

- [Home](#)
- [Articles](#)
- [Basics](#)
- [Books](#)
- [How-To](#)
- [DVD's](#)
- [NWW](#)
- [Forums](#)
- [Links](#)
- [Parts & Pieces](#)
- [Plans](#)
- [Projects](#)
- [Reference](#)
- [Tips & Tricks](#)
- [Tool Reviews](#)
- [Video](#)
- [Woodturning](#)
- [Writing Services](#)

Tool Reviews

A NewWoodworker.com Exclusive

Leigh F3 Finger Joint Template

Adding simple finger joint capability to your Leigh Dovetail Jig

Text, photos and video by Tom Hintz

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Viewers Choice!
Top 10 Tool of 2010!
on NewWoodworker.com



The Leigh F3 Finger Joint Template kit turns your Leigh Dovetail jig into a highly versatile finger/box joint machine economically and very quickly. This template finished 8th in our annual Top Ten Tools of 2010!
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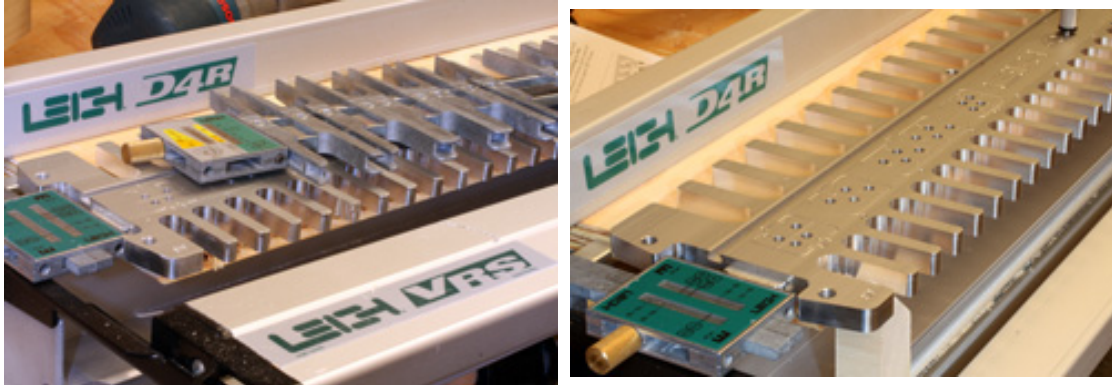
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Making a useable finger joint (also called box joint) jig was often frustrating even on a good day. Making a shop-built jig that actually produced proper fitting finger joints was usually a stroke of luck because errors measured in thousandths of an inch will render the jig useless. There are a few commercially made jigs available that actually work but they are relatively expensive and most produce a very limited number of joint sizes, if they make more than one at all. Now, Leigh Jigs offers templates for their most popular dovetail jigs that apply their traditional high-tech design and machining to create

easy to use and exceptionally versatile templates. What makes the Leigh finger joint templates even more unique is that each version is capable of making a surprising range of finger joint sizes reducing the number of templates you need to one.



The F3 kit (left) is a direct replacement for the dovetail fingers and bar, here laid on top of the F3 Finger Joint assembly. No modifications of the jig are needed! (right) Everything about the Leigh F3 Template is first rate from materials to manufacturing and the obvious Leigh design genius.
Click images to enlarge

In this review we focus on the Leigh F3 Finger Joint Template that is compatible with the legendary **D4R pro** and most of their D-series dovetail jigs. The F3 Template has three major comb sizes: 5/16", 3/8" and 1/2". However, each comb size

can produce joints in that size plus smaller and larger joints. For example, the 5/16" comb section produces 5/32", 5/16" and 5/8" joints. The 3/8" comb section produces 3/32", 3/16", 3/8" and 3/4" joints. And the 1/2" comb side makes 1/8", 1/4", 1/2" and 1" joints. Plus, each of the three combs can produce unique square half-blind finger joints.

F18 and F24 Finger Joint templates are available for use with the Leigh 18" and 24" Super Jigs. The **Leigh Super Jigs** can produce 5/16" and 5/8" finger joints using the standard dovetail finger assembly. Add the Leigh Finger Joint Template and the 18" or 24" Super Jig can also produce 3/32", 3/16", 3/8" 1/8", 1/4" & 1/2" joints and cut all of them easily. The instructions show you how to use these templates to cut 3/4" and 1" joints as well.

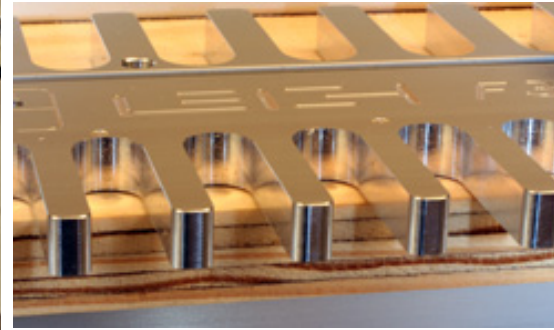
The F1600 Finger Joint Jig is designed for use on the Leigh D1600 Dovetail Jig. The F1600 template produces 1/16", 1/8", 3/16", 1/4", 3/8", 3/4", 1/2" and 1" finger joints plus three sizes of square half-blind joints.

