

BM16

Bench Morticer with
Sliding Table

Instruction Manual

IMPORTANT

For your safety read
instructions carefully
before assembling or
using this product.
Save this manual for
future reference.



VERSION 2.0

Woodworking Machines & Accessories

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1. Introduction

Dear Customer,

Thank you for investing in a RECORD POWER® product, which has been designed to give you years of satisfying service.

Please do not forget to fill in and return your guarantee card, this will assist us in providing you with prompt and appropriate after sales service. (This does not affect your statutory rights).

PURPOSE OF THIS MANUAL

This manual serves to give details of Specification, Health & Safety, Installation & Assembly to help you get the best from this product.

RECORD POWER AND THE ENVIRONMENT

Considerations of environmental issues are an integral part of the design, production and other associated aspects of this product, and all reasonable environmentally friendly options have been adopted throughout.

Users are advised to consider environmental issues associated with the use of this product, particularly when considering workpiece material. Confirmation of sourcing from well-managed forests is advisable whenever practically possible.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) REGULATIONS

The WEEE regulations aim to encourage reuse, recycling and recovery of electrical and electronic waste. The document outlining the WEEE guidelines is available at <http://www.dti.gov.uk/sustainability/weee>.

2. Health & Safety Guidance

READ ALL THE INSTRUCTIONS IN THIS MANUAL CAREFULLY BEFORE ASSEMBLY, INSTALLATION AND USE OF THIS PRODUCT. KEEP THESE INSTRUCTIONS IN A SAFE PLACE FOR FUTURE REFERENCE.

WARNING: When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury.

SAFE OPERATION

1. Eye Protection

The operation of any machinery or power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Always wear safety glasses or other suitable eye protection. Wear safety glasses at all times when using the machine. Everyday glasses only have impact resistant lenses. They are not safety glasses which give additional lateral protection.

2. Keep work area clear.

Cluttered areas and benches invite accidents and injuries.

3. Consider work area environment.

Do not expose the machine to rain or damp conditions.

- Keep the work area well lit.
- Do not use the machine in the presence of flammable liquids or gases.

4. Guard against electric shock.

Avoid body contact with earthed or grounded surfaces.

5. Keep other persons away (and pets).

Do not let persons, especially children, not involved in the work, touch the machine, or extension cord (if used) and keep visitors away from the work area.

6. Store idle tools.

When not in use, tools should be stored in a dry locked- up place, out of reach of children.

7. Do not force the machine.

It will do the job better and work more safely if operated at the speed at which it was intended.

8. Use the right tool.

- Do not force small tools to do the job of a heavy-duty tool.
- Do not use tools for purposes not intended.

9. Dress properly.

- Non-slip footwear is recommended.
- Do not wear loose clothing, neckties or jewellery; they can be caught in the moving parts.
- Roll up long sleeves above the elbow.
- Wear protective hair covering to contain long hair.

10. Use protective equipment

- Use safety glasses. (See note 1. above)
- Use face or dust shield if cutting operation creates dust.

11. Connect dust extraction equipment.

Use dust extraction whenever possible dust not only damages and shortens the life of a machine but is also a serious health risk.

12. Do not abuse the cord.

Never yank the cord to disconnect it from the socket. Keep the cord away from heat, oil and sharp edges.

13. Secure work.

Ensure that your work piece is properly fixed before starting to turn.

14. Do not overreach.

Keep proper footing and balance at all times.

15. Maintain tools with care.

- Follow instructions for lubrication and changing accessories.
- Inspect electric cords periodically and, if damaged, have them repaired by an authorised service facility.
- Inspect extension cords (if used) periodically and replace if damaged. Always use proper size extension cord.

16. Disconnect Machine.

When not in use, before making adjustments and servicing etc, disconnect the machine from the power supply.

17. Never leave machine running unattended.

Turn power off, do not leave machine until it comes to a complete stop.

18. Remove adjusting keys and wrenches.

If you using a chucking system ENSURE chuck key is removed from chuck before switching the machine 'ON', any adjusting wrenches should also be removed from the machine.

19. Avoid unintentional starting.

- Ensure the switch is in the "OFF" position before turning on the power from the main electricity supply.

20. Out-door Extension Leads.

Your machine should not be used outdoors.

21. Stay alert.

Watch what you are doing, use common sense and do not use the machine when you are tired.

22. Check for damaged parts.

- Before use of the machine, it 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 authorised service centre unless otherwise indicated in this instruction manual.
- Have defective switches replaced by an authorised service centre.
- Do not use the machine if the switch does not turn on and off.

23. Warning!

- The use of any accessory or attachment, other than one recommended in this instruction manual, or recommended by Record Power may present a risk of personal injury.

24. Have your machine repaired by a qualified person.

- This electrical unit complies with the relevant safety rules. Only qualified persons using original spare parts should carry out repairs. Failure to do this may result in considerable danger to the user.

Maintenance and Servicing

This unit requires very little maintenance. This handbook gives clear instructions on installation, set up and operation.

Read these instructions carefully. Remember always to switch off and unplug from the main electricity supply before carrying out any setting up or maintenance operations.

Should you need advice the on repair or maintenance of this product, our Customer Service Department would be happy to assist you.

3. Record Power Guarantee

1. INTRODUCTION

- 1.1** We supply machinery through a network of dealers and authorised distributors and you should be aware that your contract of sale is with the retailer from whom you purchased this product.
- 1.2** If you are not satisfied with this product you should in the first instance approach the retailer from whom you purchased it.
- 1.3** Customers have statutory rights to protect them and information on this can be found at the Citizens Advice Bureau or in such web-sites as that operated by the DTI (<http://www.dti.gov.uk>)
- 1.4** Returning your guarantee card will speed up the claims procedure and can be very helpful as a proof of purchase should the initial receipt be mislaid or damaged. We recommend that this is returned as close to your original purchase date as possible.
- 1.5** Correct installation, set-up, adjustment and routine maintenance of the machine are the responsibility of the end-user and problems arising from incorrect set-up, adjustment or maintenance are not covered by the terms of this guarantee. However support is available in the first instance from the retailer who supplied you and free technical support is available from Record Power on 0870 7701777 during office hours and from an extensive knowledge base on our website www.recordpower.co.uk. We also recommend those users who have not had suitable training in safe use of machinery should seek such training locally before using or attempting to set up and adjust any machinery (please contact your retailer for recommendations in your local area).

