

ClarkeTM

WOODWORKER



MORTISING MACHINE

Model No. CBM 2B

Part No. 6500005

OPERATING & MAINTENANCE INSTRUCTIONS



0202



PARTS & SERVICE

PARTS & SERVICE TEL: 020 8988 7400

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PARTS: Parts@clarkeinternational.com

SERVICE: Service@clarkeinternational.com

Thank you for selecting this CLARKE CBM2B Bench Mortising Machine.

Before operating the machine, please read this leaflet thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to the machine giving you long and satisfactory service.

GUARANTEE

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.

CONTENTS

Page

Safety Precautions	4
Additional precautions for Mortising Machines	5
Electrical Connections	6
Unpacking & Principal Parts	7
Assembly	8
Mounting the Chisel & Bit	10
Installation	12
Controls and Adjustments	12
Operation	14
Maintenance	15
Sharpening Drill Bit & Chisel	16
Parts List & Diagram	17
Accessories	18
Specifications	18

SAFETY PRECAUTIONS

GENERAL SAFETY RULES FOR OPERATING MACHINERY

WARNING:

As with all machinery, there are certain hazards involved with their operation and use. Exercising respect and caution will considerably lessen the risk of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator or damage to property, may result.

1. READ and BECOME FAMILIAR with the entire operating manual. Learn the machines' applications and limitations as well as the specific potential hazards peculiar to it.
2. EARTH ALL MACHINES. If the machine is equipped with three-pin plug, it should be plugged into a three-pin electrical socket. Never remove the earth pin.
3. ALWAYS ensure that ADEQUATE LIGHTING is available. A minimum intensity of 300 lux should be provided. Ensure that lighting is placed so that you will not be working in your own shadow.
4. CHECK for DAMAGE. Before using the machine, any damaged part, such as a guard etc., should be checked to ensure that it will operate properly, and perform its intended function. Check for alignment of moving parts, breakage of parts, mountings, and any other condition that may affect the machines' operation. Any damage should be properly repaired or the part replaced. If in doubt, DO NOT USE the machine. Consult your local dealer.
5. DISCONNECT the MACHINE from the power supply before servicing and when changing accessories or performing maintenance tasks.
6. KEEP GUARDS in place and in working order.
7. ALWAYS WEAR SAFETY GOGGLES, manufactured to the latest European Safety Standards. Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses do not have impact resistant lenses, they are NOT safety glasses.
8. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
9. DON'T FORCE the Machine. It will do a better and safer job at the rate for which it was designed.
10. REMOVE ADJUSTING KEYS AND WRENCHES. Form the habit of checking to see that keys and adjusting wrenches are removed from the machine before switching on.
11. DRUGS, ALCOHOL, MEDICATION. Do not operate machine whilst under the influence of drugs, alcohol or any medication.
12. USE RECOMMENDED ACCESSORIES. The use of improper accessories could be hazardous.
13. NEVER LEAVE MACHINE RUNNING UNATTENDED. Turn power OFF. Do not leave machine until it comes to a complete stop.

14. **KEEP CHILDREN AWAY.** All visitors should be kept a safe distance from the work area, especially whilst operating the unit.
15. **MAINTAIN MACHINE IN TOP CONDITION.** Keep tools sharp and clean for the best and safest performance. Follow maintenance instructions.
16. **DON'T OVERREACH.** Keep your proper footing and balance at all times. For best footing, wear rubber soled footwear. Keep floor clear of oil, scrap wood, etc.
17. **WEAR PROPER APPAREL.** Loose clothing or jewellery may get caught in moving parts. Wear protective hair covering to contain long hair.
18. **BE AWARE** that accidents are caused by carelessness due to familiarity. **ALWAYS** concentrate on the job in hand, no matter how trivial it may seem.

