



INSTRUCTIONS FOR HOLLOW CHISEL MORTISER MODEL NO: SM94.V4

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions, and properly maintained, give you years of trouble free performance.

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.



Refer to instructions



Wear eye protection



Wear protective gloves



Wear safety footwear



Wear a mask

1. SAFETY

1.1. ELECTRICAL SAFETY

- ❑ **WARNING!** It is the responsibility of the owner and the operator to read, understand and comply with the following:
You must check all electrical products, before use, to ensure that they are safe. You must inspect power cables, plugs, sockets and any other connectors for wear or damage. You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices. A Residual Current Circuit Breaker (RCCB) should be incorporated in the main distribution board. We also recommend that a Residual Current Device (RCD) is used. It is particularly important to use an RCD with portable products that are plugged into a supply which is not protected by an RCCB. If in any doubt consult a qualified electrician. You may obtain a Residual Current Device by contacting your Sealey stockist.

You must also read and understand the following instructions concerning electrical safety.

The Electricity at Work Act 1989 requires that all portable electrical appliances, if used on business premises, are tested by a qualified electrician, using a Portable Appliance Tester (PAT), at least once a year.

The Health & Safety at Work Act 1974 makes owners of electrical appliances responsible for the safe condition of those appliances and the safety of the appliance operators. If in any doubt about electrical safety, contact a qualified electrician.

- 1.1.1. Ensure that the insulation on all cables and on the appliance is safe before connecting it to the power supply.

- 1.1.2. Ensure that cables are always protected against short circuit and overload.

- 1.1.3. Regularly inspect power supply cables and plugs for wear or damage and check all connections to ensure that none is loose.

- 1.1.4. Ensure that the voltage marked on the appliance matches the power supply to be used and that the plug is fitted with the correct fuse - see plug diagram on right.

- × **DO NOT** pull or carry the appliance by the power cable.

- × **DO NOT** pull the plug from the socket by the cable.

- × **DO NOT** use worn or damaged cables, plugs or connectors. Immediately have any faulty item repaired or replaced by a qualified electrician. When a BS 1363/A UK 3 pin plug is damaged, cut the cable just above the plug and dispose of the plug safely.

Fit a new plug according to the following instructions (UK only).

a) Connect the GREEN/YELLOW earth wire to the earth terminal 'E'.

b) Connect the BROWN live wire to the live terminal 'L'.

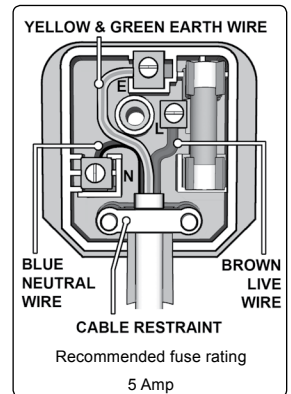
c) Connect the BLUE neutral wire to the neutral terminal 'N'.

Ensure that the cable outer sheath extends inside the cable restraint and that the restraint is tight.

Sealey recommend that repairs are carried out by a qualified electrician.

1.2. GENERAL SAFETY

- ❑ **WARNING!** Disconnect the mortiser from the mains power before changing accessories, servicing or performing any maintenance. Locate the mortiser in a suitable working area. Fasten the mortiser to a strong flat working surface. Keep area clean and tidy and free from unrelated materials and ensure there is adequate lighting.
- ✓ Maintain the mortiser in good condition (use an authorised service agent).
- ✓ Replace or repair damaged parts. Use genuine parts only. Unauthorised parts may be dangerous and will invalidate the warranty.
- ✓ Keep the mortiser clean for best and safest performance and check moving parts alignment regularly.
- ✓ Keep mortiser tool bits clean and sharp and ensure bit is secured correctly in the mortiser chuck. If worn or damaged replace immediately.
- ✓ Remove adjusting keys and wrenches from the mortiser and its vicinity before turning it on.
- ✓ Wear approved eye safety protection.
- ✓ Handle loose chisels and drill bits with gloves or cloth as they are very sharp, but DO remove gloves and/or cloth before operating the mortiser. Keep your hands and fingers away from the mortiser tool bit and chisel when operating.
- ✓ Remove ill fitting clothing. Remove ties, watches, rings and other loose jewellery, and contain long hair.
- ✓ Maintain correct balance and footing. Ensure the floor is not slippery and wear non-slip shoes.
- ✓ Secure work piece by resting against the back stop and top holding clamp.
- ✓ Ensure there are no foreign objects in the workpiece i.e. nails or screws.
- ✓ Use the depth stop for accuracy and to avoid drilling into the work table, and avoid unintentional starting.
- × **DO NOT** start the mortiser with the tool bit resting against the workpiece. Always bring the operating chisel to the workpiece.
- × **DO NOT** attempt to place a workpiece on the mortiser table whilst the cutting tool is working.



