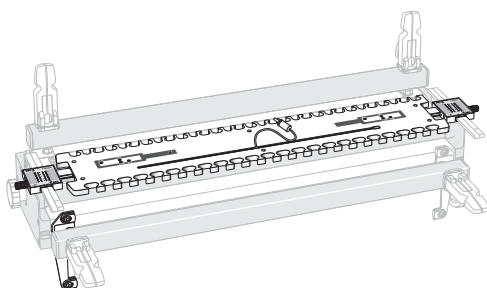


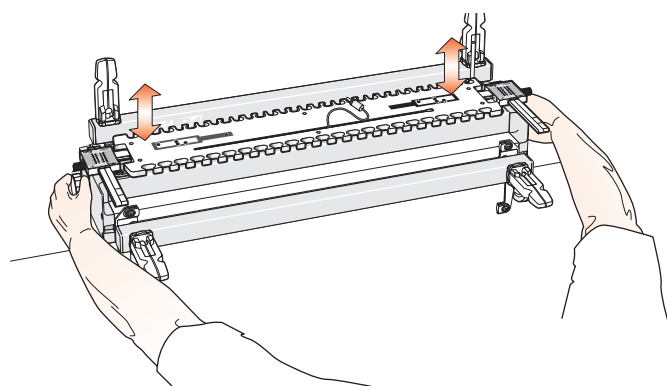
Operation Concepts and Basic Template Functions

There are:

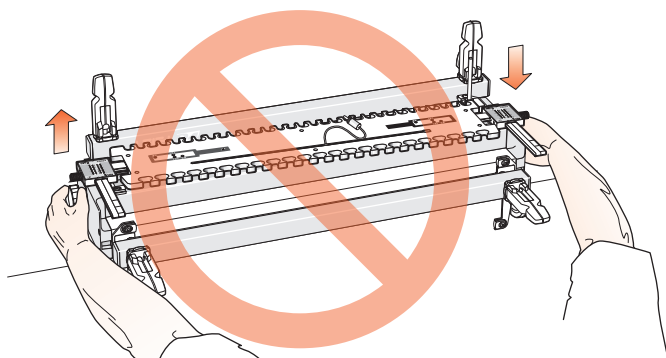
Three 24" I1 Isoloc templates, three 16" I1600 templates, one 18" I18 template, and two 24" I24 templates.
This user guide is common to all; the routing procedures for all Isolocs are identical.



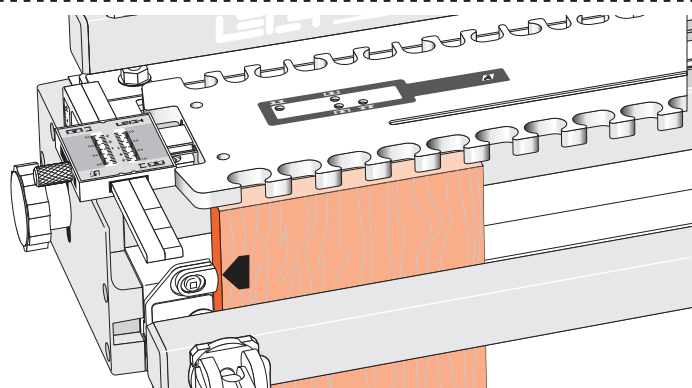
3-1 Each Isoloc template has two different joint patterns. The “active” pattern (the one you wish to use) is positioned toward you at the front of the jig. Always start at the left hand side of the template using the left hand side stops.



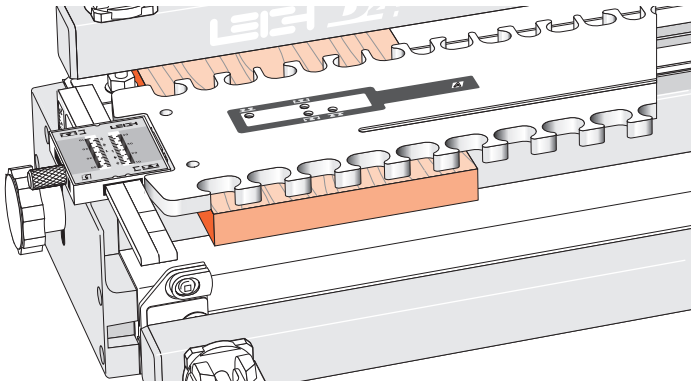
3-2 The template is raised or lowered using the support brackets to suit different thicknesses of horizontal boards.



