

Grizzly ***Industrial, Inc.***®

MODEL G0761 HEAVY-DUTY BENCHTOP MILL/DRILL w/POWER FEED & TAPPING OWNER'S MANUAL

(For models manufactured since 06/15)



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**WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE
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#TS16056 PRINTED IN CHINA

V2.04.18



WARNING!

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

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

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

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



WARNING!

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

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

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

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INTRODUCTION

Contact Info

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

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

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

Grizzly Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

WARNING

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

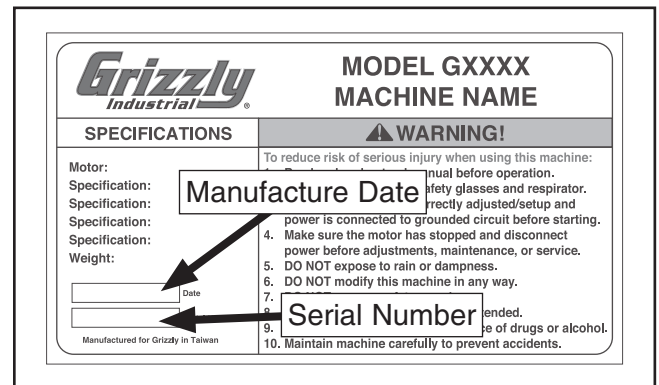
Manual Accuracy

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

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

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

Alternatively, you can call our Technical Support for help. Before calling, make sure you write down the **Manufacture Date** and **Serial Number** from the machine ID label (see below). This information is required for us to provide proper tech support, and it helps us determine if updated documentation is available for your machine.



Grizzly Industrial MODEL GXXXX MACHINE NAME

WARNING!

SPECIFICATIONS

Motor: _____
Specification: _____
Specification: _____
Specification: _____
Weight: _____

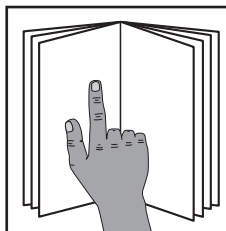
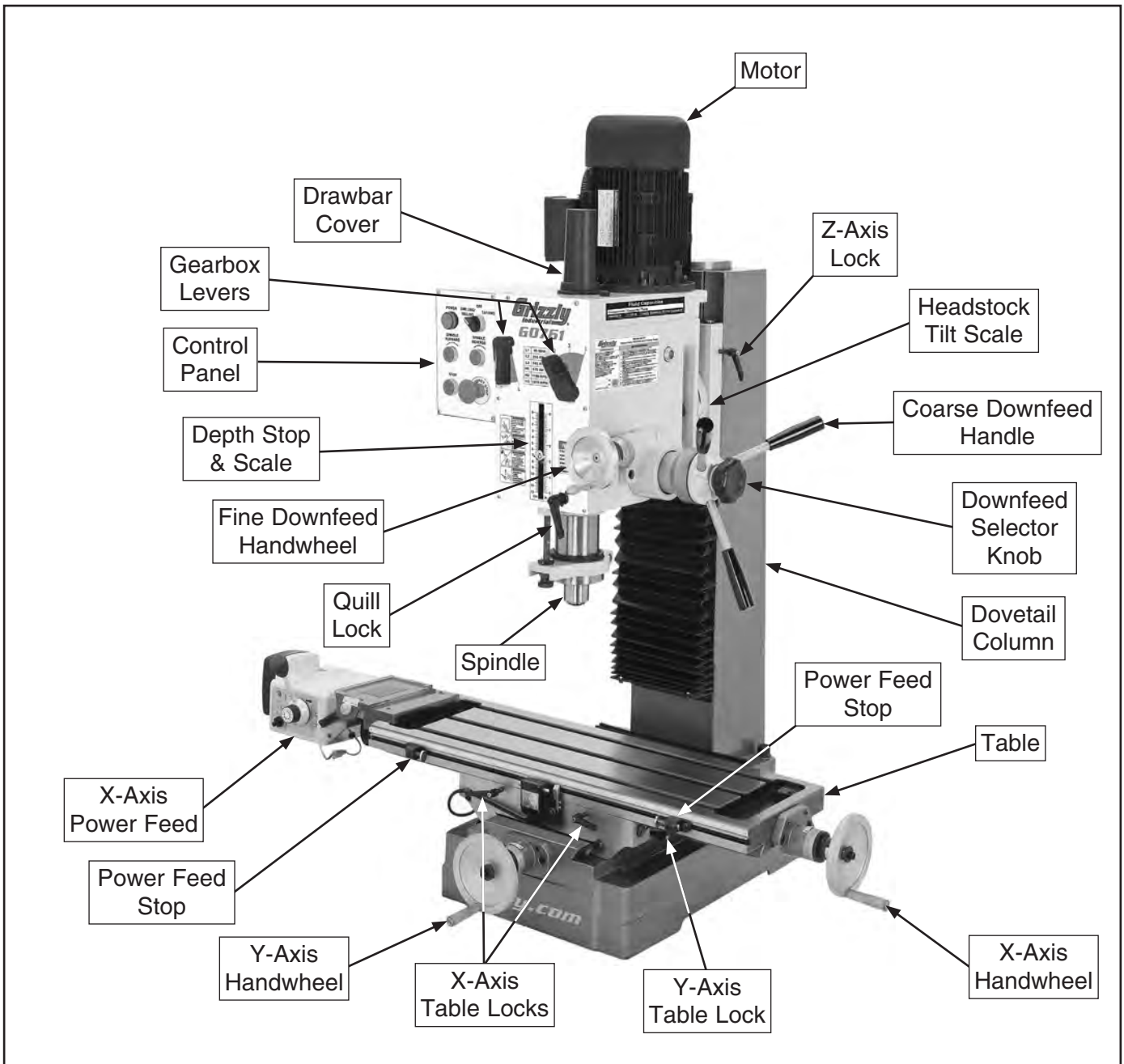
To reduce risk of serious injury when using this machine:
1. Read manual before operation.
2. Wear safety glasses and respirator.
3. Make sure machine is properly adjusted/setup and power is connected to grounded circuit before starting.
4. Make sure the motor has stopped and disconnect power before adjustments, maintenance, or service.
5. DO NOT expose to rain or dampness.
6. DO NOT modify this machine in any way.
7. _____
8. _____
9. _____
10. Maintain machine carefully to prevent accidents.

