



**MODEL T33127**  
**BENCHTOP HOLLOW-CHISEL**  
**MORTISER**  
**OWNER'S MANUAL**  
*(For models manufactured since 05/24)*



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#SS22100 PRINTED IN CHINA

V2.04.24

**\*\*\*Keep for Future Reference\*\*\***



## **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 stand behind our machines! If you have questions or need help, contact us with the information below. Before contacting, make sure you get the **serial number** and **manufacture date** from the machine ID label. This will help us help you faster.

Grizzly Technical Support  
1815 W. Battlefield  
Springfield, MO 65807  
Phone: (570) 546-9663  
Email: techsupport@grizzly.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.

Grizzly Documentation Manager  
P.O. Box 2069  
Bellingham, WA 98227-2069  
Email: manuals@grizzly.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 in this manual. Sometimes we make mistakes, but our policy of continuous improvement also means that **sometimes the machine you receive is slightly different than shown in the manual.**

If you find this to be the case, and the difference between the manual and machine leaves you confused or unsure about something, check our website for an updated version. We post current manuals and manual updates for free on our website at **www.grizzly.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). This information is required for us to provide proper tech support, and it helps us determine if updated documentation is available for your machine.

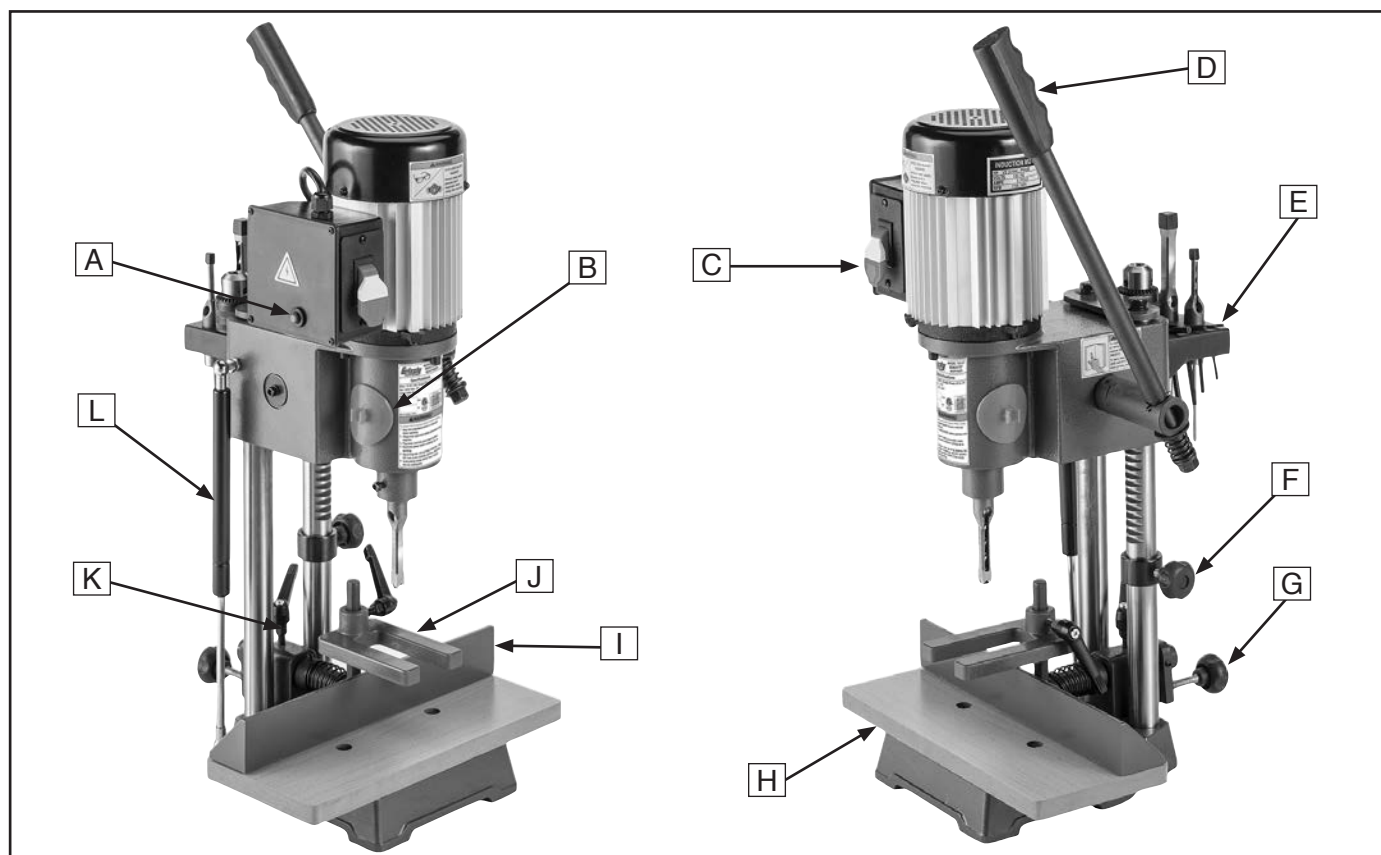
		MODEL GXXXX MACHINE NAME	
SPECIFICATIONS		WARNING!	
Motor:	To reduce risk of serious injury when using this machine:		
Specification:	Read manual before operation.		
Specification:	Wear safety glasses and respirator.		
Specification:	Adjust safety devices correctly adjusted/setup and		
Specification:	power is connected to grounded circuit before starting.		
Weight:	4. Make sure the motor has stopped and disconnect		
	power before adjustments, maintenance, or service.		
	5. DO NOT expose to rain or dampness.		
	6. DO NOT modify this machine in any way.		
	7.		
	8.		
	9. Do not use while under the influence of drugs or alcohol.		
	10. Maintain machine carefully to prevent accidents.		

Manufactured for Grizzly in Taiwan



# Identification

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



- A. Reset Button:** Allows machine to be restarted after thermal overload protection has tripped motor. To reset button, place ON/OFF switch in OFF position, wait a few minutes for motor to cool, then press reset button. If button does not *stay* depressed, allow motor to cool off longer, then try again.
- B. Chuck Access Cover:** Provides access to chuck inside of headstock.
- C. ON/OFF Switch:** Starts and stops motor. Yellow key can be removed to disable switch.
- D. Hand Lever:** Raises and lowers headstock.
- E. Storage Rack:** Stores chisels, hex wrenches, and extra drill chuck.
- F. Depth Stop:** Limits depth headstock can travel.
- G. Fence Micro-Adjustment Bracket:** Provides fine control of fence movement.
- H. Table:** Supports workpiece.
- I. Fence:** Moves to position workpiece under chisel.
- J. Hold-Down:** Holds workpiece down when chisel is raised after mortising operation.
- K. Fence Lock Handle:** Locks fence. When loosened, allows fence to move.
- L. Gas Spring:** Supports headstock.





# MACHINE DATA SHEET

Customer Service #: (570) 546-9663 · To Order Call: (800) 523-4777 · Fax #: (800) 438-5901

## MODEL T33127 BENCHTOP HOLLOW-CHISEL MORTISER

### Product Dimensions:

Weight..... 60 lbs.  
Width (side-to-side) x Depth (front-to-back) x Height..... 13-1/2 x 22 x 30-1/2 in.  
Footprint (Length x Width)..... 10 x 8 in.

### Shipping Dimensions:

Type..... Cardboard Box  
Content..... Machine  
Weight..... 67 lbs.  
Length x Width x Height..... 24 x 12 x 11 in.  
Must Ship Upright..... Yes

### Electrical:

Power Requirement..... 120V, Single-Phase, 60 Hz  
Full-Load Current Rating..... 3.4A  
Minimum Circuit Size..... 15A  
Connection Type..... Cord & Plug  
Power Cord Included..... Yes  
Power Cord Length..... 6 ft.  
Power Cord Gauge..... 18 AWG  
Plug Included..... Yes  
Included Plug Type..... 5-15  
Switch Type..... Paddle Safety Switch w/Removable Key

### Motors:

#### Main

Horsepower..... 1/2 HP  
Phase..... Single-Phase  
Amps..... 3.4A  
Speed..... 1720 RPM  
Type..... TEFC Induction  
Power Transfer..... Direct Drive  
Bearings..... Shielded & Permanently Lubricated

### Main Specifications:

#### Operation

Spindle Travel..... 4-1/4 in.  
Spindle Taper..... B16  
Number of Spindle Speeds..... 1  
Range of Spindle Speeds..... 1720 RPM

#### Cutting Capacities

Maximum Stock Width..... 13-3/8 in.  
Maximum Stock Thickness..... 4 in.  
Maximum Mortising Depth..... 3 in.  
Maximum Chisel Travel..... 4-7/8 in.  
Maximum Distance Column to Chisel..... 5-1/8 in.  
Maximum Chisel Size..... 1/2 in.  
Collar Size..... 3/4 in.



**Table Information**

Table Size Length..... 13-1/2 in.  
Table Size Width..... 6 in.  
Table Size Thickness..... 3/4 in.

**Chuck Information**

Chuck Type..... Keyed  
Chuck Size..... 1/2 in.  
Chuck Capacity..... 1/2 in.

**Construction**

Base..... Cast Iron  
Head..... Cast Iron  
Table..... Wood  
Paint Type/Finish..... Urethane  
Column..... Steel  
Fence..... Cast Iron

**Other**

Handle Length..... 14-1/2 in.  
Head Drive..... Rack & Pinion

**Other Specifications:**

Country of Origin ..... China  
Warranty ..... 1 Year  
Approximate Assembly & Setup Time ..... 15 Minutes  
Serial Number Location ..... ID Label  
ISO 9001 Factory ..... Yes  
Certified by a Nationally Recognized Testing Laboratory (NRTL) ..... Yes

**Features:**

Multi-Position Handle  
Dual Support Columns  
Adjustable Depth Stop  
Extra Drill Chuck for Drill Press Operations  
Chuck Guard  
Adjustable Wood Chip Shield  
Spring-Tensioned Fence  
Storage Rack for Tools  
Gas Spring for Operational Assistance  
Multiple Cast Iron Components  
Includes 1/4", 3/8" and 1/2" Chisels  
Adjustable Hold-Down



# SECTION 1: SAFETY

## For Your Own Safety, Read Instruction Manual Before Operating This 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. Always use common sense and good judgment.



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, **COULD** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

### **NOTICE**

Alerts the user to useful information about proper operation of the machine to avoid machine damage.

## Safety Instructions for 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 your 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 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 prevents an injury risk 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.





## **WARNING**

**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 reduce risk of slipping and losing control or accidentally contacting cutting tool or moving parts.

**HAZARDOUS DUST.** Dust created by machinery operations may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material. 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!

**USE CORRECT TOOL FOR THE JOB.** Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to 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 **BEFORE** operating machine.

**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 the 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.

**DAMAGED PARTS.** Regularly inspect machine for damaged, loose, or mis-adjusted parts—or any condition that could affect safe operation. Immediately repair/replace **BEFORE** operating machine. For your own safety, **DO NOT** operate machine with damaged parts!

**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. 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.

**EXPERIENCING DIFFICULTIES.** If at any time you experience difficulties performing the intended operation, stop using the machine! Contact our Technical Support at (570) 546-9663.



# Additional Safety for Mortising Machines

## WARNING

The primary risks of operating a mortising machine are as follows: You can be seriously injured or killed by getting clothing, jewelry, or long hair entangled with the chisel. Your fingers can be amputated or you can be seriously cut by the chisel. You can be blinded or hurt by flying wood chips, broken cutting tools, workpieces, or tools left in chuck after adjustment. To reduce your risk of serious injury when operating this machine, completely heed and understand the following:

**HAND PROTECTION.** Do not place your hands under or near chisel while spindle is in motion. Chisels are sharp and may become hot during operation! Allow chisels to cool before handling. Always use caution when handling, especially when installing or removing.

**USING CORRECT MATERIALS.** Mortising materials such as metals, plastics, and glass can result in serious personal injury and machine damage. Do not use machine for anything except mortising in wood.

**CHISEL COMPATIBILITY.** Mortising chisels can fly out of chuck at operator if not properly secured, causing serious personal injury. Make sure mortising chisel fits a minimum of 1/2" into chuck.

**INSPECT CUTTING TOOLS.** Inspect chisels and augers for sharpness, chips, or cracks before each use. Replace dull, chipped, or cracked cutting tools immediately.

**INSPECT MACHINE.** Loose chisels and augers can be ejected at operator, and headstock can fall if not properly secured, causing serious personal injury. Inspect machine for smooth head casting movement, loose augers/chisels, loose nuts/bolts, and lock levers before connecting machine to power and operating. Correct any problems before use.

