VEVOR

Upgrade · The Home Creator Way

Dovetail Jig

MODEL: 28104-3

VEVOR Support Center

28104-3

VEVOR
Upgrade·The Home Creator Way

Dovetail Jig

MODEL: 28104-3



Please view the installation video of the product

This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

SAFETY GUIDELINES - DEFINITIONS

This manual contains information that is important for you to know and understand. This information relates to protecting YOUR SAFETY and PREVENTING EQUIPMENT PROBLEMS. To help you recognize this information, we use the symbols to the left. Please read the manual and pay attention to these sections.

⚠DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION Used without the safety alert symbol indicates potentially hazardous situation which, if not avoided, may result in property damage.

IMPORTANT SAFETY INSTRUCTIONS

⚠WARNING Read and understand all instructions. Failure to follow all instructions listed below result in electric shock, fire and/or serious personal injury.



SAVE THESE INSTRUCTIONS.

⚠WARNING **There are certain applications for which this tool was designed**. VEVOR strongly recommends that this tool NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the tool until you have written VEVOR and we have advised you.

1. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
2. **AVOID DANGEROUS ENVIRONMENT.** Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep area well lit. Avoid chemical or corrosive environment. Do not use tool in presence of flammable liquids or gases.
3. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges, refrigerator enclosures.

4. **KEEP CHILDREN AWAY.** Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.
5. **STORE IDLE TOOLS.** When not in use, tools should be stored in a secure, dry place – out of reach of children.
6. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
7. **USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy duty tool. Don't use tool for purpose not intended – for example – do not use a circular saw for cutting tree limbs or logs.
8. **DRESS PROPERLY.** Do not wear loose clothing or jewelry. Loose clothing, draw strings and jewelry can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
9. **USE ANSI Z87.1 SAFETY GLASSES.** Wear safety glasses or goggles while operating power tools. Also face or dust mask if operation creates dust. All persons in the area where power tools are being operated should also wear safety glasses and face or dust mask.
10. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges. Have damaged or worn power cord and strain reliever replaced immediately. DO NOT ATTEMPT TO REPAIR POWER CORD.
11. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Have all worn, broken or lost parts replaced immediately. Keep handles dry, clean and free from oil and grease.
14. **DISCONNECT TOOLS** when not in use, before servicing, and when changing accessories such as blades, bits, cutters, etc.
15. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.

16. **AVOID UNINTENTIONAL STARTING.** Do not carry a plugged-in tool with finger on switch. Be sure switch is off when plugging in. Keep hands, body and clothing clear of blades, bits, cutters, etc. when plugging in the tool.

17. **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords marked "Suitable for use with outdoor appliances – store indoors when not in use." If an extension cord is to be used outdoors it must be marked with the suffix W-A or w following the cord type designation.

18. **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired or while under the influence of medication, alcohol or drugs.

19. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.

20. **WEAR ANSI S3.19 EAR PROTECTION** to safeguard against possible hearing loss.

ADDITIONAL SAFETY RULES

⚠WARNING **FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY.**

1. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS** in the instruction manual supplied with your router.

2. **SECURE WORK.** Be sure Dovetail Fixture/Jig and work is anchored securely to prevent movement.

3. **BE SURE CORD SET IS FREE** and will not hang up during routing operations.

4. **KEEP HANDS CLEAR** of cutter when motor is running to prevent personal injury.

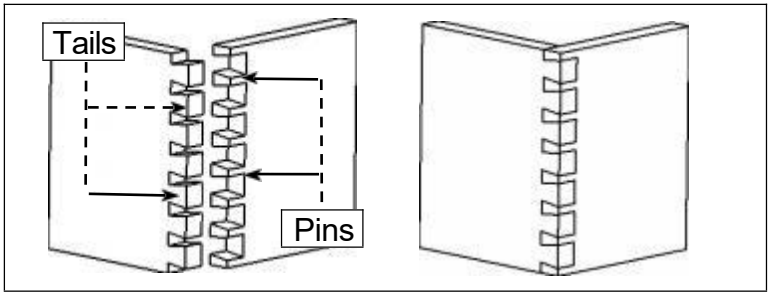
5. **MAINTAIN FIRM GRIP** on router when starting motor to resist starting torque.

