Making the Rings for "Bowls from Boards"

On the Lathe

FSW recently presented an interactive remote demonstration (IRD) that explained how to make bowls from boards (BFB) using techniques that involved the extensive use of a bandsaw to cut the rings for assembly and turning. Since not all turners have bandsaws, and since some turners who have bandsaws might prefer not to use them for this purpose, we thought it would be useful to share with our members some suggestions on how to design and cut the rings entirely on your lathe without having to use the advanced math that so many of the existing BFB articles discuss. This should not be interpreted in any way as saying that cutting the rings on your lathe is in any way better than using a bandsaw – it is simply a *different* way to do it. You choose the method that best suits your available equipment and woodworking style!

Also, note that these suggestions only address a different technique for the creation of the rings used for the construction of a bowl from a board. We are not addressing any alternative techniques for gluing/assembling the rings into a bowl or the actual turning of the assembly. Those issues were covered in the recent IRD recording which is available for review by those members who signed up for it.

Most turners will likely start out using 3/4" thick boards for their first BFB projects, so we are assuming the use of that thickness for this discussion. Resulting wall thicknesses and final bowl heights will, of course, vary if you use thinner or thicker boards, but we aren't going to discuss those variations here. This will just deal with some very basic BFB ring cutting concepts.

We also want to mention that we have reviewed the very limited number of articles out there that address BFB ring measurement and cutting techniques, as well as the discussions in segmented turning books like those from masters such as Malcolm Tibbetts. All were excellent discussions, but they still left us with some nagging

questions about basic BFB concepts that we will try to answer here for folks new to the BFB game (like we were before plunging down the BFB rabbit hole to do this guide for our members…).

One last preliminary note. Most of the profiles shown here have not been glued or turned to final shape. For cost purposes, the many profiles that were cut and tested were made from pine 1x12 boards and thus were not suitable for turning and finishing. We know it would have been far preferable to show final turned profiles but time and expense were limited. So please use your imagination when looking at the "final" cut and stacked "profiles" for those designs which do not have final turned profiles shown here. For some of the profiles, we will show very similar pieces designed and turned by others so that you will have a better idea of the final result.

Factors to Consider in Deciding Which Technique to Use

Bandsaw Pros:

- If you have a bandsaw and know how to adjust the angle of the table, it may be the ideal solution for you in making rings for BFBs.
- The kerf left by most bandsaw blades is thinner than the kerf that you will likely get from using most parting tools on the lathe. So you can save a little bit of material by using the bandsaw. The resulting thinner kerf might also help a little with grain alignment upon glue-up. Keep in mind, however, that BFBs will never have perfect grain matches since your bandsaw blade or parting tool will remove enough thickness that you will rarely be able to completely hide the grain loss. Bottom line is just don't stress over it.

Bandsaw Cons:

- You may have your bandsaw set up for other functions and don't want to adjust the table to the settings necessary for this function. Or perhaps you aren't comfortable tilting your table and would just prefer to use a different technique.
- You may have a ½" or larger blade installed on your bandsaw (which is the case for many turners); if so, you will likely need to change the

blade to a smaller width since even a ½" blade cannot cut a circle smaller than 5" in diameter – which is much larger than most bases that you will use on a BFB. Depending on your bandsaw, changing blades – and making the adjustments necessary for a different blade size - can be a time-consuming task.

- The maximum tilt on most bandsaws is only about 46 degrees – so that limits the angles at which you can cut your rings. On a lathe, you can cut angles as steep at 60 or 65 degrees without much difficulty, depending on the thickness of the wood being used and the cutting length of your parting tool. So the lathe can give you design options that a bandsaw cannot.
- The bandsaw ring cutting technique requires that all rings and the base be cut in half. While they can easily be glued together, those are additional glue joints that will very likely show in the finished piece.

Equipment Necessary to Create Rings on the Lathe

I. The "No Frills" Method

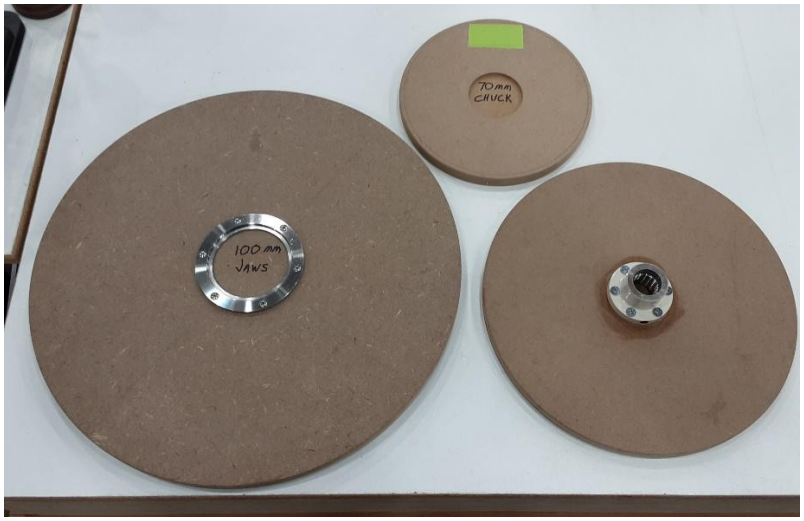
If you search YouTube for videos on making BFBs, you will see many turners who don't use any special equipment at all for creating rings for their BFB projects. All you really need is a glue block to hold your BFB board (or use a Forstner bit to cut a shallow recess in the back of the board and grip it with your 4-jaw chuck), a tool rest, a parting tool and some basic angle gauge (even a carpenter's square) to allow you to set the angle (typically 45 degrees) at which you will cut the ring. You won't have great precision from such a basic setup, but you can certainly get the job done.