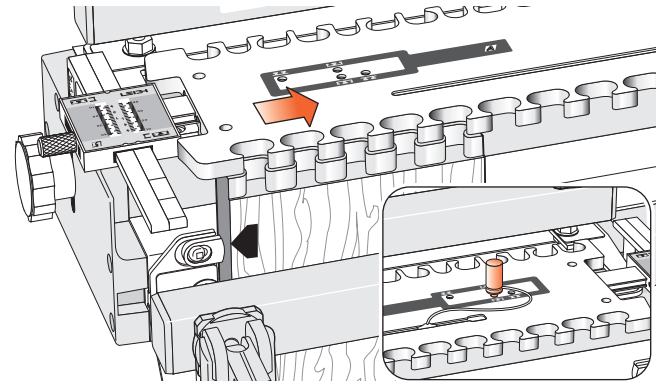
3-3 Do not raise or lower one end of the template at a time.



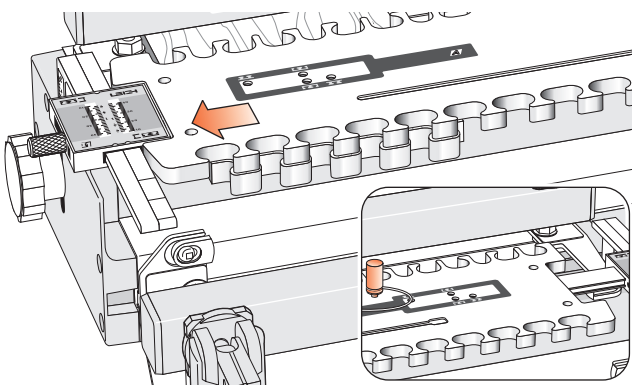
3-4 You will clamp your work pieces against the left hand front side stop or...



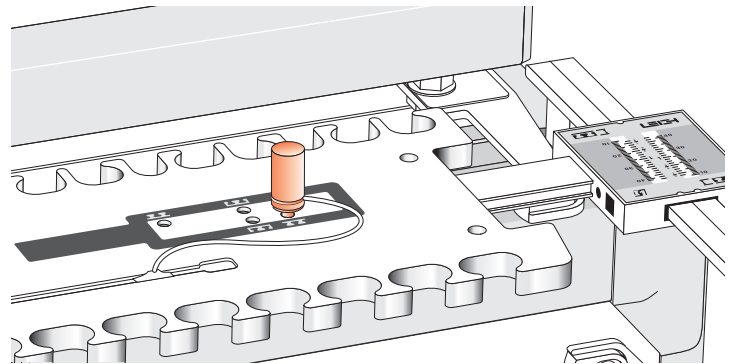
3-5 ...the mating left hand rear side stop, depending on which procedure is to be used. *Note: Except where specific procedures call for blocking or spacing away from the side stops.*



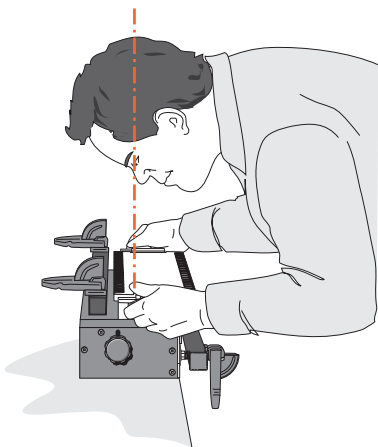
3-6 Mating joints routed under the same pattern have to be offset to achieve correct joint alignment. On the Leigh Isoloc templates the offset is achieved by moving the template left or right by half the pitch of the pattern. This movement is controlled by the template pin, at the opposite end of the template. Here, the vertical pin board is routed.