6. **STAY ALERT** and keep cutter free, clear of all foreign objects while motor is running.
7. **BE SURE MOTOR HAS COMPLETELY STOPPED** before removing router from Dovetail Fixture/Jig and setting Dovetail Fixture/Jig down between operations.
8. **NEVER REMOVE ROUTER MOTOR** from router base while template guide and dovetail bit are installed. dovetail bit may not fit through hole in template guide.
9. **TIGHTEN TEMPLATE GUIDE LOCKNUT SECURELY.**
10. **SOME WOOD CONTAINS PRESERVATIVES WHICH CAN BE TOXIC.** Take extra care to prevent inhalation and skin contact when working with these materials. Request, and follow, any safety information available from your material supplier.

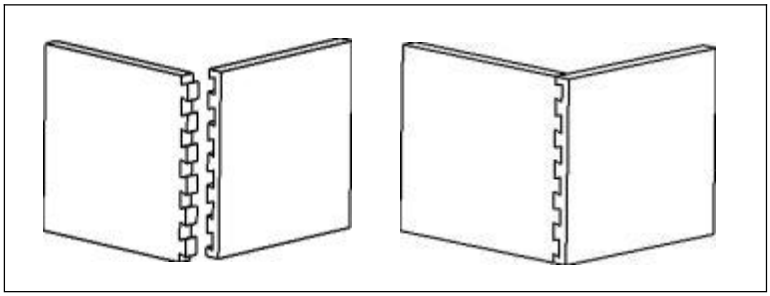
REPLACEMENT PARTS

When servicing use only identical replacement parts.