Manufacture Date: _____
Serial Number: _____

Manufactured for Grizzly in Taiwan



Identification



⚠️ WARNING

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



Basic Controls

Use **Figure 1** and the descriptions below to gain a basic understanding of the control panel and spindle speed controls. Knowing this information is required to safely complete the **Test Run** in the **SETUP** section.

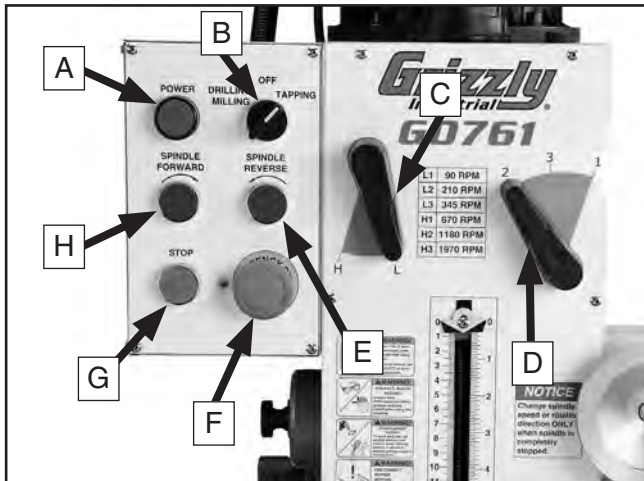


Figure 1. Control panel and spindle speed controls.

- A. POWER Lamp:** Illuminates when the machine is connected to power.
- B. Mode Switch:** Sets the spindle mode to either drilling/milling or tapping.
- C. High/Low Range Lever:** Selects either high or low spindle speed range.
- D. Spindle Speed Lever:** Selects one of three spindle speeds in the selected speed range.
- E. SPINDLE REVERSE Button:** Starts counterclockwise spindle rotation (as viewed from above). The spindle must be completely stopped before this button is pushed.
- F. EMERGENCY STOP Button:** Cuts power to the spindle motor and remains depressed until reset. Twist clockwise until it pops out to reset.
- G. STOP Button:** Stops spindle rotation.
- H. SPINDLE FORWARD Button:** Starts clockwise spindle rotation (as viewed from above). The spindle must be completely stopped before this button is pushed.





MACHINE DATA SHEET

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

MODEL G0761 HEAVY-DUTY BENCHTOP MILL/DRILL WITH POWER FEED AND TAPPING

Product Dimensions:

Weight..... 647 lbs.
 Width (side-to-side) x Depth (front-to-back) x Height..... 49-5/8 x 30-3/4 x 57 in.
 Footprint (Length x Width)..... 21-5/8 x 17-3/4 in.

Shipping Dimensions:

Type..... Wood Crate
 Content..... Machine
 Weight..... 714 lbs.
 Length x Width x Height..... 34 x 30 x 46 in.

Electrical:

Power Requirement..... 220V, Single-Phase, 60Hz
 Prewired Voltage..... 220V
 Full-Load Current Rating..... 8.6A
 Minimum Circuit Size..... 15A
 Power Cord Included..... Yes
 Power Cord Length..... 5 ft.
 Power Cord Gauge..... 14 AWG
 Plug Included..... No
 Recommended Plug Type..... 6-15
 Switch Type..... Control Panel w/ Magnetic Switch Protection

Motors:

Main

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

Main Specifications:

Operation Info

Spindle Travel..... 4-3/4 in.
 Max Distance Spindle to Column..... 10-1/8 in.
 Max Distance Spindle to Table..... 18-1/8 in.
 Longitudinal Table Travel (X-Axis)..... 22 in.
 Cross Table Travel (Y-Axis)..... 7-1/2 in.
 Vertical Head Travel (Z-Axis)..... 13-3/4 in.
 Head Tilt (Left/Right)..... Right 45, Left 45 deg.
 Drilling Capacity for Cast Iron..... 1-3/4 in.
 Drilling Capacity for Steel..... 1-1/4 in.
 End Milling Capacity..... 1-1/4 in.
 Face Milling Capacity..... 3-1/8 in.