**SECURE WORKPIECE TO TABLE.** Clamp workpiece to table or secure in a vise mounted to table, so workpiece cannot unexpectedly shift or spin during operation. NEVER hold workpiece by hand during operation.

## WARNING

Like all machinery there is potential danger when operating 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.

## CAUTION

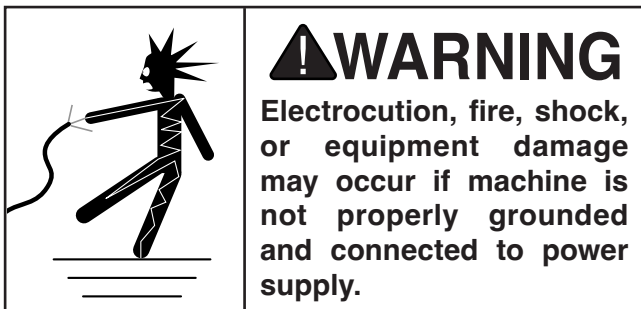
No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or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



# SECTION 2: POWER SUPPLY

## Availability

Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed. To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by an electrician or qualified service personnel in accordance with all applicable codes and standards.



## 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 120V.....3.4 Amps

The full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating.

If the machine is overloaded for a sufficient length of time, damage, overheating, or fire may result—especially if connected to an undersized circuit. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the specified circuit requirements.

## **! WARNING**

**Serious injury could occur if you connect machine to power before completing setup process. DO NOT connect to power until instructed later in this manual.**

## 120V Circuit Requirements

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

Nominal Voltage ..... 110V, 115V, 120V  
Cycle ..... 60 Hz  
Phase ..... Single-Phase  
Power Supply Circuit ..... 15 Amps

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 full-load 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.)

## **! CAUTION**

**For your own safety and protection of property, consult an electrician if you are unsure about wiring practices or electrical codes in your area.**

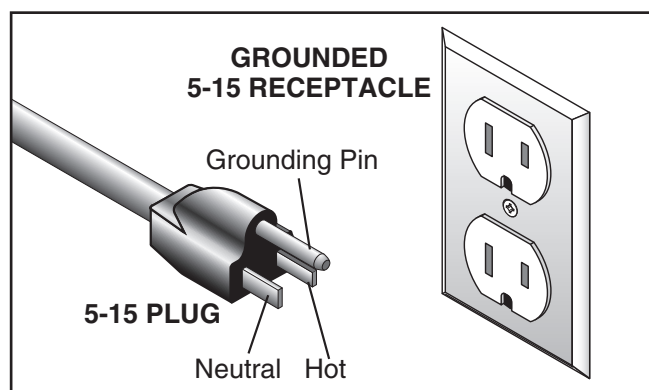
**Note:** *Circuit requirements in this manual apply to a dedicated circuit—where only one machine will be running on the circuit at a time. If machine will be connected to a shared circuit where multiple machines may be running at the same time, consult an electrician or qualified service personnel to ensure circuit is properly sized for safe operation.*



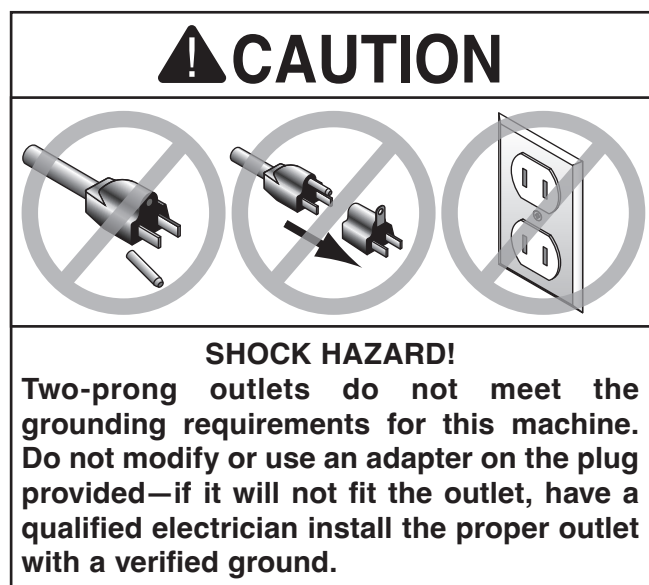
## Grounding & Plug Requirements

This machine **MUST** be grounded. In the event of certain malfunctions or breakdowns, grounding reduces the risk of electric shock by providing a path of least resistance for electric current.

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug. Only insert plug into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances. **DO NOT** modify the provided plug!



**Figure 1.** Typical 5-15 plug and receptacle.



Improper connection of the equipment-grounding wire can result in a risk of electric shock. The wire with green insulation (with or 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.

## Extension Cords

We do not recommend using an extension cord with this machine. If you must use an extension cord, only use it if absolutely necessary and only on a temporary basis.

Extension cords cause voltage drop, which can damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must be in good condition and contain a ground wire and matching plug/receptacle. Additionally, it must meet the following size requirements:

**Minimum Gauge Size .....16 AWG**  
**Maximum Length (Shorter is Better).....50 ft.**

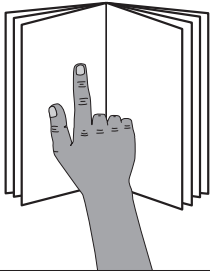


# SECTION 3: SETUP

## Needed for Setup

The following items are needed, but not included, for the setup/assembly of this machine.

Description	Qty
• Safety Glasses .....	1
• Phillips Screwdriver #2 .....	1
• Phillips Screwdriver #4 .....	1
• Flat Head Screwdriver 1/4" .....	1
• Open-End Wrench 17mm .....	1
• Hex Wrench 3mm .....	1
• Block of wood .....	1
• Cleaner/Degreaser .....	As Needed
• Disposable Shop Rags .....	As Needed
• Mounting Hardware .....	As Needed
• Acetone/Lacquer Thinner .....	As Needed



**! WARNING**

This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!

## Unpacking

This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage. ***If items are damaged, please call us immediately at (570) 546-9663.***

**IMPORTANT:** Save all packaging materials until you are completely satisfied with the machine and have resolved any issues between Grizzly or the shipping agent. *You MUST have the original packaging to file a freight claim. It is also extremely helpful if you need to return your machine later.*



**! WARNING**

This machine and its components are very heavy. Get lifting help if needed.



**! WARNING**

Wear safety glasses during the entire setup process!



# Inventory

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

If any non-proprietary parts are missing (e.g. a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.

## NOTICE

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.

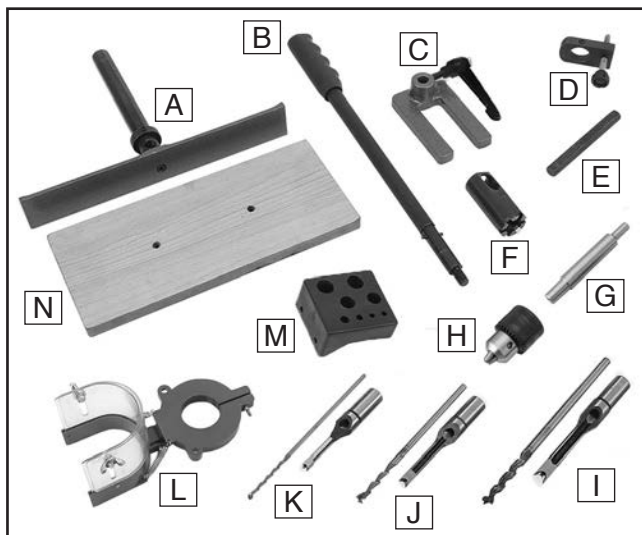


Figure 2. T33127 inventory.

Inventory	Qty
A. Fence .....	1
B. Hand Lever .....	1
C. Hold-Down.....	1
D. Micro-Adjustment Bracket .....	1
E. Hold-Down Rod .....	1
F. Hand Lever Clutch.....	1
G. Arbor.....	1
H. Chuck .....	1
I. Mortising Chisel and Auger Drill Bit 1/2".....	1
J. Mortising Chisel and Auger Drill Bit 3/8".....	1
K. Mortising Chisel and Auger Drill Bit 1/4".....	1
L. Chuck Guard .....	1
M. Tool Storage Rack.....	1
N. Work Table .....	1
O. Hardware (Not Shown) .....	1
— Chuck Key .....	1
— Compression Spring 19 x 28mm .....	1
— Compression Spring 25 x 28mm .....	1
— Compression Spring 33 x 80mm .....	1
— Hex Wrenches 3, 4, 5, 6mm .....	4
— Flat Head Screws M8-1.25 x 20mm.....	2
— Cap Screws M6-1 x 15mm.....	2
— Flat Washers 6mm.....	2
— Shoulder Bolt M10-1.5 x 40mm.....	1
— Hex Nut M10-1.5 .....	1
— Fender Washer 13mm .....	1
— Fender Washer 19mm .....	1
— Bushing 3/4" .....	1
— Adjustable Handle.....	1





# Hardware Recognition Chart

USE THIS CHART TO MATCH UP  
HARDWARE DURING THE INVENTORY  
AND ASSEMBLY PROCESS.

MEASURE BOLT DIAMETER BY PLACING INSIDE CIRCLE

#10

1/4"

5/16"

3/8"

7/16"

1/2"



Key

4mm

5mm

6mm

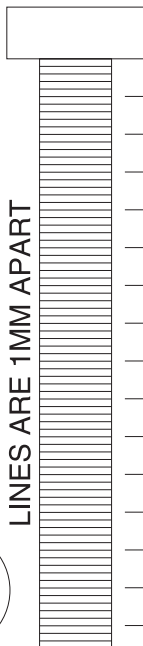
8mm

10mm

12mm

16mm

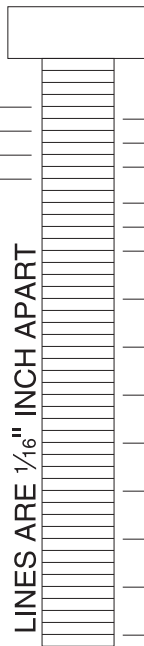
LINES ARE 1MM APART



5mm  
10mm  
15mm  
20mm  
25mm  
30mm  
35mm  
40mm  
45mm  
50mm  
55mm  
60mm  
65mm  
70mm  
75mm

1/4"  
3/8"  
1/2"  
5/8"

LINES ARE 1/16" INCH APART



5/16"  
7/16"  
9/16"  
3/4"  
7/8"  
1"  
1 1/4"  
1 1/2"  
1 3/4"  
2  
2 1/4"  
2 1/2"  
2 3/4"  
3



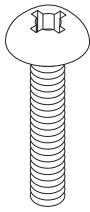
Lock Nut



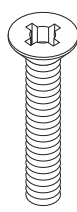
Wing Nut



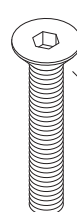
Hex Wrench



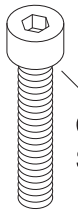
Phillips Head Screw



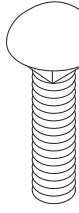
Flat Head Screw



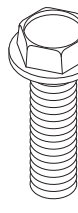
Flat Head Cap Screw



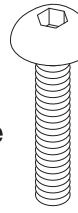
Cap Screw



Carriage Bolt



Flange Bolt



Button Head Screw



Tap Screw



External Retaining Ring



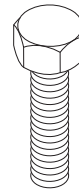
Internal Retaining Ring



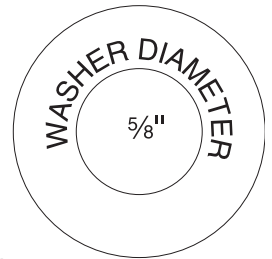
E-Clip



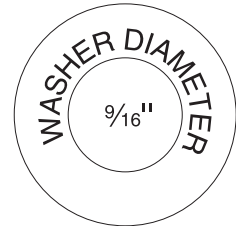
Set Screw



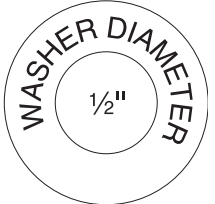
Hex Bolt



WASHER DIAMETER  
5/8"



WASHER DIAMETER  
9/16"



WASHER DIAMETER  
1/2"



WASHER DIAMETER  
7/16"



WASHER DIAMETER  
3/8"



WASHER DIAMETER  
4mm



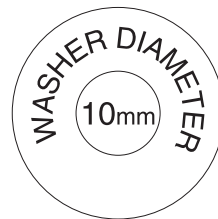
WASHER DIAMETER  
5/16"



WASHER DIAMETER  
5mm



WASHER DIAMETER  
1/4"



WASHER DIAMETER  
10mm



WASHER DIAMETER  
8mm



WASHER DIAMETER  
6mm



WASHER DIAMETER  
#10

WASHERS ARE MEASURED BY THE INSIDE DIAMETER



# Cleanup

The unpainted surfaces of your machine are coated with a heavy-duty rust preventative that prevents corrosion during shipment and storage. This rust preventative works extremely well, but it will take a little time to clean.

