



1/2" HOLLOW CHISEL MORTISER WITH 4 PC. CHISEL SET

09/2014



MODEL: MA-1020

INSTRUCTION MANUAL

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WARRANTY INFORMATION

2-YEAR
LIMITED WARRANTY
FOR THIS HOLLOW CHISEL MORTISER

KING CANADA TOOLS
OFFERS A 2-YEAR LIMITED WARRANTY
FOR COMMERCIAL USE.

PROOF OF PURCHASE

Please keep your dated proof of purchase for warranty and servicing purposes.

REPLACEMENT PARTS

Replacement parts for this product are available at our authorized King Canada service centers across Canada.

LIMITED TOOL WARRANTY

King Canada makes every effort to ensure that this product meets high quality and durability standards. King Canada warrants to the original retail consumer a 2-year limited warranty as of the date the product was purchased at retail and that each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, normal wear and tear, negligence or accidents, repairs done by an unauthorized service center, alterations and lack of maintenance. King Canada shall in no event be liable for death, injuries to persons or property or for incidental, special or consequential damages arising from the use of our products.

To take advantage of this limited warranty, return the product at your expense together with your dated proof of purchase to an authorized King Canada service center. Contact your retailer or visit our web site at www.kingcanada.com for an updated listing of our authorized service centers. In cooperation with our authorized serviced center, King Canada will either repair or replace the product if any part or parts covered under this warranty which examination proves to be defective in workmanship or material during the warranty period.

NOTE TO USER

This instruction manual is meant to serve as a guide only. Specifications and references are subject to change without prior notice.

KING CANADA INC. DORVAL, QUÉBEC, CANADA H9P 2Y4

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GENERAL & SPECIFIC SAFETY RULES



1. KNOW YOUR TOOL

Read and understand the owners manual and labels affixed to the tool. Learn its application and limitations as well as its specific potential hazards.

2. GROUND THE TOOL.

This tool is equipped with an approved 3-conductor cord and a 3-prong grounding type plug to fit the proper grounding type receptacle. The green conductor in the cord is the grounding wire. **NEVER** connect the green wire to a live terminal.

3. KEEP GUARDS IN PLACE.

Keep in good working order, properly adjusted and aligned.

4. REMOVE ADJUSTING KEYS AND WRENCHES.

Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

5. KEEP WORK AREA CLEAN.

Cluttered areas and benches invite accidents. Make sure the floor is clean and not slippery due to wax and sawdust build-up.

6. AVOID DANGEROUS ENVIRONMENT.

Don't use power tools in damp or wet locations or expose them to rain. Keep work area well lit and provide adequate surrounding work space.

7. KEEP CHILDREN AWAY.

All visitors should be kept at a safe distance from work area.

8. MAKE WORKSHOP CHILD-PROOF.

With padlocks, master switches or by removing starter keys.

9. USE PROPER SPEED.

A tool will do a better and safer job when operated at the proper speed.

10. USE RIGHT TOOL.

Don't force the tool or an attachment to do a job for which it was not designed.

11. WEAR PROPER APPAREL.

Do not wear loose clothing, gloves, neckties or jewelry (rings, watch) because they could get caught in moving parts. Non-slip

footwear is recommended. Wear protective hair covering to contain long hair. Roll up long sleeves above the elbows.

12. ALWAYS WEAR SAFETY GLASSES.

Always wear safety glasses (ANSI Z87.1). Everyday eyeglasses only have impact resistant lenses, they are **NOT** safety glasses. Also use a face or dust mask if cutting operation is dusty.

13. DON'T OVERREACH.

Keep proper footing and balance at all times.

14. MAINTAIN TOOL WITH CARE.

Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

15. DISCONNECT TOOLS.

Before servicing, when changing accessories or attachments.

16. AVOID ACCIDENTAL STARTING.

Make sure the switch is in the "OFF" position before plugging in.

17. USE RECOMMENDED ACCESSORIES.

Consult manual for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards.

18. NEVER STAND ON TOOL.

Serious injury could occur if the tool tips over. Do not store materials such that it is necessary to stand on the tool to reach them.