3-7 In this illustration, the template is moved to the left by half the pattern pitch to rout the mating horizontal socket part of the joint in 3-6. The precisely machined template pin holes always ensure exact template position.



3-8 The active template pin holes are always at the right hand end of the template, out of the way of the router. Use only the pin holes closest to the front, or active joint pattern. On wide boards, the pin is moved from the right end hole to the matching left end hole to allow the router access to the right side of the board. Most illustrations will have an inset showing the correct template pin hole position for the procedure. ■



Always read scales from directly overhead to avoid parallax problems.

I1



I1600
I18
I24

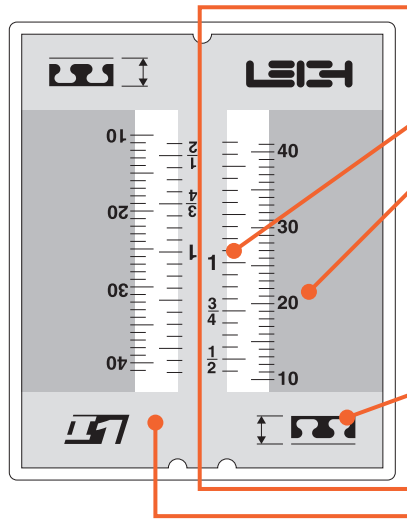


Template pin hole icons denote the joint edge finish at each position. See Chapter 5 for notes on symmetry and board widths, .

Throughout the user guide, the proper pin location for each step is highlighted in red. Use only the pin holes closest to the front (active) joint pattern.

All Leigh Isoloc templates are calibrated for both inch and metric use.

The specific settings for each scale are fully described in the appropriate chapters.



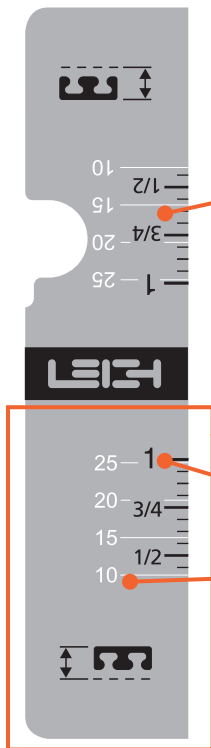
Isoloc I1 templates

Grey scales are in inches.
Green scales are in millimetres.

The active scale is always on the right side of each scale assembly. Dimensions are for matching to the vertical board thickness.

The icon and dimension arrows are a simple reminder of this.

The inactive scale is always on the left side of each scale assembly and appears upside down.



Isoloc I1600, I18 and I24 templates

The inactive scale is always on the top side of the scale assembly (away from you) and appears upside down.

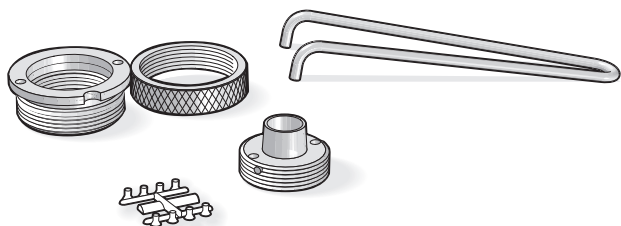
The active scale is always on the bottom of each scale assembly (toward you). Numbers are for matching to the vertical board thickness.

Inch scales have black numbers.


Millimetre scales have grey numbers.

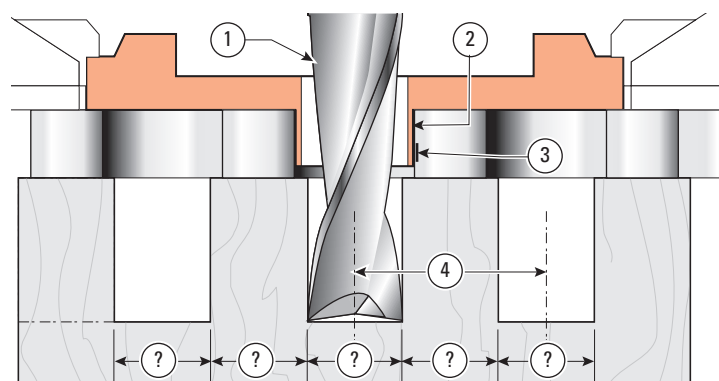
The icon and dimension arrows are a simple reminder of this.

