

AXMINSTER

Hobby
SERIES

Code: 501252

AW16BMST2 Bench Morticer



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Declaration of Conformity

Copied from CE Certificate

The undersigned, Matthias Grzam authorised by

Laizhou Tongtailai Machinery Co., Ltd.
Chenggou Dongfeng Laizhou,
Shandong 261437 P.R. China

Manufactured by Laizhou Tongtailai Machinery Co.
is in compliance with the following standards or
standardisation documents in accordance with Council
Directives

2006/95/EC

Model number

Morticer MS3816



Warning The symbols below advise that you follow the correct safety procedures when using this machine.



Fully read manual
and safety instructions
before use



Ear protection
should be worn



Eye protection
should be worn



Dust mask
should be worn



Two Man
Assembly



HAZARD
Motor gets hot

Model Number:

MS3816

1 off: Bench Morticer with Sliding Table

1 off: Operating Lever

A

1 off: Saddle Operating Wheel

B

1 off: Operating Wheel Shaft

C

2 off: Distance Stop Rods

D

Bag 1 2 off: M6 x 30mm and M6 x 16mm Lift and Shift Handles

E

2 off: Ring Collar Clamps with Lift and Shift Handles

F

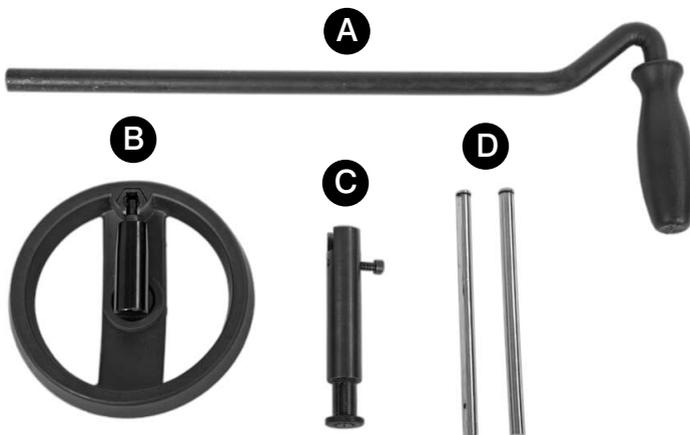
Bag 2 1 off: 13mm Chuck Key, 6,5,3mm Allen Keys

G

1 off: Instruction Manual

Having unpacked your machine and its accessories, please check the contents against the equipment list "What's in the box", if there are any discrepancies, please contact Axminster Power Tool Centre (**03332 406406**) using the procedures laid down in the catalogue.

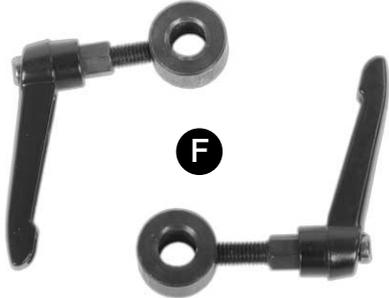
Please dispose of the packaging responsibly; much of the material is bio-degradable. The machine and its accessories will arrive coated with heavy corrosion preventative grease and greased wax paper. These may need to be cleaned from the machine, its components and accessories prior to it being set up and commissioned. Use coal oil, paraffin or a proprietary degreaser to remove the barrier grease.



E



F



G



Good Working Practices/Safety

The following suggestions will enable you to observe good working practices, keep yourself and fellow workers safe and maintain your tools and equipment in good working order.



WARNING!! KEEP TOOLS AND EQUIPMENT OUT OF THE REACH OF YOUNG CHILDREN

General Advice

Work Place/Environment

The machine is not designed for working outside, do not use when or where it is liable to get wet. If the machine does get wet; dry it off as soon as possible, with a cloth or paper towel.

Do not use 230V a.c. powered machines anywhere within a site area that is flooded or puddled, and do not trail extension cables across wet areas.

Keep the machine clean; it will enable you to see more easily any damage that may have occurred.

Clean the machine with a damp soapy cloth when required, do not use solvents or cleaners, as these may cause damage to any plastic parts or to the electrical components.



Keep your work area as well lit and uncluttered as is practical, this includes personnel as well as material.



Under no circumstances should CHILDREN be allowed in work areas.

It is good practice to leave the machine unplugged until work is about to commence, also be sure to unplug the machine when it is not in use, or unattended. Always disconnect by pulling on the plug body and not the cable. Once you are ready to commence work, remove any tools used in the setting operations (if any) and place safely out of the way. Re-connect the machine.

Carry out a final check e.g. check the cutting tool, drill bit etc., is securely tightened in the machine, check you have the correct speed and function set, check that the power cable will not 'snag' etc.

Make sure you are comfortable before you start work, ie balanced, not reaching etc.,

If the work you are carrying out is liable to generate flying grit, dust or chips, wear the appropriate safety clothing, goggles, gloves, masks etc., If the work operation appears to be excessively noisy, wear ear-defenders. If you wear your hair in a long style, wearing a cap, safety helmet, hairnet, even a sweatband, will minimise the possibility of your hair being caught up in the rotating parts of the tool, likewise, consideration should be given to the removal of rings and wristwatches, if these are liable to be a 'snag' hazard. Consideration should also be given to non-slip footwear, etc.



DO NOT work with cutting or boring tools of any description if you are tired, your attention is wandering or you are being distracted. A deep cut, a lost fingertip or worse; is not worth it!



