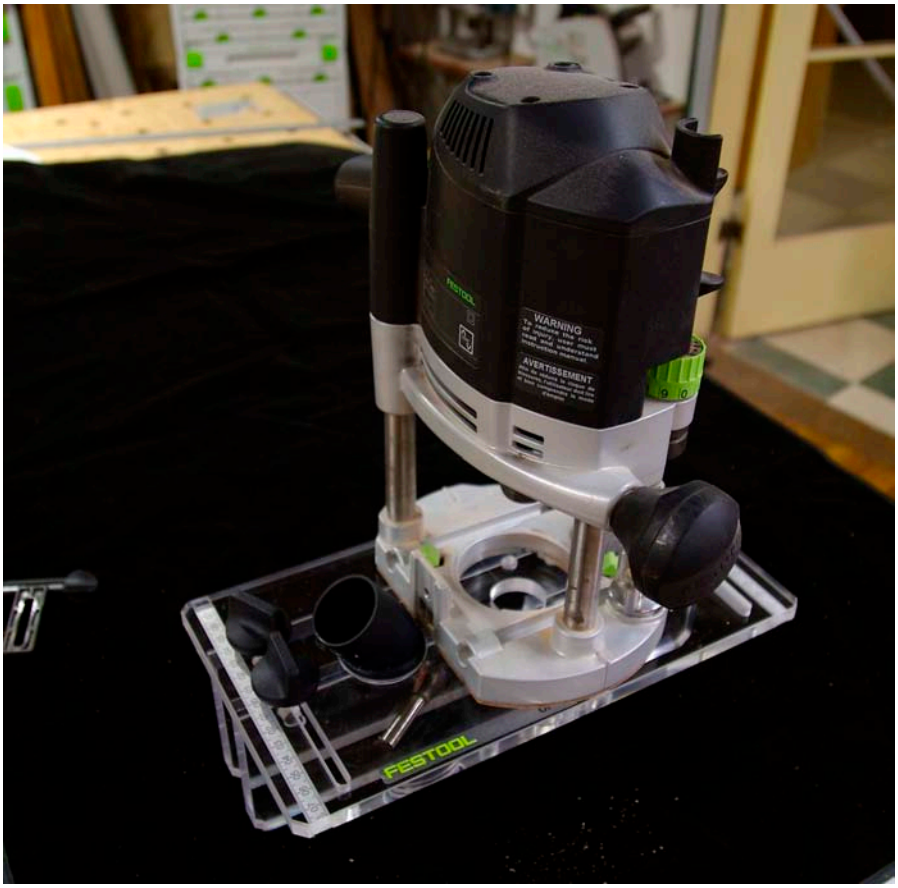
Cutting Male Sliding Dovetails With The Festool OF-FH Router Saddle Jig

Text and Photos by Jerry Work

Fine furniture designed and hand crafted in the 1907 Masonic Temple building in historic Kerby, Oregon glwork@mac.com
www.jerrywork.com



One question that I am frequently asked is how to cut the male portion of a sliding dovetail joint. In this short tutorial I will show how to modify the Festool OF-FH routing fixture to become ideal for this task.

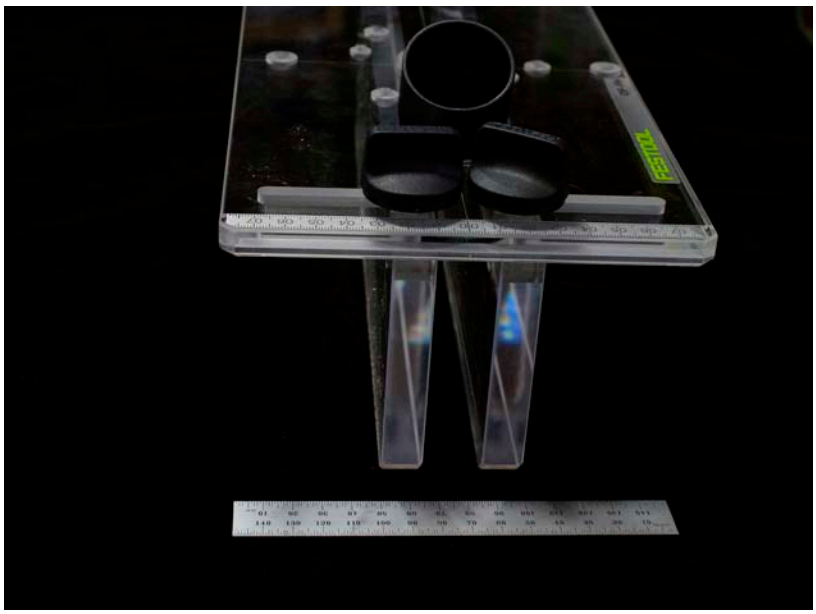
There are three primary ways to cut the male piece for a sliding dovetail joint. 1) use a horizontal router fixture mounted to the side of a Festool Multi-Function Table (MFT) so the workpiece can be supported laying flat on the top of the MFT, 2) stand the workpiece upright against the fence of a router table and 3) use a router mounted on a saddle fixture which you can pass over the stationary workpiece clamped upright.

