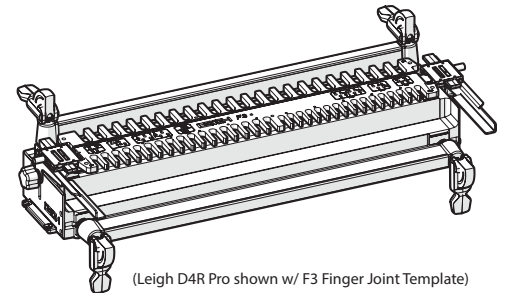


# Clamping Fixture for Small Pieces

For holding thin and/or short boards, you can make an auxiliary clamping fixture with its own "stepped side stop" by adapting a stock wooden cam clamp. You can rout single or multiple pieces simultaneously and speed up small joint production.

## Relates to:

This fixture can be used with all Leigh D-series dovetail jigs and related box joint templates. May be adaptable to Leigh Super Jigs.



## What you will need:

- *Wooden Cam-Action Clamp* of appropriate size for your project. These wooden clamps are generally available from most good woodworking dealers. There are also on-line plans to make your own. ( Note: the clamp bar may require shortening )

- 3 Scrap pieces of wood with approximate dimensions\*:

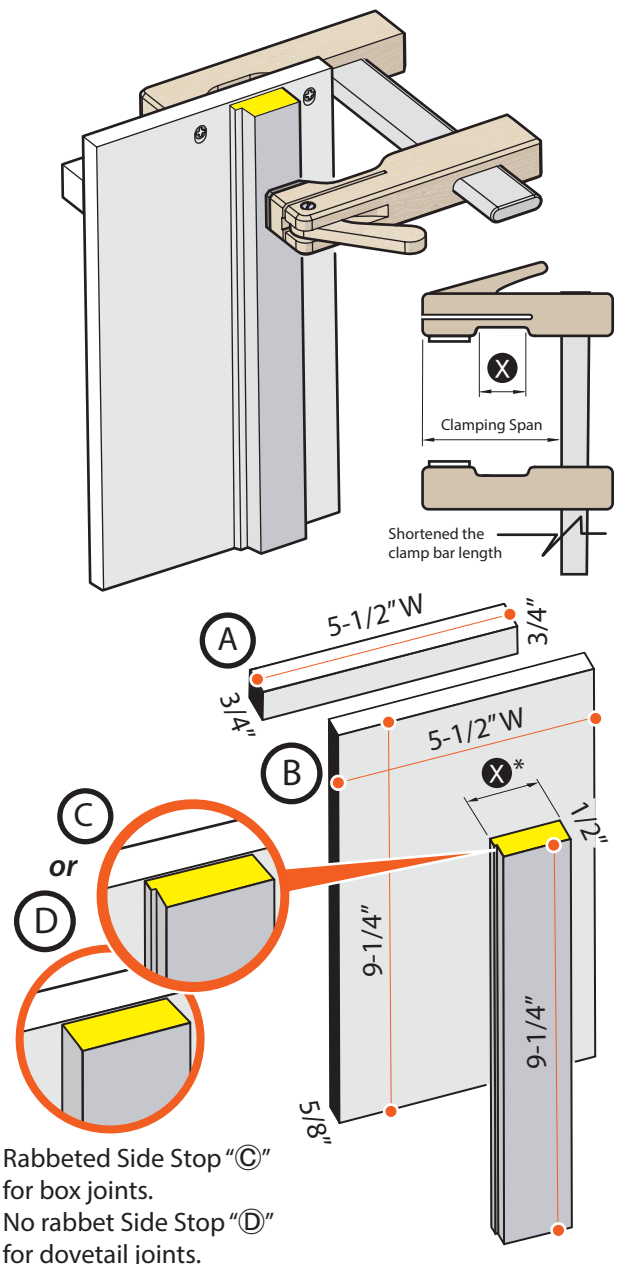
**(A) Shelf Batten:** 3/4" by 3/4" x 5-1/2" W  
( 19 x 19 x 140 W mm )

