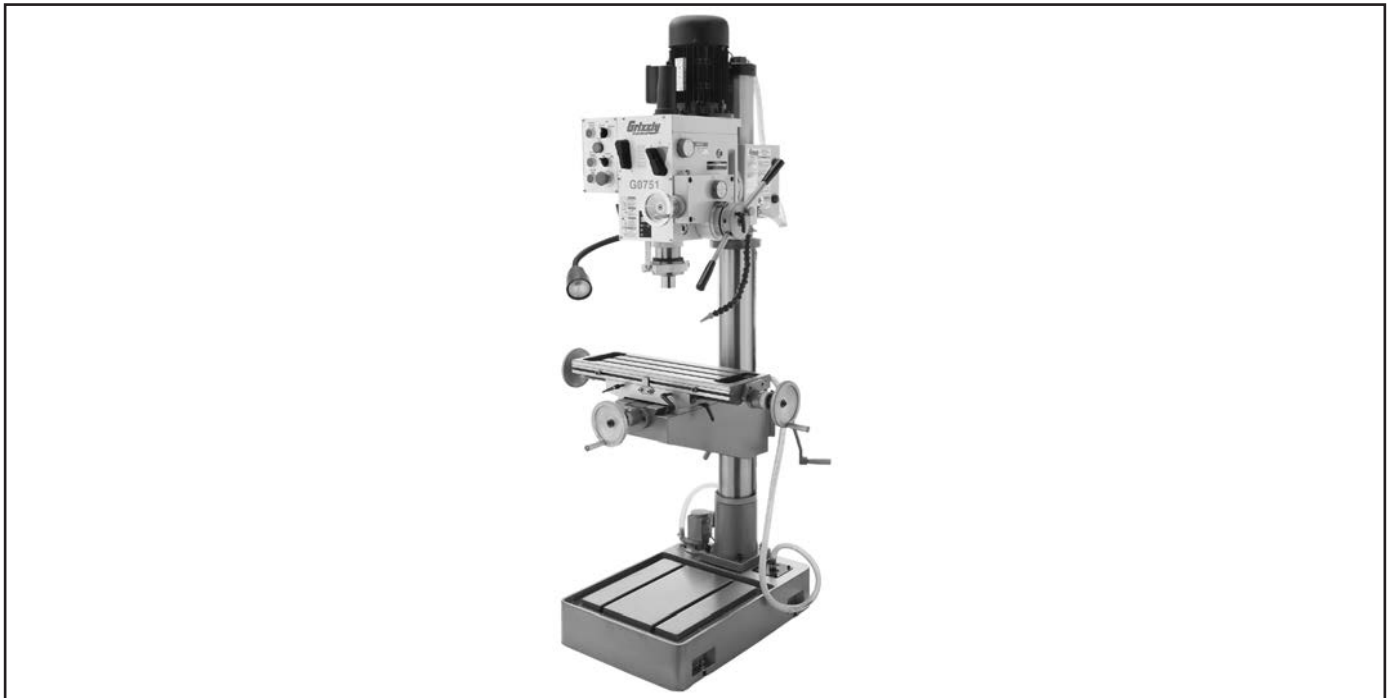


# **Grizzly** **Industrial, Inc.**®

## **MODEL G0751** **HEAVY-DUTY DRILL PRESS** **w/AUTOMATIC TAPPING** **FUNCTION** **OWNER'S MANUAL**

*(For models manufactured since 07/15)*



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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.**  
#TS15773 PRINTED IN CHINA

V3.09.22

***\*\*\*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

## Machine Description

The Model G0751 is a fully-featured drill press that strikes a great balance between being heavy-duty and high-precision.

The spindle is fully reversible, features both coarse and fine downfeed controls, tapping controls that can be set for repeatable production, and a digital read out. The six spindle speeds range from 90–1970 RPM and are controlled by convenient levers in an oil-bath-lubricated and gear-driven headstock.

The headstock tilts 90° left/right and moves in the Z-axis on a massive column. The table features a built-in recycling coolant system, movement in all three paths, and rotation around the column so the workpiece can be mounted on the base for those really big jobs.

## 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

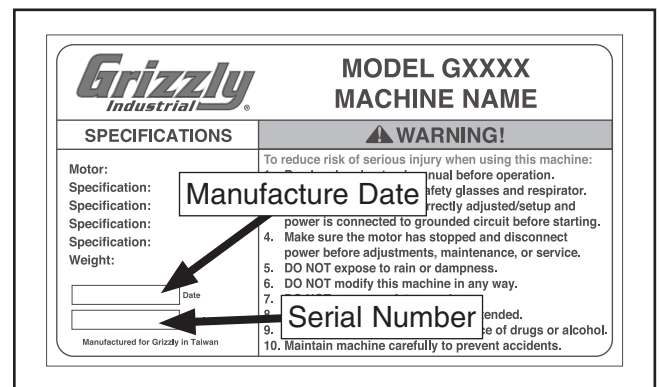
## Manual Accuracy

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.**

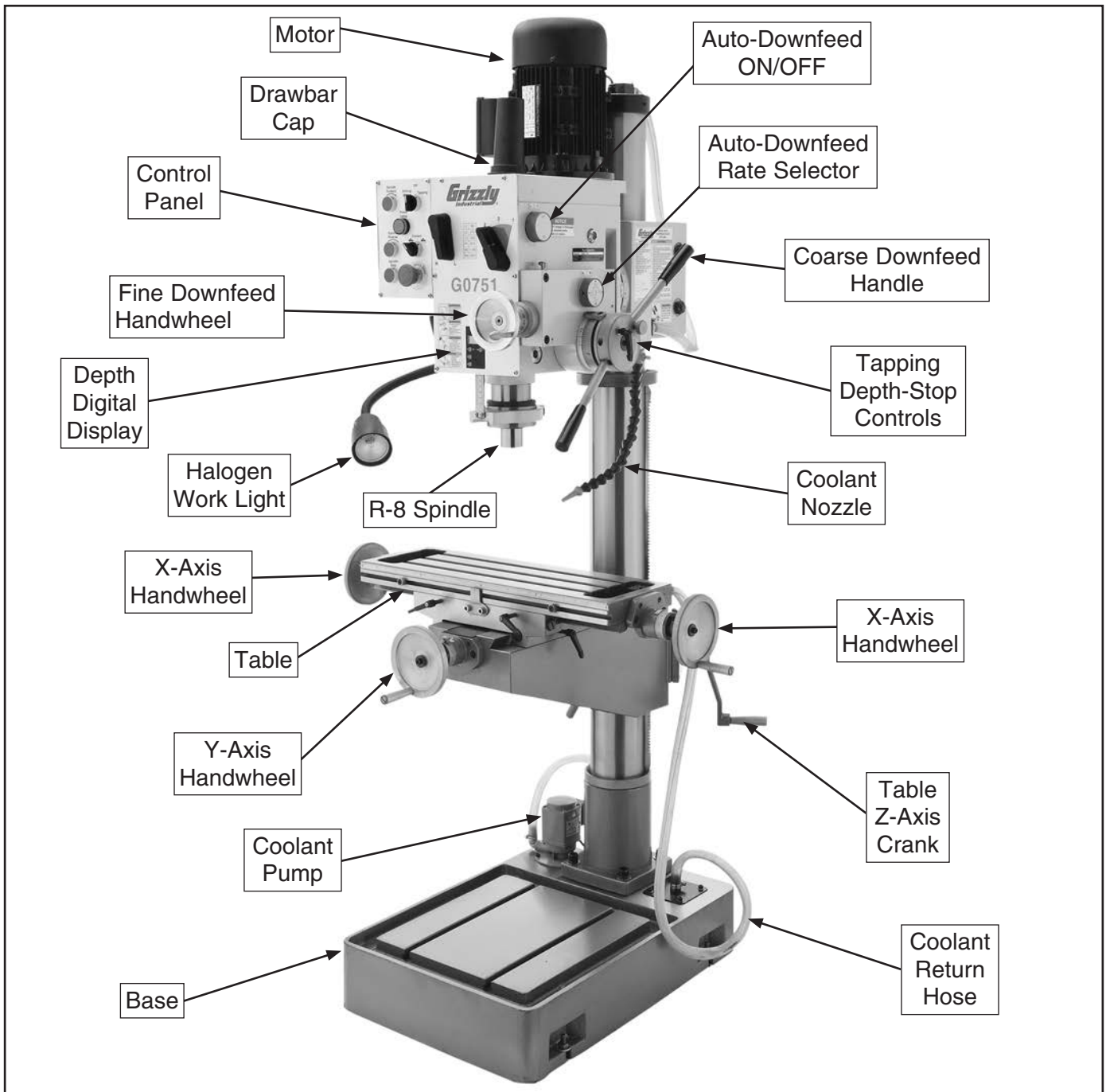
If you find this to be the case, and the difference between the manual and machine leaves you confused or unsure about something, check our website for an updated version. We post current manuals and manual updates for free on our website at [www.grizzly.com](http://www.grizzly.com).

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.



# Identification

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



**⚠ WARNING**  
To reduce your risk of serious injury, read this entire manual **BEFORE** using machine.



# Controls & Components



Refer to the following figures and descriptions to become familiar with the basic controls and components of this machine. Understanding these items and how they work will help you understand the rest of the manual and minimize your risk of injury when operating this machine.

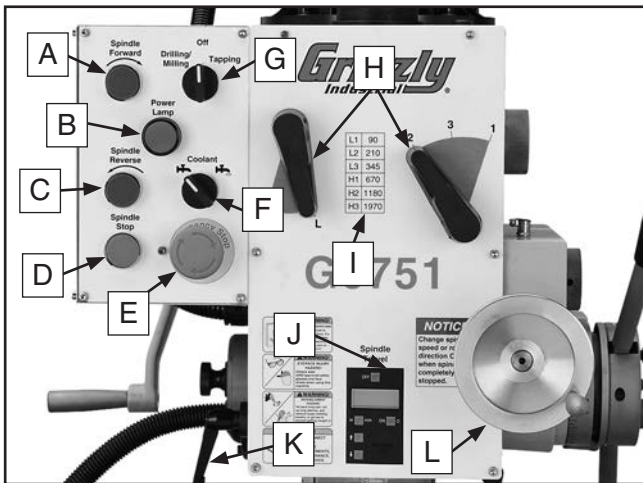


Figure 1. Headstock front controls.

- A. **Spindle Forward:** Starts spindle forward rotation when in drilling/milling mode.
- B. **Power Lamp:** Lights when the machine is connected to power.
- C. **Spindle Reverse:** Starts spindle reverse rotation when in drilling/milling mode.
- D. **Spindle Stop:** Stops spindle rotation.
- E. **Emergency Stop:** Cuts power to the spindle motor and coolant pump.

- F. **Coolant Pump:** Starts/stops coolant pump.
- G. **Mode Selection Switch:** Selects either drilling/milling mode or tapping mode.
- H. **Spindle Speed Levers:** Selects the spindle speed.

**NOTICE**

To prevent damage to the gears, **ONLY** change spindle speeds when the spindle is completely stopped.

- I. **Spindle Speed Chart:** Displays the configuration of the spindle speed levers for the various spindle speeds.
- J. **Depth Digital Display:** Shows relative spindle travel.
- K. **Quill Lock Handle:** Secures the quill in place for added rigidity when milling.
- L. **Fine Downfeed Handwheel:** Controls spindle travel in small amounts. Graduated dial has 0.001" increments; one full revolution equals 0.115" of spindle travel.



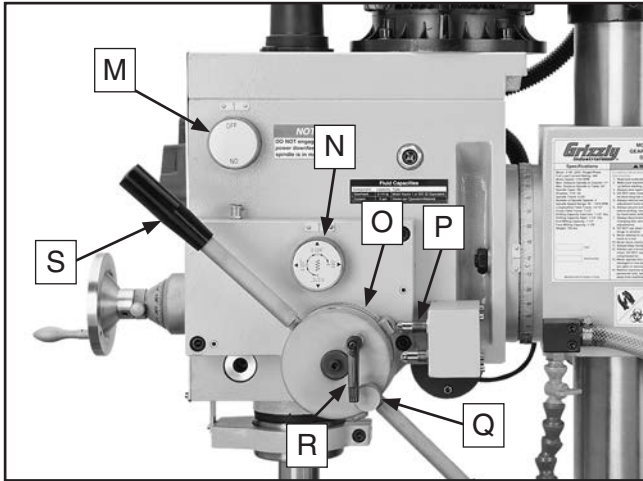


Figure 2. Headstock right-side controls.

- M. Auto-Downfeed ON/OFF Knob:** Turns drilling/milling auto-downfeed ON/OFF.
- N. Auto-Downfeed Rate Selector Knob:** Selects one of three auto-downfeed rates—0.004, 0.007, or 0.010 inches of spindle travel per revolution.
- O. Depth Graduated Dial:** Limits spindle travel in manual or auto-downfeed mode. Two adjustable limit stops limit travel in tapping mode.
- P. Tapping Limit Switches:** Reverses/stops spindle travel when the graduated dial limit stops make contact with the switch.
- Q. Coarse Handle Lock-Down Thumb Screw:** Locks down the coarse downfeed handles to enable spindle travel for coarse downfeed control or tapping mode.
- R. Depth Graduated Dial Lock Handle:** Locks the depth graduated dial to the coarse downfeed hub when limiting spindle depth.
- S. Coarse Downfeed Handle:** Allows spindle travel in large amounts. When locked toward the headstock, enables manual coarse downfeed and tapping mode. When moved away from the headstock, enables fine downfeed control and auto-downfeed.

## ***NOTICE***

To prevent damage to the gears, **ONLY** use the auto-downfeed ON/OFF and rate selector knobs when the spindle is completely stopped.





# MACHINE DATA SHEET

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

## MODEL G0751 22" HEAVY-DUTY DRILL PRESS

### Product Dimensions:

Weight..... 794 lbs.  
Width (side-to-side) x Depth (front-to-back) x Height..... 29-1/2 x 36-1/2 x 69-1/4 in.  
Footprint (Length x Width)..... 19 x 27 in.

### Shipping Dimensions:

Type..... Wood Crate  
Content..... Machine  
Weight..... 849 lbs.  
Length x Width x Height..... 33 x 30 x 74 in.  
Must Ship Upright..... Yes

### Electrical:

Power Requirement..... 220V, Single-Phase, 60 Hz  
Full-Load Current Rating..... 9.2A  
Minimum Circuit Size..... 15A  
Connection Type..... Cord & Plug  
Power Cord Included..... Yes  
Power Cord Length..... 6 ft.  
Power Cord Gauge..... 14 AWG  
Plug Included..... No  
Recommended Plug Type..... 6-15  
Switch Type..... ON/OFF Button Switch

### Motors:

#### Coolant Pump

Horsepower..... 40W  
Phase..... Single-Phase  
Amps..... 0.55A  
Speed..... 3360 RPM  
Type..... Induction  
Power Transfer ..... Direct Drive  
Bearings..... Shielded & Permanently Lubricated

#### Main

Horsepower..... 2 HP  
Phase..... Single-Phase  
Amps..... 8.6A  
Speed..... 1720 RPM  
Type..... TEFC Capacitor-Start Induction  
Power Transfer ..... Direct Drive  
Bearings..... Shielded & Permanently Lubricated  
Centrifugal Switch/Contacts Type..... Internal





**Main Specifications:**

**Operation Information**

Spindle Taper.....	R-8
Spindle Travel.....	4-3/4 in.
Max. Distance From Spindle to Column.....	11 in.
Max. Distance From Spindle to Table.....	24-3/8 in.
Number of Spindle Speeds.....	6
Range of Spindle Speeds.....	90 – 1970 RPM
Max. Head Tilt (Left/Right).....	90 deg.
Drilling Capacity (Mild Steel).....	1-1/4 in.
Drilling Capacity (Cast Iron).....	1-1/2 in.
End Milling Capacity.....	1-1/4 in.
Face Milling Capacity.....	3-1/8 in.

**Spindle Information**

Quill Feed Rates.....	0.004, 0.007, 0.010 in./rev.
Drawbar Thread Size.....	7/16-20

**Table Information**

Longitudinal Travel.....	14-1/2 in.
Cross Travel.....	7-1/2 in.
Table Length.....	23-5/8 in.
Table Width.....	7-1/2 in.
Table Thickness.....	2-3/8 in.
Vertical Table Travel.....	22-7/8 in.
Number of T-Slots.....	3
T-Slot Size.....	7/16 in.
T-Slot Centers.....	2 in.

**Construction**

Table.....	Hardened & Precision-Ground Cast Iron
Column.....	Precision-Ground Cast Iron
Spindle Housing.....	Cast Iron
Head.....	Cast Iron
Base.....	Precision-Ground Cast Iron
Paint Type/Finish.....	Enamel

**Other Related Information**

Base Length.....	19 in.
Base Width.....	27 in.

**Other Specifications:**

Country of Origin .....	China
Warranty .....	1 Year
Approximate Assembly & Setup Time .....	1 Hour
Serial Number Location .....	ID Label on Headstock
ISO 9001 Factory .....	Yes

**Features:**

- Tapping Capability
- Z-Axis Quill-Mounted DRO
- Recycling Coolant System
- Halogen Worklight
- Power Downfeed
- 45 Degree Right/Left Head Tilt
- Head and Table Vertical Travel



# 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.

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

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

**⚠ CAUTION** 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

### ⚠ WARNING

**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 clothing, apparel 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 Drill Presses

## WARNING

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 deadly force. To reduce the risk of these hazards, operator and bystanders **MUST** completely heed hazards and warnings below.

**EYE/FACE/HAND PROTECTION.** 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. 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, wrenches, 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.

**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.

**SECURING BIT/CUTTING TOOL.** Firmly secure bit/cutting tool in chuck so it cannot fly out of spindle during operation or startup.

**DRILLING PREPARATION.** To avoid loss of drilling control or bit breakage, only drill into a flat surface that is approximately perpendicular to bit. Clear table of all objects before starting spindle. Never start spindle with bit pressed against workpiece.

**SECURING TABLE AND HEADSTOCK.** To avoid loss of control leading to accidental contact with tool/bit, tighten all table and headstock locks before operating drill press.

**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.

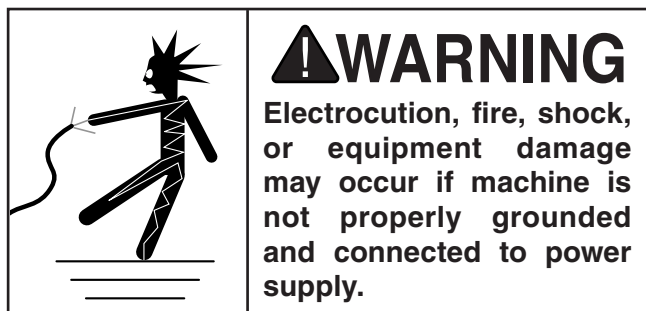
**INSPECTING BIT/CUTTING TOOL.** Damaged bits/cutting tools may break apart during operation and hit operator or bystanders. Dull bits/cutting tools increase cutting resistance and are more likely to grab and spin/throw workpiece. Always inspect bits/cutting tools for sharpness, chips, or cracks before each use. Replace dull, chipped, or cracked bits/cutting tools immediately.



# 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 220V .... 9.2 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.

## Circuit Requirements for 220V

This machine is prewired to operate on a 220V power supply circuit that has a verified ground and meets the following requirements:

**Nominal Voltage ..... 208V, 220V, 230V, 240V**  
**Cycle ..... 60 Hz**  
**Phase ..... 1-Phase**  
**Power Supply Circuit ..... 15 Amps**  
**Plug/Receptacle ..... NEMA 6-15**

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.)



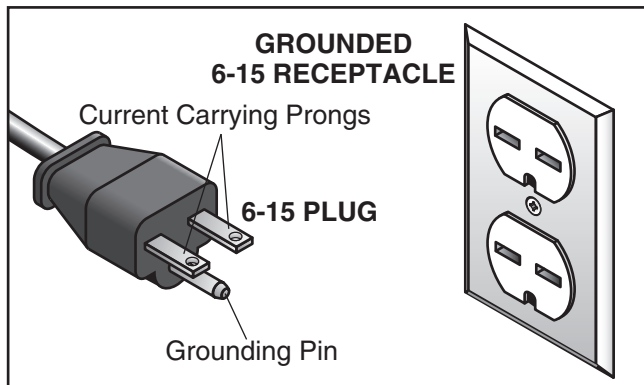
**Note:** *Circuit requirements in this manual apply to a dedicated circuit—where only one machine will be running on the circuit at a time. If machine will be connected to a shared circuit where multiple machines may be running at the same time, consult an electrician or qualified service personnel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



## Grounding Instructions

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.

The power cord and plug specified under “Circuit Requirements for 220V” on the previous page has an equipment-grounding wire and a grounding prong. The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances (see figure below).

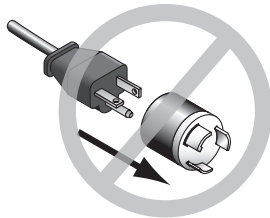


**Figure 3.** Typical 6-15 plug and receptacle.

### **⚠️ 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.**

### **⚠️ CAUTION**



**No adapter should be used with the provided plug. If the plug does not fit the available receptacle, or the machine must be reconnected for use on a different type of circuit, the reconnection must be made by a qualified electrician and comply with all local codes and ordinances.**

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 .....14 AWG**  
**Maximum Length (Shorter is Better).....50 ft.**



# SECTION 3: SETUP

## 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.***

## Needed for Setup

The following are needed to complete the setup process, but are not included with your machine.

