#### **READ THIS FIRST**

# Model W1671 \*\*\*IMPORTANT UPDATE\*\*\*

Applies to Models Mfd. Since 7/11 and Owner's Manual Revised 4/07



Phone #: (360) 734-3482 • Tech Support: tech-support@shopfox.biz • Web: www.shopfox.biz

We made the following changes to this machine since the manual was printed:

- Revised Inventory to show two shipping boxes and contents.
- Revised Assembly steps.

Aside from the information contained in this update, all other content in the owner's manual is applicable and MUST be read and understood for your own safety.

IMPORTANT: Keep this update with the owner's manual for future reference. If you have any further questions, contact our Technical Support.

#### **Revised Inventory**

Box	1 (Figure 1)	Q	)ty
Α.	Head & Column Assembly		. 1
В.	Hand Lever w/Stop Collars		. 1
C.	Wood Table		1
D.	Fence		. 1

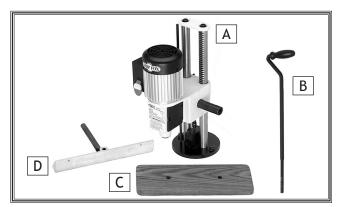


Figure 1. Box 1 inventory.

Box	(2 (Figure 2)	Qty
E.	Mortising Chisel 1/2"	1
F.	Gas Spring	1
G.	Tool Tray	1
Н.	Hold Down	1
I.	Chuck Key	1
J.	Fine Adjustment Bracket	1
K.	T-Handle Hex Wrenches 4, 6, 8mm	1 Ea.
L.	Compression Spring (Fence)	1

#20839MN

M. N. O. P. Q.	Chisel Bushings ( $^{5}/_{8}$ ", $^{3}/_{4}$ ")       2         Clutch Collar       1         Hold-Down Rods ( $^{31}/_{2}$ ", $^{51}/_{2}$ ", $^{71}/_{2}$ ")       3         Depth Stop Lock Lever       1         Base       1
R.	Hardware (not shown)  -Base Bolts M14-2 x 40 (Base)

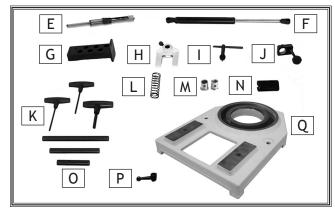


Figure 2. Box 2 inventory.



#### **Revised Assembly Steps**

Complete the steps below, then go to Page 9 in the Owner's Manual and proceed with the Mounting instructions.

To attach head and column assembly to base, do these steps:

- 1. Set base on a flat, stable surface.
- 2. Insert (2) M14-2 x 40 base bolts into pivot slot from underneath base, as shown in Figure 3.

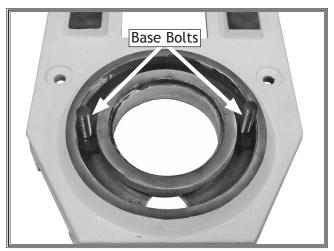


Figure 3. Base bolts positioned in pivot slot.

3. Position head and column assembly over pivot slot, align bolts with holes in assembly base, and lower assembly into position, as shown in **Figure 4**.

**Note:** Keep headstock facing front of base to maintain center of balance.

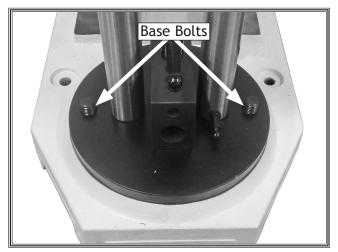
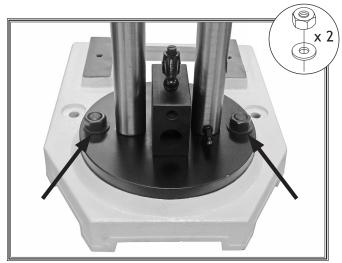
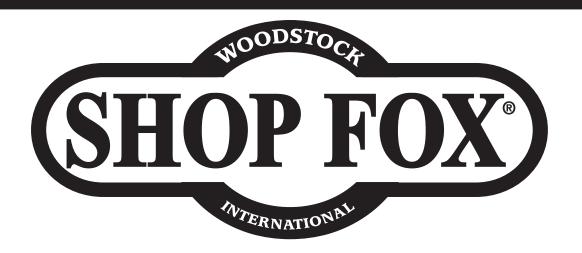


Figure 4. Assembly mounted on base.

 Secure assembly to base with (2) 14mm flat washers and (2) M14-2 hex nuts (see Figure 5).



**Figure 5.** Head and column assembly secured to base.



# MODEL W1671 Mortising Machine



# INSTRUCTION MANUAL

Phone: 1-360-734-3482 · On-Line Technical Support: tech-support@woodstockint.com

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WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE OR FORM WITHOUT
THE WRITTEN APPROVAL OF WOODSTOCK INTERNATIONAL, INC.

Printed in China



# **WARNING!**

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



# **WARNING!**

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.



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# INTRODUCTION

#### **Contact Info**

We are committed to customer satisfaction. If you have any questions or need help, use the information below to contact us.

IMPORTANT: Before contacting, please get the original purchase receipt, serial number, and manufacture date of your machine. This information is required for all Technical Support calls and it will help us help you faster.

Woodstock International Technical Support Phone: (360) 734-3482 Email: techsupport@woodstockint.com

We want your feedback on this manual. What did you like about it? Where could it be improved? Please take a few minutes to give us feedback.

> Technical Documentation Manager P.O. Box 2309 Bellingham, WA 98227 Email: manuals@woodstockint.com

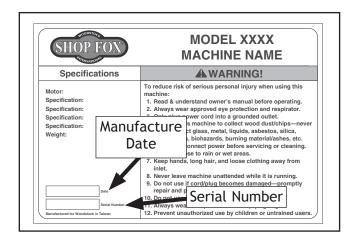
# Manual Accuracy

We are proud to provide a high-quality owner's manual with your new machine!

We made every effort to be exact with the instructions, specifications, drawings, and photographs contained inside. Sometimes we make mistakes, but our policy of continuous improvement also means that sometimes the machine you receive will be slightly different than what is shown in the manual.

If you find this to be the case, and the difference between the manual and machine leaves you confused about a procedure, check our website for an updated version. We post current manuals and manual updates for free on our website at www.woodstockint.com.

Alternatively, you can call our Technical Support for help. Before calling, make sure you write down the Manufacture Date and Serial Number from the machine ID label (see below). Also, if available, have a copy of your original purchase receipt on hand. This information is required for all Tech Support calls.