The Variable Guidebush System (VGS)

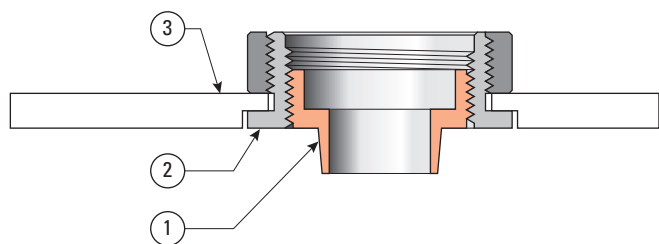


4-1 The Isoloc template comes complete with the Leigh Variable Guidebush System (VGS). The tapered bush is drilled to accept a nylon thread insert (eight of them on a “tree”). See 4-7 to fit.

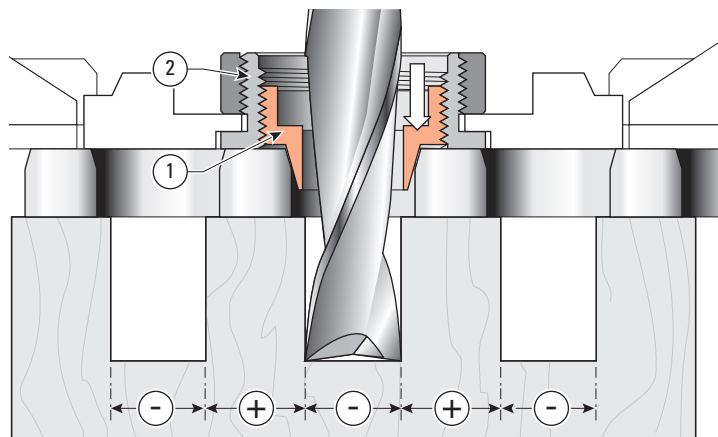
 Do not use the VGS on Leigh Dovetail Jigs or M2 Mortise Guide Finger accessories; they are only for templates. Here’s why the VGS is necessary...



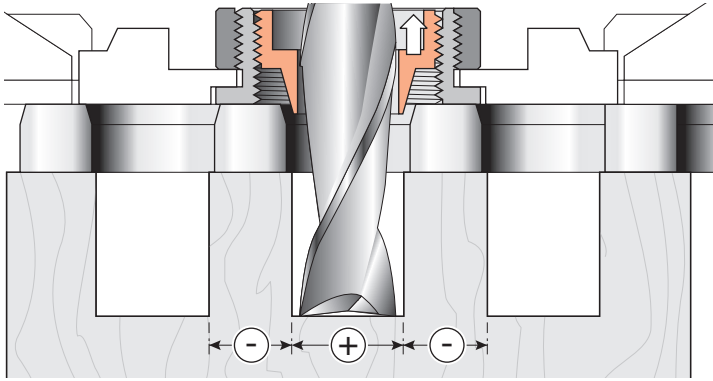
4-2 If Isoloc joints were routed with nominal-size straight bits ① and nominal-size guidebushes ② against straight guide surfaces ③ on nominal pitch centres ④, there would be no possibility of guaranteeing a good fit. There are no angles to use for fit adjustment as there are with dovetails, so manufacturing tolerances for bits, guidebushes, templates and routers give an “average” fit which is rarely correct. *To illustrate, we have used a simple box joint in this series of drawings.*