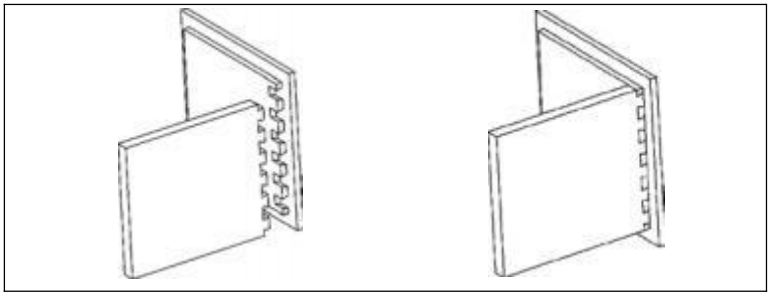
THROUGH DOVETAILS



HALF-BLIND DOVETAILS

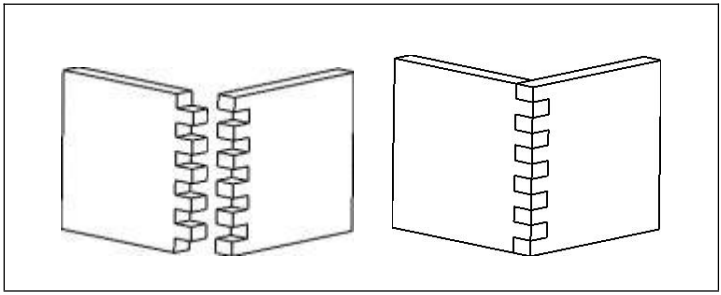


RABBETED HALF-BLIND DOVETAILS

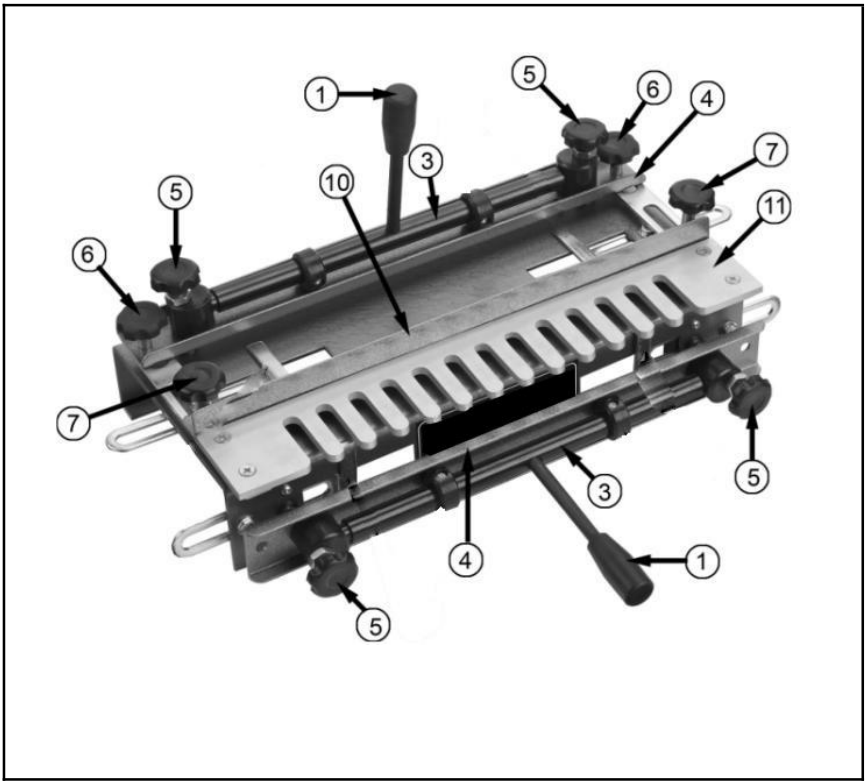


BOX (FINGER) JOINT

A similar joint, called a box or finger joint, has straight protrusions called fingers on both boards. This joint is used on jewelry boxes and other small boxes. The box joint is strong because it has a large surface area for glue.



OVERVIEW



NO	DESCRIPTION	NO	DESCRIPTION
1	Handle	7	M8 long pole handle
3	Clamping axis	10	Base
4	Pressing plate	11	1/2”Half-blind Template
5	M10 long pole handle		
6	M8 short pole handle		

Accessory

MODLE:28104-3

Base * 1	
Pressing plate * 2	1/2”*10.3*1”straight tenon dyills*1
Positioning board * 1	1/2”*1/2”*30straight tenon dyills*1
Galvanized support plate * 2	1/2”-13.5*7°dovetail bit*1
Clamping axis * 2	1/2”*15*12°dovetail bit*1
Spring * 4	1/4 "Dovetail Bit * 1
Handle * 2	Positioning bolt *2
M10 long pole handle * 4	Positioning disk *1
M8 long pole handle * 2	M30*1.5knurled nut *1
M8 short pole handle * 2	3/4”shaft sleeve *1
Clamping shaft seat * 4	5/8”shaft sleeve *1
T-shaped nut * 4	1”shaft sleeve *1
¢8 gaskets * 4	
M6 * 10 countersunk screws * 4	
1/2”through dovetail template*1	
1”through dovetail template*1	
1/2”Half-blind Template*1	

Assembly Instructions：

1. Firstly, take out all the components from the box and arrange them properly (see Figure 1).

The Part no. in the assembly description correspond to the numbers in the explosion diagram（Refer to page 7）


Figure 1

Install the side clamping plate (4): Firstly, fit the clamping shaft seat onto the M10 long rod handle (5), and then insert the spring through the inner hole of the clamping plate (4) (see Figure 2).


Figure 2

Install the clamping shaft into the two circular holes of the clamping shaft seat and screw it into the nut on the side of the base (Figure 3, Figure 4, Figure 5)


Figure3


Figure4


Figure5

2.Installation template group: Unscrew two sets of M8 short rod handles (6) (Figure 6), assemble the other clamping plate (4) onto the support plates L and R, place the T-shaped nut into the long groove hole of the support plate (Figure 7), then place the clamping plate and lock it with the M8 short rod handle (6), but do not tighten it (Figures 8 and 9).


Figure6


Figure7


Figure8

Figure9

Unscrew two sets of M8 long rod handles (7) (Figure 10).


Figure 10

Place the T-shaped nut into the long groove hole of the support plate (Figure 11).


Figure 11

Then place the positioning plate (10) and use an M8 long rod to lock (7), but it doesn’t need to be tightened (Figure 12)


Figure12

Finally, place the template (11) on the support plate, aligning the four holes on the template (11) with the holes on the support plate, and tighten them with M6 * 10 countersunk cross screws (Figure 13).Finally, tighten the two M8 short rod handles and two M8 long rod handles (Figure 14).

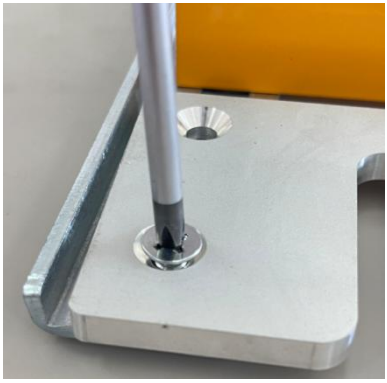
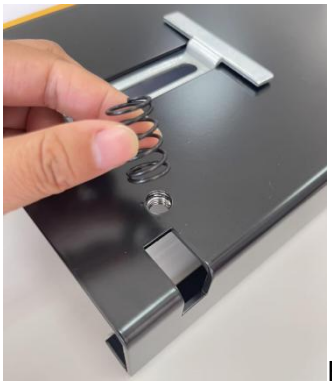

Figure13


Figure14

3. Place the spring on the nut of the base (Figure 15).


Figure15.