II. The "More Frills" Methods

What equipment would make the setup better? Here are some suggestions:

a. If you are just using a glue block to hold your board and are not using a backer board of any kind, you may want to use a simple device (shown below on left) used by some turners to "catch" larger rings as you part them off from the board so that they don't bounce around too much and potentially break (below right).

b. To avoid such potential mishaps, many BFB turners find it preferable to use a backer board setup. In this setup, the board you want to turn into a bowl (i.e., the "BFB board") is held by tailstock pressure against a sacrificial backer board held onto the spindle by whatever mechanism you choose – faceplate, ring mount, mortise and chuck (all illustrated below), or even a glue block.



You then cut through the BFB board and lightly into the backer board (the backer board here has a replaceable ¼' MDF disc installed with double-faced tape so that it can be used repeatedly and then replaced). The setup holds the ring in place so that it cannot bounce around and potentially break (assuming, of course, that you don't have your lathe speed set too high – as noted below, around *800 rpm* at maximum is likely to avoid any breakage, even for small fragile rings). Here is an example of a backer board setup:

c. The parting tool that you use is absolutely critical to success. It should be as thin as possible – 1/16” or 3/32” is preferable. Wider parting tools waste material by creating a larger kerf, of course. Do not select a parting tool that has a tall blade (like the Sorby short-handled parting tool) since that will make it impossible to cut anything but rings with a large circumference. Also, depending on the wood you are using for your BFB board, you may want to lightly sharpen your parting tool after each ring is cut, since cutting these rings can be very tough on cutting edges.

   Also, when using your parting tool for this purpose, avoid the urge to push the tool harshly into the cut. Rather, use gentle pressure and let the sharp edge do the cutting for you. Yes, it will take a little longer but your patience will be paid off with a cleaner cut. And be especially careful to use light pressure on the tool as you approach the end of the cut, since that will help prevent significant tear-out where the rings separate from each other.

   Some suggestions on preferable parting tools are:

   1. *D-Way thin parting tool* – this one is fantastic for cutting rings since it is thicker at the bottom (3/32”) and tapers up to only 1/16” at the top. The tapered profile doesn’t bind or burn much at all. And its height isn’t too tall to inhibit cutting smaller diameter rings.

2. *Ron Brown's parting tool* – appears to be designed and sized in very similar fashion to the D-Way tool, although he suggests using his design "upside down" from how the D-Way is used.

3. *Sorby Micro Parting Tool* – 1/16" thick and even shorter in height than the two above, so it should work even better when cutting the smallest rings. Some BFB turners like this tool a lot, but others have noted it doesn't stand up to much abuse, as its small size leaves it prone to bending if stressed too much in thicker boards.

d. Some sort of device to hold your parting tool at accurate angles:

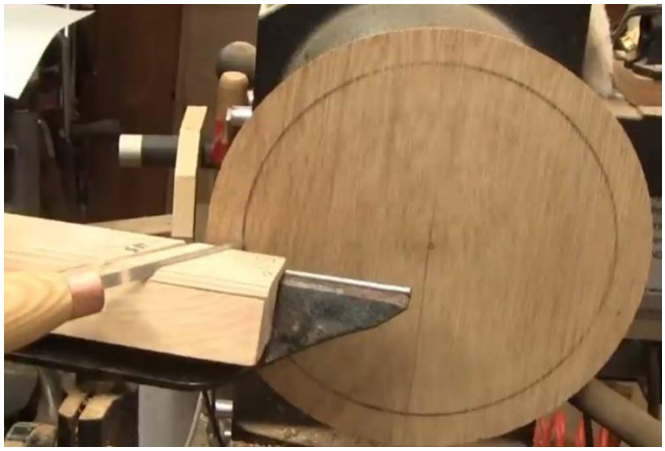
1. You can certainly purchase a commercial device for this purpose, such as Ron Brown's rig. But it has only certain limited angles available, so it doesn't provide a great deal of flexibility.

2. You can make your own such device. Several styles have been shown on assorted BFB videos:

   i. Machine it out of metal if you have that skill and the necessary metalworking equipment. This sort of device, however, only has one fixed “angle” that you can then adjust to other angles with a protractor device. Gives you unlimited angle possibilities but you must readjust it for each new angle.

   ii. Make a similar device but out of wood that you can attach to a box rest with double-faced tape:

iii. Make an assembly that you can clamp to a traditional tool rest with one or more angle guides cut in it:



iii. Use your table saw (if you have one) to make a guide with multiple angle slots that you then double-face tape to a box rest and align to the workpiece by means of a ¼" spacer bar (that you remove prior to turning, of course) to insure it will accurately cut at the designated angle. This gives you virtually unlimited flexibility in the angles you can use to cut your rings by simply cutting new angles on additional blocks of scrap hardwood. For many typical 1/8" parting tools, a standard table saw blade works fine; for 3/32" or 1/16" parting tools, a 0.10" thin kerf blade works great.