Description	Qty
• Additional People .....	2
• Safety Glasses .....	1 Per Person
• Cleaner/Degreaser ( <b>Page 15</b> ) ....	As Needed
• Disposable Shop Rags.....	As Needed
• Forklift (rated for at least 1000 lbs.).....	1
• Lifting Strap (rated for at least 1000 lbs.) ...	1
• Safety Hook & Chain (rated for at least 1000 lbs.).....	1 Each
• Slotted Screwdriver #2 .....	1

### NOTICE

If you cannot find an item on the inventory 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.

## 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.

Small Item Inventory (Figure 4)	Qty
A. Flat Washers 6.5 x 22 x 2.5mm .....	3
B. Handwheels.....	3
C. Cap Screws M6-1 x 12 .....	3
D. Handwheel Handles w/Screws.....	3
E. Bottle for Oil .....	1
F. Toolbox.....	1
G. Open-End Wrenches 17/19, 22/24mm....	1 Ea
H. Drift Key.....	1
I. Drill Chuck B16, 1–13mm w/Chuck Key .....	1
J. Spindle Sleeve MT#3–MT#2 .....	1
K. Spindle Sleeve R-8–MT#3 .....	1
L. Hex Wrenches Set 2.5, 3, 4, 5mm .....	1 Ea
M. T-Bolts M8-1.25 x 55 w/Washers & Nuts ...	2

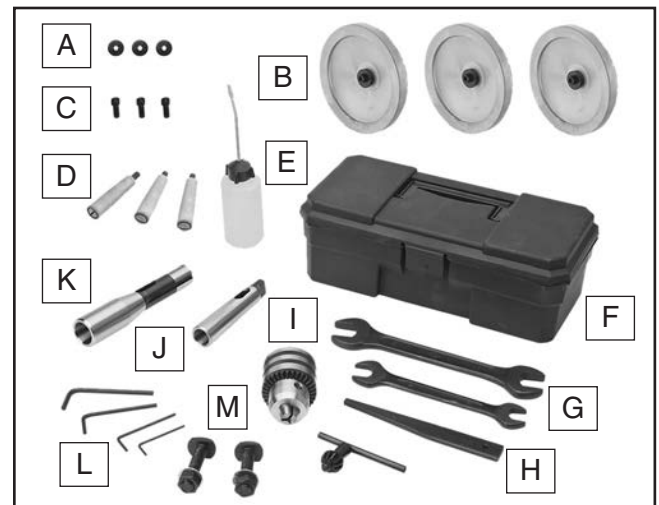


Figure 4. Small item inventory.



# 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"

○ 4mm

○ 5mm

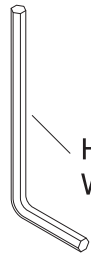
○ 6mm

○ 8mm

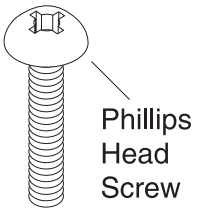
○ 10mm

○ 12mm

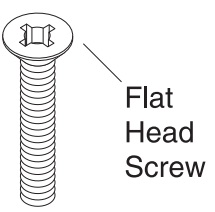
○ 16mm



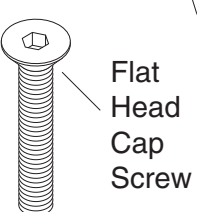
Hex Wrench



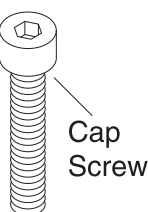
Phillips Head Screw



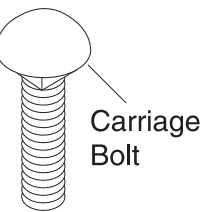
Flat Head Screw



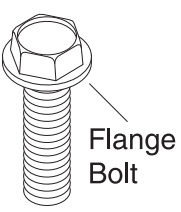
Flat Head Cap Screw



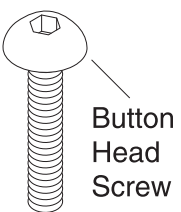
Cap Screw



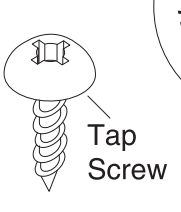
Carriage Bolt



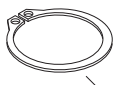
Flange Bolt



Button Head Screw



Tap Screw



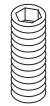
External Retaining Ring



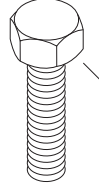
Internal Retaining Ring



E-Clip



Set Screw



Hex Bolt



Key



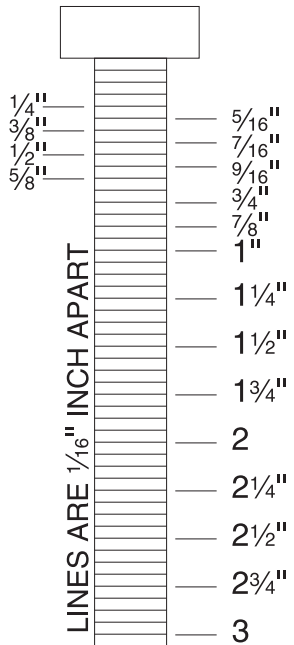
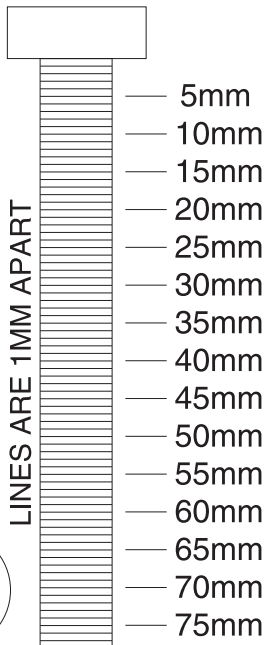
Flat Washer



Lock Washer



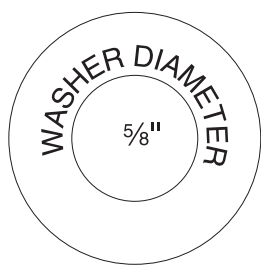
Hex Nut



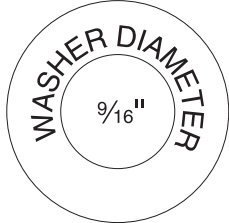
Lock Nut



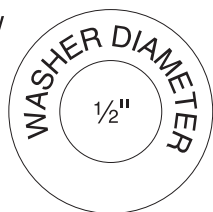
Wing Nut



WASHER DIAMETER  
5/8"



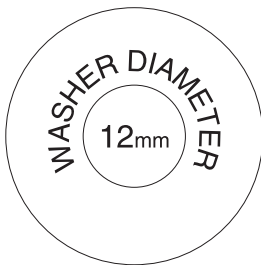
WASHER DIAMETER  
9/16"



WASHER DIAMETER  
1/2"



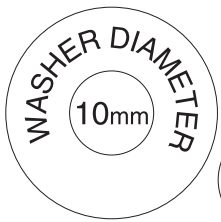
WASHER DIAMETER  
7/16"



WASHER DIAMETER  
12mm



WASHER DIAMETER  
3/8"



WASHER DIAMETER  
10mm



4mm



WASHER DIAMETER  
5/16"



5mm



WASHER DIAMETER  
1/4"



WASHER DIAMETER  
8mm



6mm



#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.

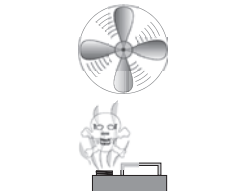
## Before cleaning, gather the following:

- 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.

	<b>⚠ WARNING</b> Gasoline and petroleum products have low flash points and can explode or cause fire if used to clean machinery. Avoid using these products to clean machinery.
--	--

	<b>⚠ CAUTION</b> Many cleaning solvents are toxic if inhaled. Only work in a well-ventilated area.
--	---

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

## T23692—Orange Power Degreaser

A great product for removing the waxy shipping grease from the **non-painted** parts of the machine during clean up.

<p>Call <b>1-800-523-4777</b> To Order</p>	
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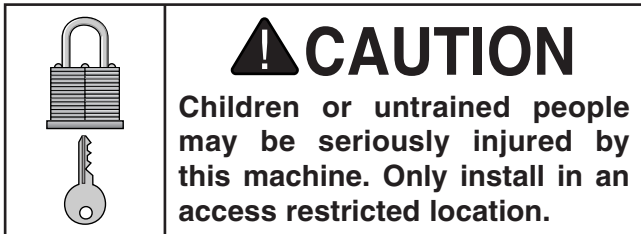
# Site Considerations

## Weight Load

Refer to the **Machine Data Sheet** 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.**



## Physical Environment

The physical environment where the machine is operated is important for safe operation and longevity of machine 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 enough space around machine to disconnect power supply or apply a lockout/tagout device, if required.

## 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.

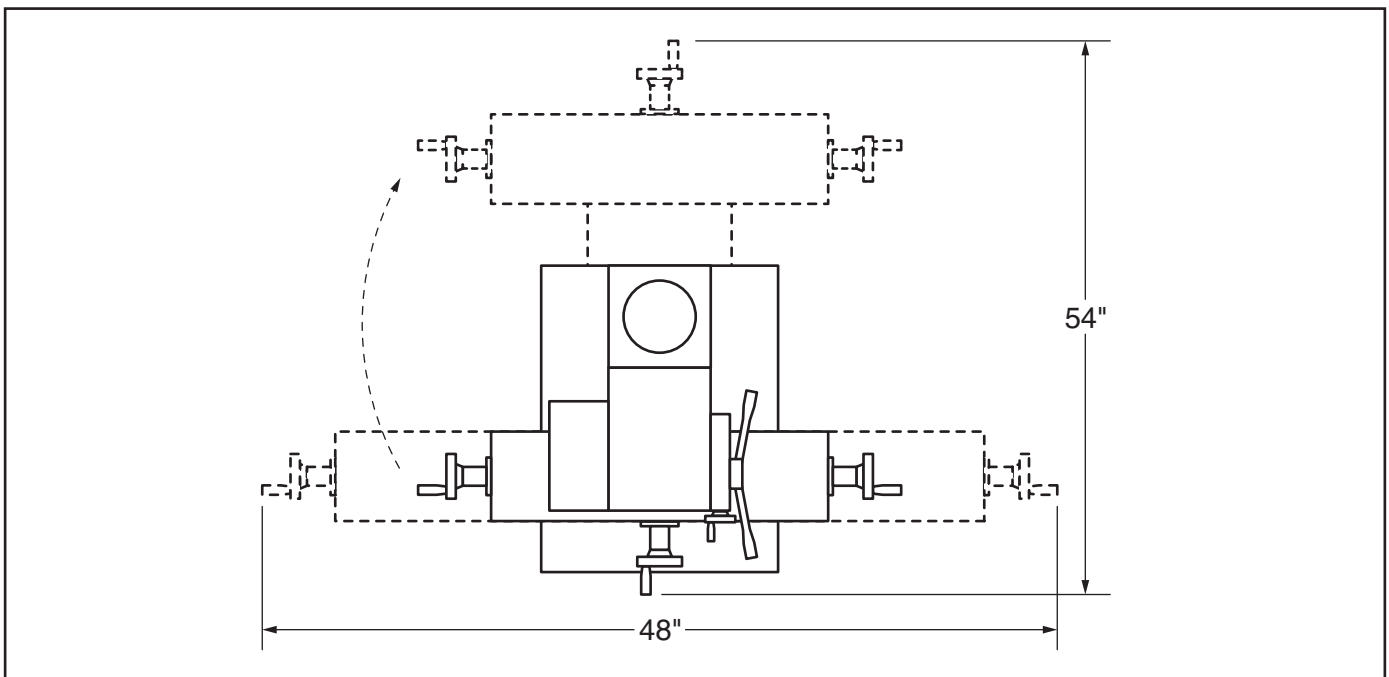
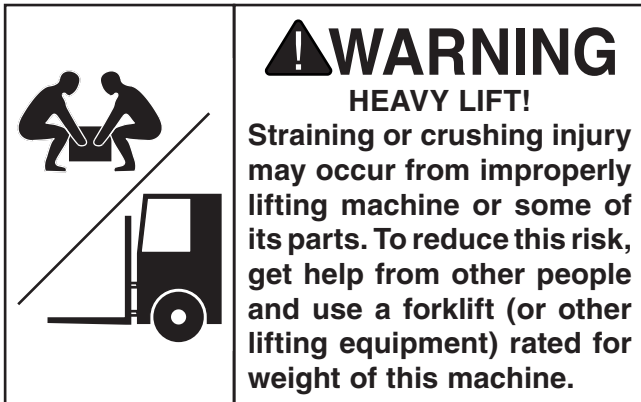


Figure 5. Minimum working clearances.



# Lifting & Placing



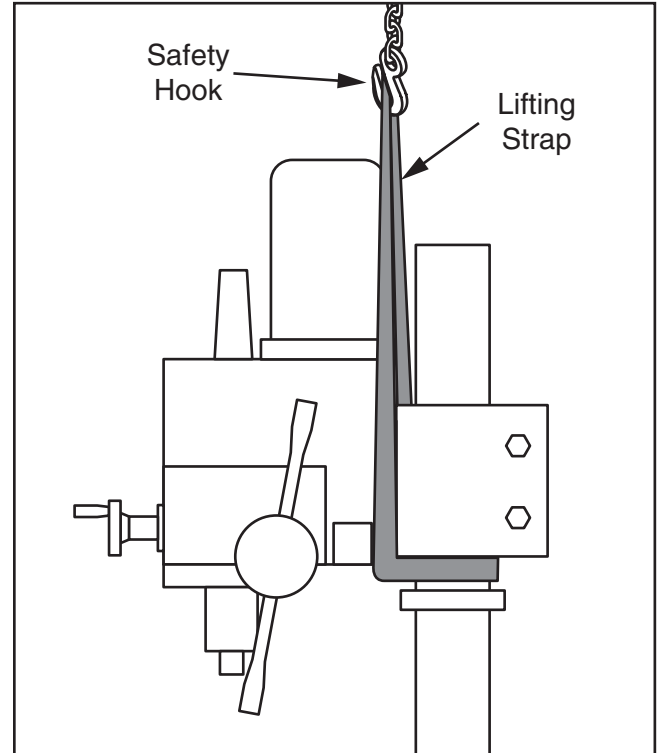
A forklift, lifting strap, and at least two additional people are required to lift and place this machine (refer to **Needed for Setup** on **Page 13** for specifics).

## To lift and place this machine:

1. Remove top crate from shipping pallet.
2. With machine still bolted to pallet, move machine to prepared location.
3. Lower headstock to lowest point (refer to **Headstock Movement** on **Page 24** for detailed instructions).
4. Make sure headstock lock bolts are tight after lowering headstock.
5. Lower table to lowest point (refer to **Table Movement** beginning on **Page 25** for detailed instructions).

**Note:** *Steps 3 and 5 lower machine center of gravity to increase stability when lifting.*

6. Wrap lifting strap twice around column under headstock as shown in **Figure 6**. This will help keep it from slipping.



**Figure 6.** Lifting strap wrapped twice around column and headstock.

7. Attach strap to safety hook above machine, as illustrated in **Figure 6**.
8. Unbolt machine from pallet.
9. With the help of other people to steady the load, lift machine enough to clear pallet, remove pallet, then lower machine in place.



# Anchoring to Floor

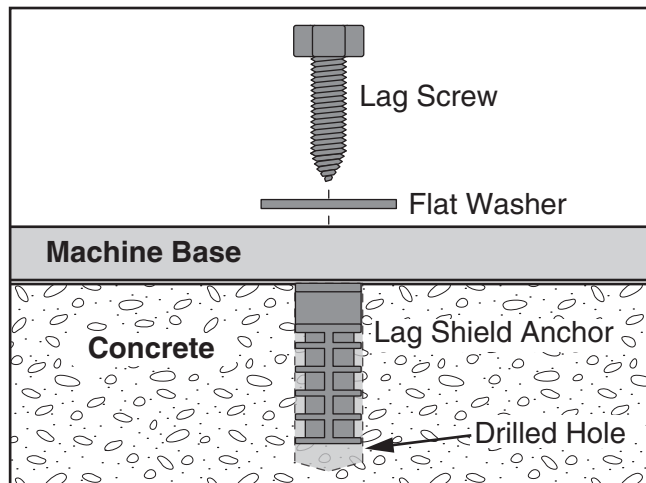
Anchoring machinery to the floor prevents tipping or shifting and reduces vibration that may occur during operation, resulting in a machine that runs slightly quieter and feels more solid.

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 below) 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.



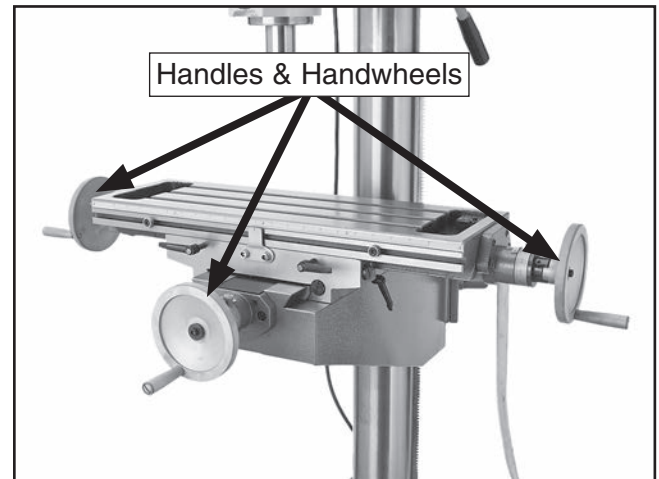
**Figure 7.** Popular method for anchoring machinery to a concrete floor.

# Assembly

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. Install (1) handwheel (see **Figure 8**) on Y-axis leadscrew shaft and (2) handwheels on X-axis leadscrew shaft, then secure handwheels with (3) M6-1 x 12 cap screws and 6.5mm flat washers.
2. Thread (1) handle into each handwheel and tighten to secure (see **Figure 8**).



**Figure 8.** Handwheel handles attached.



# Joining Drill Chuck & Arbor

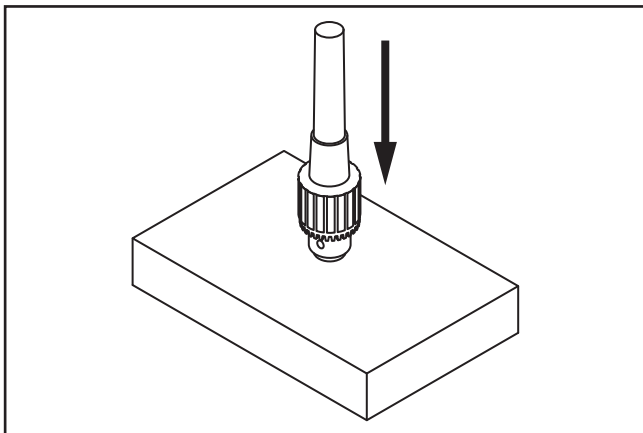
An arbor is included for the drill chuck that comes with this machine. The following procedure describes how to install the arbor in the chuck.

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 the 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 in **Figure 9**.



**Figure 9.** Tapping drill chuck/arbor on block of wood.

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

# Lubricating Drill Press



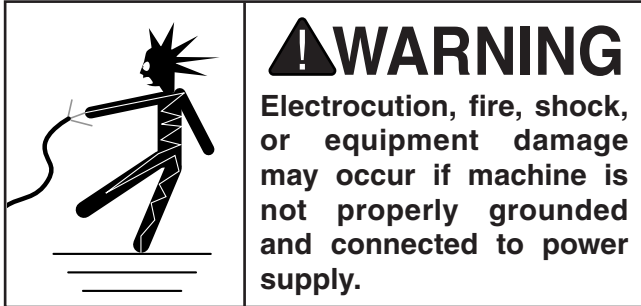
The headstock oil reservoir must be properly filled with oil before the drill press can be operated for the first time.

Damage caused by running the machine without the proper amount of oil in the reservoir will not be covered under warranty. Refer to the **Lubrication** section, beginning on **Page 33**, for details on how to check and add oil.



# Power Connection

Before the machine can be connected to the power source, an electrical circuit and connection device must be prepared per the **POWER SUPPLY** section in this manual, and all previous setup instructions in this manual must be complete to ensure that the machine has been assembled and installed properly.



## Connecting Plug to Power Cord

To connect the plug to the power cord, install a 6-15 plug on the end of the power cord, per the plug manufacturer's instructions. If no instructions were included, use the wiring diagram on **Page 49**.

**Note About Extension Cords:** Using an incorrectly-sized extension cord may decrease the life of electrical components on your machine. If you must use an extension cord, refer to **Extension Cords** on **Page 12** for more information.

# 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 Emergency STOP safety feature is functioning 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 the machine:

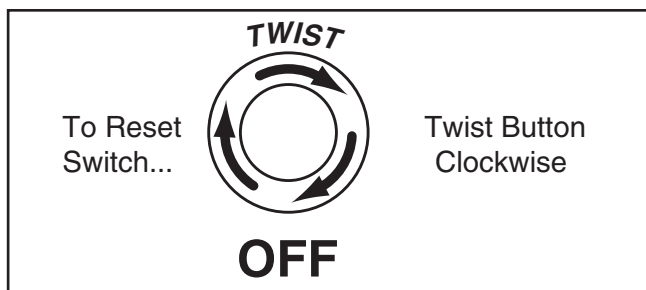
1. Push Emergency STOP button on control panel.
2. Rotate mode selection switch to the center OFF position to prevent unexpected spindle rotation.
3. Rotate the auto-downfeed ON/OFF knob to OFF.
4. Rotate the auto-downfeed rate selector knob to OFF.
5. Fill coolant reservoir with coolant (refer to **Coolant** beginning on **Page 38** for detailed instructions).
6. Connect machine to power source by inserting power cord plug into matching receptacle—the power lamp should light after connection.
7. Twist Emergency STOP button clockwise until it pops out—this resets the switch so the machine can be started (see **Figure 10**).
8. Rotate mode selection switch to left (Drilling/Milling).
9. Push Spindle Forward button to start machine. A correctly operating machine runs smoothly with little or no vibration or rubbing noises.
10. Press Emergency STOP button to stop machine.
11. WITHOUT resetting Emergency STOP button, press Spindle Forward button—the machine should not start.