Do not use this machine within the designated safety areas of flammable liquid stores or in areas where there may be volatile gases. There are very expensive, very specialised machines for working in these areas, THIS IS NOT ONE OF THEM.

Check that cutters, drills etc., are the correct type and size, are undamaged and are kept clean and sharp, this will maintain their operating performance and lessen the loading on the machine. Above all, **OBSERVE.....** make sure you know what is happening around you, and **USE YOUR COMMON SENSE.**

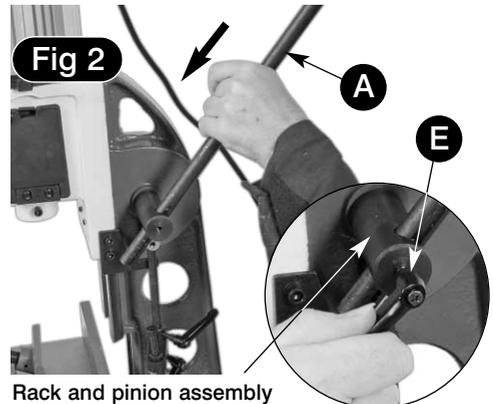
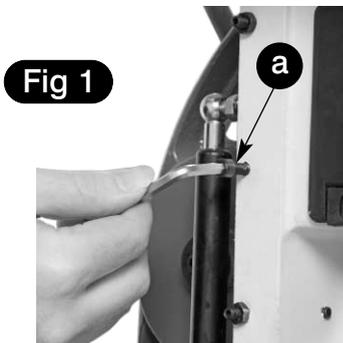
Specific Safety Instructions for Morticers

- Ensure that the morticer is firmly fixed to its base as the force exerted through the operating handle could be enough to over-balance the machine.
- Ensure that the operating handle is returned to the upright position after cutting a mortise.
- Mortice chisels have very sharp ends, handle them with great care.
- Make sure that the timber is held firmly down against the table by using the table clamp. This prevents the possibility of the timber being pulled upwards as the mortice chisel is withdrawn from the hole.

Assembly

Please take some time to read the section entitled “Illustration and Parts Description” to identify the various parts of your machine so that you are familiar with the terminology we will use to enable you to set up and operate your Morticer safely and correctly.

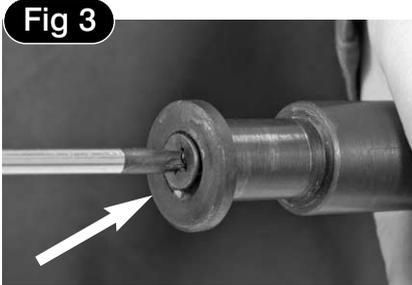
Place the machine onto a suitable surface, at a height that will enable you to work comfortably and to ensure that there is adequate room on either side for the size of timber you plan to use. Once you are happy bolt the morticer down. Loosen the locking caphead screw (a) to raise the morticers head assembly. Locate the operating lever (A) and the M6 x 16mm lift and shift handle (E), introduce the operating lever through the rack and pinion assembly, then secure the lever in place using the M6 lift and shift handle (E) (See fig 2).



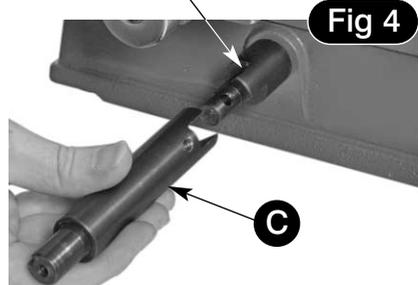
Rack and pinion assembly

Locate the operating wheel Shaft (C), remove the phillips screw, clamping washer and M6 x 23mm caphead screw and place them safely aside (See figs 3 and 5). Slide the machined cutout onto the transverse table shaft mechanism, line up the pre-drilled hole with the one in the table shaft mechanism and secure them in position using a 5mm allen key and the M6 x 23mm caphead screw you removed earlier (See figs 4 and 5).

Table shaft mechanism



Remove the phillips screw and clamping washer.



Slide the machined cutout onto the transverse table shaft mechanism.



Fig 5

M6 Caphead screw

Secure the wheel shaft (C) to the table shaft using the M6 caphead screw.

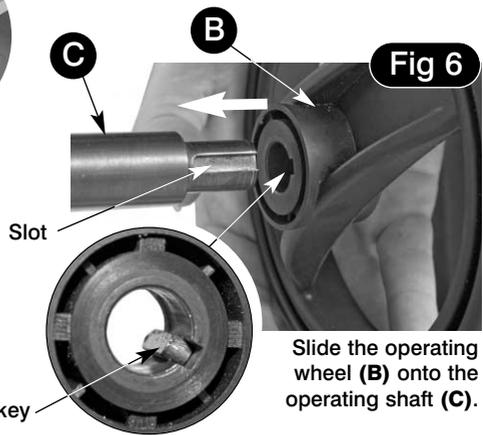


Fig 6

Slide the operating wheel (B) onto the operating shaft (C).

Locate the operating wheel (B), slide it on to the operating wheel shaft (C) as shown in fig 6 (**Note: Make sure the locating key engages into the shafts machined slot**). Secure using the phillips screw and clamping washer you removed earlier (See fig 7).



Fig 7

Secure the operating wheel (B) using the phillips screw and clamping screw.