ADDITIONAL SAFETY INSTRUCTIONS for MORTISING MACHINES

1. **DO NOT USE** until unit is completely assembled and installed according to these instructions.
2. **IF YOU ARE NOT** thoroughly familiar with the operation of mortising machines, obtain advice from a qualified person.
3. **ENSURE** the machine is secured to a workbench to prevent it from tipping over during operation.
4. **NEVER TURN MORTISING MACHINE ON** before clearing the table of all objects (tools, scrap pieces, etc.).
5. **ALWAYS KEEP** hands, fingers and hair well away from the rotating bit.
6. **DO NOT ATTEMPT** to mortise materials that do not have a flat surface, unless a suitable support is used.
7. **ALWAYS** use the 'Hold Down' to prevent work from lifting when withdrawing the chisel.
8. **ALWAYS SUPPORT** workpiece securely against fence to prevent rotation.
9. **ENSURE** chisel and bit is sharp, undamaged and properly secured before use.
10. **ENSURE** the chuck key is removed before starting.
11. **NEVER START** the Machine with the drill bit or chisel pressed against the workpiece.
12. **NEVER PERFORM LAYOUT**, assembly or set-up work on the Machine with the cutting tool rotating.
13. **ALWAYS ADJUST DEPTH STOP** to avoid drilling into the table.
14. **ALWAYS STOP** the machine before removing scrap pieces from the table.
15. **SHUT OFF POWER**, remove the drill bit and chisel and clean the table before leaving the machine.
16. **NEVER PLACE YOUR FINGERS** in a position where the drill or cutting tool could contact them if the workpiece should shift unexpectedly.

ELECTRICAL CONNECTIONS

Connect the mains lead to a standard, 230 Volt (50Hz) electrical supply through an approved 13 amp BS 1363 plug, or a suitably fused isolator switch.

WARNING! THIS APPLIANCE MUST BE EARTHED

IMPORTANT: The wires in the mains lead are coloured in accordance with the following code

Green & Yellow Earth
Blue Neutral
Brown Live

As the colours of the flexible lead of this appliance may not correspond with the coloured markings identifying terminals in your plug proceed as follows:

- Connect GREEN & YELLOW coloured cord to plug terminal marked with a letter "E" or Earth symbol "⏏" or coloured GREEN or GREEN & YELLOW.
- Connect BROWN coloured cord to plug terminal marked with a letter "L" or coloured RED.
- Connect BLUE coloured cord to plug terminal marked with a letter "N" or coloured BLACK.

If this appliance is fitted with a plug which is moulded onto the electric cable (i.e. non-rewirable) please note:

1. The plug must be thrown away if it is cut from the electric cable. There is a danger of electric shock if it is subsequently inserted into a socket outlet.
2. Never use the plug without the fuse cover fitted.
3. Should you wish to replace a detachable fuse carrier, ensure that the correct replacement is used (as indicated by marking or colour code).

Fuse Rating

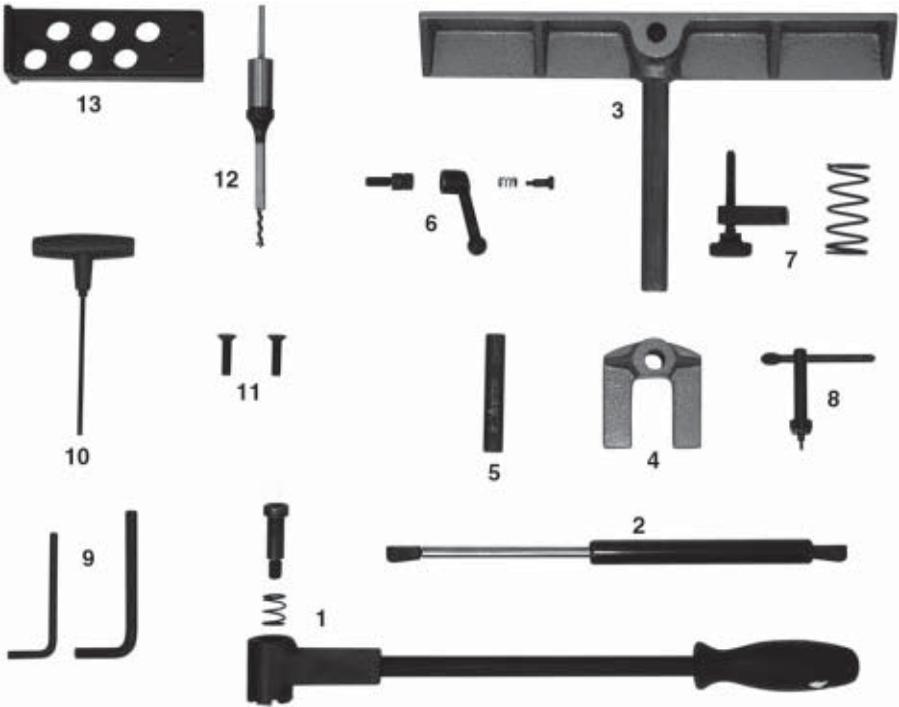
The fuse in the plug must be replaced with one of the same rating (13 amps) and this replacement must be ASTA approved to BS1362.

