

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.



ITEM 34102

12" DOVETAIL JOINT FIXTURE



Visit our website at: <http://www.harborfreight.com>

Email our technical support at: productsupport@harborfreight.com

REV 14i

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein.

Tools required for assembly and service may not be included.

⚠ WARNING

**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

Specifications

Dovetail Jig Style	For Cutting "Half-Blind" Jigs Only. Includes 1/2" Template
Maximum Stock Thickness Capacity	1-1/4" Thick
Top Width Range	5-1/2" to 12"
Front Width Range	5-13/16" to 10-7/8"
Comb Size	1/2"
Eccentric Fixing Allowance	5/16"
Stop Pin Allowance	1"
Dimensions	10-1/4"H x 17"W x 15-3/4" L
Weight	20.90 lb.

IMPORTANT SAFETY INFORMATION

General Safety Warnings and Precautions

1. **KEEP WORK AREA CLEAN AND DRY.** Cluttered, damp, or wet work areas invite injuries.
2. **KEEP CHILDREN AWAY FROM WORK AREA.** Do not allow children to handle this product.
3. **STORE IDLE EQUIPMENT.** When not in use, tools and equipment should be stored in a dry location to inhibit rust. Always lock up tools and equipment, and keep out of reach of children.
4. **DO NOT USE THIS PRODUCT IF UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.** Read warning labels on prescriptions to determine if your judgement or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to use this product.
5. **USE EYE AND BREATHING PROTECTION.** Wear ANSI approved safety impact eye goggles and an ANSI approved dust mask or respirator when using this product. ANSI approved safety impact eye goggles, dust masks, and respirators are available from Harbor Freight Tools.
6. **DRESS SAFELY.** Do not wear loose clothing or jewelry, as they can become caught in moving parts. Wear a protective hair covering to prevent long hair from becoming caught in moving parts. If wearing a long-sleeve shirt, roll sleeves up above elbows.
7. **DO NOT OVERREACH.** Keep proper footing and balance at all times to prevent tripping, falling, back injury, etcetera.
8. **INDUSTRIAL APPLICATIONS MUST FOLLOW OSHA REQUIREMENT.**
9. **STAY ALERT.** Watch what you are doing at all times. Use common sense. Do not use this product when you are tired or distracted from the job at hand.
10. **CHECK FOR DAMAGED PARTS.** Before using this product, carefully check that it will operate properly and perform its intended function. Check for damaged parts and any other conditions that may affect the operation of this product. Replace or repair damaged or worn parts immediately.
11. **REPLACEMENT PARTS AND ACCESSORIES:** When servicing, use only identical replacement parts. Only use accessories intended for use with this product. Approved accessories are available from Harbor Freight Tools.
12. **MAINTAIN THIS PRODUCT WITH CARE.** Keep this product clean and dry for better and safer performance.
13. **MAINTENANCE:** For your safety, service and maintenance should be performed regularly by a qualified technician.

General Safety Warnings and Precautions cont'd

14. **USE THE RIGHT TOOL FOR THE JOB.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool, and do not use this tool for a purpose for which it was not intended.
15. **WARNING:** The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors, which cannot be built into this product, but must be supplied by the operator.

Specific Product Warnings and Precautions

1. **USE THE PROPER DOVETAIL BIT** (not included) **FOR YOUR ROUTER.** Do not use any Bit larger than 1/2", or damage to the Comb Table (part #18) will result. Adjust the Bit so that it will not come in contact with the Comb Table or Working Table (part #1).
2. **WHEN CUTTING LARGE WORKPIECES, MAKE SURE THEY ARE PROPERLY SUPPORTED.**
3. **MAINTAIN A SAFE WORKING ENVIRONMENT.** Keep the work area well lit. Make sure there is adequate surrounding workspace. Always keep the work area free of obstructions, grease, oil, trash, and other debris.
4. **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead-based paints
 - Crystalline silica from bricks and cement or other masonry products
 - Arsenic and chromium from chemically treated lumberYour risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code § 25249.5, *et seq.*)

Product Overview

The Model 34102 Dovetail Joint Fixture allows you to create strong, precision cut, "Half-Blind" dovetails. Half-Blind dovetails are visible only from one side, and commonly used for drawer joinery when you do not want the end grain of the tails to show in the drawer front. This particular Dovetail Joint Fixture holds both pieces of wood stock at the same time, and allows you to make both the male and female cuts (pins and tails) at the same time.