#### WARRANTY, RETURNS AND SPECIFICATIONS

Woodstock International, Inc. warrants all SHOP FOX® machinery to be free of defects from workmanship and materials for a period of 2 years from the date of original purchase by the original owner. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, lack of maintenance, or to repair or alterations made or specifically authorized by anyone other than Woodstock International, Inc.

Woodstock International, Inc. will repair or replace, at its expense and at its option, the SHOP FOX® machine or machine part which in normal use has proven to be defective, provided that the original owner returns the product prepaid to the SHOP FOX® factory service center or authorized repair facility designated by our Bellingham, WA office, with proof of their purchase of the product within 2 years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

This is Woodstock International, Inc.'s sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant that SHOP FOX® machinery complies with the provisions of any law or acts. In no event shall Woodstock International, Inc.'s liability under this warranty exceed the purchase price paid for the product, and any legal actions brought against Woodstock International, Inc. shall be tried in the State of Washington, County of Whatcom. We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of our products.

Every effort has been made to ensure that all SHOP FOX® machinery meets high quality and durability standards. We reserve the right to change specifications at any time because of our commitment to continuously improve the quality of our products.

# Machine Specifications

Capacities:	
	9
Chuck	
Chisel Shank	<sup>5</sup> /8" or <sup>3</sup> /4
Motor:	
Type	TEFC Capacitor Start Induction
Horsepower	<sup>3</sup> / <sub>4</sub> H.F
Phase / Cycle	Single Phase / 60 H
Voltage	ا110
Amps	
R.P.M	345
Bearings	Sealed & Permanently Lubricated Ball Bearin
Constant	Paddle Safety Switch



#### Identification

Become familiar with the names and locations of the controls and features shown below to better understand the instructions in this manual.

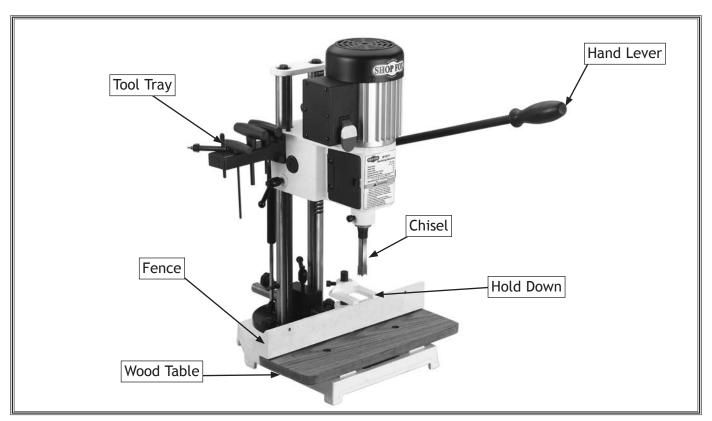


Figure 1. Tool Identification.

- A. Tool Tray
- B. Hand Lever
- C. Chisel

- **D.** Fence
- E. Hold Down
- F. Wood Table



or damage to the machine, read this entire manual BEFORE using machine.



#### **SAFETY**

# For Your Own Safety, Read Manual Before Operating Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures—this responsibility is ultimately up to the operator!



Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

Indicates a potentially hazardous situation which, if not avoided, AWARNING Indicates a potentially mazardous situation COULD result in death or serious injury.

# **ACAUTION**

Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

# NOTICE

This symbol is used to alert the user to useful information about proper operation of the equipment or a situation that may cause damage to the machinery.

OWNER'S MANUAL. Read and understand this owner's manual BEFORE using machine.

TRAINED OPERATORS ONLY. Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make workshop kid proof!

**DANGEROUS ENVIRONMENTS.** Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

**ELECTRICAL EQUIPMENT INJURY RISKS.** You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow an electrician or qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

**DISCONNECT POWER FIRST.** Always disconnect machine from power supply BEFORE making adjustments, changing tooling, or servicing machine. This eliminates the risk of injury from unintended startup or contact with live electrical components.

**EYE PROTECTION.** Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are not approved safety glasses.



- WEARING PROPER APPAREL. Do not wear clothing, apparel, or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips, which could cause loss of workpiece control.
- HAZARDOUS DUST. Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear a NIOSH-approved respirator to reduce your risk.
- HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.
- REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!
- INTENDED USAGE. Only use machine for its intended purpose—never make modifications without prior approval from Woodstock International. Modifying machine or using it differently than intended will void the warranty and may result in malfunction or mechanical failure that leads to serious personal injury or death!
- AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.
- CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.
- **GUARDS & COVERS.** Guards and covers reduce accidental contact with moving parts or flying debris—make sure they are properly installed, undamaged, and working correctly.

- **FORCING MACHINERY.** Do not force machine. It will do the job safer and better at the rate for which it was designed.
- **NEVER STAND ON MACHINE.** Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.
- **STABLE MACHINE.** Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.
- USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase risk of serious injury.
- **UNATTENDED OPERATION.** To reduce the risk of accidental injury, turn machine *OFF* and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.
- MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.
- CHECK DAMAGED PARTS. Regularly inspect machine for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating machine.
- MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside, resulting in a short. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.
- experience difficulties. If at any time you experience difficulties performing the intended operation, stop using the machine! Contact Technical Support at (360) 734-3482.



# **AWARNING**

# Additional Safety for Mortising Machines

- HAND PROTECTION. Do not place your hands under an installed chisel at any time or near the chisel while the spindle is in motion. Chisels may become hot during operation! Allow chisels to cool before handling. Chisels are sharp! Always use caution when handling, especially when installing or removing.
- 2. USING CORRECT MATERIALS. Do not use the machine for anything except mortising in wood. Materials such as metals, plastics, and glass can damage the machine, resulting in personal injury.
- 3. RESPIRATOR AND SAFETY GLASSES. Always wear a respirator and safety glasses while operating the machine. Dust and chips are created when mortising. Some debris will be ejected, becoming hazards to the eyes and lungs.

- **4. CHISEL COMPATIBILITY.** Make sure the mortising bit fits a minimum of <sup>1</sup>/<sup>2</sup>" into the chuck.
- 5. ADJUSTMENTS. Do not adjust the machine or workpiece while the mortiser is running. Wait for the spindle to come to a complete stop and unplug the machine before continuing.
- 6. INSPECTING MACHINE. Inspect the machine for smooth head casting movement, loose drill bits/chisel housing, and loose nuts/bolts before connecting the machine to power and operating. Correct any problems before use.
- 7. **EXPERIENCING DIFFICULTIES.** If at any time you are experiencing difficulties performing the intended operation, stop using the machine! Contact Tech Support at (570) 546-9663.

# **AWARNING**

Like all machines there is potential danger associated with this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

## **ACAUTION**

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.