19. CHECK DAMAGED PARTS.

Before further use of the tool, a guard or other parts that are damaged should be carefully checked to ensure that they will operate properly and perform their intended function. Check for alignment of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other parts that are damaged should be properly repaired or replaced.

20. NEVER LEAVE MACHINE RUNNING UNATTENDED.

Turn power "OFF". Don't leave any tool running until it comes to a complete stop.

SPECIFIC SAFETY RULES FOR HOLLOW CHISEL MORTISERS

1. **DO NOT USE** until unit is completely assembled and installed according to instructions.

2. **IF YOU ARE NOT** thoroughly familiar with the operation of mortising machines, obtain advice from your supervisor, instructor, or other qualified person.

3. **MAKE CERTAIN** the machine is fastened to a supporting surface 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 away from the rotating bit.

6. **DO NOT ATTEMPT** to mortise material that does not have a flat surface, unless a suitable support is used.

7. **ALWAYS CLAMP** workpiece securely to table with holddown to prevent lifting.

8. **ALWAYS SUPPORT** workpiece securely against fence to prevent rotation.

9. **BE SURE** drill bit is sharp, not damaged and properly secured in the chuck before operating.

10. **MAKE SURE** chuck key is removed before starting machine.

11. **NEVER START** mortising machine with the drill bit of chisel pressed against the workpiece.

12. **NEVER PERFORM LAYOUT**, assembly or setup work on mortising machine with cutting tool rotating.

13. **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. **DO NOT WEAR** gloves, neckties or loose fitting clothing.

17. **NEVER OPERATE** mortising machine if any part is damaged or broken until it is properly repaired or replaced.

18. **NEVER PLACE YOUR FINGERS** in a position where drill or cutting tool could contact them if workpiece should shift unexpectedly.



ELECTRICAL INFORMATION

WARNING!

ALL ELECTRICAL CONNECTIONS MUST BE DONE BY A QUALIFIED ELECTRICIAN. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY! ALL ADJUSTMENTS OR REPAIRS MUST BE DONE WITH THE MACHINE DISCONNECTED FROM THE POWER SOURCE. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY!

POWER SUPPLY

WARNING: YOUR MORTISER MUST BE CONNECTED TO A 110V-120V, 15-AMP CIRCUIT BREAKER. FAILURE TO CONNECT IN THIS WAY CAN RESULT IN INJURY FROM SHOCK OR FIRE.

GROUNDING

This mortiser must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current, to reduce the risk of electric shock. This mortiser is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Your mortiser must be properly grounded. Not all outlets are properly grounded. If you are not sure if your outlet is properly grounded, have it checked by a qualified electrician.

WARNING: TO MAINTAIN PROPER GROUNDING OF YOUR MORTISER, DO NOT REMOVE OR ALTER THE GROUNDING PRONG IN ANY MANNER.

WARNING: IF NOT PROPERLY GROUNDING, THIS MORTISER CAN CAUSE ELECTRICAL SHOCK, PARTICULARLY WHEN USED IN DAMP LOCATIONS. TO AVOID SHOCK OR FIRE, IF THE POWER CORD IS WORN OR DAMAGED IN ANY WAY, HAVE IT REPLACED IMMEDIATELY.

110V-120V OPERATION

As received from the factory, your mortiser is ready to run for 110V-120V operation. This mortiser is intended for use on a circuit that has an outlet and a plug which looks like the one illustrated in Fig.1.

WARNING: DO NOT USE A TWO-PRONG ADAPTOR FOR THEY ARE NOT IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES. NEVER USE IN CANADA.

EXTENSION CORDS

The use of any extension cord will cause some loss of power. Use the chart in Fig.2 to determine the minimum wire size (A.W.G-American Wire Gauge) extension cord. Use only 3-wire extension cords which have 3-prong grounding type plugs and 3-hole receptacles which accept the tool's plug.

For circuits that are further away from the electrical circuit box, the wire size must be increased proportionately in order to deliver ample voltage to the mortiser motor. Refer to Fig.2 for wire length and size.