Table Info

Table Length.....	31-1/2 in.
Table Width.....	9-1/2 in.
Table Thickness.....	2-1/2 in.
Number of T-Slots.....	3
T-Slot Size.....	1/2 in.
T-Slots Centers.....	3-1/8 in.

Spindle Info

Spindle Taper.....	R-8
Number of Vertical Spindle Speeds.....	6
Range of Vertical Spindle Speeds.....	90–1970 RPM
Quill Diameter.....	3 in.
Drawbar Thread Size.....	7/16-20
Drawbar Length.....	17-3/4 in.
Spindle Bearings.....	High-Precision "P5" Tapered Roller Bearing

Construction

Spindle Housing/Quill.....	Cast Iron
Table.....	Cast Iron
Head.....	Cast Iron
Column/Base.....	Cast Iron
Paint Type/Finish.....	Enamel

Other Specifications:

Country of Origin	China
Warranty	1 Year
Serial Number Location	ID Label
Sound Rating	<80 dB
ISO 9001 Factory	Yes
Certified by a Nationally Recognized Testing Laboratory (NRTL)	No

Features:

- Dovetail ways
- Tapping capability
- High-precision P5 tapered-roller spindle bearings
- Coolant trough built into table
- 45 degree right/left head tilt

Accessories Included:


- Drill chuck 1-13mm with B16 taper
- Tool box
- Oil bottle




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 This symbol is used to alert the user to useful information about proper operation of the machine.

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 Mill/Drills

WARNING

You can be seriously injured or killed by getting clothing, jewelry, or long hair entangled with rotating cutter/spindle. You can be severely cut or have fingers amputated from contact with rotating cutters. You can be blinded or struck by broken cutting tools, metal chips, workpieces, or adjustment tools thrown from the rotating spindle with great force. To reduce your risk of serious injury when operating this machine, completely heed and understand the following:

UNDERSTAND ALL CONTROLS. Make sure you understand the function and proper use of all controls before starting. This will help you avoid making mistakes that result in serious injury.

AVOIDING ENTANGLEMENT. DO NOT wear loose clothing, gloves, or jewelry, and tie back long hair. Keep all guards in place and secure. Always allow spindle to stop on its own. DO NOT stop spindle using your hand or any other object.

WEAR FACE SHIELD. Always wear a face shield in addition to safety glasses. This provides more complete protection for your face than safety glasses alone.

USE CORRECT SPINDLE SPEED. Follow recommended speeds and feeds for each size and type of cutting tool. This helps avoid tool breakage during operation and ensures best cutting results.

INSPECT CUTTING TOOL. Inspect cutting tools for sharpness, chips, or cracks before each use. Replace dull, chipped, or cracked cutting tools immediately.

PROPERLY SECURE CUTTER. Firmly secure cutting tool or drill bit so it does not fly out of spindle during operation.

POWER DISRUPTION. In the event of a local power outage during operation, turn spindle switch **OFF** to avoid a possible sudden startup once power is restored.

CLEAN MACHINE SAFELY. Metal chips or shavings can be razor sharp. DO NOT clear chips by hand or compressed air that can force chips farther into machine—use a brush or vacuum instead. Never clear chips while spindle is turning.

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

PROPERLY MAINTAIN MACHINE. Keep machine in proper working condition to help ensure that it functions safely and all guards and other components work as intended. Perform routine inspections and all necessary maintenance. Never operate machine with damaged or worn parts that can break or result in unexpected movement during operation.

DISCONNECT POWER FIRST. To reduce risk of electrocution or injury from unexpected startup, make sure mill/drill is turned **OFF**, disconnected from power, and all moving parts have come to a complete stop before changing cutting tools or starting any inspection, adjustment, or maintenance procedure.

REMOVE CHUCK KEY & SPINDLE TOOLS. Always remove chuck key, drawbar wrench, and other tools used on the spindle immediately after use. This will prevent them from being thrown by the spindle upon startup.

WARNING

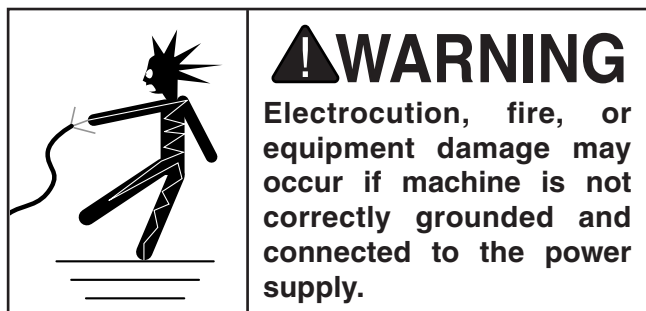
No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so may result in serious personal injury or property damage.



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 8.6 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 requirements in the following section.

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 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.)

! CAUTION

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

Note: *The circuit requirements listed in this manual apply to a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult a qualified electrician to ensure that the 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).

