

Woodturning Tips

from Gene Gross

BASIC RULES

1. HAND ROTATE TO MAKE CERTAIN WOOD WILL CLEAR TOOLREST
 2. CHECK LATHE SPEED BEFORE TURNING ON, OR START SLOW, THEN SPEED UP
 3. RUB THE BEVEL!!!!
 4. CUT ON LOWER ½ OF THE TOOL EDGE
 5. CUT ON THE MIDDLE OF THE WOOD, IE, OFTEN HAVE TO DROP TOOL REST SO THAT THE TOOL WILL CUT ON THE MIDDLE OF THE WOOD
 6. SKEW: CUT 1/3 DOWN FROM THE TOP OF THE WOOD
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1. SHARP
 2. GRAIN: side, end, burl
 3. TOOL REST
 4. SPEED
 5. STANCE

MOUNTING TECHNIQUES

1. BETWEEN CENTER: 4 prong, 2 prong, large 4 prong, Steb center, cone drive (friction drive) Morse taper
2. SCREW CHUCK
3. FACEPLATE
4. TENON
5. WASTEBLOCK
6. JAMCHUCK
7. VACUUM

BEVEL ANGLE

40 degree bevel best overall bevel; 30 degree for soft woods, 50 degree for harder woods, 60-70 degree for inside bottom of bowls

Use double bevel for majority of work; doesn't scar the wood, easier to cut, doesn't set up reverberations on irregular edges: leave 1/16 to 1/8 inch terminal bevel, and grind back the heel.

Usually the flute should be at a 45 degree angle in the direction of the cut

Keep tool clean: wipe with rag and Boeshield, TKO orange, WD-40, water, etc. Wash or wipe tool before grinding.

CHUCKING WITH TENON

1. Tenon should be 40% of bowl diameter
2. $D \times RPM = 6,000 - 9,000$

3. Need to have a flat edge for tenon to seat against, and flat or dovetail tenon
4. BOWL: BASE Base should be 1/3 the size of the bowl size
5. 5:1 ratio: the distance over the tool rest
6. Shear scrape dulls the tool 30 times faster
7. Use smaller tool with fresh grind for finishing cut

SANDING

1. SLOW sanding speed to avoid heat checks and paper lasts much longer; don't use old paper
2. Each grit leaves grooves that must be removed by subsequent grits
3. Progress thru 80, 120, 180, 220, 320, 400, maybe 600 or 800; start with a grit course enough to do the trick; if clean cut from gouge or skew, start with finer grit

DRYING

1. TWO STAGE DRYING: Turn bowl and leave thickness 10% of the bowl diameter; after it dries, then finish turn
2. For natural edge bowls, turn to 5/16 thickness or less; the warp will be undetectable; end grain turnings have less distortion, since the shrinkage is uniform on all sides
3. Put end grain sealer on end grain to avoid splits while drying; avoid sharp edges, which tend to promote splits
4. To slow drying, and avoid splits, put in paper sack (plastic sack promotes fungus), on floor (cooler temp), out of the wind or air conditioning, and store face down
5. Try for even wall thickness, to obtain even drying
6. 4-5% crack rate for professionals, 20% for amateurs (pros use trunk wood, amateurs use limb wood)

ALWAYS TRY TO REMOVE PITH: VERY UNSTABLE!!!