



Wedding Rings

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I am often asked if I turn anything other than pens. We all have our favorite things to turn and pens happen to be mine. But, yes, I do turn things other than pens. I turn the usual: bowls, lidded boxes, hollow forms and occasional pieces of spindle work. Spindle work, other than pens, is not my favorite.



A collage of a few of the things I make.

A few months back I was talking with a friend and he told me about a mutual friend who wanted a wedding ring. He had lost his and did not have the funds to replace it. I told my friend I could make a ring, although I had never made one.

That conversation was the impetus of my ring making. Together, him supplying the materials and me the turning, we presented our mutual friend with his replacement ring. And, this started me turning something new: wedding rings.

First ring made with stabilized black ash burl.

The second ring made with stabilized buckeye burl.



Making rings and other jewelry items is well documented. Lots of information is available.

Rings can be made entirely from wood. Stabilized wood is the best to use, of course. I have chosen to use the metal ring cores for added stability to the fragile all wood rings. Although rings can be made with no special tooling, I have chosen to invest in a few inexpensive tool which, for me, allow me to make the rings just a little easier and more accurate.

Several articles related to making rings and jewelry on a wood lathe are available at:

<https://www.woodturningonline.com/projects.php?catid=84>

TOOLS AND SUPPLIES

I have chosen to purchase tools and supplies from Craft Supplies USA at: <http://www.woodturnerscatalog.com> . Other vendors offer similar tools and supplies. One popular supplier is <https://ringsupplies.com> who offers everything needed to make wedding rings. Searching will find other ring supplies vendors.

Ring Cores:

Ring cores are available in several metal choices such as stainless steel, titanium, and silver. Sizes generally range from size 6 to 13 and widths come in 3mm, 5mm, 8mm and 10mm. Cores come in single and two-piece cores. Widths range from 3mm widths up to 10mm. I am using single-piece cores that are 8mm wide.



Rings made using various widths of single piece cores.
Photo used with permission of Craft Supplies USA.



Rings made using two-piece cores.
Photo used with permission of Craft Supplies USA.



Ring cores to be glued into a stabilized wood blank.

Blanks

Blanks for rings can be wood, either stabilized or not. Stabilized blanks should make for a more stable ring. Plastics can also be used and can be either purchased or homemade. The blanks I purchased from Craft Supplies USA were 1.6" x 1.6" x .6". Six tenths (.6") of an inch is a little over 15mm so these blanks are thick enough for the 10mm wide ring cores. Several species are available and they are stabilized. Prices range from \$4.95 to \$7.95 for stabilized blanks. A few species of non-stabilized blanks are priced at \$2.95. Hybrid ring blanks, which are a mix of wood and resin in the same blank, are priced at \$6.95 and resin only blanks are \$2.95.



Home shop stabilized ring blanks.



Ring blanks purchased from Crafts Supplies USA.

Drilling blanks

A hole is drilled in the ring blanks to accommodate the metal ring core. I have only used Forstner bits for drilling the hole and then enlarge the hole with turning tools. I have been able to find a Forstner bit just smaller than the OD of the ring cores I have used.

There is a boring system that can be used to bore the hole. It is an indexing boring kit but is rather expensive. The cost ranges from \$150 to \$190 depending on the purchase place. One source is RingSupplies.com at www.woodturningonline.com/projects.php?catid=84 and sells for \$189. Another source is Little Machine Shop and their indexing boring kit is \$179 and can be seen at https://littlemachineshop.com/products/product_view.php?ProductID=5404&category= Personally, I am happy using Forstner bits and turning tools.



An indexing boring system from Little Machine Shop.

(I now have this tool and it is much easier to size the holes for the ring cores. I purchased it after this article was published. I was using turning tools to enlarge the hole for the ring core but this tool makes this task is much more accurate. But, it is not an essential tool.)

Ring Sizing

When making a special order for a person the ring size needs to be predetermined. One choice is to for the customer to visit a retail outlet and get their ring finger sized. Another option is to use ring size gauges to determine the ring finger size. A sizing mandrel is used to size an existing ring. Both tools are handy and nice to have.



A set of ring sizing gauges.
Photo used with permission of Craft Supplies USA.



Ring sizing mandrel.
Photo used with permission of Craft Supplies USA.

