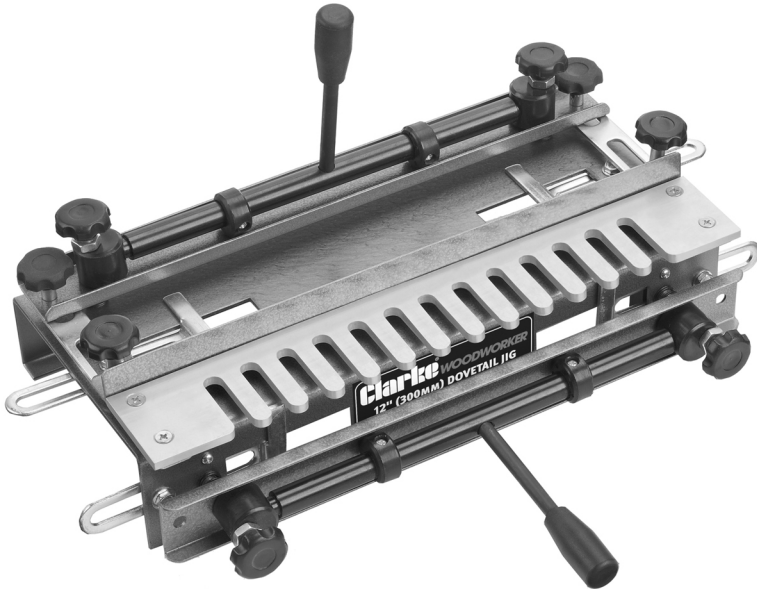


# CLARK®



**WARNING:** Read these instructions before using the machine

## DOVETAIL JIG

MODEL NO: CDTJ12 / CDTJ24

PART NO: 6462170, 6462175

## OPERATION & MAINTENANCE INSTRUCTIONS

LS0111

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## **INTRODUCTION**

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Thank you for purchasing this CLARKE Dovetail Jig.

Before attempting to operate the machine, it is essential that you read this manual thoroughly and carefully follow all instructions given. In doing so you will ensure the safety of yourself and that of others around you, and you can also look forward to the dovetail jig giving you long and satisfactory service.

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## **GUARANTEE**

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This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

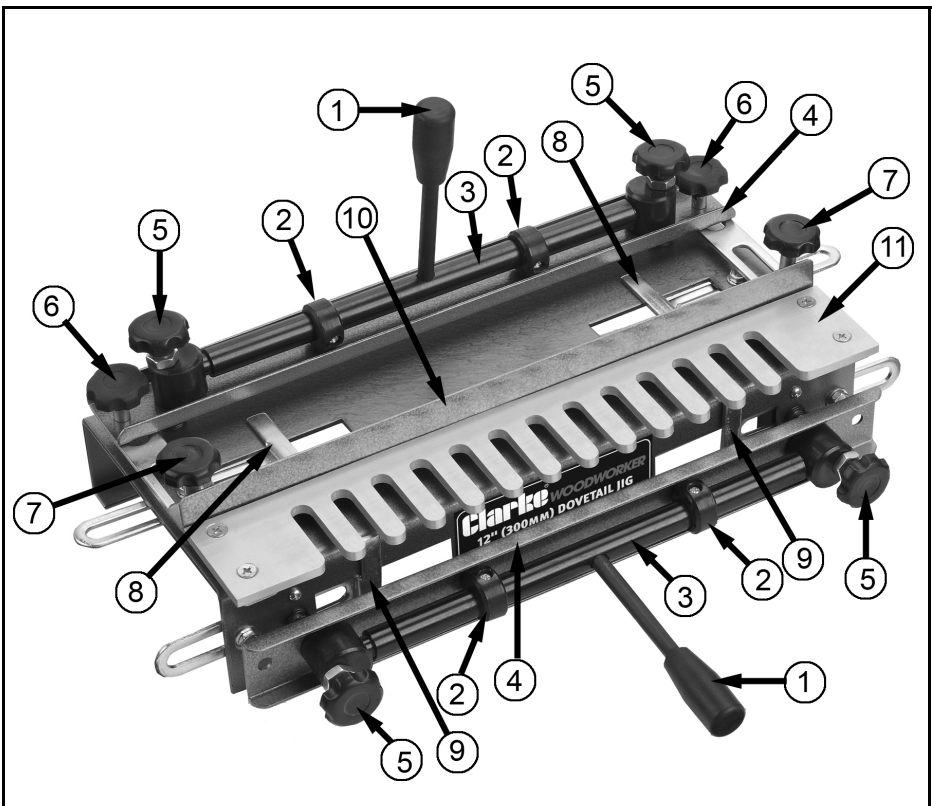
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# OVERVIEW