RESET BUTTON (OVERLOAD PROTECTOR)

This mortiser comes with an overload reset button (A) Fig.3. If the motor overheats or there is low voltage, a safety mechanism stops the motor. Press the reset button and restart the mortiser. If the mortiser does not restart, wait 5 minutes before restarting.

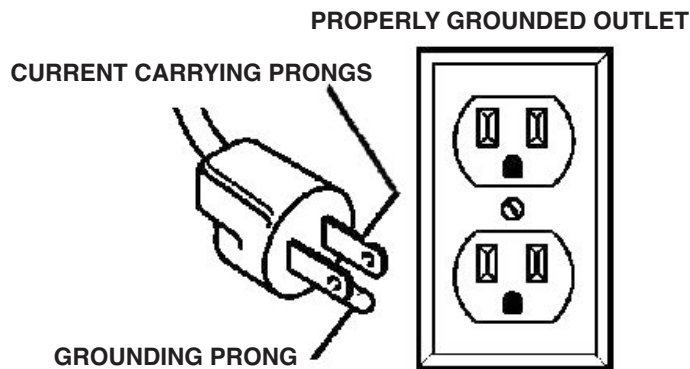


FIGURE 1

Tool's Amperage Rating	Cord Size in A.W.G.			
	Cord Length in Feet			
	25	50	100	150
3-6	18	16	16	14
6-8	18	16	14	12
8-10	18	16	14	12
10-12	18	16	14	12
12-16	14	12	-	-

FIGURE 2

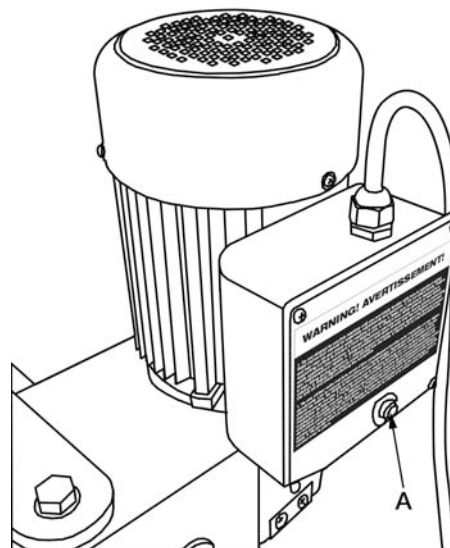
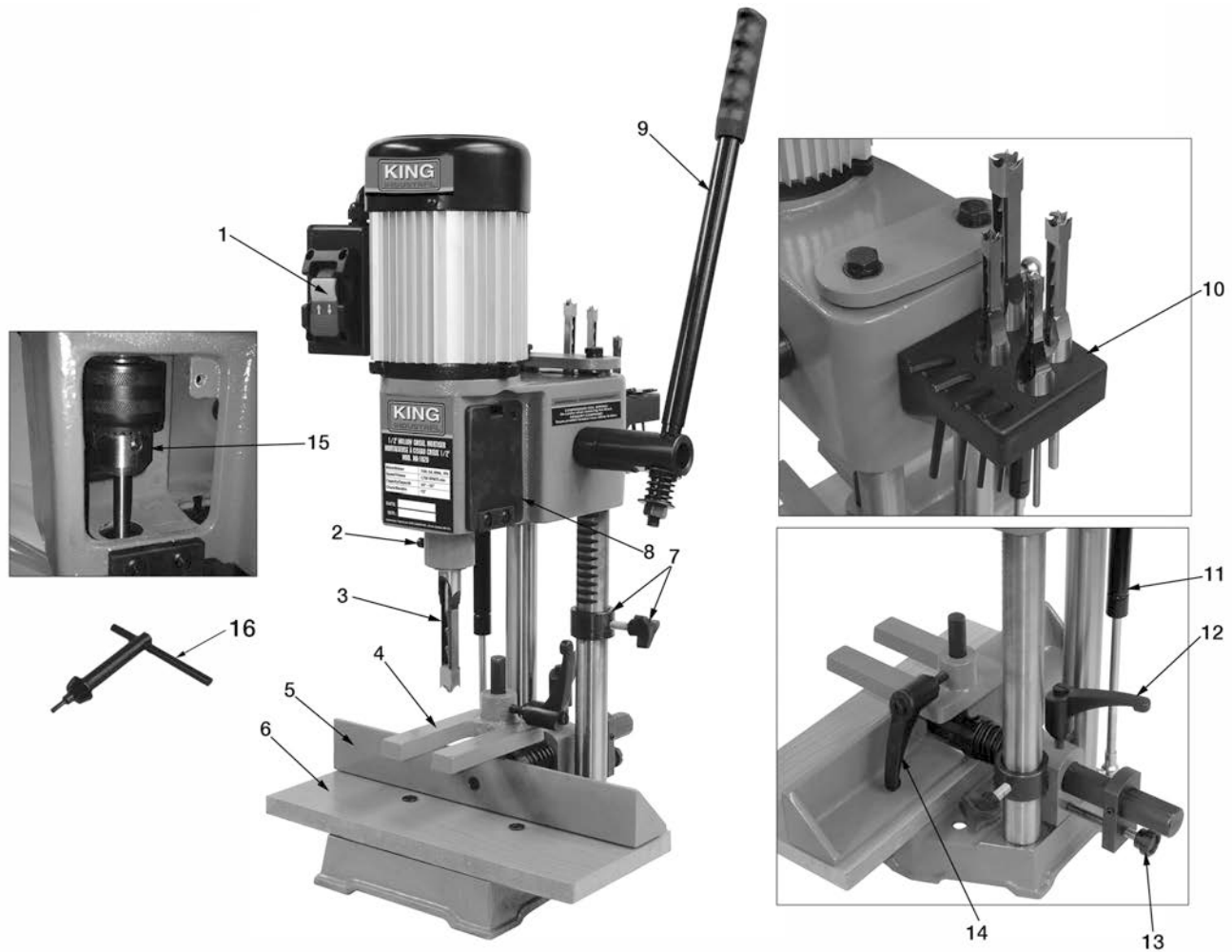


