

# Making Kitchenware Handles

Craig Timmerman

craig@armadillowoodworks.com

www.armadillowoodworks.com



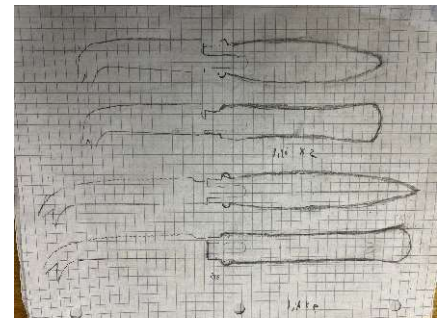
## Background

- Demo covers making handles for kits purchased from various outlets (see resources)
  - While most kits have instructions, I hopefully can provide a few extra tips to make the process easier
- Three primary kit style that I have seen
  - Tang-based kits, item has a tang that is glued into a handle - many of the cutlery items use this style
  - Insert-based kits, item has a threaded insert of some kind that goes into a handle, item screws onto the insert and can be removed for washing - large pizza cutters, ice cream scoops
  - Pen-style kits, item uses a pen-kit style insert and is turned using a pen mandrel
    - As I am not a pen maker I will only cover the first two of these styles



## Design

- Prior to turning, design the style of handle you want to make
  - Helps determine blank size you will need
  - Gives you a plan to follow
- Useful to use grid paper
  - Layout/trace item you want to turn
  - Draw handle around that
- Design considerations
  - Who is going to be using the item, e.g. hand size
  - Handle length based on how item is used, e.g. ice cream scoop needs some leverage so shorter handle might not be the right choice
  - Quite often knife handles are about the same length as the blade
  - Google some examples, e.g. Google cheese knife, to see sample handle styles
    - Can use Etsy to search for same thing



- You can be creative, but remember that someone has to hold onto the handle and comfort should outweigh a fancy design
  - Avoid uncomfortable features, e.g. sharp points
- Might think about a design that can be re-mounted if needed, even if tailstock point is gone
  - Useful if forgot to test ferule size

### Prototype

- Find a suitable scrap piece of wood that fits your design and turn your handle between centers
  - No need to drill or part off, you are just testing shape, proportion and process
- Hold up to item to judge shape and proportion, hold in your hand
- Make story stick for reproducing your design to help speed up production (optional)

### Blank prep

- Wood should be dry, clear of defects (at least on tang/insert end)
- Typically cut 1/2" longer than finished size
  - Extra length depends on live center size, I like using Cindy Drozda live center point for the Oneway live center (and similar) as it has a much smaller tip, she has one for the Robust center too
- Typically cut wood 1/8" larger than largest diameter of the handle, this allows for a little slop if you don't get the blanks centered exactly
- I make squared up blanks on the table saw, I and then chuck this and drill it, the ends are already squared up
  - Alternatively, if you have an uneven blank you can mount between centers, turn it to cylinder, square up the ends and then mount that in chuck to drill.
    - Just don't turn it to finished size until after you drill the hole, in case you don't drill it perfectly in the center.



### Drilling hole for tang/insert

- I like to use long-nose jaws on my chuck for this. Holds more of the wood, less likely to wobble
- With blank held in chuck, use drill/Jacobs chuck in tailstock to drill hole to the appropriate size and depth
  - Use caliper on tang to determine proper drill bit size or suitable drill bit based on tap if threading
    - Most items have instructions from manufacturer/seller. Double check their suggested drill bit diameter as it is not always correct.
  - Make sure you are drilling an end with no defects
- Some tangs have two parts, one larger than the other.
  - Can drill to the largest, but better is use two drill bits sized for each, that way there is less gap between tang and side of hole and tang doesn't "float around" as much when positioning
- Always drill a little deeper than you need, especially if you have to tap/thread the hole



### Tap hole – threaded inserts only

- There are a couple of common sizes for threaded insert
  - 3/8" x 16tpi – used for pizza cutters and ice cream scoop that I make (also same as Ruth Niles bottle stoppers)
  - 1/4" x 20tpi

- I buy drill bit/tap combos at Lowes or Home Depot
- Tapping
  - Make sure drilled hole is clean of dust and chips
  - Clamp tap in vise grip and mark depth you need
  - If lathe can run slow enough you can just hold the tap and let the lathe spin
    - Must be a very slow speed (e.g. 100 rpm)
    - Stop before it bottoms out! Tap last turn or so by hand
  - Else run tap by hand until you hit your mark
  - Blow out dust and manually tap again – tap should run smoothly
- Test fit the insert to make sure it goes in far enough
  - This should go in easy, if it doesn't, clean out the drill hole and re-tap
  - If insert get stuck, wrap leather around top threads and use pliers to remove
  - If insert isn't deep enough, re-drill and tap



### Options to tapping

- Some kits use an insert with internal threads that are just inserted in the drilled hole without tapping
- Ruth Niles also sells an insert like this for 3/8" x 16tpi threads
- These inserts may/may not be drilled through, i.e. the item being attached may bottom out in the insert
  - You must get these inserts deep enough so your kitchen item correctly touches the top of the blank
  - This is a little tricky
    - Either measure correctly or screw the item into the insert and use it to push the insert into the hole to the correct level
    - Trick is, you need to glue the insert in and it is easy to get glue on the threads
      - Use wax on the threads to prevent the glue from sticking so you can unscrew the item before the glue sets.
    - This is why I prefer to use kits where I tap the blank and glue the threaded insert in later