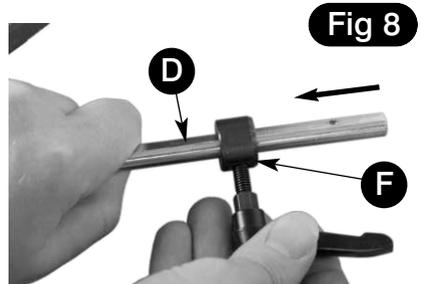
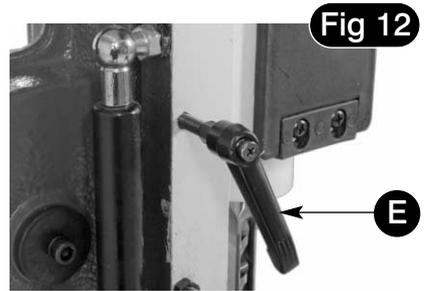
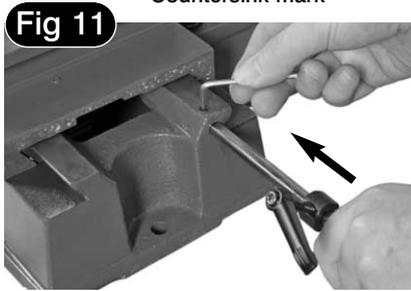
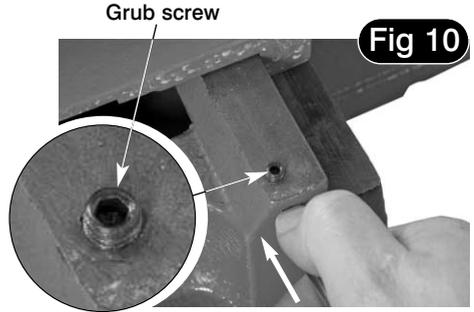
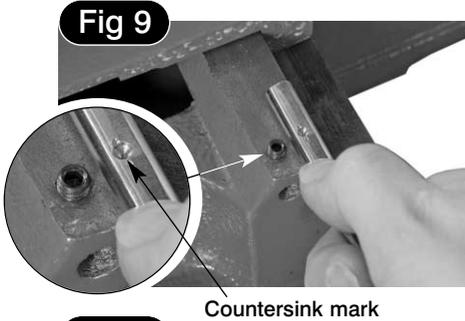


Fig 8

Slide the ring collar clamp (F) onto the distance stop rod (D) and lightly tighten.

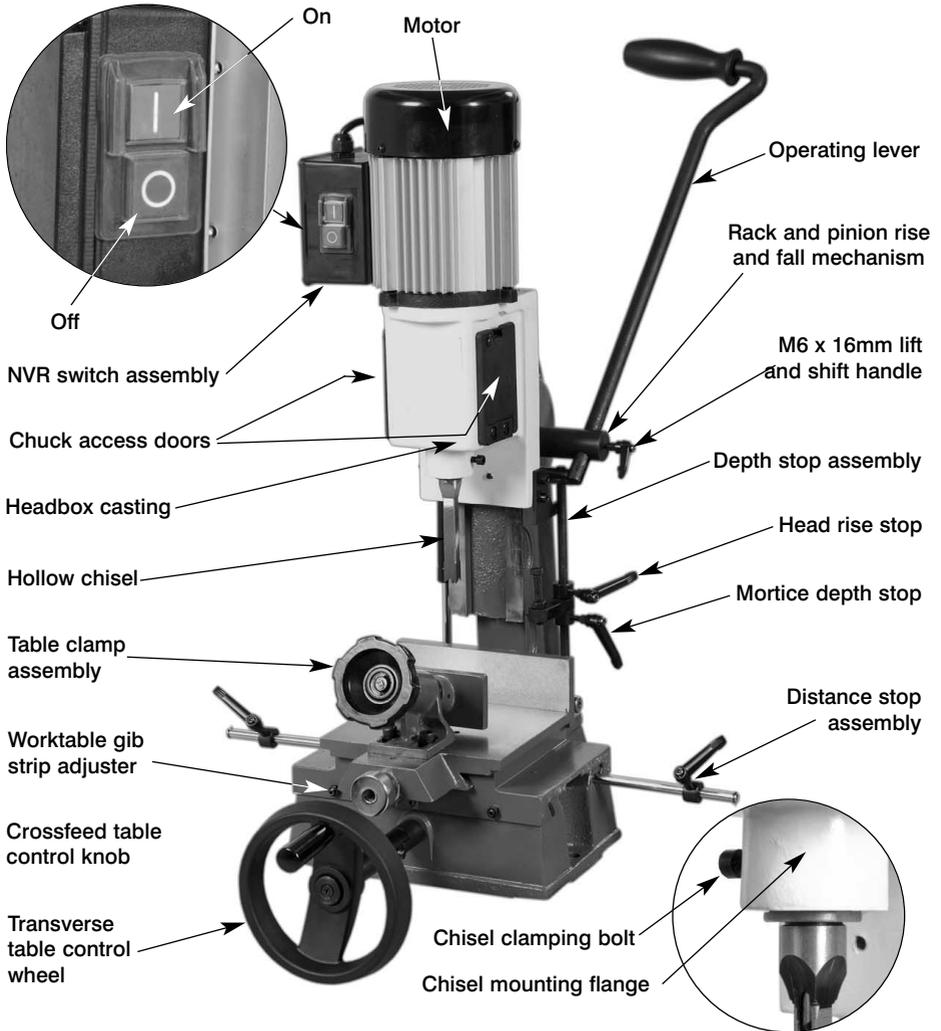
Move the table to the left by turning the operating wheel **(B)**, thus revealing the grub screw beneath. Locate one of the two distance stop rods **(D)** and a ring collar clamp **(F)**, slide the ring collar clamp **(F)** onto the distance stop rod **(D)** and lightly tighten by turning the lift and shift handle, see fig 8 on the previous page. Line up the countersink mark on the rod **(D)** with the grub screw, (make sure the grub screw is raised fully) slide the rod **(D)** into the pre-drilled hole to the end of casting and tighten the grub screw (See figs 9,10 and 11) repeat for the opposite side.