Holding the Blank for Turning

Holding the blank with or without a ring core glued in place can be accomplished in several ways. One way is to turn a mandrel from wood to hold the ring assembly while turning. A typical mandrel made from wood would have a few steps for different sizes of rings and the ring blank would be a friction or jam fit to hold the ring blank. Several mandrels would be necessary for the range of ring sizes.



A typical home made wooden ring mandrel.

Commercial expanding ring mandrels are also available. Typically two or three will be needed to cover the full range of ring sizes. Ring cores are slipped over one of the steps on the mandrel and a screw on the end is turned expanding the mandrel to hold the blank. I have not used one of these expanding mandrels but I may be getting them if I continue making rings. Expanding ring mandrels can be seen on the Craft Supplies USA website as well as the Ring Supplies website.



Mandrel for holding ring blanks for turning.

This mandrel uses ring bushings to hold the core and blank in place. There are also bushings that fit onto a pen mandrel. Bushings come in three sizes to cover ring sizes from 4 to 13. Expanding mandrels are also available. Photo used with permission of Craft Supplies USA.

Other mandrel designs are available and all of them work in a similar manner. Most all vendors of turning supplies or pen kit supplies are now carrying the needed supplies for making rings on the wood lathe. Check out your favorite vendor if ring turning may be in your future I have just been using supplies from Craft Supplies and have their stuff available for photos.

Turners Warehouse also sells ring making tools and supplies at <http://www.turnerswarehouse.com>

Another method of holding the ring blank, and the one I have chosen to initially use, is the use of delrin bushings. The delrin bushings are truncated cones sized to hold the metal ring core so the wood blank is proud of the busing. The bushings are held on a pen mandrel with the wood blank sandwiched between two of the delrin bushings. The bushings come in three sizes to span ring sizes from 4 to 16.



A set of delrin bushings.

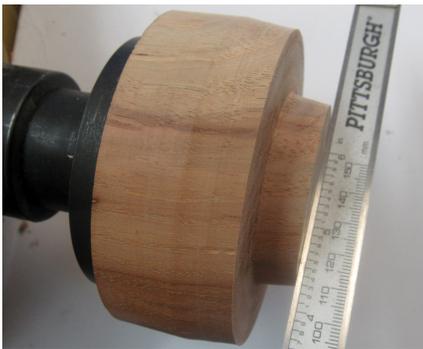


A metal ring core sandwiched between a set of delrin ring bushings.



The glue block with the tenon.

Make sure the face of the tenon is flat. The ring blank will be attached using double sided tape. A flat tenon surface and a flat ring blank face will insure excellent adhesion of the ring blank to the tape and the tape to the glue block.

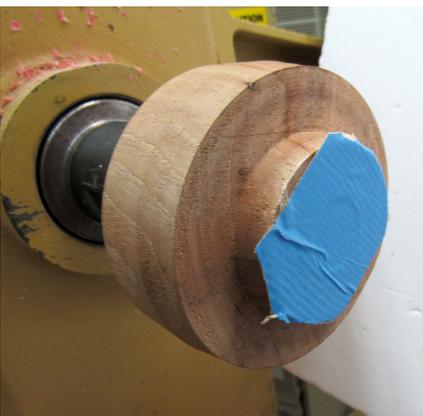


Checking the tenon face for flatness.

A piece of double sided tape is placed on the tenon face. The tape I use is Suretape, which is a heavy-duty duct tape and has worked well for me on different uses for attaching turning blanks to a glue block. I purchased this tape at Lowes.



Suretape: a double sided heavy-duty duct tape.



Suretape stuck to the tenon face.

While I prepare the ring blank for drilling I use another scrap piece of wood and press it against the Suretape with the tail stock to secure it to the tenon face.

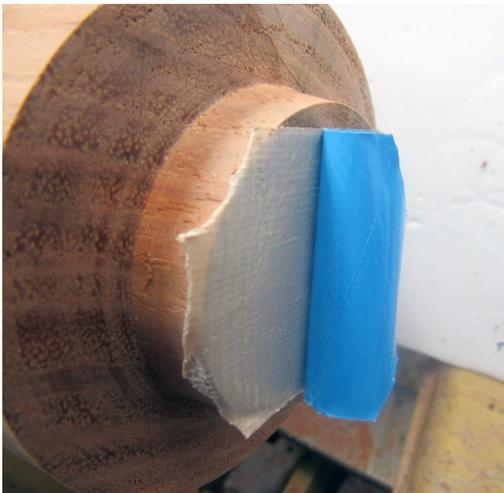


Pressing the Suretape to the tenon face.