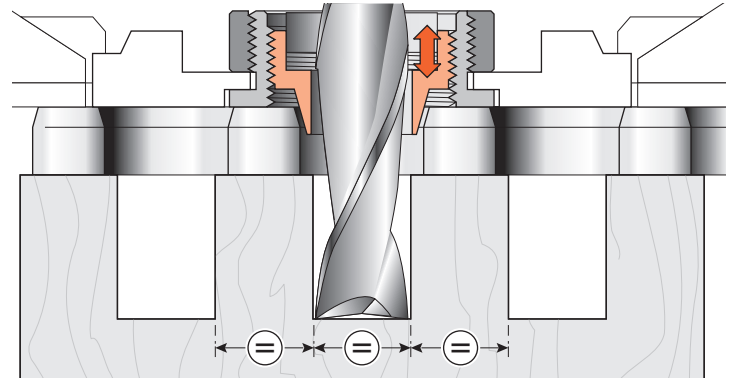
4-3 The Leigh VGS bush has a tapered barrel ① threaded into a holder ② which in turn attaches to an adaptor or directly to the router ③.



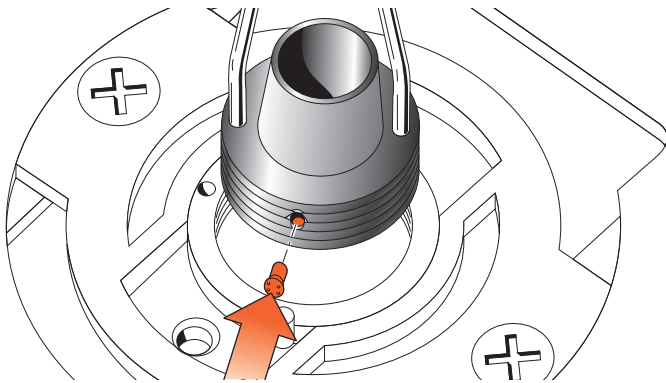
4-4 With the VGS tapered bush ① screwed down in the holder (away from the router) ② the active bush diameter is increased, allowing no side-to-side movement, and resulting in smaller sockets and larger pins. A tight fit! *Guidebush angle, scale and movement are exaggerated in this sequence of illustrations.*



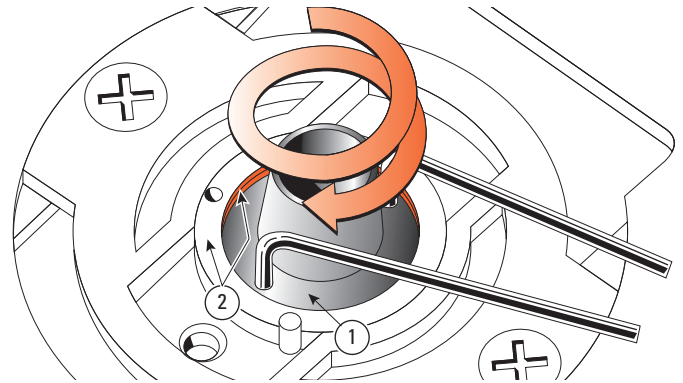
4-5 Raising the bush (screwing the bush up into the holder) allows more side-to-side router/bit movement, producing larger sockets and smaller pins, and thus a loose fit. ⚠ Do not rotate VGS more than three full turns above flush.



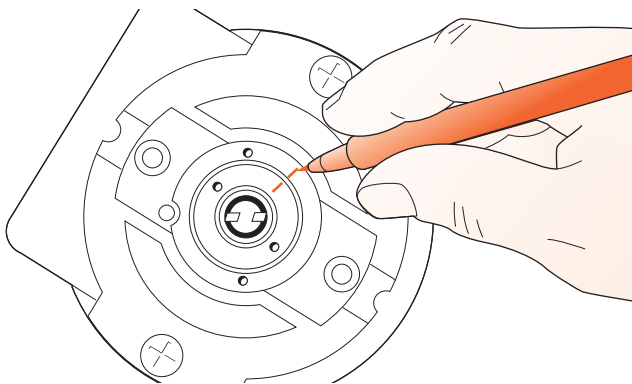
4-6 A few trial-and-error test cuts and VGS adjustments will allow you to establish the right pin and socket sizes for a perfect fit. **Note:** One eighth of a turn of the variable bush changes the joint glue-line interface by one thousandth of an inch (.001" [.025mm]).



