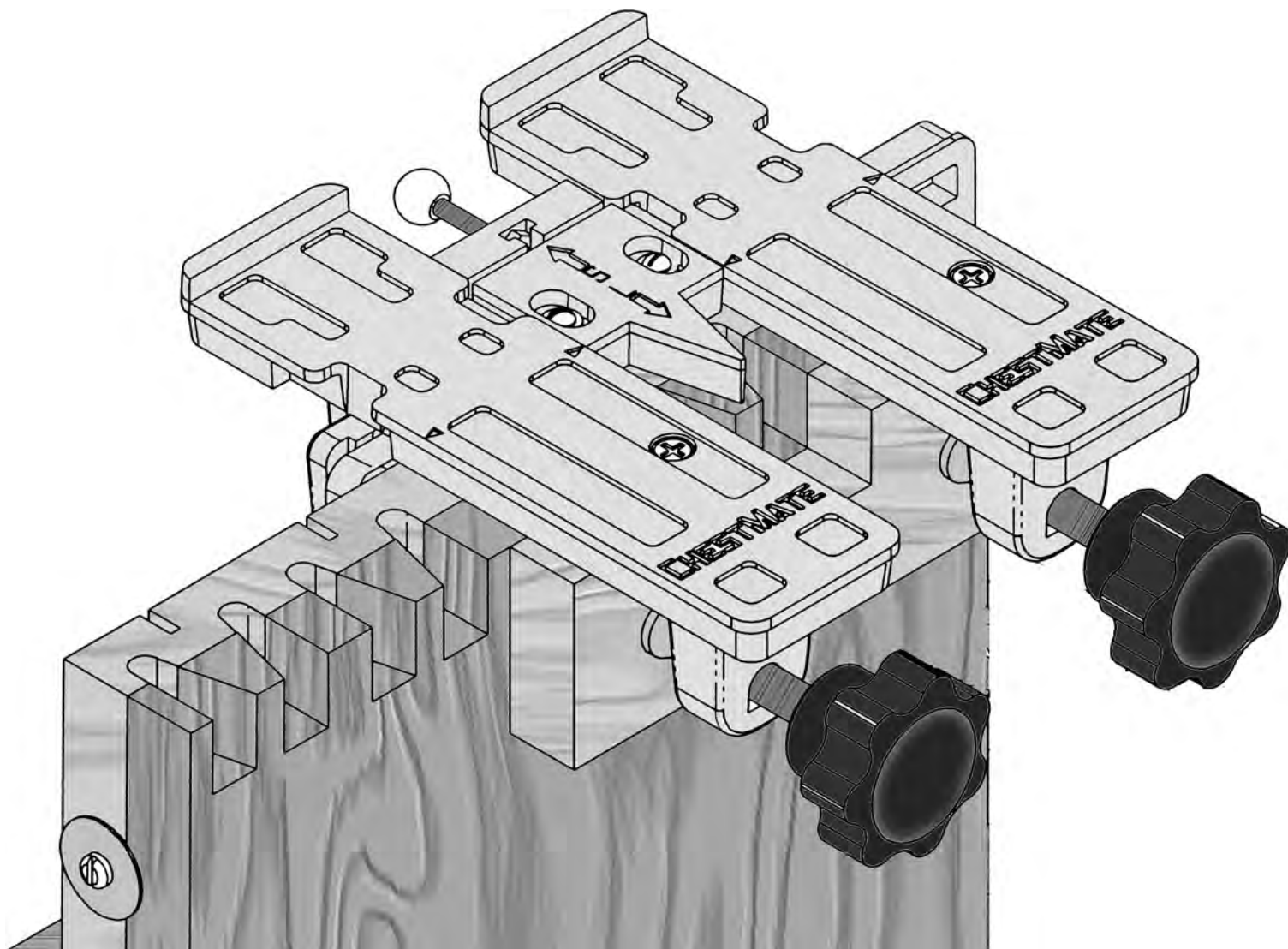


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# **ChestMate**™

## *Dovetail Jig*

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**PRAZI USA**

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**Model PR-3900 Owners Manual**

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Please read this manual in its entirety before using the  
**PRAZI** ChestMate.

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**PRAZI USA**

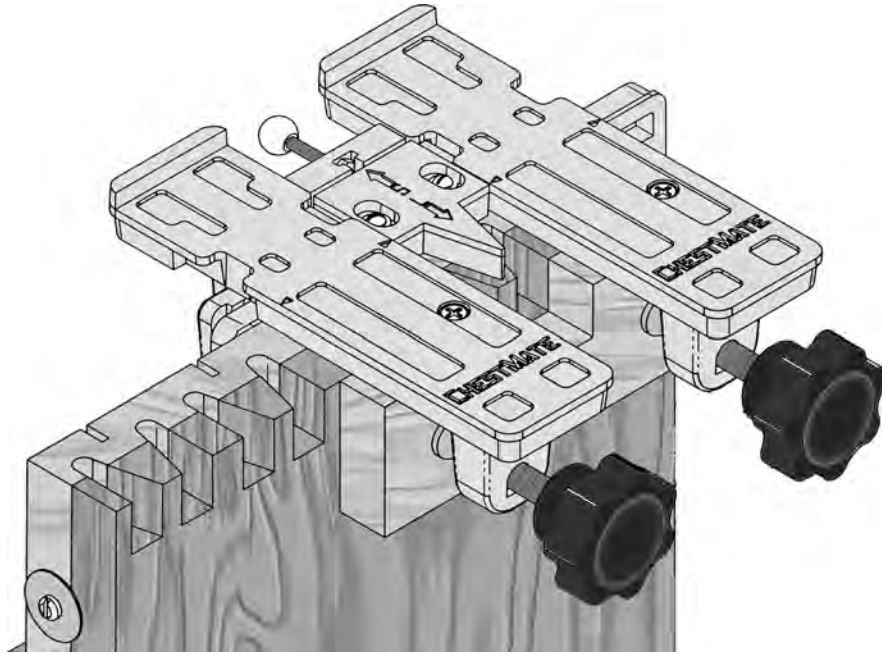
214 Rear South Meadow Rd  
Plymouth MA, 02360

(800)-262-0211  
[www.praziusa.com](http://www.praziusa.com)

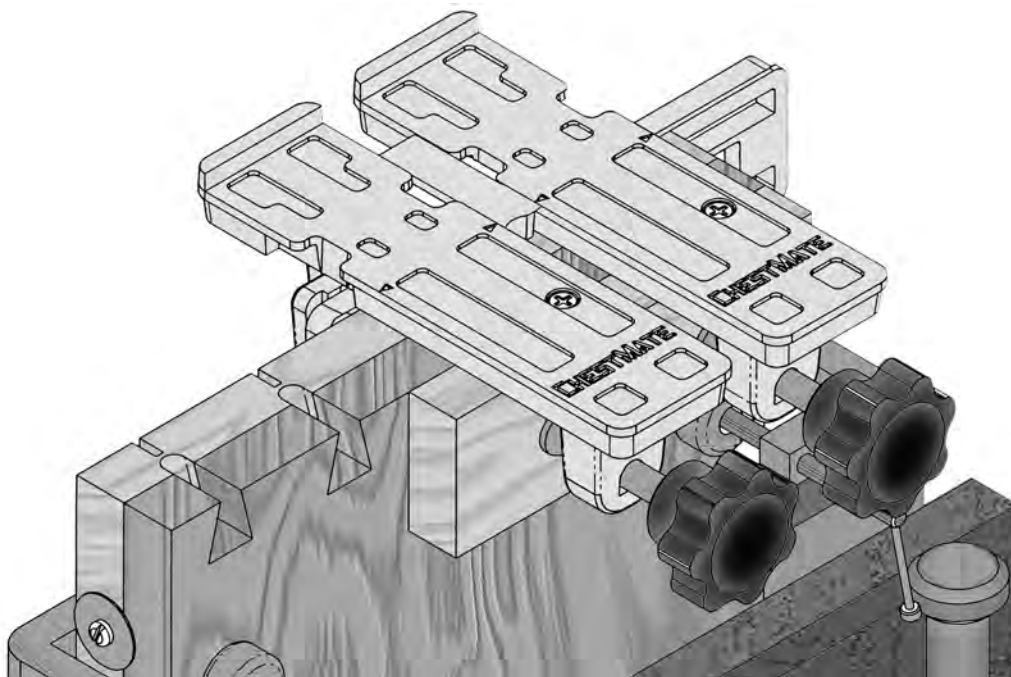
# Introduction

## ChestMate Dovetailing Jig

Your ChestMate Dovetailing Jig is a very versatile tool. It allows you to create any pattern of dovetail arrangements that you want to configure. The ChestMate is extremely easy to use because of its size and robustness. It is also very safe when used as directed. It takes minimum set up time that results in accurate dovetail pins and tails. When backed up properly and with the use of sharp cutter bits the pins and tails will be splinter free. The jig is optimized for the use of standard 1 inch stock (13/16 inch store bought).



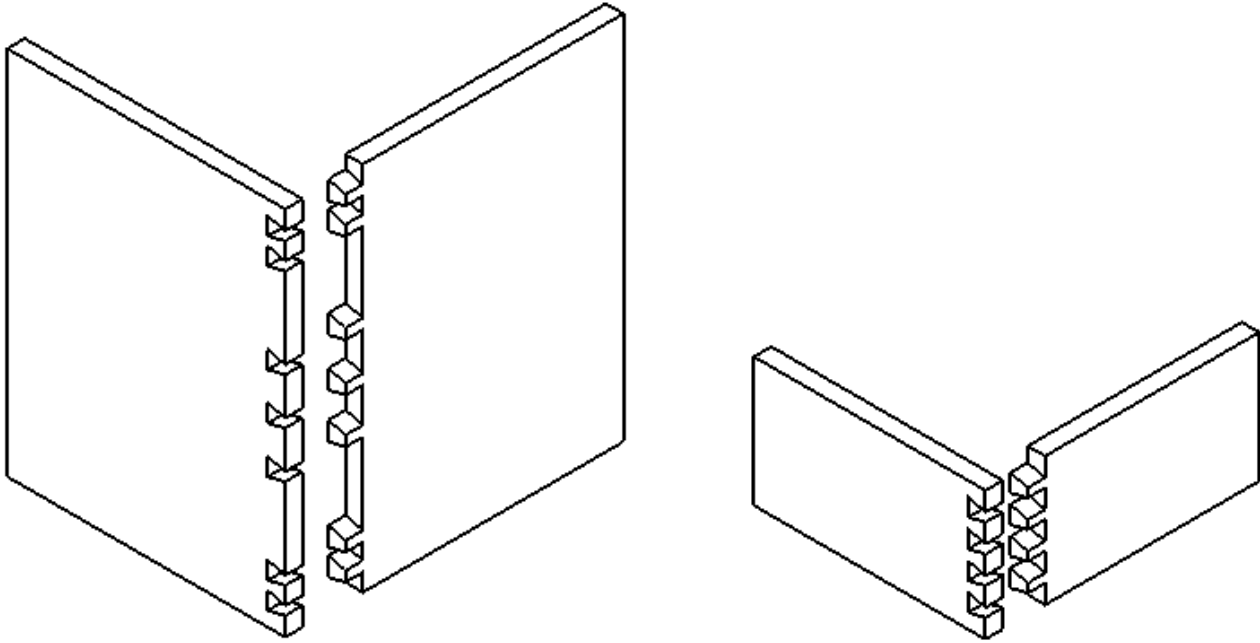
Jig with Pin Cutting Insert



Jig with Tail Cutting Insert

## Versatility

Your project size will not be restricted nor will your arrangement of through dovetail patterns.



