

MODEL M1039 20" FLOOR DRILL PRESS





OWNER'S MANUAL

(FOR MODELS MANUFACTURED SINCE 05/24)

Phone: (360) 647-0802. Online Technical Support: techsupport@shopfoxtools.com

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WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE OR FORM WITHOUT

THE WRITTEN APPROVAL OF GRIZZLY INDUSTRIAL, INC.

Keep for Future Reference

#7894JK Printed in China



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.



Contents

INTRODUCTION	2
Grizzly Technical Support	2
Machine Data Sheet	
Controls & Features	5
SAFETY	6
Standard Machinery Safety Instructions Additional Safety for Drill Presses	
ELECTRICAL	
Grounding Requirements	
Extension Cords	
SETUP	11
Unpacking	
Items Needed for Setup	
Inventory	
Machine Placement	
Anchoring to Floor	
Assembly	
Drill Chuck & Arbor	
Test Run	19
Recommended Adjustments	19
OPERATIONS	20
General	20
Installing/Removing Bits	
Choosing Speeds	
Changing Speeds	
Drilling	
Depth Stop	
Aubar Damaral	

MAIN I ENANCE	Z /
General	27
Cleaning	27
Table, Column, & Base	27
Lubrication	27
V-Belts	27
SERVICE	20
General	
Depth Stop Calibration	
Feed Shaft Spring Tension	
Electrical Safety Instructions	
Electrical Components	31
Wiring Diagram	32
Troubleshooting	33
DARTC	2 5
PARTS	
Table & Column	
Headstock	
Labels & Cosmetics	39
WARRANTY	41



INTRODUCTION

Grizzly Technical Support

This machine has been specially designed to provide many years of trouble-free service. Close attention to detail, ruggedly built parts and a rigid quality control program assure safe and reliable operation.

Grizzly Industrial, Inc. is committed to customer satisfaction. Our intent with this manual is to include the basic information for safety, setup, operation, maintenance, and service of this product.

We stand behind our machines! In the event that questions arise about your machine, please contact Grizzly Industrial Technical Support at (360) 647-0802 or send e-mail to: techsupport@shopfoxtools.com. Our knowledgeable staff will help you troubleshoot problems and process warranty claims.

If you need the latest edition, you can download it from http://www.shopfoxtools.com/manuals. If you have comments about this manual, please contact us at:

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MACHINE SPECIFICATIONS



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MODEL M1039 20" FLOOR DRILL PRESS

Product Dimensions
Weight
Shipping Dimensions
Type
Electrical
Power Requirement
Motors
Main
Horsepower



Nain Specifications

Type
Spindle Information
Distance From Spindle to Base
Table Information
Max. Table Tilt (Left/Right).90 deg.Table Swing.360 deg.Table Swivel Around Center.78 deg.Table Swivel Around Column360 deg.Table Length.18-3/4 in.Table Width.16-3/4 in.Table Thickness.1-1/2 in.Vertical Table Travel.Crank Handle OperationNumber of T-Slots.3T-Slot Size.5/8 in.T-Slot Centers.4-1/4 in.Floor-To-Table Height.25 - 47 in.
Construction
Table
Other Related Information
Base Length
Light Socket Type



Controls & Features

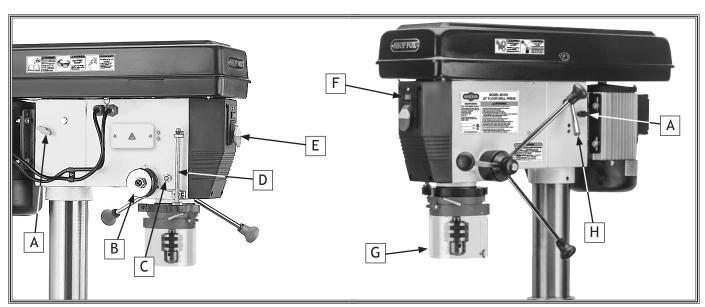


Figure 1. M1039 headstock controls.

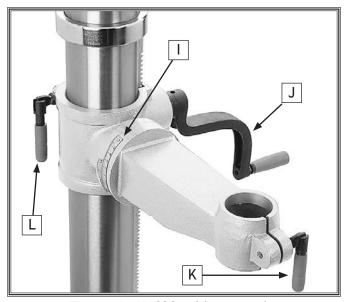


Figure 2. M1039 table controls.

- A. Belt Tension Lock
- **B.** Torsion Spring
- C. Lash Screw
- D. Depth Stop
- E. Power Switch
- F. Light Switch (120V only)

- G. Chuck Guard
- H. Belt Tension Lever
- I. Scale
- J. Table Height Crank Handle
- K. Small Lock Lever
- L. Large Lock Lever



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!

ADANGER

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

AWARNING

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

ACAUTION *NOTICE*

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

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.

Standard Machinery Safety Instructions

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 loose clothing, gloves, neckties, 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) 647-0802.



Additional Safety for Drill Presses

Serious injury or death can occur from getting clothing, jewelry, or long hair entangled in rotating spindle or bit/cutting tool. Contact with rotating bit/cutting tool can result in severe cuts or amputation of fingers. Flying metal chips can cause blindness or eye injuries. Broken bits/cutting tools, unsecured workpieces, chuck keys, or other adjustment tools thrown from rotating spindle can strike nearby operator or bystanders with great force. To reduce the risk of these hazards, operator and bystanders MUST completely heed hazards and warnings below.

- WEARING PROPER PPE. Flying chips created by drilling can cause eye injuries or blindness. Always wear a face shield in addition to safety glasses. Always keep hands and fingers away from drill bit/cutting tool. Avoid awkward hand positions, where a sudden slip could cause hand to move into bit/cutting tool.
- AVOIDING ENTANGLEMENT. DO NOT wear loose clothing, gloves, or jewelry, and tie back long hair. Keep all guards in place and secure. Always allow spindle to stop on its own. DO NOT stop spindle using your hand or any other object.
- REMOVING ADJUSTMENT TOOLS. Chuck key, drawbar wrench, and other tools left on machine can become deadly projectiles when spindle is started. Remove all loose items or tools used on spindle immediately after use.
- **SECURING BIT/CUTTING TOOL.** Firmly secure bit/cutting tool so it does not fly out of spindle during operation or startup.
- **SECURING TABLE AND HEADSTOCK.** To avoid accidental contact with tool/bit, tighten all table and headstock locks before operating drill.
- correct spindle speed. Using wrong spindle speed can cause bits/cutting tools to break and strike operator or bystanders. Follow recommended speeds and feeds for each size/type of bit/cutting tool and workpiece material.
- WORKPIECE PREPARATION. To avoid loss of workpiece control, DO NOT drill material with an uneven surface on the table, unless a suitable support is used. To avoid impact injuries, make sure workpiece is free of nails or foreign objects in area to be drilled.

- WORKPIECE CONTROL. An unsecured workpiece may unexpectedly shift, spin out of control, or be thrown if bit/cutting tool "grabs" during operation. Clamp workpiece to table or in table-mounted vise, or brace against column to prevent rotation. NEVER hold workpiece by hand during operation. NEVER start machine with bit/cutting tool touching workpiece; allow spindle to gain full speed before drilling.
- INSPECTING BIT/CUTTING TOOL. Damaged bits/
 cutting tools may break apart during operation
 and hit operator or bystanders. Dull bits/
 cutting tools increase cutting resistance
 and are more likely to grab and spin/throw
 workpiece. Always inspect bits/cutting tools
 for sharpness, chips, or cracks before each use.
 Replace dull, chipped, or cracked bits/cutting
 tools immediately.
- MAINTAINING MACHINE. Keep machine in proper working condition to help ensure that it functions safely and all guards and other components work as intended. Perform routine inspections and all necessary maintenance. Never operate machine with damaged or worn parts that can break or result in unexpected movement during operation.
- CLEANING MACHINE SAFELY. To avoid contact with tool/bit, never clear chips while spindle is turning. To avoid cuts and eye injuries, DO NOT clear chips by hand or with compressed air—use a brush or vacuum instead.
- DISCONNECT POWER FIRST. To reduce risk of electrocution or injury from unexpected startup, make sure drill is turned OFF, disconnected from power, and all moving parts have come to a complete stop before changing bits/cutting tools or starting any inspection, adjustment, or maintenance procedure.



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.

Circuit Requirements for 120V (Prewired)

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

Circuit Requirements for 240V

This machine can be converted to operate on a power supply circuit that has a verified ground and meets the requirements listed below. (Refer to **Voltage Conversion** instructions for details.)

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 120V Connection (Prewired)

This machine is equipped with a power cord that has an equipment-grounding wire and NEMA 5-20 grounding plug. The plug must only be inserted into a matching receptacle (see **Figure**) that is properly installed and grounded in accordance with local codes and ordinances.

For 240V Connection

A NEMA 6-15 plug (see figure) has a grounding prong that must be attached to the equipment-grounding wire inside the included power cord. The plug must only be inserted into a matching receptacle that is properly installed and grounded in accordance with all 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:

Minimum Gauge Size at 120V	12 AWG
Minimum Gauge Size at 240V	14 AWG
Maximum Length (Shorter is Better)	50 ft.