4-7 Fit the holder to the router first. Before fitting a variable bush to a holder, fit a nylon thread insert in the hole in the thread. Leave the insert on its "tree" and push into the hole. Then snap off the "tree". The insert will become trapped and should not fall out when removed. However, if you remove the bush from its holder, wrap some scotch tape around the bush to prevent this. The spare inserts will last a long time.



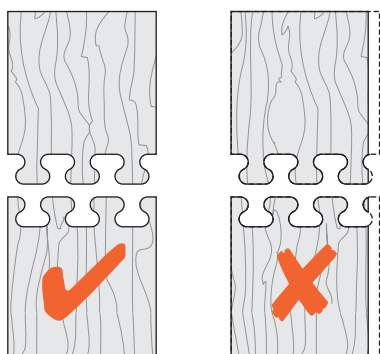
4-8 Always start test routing with the bush flange ① turned one to one-and-a-half turns farther in than the holder flange ②.



4-9 When you have the best joint fit, mark the bush and holder with permanent ink for future reference. Use the same bit next time. ■

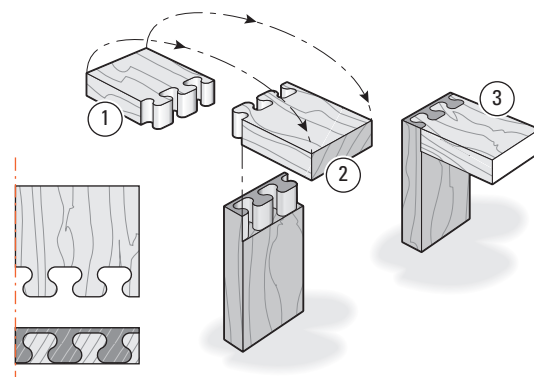
ISOLOC - CHAPTER 5

Board Width Selection

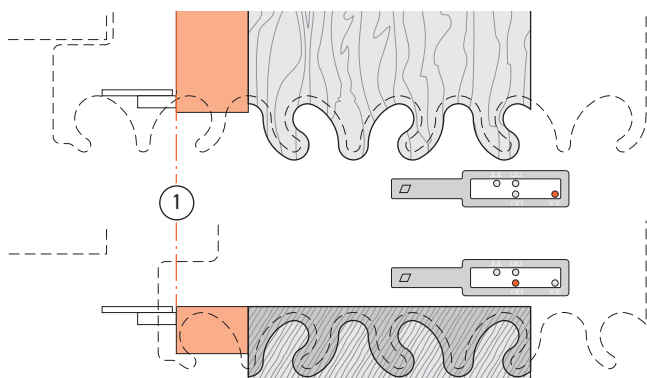


5-1 Board Widths and Isoloc Joint Symmetry

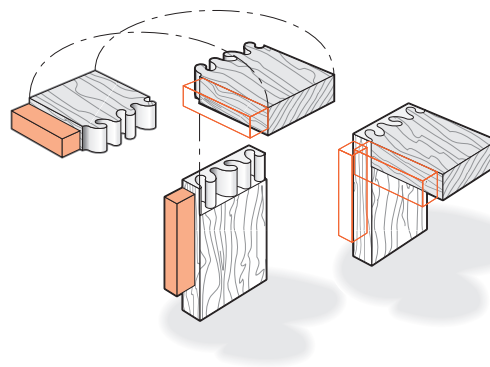
Unlike the infinitely variable Leigh Dovetail Jig, a fixed template cannot accommodate random board widths and still produce an even finish on both side edges of a joint. Usually, the boards should be cut to specific widths, depending on the pitch of the pattern. A complete chart of board widths is at the end of this chapter. Joint specifications are in Appendix II.



