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# constructing a floating base

byline

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About 12 years ago, I had a call from a collector of my work – the kind of call that no artist wants to receive. The base of one of my very large vessels had developed a small crack. The base diameter was more than 7", and the vessel was almost 3' tall. Replacing the base was going to be a very difficult and time-consuming operation. As I studied the problem, I understood what had happened and why—a large center plug had shrunk and partially separated from its surrounding ring (dummy me). Two questions immediately entered my mind. How could I fix it, and how could I prevent it from ever happening again? They say that necessity is the mother of invention. Well that was certainly true in this case. My repair solution was not to remount and re-turn, etc. Instead, I devised a router jig and removed the center portion of the base – fortunately, the outer ring was not damaged. I then used my router to create a half-mortise. After that, I turned

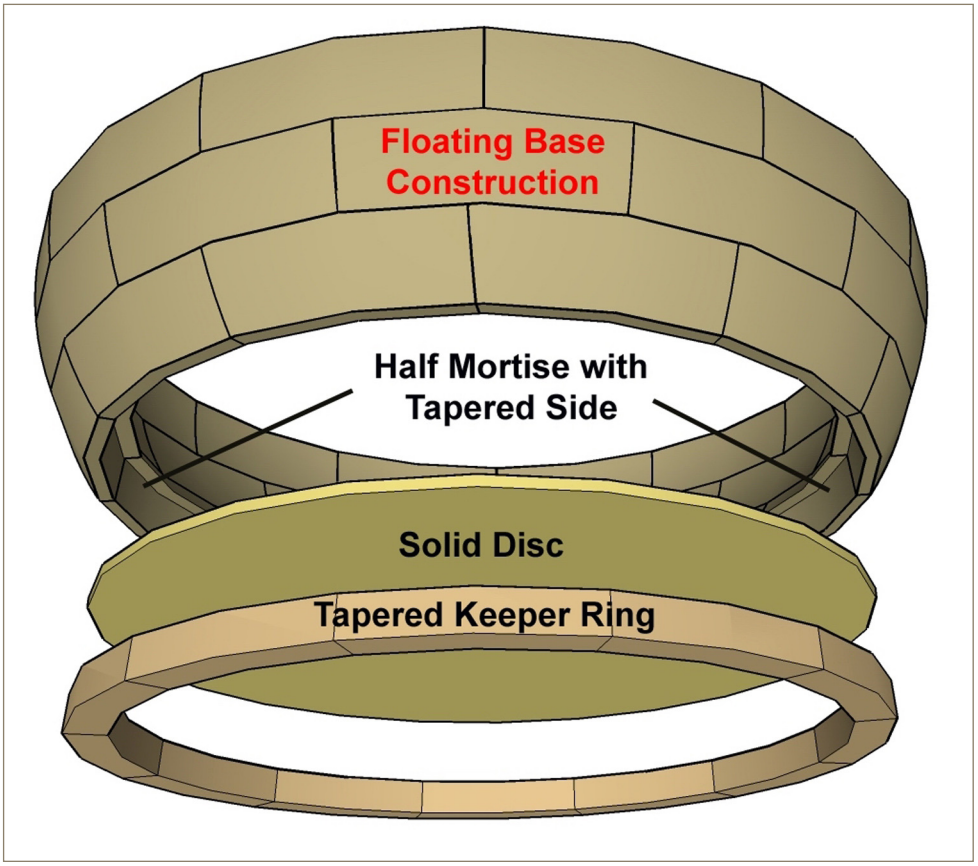


Image 1

a replacement disc and installed it with a keeper ring (image 1). I was able to accomplish a very acceptable repair in much less time compared to rebuilding the entire vessel base on the lathe. More importantly, I discovered the ability to incorporate the "time-tested" technique of a floating panel in my large turnings to solve wood movement problems.

I probably realized at the time of the original base construction that I was taking a chance. I gambled and I lost, but at least I learned from the experience. About a year or two later, I included the technique in my book, and I have since profiled it in my DVDs. I've had dozens of segmenters communicate with me regarding the technique, and they have all avoided making the same mistake – the mistake of trusting a large diameter piece of wood to "stay still."

I've used several methods to create a floating base. After a fair amount of experimenting, this is my preferred procedure:

1. Using spring clamps, glue together (stack) a couple of your vessel's bottom rings (more if they are thin). I usually make those rings slightly wider (outside to inside) to have enough wall thickness to accommodate the floating disc.

2. Attach the top of the assembly to a lathe-mounted disc (MDF works well). This is a temporary attachment. A bead of hot melt glue works well, or you can use PVA or CA. You also could use a set of jumbo jaws or Cole jaws.