Important: If a cable extension is needed, it is essential to comply with the following data.

Extension length	Cable section
Up to 20m	2.5mm ²
From 20 to 50m	4mm ²

UNPACKING

Unpack the shipping carton, and lay out the components so that they can be clearly identified. Check them off as follows:



Should there be any deficiency or damage to any of the components, please contact your Clarke dealer immediately

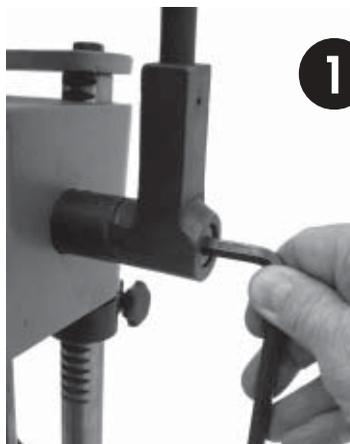
1. Operating Handle c/w pin & spring
2. Damper
3. Fence
4. Hold Down
5. Hold Down Post
6. Fence Locking Lever, comprising
 - 6.1 Lever
 - 6.2 Screw post
 - 6.3 Screw
 - 6.4 Spring
7. Fence Adjuster c/w Spring

8. Chuck Key
 9. 2 x Hex. Wrenches - 6mm & 8mm
 10. Hex. Key 4mm
 11. 2 x C'sk Head Screws
 12. 1/2" Mortice and Bit
 13. Wall Bracket for Mortice and Bits
- Not Shown**
1. Table
 2. Mortice Machine complete with 13mm Chuck.

ASSEMBLY

WARNING:

For your own safety, do not connect the Mortising Machine to a power source until it is fully assembled, and you have read and understood all safety and operational instructions.



1

1. Secure the Operating Handle by screwing the pin with spring into the hole in the pinion shaft. Tighten using the Hex. wrench provided

NOTE:

The handle is used to raise and lower the head. It may be adjusted for maximum leverage and comfort during operation. To do this, pull the lever away from the shaft and turn it to a more comfortable or appropriate position. Release the lever and it will return under spring pressure.

2

2. Raise the head using the Operating handle to the top of its travel, and hold in place by securing the Depth Stop.



3

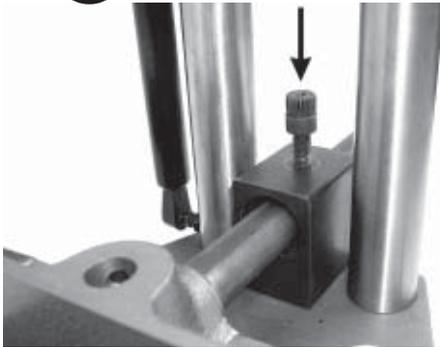
3. Attach the Damper to its two fittings by pushing it on the spherical housings until they click into place.



4. Assemble the Table to the base using the two countersunk headed screws provided.



5



5. Insert the stem of the Fence assembly through the hole in the block and secure with the Fence Locking Lever.

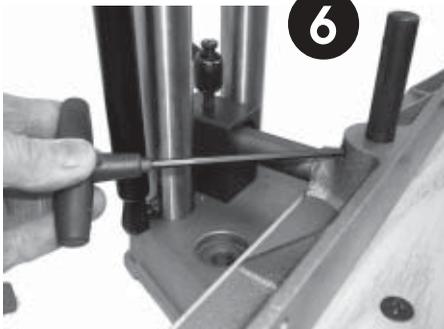
First screw the post into the housing.....

5A

- 5A....then attach the Locking Lever and secure with the screw and spring.



6

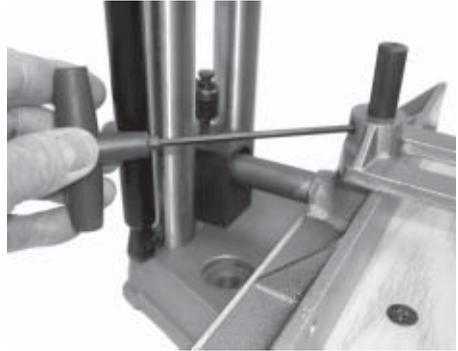


6. Insert the Hold Down Post into the hole in the fence, with the flat facing the grub screw in the fence housing.

Secure with the grub screw, using the Hex. Key provided.