Assembly Instructions



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this document including all text under subheadings therein before set up or use of this product.

To Assemble The Dovetail Joint Fixture:

1. Screw the two Knobs (part #12) onto the two Eccentric Rods (part #13).
2. Screw an Eccentric Rod onto each of the two Rotary Rods (part #11). (See Figure A)

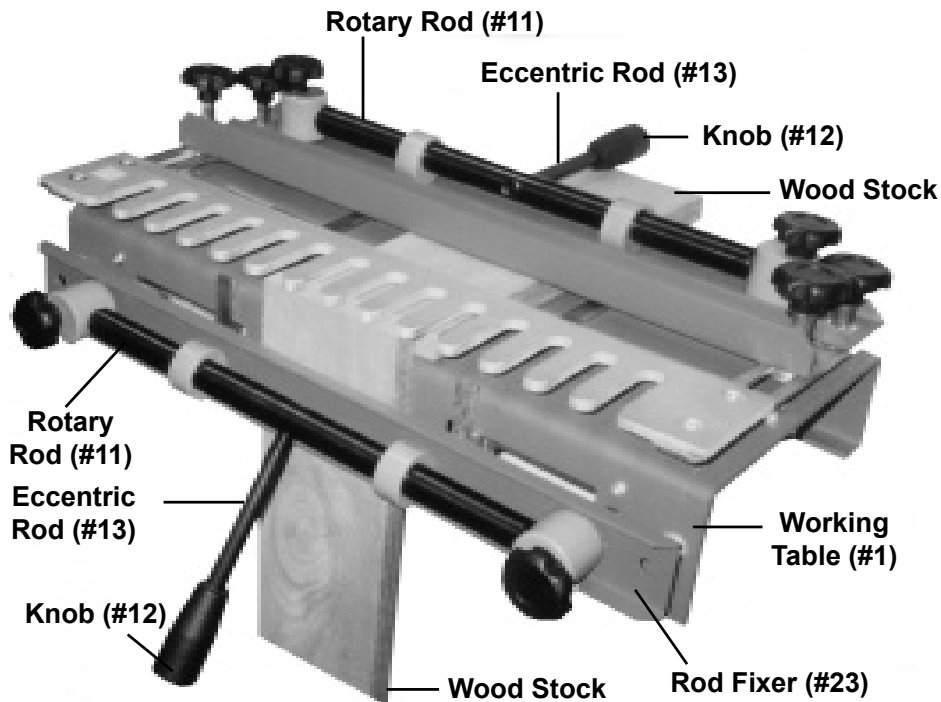


Figure A

To Mount The Dovetail Joint Fixture On A Workbench:

CAUTION: Mount the Dovetail Joint Fixture on a flat, level, sturdy, workbench capable of supporting the weight of the Dovetail Joint Fixture, workpieces, and tools.

