

## Finial Box Class - Turning Steps

**This design starts with a dry box blank 2" x 2" x 5", 50mm x 50mm x 125mm  
The inlay blank is 3/8"/10mm thick, and can be slightly smaller than the box blank.**

**Flatten one or both sides of the inlay blank.**

**You will also need a jam chuck blank about the size of the box blank.**

1. Find the center on both ends of the Box Blank, mount between centers, turn to round.
2. Form a tenon on one end that will fit your chuck jaws. The tenon goes on the bottom of the box.
3. Prepare the jam chuck blank with a hole through it and a tenon on one end.
4. Chuck on the box end of the blank, turn your finial and finish it.
5. Create a parallel tenon where the lid will fit into the box, deburr the corners, and part off the lid.
6. Mount the waste block in the chuck and create a recess to reverse the lid into. Make a flat at the rim of the lid so it sits nicely in the box. Detail and finish the lid as desired.
7. Mount the Box bottom in the chuck, flatten it to friction drive the flat inlay disk. Use the tailstock to keep it in place.
8. Measure your lid and add 2x the lid diameter plus 1/32"/.8mm. For a 1/16"/1.5mm bead, add 5/32"/4mm to the lid diameter. Turn the inlay to this diameter, finishing it smooth and parallel.
9. Leave a shoulder on the inlay disk for handling, and face off the end up to the tail center.
10. Transfer the disk diameter to the face of the box bottom
11. Partially hollow the box bottom. Don't make walls thin or base small at this stage.
12. Fit the disk into a recess in the box bottom and glue it in. Use the tailstock as a clamp.
13. Shape the top curve of the box, cutting into the area where the lid will be, and stopping the cut at the foot diameter.
14. Face off the end of the foot and create a small recess in the center that is about 7/16"/11mm diameter and 1/16"/2mm deep. Try to get parallel walls on this recess.
15. Part out the center of the inlay to create the foot blank. Be sure to part in parallel to the lathe axis and make the kerf wide enough so the parting tool doesn't bind up.
16. Jam fit the lid into a recess in the inlay, making the top curve of box, inlay, and lid flush.
17. If your jam fit is good, you can shape the top curve of the box with the lid in place, blending up to where the knob/finial starts (if you want/need to). If it's not so good, don't worry about that.
18. Sand and detail the inlay and top of the box. Form a bead on the inlay if desired. Refine the lid fit if needed.
19. Shape the outside of the box, but keep plenty of wood at the bottom (headstock end) for support.
20. Hollow out the inside of the box, sand it, and finish it.
21. Mount the waste block in the chuck and jam fit the box bottom on to a tenon.
22. Shape the box bottom up to where the foot will go.
23. Caliper the foot recess, add about 1/64"/.5mm to it, and use your parting tool to size a small tenon on the box the size of the caliper. Create a small flat area next to the foot tenon.
24. Sand the box bottom completely and tape it onto the waste block before removing the tailstock.
25. Fit the foot onto the tenon, glue it, shape it, and sand it.
26. Remove the tape and apply finish to the box bottom and foot.
27. Sign your work.

**Some design considerations:**

1. It is possible to do this project in different sizes, larger or smaller.
2. A good size range for this type of box is 2"/50mm – 4"/100mm in diameter.
3. If the box will be used for jewelry, shallower is better.
4. A jewelry box is easier to use with a looser lid
5. With a delicate finial, a loose lid is much better.
6. The inlay can be either burl or plain wood. A color that contrasts with the box looks best.
7. Burl or curly figure is minimized with a narrow inlay, but shows well on the foot.
8. A wider inlay shows off the wood figure better.
9. Choose a wood that will do well as a finial if you are making one.
10. Burls don't make easy finials, unless it's a short, simple one.
11. Dry wood gives the best lid fit over time.

**Build your confidence:**

1. A simpler, or shorter, finial is easier to turn.
2. Use a harder wood, such as Maple, to make the finial easier.
3. Skip the inlay and focus on making a nice shape and good lid fit.
4. Make the foot integral with the box instead of using the middle of the inlay.
5. Choose forgiving wood that isn't expensive so you don't worry about ruining it.
6. Choose a jam chuck with parallel even grain and consistent density.
7. Use the tailstock, and tape, whenever possible.
8. This process is less demanding on your lid jam fit and finial turning

**Challenge yourself:**

1. Add a knob or finial, and/or an inlay.
2. Make a longer and more detailed finial.
3. Decorate the inside of the lid, and/or the bottom of the foot.
4. Make the box out of burl, and add a finial from different wood.
5. Follow the steps in the advanced handout.
6. Demand a high level of finishing without tool marks or torn grain, including on the inside.
7. Learn to get exactly the lid fit that you intended.