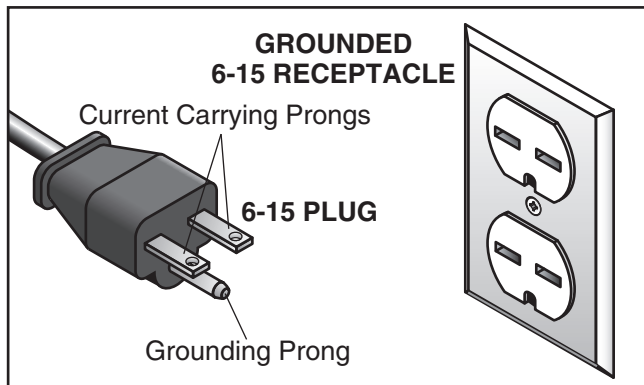
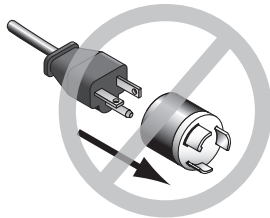


Figure 2. Typical 6-15 plug and receptacle.

⚠️ WARNING

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

⚠️ CAUTION



No adapter should be used with the required 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 may 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 contain a ground wire, match the required plug and receptacle, and meet the following requirements:

Minimum Gauge Size14 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	1
• Safety Glasses	1 Per Person
• Cleaner/Degreaser (Page 13)	As Needed
• Disposable Shop Rags.....	As Needed
• Forklift.....	1
• Lifting Strap (rated for at least 1000 lbs.) ...	1
• Mounting Hardware (Page 15) ...	As Needed
• Flat Head Screwdriver #2.....	1
• Brass Hammer (Page 16)	1
• Mineral Spirits (Page 16).....	As Needed

Inventory

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

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

NOTICE

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

Small Item Inventory (Figure 3)	Qty
A. Handwheel Handles w/Screws.....	2
B. T-Bolts M12-1.75 x 55 w/Washers & Nuts ..	2
C. Bottle for Oil	1
D. Toolbox.....	1
E. Open-End Wrenches 17/19, 22/24mm ..	1 Ea
F. Hex Wrenches 2.5, 3, 4, 5mm.....	1 Ea
G. Drift Key.....	1
H. Drill Chuck w/Chuck Key B16, 1–13mm	1
I. Spindle Sleeve R-8 x MT#3	1
J. Drill Chuck Arbor R-8 x B16	1
K. Spindle Sleeve MT#3 x MT#2	1

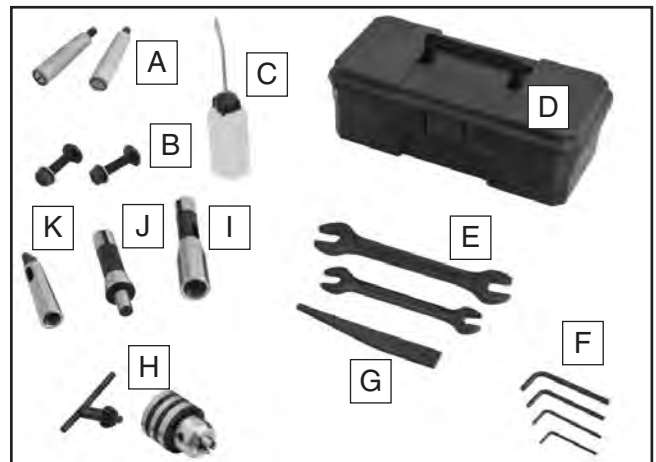


Figure 3. Small item inventory.



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.

	⚠ WARNING 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.
--	--

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

NOTICE Avoid chlorine-based solvents, such as acetone or brake parts cleaner, that may damage painted surfaces.

T23692—Orange Power Degreaser

A great product for removing the waxy shipping grease from your machine during clean up.

<p>Call 1-800-523-4777 To Order</p>	
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Figure 4. T23692 Orange Power Degreaser.



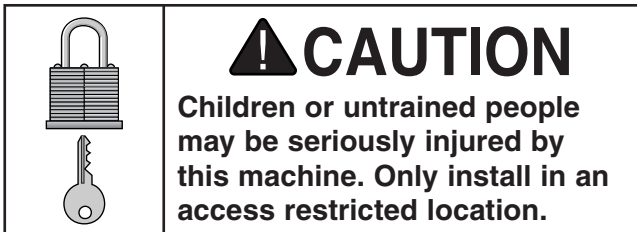
Site Considerations

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 access to a means of disconnecting the power source or engaging 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.