NOTE: Mount the Dovetail Joint Fixture on the front edge of the workbench, so that the front tab of the Working Table (part #1) rests against the vertical edge of the workbench. (See Figure B)

1. To mount the Dovetail Joint Fixture, use the two mounting holes located at each end of the Work Table (part #1). (See Figure B)
2. Position the Dovetail Joint Fixture at the desired location on the workbench. Mark and drill four 3/16" holes in the workbench, using the two mounting holes at each end of the Dovetail Joint Fixture as a template. Then secure the Dovetail Joint Fixture to the workbench, using four wood screws (not included). (See Figure B)

END VIEW

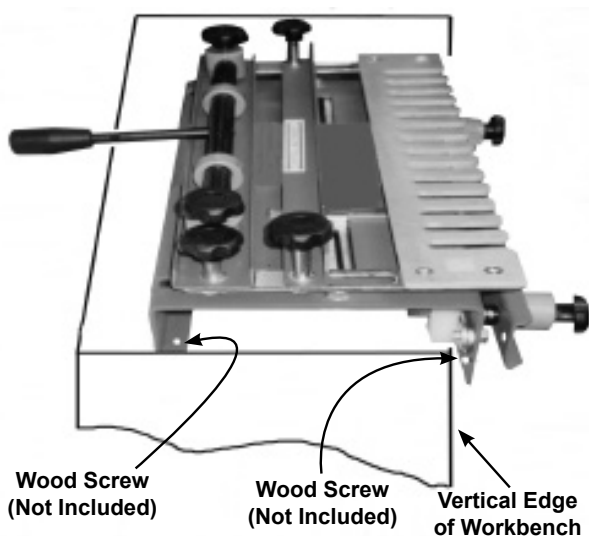


Figure B

Operating Instructions



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Wood Stock Placement

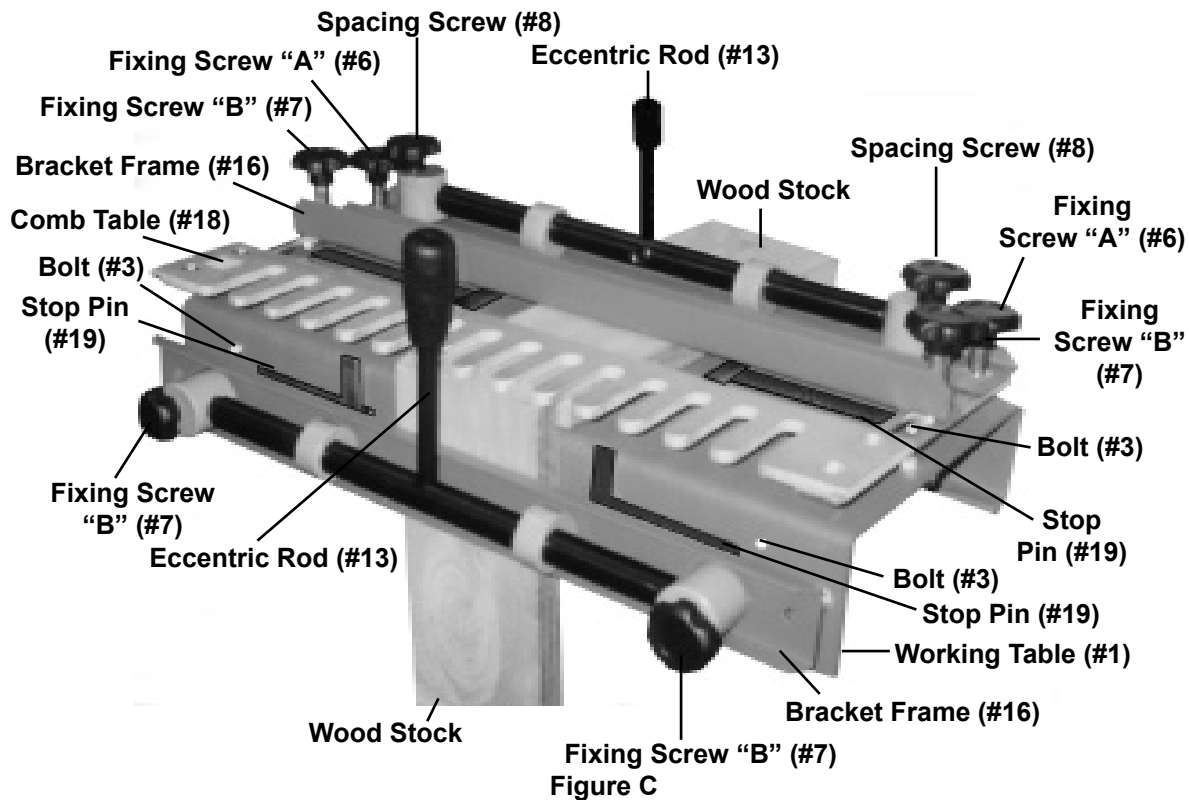


Figure C

1. Loosen the four Bolts (part #3) enough to allow the horizontal and vertical Stop Pins (part #19) to move. Then, spread the Stop Pins wider than the width of the two pieces of wood stock. (See Figure C)