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.

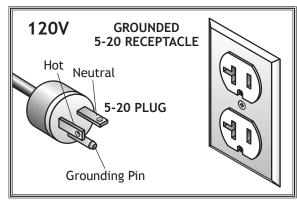


Figure 3. NEMA 5-20 plug & receptacle.



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.

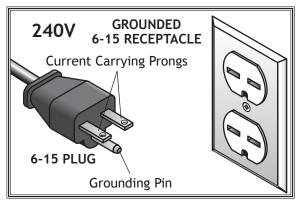


Figure 4. NEMA 6-15 plug & receptacle.



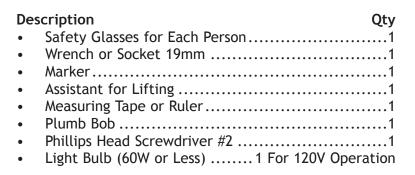
SETUP

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.

Items Needed for Setup

The following items are needed, but not included, to set up your machine.



AWARNING Keep machine disconnected from

power until instructed otherwise.

Inventory

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

A. Base. B. Table. C. Headstock D. Chuck Guard Assembly. E. Table Bracket. F. Column Hardware and Tools (Not Shown) • Crank Handle. • Arbor • Drift Key. • Chuck • Chuck Key. • Downfeed Handles. • Lock Wrench. • Belt Cover Knob. • Hex Wrenches 3, 4, 5mm 1 Ed. • Hex Bolt M12-1.75 x 45mm • Flat Washers 12mm	Qty
C. Headstock D. Chuck Guard Assembly E. Table Bracket F. Column Hardware and Tools (Not Shown) Crank Handle Arbor Drift Key Chuck Chuck Chuck Key Downfeed Handles Lock Wrench Belt Cover Knob Hex Wrenches 3, 4, 5mm 1 Ea	1
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F. Column Hardware and Tools (Not Shown) Crank Handle Arbor Drift Key Chuck Chuck Key Downfeed Handles Lock Wrench Belt Cover Knob Hex Wrenches 3, 4, 5mm 1 Ea	
Hardware and Tools (Not Shown) Crank Handle Arbor Drift Key Chuck Chuck Key Downfeed Handles. Lock Wrench Belt Cover Knob. Hex Wrenches 3, 4, 5mm 1 Ea	
 Crank Handle Arbor Drift Key Chuck Chuck Key Downfeed Handles Lock Wrench Belt Cover Knob Hex Wrenches 3, 4, 5mm Hex Bolt M12-1.75 x 45mm 	
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 Belt Cover Knob	
 Hex Wrenches 3, 4, 5mm	
• Hex Bolt M12-1.75 x 45mm	
Flat Wasners 1/mm	
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NOTICE

If you cannot find item on list, carefully check aroundmachine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at factory.

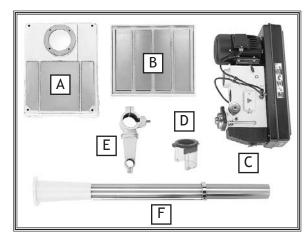


Figure 5. Large component inventory.



Machine Placement

Weight Load

Refer to the Machine Specifications for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

Space Allocation

Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual. See below for required space allocation.

ACAUTION

Children or untrained people may be seriously injured by this machine. Only install in an access restricted location.

Physical Environment

The physical environment where your machine is operated is important for safe operation and the longevity of its components. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature range exceeds 41°-104°F; the relative humidity range exceeds 20-95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave access to a means of disconnecting the power source or engaging a lockout/tagout device.

Lighting

Lighting around the machine must be adequate enough that operations can be performed safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

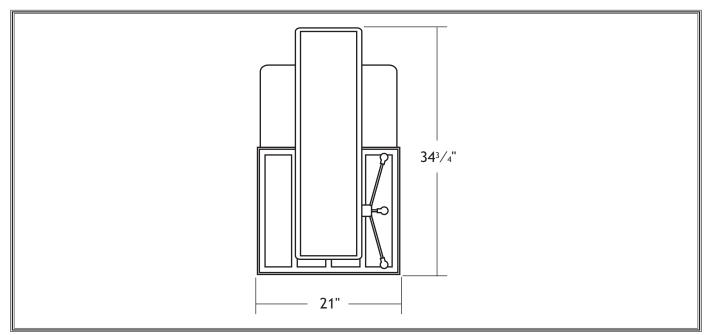


Figure 6. Working clearances.



Anchoring to Floor

Anchoring machinery to the floor prevents tipping or shifting and reduces vibration that may occur during operation, resulting in a machine that runs slightly quieter and feels more solid.

If the machine will be installed in a commercial or workplace setting, or if it is permanently connected (hardwired) to the power supply, local codes may require that it be anchored to the floor.

If not required by any local codes, fastening the machine to the floor is an optional step. If you choose not to do this with your machine, we recommend placing it on machine mounts, as these provide an easy method for leveling and they have vibration-absorbing pads.

Anchoring to Concrete Floors

Lag shield anchors with lag screws (see **Figure**) are a popular way to anchor machinery to a concrete floor, because the anchors sit flush with the floor surface, making it easy to unbolt and move the machine later, if needed. However, anytime local codes apply, you MUST follow the anchoring methodology specified by the code.

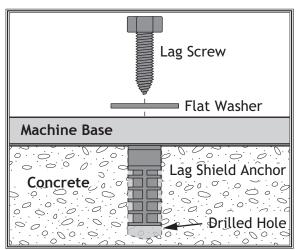


Figure 7. Popular method for anchoring machinery to a concrete floor.



Assembly

Before beginning the assembly process, refer to Items Needed for Setup and gather everything you need. Ensure all parts have been properly cleaned of any heavy-duty rust-preventative applied at the factory (if applicable). Be sure to complete all steps in the assembly procedure prior to performing the Test Run or connecting the machine to power.

To assemble the machine, do these steps:

- 1. Place the column on the base and align the mounting holes.
- 2. Secure the column to the base with the (4) M12-1.75 x 45 hex bolts and 12mm flat washers, as shown in Figure 8.
- 3. Mark the top of the rack, as shown in Figure 9, to keep track of which end is up.
- 4. Remove the column ring by loosening the set screw, and remove the rack.

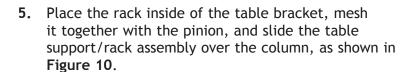




Figure 8. Column secured to base.

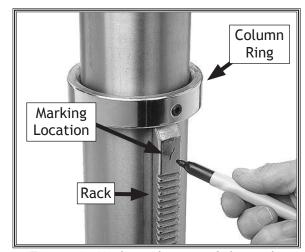


Figure 9. Marking the top of the rack.



Figure 10. Sliding table bracket and rack over column.



6. Slide the column ring over the column with the beveled edge facing down (see Figure 11), fit the beveled edge of the column ring over the rack, and tighten the set screw.

Note: Make sure the rack is seated firmly in the lower ring before tightening the setscrew. Do not over-tighten the set screw or you may split the column ring.

- 7. Install the crank handle over the pinion shaft, and tighten the set screw in the crank handle against the flat part of the pinion shaft (see Figure 12).
- **8.** Set the top piece of the headstock styrofoam packing approximately six feet away from the column/base assembly.
- **9.** Remove the headstock from the box and place it on the styrofoam packing piece you laid out in **Step 8**.

Note: To avoid damaging the machine, be careful not to hold the headstock by the switch or the top part of the belt cover when lifting.

- 10. Carefully lay the column/base on its side.
- 11. Slide the column all the way into the bottom of the headstock (approximately 4"-6").
- **12.** Tilt the entire assembly up (see **Figure 13**) and carefully position the drill press on its base in the fully upright position.



Figure 11. Correct column ring orientation.



Figure 12. Crank handle installed.

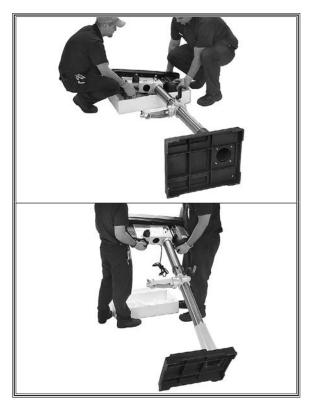


Figure 13. Mounting the headstock.



- 13. Center a tape or ruler on the base, and suspend a plumb bob from the center of the headstock spindle so it is over the tape/ruler as shown in Figure 14.
- **14.** Center the headstock directly over the base as indicated by the plumb bob and ruler.

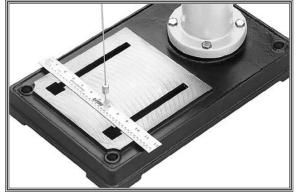


Figure 14. Aligning headstock with base.

- **15.** Tighten the (2) headstock set screws to the column, as shown in **Figure 15**.
- **16.** Refer to **Drill Chuck & Arbor** on **Page 18** to attach the chuck and arbor to the spindle.