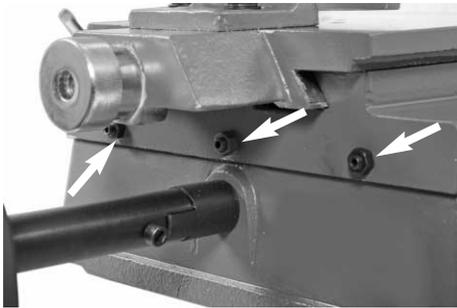


Remove locking caphead screw **(a)** (see page 5), that locks the morticers head assembly and replace it with the M6 x 30mm lift and shift handle **(E)** (See fig 12).

Specification

Model	AW16BMST2
Product Code	501252
Rating	Hobby
Power	375W
Chisel Stroke	100mm
Centre of Chisel to Back Fence	70mm
Max Height of Timber with 12.7mm Chisel and Bit	110mm (160mm with optional spacer block)
Max Chisel Size Softwood	16mm
Max Chisel Size Hardwood	16mm
Overall L x W x H	275 x 440 x 640mm
Weight	42kg





Transverse gib strip adjusters

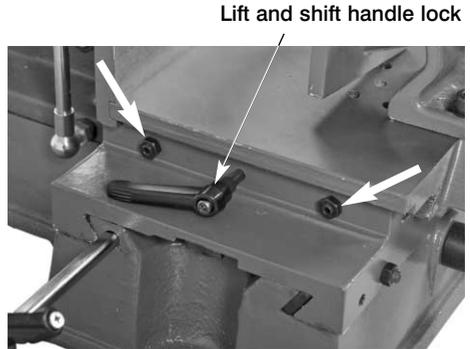


Table gib strip adjusters

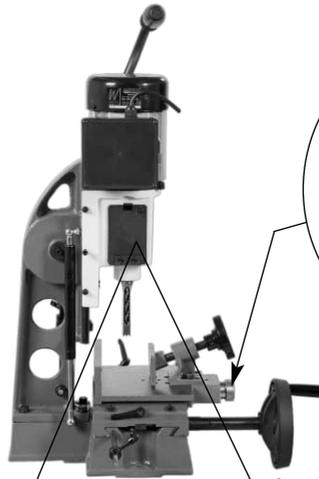
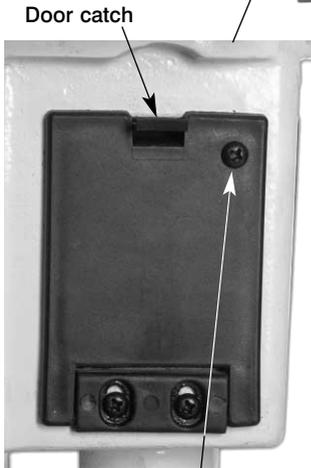