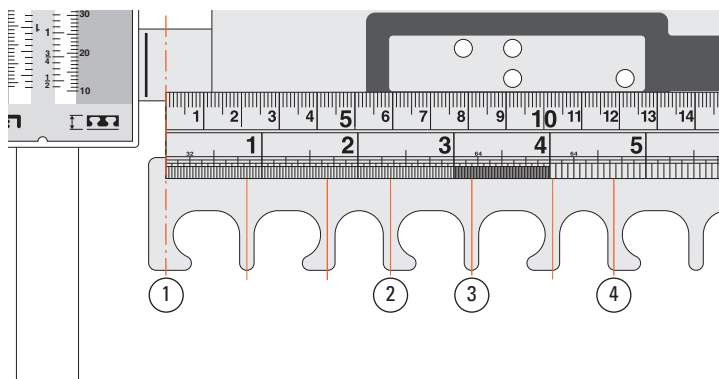
5-2 However, this is not a firm rule for Isoloc joints. This rule is made to be broken; for instance, to achieve a particular depth drawer may require an asymmetrical layout. This drawing shows the socket board position for cutting in the jig ①, being rotated into position ② to fit into the pin board, and the finished joint ③. Although asymmetrical, it is still an attractive joint.



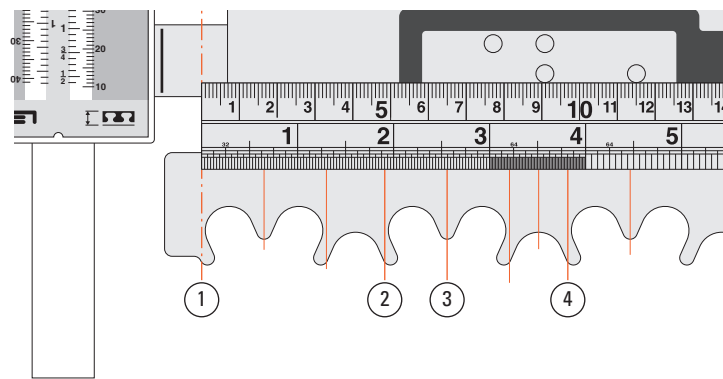
5-3 Also, joints made on “double” patterns like *Wave*, *Mirror Key* and *Bears Ears* may be started at points other than the left edge by simply blocking the mating pieces away from the side stop, shown here as a base line ①.



5-4 The joint is cut and assembled exactly the same way as before.

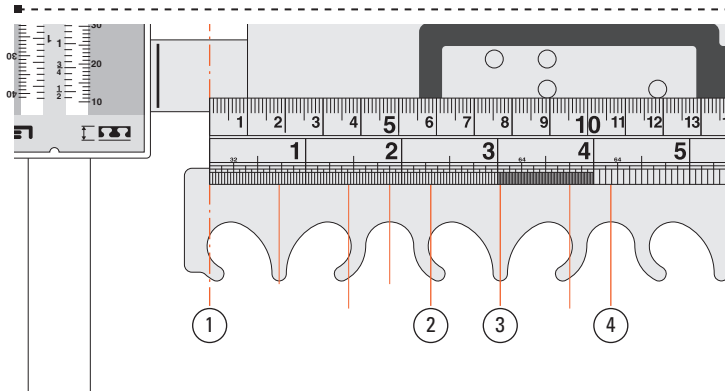


5-5 If the board width selection chart does not provide the width you require, try this. Measure the template from ① to find the width required for your layout. For instance, with the *Mirror Key* template, joints could be multiples of the pitch (2.339" [59.4mm]) or as shown here (approximate measurement), starting from ①:
 ② 2³/₈" [60mm], ③ 3¹/₈" [79mm], ④ 4¹/₁₆" [118mm], etc.