2. GUARANTEE

- 2.1** In addition to the above Record Power guarantees that for a period of 5 years from the date of purchase the components of this product will be free from defects caused by faulty construction or manufacture.
- 2.2** During this period Record Power will repair or replace free of charge any parts which are proved to be faulty in accordance with paragraph 2.1 above provided that:
- 2.2.1** You follow the claims procedure set out below;
- 2.2.2** We are given a reasonable opportunity after receiving notice of the claim of examining the product.
- 2.2.3** If asked to do so by us you return the product to Record Power's premises or other approved premises such as those of the supplying dealer, for the examination to take place.
- 2.2.4** The fault in question is not caused by continuous industrial use, accidental damage, fair wear and tear, wilful damage, negligence on your part, incorrect electrical connection, un-approved modification, abnormal working conditions, failure to follow our instructions, misuse, or alteration or repair of the product without our approval.
- 2.2.5** This product has been purchased by you and not used for hire purposes;
- 2.2.6** This Guarantee extends to the cost of carriage incurred by you returning the product to Record Power as long as it is demonstrated that the defect falls within the terms of this Guarantee and you follow the claims procedure as outlined below;

3. CLAIMS PROCEDURE

- 3.1** In the first instance please contact the retailer who supplied the product to you. In our experience many initial problems with machines that are thought to be due to faulty parts are actually solved by correct setting up or adjustment of the machines. A good dealer should be able to resolve the majority of these issues much more quickly than processing a claim under the guarantee.
- 3.2** If the dealer who supplied the product to you has been unable to satisfy your query, any claim made under this Guarantee should be made directly to Record Power at the address set out at the foot of this Guarantee. The claim itself should be made in a letter setting out the date and place of purchase, and giving a brief explanation of the problem which has led to the claim. This letter should then be sent with proof of the purchase date (preferably a receipt) to Record Power. If you include a phone number or email address this will help to speed up your claim.
- 3.3 PLEASE NOTE** that it is essential that the letter of claim reaches the address below on the last day of this Guarantee at the latest. Late claims will not be considered.

- 3.4** We will contact you once we have received your initial written claim. If it is necessary to return the item, in most cases but subject always to clause 2.2.5, we will arrange for collection or will provide freepost information to enable return depending on the weight and size of the product concerned. If the product is to be returned to us, we will agree with you in advance a Returns Number, to speed tracking of the claim and ensure the most appropriate method of return to you is used.

4. NOTICE

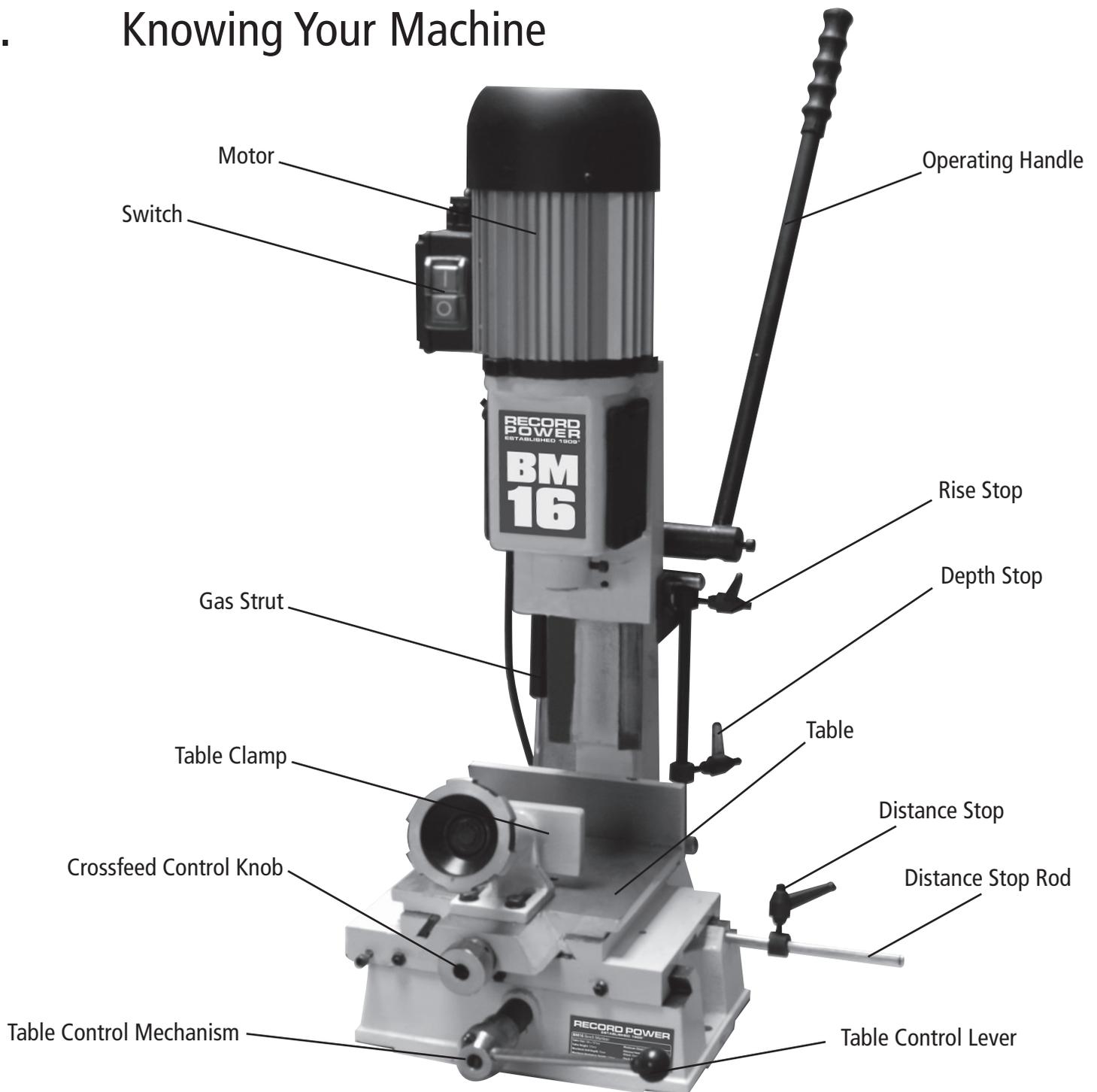
This Guarantee applies to all goods purchased from an authorised retailer of Record Power within the United Kingdom of Great Britain and Northern Ireland. This Guarantee does not confer any rights other than those expressly set out above and does not cover any claims for consequential loss or damage. This Guarantee is offered as an extra benefit and does not affect your statutory rights as a consumer. Additional written copies of this Guarantee can be obtained by writing to the address below. Please include a stamped and self addressed envelope for each copy of the Guarantee requested.

