

Box Bits # 11

Wooden Hinges

Part A - Nine Finger's Looooong Hinge

Introduction

I love it when things aren't what they seem to be, and when clever procedures are used to produce a result which makes people ask..."How did you do that??"

This is one of those occasions..



Picture 1

Picture 1 shows one view of Nine Finger's Hinge mounted on an unfinished box made from Camphor Laurel. The components of the hinge are made from Beech.

The question most members have asked is "How did you drill the pivot hole that long", given that the length of the hinge in this example is over 200mm long.

The answer to that hinge question and many others are detailed in this article.

To replicate this hinge you will need:

- Plain Grained stock (such as Beech) in 300mm long strips which will be milled into.
 - 2 Lengths of 12mm wide x 10mm thick.
 - 1 Length of 10mm wide x 10 mm thick
- Two lengths of 2mm Brass Rod (available from Hobby Shops) approximately 30mm long
- A 2mm twist drill (maybe two of these...they break easily) fitted into a drill press.
- A Table mounted Router fitted with either a 10mm Bull nose bit or a 5mm radius Round Over Bit.
- The Glue of your choice.
- Various grades of Sandpaper as required.

Milling the Stock

Let's start by milling the lengths of stock to the required dimensions.

- 2 Lengths 12mm wide by 10mm thick.
- 1 Length 10mm wide by 10mm thick.

Then, using either of the router bits described, mill the 10mm x 10mm stock into the profile shown in **Figure 1**.

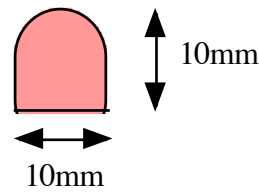
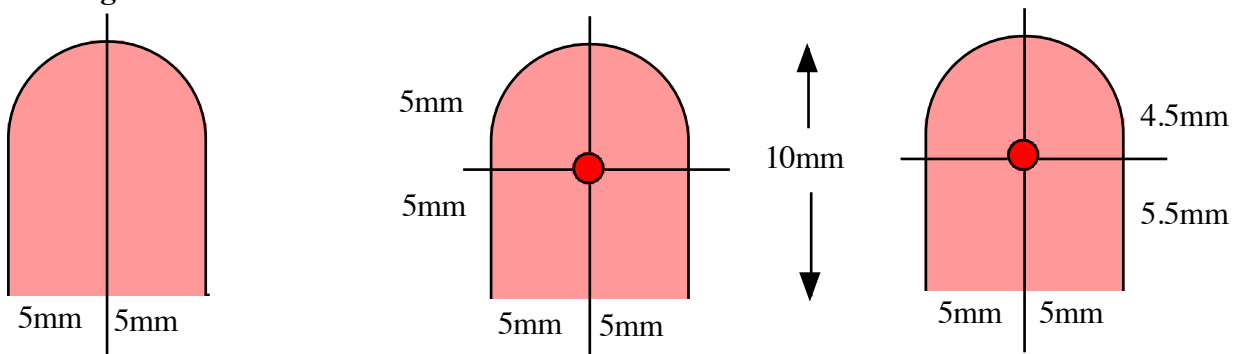


Figure 1

And now cut the 10mm x 10mm profiled stock into two 40mm lengths and one 150mm length.

Drilling the Profiled Stock



Horizontally, the Pivot holes must be drilled exactly in the centre of the 10mm profiled stock.

Vertically, if the pivot hole position is drilled exactly at the centre point, some binding may occur in the operation of the hinge, therefore a **Fudge Factor** must be applied.

A Fudge Factor

Figure 2

Remember, any movement of the Pivot hole from the vertical centre point will result in double that distance between the mating halves of the assembled hinge. The amount of Fudge Factor applied is a matter of taste.

