

How to...Turn a platter or plate

...using double faced tape as a chuck

by Tom Boley

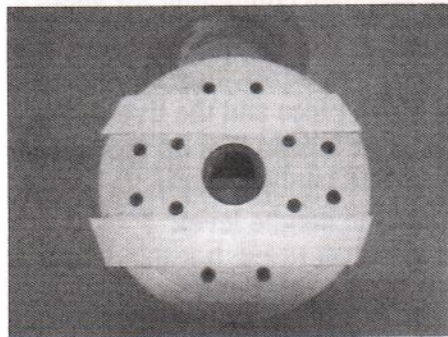
Using double faced tape to hold a plate or platter on the lathe while turning sure seems like it wouldn't work very well but I have been doing this for many years and it has worked just fine. Here's how.

This project is perfect for a piece of wood which may only be $\frac{3}{4}$ " thick such as boards which we can find at Home Depot or Lowe's. Using thicker wood, chucking options increase to include using a tenon, a mortise, or even a screw chuck but this double faced tape method is perfect for thinner wood. The tape I use, by the way, I buy at Woodcraft because I know it is good for this purpose. Some have suggested using carpet tape or other double-sided tape but I do not know the holding properties of those so can't recommend them.

As with many woodturning projects, having a gorgeous piece of burl, curly maple, or other nicely figured wood to use for this project will net you a nice looking finished tray. However, the first time you do this project, use inexpensive wood such as poplar as it turns well and makes for good practice. You can make whatever you want, a tray, a platter, or a plate, and I use the terms interchangeably in this article. The difference is in whatever you want to call it when you are done but generally you will want to use a piece which is at least $11\frac{1}{2}$ " wide (from a 1x12) but smaller is also OK. You will notice that the pictures in this article are of thicker wood but that better shows the process.

Plane, joint, or sand your blank so it is smooth on both sides. This is very important as a smooth surface is essential for the tape to hold. Mark a large circle and be sure to mark where the center of the circle is with the point of your compass. Then cut out the round blank with your band saw.

Again using your compass, swing a centered circle just a hair over 6" in diameter on the side with the center mark. *Before putting tape on the faceplate, lay your faceplate in the circle to see how much shows between the edge of the faceplate and the 6" pencil line.* Then put a strip of 1" wide double faced tape across each side of the face of the faceplate about halfway between the hole in the center and the outside edge. Sometimes you can use the screw holes in the faceplate to orient your tape. Peel the backing off the tape and very carefully and gently lay the taped faceplate in that 6" circle. When you are satisfied that it is fairly well centered, set it on the floor and stand on the faceplate to fully adhere it to the



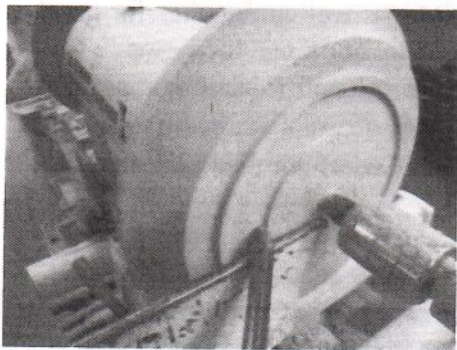
wood blank. This ensures the tape will hold the wood well enough to lift it to the headstock and screw the faceplate on the drive. Once mounted, pressure from the tailstock will further help ensure the tape is secure. (Note: Don't use 2" wide tape. It holds too well and is really difficult to get the platter off the faceplate.)

Mount that faceplate with the attached platter blank on the headstock drive and then give it a bit of a spin to see how close to centered it is. It really isn't critical on this side, but you'll do it again for the

other side and it will be very critical then so this is good practice. Bring the tailstock and the live center up to the blank and seat it against the wood. If you are using very thin wood, you may want to put a small scrap of wood between the live center and the bottom of your platter so the pin in the live center won't penetrate the bottom of the platter. That will still hold and stabilize the wood but won't leave a hole in the bottom which you later have to cut away. That is not necessary if you will be cutting the bottom to make a bead as a base since the depth of that bead will likely be sufficient to cut away the pin hole from the live center.