2. Slightly loosen the front and rear Fixing Screws "B" (part #7), and pull up on the front and rear Eccentric Rods (part #13). (See Figure C)
3. Insert the wood stock (from 5-1/2" to 12" wide) horizontally from the back between the rear Bracket Frame (part #16), Comb Table (part #18), and Working Table (part #1). (See Figure C)
4. Adjust the horizontal wood stock so that its forward edge is flush with the forward vertical edge of the Working Table. (See Figure C)
5. Tighten the two rear Fixing Screws "B" (part #7), and pull down on the rear Eccentric Rod (part #13) to clamp the horizontal wood stock in place. (See Figure D, next page.)
6. Insert the second piece of wood stock (from 5-13/16" to 10-7/8" wide) vertically from below, between the front Bracket Frame (part #16) and the vertical edge of the Working Table (part #1). NOTE: The top edges of the two workpieces should be flush. (See Figure C)
7. IMPORTANT: The vertical wood stock should be positioned offset to the left of the horizontal wood stock by the width of one Comb on the Comb Table (part #18). (See Figure C)

Wood Stock Placement cont'd

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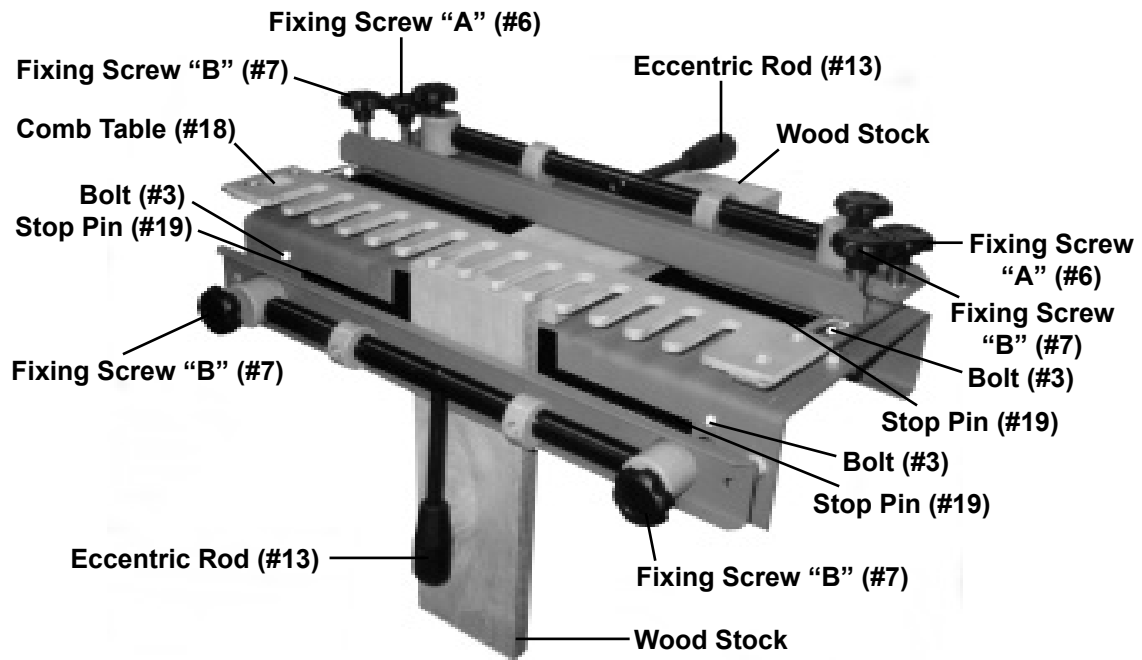