FIGURE 3

GETTING TO KNOW YOUR HOLLOW CHISEL MORTISER



1-On/Off -Switch. Turns the machine on or off.

2-Chisel Lock Screw. Fixes the chisel and chisel adaptor to the head casting flange.

3-Chisel & bit.

4-Table Hold Down. Holds your workpiece against the table during operations.

5-Fence. This adjustable fence moves back and forth and adequately supports your workpiece.

6-Wooden Table.

7-Depth Stop Bushing and Lock Knob. This bushing acts as a depth stop which limits the downward travel of the head.

8-Chuck Cover. Open this cover or the other one on the opposite side to gain access to the chuck.

9-Downfeed Lever. Pulling this lever down brings the head and chisel towards the workpiece.

10-Chisel and Hex. Key Holder.

11-Gas Cylinder. Keeps the head in the raised position.

12-Fence Lock Handle. Locks the fence in the desired position.

13-Fence Adjust Knob. Turn this knob to move the fence back and forth.

14-Hold Down Lock Knob.

15-1/2" Chuck.

16-Chuck key.

MODEL	MA-1020
Chisel capacity	1/4" - 1/2"
Chuck capacity	1/2"
Maximum chisel stroke	5"
Max. distance chisel to table (head extended)	5"
Under table hold down capacity	3-5/8"
Table size	13-3/8" x 5-3/4"
Fence size	13-3/8" x 2"
Speed	1,700 RPM
Motor	120V, 5 Amp., 1 phase, 60 Hz
Assembled dimensions (LxWxH)/weight	13-3/8" x 13-1/2" x 29-1/2" / 55 lbs

UNPACKING AND CLEANING

Carefully unpack the machine and all loose items from the shipping carton. Remove the protective coating from all unpainted surfaces. This coating may be removed with a soft cloth moistened with kerosene. Do not use gasoline, lacquer thinner or acetone for this purpose.

After cleaning cover all unpainted surfaces with a good sealant such as paste wax.

SETTING UP YOUR MORTISER

For your safety, to avoid toppling the mortiser during use, fasten the mortiser base to a work bench or a stand (hardware not included).

ASSEMBLY

Handle assembly

Assemble the hub (A) Fig.4 of the handle assembly to the end of the pinion shaft (B) using spring (C) and screw (D).