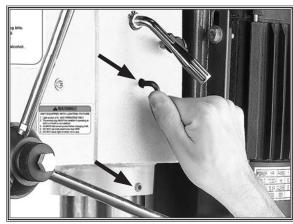


Figure 15. Example of securing the headstock.

- **17.** Thread the downfeed handles into the spindle hub, as shown in **Figure 16**, and tighten.
- **18.** Remove the screw that fastens the belt cover in place and install the belt cover knob in its place (see **Figure 16** for location).

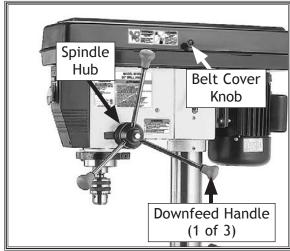


Figure 16. Downfeed handles and belt cover knob installed.



- 19. Insert the table shaft into the table bracket.
- **20.** Tighten the small locking lever to secure the table in the table bracket. The table should now be installed as shown in **Figure 17**.

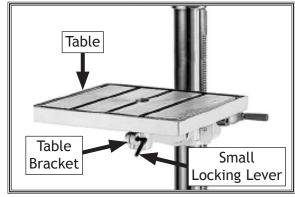


Figure 17. Table installed.

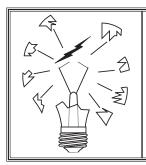
21. Place the chuck guard assembly over the bottom flange of the pre-installed depth stop bracket (see Figure 18) and tighten the Phillips head screw and hex nut to secure it.

Note: To prevent the guard from slipping off during installation, move the table up to support it or have an assistant hold it in place while you secure it.



Figure 18. Example of securing chuck guard assembly.

- **22.** For 120V operation only: Remove the dust plug from the light socket (see Figure 19).
- **23. For 120V operation only:** Install a 60W or smaller light bulb in the location shown in **Figure 19**.



WARNING

The light socket included with this drill press is for 120V USE ONLY. If the light socket is used while operating at 240V, the light bulb WILL EXPLODE, potentially causing serious personal injury.



Figure 19. Light socket access (120V only).



Drill Chuck & Arbor

The drill chuck attaches to the spindle by means of the arbor, shown in **Figure 20**. Matched tapers on the arbor and the inside of the chuck create a semi-permanent assembly when properly joined.

To assemble the drill chuck and mount it to the spindle, do these steps:

- 1. Use mineral spirits to thoroughly clean the drill chuck, arbor, and spindle sockets and dry all surfaces before assembly. Follow all safety warnings on the container of the mineral spirits. Failure to clean the mating surfaces may cause the tapered fit to loosen during operation, resulting in separation and an unsafe condition.
- 2. Use the chuck key to adjust the jaws of the drill chuck until they are inside the drill chuck body.
- 3. Place the drill chuck face down on a workbench. The arbor has a short taper and a long taper. Place the short taper into the socket in the back of the drill chuck and tap it with a rubber or wooden mallet, as shown in Figure 21. If the chuck fails to remain secure on the arbor, repeat Steps 1 & 3.
- 4. Slide the arbor into the spindle socket while slowly rotating the drill chuck. The socket has a rectangular pocket into which the tang (or flat portion of the arbor shown in **Figure 21**) will fit.
- 5. Using a rubber mallet, seat the chuck as shown in Figure 22.

ACAUTION

DO NOT use a steel hammer on the drill chuck to seat the arbor into the spindle. You will damage the chuck and/or spindle, which may make them unusable or unsafe.

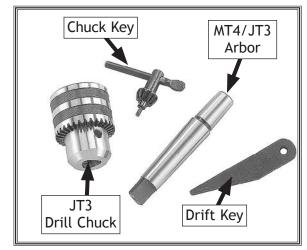


Figure 20. Chuck components and tools.



Figure 21. Seating the arbor into the chuck.



Figure 22. Seating the arbor and chuck into the spindle.



Test Run

Once assembly is complete, test run the machine to ensure it is properly connected to power and safety components are functioning properly.

If you find an unusual problem during the test run, immediately stop the machine, disconnect it from power, and fix the problem BEFORE operating the machine again. The **Troubleshooting** table in the **SERVICE** section of this manual can help.

To test run the machine, do these steps:

- 1. Clear all setup tools away from machine.
- 2. Connect machine to power supply.
- **3.** Turn machine *ON*, verify motor operation, then turn machine *OFF*.

The motor should run smoothly and without unusual noises.

- 4. Remove switch disabling key (see Figure 23).
- **5.** Try to start machine with paddle switch. The machine should not start.
 - If machine does not start, the switch disabling feature is working as designed.
 - If machine does start, immediately stop the machine. The switch disabling feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

Recommended Adjustments

For your convenience, the adjustments listed below have been performed at the factory and no further setup is required to operate your machine.

However, because of the many variables involved with shipping, some of these adjustments may need to be repeated to ensure optimum results. Keep this in mind as you start to use your new drill press.

WARNING

Serious injury or death can result from using this machine BEFORE understanding its controls and related safety information. DO NOT operate, or allow others to operate, machine until the information is understood.

AWARNING

DO NOT start machine until all preceding setup instructions have been performed. Operating an improperly set up machine may result in malfunction or unexpected results that can lead to serious injury, death, or machine/property damage.

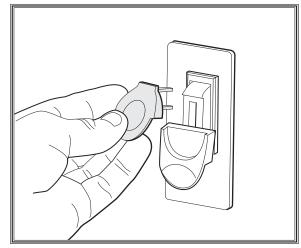


Figure 23. Removing switch key from paddle switch.

Step-by-step instructions for these adjustments can be found in the **SERVICE** section of this manual.

- 1. Depth Stop Calibration (Page 28)
- 2. Feed Shaft Spring Tension (Page 29)



OPERATIONS

General

The Model M1039 will perform many types of operations that are beyond the scope of this manual. Many of these operations can be dangerous or deadly if performed incorrectly.

The instructions in this section are written with the understanding that the operator has the necessary knowledge and skills to operate this machine. If at any time you are experiencing difficulties performing any operation, stop using the machine!

If you are an inexperienced operator, we strongly recommend that you read books, trade articles, and/or seek training from an experienced drill press operator before performing any unfamiliar operations. Above all, your safety should come first!

Installing/Removing Bits

Any drill bit you install in the chuck must be tight enough that it will not come loose during operation.

To install a drill bit, do these steps:

- UNPLUG THE DRILL PRESS!
- 2. Open the drill chuck wide enough to accept the shank of the drill bit.
- 3. Insert the drill bit as far as possible into the chuck WITHOUT allowing the chuck jaws to touch the fluted portion of the bit, and hand tighten the chuck.

Note: Make sure small bits are not trapped between the edges of two jaws; if they are, reinstall the drill bit or it will not be secure enough to use.

4. Final tighten the drill bit with the chuck key.

To remove a drill bit, do these steps:

- 1. UNPLUG THE DRILL PRESS!
- 2. Use the chuck key to open the drill chuck, and catch the drill bit with a rag to protect your hands.

AWARNING



To reduce your risk of serious injury or damage to the machine, read this entire manual BEFORE using machine.

AWARNING





To reduce the risk of eye injury and long-term respiratory damage, always wear safety glasses and a respirator while operating this machine.

NOTICE

If you are an inexperienced operator, we strongly recommend that you read books or trade articles, or seek training from an experienced operator of this type of machinery before performing unfamiliar operations. Above all, safety must come first!



Choosing Speeds

Using the Drill Bit Speed Charts

The charts shown on Page 22 & Page 23 are intended as guides only. Always follow the manufacturer's speed recommendations if provided with your drill bits, cutters, or hole saws. Exceeding the recommended speeds may be dangerous.

The speeds shown are intended to get you started. The optimum speed will always depend on various factors, including tool diameter, drilling pressure, material hardness, material quality, and desired finish.

Changing Speeds

The belts in the head of the drill press must be rearranged to change speeds. A chart under the belt cover shows the belt positions needed to make the drill press run at the desired speed.

To change speeds, do these steps:

- 1. UNPLUG THE DRILL PRESS!
- Loosen the belt tension lock knobs (shown in Figure 24) on both sides of the headstock, so the motor is free to move.
- **3.** Rotate the belt tension lever counterclockwise, as shown in **Figure 25**, to take tension off the V-belts.
- 4. Locate the desired speed on the speed chart under the belt cover and move the V-belts to the desired V-grooves on the motor, idler, and spindle pulleys.

For Example: As indicated on the drill press speed chart on **Page 23**, a belt combination of A-2 creates 640 RPM.

Note: Both belts may have to be removed before certain speed changes can be made.

- **5.** Rotate the belt tension lever until the belts are tight. Tighten both lock knobs.
- **6.** Close the cover before plugging in the machine.

WARNING

Always ensure bits are installed properly BEFORE turning the machine *ON*. Failure to follow correct drill bit installation procedures can lead to serious personal injury.



Figure 24. Location of belt tension lock knob.



Figure 25. Location of belt tension lever.