Figure D

8. If necessary, adjust the forward/backward position of the Comb Table (part #18) until the tips of the Combs are approximately $5/32$ " clear of the vertical wood stock's edge. To do so, slightly loosen the two Fixing Screws "A". Move the Comb Table inward or outward until it is properly positioned. Then, retighten the Fixing Screws "A". (See Figure D)
9. Adjust the width of the four Stop Pins (part #19) so that they touch the two pieces of wood stock on their sides. Then, retighten the four Bolts (part #3) to secure the Stop Pins in place. (See Figure D)
10. When the vertical wood stock is in the proper position tighten the two front Fixing Screws "B", and clamp the wood stock in place by pulling down on the front Eccentric Rod (part #13). (See Figure D)
11. If necessary, adjust the forward/backward position of the Comb Table (part #18) until the tips of the Combs are approximately $5/32$ " clear of the vertical wood stock's edge. To do so, slightly loosen the two Fixing Screws "A". Move the Comb Table inward or outward until it is properly positioned. Then, retighten the Fixing Screws "A". (See Figure D)



Using Router Guide Bushings and Bearing Guides:

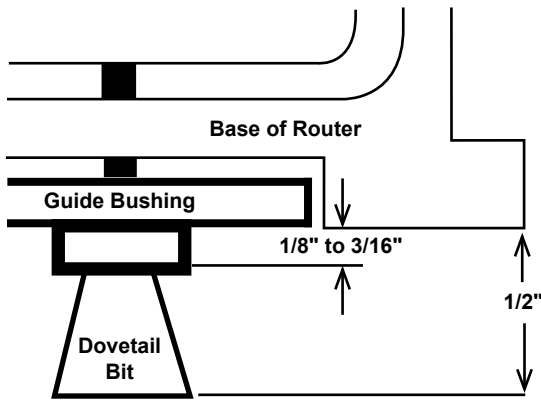


Figure E

Template Size	Bit Size	Bushing Size	Pin Width
1/2"	1/2"	1/2"	5/8"
7/16"	1/2"	7/16"	1/2"
9/16"	1/2"	9/16"	3/4"

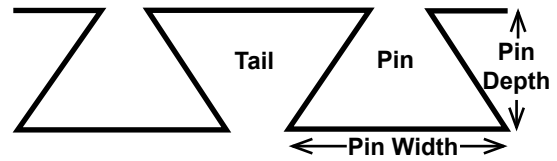


Figure F

1. Router guide bushings (not included) are attached to the base of the Router (not included), and used for limiting the depth of cut between the Combs of the Comb Table (part #18). The guide bushing should protrude 1/8" to 3/16" below the base of the router and have a 7/16" outside diameter (See Figure E)
2. This Dovetail Joint Fixture is designed to be used with 1/4" shank, 1/2", 14 degree dovetail bits only. The bit should protrude approximately 1/2" below the Router base plate, but may need minor adjustment.
3. If you do not use a Router Guide Collar, the following Router Ball Bearing Guide (included) are also suited to work with the Dovetail Joint Fixture.