NO	DESCRIPTION	NO	DESCRIPTION
1	Locking Clamp Handle	7	Backstop Locking Screw
2	Eccentric Cam	8	Horizontal Stop
3	Eccentric Bar	9	Vertical Stop
4	Clamp	10	Backstop
5	Clamp Adjusting Screw	11	Template
6	Template Securing Screw		

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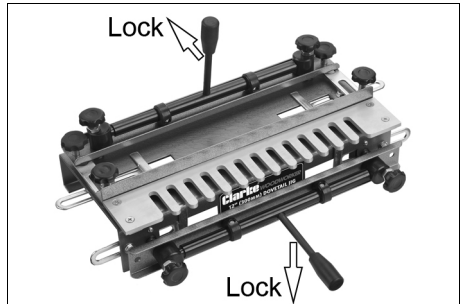
## PREPARATION FOR USE

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### ASSEMBLING THE JIG

Screw the front and top handles into the eccentric bars.

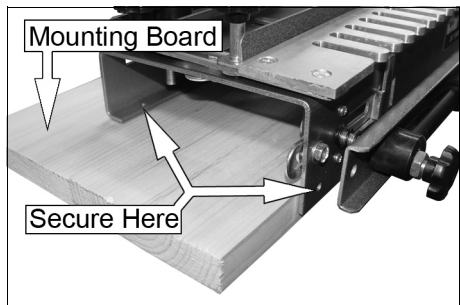
- The workpieces will be locked when the top locking clamp handle is pushed away from you and when the lower locking clamp handle is pushed downwards.



### MOUNTING THE JIG

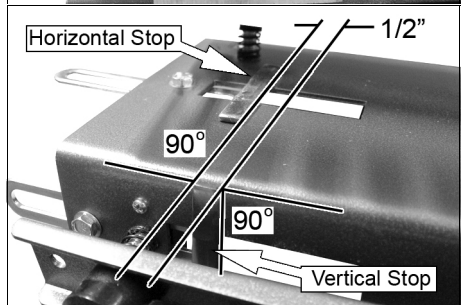
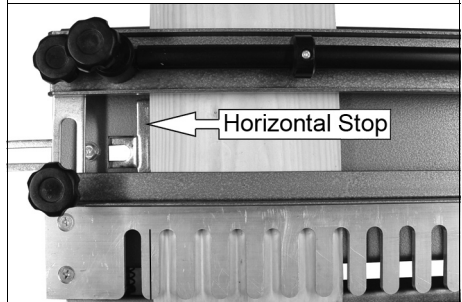
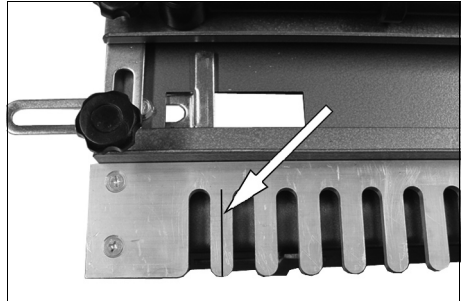
There are four holes provided in the base for mounting the jig.

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.



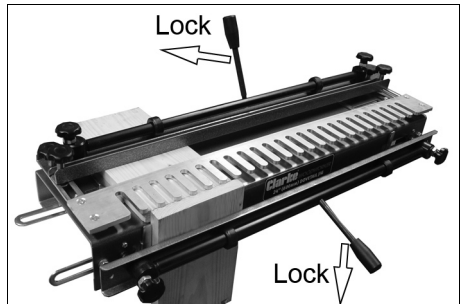
## SETTING THE END STOPS

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.



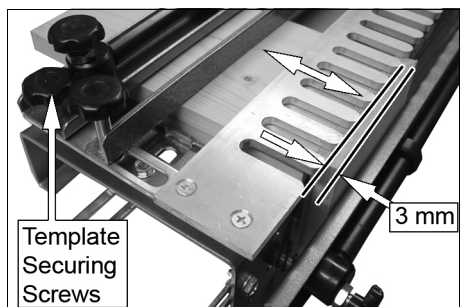
## PLACING THE TIMBER INTO THE JIG

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:-

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

### 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.

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

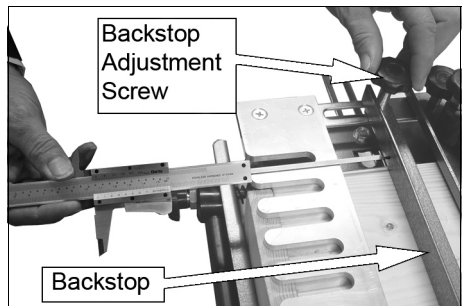
$$\left(\frac{160 \text{ mm}}{2}\right) + (2 \times 18 \text{ mm}) - \left(\frac{14.8 \text{ mm}}{2}\right)$$

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

$$\text{Distance} = 108.6 \text{ mm}$$

The distance from the tips of the template fingers to the vertical face of the 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 stop stay parallel with the front edge of the jig during this setting procedure.