Drill, Cutter, & Hole Saw Suggested RPM Chart

ALWAYS follow the drill, saw, or cutter manufacturer's recommended RPM specifications. **ALWAYS** wear safety glasses. **DO NOT** use your drill press to exceed the drilling, cutting, or sawing RPM or the feed rate of your bit or cutter. Otherwise serious personal injury can occur.

The RPMs listed below are merely suggestions to help you use your drill press in the event that you cannot find a basic starting RPM point. The final RPMs may differ based on the material drilled, the pressure you apply, and the cut-quality needed. Remember, even if the RPM and all other settings are correct, cooling the tool with a lubricant and drilling a pilot hole may also be required. Refer to WARNINGS and TIPS, trade journals, training manuals, and other educational resources for in-depth instructions and safety knowledge.

For current product line, refer to: http://www.shopfoxtools.com.

Tor current pro-		,	. c co. <u></u>	ccp ,,, ,	***************************************	0,7(100)
Sanding Sleeves	Soft	Hard	Disstic	Prace	Aluminum	Mild
or Grinding Bits	Wood		Plastic	DI ass	Aluminum	Steel
1", 1-1/2", 2"	2000	1725	1000	3100	3100	3100
Twist Type Drill B	its: (W	ood, Pl	astic, and	Metal))	
1/16" to 3/16"	3000	3000	2500	3000	3000	3000
1/4" to 3/8"	3000	1500	2000	1200	2500	1000
7/16" to 5/8"	1500	750	1500	750	1500	600
11/16" to 1"	750	500	-	400	1000	350
Spade Drill Bits: (Wood)					
1/4" to 1/2"	2000	1500	-	-	-	-
5/8" to 1"	1750	1500	-	-	i	-
1-1/8" to 1-1/2"	1500	1000	-	-	-	-
Spade with Spur [stic)		
3/8" to 1"	2000	1800	500	-	-	-
Brad Point Drill B						
1/8"	1800	1200	1500	-	-	-
1/4"	1800	1000	1500	-	-	-
3/8"	1800	750	1500	-	-	-
1/2"	1800	750	1000	-	-	-
5/8"	1800	500	750	-	-	-
3/4"	1400	250	750	-	-	-
7/8"	1200	250	500	-	-	-
1"	1000	250	250	-	-	-
Forstner Drill Bits	: (Woo	d and F	lastic)			
1/4" to 11/16"	2400	1600	250	-	-	-
3/4" to 1-1/16"	1800	1200	250	-	-	-
1-1/8" to 1-7/16"	1200	800	250	-	-	-
1-1/2" to 2-1/8"	600	450	-	-	-	-
2-1/4" to 3-1/8"	480	250	-	-	-	-
Multi-Spur Drill Bi						
2-1/8" to 4"	250	250	-	-	-	-
Countersink Cutte			astic, and	Metal)		
2-Flute Cutter	1400	1400	-	-	-	-
5-Flute Cutter	1000	750	750	250	250	250
Plug Cutters: (Wo						
3/8" to 1/2"	1200	1000	-	-	-	-
5/8" to 1"	800	600	-	-	-	-
Carbide Rosette (iece Shea	r Type	(Wood)	
2-1/2" to 3"	1800	500	-	-	-	-
Rosette Cutters: I			arbide-Kn	ife Typ	e (Wood)	
2-1/4" to 3-1/8"	350	250	-	-	-	-
·		· <u></u>		· <u></u>		· <u></u>

WARNINGS and TIPS

- WARNING: The larger the drill bit or hole saw and the slower the RPM, the greater the chance the tool could aggressively grab the workpiece, damage the tool and workpiece and cause injury. High RPMs can melt plastic, burn wood, and dull the tool.
- WARNING: Use a 5-Flute cutter when cutting into plastics, brass, aluminum, and mild steel.
 A 2-Flute cutter can aggressively grab the workpiece and damage the tool.
- <u>TIP</u>: To increase the life of drill bits, cutters, hole saws, and improve cut quality, use a lubricant equivalent to these:

Plastics: use a soapy-water lubricant
Brass: use a water-based lubricant
Mild Steel: use an oil-based lubricant
Aluminum: use a paraffin-based lubricant
Cast Iron: use a pipe-thread cutting lubricant
Wood: use no lubricant.

- <u>TIP</u>: Raise the drill bit, cutter, or hole saw often to clear chips and cool the tool.
- <u>TIP</u>: When drilling plastics with spade bits, use a spade bit with spurs.
- <u>TIP</u>: Plug cutters and rosette cutters are for wood only; however, carbide-tipped bits and cutters cut at a higher RPM, and can cut materials other than wood depending on cutter type. Carbide makes better cuts and lasts longer than HSS steel.
- <u>TIP</u>: When using hole saws, apply firm and even pressure, so the saw teeth contact the surface all at the same time-not at an angle. You can also flip the workpiece and finish drilling from the other side.
- <u>TIP</u>: To prevent drill bit wandering, use a center punch to start the drill bit.



Saws: Bi-A	Metal H	lole Sa	ws (Most	Mater	ials)										
Hole Saw	Soft	Hard	·	Mild	Cast	_		Hole Saw	Soft	Hard	- 1	Mild	Cast	_	
Diameter	Wood	Wood	Plastic	Steel	Iron	Brass	Aluminum	Diameter		Wood	Plastic	Steel		Brass	Aluminum
9/16"	1150	870	1320	580	400	790	900	2-7/8"	240	180	275	120	80	160	180
5/8"	1100	825	1250	550	365	730	825	3"	230	170	260	115	75	150	170
11/16"	1000	750	1140	500	330	665	750	3-1/16"	220	165	250	110	75	150	170
3/4"	920	690	1050	460	300	600	690	3-1/8"	220	165	250	110	70	140	165
13/16"	850	635	970	425	280	560	635	3-3/16"	210	155	240	105	70	140	165
7/8"	780	585	890	390	260	520	585	3-1/4"	210	155	240	105	70	140	155
15/16"	740	555	845	370	245	495	555	3-5/16"	200	150	225	100	70	130	155
1"	700	525	800	350	235	470	525	3-3/8"	200	150	225	100	65	130	150
1-1/16"	650	480	740	325	215	435	480	3-7/16"	200	150	225	100	65	130	150
1-1/8"	600	450	685	300	200	400	450	3-1/2"	190	140	215	95	65	130	145
1-3/16"	570	430	650	285	190	380	425	3-9/16"	190	140	215	95	65	120	145
1-1/4"	550	410	625	275	180	360	410	3-5/8"	190	140	215	95	60	120	140
1-5/16"	520	390	595	260	175	345	390	3-11/16"	180	135	205	90	60	120	140
1-3/8"	500	375	570	250	165	330	375	3-3/4"	180	135	205	90	60	120	135
1-7/16"	480	360	545	240	160	315	360	3-13/16"	180	135	205	90	60	120	135
1-1/2"	460	345	525	230	150	300	345	3-7/8"	180	135	205	90	60	120	135
1-9/16"	440	330	500	220	145	290	330	4"	170	130	195	85	55	110	130
1-5/8"	420	315	475	210	140	280	315	4-1/16"	170	130	195	85	55	110	120
1-11/16"	410	310	465	205	130	260	295	4-1/8"	160	120	180	80	55	110	120
1-3/4"	390	290	445	195	130	260	295	4-3/16"	160	120	180	80	55	110	120
1-13/16"	380	285	435	190	125	250	285	4-1/4"	160	120	180	80	55	100	120
1-7/8"	360	270	400	180	120	240	270	4-5/16"	160	120	180	80	55	100	120
2"	340	255	385	170	115	230	255	4-3/8"	160	120	180	80	50	100	120
2-1/16"	330	245	375	165	110	220	245	4-7/16"	150	110	170	75	50	100	105
2-1/8"	320	240	365	160	105	210	240	4-1/2"	150	110	170	75	50	100	105
2-3/16"	310	230	355	155	105	205	240	4-9/16"	150	110	170	75	50	95	100
2-1/4"	300	225	340	150	100	200	225	4-5/8"	150	110	170	75	50	95	100
2-5/16"	290	215	330	145	100	195	225	4-11/16"	150	110	170	75	50	95	100
2-3/8"	280	210	320	140	95	190	220	4-3/4"	150	110	170	75	50	95	95
2-7/16"	280	210	320	140	95	185	210	4-13/16"	130	100	150	65	45	90	95
2-1/2"	270	200	310	135	90	180	205	4-7/8"	130	100	150	65	45	90	90
2-9/16"	270	200	310	135	85	175	200	5"	130	100	150	65	45	90	90
2-5/8"	260	195	295	130	85	170	195	5-1/4"	120	90	135	60	40	85	85
2-11/16"	260	195	295	130	85	165	190	5-1/2"	120	90	135	60	40	85	85
2-3/4"	250	185	285	125	80	160	185	5-3/4"	110	80	125	55	35	75	75
2-13/16"	250	185	285	125	80	160	185	6"	110	80	125	55	35	75	75

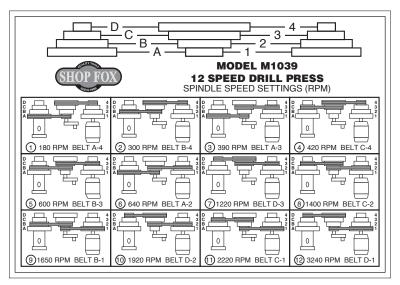


Figure 26. Belt configurations and speed settings.