ROUTER BALL BEARING GUIDES (NOT INCLUDED)					
DEGREE SIDE	CUTTING DEPTH	CUTTING LENGTH	SHANK	BEARING O.D.	COMB SIZE
14°	0.587"	0.472"	0.25"	1/2"	1/2"
14°	0.587"	0.472"	0.25"	1/2"	9/16"
14°	0.457"	0.472"	0.25"	3/8"	7/16"

Cutting The Dovetails:

1. CAUTION: Never allow the Router Bit to come in contact with either the Comb Table (part #18) or the Working Table (part #1). Use the proper Router Bit, and properly adjusted Router Guide Collar or Router Ball Bearing Guide. Do not use any Router Bit larger than 1/2" diameter, or damage to the Comb Table will occur.
2. Follow the instructions in your Router manual to properly set up the Router and its accessories to cut dovetails.
3. Place the Router on the Comb Table (part #18). Do not allow the Router Bit to contact either pieces of wood stock. Then, turn on the Router. (See Figure D)
4. Guide the Router Bit in and out between the Combs of the Comb Table (part #18). Make sure to cut the two pieces of wood stock to the full depth, but do not cut into the Comb Table or the Working Table (part #1). (See Figure D)
5. When the dovetails have been completely cut, turn off and remove the Router.



To Cut A Flush Dovetail Joint:

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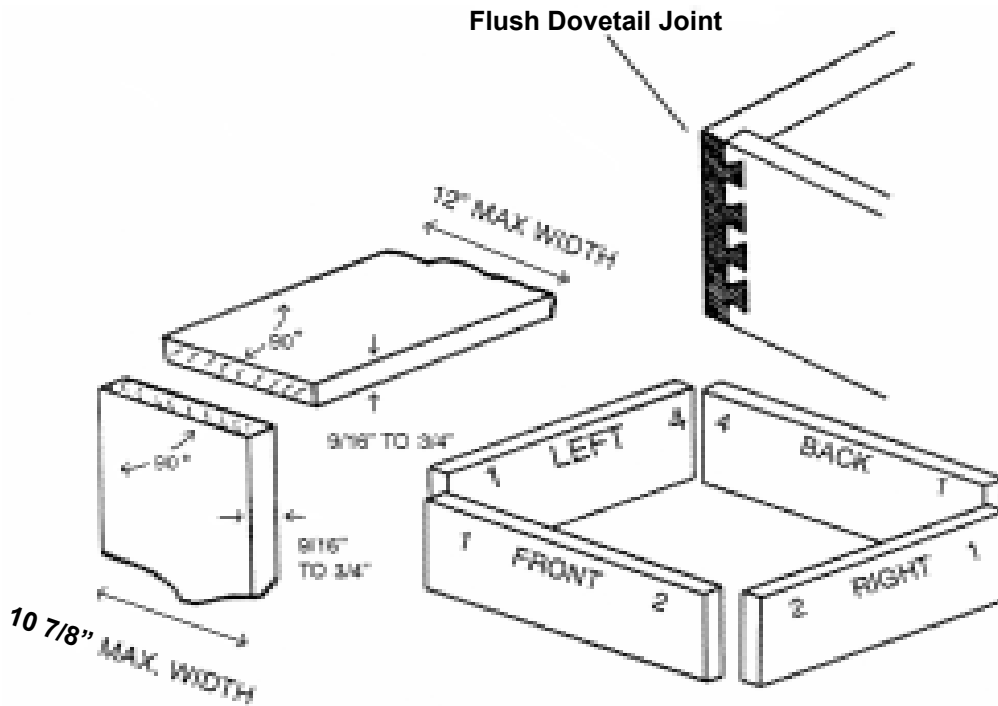