# **ELECTRICAL**

#### Circuit Requirements

This machine must be connected to the correct size and type of power supply circuit, or fire or electrical damage may occur. Read through this section to determine if an adequate power supply circuit is available. If a correct circuit is not available, a qualified electrician MUST install one before you can connect the machine to power.

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the fullload current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

#### **Full-Load Current Rating**

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating at 110V ...... 12 Amps

#### Circuit Requirements for 110V

This machine is prewired to operate on a power supply circuit that has a verified ground and meets the following requirements:

 Circuit Type
 110V/120V, 60 Hz, Single-Phase

 Circuit Size
 15 Amps

 Plug/Receptacle
 NEMA 5-15

#### **AWARNING**

The machine must be properly set up before it is safe to operate. DO NOT connect this machine to the power source until instructed to do so later in this manual.

# **AWARNING**

Incorrectly wiring or grounding this machine can cause electrocution, fire, or machine damage. To reduce this risk, only an electrician or qualified service personnel should do any required electrical work on this machine.

#### **NOTICE**

The circuit requirements listed in this manual apply to a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult with an electrician to ensure that the circuit is properly sized for safe operation.



# **Grounding Requirements**

This machine MUST be grounded. In the event of certain types of malfunctions or breakdowns, grounding provides a path of least resistance for electric current to travel—in order to reduce the risk of electric shock.

Improper connection of the equipment-grounding wire will increase the risk of electric shock. The wire with green insulation (with/without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

#### For 110V Connection

This machine is equipped with a power cord with an equipment-grounding wire and NEMA 5-15 grounding plug (see figure). The plug must only be inserted into a matching receptacle that is properly installed and grounded in accordance with local codes and ordinances.

#### **Extension Cords**

We do not recommend using an extension cord with this machine. Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases with longer extension cords and smaller gauge sizes (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle, and meet the following requirements:

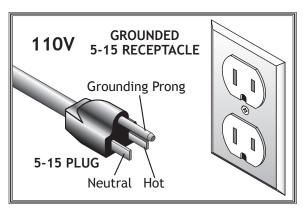


Figure 2. NEMA 5-15 plug & receptacle.



DO NOT modify the provided plug or use an adapter if the plug will not fit the receptacle. Instead, have an electrician install the proper receptacle on a power supply circuit that meets the requirements for this machine.



#### **AVOIDING POTENTIAL INJURIES**



Figure 3. Unplug before changing chisels.



**Fig. 4.** Secure depth stop before removing gas spring.

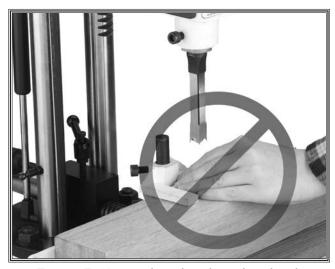


Figure 5. Never place hands under chisel.

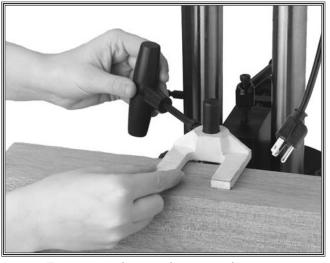


Figure 6. Always clamp workpiece.



Figure 7. Remove safety key when not in use.

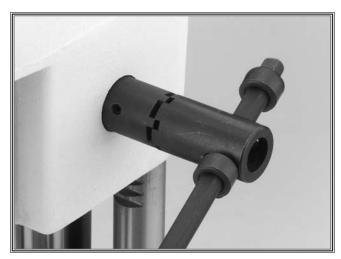


Fig. 8. Secure depth stop before adjusting quick-set handle above. See Fig. 4.

# **SETUP**

#### Unpacking

This machine has been carefully packaged for safe transportation. If you notice the machine has been damaged during shipping, please contact your authorized Shop Fox dealer immediately.

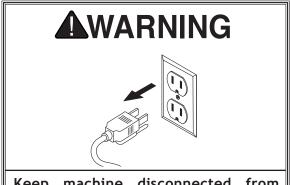
# Inventory

The following is a list of items shipped with your machine. Before beginning setup, lay these items out and inventory them.

Note: If you cannot find an item on this list, carefully check around/inside the machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.

Box	Inventory (Figures 9 and 10)	Qty
Α.	Mortiser	1
В.	Mortising Chisel 1/2"	1
C.	Tool Tray	1
D.	Gas Spring	1
E.	Allen Wrench (4mm, 6mm, 8mm)1	ea.
F.	Hold Down	
G.	Chuck Key	1
Н.	Fence	
l.	Fine Adjustment Bracket	1
J.	Spring	1
K.	Hold Down Rods	3
L.	Chisel Bushings	2
Μ.	Wood Table	
N.	Hand Lever	1





Keep machine disconnected from power until instructed otherwise.



Figure 9. Mortiser.

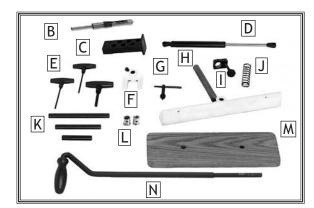
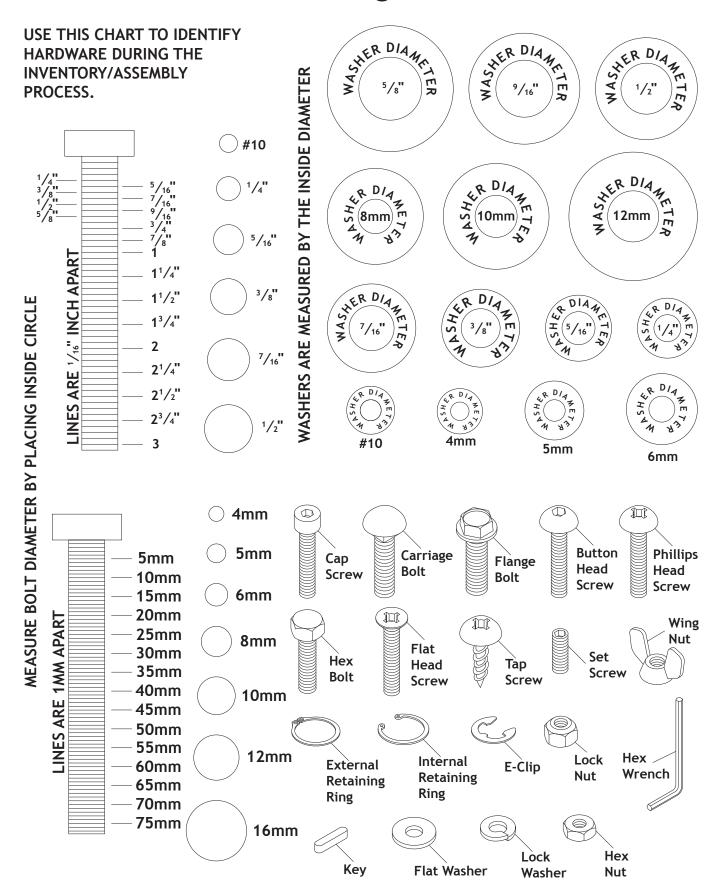


Figure 10. Parts Inventory.