Now that you are ready to start turning this tray, let's talk for a moment about shape. Look at trays and plates in your cupboard at home for ideas. For plates, you may want an edge which is an inch or inch and a half wide with a slightly deeper center. Or a plate may be dead flat on both bottom and inside but just have a curved up edge. Trays could have the edge straight up with a 90 degree angle on the outside bottom edge and then straight across the bottom with no "foot." Or, a tray may have a flared edge. To make that flared edge, first mark a pencil line about an inch in from the outside edge on the bottom of the blank. Then, from that line, cut up and out, flaring the edge kind of like the next picture.

Using a 3/8" bowl gouge, it may be easiest to round the outside circumference of the blank first, then shape the outside bottom edge of the platter on the tailstock side of the blank according to your

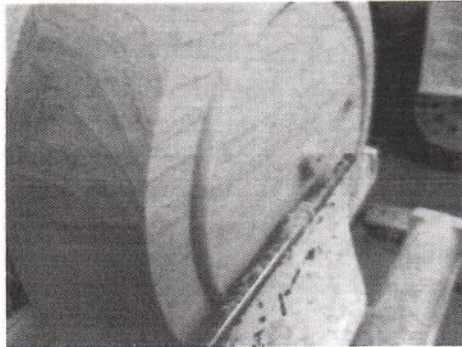


desired shape. This will be the bottom of the rim of the platter as in the picture. True up the bottom of the platter in toward the live center as far as you can go without touching the live center with your bowl gouge, taking about an eighth of an inch or less off. Then, if you want a bead foot, cut from the new bottom edge about an inch in toward the center and about a quarter inch deep. You can do that with several cuts if you like. They need to be absolutely straight across the bottom, neither angled in nor out. Then skip a band 3/16" to 1/4" wide and go just inside that band to continue cutting away wood on

the bottom of the piece to the same depth as that outside part. I have found the easiest way to remove wood from just inside the ring you just cut for the bead foot is to use a parting tool, cutting straight in alongside that bead to the same depth as outside the bead and then continuing for about a half inch in toward the center. You can then get your 3/8" bowl gouge in that space to continue the cut toward the center. You will end up with a flat bottom with a band of wood sticking out from the bottom about a quarter inch plus that short peg between the bottom of the piece and the live center, as in the next picture. You can then round off that 1/4" high band to make a bead foot on the bottom of the piece. Rounding that foot into a bead can be done using a small bowl gouge, a spindle gouge, or using a skew as a scraper with the wide side flat on the tool rest and the handle level. I recommend using the bowl gouge to at least roughly round the foot and then tweak it round with the skew as a scraper.

I recommend sanding as much of the bottom of the tray as you can reach, then backing off the tailstock to very gently trim off that peg where it was. The tape will hold the tray in place but make gentle cuts. To the very best of your ability, ensure that the bottom of the piece is as absolutely dead flat as possible. This is where a square nose scraper may be helpful. Use some kind of short straight edge to ensure flatness and then sand the bottom before removing the piece from the faceplate.

Let's put a footnote in here -- when you turn anything on the lathe, you are applying force to the wood with your cutting tool. The farther you are cutting from the center of the piece, the more leverage you have against the chuck. If the piece is not well held, a catch or aggressive cutting



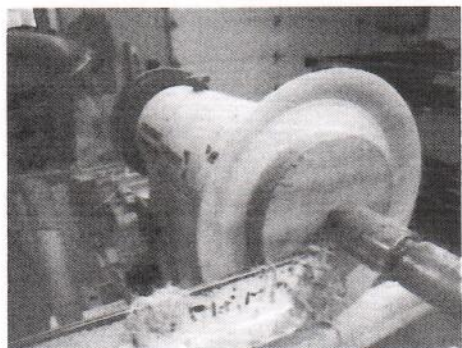
could dislodge it from whatever chucking system you are using. When you have the tailstock up against the bottom of the blank, you can cut confidently as it is highly unlikely that you will dislodge the piece from your chuck, in this case the double faced tape on the faceplate. However, when you back off the tailstock to trim off that little peg in the center, the only thing holding the wood in place is the tape. Cutting aggressively out away from the center of the piece and/or getting a catch out there may jerk the piece free of the tape so when the tailstock is backed off, cut gently. Also, when you

are cutting that skinny peg in the middle, the leverage you have against your "tape chuck" will be minimal but you should still make light cuts.