Figure G

1. Loosen the four Bolts (part #3), and adjust the four Stop Pins (part #19) so they are offset by the 1/2" Comb being used (1/2" and 90 degrees to the front edge of the Bracket Frame (part #16). Then, retighten the four Bolts. (See Figure C, Figure C, and Figure G.)
2. Measure, cut the wood stocks to the desired size, and lay them out. Then, mark each wood stock "front," or "left," or "back," or "right." Also, number each end of each wood stock. (See Figure G)
3. Measure and cut two test wood stocks the same size as the actual wood stocks. Mark the two test wood stocks as instructed in Step #2. Then, insert the two test wood stocks in the Dovetail Joint Fixture to test, and make the corner dovetail cuts as shown. (See Figure G)
4. Attach a 1/2" Router Bit and 1/2" Guide Collar to the Router, and set the Bit to extend 23/32" below the base plate of the Router.
5. Place the Router on the Comb Table (part #18) and rout a groove across the edge of the left side of the test wood stock, moving from right to left and touching the tip of each Comb as you move across. Without lifting the Router, completely rout the test wood stocks.
6. Remove both test wood stocks from the Dovetail Joint Fixture to test for proper fit. If the dovetail joint fits properly, no further adjustment is necessary. If the joint is too loose, increase the distance from the base plate on the Router to the bottom of the Router Bit 1/64". If the joint is too tight, decrease the distance 1/64".
7. Once the Dovetail Joint Fixture is properly adjusted, the actual wood stocks may be cut. First, cut the front and left side wood stocks on the left side of the Dovetail Joint Fixture. Then follow the same procedure, but use the right side of the Dovetail Joint Fixture to cut the other ends of the front wood stock and right side wood stock.



To Cut a Flush-Offset Dovetail Joint:

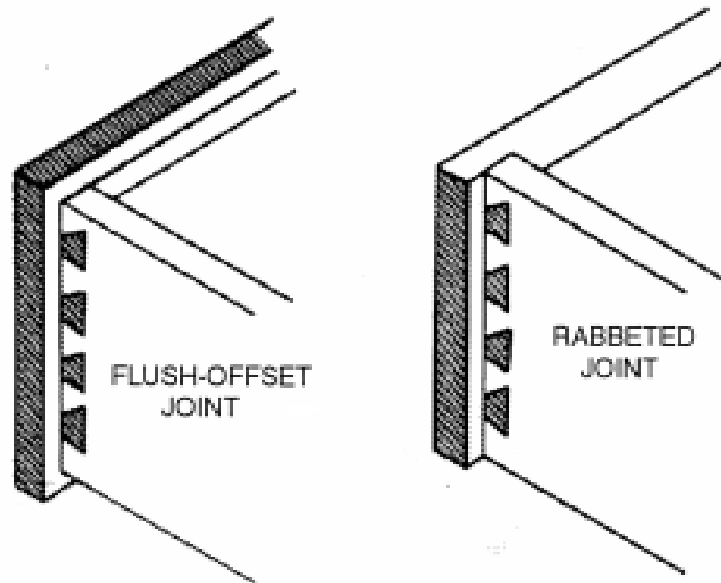


Figure H

1. When cutting the front wood stock for the flush-offset joint, add 3/4" to the length of the wood stock. Make sure the thickness of the wood stock is a minimum of 7/8" to allow for a 3/8" wide by 1/2" deep rabbet (cut prior to the dovetail procedure) on both ends. (See Figure H)
2. Proceed the same as when cutting a flush joint, except loosen the two Fixing Screws "B" (part #7) and move the Bracket Frame (part #16) 3/8" toward the back of the Dovetail Joint Fixture to allow for the 3/8" offset. Then, retighten the two Fixing Screws "B." (See Figure D)

To Cut a Rabbeted Dovetail Joint:

1. When cutting the front wood stock for the rabbeted joint, add 3/4" to the length and 3/4" to the width. Make sure the thickness of the wood stock is a minimum of 7/8" to allow for a 3/8" wide by 1/2" deep rabbet all around. (This should be cut on the inside-front wood stock prior to the dovetail procedure.) (See Figure H)
2. Proceed the same as when cutting an offset joint, but adjust the two front Stop Pins (part #19) for the front wood stock. The Stop Pins should be set so the offset is 1/8". (See Figure D, and Figure H.)



Maintenance and Servicing



Procedures not specifically explained in this manual must be performed only by a qualified technician.