Insert handle (E) Fig.4 into the hub (A) and secure it using washer (F), spring (G), washer (H) and hex. nut (I).

Raise mortising machine head (J) Fig.4 to the up position by turning handle (E) clockwise.

Note: The handle is spring loaded and its angle can be repositioned by pulling out the handle and hub and repositioning it on pinion shaft.

Gas Cylinder

Make sure the head (A) Fig.5 is in the up position and assemble the gas cylinder (B) to the two fittings (C), one is located on the column and the other on the back of the head. The gas cylinder when assembled to the machine keeps the head in the up position.

Table

Position the wooden table (A) Fig.6 on the cast iron base (B), make sure the side of the table with the countersunk holes is facing upwards. Secure the table to the base using two screws (C).

Fence and Hold Down

Insert the bar (A) Fig.7 of the fence and bar assembly (A) into the guide bracket (B), make sure the spring (C) is in place on the bar as shown. Tighten the lock handle (D) to secure the fence position.

Slide the stop bracket and knob assembly (E) Fig.7 on the end of the fence bar (A), slide it up against the guide bracket (B), tighten set screw (F).

Insert hold down bar (G) Fig.7 into hole on top of fence bar (A) as shown and tighten set screw (H) to secure the bar. Slide the hold down (I) onto the bar (G) as shown and tighten lock handle (J) to secure the hold down.

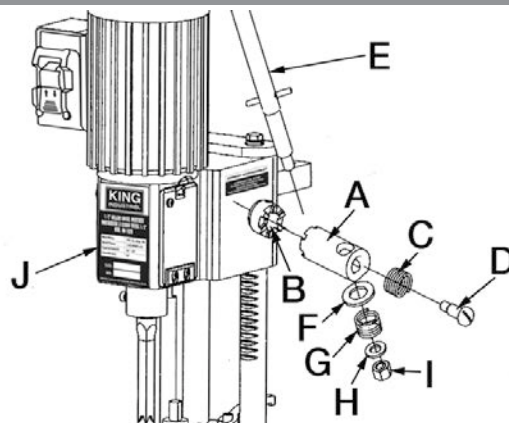


FIGURE 4

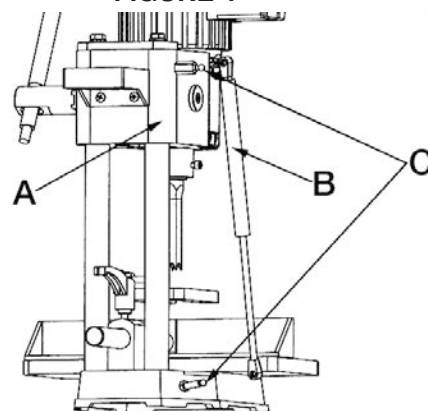


FIGURE 5

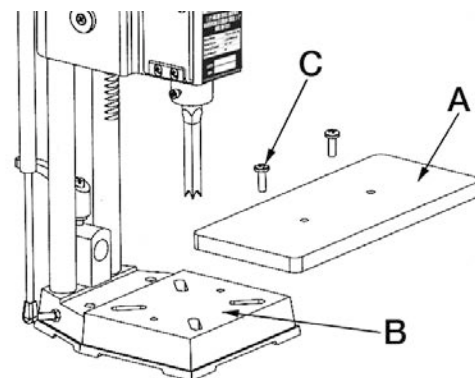


FIGURE 6

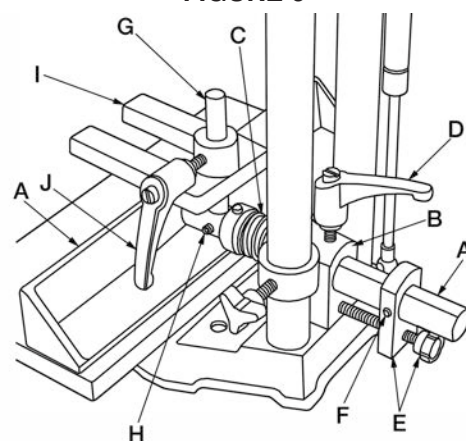


FIGURE 7

ASSEMBLY & OPERATION



ASSEMBLY

Chisel & hex. key holder assembly

Assemble the chisel & hex. key holder (A) Fig.8 to the rear of the head using two screws (B). Store your chisels and hex. keys in this holder when they are not in use.