The first method is the most secure and easiest for most people. The second method works fine for small workpieces but becomes awkward for larger workpieces. The third method, which we will detail here, works well for workpieces of any size but takes a bit more time to set up.

The modification required is simply to lengthen the slots in the top

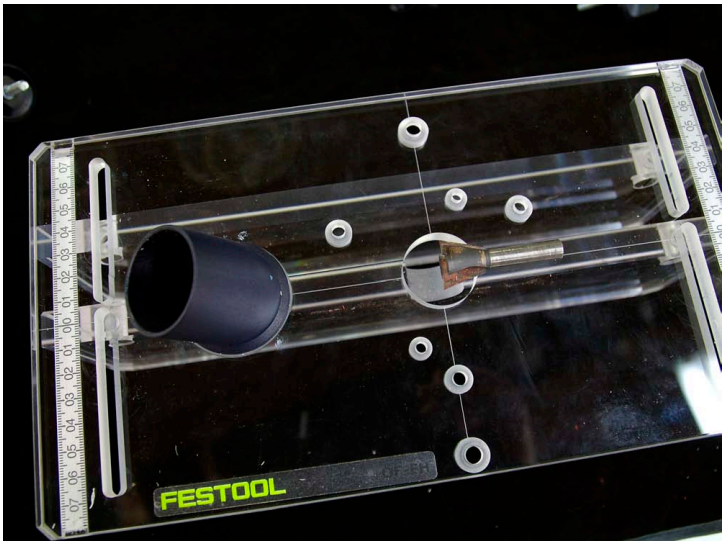
The router fixture is made up of seven parts, a base, two wings that can be adjusted to fit snugly on both sides of the workpiece at the same time and four locking knobs that hold the wings in place. From the factory, the adjustment slots cut in the top piece allow the wings to fit on a workpiece down to 20mm thick with the bit centered 10mm in from each side.

To cut a male sliding dovetail we need to move the router, and hence the bit, over one of the wings so only the tip of the dovetail bit protrudes towards the center where it will cut one side of the male dovetail. That is easy to do by simply recutting the adjustment slots longer so one wing can move closer to the center while the other wing moves further away from the center.



The adjustment you need to make to this jig is to cut the four adjustment slots longer so they come within about 5mm of meeting in the center as shown in the photo below.

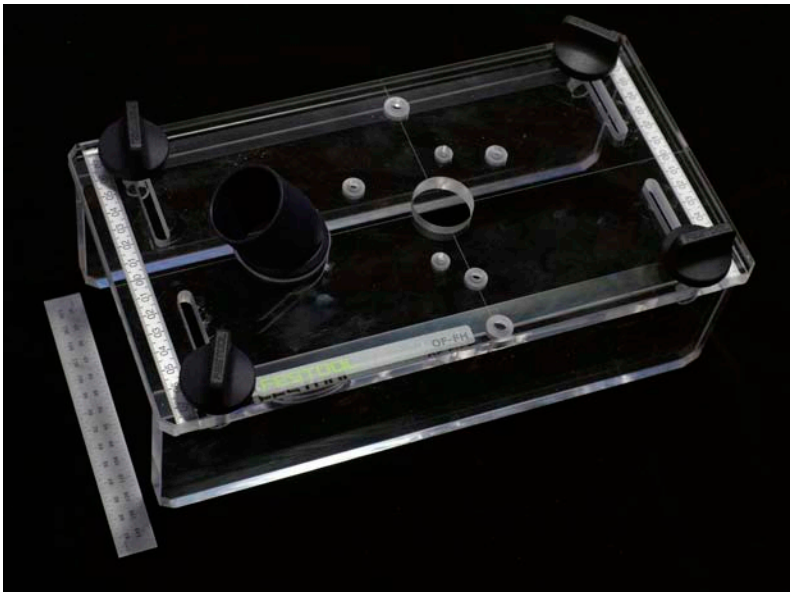
Notice how this allows one wing to be positioned almost to the centerline.