### Equipment needed to use with your fixture.

- \*A standard router with a six inch diameter base. The fixture is designed for this type of home workshop router. A larger industrial router will not be safe to use with this jig.
- \*A 5/8 inch follower bushing that does not protrude more than 1/2 inch from the router base. (Standard)
- \*A 3/4 inch 14 degree cutter for your chuck size. (Standard)
- \*A 5/16 inch straight cutter for your chuck size. (Standard)
- \*A securely mounted bench vice and miscellaneous shop clamps.

### Important.

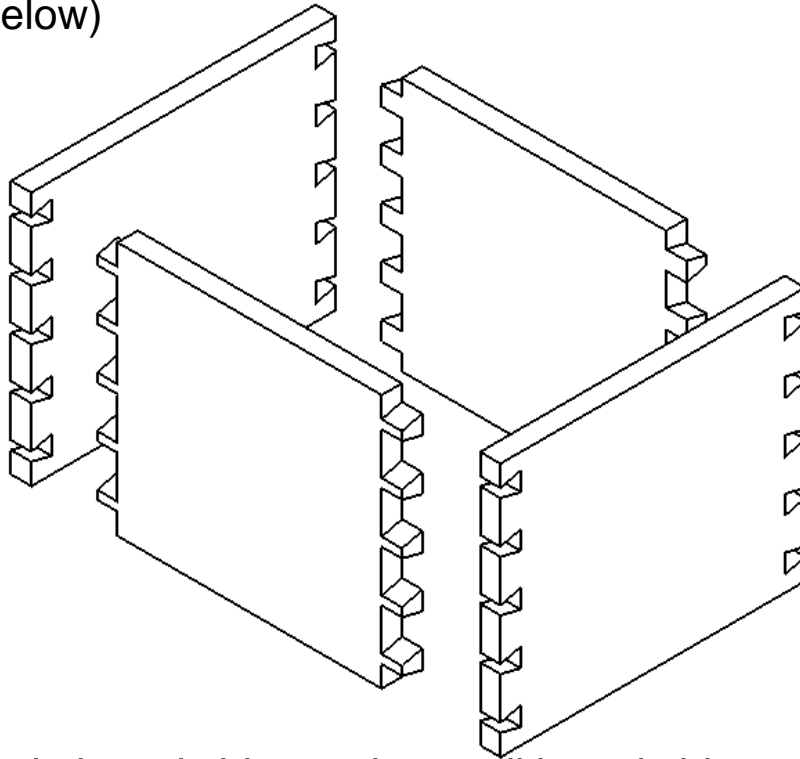
Your cutter bits must be sharp to expect splinter free dovetails and problem free cutting. Dull bits are also dangerous.

Your pattern follower must be designed to fit your router to expect concentricity between the cutters and the followers.

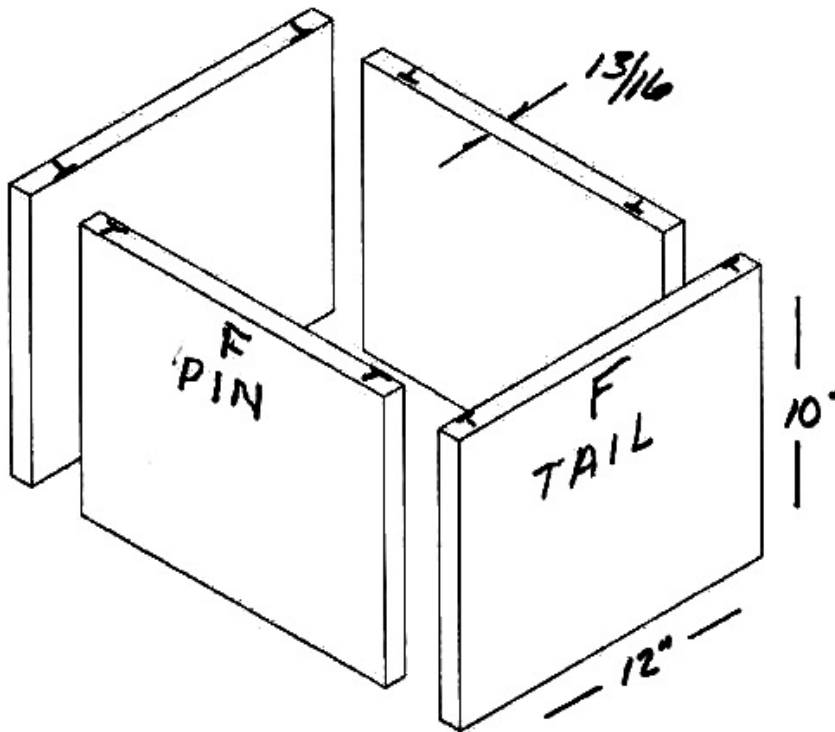
Your router should be in good shape. Any noticeable shaft or bushing wear will cause inaccuracies and splinters.

## Getting Started: Project Boards

1 These instructions are written around a five dovetail per corner box shown below. (See note below)



2 Prepare your two pin board sides and two tail board sides to be 10 inches high and 12 inches long. Mark the top edge and front face of each board.

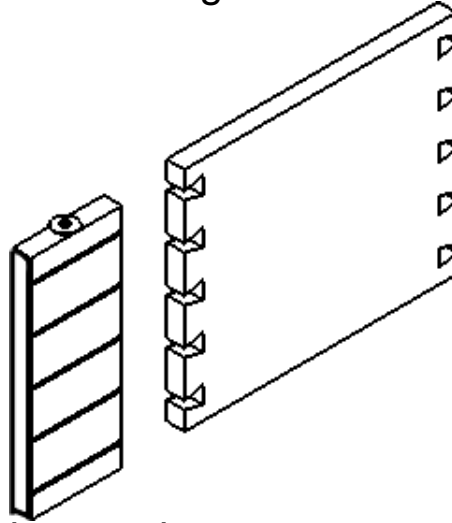


It is not paramount to use these dimensions or this pattern arrangement for your trial box. However, it is recommended that you keep the pieces small enough to be manageable to allow concentration on the dovetail cutting and not the solutions to the clamping/holding of large project boards.

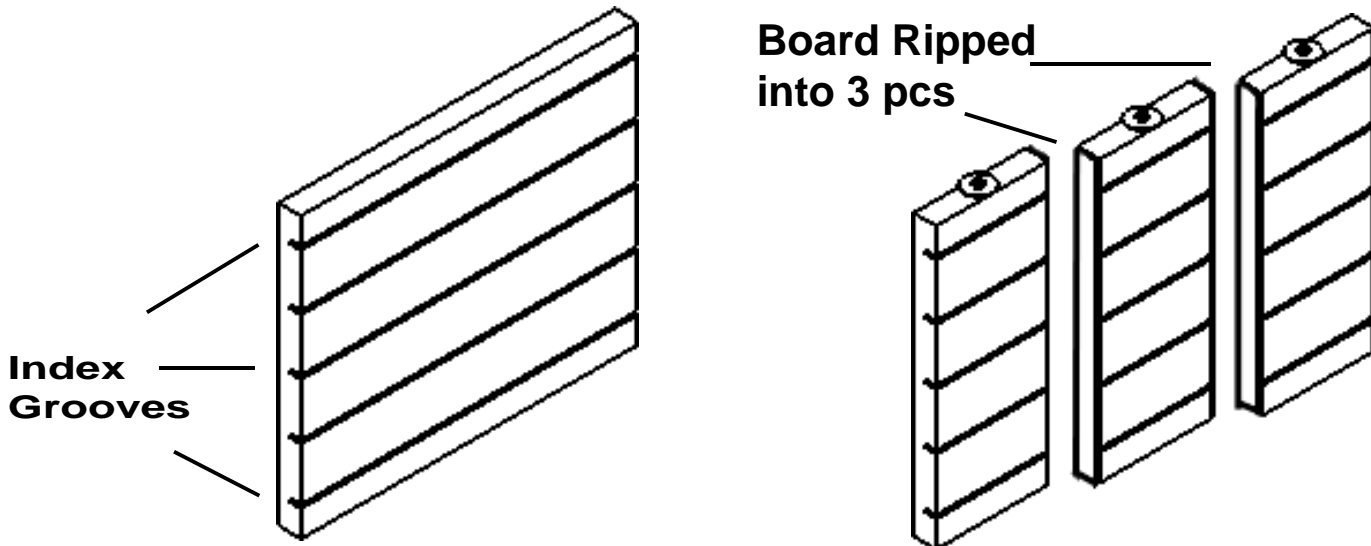
## Getting Started: Indexing Boards

*Please take time to understand this page thoroughly.*

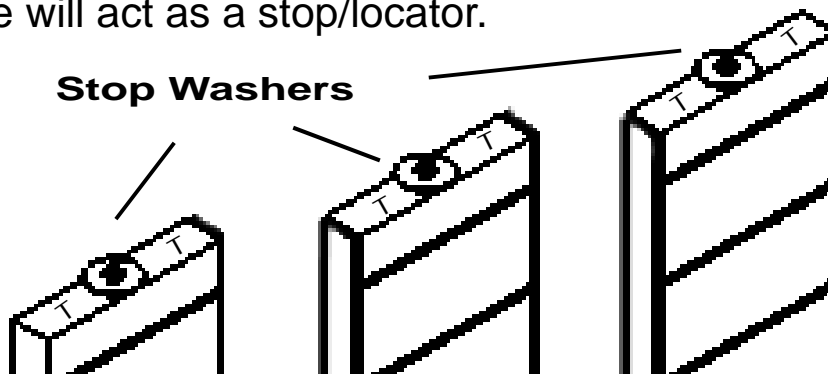
1 The saw cuts into the three indexing boards represent the spacing of the dovetail arrangements. Note the alignment in the illustration below.