Chisel and Bit Installation

WARNING: Make sure switch is in the **OFF** position and power cord is unplugged before performing checks, adjustments, or setup procedures.

1. Loosen cap screw (A) Fig.9.
2. Make sure chisel bushing (B) is installed inside the hole in the head. Tighten cap screw (A) just enough to hold the chisel bushing in place.
3. Insert bit (C) into chisel (D) and insert chisel and bit up through the hole in head. Push the chisel up as far as possible into the head, then lower chisel approximately 1/16". This setting is only temporary, the chisel will need to be repositioned against the head once the bit is secure, tighten the cap screw (A) to hold the chisel in place.

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.

4. Lower the plastic covers on both sides of the head to expose the chuck (E).
5. Push the drill bit (C) up through the chisel opening making sure that drill bit bottoms out in chisel before bottoming out in the chuck. Secure the bit in the chuck using the chuck key supplied.
6. Loosen cap screw (A) and push chisel up all the way into the head and retighten cap screw. This should provide the proper distance (1/16") between the points of the chisel and the bit.

NOTE: For certain types of wood it may be necessary to increase this distance up to a maximum of 3/16" clearance. This assures having proper clearance between the cutting lips of the bit and the points of the chisel.

OPERATION

Turning Mortiser On/Off

WARNING: For your own safety, never connect the hollow chisel mortiser to a power source until you have read and understood safety, adjustments and operational instructions in this manual.

The ON-OFF switch (A) Fig.10 is located on the motor. Push switch up to turn the machine ON and down to turn it OFF. The switch comes with a removable safety key (B) that allows the switch to be locked in the OFF position. To activate the locking feature, push switch to the OFF position and pull the safety key out of the switch. To reactivate the switch, simply reposition the safety key in the switch.

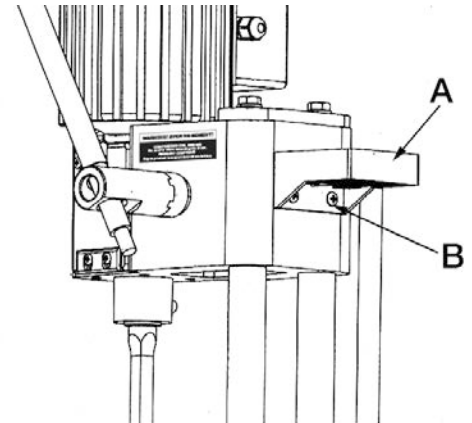


FIGURE 8

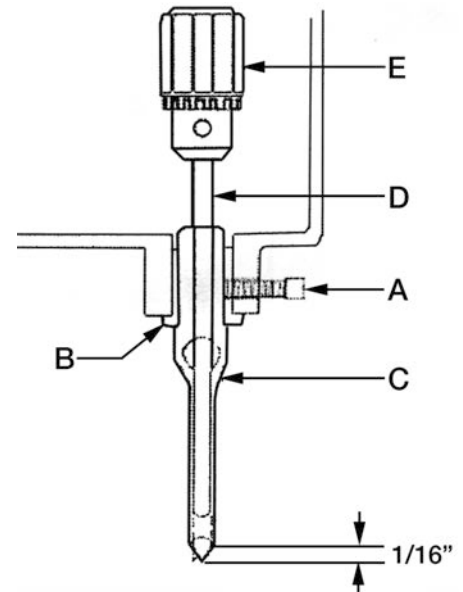


FIGURE 9

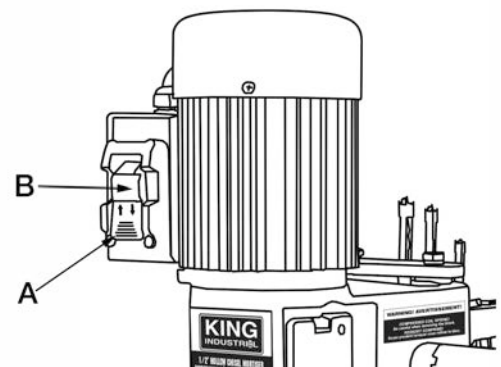


FIGURE 10



OPERATION & MAINTENANCE

OPERATION

Raising and Lowering the Head

The head (A) Fig.11 is raised and lowered by means of the lever (B). For maximum leverage during the mortising operation the lever can be repositioned by pulling out the hub (C) of the lever assembly and repositioning the hub on the pinion shaft (D).