- * **DO NOT** use the mortiser for a task it is not designed to perform.
- * **DO NOT** allow untrained persons to operate the mortiser and keep children and unauthorised persons away from the working area.
- * **DO NOT** get the mortiser wet or use in damp or wet locations or areas where there is condensation.
- * **DO NOT** use mortiser where there are flammable liquids, solids or gases such as paint solvents, waste wiping rags etc.
- * **DO NOT** operate the mortiser if any parts are damaged or missing as this may cause failure and/or possible personal injury.
- * **DO NOT** leave the mortiser operating unattended.
- * **DO NOT** operate the mortiser when you are tired or under the influence of alcohol, drugs or intoxicating medication.
- * When not in use switch off the mortiser and remove plug from the power supply.

2. INTRODUCTION

Bench mounting mortising machine suitable for cutting mortises for joints, locks and dead-bolts. Twin uprights with hydraulic damper carry head assembly and have adjustable depth stop for repetitive work. Integral drill chuck is easily accessible from both sides of the head. Powered by heavy-duty induction motor with no-volt release switch to prevent accidental restart after power failure or jam. Supplied with arbor extension and 13mm drill chuck for occasional drilling operations. Includes table and work piece clamp assembly. Mortising chisels included.

3. SPECIFICATION

Motor Power	370W, 230V.
Chisel Size	1/4", 3/8", 1/2"
Chuck Size	13mm
Spindle Travel.....	120mm
Chisel to Table.....	115mm
Throat Depth	77mm
Hold Down Capacity.....	68mm
Table Size.....	150 x 340mm
Dimensions H (less handle) x W x L.....	640 x 355 x 340mm
Weight	25kg

4. CONTENTS

CONTENTS (See fig.1)

1. Tool tray
2. Tool tray fixings (2 x M6 x16mm socket cap bolts & washers)
3. Back Stop
4. Washers x 2 for hold down clamp assembly
5. Hold down clamp adjustment knob
6. Back Stop clamp assembly
- 6a. Clamp lever fixing
- 6b. Clamp lever spring
- 6c. Clamp lever
- 6d. Clamp lever post
7. Back Stop mounting block fixings (2 x M8 x 20mm socket cap bolts)
8. Back Stop mounting block
9. Arbor extension
10. Drilling chuck
11. Allen Keys 3mm, 5mm, 6mm
12. Work table
13. Table fixing screw (2 x M8 x 25mm Countersunk)
14. Hold down clamp
15. Mortising Chisel + Drill Bit (1/4") (See fig.3)
16. Mortising Chisel + Drill Bit (3/8") (See fig.3)
17. Mortising Chisel + Drill Bit (1/2") (See fig.3)
18. Handle (See fig.2 & fig.4)
19. Handle fixing bolt (M6 x 20mm) (See fig.2)
20. Chuck Key. (See fig.2)

