

Getting Started in WEARABLE RINGS

Kurt Hertzog



A project that has been very popular in the woodturning community in recent years is wearable rings. As with the range of penturning possibilities, rings can be made very simply or quite elaborately. Focusing on those who are new to turning wearable rings, this article covers the basic concepts and offers a path to creating your first ring. This article addresses turners who want to get started with no specialized equipment or out-of-pocket investment—that is, making a ring “from scratch” using common tools, wood, workholding methods, etc.

A second article will soon follow, addressing turners who want to take their rings to the next level and don't mind buying extra gizmos. As with any of the woodturning specialties, the ring-turning market offers blanks, castings, jigs, fixtures, kits, specialty finishes, specialized mandrels, ring cores, and more. These two articles should give you the basics to build upon and go as far as you wish in making wearable rings.



Ring sizing and design

Whether making basic or advanced rings, you will need to know the ring size of the planned recipient. Keep in mind that a ring's fit can vary with the season, as fingers may swell in the summer months. The desired (comfortable) ring size also depends on the ring design, especially the width of the band; the internal profile and edge treatment are important factors here. Don't forget that a few added or lost pounds can alter ring size, too.

How you design the ring and your choice of materials are dictated by the expected use. Will this ring be a special dress piece, worn only on occasion, or will it be a wedding band worn every day, all day? Rings worn in an office environment will certainly take less of a beating than those worn on a construction site. Durability of materials is therefore an important consideration.

You can determine the correct ring size in a few simple ways. If the recipient

Ring sizing



1 A set of ring gauges is helpful for determining either the size of an existing ring known to fit or a previously undetermined ring size.



2



3

3 An alternate method—a dial or digital caliper.

Material selection



4

4 Straightforward wood grain is not the most visually appealing or strong. Instead, opt for an interesting burl, plastic, antler, or other material.

Blank production method 1: drilling



(5) A hole saw mounted in a drill press produces “plugs” of nearly the correct outside diameter.

(6-7) A Forstner bit mounted in a drill chuck on the lathe cores the ring blank close to the final inside diameter.

has been measured recently by a jeweler or another knowledgeable person, you can usually rely on that number. If it is feasible, you could also have the recipient use a ring gauge to find the most comfortable size (*Photo 1*). I prefer to do this with the recipient, if possible, so I can see the fit for myself.

Another method is to measure a ring the recipient currently wears and finds comfortable. An inexpensive ring gauge can give you the size of that ring (*Photo 2*). If the recipient is not local, you could ask them to ship you an inexpensive ring they enjoy wearing. Note that some countries have different ring measurement systems, but these can be equated to the system you use. Sizing charts that help you convert any ring size to an inside diameter (ID) measurement can be found online.

Sizing can also be done by mathematical equation. We know that a size 3 has an ID of 14.1mm, and with every full size larger, the ID increases by 0.8mm. So you can determine the ID of any

size. For example, to find the ID of a size 9 ring, follow this equation: $((9-3) \times 0.8\text{mm}) + 14.1\text{mm} = 18.9\text{mm}$. A digital or dial caliper can also be used to verify ring size (*Photo 3*).

Material selection

Since in this article we are making a ring from scratch, without a metal or ceramic ring core, the strength of the ring will be determined by the material you choose, as well as grain orientation if you choose wood. Any material you can turn on the lathe is fair game—plastics, woods, antler, soft metals, and other natural materials.

While you can use any species of wood to make a ring, I find that most woods with plain or straightforward grain present difficulties. Regardless of how you orient the grain, you'll be at the mercy of the strength of the lignin bond and there will be a high potential for breakage with any stress. This encourages me to use burl (with its irregular grain), plastics, or antler (*Photo 4*). These

materials don't have strength issues related to grain orientation, and some (like antler) can be reinforced with cyanoacrylate (CA) adhesive.

Create the ring blank

Method 1

There are a variety of ways to create ring blanks. One method is to use a hole saw and Forstner bit. I like to cut multiple blanks at one time from flat stock at the drill press. First, cut part of the way through with a hole saw. Ensure the hole saw has a large enough diameter to accommodate the outside diameter (OD) you are shooting for. With the center hole from the hole saw and material surface still intact, a Forstner bit can be accurately located to bore to nearly the finished ID. Cut all the way through with the Forstner bit. To release the ring blank, switch back to the hole saw and cut the rest of the way through.

A variation of this method is to cut all the way through using a hole saw, then drill the ID using a Forstner bit at the lathe (*Photos 5-7*).

Method 2

Another method to create ring blanks is to cut them from flat stock fastened to a sacrificial faceplate. It is good practice to flatten the ring stock and make the front and back surfaces parallel prior to mounting on the lathe. *Photo 8* shows a small waste block mounted in a chuck. Use double-sided tape to mount the ring stock on the waste block (*Photos 9, 10*). ▶

Blank production method 2: turning



The ring material (burl) is attached to a sacrificial waste block using double-sided tape.