#### Hardware Recognition Chart





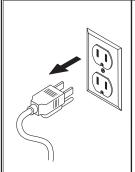
While the main mortising assembly of the Shop Fox® W1671 Mortising Machine is assembled at the factory, other components require assembly. The following is the recommended sequence best suited for final assembly.

**TOOLS REQUIRED:** You will need the 4, 5 & 6mm Allen® wrenches (supplied), a hand drill, a  $\frac{1}{4}$ " or  $\frac{5}{16}$ " drill bit and a Phillips® screw driver.

#### Mounting

The Model W1671 Mortising Machine can be mounted to any workbench sturdy enough to support the combined weight of the machine and workpiece and which allows a comfortable working height. The bench should be located where plenty of working clearance exists for larger workpieces. The mortising machine must be bolted to the bench, and to help avoid a tipping hazard, should be bolted away from the front edge. The mortising machine has a pivoting feature which allows the head and column assembly to pivot around the base. For this reason, the machine should be located near enough to one end of the bench top to allow mortising long workpieces. See Figure 11.

Follow the instructions on the next page to mount the mortising machine.



#### WARNING

Do not connect the machine to power at this time. The machine must remain unplugged throughout the entire assembly process. Failure to do this may result in serious personal injury.



#### **AWARNING**

Wear safety glasses during the entire assembly process. Failure to comply may result in serious personal injury.



Figure 11. Machine positioned near edge of bench.



# Mounting, Cont.

1. Plan the placement of the mortiser. Take measurements of the base and layout a pencil drawing for the best location on the work bench (Figure 12).



#### **ACAUTION**

The Mortiser represents a heavy load that must be lifted from the bottom. Seek assistance before beginning assembly.

 Seek assistance and lift the mortising machine to the workbench. Lift the mortising machine from its base, only. Slide it over the pencil layout. Recheck for proper working clearance and adjust as needed.

The mortising machine may be secured with  $\frac{5}{16}$ " lag bolts or through bolts with washers and nuts (not supplied).

- 3. Use the mounting holes in the base as drill guides and drill holes (Figure 13). Drill a <sup>1</sup>/<sub>4</sub>" hole for <sup>5</sup>/<sub>16</sub>" lag bolts. For through bolts drill a <sup>5</sup>/<sub>16</sub>" hole.
- 4. Secure the base with the bolts.



Figure 12. Layout penciled in.



Figure 13. Using mounting holes as drill guides.



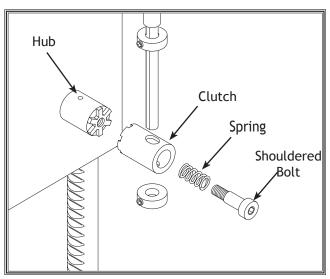


Figure 14. Assembly break down.



Figure 15. Secure collar onto hand lever.

#### Hand Lever



### **A**CAUTION

Position depth stop to touch table and secure with lock knob before attaching hand lever. The head may drop suddenly causing injury.

Attaching the hand lever requires the use of the 4 and 5mm Allen® wrenches supplied.

- 1. Locate the shouldered bolt, clutch and small spring.
- 2. Insert the spring into the clutch and place the clutch on the hub.
- 3. Secure the spring and clutch using the shouldered bolt. Insert the bolt and tighten. Refer to Figure 14 for the layout of the parts.
- **4.** Loosen the setscrew securing the collar closest to the end of the hand lever and remove the collar.
- 5. Insert the end of the hand lever into the *smaller slot* in the clutch. Slide the collar back onto the end of the hand lever and secure by tightening the setscrew. The lower collar should be set below the clutch by 1" to allow working clearances when the lever is swung out for indexing.

The hand lever can be adjusted for height by moving both of the collars up or down. Adjust these collars to accommodate the most comfortable height for operation.



# **Gas Spring**

The gas spring can be secured to 3 different locations along the side or back of the left column. Each location offers a different range of motion for the mortising head. In the instructions below, we will cover only the side location. Further explanation will follow in the **Adjustments** section.



# **A**CAUTION

Position depth stop to touch table and secure with lock knob before indexing the hand lever. The head may drop suddenly, causing injury.

- 1. Adjust the depth stop lever until it touches the table surface.
- 2. Lift the head using the hand lever. If necessary, index the lever (Figure 16) to make multiple turns of the hub so the head moves to its highest elevation. Be sure to position the depth stop rod so that it touches the base of the machine and lock it in place before indexing the handle. This ensures the weight of the head casting is supported while adjustments are made.
- 3. The gas spring ends snap into place over the ball-end junction. It may be necessary to compress the gas spring slightly to align sockets in gas springs with ball-end junction (Figure 17).



Figure 16. Indexing handle by swinging out.

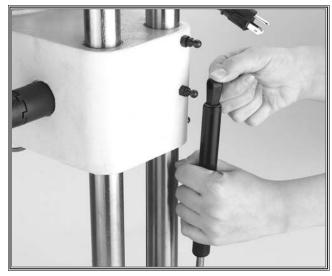


Figure 17. Compressing gas spring to assemble.





Figure 18. Work table secured with screws.



Figure 19. Slide fence support through block.

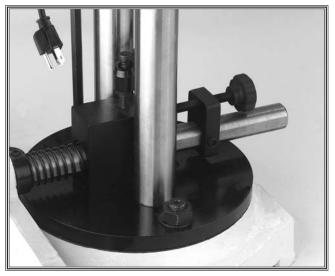


Figure 20. Micro-adjustable stop in position.

#### Work Table

1. Secure the wooden work table with the 2 Phillips® head screws provided (Figure 18).

#### **Fence**

- 1. The fence comes with a micro-adjustable stop attached to the fence support rod, which retains a spring. Loosen the setscrew with the 4mm Allen® provided and remove the stop but not the spring.
- 2. Slide the support rod into the mounting block located between the columns (Figure 19).
- **3.** Replace the micro-adjustable stop and secure with the setscrew (**Figure 20**).



#### Hold Down

The hold down acts as a clamp, holding the workpiece to the table surface. This helps to keep the workpiece from raising when extracting the chisel after a cut is made. The hold down must be used.