2 It is very easy to have the spacing arrangement on each board the same which it **absolutely must be**. To obtain this, **first** cut the indexing grooves into the stock as one board, and **secondly**, rip the board into three pieces approximately the same width. Mark the top edges. The grooves should be 1/8 in. wide and 3/8 in. deep. The standard width of a carbide blade is 1/8 in.

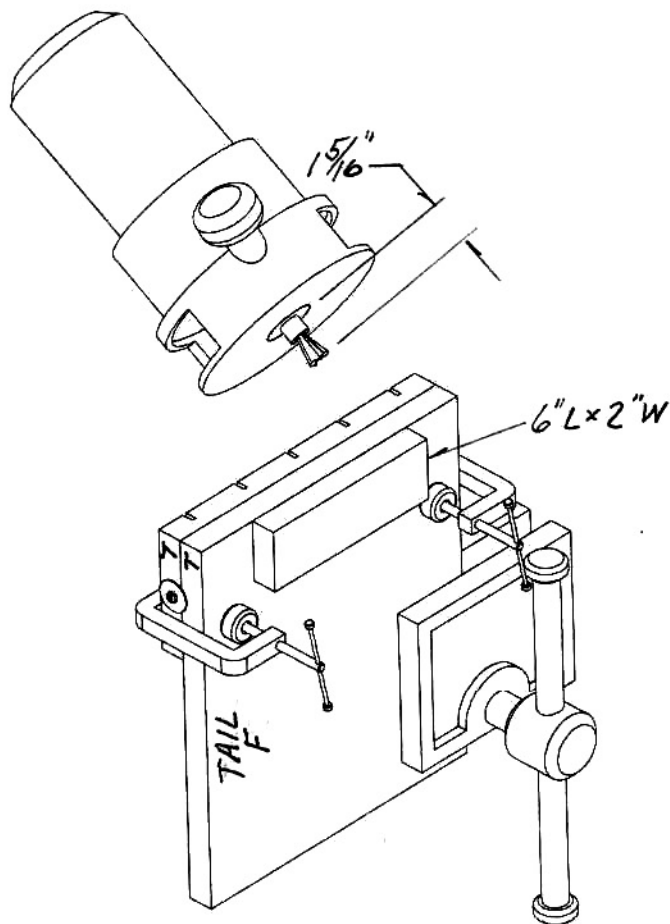


3 Insert a screw and a washer that overhangs only the clean edge of the indexing boards. These will act as a stop/locator.



# Making Tail Boards (Always First)

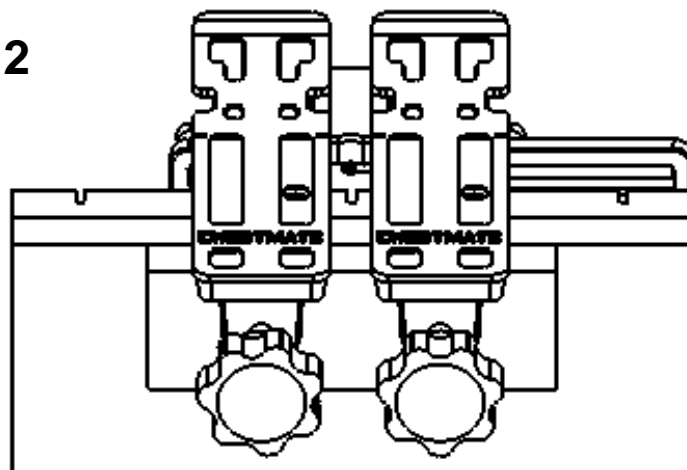
1



Set up as shown. (Tail Board, Indexing Board and a front back-board). Add additional clamping support if needed. Adjust your dovetail bit so it extends slightly more than 1 and 5/16 inches from your router base.

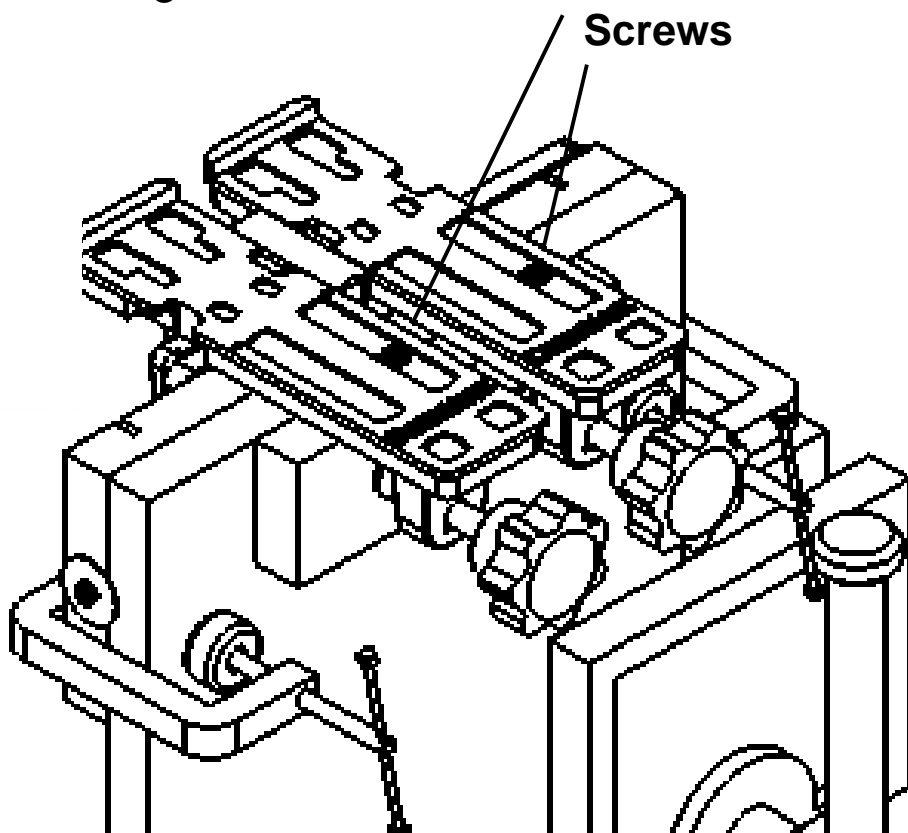
**Safety Note:** When routing the outside tails or pins, with the jig overhanging the work piece, tighten the inside clamp first to assure even clamping.

2



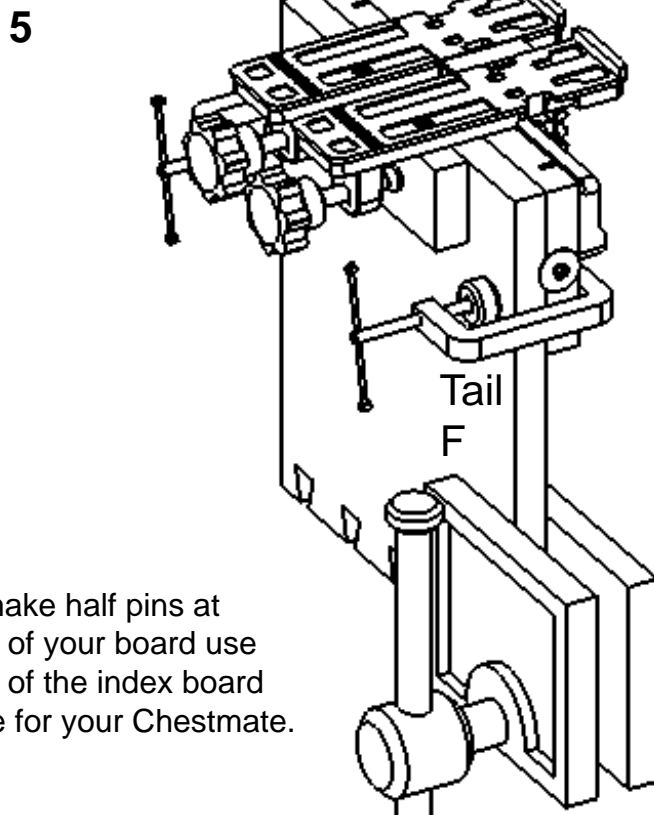
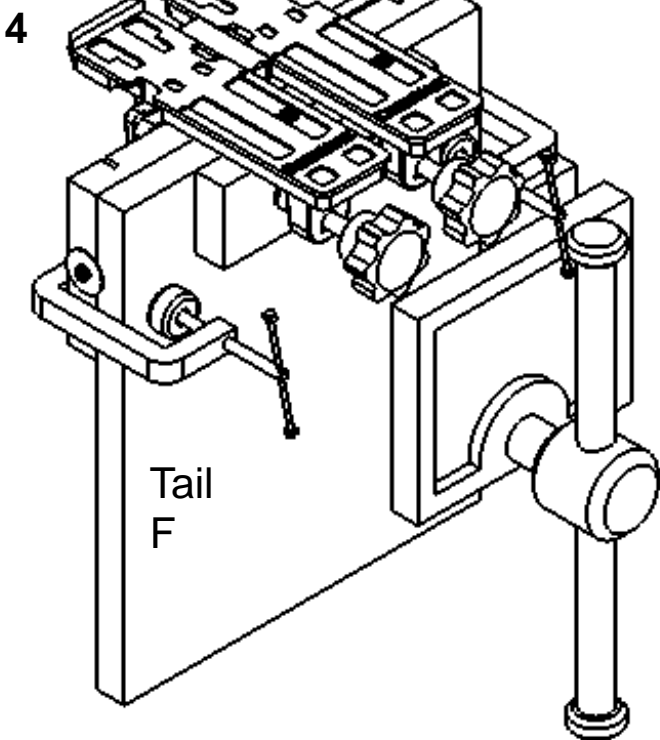
With the tail insert attached to the jig, align the indexing tab to a groove in the indexing board.