Table fine feed control knob

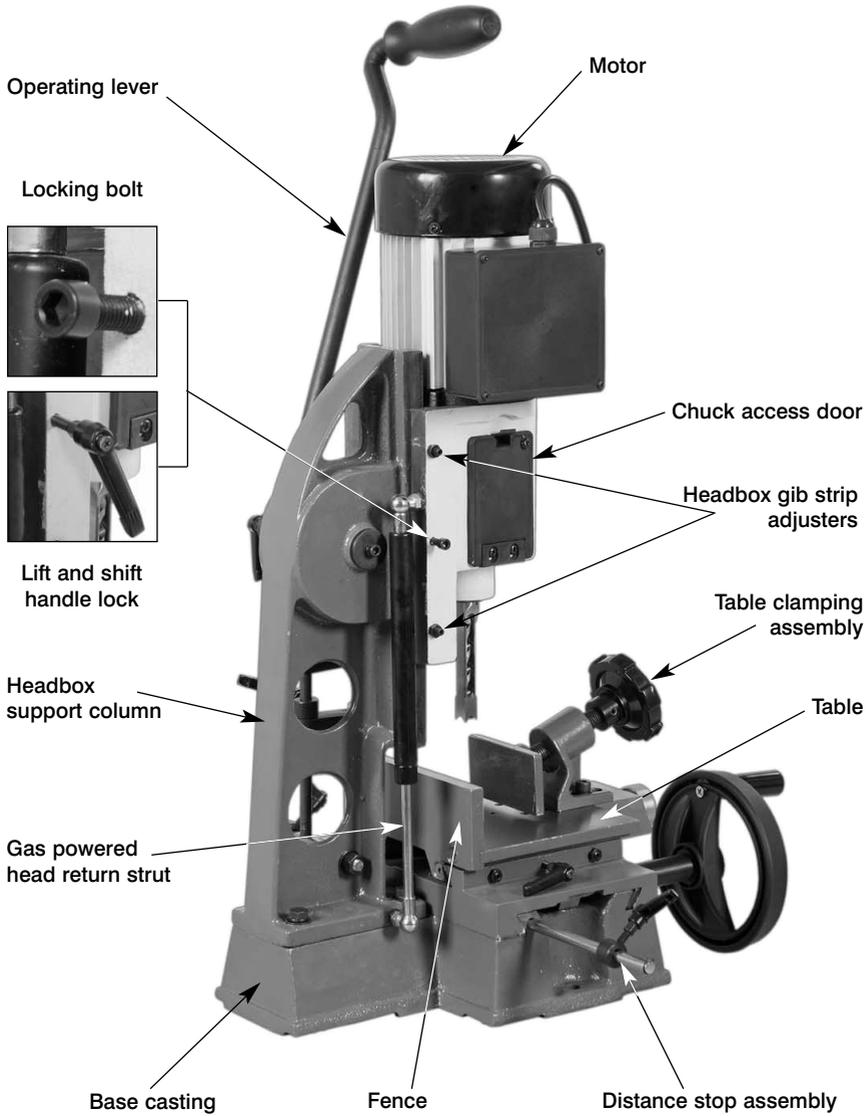


Door catch

Chuck door securing screw

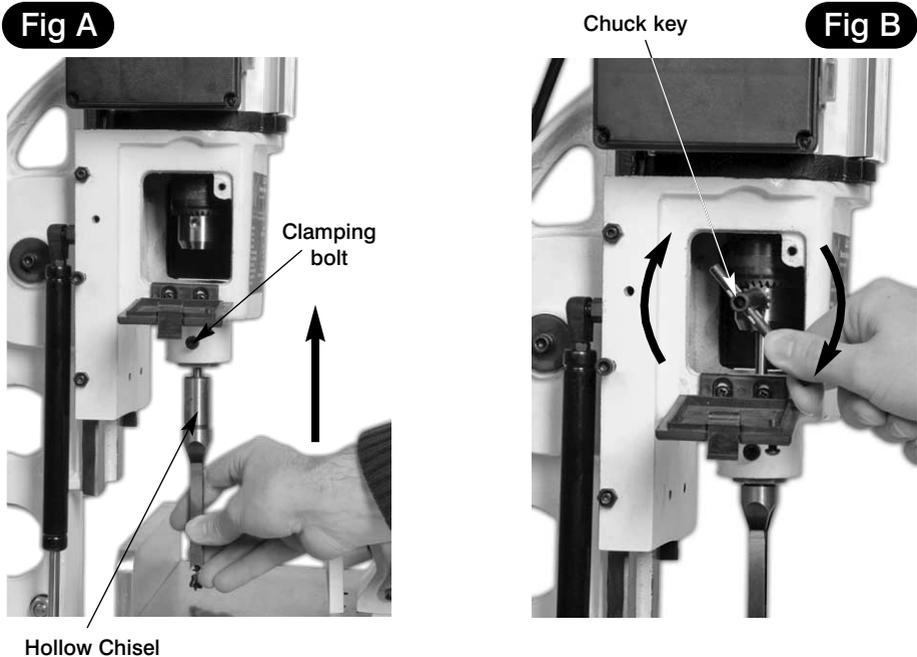


Auger mounting chuck



Initial Set up

Introduce the chisel into the adaptor collar, press the auger up into the chuck, tighten the chuck and withdraw the chuck key. Gently pinch the chisel in place by finger tightening the clamping bolt. (See figs A,B)

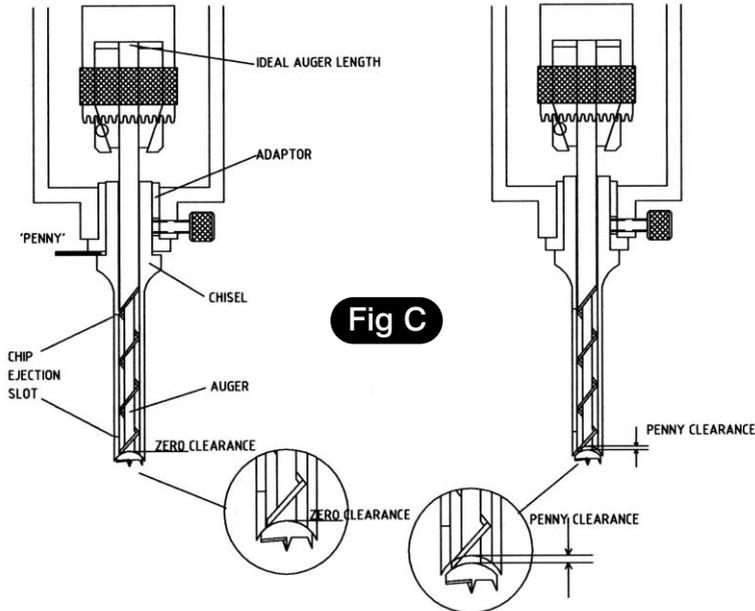


Setting the Chisel Auger Clearance

The old rule of thumb for chisel auger clearance was known as “the one penny width”. This was achieved by introducing a penny between the locating shoulder of the chisel and the adaptor face, with the auger locked in place and with the chisel pulled hard down on the auger. The penny was then removed and the chisel pushed up to the adaptor face and locked in place, this established the “one penny width” between the chisel and the auger, which for general timbers and mortice sizes is quite adequate.