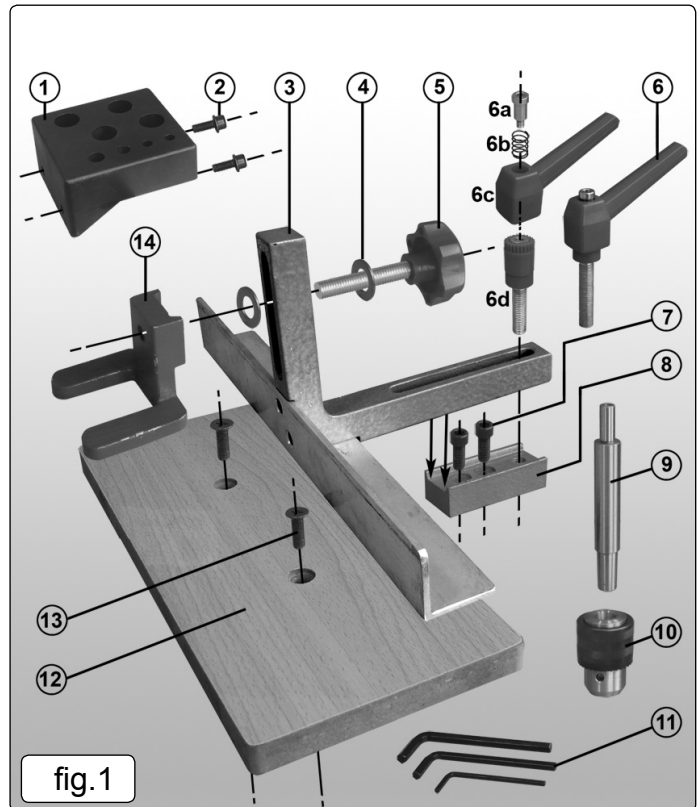
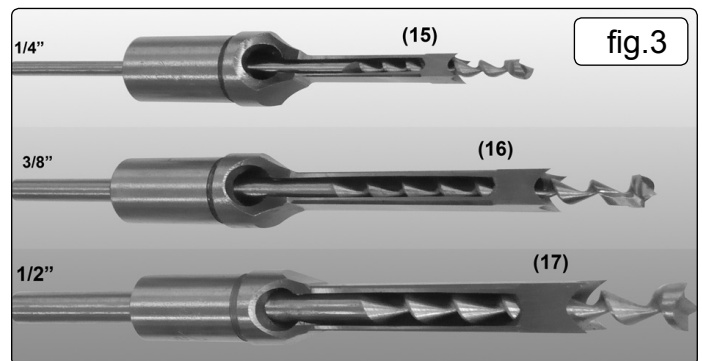
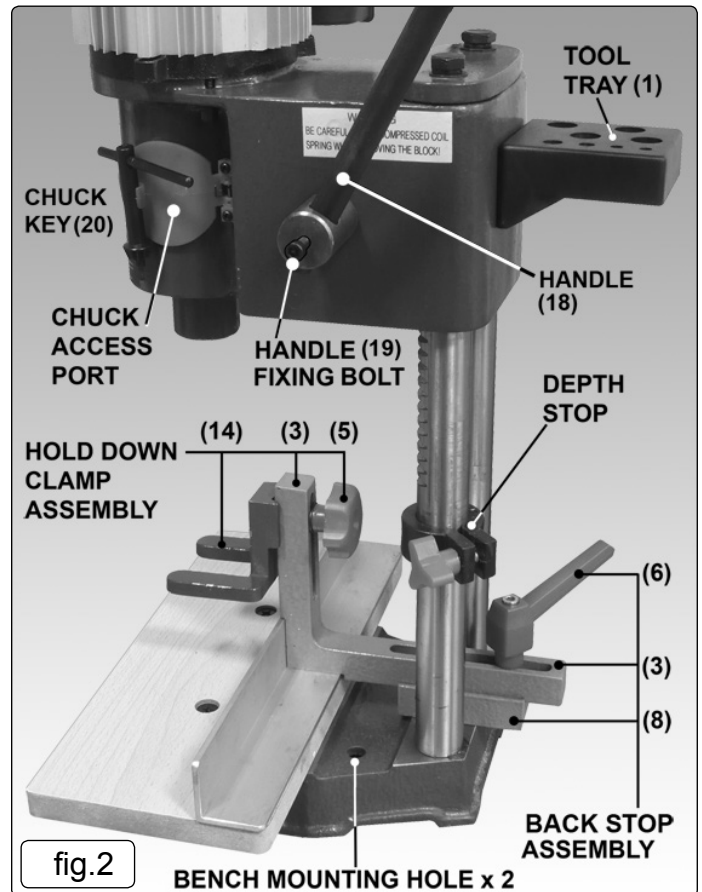