3



Secure the jig to the three boards. See Note below. Attach the back-up board to the jig with two screws. Loosen them one quarter turn. Set the router into place, turn on, cut to the stop, turn off, **wait until it stops** and remove router

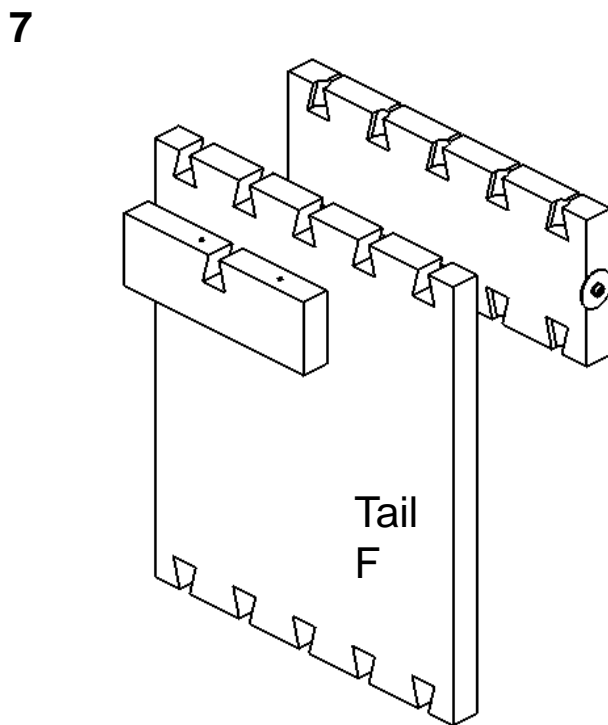
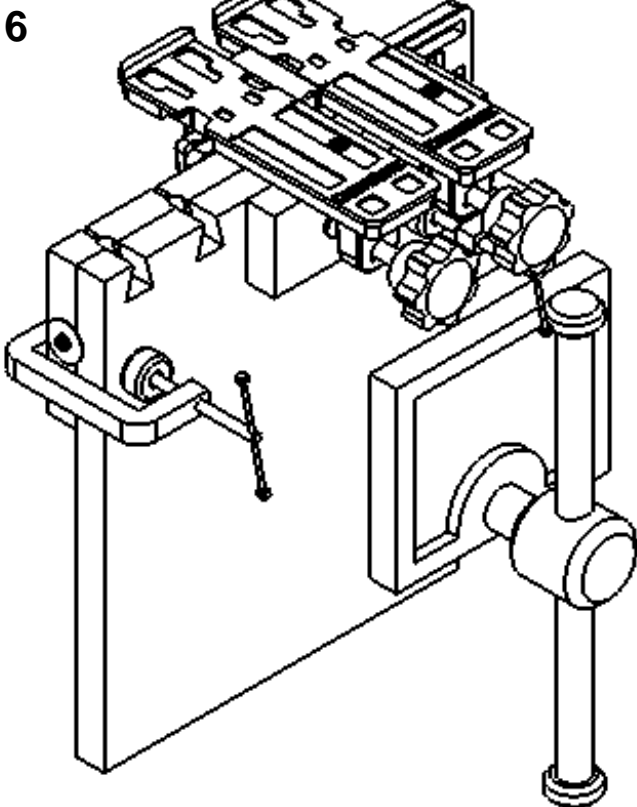
# Making Tail Boards



**\*Tip:** To make half pins at the edges of your board use the edges of the index board as a guide for your Chestmate.

Set the jig into another groove and continue until complete.

Break down the set up and set up as shown. Note Indexing board.



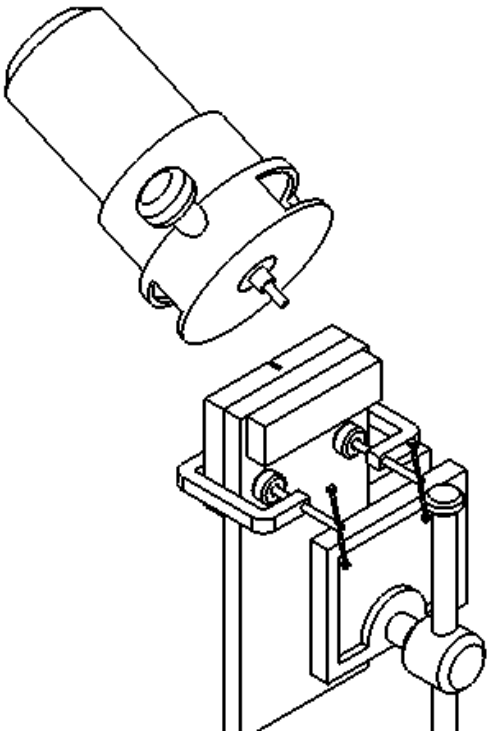
Repeat the tail cutting as you did the first end.

Your three pieces should look like this. Use a second indexing board to make the second tail board.

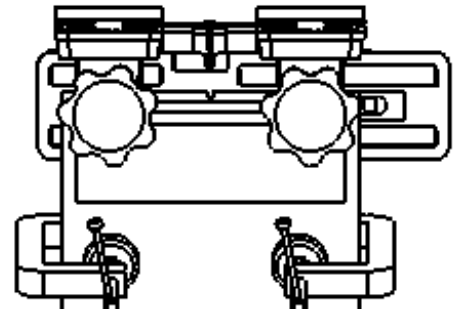
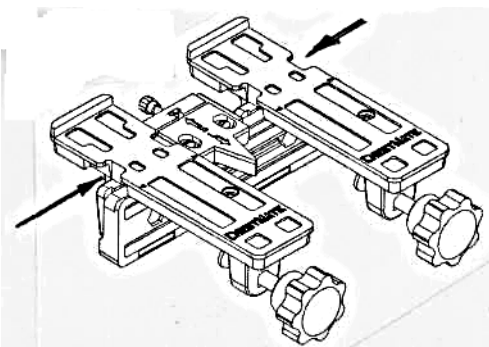
## Making the First Test Pin (Use Scrap Material)

**1** Due to tolerances in every part on your bench, **one adjustment** must be made to expect perfect pin and tail fits.

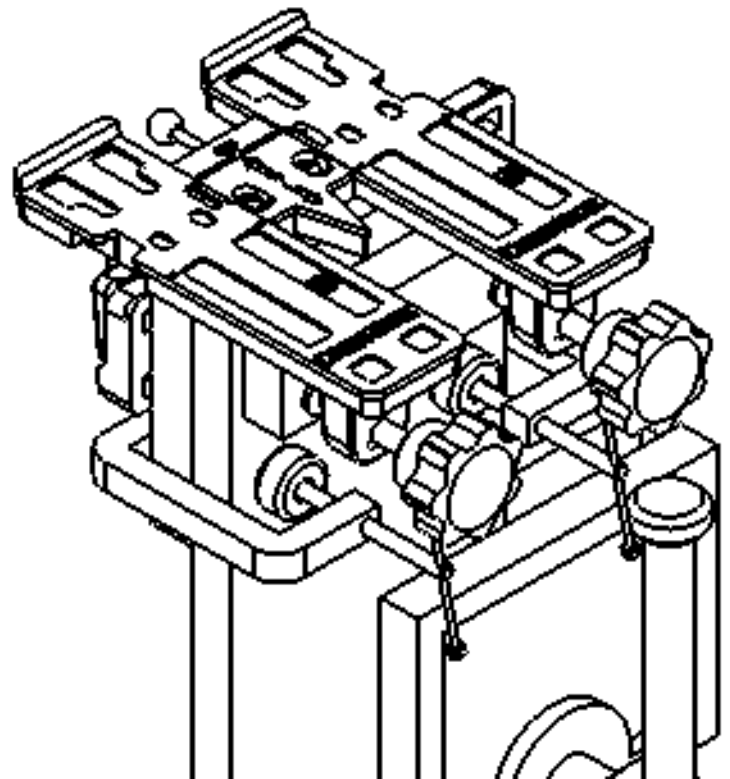
Set up some 1 x 6 scrap stock as shown (below left). The rear backup piece should have one saw groove the same as those on your indexing boards. Set the 5/16 straight router bit so it extends slightly more than 1 5/16 inch from the base of the router.



**1a** Always apply enough side force to the two bases to securely position the pin cutting insert between them.



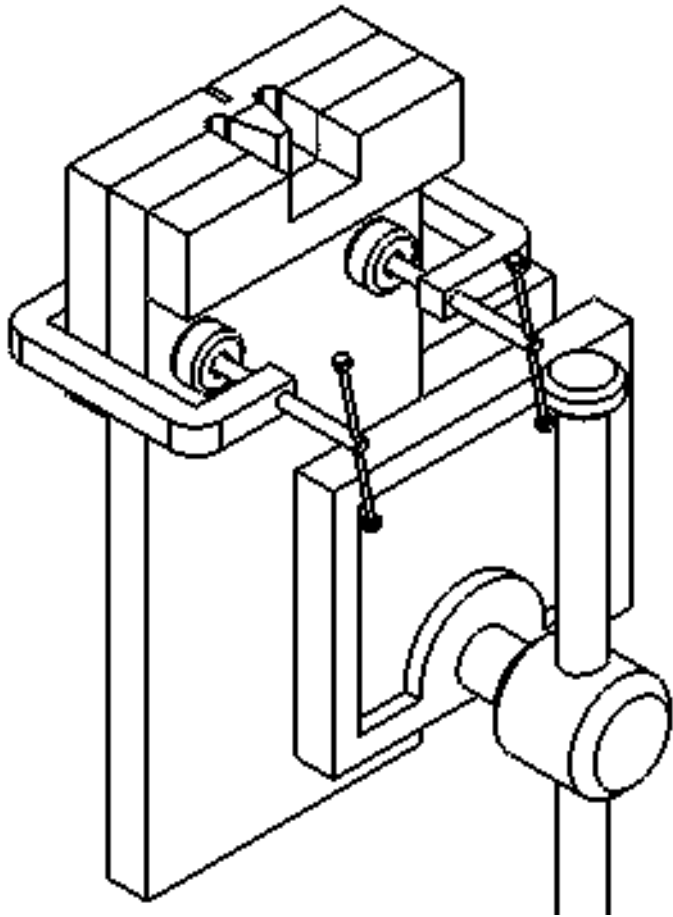
**2** Mount the jig to the test boards making sure the indexing tab is located in the saw groove (above), and secure it to the work piece as shown below. Use two screws to attach the front back up board to the jig. Loosen the screws 1/4 turn.