This is so important, it bears repeating. Once you have backed the tailstock away and trimmed off the peg, take great pains to make the bottom of your platter as flat as you can. Use a straight edge of some kind to judge flatness and trim as needed. The reason it must be so flat is that you will retape the faceplate and apply it to the bottom of the piece and it must be dead flat for the tape to adhere properly. Sand the bottom but be careful that you don't unflatten it by sanding too much in one spot.

IMPORTANT: Once it is really flat and before you remove it from the faceplate, with the tailstock backed off and the piece turning, make a small mark at the center with a pencil and then measure out 3" and mark a very light 6" pencil circle on the bottom. That will be your target for the freshly taped faceplate when you turn it around.

Pry the blank off the faceplate. Remove and discard the double faced tape strips. Test-fit that faceplate inside the 6" circle on the bottom of the platter. If you can't see the pencil line, use a compass to lightly mark another line slightly farther out and test fit the faceplate again. When you know how the faceplate compares to that new circle, apply two strips of tape as before. As you gently lay the faceplate within the circle, orient the grain of the wood with the direction of those two strips of tape. I'll explain why in a minute. Once centered, set it on the floor and stand on it again. Screw it on the headstock drive.



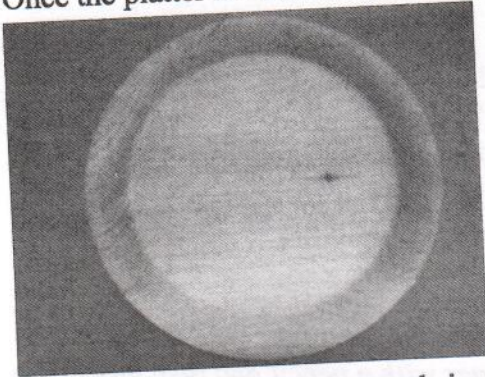
Bring up the tailstock for safety, as you should whenever you can when turning. This will further press the tape against the wood to help it adhere fully. Start at the outside edge and trim away wood from the inside of the piece. I recommend leaving the tray about 1/4" thick across the bottom, mainly for strength when removing the piece from the tape. Remove wood from just the first couple of inches in toward the center down to final thickness, as in this picture. Then do the next couple of inches, and so forth, blending the previous cutting in with the next until you are at the center. All the while you

must make the bottom of the inside of the platter as flat and straight across as you possibly can.

Think of having a couple of wine glasses sitting on that tray – it needs to be flat. Keep checking it with a short straight edge. Finally, back off the tailstock allowing the tape to hold the platter in position. Trim away that peg in the center with gentle cuts and then ensure the whole inside bottom is nice and flat. Sand.

Time to remove the finished platter from the faceplate. Orient the grain of the piece parallel to the floor. It may help to lock the headstock in position. Push or pull at the end of the platter closest to you, which should be end grain, to slowly unstick it from the tape with steady pressure. It may be helpful to slide something thin between the faceplate and platter in the center of the faceplate between those two strips of tape. I use an old kitchen knife. If you have made your platter too thin and are pulling somewhere other than at the end grain, you could break the platter. By orienting it so the grain is parallel with the strips of tape, when you pull the platter away from the faceplate by gripping at the end grain, you can pull pretty hard without concern about breaking the piece.

Once the platter is free from the faceplate, you may notice three things. First, there may be tape or at least tape residue still on the wood. Pull the tape off and use a paper towel with mineral spirits to take off any residue. Second, your pencil mark will still be there from when you centered the faceplate. When the mineral spirits dry, gently erase the pencil line. Third, if you used a kitchen knife or other device to help pry the platter away from the faceplate, you will have likely bruised the wood a bit. Gently sanding the bottom with 400 grit paper should clean up any remaining pencil marks as well as the kitchen knife marks.



As always, I highly recommend signing your work. I use a vibrating engraver to write my name, the month and year, and the type of wood on the bottom. Depending on the wood, an engraver like that may leave a rough surface. Lightly sanding with 400 grit across the engraving will smooth that out. Then finish the piece with your favorite varnish or other finish and enjoy.

You are always welcome to contact me if you have any questions.

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