

Reflective Journal for Trinket Box

Joining Techniques



Contents

Sequence of events for frame construction.....	3
Deatiled Sequence	5
Reflective journal	13
Appendix A.....	14

Sequence of events for Trinket Box.

1. Check timber for defects
2. Check sizes of timber
3. Mark face side and edge
4. Mark position of sockets and pins on side rails of box
5. Cut and chisel out sockets
6. Square off shoulders of sockets
7. Mark position of tails on front and back rail of box
8. Cut and chisel out tails
9. Square off shoulders of tails
10. Check the fit of each joint
11. Pare off excess material to ensure joint fits correctly
12. Dry fit joints
13. Cut groove for base of box
14. Glue and cramp box together with base in position
15. Mark rails and stiles for mortise and tenons on lid
16. Cut mortises and tenons on corresponding parts of lid
17. Veneer decorative pattern on MDF panel for lid
18. Cut groove for lid panel on lid rails and stiles
19. Dry fit lid and panel
20. Glue and cramp lid together with panel inserted in groove
21. Mark moulding to be used as feet

22. Cut moulding for feet
23. Attach feet to base of box
24. Sand interior and exterior of box and lid for finishing
25. Mark lid and box for hinges
26. Cut recess for hinges on lid and box
27. Attach hinges to lid and box and check fit

Detailed Sequence

1. Check timber for defects

Timber must be checked for any defects which may affect the construction and look of the frame such as knots and shakes or cracks in the timber

2. Check sizes of timber

Timber must be checked to ensure correct sizes to correspond with plans

3. Mark face side and edge

Face side and edge should be marked on all pieces to allow for accuracy when marking and also for ease of machining and fitting together when piece is finished

4. Mark position of sockets and pins on side rails of box

The sockets and pins for the dovetail joints must be marked first because this allows marking of the tails later which would otherwise not be possible



5. Cut and chisel out sockets

Sockets should be cut out as much as possible with the dovetail saw and then the remaining material should be removed carefully using a sharp chisel



6. Pare off shoulders of sockets

The shoulders and walls of the sockets must be pared off square carefully and using a sharp flat chisel

7. Mark position of tails on front and back rail of box

The tails of the dovetail joints can now be marked by placing the pre-cut cut sockets on the front and back rails and marked using a sharp marking knife or fine pencil

8. Cut and chisel out tails

The tails of the dovetail joint can now be cut out using the dovetail saw and the remainder of the material removed with the chisel

9. Square off shoulders of tails

The shoulders of the tails can now be pared off carefully with a sharp chisel taking care to allow enough material to remain for the lap over the dovetail joint

10. Check the fit of each joint

The fit of each joint can now be checked for correct fit and square



11. Pare off excess material to ensure joint fits correctly

Any excess material may now be removed to ensure a tight fit without any gaps

12. Dry fit joints

The box can now be assembled to ensure all joints fit correctly and any difference in squareness of the box can be adjusted

13. Cut groove for base of box

The 4mm groove for the base of the box can now be cut using the spindle moulder ensuring that the groove runs through the sockets of the dovetail as to stop it from being seen on the end of the piece. All safety precautions must be taken when using the spindle moulder. (See appendix A)



14. Glue and cramp box together with base in position

The box can now be glued and cramped ensuring that the base is in the correct position and that the box remains square while glue is drying

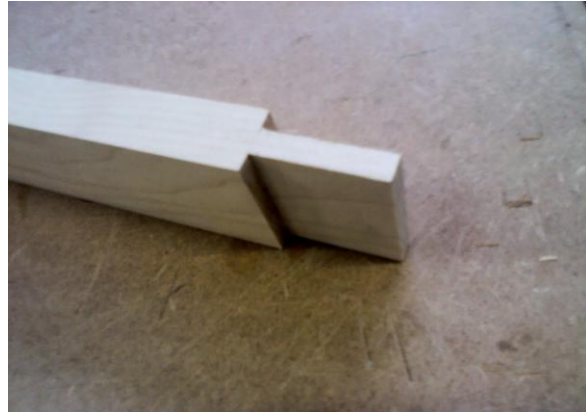


15. Mark rails and stiles for mortise and tenons on lid

The rails and stiles can now be marked for the position of the mortises and matching tenons

16. Cut mortises and tenons on corresponding parts of lid

The mortises are to be cut using the mortising machine with the correct chisel safely inserted and the tenons are to be cut using the tenoning machine to the set sizes required. All safety precautions must be taken when using the machines (see appendix A)



17. Veneer decorative pattern on MDF panel for lid

The veneer for the lid panel must be carefully cut using different types of veneer to create the desired pattern using a sharp scalpel knife. The pieces of veneer must then be taped together carefully in the correct pattern. The veneer is then placed onto the MDF panel where it is glued in place using a thin layer of glue between the panel and veneer which is then pressed together using the veneer press.