Depth Stop

A depth stop (E) Fig.11 is provided to limit the depth of the chisel (F). Put a mark on an easily accessible end of the workpiece to be mortised, at the depth you require. Loosen the depth stop lock knob (G) and lower it down. Pull the head down, and put the end of the wood against the chisel. Position the head so that the chisel points or the bit point are at the depth required. Raise the depth stop (E) and position it up against the underside of the head and retighten the depth stop lock knob (G).

Fence and Hold Down

The fence (A) Fig.12 can be moved in or out by loosening the lock handle (B) and turning the adjustment knob (C) until you reach the desired position, retighten lock handle (B) once the adjustment is done.

The hold down (D) Fig.12 can be raised and lowered by loosening the lock handle (E).

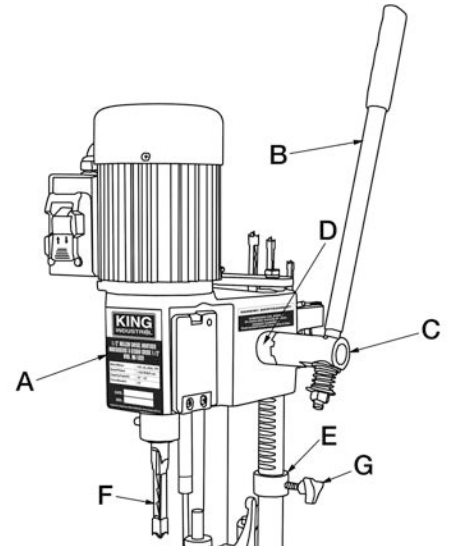


FIGURE 11

OPERATIONAL HINTS

Make sure that the chisels and bits being used are sharp.

Make sure the workpiece is held firmly against the fence and under the hold down. The rate of penetration of the chisel must be fast enough to prevent burning at the tip if the bit, but not too fast as to stall the motor. 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 the initial use is not indicative of a dull chisel, it is indicative of too much heat which will lead to premature dulling 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.

When performing a through-mortise, a thin piece of wood (1/4"-1/2" thick) should be placed between the workpiece and the wooden table and a depth stop adjustment should be made to prevent "chipout" at the bottom of the mortise and also to prevent damaging the wooden table.

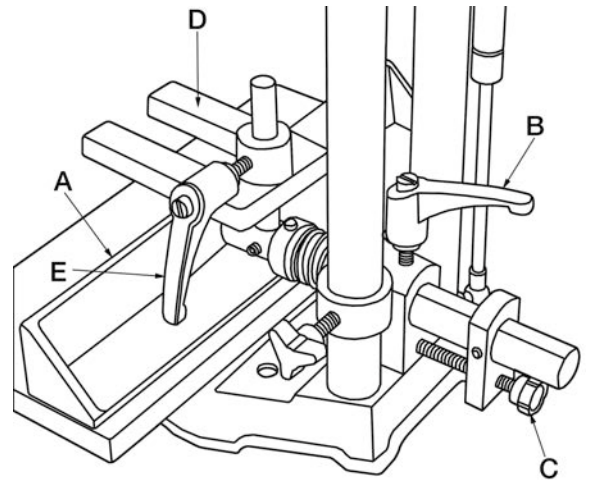


FIGURE 12

MAINTENANCE

There is very little maintenance required on your mortiser. 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 and moving parts if the machine is going to stand idle for any length of time. Keep the chisels and bits sharp.

PARTS DIAGRAM & PARTS LISTS

Refer to the Parts section of the King Canada web site for the most updated parts diagram and parts list.