



QUICK FACTS

Level: Beginner/Intermediate
- some basic knowledge of general bowl cutting & box making techniques is preferable.

Time: Around 1hr

YOU'LL NEED

1. Chisels Required:
Bowl Gouge
(depth of gouge will determine depth of box)
Parting Tool
Cup Tool
Calipers

2. Wood: approximately 100mm long and 75mm in diameter (Grain orientation is not critical although end grain is less likely to tear out when doing the ornamental decoration)

Make sure the stock is free from cracks or imperfections, and is a hard dense close grained variety.

3. Equipment needed:
Any Nova Chuck with 50mm Jaws
NOVA Ornamental Turner (No accessory required)

SAFETY

Always read & understand the instruction manual for any product or equipment before using.

Always use safe practices & appropriate safety equipment.

Only use genuine Teknatool/NOVA parts and products.

Want to make your box more attractive?

With NOVA Ornamental Turner , adding beautiful patterns to your pieces is no longer impossible.

In this project, we will teach you how to use NOVA Ornamental Turner to make an ordinary lidded box something special.

This project is kindly supplied by Mr Rex Haslip and Mr Mac Duane



1. Prepare a piece of stock approximately 100mm long and 75mm in diameter. (Grain orientation is not critical although end grain is less likely to tear out when doing the ornamental decoration.)
2. Make sure the stock is free from cracks or imperfections, and is a hard dense close grained variety.)
3. Turn a Spigot on one end so it can be held in 50mm jaws.
4. Turn it to a cylinder.
5. Radius the end to the shape required for the lid.
6. Sand to desired finish and clean surface to be decorated thoroughly.
7. Do not remove work from chuck but remove chuck from lathe and mount on OT unit (Image 1.)
8. Mount cutter head on Lathe spindle (Image 2) and ensure the cutter is positioned correctly.
9. Move the OT unit up to the mounted cutter.
10. Position the cutter throw, the bed slide and the top slide positions so that the pattern will be the correct size and position on the piece.



Image 1



Image 2



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11. Adjust top slide position relative to the bed slide so that the cutter is equidistant from both extremes of the surface. (Image 3.) This takes a lot of fiddling with but is essential to ensure an equal depth of cut is achieved when the pattern is cut. This can be made easier with the use of a set of feeler gauges. Do not move either of the slides.



Image 3

12. Lock the bed slide in position by placing one bed stop with no movement available and tensioning the feed against the stop. (Not a lot of tension is required but this will negate and end play in the slide.)

13. Lock the top slide position with the two grub screws provided.

14. Adjust the Top Slide stop to allow a cut of .5mm (this can easily be achieved by adding .5mm to the feeler gauge used in step 11, and then using this combined thickness to set the stop position).

15. Set a second stop for the top slide to allow the top slide to be withdrawn to leave about 5mm clearance from the piece to the cutter. This is the position you will return to after each cut.

16. Steps 9 to 15 are critical and are effectively the main design and set up stages of the decoration process. Please take great care with this and ensure you have read and understood the section that covers set up and design in the the manual.

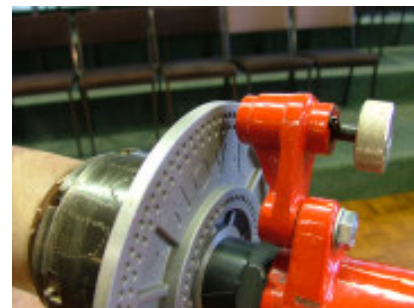


Image 4

17. Adjust the Index detent so that it will lock soundly into the index wheel on the middle set of holes (72.) (Image 4.)

18. Decide on the pattern format, either a continuous Barleycorn Pattern or a "Hit and Miss Pattern" (see manual.)

19. I chose a hit and miss pattern, cutting 5 and missing 3. This allows for 9 repetitions of the pattern around the piece.

20. At this point you need full concentration as a mis-count when applying the pattern will ruin your work and you will need to restart.

21. Ensure all adjustments are secure and that the cutter is clear of the piece. Rotate it a few times to make sure.

22. Start the lathe and adjust the speed till it runs with minimal vibration.

23. Wind the top slide in slowly until it reaches the stop. This will feed the piece onto the rotating cutter and the first pattern will be cut. (Image 5.)