Drilling

The Model M1039 is designed for drilling holes in wood or metal. The basic operation of a drill press is lining up your drill bit with the intended hole location, turning the drill press *ON*, and using the down feed levers to move the spinning drill bit into the workpiece.

For safe operation and optimum results, it is very important to follow these guidelines and those on Page 22 when drilling:

CLEARING CHIPS: Raise the drill bit often to clear chips and cool the drill bit. This will ease the work of the drill press motor and extend the life of your drill bits.

SECURING WORKPIECE TO TABLE: Secure the workpiece to the table or in a vise that is secured to the table before drilling.

PROTECTING TABLE: Protect the table by placing the workpiece on scrap wood, or center the location of the hole to be drilled over the pocket in the table when through drilling. Also, make use of the depth stop so that the drill bit goes no deeper than necessary.

USING CORRECT SPEEDS: Use the correct speed for the diameter of the drill bit being used and the type of material being drilled. Refer to the **Drill Bit Speed Charts** on **Page 22** & **Page 23** to help you choose the correct speed for your application.

Depth Stop

The Model M1039 has a depth stop that allows you to drill repeated non-through holes of same depth every time.

The depth stop consists of a stud attached to the quill, with two hex nuts that can be lowered or raised on the stud so the lower nut (depth nut) hits a stop bracket when the drill bit is lowered. The upper hex nut (upper jam nut) is then used to secure the depth nut in place so it doesn't move with repeated operations. Figure 27 shows the various depth stop components.

To set the depth stop, do these steps:

- 1. Lower the drill bit to the required height.
- 2. Thread the depth nut against the stop bracket.

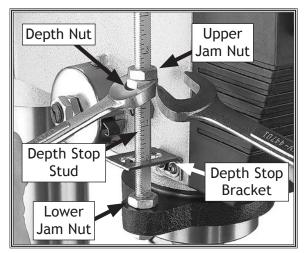


Figure 27. Depth stop components.



- 3. Lower the upper jam nut against the depth nut.
- 4. Using wrenches, hold the depth nut in place and tighten the upper jam nut against the depth nut.

Note: The scale on the depth stop can be recalibrated if it gets moved or has changed since the factory setting. Refer to **Depth Stop Calibration** on **Page 28** for instructions on how this is done.

Adjusting Table

The table can be raised/lowered, rotated, and tilted 90° left or right. Table adjustment controls are shown in Figure 28.

Table Height

- 1. Loosen the large lock lever.
- 2. Adjust the height.
- 3. Lock the large lock lever.

Table Rotation

- 1. Loosen the small lock lever.
- **2.** Rotate the table as necessary.
- 3. Lock the table small lock lever.

Table Tilt

1. Tighten the location pin nut to draw the location pin out of the hole.

Note: The location pin is friction fit in the hole to lock the table at 0° . When reinstalling, set the table to 0° , back the nut off, and tap the pin back in the hole.

- 2. Loosen the lock bolt and tilt the table to the desired angle (make sure table lock lever is locked, so the table won't fall out).
- 3. Tighten the lock nut bolt.

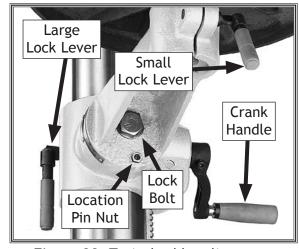


Figure 28. Typical table adjustment controls.



Arbor Removal

The arbor can be removed to install other Morse Taper tooling in the spindle. A drift key is included to help remove the arbor or other tooling from the spindle. Usually, once the chuck and arbor have been properly mounted together, they are considered semi-permanent connections. (If you would like to install a different chuck, we recommend getting a new arbor for that chuck.)

To remove the drill chuck and arbor, do these steps:

- 1. UNPLUG THE DRILL PRESS!
- 2. Rotate the spindle handles until the drift key slot is exposed in the side of the quill.
- 3. Tighten the lower jam nut against the depth stop bracket. The quill should not return up into the head casting when the depth stop is adjusted this way.
- 4. Rotate the spindle until the inner drift key slot is aligned with the outer slot, as shown in Figure 29. You will see through the spindle when the slot is properly aligned.
- 5. Insert the drift key into the drift key slot.
- 6. Hold a downfeed handle with one hand, and slightly loosen the lower jam nut with the other hand. This will allow the quill to rise, trapping the drift key.
- 7. Hold the drill chuck with one hand, and tap on the drift key with a rubber or wooden mallet, as shown in Figure 30, until the arbor releases from the spindle taper.
- **8.** Hold a downfeed handle with one hand, and loosen the lower jam nut with the other hand.
- **9.** Carefully retract the quill into the head stock.

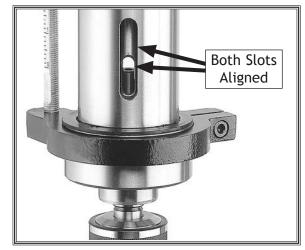


Figure 29. Drift key slots aligned (chuck guard removed for clarity).



Figure 30. Arbor removal (chuck guard removed for clarity).



MAINTENANCE

General

Regular periodic maintenance on your **SHOP FOX** Model M1039 will ensure its optimum performance. Make a habit of inspecting your machine each time you use it.

Check for the following conditions and repair or replace when necessary:

- Loose mounting bolts.
- Loose chuck and/or arbor.
- Worn switch.
- Worn or damaged cords and plugs.
- Damaged V-belt.
- Any other condition that could hamper the safe operation of this machine.

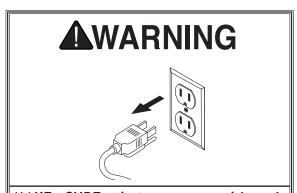
Cleaning

Frequently blow-off sawdust with compressed air. This is especially important for the internal working parts and motor. Dust build-up around the motor is a sure way to decrease its life span.

Occasionally it will become necessary to clean the internal parts with more than compressed air. To do this, remove the table top and clean the internal parts with a citrus cleaner or mineral spirits and a stiff wire brush or steel wool. Make sure the internal workings are dry before using the saw again, so that wood dust will not accumulate. If any essential lubrication is removed during cleaning, relubricate those areas.

Table, Column, & Base

Tables can be kept rust-free with regular applications of products like SLIPIT. For long term storage you may want to consider products like Boeshield T-9.



MAKE SURE that your machine is unplugged during all maintenance procedures! If this warning is ignored, serious personal injury may occur.

Lubrication

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

V-Belts

Inspect regularly for tension and wear. Check pulleys to ensure that they are properly aligned. See **Changing Speeds** on **Page 21** for more information about removing/installing belts if you need help replacing the belts.



SERVICE

General

This section covers the most common service adjustments or procedures that may need to be made during the life of your machine.

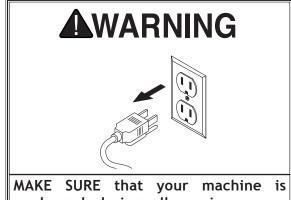
If you require additional machine service not included in this section, please contact Grizzly Industrial Technical Support at (360) 647-0802 or send e-mail to: techsupport@shopfoxtools.com.

Depth Stop Calibration

The drill press comes fitted with a depth stop to use when drilling multiple holes at the same depth. The scale on this depth stop can be calibrated if it ever becomes incorrect.

To calibrate the depth stop, do these steps:

- 1. Loosen the lower jam nut and calibration nut shown in Figure 31.
- 2. Use the calibration nut to zero the depth stop scale with the depth stop bracket.
- **3.** Hold the depth stop at zero, and tighten the lower jam nut to hold the depth stop in position.
- **4.** Test the depth stop by measuring how far the spindle actually moves with respect to where you set the depth stop.



MAKE SURE that your machine is unplugged during all service procedures! If this warning is ignored, serious personal injury may occur.

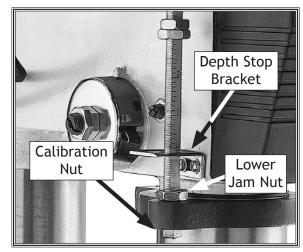


Figure 31. Depth stop calibration.



Feed Shaft Spring Tension

The feed shaft return spring is adjusted at the factory; however, during the life of the drill press you may want to adjust the feed shaft return spring so the return pressure suits your operating needs.

To adjust the feed shaft spring tension, do these steps:

- 1. UNPLUG THE DRILL PRESS!
- 2. Wipe off any oil on the spring lock cover (Figure 32) so it does not slip in your fingers when you hold the cover from spinning.
- 3. While holding the spring lock cover against the side of the head stock so the cover stays splined with the locking lug; loosen the jam nut and loosen the cover nut approximately 1/4" (see Figure 33).
- **4.** Put on heavy leather gloves to protect your hands from possible lacerations if the spring uncoils during the next step.
- **5.** Pull the cover outward just enough to disengage the spring-cover lock slot from the locking lug.