Be patient and do a thorough job cleaning your machine. The time you spend doing this now will give you a better appreciation for the proper care of your machine's unpainted surfaces.

There are many ways to remove this rust preventative, but the following steps work well in a wide variety of situations. Always follow the manufacturer's instructions with any cleaning product you use and make sure you work in a well-ventilated area to minimize exposure to toxic fumes.

## Before cleaning, gather the following:

- Disposable rags
- Cleaner/degreaser (WD-40 works well)
- Safety glasses & disposable gloves
- Plastic paint scraper (optional)

## Basic steps for removing rust preventative:

1. Put on safety glasses.
2. Coat the rust preventative with a liberal amount of cleaner/degreaser, then let it soak for 5–10 minutes.
3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily. If you have a plastic paint scraper, scrape off as much as you can first, then wipe off the rest with the rag.
4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant to prevent rust.

## NOTICE

Avoid harsh solvents like acetone or brake parts cleaner that may damage painted surfaces. Always test on a small, inconspicuous location first.

# Site Considerations

## Workbench Load

Refer to the **Machine Data Sheet** for the weight and footprint specifications of your machine. Some workbenches may require additional reinforcement to support the weight of the machine and workpiece materials.

## Placement Location

Consider anticipated workpiece sizes and additional space needed for auxiliary stands, work tables, or other machinery when establishing a location for this machine in the shop. Below is the minimum amount of space needed for the machine.

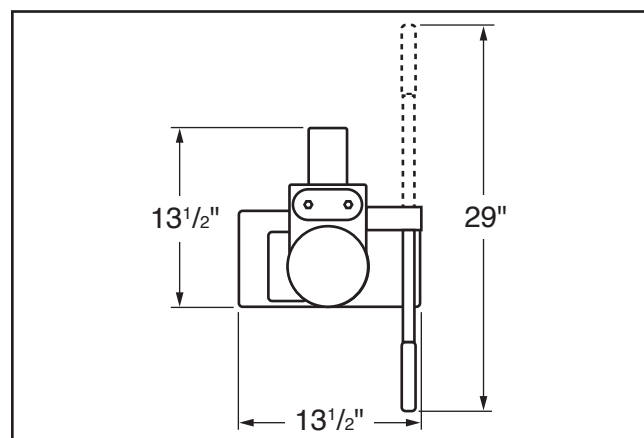
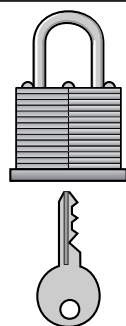


Figure 3. Minimum working clearances.



## CAUTION

Children and visitors may be seriously injured if unsupervised around this machine. Lock entrances to the shop or disable start switch or power connection to prevent unsupervised use.

## CAUTION

This machine creates a lot of wood chips/dust during operation. Breathing airborne dust on a regular basis can result in permanent respiratory illness. Reduce your risk by wearing a respirator and capturing the dust with a dust-collection system.



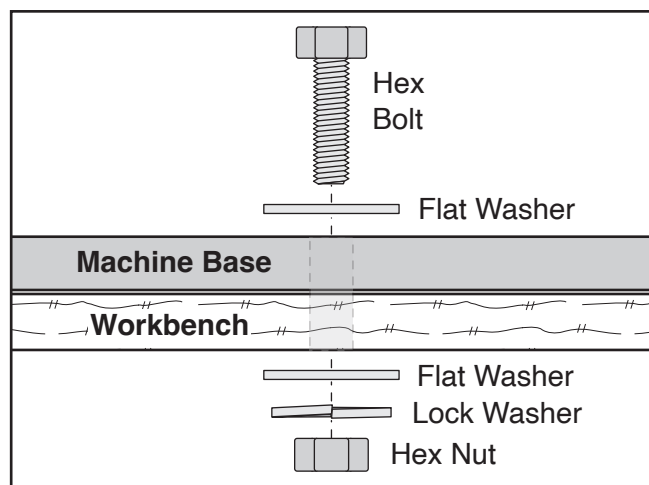


# Bench Mounting

**Number of Mounting Holes ..... 2**  
**Diameter of Mounting Hardware Needed .. 1/2"**

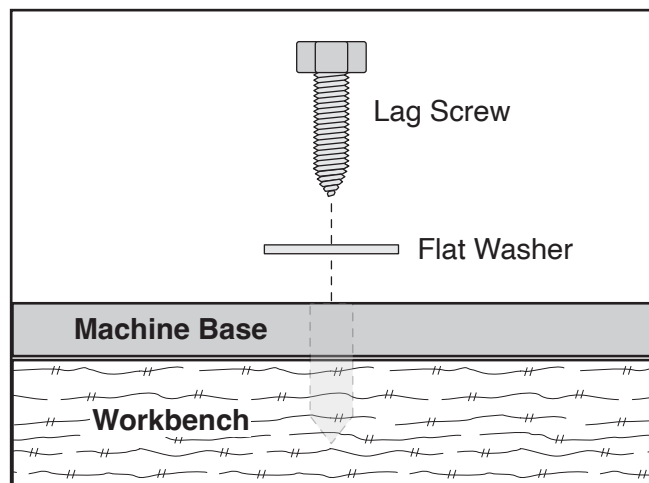
The base of this machine has mounting holes that allow it to be fastened to a workbench or other mounting surface to prevent it from moving during operation and causing accidental injury or damage.

The strongest mounting option is a "Through Mount" (see example below) where holes are drilled all the way through the workbench—and hex bolts, washers, and hex nuts are used to secure the machine in place.



**Figure 4.** "Through Mount" setup.

Another option is a "direct mount" (see example below) where the machine is secured directly to the workbench with lag screws and washers.



**Figure 5.** "Direct Mount" setup.



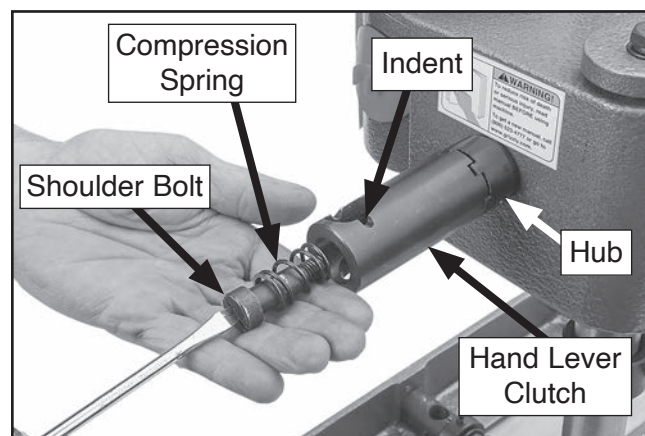
# Assembly

The machine must be fully assembled before it can be operated. Before beginning the assembly process, refer to **Needed for Setup** and gather all listed items. To ensure the assembly process goes smoothly, first clean any parts that are covered or coated in heavy-duty rust preventative (if applicable).

## To assemble machine:

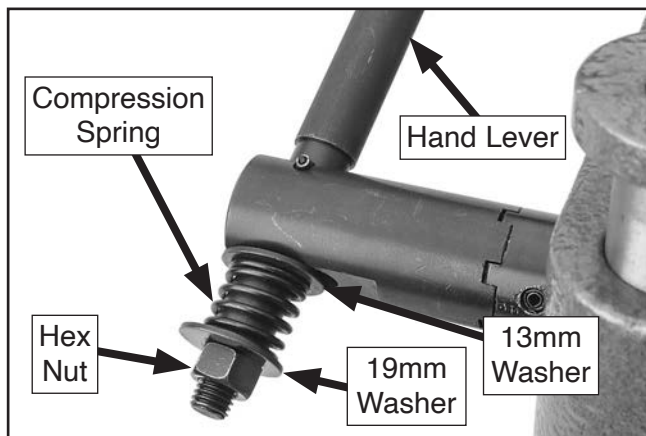
1. Attach hand lever clutch to hub with 19 x 28mm compression spring and M10-1.5 x 40 shoulder bolt (see **Figure 6**). Make sure that indent for locating pin is facing front of machine.

**Note:** *Hand lever clutch can be indexed on hub to rotate position of hand lever (refer to **Adjusting Hand Lever** on **Page 25**).*



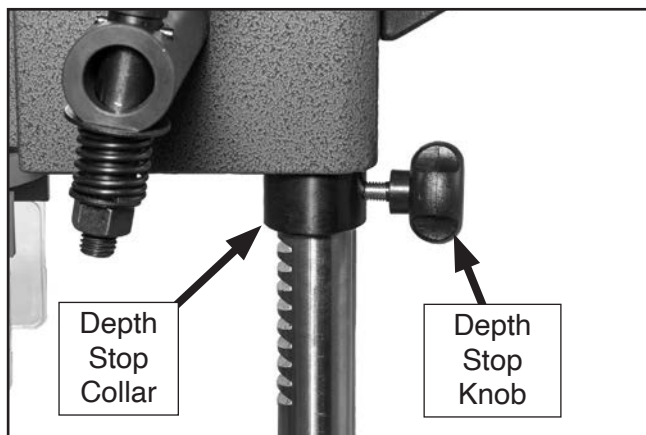
**Figure 6.** Installing hand lever clutch.

2. Slide threaded end of hand lever through opening in side of hand lever clutch (see **Figure 7**). Secure with 13mm fender washer, 25 x 28mm compression spring, 19mm fender washer, and M10-1.5 hex nut. Tighten hex nut until spring compresses about  $\frac{7}{8}$ ".



**Figure 7.** Hand lever installed.

3. Raise headstock to highest point and secure with depth stop knob, as shown in **Figure 8** (see **Adjusting Depth Stop** on **Page 23**).



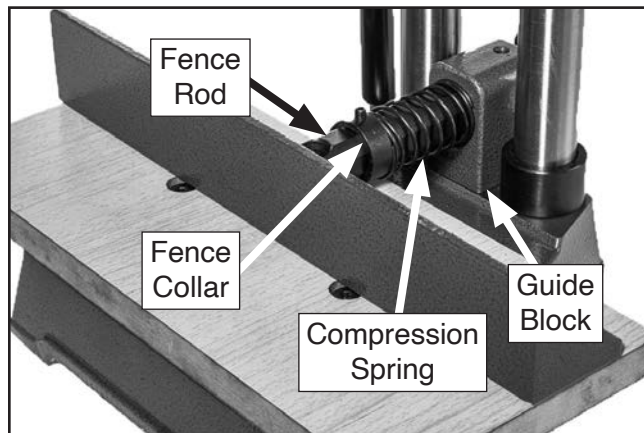
**Figure 8.** Depth stop securing headstock at highest position.

4. Secure work table to base using (2) M8-1.25 x 20 flat head screws (see **Figure 9**).



**Figure 9.** Work table secured to base.

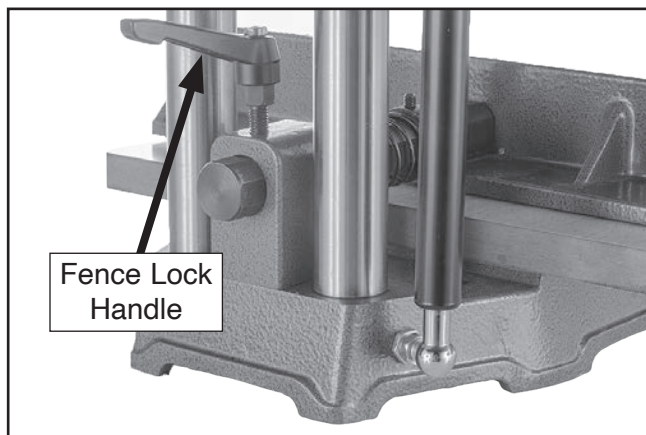
5. Slide 33 x 80mm compression spring onto fence rod. Then slide fence rod through guide block (see **Figure 10**).