Install clamping shaft seats on both ends of clamping shaft (3) (Figure 16).


Figure16

Place it on the clamping plate of the assembled template group (Figure 17), and finally place it on the base (Figure 18).


Figure17

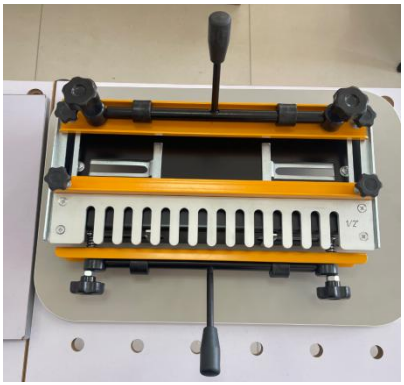
Align the hole of the clamping shaft seat with the hole of the clamping plate, use an M10 long rod handle (5) to thread through the spring and tighten it onto the nut of the base (Figure 18).


Figure18

4.Twist the two clamping handles (1) into the middle of the clamping shaft (Figure 19).


Figure19

5. Assembly completed (Figure 20).

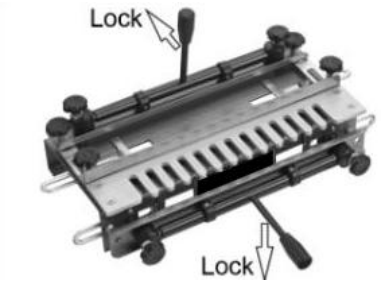

Figure20

PREPARATION FOR USE

ASSEMBLING THE JIG

Screw the front and top handles into the eccentric bars.

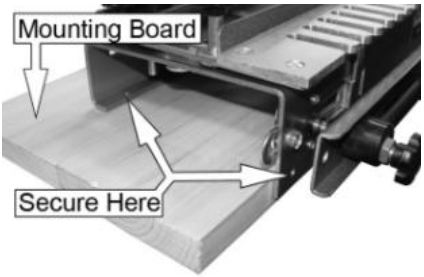
· The workpieces will be locked when the top locking clamp handle is pushed away from you and when the lower locking clamp handle is pushed downwards.



MOUNTING THE JIG

There are four holes provided in the base for mounting the jig.

1. Mount the jig to a bench as shown and secure using suitable screws (not supplied).



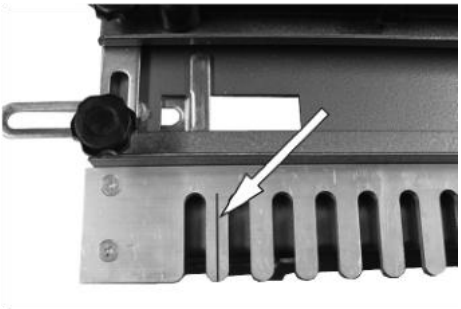
· The jig must be mounted flush with the front edge of the workbench.

· Make sure there is enough space behind the jig to accommodate the longest length of timber you are likely to work on.

SETTING THE END STOPS

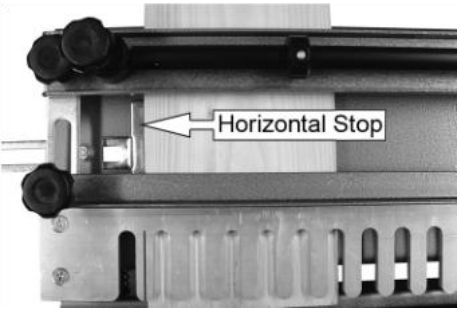
1. Use a set square to draw a pencil line halfway across the first finger of the template

· The line must be square to the edges of the template.



2. Line up the inside edge of the left horizontal stop with the line you just drew on the template.

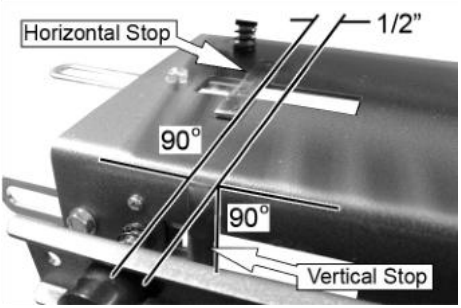
· Use a set square to ensure the stop is square to the jig.