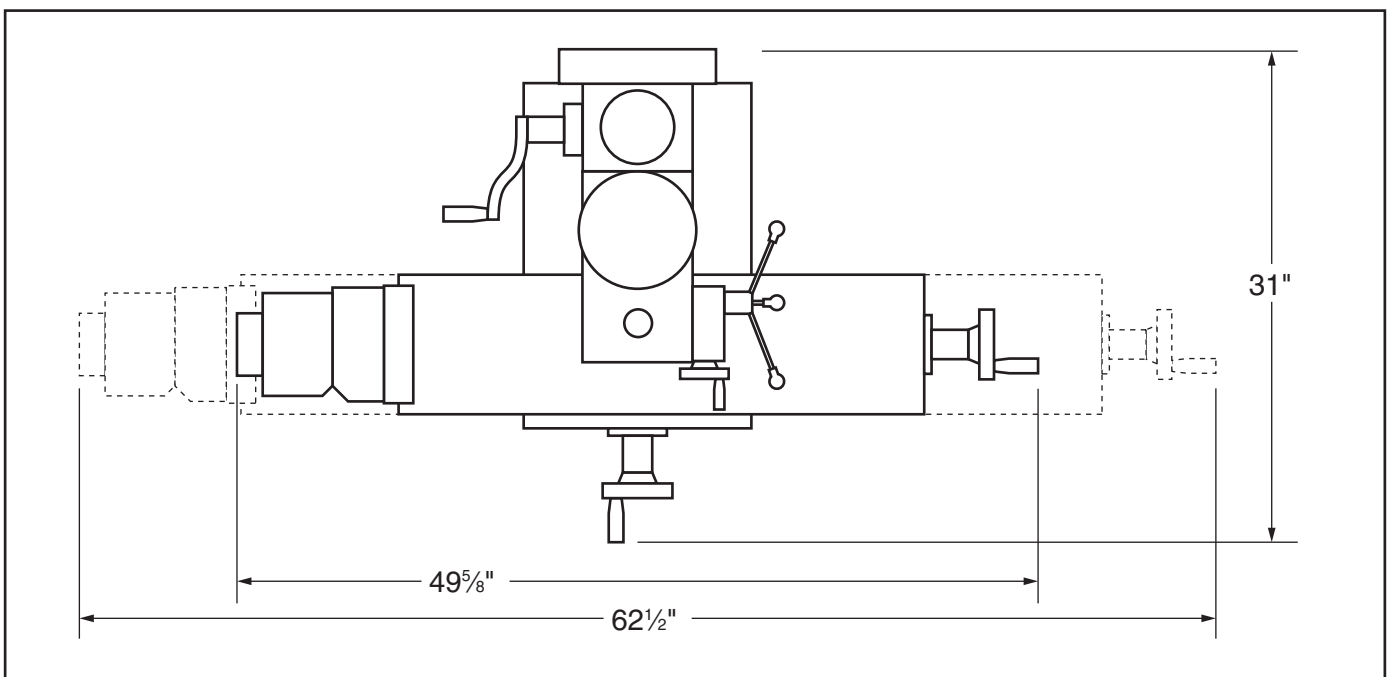


Figure 5. Minimum working clearances.



Lifting & Placing



!WARNING
HEAVY LIFT!
 Straining or crushing injury may occur from improperly lifting machine or some of its parts. To reduce this risk, get help from other people and use a forklift (or other lifting equipment) rated for weight of this machine.

To move machine into position:

1. Move shipping crate next to workbench or stand, then unbolt machine from pallet.
2. Move table as close to column as possible, and raise headstock to its highest position. This will help balance machine when moving.
3. Tighten Z-axis locks to avoid sudden shifts when lifting.
4. Place a lifting strap under headstock, as shown in **Figure 6**, connect strap ends to a forklift, then lift and place machine.

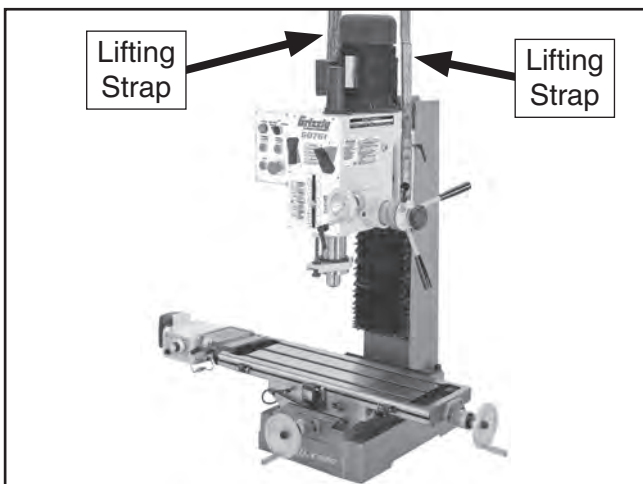


Figure 6. Recommended lifting strap position.

Bench Mounting

Number of Mounting Holes 4
 Diameter of Mounting Hardware..... 1/2"

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

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

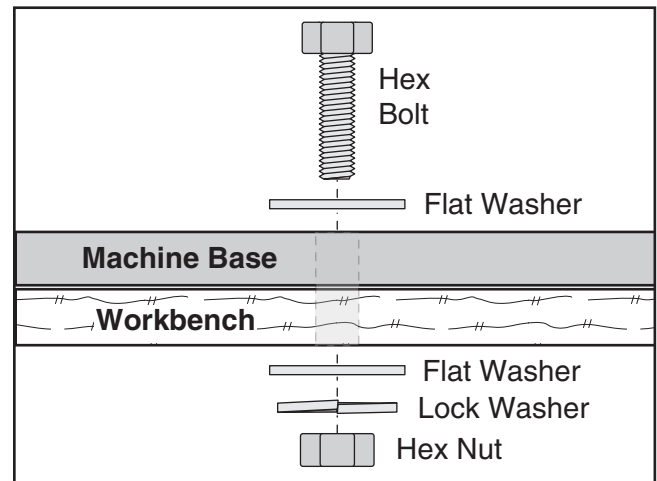


Figure 7. Example of a "Through Mount" setup.