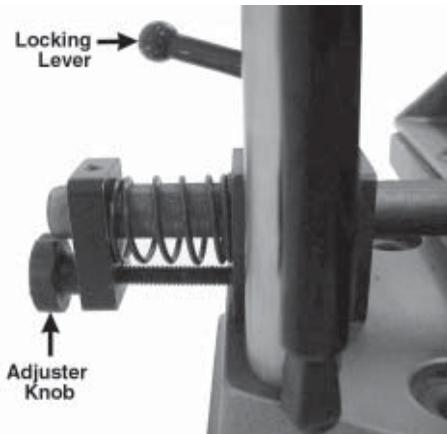
7

7. Lower the Hold Down on to the post, and secure temporarily, by tightening the grub screw.



8

8. Slacken the Fence Locking Lever then push the Fence IN fully so that the Fence Adjuster may be positioned on the Fence stem as shown. Secure using the grub screw provided



INSTALLATION

IMPORTANT:

Before using the machine, it must be bolted down to a firm and stable workbench to prevent it from tipping during operation. Two holes are supplied in the base for this purpose.

Additionally, the chisel and bit must be installed, and various adjustments made before the machine can be used. These procedures are described on the following pages.

PREPARING FOR USE

WARNING:

Make sure the machine is disconnected from the mains supply before performing checks, adjustments, or setup procedures.

INSTALLING CHISEL AND BIT

CAUTION!

The chisel and drill bit are extremely sharp...take care when handling!

9

9. Open the cover...at either side, by pulling down on the plastic catch, to expose the chuck.



10. Insert the drill bit into the chisel then insert the chisel and bit up through the hole in the head.

Push the chisel up as far as possible into the head, and nip up the grub screw to temporarily hold it in this position, using the hex. wrench provided.

You can lower the drill bit gently, and allow it to rest on the table whilst carrying out this operation.

10



NOTE:

The opening in the side of the chisel should always be to the right or left, never to the front or rear. The opening allows chips to escape during operation. See 'Adjusting Chisel Parallel to Workpiece' on page13.

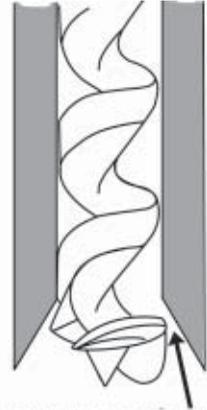


11. Push the drill bit up through chisel, and into the opened jaws of the chuck as far as it will go, then back off approx. 1/16" (2mm). Secure the drill bit in this position, by tightening the jaws using the chuck key provided.

Note:

It is important that the drill bit bottoms out on the CHISEL and NOT the chuck, before setting the 1/16" (2mm) clearance.

If the bit does bottom out in the chuck first, slacken off the grub screw securing the chisel and lower it approx 1/16" (2mm) and try again.



Drill Bit must bottom out here first, NOT in the chuck.....then adjust so that a gap of at least 1/16" exists

Alternatively, grind off a portion of the drill shank.

This adjustment is IMPORTANT, to ensure a proper clearance is provided between the cutting tips of the bit and the points of the chisel.

For certain types of wood, it may be necessary to increase this distance up to a maximum of 3/16" (5mm). This will become obvious when cutting commences and chips are not being ejected satisfactorily.

ADJUSTING THE FENCE

The fence can be moved in or out, by slackening the locking lever, sliding the fence to the desired position and re-tightening the locking lever.

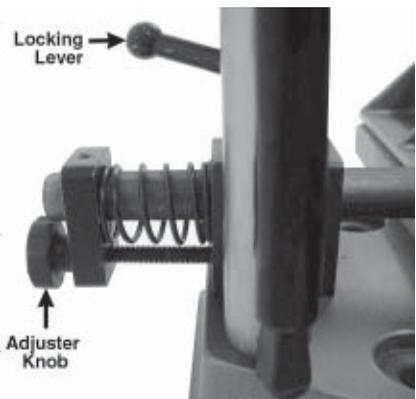
Alternatively, precise control is possible by using the device shown in the illustration opposite.