**(B) Clamp Face:** 5-1/2" W x 9-1/4" H x 1/2" Thick  
( 140 W x 235 H x 13 Thick mm )

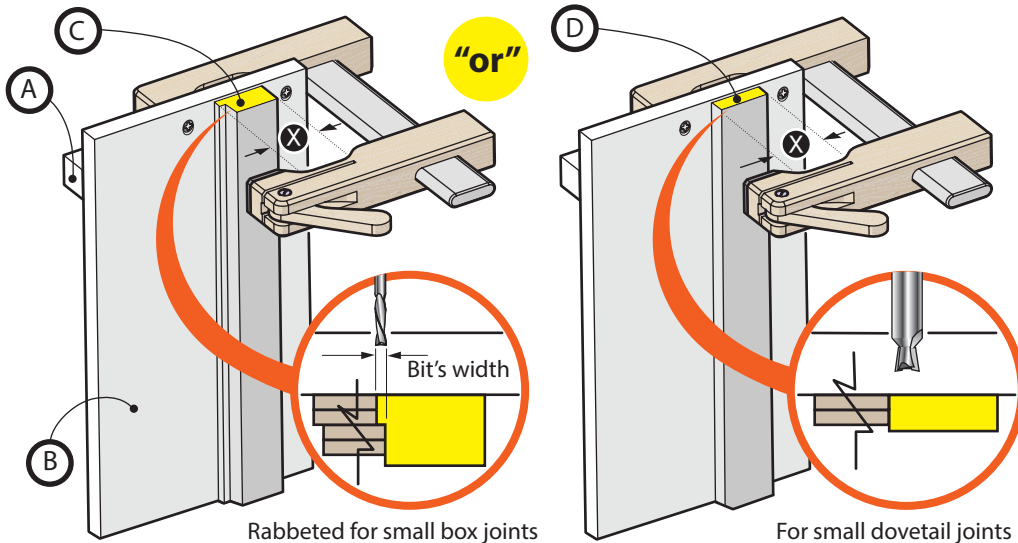
**(C) or (D)\* Side Stop:** 1-1/2" W\* x 9-1/4" H x 5/8" Thick  
( 38 W x 235 H x 16 Thick mm )

- Flat Head Wood screws ( 7 - 8 )

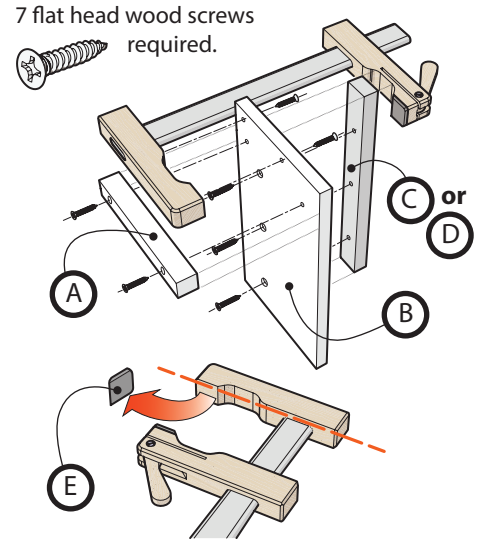
**\*Note:** Make sure the Side Stops width fits the clamps recess (X). The thickness of the side stop will depend on the thickness of the single or stacked boards. e.g.: Four 1/8" thick boards would require a Side Stop that is approximately 1/2" thick. If you are going to stack four boards (one complete box) at the same time, two of the boards will need to be offset by the joints size. Therefore the Side Stop "(C)" will need to be rabbeted.



## Assembly Instructions:



7 flat head wood screws required.

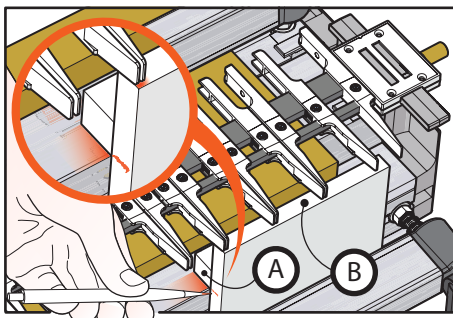


### 1-1. Deciding on Fixture's Side Stop

Decide on a Side Stop "C" design for "box joints" (with a rabbeted offset) or Side Stop "D" for "dovetails" with no offset.

