

Instructions for GCWA Ground Bead Enhancement Class

The purpose of this class is to teach you the technique of enhancing a turning with ground pony beads. To accomplish this, you will split into teams of two turners and prepare pony beads by grinding and separating them into three groups of coarse, medium and fine. You will then optionally turn a small bud vase and prepare it for decoration by cutting three rings and applying ground pony beads as the enhancement. Or, if you want to spend more time on the application technique, you can turn a simple spindle and practice decorating it with several rings and filling drilled holes (simulated worm holes) with ground beads.

Procedure to Grind and Separate the Beads

1. Divide up into teams of two people and select a package of pony beads of your choice of color. This will be used later for the enhancement along with an already prepared complementing color to enhance your turning.
2. Using a food processor or coffee grinder, add a small amount of beads (about a third of the bag) and pulse the grinder for about 3 – 4 seconds long for about ten pulses. The more pulses, the more fine ground beads you will produce.
3. Unplug the grinder and pour the mixture of unground, partially ground and ground beads into the coarsest sieve. Shake until all the ground particles pass through into the first collection container and then return the unground and partially ground beads that did not go through the first sieve back into the grinder. Pour the contents of the first collection container into the second sieve on the second collection container and shake. Anything remaining in the second sieve is saved in a baggie labelled “Coarse”. Everything that passes through into the second container is poured into the third sieve over the third container. Particles that remain in the third sieve are saved in a baggie labelled “Medium”, and the contents of the third container are saved in a baggie labelled “Fine”. NOTE – If you are using the brass calibrated sieves, just stack them with the coarsest on top followed by the medium and the finest with a collection pan or container on the bottom. Add the beads and shake to distribute the particles among the three sieves and save as above. **Be careful not to overload the sieves or the separation will not be complete.**
4. Add more beads to the grinder along with the unground beads from the prior step and repeat the process until the entire bag is ground and separated. Remove and save the separated particles after each grinding so the sieves will not fill up and stop separating.

Procedure to Turn the Bud Vase

1. Mount the blank on the lathe using a drive center and live center and turn it round. Do not turn away any more than necessary.
2. Turn a tenon on one end to match the chuck provided with the lathe. Mount the blank in the chuck using the live center to center the blank.
3. Drill a 17/32” diameter hole 4” deep for the glass insert.
4. Bring the live center up to the drilled hole for support and turn the blank to the desired **final** shape and sand. Once you start applying the bead enhancement you will not have the ability to change your shape unless your enhancement is very deep.

5. Using a parting tool, cut three grooves about 1/16" deep 1/8" to 1/4" apart. Cut the center groove slightly wider.
6. Seal the grooves, with the shellac provided and let dry.

Procedure to Install the Enhancement

1. **Place a towel on the lathe bed to protect it from the CA.** Using the beads you ground earlier, start applying them in the center groove. To prevent the ground beads from falling out of the groove because of the small round diameter, start by applying a small drop of medium CA (provided) across the groove. Apply a few coarse bead particles to the CA and push the particles down into the CA with a toothpick and cure with accelerator. Use this as a dam against which you can apply additional particles.
2. When applying ground bead particles, add a few of the coarsest size that will fit inside the width of the groove. Then apply some fine particles on them and tap to push them down around the coarser particles to fill in any voids. **VOIDS ARE NOT YOUR FRIEND.** Drop thin CA on the particles until the color just turns darker. Do not add so much such that it runs around the groove to the bottom of the turning. You can hold a paper towel at the bottom to catch any that may run to the bottom. Spray with accelerator and turn the piece so an unfilled part of the groove is at the top.
3. Repeat to fill the groove around the diameter of the turning. Go back around the groove to fill in any low spots. Then apply a final layer of fine particles and add CA until the surface looks wet and spray with accelerator. **Make sure that the first layer is hard and cured before applying the final layer of fine. If the layer is too thick, the accelerator will cure the top, but not the bottom and the beads will come out in chunks when you turn them flush.**
4. When the bead/CA application has cured, turn it flush with the surface of the turning using a sharp spindle gouge with a bevel rubbing push cut. Do not scrape, as this can break out large hunks of beads. Watch out for the uncut beads as they are very sharp and can cut you badly.
5. Check for voids and fill them. If the void is small, fill with thin CA and poke a sharp toothpick into the hole to break the "bubble". If the void is large enough, sprinkle with some fine and then secure with thin CA. Turn the surface flush as before and do a final sanding on the entire turning. Finish with your preferred finish. **NOTE – Be careful not to turn through your bead enhancement. Now is not the time to refine your shape.**

Finish the Turning

1. In the class, we will use water based urethane to finish the turning. It will dry quickly and leave a satin finish. If you want a high gloss finish apply several coats and sand with 400 grit to remove any ridges in the finish, then progress through the grits and buff with white diamond.
2. Before parting off the tenon, finish as much of the piece as possible. Then part off the tenon.
3. Remove the tenon from the chuck and chuck up the 1/2" rod with blue tape. Slide the 17/32" hole over the rod and gently bring up the live center. Optionally you can tape the turning to the 1/2" rod with blue tape. In either case, take gentle cuts to finish turning the bottom. Sand and finish the bottom.

Links to Vendors

Pony beads – www.ponybeadstore.com . Be sure and write the bead part number on the bag of beads. Because there are so many colors, this will make it easier to purchase replacement beads in the future.

Grinder - KRUPS F203 Electric Spice and Coffee Grinder with Stainless Steel Blades

[https://www.amazon.com/KRUPS-Electric-Grinder-Stainless-3Ounce/dp/B00004SPEU/ref=sr_1_4?s=kitchen&ie=UTF8&qid=1466173352&sr=1-](https://www.amazon.com/KRUPS-Electric-Grinder-Stainless-3Ounce/dp/B00004SPEU/ref=sr_1_4?s=kitchen&ie=UTF8&qid=1466173352&sr=1-4&keywords=coffee+grinder)

[4&keywords=coffee+grinder](https://www.amazon.com/KRUPS-Electric-Grinder-Stainless-3Ounce/dp/B00004SPEU/ref=sr_1_4?s=kitchen&ie=UTF8&qid=1466173352&sr=1-4&keywords=coffee+grinder). This grinder seems to grind beads reliably for me. However, I found that

the beads broke out the bottom edge of the plastic top on the Krups unit. I tried coating the inside with a layer of epoxy, but it did not stick. I got the best results by putting a couple of layers of thick clear packing tape or duct tape around the inside as small pieces that overlapped so that the leading edge was covered by the trailing edge of the prior piece of tape (apply the tape in the opposite direction of the blade rotation). Otherwise the leading edge of the tape will peel up when it the beads circulate around the container.

Small food processors can also be used, although I have seen one food processor that looked similar to the one successfully used, but for some reason it absolutely would not grind beads. So, try a cheap one and if it works buy a couple more for future use. Grinding plastic beads is pretty tough on the processor or coffee grinder, so having a replacement is worthwhile.

Cheap strainers – Search Walmart for strainers. Tea strainers for fine and sink strainers or anything else you can find for medium and coarse. Just remember that the holes in the first strainer must be small enough to stop any particles that look like a whole or partial beads.

Calibrated sieves – They can be purchased from www.affordablesieves.com/3-inch-sieves/. The three sizes I use are #8, #12 and #20. I also purchased a bottom pan. All the parts are 3” diameter, full height with a skirt so they stack. This will cost about \$100 for the set.