fig.1

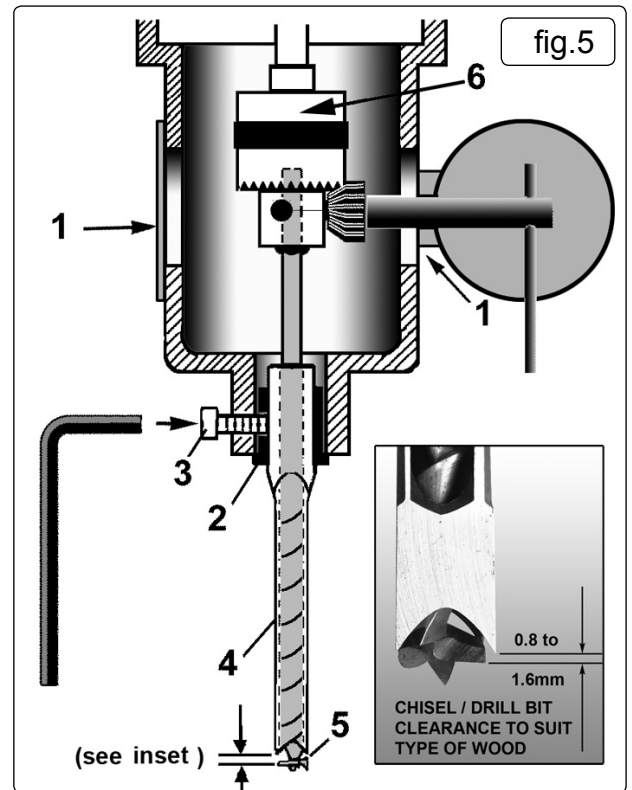
5. ASSEMBLY

- ❑ **WARNING! DO NOT** plug the mortiser into the mains power supply until completely assembled and these instructions tell you to do so.
 - ✗ **DO NOT** allow brake fluids, petroleum, penetrating oils etc. to come into contact with plastic parts of mortiser as damage may result.
 - ❑ **WARNING!** The mortiser is delivered with the head positioned low down on the two pillars and is held in this position by a piece of wood inserted between the top of the head and the crosspiece on top of the pillars. Care must be taken when removing this piece of wood as the head is held under spring pressure and will move rapidly to the top of the pillars when the wood is removed.
- 5.1. **Releasing The Head.** Place the mortiser onto a firm, solid workbench and bring the cast base near to the front edge of the work surface. Insert the plain end of the handle (18) through the hole in the shaft on the right side of the head and fix the handle with the M6 x 20mm socket cap bolt provided (19). Steady the mortiser by placing your left hand on top of the unit. Rotate the handle so that it is pointing downwards at 45°. Push the handle further down a small amount to take the pressure off the wood and get a second person to remove the piece of wood. Slowly allow the handle to rotate upwards allowing the head to move to the top of the pillars in a controlled fashion.
 - 5.2. **Back Stop Mounting Block.** (See 8 in Figs.1 & 2) Bolt the Back Stop mounting block in between the two pillars at the back of the base casting using the two M8 x 20mm socket cap bolts provided (7). Ensure that the threaded hole is at the back. Tighten the bolts using the 6mm hex key provided.
 - 5.3. **Work Table.** (See 12 in Figs.1 & 2) Attach the Work Table to the cast base using the two countersunk M8 x 25mm Table fixing screws (13).
 - 5.4. **Back Stop Assembly.** (See Fig.2) Lay the Back Stop onto the work table with the long extension resting in the guide block (8). Place the Clamp Lever Post (see 6d in Fig.1) through the slot in the guide and screw it down by hand into the threaded hole in the Back Stop mounting block.
 - 5.4.1. Place the Clamp Lever (see 6c in Fig.1) onto the top of the clamp post ensuring that it engages with the splines on the post.
 - 5.4.2. Insert the spring (6b) into the recess in the top of the clamp lever. Secure the clamp lever assembly with the clamp lever fixing (6a) screwed down through the spring.
 - 5.4.3. The movement of the clamp lever is restricted by its proximity to the two pillars. To overcome this, the lever can be lifted up from the splined top of the post and rotated round to a new position in order to move it again. Ensure that the lever re-engages with the splined post when dropped down again.
 - 5.5. **Hold Down Clamp Assembly.** (See Figs.1 & 2) Slide a washer (4) over the threaded shaft of the hold down clamp adjustment knob (5). Insert the threaded shaft through the vertical extension of the Back Stop (3) and slide on another washer (4). Place the hold down clamp on the front face of the Back Stop extension and screw the threaded shaft into the clamp until it is firmly fixed on the Back Stop. Tool Tray Assembly. Take the tool tray (1) and fix it to the back of the head as shown in Fig.2 using two M6 x 16mm socket cap bolts & washers (2).
 - 5.6. **Mounting The Mortiser.** Before use, attach the mortiser to a stable work bench using the mounting points situated behind the wood working table (Fig.2) and 13mm bolts of the appropriate length which are strong enough to take the weight of the unit and the workpiece.
 - ❑ **WARNING!** Failure to adequately mount the mortiser could result in damage and/or severe personal injury.