Record Power Ltd
Unit B, Adelphi Way
Ireland Industrial Estate
Staveley, Chesterfield
S43 3LS

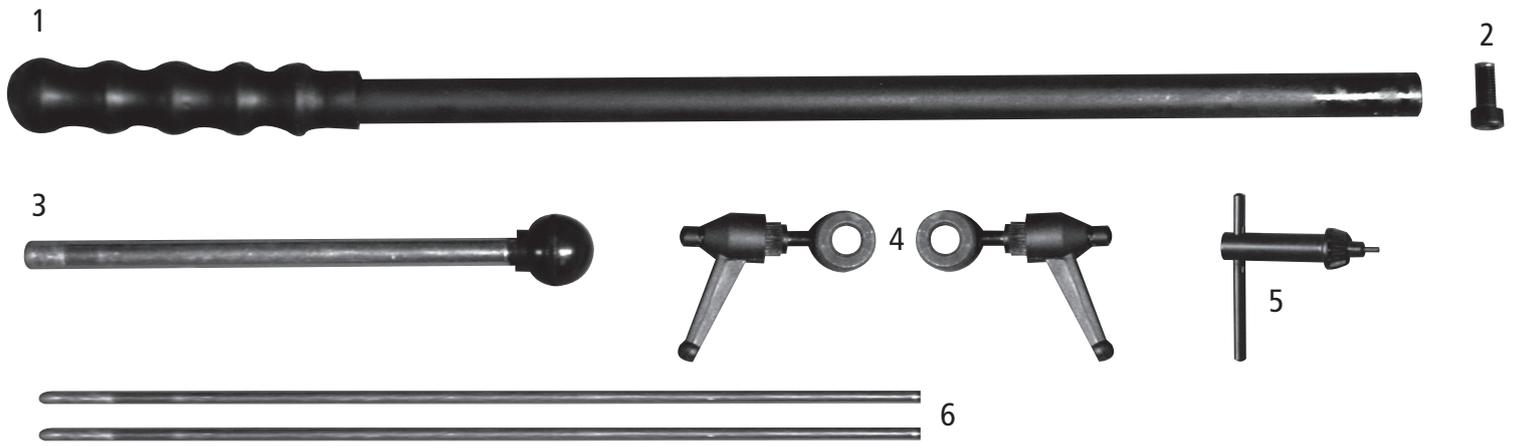
4. Specifications

- Table Size:** 180 x 157mm
- Table Height:** 125mm
- Maximum Drill Depth:** 70mm
- Maximum Workpiece Height:** 120mm
- Maximum Workpiece Depth:** 125mm
- Table Movement Side to Side:** 160mm
- Table Movement Front to Back:** 60mm
- Spindle Speed:** 1400rpm
- Chisel Capacity:** 6 - 16mm
- Chisel Shank:** $\frac{13}{16}$ "
- Maximum Chisel Stroke:** 130mm
- Distance from Fence to Centre of Chisel:** 70mm
- Chuck Capacity:** 13mm
- Motor:** 1/2hp
- Frequency:** 50hz

5. Knowing Your Machine



6. Contents of the Carton

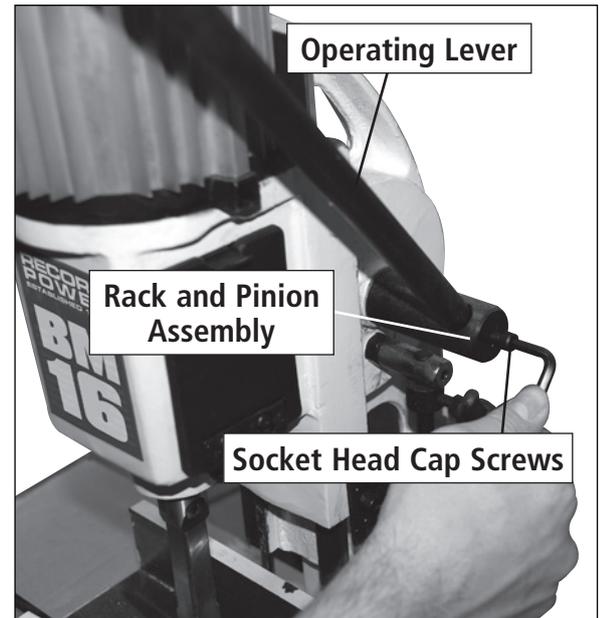


- 1 - Operating Handle
- 2 - Socket Head Cap Screw
- 3 - Table Control Lever
- 4 - Stops x2
- 5 - Chuck Key
- 6 - Distance Stop Rods x2
- 7 - BM16 Morticer