—If the machine *does* start (with the Emergency STOP button pushed in), immediately disconnect machine from power.

The Emergency STOP button safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

12. Reset Emergency STOP button.
13. Position coolant nozzle over table, use coolant switch on the control panel to turn coolant pump **ON**, then open valve on base of nozzle to test coolant system.
14. Turn coolant pump **OFF**.

The Test Run is complete. Before beginning any regular operations, perform the **Spindle Break-In** procedure on the next page.



**Figure 10.** Resetting the switch.



# Spindle Break-In

---

Before placing operational loads on the spindle, complete this break-in procedure to fully distribute lubrication throughout the bearings and ensure trouble-free performance.

## **NOTICE**

**Failure to complete the spindle break-in process may lead to premature failure of the bearings—this will not be covered under warranty.**

### **To perform the spindle break-in procedure:**

1. Make sure the spindle is completely stopped, then set spindle speed to 90 RPM (refer to **Setting Spindle Speed** on **Page 30** for detailed instructions).

## **NOTICE**

**Do not leave this machine unattended during the Spindle Break-In procedure. If your attention is needed elsewhere during this procedure, stop the machine and restart the procedure later from the beginning.**

2. Run machine for a minimum of 10 minutes.
3. Repeat **Step 2** for each spindle speed, working to progressively higher speeds.

**Note:** *If the machine is new, we recommend changing the headstock oil while it is still warm and any particles from the manufacturing process are still in suspension (refer to **Page 34** in the **Lubrication** subsection for detailed instructions).*

The spindle break-in is now complete!

# Inspections & Adjustments

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The following list of adjustments were performed at the factory before the machine was shipped:

- Gib Adjustments .....**Page 42**
- Leadscrew Backlash Adjustments.....**Page 42**
- Return Spring Tension..... **Page 45**

Be aware that machine components can shift during the shipping process. Pay careful attention to these adjustments during operation of the machine. If you find that the adjustments are not set according to the procedures in this manual or your personal preferences, re-adjust them.



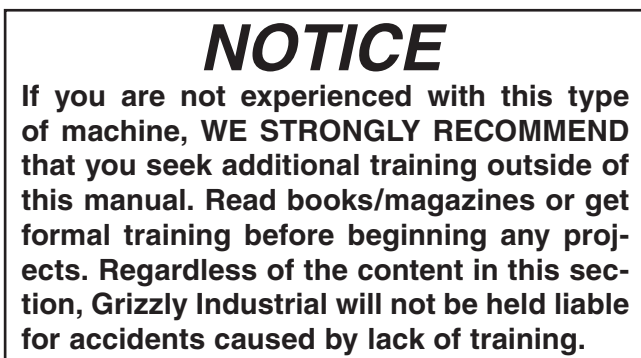


# SECTION 4: OPERATIONS

## Operation Overview

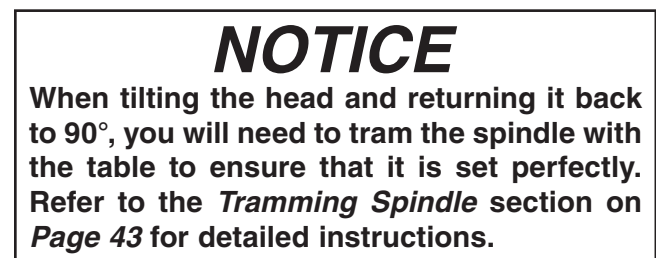
The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so the machine controls/components discussed later in this manual are easier to understand.

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.



To complete a typical operation, the operator does the following:

1. Examines workpiece to make sure it is suitable for cutting.
2. Puts on protective gear.
3. Securely clamps workpiece to table.
4. With machine disconnected from power, installs correct cutting tool.
5. Adjusts headstock height above table.
6. Checks range of table or spindle movement to make sure setup is safe and correct for operation.
7. Selects correct spindle speed.
8. Connects machine to power and turns it **ON**.
9. Uses downfeed controls or table controls to perform cutting operation.
10. Turns machine **OFF** and waits for spindle to completely stop before removing workpiece.



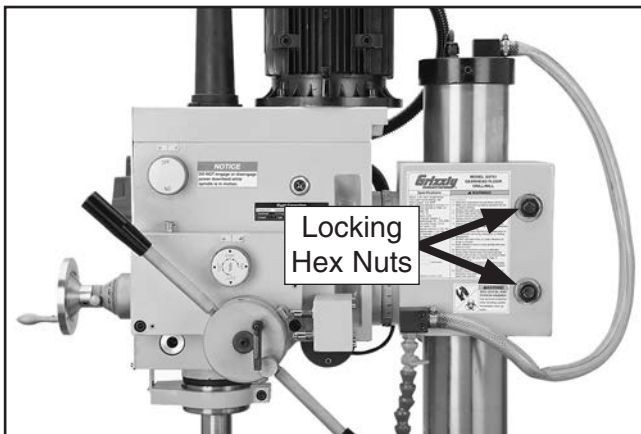
# Headstock Movement

The headstock travels up and down the column, rotates around the column 180° in each direction, and tilts 90° left and right relative to the table.

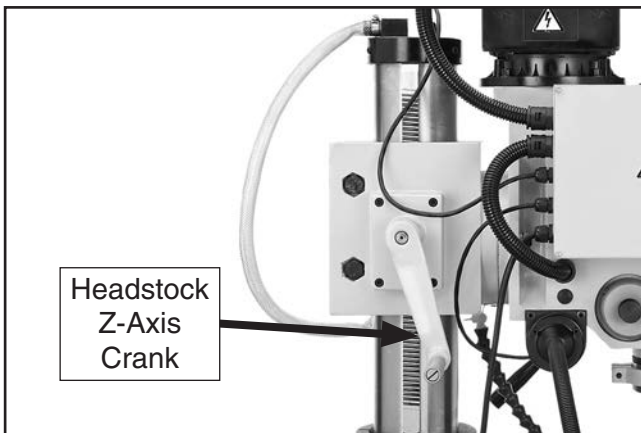
## Raising/Lowering Headstock

Tool Needed	Qty
Wrench 24mm .....	1

Loosen the locking hex nuts shown in **Figure 11**, then use the headstock Z-axis crank (see **Figure 12**) to raise/lower the headstock.



**Figure 11.** Headstock locking hex nuts.



**Figure 12.** Headstock Z-axis crank location.

Lock the headstock in place by retightening the locking hex nuts before beginning operation to avoid unexpected headstock movement.

## Rotating Headstock

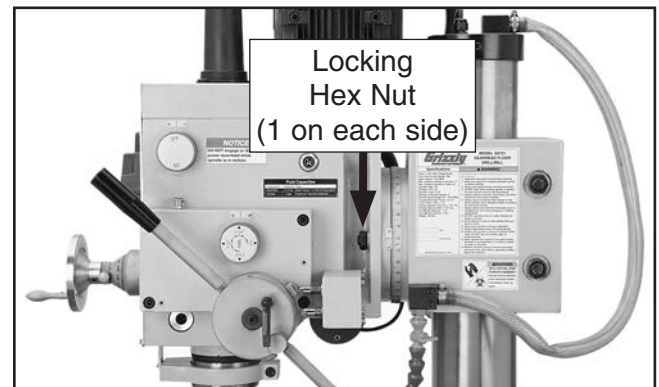
Tool Needed	Qty
Wrench 24mm .....	1

Loosen the locking hex nuts shown in **Figure 11**, then slowly rotate the headstock around the column. Lock the headstock in place by retightening the locking hex nuts before beginning operation to avoid unexpected headstock movement.

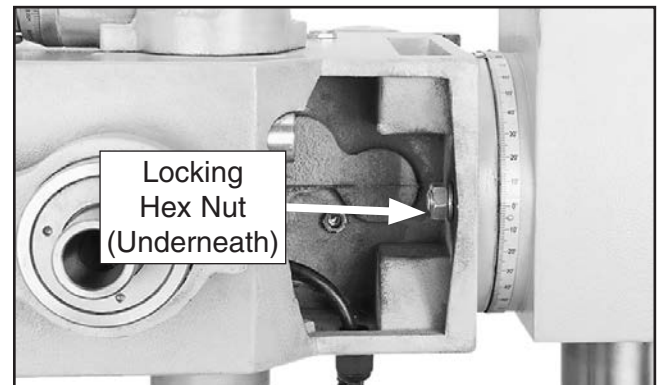
## Tilting Headstock

Tool Needed	Qty
Wrench 22mm .....	1

Loosen the three tilt locking hex nuts—one on each side of the headstock (see **Figure 13**) and one underneath the headstock (see **Figure 14**).



**Figure 13.** Headstock tilt locking hex nuts.



**Figure 14.** Headstock tilt hex nut underneath.

Slowly tilt the headstock to the desired angle, then retighten the tilt locking hex nuts before beginning operation to avoid unexpected headstock movement.

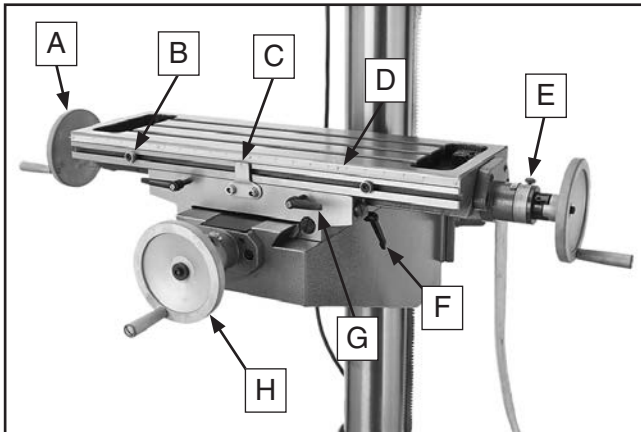


# Table Movement

The table travels in the three axis paths (X-axis or left to right, Y-axis or back and forth, and Z-axis or up and down), and rotates around the column 180°.

## X- & Y-Axis Table Travel

Use **Figure 15** and the descriptions below to better understand the table components that control X- and Y-axis travel.



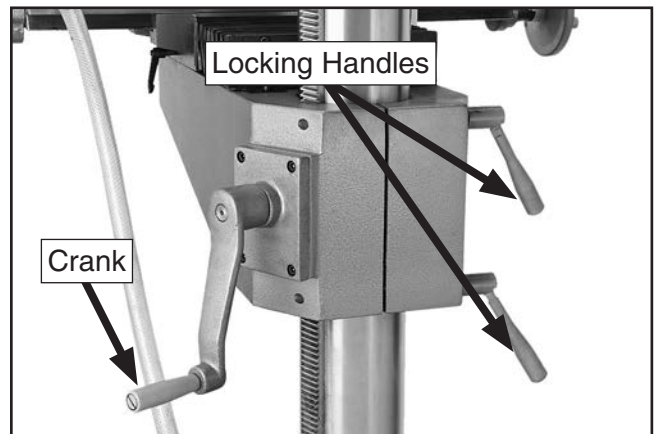
**Figure 15.** X- and Y-axis table travel controls.

- A. X-Axis Handwheel:** Moves table left and right.
- B. X-Axis Limit Stops:** Adjustable along front of table to restrict X-axis table movement.
- C. Limit Stop Block:** Stops X-axis table travel when contacted by a limit stop.
- D. X-Axis Table Scale:** Displays table position left or right from center.
- E. Graduated Dial:** Displays table travel in increments of 0.001". One full revolution equals 0.100" of travel. The thumb screw can be used to adjust the dial to "0" for relative table position.

- F. Y-Axis Table Lock:** Increases rigidity of table when Y-axis movement is not required for operation.
- G. X-Axis Table Locks:** Increases rigidity of table when X-axis movement is not required for operation.
- H. Y-Axis Handwheel:** Moves table back and forth.

## Z-Axis Table Travel

Loosen the two locking handles shown in **Figure 16**, then rotate the table Z-axis crank to raise/lower the table.



**Figure 16.** Z-axis table controls.

Retighten the locking handles before beginning operation to avoid unexpected table movement.

## Rotating Table

Loosen the two locking handles shown in **Figure 16**, then slowly rotate the table around the column. Retighten the locking handles before beginning operation to avoid unexpected table movement.



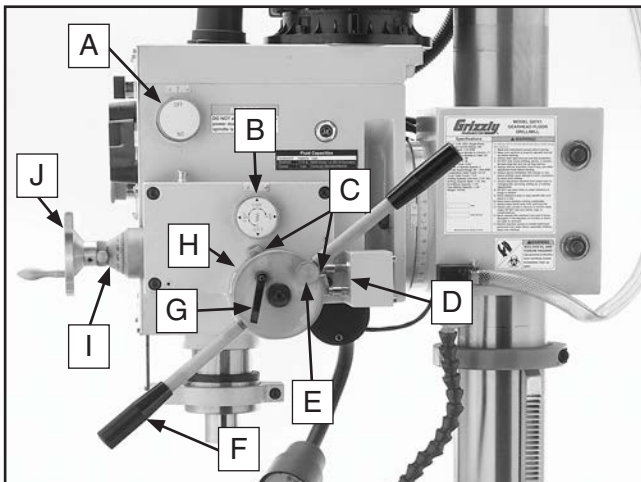
# Downfeed

The Model G0751 features four ways to control spindle downfeed:

- Coarse Downfeed
- Fine Downfeed
- Auto-Downfeed
- Tapping Downfeed

## Downfeed Controls

Use **Figure 17** and the descriptions below to identify the downfeed controls that are referred to in the following procedures.



**Figure 17.** Identification of downfeed controls.

- A. Auto-Downfeed ON/OFF Knob
- B. Auto-Downfeed Rate Selector Knob
- C. Tapping Limit Stops
- D. Tapping Limit Switches
- E. Coarse Handle Lock-Down Thumb Screw
- F. Coarse Downfeed Handle
- G. Depth Graduated Dial Lock Handle
- H. Depth Graduated Dial
- I. Fine Downfeed Graduated Dial
- J. Fine Downfeed Handwheel

## Coarse Downfeed

Use the coarse downfeed handles to control spindle travel in rapid, large amounts for milling/drilling.

### To use coarse downfeed:

1. Make sure spindle is completely stopped.
2. Loosen depth graduated dial lock handle (**G**).
3. Rotate depth graduated dial (**H**) to limit downfeed depth, then retighten lock handle.
4. Rotate auto-downfeed ON/OFF knob (**A**) and auto-downfeed rate selector knob (**B**) counterclockwise to OFF positions.
5. Push coarse downfeed handles (**F**) *toward* headstock and tighten coarse handle lock-down thumb screw (**E**) to hold them in place.
6. Rotate mode selection switch on control panel to Drilling/Milling position.
7. Start spindle rotation and use coarse downfeed handles to control spindle travel.

## Fine Downfeed

Use the fine downfeed handwheel to control spindle travel in slow, small amounts for milling/drilling.

### To use fine downfeed:

1. Make sure spindle is completely stopped.
2. Loosen depth graduated dial lock handle (**G**).
3. Loosen coarse handle lock-down thumb screw (**E**) and pull coarse downfeed handles (**F**) *away* from headstock.
4. Rotate auto-downfeed ON/OFF knob (**A**) and auto-downfeed rate selector knob (**B**) counterclockwise to OFF positions.
5. Rotate depth graduated dial (**H**) to limit downfeed depth, then retighten lock handle.



6. Rotate mode selection switch on control panel to Drilling/Milling position.
7. Start spindle rotation and use fine downfeed handwheel (**J**) to control spindle travel.

**Note:** Use the fine downfeed graduated dial (**I**) and the attached thumb screw to measure the relative amount of spindle travel.

## Auto-Downfeed

The auto-downfeed feature uses headstock gears to control powered downfeed in rates of 0.004, 0.007, and 0.010 inches per spindle revolution.

### To use auto-downfeed:

1. Make sure spindle is completely stopped.
2. Loosen depth graduated dial lock handle (**G**). This will disengage depth graduated dial from the operation.
3. Rotate auto-downfeed ON/OFF knob (**A**) to ON position.
4. Rotate auto-downfeed rate selector knob (**B**) clockwise to desired downfeed rate.
5. Loosen coarse handle lock-down thumb screw (**E**) and pull coarse downfeed handles (**F**) away from headstock.
6. Rotate mode selection switch on control panel to Drilling/Milling position.

## NOTICE

**When using auto-downfeed, the spindle will not automatically stop or reverse when it reaches the bottom depth of travel. To avoid machine damage, manually stop spindle rotation before this happens.**

7. Start spindle forward rotation to engage the auto-downfeed.
8. When desired depth of spindle travel is reached, stop spindle travel.
9. Push coarse downfeed handles *toward* headstock and use them to return spindle to top.

## Tapping Downfeed

Tapping downfeed allows the downward spiraling of the tap to control spindle travel. The depth is controlled by adjusting the tapping limit stops (**C**) in relation with the tapping limit switches (**D**).

### To use tapping downfeed:

1. Make sure spindle is completely stopped.
2. Rotate the auto-downfeed ON/OFF and auto-downfeed rate selector knobs to the OFF position.
3. Adjust depth graduated dial (**H**) to allow for maximum spindle travel and tighten depth graduated dial lock handle (**G**) to secure it.
4. Push coarse downfeed handles (**F**) *toward* headstock and tighten coarse handle lock-down thumb screw (**E**) to hold them in place.
5. Use a 5mm hex wrench to adjust tapping limit stops (**C**) in relation to tapping limit switches (**D**).

—The shorter limit stop is used to reverse spindle rotation when desired depth is reached. This will happen when this limit stop contacts outer limit switch.

—The longer limit stop is used to stop spindle rotation for repetitive operations. This will happen when this limit stop contacts inner limit switch. Adjust limit stop in relation to inner limit switch so that spindle rotation stops when the tap is no longer engaged with workpiece.

6. Rotate mode selection switch on control panel to Tapping position.

**Note:** Position tap just slightly above the workpiece when the spindle is at the top most position. This will prevent the tap breaking when spindle rotation is started.

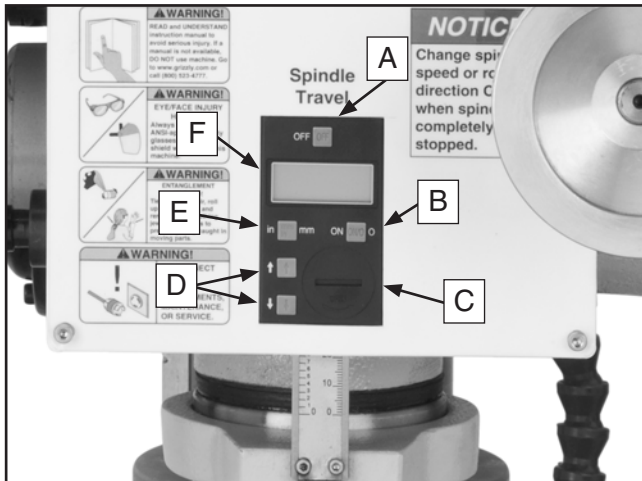
7. Start spindle forward rotation.
8. Use coarse downfeed handles to slowly lower tap into workpiece until it engages workpiece and the downward spiraling action of tap controls spindle travel, then release manual pressure on coarse downfeed handles.



# Depth Digital Display

The depth digital display on the headstock displays the relative spindle depth.

Use **Figure 18** and the following descriptions to gain an understanding of the display controls.



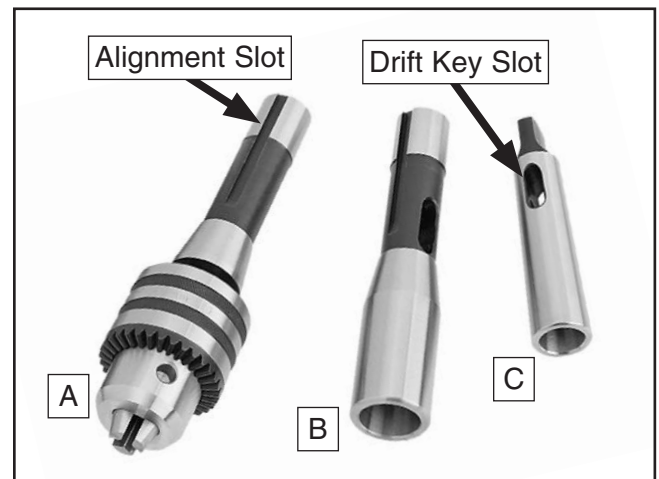
**Figure 18.** Depth digital display controls.