Slacken the fence locking lever, then screw the adjuster in or out as required. The fence will move accordingly.

When the workpiece, being held to the fence, is lined up as required, tighten the Locking Lever.

The adjuster assembly may be positioned anywhere on the stem of the fence to provide adequate adjustment, depending upon how far IN or OUT the fence is required to be.

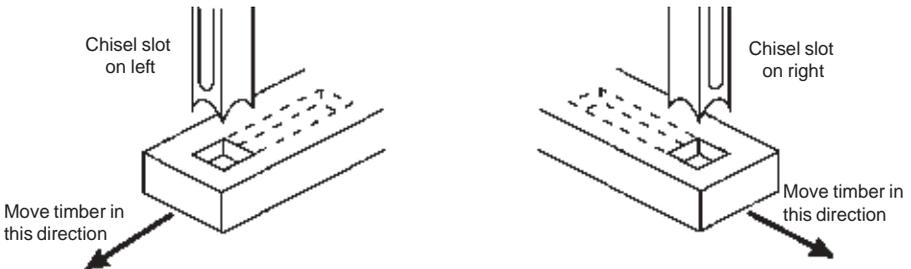
12



ADJUSTING CHISEL PARALLEL TO WORKPIECE

It is important that the chisel is square to the workpiece. To achieve this, slacken the chisel securing screw and rotating the chisel until the back surface is flat against the workpiece, or a piece of wood with parallel sides, resting against the fence, then re-tighten the screw, ensuring a distance of at least $1/16''$ (2mm) is maintained between the chisel and the end of the drill bit.

It is also IMPORTANT to remember that the slot in the side of the chisel should always face TOWARDS THE DIRECTION OF MOVEMENT OF THE WORKPIECE (see diagram below).



ADJUSTING THE DEPTH STOP

A depth stop is provided which may be used to limit the depth of the chisel cut.

To adjust the depth stop, slacken the securing knob so that the stop is capable of being moved, but will not drop under its own weight, then raise the stop so that it contacts the underside of the head.

Lower the head to the maximum depth desired, then tighten the stop securing knob.

14



ADJUSTING THE HOLD DOWN

The purpose of the 'Hold Down' is to prevent the workpiece from lifting as the chisel is raised up, out of the hole.

The hold down should be adjusted so it just touches the top of the workpiece and allows the workpiece to slide left or right. Packing pieces may be used if necessary.

OPERATION

1. Set the fence to suit the position of the mortise on the workpiece. Make sure the fence and chisel are square to each other (see p13), and tighten in place.
Make any fine adjustments to the fence, to move the workpiece in or out, by using the adjuster at the rear of the fence (see p12).
3. Set the depth stop to the required depth of cut as described on page 13.
4. Ensure the Hold Down rests gently on the surface of the workpiece, but not so tight as it prevents the workpiece from moving, and lock into position. If necessary, use packing pieces between the workpiece and the hold down
When working on long workpieces, support the timber along its length.
5. Ensure the workpiece is held firmly against the fence.

Switching ON and OFF

6. The ON-OFF switch is located on the motor. Raise the Red cover marked OFF, and push the GREEN button to switch the machine ON.

Push the RED button or the Red cover to switch the machine OFF.

NOTE:

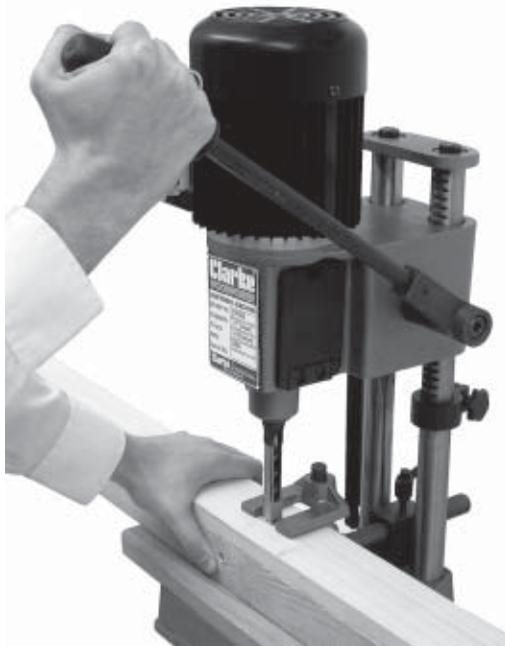
The switch is a No Volt Release type. If the supply is interrupted, the ON/OFF switch will automatically revert to the OFF position. This is a safety device to prevent the machine from starting again, should the supply be restored.