- Support the head with the hand lever and unlock the depth stop lock knob. Allow depth stop rod to touch the base surface and secure the rod in place.
- 2. The hold down support rod has a flat portion along its length. Place the completely round portion into the fence. Do not tighten the screw in the fence at this time.
- 3. The hold down bracket may be placed on the support rod in two positions. If placed on the support rod as in Figure 21, the bracket will hold down a workpiece slightly taller than the fence. When placed in the position shown in Figure 22, the bracket will hold down a workpiece that measures 3/8" less than the height of the support rod.

There are 3 hold down support rods supplied with the mortising machine. The length of the support rod used will be determined by the height of the workpiece. More information about using the hold down is detailed in the section titled **Adjustments**.

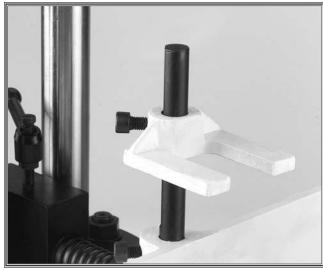


Figure 21. Bracket in the lowest position.

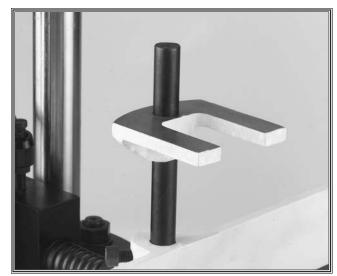
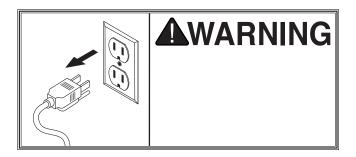


Figure 22. Bracket in the highest position.





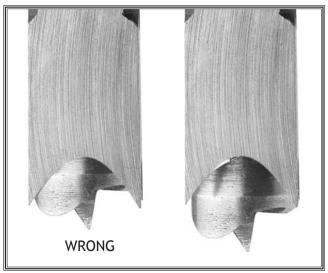


Figure 23. Drill bit must extend beyond chisel.

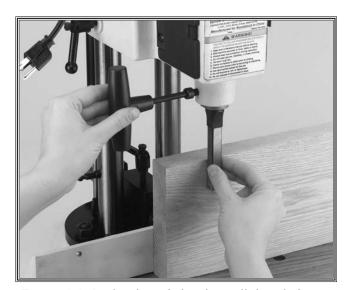


Figure 24. Back edge of chisel parallel with fence.

# **Installing Chisels**

Select the size needed for your project and follow the instructions below.

- Support the head with the hand lever and unlock the depth stop lock knob. Allow depth stop rod to touch the base surface and secure the rod in place.
- 2. Remove the hold down bracket from the support rod and move the fence to the back edge of the work table. . .
- Protect your hands. Use gloves or wrap a shop towel around the sharp end of the chisel.
- 4. Slide the end of the chisel housing into the bushing located just under the chuck. Make sure the opening in the chisel face is away from the operator.
- 5. Tighten the cap screw to the side of the chisel mount with the 5mm Allen® wrench provided.
- 6. Tighten the drill bit into the drill chuckwith the chuck key provided. Make sure the drilling end of the drill bit is positioned just outside the end of the chisel housing (Figure 23).
- 7. Place a straight, tall board against the fence and adjust the fence until the board touches the back edge of the chisel. Tighten the lock handle for the fence.
- 8. Loosen the cap screw holding the chisel-6housing and rotate the chisel until the back surface is parallel-with the board. (Figure 24). Tighten the cap screw.



#### **ADJUSTMENTS**

# **Gas Spring Locations**

The gas spring can be positioned in 1 of 3 locations to allow clearance for different board thicknesses or to mortise a board on edge. To determine which setting to use, look at the chart in **Figure 25** and find the board thickness that most closely fits your workpiece. Note the number that corresponds with that board. This will be the position number shown in **Figure 26**. Follow the instructions on the following page to place the gas spring in the new location.

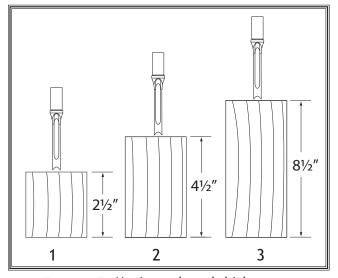


Figure 25. Maximum board thicknesses.

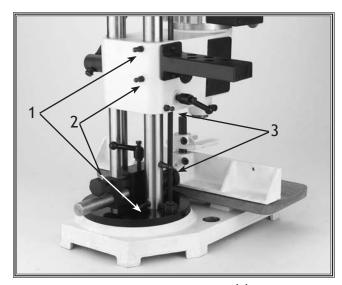


Figure 26. Gas spring positions.



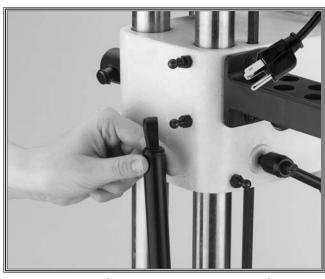


Figure 27. Snapping gas spring into place.



#### 

Position depth stop rod to touch table and secure with lock knob before removing the gas spring. The head may drop suddenly, causing injury.



#### WARNING

Never make adjustments to the head when a chisel is installed into the mortising machine. Serious injury will occur if the head drops suddenly.

#### **Gas Spring Placement**

Swinging the handle out will cause the head casting to fall when the gas spring is removed. The gas spring supports the weight of the head casting and the hand lever regulates its height. However, if the handle is pulled while the gas spring is removed the head will drop suddenly. Please read the **Caution** to the left.

Upon determining which location the gas spring is to be placed, follow the instructions below.

- 1. Support the head with the hand lever and unlock the depth stop lock knob. Allow the depth stop rod to touch the base surface and secure the depth stop rod in place.
- 2. The gas spring ends will snap off of the ball end junctions. Remove the gas spring.
- 3. Snap the gas spring into place over the desired ball-end junction locations (Figure 27). It may be necessary to compress gas spring slightly or to further lift or lower the head using the handle to align the sockets in the gas springs with the ball-end junctions.



#### **Pivot Feature**

The head and column assembly can be adjusted for mortising off of the base. This will allow the mortising machine to accommodate a larger workpiece than those previously listed. To change the position of the head and column assembly:

- Support the head with the hand lever and unlock the depth stop lock knob. Allow the depth stop rod to touch the base surface and secure the rod in place.
- 2. Loosen the two hex nuts in the pivoting base.
- 3. Rotate the assembly to the desired angle.
- 4. Tighten the hex nuts.
- **5.** The worktable should be removed before operating the machine.

Secure the workpiece with clamps before using the machine (Figure 28).

#### **Fence Adjustments**

The fence is supplied with a fine adjusting assembly, a spring and a collar. These enable centering the chisel to the workpiece quickly and with accuracy.