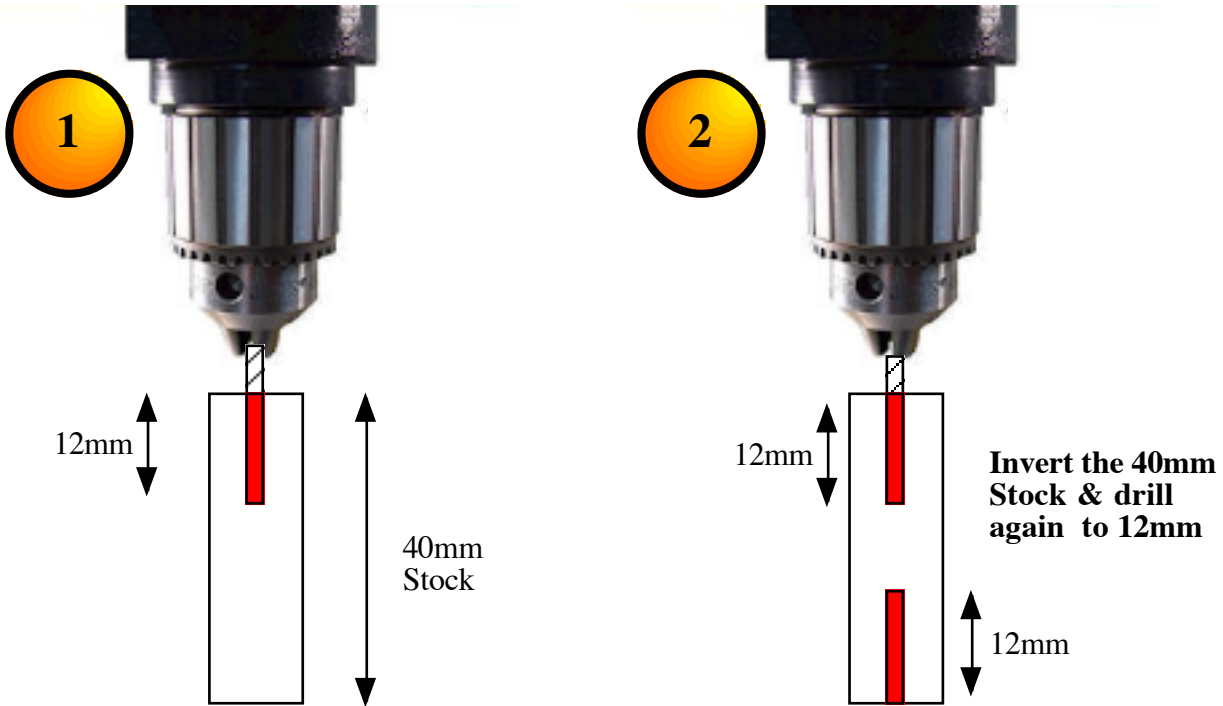
NOTES:

- The drill bit must be set in the Dead Centre of this profile horizontally.
- Insert the 2mm Drill bit into the chuck so that only 12mm protrudes. (If the drill bit protrudes too far it will run off centre)
- Drill holes in both ends of the three lengths of stock.
- When the holes are drilled in the ends of the three lengths of stock, extend the drill bit from the chuck and drill completely through the two 40mm sections.

When drilling the 10mm profiled stock the stock must be held accurately perpendicular in relation to the drill bit. The choice of a jig to accomplish this is entirely up to you.

The Drilling sequence is shown overleaf in **Figure 3**.