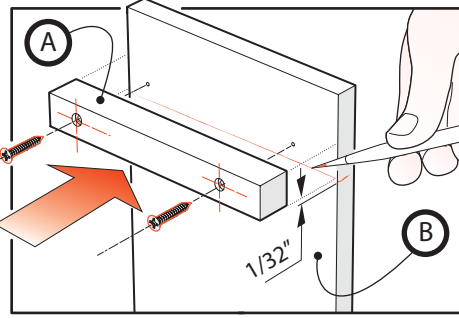
### 1-2. Peel Grip Off Top Clamp Jaw

Peel off the grip pad (E) from the top jaw to level the clamping surface.



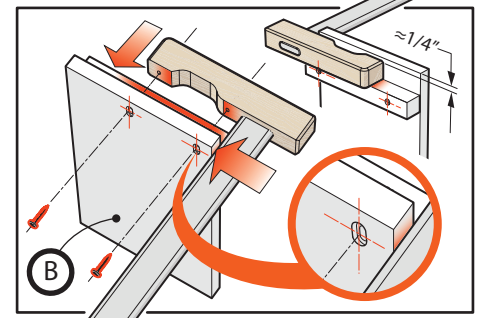
### 1-3. Determine the Shelf Baten height

With the jigs finger assembly sitting flat on the spacer board, clamp the Clamp Face Board (B) so that its flush under the guide fingers. Place the shelf baten (A) on the jig's surface behind the Clamp Face Board as shown. Pencil a line where the baten and face board mate. Go to next step.



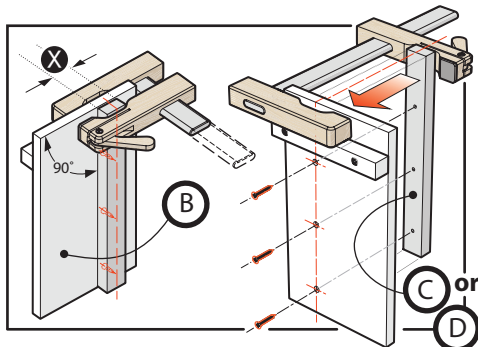
### 1-4. Fastening Part (A) to (B)

Square a line across the back of the Clamp Face Board 1/32" up from the previously marked line. Attach the baten to the back of the clamp face board using the line to position it.



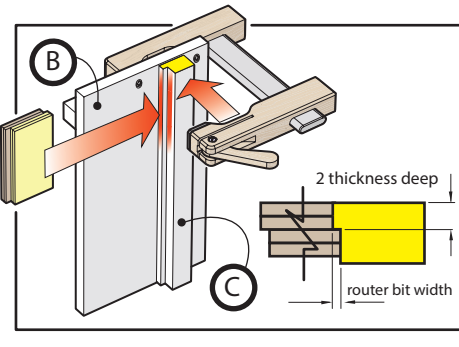
### 1-5. Attaching the Clamp

Align the clamps fixed jaw about 1/4" down from the top of the clamping face board. Note if you are using a bit that has a depth of cut greater than this, then it will need to be further down. Attach the clamp with 2 screws. Note: You may also make the 2 holes in the clamping face slotted for adjusting the height.



### 1-6. Attaching the Side Stop (C or D)

The side stop needs to fit in the clamp's recess (X). Slide the clamping arm onto the clamp bar and hold the side stop so that its sandwiched between it and the clamping face. Mark the sidestops position and then square a line down the clamping face. Attach the side stop to the clamping face using the squared line for alignment. For safety and for making the fixture less obstrusive, shorten its metal clamp bar with a saw before use on your jig.

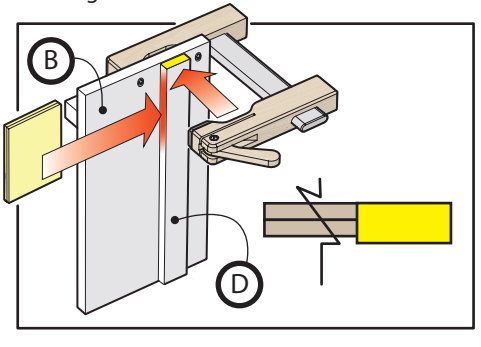


### 1-7. Clamp Fixture Ready for Box Joints

A rabbeted side stop (C) will stagger 2 pieces of wood by one router bit width.