- Support the head with the hand lever and unlock the depth stop lock knob. Allow depth the stop rod to touch the base surface and secure the rod in place.
- 2. Loosen the locking lever for the fence.
- **3.** Use a pencil to mark the mortise on the workpiece.
- 4. Install the mortising chisel with the drill bit. The drill bit must be positioned so the end extends beyond the chisel body for proper chip clearance (Figure 29).

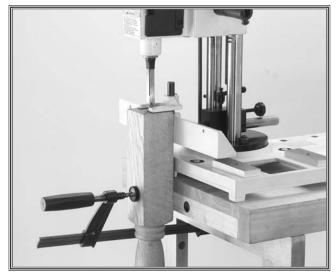


Figure 28. Workpiece clamped to edge of table.

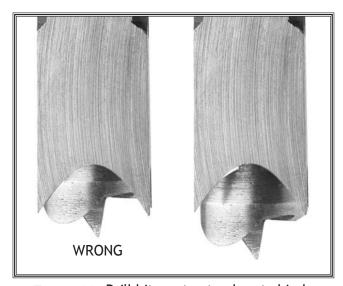


Figure 29. Drill bit must extend past chisel.



Figure 30. Setting micro-adjusting block.



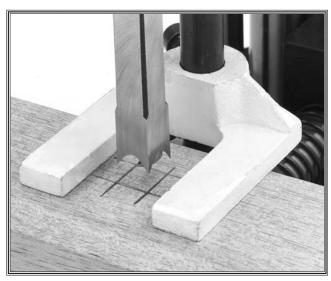


Figure 31. Aligning chisel to marked workpiece.



Figure 32. Repositioning the support block.

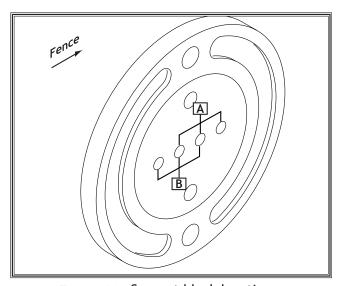
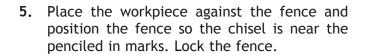


Figure 33. Support block locations.



- 6. Loosen the setscrew holding the micro adjustment block on the fence mounting rod and move the block until the screw fits into the back of the support block. See Figure 30 on the previous page.
- 7. Unlock the fence and rotate the micro adjustable knob until the chisel lines up withthe penciled in lines as in Figure 31.

#### Wider Stock

- 1. Remove the mortising chisel and drill bit.
- Loosen and remove the 2 hex nuts on the top of the pivot base.
- 3. Carefully lift the head stock assembly until pivot base clears the locking studs. Lay the assembly on its side on the workbench.
- 4. Remove the 3 cap screws holding the support block to the pivot base as in Figure 32.

Note that the support block is in position A (Figure 33) when the block is closest to the fence and position B when the block is furthest from the fence.

- **5.** Reposition the support block to position **B**.
- **6.** Reattach the support block with the 3 cap screws.

Reattach the head casting assembly and follow the instructions above for fence and workpiece setup.



#### **OPERATIONS**

#### Test Run

Once assembly is complete and adjustments are done to your satisfaction, you are ready to test run the machine.

Make sure the starting switch is off. The paddle is down for off. Make sure all the fasteners and lock handles are tight. Plug in the power cord. Pull the START paddle. Make sure that your finger is poised over the paddle (Figure 34) just in case there is a problem. The Mortising Machine should run smoothly, with little or no vibration or rubbing noises. Normally, there is some noise generated by the drill bit turning inside the chisel. If noise is excessive, it is likely the drill bit needs to be lowered a little inside the chisel. Any strange or unnatural noises require you to stop the machine, wait for it to stop moving, unplug the machine, investigate and correct the problem before further operation.

If the source of an unusual noise or vibration is not readily apparent, please contact our service department for help at 1-360-734-3482 or by email at: tech-support@woodstockint.com.



Figure 34. Hand poised over stop paddle.



#### Making A Mortise

- 1. Support the head with the hand lever and unlock the depth stop lock knob. Allow the depth stop rod to touch the base surface and secure the rod in place.
- Check the set up of the mortising machine to ensure head height and range of motion is sufficient. Also, check fasteners and locks.
- Adjust the depth stop rod to correct depth for producing blind mortises. In Figure 35,

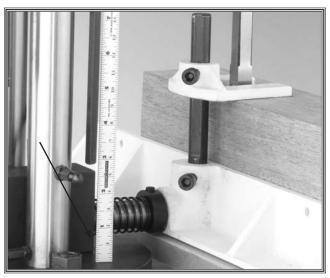
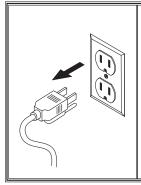


Figure 35. Setting the depth stop to  $2^7/8$ ".



# DO NOT attempt to investigate or adjust the machine while it is running. Wait until the machine is turned off, unplugged and all working parts have come to a stop before proceeding!



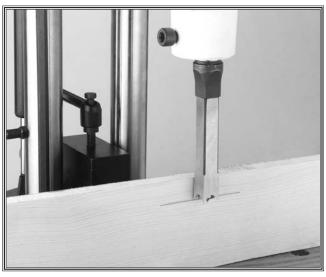
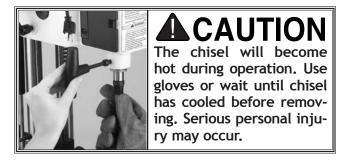


Figure 36. Use penciled line to gauge depth.



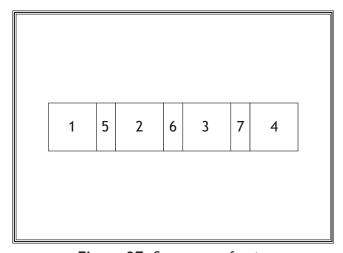


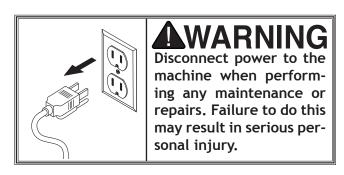
Figure 37. Sequence of cuts.