3. Offset the vertical stop 1/2” to the right of the horizontal stop.

· Ensure the vertical stop is square to the top of the jig.

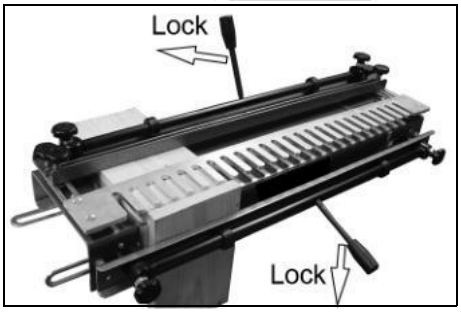
4. Mirror these settings on the right hand side of the jig.



PLACING THE TIMBER INTO THE JIG

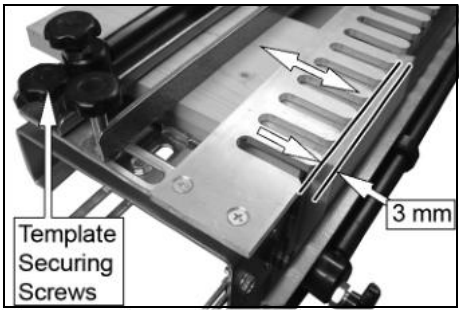
1. Align the timber so that the side of the workpiece is mounted in the front vertical clamp.
   - · It should extend above the front edge of the jig by the thickness of the piece to be mounted under the top clamp (front or back of the drawer).
2. The piece of timber in the top clamp is then butted up to this, so that both pieces are flush under the template.
3. The two pieces sit in the jig as shown on the right.
   - · Make sure that both pieces are butted up against the horizontal / vertical stops.
4. Use the locking clamp handles to secure the wood to the jig.
   - · You may need to adjust the top and front clamp bars to suit the thickness of the timber using the clamp adjusting screws at either end of each clamp bar so that the wood is held firmly in place
   - · When narrow pieces of wood are being used, place another piece of wood (exactly the same thickness) underneath the clamp bar at the opposite end to ensure an even grip on the wood and to avoid distorting the bars.





SETTING THE TEMPLATE POSITION

1. Unlock the two template securing screws and position the template so that the tips of the fingers sit 3mm back from the edge of the vertically mounted timber.
2. Lock the template into position using the two template securing screws.



SETTING THE BACKSTOP POSITION

The distance the backstop needs to be positioned from the front of the template fingers depends on the size of router base fitted to your router,

The formula to calculate this is:-

$$\left(\frac{\text{router base diameter}}{2}\right)+\left(\text{2 x width of the drawer sides}\right)-\left(\frac{\text{cutter tip diameter}}{2}\right)$$

EXAMPLE

Using a router which has a base diameter of 160 mm, making a drawer that has sides 18 mm thick and using the standard cutter supplied with a tip diameter of 14.8 mm.

$$\left(\frac{\text{router base diameter}}{2}\right)+\left(\text{2 x width of the drawer sides}\right)-\left(\frac{\text{cutter tip diameter}}{2}\right)$$

$$\left(\frac{160\text{ mm}}{2}\right)+\left(2\text{ x }18\text{ mm}\right)-\left(\frac{14.8\text{ mm}}{2}\right)$$

$$\left(80\text{ mm}\right)+\left(36\text{ mm}\right)-\left(7.4\text{ mm}\right)$$

Distance = 108.6 mm

The distance from the tips of the template backstop should be set at 108.6 mm.

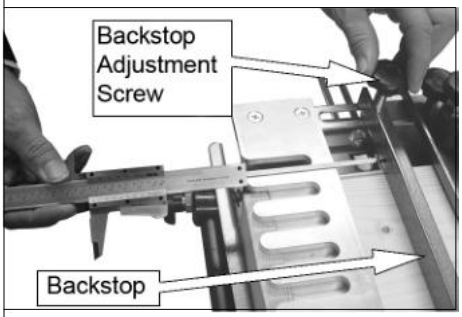
1. Set a micrometer or vernier caliper to the calculated depth and adjust the backstop as shown.

2. Lock into place using the backstop locking screws.

· It is not essential that this setting is exact at this stage as final adjustments can be made later on.