**Figure 10.** Fence installed.

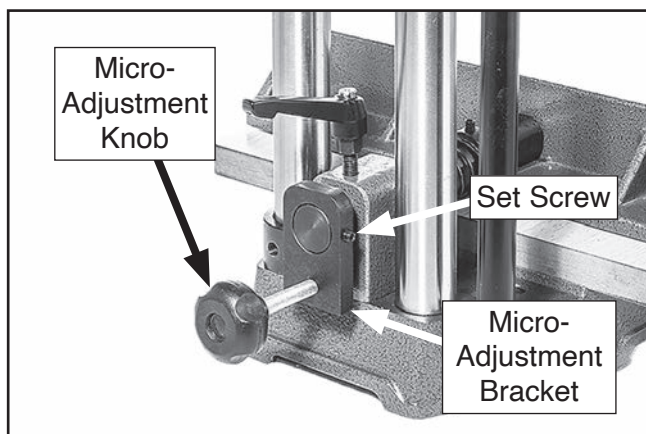


6. Thread adjustable handle into guide block (see **Figure 11**). Pull up on adjustable handle and rotate to change position while tightening. Do not lock yet.



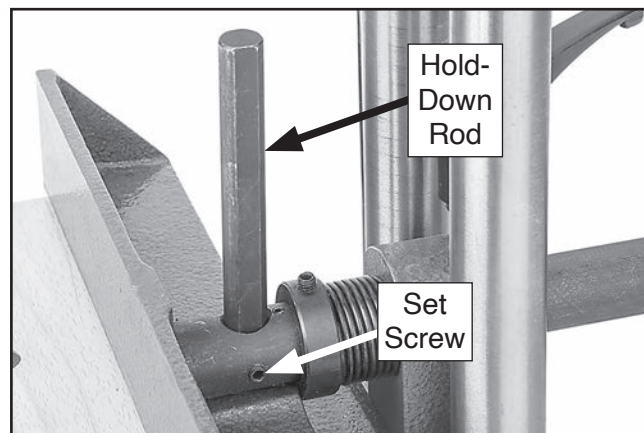
**Figure 11.** Fence lock handle threaded in guide block.

7. Slide micro-adjustment bracket onto fence rod so back surfaces are flush (see **Figure 12**).
8. Tighten set screw, then tighten micro-adjustment knob until it touches machine (see **Figure 12**).



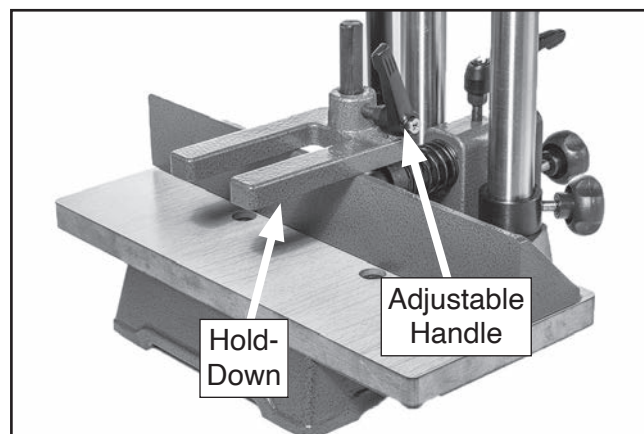
**Figure 12.** Micro-adjustment assembly installed.

9. Install hold-down rod in recess in fence rod, and tighten set screw to secure (see **Figure 13**).



**Figure 13.** Hold-down rod secured with set screw.

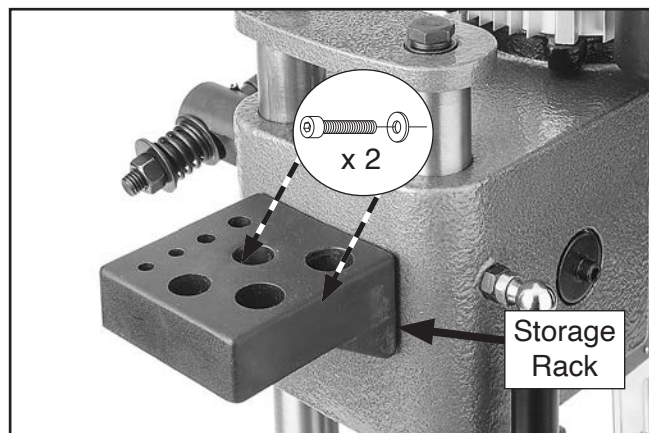
10. Slide hold-down over hold-down rod, and secure by tightening adjustable handle (see **Figure 14**).



**Figure 14.** Hold-down installed.



11. Attach tool storage rack to back of headstock using (2) M6-1 x 15 cap screws and (2) 6mm flat washers (see **Figure 15**).



**Figure 15.** Tool storage rack installed.

**Note:** Use tool storage rack to hold provided hex wrenches (3mm, 4mm, 5mm, 6mm), mortising chisels ( $\frac{1}{2}$ ",  $\frac{3}{8}$ ",  $\frac{1}{4}$ "), and drill chuck arbor (#2 x B16). Store chuck key by clipping to outside of chuck cover.

## Joining Drill Chuck & Arbor

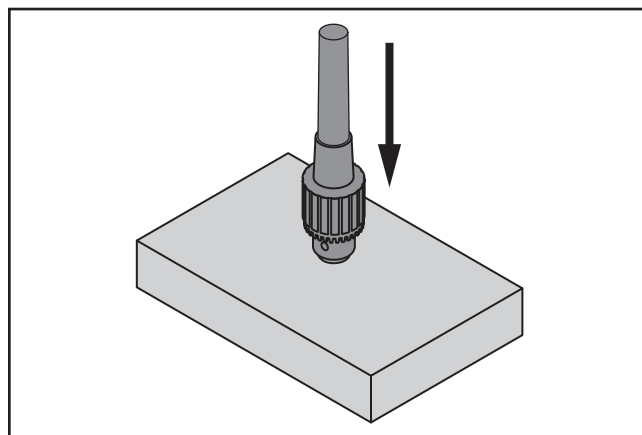
An arbor is included for the drill chuck that comes with this machine. The following procedure describes how to install the arbor in the chuck.

After the arbor is installed in the drill chuck, it is very difficult to separate the assembly. If you would like to use a different chuck in the future, we recommend obtaining a new arbor.

**IMPORTANT: DO NOT** install the drill chuck and arbor assembly into the spindle until **AFTER** the test run.

### To join drill chuck and arbor:

1. Use acetone or lacquer thinner to clean drill chuck and arbor mating surfaces, especially the bore.
2. Retract chuck jaws completely into chuck.
3. Insert small end of arbor into chuck.
4. Hold assembly by the arbor and tap chuck onto a block of wood with medium force, as illustrated below.



**Figure 16.** Assembling arbor and chuck.

5. Attempt to separate drill chuck and arbor by hand—if they separate, repeat **Steps 3–4**.



# Test Run

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

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.

The Test Run consists of verifying the following:

- 1) The motor powers up and runs correctly, and
- 2) the switch disabling key disables the switch properly.

## 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.

## WARNING

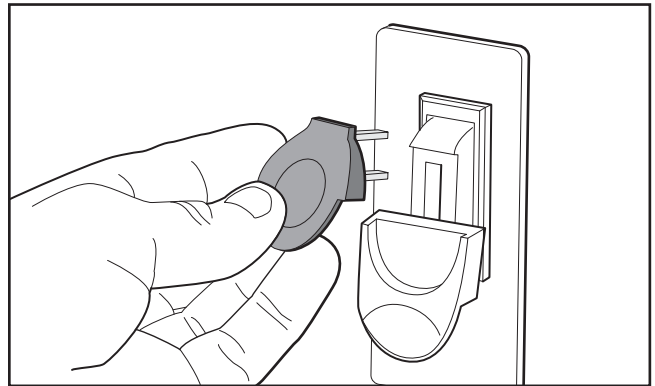
**DO NOT** start machine until all preceding setup instructions have been performed. Operating an improperly set up machine may result in malfunction or unexpected results that can lead to serious injury, death, or machine/property damage.

### To test run machine:

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

The motor should run smoothly and without unusual problems or noises.

4. Remove switch disabling key, as shown in **Figure 17**.



**Figure 17.** Removing switch key from paddle switch.

5. Try to start machine with paddle switch. The machine should not start.
  - If the machine *does not* start, the switch disabling feature is working correctly.
  - If the 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.

## WARNING

Children or untrained people can be seriously injured by this machine. This risk increases with unsupervised operation. To help prevent unsupervised operation, always disable switch before leaving machine unattended. Make sure to place key in a well-hidden or secure location!







# SECTION 4: OPERATIONS

## Operation Overview

The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so the machine controls/components discussed later in this manual are easier to understand.

Due to the generic nature of this overview, it is **not** intended to be an instructional guide. To learn more about specific operations, read this entire manual, seek additional training from experienced machine operators, and do additional research outside of this manual by reading "how-to" books, trade magazines, or websites.

	<p><b>!WARNING</b></p> <p>To reduce your risk of serious injury, read this entire manual <b>BEFORE</b> using machine.</p>
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<p><b>!WARNING</b></p> <p>To reduce risk of eye injury from flying chips or lung damage from breathing dust, always wear safety glasses and a respirator when operating this machine.</p>	
	

<p><b>!WARNING</b></p> <p>Never mortise treated lumber—the smoke is extremely poisonous.</p>
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To complete a typical operation, the operator does the following:

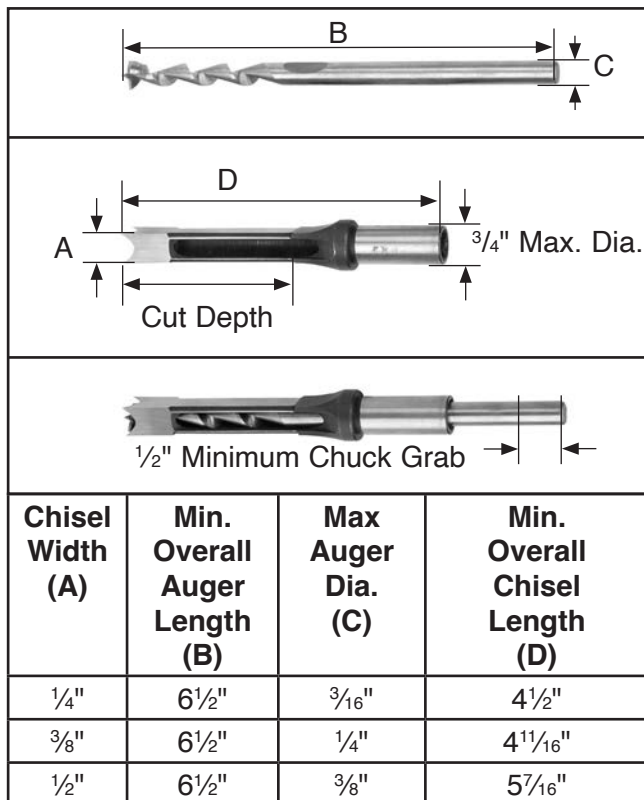
1. Puts on safety glasses and respirator.
2. Installs chisel and auger in chuck.
3. Places workpiece on table flush with fence.
4. Adjusts fence to correct position for operation.
5. Secures workpiece in place with the hold-down.
6. Adjusts depth stop for desired mortise depth.
7. When all safety precautions have been taken, turns machine **ON**.
8. Using hand lever, slowly feeds chisel and auger into workpiece until correct depth is reached.
9. Raises hand lever to extract chisel and auger from workpiece.
10. Turns machine **OFF**.

<p><b>NOTICE</b></p> <p>If you are not experienced with this type of machine, <b>WE STRONGLY RECOMMEND</b> that you seek additional training outside of this manual. Read books/magazines or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.</p>
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# Installing Mortising Chisel

This mortising machine uses  $\frac{3}{4}$ " shank mortising chisels ranging from  $\frac{1}{4}$ "– $\frac{1}{2}$ " **in width**. If you want to use chisels not provided with this machine, make sure they conform to the dimensions specified in **Figure 18**.