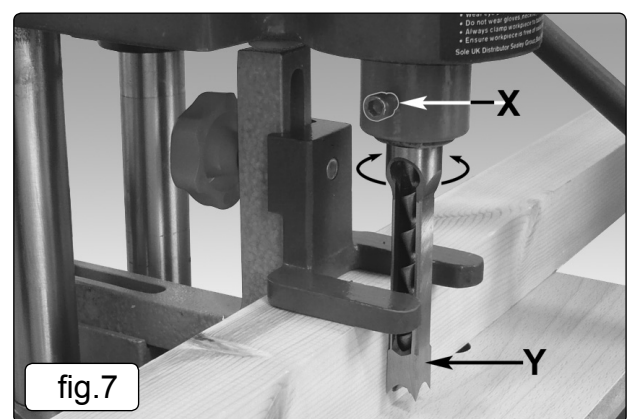
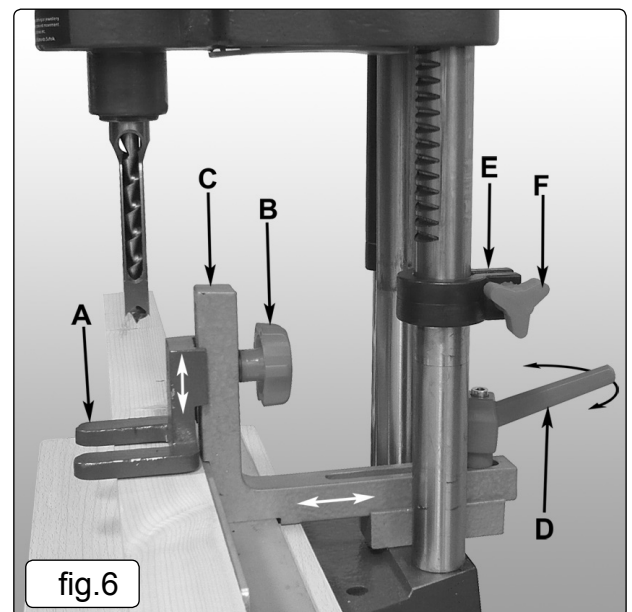
6. INSERTING CHISEL & DRILL BIT