7. With the machine running, feed the chisel and bit steadily into the workpiece by pulling down on the operating handle.

NOTES:

- ***It is recommended that you check the position, and depth of cut, on a piece of scrap before cutting your workpiece.***
- ***The rate of penetration of the chisel must be fast enough to prevent burning at the tip of the bit, but not so fast as to cause the machine to slow or stall. With experience you will find suitable feed rates to suit various types of timber.***
- ***You may encounter smoke from the bit or material once the chisel has engaged the material. The smoke created is a natural operating occurrence in hollow chisel mortising and is caused by material chip friction and the resins in the stock being burned off. Bluing of the chisel after initial use is not indicative of a dull chisel, but a combination of friction and resin buildup on the cutting faces of the chisel.***
- ***A dull chisel can be detected by the amount of excess force required to complete a cut.***
- ***After the first cut, the workpiece must be moved along in the correct direction relative to the slot in the chisel, to allow chips to clear freely. Move the workpiece so that the chisel slot is releasing chips into the already cut part of the mortise.***

- *Do not have the slot against the blind end of the mortise, as the chips will not be able to clear from the chisel. This will cause overheating and possible breakage to the chisel or bit.*
- *When cutting deep mortises, make the cut in several stages of approximately 25mm each, to allow chips to clear.*
- *When performing a through mortise, a piece of wood should be placed between the workpiece and the table. This prevents the wood from splintering when breaking through the bottom of the mortise and also prevents damage to the table.*
- *Always switch the mortising machine off after use. Never leave the machine running unattended.*



MAINTENANCE

WARNING:

For your own safety, turn OFF power and disconnect tool from power source before performing any maintenance.

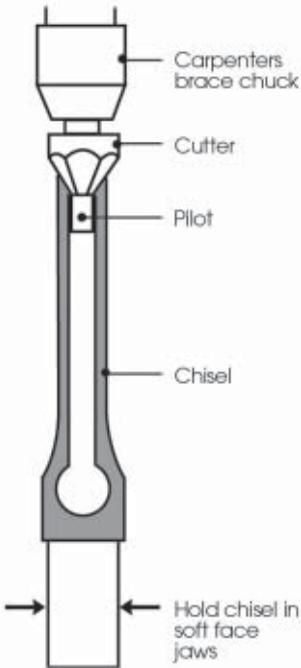
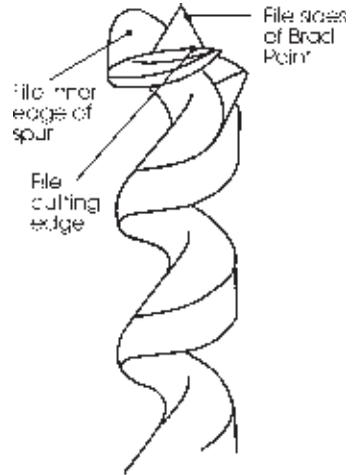
The machine is maintenance free except for periodically cleaning away any dust accumulation and the application a light coat of oil to all non-painted surfaces, particularly the two columns.

All of the bearings are packed with grease at the factory and require no further lubrication.

SHARPENING THE DRILL BIT & CHISEL

For best performance the chisel and bit need to be kept sharp. Blunt cutting edges will give untidy and inaccurate mortises, and can cause overheating and breaking of the chisel and bit.