Traditional morticers normally had a cross pin in the auger mounting mandrel, to prevent the auger being pushed back up into the chisel. The mounting method on the newer morticers is a chuck. It is well worth taking the extra time and care to prepare your augers to give the correct ‘reach’ when ‘bottomed’ out in the chuck. This will prevent the auger being pushed back towards the chisel and altering the clearance setting. (See fig C)

Setting the chisel auger clearance



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 back fence. 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 back fence 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

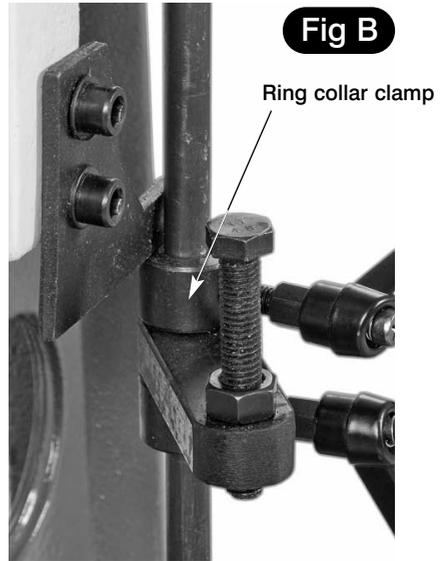
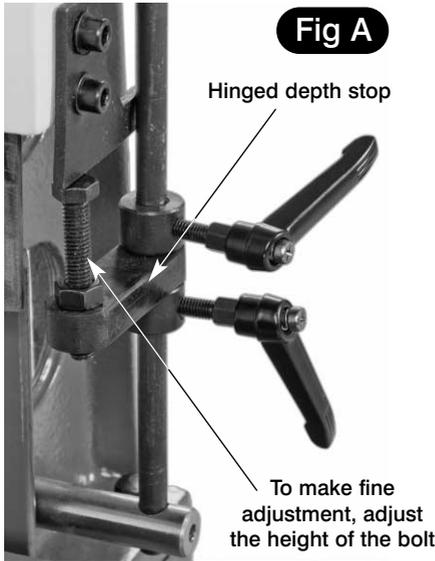
Put a mark on an easily accessible end of the workpiece to be mortised, at the depth you require. Pull the headbox down, and put the end of the timber against the chisel, position the headbox so that the chisel points or the auger point are at the depth required, raise the depth stop collar to the underside 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 headbox/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. 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.

Depth Stop Assembly

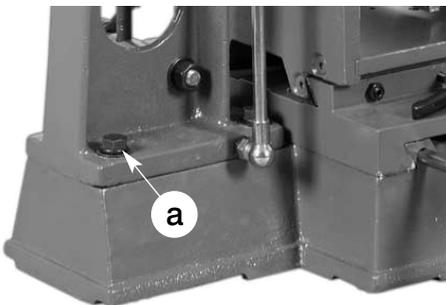
The hinged depth stop can be used to adjust the depth of the mortar (See fig A). The ring collar clamp can also be used as a depth stop (See fig B).



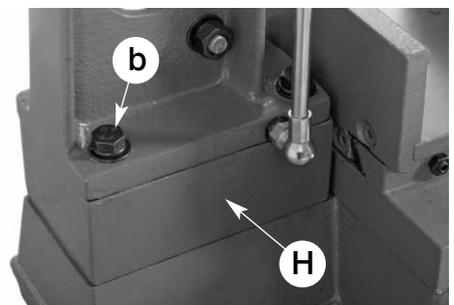
Optional: (950175) Spacer Block Assembly



The headbox support column can be raised by fitting the spacer block (H). Remove the four M10 bolts (a) that secures the support column. **(NOTE: you may require assistance as the headbox support column is heavy)** Locate the spacer block (H) and the four M10 x 74mm bolts (b), line up holes in the spacer block (H) with the holes in the base casting, place the headbox support column on top, line up the holes and secure in position using the four M10 x 74mm bolts (b), washers, spring washers and tighten using a 14mm spanner.



Before

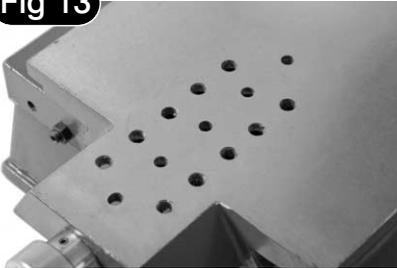


After

Table Clamp Assembly

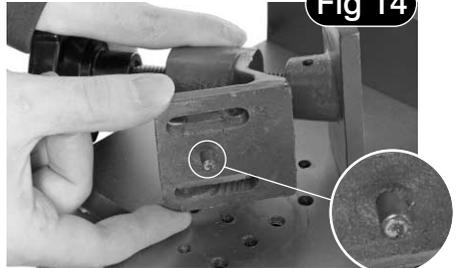
The table clamp can be adjusted to accommodate different sizes of timber using the pre-drilled holes in the table (See figs 13,15 and 16). To the base of the clamp there is a pin which slots into the centre holes in the table to prevent movement (See figs 13 and 14). The clamp can also be pivoted to clamp uneven shapes (See figs 16 and 17).

Fig 13



The table has pre-drilled holes which allows the clamp to be repositioned.

Fig 14



To the base of the clamp is a pin that slots into the centre holes in the table.

