

# Box Bits #4

## Accurately Mounting Concealed Barrel Hinges

### Introduction

You've separated the lid from the carcass, and trued up and sanded the bottom of the lid and the top of the carcass, and everything is all square and ship-shape. Now comes the problem of accurately mounting the barrel hinges so that the lid and carcass always sit true and square in relation to each other.

There are a number of ways to achieve this:

- Tape both components accurately together, and drill through the lid into the carcass to the correct depth.  
*The down side of this method is that you will need to plug the holes in the top of the lid. Hardly concealed.*
- Drill the correct depth hole in the carcass, insert dowel points and accurately transfer the hole position to the lid using the dowel point.  
*The down side of this method is that dowel points are not usually available for 5mm/14mm/18mm and 24mm diameter holes.*
- Make a Message Stick Jig.  
*Now this seems like a choice - Another Jig!!*

### Explanation

A two dimensional example of a separated lid and carcass with correctly drilled holes is shown at Figure 1. The measurement chosen for X must be exactly the same in all cases.

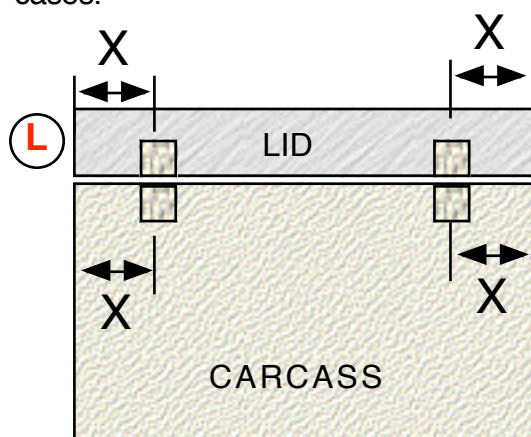
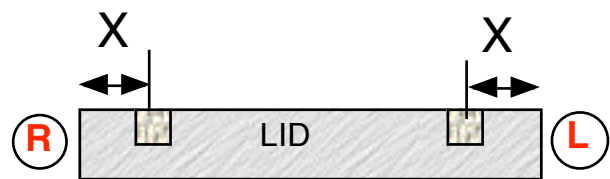


Figure 1

To drill the holes in the lid the lid must be inverted and so what was on the left is now on the right. Any inaccuracies in the hole position will therefore be doubled, hence the need for an accurate drilling jig.



Lid Inverted for Drilling  
Figure 2

### The Message Stick Jig

This is simply a squared and jointed piece of scrap usually at least 10mm thick. The X measurement is up to you, and for small boxes will probably be between 40mm-50mm. As shown in Figure 3 and 4, the Y measurement is determined by the size of the barrel hinge being used as is the diameter of the hole drilled through the jig.

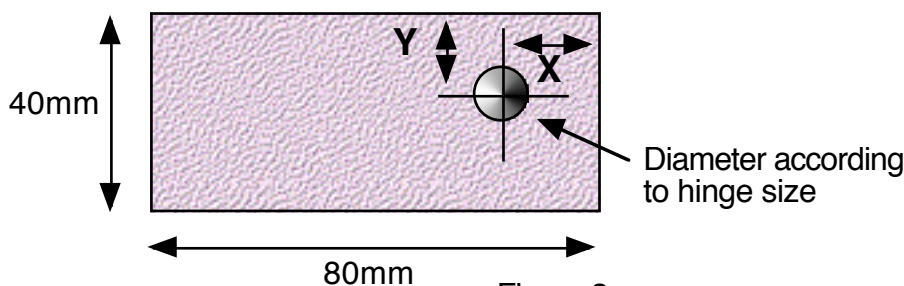
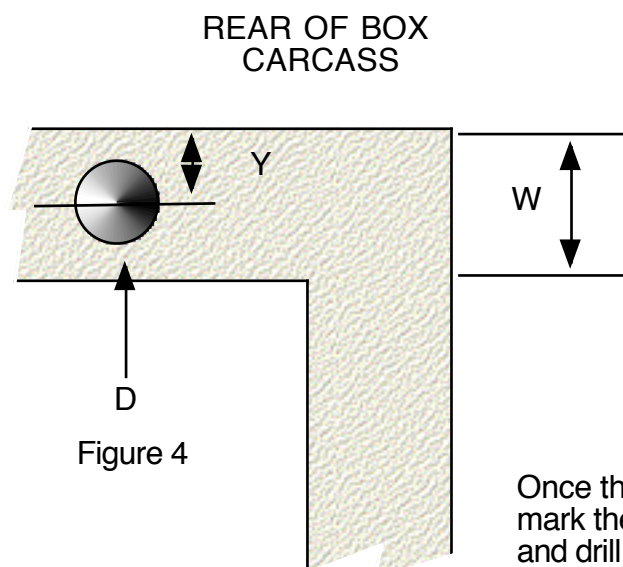


Figure 3



The 8mm -24mm Concealed Barrel Hinges are usually mounted in the centre of the stock.

Therefore,  $Y = (W - D) / 2$

Where,

D is the Diameter of the Hinge

W is the stock thickness

Y is the distance that the centre of the drill bit is from Drill Press Fence

Once the X and Y distances have been determined, mark the Message Stick Jig, set the Drill Press Fence and drill the hole in the Jig with the correct drill bit.

**NOTE.** Separate jigs will be required for each size Hinge, but different X measurement holes may be drilled within the same jig if required. I have Four jigs - 5mm 8mm 10mm and 12mm..

### Using the Message Stick

1. Lower the Drill Press chuck fitted with the appropriate drill bit until it sits deep into the jig hole.
2. Whilst in this position, move the Drill Press Fence up until it firmly locks the jig in relation to the drill bit. Lock the fence in this position.
3. Next, position a stop block on the right side of the bit so that it is firmly against the edge of the jig.
4. Raise the bit and remove the jig, and do a test hole in some scrap to make sure everything is stable. This is **Position 1**

**NOTE:** When drilling, the rear of the carcass and lid always sit against the fence.

5. Now place the box carcass against the fence and the stop block. Drill the hole into the box carcass to the correct depth.
6. Remove the box carcass and replace it with the inverted lid. Drill the hole in the lid to the correct depth.
7. Leave the fence locked in position and remove the stop block.
8. Now invert the Message stick and set it onto the drill bit again. Reset the stop block on the left side of the drill bit.  
This is **Position 2**,
9. Place the box carcass in position and again drill the hole to the correct depth
10. Place the inverted lid in position and drill the hole to the correct depth.
11. Test fit the hinges into the carcass and the lid. All should be square & true.

**FIGURE 5 TO FIGURE 8 SHOW THE DRILLING SEQUENCE**