Here is a closeup of the ¼” bar (you can use any sort of scrap wood or metal piece for this) used to ensure that the angle guide is square to the workpiece – and that the desired cutting angle is in fact correct:

With this option, you can create numerous angle combinations to use for specific bowl design.

The angle blocks shown above were cut from hard maple scraps at a width of 1 1/8”, which works fine with most parting tools (like the D-Way) and ¾” thick BFB boards. But with thicker boards, you may have to cut them to a width of 1” or less in order to have sufficient depth of cut with your parting tool at high angles like 55 or 60 degrees. Another plus is that these blocks can be reversed on the box rest so that you can cut all the angles in either order – helpful when cutting rings close to the live center.

General Guidelines to Keep in Mind While Cutting Rings from a BFB Board on the Lathe

1. Any board you select for making a BFB should be flat and of uniform thickness. Don't bother even attempting to make a BFB if the board is warped and/or isn't of uniform thickness, since you cannot get a remotely acceptable result if your board has either of these issues.
2. It should be obvious, but keep in mind that the thicker the board you select, the taller the bowl may be – although really thick boards result in very few rings being able to be cut from it, so that will limit final bowl height. But bear in mind that the maximum board thickness you can use will depend on the length of your cutting tool – and the safety of using that particular tool at a given depth of cut.
3. Watch your lathe speed when cutting rings. Generally, a speed around ***800 rpm*** is sufficient for parting rings without putting unnecessary stress on a ring once it is cut free from the board. Trust us – you do not want to experience sharp ring chunks flying at you at high speed!
4. The term "wall thickness" used in this document does *not* refer to the width of each ring that you will cut; rather, it refers to the thickness of the *overlap* between rings at the point at which they will be glued together. The overlap is evident in this cross-section picture of a bowl from a board (and don't worry – we'll show you below how to cut the rings way more accurately than the ones shown here that waste a lot of wood due to poor layout and cutting – although it might have been intentionally designed this way to provide a more flared profile??):

<u>This Is Really Important to Note</u>: *Your final board thickness at the glue joint will vary considerably depending on the angle(s) at which each of the joined rings was cut. Remember that not all rings are cut with the same angle on both sides. A basic 45-degree BFB will have the same 45-degree angle cut on both sides of each ring. But a ring cut using one of the ascending or descending degree designs discussed below will have different angles cut on each side. So guestimating wall thickness for such dual angle rings can be challenging unless you use one of the specific techniques described below for drawing predetermined designs (or unless you use one of the really complicated trigonometry formulas discussed in other articles – which we are not going to do here…).*

While exact wall thickness predictions can be challenging, here are some very approximate anticipated wall thickness figures for different ring angles cut ***<u>on a 3/4" thick board.</u>*** *Figures will, of course vary with different cut angles (wall thickness increases the greater (i.e., higher number) the angle at which you cut) and board thicknesses (thinner boards result in less final wall thickness and thicker boards result in greater final wall thickness*):*

<u>Approximate Angle of Cut</u>	*<u>Approximate Wall Thickness</u>*
30 degrees	*around 5/16"*
35 degrees	*around 3/8"*
45 degrees	*around 5/8"*
55 degrees	*around 7/8"*

Less wall thickness, of course, means less room available for shaping your bowl during the turning process, while more wall thickness means more flexibility for shaping. So plan accordingly. If you are using 3/4" boards and are nervous about wall thickness or want room to shape, it would be best to stick with 45-degree angles or higher since that will result in greater wall thickness to play with.

**For example, using a 1 ½" thick BFB board, a ring cut 30/33 degrees (30-degree cut on one side and 33-degree cut on the other) will have a wall thickness of approximately 21/32", and one cut 33/36 degrees will have a wall thickness of approximately 23/32". That is, as anticipated, approximately double the wall thickness that you get when using a board half as thick – i.e., a 3/4" board.*

Different Methods For Creating BFB Ring Designs

Preliminary Note: Don't use the specific design ideas on the bandsaw method handout or the accompanying video we presented since those were specifically intended for use with a bandsaw – meaning the angles shown for the parting cuts are all in the *opposite direction* of what you will use for cutting rings on the lathe. That is because on a bandsaw, you are cutting rings from right to left, whereas on the lathe you are cutting rings from the left to the right. But don't worry – we have adapted some of those same designs for cutting rings on the lathe – with the cutting angles shown in the correct direction for our purpose - and they appear below.

I. ***Method 1*** *- The Most Basic Method*

Let's face it. This isn't rocket science. So it is quite possible to just throw a board on a glue block up onto the lathe, roughly mark some rings on the board, and cut the rings off at what your brain (not any sort of gauge, of course) tells you is just about 45 degrees. Voila! You have some sort of bowl profile (usually the proverbial BFB "cone bowl" profile) that you can slap some glue on, clamp it, then turn it into whatever profile of bowl happens to come out of it (uh, no surprise here - it will be a cone). No muss, no fuss! Here is an outstanding example of a "cone bowl" BFB. It is a gorgeous pattern but the shape is a fairly traditional BFB shape.

If this isn't the result you are looking for, and instead want a rather different sort of bowl profile for your end product, you might want to consider preplanning a different design before you mark and cut your blank.