The Drilling Sequence



Repeat Steps 1 & 2 for the second length of 40mm stock

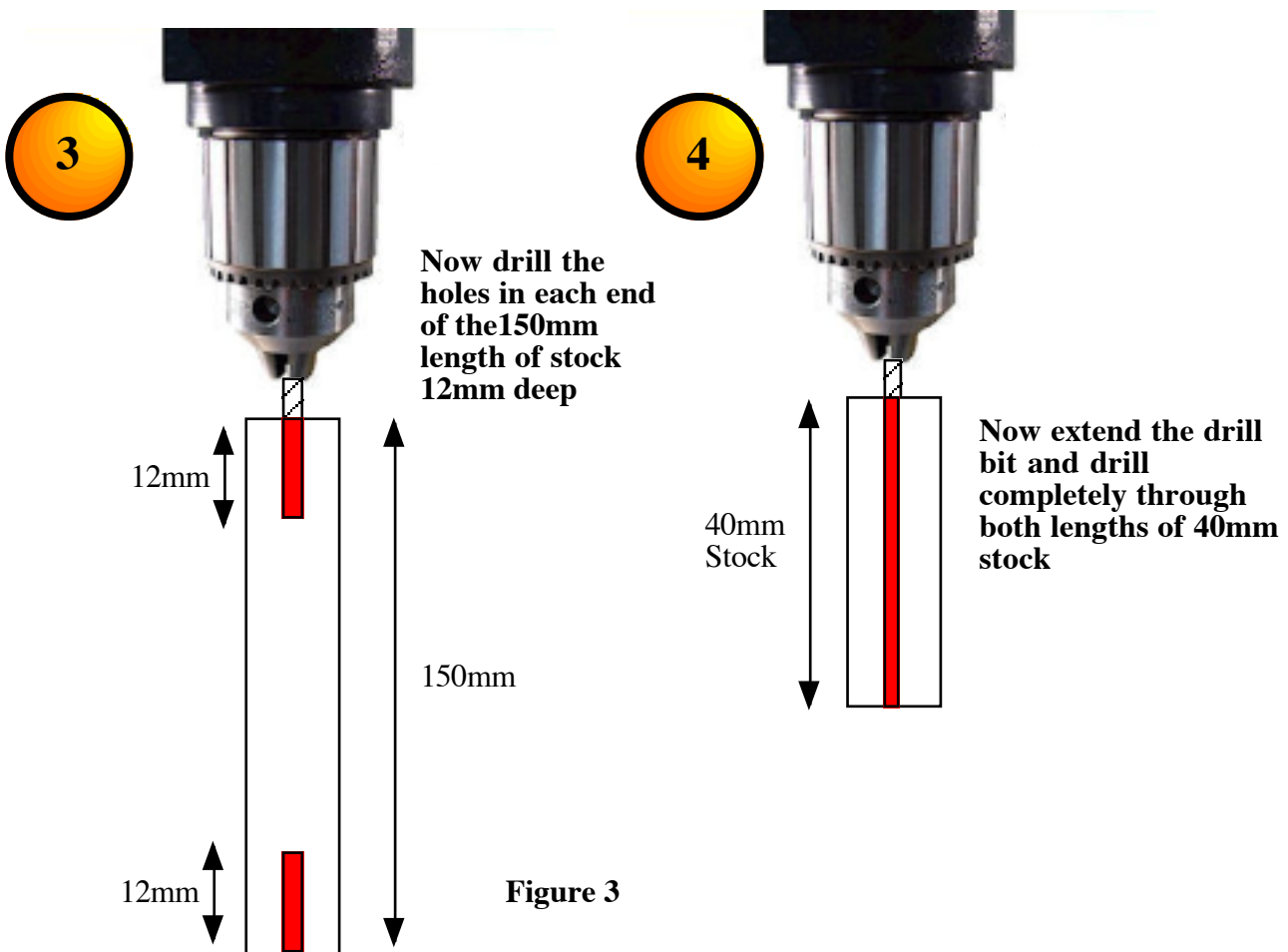


Figure 3

That's the heavy breathing bits completed.