The photo above shows the as-delivered minimum spacing of 20mm. The photo below shows the as delivered maximum spacing of 120mm.

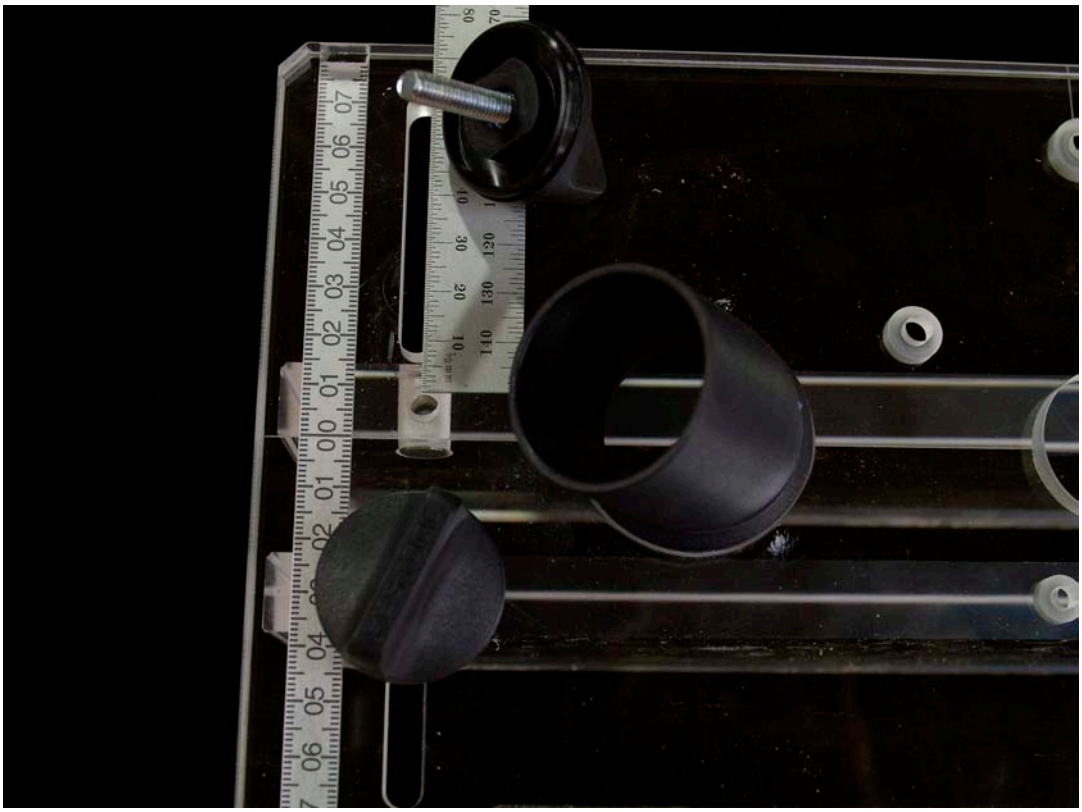
I normally use either the Festool 14.3mm or the Festool 20mm dovetail bits for making sliding dovetail joints. I have found these 8mm shank bits more than up to the task of cutting both the male and the female portions of the joint with no need for pre-clearance slots.

My female grove and male tongue are typically 10mm deep/long so the tip of the dovetail bit only needs to protrude four or so mm in from the edge to make the cut in the male piece.