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

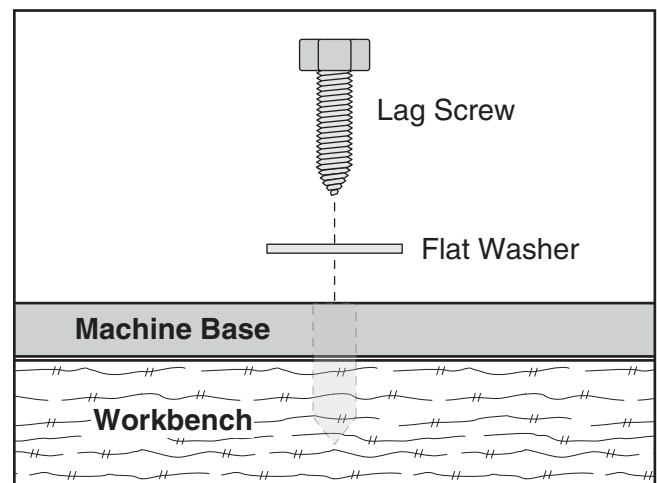


Figure 8. Example of a "Direct Mount" setup.



Assembly

The mill/drill was fully assembled at the factory except for the handwheel handles.

Use a flat-head screwdriver to attach the handwheel handles, as shown in **Figure 9**.

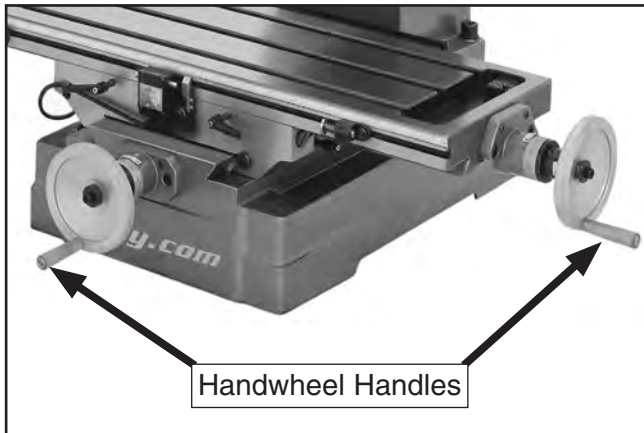


Figure 9. Handwheel handles attached.

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 into the spindle until AFTER the test run.

To join the drill chuck and arbor:

1. Use mineral spirits 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 arbor and tap chuck onto a block of wood with medium force, as illustrated in **Figure 10**.

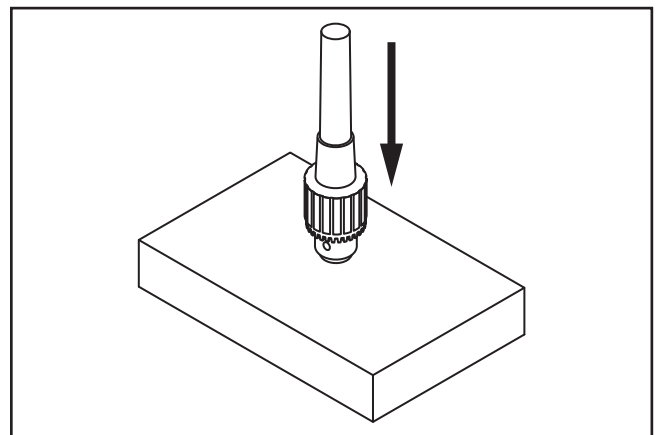


Figure 10. Tapping drill chuck/arbor on block of wood.

5. Try to separate drill chuck and arbor by hand. If you can pull them apart, repeat this procedure.



Lubricating Mill/Drill



The headstock oil reservoir must have the proper amount of oil in it before the mill/drill can be operated for the first time.

Damage caused by running the mill/drill without oil in the reservoir will not be covered under warranty. Refer to the **Lubrication** subsection, beginning on **Page 30**, for details on how to check and add oil.

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 safety disabling mechanism on the emergency stop button works correctly.

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 mill/drill:

1. Clear all setup tools away from machine.
2. Connect machine to power supply. Power lamp should light.



3. Press EMERGENCY STOP button (see **Figure 11**). This will help prevent unexpected startup when machine is connected to power.

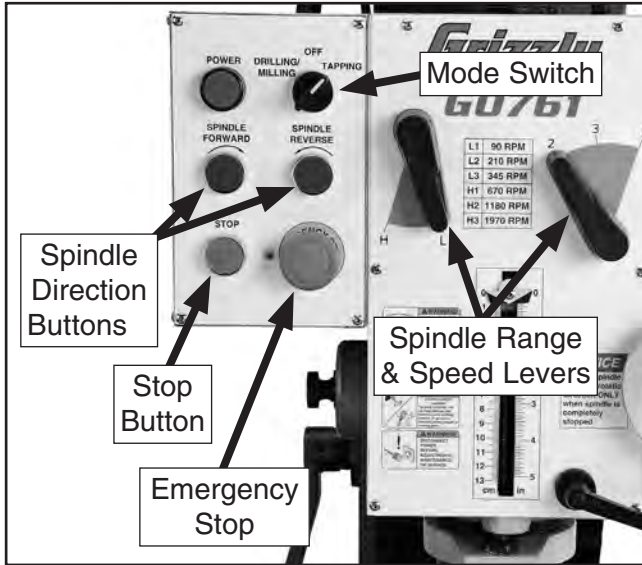


Figure 11. Control panel and spindle speed controls.