- the head is lowered so the chisel rests on the workpiece. The depth stop rod is adjusted using a measuring tape, to the desired depth. **Figure 36** shows the chisel being lowered until the chisel is even with a depth line on the workpiece. The fence is adjusted before and after the depth stop is locked.
- 4. Carefully mark the outline of the mortise on the workpiece. Align the fence and workpiece so the chisel aligns with the markings. See section on Fence Adjustments. A sacrificial board should be used under the workpiece whenever through-holes are produced to minimize tear out and protect the work table.
- 5. Test the positioning setup with a piece of scrap lumber of the same dimensions as the workpiece. Position the hold down on top of the workpiece and secure with cap screw. Do Not mortise without a hold down.
- **6.** Turn the power ON.
- 7. Lower the head by pulling the hand lever down with your right hand. Be sure not to feed the chisel too fast or too slow. Feeding too fast can cause the drill bit to clog with chips causing the motor to slow down and overheat. Feeding too slow may cause excessive heat, ruining the chisel. However, it is normal for some discoloring of the chisel to occur due to heat generated during use.
- **8.** When desired depth is achieved, move the hand lever back to its original position. The workpiece should remain in place as this is done.
- Check the placement of hole on the test piece and adjust the fence if necessary. Continue with the actual workpiece when the desired accuracy of placement is achieved.
- 10. When making rectangular mortises, we recommend you follow the sequence of cuts shown in Figure 37. Please note that cuts 5, 6 and 7 will only use a portion of the chisel and so the chisel should be positioned over the center of each space.



#### **MAINTENANCE**

#### General



Regular periodic maintenance on your Model W1671 Mortising Machine will ensure its optimum performance. Make a habit of inspecting the machine each time you use it. Check for the following conditions and repair or replace when necessary.

- 1. Loose mounting bolts.
- 2. Worn switch.
- 3. Worn or damaged cords and plugs.
- **4.** Any other condition that could hamper the safe operation of this machine.

#### **Fence And Chisels**

The cast iron fence and steel chisels/bits can be kept rust-free with regular applications of products like Boeshield® T-9. For long term storage you may want to consider products like Kleen Bore's Rust Guardit™.

#### Lubrication

Since all bearings are sealed and permanently lubricated, simply leave them alone until they need to be replaced. Do not lubricate them.

For other items on this machine, such as the gear, base and columns, an occasional application of light machine oil is all that is necessary. Before applying lubricant, clean off sawdust and wood chips.

Your goal is to achieve adequate lubrication. Too much lubrication will attract dirt and sawdust. Various parts of your machine could lose their freedom of movement as a result.

# **Lubricating Drill Bits**

The drill bits for mortising chisels operate under extreme conditions. A small amount of bees wax applied to the drill bit can aid in reducing heat and expelling chips. It is important that a small amount is used and none is applied to the chisel. Bees wax coming into contact with the finished surfaces will impede adhesion of glues and finishes.



#### **CLOSURE**

The following pages contain general machine parts diagrams/lists and warranty/return information for your Shop Fox® Model W1671 Mortising Machine.

If you need parts or help in assembling your machine, or if you need operational information, we encourage you to call our service department. Our trained service technicians will be glad to help you.

If you have comments dealing specifically with this manual, please write to us using the address in the General Information. The specifications, drawings, and photographs illustrated in this manual represent the Model W1671 as supplied when the manual was prepared. However, due to Woodstock International, Inc.'s policy of continuous improvement, changes may be made at any time with no obligation on the part of Woodstock International, Inc. Whenever possible, though, we send manual updates to all owners of a particular tool or machine. Should you receive one, add the new information to this manual and keep it for reference.

We have included some important safety measures that are essential to this machine's operation. While most safety measures are generally universal, we remind you that each workshop is different and safety rules should be considered as they apply to your specific situation.

We recommend you keep this manual for complete information regarding Woodstock International, Inc.'s warranty and return policy. If you need additional technical information relating to this machine, or if you need general assistance or replacement parts, please contact the Service Department at 360-734-3482 or techsupport@woodstockint.com on the internet.

Additional information sources are necessary to realize the full potential of this machine. Trade journals, woodworking magazines, and your local library are good places to start.

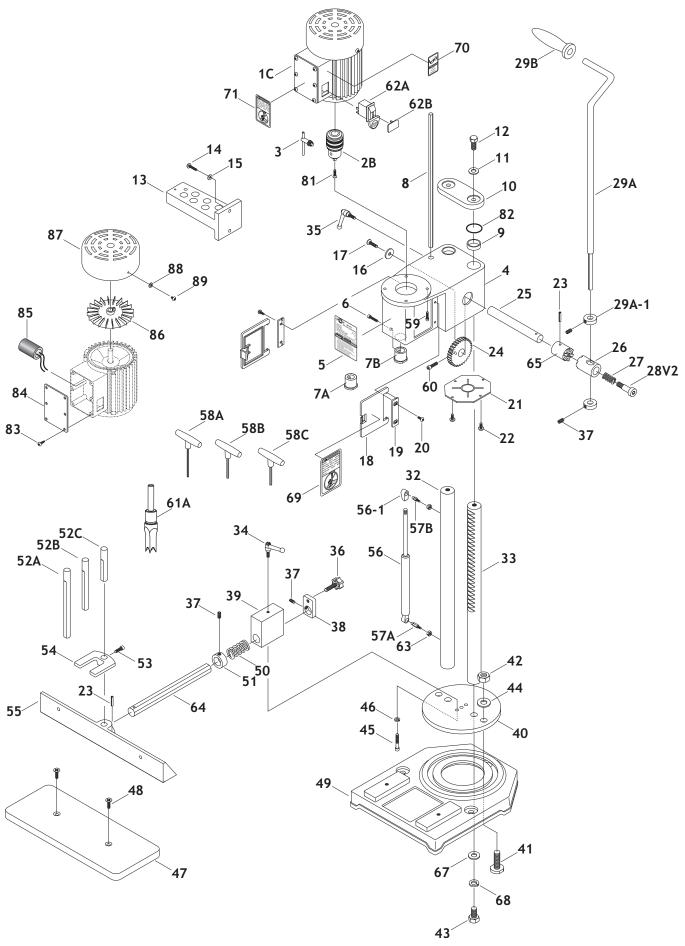
The Model W1671 was specifically designed for mortising operations. DO NOT MODIFY AND/OR USE THIS MORTISING MACHINE FOR ANY OTHER PURPOSE. Modifications or improper use of this tool will void the warranty. If you are confused about any aspect of this machine, DO NOT use it until all your questions have been answered.

#### **AWARNING**

As with all power tools, there is danger associated with the Model W1671 Mortising Machine. Use the tool with respect and caution to lessen the possibility of mechanical damage or operator injury. If normal safety precautions are overlooked or ignored, injury to the operator or others in the area is likely.









