Wringing More Performance Out of Basic Turning Tools

by

Mark Palma

Demonstration Overview

Getting More Out of Basic Tools

In this demonstration we will focus on 5 tools--the parting tool, spindle roughing gouge, spindle gouge, bowl gouge and scraper. We will talk about how each tool works, how to sharpen it (and sometimes hone it) , some basic cuts, some other things that each tool can do that we may not readily know (or may have forgotten) and some suggestions on their role(s) in your shop. The goal is to help all of us appreciate the nuances that these tools offer and make better use of them in our turnings.

Work Holding

- Faceplate
  - Plate face is the holding power, not the screws
  - Flatten wood
  - Remove bark
  - Only use pan head sheet metal screws (not drywall or deck)
  - #12 or #14 screw (note these are #3Phillips head, not more common #2)
  - Screw length determined by weight of wood and if it is side grain or end grain
  - 3 surfaces to clean and maintain
  - Inspect for cracks, discard if cracked
- Spur Drive
  - Center is for alignment with awl mark, not to grip wood
  - Sharpen the spurs for better grip
  - Avoid pounding wood into headstock
  - Clean shaft and Morse taper spindle
  - Two vs four prong, safe centers and ring drive
- Chucks
  - Quality investment, not all the same
  - Chuck body, insert adapter and jaw sets
  - Jaws have optimal range and maximum range, not the same
  - Flat of the jaw face, not sides of jaw are the holding power
  - Need a flat mating surface, common mistake
  - Chuck tenon sized to work, as is the chuck itself
  - Maintain chuck by cleaning, lubrication, insert inspection and waxing face

Spindle Roughing Gouge

- Tools construction

- Spindle work only due to tang
- Easy to sharpen, hone the inside edge, round off prongs
- Use entire edge, unidirectional
- Use the tool in a nibbling cutting motion to avoid large chip out
- Knocks off corners, can be canted to plane like a skew

Parting Tool

- Family of tools ranging in size, width, and profile
- Sharpening technique
- Can rough out cylinders, make bevel rubbing cut, scraping cut, peeling cut, and skew cut
- Can cut small beads
- Chuck tenon cutting
- Try for cut using ½ width of tool when possible, and make slots at least 1 ½ tool width

Spindle Gouge

- Family of tools from 1/8" to ½ "
- Solid shaft makes for strong tool, compared to old forged tools
- Shallow flute is detail gouge, medium flute is spindle gouge, deep flute is bowl gouge
- 3/8 most popular
- Sharpen on Wolverine jig (lowest setting), or Tormek jig.
- Hone flute
- Beads, coves, rounding work, refining surfaces, can use on bowls

Bowl Gouge

- Family of tools from ¼ to 5/8" (US measurement system)
- Not all steel is the same (CPM10V powder metal, A11, 10V, M42, Powdered metal, cryo)
- Most versatile tool for wood turning
- Long grind goes by many names such as Irish, Elsworth, Fingernail
- Can rouge, refine and finish cut
- Mainly bevel riding tool (except sheer scrape)
- Push cut, pull cut, sheer cut,
- Do not "over tool" on inside of bowl can end up with burnish rings
- Can relieve heal for more maneuvering
- Bottom Bowl gouge has steeper grind
- Sharpen on Wolverine jig (middle setting) or Tormek
- Hannes jig for triple bevel (Vector Fixture)

Scrapers

- Not a family of tools, but an entire category, varying in shape, length, thickness and grind
- Often looked down upon as a lesser quality form of turning skill
- In fact, these can be great refining tools that leave a great finish
- The burr off of the grinder does the work and in fact can be a cutting edge.
- Burr lasts seconds, depending on quality of steel (60-240 seconds)
- Can be used to remove large quantities of wood, works well on end grain, and can make ribbon

translucent shavings with a sharp burr and a light touch
- Simple to sharpen, consider sharpening all to a common grind
- Negative rake scrapers are an old concept that is currently in vogue, for finish scraping only