First Look

The Leigh F3 Finger Joint Template is machined from high-end aluminum using ultra precise CNC (computer numerically controlled) equipment. From the finger guides to the nicely engraved markings the Leigh F3 Finger Joint Template is first rate throughout.

The scale blocks

are easy to use and have icons showing the style of cut the current configuration is for. Even the template pin that controls the offset is cleanly machined and retained on a nifty lanyard that runs in a T-track down the center of the template. You



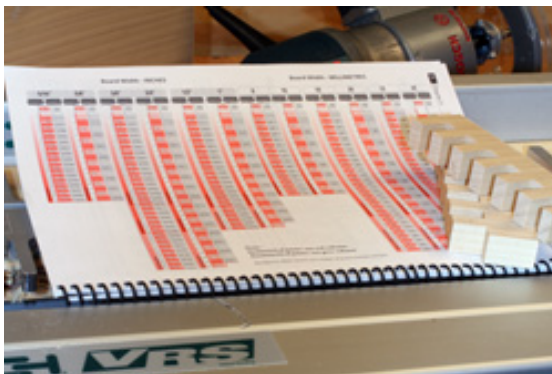
The offsetting system (left) uses a simple pin in labeled hole arrays that make the process very fast and simple. The fingers themselves (right) are grouped into size ranges and finely machined.
Click images to enlarge

really have to try to lose components from the Leigh F3 Finger Joint Template.

The Leigh F3 Finger Joint Template is also fully compatible with the Vacuum and Router Support kit. I installed the Leigh F3 Finger Joint Template and was able to use my Vacuum and Router Support just as it was set up on my Leigh D4R for cutting dovetails. That also makes changing over to the Leigh F3 Finger Joint Template or back for dovetails fast and easy.

Finger Template

The Leigh F3 Finger Joint Template has fingers grouped in the three primary finger joint sizes - 5/16", 3/8" and 1/2". The template also has indexing hole sets for each size group and duplicated on both ends of the template so the indexing pin can be used on the opposite side from where the router will be used. The User Guide shows how to use other bit sizes in each of the finger areas to cut additional finger joint sizes.



The Leigh F3 Finger Joint Template is one-sided meaning that it is turned end for end to access the other size rather than flipped over, as is the finger assembly on the dovetail setup. Because of how precise the machining is, once the template is zeroed out, you need not repeat that procedure again unless you remove a scale block for some reason.

Material Sizes

This chart shows the huge number of board widths that are compatible with the Leigh F3 Template.

Click image to enlarge

Because this is a fixed jig the width of the material is important to the type of joint you want to cut. That may sound limiting but the User Guide includes a graph that shows 210 widths in inch measurements and 213 in metric

sizes! You might have to alter a plan slightly but there are plenty of board width options available to suit virtually any project.

The board width chart is laid out to facilitate choosing the right board width for symmetrical and non-symmetrical joints. A symmetrical joint has full fingers at both edges of one board and full sockets at the edges of its counterpart. A non-symmetrical joint has a full finger on one edge of the board and a full socket on the other edge and that repeats (reversed) on the mating board.

E-Bush Trio

The Leigh F3 Finger Joint Template comes with three E-Bush units, e7, e8, e10, that when combined with various bit diameters can produce the full range of joint sizes.

The e-bush units are designed to fit the popular Porter Cable style stepped baseplates. Aftermarket base plates with this style opening are available to fit many popular routers on the market today. Leigh also offers a full line of adaptors for installing the e-Bush into the standard baseplates on most popular routers.



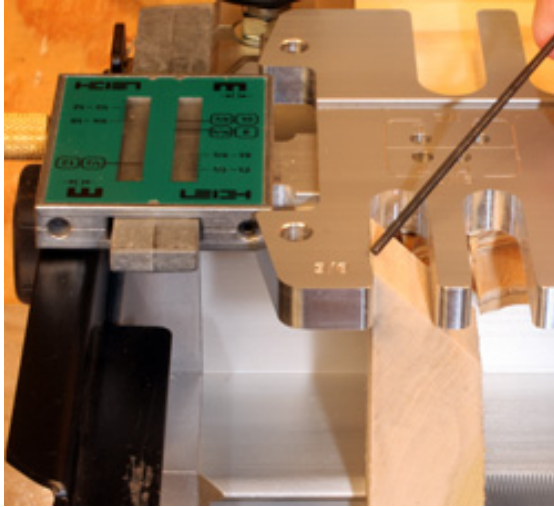
This F3 kit comes with three e-Bush units (left) that can make a huge array of joint sizes. Each e-Bush has a graduated scale (right) that makes tweaking the joint fit very easy and repeatable.