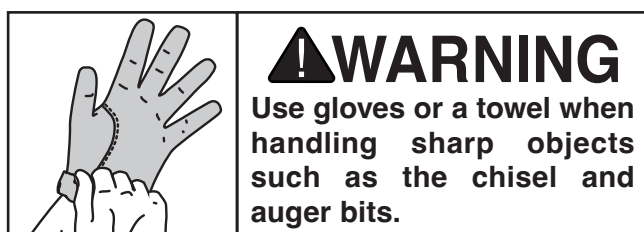


**Figure 18.** T33127 chisel and auger dimensions.

Tools Needed	Qty
Hex Wrench 5mm.....	1
Chuck Key .....	1
Machinist's Square .....	1

## To install mortising chisel:

1. DISCONNECT MACHINE FROM POWER.



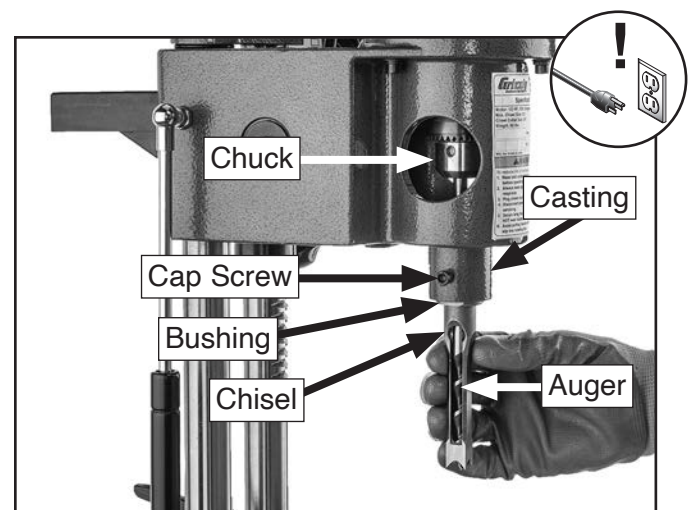
2. Raise headstock to highest position, then secure with depth stop (see **Page 23**).
3. Remove chuck access cover, and loosen chuck to accept desired auger bit.
4. Install bushing (see **Figure 19**) and secure with cap screw. Cap screw must pass through casting and stop flush with *inner* wall of bushing.

**Tip:** Feel inside casting with finger to ensure cap screw is correctly positioned.

5. Join chisel and paired auger bit. Slide them into drill chuck and bushing.

**Note:** Install chisel so face with chip ejection slot is facing side (see **Figure 19**). Installing chisel with open slot facing the front or back of machine can cause undesirable rounding pattern in mortise cuts.

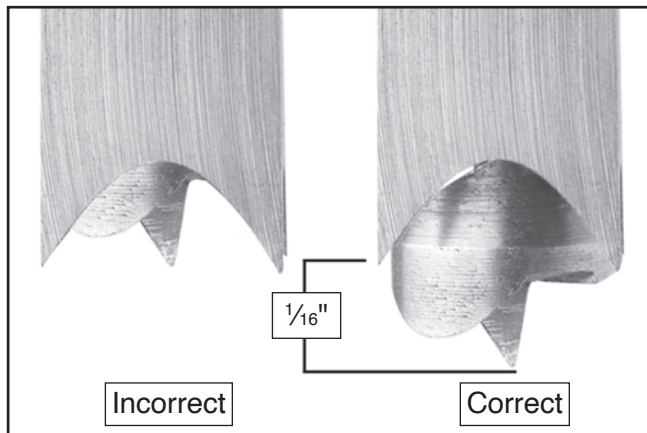
6. Push chisel up until it stops at bushing (see **Figure 19**), then allow it to slide back down approximately  $\frac{1}{64}$ " to prevent binding. Tighten cap screw just enough to hold chisel in place. Do not overtighten.



**Figure 19.** Inserting chisel into bushing.

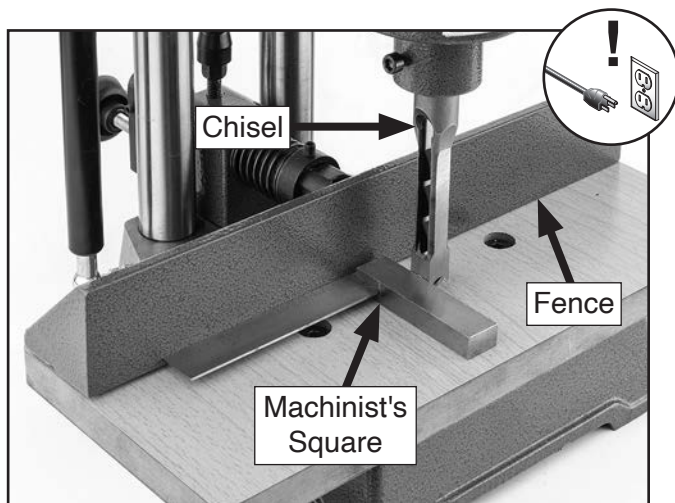


7. Slide auger into chuck, allowing tip to extend  $\frac{1}{16}$ " beyond chisel (see **Figure 20**). Tighten with chuck key.



**Figure 20.** Auger extending beyond tip of chisel.

8. Place a square against fence and chisel (see **Figure 21**) to verify that chisel is square to fence.



**Figure 21.** Squaring chisel to fence with machinist's square.

9. Rotate chuck by hand and make sure no binding occurs.
  - If binding does occur, loosen bushing cap screw and rotate chisel  $90^\circ$ .
10. Reinstall chuck access cover.

## Adjusting Fence

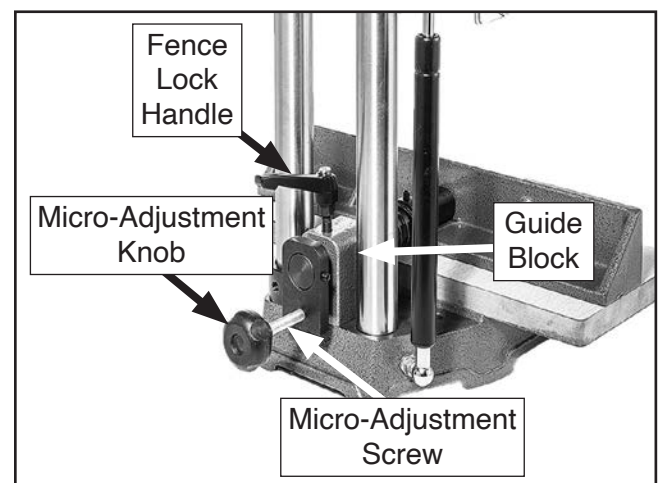
The fence is spring-loaded and can be moved back and forth on the table by hand by loosening the lock handle. The fence also includes a micro-adjustment bracket that ***provides fine control of fence movement.***

### Tool Needed

Hex Wrench 3mm..... 1

### To adjust fence:

1. Loosen fence lock handle (see **Figure 22**).
2. Manually move fence to within  $\frac{1}{8}$ " of final position, and tighten fence lock handle.
3. Tighten micro-adjustment knob until screw makes contact with back of guide block (see **Figure 22**).
4. Tighten fence lock handle.
5. Turn micro-adjustment knob clockwise to move fence forward, and counterclockwise to move fence backwards (see **Figure 22**).



**Figure 22.** Micro-adjustment bracket for adjusting fence position.

6. When fence is in desired position, tighten fence lock handle.



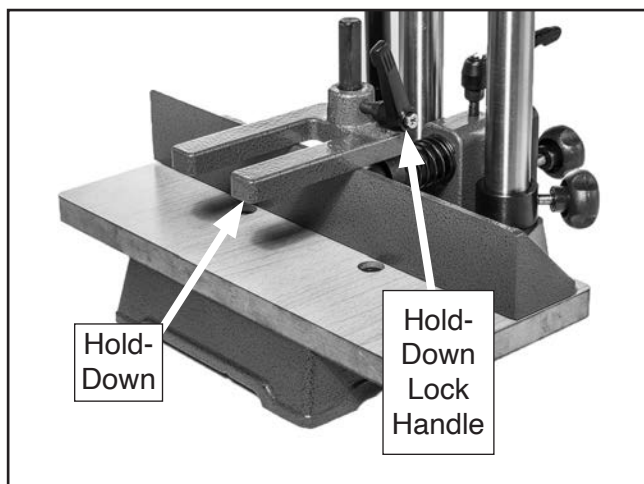


# Adjusting Hold-Down

The hold-down acts as a clamp, securing the workpiece to the table. The hold-down must be used to keep the workpiece from rising when the chisel is removed after a cut.

## To adjust hold-down:

1. Position chisel over workpiece and lock depth stop.
2. Loosen hold-down lock handle, and adjust hold-down to  $\frac{1}{16}$ " above workpiece. This allows workpiece to move horizontally for making multiple mortises. Secure hold-down with lock handle (see **Figure 23**).



**Figure 23.** Low hold-down position.

**Note:** When placed in position shown in **Figure 23**, hold-down will accommodate workpiece slightly taller than fence. Hold-down may also be flipped over to secure thicker workpieces.

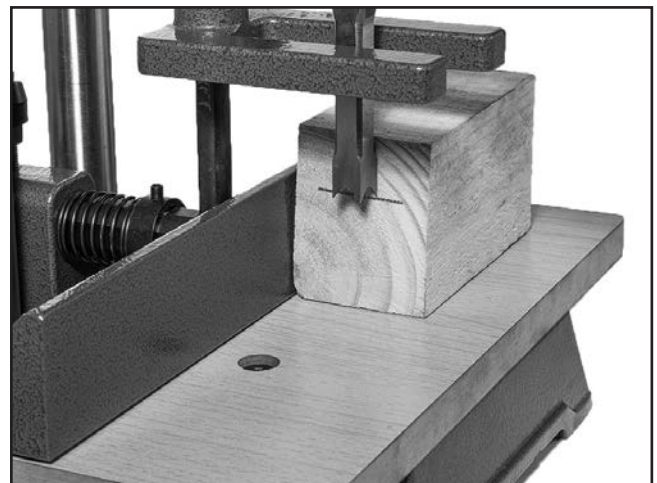
# Adjusting Depth Stop

When adjusted correctly, the depth stop ensures that the mortise is not cut too deep and that repeated mortise depths are consistent. Always make the mortise at least an  $\frac{1}{8}$ " deeper than the tenon to allow room for excess glue.

## To adjust depth stop:

1. Loosen knob on depth stop.
2. Lower chisel to depth required for operation.

**Tip:** Before cutting mortise, mark depth of cut required on workpiece (see **Figure 24**).



**Figure 24.** Depth set for mortise cut.

3. Raise depth stop to bottom of headstock and tighten knob.



# Cutting a Mortise

Mortises can be cut at varying lengths depending upon the size of tenon/joint being used. We recommend staggering mortise cuts to maximize material removed (see **Figure 26**) and to ensure chisel does not bend/tilt during operation.

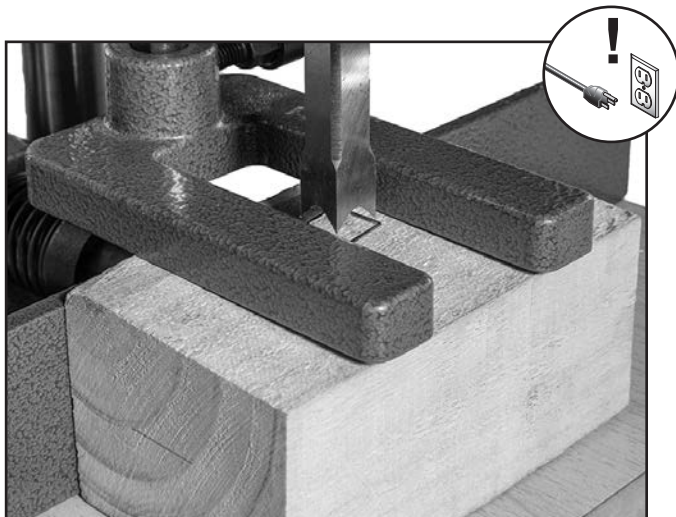
## To cut a mortise:

1. DISCONNECT MACHINE FROM POWER!
2. Verify that chisel and fence are square (see **Installing Mortising Chisel on Page 21**), and adjust as needed.
3. Lay out desired mortise on test piece of scrap lumber.
4. Position test piece flush with fence, and set depth stop (see **Adjusting Depth Stop on Page 23**).

## ! WARNING HAND INJURY HAZARD!

During the next step, keep fingers and hands away from chisel and auger path when cutting the mortise.

5. Adjust fence so that chisel is aligned with outline of mortise (see **Figure 25**).



**Figure 25.** Aligning chisel with mortise outline.

6. Position and lock hold-down (see **Adjusting Hold-Down on Page 23**).

## ! WARNING

Pulling down on the handle can be difficult on some woods. However, **NEVER** use a cheater pipe or handle extender on the handle. You could break the hand lever and be seriously injured.

7. Turn power **ON**. Use hand lever to feed mortising chisel into test piece.
  - Feed rate must be fast enough to prevent tip of auger from burning, but slow enough to prevent motor from stalling. This speed will vary depending on wood type, moisture content, and frequency of chip clearing from mortise.
  - When cutting deep mortises, make a 1" deep cut, then back off and allow chips to clear before cutting deeper.