Note: It is important to keep a good grip during this step. Letting go of the cover will cause the spring to rapidly uncoil.

- **6.** Rotate the cover counterclockwise to increase spring tension, or let the cover slowly unwind in the clockwise direction to reduce spring tension.
- 7. Engage the next available spring-cover lock slot with the locking lug and hold the spring lock cover tightly against the side of the head stock.
- 8. Snug the cover nut against the spring cover just until the nut stops, and then back off the nut approximately 1/3 turn, or just enough so there is no binding at complete spindle travel.
- **9.** Hold the cover nut and tighten the jam nut against the cover nut.

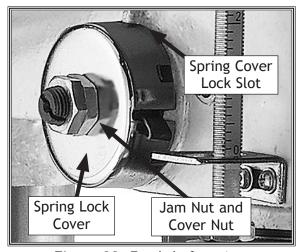


Figure 32. Feed shaft spring.



Figure 33. Loosening spring nut.

ACAUTION

A high tension coiled spring is underneath the cover. Put on heavy leather gloves to protect yours hands from possible lacerations when removing the cover.



Electrical Safety Instructions

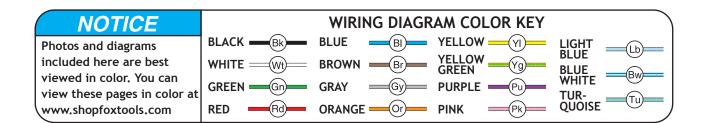
These pages are current at the time of printing. However, in the spirit of improvement, we may make changes to the electrical systems of future machines. Compare the manufacture date of your machine to the one stated in this manual, and study this section carefully.

If there are differences between your machine and what is shown in this section, call Technical Support at (360) 647-0802 for assistance BEFORE making any changes to the wiring on your machine. An updated wiring diagram may be available. **Note:** Please gather the serial number and manufacture date of your machine before calling. This information can be found on the main machine label.

AWARNING

- SHOCK HAZARD. Working on wiring that is connected to a power source is extremely dangerous. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Disconnect the power from the machine before servicing electrical components!
- QUALIFIED ELECTRICIAN. Due to the inherent hazards of electricity, only a qualified electrician should perform wiring tasks on this machine. If you are not a qualified electrician, get help from one before attempting any kind of wiring job.
- WIRE CONNECTIONS. All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.
- WIRE/COMPONENT DAMAGE. Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components before completing the task.

- MODIFICATIONS. Using aftermarket parts or modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire.
- MOTOR WIRING. The motor wiring shown in these diagrams is current at the time of printing, but it may not match your machine. Always use the wiring diagram inside the motor junction box.
- capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.
- circuit requirements. You MUST follow the requirements at the beginning of this manual when connecting your machine to a power source.
- experiencing difficulties. If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (360) 647-0802.





Electrical Components



Figure 34. Power and light switch wiring.



Figure 37. Motor junction box wiring.



Figure 35. 120V light socket.

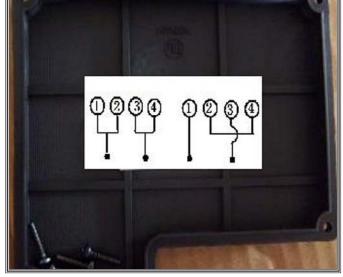


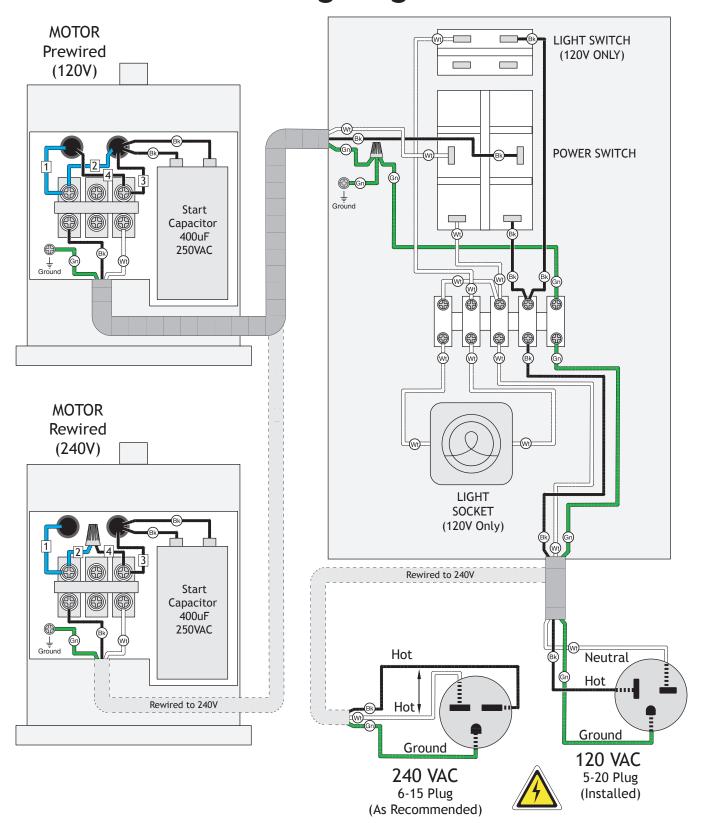
Figure 38. Wiring diagram on inside of junction box cover.



Figure 36. Headstock terminal bar.



Wiring Diagram





Troubleshooting

This section covers the most common problems and corrections with this type of machine. WARNING! DO NOT make any adjustments until power is disconnected and moving parts have come to a complete stop!



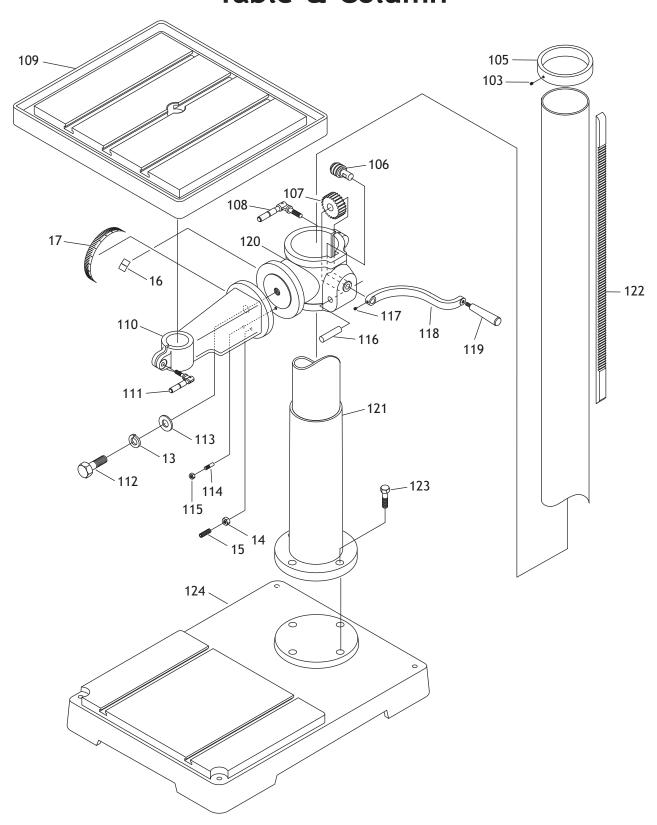
PROBLEM		POSSIBLE CAUSE		CORRECTIVE ACTION
Machine does not	1.	Plug or receptacle at fault or wired	1.	Test power plug and receptacle for good contact
start or a breaker	' '	incorrectly.	''	and correct wiring.
trips.	2.	Start capacitor is faulty.	2.	Replace capacitor.
·	3.	Motor connection is wired Incorrectly.	3.	Correct motor wiring (see Page 32).
	4.	Power supply is faulty, or is switched	4.	Make sure all hot lines and grounds are
		OFF.		operational and have correct voltage on all legs.
	5.	Safety switch key at fault.	5.	Install or replace safety key, or replace switch
	_	011/055 11 1 6 16	,	assembly.
	6. 7.	ON/OFF switch is faulty. Cable or wiring is open or has high	6. 7.	Replace faulty switch. Troubleshoot wires for internal or external breaks,
	/ .	resistance.	' ·	check for disconnected or corroded connections
		resistance.		and repair or replace wiring.
	8.	Motor is at fault.	8.	Test, repair or replace motor.
Machine stalls or is	1.	Incorrect spindle speed.	1.	Re-check spindle speed.
underpowered.	2.	Bit is too large for task.	2.	Use smaller drill bits. Reduce feed rate and
				spindle speed.
	3.	Bit is dull.	3.	Sharpen/replace bit.
	4.	Low power supply voltage.	4.	Make sure hot lines and grounds are operational w/correct voltage.
	5.	Belt(s) is slipping.	5.	Replace bad belts, align pulleys, and re-tension.
	6.	Plug or receptacle is at fault.	6.	Test power plug and receptacle for good contact and correct wiring.
	7.	Motor connection wired incorrectly.	7.	Correct motor wiring (see Page 32).
	8.	Pulley slipping on shaft.	8.	Replace loose pulley and shaft.
	9.	Motor bearings are at fault.	9.	Rotate motor shaft for noisy or burnt bearings,
				repair/replace as required.
	10.	Motor has overheated.	10.	Clean inside/outside of motor, let cool, and
				reduce workload on machine.
	_	Motor at fault.	11.	Test, repair or replace motor.
Drilling stops, but	1.	Belt is loose or worn.	1.	Replace and/or adjust belt.
motor still operates.	2.	Pulley for spindle shaft or motor is	2.	To resecure pulley, do these steps: a. UNPLUG DRILL PRESS.
		slipping on shaft.		b. Remove setscrew on slipping pulley.
				c. Align flats on pulley shaft with
				setscrew hole.
				d. Reinstall and tighten setscrew.
	3.	Bit slips in chuck.	3.	Tighten bit; inspect bit for burrs or other
				obstructions that might interfere with clamping
				surface.
Machine has vibra-	1.	Motor or component is loose.	1.	Inspect, replace damaged bolts/nuts. Re-tighten.
tion or noisy opera-	2.	Belts are slapping belt cover.	2.	Replace/realign belts with a new matched set,
tion.	,	V bolt(s) is worn or in land	,	and retension belts (refer to Page 21).
	3. 4.	V-belt(s) is worn or is loose. Motor fan is rubbing on fan cover.	3. 4.	Replace belts. Replace/repair dented fan cover, and replace
	7.	motor fail is rubbling off fail cover.	7.	loose or damaged fan.
	5.	Pulley is loose.	5.	Remove pulley, replace with key as required, and re-install securely.
	6.	Machine is incorrectly mounted to	6.	Re-check floor mounting hardware; tighten.
	_	floor.	_	
	7.	Chuck is at fault.	7.	Replace out-of-round chuck, use appropriate feed
	8.	Motor bearings are at fault.	8.	rate and drilling RPM. Check bearings, replace motor or bearings as
	0.	motor bearings are at fault.	0.	required.
	9.	Spindle bearings at fault.	9.	Replace bearing.
	1	opetc bearings at raute.	1	