- A. OFF Button**
- B. ON/O Button:** Turns display **ON**. When the display is ON, zeros the display.
- C. Battery Compartment:** Holds the CR2032 3V lithium cell battery that powers the unit.
- D. Up/Down Buttons:** Adjusts the display reading when pressed.
- E. In/mm Button:** Alternates the display between inch and millimeter measurements.
- F. LED Digital Display**

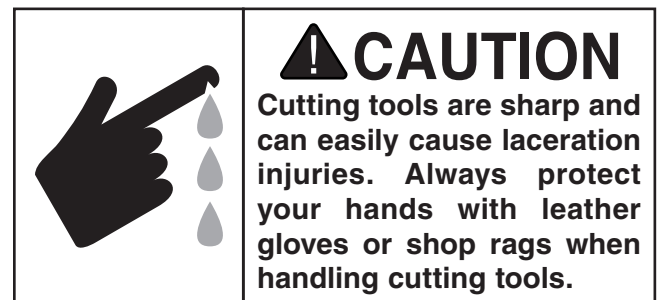
# Installing/Removing Tooling

The Model G0751 includes the following spindle tools (see **Figure 19**):

- A. B16 Drill Chuck w/R-8 Arbor:** Use with drill bits.
- B. R-8–MT#3 Spindle Sleeve:** Use with MT#3 tooling with or without a tang. Has a drift key slot for tool removal.
- C. MT#3–MT#2 Spindle Sleeve:** Use with the R-8–MT#3 spindle sleeve for MT#2 tooling. Has a drift key slot for tool removal.



**Figure 19.** Drill chuck and arbors included with Model G0751.

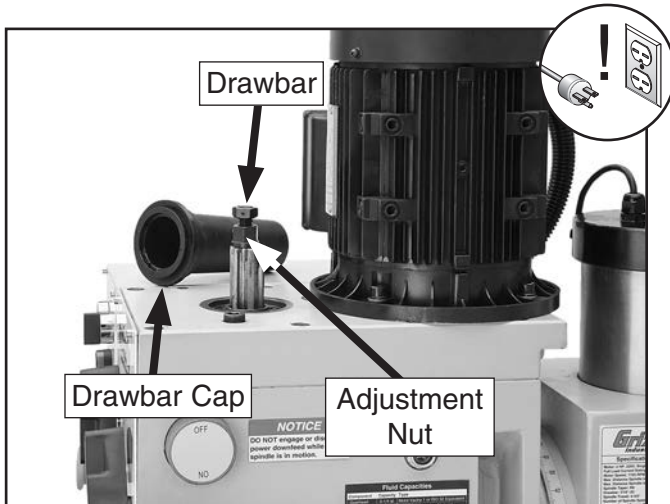


## Installing Tooling

Tool Needed	Qty
Wrench 19mm .....	1

### To install tooling:

1. DISCONNECT MACHINE FROM POWER!
2. Remove drawbar cap as shown in **Figure 20**.



**Figure 20.** Drawbar components.

3. Align tooling alignment slot (see **Figure 19**) with pin inside spindle, then insert tooling into spindle until it contacts drawbar.

**Note:** Drawbar height inside spindle can be changed by rotating the adjustment nut (see **Figure 20**).

4. Working from the top, hand-thread drawbar into tooling until snug, then use a 19mm wrench to tighten it.

**Note:** DO NOT overtighten drawbar. Overtightening makes tooling removal difficult and could damage arbor and drawbar threads.

5. Re-install drawbar cap.

## Removing Tooling

Tools Needed	Qty
Wrench 19mm .....	1
Brass or Dead Blow Hammer.....	1

### To remove tooling:

1. DISCONNECT MACHINE FROM POWER!
2. Remove drawbar cap, and only unthread drawbar from tooling one full rotation.

**Note:** Do not fully unthread tooling from drawbar, or drawbar and tooling threads could be damaged during the next step.

3. Tap top of drawbar with hammer to unseat taper.
4. Hold onto tooling with one hand and fully unthread drawbar with the other hand.



# Spindle Speed

Using the correct spindle speed is important for safe and satisfactory results, as well as maximizing tool life.

To set the spindle speed for your operation, you will need to: 1) Determine the best spindle speed for the operation, and 2) configure the spindle speed levers to produce the required spindle speed.

## Determining Spindle Speed

Many variables affect the optimum spindle speed to use for any given operation, but the two most important are the recommended cutting speed for the workpiece material and the diameter of the cutting tool, as noted in the formula shown in **Figure 21**.

$\frac{\text{*Recommended Cutting Speed (FPM)} \times 12}{\text{Tool Dia. (in inches)} \times 3.14} = \text{Spindle Speed (RPM)}$ <p>*Double if using carbide cutting tool</p>
--

**Figure 21.** Spindle speed formula for mill/drills.

Cutting speed, typically defined in feet per minute (FPM), is the speed at which the edge of a tool moves across the material surface.

A recommended cutting speed is an ideal speed for cutting a type of material in order to produce the desired finish and optimize tool life.

The books **Machinery's Handbook** or **Machine Shop Practice**, and some internet sites, provide excellent recommendations for which cutting speeds to use when calculating the spindle speed. These sources also provide a wealth of additional information about the variables that affect cutting speed and they are a good educational resource.

Also, there are a large number of easy-to-use spindle speed calculators that can be found on the internet. These sources will help you take into account the applicable variables in order to determine the best spindle speed for the operation.

## Setting Spindle Speed

The chart below explains how to position the spindle range and speed levers to set the desired spindle speed.

Spindle Speed	Range Lever	Speed Lever
90 RPM	L	1
210 RPM	L	2
345 RPM	L	3
670 RPM	H	1
1180 RPM	H	2
1970 RPM	H	3

**NOTICE**  
**Change spindle speed ONLY when the spindle is completely stopped. Otherwise, machine damage could occur.**

With the spindle completely stopped, position the spindle range and speed levers (see **Figure 22**) to set the spindle speed.

**Note:** *If the levers will not move to the desired position, rotate the spindle by hand while applying pressure on the lever. When the gear teeth align, the lever will move into place.*



**Figure 22.** Spindle speed controls.





# 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.

### **T26485—58-Pc. Clamping Kit for 7/16" T-Slots**

This clamping kit includes 24 studs, 6 step block pairs, 6 T-nuts, 6 flange nuts, 4 coupling nuts, and 6 end hold-downs. The rack is slotted so it can be mounted close to the machine for easy access.

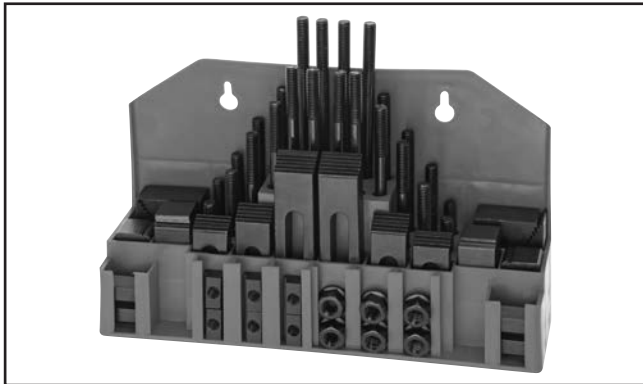


Figure 23. T26485 58-Pc. Clamping Kit.

### **G7066—5" Tilting/Swiveling Milling Vise**

### **H7576—Precision Self-Centering Vise**

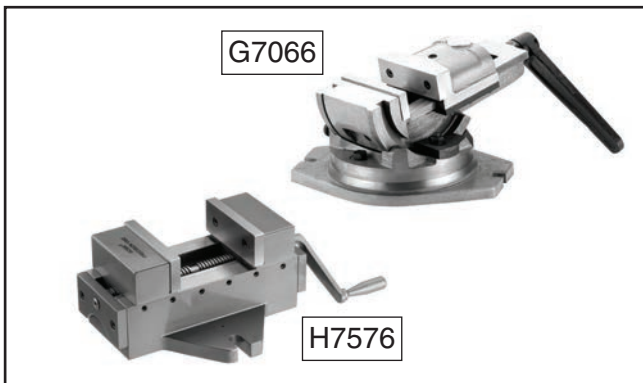


Figure 24. Specialty milling vises.

### **T23962—ISO 68 Moly-D Way Oil, 5 gal.**

### **T23963—ISO 32 Moly-D Machine Oil, 5 gal.**

Moly-D oils are some of the best we've found for maintaining the critical components of machinery because they tend to resist run-off and maintain their lubricity under a variety of conditions—as well as reduce chatter or slip. Buy in bulk and save with 5-gallon quantities.



Figure 25. ISO 68 and ISO 32 machine oil.

### **H7617—High-Pressure Oil Can with Flexible Nozzle**

Whether you are lubricating cutting tools or maintaining machinery in top operating condition, you will appreciate these High Pressure Oil Cans. Each can holds 5 ounces of oil and has a trigger-activated, high-pressure pump.



Figure 26. Model H7617 High Pressure Oil Can.

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



### H7847— 78-Pc. HSS Tap & Die Set

This is the best and one of the most complete Tap and Die sets on the market today. Includes 2 die handles, 2 standard tap handles, 2 Tee tap handles, screwdriver and pitch gauge. All taps are taper grounds and all dies are adjustable. Sizes include four 4-40 taps and four dies, six 6-32 taps and three dies, two 8-32 a2 taps and two dies and one each: 10-24, 10-32, 12-24, 12-28, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 7/16"-14, 7/16"-20, 1/2"-13, 1/2"-20, 9/16"-12, 9/16"-18, 5/8"-11, 5/8"-18, 3/4"-10, 3/4"-16, 7/8"-9, 7/8"-14, 1"-8 and 1"-12 taps and dies. Case Included.



Figure 27. H7847 78-Pc. Tap & Die Set.

### G9612—Test Indicator

This Test Indicator has a 0.03" range in graduations of 0.0005", an easy-to-read dial, and a pivoting stylus that moves at right angles to the dial face.



Figure 28. G9612 Test Indicator.

### T24799—1-2-3 Block Set

#### G9815—Parallel Set

Blocks are square to within .0003". Measure 1" x 2" x 3". Parallel set measures 6" long by 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 1/8", 1 3/8", 1 1/2", and 1 5/8".

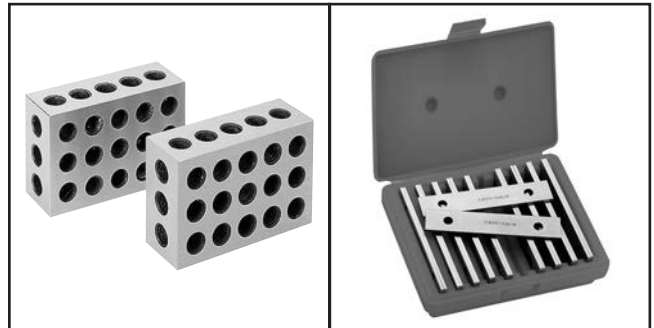


Figure 29. T24799 1-2-3 Block Set and G9815 Parallel Set.

### H5930—4-Pc. Center Drill Set 60°

### H5931—4-Pc. Center Drill Set 82°

Double ended HSS Center Drills are precision ground. Includes sizes 1-4.

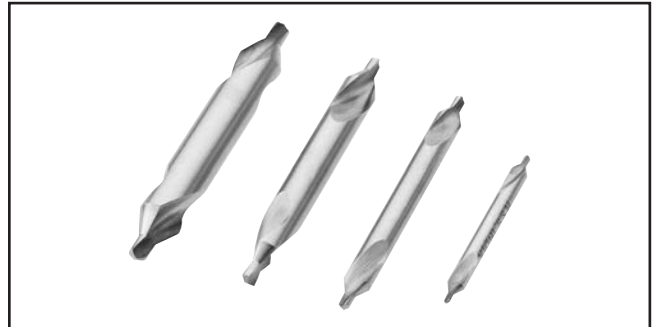


Figure 30. 4-Pc. Center Drill Sets.

### G3658—Titanium Drill Bits

Titanium nitride-coated bits last up to six times as long as uncoated bits. This 115-piece set features 29 fractional bits, from 1/6" to 1/2" in increments of 1/64", letter bits from A-Z, and 60 number bits. Housed in rugged steel case.

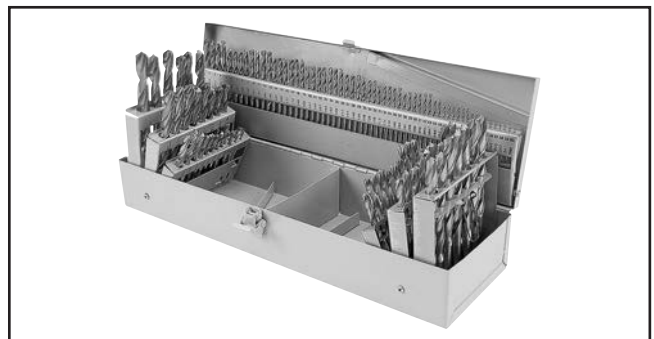


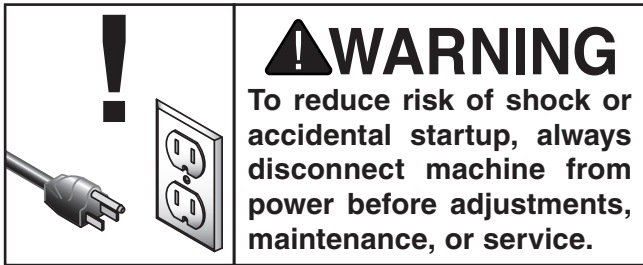
Figure 31. G3658 Titanium Drill Bits.

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



# SECTION 6: MAINTENANCE

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## Schedule

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

### Daily:

- Check/repair loose mounting bolts.
- Check/replace damaged tooling.
- Check/repair worn or damaged wires.
- Clean debris and built up grime off of machine.
- Check/resolve any other unsafe condition.

### Every 8 Hours of Operation:

- Check/add headstock oil (**Page 34**).
- Lubricate table ball oilers (**Page 35**).
- Lubricate dovetail ways (**Page 35**).
- Lubricate downfeed gears (**Page 36**).
- Check/add coolant (**Page 38**).

### Every 40 Hours of Operation:

- Lubricate quill and column surfaces (**Page 36**).
- Lubricate table leadscrews (**Page 37**).

### Every 90 Days of Operation:

- Lubricate quill rack and pinion (**Page 37**).
- Lubricate column racks (**Page 38**).
- Change coolant (**Page 38**).

### Bi-Annually:

- Lubricate spindle spline (**Page 36**).

### Annually:

- Change headstock oil (**Page 36**).

## Cleaning & Protecting

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Metal chips left on the machine will invite oxidation and a gummy residue build-up around the moving parts. Use a brush and shop vacuum to remove chips and debris from the working surfaces of the mill/drill. Never blow off the mill/drill with compressed air, as this will force metal chips deep into the mechanisms and may cause injury to yourself or bystanders.

Remove any rust build-up from unpainted cast iron surfaces of your mill/drill and treat with a non-staining lubricant after cleaning.

Keep unpainted cast iron surfaces rust-free with regular applications of ISO 68 way oil (see **Page 31** for offerings from Grizzly).

## Lubrication

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An essential part of lubrication is cleaning the components before lubricating them.

This step is critical because grime and chips build up on lubricated components, which makes them hard to move. Simply adding more lubricant will not result in smooth moving parts.

Clean all exterior components in this section with mineral spirits, shop rags, and brushes before lubricating.

**DISCONNECT MACHINE FROM POWER BEFORE PERFORMING LUBRICATION.**

### **NOTICE**

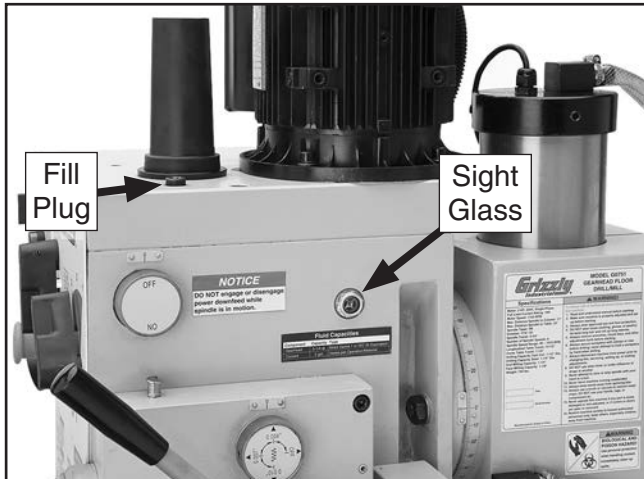
**Follow reasonable lubrication practices as outlined in this manual. Failure to do so could lead to premature failure of your machine and will void the warranty.**



## Headstock Reservoir

Oil Type .....Model T23962 or ISO 68 Equivalent  
 Oil Amount..... 3¼ Qt.  
 Check/Add Frequency .....8 Hrs. of Operation  
 Change Frequency ..... Annually

The headstock has the proper amount of oil when the sight glass is halfway full (see **Figure 32**).



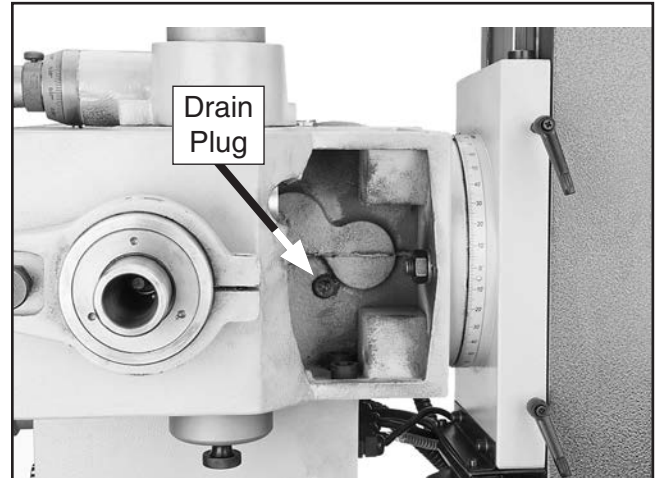
**Figure 32.** Headstock sight glass.

<b>Tool Needed</b>	<b>Qty</b>
Hex Wrench 8mm.....	1

### To change the headstock oil:

1. Run the spindle at 670 RPM for approximately 10 minutes to warm the oil.
2. **DISCONNECT MACHINE FROM POWER!**
3. Remove the fill plug (see **Figure 32**).

4. Place a 1-gallon or larger drain pan on the table under the headstock.
5. Remove the drain plug (see **Figure 33**) from underneath the headstock. Allow the oil to completely drain into the pan.



**Figure 33.** Headstock drain plug (headstock tilted 90° for clarity).

## **NOTICE**

**Follow federal, state, and local requirements for proper disposal of used oil.**

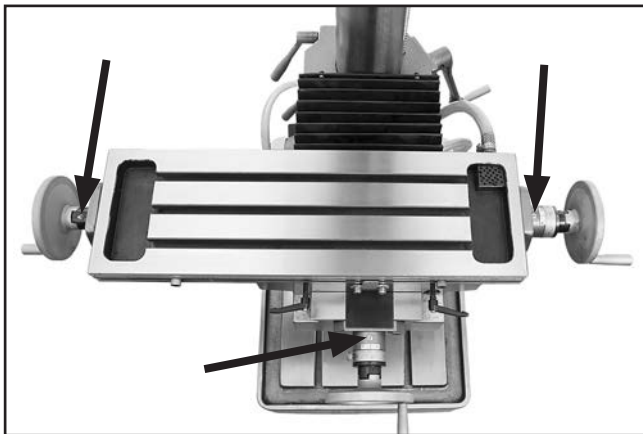
6. Replace the drain plug.
7. Add oil until the sight glass is halfway full, then replace the fill plug.
8. Clean up any spilled oil to prevent slipping hazards.



## Table Ball Oilers

Oil Type .....Model T23963 or ISO 32 Equivalent  
Oil Amount..... 1–2 Pumps  
Lubrication Frequency .....8 Hrs. of Operation

Proper lubrication of the three table ball oilers (shown in **Figure 34**) is done with a pump-type oil can that has a plastic or rubberized cone tip (see **Page 31** for offerings from Grizzly). We do not recommend using metal needle or lance tips, as they can push the ball too far into the oiler, break the spring seat, and lodge the ball in the oil galley.



**Figure 34.** Table ball oiler locations.

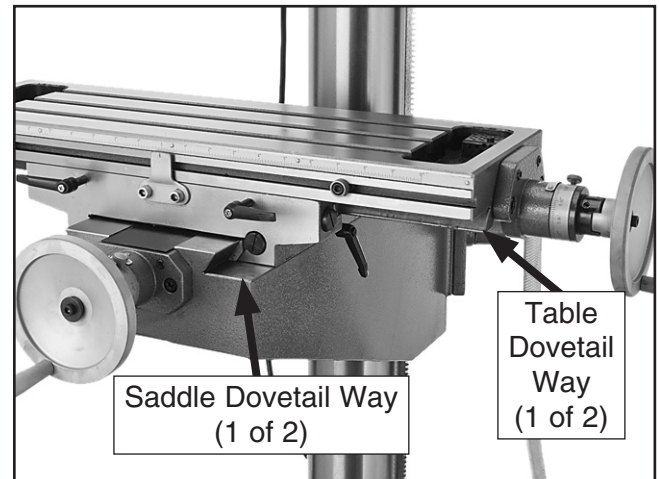
Push the tip of the oil can nozzle against the ball oiler to create a hydraulic seal, then pump the oil can once or twice. If you see sludge and contaminants coming out of the lubrication area, continue pumping the oil can until the oil runs clear. When finished, wipe away the excess oil.

## Dovetail Ways

Oil Type .....Model T23962 or ISO 68 Equivalent  
Oil Amount.....Thin Coat  
Lubrication Frequency .....8 Hrs. of Operation

Use the table controls to access the entire length of the dovetail ways (see **Figure 35**), then clean them with mineral spirits and shop rags.