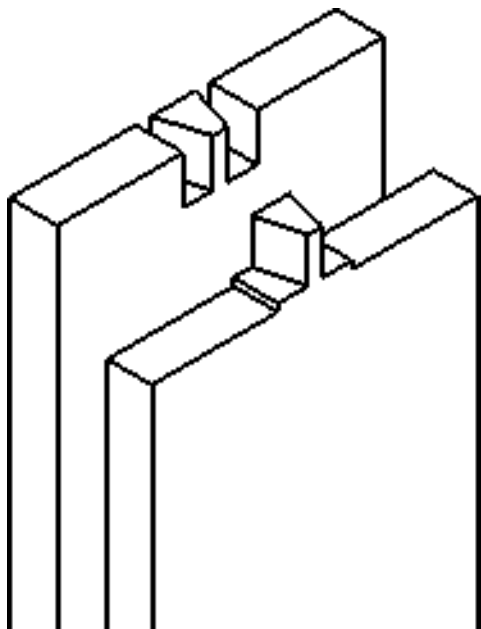
**Look at the next illustration to see what you are about to do.**

**3** After viewing the next illustration, set the router onto the jig and following the inside contour of the jig machine away the material as shown in the next illustration.

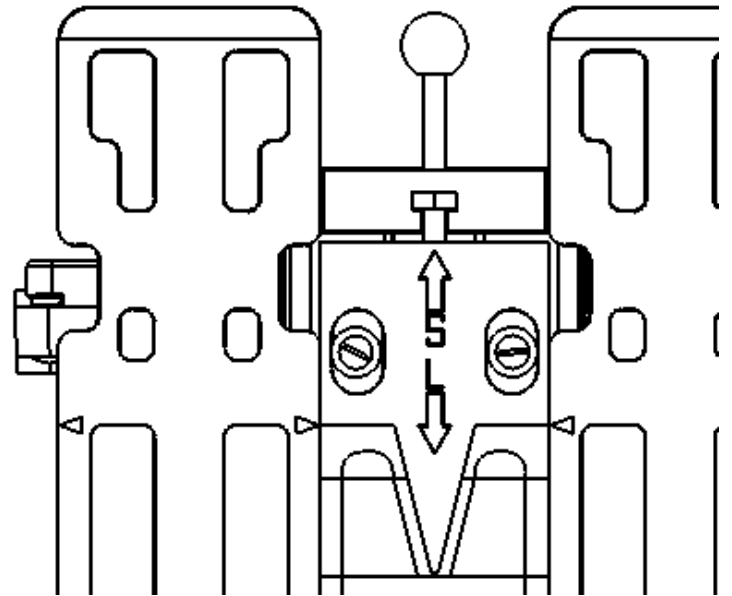
## Making the Test Pin Continued



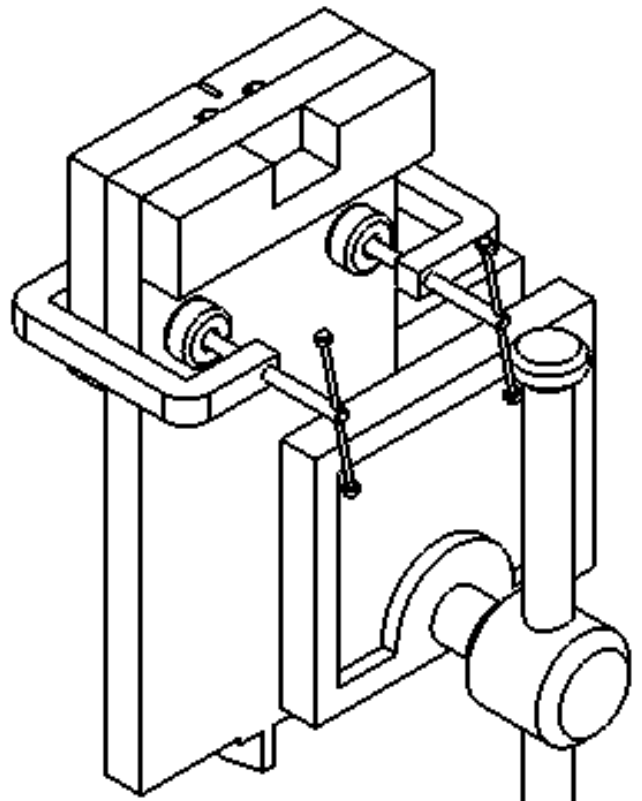
4 Your results should look like this.



5 Trim away the material around the pin as shown. Fit it to a tail board that you previously cut.



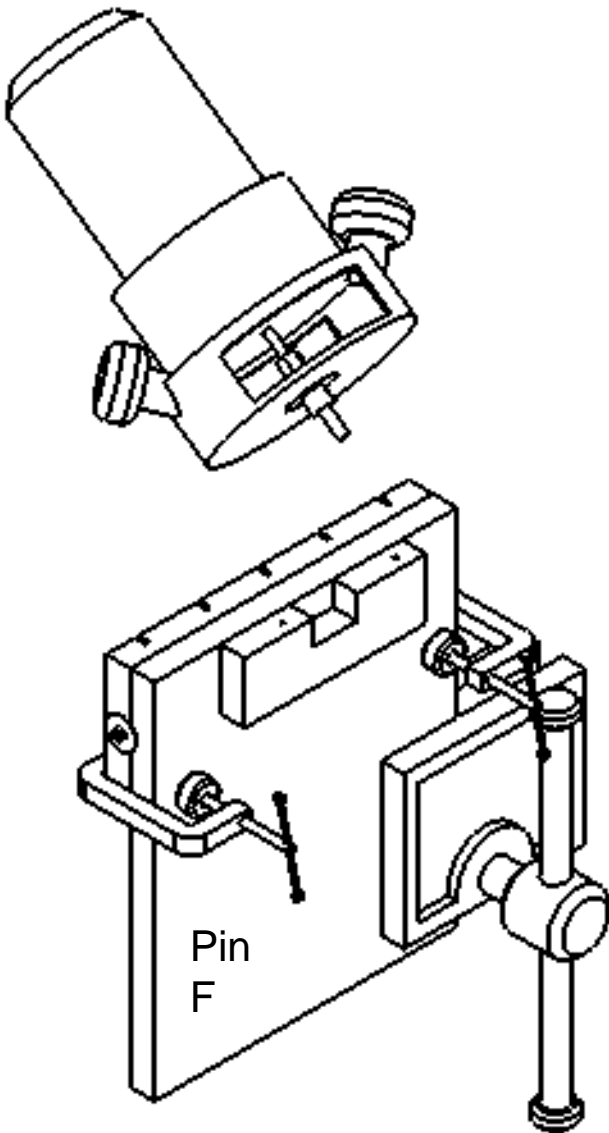
6 Starting point is located at the two arrows. If the pin is too wide, move the adjustable insert back. If it is too small, move the insert forward. (Loosen two hold down screws, turn adjustment screw and re-tighten.)



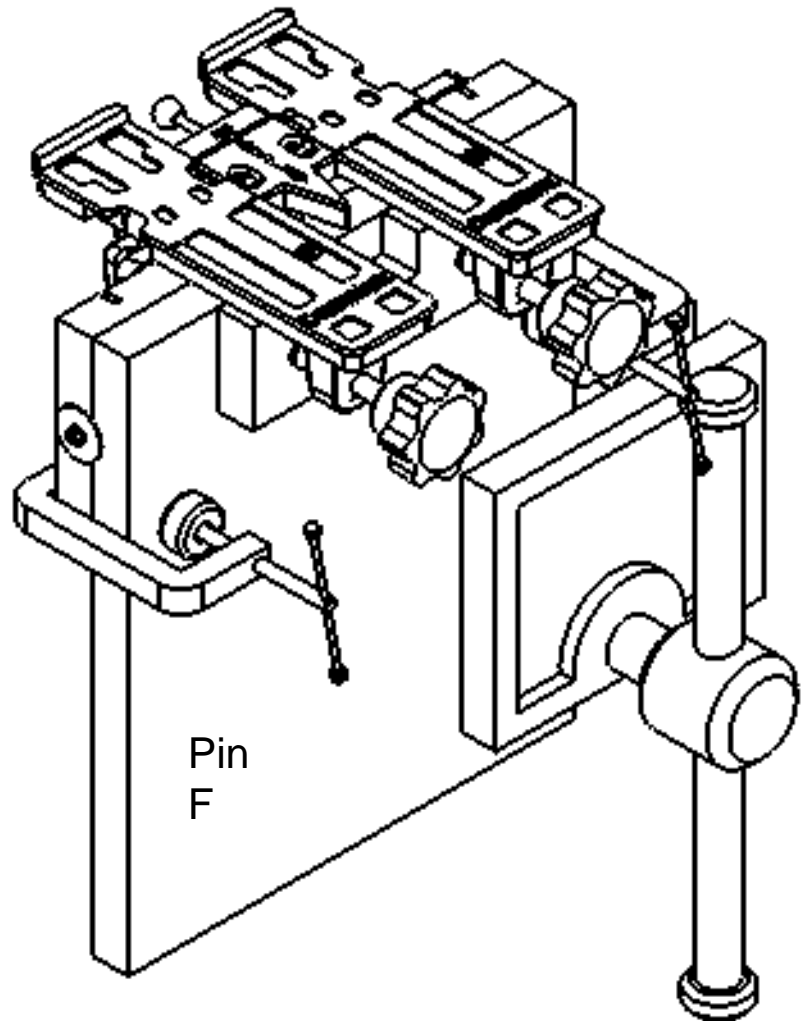
7 Set up again as shown. *This is a one time adjustment once you get the fit that satisfies you, it is done.*

## Making Pins (Now that your adjustment is done)

**1** Set up as shown below with your first pin board secured in your vice and your third indexing board clamped to it with your top surfaces flush and your stop against the edge. Use the front back up board from your test pin set up. The depth of your 5/16 bit has already been set from trial cut. **(Do not alter the depth for any reason.)**