Proceed to Steps 2.1 to 2.6 for usage on page 3.

**Note:** You will rout through the tops of (B) and (C) but try to avoid routing the clamp.



### 1-8. Clamp Fixture Ready for Dovetail Joints

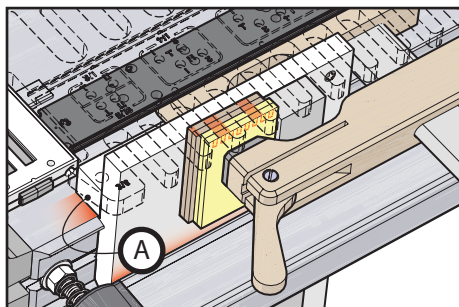
A straight side stop (D) can hold up to 2 small pieces of wood alongside its edge.

Proceed to Steps 3-1 to 3-3 for usage on page 3.

**Note:** You will rout through the tops of (B) and (D) but try to avoid routing the clamp.

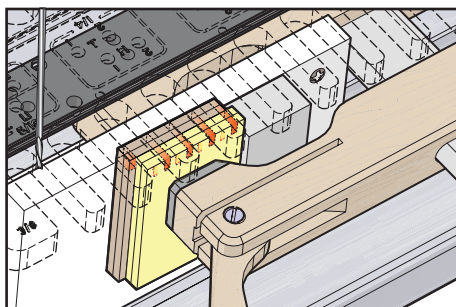
**Usage** - Leigh D4R Pro w/ F3 illustrated below for making a 3/32" Box Joint.

For Dovetail Joints, steps 3-1 to 3-3 uses the dovetail finger assembly to make 1/4" through dovetails.



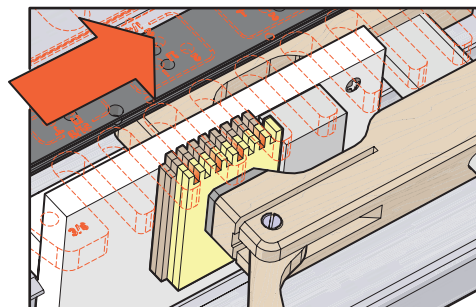
### 2-1. Making Small Box Joints

Clamp the clamping fixture with the "rabbeted" side stop © in the jig using the jig's clamp bar. For this example, 3/32" box joints on the Leigh F3 we use the left side of the jig. Stack your 4 box sides over against the side stop and flush under the template. Lock the wooden cam clamp.



### 2-2. Align and Rout

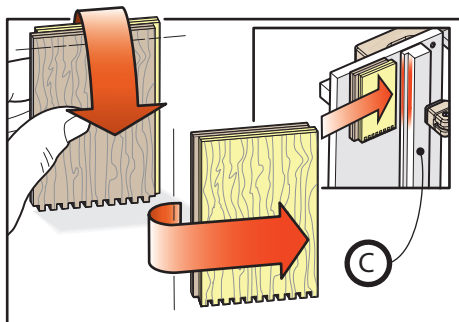
Set the template following the instructions. (e.g.: F3 is used here). Note, as we are not using the factory sidestop, you will need to align the clamp fixture and boards to the router bit. Unclamp the jig's clamp bar and slide the clamp fixture left or right to align the wood to the template. Adjust your bit's depth to the thickness of the boards being routed. Rout the first sockets.



### 2-3. Shift Template and Rout Again

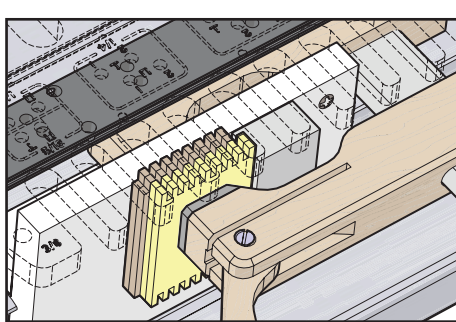
Unlock the template and shift the template over as instructed by your templates instructions.