1. BEFORE EACH USE, inspect the general condition of the Dovetail Joint Fixture. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, loose and improper mounting on workbench, and any other condition that may affect its safe operation. If a problem with the Dovetail Joint Fixture occurs, have the problem corrected before further use. Do not use damaged equipment.
2. DAILY: With a soft brush, cloth, or vacuum, remove all sawdust and debris from the Dovetail Joint Fixture. You may wipe with a damp cloth, using a mild detergent or mild solvent.

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Record Serial Number Here:

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

PLEASE READ THE FOLLOWING CAREFULLY

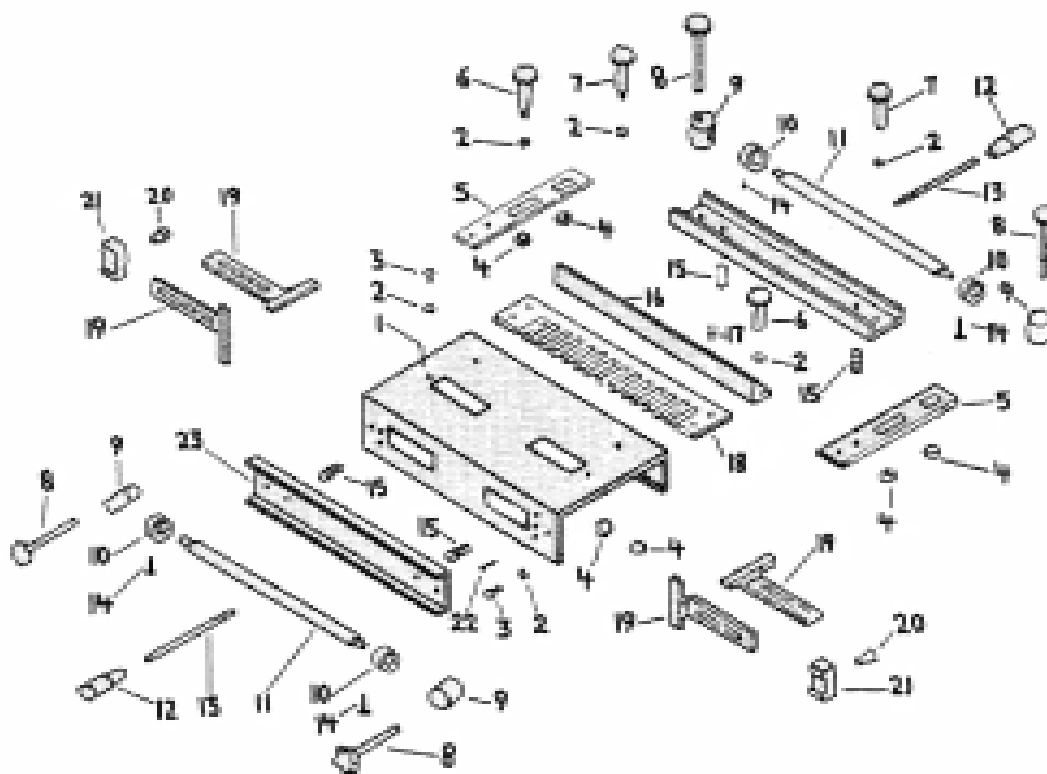
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Parts List

Part	Description	Qty
1	Working Table	1
2	Washer	8
3	Bolt	4
4	Nut	8
5	Side Brace	2
6	Fixing Screw "A"	2
7	Fixing Screw "B"	4
8	Spacing Screw	4
9	Bar Fixing Stand	4
10	Eccentric Wheel	4
11	Rotary Rod	2
12	Knob	2

Part	Description	Qty
13	Eccentric Rod	2
14	Screw	4
15	Spring	4
16	Bracket Frame	1
17	Screw	4
18	Comb Table	1
19	Stop Pin	4
20	Adjusting Nut	2
21	Support	2
22	Screw	4
23	Rod Fixer	2

Assembly Diagram



Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