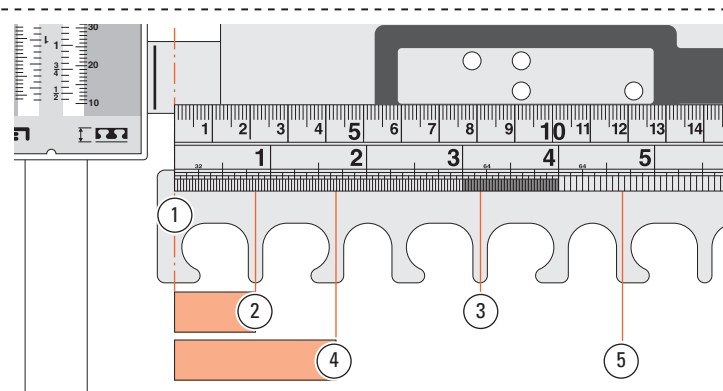
5-6 With the *Bear Ears* template, joints could be multiples of the pitch 1.919" [48.7mm] or as shown here (approximate measurement), starting from ①:

- ② 1⁷/₈" [48mm],
- ③ 2¹/₁₆" [65mm],
- ④ 3⁷/₈" [98mm], etc.



5-7 The *Wave* template joints could be multiples of the pitch 2.312" [58.7mm] or as shown here (approximate measurement), starting from ①:

- ② 2³/₈" [60mm],
- ③ 3" [76mm],
- ④ 4⁵/₁₆" [109mm], etc.



5-8 In the three previous examples the board widths are from the same start point ①. Here, you can see that by blocking away from the side stops, other widths and/or different edge treatments are possible, i.e.,

- ② to ③=2³/₈" [60mm] and
- ④ to ⑤=3" [76mm]. ■

BOARD WIDTH SELECTION CHART

A 11, 11600, 124



KEY		MIRROR KEY	
inches	mm	inches	mm
1 1/32	26	1 11/16	43
2 1/16	52	4 1/32	102
3 3/32	79	6 3/8	162
4 1/8	105	8 23/32	221
5 5/32	131	11 1/32	280
6 3/16	157	13 3/8	340
7 7/32	184	15 23/32	399
8 1/4	210	18 1/8	460
9 5/16	236	20 13/32	518
10 11/32	262	22 3/4	578
11 3/8	289		
12 13/32	315		
13 7/16	341		
14 15/32	367		
15 1/2	394		
16 17/32	420		
17 9/16	446		
18 19/32	472		
19 5/8	499		
20 21/32	525		
21 23/32	551		
22 3/4	577		
23 25/32	604		

B 11, 11600, 118, 124



CLOVER		BEARS EARS	
inches	mm	inches	mm
1 3/32	28	1 1/4	31
2 5/32	55	3 5/32	80
3 1/4	83	5 1/16	129
4 11/32	110	7	178
5 13/32	138	8 29/32	226
6 1/2	165	10 27/32	275
7 19/32	193	12 3/4	324
8 11/16	220	14 21/32	373
9 3/4	248	16 19/32	421
10 27/32	275	18 1/2	470
11 15/16	303	20 7/16	519
13	330	22 11/32	567
14 3/32	358		
15 3/16	385		
11600 Template			
118	16 1/4	413	
	17 11/32	440	
	18 7/16	468	
11 & 124 Templates	19 1/2	496	
	20 19/32	523	
	21 11/16	551	
	22 3/4	578	
	23 27/32	606	

C 11, 11600



ELLIPSE		WAVE	
inches	mm	inches	mm
1 3/32	28	1 1/2	38
2 7/32	56	3 13/16	97
3 5/16	84	6 1/8	156
4 7/16	112	8 7/16	215
5 17/32	140	10 3/4	273
6 5/8	169	13 1/16	332
7 3/4	197	15 3/8	391
8 27/32	225	17 11/16	449
9 31/32	253	20	508
11 1/16	281	22 5/16	567
12 5/32	309		
13 9/32	337		
14 3/8	365		
15 15/32	393		
11600 Template			
	16 19/32	421	
	17 11/16	449	
	18 13/16	477	
	19 29/32	505	
11 Template	21	534	
	22 1/8	562	
	23 7/32	590	

Note: For much greater options of board widths on the three double joint patterns, please see pages 19 and 20.