**Note:** *The table and saddle each have two opposing ways.*



**Figure 35.** Dovetail way locations.

When dry, apply a thin coat of oil to the surfaces. Move each component through the entire path of travel to distribute the lubricant.



## Downfeed Gears

Oil Type .....Model T23963 or ISO 32 Equivalent  
Oil Amount..... Fill Oil Cup  
Lubrication Frequency .....8 Hrs. of Operation

Lift the oil cup cap (see **Figure 36**) to fill the cup with oil. The oil will slowly drain into the downfeed gears over time.

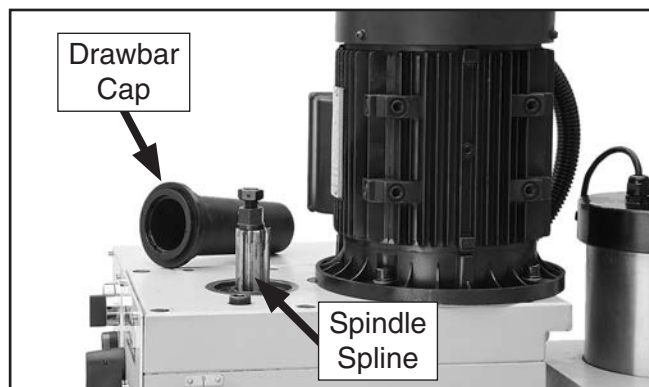


**Figure 36.** Downfeed gears oil cup location.

## Spindle Spline

Grease Type ..... NLGI#2 Grease or Equivalent  
Grease Amount ..... Small Amount  
Lubrication Frequency ..... Bi-Annually

Remove the drawbar cap (see **Figure 37**) to expose the spindle spline.



**Figure 37.** Spindle spline location.

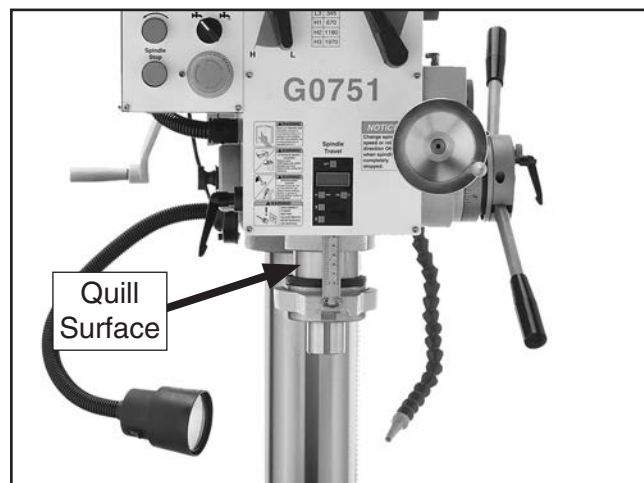
Use the coarse downfeed handles to lower the spindle, then apply a small amount of grease inside the resulting hole. Run the spindle up and down several times to distribute the grease.

## Quill & Column Surfaces

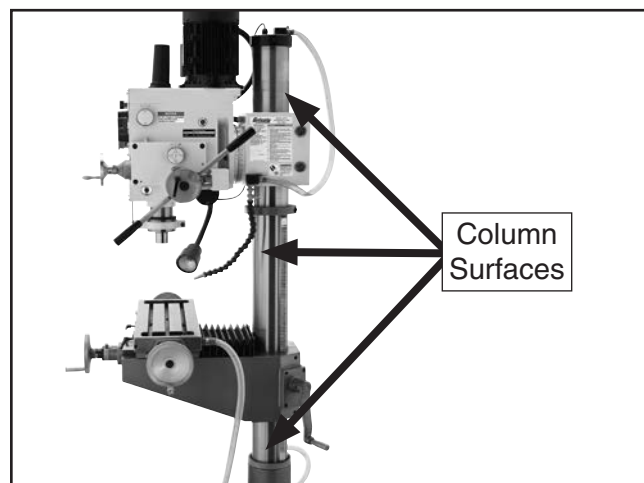
Oil Type .....Model T23962 or ISO 68 Equivalent  
Oil Amount.....Thin Coat  
Lubrication Frequency .....8 Hrs. of Operation

Use the controls to access the entire smooth surfaces of the quill and column (see **Figures 38– 39**), then clean them with mineral spirits and shop rags.

**Note:** Avoid removing the grease from the column racks during cleaning.



**Figure 38.** Quill surface location.



**Figure 39.** Column surface locations.

When dry, apply a thin coat of oil to the surfaces. Move the components through the entire path of travel to distribute the lubricant.



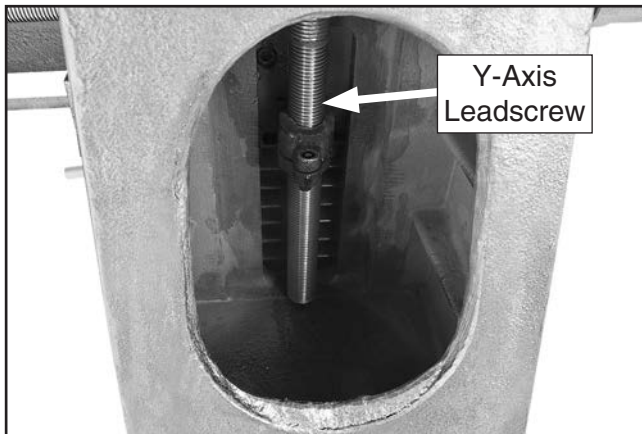
## Table Leadscrews

Oil Type .....Model T23962 or ISO 68 Equivalent  
Oil Amount.....Thin Coat  
Lubrication Frequency.....40 Hrs. of Operation

Move the table as necessary to access the entire length of the X- and Y-axis leadscrews (see **Figures 40–41**), then use mineral spirits, shop rags, and a brush to clean them.



**Figure 40.** X-axis leadscrew location.



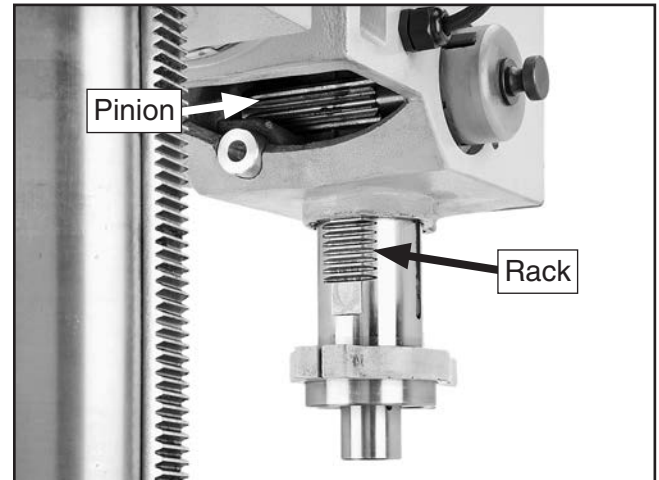
**Figure 41.** Y-axis leadscrew location.

Use a clean brush to apply a thin coat of oil to the leadscrew threads, then move the table through the X- and Y-axis paths to distribute the oil.

## Quill Rack & Pinion

Grease Type .....NLGI#2 Grease or Equivalent  
Grease Amount .....Thin Coat  
Lubrication Frequency.....90 hrs. of Operation

Move the quill up and down to gain full access to the quill rack and pinion (see **Figure 42**), then clean the teeth with mineral spirits, shop rags, and a brush.



**Figure 42.** Quill rack and pinion locations.

When dry, use a brush to apply a thin coat of grease to the teeth, then raise/lower the quill to distribute the grease.

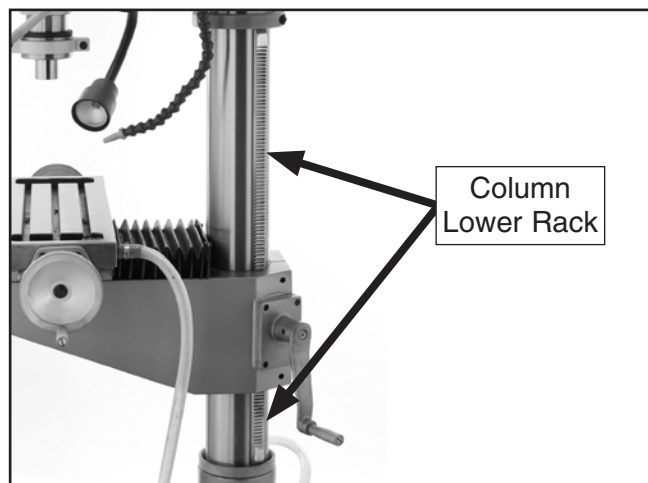
**Note:** *Re-apply oil to the quill smooth outside surface that was removed during the cleaning process.*



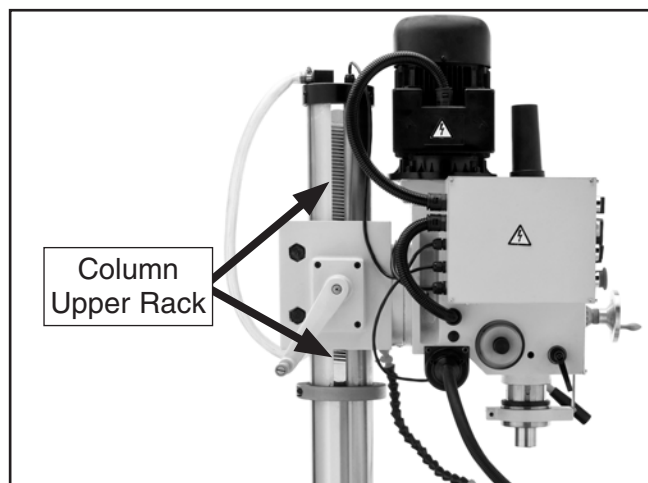
## Column Racks

Grease Type ..... NLGI#2 Grease or Equivalent  
 Grease Amount ..... Thin Coat  
 Lubrication Frequency ..... 90 hrs. of Operation

Move the headstock and table up and down to gain full access to the column racks (see **Figures 43–44**), then clean the teeth with mineral spirits, shop rags, and a brush.



**Figure 43.** Column lower rack location.



**Figure 44.** Column upper rack location.

When dry, use a brush to apply a thin coat of grease to the teeth, then raise/lower the headstock and table to distribute the grease.



**Note:** *Re-apply oil to the column smooth surfaces that was removed during the cleaning process.*

## Coolant

### Hazards

As some coolant ages, dangerous microbes can proliferate and create a biological hazard. The risk of exposure to this hazard can be greatly reduced by checking the coolant regularly, as indicated in the maintenance schedule.

The important thing to keep in mind when working with the coolant is to minimize exposure to your skin, eyes, and respiratory system by wearing the proper PPE (personal protective equipment), such as splash-resistant safety glasses, long-sleeve gloves, protective clothing, and a NIOSH approved respirator.

	<p><b>!WARNING</b>  <b>BIOLOGICAL &amp; POISON          HAZARD!</b></p>
	<p><b>Use the correct personal protection equipment when handling coolant. Follow federal, state, and fluid manufacturer requirements for proper disposal.</b></p>

A small amount of coolant is lost during normal operation. Check the coolant reservoir regularly and fill it if necessary. We recommend changing the coolant every three months or sooner if it develops an unpleasant odor. However, be sure to follow the coolant manufacturer's instructions when checking, adding, or changing coolant.

The coolant reservoir holds approximately 2 gallons (7½ liters) of fluid.

<p><b>NOTICE</b></p> <p><b>Running the coolant pump without adequate coolant in the reservoir may permanently damage the coolant pump, which will not be covered by the warranty.</b></p>
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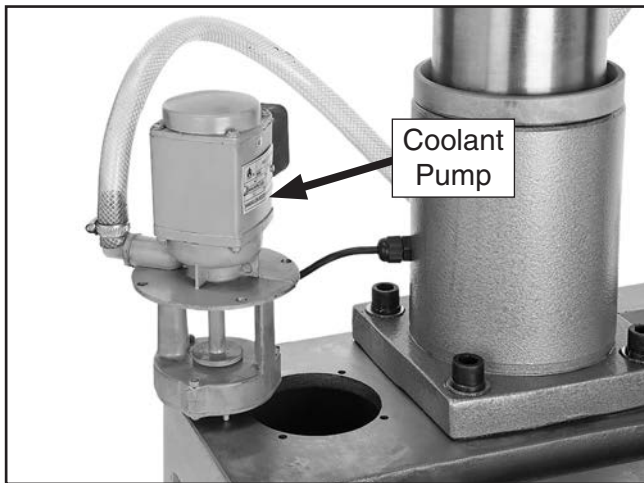


## Checking/Adding Coolant

Tool Needed	Qty
Hex Wrench 5mm.....	1

### To check/add coolant:

1. DISCONNECT MILL FROM POWER!
2. Remove coolant pump from base (see **Figure 45**).



**Figure 45.** Coolant pump removed from base.

3. Use a clean metal tool as a dip stick to measure level of coolant in the reservoir. If level is lower than 2", add coolant.

**Note:** Clean away debris and grime from pump bottom screen before replacing it.

4. Re-install coolant pump before resuming operations.

## Changing Coolant

Tools Needed	Qty
Hex Wrench 5mm.....	1
Catch Pan.....	1
Empty Bucket 5 Gal.....	1
New Coolant.....	Approx. 2 Gallons

### To change the coolant:

1. Put on personal protective equipment.
2. Place catch pan on table, position the coolant nozzle into pan, then use coolant pump to drain reservoir.  
  
**Note:** When catch pan is near full, empty it into 5 gallon bucket, then repeat process.
3. DISCONNECT MACHINE FROM POWER!
4. Remove coolant pump and move it away.
5. Thoroughly clean bottom of reservoir and pump bottom screen. Make sure interior is completely dry before adding new coolant.

**Note:** Use a cleaning solution that is compatible with type of coolant. For instance, if you are using a water-based coolant, then use a water-based cleaning solvent.

6. When reservoir and pump are clean and dry, re-fill the reservoir, and replace pump.

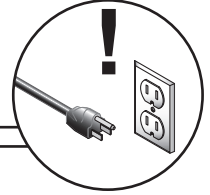
**Tip:** Place a couple of magnets inside reservoir under return hose to collect metal particles to keep them out of coolant pump.



# 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.	<ol style="list-style-type: none"> <li>Emergency stop button depressed.</li> <li>Plug at fault or wired incorrectly.</li> <li>Incorrect power supply voltage.</li> <li>Wall fuse/circuit breaker is blown/tripped.</li> <li>Wiring is open/has high resistance.</li> <li>Motor wired incorrectly.</li> <li>Control panel buttons at fault.</li> <li>Motor or motor components are at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Twist emergency stop button clockwise until it pops out to reset it.</li> <li>Ensure plug is not damaged and is wired correctly.</li> <li>Ensure power supply voltage matches circuit requirements (<b>Page 11</b>).</li> <li>Ensure circuit size is correct and a short does not exist. Reset breaker or replace fuse.</li> <li>Check for broken wires or disconnected/corroded connections; repair/replace as necessary.</li> <li>Ensure motor wiring is correct (<b>Page 49</b>).</li> <li>Ensure each button is wired correctly; replace if at fault (<b>Page 48</b>).</li> <li>Test/repair/replace.</li> </ol>
Machine stalls or is overloaded.	<ol style="list-style-type: none"> <li>Feed rate/cutting speed too fast.</li> <li>Wrong cutter type.</li> <li>Machine is undersized for the task or tooling is incorrect for the task.</li> <li>Motor has overheated.</li> <li>Motor wired incorrectly.</li> <li>Motor bearings are at fault.</li> <li>Motor or motor components are at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Decrease feed rate/cutting speed.</li> <li>Use the correct cutter for the task.</li> <li>Use smaller or sharper tooling; reduce feed rate or spindle speed; use cutting fluid if possible.</li> <li>Clean off motor, let cool, and reduce workload.</li> <li>Ensure motor wiring is correct (<b>Page 49</b>).</li> <li>Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> <li>Test/repair/replace motor.</li> </ol>
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> <li>Motor or machine component is loose.</li> <li>Workpiece not secure.</li> <li>Excessive depth of cut.</li> <li>Cutter/tooling is loose.</li> <li>Cutter is dull or at fault.</li> <li>Bit is chattering.</li> <li>Machine is incorrectly anchored to floor or sits unevenly.</li> <li>Motor fan is rubbing on fan cover.</li> <li>Motor bearings are at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Inspect/replace stripped or damaged bolts/nuts, and retighten with thread locking fluid.</li> <li>Properly clamp workpiece on table or in vise.</li> <li>Decrease depth of cut.</li> <li>Make sure tooling is properly secured.</li> <li>Replace/resharpen cutter.</li> <li>Replace/sharpen bit; index bit to workpiece; use appropriate feed rate and cutting RPM.</li> <li>Tighten/replace anchor bolts; relocate/shim machine.</li> <li>Replace dented fan cover or damaged fan.</li> <li>Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> </ol>



## Operations

Symptom	Possible Cause	Possible Solution
Tool loose in spindle.	<ol style="list-style-type: none"> <li>1. Tool is not fully drawn up into spindle taper.</li> <li>2. Debris on tool or in spindle taper.</li> <li>3. Taking too big of a cut.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten draw bar.</li> <li>2. Clean collet and spindle taper.</li> <li>3. Lessen depth of cut and allow chips to clear.</li> </ol>
Breaking tools or cutters.	<ol style="list-style-type: none"> <li>1. Spindle speed/feed rate is too fast.</li> <li>2. Auto-downfeed rate is too fast.</li> <li>3. Cutting tool too small.</li> <li>4. Cutting tool getting too hot.</li> <li>5. Taking too big of a cut.</li> <li>6. Spindle extended too far down.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set spindle speed correctly (<b>Page 30</b>) or use slower feed rate.</li> <li>2. Use a slower auto-downfeed rate (<b>Page 27</b>).</li> <li>3. Use larger cutting tool and slower feed rate.</li> <li>4. Use coolant fluid or oil for appropriate application.</li> <li>5. Incrementally increase the size of the bit until proper diameter is reached.</li> <li>6. Fully retract spindle and lower headstock. This increases rigidity.</li> </ol>
Workpiece vibrates or chatters during operation.	<ol style="list-style-type: none"> <li>1. Table locks not tight.</li> <li>2. Workpiece not secure.</li> <li>3. Spindle speed/feed rate is too fast.</li> <li>4. Spindle extended too far down.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten down table locks.</li> <li>2. Properly clamp workpiece on table or in vise.</li> <li>3. Set spindle speed correctly (<b>Page 30</b>) or use a slower feed rate.</li> <li>4. Fully retract spindle and lower headstock. This increases rigidity.</li> </ol>
Table is hard to move.	<ol style="list-style-type: none"> <li>1. Table locks are tightened down.</li> <li>2. Chips have loaded up on ways.</li> <li>3. Dovetail ways are dry and need lubrication.</li> <li>4. Table limit stops are interfering.</li> <li>5. Gibs are too tight.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure table locks are fully released.</li> <li>2. Frequently clean away chips that load up during operations.</li> <li>3. Lubricate dovetail ways (<b>Page 35</b>).</li> <li>4. Check to make sure that all table limit stops are not in the way.</li> <li>5. Adjust gibs (see <b>Page 42</b>).</li> </ol>
Bad surface finish.	<ol style="list-style-type: none"> <li>1. Spindle speed/feed rate is too fast.</li> <li>2. Using a dull or incorrect cutting tool.</li> <li>3. Wrong rotation of cutting tool.</li> <li>4. Workpiece not secure.</li> <li>5. Spindle extended too far down.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set spindle speed correctly (<b>Page 30</b>) or use a slower feed rate.</li> <li>2. Sharpen cutting tool or select one that better suits the operation.</li> <li>3. Check for proper cutting rotation for cutting tool.</li> <li>4. Properly clamp workpiece on table or in vise.</li> <li>5. Fully retract spindle and lower headstock. This increases rigidity.</li> </ol>
Cutting/drilling results not square.	<ol style="list-style-type: none"> <li>1. Table and spindle are not at 90° to each other.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tram the spindle (<b>Page 43</b>).</li> </ol>



# Adjusting Gibs

Gibs are tapered lengths of metal that are sandwiched between two moving surfaces. Gibs control the gap between these surfaces and how they slide past one another. Correctly adjusting the gibs is critical to producing good results.

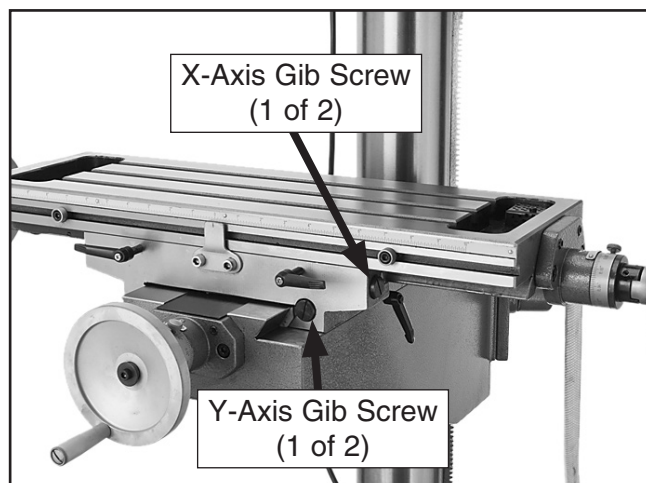
Correctly positioning gibs is a matter of trial and error and patience. Tight gibs make table movement more accurate but stiff. Loose gibs make table movement sloppy but easier to do. The goal of gib adjustment is to remove unnecessary sloppiness without causing the ways to bind.