Mind you, it isn't necessary to turn a ton of sample profiles to come up with a design that you like. We've already done some of that for you……

Here are some other ideas you might want to consider.

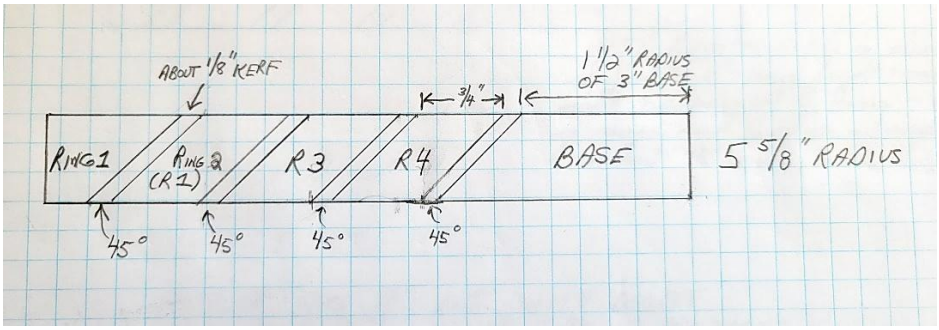
II. ***Method 2*** *- BFB With Some Basic Preplanning*

Assuming that you are using a basic 3/4" thick board that is from a 1x12 (a nice size to give you a bowl of pleasing height and width – although you might want to start with something smaller – but we subscribe to the philosophy that bigger is usually better….), you should start with a square that is roughly 11 ¼" x 11 ¼". The next step would be to use a compass to draw a maximum width circle on the board, then cut out the circle on a bandsaw (or use a jigsaw). This will give you a round blank that is about 11 1/4" in diameter, meaning it will have a radius of one-half that, or 5 5/8". (Yes, we know you fancy folks will want to glue up scraps of exotic woods into snappy looking blanks that may be even larger, but humor us for now and let's stick with some basics. It is more important to first perfect your techniques for measuring and cutting rings. Once that skill is achieved, you can then focus on using those techniques on making BFBs from really snazzy unique designs on your boards.)

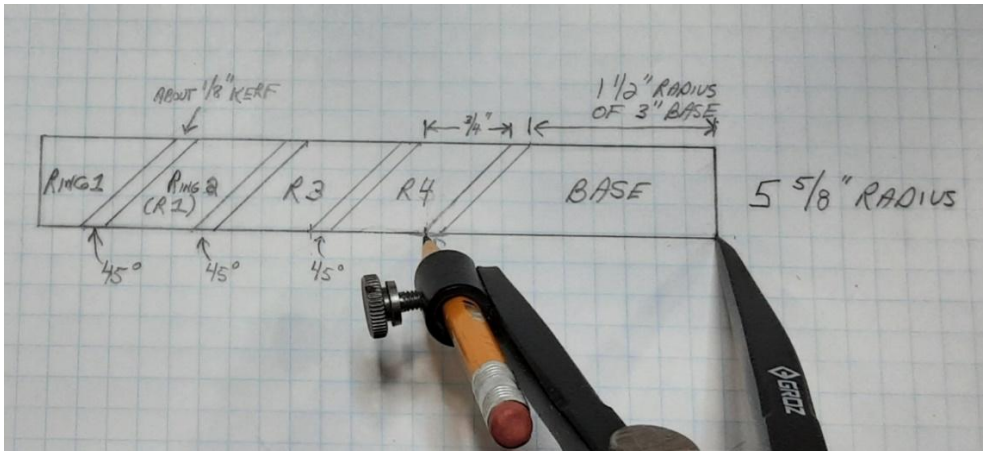
Since we are just starting out on our BFB journey, let's use a very simplistic design concept – all the rings will be cut at a standard 45-degree angle and all the ring widths will initially be drawn the same distance apart as the thickness of the board – 3/4" (there may be design reasons for spacing the rings even farther apart (such as a desire for a profile more flared at the top, even at the expense of fewer rings that will likely result), but we will leave that for a different discussion). We get it - this results in the typical BFB "cone bowl" - but let's keep it simple for now until we fully understand the basics of how all this works. Also, let us assume that our

parting tool will cut a kerf of around 1/8” (which is about what a 3/32” tool will create in the end). And let us also assume that we want our base to be 3” in diameter at the very bottom; obviously, making this decision on the size of the base in advance prioritizes the size of the base and makes the number of rings (and the resulting height of the bowl) dependent on whatever effects flow from that size of base. Not to worry, though; later we will discuss methods that do not choose base size first.