· Ensure that the template and back edge of the jig during this setting

fingers to the vertical face of the



stop stay parallel with the front procedure.

CUTTING A DOVETAIL

PREPARATION OF TIMBER

As with all detailed joinery the components accurately.

· It is preferable that the width of this will give a series of fully-formed

The joints on the right of the project (1 + 2) are cut on the left hand side of the jig.

The joints on the left of the project (3 + 4) are cut on the right hand side of the jig.

· It is a good idea to identify the drawer pieces as shown, so that they are positioned correctly in the jig.

The front and back pieces are mounted edges facing upwards and the top,

The left and right pieces are mounted inside edges facing towards you and stop.

SETTING THE ROUTER CUTTER DEPTH

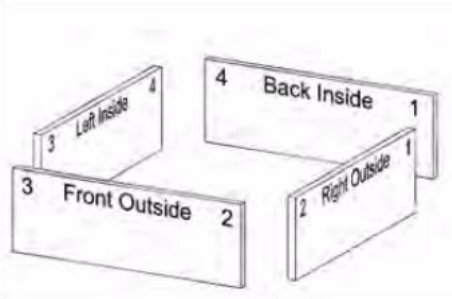
1. Fit the bearing guided router bit

2. Adjust the cutter depth, until the bottom of the router bit protrudes 10-11 mm below the template fingers.

· You may need to fit a packing piece between the template and the timber to ensure good contact between the bearing and the slots in the template.

· The cutting depth is critical to the final fit of the joint, with as little making all the difference.

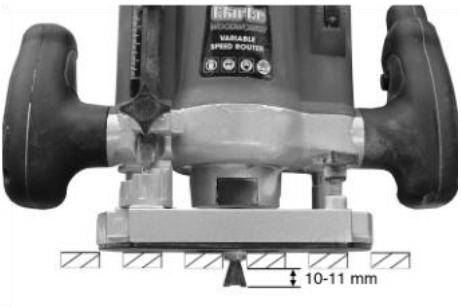
must be sized, cut and squared the timber is in exact steps of 1/2" as dovetails.



in the top of the jig with the inside butting up against the horizontal stop.

vertically in the front of the jig with

the top butting up against the vertical



as 0.5mm change in depth

CUTTING THE JOINT

You should carry out the initial cuts on two trial pieces of timber of the same width and thickness as the final components. This will allow you to alter various settings in order to get the joint to fit perfectly.

1. Position the router on the template with the cutter clear of the timber and switch on your router.
2. Make the initial cut from the right, across the work, almost touching the end of each finger.
   - Avoid heavy-handed contact with the template, allow the router to do the work.
3. Make the remainder of the cuts by following the template in and out of the finger guides working from left to right.
4. When completed, switch the router off before lifting it from the jig.



CAUTION: DO NOT LIFT THE ROUTER FROM THE JIG WITH THE ROUTER STILL RUNNING.

5. Remove the pieces from the jig, make a trial fit and then, if necessary fine tune the joint by making the following adjustments:

FINE TUNING THE JOINT

Problem	Solution
Pins are too loose	Increase the cutter depth by 0.5 mm.
Pins are too tight	Decrease the cutter depth by 0.5 mm.
Pins stand proud of the joint	Move the back stop further backwards.
Pins sit too deep in the joint	Move the back stop further forward.
Pieces do not line up	Adjust the horizontal/vertical stops

6. Having made the necessary adjustments we recommend that you make a second trial cut.
7. Once the correct settings have been made then production runs of joints can be undertaken,
   - The settings will need to be checked periodically to maintain accuracy.

TROUBLESHOOTING

Your CLARKE product has been designed to give long and trouble free service. If, however, having followed the instructions in this booklet carefully, you still encounter problems, the following points should help identify and resolve them.

PROBLEM	SOLUTION
Pins are too loose	Increase the cutter depth by 0.5 mm.
Pins are too tight	Decrease the cutter depth by 0.5 mm.
Pins stand proud of the joint	Move the back stop further backwards.
Pins sit too deep in the joint	Move the back stop further forward.
Pieces do not line up	Adjust the horizontal/vertical stops

If you have any problems which cannot be resolved by reference to the above, or if you require spare parts for your jig please contact your local Clarke dealer.

RECOMMENDED ROUTER



Manufacturer: Shanghaimuxinmuyeyouxiangongsi
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