Many experienced machinists adjust the gibs just to the point where they can feel a slight drag in table movement.

Screws on each end of the gib allow gib adjustment to increase or decrease the friction between the sliding surfaces.

**DISCONNECT MACHINE FROM POWER BEFORE ADJUSTING THE GIBS!**

Make sure all table locks are loose. Then, loosen one gib adjustment screw (see **Figure 46**) and tighten the opposing screw the same amount to move the gib, while at the same time rotating the handwheel to move the table until you feel a slight drag in that path of movement.



**Figure 46.** Table gib screw locations.

# Adjusting Leadscrew Backlash

Leadscrew backlash is the amount of freeplay movement in the leadscrew (when the leadscrew moves but the table does not) after changing the direction of rotation.

Leadscrews must have a certain amount of backlash to rotate easily, but it increases with wear over time. Generally, 0.003"–0.006" leadscrew backlash is acceptable to ensure smooth movement and reduce the risk of premature thread wear.

The X- and Y-axis leadscrew backlash is adjusted using a long 4mm hex wrench to tighten/loosen the cap screw on the leadscrew nut. This adjusts the force the leadscrew nut exerts on the leadscrew threads.

The X-axis leadscrew nut shown in **Figure 47** is accessed from underneath the left side of the table.

The Y-axis leadscrew nut is similar and is accessed from underneath the knee.



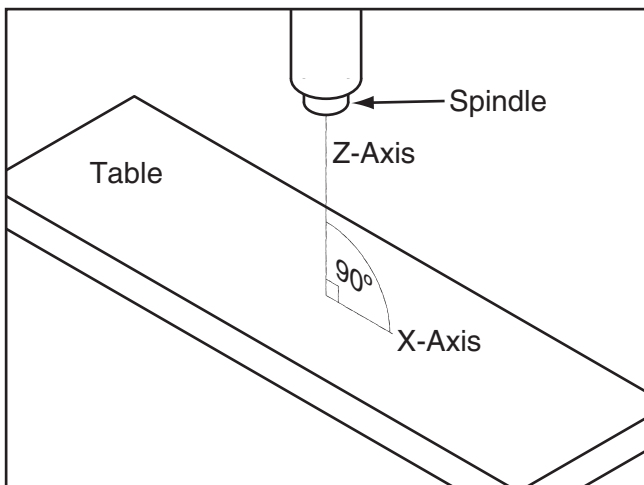
**Figure 47.** Location of X-axis leadscrew nut for adjusting backlash.



# Tramming Spindle

When the operation requires that the spindle axis be precisely perpendicular to the table, the spindle must be trammed with the table. Simply adjusting the headstock tilt to the 90° mark on the tilt scale will not be precise enough for highly accurate results.

This procedure involves mounting a dial indicator to the quill or spindle, rotating it around the table, and adjusting the head position so that the spindle axis is 90° to the table X-axis, as illustrated in **Figure 48**.



**Figure 48.** Spindle centerline properly trammed to the table.

**Note:** Keep in mind that the top surface of your workpiece will likely not be parallel with the table top. Depending on your operation, you may choose to tram the spindle to the top surface of the workpiece after it is mounted instead of tramping to the table.

## Tools Needed

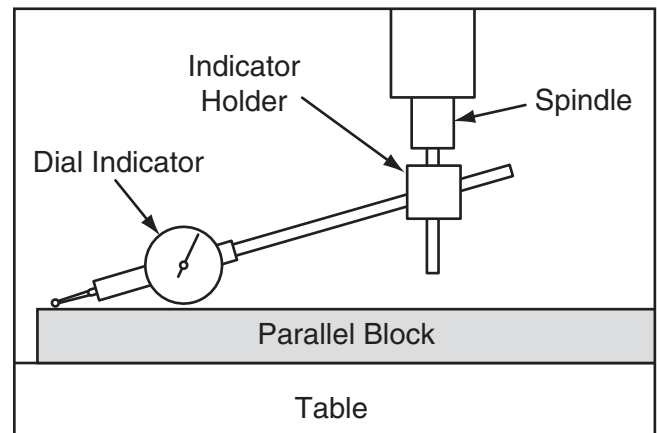
Qty

Dial Indicator (with at least 0.0005" resolution) . 1  
Indicator Holder (mounted on quill/spindle) ..... 1  
Precision Parallel Block (1-2-3 Blocks)..... 1

**Note:** A precision-ground plate can be substituted for the parallel block. The farther the indicator point can be placed from the spindle axis, the more accurate the alignment measurements will be.

## To tram the spindle with the table:

1. DISCONNECT MACHINE FROM POWER!
2. Prepare machine by performing the following tasks:
  - Stone table to remove all nicks and burrs, then clean off all debris. Verify table is clean by running your hand over the top of it.
  - Position table for the operation you intend to perform after tramping—preferably centered with saddle.
  - Tighten any table locks that should be tight during intended milling operation.
3. Place parallel block underneath spindle.
4. Install indicator holder into spindle or onto quill, then mount indicator onto it so that the point is as parallel to the block as possible (see the illustration in **Figure 49** for an example).

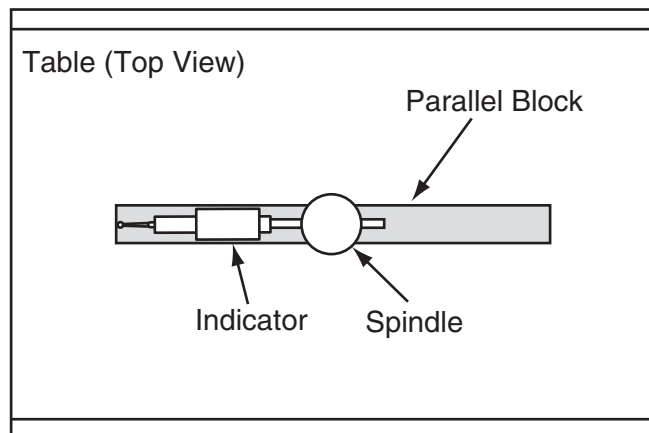


**Figure 49.** Dial indicator mounted.



5. Place the parallel block directly under spindle and indicator across length of table, as illustrated in **Figure 50**.

**Note:** *If you must reposition quill to accommodate the above step, then review tasks in **Step 2** to make sure mill is properly prepared for tramping.*



**Figure 50.** Setup for the X-axis adjustment.

**Note:** *Generally, the goal is to get the difference of the indicator readings between ends of the parallel bar down to 0.0005". However, the acceptable variance will depend on the requirements for your operation.*

6. Rotate spindle by hand so that the indicator point rests on one end of parallel block, as illustrated in **Figure 50**, then zero dial.

7. Rotate spindle so that the indicator point rests in the same manner on other end of block, then read dial.

—If indicator dial still reads zero or is within the acceptable variance, continue on with **Step 8**.

—If indicator dial has moved from zero beyond the acceptable variance, you will need to compensate for that amount by tilting head left or right. Repeat **Steps 6–7** until you are satisfied with spindle axis alignment along table X-axis.

**Tip:** *Keep one of the tilting hex nuts snug so that the head does not move loosely while you adjust it in small amounts.*

8. Retighten tilting hex nuts.

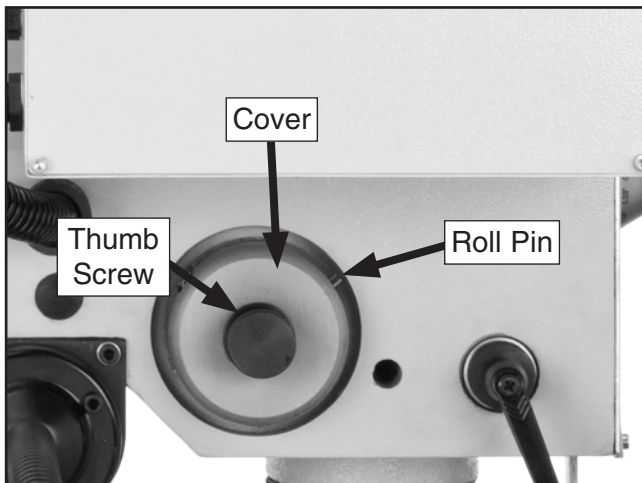


# Tightening Return Spring Tension

The return spring moves the spindle back up when the coarse downfeed handles are released. The tension of this spring was adjusted at the factory, but it may need to be tightened during the life of the mill/drill.

**Important:** Do not perform this procedure unless it is absolutely necessary.

During this procedure, you will loosen the spring cover thumb screw (see **Figure 51**) just enough to pull the cover back to clear the roll pin, then rotate the cover counterclockwise to fit the roll pin in the next slot.



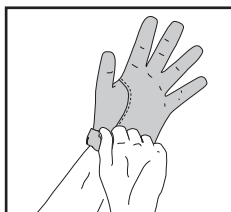
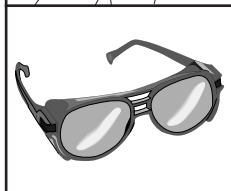
**Figure 51.** Return spring components.

## To adjust the return spring tension:

1. DISCONNECT MACHINE FROM POWER!
2. Wipe off any oil on spring cover so it does not slip when you hold it during adjustments.
3. Mark slot on cover that engages the roll pin at the top—this is the factory setting.
4. Put on heavy leather gloves to protect your hands from lacerations if spring uncoils during next step.

**Note:** Keep a good grip on spring cover during next step. Letting go of cover when roll pin is not engaged will cause spring to rapidly uncoil.

5. While holding spring cover against side of headstock so the spring will not unwind, loosen thumb screw approximately 1/4".
6. Pull cover out to disengage it with roll pin, then rotate it counterclockwise to engage roll pin in the next slot in cover.
7. Retighten thumb screw to secure setting.

	<b>⚠ WARNING</b> If the return spring should come loose from the spring cap and rapidly unwind, laceration or impact injuries could occur. Always wear heavy leather gloves and safety glasses when adjusting the return spring tension.
	



# 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).

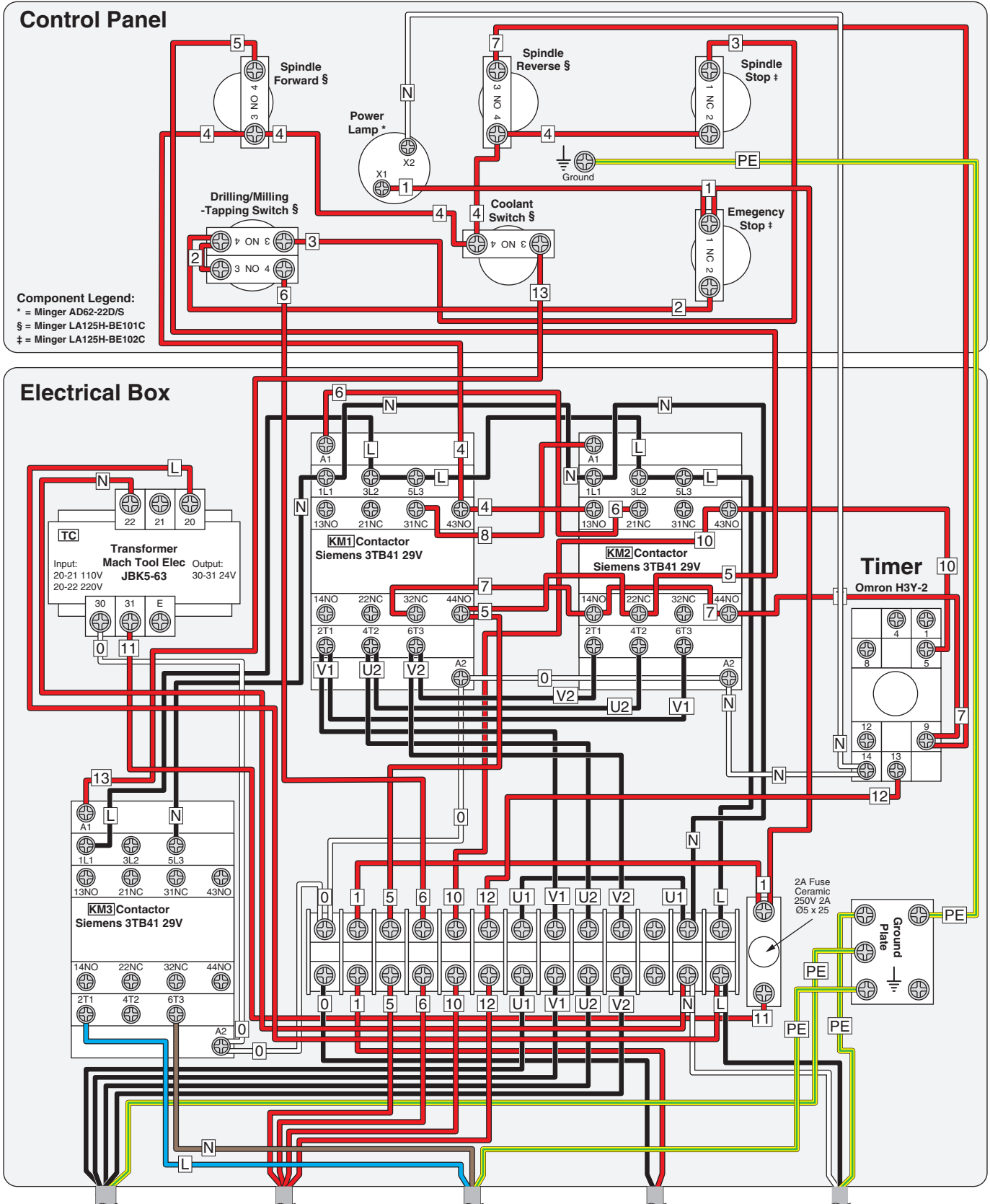
#### COLOR KEY

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





# Electrical Cabinet Wiring



**Component Legend:**  
 \* = Minger AD62-22D/S  
 § = Minger LA125H-BE101C  
 ‡ = Minger LA125H-BE102C

- To Spindle Motor (Page 49)
- To Tapping Limit Switches (Page 49)
- To Coolant Pump (Page 49)
- To Halogen Lamp (Page 49)
- To Power Source (Page 49)

# Electrical Cabinet

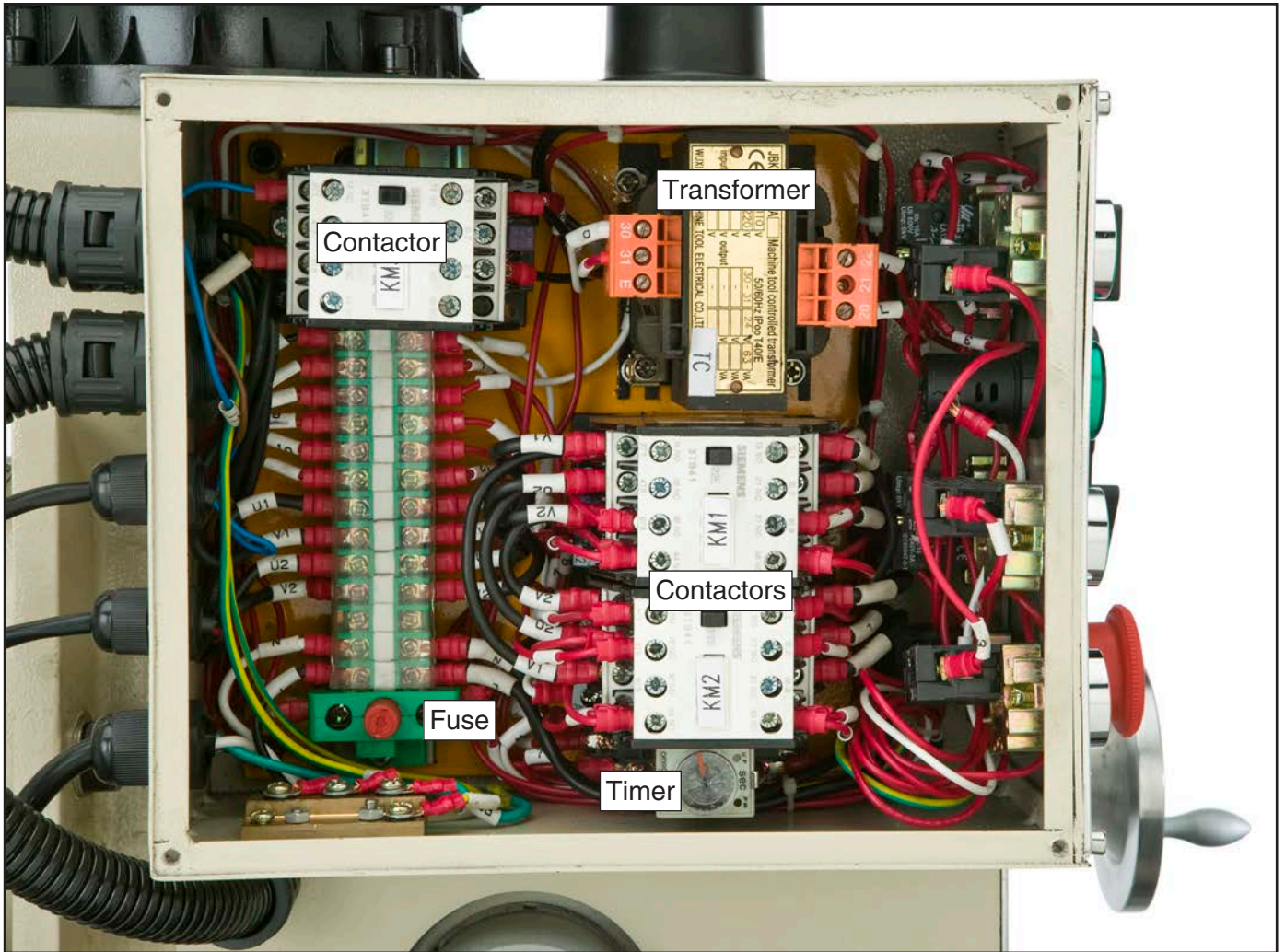
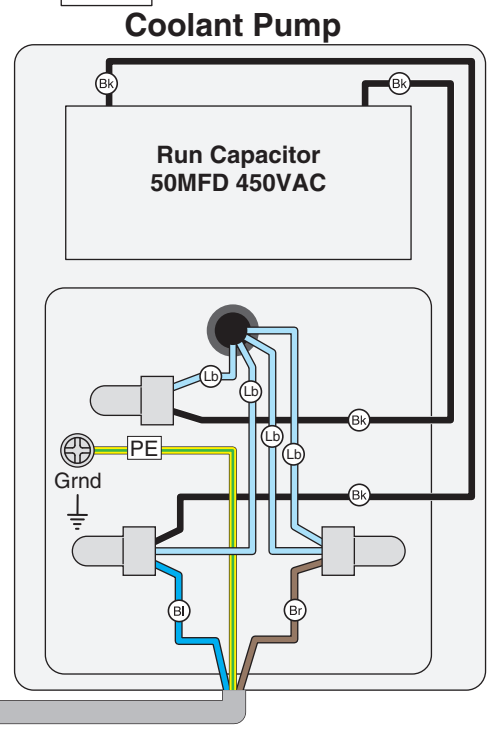
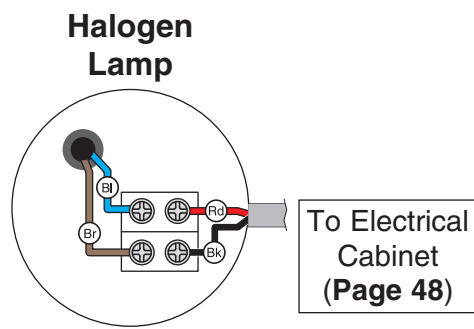
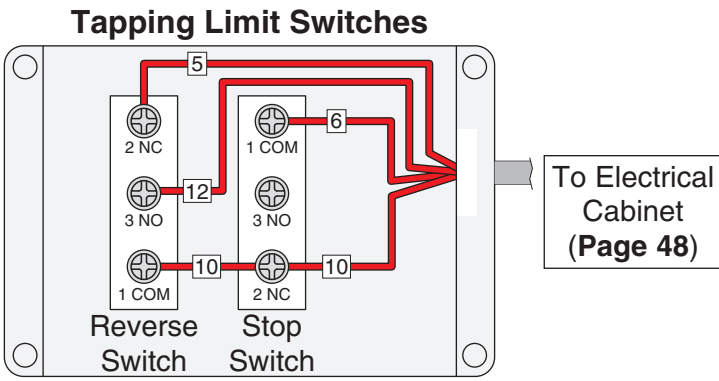
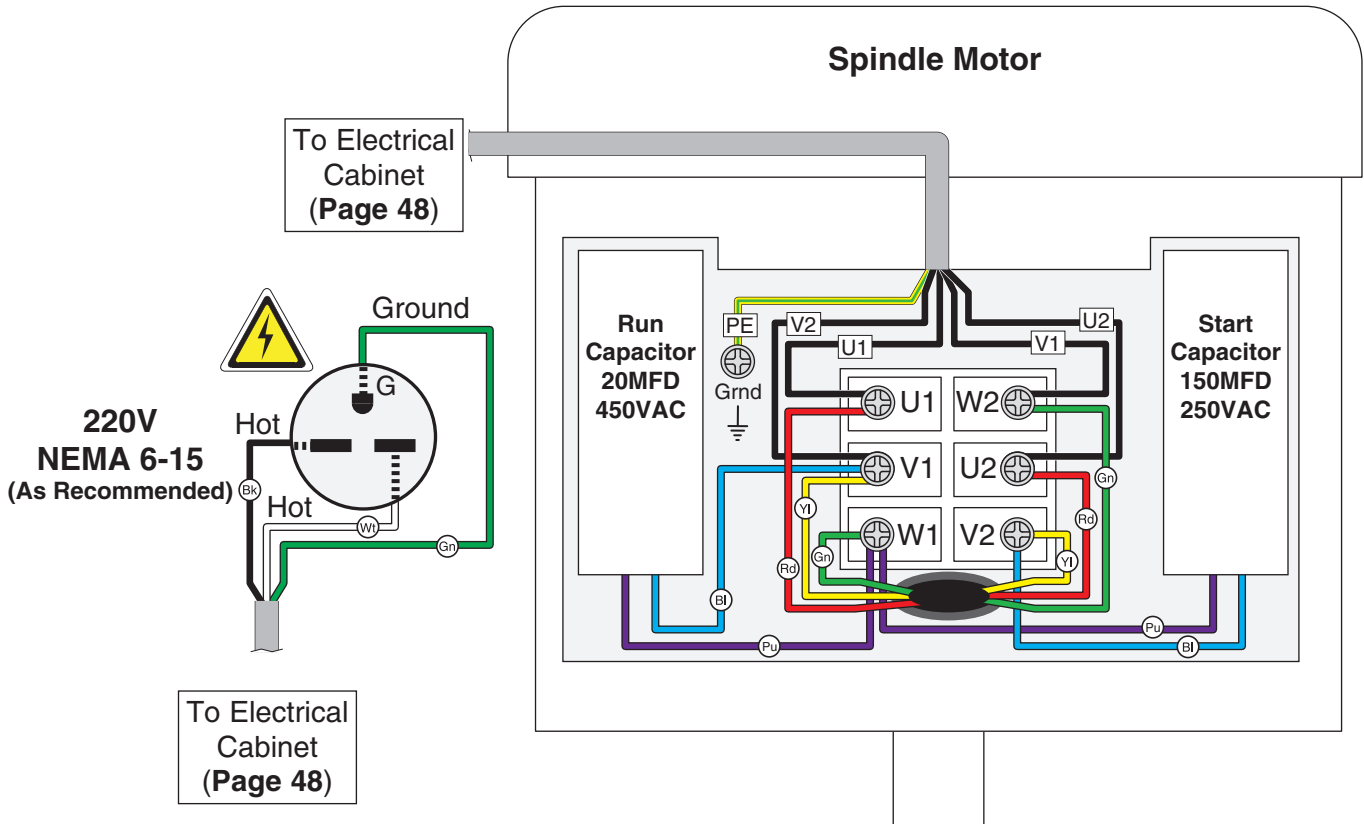


Figure 52. Electrical cabinet wiring.