Image 5



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24. As soon as the stop is reached, unwind the top slide till you reach the back stop described in step 15.
25. Withdraw the index wheel locating pin and rotate the index 1 hole. Re-engage the locating pin (Image 6.)
26. Repeat from step 23.
27. After 5 cuts have been made, you rotate the index wheel by 4 holes and then apply the locating pin. This leaves 3 holes where no cut is made and marks the start of the next pattern sequence. (Image 7.)
28. Continue this sequence until you have completed the pattern. (Image 8.)
29. Turn off the lathe.
30. Depending on the material used, the cuts may be “fury” resulting from torn grain or dust held there by static electricity. This can be cleaned off with a very soft wire brush or old tooth brush.
31. Undo the bolts that clamp the bed slide to the bed and withdraw the OT unit.
32. Remove the cutting head from the lathe.
33. Leave the piece in the chuck and remove the chuck from the OT unit.
34. Remount the chuck and piece on the lathe.
35. Draw a line in pencil up the length of the piece through where the lid will be parted off.
36. Work out the depth of the lid required for your box and part of the lid section with a parting tool. Note that the position you cut needs to allow for a spigot to be cut to locate into a recess in the box body. (Image 9.)
37. Hollow the box body (the section left in the chuck) and cut a recess to locate the lid spigot into. (the size of this is purely a design decision, but you will need to jam fit the lid onto this to finish the project so we made it 5mm deep) (Image 10.)
38. Leave project in the chuck and remove from the lathe.



Image 6

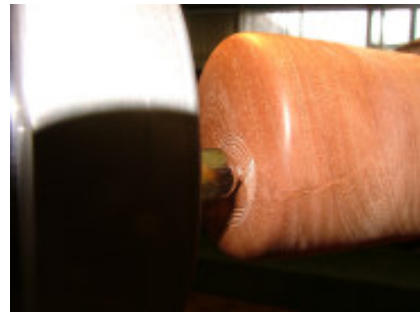


Image 7



Image 8



Image 9



Image 10



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39. Mount the lid with the underside facing out. We used a second Teknatool chuck for this with 75mm jaws. Ensure the parted surface is running true. A Jam chuck can be used to do this if you do not have a second chuck. (Image 11.)



Image 11

40. Measure the diameter of the recess in the Box Body. (Image 12.)



Image 12

41. Cut a spigot on the underside of the lid to the measurement taken so the lid fits tightly into the recess on the box body. (Take care with this as it needs to be a fit tight enough to allow sanding of the box sides, but not so tight as to make it impossible to remove.) With the tool rest removed and the lathe stopped, you can test the fit. (Image 13.)

42. Make sure the spigot on the lid is not too long so that it hits the bottom of the recess in the Box Body.

43. Clean off the inside surface of the lid. Again this is a design decision, but we left the lid fairly well intact and only dished it slightly. (Image 14,15)

44. Remove lid from the chuck.

45. Remove chuck and replace with the Chuck holding the Box Body.

46. Fit the lid to the body. Ensure it is a firm fit. If not, it can be packed out with some paper towel (this is the reason care is needed in step 41.)

47. Turn a small groove at the lid join to define it.

48. Sand the piece to blend in the join of the lid to the body, working through the papers to the grit you used on the OT surface being very careful not to touch the OT pattern. (Image 16.)



Image 13



Image 14



Image 15



Image 16



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49. Apply your favourite finish over the entire piece. (We used brush on lacquer finish followed by wax applied with steel wool, then burnish it with the lathe running.)
50. Care should be taken applying finish to the OT pattern, it is delicate and will clog up with particles of lint from cloths, paper towel fragments, dust, steel wool fibres and wax, so please treat it carefully.
51. Remove the lid.
52. Release the body from the chuck and remount it backwards with the spigot facing you by expanding the jaws into the Lid Recess. Take care doing this as you can break the recess if too much pressure is exerted. (Image 17.)
53. With a small gouge, remove the spigot from the base section, sand and apply finish
54. Remove from the lathe.

Congratulations, the project is now complete!

If the lid is to tight for your liking, the spigot or the recess can be hand sanded to relieve the fit.



Image 17



The NOVA Ornamental Turner is essential to add complex pattern on this box easily. It also gives you the ability to cut threads on the box.

This NOVA Ornamental Turner unit is available online at: www.teknatool.com.

Please note, the index unit provided with the unit is improved on the one pictured at left.

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