REF	PART #	DESCRIPTION	
01B	X1671001B	MOTOR 3/4HP 1/2" X 20 ARBOR	
02B	X1671002B	CHUCK JT2-13MM TAPERED	
3	X1671003	CHUCK KEY 6MM STD 12T SD-13.3MM	
4	X1671004	HEAD CASTING	
5	X1671005	DATA LABEL	
6	X1671006	CAP SCREW M8-1.25 X 20	
07A	X1671007A	BUSHING 5/8"	
07B	X1671007B	BUSHING 3/4"	
8	X1671008	DEPTH STOP ROD	
9	X1671009	GUIDE BUSHING	
10	X1671010	STOP PLATE	
11	X1671011	FLAT WASHER 10MM	
12	X1671012	HEX BOLT M10-1.5 X 25	
13	X1671013	HOLDER	
14	X1671014	PHLP HD SCR M6-1 X 12	
15	X1671015	FLAT WASHER 6MM	
16	X1671016	HEAD CASTING WASHER 6MM	
17	X1671017	FLAT HD SCR M6-1 X 12	
18	X1671018	COVER	
19	X1671019	HINGE	
20	X1671020	PHLP HD SCR 58 X 10	
21	X1671021	COVER PLATE	
22	X1671022	PHLP HD SCR M47 X 12	
23	X1671023	ROLL PIN 5 X 30	
24	X1671024	GEAR 33T	
25	X1671025	GEAR SHAFT	
26	X1671026	CLUTCH COLLAR	
27	X1671027	SPRING 18 X 2 X 26	
28V2	X1671028V2	SHOULDER BOLT M10-1.5 X 28 V2.11.11	
29A	X1671029A	HANDLE	
29A-1	X1671029A-1	STOP COLLAR	
29B	X1671029B	HAND GRIP	
32	X1671032	COLUMN	
33	X1671033	RACK COLUMN	
34	X1671034	LOCK KNOB M8-1.25 X 35	
35	X1671035	LOCK KNOB M8-1.25 X 20	
36	X1671036	KNOB M8-1.25 X 56	
37	X1671037	SET SCREW M8-1.25 X 10	
38	X1671038	STOP BRACKET	
39	X1671039	GUIDE BRACKET	
40	X1671040	ROTARY TABLE TOP	
41	X1671041	BASE BOLT M14-2 X 40	
42	X1671042	HEX NUT M14-2	
43	X1671043	HEX BOLT M10-1.5 X 25	

REF	PART #	DESCRIPTION
44	X1671044	FLAT WASHER 14MM
45	X1671045	CAP SCREW M10-1.5 X 25
46	X1671046	LOCK WASHER 8MM
47	X1671047	TABLE
48	X1671048	FLAT HD SCR M8-1.25 X 25
49	X1671049	BASE
50	X1671050	FENCE SPRING 2 X 27 X 80
51	X1671051	COLLAR
52A	X1671052A	ROD 7-1/2"
52B	X1671052B	ROD 5-1/2"
52C	X1671052C	ROD 3-1/2"
53	X1671053	CAP SCREW M8-1.25 X 20
54	X1671054	HOLD DOWN
55	X1671055	FENCE
56	X1671056	GAS SPRING 5"
56-1	X1671056-1	GAS SPRING BALL SOCKET
57A	X1671057A	LOWER JUNCTION SCREW
57B	X1671057B	UPPER JUNCTION SCREW
58A	X1671058A	T-HANDLE 4MM
58B	X1671058B	T-HANDLE 6MM
58C	X1671058C	T-HANDLE 8MM
59	X1671059	CAP SCREW M6-1 X 25
60	X1671060	CAP SCREW M8-1.25 X 25
61A	X1671061A	MORTISING CHISEL 1/2"
62A	X1671062A	SWITCH
62B	X1671062B	SWITCH KEY
63	X1671063	HEX NUT M6-1
64	X1671064	FENCE SUPPORT ROD
65	X1671065	CLUTCH
67	X1671067	FLAT WASHER 10MM
68	X1671068	LOCK WASHER 10MM
69	X1671069	HAND/CHISEL WARNING
70	X1671070	SAFETY GLASSES WARNING
71	X1671071	DEPTH STOP WARNING
80	X1671080	COLLAR
81	X1671081	FLAT HD SCR M6-1 X 20
82	X1671082	O-RING 32 X 3
83	X1671083	WOOD SCREW M3 X 12
84	X1671084	LID
85	X1671085	CAPACITOR 30 MFD
86	X1671086	MOTOR FAN
87	X1671087	FAN COVER
88	X1671088	FLAT WASHER 5MM
89	X1671089	PHLP HD SCR M58 X 8MM

# **Your Notes:**





# Warranty Registration

Nar	me		
Stre	eet		
City	y	_State	Zip
		Email	Invoice #
Mod	del #Serial #	Dealer Name	Purchase Date
	, , ,	n a voluntary basis. It will be used for s. <b>Of course, all information is strict</b> l	9
1.	How did you learn about us?AdvertisementMail Order Catalog	Friend Website	Local Store Other:
2.	How long have you been a wo	oodworker/metalworker? 2-8 Years8-20 Years	s20+ Years
3.	How many of your machines of the description of the		10+
4.	Do you think your machine re	epresents a good value? Yo	No
5.	Would you recommend Shop	Fox products to a friend? You	No
6.	What is your age group? 20-29 50-59	30-39 60-69	40-49 70+
7.	What is your annual househol\$20,000-\$29,000\$50,000-\$59,000	\$30,000-\$39,000	\$40,000-\$49,000 \$70,000+
8.	Which of the following magaz	zines do you subscribe to?	
	Cabinet Maker Family Handyman Hand Loader Handy Home Shop Machinist Journal of Light Cont. Live Steam Model Airplane News Modeltec Old House Journal Popular Mechanics  Comments:	Popular Science Popular Woodworking Practical Homeowner Precision Shooter Projects in Metal RC Modeler Rifle Shop Notes Shotgun News Today's Homeowner Wood	Wooden Boat Woodshop News Woodsmith Woodwork Woodworker West Woodworker's Journal Other:



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#### WARRANTY

Woodstock International, Inc. warrants all Shop Fox machinery to be free of defects from workmanship and materials for a period of two years from the date of original purchase by the original owner. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, lack of maintenance, or reimbursement of third party expenses incurred.

Woodstock International, Inc. will repair, replace, or arrange for a dealer refund at its expense and at its option, the Shop Fox machine or machine part, which in proper and intended use has proven to be defective, provided that the original owner returns the product prepaid to an authorized warranty or repair facility as designated by our Bellingham, Washington office with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

This is Woodstock International, Inc.'s sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant that Shop Fox machinery complies with the provisions of any law, acts or electrical codes. We do not reimburse for third party repairs. In no event shall Woodstock International, Inc.'s liability under this limited warranty exceed the purchase price paid for the product, and any legal actions brought against Woodstock International, Inc. shall be tried in the State of Washington, County of Whatcom. We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of our products.

Every effort has been made to ensure that all Shop Fox machinery meets high quality and durability standards. We reserve the right to change specifications at any time because of our commitment to continuously improve the quality of our products.



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