# Other Electrical Component Wiring



# Other Electrical Components

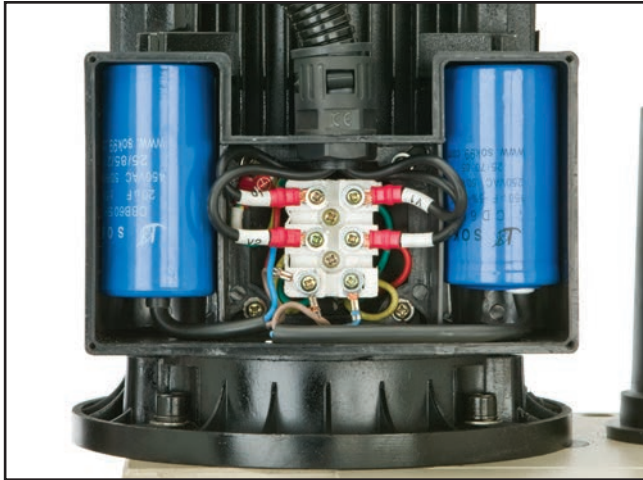


Figure 53. Spindle motor wiring.



Figure 55. Coolant pump wiring.



Figure 54. Halogen lamp wiring.

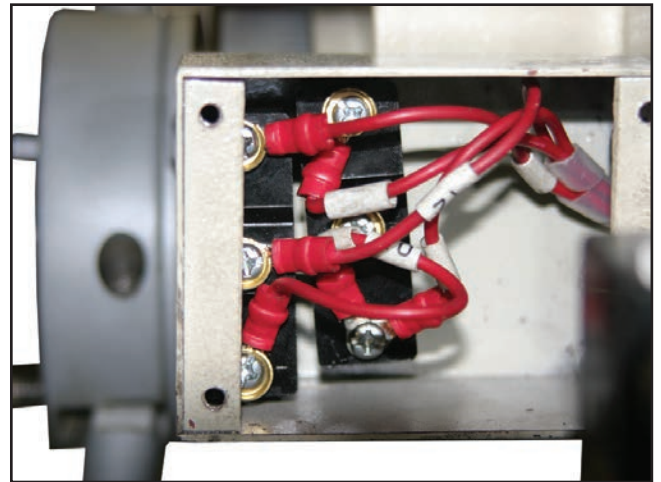


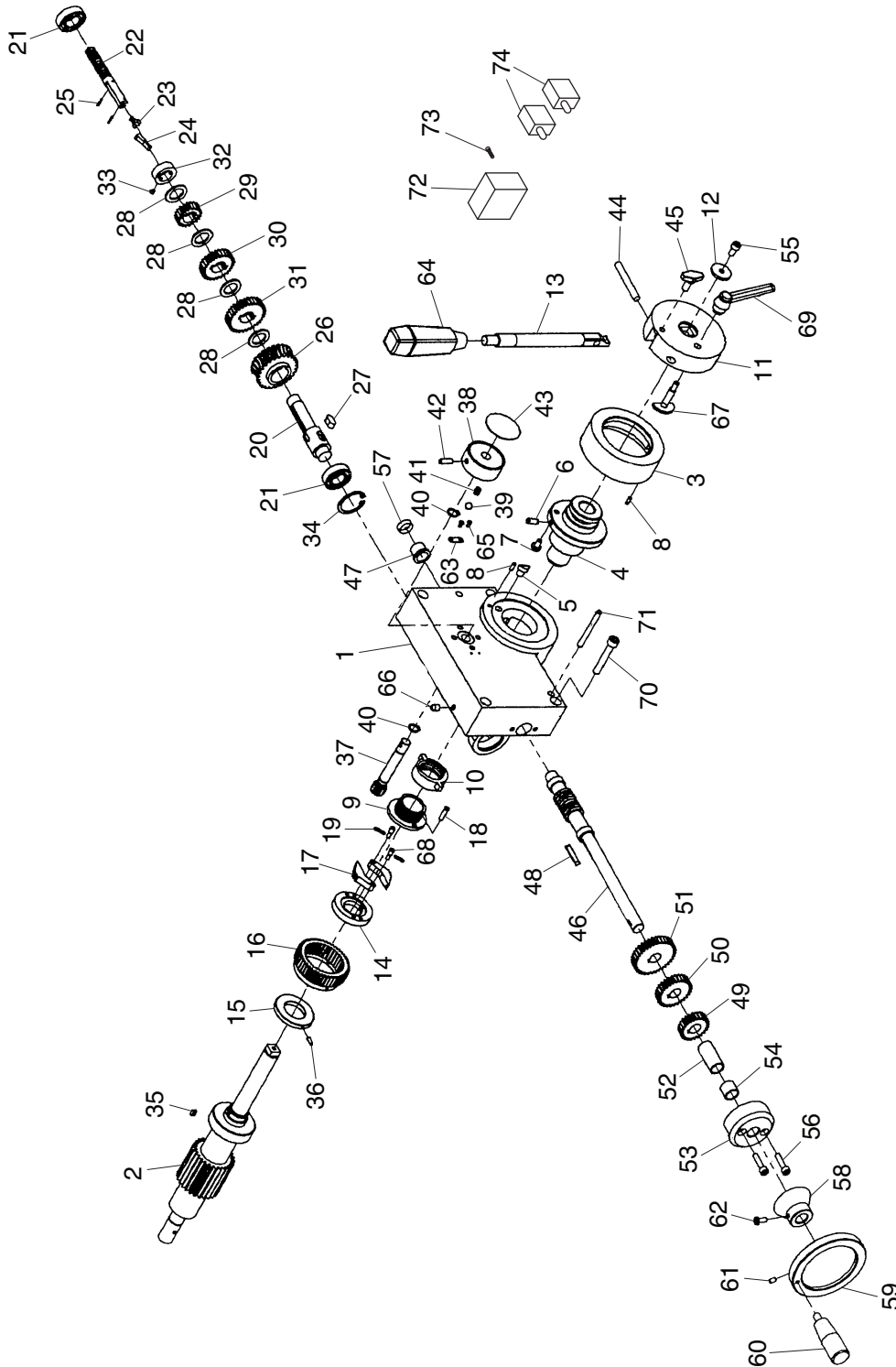
Figure 56. Tapping limit switch wiring.



# 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](http://www.grizzly.com/parts) to check for availability.

## Downfeed Controls



# Downfeed Controls Parts List

REF	PART #	DESCRIPTION
1	P0751001	DOWNFEED GEAR HOUSING
2	P0751002	PINION SHAFT
3	P0751003	DOWNFEED GRADUATED DIAL
4	P0751004	DOWNFEED CLUTCH
5	P0751005	CLUTCH PLUNGER
6	P0751006	ROLL PIN 6 X 12
7	P0751007	DOME HEAD PIN
8	P0751008	ROLL PIN 4 X 10
9	P0751009	CLUTCH KEY FLANGE
10	P0751010	CLUTCH KEY RETAINER RING
11	P0751011	COARSE DOWNFEED HUB
12	P0751012	HUB FLAT WASHER 6MM
13	P0751013	COARSE DOWNFEED LEVER
14	P0751014	CLUTCH KEY SEAT
15	P0751015	LOCK COLLAR
16	P0751016	BEVELED GEAR
17	P0751017	CLUTCH KEY 2-PC SET
18	P0751018	FLANGE PIN
19	P0751019	COMPRESSION SPRING
20	P0751020	SHAFT
21	P0751021	BALL BEARING 6003ZZ
22	P0751022	SHAFT
23	P0751023	BUTTERFLY SPRING
24	P0751024	WEDGE KEY
25	P0751025	ROLL PIN 2 X 10
26	P0751026	WORM GEAR
27	P0751027	KEY 8 X 8 X 16
28	P0751028	SPACER
29	P0751029	GEAR 21T
30	P0751030	GEAR 29T
31	P0751031	GEAR 34T
32	P0751032	LOCK COLLAR
33	P0751033	SET SCREW M4-.7 X 6
34	P0751034	INT RETAINING RING 35MM
35	P0751035	KEY 4 X 4 X 8
36	P0751036	SET SCREW M4-.7 X 12
37	P0751037	GEAR SHAFT 34T

REF	PART #	DESCRIPTION
38	P0751038	FEED RATE HUB
39	P0751039	STEEL BALL 8MM
40	P0751040	EXT RETAINING RING 12MM
41	P0751041	COMPRESSION SPRING
42	P0751042	SET SCREW M6-1 X 20
43	P0751043	FEED RATE HUB PLATE
44	P0751044	LEVER PIVOT ROD
45	P0751045	KNURLED THUMB SCREW M8-1.25 X 16
46	P0751046	WORM SHAFT
47	P0751047	FLANGED BUSHING
48	P0751048	KEY 5 X 5 X 32
49	P0751049	GEAR 21T
50	P0751050	GEAR 26T
51	P0751051	GEAR 35T
52	P0751052	SPACER
53	P0751053	FINE DOWNFEED HANDWHEEL HUB
54	P0751054	BUSHING
55	P0751055	CAP SCREW M6-1 X 12
56	P0751056	CAP SCREW M6-1 X 25
57	P0751057	SPACER
58	P0751058	FINE DOWNFEED GRADUATED DIAL
59	P0751059	FINE DOWNFEED HANDWHEEL
60	P0751060	HANDWHEEL HANDLE M6-1 X 8
61	P0751061	SET SCREW M5-.8 X 8
62	P0751062	THUMB SCREW M4-.7 X 12
63	P0751063	FEED RATE INDICATOR PLATE
64	P0751064	TAPERED KNOB M12-1.75 X 20
65	P0751065	STEEL FLUTED RIVET 2 X 5MM
66	P0751066	OIL CUP
67	P0751067	HUB LOCK BOLT M6-1 X 14
68	P0751068	HEADED PIN
69	P0751069	ADJUSTABLE HANDLE M6-1
70	P0751070	CAP SCREW M6-1 X 50
71	P0751071	TAPERED PIN 6 X 60
72	P0751072	LIMIT SWITCH HOUSING
73	P0751073	CAP SCREW M4-.7 X 6
74	P0751074	LIMIT SWITCH CHNT YBLXW-5/11Q1





# Headstock Parts List

REF	PART #	DESCRIPTION
101	P0751101	HEADSTOCK HOUSING
102	P0751102	HEADSTOCK TOP COVER
103	P0751103	INT RETAINING RING 62MM
104	P0751104	INT RETAINING RING 35MM
105	P0751105	FLANGED END CAP
106	P0751106	QUILL SEAL
107	P0751107	MOTOR 2 HP 220V 1-PH
107-1	P0751107-1	MOTOR FAN COVER
107-2	P0751107-2	MOTOR FAN
107-3	P0751107-3	MOTOR JUNCTION BOX
107-4	P0751107-4	S CAPACITOR 150M 250V 1-5/8 X 3
107-5	P0751107-5	R CAPACITOR 20M 450V 1-1/2 X 3-1/4
107-6	P0751107-6	CENTRIFUGAL SWITCH 25-1725
107-7	P0751107-7	CONTACT PLATE
107-8	P0751107-8	BALL BEARING 6205ZZ
107-9	P0751107-9	BALL BEARING 6205ZZ
108	P0751108	CAP SCREW M8-1.25 X 30
109	P0751109	FLAT WASHER 8MM
110	P0751110	HEADSTOCK FRONT COVER
111	P0751111	DRAWBAR COVER
112	P0751112	DRAWBAR COVER SEAL
113	P0751113	CAP SCREW M8-1.25 X 50
114	P0751114	TAPER PIN 8 X 50
118	P0751118	OIL FILL PLUG 1/2" NPT
119	P0751119	CASTING PLUG
120	P0751120	SHIFT LEVER
121	P0751121	ROLL PIN 3 X 25
122	P0751122	OIL DRAIN PLUG 1/2" NPT
123	P0751123	PHLP HD SCR M4-.7 X 8
124	P0751124	CAP SCREW M4-.7 X 8
125	P0751125	OIL SIGHT GLASS 3/4" NPT
126	P0751126	DRIVE SHAFT
127	P0751127	GEAR 14T
128	P0751128	BALL BEARING 6003ZZ
129	P0751129	BALL BEARING 6007ZZ
130	P0751130	KEY 6 X 6 X 25
131	P0751131	IDLER SHAFT
132	P0751132	GEAR 29T
133	P0751133	GEAR 35T
134	P0751134	GEAR 21T
135	P0751135	GEAR 41T
136	P0751136	BALL BEARING 6202ZZ
137	P0751137	KEY 6 X 6 X 14
138	P0751138	KEY 6 X 6 X 28
139	P0751139	STEEL BALL 8MM
140	P0751140	COMPRESSION SPRING
141	P0751141	EXT RETAINING RING 18MM
142	P0751142	KEY 5 X 5 X 60
143	P0751143	SET SCREW M6-.75 X 8
144	P0751144	SPINDLE SHAFT
145	P0751145	GEAR 25T
146	P0751146	GEAR 18T
147	P0751147	GEAR 32T

REF	PART #	DESCRIPTION
148	P0751148	GEAR 43T
149	P0751149	GEAR 16T
150	P0751150	KEY 6 X 6 X 75
152	P0751152	KEY 5 X 5 X 50
153	P0751153	QUILL
154	P0751154	SPINDLE
155	P0751155	TAPERED ROLLER BEARING 30207 P5
156	P0751156	TAPERED ROLLER BEARING 30206 P5
157	P0751157	SPLINED SLEEVE
158	P0751158	GEAR 53T
159	P0751159	EXT RETAINING RING 35MM
160	P0751160	DEPTH ROD MOUNT
161	P0751161	SHOULDER BOLT M16-2 X 10
162	P0751162	HEX NUT M16-2 THIN
163	P0751163	DEPTH ROD KNURLED KNOB M16-2
164	P0751164	STUD-FT M12-1.75 X 230
165	P0751165	DEPTH ROD DOG
166	P0751166	DEPTH POINTER
167	P0751167	SPANNER NUT LOCK WASHER
168	P0751168	SPANNER NUT
169	P0751169	QUILL RUBBER SEAL
170	P0751170	CAP SCREW M4-.7 X 6
171	P0751171	ROLL PIN 3 X 18
172	P0751172	CAP SCREW M8-1.25 X 25
173	P0751173	SPACER
174	P0751174	QUILL END CAP
175	P0751175	SPINDLE SEAL 62 X 42 X 12MM
176	P0751176	ROLL PIN 3 X 18
185	P0751185	SPRING BASE
186	P0751186	SPRING COVER
187	P0751187	COILED RETURN SPRING
188	P0751188	STRAIN RELIEF TYPE-5 M20-1.5
189	P0751189	CONDUIT 17MM X 500MM
190	P0751190	CONDUIT 17MM X 300MM
191	P0751191	MOTOR POWER CORD 14G 4W 40"
197	P0751197	SPRING COVER FLAT WASHER 6MM
198	P0751198	KNURLED THUMB SCREW M6-1 X 12
200	P0751200	FLAT HD CAP SCR M6-1 X 12
201	P0751201	STANDARD COTTER PIN 8 X 20
206	P0751206	INNER LOCK PLUNGER
207	P0751207	OUTER LOCK PLUNGER
208	P0751208	ADJUSTABLE HANDLE M12-1.75 X 175
209	P0751209	SPEED RANGE SHIFT SHAFT
210	P0751210	SPEED RANGE SHIFT ROCKER ARM
211	P0751211	SPEED RANGE SHIFT FORK
212	P0751212	EXT RETAINING RING 12MM
213	P0751213	CAP SCREW M6-1 X 14
214	P0751214	SHIFT ROD
215	P0751215	SHAFT SEAL
216	P0751216	SPEED SHIFT SHAFT
217	P0751217	SPEED SHIFT FORK
218	P0751218	SPEED SHIFT ROCKER ARM
219	P0751219	BALL BEARING 6201ZZ





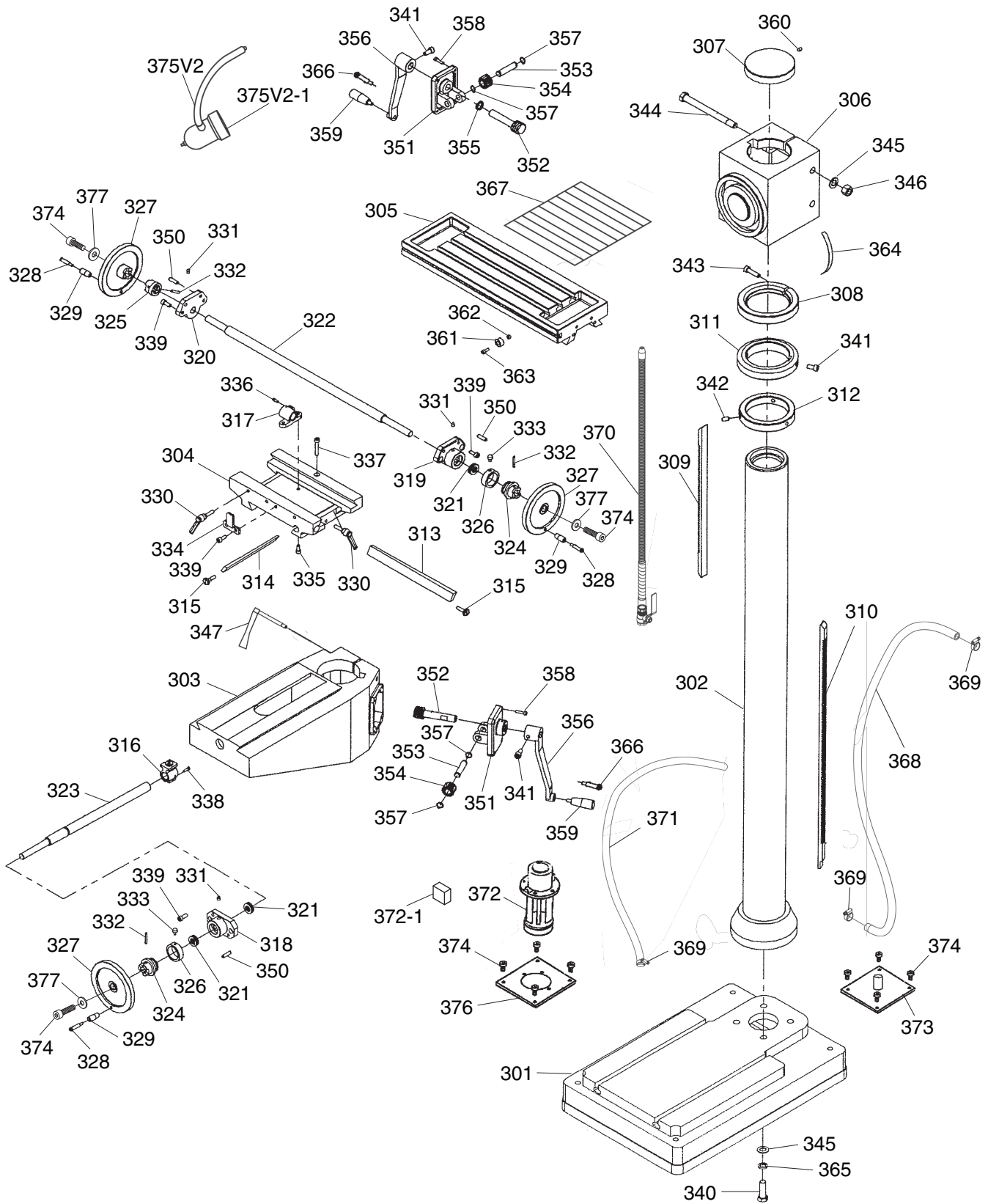
# Headstock Parts List (Cont.)