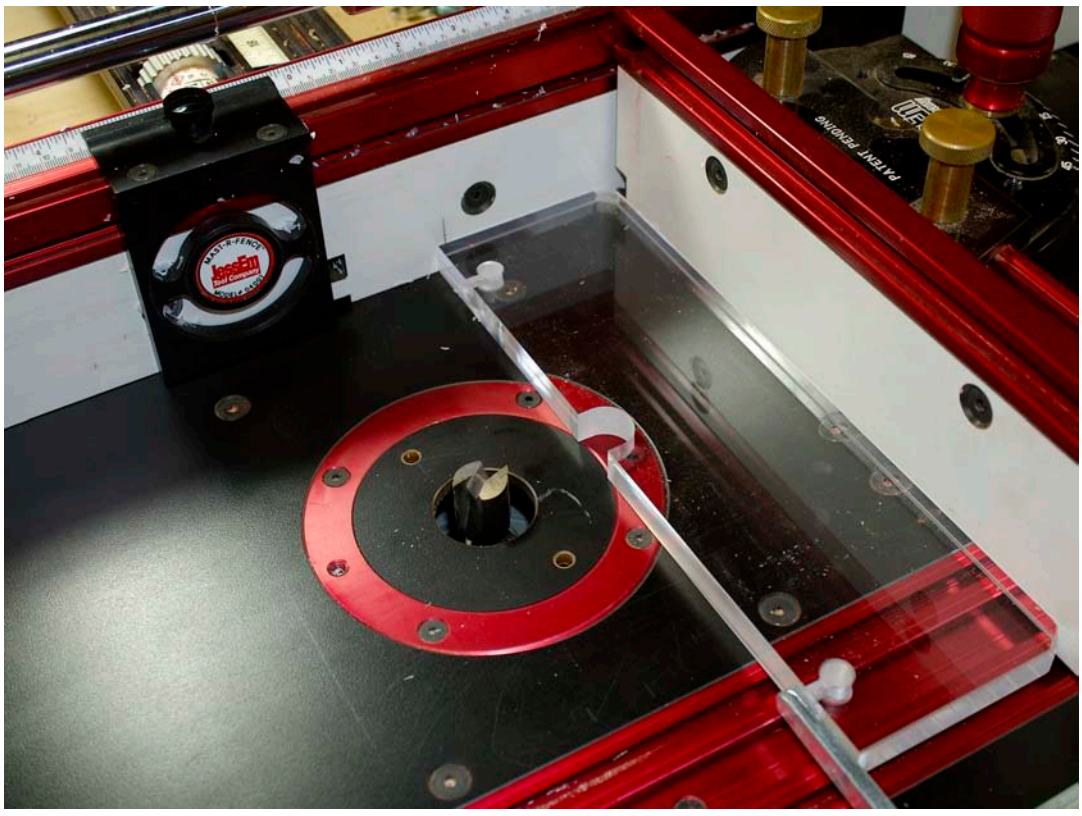
You will make two passes, one on each side so the male DT will always be perfectly centered.

This photo shows more clearly how the far wing is nearly on the centerline while the near wing is sitting about 20mm off of the centerline.



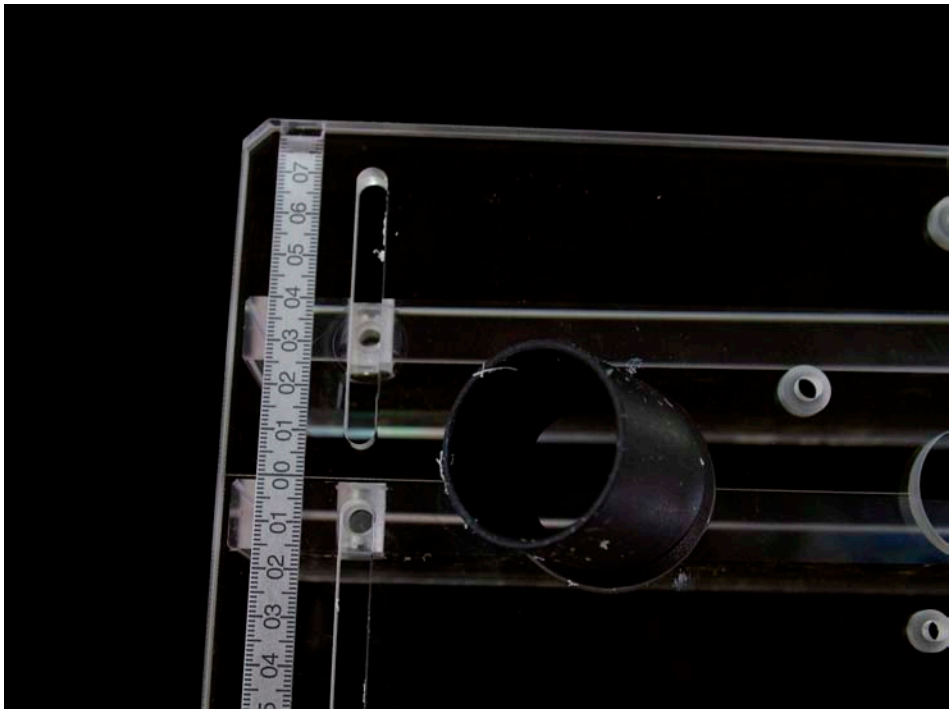
With the wings in this position it is necessary to cut a relief slot in one wing to clear the dovetail bit.

