace hollowing tools 20 some years ago. Even when you get good at it, hollowing by hand is hard work compared to my fingertip control process. Even if I was this 20 something stud that didn't care about beating up his body, I would be hollowing with my system just because of the laser measuring capabilities. The laser will not work well on the hand held systems.

So the answer to both your questions is yes, my system works on any lathe. You have already seen some, but I have a ton of resources to help you along the way. Give me a call if you have any other questions.

### **STOP GRINDER VIBRATION**

Hi Lyle,

I just watched your video on sharpening. Near the end of the video you discuss and demonstrate truing a grinder wheel. My question is when loosening the wheel and rotating it on the shaft a bit at a time to stop the wobble, how do you know when the wheel is true if the other side wheel is also untrue and the grinder continues to vibrate?

I really enjoy your videos, I have learned so much from them and my skill level has benefited also.

Richard

Hi Richard from Washington,

Thanks for the question. You must align both wheels before you turn the grinder on. Use your thumb and rotate the wheels by hand, one at a time, to see if they are running true. If not move the wheel again. When both wheels are running without wobble the vibration will be eliminated. This might take some time but it is worth the fiddling to get it right.

### **FEEDBACK**

BTW: Love how you explain "WHY" & "HOW" in your videos - you are so easy to watch.

Randy from Texas

### **CALENDAR**

Check out my website calendar for more specifics.

(<http://www.lylejamieson.com/information/calendar.asp>)

August, 2013 – Texas

September, 2013 – Georgia

October, 2013 – Ohio, Wisconsin

November, 2013 – North Carolina

February, 2014 – Tennessee

March, 2014 – New York

April, 2014 – Georgia

June, 2014 - Arizona

August, 2014 – Illinois, Texas