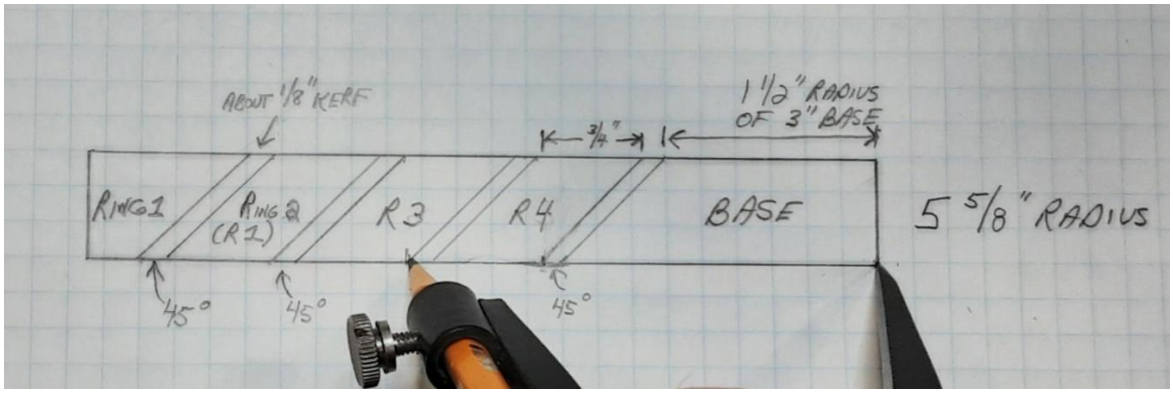
Here is a diagram of what this would look like on ¼”-per-block graph paper:



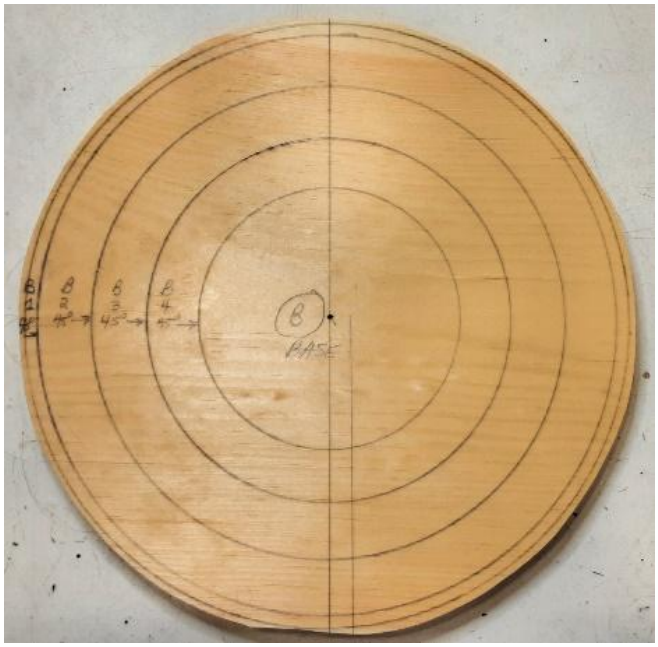
The next step is to transfer this plan onto your BFB board blank. The easiest way to do that is to use a compass and set it to the distance from the center to the start of the first ring (R1). Note that since we are holding the pencil on the *left* side of the kerf cut, we will then hold the parting tool to the *right* of that line (just barely taking the left kerf pencil line with the left edge of the parting tool):



Repeat this process for all the ring distances.



Here is what the board blank will look like once all those ring lines are drawn onto it. Also note that the blank contains two parallel lines, one through the center and one adjacent to it on one half of the circle. These lines will be used for facilitating the correct alignment of the rings during assembly for glue-up, since proper grain orientation may be important for the appearance of your piece.



Then mount the board on your lathe (pictured here is the use of the backer board method of mounting it on the lathe).

Then cut each of the rings, making sure to set whatever angle guide you are using in such a way that you are cutting to the ***right*** of the circle you drew (just barely taking the pencil line with the left side of your parting tool).

When using the backer board method in this way, it is not necessary to remove the loose rings that you cut in the previous steps. They can remain in place until all rings are cut. However, some turners choose to use painters' tape to hold them still while cutting successive rings; others choose to dismount the project after each ring is cut and remove the loose ring. Your call, of course. Here is what the project will look like on the lathe once all rings are cut if you leave them in place during the entire process:

And here is what the project looks like off the lathe when all the rings are laid flat.

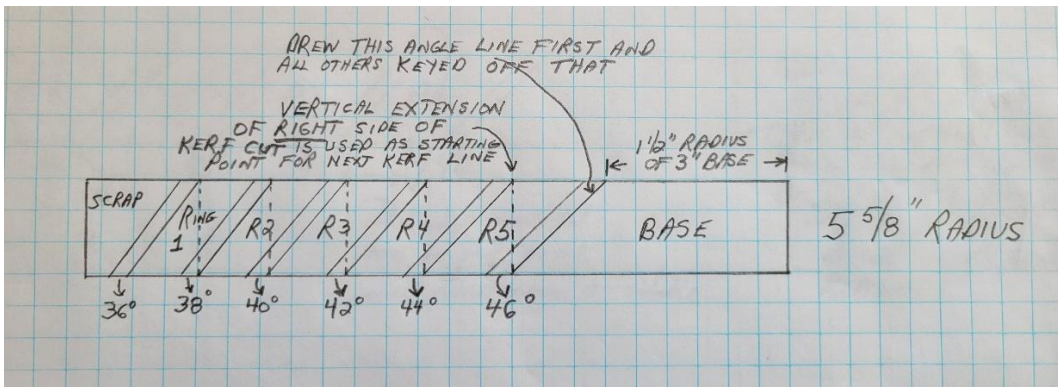
And here is the rough unturned profile of the bowl that results from the use of this method of cutting the rings. As you will see, the sides of the bowl are rather conical (although that effect is accentuated by the use of such a narrow base in the design), and the joints between the rings do not line up with great precision. Wall thickness using a 3/4" board and consistent reasonably accurate 45-degree ring cuts should remain constant at around 5/8", providing a decent amount of room for shaping. *Note: wall thickness may vary significantly from ring joint to ring joint in this design if your angles are not cut at consistently the same degree setting. That is why the use of some sort of angle jig for this design is preferred rather than trying to do it by eye for each cut. Most people's "eyes" simply are not sufficiently accurate to repeat the same 45-degree-ish angle cut that many times in a row.*

As you can see, this is a decent bowl profile. It is a bit conical, to be sure; and the ring joints don't match up well, meaning you will be cutting away a good bit of wood. Bottom line is we can do better.