**Note:** With some chisels, noise and smoke are normal, but we recommend using a small amount of lubrication on augers (not chisels) to keep this to a minimum. See **Page 27** for more information on lubricating augers.

8. Once desired depth is achieved, move hand lever to return headstock to highest position. Test piece should be held in place by hold-down.
9. Turn power **OFF**.
10. Inspect placement of mortise cut on test piece. If necessary, adjust machine until desired mortise placement is achieved.
11. Cut mortise in final workpiece.

**NOTE:** When making multiple cuts to create a rectangular mortise cut, follow sequence of cuts as shown in **Figure 26**. Position chisel over the center of cuts 5, 6, and 7, since these only use part of chisel.

	1	5	2	6	3	7	4	
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**Figure 26.** Sequence of cuts.

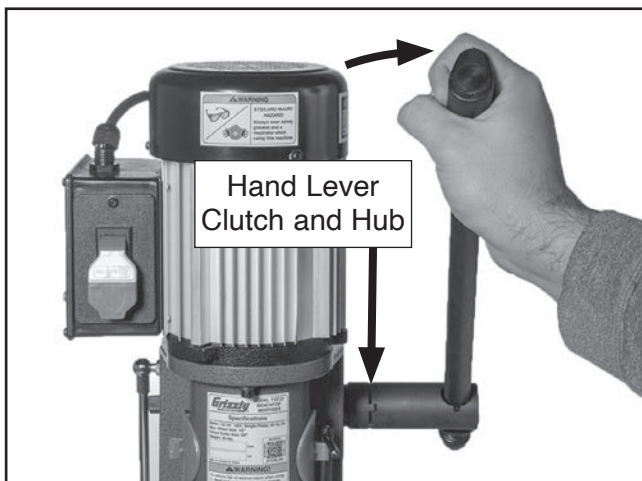


# Adjusting Hand Lever

To maximize torque and ensure ease of use, the position of the hand lever can be adjusted to accommodate the operator.

## To adjust hand lever:

1. Lift hand lever to highest position.
2. Pull lever to right, 90 degrees to machine.
3. When hand lever clutch separates from hub (see **Figure 27**), rotate hand lever to desired position.



**Figure 27.** Disengaging hand lever clutch from hub.

4. Push hand lever left, ensuring that teeth in hub and clutch mesh.

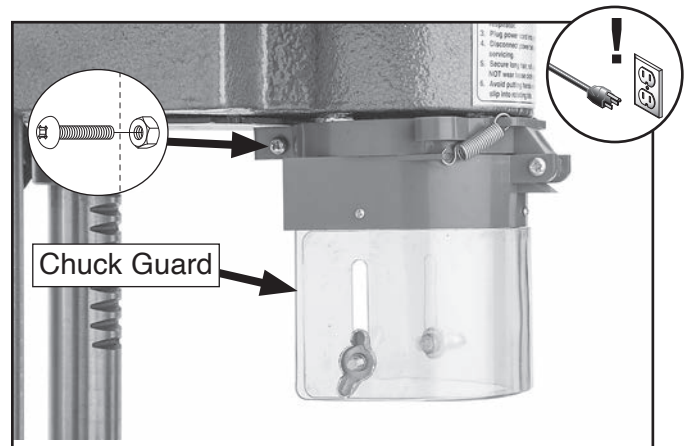
# Installing Drill Chuck & Arbor

The T33127 comes with a spare drill chuck and arbor to install as an attachment in the machine.

## To install drill chuck:

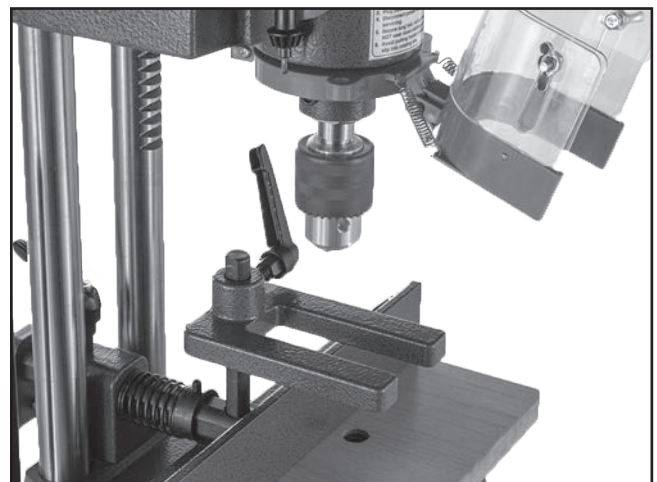
1. DISCONNECT MACHINE FROM POWER!

2. Slide chuck guard over throat of headstock and tighten Phillips head screw and hex nut to secure (see **Figure 28**).



**Figure 28.** Chuck guard installed around throat of headstock.

3. Remove chuck access cover.
4. Loosen chuck with chuck key enough to accept drill chuck arbor.
5. Slide spare drill chuck arbor through headstock bushing and into chuck. DO NOT tighten bushing cap screw.
6. Tighten chuck using chuck key.
7. Reinstall chuck access cover (see **Figure 29**).



**Figure 29.** Drill chuck installed.



# SECTION 5: ACCESSORIES

## **! WARNING**

Installing unapproved accessories may cause machine to malfunction, resulting in serious personal injury or machine damage. To reduce this risk, only install accessories recommended for this machine by Grizzly.

## **NOTICE**

Refer to our website or latest catalog for additional recommended accessories.

**T10016—Grizzly 1/4" Premium Mortising Chisel**  
Precision machined and factory sharpened for perfect results right out of the box. Features 3/4" OD shank to fit 3/4" drill press collars. Made in Japan.



**Figure 30.** T10016 1/4" Premium Mortising Chisel.

**T10017—Grizzly 5/16" Premium Mortising Chisel**  
Precision machined and factory sharpened for perfect results right out of the box. Features 3/4" OD shank to fit 3/4" drill press collars. Made in Japan.



**Figure 31.** T10017 5/16" Premium Mortising Chisel.

**T10018—Grizzly 3/8" Premium Mortising Chisel**  
Precision machined and factory sharpened for perfect results right out of the box. Features 3/4" OD shank to fit 3/4" drill press collars. Made in Japan.

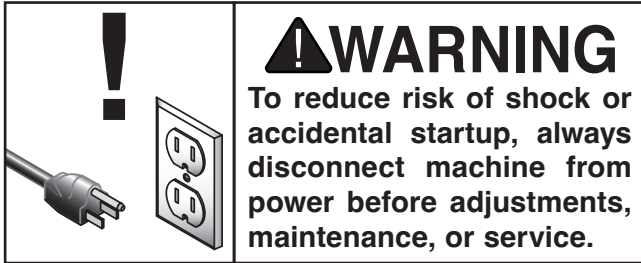


**Figure 32.** T10018 3/8" Premium Mortising Chisel.

**order online at [www.grizzly.com](http://www.grizzly.com) or call 1-800-523-4777**



# SECTION 6: MAINTENANCE



## Schedule

For optimum performance from this machine, this maintenance schedule must be strictly followed.

### Ongoing

To minimize your risk of injury and maintain proper machine operation, shut down the machine immediately if you ever observe any of the items below, and fix the problem before continuing operations:

- Loose mounting bolts.
- Damaged cutting tools.
- Worn or damaged wires.
- Any other unsafe condition.

### Weekly Maintenance

- Clean/grease hold-down shaft.

### Monthly Check

- Clean/vacuum dust buildup off motor.

## Cleaning & Protecting

Cleaning the Model T33127 is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin dissolving cleaner to remove it. Treat all unpainted cast iron and steel with a non-staining lubricant after cleaning.

Protect the unpainted cast iron table by wiping it clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces. Keep the table rust-free with regular applications of products like SLIPIT® (see **Figure 33**).

### Recommended Metal Protectants

G5562—SLIPIT® 1 Qt. Gel

G5563—SLIPIT® 12 Oz. Spray



**Figure 33.** Recommended products for protecting unpainted cast iron/steel parts on machinery.

## Lubrication

The augers for mortising chisels operate under extreme conditions. A small amount of bees wax applied to the auger 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.

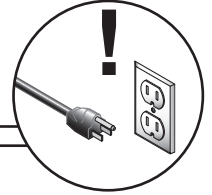




# SECTION 7: SERVICE

Review the troubleshooting procedures in this section if a problem develops with your machine. If you need replacement parts or additional help with a procedure, call our Technical Support. **Note:** *Please gather the serial number and manufacture date of your machine before calling.*

## Troubleshooting



### Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or power supply breaker immediately trips after startup.	<ol style="list-style-type: none"> <li>1. Switch disabling key removed.</li> <li>2. Machine circuit breaker tripped or at fault.</li> <li>3. Incorrect power supply voltage or circuit size.</li> <li>4. Power supply circuit breaker tripped or fuse blown.</li> <li>5. Motor wires connected incorrectly.</li> <li>6. Centrifugal switch adjustment/contact points at fault.</li> <li>7. Wiring broken, disconnected, or corroded.</li> <li>8. ON/OFF or circuit breaker switch at fault.</li> <li>9. Motor or motor bearings at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install switch disabling key.</li> <li>2. Reset circuit breaker on switch.</li> <li>3. Ensure correct power supply voltage and circuit size.</li> <li>4. Ensure circuit is free of shorts. Reset circuit breaker or replace fuse.</li> <li>5. Correct motor wiring connections.</li> <li>6. Adjust centrifugal switch/clean contact points. Replace either if at fault.</li> <li>7. Fix broken wires or disconnected/corroded connections (<b>Page 31</b>).</li> <li>8. Replace switch.</li> <li>9. Replace motor.</li> </ol>
Machine stalls or is underpowered.	<ol style="list-style-type: none"> <li>1. Chisel/auger dull.</li> <li>2. Feed rate/cutting speed too fast.</li> <li>3. Machine undersized for task.</li> <li>4. Motor overheated, tripping machine circuit breaker.</li> <li>5. Run capacitor at fault.</li> <li>6. Extension cord too long.</li> <li>7. Centrifugal switch/contact points at fault.</li> <li>8. Motor or motor bearings at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Sharpen/replace chisel/auger.</li> <li>2. Decrease feed rate/cutting speed.</li> <li>3. Use sharp bits/reduce feed rate or depth of cut.</li> <li>4. Clean motor, let cool, and reduce workload. Reset breaker.</li> <li>5. Test/repair/replace.</li> <li>6. Move machine closer to power supply; use shorter extension cord.</li> <li>7. Adjust centrifugal switch/clean contact points. Replace either if at fault.</li> <li>8. Replace motor.</li> </ol>
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> <li>1. Motor or component loose.</li> <li>2. Incorrectly mounted to workbench.</li> <li>3. Motor fan rubbing on fan cover.</li> <li>4. Motor bearings at fault.</li> <li>5. Chuck or cutter at fault.</li> <li>6. Spindle bearings at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace damaged or missing bolts/nuts or tighten if loose.</li> <li>2. Adjust feet, shim, or tighten mounting hardware (<b>Page 15</b>).</li> <li>3. Fix/replace fan cover; replace loose/damaged fan.</li> <li>4. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> <li>5. Replace out-of-round chuck, dull, or bent cutter.</li> <li>6. Test by rotating spindle; rotational grinding/loose shaft requires bearing replacement.</li> </ol>