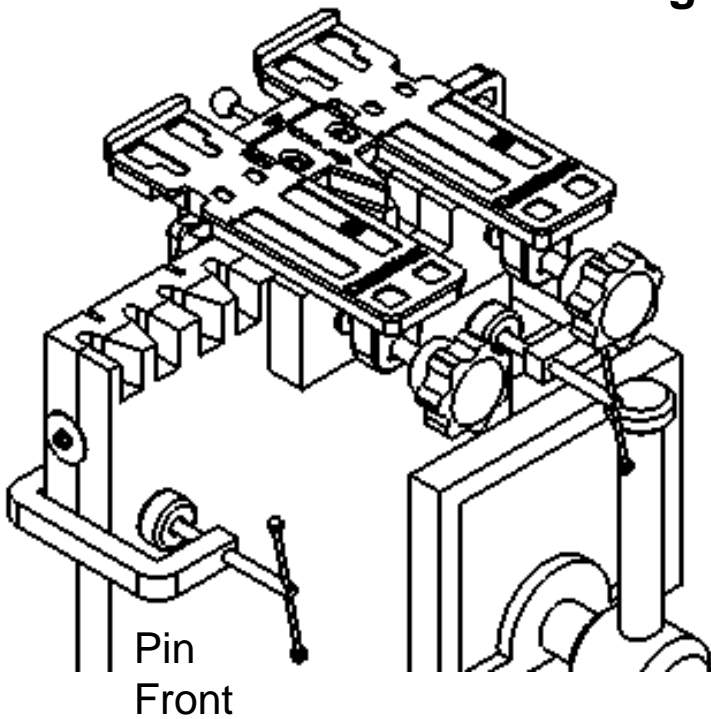


**2** Secure the jig, which now has the pin cutting insert from your trial cut, to the work piece making sure the indexing tab is located in a groove. Fasten the front back up piece to the jig with two screws. After tightening, loosen slightly.



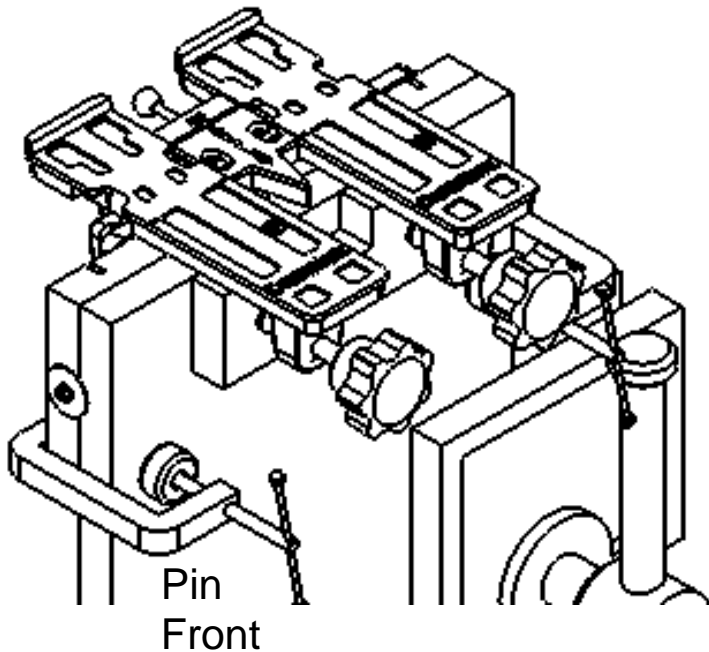
Set the router in place, turn it on, follow the path as you did with your test cut, turn it off, **wait until it stops** and remove the router.

## Making Pins Continued

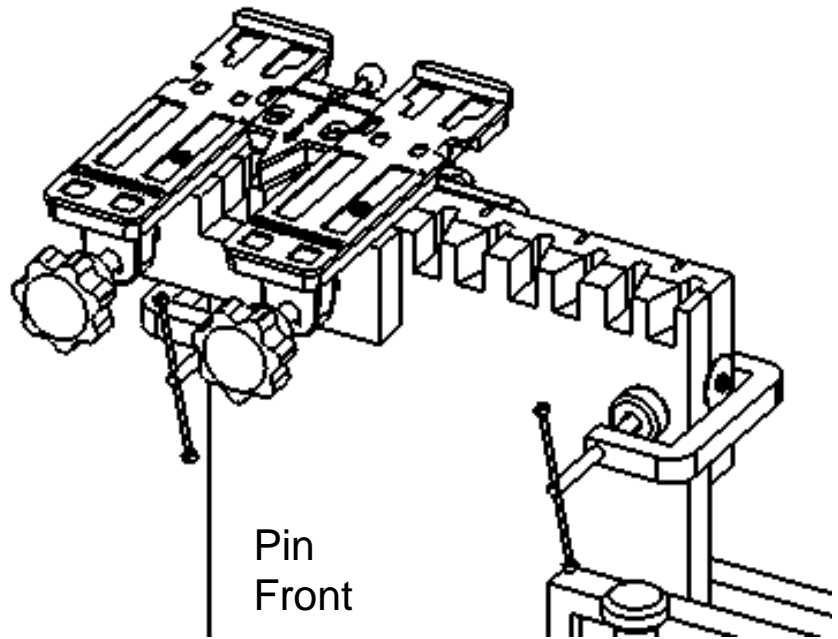


**3** Set the jig into another groove and repeat until that end of the board is complete.

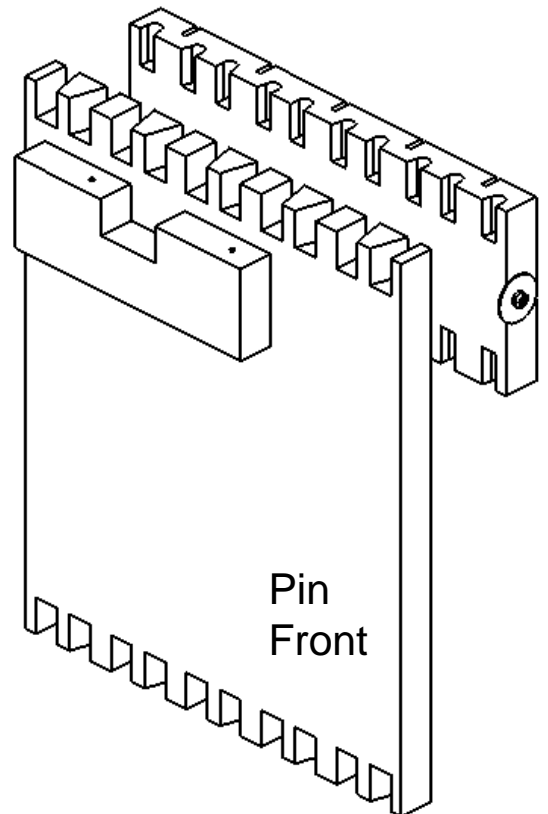
**\*Tip:** To make half pins at the edges of your board use the edges of the index board as the guide for your Chestmate.



**4** Break down the set-up and carefully set up as shown. It is important to rotate the indexing board as shown.



**5** Repeat the tail cutting operation to the second end.

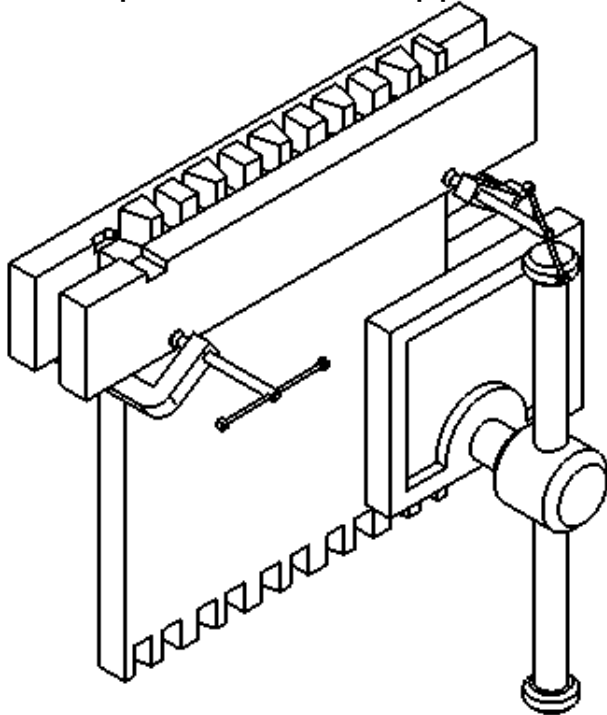


**6** Your three pieces should look like this. Use the same indexing board and front back-up board to cut the second pin board. Save them for future projects

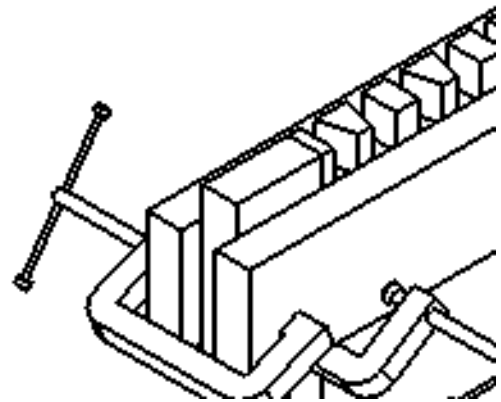
## Completing the Pin Boards

It is very important **not to have changed** the depth of your straight cutter since the pin cutting. Removing the material between the pins must be done with the exact depth cutter as you used when cutting the pins for ideal results.