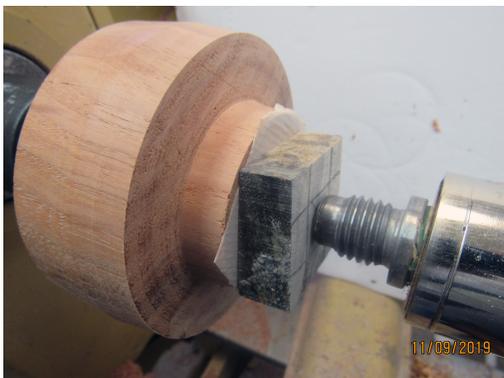
The stabilized ring blank needs to be sanded on one side. One reason is to remove any stabilizing resin that is on the surface and to also flatten one surface to make a good surface to stick to the Suretape. I use my disk sander for this task. One surface of the blank needs to be clean and flat.



Sanding one surface of the ring blank for adhering to the double-sided tape. The ring blank is now ready to stick to the double-sided tape. Clean any dust from the blank's surface, remove the tape's protective cover, and center the blank on the tenon and press it into the tape with the tail stock.



Remove the protective cover from the double-sided tape.



The ring blank stuck onto the tenon and ready for drilling.

As mentioned earlier I have chosen to drill with Forstner bits. I have been able to find a bit just smaller than the OD of the ring cores I have used.

The ring core for this article was a size 10.5 and a 7/8-inch bit worked well. The 7/8-inch bit is .875" and the ring core had an OD of .915". So, the ring blank was .040" too small and I had to remove .020" to enlarge it enough for the ring core to fit inside.

Enlarging the hole was done with a fingernail ground spindle gouge. The task was much like hollowing a shallow lidded box. Take it slow and test with the ring core so the opening does not get too large. Other tools could also be used such as a small skew used in scraping mode or a small bedan tool.



Drilling with a Forstner bit.



The hole drilled with the Forstner bit.



After drilling and before enlarging the hole I reduced the thickness of the blank using a square nose scraper.

The thickness has to be reduced and I have discovered it is easier and quicker to use the scraper instead of the disk sander. My fingertips think so also. Actually, I used a square carbide cutter for this task.

Reducing the thickness of the ring blank.



The ring's width is 8 mm. The wooden blank's width is almost 16mm. I reduced the blank's width to about 12 mm leaving 2mm on either side of the metal ring core once the core is glued in place.

The final reduction will be made on the lathe.

The wooden blank is reduced to just larger than the width of the metal ring core.

The next step is to enlarge the hole drilled with the Forstner bit.

This task could easily be done with the indexing boring head and boring tools shown above. But, the expense of the indexing boring head and cutters did not seem worth it to me. The price of the boring system is between \$150 and \$190 depending on the place of purchase. This is a rather large expense to perform a job that can be done with any number of tools we have in our shops.

I used a small fingernail ground spindle gouge and a small square nose box scraper to enlarge the hole. Using these two tools was much the same as hollowing a shallow lidded box. Move slowly and test often for the fitting of the metal ring core. I only had to remove about 2mm of material to open the hole to the size needed for the ring core to fit.



First check for ring core fit.



Second check for ring core fit. Almost there.



Done. Nice fit.

Removing material to open the hole is not difficult. But, keeping the side of the hole perpendicular to the blank's face is a little tricky. The ring core seemed to fit in nicely about half way then began to snug in the hole. Take care in removing more material to not open up the outer half of the hole but only remove material from where the ring core starts to snug to the back end of the hole.

If the hole is made too large don't toss the blank into the trash. Keep it for a ring when a larger size is needed.

The blank is now ready to be removed from the glue block, well actually, separated from the double-sided tape. Surprisingly the tape holds quite well and some force is needed to make the separation. Or, a tool may be needed to wedge between the glue block and the ring blank to move it away from the glue block.

The metal core's surface needs to be scuffed for the glue to get a better bite. I scuffed the ring core using 150-grit abrasive paper. Two-part 30-minute epoxy was used to glue the metal ring core inside the ring blank. Apply the glue to the wall of the hole and insert the ring core making sure it is centered, side-to-side, in the ring blank. I allowed the glue to cure for several hours before proceeding. Clean any glue that may have gotten inside the ring core using denatured alcohol. Do this before the glue sets.