PROBLEM		POSSIBLE CAUSE		CORRECTIVE ACTION
Chuck wobbles or is loose on spindle shaft.	1.	Foreign material is stuck between chuck-to-spindle mating surface.	1.	Remove chuck and clean and de-burr tapered chuck and spindle mating surfaces, then reassemble.
	2.	Damaged chuck.	2.	Replace.
Spindle does not retract completely in uppermost position or it binds.	1. 2. 3.	Quill shaft is gummy with sawdust and oil. Feed shaft return spring is weak. Quill deflection screw is binding quill.	1. 2. 3.	Clean gummy substance with penetrating oil and lubricate with a light coat of oil. Increase feed shaft return spring tension as described on Page 29. Loosen jam nut, and slightly turn out screw where quill binds. Retighten jam nut and recheck for binding and looseness at all spindle locations.
Quill has excessive deflection.	1. 2.	Quill shaft is at fault. Quill and/or bearings are worn.	1. 2.	Adjust quill screw. Replace quill and/or bearings.
Holes drilled at an angle.	1.	Table is not at 90 degrees.	1.	Adjust table angle (see Page 25).
Drill bit wobbles, holes are oversized.	1.	Drill bit incorrectly installed.	1.	Remove drill bit and reinstall.

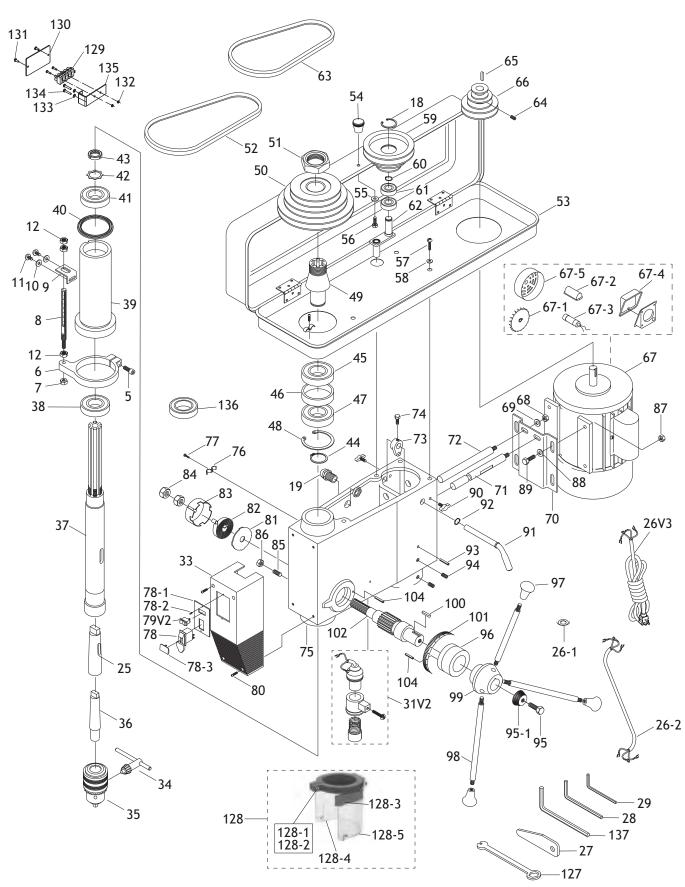


PARTS Table & Column





Headstock





Parts List

REF	PART #	DESCRIPTION
5	XM1039005	CAP SCREW M8-1.25 X 20
6	XM1039006	QUILL CLAMP
7	XM1039007	HEX NUT M8-1.25
8	XM1039008	DEPTH STOP SCALE STUD
9	XM1039009	DEPTH STOP BRACKET
10	XM1039010	FLAT WASHER 5MM
11	XM1039011	PHLP HD SCR M58 X 8
12	XM1039012	HEX NUT M12-1.5
13	XM1039013	LOCK WASHER 3/4
14	XM1039014	HEX NUT M10-1.5
15	XM1039015	SET SCREW M10-1.5 X 28
16	XM1039016	INDICATOR
17	XM1039017	DEGREE SCALE
18	XM1039018	INT RETAINING RING 35MM
19	XM1039019	STRAIN RELIEF
	XM1039025	SLEEVE MT#4
		POWER CORD 3W 14G 72" 5-20P V3.01.21
		WIRE GASKET
	XM1039026-2	MOTOR CORD
27	XM1039027	DRIFT KEY
28	XM1039028	HEX WRENCH 4MM
	XM1039029	HEX WRENCH 3MM
		LIGHT SOCKET ASSY CSA V2.01.18
	XM1039033	SWITCH BOX
	XM1039034	CHUCK KEY
-	XM1039035	CHUCK JT3 X 1-16MM
36	XM1039036	ARBOR JT3 x MT#4
37	XM1039037	SPINDLE
38	XM1039038	BALL BEARING 6207ZZ
39	XM1039039	SPINDLE SLEEVE
40	XM1039040	RUBBER WASHER
41	XM1039041	BALL BEARING 6206ZZ
42	XM1039042	TAB WASHER
43	XM1039043	ROUND NUT
44	XM1039044	EXT RETAINING RING 35MM
45	XM1039045	BALL BEARING 6207
46	XM1039046	SPACER
47	XM1039047	BALL BEARING 6207
48	XM1039048	INT RETAINING RING 72MM
49	XM1039049	PULLEY INSERT
50	XM1039050	SPINDLE PULLEY
51	XM1039050 XM1039051	PULLEY NUT
52	XM1039051 XM1039052	V-BELT A-32 4L320
53	XM1039052 XM1039053	PULLEY COVER
54	XM1039053 XM1039054	ROUND KNOB M58
55	XM1039054 XM1039055	FLAT WASHER 5MM
56	XM1039055 XM1039056	PHLP HD SCR M58 X 10
57	XM1039056 XM1039057	PHLP HD SCR M8-1.25 X 12
58	XM1039057 XM1039058	FLAT WASHER 8MM
59	XM1039058 XM1039059	CENTER PULLEY
60	XM1039059 XM1039060	EXT RETAINING RING 15MM
61	XM1039060 XM1039061	BALL BEARING 6202
UI	WI 102 200 I	DALL DEAKING OZOZ