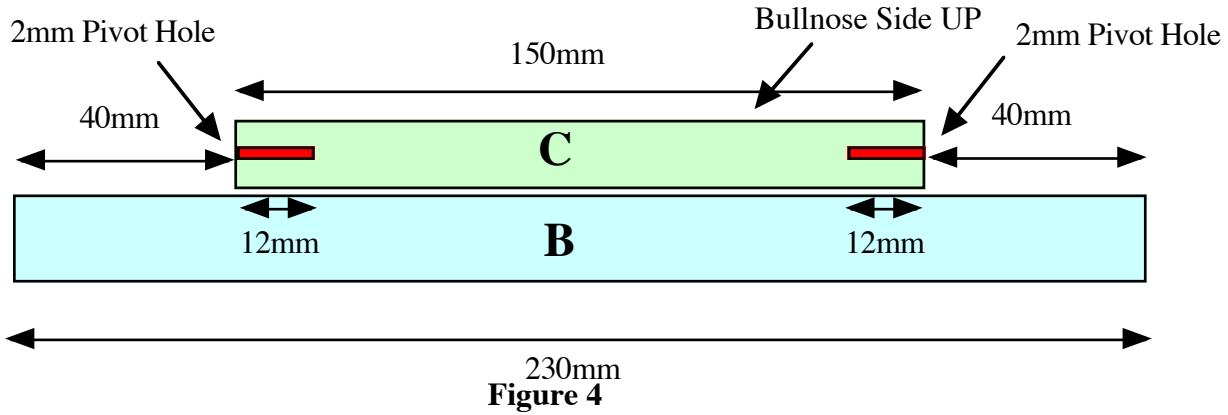
Now cut the 12mm wide by 10mm thick stock to fit your box. In Nine Finger's example his stock has been cut to two lengths of 230mm. We shall call these lengths **A** and **B**.

The 150mm length of drilled and profiled 10mm stock we shall call **C**.

The two 40mm lengths of drilled and profiled 10mm stock we shall call **D** and **E**.

The Glue Up

Glue **Part C** to **Part B** as shown below in **Figure 4** and clamp and set.



Now glue **D** and **E** to **A** with the bullnose profile down and using **C** and **B** as a spacer when they are set. **Figure 5** shows the procedure.

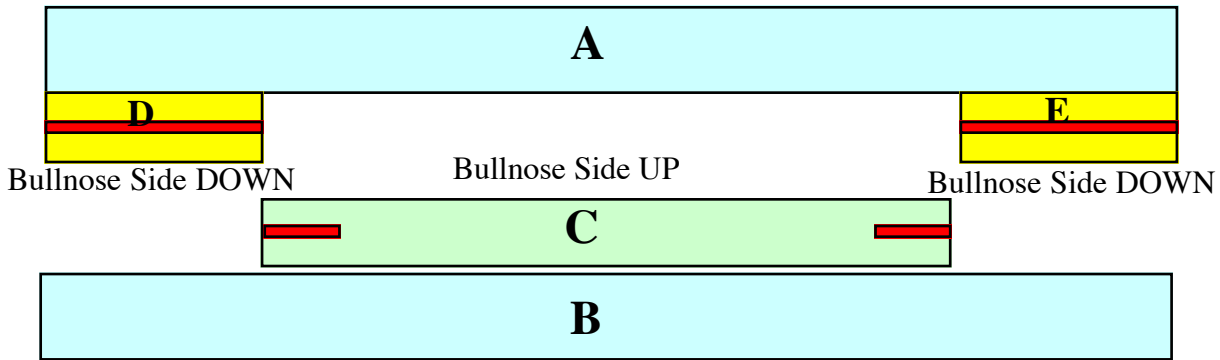


Figure 5

When dry the completed assembly is shown as in **Figure 6** below.

