

HANDBELL ORNAMENTS - JK Jordan, 1/30/2019, Crossville



OVERALL SIZE: about 3" for handle, bell is approximately 1-3/4" dia, 1-3/4" long

MATERIALS

- Bell blank, 1-7/8" square x 3" long. 1-3/4" to 2" square is fine.
- Handle blank, 1/2" square x 5" long. Can be bigger.
- Some kind of finish. I like Mylands Friction Polish (shellac-based), Watco Danish Oil, lacquer, or acrylic spray. I sometimes use no finish on some woods such as ebony, just buff.
- Some thin wire to connect clapper to bell. I like brass wire but any would work. "Eye pins" used by jewelry makers are easier to use, available in hobby stores and from Amazon. Could also use small chain, string, or fishing line. (Or just leave off the clapper but that would be a shame!)
- Screw eye for hanging. I like the 5mm size but some prefer larger.
- Glue to assemble – I use 5-minute epoxy.

TOOLS

Basic tools needed:

- Chuck for bell blank: I use Nova with standard 2" (50mm) jaws.
- Chuck for handle and clapper: Nova with pin jaws.
 - options: std chuck with NO jaws, collet, Jacobs chuck
 - A collet chuck would work fine
 - A #2MT collet, 1/2" size is inexpensive, about \$10 from Little Machine Shop.
 - A set of #2MT collets is available from Amazon for about \$50
 - A Jacobs chuck would be my last choice, turn a tenon first.
- Drawbar, if using a #2MT collet or Jacobs chuck Jacobs chuck for drilling
- Calipers, best are cheap stamped-metal vernier calipers from Home Depot/Amazon – round the tips so they will slide over wood when sizing.
- Small gouge – 3/8" spindle or detail gouge is good as is a small Hunter tool (Hercules or Osprey) for the outside and inside.
- Parting tool.
- Sand paper. For coarse sanding up to 400 grit my favorite is the Klingspor Gold in 1" rolls. For fine sanding I like the Rhynewet Redline 600 grit

(sometimes finer) available from Supergrit and some woodworking shops (too expensive from Amazon).

- Drill bit for connecting handle to bell (3/16" or so).
- Tiny drill bit for the connecting wire, available from Amazon.
- Tiny drill bit for screw eye unless handle wood is soft.
- A pin vise to hold the tiny drill bits, available from Amazon. Any type with a small enough chuck will work. I like the Starrett 162A set but they are expensive (also available separately). Even a very inexpensive one will work, less than \$10 on Amazon – some come with a drill bits.

Optional but helpful tools:

- Small tool rest. I like the 4" Robust rest.
- Steb live center when turning handle
- Some live center with a wood tip to support the handle blank while turning. I make a short tenon to fit the connecting hole. My favorite is the Nova live center – I turn a short #2MT piece from wood. Can also use a wood end for a Oneway type live center – tap a block with 3/4"x10 threads and turn the end to fit. Or use a point on any live center but go easy on the pressure to avoid splitting.
- Small roughing gouge. I like the Thompson 1/2" roughing gouge
- 1/4" spindle gouge.
- 1/4" skew chisel made from a round rod.
- Depth gauge.
- A machinist's center bit to start holes. A set is cheap, Amazon.
- Larger drill bit for hollowing depth, 3/8" or 1/2" or so. I REALLY like the taper shank bits that fit directly into the tailstock without needing the Jacob's chuck. The smaller bits are #1MT and need an inexpensive adapter. Bits and adapters are available online – I usually buy from Wholesale Tools (They have a 1st-time customer discount code)
- Skew chisel for turning handle
- Narrow parting tool
- Soft sanding block (sandpaper wrapped around a white Magic Rub eraser)
- Sanding sticks – I glue 1" strips of sandpaper to thin strips of wood.
- Scalpel with #11 blade – razor sharp
- I wipe on naphtha to see the wood, look for scratches, etc.
- Needle nose pliers
- Wire cutters
- Good lighting!



TURN BELL

- Mount in chuck , round, size. I size the bell end to 1-3/4" and the center to 1-1/8"
- Shape the outside first but leave the top end thicker until the inside is done
- Sand and maybe finish outside
- Drill starting hole with a center bit if possible.
- Drill depth hole. I use 1/2" or 3/8" taper shank drill bit and drill about 1.5" for a 1-3/4" high bell.
- Hollow (I use an 1/8" parting tool) – push in to end grain, sight from the top when near the side of the bell
- Smooth inside (Hunter, scraper, gouge) – support the outside of the bell with the left hand to prevent chatter. If the hand gets hot you are pushing too hard with the tool!
- Sand and maybe finish the inside
- Drill connector hole (I use a 3/16" taper shank drill bit)
- Turn and sand most of the top end
- Part off. A thin parting tool is nice here. I use a scalpel to clean up.
- Sand and finish top end by hand. Sanding sticks are helpful.



TURN HANDLE

- Mount handle blank in pin jaws (etc)
- Support by tailstock. I use the Steb revolving center.
- Mark the handle length (3")
- Turn and bottom end (that connects to the bell)
- Remove tailstock, drill for connector tenon (3/16" bit)
- Cup bottom end to fit top of bell
- Support the end again with the tailstock
- Round and turn the rest of the handle
- Sand and maybe finish
- Part off, sand end and finish by hand

TURN CONNECTOR

- Remount the small length of the handle block
- Measure the bell thickness at connection hole
- Turn a tenon to fit connection hole in handle, long enough to go through the bell and into the hole in the end of the handle.
- Measure diameter up inside bell (usually 3/8" to 7/16")
- Shape a "button" on the connector to seat inside the bell.
- Sand, maybe finish, part off, finish the very end by hand

TURN CLAPPER

- Size (maybe about 5/16" diameter)
- I turn to sort of a pear shape
- Sand, maybe finish, and part off

PREPARE WIRE TO HOLD CLAPPER

- Shape an eye on a short piece of wire to glue into connector. (could use fishing line, etc.) Note: I found brass wires with eyes already formed at a hobby store. Jewelers call them "eye pins", also available on Amazon in brass, silver, etc.
- Shape an eye on a longer piece to glue into clapper. I like to make the wire long enough so about 1/2 the clapper is visible from the side and so it hits the bell near the rim.
- Drill small holes for the wires in the connector and the clapper. Hold and turn the bit by hand with a pin vise.
- Drill small hole to fit screw eye for hanging.

ASSEMBLE

- Glue wires into place (I use 5-minute epoxy)
- Glue tenon through bell and into handle
- Fasten screw eye for hanging



OPTIONS

- Bell with no handle.
- Bell with no clapper.
- Alternate materials. Other plastics or even aluminum might be interesting. I turned one from acrylic.