18. Cut groove for lid panel on lid rails and stiles

The groove for the lid panel is cut on the inside of the rails and stiles of the lid to seat the panel in correctly using the spindle moulder. All safety precautions must be taken when using the spindle moulder (see appendix A)

19. Dry fit lid and panel

The lid and panel is then dry fitted to ensure all joints come together properly and that the lid is square and free from warping and twisting

20. Glue and cramp lid together with panel inserted in groove

The lid is then disassembled and glue is placed on the mortises and tenons and the lid is then cramped together with the panel in place using sash cramps

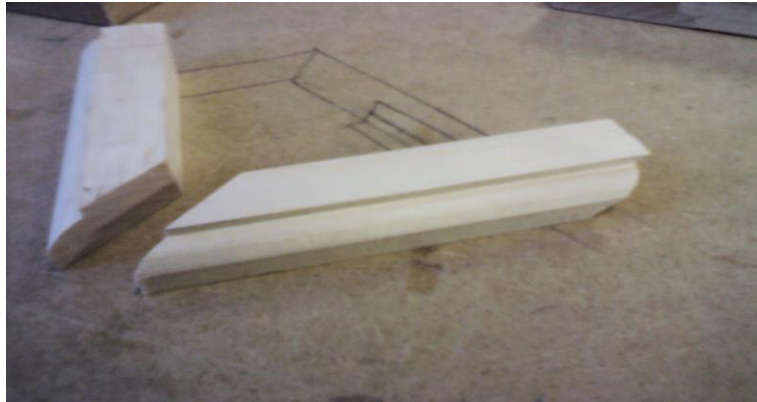


21. Mark moulding to be used as feet

The pre-moulded timber to be used for the feet is marked to length (90mm long)

22. Cut moulding for feet

The moulding is then cut to size using the foot powered guillotine machine. All parts of the hands and fingers must be kept well back from the blades of the guillotine as they are extremely sharp



23. Attach feet to base of box

The cut moulding is then attached to the base of the box using panel pins and glue

24. Sand interior and exterior of box and lid for finishing

Sanding is done by hand to get a good finish, working from 120 grit paper up to 240 grit

25. Mark lid and box for hinges

The lid is marked first as it makes it easier to align the hinges for the base of the box after

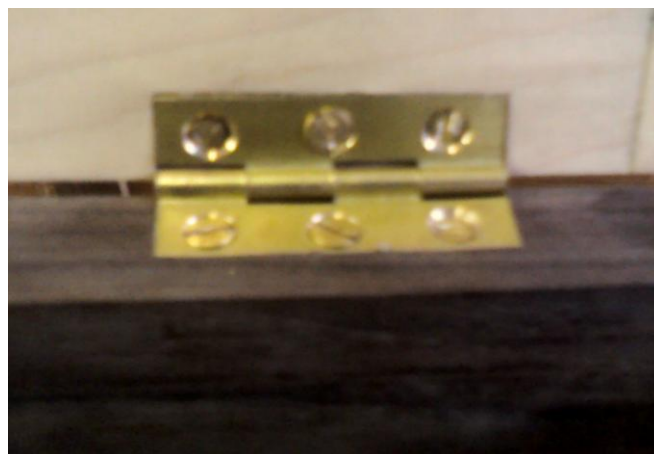
26. Cut recess for hinges on lid and box

The hinge recess's are then cut on the lid and the base of the box using a sharp chisel to carefully cut out the required piece. A 4mm x 4mm rebate is the cut on the front and sides of the underside of the lid for added effect using the spindle moulder. All safety precautions must be taken when using the spindle moulder (see appendix A)



27. Attach hinges to lid and box and check fit

The hinges are then fitted to the lid and box using countersunk screws to allow the hinges to close fully



Reflective journal

As an overall project I feel that my trinket box turned out quite well. I learned a lot doing this project including two new machines 1) the guillotine 2) the veneer press, both of which I found very useful. I also learned some new techniques for paring joints and how to pick the best looking timber for certain parts of the project such as unusual grain for the front of the box.

My estimated time for the overall making of the project was 11.5 hours. The actual time I spent making this project was 16 hours.

In my making of this project I did find that I was quite slow in cutting my dovetail joints and figuring out the marking system to cut them accurately, with practice this should improve. I also feel that I need improving in the final finishing touches such as hinges and final sanding. In other areas such as cutting the mortises and tenons I found myself a lot improved from the last project I had to use these machines in.



Finished Box

Appendix A

Machine Safety Precautions

Mortiser

PPE must be worn at all times and loose clothing or long hair must be tied back suitably. Piece must be securely clamped in position before use. Hands must be kept clear from beneath the chisel and auger at all times. Once in operation the operator must not touch or try to adjust the chisel or auger.

Tenoner

PPE must be worn at all times and loose clothing or long hair must be tied back suitably. Piece being passed through the tenoner must be securely fixed in place. Hands must be kept outside the machine at all times during operation. Operator must remain behind the sliding table when passing material through the machine.

Spindle Moulder

PPE must be worn at all times and loose clothing or long hair must be tied back suitably. Cutter heads on the machine must be as enclosed as is practicable. Vertical shaw guards must be used to keep the piece firmly placed on the timber when being cut. Featherboards or horizontal shaw guards must be used to ensure piece is held firmly against the backfence where practicable. Suitable stops must be used when stopped work is being carried out. Suitable guarding and fences must also be used when doing curved work.