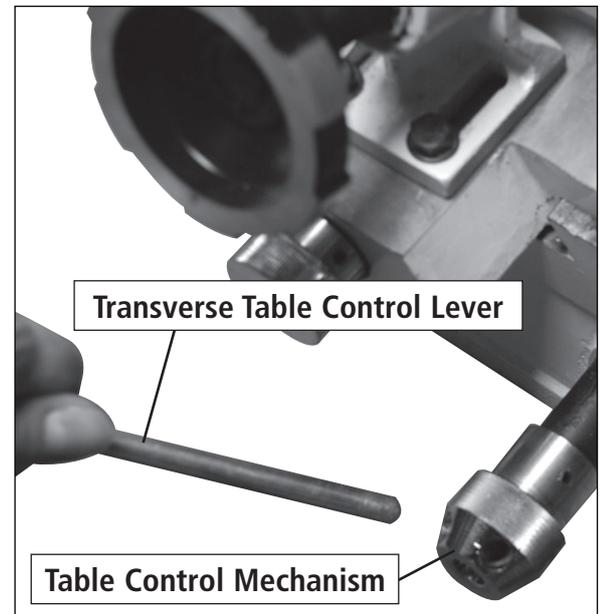


7a. Assembly - General

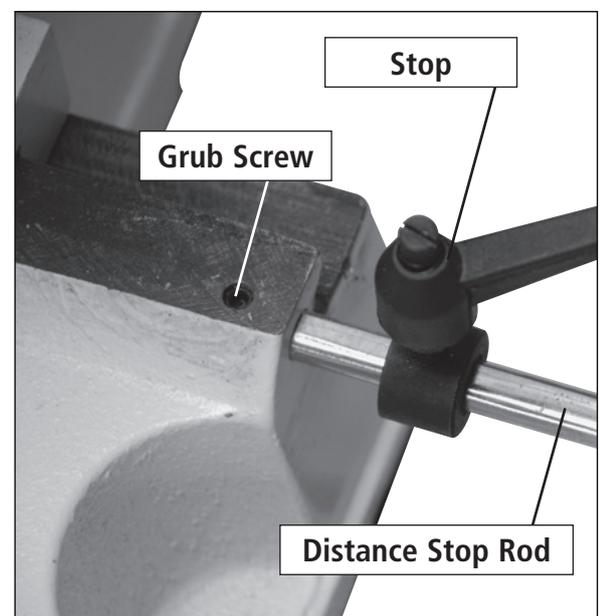
- 1) Remove the morticer from the shipping carton.
- 2) Place the machine onto a suitable surface, at a height that will enable you to work comfortably and to ensure that there is adequate room on either side for the size of timber you plan to use. when in position, bolt the morticer down.
- 3) Locate the operating lever and the grip sleeve, fit the sleeve over the end of the lever. (If it is difficult to slide on, try lubricating with a small amount of washing up liquid. Locate the M8 caphead screw, then introduce the operating lever through the rack and pinion assembly, then secure the lever in place using the M8 caphead screw. (See Pic 1)
- 4) Locate table control lever and screw into the table control mechanism (See Pic 2)
- 5) Take a distance stop rod and place in the hole on the side of the morticer base and secure with the grub screw as shown (See Pic 3)
Do not over tighten.
- 6) Attach a stop to the rod as shown. (See Pic 3)
- 7) Repeat the above steps to fit the remaining rod and stop to the opposite side of the machine.



Pic 1



Pic 2



Pic 3

7b. Assembly - Chisel and Bit

- 1) Introduce the chisel into the adaptor collar, (Pic 4) press the auger up into the chuck.
- 2) Tighten the chuck and withdraw the chuck key. Gently pinch the chisel in place by finger tightening the clamping bolt. (See Pic 5)

Please Note

Various morticing machines require various bit shank lengths. A new bit has a shank of universal length which will be longer than needed. The shank of the bit is unhardened so it can be simply cut to length using a hacksaw. Carefully determine the necessary length, ensuring there is sufficient shank length to securely fix it into your machine chuck when set up with the correct clearance between chisel mouth and nose bit.

The correct setting of chisels and bits is vital for successful mortice cutting and long tool life.

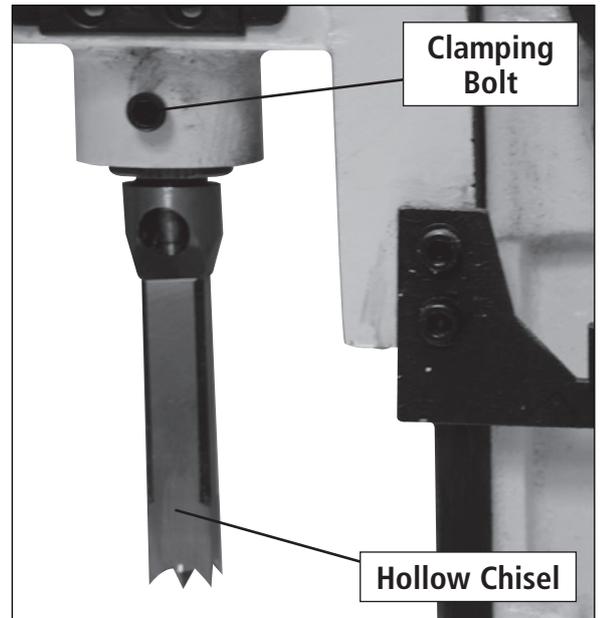
Place the chisel into its socket in the chisel holder then put a coin about 1/16" (1.5mm) thick between the chisel shoulder and the chisel holder face to prevent the chisel being pushed fully home (see Pic 6) and tighten the chisel securing screw. Put the bit into the drill chuck. Push it as far as possible into the chisel and secure the bit in the chuck. Loosen the chisel securing screw, remove the coin then push the chisel fully home in the chisel holder socket. Re-tighten the chisel securing screw.

This setting will allow sufficient clearance for the bit to run smoothly in the chisel and cut just ahead of the chisel. This set up allows the chips to pass inside the chisel body and exit through the slot in the chisel side. Position the chisel so that the chips are emptied into a previously cut part of the mortice (see Pic 6) .

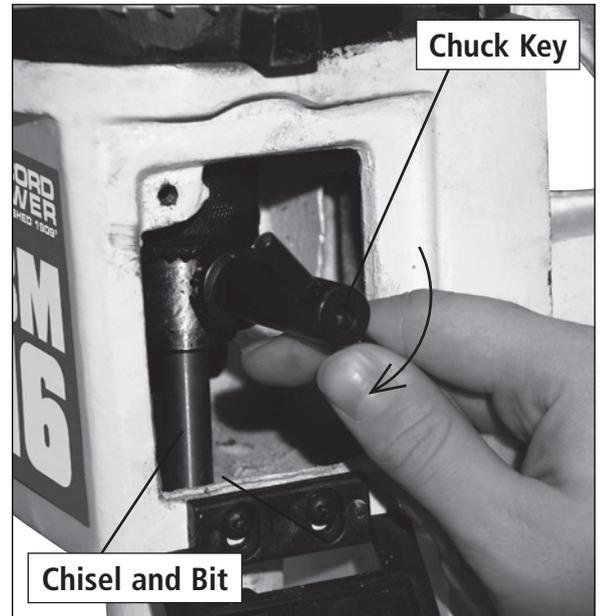
Ensure the correct clearance between the chisel and bit is always maintained. Ensure the chisel and bit are securely held in the chisel holder and chuck. If the bit is not tightly secured it may move up into the mouth of the chisel during use. The side lips of the bit will rub against the chisel, the wood chips will not be able to pass up the inside of the chisel and out through the side slot. This will eventually cause the chisel to break.

It is recommended that for best results only Record Power chisels and bits should be used in this machine.

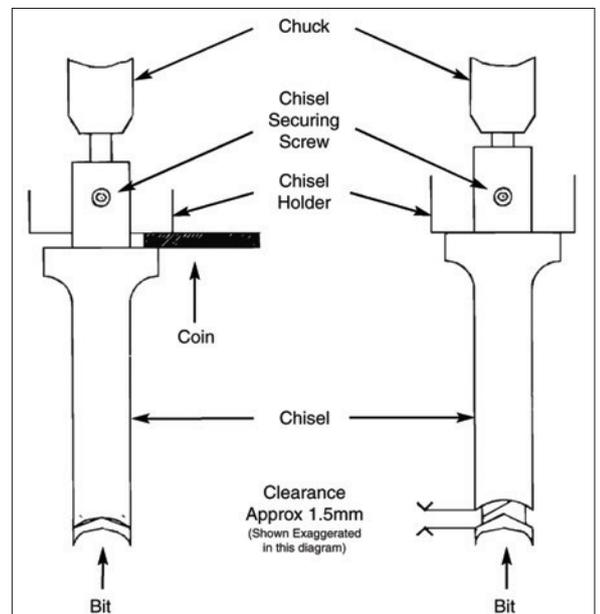
WARNING: Ensure chuck key is removed from chuck before switching 'ON' machine. Failure to do so could result in ejection of chuck key leading to personal injury of the operator.