After transferring the ID ring size to the blank using a caliper, use a parting tool or bedan to cut out the ring blank (*Photos 11-14*). You could also use the hole saw and Forstner bit approach with the material mounted on the lathe. The blanks can be made as near to finished size as you wish by selecting the proper-sized Forstner bits and hole saws or by cutting appropriately with your parting tool.

Turn/sand to final size

There are several methods of work-holding that will allow you to complete the inner and outer diameters of the ring. I prefer to fine-tune the ID by lightly clamping the blank in a chuck and sanding the inside (*Photo 15*). If you have left just a little extra stock during your initial blank

sizing, the sanding will quickly get you to the finished dimension.

By this point in the process, you already know the target ID—whether by calculation, conversion chart, or actual measurement of a properly fitting ring. Use a caliper to check the ID of the ring as you progress (*Photo 16*). Be careful as you insert your caliper jaws into the ring, as it is easy to scratch or mar the inner surface with the sharp edges of the caliper. Once you have arrived at the correct size, the ideal test is an actual finger fit. Obviously, if this is for someone else, that ultimate fit check may have to wait. You can also slide the ring onto a ring gauge to confirm you've got the correct ring size number.

With the ID completed, I usually mount the ring on a shopmade mandrel to complete the outside

surface and edges of the ring. You could mount the ring in a chuck with expanding jaws, but I prefer an easily made mandrel. Mount a piece of scrap wood in a chuck and turn it to run true. Then form a spigot just smaller than the ID of the ring. If you take off too much material, you can take up the slack with a wrap or two of painter's tape. The goal is to have a no-slip grip that is loose enough not to split the ring when you mount it on the mandrel (*Photos 17, 18*).

The OD can be sized, shaped, and sanded to completion, moving the ring as needed on the mount (*Photos 19-21*). The versatility of this mounting technique is exceptional, as it allows you to cut and sand into the tape and mandrel, which can be replaced as needed. You can also hang the ring over the end to work

Transfer ring size to wood



Use a caliper to transfer the desired ring size to the wood.

Turn ring blank



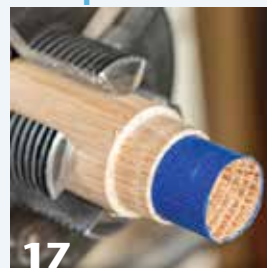
The author turns the inside and outside diameters with a parting tool.

Fine-tune inside diameter



To fine-tune the inside diameter, the author sands away material using sandpaper wrapped around a dowel. Stop the lathe and check progress using a caliper.

Shopmade mandrel



To work on the outside diameter, a shopmade mandrel is useful. Turn a spigot to accept the ring.

Complete outside of ring



19

The outside of the ring is turned, sanded, and parted to a custom width.



20



21

The author cleans up the ring's edge by partially mounting it on the mandrel.

Apply finish



22

Plastic wrap keeps the ring from getting stuck on the mandrel during finishing.

on the edges, which should be eased for a more comfortable fit.

With the ring completed, inside and out, you can apply a finish on the outside while the ring is mounted on the mandrel. One way to avoid getting your finish on the mandrel, and to prevent gluing the ring to the mandrel, is to place some plastic wrap over the spigot (*Photo 22*). Finish the outside of the ring, then remove it and finish the inside.

Finishing

There are many different finishes that can be used on rings. Much like pens, rings are subjected to frequent abuse. They are banged against things, scratched, and at times crushed. Some materials, such as plastics—whether cast, extruded, or solid surface—and dense woods like blackwood, don't really need a finish at all. They can be polished and buffed to any sheen, and you can rely on the material's inherent characteristics for durability.

For woods requiring a finish for looks and protection, there isn't a finish that is too tough. Virtually any woodworking finish can be used on wood rings. To punch up the grain on a burl ring, oils will do nicely but provide little to no wear protection.

The three finishes that I have found are easy to apply and will

stand up well over time are lacquer, CA glue, and UV-curing resin. Once the finish is cured, the ring can be buffed to the desired sheen.

Coming up next

In the next article on rings, we'll explore other options available for those willing to invest in specialty ring-turning equipment and supplies. There are one- and two-piece ring cores in metal and ceramic, which add elegance and durability. For workholding, there are several

precision-machined mandrels on the market. With a solid understanding of the processes and materials, you'll be well on your way to making professional-quality rings. ■

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Production Mode

To make many rings of the same size and material quickly, I create a "progressive blank." Mount the material in a chuck and turn a cylinder to nearly the final OD. Once an appreciable length of stock is turned, remove the tailstock and true up the end. Mount a slightly under-sized Forstner bit in the tailstock and drill deep enough to part off a few rings (*Photo a*).

With the ID drilled, sand the inside to final dimension and ease the one exposed edge. Now part off that ring using a skew or other cutting tool (*Photo b*) and set it aside to complete the other edge on a mandrel later. Continue parting off rings at your desired width until the stock is depleted. This technique can produce many well-turned rings in a very short time.



a



b

The author turns and hollows a cylinder of burl, then parts away multiple rings. A thin dowel held in the cylinder catches the rings as they come off.