- ❑ **WARNING!** Ensure the mortiser is switched off and is unplugged from the mains power supply.
 - ❑ **WARNING!** Use gloves or a cloth when handling drill and chisel bits, as the ends are very sharp. Remember to remove gloves and/or cloth before starting the mortiser.
Note: If the mortiser has previously been set up for drilling, the chuck and arbor extension must be removed before a chisel can be installed.
- 6.1. Ensure that the socket cap chisel retaining screw (Fig.5-3) is not protruding through the chisel mounting bush (Fig.5-2) so that a chisel can easily be inserted into the bush.
 - 6.2. When the chisel/drill bit is correctly set up there should be a clearance of between 0.8 and 1.6mm between the end of the chisel and the drill cutting spur. (See Fig.5) To do this use the following procedure.
 - 6.3. Open the head side covers (Fig 5.1) to expose the chuck (Fig 5.6). Ensure that the jaws in the chuck are sufficiently retracted to allow the chosen drill to fully enter the chuck.
 - 6.4. Remove the protective cover from the end of the chisel/drill set and hold a protective pad or small piece of wood on the drill tip. Push the chisel/drill set up into the chisel bush until it stops.
 - 6.5. Now rotate the chisel portion so that the opening in the side faces to the left or right. If the workpiece is to be moved progressively to the right the opening in the side of the chisel should face to the right. If moving the workpiece to the left then face the opening to the left. **DO NOT** face the slot to the front or rear because wood chips produced during the cutting process will not be able to escape from the chisel.
 - 6.6. Tighten the chisel retaining screw (Fig.5-3) using the hex key provided.
 - 6.7. Keeping the protective pad on the drill tip, push the drill up into the chisel until the drill spur has a clearance of 0.8 -1.6mm from the chisel (See inset diagram in Fig.5.) then tighten the chuck using the chuck key provided.
 - 6.8. Allow the side covers to close and remove any protection from the chisel/drill tips.



7. CONTROLS & ADJUSTMENTS

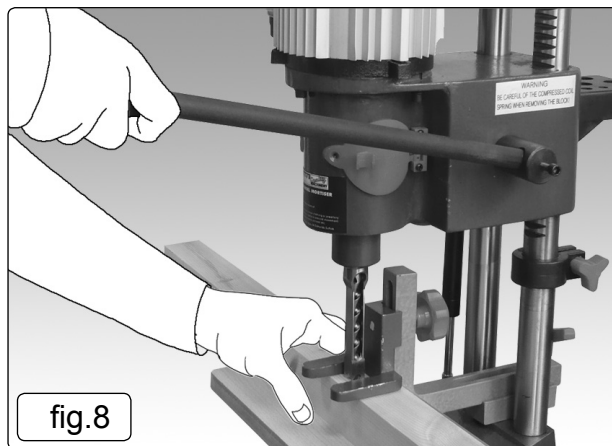
- ❑ **WARNING!** Ensure the mortiser is switched off and is unplugged from the mains power supply.
- 7.1. **Raising and lowering the mortiser head.**
 - 7.1.1. Use the handle (Fig.8) to raise and lower the head.
 - 7.1.2. Pull the handle towards you to lower the head.
 - 7.1.3. Allow the handle to return to raise the head.
 - 7.2. **Depth stop adjustment.** See E in Fig.6. The depth stop limits the depth of chisel cut. To adjust the depth stop, loosen lock knob (Fig.6F) and lower the head until the bottom of the chisel is at desired depth. Raise the depth stop until it makes contact with the underside of the head and re-tighten knob.
 - 7.3. **Back stop.** To position the back stop, loosen locking handle (Fig.6D). Position back stop by moving it in or out as indicated above, when correctly positioned re-tighten locking handle.
 - 7.4. **Hold Down Clamp adjustment.** The clamp (Fig.6A) prevents the workpiece from lifting as the chisel is raised up from the cutting hole. Adjust the clamp so that it rests on the top of the workpiece but will allow the workpiece to slide to the left or right. The clamp may be turned upside down to accommodate thicker workpieces. To adjust the clamp loosen the knob B and move the clamp up or down as required and re-tighten the knob.
 - 7.5. **Parallel chisel adjustment.** See Fig.7. Adjust the position of the workpiece until it is almost touching the back of the chisel (Y). Loosen the chisel retaining screw (X) to allow it to rotate and edge the workpiece up to the back of the chisel to ensure that the chisel is parallel to the surface of the workpiece. Re-tighten the locking screw and reposition the workpiece for cutting. See Fig.8.