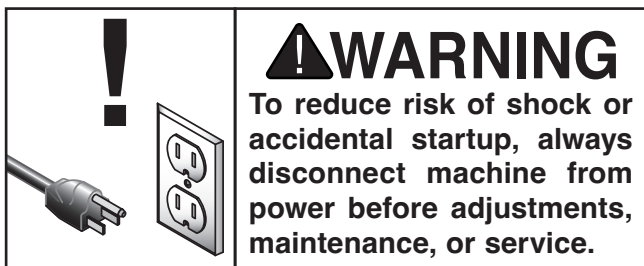


## Operations

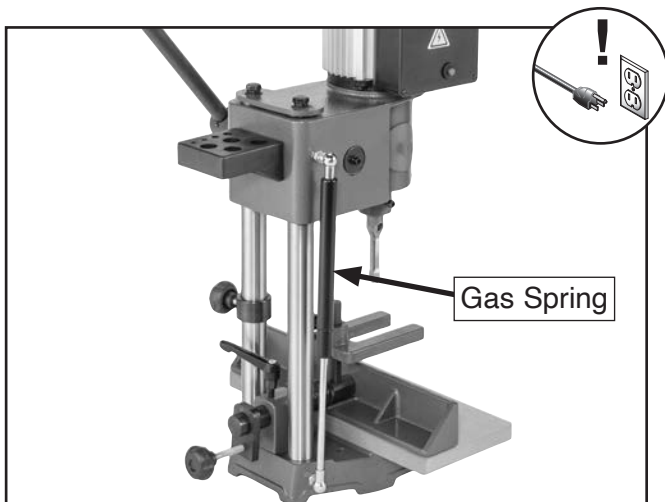
Symptom	Possible Cause	Possible Solution
Difficult to pull lever down during machine operation.	<ol style="list-style-type: none"> <li>1. Auger does not protrude enough from end of chisel.</li> <li>2. Chisel or auger is dull.</li> <li>3. Mortising operating handle is not positioned for maximum leverage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust auger depth (<b>Page 22</b>).</li> <li>2. Sharpen/replace auger and chisel.</li> <li>3. Adjust handle for maximum length, and position it so you have maximum leverage at most difficult mortising depth.</li> </ol>
Mortising auger and chisel are extremely noisy, chatter, and smoke. (An average amount of noise and chatter are normal for any mortising machine.)	<ol style="list-style-type: none"> <li>1. Auger out of alignment with chisel.</li> <li>2. Chisel mounting bushing loose or damaged, causing poor auger-to-chisel alignment.</li> <li>3. Chisel/auger bent.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reinstall chisel in a different position.</li> <li>2. Replace bushing, using care not to over-tighten chisel-retaining set screw.</li> <li>3. Replace chisel and auger as a matched set (<b>Page 26</b>).</li> </ol>
Mortising auger and chisel generate smoke and burn the workpiece.	<ol style="list-style-type: none"> <li>1. Chisel/auger dull.</li> <li>2. Drilling pressure too aggressive and overheats auger.</li> <li>3. Wood chips load up in chisel and overheat auger.</li> <li>4. Wood is too green, has high moisture content, or is pressure treated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Sharpen/replace auger and chisel.</li> <li>2. Adjust auger depth, reduce drilling pressure, clear chips often.</li> <li>3. Apply small amount of bees wax to auger (<b>Page 27</b>); face chisel slot sideways (<b>Page 21</b>); clear chips often.</li> <li>4. Only mortise dry, untreated wood.</li> </ol>
Headstock drops when hand lever is released.	<ol style="list-style-type: none"> <li>1. Gas spring at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace gas spring (<b>Page 30</b>).</li> </ol>
Difficult to move workpiece on table horizontally.	<ol style="list-style-type: none"> <li>1. Hold-down too tight.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust hold down 1/8" above workpiece (<b>Page 23</b>).</li> </ol>
Holes not parallel in workpiece.	<ol style="list-style-type: none"> <li>1. Chisel not parallel with fence.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust chisel parallel to fence and tighten chisel retaining screw (<b>Page 22</b>).</li> </ol>
Auger and chisel cut too deeply.	<ol style="list-style-type: none"> <li>1. Depth stop set incorrectly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust depth stop (<b>Page 23</b>).</li> </ol>
Excessive runout or wobbling in chuck/auger.	<ol style="list-style-type: none"> <li>1. Auger bent.</li> <li>2. Chuck/auger installed incorrectly.</li> <li>3. Spindle bearings worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with straight auger.</li> <li>2. Correctly re-install chuck/auger.</li> <li>3. Replace spindle bearings.</li> </ol>
Auger slips in chuck or stuck in workpiece.	<ol style="list-style-type: none"> <li>1. Chuck jaws loose/broken.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten/replace chuck jaws.</li> </ol>
Auger skips/jumps inside mortise.	<ol style="list-style-type: none"> <li>1. Proper mortising sequence not followed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Follow proper mortising sequence (<b>Page 24</b>).</li> </ol>
Workpiece raises as chisel is raised up.	<ol style="list-style-type: none"> <li>1. Hold-down not installed/loose.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install hold-down. Properly position hold down for workpiece thickness and secure (<b>Page 23</b>).</li> </ol>



# Replacing Gas Spring



The gas spring, shown in **Figure 34**, keeps the headstock under pressure so it does not drop when the hand lever is released. If you notice that the gas spring is not working correctly, replace it promptly.

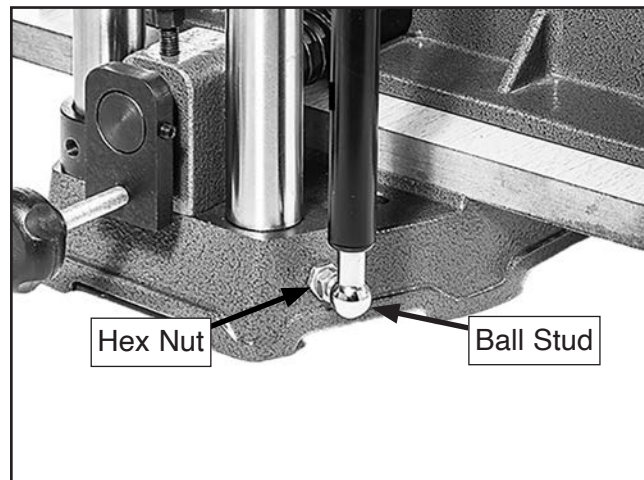


**Figure 34.** Location of gas spring.

Items Needed	Qty
Open-End Wrenches 12, 13mm .....	1 Ea.
Gas Spring (Part # PT33127063) .....	1

## To replace gas spring:

1. DISCONNECT MACHINE FROM POWER!
2. Raise headstock as high as it will go, then lock depth stop beneath headstock (see **Adjusting Depth Stop** on **Page 23**).
3. Loosen hex nut (see **Figure 35**).
4. Unscrew ball stud (see **Figure 35**).



**Figure 35.** Ball stud and hex nut secured to base.

5. Repeat **Steps 3–4** on other ball stud.

**Note:** Ball studs on gas spring are pressed in and cannot be replaced. Do NOT attempt to remove them. When ordering replacement parts from Grizzly the new gas spring will have ball studs already pressed in.

6. Install new gas spring using hex nuts loosened in **Step 3**.





# SECTION 8: WIRING

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 (570) 546-9663 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.

## WARNING Wiring Safety Instructions

**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!

**MODIFICATIONS.** Modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire. This includes the installation of unapproved after-market parts.

**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.

**CIRCUIT REQUIREMENTS.** You MUST follow the requirements at the beginning of this manual when connecting your machine to a power source.

**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.

**MOTOR WIRING.** The motor wiring shown in these diagrams is current at the time of printing but may not match your machine. If you find this to be the case, use the wiring diagram inside the motor junction box.
















**CAPACITORS/INVERTERS.** Some 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.

**EXPERIENCING DIFFICULTIES.** If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (570) 546-9663.

### NOTICE

The photos and diagrams included in this section are best viewed in color. You can view these pages in color at [www.grizzly.com](http://www.grizzly.com).

### COLOR KEY

BLACK 	BLUE 	YELLOW 	LIGHT BLUE 
WHITE 	BROWN 	YELLOW GREEN 	BLUE WHITE 
GREEN 	GRAY 	PURPLE 	TURQUOISE 
RED 	ORANGE 	PINK 	



# Wiring Diagram

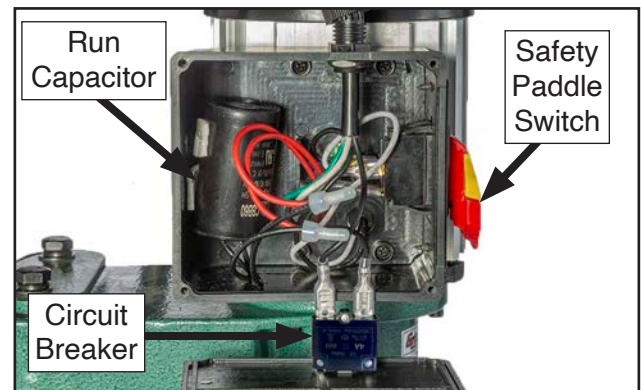
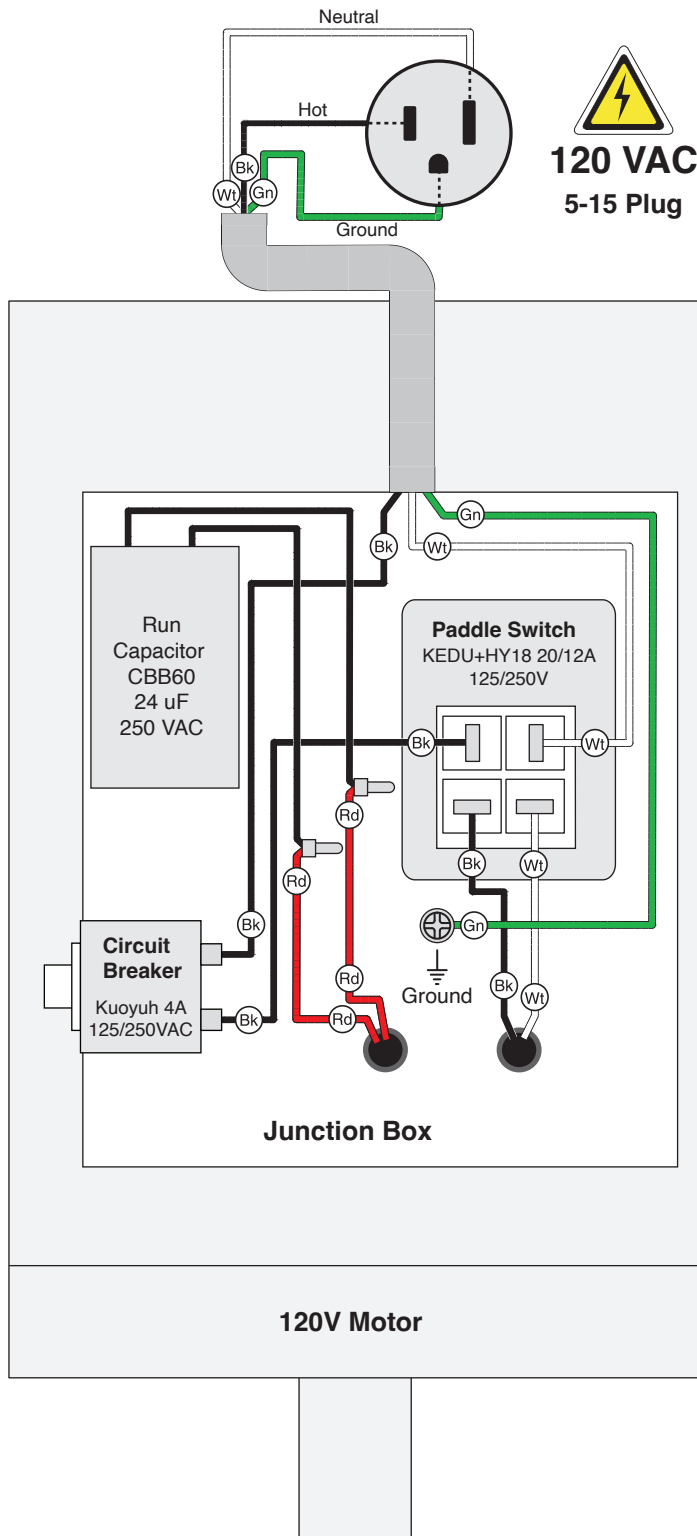