Fig 15

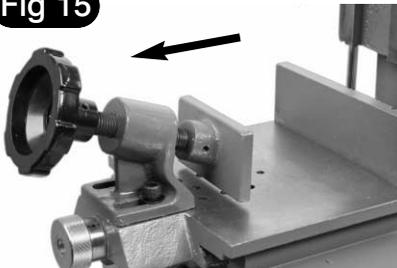
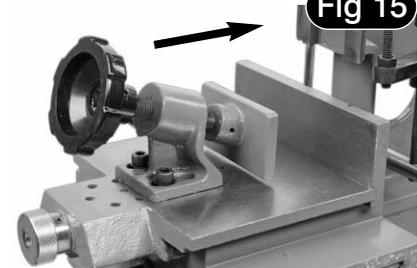


Fig 15



The table clamp can be adjusted to accommodate different sizes of timber.

Fig 16

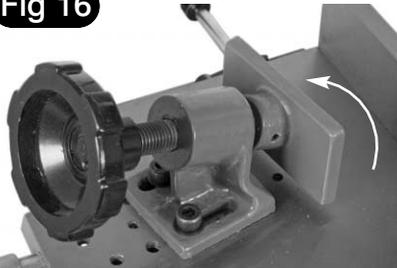


Fig 17



The clamp can be pivoted to clamp uneven shapes.

Headbox support column Spacer Block Assembly (Order no: 950175)

H



M10 x 74mm bolts

Drill Chuck and Adaptor (Order no: 400287)

I



You can turn your mortar into a pillar drill by attaching a drill chuck and adaptor.

There is very little maintenance required on your morticer.

Keep it clean

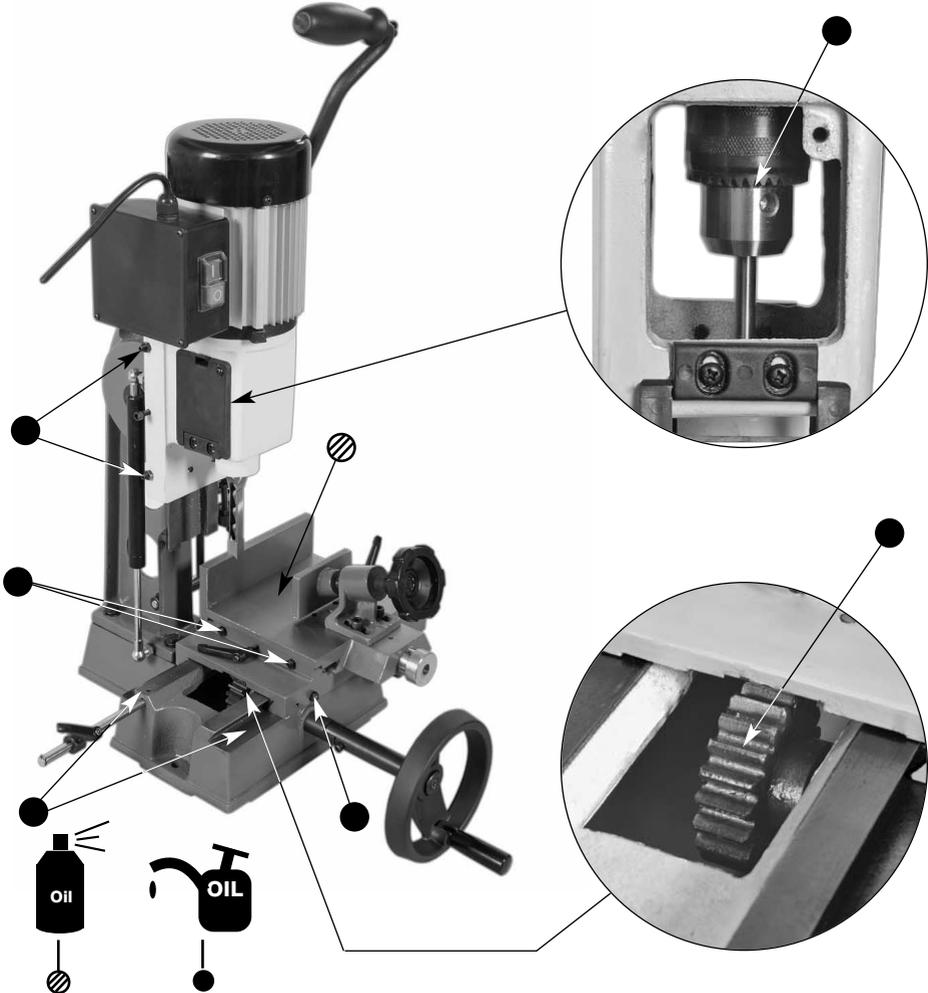
Make sure the rack and pinion gears do not become clogged with chips/sawdust.

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.