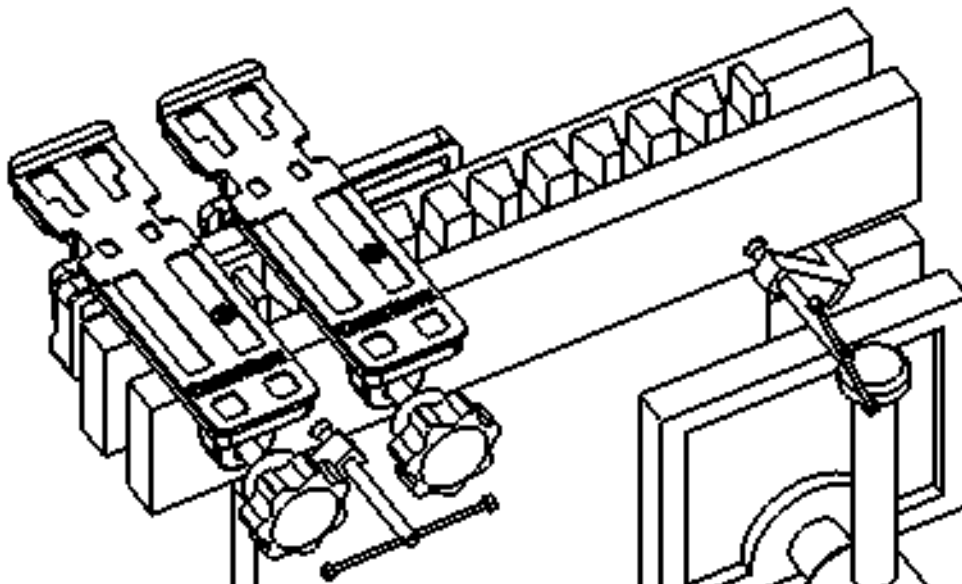
**1** Set up one of your pin boards as shown. Use some scrap stock in place of your indexing board and front back up board both extending about 3 inches from each side of the pin board and approximately 1/2 inch lower than the top edge.



\*Certain dovetail arrangements may warrant extra edge backup as well as additional seating surface for the jig.

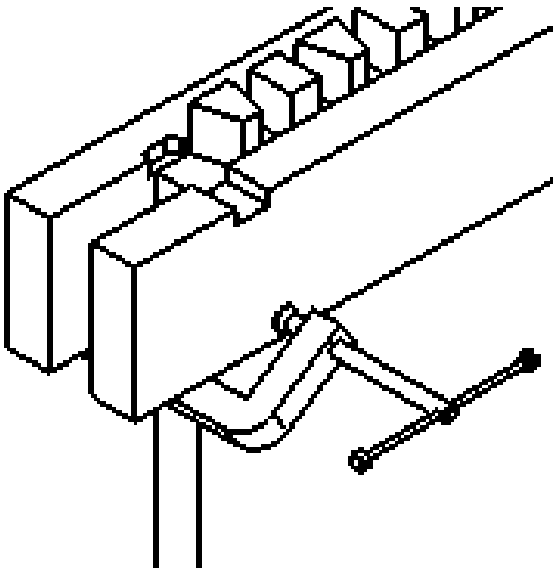


**2** Clamp the jig securely to the assembly as shown to cut away the outside unwanted material. Always tighten the inside knob first when the outside base extends off of the work piece. Be sure to set and clamp the jig so the cutter is not going to hit a pin when removing the unwanted material.

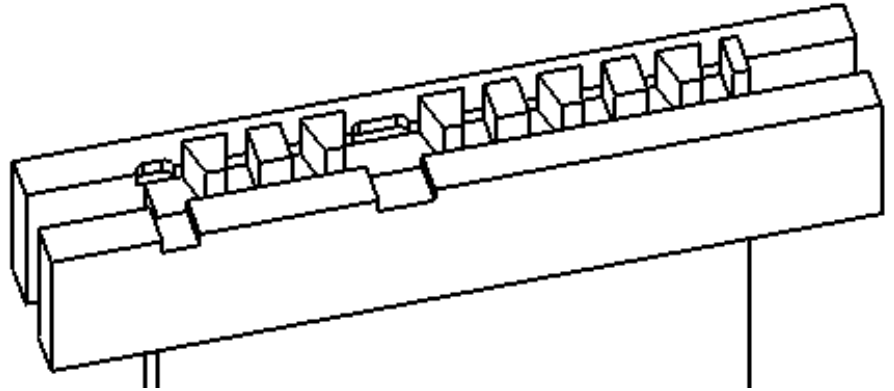


## Completing the Pin Boards (Continued)

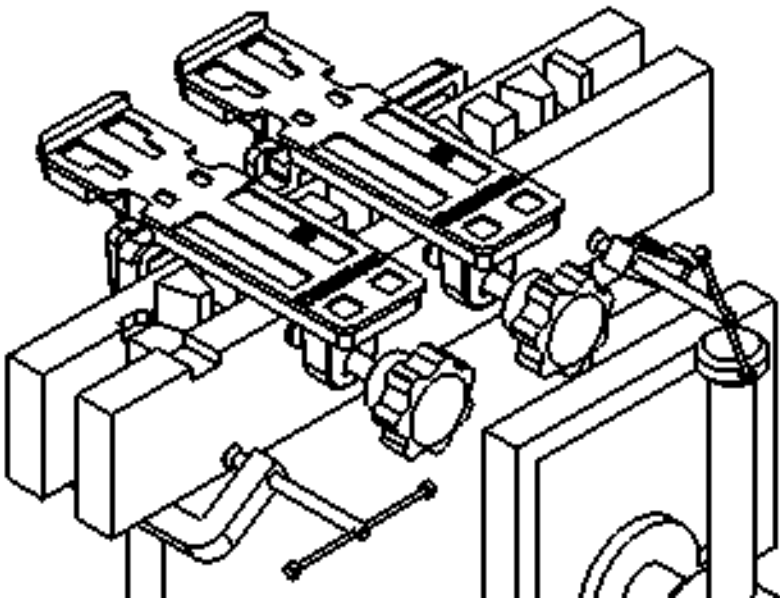
3 The "end" clearing should look like this when completed.



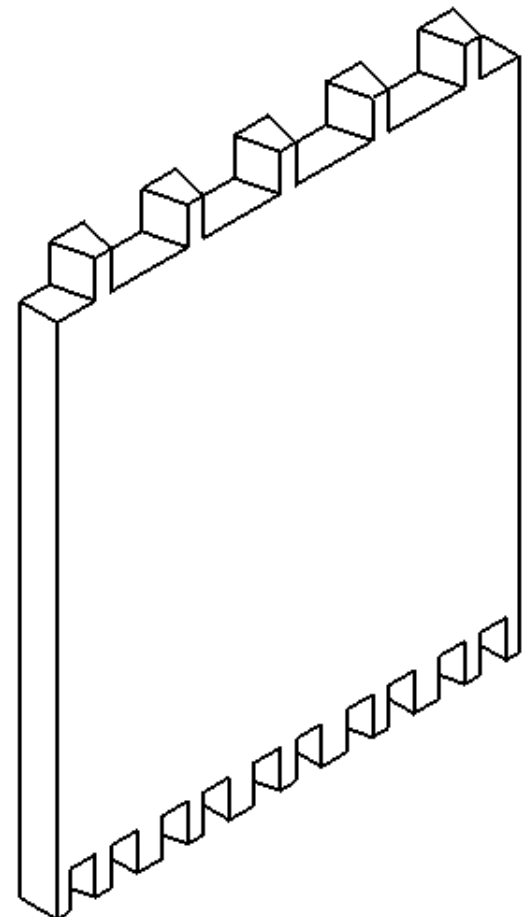
5 The results of clearing unwanted inside material should look like this.



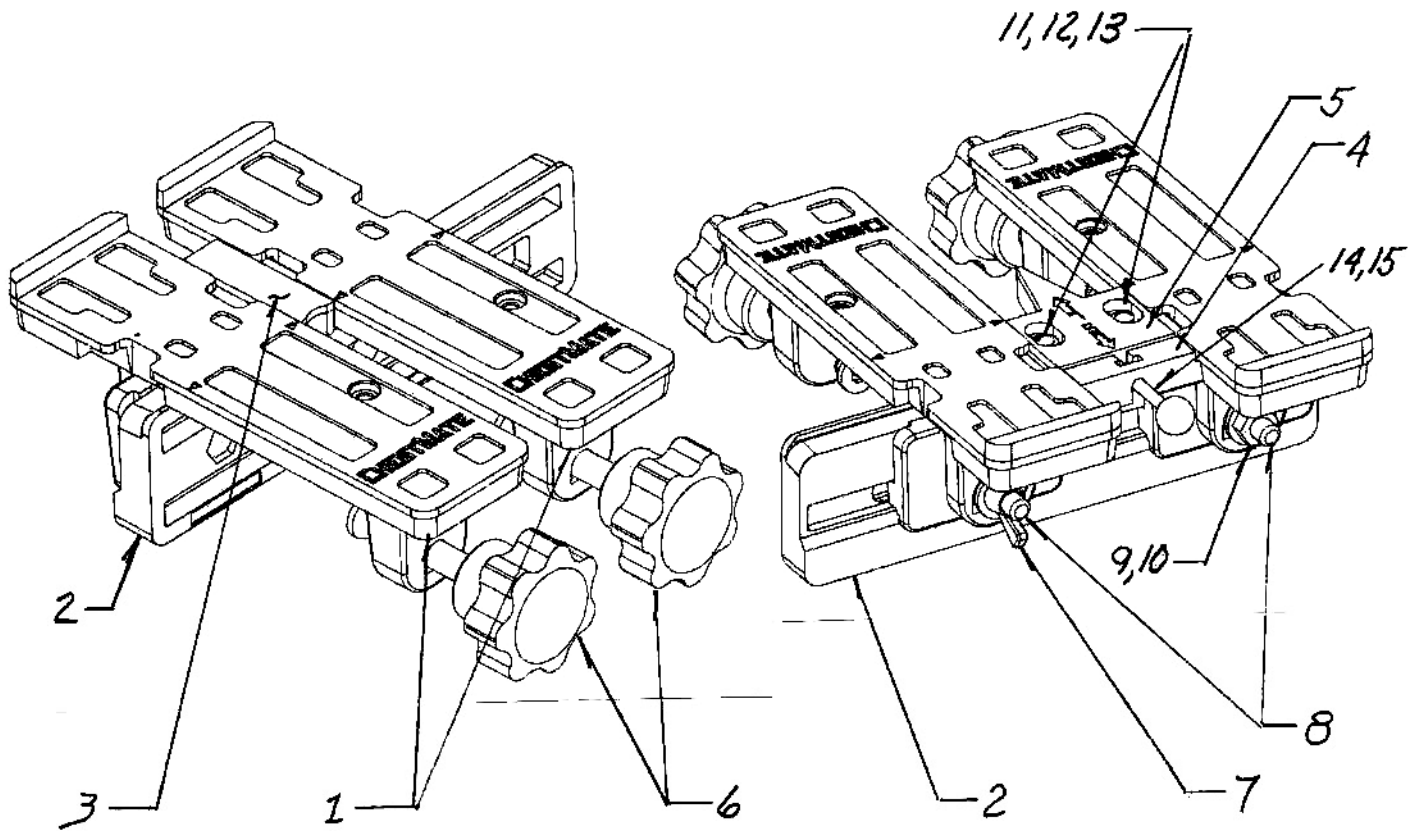
4 Set up as shown to clear away the unwanted "inside" material paying attention to the corners of the pins.