# CUTTING A DOVETAIL

## PREPARATION OF TIMBER

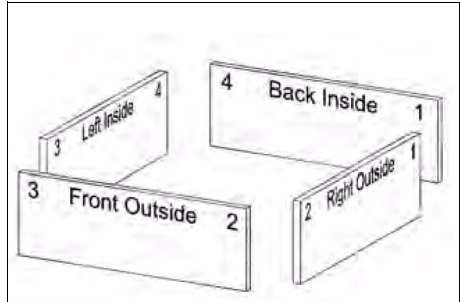
As with all detailed joinery the components must be sized, cut and squared accurately.

- It is preferable that the width of the timber is in exact steps of 1/2" as this will give a series of fully-formed dovetails.

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.



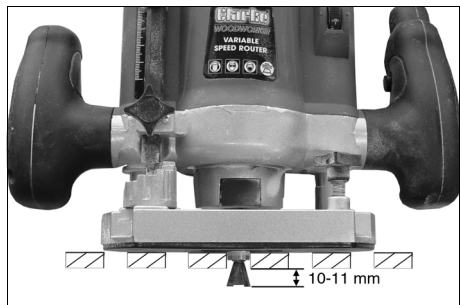
The front and back pieces are mounted in the top of the jig with the inside edges facing upwards and the top, butting up against the horizontal stop.

The left and right pieces are mounted vertically in the front of the jig with the inside edges facing towards you and the top butting up against the vertical stop.

## SETTING THE ROUTER CUTTER DEPTH

1. Fit the bearing guided router bit securely into the router collet
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 as 0.5mm change in depth making all the difference.



## 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.

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## TROUBLESHOOTING

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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.**

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## RECOMMENDED ROUTER

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We recommend you use a Clarke CR1C Router available from your local Clarke dealer.

Model Number CR1C

- 1200W, 230V motor
- Height Adjustable
- Max plunge depth 50mm
- No load speed 13700-30000 RPM
- Collet sizes 6.35mm and 8mm
- Parallel Fence



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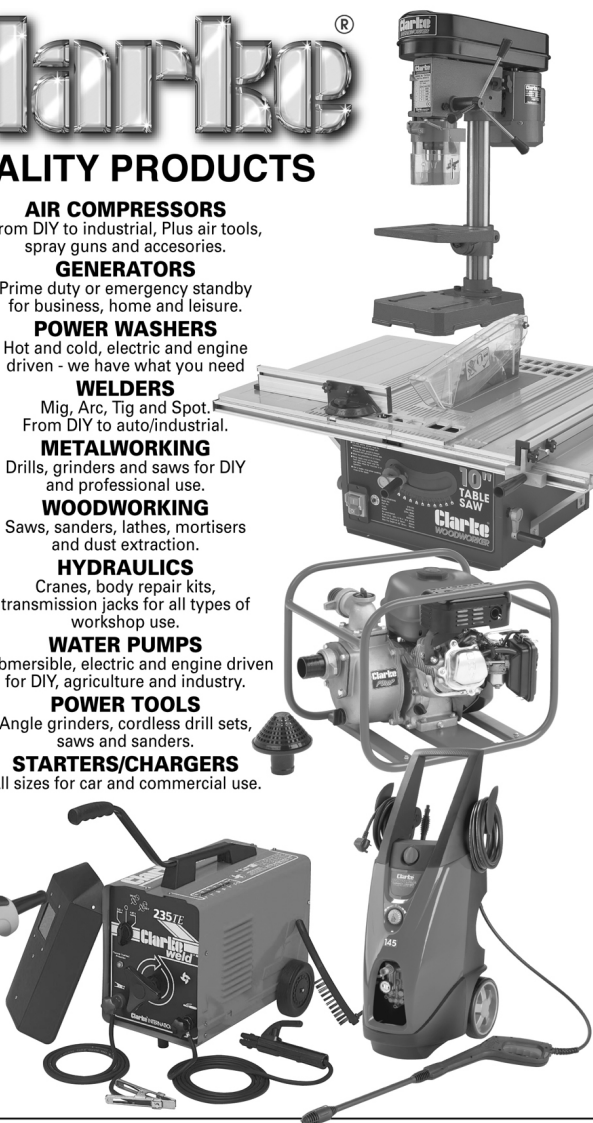
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