3. Turn a half mortise (or rabbet



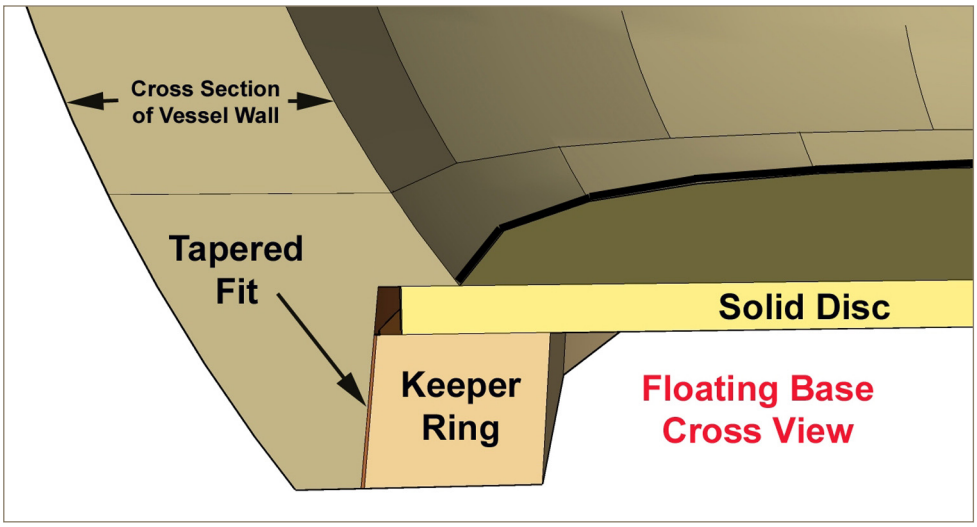


Image 2

if you prefer) about 1/2" deep as shown in the illustration. The sides of the groove should have a slight taper (2° - 3°).

4. Turn a disc approximately 1/4" thick and about 1/8" smaller in diameter than the groove diameter. When fitted, you want about a 1/16" gap all the way around. Turning a slight depression on one or both sides of the disc is optional. This disc should be sanded on both sides and sealed with finish. On the lower side, I usually turn a couple of decorative "scored" circles and burn my signature before applying finish. My objective is to not touch the disc with a turning tool after it has been installed.

5. Center the disc in the groove and secure it with a small dab of glue at the two end-grain ends.

6. Assemble a segmented "keeper" ring with a diameter slightly larger than the groove diameter and then turn it to fit the groove. Carefully sneak up on a matching tapered fit. If you build your keeper ring with 3/4" material, you'll have some extra unneeded thickness. During the fitting, if you accidentally turn the keeper ring too small, you should be able to turn a little off the face to create a precise fit.

7. Trap the disc by gluing the keeper ring into place. Apply minimum glue to only the keeper ring (not the matching surface). You do not want any glue to make contact with the disc. Position (rotate) the "keeper" so a brick-lay effect is achieved. The fit should be snug but not super tight. It should require little more than finger pressure to insert the "keeper" in place. The keeper ring should rest securely against the floating disc.

8. Turn the "keeper" flat to match its surrounding ring.

9. Remove the assembly from the waste block or jaws.

10. Measure and record the diameter of the receiver groove. As you build and shape the vessel, you may need to know just how much outside material you can remove during the final shaping. As the saying goes, "You don't want to turn an outside diameter smaller than an inside diameter."

11. Now the base of the vessel can be glued securely to a waste block to proceed with the rest of the construction. The only area of attachment will be the outside ring and keeper ring. This may seem insufficient, but I've never had a failure during construction, and I've done many large turnings with only the outside of the base assembly glued to a waste block. The outside diameter is where the most strength is achieved.

12. During the vessel ring-stacking and shaping, the inside of the vessel profile can be turned almost to the disc, but not to the disc. You do not want to try to blend the inside lower profile smoothly with the disc. You need to leave a slight "step" to maintain a "trap" against the upper side of the disc and avoid making tool contact with the disc during the inside shaping. This tiny "step" is hardly visible (image 2), but of course it can be felt by finger tips.

As an option, instead of a tapered, plug-shaped "keeper" ring, a flat ring can be added to the base to


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act as a trap for the disc. This will work, but it's very difficult to clamp in place without squeezing a little glue onto the disc. With the plug-style keeper ring, it's much easier to prevent glue squeeze-out from locking the disc in place.

Obviously, the floating disc is not practical for salad bowls. If done properly, there is a fairly tight seal, but I wouldn't want to take a chance on liquids seeping into the void. In those cases, a dry piece of quarter-sawn wood is probably your best bet.

### Stave-Constructed Vessel Bases

Attaching a horizontal base to the bottom of vertical-grain staves has always been a challenge. I believe that the floating style base is the best solution. The only difference from the previously listed steps is that the keeper ring needs to be assembled with vertical grain. Technically, it's a very short stave construction. Image 3 shows an example. To install the base, first mount the stave-constructed cone upside-down. Then after the floating base work is done, it can be remounted just as the stacked base rings in the previous instructions. It's also a good idea to do a little turning and sanding on the inside lower portion of the stave construction before installing the disc. This allows you to avoid making contact with the top surface of the disc during the inside hollowing. In the image, there is a step turned onto the base surface.

The glue joint between the keeper ring and the outside staves is very difficult to see. It is not at the "step." It's just inside the outside profile near the arrow ends, and there is a "brick-lay" effect to the assembly. The step that you see on the base surface was turned simply to create a dark shadow line at the point of contact with the surface upon which the vessel sits.

Incorporating a floating base requires a little more planning and work. Just getting the disc "finished," depending upon your finish choice, can delay the start of your construction by several days. Is it worth it? You bet! I've never had another one of those dreaded phone calls asking, "What happened here?" •

Image 3

## photo of the week


Russell Norman