6 When the first end is complete it should look like this, and is ready to fit to a tail board. Finish up the opposite end and the second pin board in the same manner. Then complete the second pin board.



## Jig Assembly and Parts List



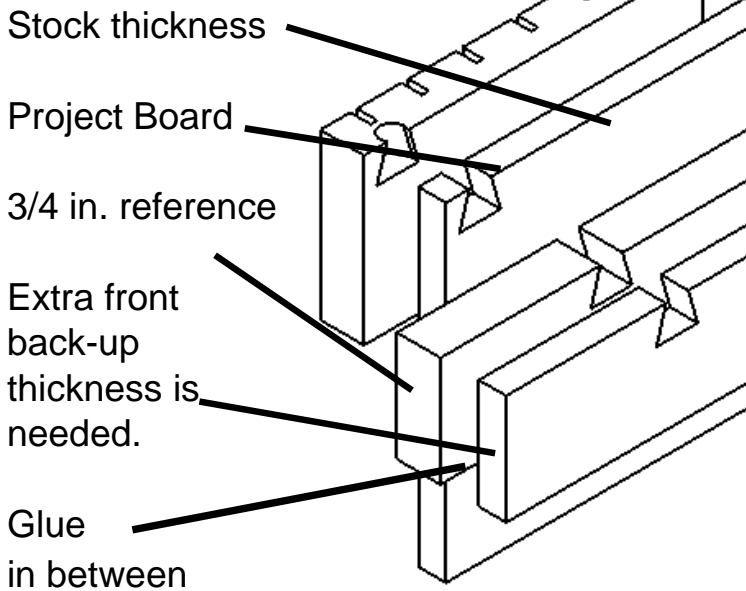
Assy.#	Name	Qty.	Part Number
1	Base	2	P3901
2	Rear Bar	1	P3902
3	Tail Insert	1	P3903
4	Base, Tail Insert	1	P3904
5	Pin Insert	1	P3905
6	Front Knob	2	P3906
7	Rear Knob	1	P3907
8	Hex Bolt 5/16-18 x 2in	2	P3908
9	Hex Nut 5/16-18	1	P3909
10	Flat Washer 5/16	2	P3910
11	Rd. Hd. Screw 6-32 x 3/8in	2	P3911
12	Nut 6-32	2	P3912
13	Washer 6-32	2	P3913
14	Rd. Hs. Screw 8-32 x 2	1	P3914
15	Nut 8-32	1	P3915

# Using Thinner Project Stock

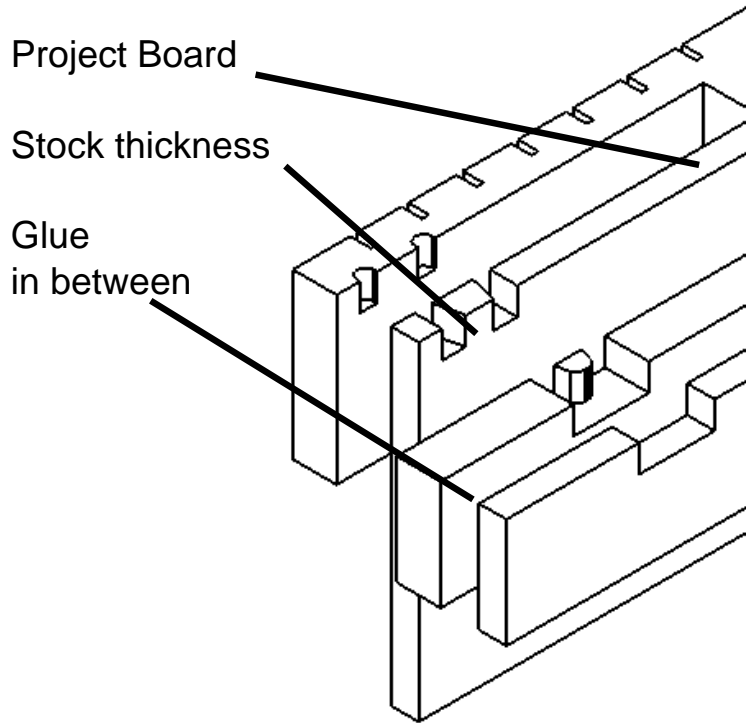
- Notes: 1- Understanding fully the previous instructions before these is necessary.  
2- Attaching the ChestMate to small pieces of stock may not be practical or safe.

Utilizing your 3/4 inch wide 14 degree dovetail cutter along with you 5/16 in. dia. straight cutter.

## Tail Cutting

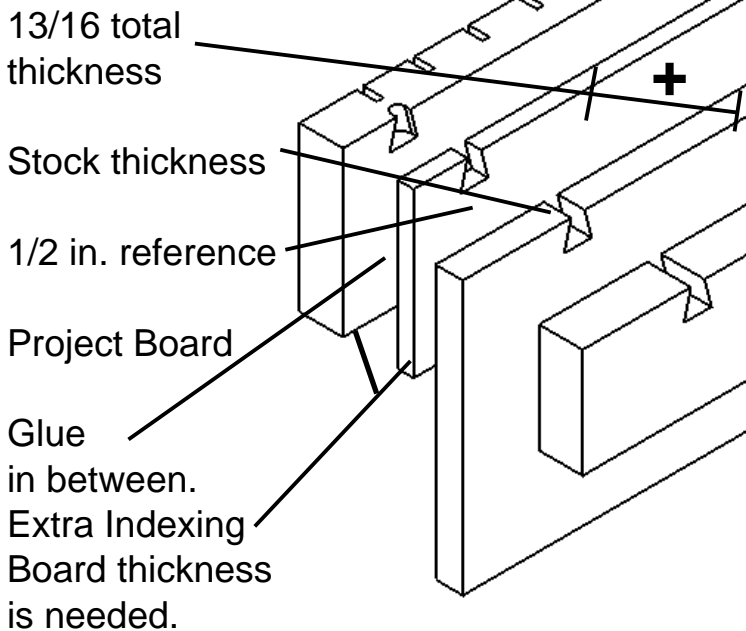


## Pin Cutting

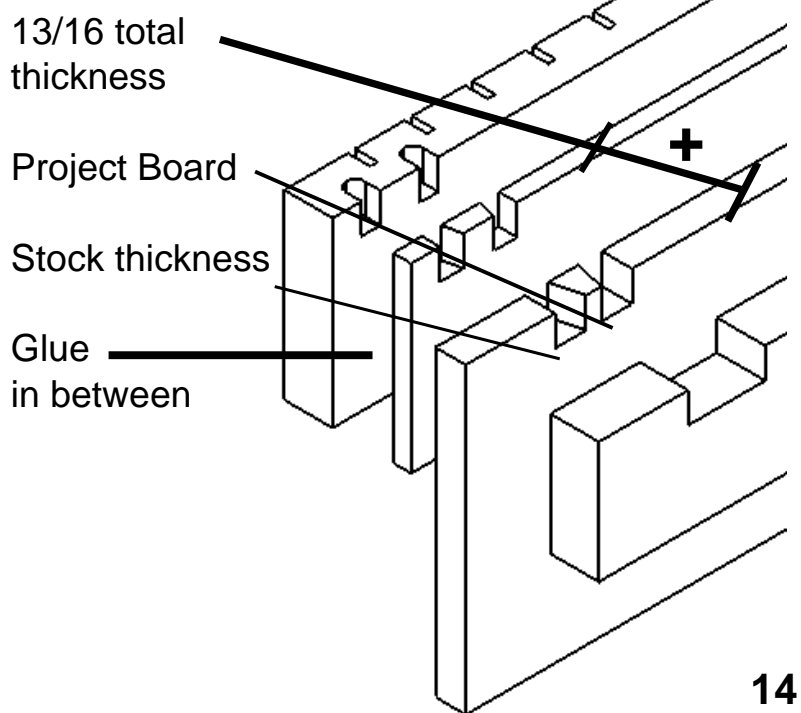


Using a smaller dovetail cutter, 1/2 inch wide 14 degrees, along with your 5/16 in dia. straight cutter

## Tail Cutting



## Pin Cutting



We are always looking for ways to improve our products and your feedback is always appreciated. If you have any questions, comments, or tips please contact us at 800-262-0211.

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## **LIMITED LIFETIME WARRANTY**

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### **What is covered under the lifetime warranty?**

This **warranty** covers all defects in workmanship or materials and normal wear items in this PRAZI tool for the lifetime of the tool. Warranties for other PRAZI USA products may vary.

### **How to obtain warranty service.**

To obtain service for this PRAZI USA tool you must return it, freight prepaid, to PRAZI USA. You may obtain the location of PRAZI USA, by calling (toll free) 1-800-262-0211 or by logging on to the PRAZI USA web site, [www.praziusa.com](http://www.praziusa.com). When requesting **warranty** service, you must present the proof of purchase documentation, which includes a date of purchase. PRAZI USA will replace any part covered under the **warranty**, at our option at no charge to you.

### **What is not covered?**

This warranty applies only to the original purchaser at retail and may not be transferred. This warranty only covers defects arising under normal usage and does not cover malfunction, failure, or defect resulting from misuse, abuse, neglect, alteration, modification or repair by others.

**\*PRAZI USA makes no warranties, representations or promises as to the quality or performance of its tools other than those stated in its warranty.**

### **Additional limitations.**

To the extent permitted by applicable law, all implied warranties, including warranties of **Merchantability or Fitness for a Particular purpose**, are disclaimed. Any implied warranties, including warranties of Merchantability or Fitness for a Particular Purpose, that cannot be disclaimed under state law are **limited** to three years from the date of purchase. PRAZI USA, is not responsible for direct, indirect, incidental or consequential damages. Some states do not allow limitations on how long an implied **warranty** lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. This **warranty** gives you specific legal rights, and you may also have other rights, which may vary by state.