Click images to enlarge

The e-bush is unique in that it has an oval-shaped collar that can be tweaked to control the amount of free space between the collar and template fingers. The ability to regulate that interaction between the collar and fingers allows making very tiny adjustments to the fit of the joint. The Leigh F3 Finger Joint Template comes with a special tool for making e-Bush adjustments, quantified by a number scale engraved into the e-Bush. Leigh even engraves labels showing which way to turn the e-Bush to loosen or tighten the joint. Between the precision of the Leigh F3 Finger Joint Template itself and the adjustability of the e-bush, getting the perfect finger joint quick and simple.

One-Time Setup

A nice feature of the Leigh F3 Finger Joint Template is that you get a complete kit with all of the components necessary to replace the finger assembly on your Leigh jig. To convert from dovetail to finger joints all you do is swap out the finger/comb assembly. Nothing permanent is changed on the jig itself so this change is very fast as is changing back to dovetails.



The setup portion of the manual shows how to make this setup block. After that, the process is so simple I thought that I must have skipped over something. I didn't and the Leigh F3 Finger Joint Template was perfectly aligned the first time in just minutes.

[Click image to enlarge](#)

side stops on the jig body, slide the template over until the finger rests against the alignment stick. Tighten down the scale blocks on both ends of the bar and that is all there is to setting the Leigh F3 Finger Joint Template up!

I have used several Leigh Jigs for many years and can promise that if you follow the instructions, your Leigh F3 Finger Joint Template will be perfectly lined up and will cut perfect joints. However, if you get lazy and skip over this step or make an "educated guess," making finger joints could get unnecessarily frustrating.

Half-Blind Finger Joints?

The Leigh F3 Finger Joint Template not only is capable of cutting half-blind finger joints, it makes this process very simple. The design of the template makes half-blind finger joints quick and

The Leigh F3 Finger Joint Template comes largely assembled with a few simple steps remaining to zero it in for use on your jig body. This process is fully described in the included User Guide. As always the Leigh User Guide is first rate and comes complete with large, clear line drawings and exceptionally well written text. The User Guide is also spiral bound, which means it will lay open to the page you want without having to weight it down.

The set up begins by removing your dovetail finger assembly and setting it aside. Put the scale blocks on the ends of the Leigh F3 Finger Joint Template bar and then slip that assembly onto the jigs support arms. Insert the locating pin (tethered to the template) in the center hole in the template to it and the bar in that orientation.

The manual shows how to make a simple indexing stick that is used to align the Leigh F3 Finger Joint Template assembly to the jig body. With that stick clamped against the

you don't have to use a chisel to "finish" the sockets. This is the kind of joint you use when other woodworkers will be seeing the project. Showing off? Sure. But, half blind finger joints are unusual and have lots of glue surface for strength.

In the Shop

By far the toughest part of using the Leigh F3 Finger Joint Template is setting it up and cutting the wood to be used in the projects. Do those preparatory chores right and cutting perfect-fitting finger joints is a virtual no-brainer. Using the Leigh F3 Finger Joint Template is simple to the point that I kept thinking I was missing something.



(Left) Here are some early finger joints right off of the jig with no sanding or fitting. On the right is literally the first half-blind finger joints I cut with the Leigh F3 Template. Read the User Guide and follow the set up instructions and the results are good very quickly!

Click images to enlarge

I also thought finding a material width that is compatible with both your project and the Leigh F3 Finger Joint Template would be a little tougher than it is. The chart in the User Guide has plenty of selections in a huge array of sizes. You may have to alter your plans slightly to get perfect finger joints from the Leigh F3 Finger Joint Template but that is a tiny price to pay for this level of ease and performance.

Actually cutting the finger joints is the easiest part of the entire process. If you remember to move the indexing pin and comb between the joint halves, all will be well. You do have to dial the e-Bush in but that is a simple process as well and once done, you can move on to cutting the joints in your work pieces. I made a total of four test joints while playing with the e-Bush. I went for both looser and tighter fits and the e-Bush did not disappoint. In the end, I wound up with the e-Bush set one number to the tight side to get the fit I wanted.

I also expected cutting joints with the Leigh F3 Finger Joint Template to

Video Tour!

be a little tougher than it turned out to be. I think that comes from years of trying to cut finger joints with other jigs (commercial and homemade) that never worked nearly as easily as the Leigh F3 Finger Joint Template. While cutting the first few joints I had that nagging feeling that I was forgetting a step or doing something wrong but the joints came out perfect time after time.

The only caution I have is to remember how accurate the Leigh F3 Finger Joint Template and all of their jigs are. If you put crooked wood into any of them, they will dutifully cut a perfect joint at whatever angle you cut the wood to. Prepare square, consistent wood and you can easily make square boxes that sit flat

on a flat surface! Think of the sanding and frustration that will save!

Conclusions

The Leigh F3 Finger Joint Template is another high quality tool from the folks at Leigh. Once again they have made a formerly tough job surprisingly easy and accurate. With a street price of \$199.00 (6-20-2010) the Leigh F3 Finger Joint Template is an economical way to expand the capability of your Leigh D-series jig to include the once frustrating finger joints. The top-shelf quality of the material and workmanship mean you are going to have to do something very bad for the Leigh F3 Finger Joint Template to not be working perfectly decades down the road.

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