III. ***Method 3*** *- BFB With More Advanced Preplanning*

The next stage of our BFB journey involves the use of a somewhat more involved cutting plan in order to achieve a profile that may be more pleasing to some than the traditional 45-degree "cone bowl" produced in our prior example.

Here is the plan we used. It was adapted from Al Miotke's design that he created using the bandsaw method. Obviously, the angles have been reversed since we are cutting the rings on the lathe but you will recognize the degree variations. A cutting jig was made on the table saw using these degree settings and it was taped to a box rest for use during the ring cutting process using the lathe.



Here is the result of the ring cuts.

And here is the resulting profile of the bowl (and its interior in the second picture below) created using this method. Many will find this a bit more pleasing shape. Again, your call, of course.

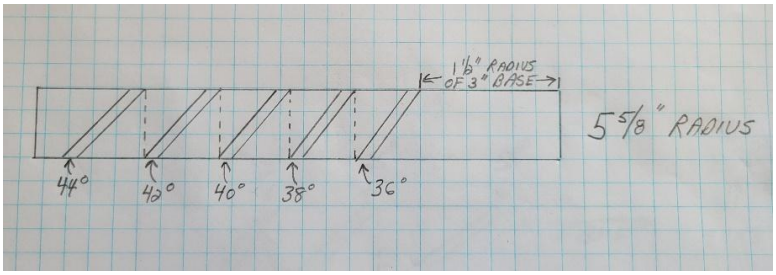
Most would probably agree that this is a little less conical, given the variations in the ascending degrees at which the rings were cut. And the joints between the rings are much more accurate, given the advanced layout that used the vertical extension of the right side of each planned kerf cut as the starting point for laying out the location of the next ring's cut. Yes, we know this can be confusing, so here are the details on how the above layout was drawn:

- Assume a 3" base and mark the top line of the board radius drawing 1.5" over from the right side
- Draw a line down from that point at a 46-degree angle to the bottom line of the drawing
- From the point where that 46-degree angle line intersects with the bottom line, draw a dashed line straight up to the top line of the drawing.
- Where that dashed line intersects with the top line of the drawing, draw a 44-degree line down from that point to the bottom line of the drawing.
- Repeat that process for each of the other angles.
- After all those lines are drawn in, draw in the left side lines for each of the kerf cuts at a spacing that is the same as the kerf your particular parting tool will make.
- In this situation, it is probably best to mark your rings on the blank using the ***right*** side line of the kerf, since you know that is the most accurate. Just remember that when you are cutting the rings, place your angle guide so that your cut begins on the ***left*** side of that line (just barely taking the line when you cut), not the right side you may use with other setups.

As shown in more detail at the end of this guide, our very first BFB project (and the motivation for the creation of this guide) involved a design very similar to this one. As you can see, the result was still a very cone-shaped bowl:

IV. ***Method 4*** *- Variation on a Theme: Reversing the Angles on the Prior Design*

Here, we made two changes to the prior design: first, we reversed the angles from that design, using descending rather than ascending angles to show the effect it can have on the final profile; and second, we brought the dotted line in the diagram up from the *left* side of the kerf instead of the right side to show you the effect it had on how well the ring joints matched up in the end. Here is the diagram we used:



And here is the resulting profile:

As you can see, there are subtle differences between this profile and the prior one. Here they are side by side so you can better see the differences, with the prior design on the left and this “reversed” design on the right:

Here are Al Miotke’s versions of these same basic profiles so that you can better see how the finished products turned out:

And here is the inside of the "reversed" bowl, clearly showing that using the different starting point for the kerf cuts really opened up the joints between the rings. Clearly, it is better to use the layout process described in the prior design than this one.

There are, of course, many other variations in design ideas (such as the 46º-44º-42º-44º-46º ogee shape that Al discussed during his IRD) that we are not going to cover in detail here. But explore as many as you can and decide which ones you like best.

V. ***Method 5*** *- Now On To A Very Different Method – Gary's Method*

If you are an avid watcher of YouTube videos on woodturning, you are no doubt familiar with ThePapa1947 channel run by Gary (last name unknown), a retired wood pattern maker. Gary, known on the Facebook woodturning pages as "Veteran Gary", does outstanding projects, several of which have focused on making bowls from boards.

