

Turning Tips

Turn a plate using a glue chuck - the old fashioned turner's way. You can also clean out your scrap box and produce an interesting piece.

Somewhere in your work place, you may have a collection of small pieces of hardwood dimensional lumber and perhaps logs that have cracked while drying. You've been saving these to use for something, some day, and haven't done so yet. How about putting some of this material to use by making a random pattern patchwork plate which may surprise you when you're done? You needn't have a predetermined plan. The pattern will evolve as you arrange the pieces that you have made to form the plate blank.

Blank Preparation:

If you have access to a band saw with a fence and a miter gauge, the logs can be cut into slabs about an inch thick, avoiding the cracked portions, and then cut into squares and rectangles of various sizes. Likewise, the dimensional lumber can be cut into random size squares and rectangles on either a band or table saw. The miter gauge should be set at 0 degrees, checked for squareness of cut with a carpenter's square, and readjusted if necessary. If you use a plywood blade on the table saw and a ¼ inch blade on the band saw for the square cuts, no further treatment of the edges will be necessary when you glue up.



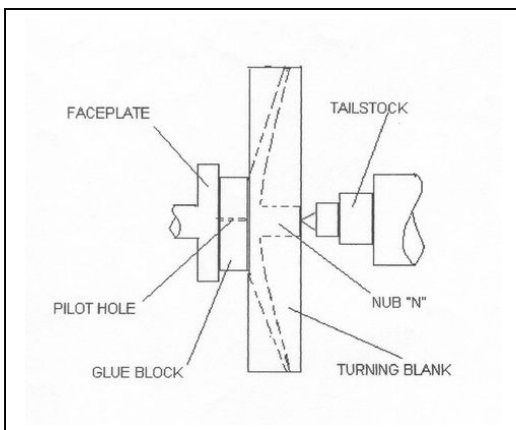
The photo at left shows a group of square edge pieces of mixed woods which have been arranged in a random pattern and glued up to form a blank which was then used to make a plate. (The round insert was added after glue up). A circle was scribed on the surface, and it was cut into a circular blank on a band saw. This was mounted on a glue block fastened to a faceplate.

If there are a series of end grain to end grain joints, as in the lower left hand corner of this blank, it's best to use epoxy there for fastening. Long grain to long grain joints hold very well with carpenter's glue, but

end grain joints are weaker.

The finished piece is shown in the photo at right. Each piece you make will have a unique pattern.

Mounting the Blank:



Refer to the drawing at left.

Prepare a glue block by cutting a circular piece of ¾ inch or heavier stock to a diameter suitable for mounting on your faceplate. Hardwood will be the sturdiest, but pine often works as well. Drill small pilot holes for your mounting screws, and fasten the piece securely to your faceplate. Turn the diameter of the glue block round, and turn the face flat and true – check with a straight edge. Turn the tailstock center up against the glue block to mark the center. Drill a small pilot hole through the glue block – this will establish the center when the plate is later reversed.

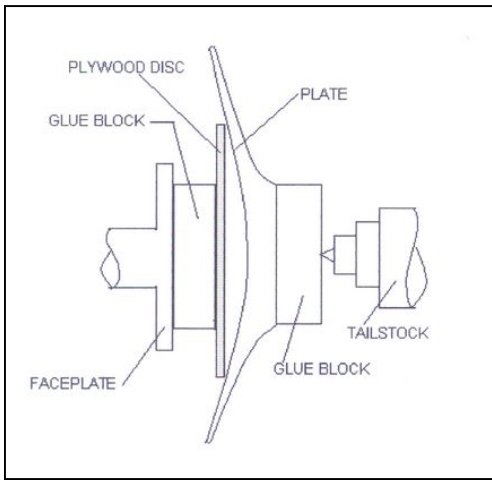
The side of your turning blank which will mate with the glue block should be checked for flatness. If needed, true the center portion of the blank flat by planing and/or sanding with a sanding block. Now, indent the center of the opposite side with a center punch or scribe. Run the blank, centered in the tailstock, up against the glue block, and tighten up to dig in a bit. Back off and remove the blank.



Place a piece of newspaper on the lathe ways under the headstock and liberally apply glue to the face of the glue block. Position the turning blank against the tailstock in the indentation you have made and move the tailstock forward while holding it in place. As you contact the glue block, rotate the blank to distribute the glue and then tighten up firmly. Wipe off the excess glue. Allow the glue to set for the recommended clamping time – usually 20 to 30 minutes. After this time, if you want to use the lathe for other work, the tailstock can be backed off, the faceplate unscrewed (holding metal only) and the assembly set aside for overnight cure.

Turning the Plate:

Remount the faceplate, and support the assembly again with the tailstock center in the indentation. Turn the front and rear as near as possible to the final shape (dotted outline in the first drawing). Withdraw the tailstock and turn off the nub “N”. Sand the front of the plate.



Refer to the drawing at left. Remove the plate and glue block assembly from the faceplate. Mount a support on the faceplate consisting of a glue block to which has been glued a disc of $\frac{1}{4}$ inch plywood, and turned to a smaller diameter than the plate. Reverse the plate as shown in the second diagram, at left, with the pilot hole in its glue block at the tailstock center. Tighten up the tailstock against the disc, which now will act as a friction clutch to drive the plate. Finish up the back, turning at a moderate speed. This will involve the removal of most of the glue block material until you have a small piece in the center left – $\frac{3}{4}$ to 1 inch in diameter. Progressively sand as you are working down to this.

Stop the lathe, and carefully saw the rest off. Place the piece face down on your workbench with a piece of carpeting or a rubber mat underneath. Remove most of the remaining part of the glue block with

a sharp carpenter's chisel or flat carver's gouge and mallet. Then hand sand the small remainder until it blends into the turned bottom.

That's the old fashioned way. If you had a Stronghold chuck for the first part, and a vacuum chuck for finishing the back and bottom for the second, of course it would have been easier – but the end result would not have been any better.

Good luck and keep turning!

Sy Plonsky March 24, 2006