REF	PART #	DESCRIPTION
62	XM1039062	CENTER SHAFT
63	XM1039063	V-BELT A-26 4L260
64	XM1039064	SET SCREW M6-1 X 10
65	XM1039065	KEY 5 X 5 X 25
66	XM1039066	MOTOR PULLEY
67	XM1039067	MOTOR 1-1/2HP
67-1	XM1039067-1	MOTOR FAN
67-2	XM1039067-2	CAPACITOR COVER
67-3	XM1039067-3	S CAPACITOR 400MFD 250VAC
67-4	XM1039067-4	WIRING BOX COVER
67-5	XM1039067-5	FAN COVER
68	XM1039068	NUT M12-1.75
69	XM1039069	FLAT WASHER 12MM
70	XM1039070	MOTOR BASE
71	XM1039071	SLIDE BAR (RIGHT)
72	XM1039072	SLIDE BAR (LEFT)
73	XM1039073	SHIFTER
74	XM1039074	HEX BOLT M8-1.25 X 16
75	XM1039074 XM1039075	HEADSTOCK
		CLAMP CORD
76	XM1039076	
77	XM1039077	PHLP HD SCR M58 X 10
78	XM1039078	SWITCH 120V WITH KEY
	XM1039078-1	SWITCH PLATE
78-2	XM1039078-2	TAP SCREW M4 X 12
78-3	XM1039078-3	SWITCH KEY
79V2	XM1039079V2	ROCKER SWITCH V2.01.18
80	XM1039080	PHLP HD SCR M58 X 14
81	XM1039081	SPRING COVER
82	XM1039082	FLAT COIL SPRING
83	XM1039083	SPRING CAP
84	XM1039084	HEX NUT M16-1.5
85	XM1039085	SPEC SET SCREW M10-1.5 X 30
86	XM1039086	HEX NUT M10-1.5
87	XM1039087	HEX NUT M8-1.25
88	XM1039088	FLAT WASHER 8MM
89	XM1039089	HEX BOLT M8-1.25 X 25
90	XM1039090	KNOB BOLT M10-1.5 X 35
91	XM1039091	SHIFTER BAR
92	XM1039092	EXT RETAINING RING 16MM
93	XM1039093	ROLL PIN 8 X 25
94	XM1039094	SET SCREW M10-1.5 X 10
95	XM1039095	HEX BOLT M10-1.5 X 30
95-1	XM1039095-1	PLASTIC LOCK CAP
96	XM1039096	STAFF GAUGE
97	XM1039097	FEED HANDLE KNOB M12-1.75
98	XM1039098	HANDLE
99	XM1039099	HANDLE BODY
100	XM1039100	KEY 6 X 6 X 20
101	XM1039101	SCALE RING
102	XM1039101	FEED SHAFT
103	XM1039103	SET SCREW M10-1.5 X 10
103	XM1039104	ROLL PIN 4 X 20
101	, and 1007 10 T	NOLE I III I A LO



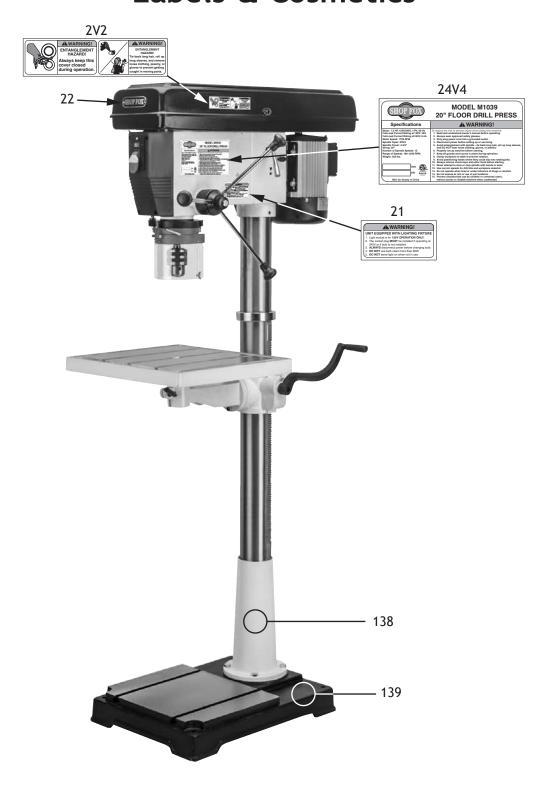
Parts List (Cont.)

REF	PART #	DESCRIPTION
105	XM1039105	RACK RING
106	XM1039106	WORM GEAR
107	XM1039107	GEAR
108	XM1039108	LARGE LOCKING LEVER
109	XM1039109	TABLE
110	XM1039110	TABLE ARM BRACKET
111	XM1039111	SMALL LOCKING LEVER
112	XM1039112	HEX BOLT M20-2.5 X 45
113	XM1039113	FLAT WASHER 3/4
114	XM1039114	PIN
115	XM1039115	HEX NUT M6-1
116	XM1039116	SHAFT
117	XM1039117	SET SCREW M8-1.25 X 10
118	XM1039118	HANDLE ARM
119	XM1039119	HANDLE
120	XM1039120	TABLE BRACKET
121	XM1039121	COLUMN
122	XM1039122	RACK

REF	PART #	DESCRIPTION
123	XM1039123	HEX BOLT M12-1.75 X 40
124	XM1039124	BASE
127	XM1039127	FLAT LOCK WRENCH 12 X 30
128	XM1039128	CHUCK GUARD ASSEMBLY
128-1	XM1039128-1	PHLP HD SCR M47 X 30
128-2	XM1039128-2	HEX NUT M47
128-3	XM1039128-3	TAP SCREW M2.2 X 4.5
128-4	XM1039128-4	HEX BOLT M58 X 12
128-5	XM1039128-5	WING NUT M58
129	XM1039129	TERMINAL BAR CSA
130	XM1039130	METAL COVER
131	XM1039131	PHLP HD SCR M47 X 10
132	XM1039132	HEX NUT M47
133	XM1039133	FLAT WASHER 4MM
134	XM1039134	PHLP HD SCR M47 X 20
135	XM1039135	SUPPORT PLATE
136	XM1039136	THRUST BEARING 51107
137	XM1039137	HEX WRENCH 5MM



Labels & Cosmetics



REF PART #	DESCRIPTION
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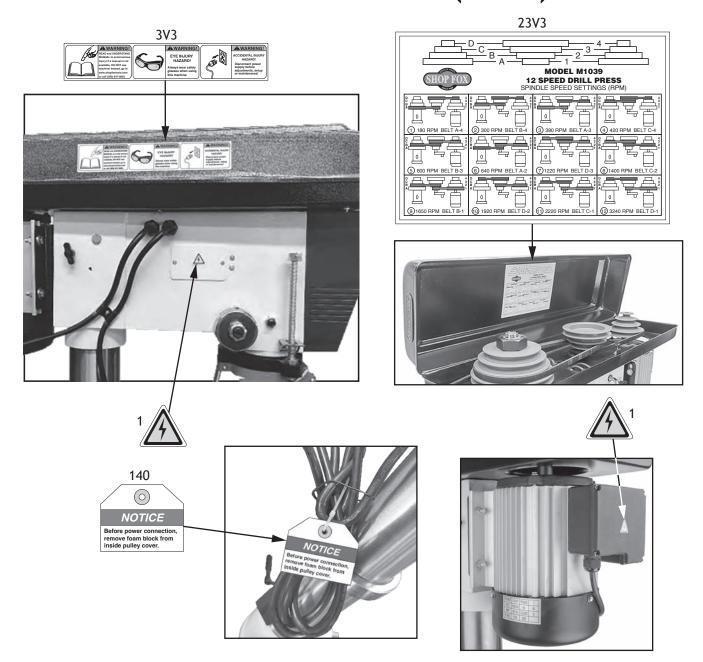
2V2	XM1039002V2	CLOSE DOOR LABEL V2.06.22
21	XM1039021	DP LIGHTS LABEL
22	XM1039022	SHOP FOX BLACK/AL NAMEPLATE

REF PART#	DESCRIPTION
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24V4	XM1039024V4	MACHINE ID LABEL W/ETL V4.05.24
138	XM1039138	TOUCH-UP PAINT, SHOP FOX WHITE
139	XM1039139	TOUCH-UP PAINT, SHOP FOX BLACK



Labels & Cosmetics (Cont.)



REF PART # DESCRIPTION

1	XM1039001	ELECTRICITY LABEL
3V3	XM1039003V3	COMBO WARNING LABEL V3.04.24

REI	F PART#	DESCRIPTION

23V3	XM1039023V3	SPEED CHART V3.04.24
140	XM1039140	FOAM BLOCK HANG TAG

AWARNING

Safety labels warn about machine hazards and how to prevent serious personal injury. The owner of this machine MUST maintain the original location and readability of all labels on this machine. If any label is removed or becomes unreadable, REPLACE that label before allowing machine to be operated again. Contact us at (360) 647-0802 or www.shopfoxtools.com to order new labels.

WARRANTY

Grizzly Industrial, 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.

Grizzly Industrial, Inc. will repair, replace, or arrange for a dealer refund, at its expense and option, the Shop Fox machine or machine part proven to be defective for its designed and intended use, 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 Grizzly Industrial, 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 Grizzly Industrial, 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 Grizzly Industrial, Inc.'s liability under this limited warranty exceed the purchase price paid for the product, and any legal actions brought against Grizzly Industrial, 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 are committed to continuously improving the quality of our products, and reserve the right to change specifications at any time.

For further information about the warranty, go to https://www.shopfoxtools.com/warranty, or scan the QR code below to be automatically directed to our warranty page.



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