Pic 4



Pic 5



Pic 6

8. Setting Up the Machine

General Notes

The mortise will generate a lot of 'grip' on the chisel, especially the first cut, or if the timber is a little green. Make sure you use the table clamp assembly to help control the timber during the raise operation of the morticer.

Setting the chisel Square

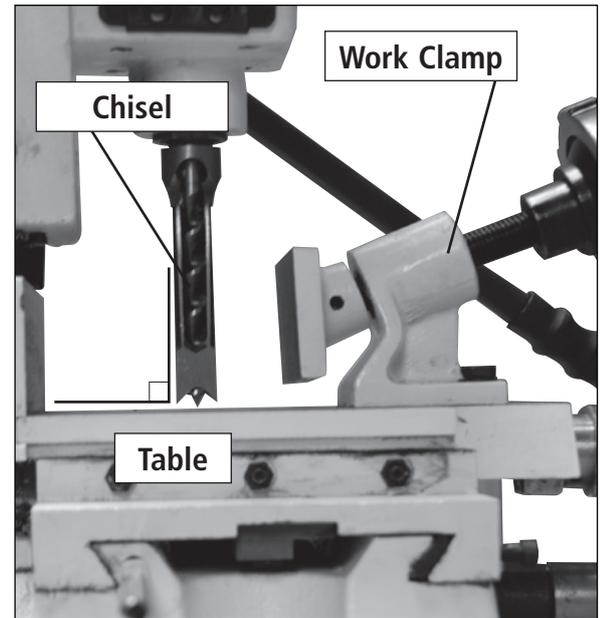
When the chisel is tightened in the machine it must normally be square to the backfence (Pic 8). The easiest way to achieve this is to bring the headbox down to bring the chisel as close to the table as possible, set a square against the backfence and set the side of the chisel against the square. and clamp tight. (Remember to have the chip ejection slot in the chisel to the side from which you will cut the mortice).

Quick Setting of the Mortice Depth

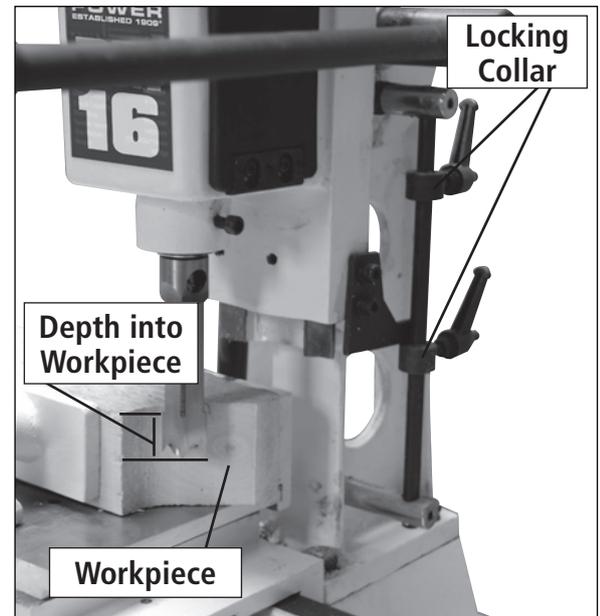
Put a mark on an easily accessible end of the workpiece to be mortised, at the depth you require. Pull the headbox down, and put the end of the timber against the chisel, position the headbox so that the chisel points or the auger point are at the depth required (Pic 8), raise the depth stop collar to the underside of the headbox and tighten gently. Recheck the depth of the chisel point, if it is satisfactory tighten securely, if not it can be gently 'nudged' down the column with the headbox, then tighten. Reposition the operating handle to give the most comfortable position and purchase on the lever, over the full distance of the movement you have just set.

Headbox Rise Adjustment

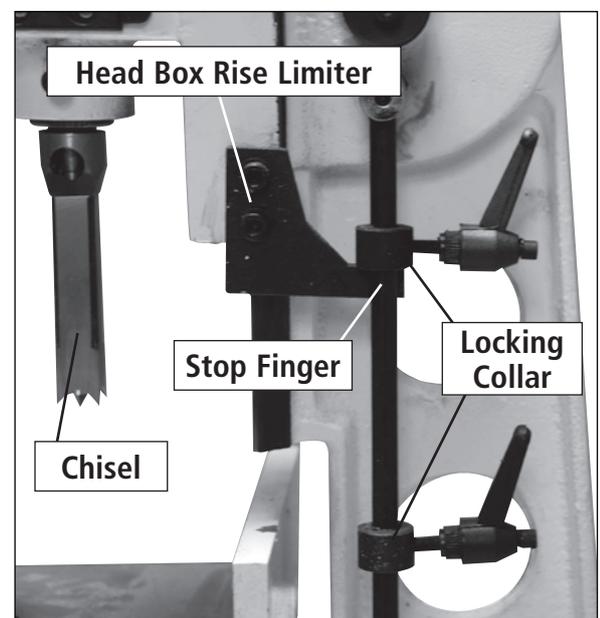
Coupled with the depth stop on the same assembly is the head box rise limiter. This limits the rise of the head box / chisel to a convenient distance above the work by the use of a locking collar positioned above the stop finger on the side of the headbox (Pic 9). The travel of this assembly is then restricted to your chosen setting rather than having to return it to the top of the slide each time.