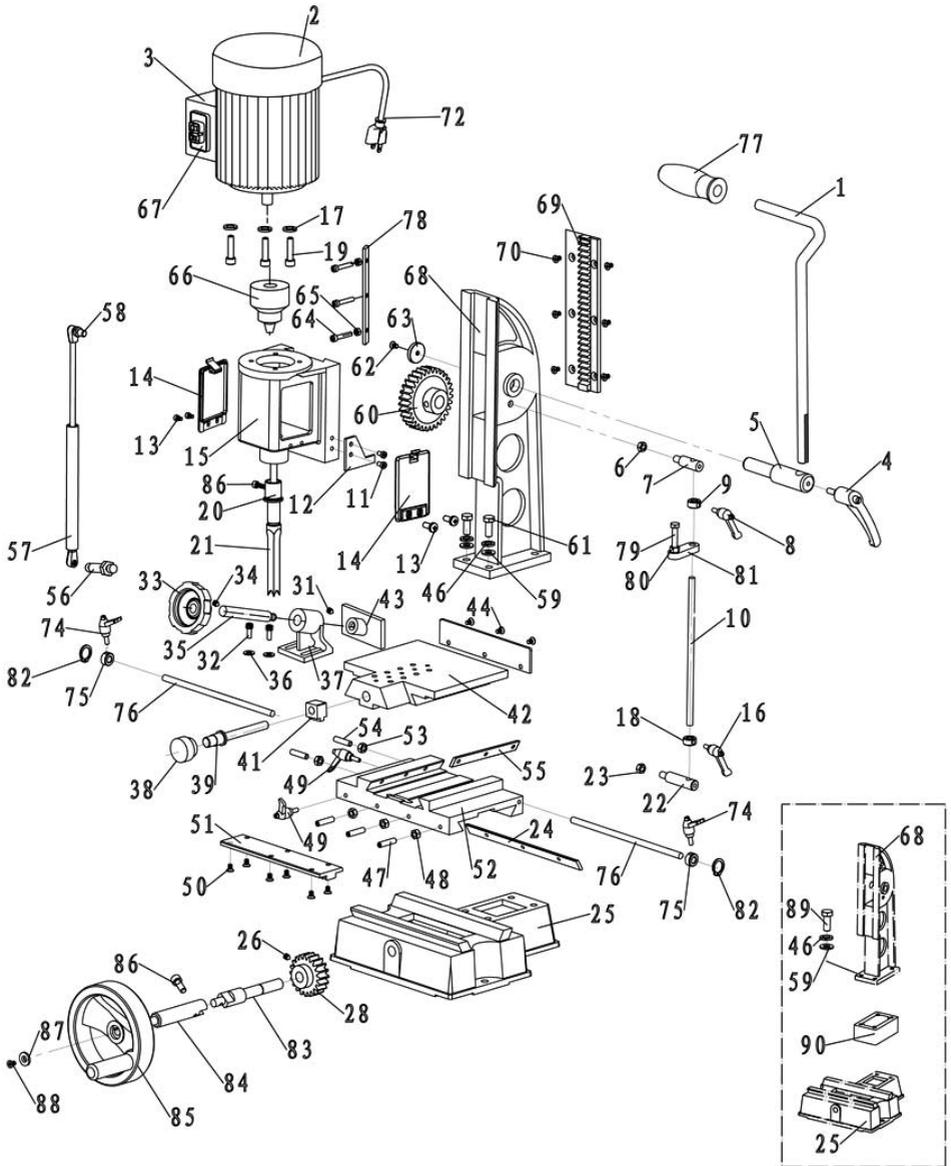
Once a month

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.

There are full ranges of mortice chisels and a useful sharpening set listed in Section 1 of the Axminster catalogue.



Parts Breakdown



PART LIST

Part NO.	DESCRIPTION	Q'TY	Part NO.	DESCRIPTION	Q'TY
1	Operating Lever	1	48	Nut	3
2	Motor	1	49	Handle Screw	2
3	Switch Box	1	50	Screw	6
4	Handle Screw	1	51	Rack	1
5	Operating Shaft	1	52	Sliding Plate	1
6	Nut	1	53	Nut	2
7	Screw	1	54	Screw	2
8	Handle Screw	1	55	Drift	1
9	Setting Collar	1	56	Screw	1
10	Guide Column	1	57	Gas Spring	1
11	Screw	2	58	Screw	1
12	Localizer	1	59	Washer	4
13	Screw	4	60	Gear	1
14	Cover	2	61	Bolt	4
15	Headbox Casing	1	62	Screw	1
16	Handle Screw	1	63	Plate	1
17	Washer	3	64	Screw	3
18	Setting Collar	1	65	Nut	2
19	Bolt	3	66	Chuck	1
20	Chisel Bushing	1	67	Switch	1
21	Chisel	1	68	Column	1
22	Screw	1	69	Rack	1
23	Nut	1	70	Screw	6
24	Drift	1	72	Power Cord	1
25	Base	1	74	Handle Screw	2
26	Screw	2	75	Setting Collar	2
28	Gear	1	76	Distance Stop Rod	2
31	Screw	1	77	Grip Sleeve	1
32	Bolt	2	78	Drift	1
33	Table Clamp	1	79	Bolt	1
34	Screw	1	80	Nut	1
35	Lead Screw	1	81	Plate	1
36	Washer	2	82	C -Ring	2
37	Connecting Bend	1	83	Gear Shaft	1
38	Table Control Knob	1	84	Handle Shaft	1
39	Lead Screw	1	85	Hand Wheel	1
41	Lead Nut	1	86	Set Screw	1
42	Table	1	87	Washer	1
43	Clamp Plate	1	88	Set Screw	1
44	Screw	4	89	Bolt	4
46	Spring Washer	2	90	Riser Block	1
47	Screw	3	91		



Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local recycling centre and place into the appropriate recycling bin.

Only for EU countries



Do not dispose of electric tools together with household waste material. In observance of European Directive 2002/96/EC on waste electrical and electronic equipment and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.