Scuffing the surface of the metal ring core.



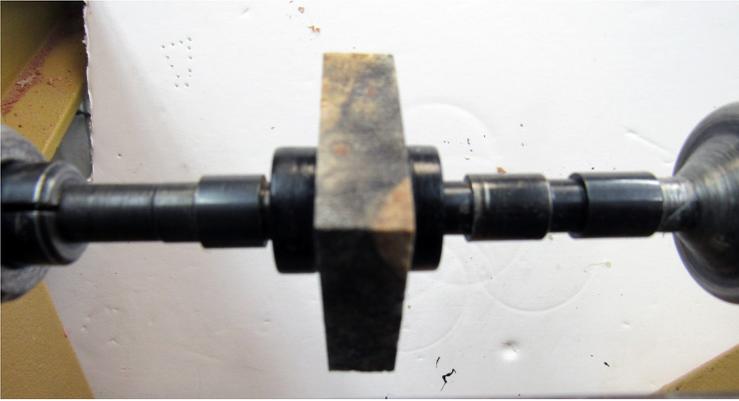
Two-part epoxy mixed and applied to the wall of the bored hole. Clean any excess glue from the ring core using denatured alcohol. Be careful not to move the ring core from its position inside the blank. I will be trying CA glue to see how well it works.



The metal ring core is centered in the bored hole with two part epoxy glue. The blank is now ready to be placed between the two delrin bushings, placed on a 7mm pen mandrel and start the turning.

Notice the next pages image.

I used a couple of pen bushings on either side of the ring bushings to get the ring blank away from the head stock and the mandrel saver revolving center in the tail stock. If not using a mandrel saver then spacers will be needed to move the ring blank out to the end of the mandrel to use the brass nut to tighten the ring blank for turning. An adjustable mandrel would come in handy. A shortened mandrel would be stiffer with less flex. I did not notice my mandrel flexing.



The ring blank and bushings are mounted on a pen mandrel ready for turning. The ring blank could be rounded and reduced in size with a band saw or disk sander. But turning the disk to the proper ring size was not an issue.



Another view of the ring blank mounted on the mandrel



The ring blank mounted on a non-adjustable mandrel using the brass nut instead of a mandrel saver. Notice the extra bushings used as spacers to take up space on the mandrel.



An adjustable mandrel shortened for better stability. A mandrel saver could be used instead of the brass nut both here and with the longer mandrel above.

Note: A mandrel saver is alive center that slides over the mandrel and presses against the bushings to hold pen blanks or, in this case, ring blanks secure for turning. The mandrel saver can be seen in image at top of this page .

The blank is now ready for turning. I started turning with a spindle rough out gouge to get the blank round. The roughing gouge was working so well I continued using it until the ring blank was close to final diameter. I then switched to a 1/2-inch skew to turn to final size. The ring's surface can be flat or turned to a smooth curve. The width of the ring blank should be the same as the metal ring core. I used a thin parting tool to shorten the width of the ring blanks. Recall that I only needed to remove something close to .020 inches from both sides.

The ring core has a thickness of .06" and I want to turn the wood thickness to .075" so the total thickness of the ring core and wood to be .135". To achieve this I stopped a few times and checked the total thickness. When I was just larger than I want I started easing over the two edges.



Turning the ring blank using a spindle roughing gouge. I also used a skew and around nose scraper. All worked well.



The ring is removed from the mandrel to measure the total thickness of the core and ring material. There appears to be a gap between the ring core and the wood at the bottom but a reflection on the ring core is causing the appearance of the gap.

Be sure to pay careful attention to how thin the wood is getting. Turning into the metal core would not be a good thing, but does happen. Remember to take the ring from the bushings often and check thickness.



Do not turn away too much wood and get into the metal core. Do you see it? Doovers!! Sanding and finishing was next. I sanded 220,320, 400 and then used Micromesh through all grits.

Finishing was done using CA glue and boiled linseed oil in the same manner as I do pens. The ring was then buffed. Other finishing methods would also work. Just use your favorite finish. But, I do not think a friction polish would be a good finish for rings.



A look at the completed ring.

Making rings has been a fun project and I have several to complete that have been ordered for gifts. I will be trying the two-piece cores next as I really like the look of the wood between the pieces of metal.

I look forward to questions and comments.

Since writing this article in November 2019, I have since purchased an indexing boring system.