Pic 7



Pic 8



Pic 9

9a. Maintenance - General

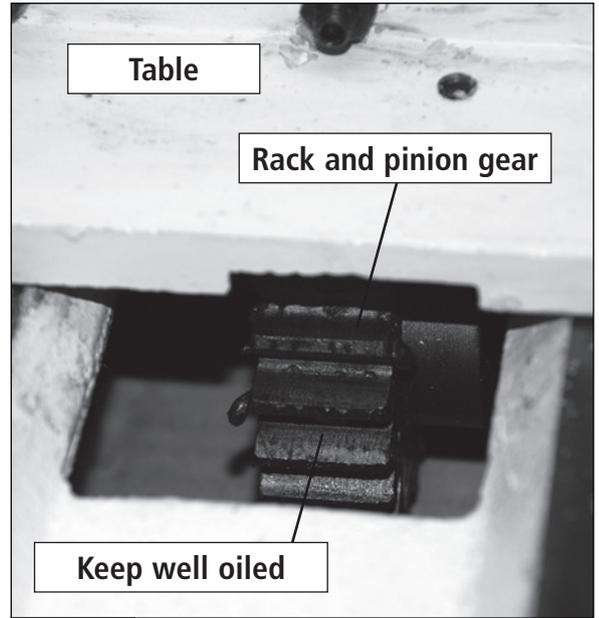
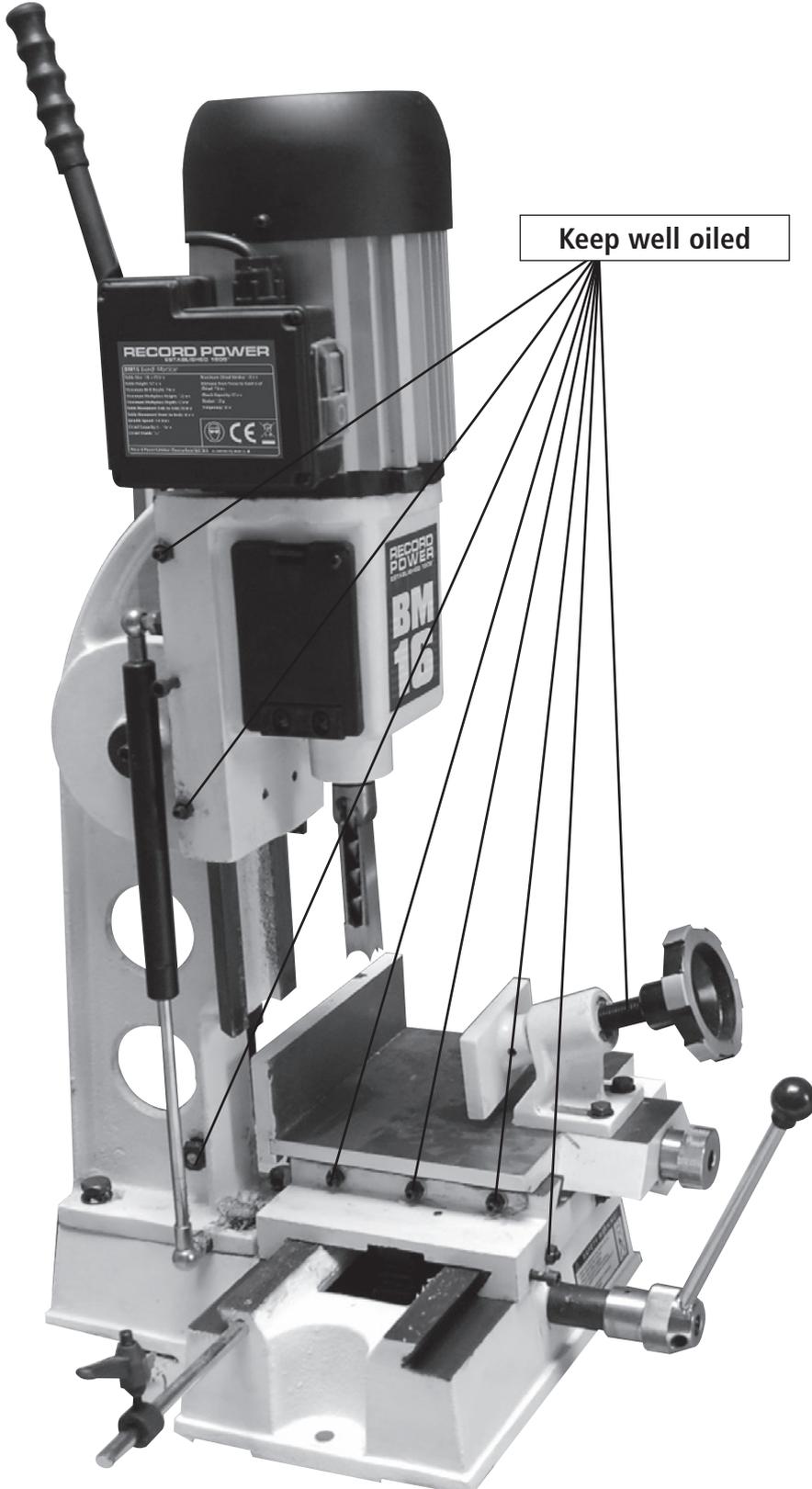
There is very little maintenance required on your morticer.

Keep it clean

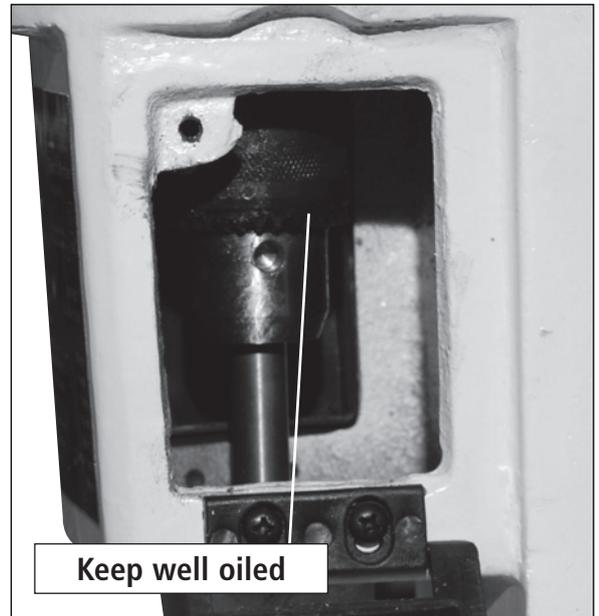
- Make sure the rack and pinion gears do not become clogged with chips/sawdust also keep well lubricated to prevent wear on the gears. (See Pic 10)
- Lightly spray oil on all exposed metal surfaces if the machine is going to stand idle for any length of time. Keep the chisels and augers sharp.

Once a month

- Blow/suck the motor to remove any debris that might have lodged in the fan cover.
- Oil the chuck and exercise it over its full range to ensure the oil coats all moving parts. (See Pic 11)



Pic 10



Pic 11

9b. Maintenance - Chisel and Bit

Chisel Abrasion

Look downward into the hollow of the chisel, check to see whether any of the bevelled areas inside the chisel (where hollow becomes circular) have dulled or any of the square corners have become round (Pic 10). The angles of the corners should be filed to regain the original shape.

When abrasion occurs to the extent of making the thickness of the entire chisel bit tip noticeably thin, the chisel bit will be liable to break in operation. When you see excessive abrasion, it is advisable to replace the chisel with a new one.

To sharpen the chisel, a special chisel sharpening tool is required (Pic 11).