This is easy to do on a router table with a straight bit as shown below. Make sure to center that slot on the centerline of the jig and then check the depth needed to match the maximum depth of cut you wish to make for the male sliding dovetail.

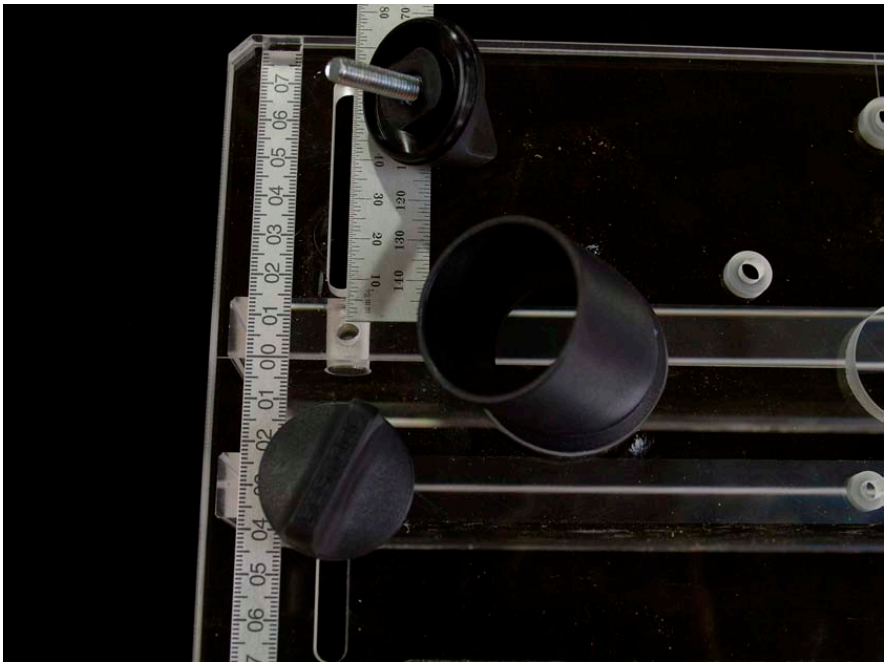


Here are two shots showing the two simple modifications required.

The photo to the right shows the closest wing sitting at zero (the jig centerline) while the other wing is sitting at about 25mm. The locking knobs are removed so you can better see these locations on the included jig ruler.



The photo below shows that you need to increase the length of the adjustment slots by about 15mm towards the center to allow the inside edge of the wing to reach the jig centerline.