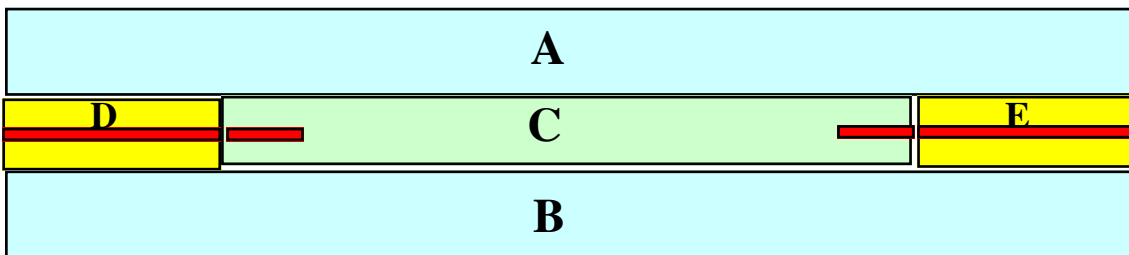


Figure 6

Inserting the Pivots

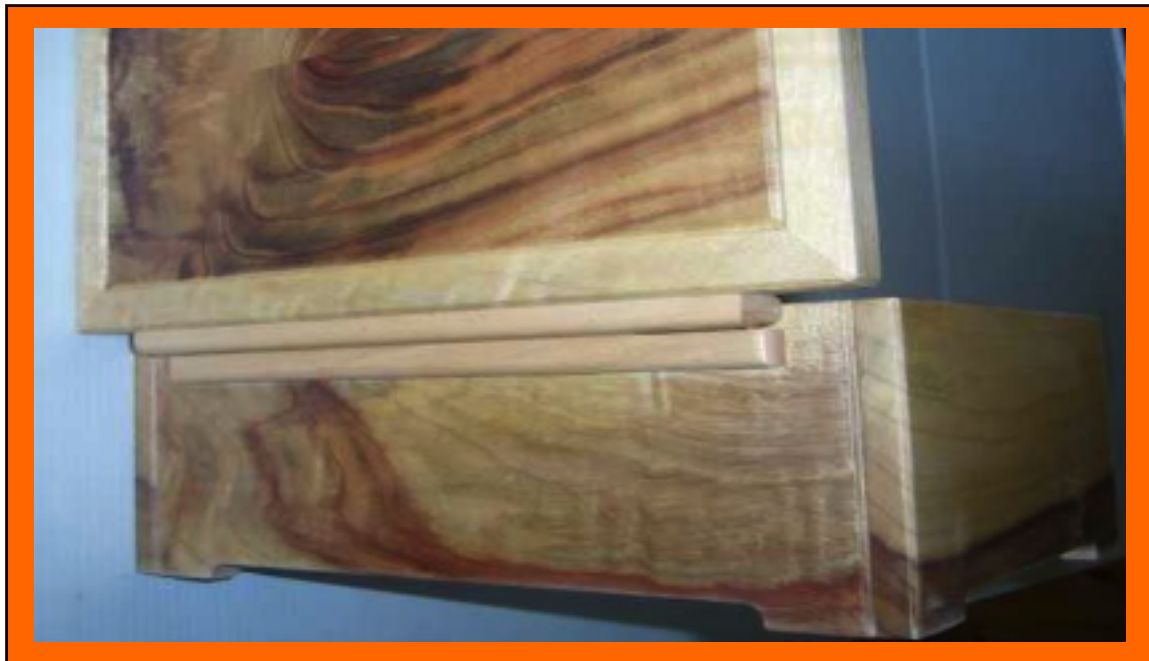
The 2mm brass rods are now inserted into the pivot holes at the ends of **D** and **E** and using a blunt nail, are driven through **D** and **E** into the pivot holes in **C**.

At this stage, the hinge action should be checked for smooth operation, remembering that when the hinge is fitted to the box, that the lid's levering action will make the operation of the hinge a little easier.

Now plug the holes at the ends of **D** and **E** with toothpicks which have a nominal diameter between 2 - 2.5mm.

The out facing edges of the hinge at **A** and **C** are now rounded over on the router table, and the ends of the hinge are also rounded. After sanding, the Hinge may now be attached to the box.

So that's how you make a looooong hinge in the style of Nine Fingers.
Have fun...but before you go...have a look at some more pics.!!



And a big THANK YOU to Nine Fingers!!