Part numbers for ordering these tools
R539 Set 1 (suitable for 1/4" - 9/16")
R539 Set 2 (suitable for 5/8" - 1")

There are two types of chisel sharpening tool available. One has a fixed pilot which fits exactly into the chisel bore (each separate chisel must have a countersink with a pilot to suit each size). The other has interchangeable pilots which are held in place by a socket screw and locked with an Allen key.

The use of this tool ensures that all four cutting edges will be evenly sharpened and maintained in the correct shape and bevel.

1. Place the chisel carefully in a vice.
2. Fit the tool into a brace. Several turns of the tool will produce a fine cutting edge. The inside corners of the chisel must be finished with a fine file.

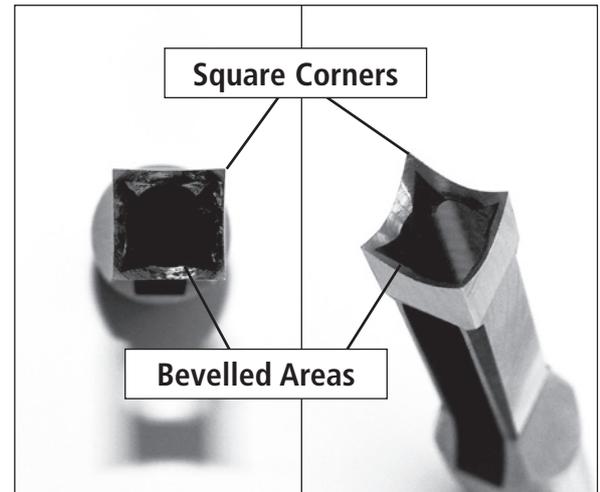
Never grind a chisel. Never sharpen it on the outside. Always protect it from possible damage.

Sharpening The Chisel And Bit

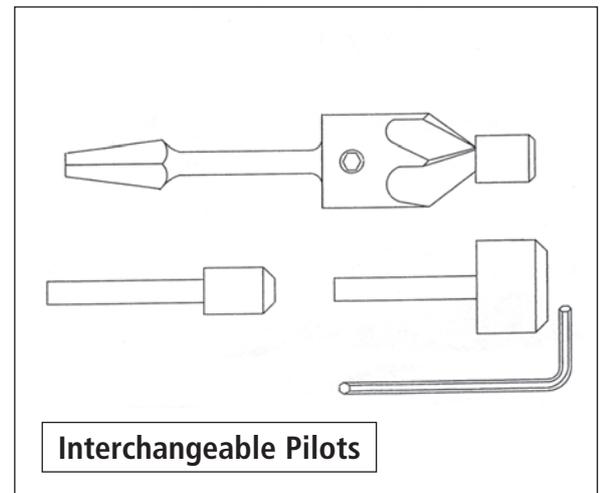
A well sharpened bit will cut fine broken chips which pass easily and quickly through the twist and are ejected through the slot in the chisel side.

1. To sharpen the spur (Pic 12) use a small square or flat smooth file and sharpen the inside only (Pic 13).

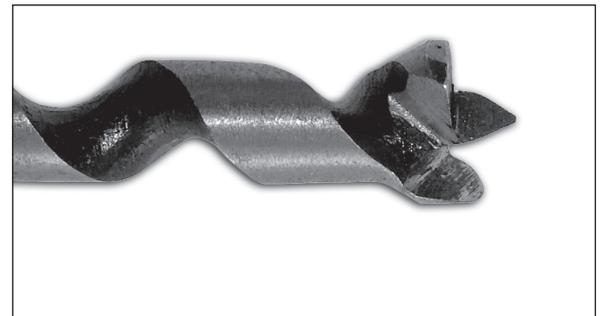
Never sharpen or stone the bit on the outside or attempt to grind it. If any doubts exist as to the suitability of the bit after prolonged use and repeated sharpening. Discard it and purchase a new one. The chisel is the more expensive component and a bad bit will impose great strain on the chisel.



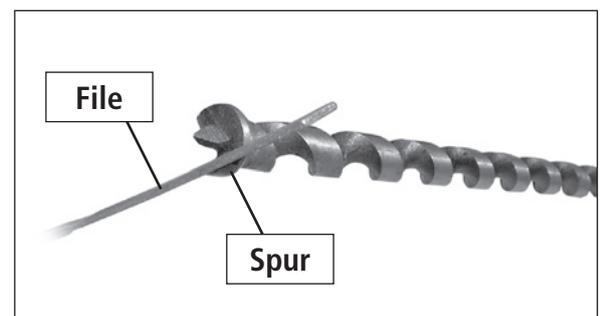
Pic 10



Pic 11



Pic 12



Pic 13

10. Trouble Shooting

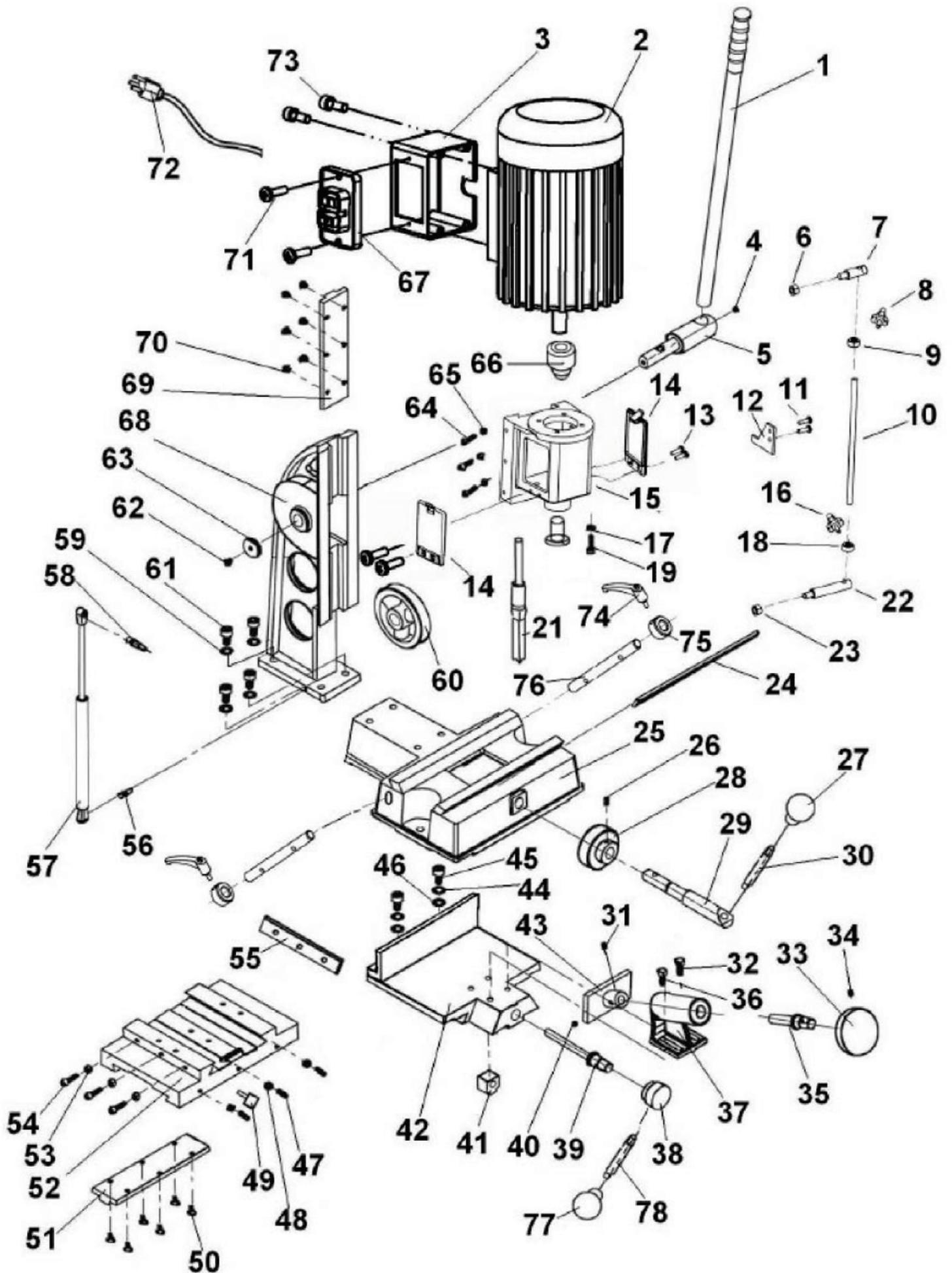
Should you have any difficulty arise during operation, check the power cord and connection. If the problem does not appear to be related to the power supply, the following table may help to identify it.