REF	PART #	DESCRIPTION
220	P0751220	EXT RETAINING RING 12MM
221	P0751221	SPRING RETAINER
222	P0751222	COMPRESSION SPRING
223	P0751223	WORM
224	P0751224	THRUST BEARING 51101
225	P0751225	CLUTCH BASE
226	P0751226	SET SCREW M10-1.5 X 8
227	P0751227	LOCK COLLAR
228	P0751228	COMPRESSION SPRING
229	P0751229	SPACER
230	P0751230	OIL SEAL
231	P0751231	BEARING SEAT
232	P0751232	EXT RETAINING RING 15MM
233	P0751233	THRUST BEARING 51103
234	P0751234	SHAFT
235	P0751235	KEY 4 X 4 X 16
236	P0751236	KEY 5 X 5 X 30
237	P0751237	BALL BEARING 6002ZZ
238	P0751238	FLANGED BEARING SEAT

REF	PART #	DESCRIPTION
239	P0751239	CAP SCREW M5 -.8 X 16
240	P0751240	EXT RETAINING RING 17MM
241	P0751241	GEAR 36T
242	P0751242	PLUNGER
243	P0751243	SHAFT
244	P0751244	O-RING 2.4 X 12
245	P0751245	FLANGED COVER
246	P0751246	FLAT HD SCR M3-.5 X 8
247	P0751247	EXT RETAINING RING 12MM
248	P0751248	STEEL BALL 8MM
249	P0751249	COMPRESSION SPRING
250	P0751250	SET SCREW M6-1 X 14
251	P0751251	AUTO-DOWNFEED KNOB
252	P0751252	AUTO-DOWNFEED KNOB LABEL
253	P0751253	ELECTRICAL BOX
254	P0751254	ELECTRICAL BOX SIDE COVER
255	P0751255	ELECTRICAL BOX FRONT COVER
256	P0751256	DRAWBAR 7/16-20



# Base, Table, & Column



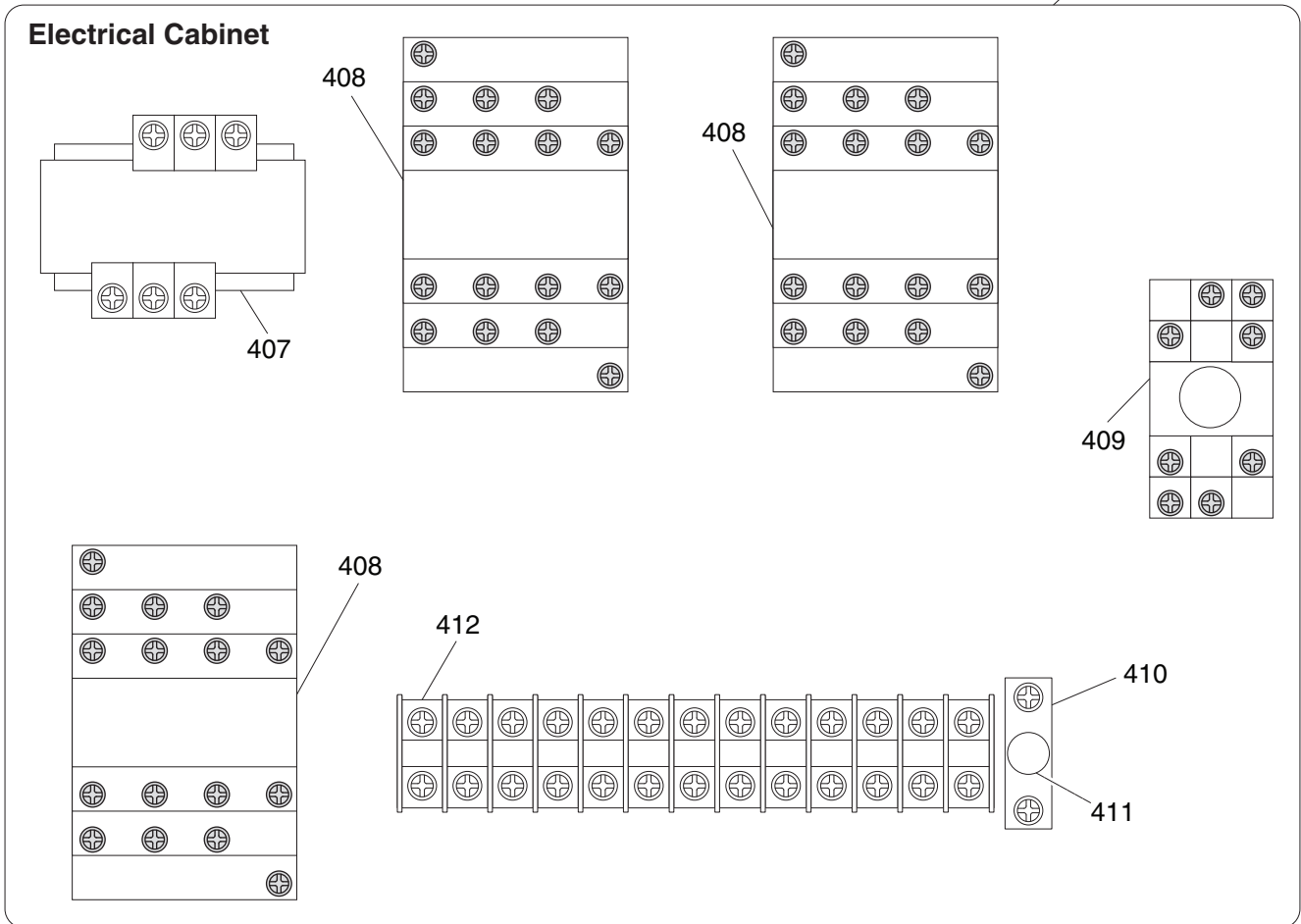
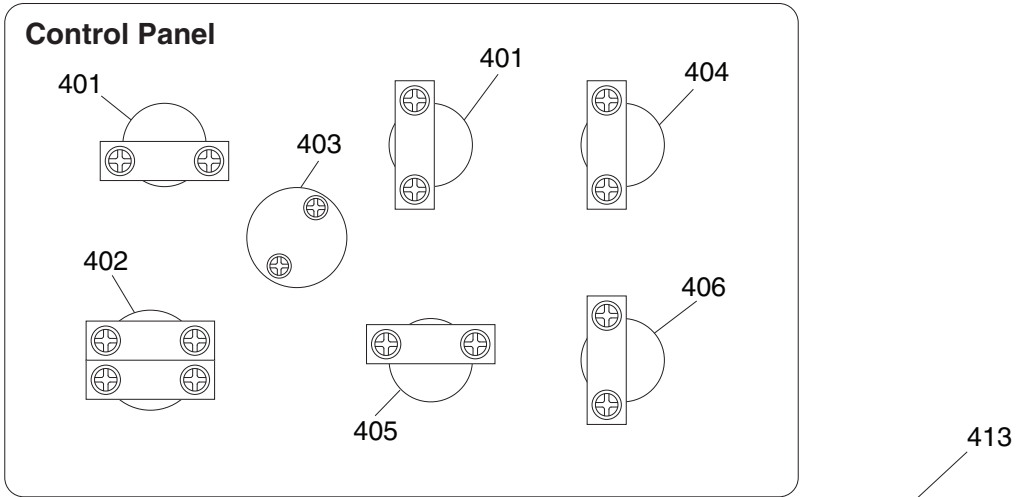
# Base, Table, & Column Parts List

REF	PART #	DESCRIPTION
301	P0751301	MACHINE BASE
302	P0751302	COLUMN
303	P0751303	KNEE
304	P0751304	SADDLE
305	P0751305	TABLE
306	P0751306	HEADSTOCK SUPPORT
307	P0751307	COLUMN TOP COVER
308	P0751308	COLUMN UPPER GUIDE RING
309	P0751309	COLUMN UPPER RACK
310	P0751310	COLUMN LOWER RACK
311	P0751311	COLUMN MIDDLE GUIDE RING
312	P0751312	COLUMN LOWER GUIDE RING
313	P0751313	TABLE GIB
314	P0751314	SADDLE GIB
315	P0751315	GIB ADJUSTMENT SCREW
316	P0751316	CROSS LEADSCREW NUT
317	P0751317	LONGITUDINAL LEADSCREW NUT
318	P0751318	CROSS LEADSCREW BRACKET
319	P0751319	LONGITUDINAL LEADSCREW BRACKET (R)
320	P0751320	LONGITUDINAL LEADSCREW BRACKET (L)
321	P0751321	THRUST BEARING 51103
322	P0751322	LONGITUDINAL LEADSCREW
323	P0751323	CROSS LEADSCREW
324	P0751324	DIAL CLUTCH
325	P0751325	LONGITUDINAL HANDWHEEL CLUTCH (L)
326	P0751326	GRADUATED DIAL
327	P0751327	HANDWHEEL
328	P0751328	SHOULDER SCREW M8-1.25 X 14 70L
329	P0751329	HANDWHEEL HANDLE
330	P0751330	ADJUSTMENT HANDLE M8-1.25 X 45
331	P0751331	BALL OILER 8MM
332	P0751332	ROLL PIN 5 X 35
333	P0751333	THUMB SCREW M4-.7 X 12
334	P0751334	LIMIT STOP BLOCK
335	P0751335	CAP SCREW M8-1.25 X 16
336	P0751336	CAP SCREW M5-.8 X 12
337	P0751337	CAP SCREW M8-1.25 X 45
338	P0751338	CAP SCREW M5-.8 X 16
339	P0751339	CAP SCREW M8-1.25 X 20

REF	PART #	DESCRIPTION
340	P0751340	HEX BOLT M16-2 X 50
341	P0751341	CAP SCREW M10-1.5 X 20
342	P0751342	SET SCREW M10-1.5 X 20
343	P0751343	CAP SCREW M10-1.5 X 40
344	P0751344	HEX BOLT M16-2 X 190
345	P0751345	FLAT WASHER 16MM
346	P0751346	HEX NUT M16-2
347	P0751347	LOCK HANDLE M12-1.75 X 16
350	P0751350	ROLL PIN 8 X 30
351	P0751351	ELEVATION CRANK BRACKET
352	P0751352	WORM SHAFT
353	P0751353	SHAFT
354	P0751354	WORM GEAR
355	P0751355	SPACER
356	P0751356	CRANK LEVER
357	P0751357	EXT RETAINING RING 14MM
358	P0751358	CAP SCREW M6-1 X 25
359	P0751359	CRANK HANDLE
360	P0751360	SET SCREW M8-1.25 X 12
361	P0751361	LIMIT STOP
362	P0751362	HEX NUT M6-1
363	P0751363	CAP SCREW M6-1 X 16
364	P0751364	ANGLE SCALE
365	P0751365	LOCK WASHER 16MM
366	P0751366	SHOULDER SCREW M10-1.5 X 14 75L
367	P0751367	WAY COVER ASSEMBLY
368	P0751368	COOLANT RETURN HOSE 16 X 1300MM
369	P0751369	HOSE CLAMP 16MM
370	P0751370	COOLANT NOZZLE W/VALVE ASSEMBLY
371	P0751371	COOLANT FEED HOSE 16 X 1900MM
372	P0751372	COOLANT PUMP 40W 220V 1-PH
372-1	P0751372-1	R CAPACITOR 5M 450V 7/8 X 1-3/8 X 1-7/8
373	P0751373	COOLANT RETURN PLATE
374	P0751374	CAP SCREW M6-1 X 12
375V2	P0751375V2	LED WORK LIGHT ASSY V2.02.15
375V2-1	P0751375V2-1	LED BULB 24V MR16/GU5.3 1W(3) L-51MM
376	P0751376	COOLANT PUMP MOUNT
377	P0751377	FLAT WASHER 6.5 X 22 X 2.5MM



# Electrical Cabinet



## REF PART # DESCRIPTION

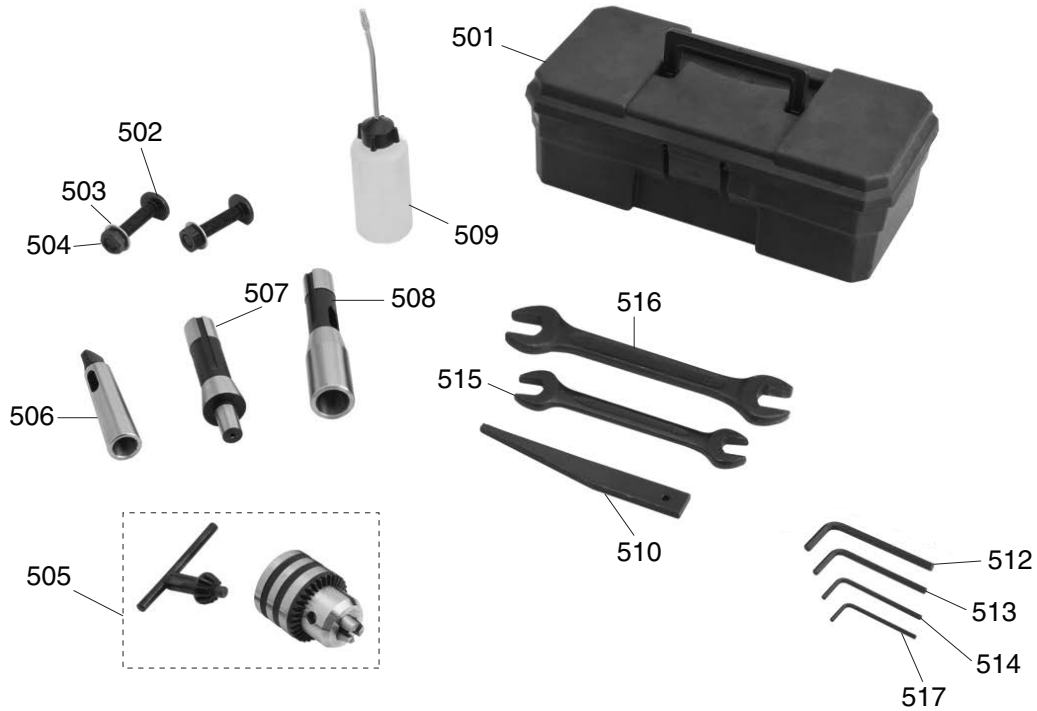
401	P0751401	SPINDLE BUTTON MINGER LA125H-BE101C
402	P0751402	DRILL/TAP SWITCH MINGER LA125H-BE102C
403	P0751403	POWER LAMP MINGER AD62-22D/S
404	P0751404	STOP BUTTON MINGER LA125H-BE102C
405	P0751405	COOLANT SWITCH MINGER LA125H-BE102C
406	P0751406	E-STOP MINGER LA125H-BE102C
407	P0751407	TRANSFORMER MTE JBK5-63 110-220V

## REF PART # DESCRIPTION

408	P0751408	CONTACTOR SIEMENS 3TB41 29V
409	P0751409	TIMER RELAY OMRON H3Y-2
410	P0751410	FUSE HOLDER
411	P0751411	FUSE 2A 250V CERAMIC 5 X 25MM
412	P0751412	TERMINAL BAR 1P
413	P0751413	BACK PLATE



# Accessories



## REF PART # DESCRIPTION

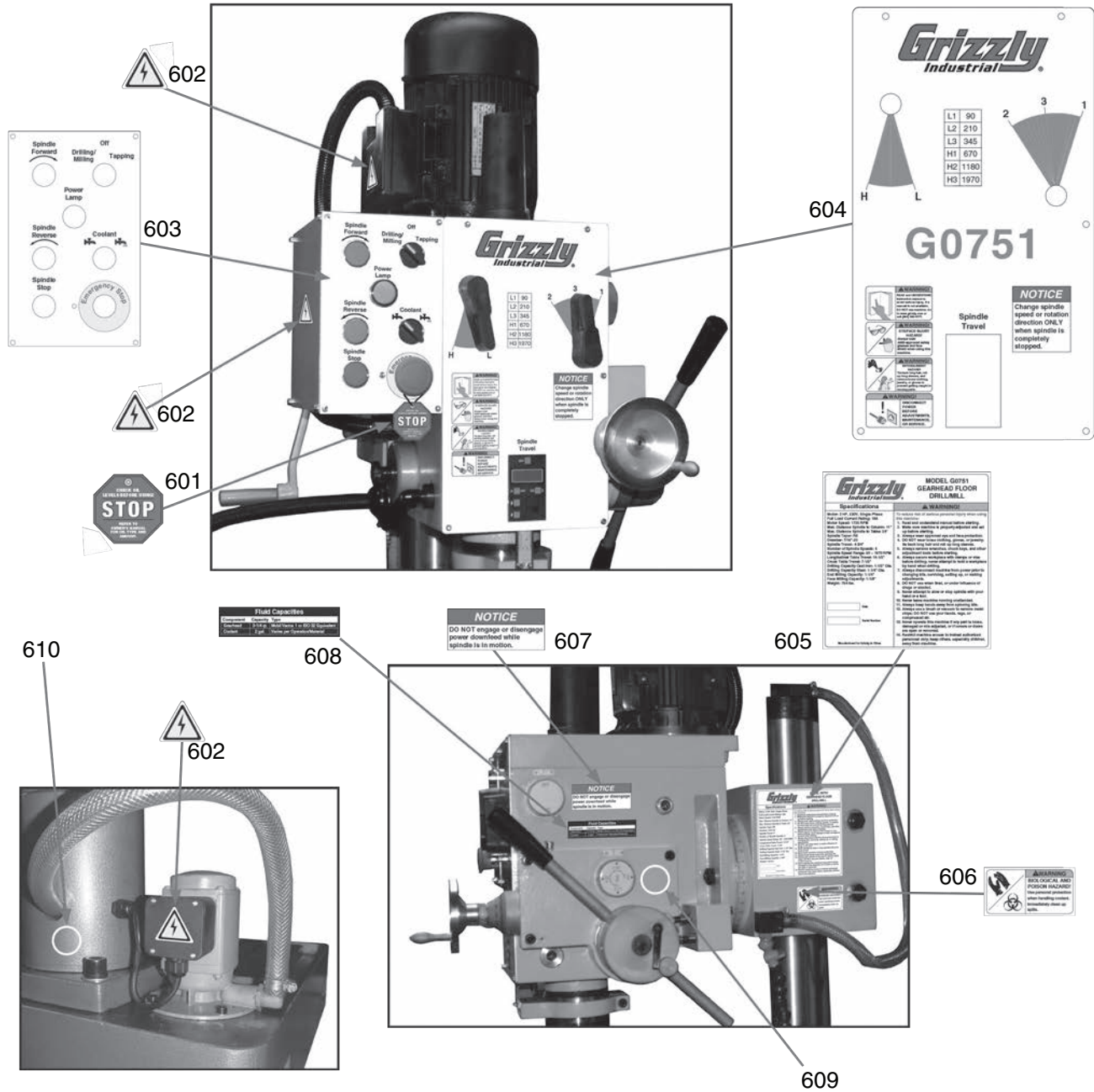
501	P0751501	TOOLBOX
502	P0751502	T-BOLT M8-1.25 X 55
503	P0751503	FLAT WASHER 8MM
504	P0751504	HEX NUT M8-1.25
505	P0751505	DRILL CHUCK B16 W/CHUCK KEY
506	P0751506	SPINDLE SLEEVE MT#3-MT#2
507	P0751507	DRILL CHUCK ARBOR R8-B16
508	P0751508	SPINDLE SLEEVE R8-MT#3

## REF PART # DESCRIPTION

509	P0751509	BOTTLE FOR OIL
510	P0751510	DRIFT KEY
512	P0751512	HEX WRENCH 5MM
513	P0751513	HEX WRENCH 4MM
514	P0751514	HEX WRENCH 3MM
515	P0751515	WRENCH 17 X 19 OPEN-ENDS
516	P0751516	WRENCH 22 X 24 OPEN-ENDS
517	P0751517	HEX WRENCH 2.5MM



# Labels & Cosmetics



REF	PART #	DESCRIPTION
601	P0751601	LUBRICATION WARNING HANG-TAG
602	P0751602	ELECTRICITY LABEL
603	P0751603	CONTROL PANEL LABEL
604	P0751604	HEADSTOCK PANEL LABEL
605	P0751605	MACHINE ID LABEL

REF	PART #	DESCRIPTION
606	P0751606	BIOLOGICAL HAZARD LABEL
607	P0751607	POWER DOWNFEED NOTICE LABEL
608	P0751608	FLUID CAPACITIES LABEL
609	P0751609	GRIZZLY GREEN TOUCH-UP PAINT
610	P0751610	GRIZZLY PUTTY TOUCH-UP PAINT

**⚠ 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.

To take advantage of this warranty, you must register it at <https://www.grizzly.com/forms/warranty>, or you can scan the QR code below to be automatically directed to our warranty registration page. Enter all applicable information for the product.



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