4. Rotate mode switch left to DRILLING/MILLING.
5. Shift high/low range lever right to “L” and spindle speed lever left to “2”. This selects a spindle speed of 210 RPM (refer to spindle speed chart on headstock).

Note: You may need to rotate spindle back-and-forth by hand while putting pressure on the shift lever to allow gears to mesh.

6. Twist EMERGENCY STOP button clockwise until it pops out (see **Figure 12**)—this resets button and enables power to control panel and motor.



Figure 12. Twisting EMERGENCY STOP button to reset it.

7. Press SPINDLE FORWARD button. Spindle should rotate clockwise (as viewed from top) and machine should run smoothly with little to no vibration or rubbing noises.
8. Press STOP button and wait for spindle to completely stop.
9. Press SPINDLE REVERSE button. Spindle should rotate counterclockwise (as viewed from top).
10. Press EMERGENCY STOP button and wait for spindle to completely stop.
11. *Without* resetting EMERGENCY STOP button, press SPINDLE FORWARD button. Machine should *not* start.

—If machine *does* start (with EMERGENCY STOP button pushed in), immediately disconnect power to machine. EMERGENCY STOP safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Refer to **Troubleshooting** on **Page** for help.

13. Twist EMERGENCY STOP button clockwise to reset it.
14. Rotate mode switch right to TAPPING.
15. Use coarse downfeed lever to move spindle down. Spindle should rotate clockwise.
16. Continue to move spindle down until it bottoms out at depth stop—spindle should momentarily stop, then rotate counterclockwise.
17. Use coarse downfeed lever to move spindle all the way up. Spindle rotation should stop.

Congratulations! The **Test Run** is complete. Continue to the next subsection, **Spindle Bearing Break-In**.



Spindle Bearing Break-In

Before placing operational loads on the spindle bearings, complete this break-in procedure to fully distribute internal lubrication and reduce the risk of early failure.

NOTICE

You must complete this procedure to maintain the warranty. Failure to do this could cause rapid wear and tear of spindle bearings once the machine is placed into operation.

To perform spindle break-in procedure:

1. Set spindle speed to 90 RPM.
2. Run spindle for a minimum of 5 minutes in each direction.
3. Stop spindle. Select the next highest speed and repeat **Step 2**.
4. Continue with this process for each remaining speeds, working from lowest to highest.
5. Change headstock oil (refer to **Lubrication** on **Page 31** for detailed instructions).

The spindle break-in of the mill is now complete!

Inspections & Adjustments

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

- Gib Adjustments**Page 37**
- Leadscrew Backlash**Page 37**

Be aware that these can change during the shipping process. Pay careful attention to these adjustments when first operating the machine. If you find that the adjustments are not set to your personal preferences, re-adjust them.

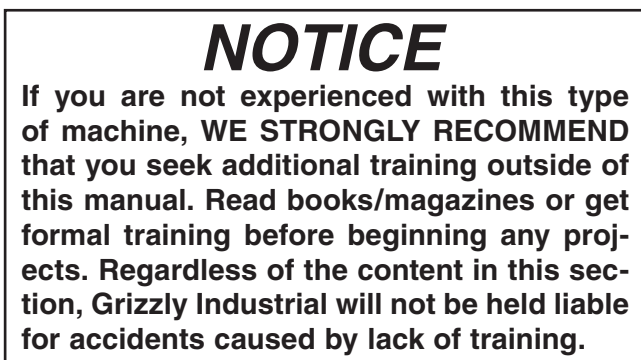


SECTION 4: OPERATIONS

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 and 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. Selects correct spindle speed.
7. Connects machine to power and turns it **ON**.
8. Uses downfeed controls or table controls to perform cutting operation.
9. Turns machine **OFF** and waits for spindle to completely stop before removing workpiece, changing tooling, or changing spindle speeds.



Downfeed Controls

Identification

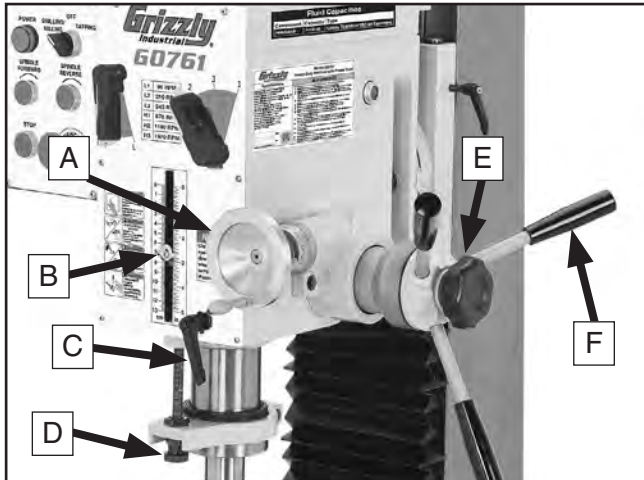


Figure 13. Downfeed controls.

- A. Fine Downfeed Handwheel
- B. Depth Stop and Scale
- C. Quill Lock Lever
- D. Depth Stop Adjustment Knob
- E. Downfeed Selector Knob
- F. Coarse Downfeed Handle

Using Coarse Downfeed

1. Loosen quill lock lever.
2. *Loosen* downfeed selector knob to engage coarse downfeed handles.
3. Position depth stop with adjustment knob.
4. Use coarse downfeed handles to raise and lower spindle.