One of the significant variations that Gary uses in his process of making BFBs is that he does not always (ever??) use a pre-drawn plan to create his BFB projects (he is amazing!). Rather, he begins with a blank board, cuts his first ring, takes it off the lathe (he does not use a backer board system – he uses the "ring catcher" shown on page 4), and then measures the inner diameter of that cut ring. He then draws on the remaining board a circle the exact size of that measurement, and cuts the next ring to that precise size. He repeats that process for each ring. The result (if done correctly) is an outstandingly close fit of the rings both inside and outside – very similar in result to the more complicated layout process we used in Method 3 above. Very little wood is wasted – it pretty much all goes into rings, not your shop floor!

Note that this method does not prioritize the size of the base; in other words, you do not start your design from the right side of your drawing with a predetermined base size. Rather, you start from the left side of your board blank and select a starting point that will give you a top ring that will have a relatively uniform wall thickness. For example, if the top ring is to be cut at 30 degrees, wall thickness at the bottom of that ring will be around 3/8". So you would come in from the outside left edge of your blank about 3/8" or a little more and mark your first cut line. Then cut to the right of that line (barely taking the pencil line with the left edge of your parting tool). Take that ring off the lathe, measure the inside diameter, and use a compass to draw the circle of that exact size for the next cut, continuing in similar fashion for each successive ring until you end up with a base size that you are comfortable with – for us, probably one around 3.5 or 4 inches.

Obviously, you don't have to continually repeat this cutting and measuring of each ring if you regularly make BFBs of the same size and board thickness. Once you get comfortable with a given design on a specific size BFB blank, just make a note of the interior ring sizes you measured so that for future pieces of the same angle design and board size you can just draw the rings on the blank in advance and eliminate the need to remove and measure each ring before cutting the next one.

We used Gary's method to create a bowl profile using a standard 45-degree angle for each ring. Remember, there was no drawing for this design since

it was created on the lathe, one ring at a time, using measurements taken after each ring was cut:

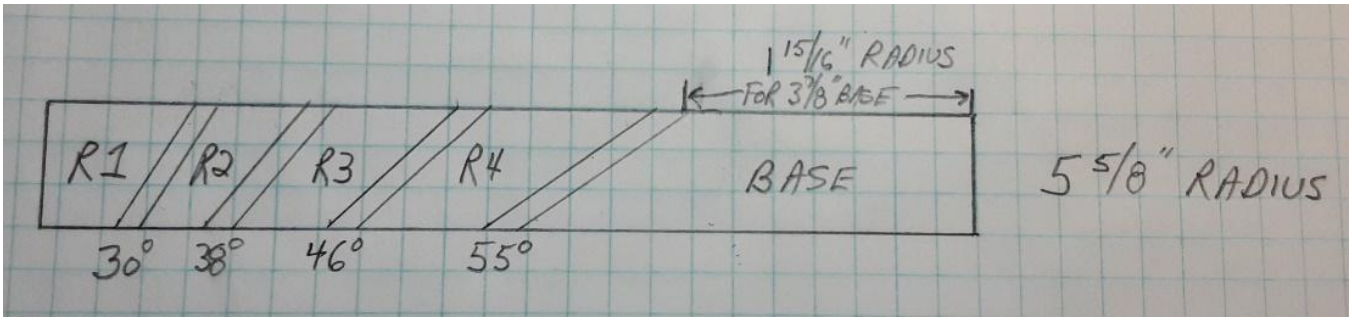
And here are the resulting pre-turned profiles – still conical, to be sure, but somewhat more pleasing due to a wider base (4 1/4”) compared to the 3” pre-determined base that we started our design with in Method 3 above. And the ring joints met with virtually no extra wood showing that would be turned away needlessly. This type of design makes almost full use of the board blank since very little turning will be necessary to make this into a finished bowl.

So that you have a better idea of what this profile looks like on a finished piece, here is a picture of one of Gary's finished projects on which he used this technique:

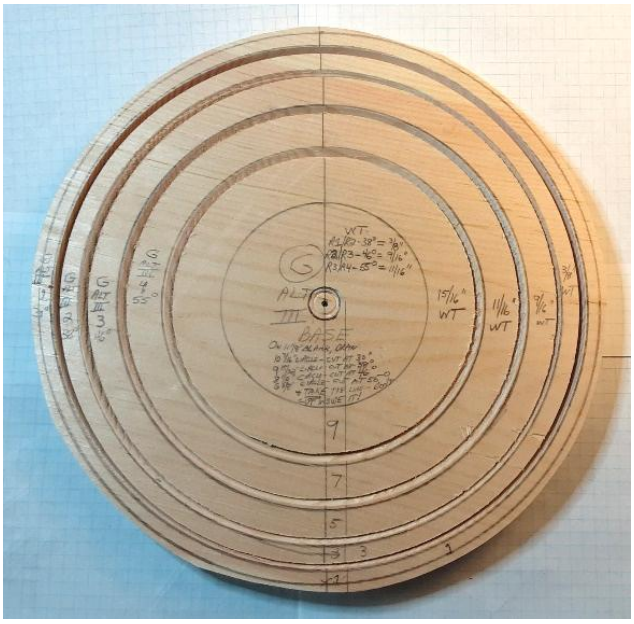
VI. ***Method 6*** *– A Combination of Techniques*

The last profile we decided to try used the increasing degree settings from Al Miotke's concepts, partnered with Veteran Gary's ring measuring and cutting technique. We used rather odd degree settings (30, 38, 46 and 55) that increased in roughly the same amount with each step and then made a jig for those angles. The resulting design provided a rather pleasing profile – our favorite so far – and *one that you cannot produce using a bandsaw* to cut the rings since you cannot tilt a bandsaw table enough to make that 55-degree cut. But choose whatever design pleases your eye the most.