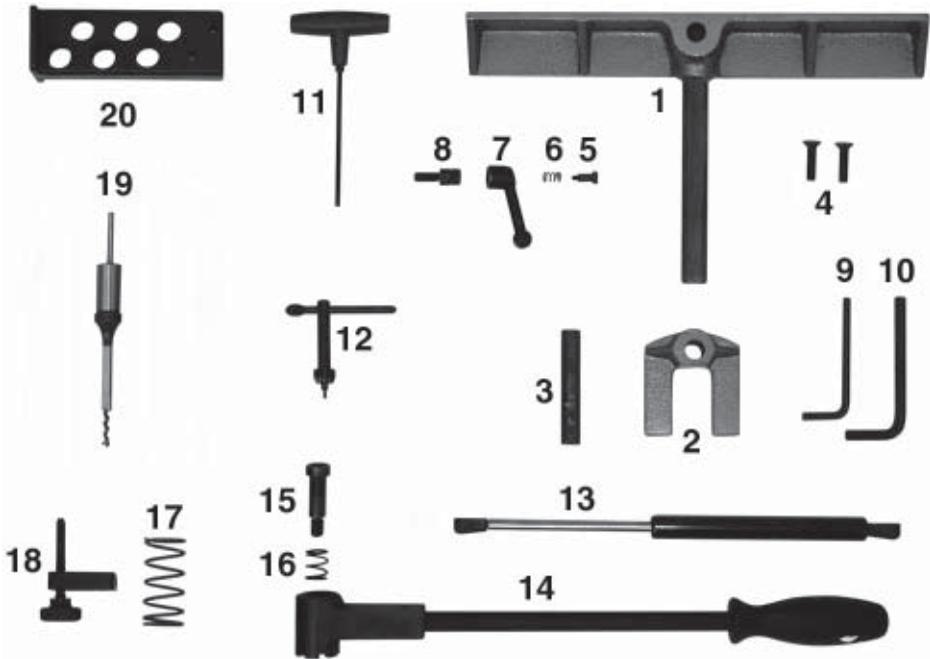
Sharpen the bit by using a small smooth file, following the original shape of the bit. File the inside edge of the spur, the sides of the brad point, and the cutting edge inwards towards the flutes of the bit to restore sharpness. Do not file the outside edge of the spur as this will affect the diameter of the bit.



Use a mortice chisel cutter with the correct size pilot to sharpen the chisel. Two or three turns of the cutter in a carpenters hand brace should be enough to sharpen the chisel. Remove any burrs from the outside of the chisel with a fine oilstone.

Chisels and bits will need replacing when they become badly worn and difficult to sharpen.

SPARE PARTS



PARTS LIST

No.	Description	Qty	Part No.	No.	Description	Qty	Part No.
1	Fence	1	EFCBM2B01	11	Hex. Key 4mm	1	EFCBM2B11
2	Hold Down	1	EFCBM2B02	12	Chuck Key	1	EFCBM2B12
3	Hold Down Post	1	EFCBM2B03	13	Damper	1	EFCBM2B13
4	C'sk Hd. Screw	2	EFCBM2B04	14	Operating Lever	1	EFCBM2B14
5	Screw	1	EFCBM2B05	15	Pin	1	EFCBM2B15
6	Spring	1	EFCBM2B06	16	Spring	1	EFCBM2B16
7	Locking Lever	1	EFCBM2B07	17	Spring	1	EFCBM2B17
8	Screw Post	1	EFCBM2B08	18	Adjuster Assembly	1	EFCBM2B18
9	Hex. Wrench 6mm	1	6502089	19	Drill & Chisel set 1/4"	1	see Accessories
10	Hex. Wrench 8mm	1	6502091	20	Wall Bracket	1	EFCBM2B20

ACCESSORIES

The following Morticing Chisels and Bits are available from your CLARKE dealer.

	Mortice Width	Bit Shank Size	Part No.
1.	6mm (1/4")	5mm	6500025
2.	9mm (3/8")	6mm	6500026
3.	13mm (1/2")	9mm	6500027
4.	16mm (5/8")	13mm	6500028

SPECIFICATIONS

Motor	230VAC 50Hz 1Ph
Power Rating	370 Watts (1/2HP)
Speed	1440RPM
Fuse Rating	13 Amps
Chuck Capacity	13mm (1/2")
Chisel Collar Size	3/4"
'Hold Down' Capacity	80mm
Head Travel (1/2" Chisel installed)	112mm
Fence Size	40x350mm
Base Size	255x200mm
Overall Dimensions - DxWxH (Fence Fitted)	360x350x620mm
Net Weight	24kg

ClarkeTM

INTERNATIONAL

This is an important document and should be retained

DECLARATION OF CONFORMITY



We declare that this product complies with the following standards/directives:

- 98/37/EEC
- 89/336/EEC
- 73/23/EEC

Description: **Bench Morticing Machine**

Model No: **CBM2B**

Serial (Batch) No: **See Product Date Plate**

Signed: 

ClarkeTM INTERNATIONAL
Hemnal Street, Lancing, Sussex BN16 4LG