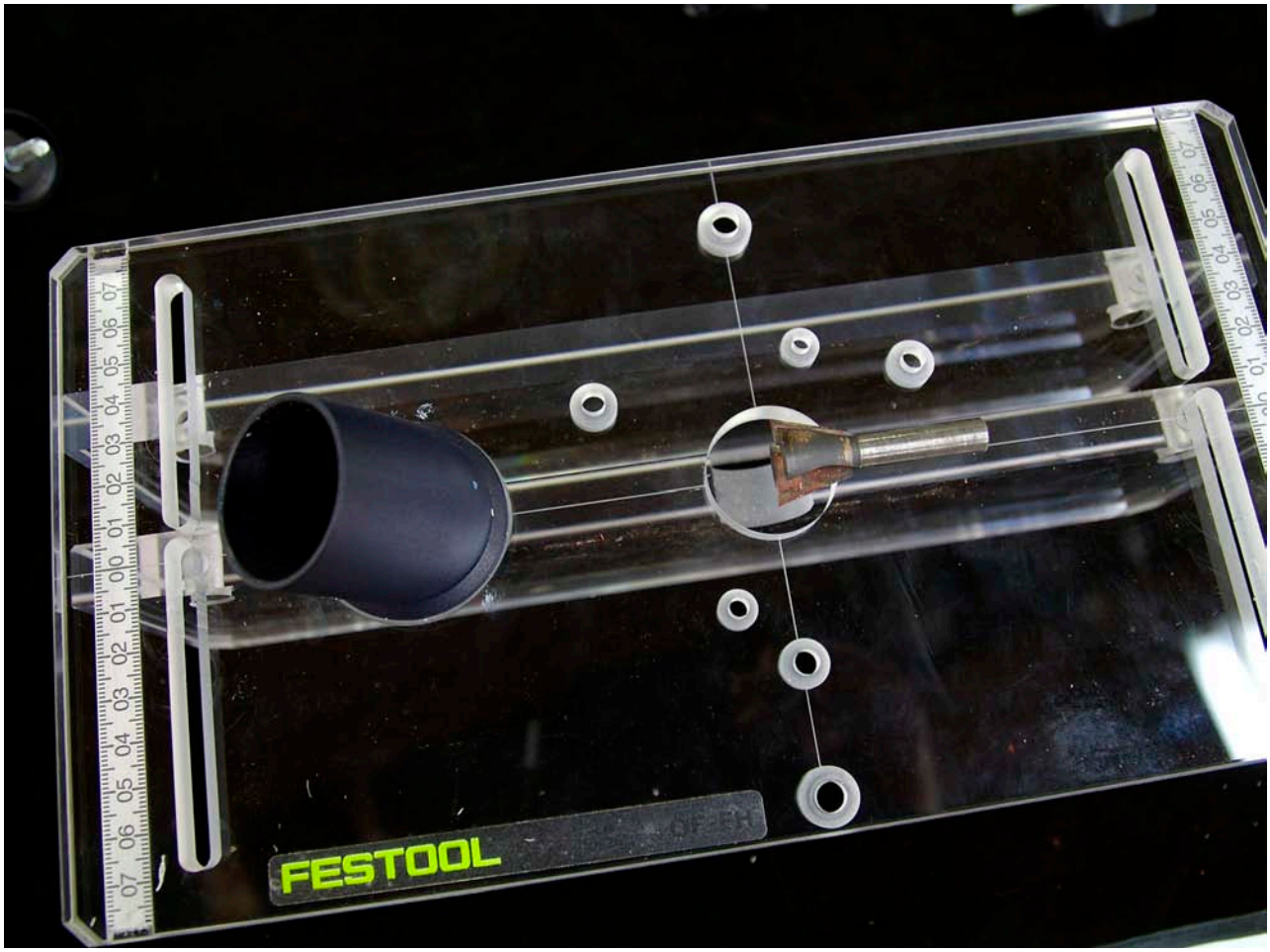
All you need to do now is mount the router with the bit sticking about 2-4mm in from the wing near the centerline, bring the other wing up to fully support the jig on the workpiece and make a test cut.

Move both wings as necessary to get the fit you want.

I always suggest cutting the female dovetail grove first and then fit the male to it as I find that much easier. Cutting the female first allows you to position it to the desired centerline which you can do very accurately since you cut that grove with just one pass.

It is possible to cut the male first and then fit the female grove so long as the male dovetail is WIDER at its maximum width than the diameter of the dovetail bit you are using.

It needs to be wider so you can make two passes to cut the female slot. The first pass establishes the location of one edge of the slot and the second pass widens that slot to fit the male dovetail.



Here is the jig with the slots lengthened and the clearance grove (right under the tip of the router bit) cut in one wing.

Attach the router and cut your male dovetails no matter how large and awkward the work piece!