IMPORTANT

Disconnect the machine from the power supply before servicing the machine.

Symptom	Possible Causes	Solutions
Morticer will not start	1. Fuse blown or circuit breaker tripped.	1. Replace fuse or reset circuit breaker.
	2. Cord damaged.	2. Have cord replaced by an Authorised Service Centre or Service Station.
Overload kicks out frequently	1. Extension cord too light or too long.	1. Replace with adequate size cord.
	2. Chisel and bit in poor condition (dull or broken).	2. Clean or replace the chisel and bit.
	3. Stock is too wet.	3. Dry stock for cutting.
Bit does not come up to speed	1. Extension cord too light or too long.	1. Replace with adequate size cord.
	2. Low current.	2. Contact your electrician.
	3. Motor not wired for correct voltage.	3. Refer to motor name plate for correct wiring.
Morticer makes unsatisfactory cuts	1. Dull hollow square chisel and bit.	1. Sharpen or replace the chisel and bit.
	2. Gum or pitch on the chisel and bit.	2. Remove the chisel and bit and clean with turpentine and steel wool.
	3. Gum or pitch on the worktable or fence causing un-square cutting.	3. Clean the worktable and fence with turpentine.
	4. The chisel and bit was not correctly set.	4. Make sure the entire assembly is correctly held with proper clearance of 2mm-5mm.
The work burns	1. Dull chisel and bit. 2. The bit has worn out or is-broken.	1. Sharpen or replace the chisel and bit. 2. Replace the worn bit with a new one.
The bit is down drilling	1. The bit is worn out or broken.	1. Replace the worn bit with a new one.
	2. The bit is not sharp enough.	2. Sharpen the bit.
	3. The drill chuck has been loosened to clamp the drill bit.	3. Tighten the drill chuck with the key provided.
The machine vibrates excessively	1. Damaged chisel bit.	1. Replace the damaged bit with a new one.
	2. Stand on uneven floor.	2. Reposition on flat level surface. Fasten to floor if possible.

11. Parts List



11. Parts List - Cont.

NO.	Description	Quantity	NO.	Description	Quantity
1	Handle	1	41	Lead Nut	1
2	Motor	1	42	Table	1
3	Switch Box	1	43	Clamp Plate	1
4	Screw	1	44	Screw	2
5	Gear Shift	1	45	Spring Washer	2
6	Screw	1	46	Washer	2
7	Screw	1	47	Screw	1
8	Handle	1	48	Nut	2
9	Setting Collar	1	49	Screw	1
10	Guide Column	1	50	Screw	1
11	Screw	2	51	Rack	1
12	Localizer	1	52	Sliding Plate	1
13	Screw	2	53	Washer	3
14	Cover	2	54	Screw	3
15	Gear Casing	1	55	Drift	4
16	Handle	1	56	Screw	4
17	Washer	4	57	Gas Spring	1
18	Setting Collar	1	58	Screw	1
19	Bolt	4	59	Washer	4
21	Chisel	1	60	Gear	1
22	Screw	1	61	Bolt	4
23	Nut	1	62	Screw	1
24	Drift	1	63	Drift	1
25	Base	1	64	Screw	3
26	Screw	2	65	Washer	3
27	Knob	1	66	Chuck	1
28	Gear	1	67	Switch	1
29	Gear Shaft	1	68	Column	1
30	Handle	1	69	Rack	1
31	Screw	1	70	Screw	6
32	Screw	1	71	Screw	2
33	Knob	1	72	Power Cord	1
34	Screw	1	73	Screw	4
35	Lead Screw	1	74	Handle	2
36	Screw	1	75	Chisel Bushing	2
37	Connecting Bend	1	76	Shaft	2
38	Knob	1	77	Knob	1
39	Lead Screw	1	78	Shaft	1
40	Screw	1			

12. Certificate of Conformity

EU Declaration of Conformity

Cert No: EU / BM16 / 1

RECORD POWER LIMITED,

Unit B, Ireland Industrial Est.

Adelphi Way, Staveley, Chesterfield S43 3LS

declares that the machinery described:-

1. Type: **Bench Top Morticer**
2. Model No: **BM16**
3. Serial No

Conforms with the following directives:-

Machinery Directive – 98/37/EC

Cert No. AM50033804-0001

Low Voltage Directive – 73/23/EEC and amendment 93/68/EEC

Cert No. AN50033803-0001

Electromagnetic Compatibility – 89/336/EEC and amendment 93/68/EEC

Cert No. AE50033808-0001

and conforms to the machinery example for which the
EC Type-Examination Certificate No. AN213343801/E2131308E01/R02033606
at: Am Grauen Stein, D-51105. Cologne, Germany

and complies with the relevant essential health and safety requirements.

Signed..........Dated: **01/01/09**

Andrew Greensted
Managing Director

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