Re-lock the template pin and rout for the subsequent run of cuts as needed. In our example, you will need to shift and rout 4 times. You are done with one end for each of the 4 pieces.



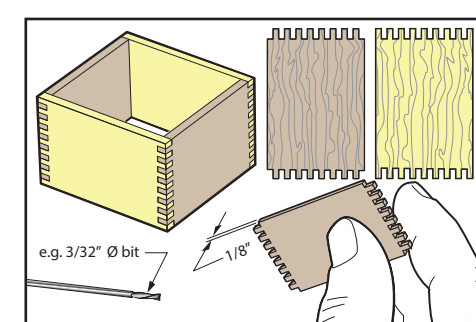
### 2-4. Preparing for Routing the Other Ends

Carefully remove all four boards that you just routed while keeping them sandwiched together. Now turn them end for end, keeping the same edges to the side stop. Now take the 2 boards from the back and bring them to the front. Reclamp the 4 box sides back into the fixture.



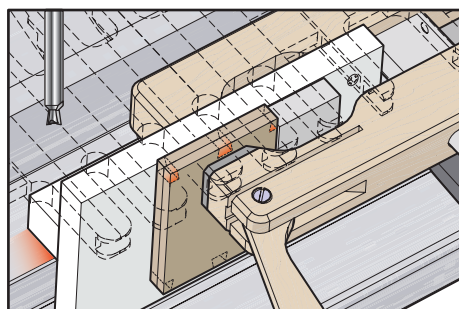
### 2-5. Rout the Ends

Now rout these four ends in the same positions as above to complete the box joints.



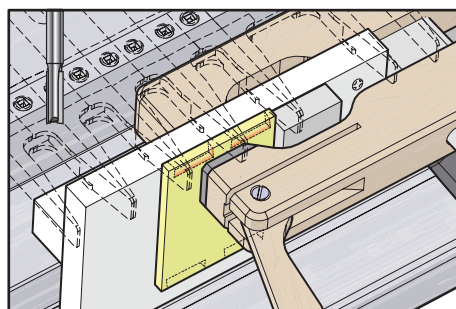
### 2-6. Assemble Your Pieces

We made a 3/32" sample here. That is the smallest the F3 can do. Your tiny box joints are complete. You can make project joints as small as these. In our example, a 3/32" diameter router bit was used with wood pieces 1/8" thick.



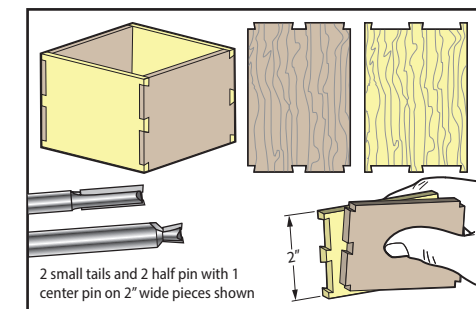
### 3-1. Making Small Through Dovetail Joints

The procedure is similar to the above but uses a "Straight" Side Stop ©. Place two wood pieces into fixture for the tail end pieces. Adjust desired finger width settings and the router depth. The jig's smallest dovetails are made with a 1/4" diameter cutter. Remove wood pieces from fixture; rotate the pieces, reclamp and repeat tails routing.



### 3-2. Rotate Finger Assembly - Dovetail Joints

Place the completed tail wood pair aside. Rotate the jig's finger assembly for routing the pin end pieces. Clamp just one wood piece into the fixture (you may reinforce with a scrap piece if needed) and rout the pins; take out, rotate wood and repeat for its opposite end. When done, repeat above steps for the remaining piece of wood.



### 3-3. Assemble Your Pieces

Your dovetail joint set is now complete.

**Note:** Small joint board widths are calculated from the "Board Width Charts" from your Leigh jig manual. With this kind of fixture, you can rout Dovetails, through dovetails, Symmetrical, Asymmetrical, Half Size and Quarter size joints based on the charts' information.

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