8. OPERATING

- ❑ **WARNING!** Ensure you read, understand and apply chapter 1 safety instructions before use.
- 8.1. Ensure you have installed the correct chisel and that it is sharp. Ensure that the opening in the side of the chisel faces to the left or right depending on which direction the workpiece is to be moved in. Refer to section 6.5.

- 8.2. Set the depth stop. see section 6.
- 8.3. Place your workpiece in the mortiser adjusting the back stop and hold down clamp as necessary. see sections 7.
- 8.4. Plug the mortiser into the mains power supply. Hold the workpiece firmly against the back stop and switch the mortiser on, keeping hands and fingers away from the cutting tools.
- 8.5. Bring the handle down to commence mortise cutting. We recommend that you practice on scrap wood before moving onto an actual workpiece. The rate of chisel penetration must be fast enough to prevent burning the drill and chisel tip, but not too fast as to stall the motor. You may notice smoke coming from the bit or the wood once the chisel has engaged in the workpiece. This is a normal occurrence of hollow chisel mortising caused by chipping friction whereby the wood resins in the stock are burned off. Should this become excessive however, refer to troubleshooting chapter 10. The chisel may also become blue in colour, this is also a normal attribute associated with friction and resin build up on the cutting face of the tool bit. A dull (blunt) chisel may be detected when the amount of pressure required to complete a cut becomes excessive.



- 8.6. When performing a through mortise, a thin piece of wood must be placed between the workpiece and the table to prevent the underside of the cut from splintering, and to protect the work table. In such a case re-set depth stop accordingly.
- 8.7. Using the mortiser as a standard pillar drill Loosen bushing screw and remove the chisel and drill bit from the chuck. Attach the chuck arbor extension spindle (Fig.1-9) to the neck of spare drill chuck (Fig.1-10). Pass the spindle up through, BUT **DO NOT** tighten the screw on the drill spindle which must remain free to turn in the bush. A standard drill bit may be used with chuck (10) for drilling. All locks and guides are used in the same way as for mortising.

9. MAINTENANCE

- WARNING!** Ensure the mortiser is switched off and is unplugged from the mains power supply before carrying out any maintenance.
- 9.1. Clean and dust the mortiser, removing all waste materials.
- 9.2. Periodically apply a light coat of wax to base work surface which will help keep it clean and rust free.
- 9.3. Open shaft cover and apply a thin coat of light machine oil to drill bit shaft where it passes through the chisel, but not on the cutting edge. Also lightly oil rack and pinion gear teeth upon which the main column moves up and down.

10. TROUBLESHOOTING

THE PROBLEM	THE CAUSE	THE SOLUTION
Noisy operation	Dry drill bit shaft	Lubricate drill bit shaft
Bit burns or smokes	1. Chips not coming out of hole	1. Retract bit frequently to clear chips
	2. Dull bit	2. Sharpen or replace bit
	3. Feed rate too slow	3. Feed faster
Excessive drill bit run out, or wobble	1. Bent bit	1. Replace bit
	2. Chuck not correctly installed	2. Remove chuck and install correctly
	3. Bit not correctly installed	3. Remove bit and install correctly
	4. Worn or loose chuck	4. Replace chuck
	5. Worn spindle bearings	5. Replace bearings
Drill binds in workpiece	1. Workpiece twisting or moving	1. Support or clamp workpiece
	2. Excessive feed pressure	2. Reduce pressure and clamp workpiece



ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.



WEEE REGULATIONS

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

Note: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

Important: No Liability is accepted for incorrect use of this product.

Warranty: Guarantee is 12 months from purchase date, proof of which is required for any claim.

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