### Mounting the drilled blank on the lathe-drilled hole only

- Many instructions say to use a waste block to create a tenon to drive the blank
  - I have found it is very easy to break the tenon and have stopped using this method
- Options
  - Instead of tenon, just create a pointed cone, downside is you can split your blank if you crank the tailstock too hard
  - Mount small cone from live center into chuck, requires small chuck, can split blank, but this is method I use, have had no problems
  - Find a bolt with same diameter as hole, cut off the head, mount in collet chuck and drive, this works as long as tip of collet chuck give you the access you need to the tip of the handle. Can drive just from bolt until tip is done, then reposition blank against chuck for more drive power



- NOTE: these are all friction drives so you can't be too aggressive with your cuts, but they're great if you get a catch

### Mounting drilled and tapped blank

- Can use same methods as drilled only, be aware to not mess up threads
- If use bolt in collet chuck, you can actually screw the blank onto the bolt
- You can buy mandrels to fit the threads
  - Ruth Niles has custom mandrel that screw onto the headstock spindle
  - Craft Supplies has a mandrel that fits into a collect chuck or chuck with long nose
- Make your own, take waste block, put tenon on it, mount in chuck, drill hole for properly sized bolt, e.g. 3/8 x 16, insert and glue bolt to waste block and you have an inexpensive mandrel



### Turning the handle

- Round to cylinder
- Use a caliper to set max diameter using parting tool and round cylinder to that diameter
- Use your story stick to transfer key points to the cylinder
- Use a caliper and parting tool to set the diameters of the key areas
  - Make sure you test the fit of ferules at this time
- Use the tools of your choice to create the profile of your handle
  - These are fun/easy projects which make good candidates to experiment with different tools or build your skill set



### Turning tips

- Cindy Drozda live center points, great for any project where you want to minimize live center point hole
- Use open end wrenches to set fixed diameters, like ferule locations
- Use round nose scrapers to help set covers if needed
- Negative rake scrapers can help smooth things out
- Skews can leave smoothest finish, handles make a great practice item



### Completing the handle

- Sand everything you can, don't skip grits
  - Check after every grit for scratches, hand sand with the grain if necessary to removes scratches
- Turn the tailstock end down using a spindle gouge but don't part off
  - Don't try to remove that last bit even if threaded—too much wobble
- Remove from lathe and cut remain bit off with knife
- Hand sand the end
- Apply finish of your choice



- I use teak oil or anything you would use on a bowl
- I use a piece of peg board with screws in it as a drying rack

## Assembly

- Prior to gluing anything, double check hole depth, ferule diameter, threaded insert fit
  - Best if this is done right after drill/tap or if you changed anything on the insert end while turning
- For a tapped hole, make sure the hole is clean of all dust
  - Threaded insert should screw in easily, if it does not, re-tap, otherwise it will be even harder when the glue is applied
- For tang-based insert
  - Fill hole with epoxy
    - My preference is West System epoxy, with the 407 or 410 filler
    - Fairly long work time, fillers thicken epoxy and tang holds in place better during set time
  - Apply some epoxy to ferule area—don't overdo it!
  - Insert tang through ferule and then into handle
  - Wipe off any excess epoxy
  - Align insert to best show grain or features of handle
  - Set to dry
    - I use piece of Styrofoam with holes in it to hold the handles upright
- For threaded insert
  - I use the West System epoxy to set these, no filler
  - Roll bottom third of insert in epoxy and thread into hold
  - Wipe off excess epoxy
  - Set to dry, once dry (24 hrs) you can thread the item onto the insert
- Can use other epoxies, but stay away from the 5 minute varieties unless you know you can work that fast
- You can use super glue, but it's a mess if you use too much and sets way too fast, you would also need to use a lot of it for the tang-based items

## Final thoughts

- Keep prototypes for future reference
- Keep one of each style you make for future reference
  - I like to mark mine with key dimensions and size of blank used

## Resources

- Craft Supplies USA – [www.woodturnerscatalog.com](http://www.woodturnerscatalog.com)
  - Kits of all kinds, mandrels. One of the best sources for all woodturning supplies
- Niles Bottle Stoppers – [www.nilesbottlestoppers.com](http://www.nilesbottlestoppers.com)
  - Various kitchen kits, mandrels, inserts. Great stainless steel bottle stoppers
- Packard Woodworks – [www.packardwoodworks.com](http://www.packardwoodworks.com)
  - Various kits. Another great source for all woodturning supplies
- Penn State Industries – [www.penstateind.com](http://www.penstateind.com)
  - Various kitchen kits, many are pen mandrel based. Lots of other pen supplies and projects.
- Rockler – [www.rockler.com](http://www.rockler.com)
  - Various kitchen kits. General woodworking tools and supplies
- Woodcraft – [www.woodcraft.com](http://www.woodcraft.com)
  - Various kitchen kits. General woodworking tools and supplies
- Cindy Drozda – [www.cindydrozda.com](http://www.cindydrozda.com)
  - Live center points. Signature turning tools, misc supplies