Although we did not create a written plan for this design prior to cutting it, we thought it might be helpful to visualize what we did if we reduced it to a drawing after the fact. So here is a rough approximation on ¼"-per-block graph paper of what the design turned out to be:



And here is what the blank looked like after all the rings were cut:



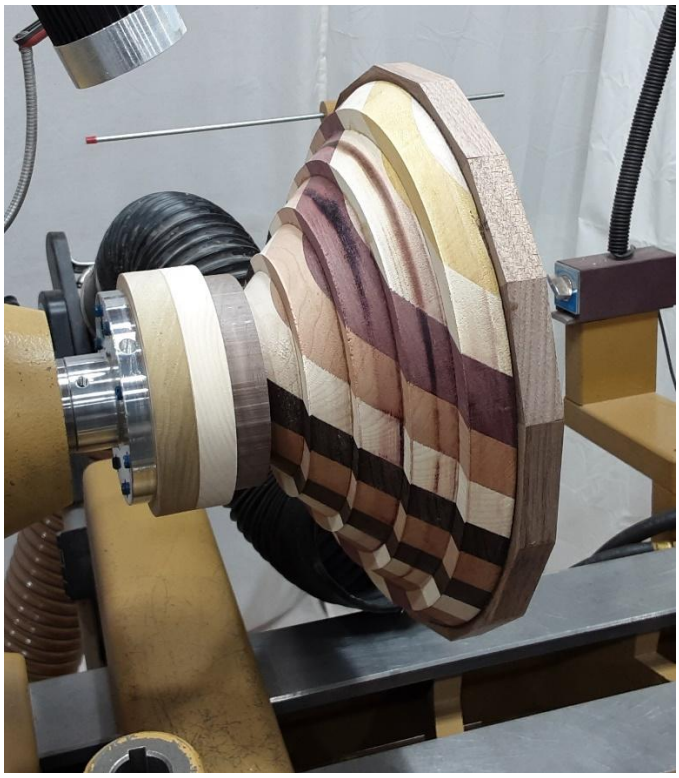
And here are the resulting pre-turned profiles:

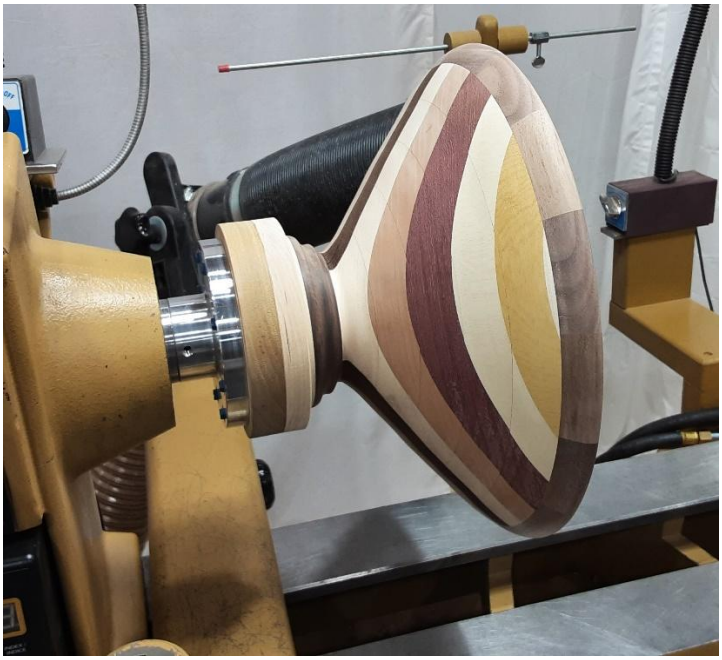
Although we could not turn and finish this pine test piece, we did turn and finish an almost identical piece using the same ring cutting angles and overall blank size. The only difference was the thickness of the board. The zebrawood blank was 7/8” thick rather than 3/4”. As you can see, it is significantly less conical in shape than other designs above. And remember, this is a profile you cannot cut using a bandsaw, since one of the rings was cut at 55 degrees (bandsaw max is typically 46 degrees).

Bit of Final Eye Candy

Since we could not show you final turned versions of many of the profiles discussed above, we thought the least we could do is show you some pictures pulled off the internet of other BFB projects – all somewhat more basic and less fancy than the work that Al Miotke showed us during his presentation, but nevertheless still great work. Enjoy!

Lastly, here are a few pictures of the early stages of the first BFB project that we undertook prior to digging so deeply into the BFB process to prepare this guide for our members. It was done using ring angle variations similar to those shown in Method 3 above. A “cone bowl” for sure, emphasized even more by adding a walnut base and a walnut segmented cap ring. Not our favorite shape – and hence was born the motivation to jump down this BFB rabbit hole and figure out how to do it better.





We truly hope this rather ridiculously lengthy guide helps you on your BFB journey. Good luck!

If you have any questions about anything above, please feel free to contact Jim Whattam at jim@firststatewoodturners.org, or at jimwhattam@gmail.com.