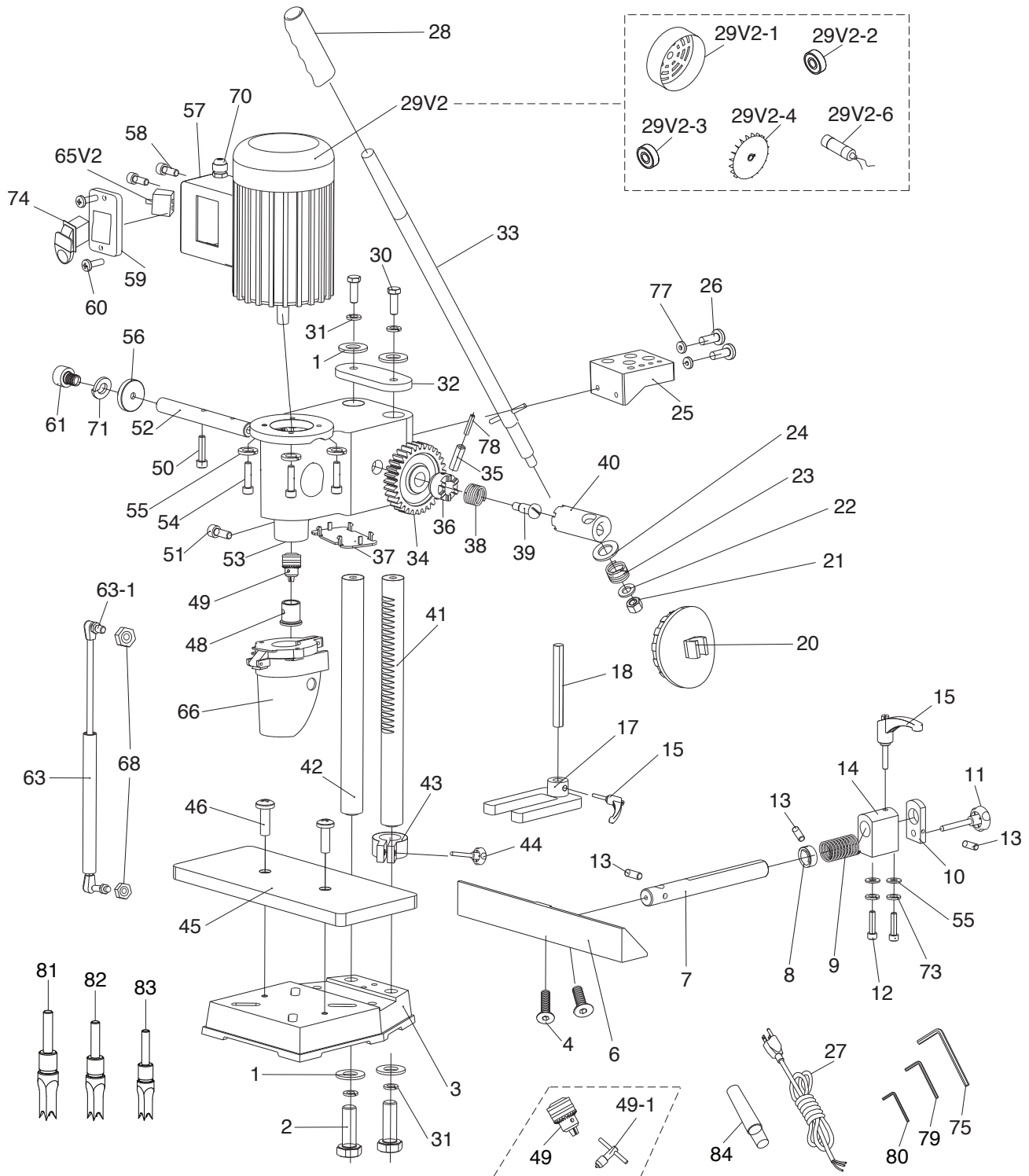
Figure 36. Switch box.



# SECTION 9: PARTS

We do our best to stock replacement parts when possible, but we cannot guarantee that all parts shown are available for purchase. Call **(800) 523-4777** or visit **www.grizzly.com/parts** to check for availability.

## Main



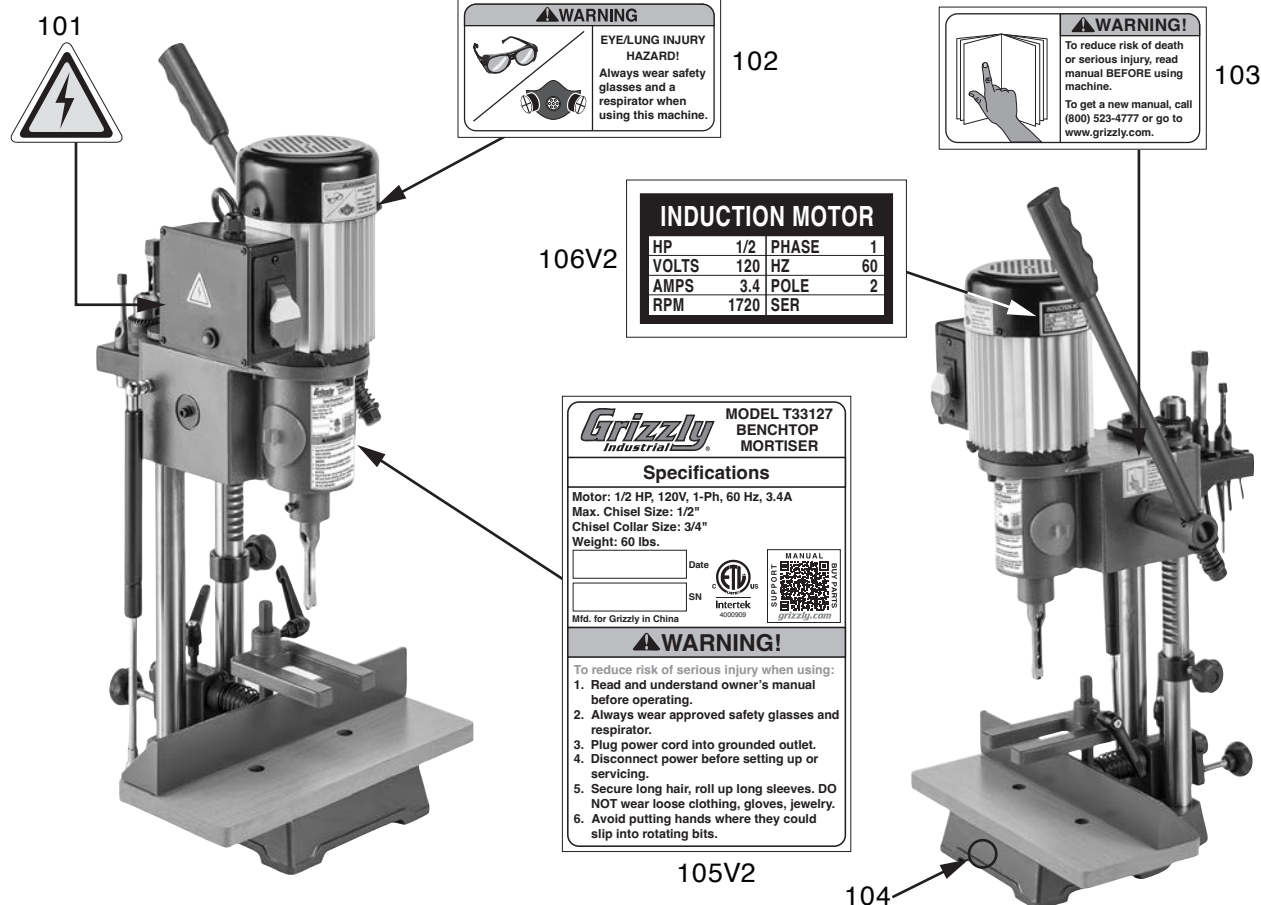
# Main Parts List

REF	PART #	DESCRIPTION
1	PT33127001	FLAT WASHER 10MM
2	PT33127002	HEX BOLT M10-1.5 X 30
3	PT33127003	BASE
4	PT33127004	FLAT HD CAP SCR M6-1 X 12
6	PT33127006	FENCE
7	PT33127007	FENCE ROD
8	PT33127008	FENCE COLLAR
9	PT33127009	COMPRESSION SPRING 2 X 33 X 80MM
10	PT33127010	MICRO-ADJUSTMENT BRACKET
11	PT33127011	KNOB BOLT M8-1.25 X 65, 4-LOBE, D40
12	PT33127012	CAP SCREW M8-1.25 X 20
13	PT33127013	SET SCREW M5-.8 X 8
14	PT33127014	GUIDE BLOCK
15	PT33127015	ADJUSTABLE HANDLE M8-1.25 X 25, 60L
17	PT33127017	HOLD-DOWN BRACKET
18	PT33127018	HOLD-DOWN ROD
20	PT33127020	CHUCK ACCESS COVER, PLASTIC
21	PT33127021	HEX NUT M12-1.75
22	PT33127022	FLAT WASHER 12MM
23	PT33127023	COMPRESSION SPRING 2 X 25 X 28MM
24	PT33127024	FLAT WASHER 20MM
25	PT33127025	TOOL RACK
26	PT33127026	CAP SCREW M6-1 X 12
27	PT33127027	POWER CORD 18G 3W 72" 5-15P
28	PT33127028	HAND GRIP
29V2	PT33127029V2	MOTOR 1/2HP 120V 1-PH V2.05.24
29V2-1	PT33127029V2-1	MOTOR FAN COVER
29V2-2	PT33127029V2-2	BALL BEARING 6202ZZ REAR
29V2-3	PT33127029V2-3	BALL BEARING 6203ZZ FRONT
29V2-4	PT33127029V2-4	MOTOR FAN
29V2-6	PT33127029V2-6	R CAPACITOR 24M 250V 1-3/8 X 2-1/2
30	PT33127030	HEX BOLT M10-1.5 X 25
31	PT33127031	LOCK WASHER 10MM
32	PT33127032	STEP PLATE
33	PT33127033	HAND LEVER, 450L
34	PT33127034	GEAR 34T
35	PT33127035	ROLL PIN 8 X 35
36	PT33127036	HUB
37	PT33127037	PLASTIC COVER
38	PT33127038	COMPRESSION SPRING 2 X 19 X 28MM
39	PT33127039	SHOULDER SCREW M10-1.5 40, 26 X 40

REF	PART #	DESCRIPTION
40	PT33127040	HAND LEVER CLUTCH
41	PT33127041	RACK COLUMN
42	PT33127042	COLUMN
43	PT33127043	DEPTH LOCK COLLAR
44	PT33127044	KNOB BOLT M8-1.25 X 15, 4-LOBE, D40
45	PT33127045	TABLE
46	PT33127046	PHLP HD SCR M8-1.25 X 20
48	PT33127048	BUSHING 3/4"
49	PT33127049	DRILL CHUCK B16 1.5-13MM
49-1	PT33127049-1	DRILL CHUCK KEY 1/4" SE 12T SD-1/2"
50	PT33127050	CAP SCREW M8-1.25 X 45
51	PT33127051	CAP SCREW M6-1 X 20
52	PT33127052	SHAFT
53	PT33127053	HEADSTOCK
54	PT33127054	CAP SCREW M8-1.25 X 25
55	PT33127055	FLAT WASHER 8MM
56	PT33127056	FENDER WASHER 6MM
57	PT33127057	MOTOR JUNCTION BOX
58	PT33127058	PHLP HD SCR M3-.5 X 14
59	PT33127059	SWITCH PLATE
60	PT33127060	PHLP HD SCR M4-.7 X 12
61	PT33127061	CAP SCREW M6-1 X 16
63	PT33127063	GAS SPRING 38MM
63-1	PT33127063-1	BALL STUD M8-1.25, 15MM
65V2	PT33127065V2	CIRCUIT BREAKER KUOYUH 88 4A V2.05.24
66	PT33127066	CHUCK GUARD
68	PT33127068	HEX NUT M8-1.25
70	PT33127070	STRAIN RELIEF TYPE 3 M16-2
71	PT33127071	LOCK WASHER 6MM
73	PT33127073	LOCK WASHER 8MM
74	PT33127074	PADDLE SWITCH KEDU HY18
75	PT33127075	HEX WRENCH 6MM
77	PT33127077	FLAT WASHER 6MM
78	PT33127078	ROLL PIN 5 X 35
79	PT33127079	HEX WRENCH 5MM
80	PT33127080	HEX WRENCH 3MM
81	PT33127081	MORTISING CHISEL 1/2"
82	PT33127082	MORTISING CHISEL 3/8"
83	PT33127083	MORTISING CHISEL 1/4"
84	PT33127084	DRILL CHUCK ARBOR MT#2 X B16



# Labels & Cosmetics



REF	PART #	DESCRIPTION
101	PT33127101	ELECTRICITY LABEL
102	PT33127102	EYE LUNG HAZARD LABEL
103	PT33127103	READ MANUAL LABEL

REF	PART #	DESCRIPTION
104	PT33127104	GRIZZLY GREEN TOUCH-UP PAINT
105V2	PT33127105V2	MACHINE ID LABEL V2.05.24
106V2	PT33127106V2	MOTOR LABEL V2.05.24

## WARNING

Safety labels help reduce the risk of serious injury caused by machine hazards. If any label comes off or becomes unreadable, the owner of this machine **MUST** replace it in the original location before resuming operations. For replacements, contact (800) 523-4777 or [www.grizzly.com](http://www.grizzly.com).





# WARRANTY & RETURNS

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Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly'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 or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly 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.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

In the event you need to use this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

For further information about the warranty, visit <https://www.grizzly.com/forms/warranty> or scan the QR code below to be automatically directed to our warranty page.





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