Using Fine Downfeed

1. Loosen quill lock lever.
2. *Tighten* downfeed selector knob to engage fine downfeed handwheel.
3. Position depth stop with adjustment knob.
4. Rotate fine downfeed handwheel to raise and lower spindle.

Depth Stop

The depth stop limits the downward movement of the cutting tool. With the use of the depth stop adjustment knob (see “D” in **Figure 13**), it can be positioned anywhere within 0”–5”. This is useful when performing the same operation multiple times or with tapping operations.



Headstock Movement

The headstock moves in the following ways:

- Travels up and down the column (Z-axis)
- Tilts 90° left or right relative to the table.

Raising/Lowering Headstock

1. DISCONNECT MACHINE FROM POWER!
2. Loosen both Z-axis lock levers shown in **Figure 14**.



Figure 14. Location of Z-axis lock levers.

3. Use Z-axis crank shown in **Figure 15** to adjust headstock height.

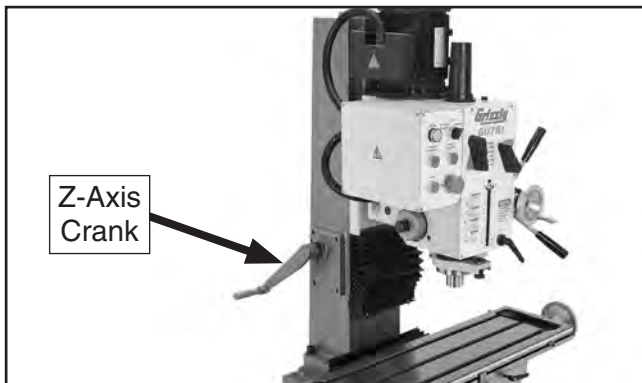


Figure 15. Z-axis crank.

4. Tighten Z-axis lock levers to secure setting.

Tilting Headstock

1. DISCONNECT MACHINE FROM POWER!
2. Loosen the three locking hex nuts (see **Figures 16–17**).

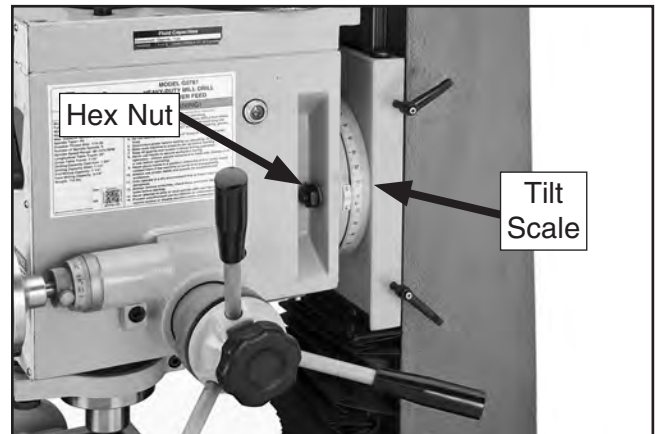


Figure 16. Tilt locking hex nut (one on each side of head).

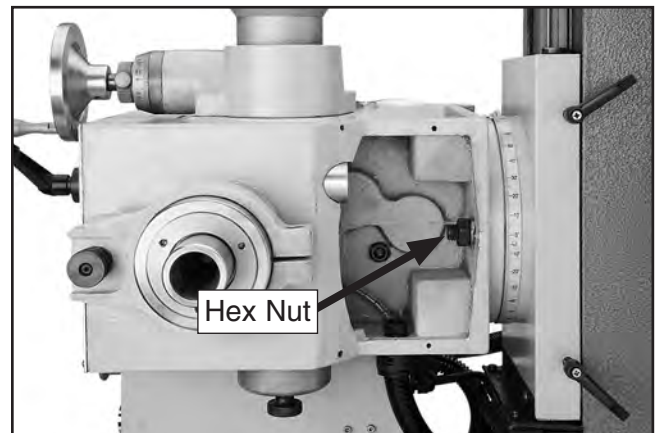


Figure 17. Hex nut underneath headstock.

3. Using scale shown in **Figure 16** as a guide, swivel headstock and retighten the three hex nuts to secure it.



Table Travel

The table travels in two directions, as illustrated in **Figure 18**:

- X-axis (longitudinal)
- Y-axis (cross)

These movements are controlled by handwheels and the X-axis power feed.

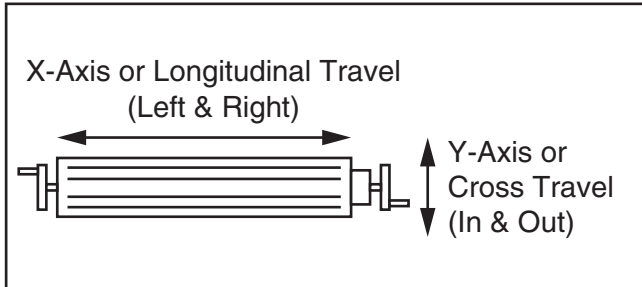


Figure 18. The directions of table movement.

Graduated Dials

The handwheels have graduated dials that are used to determine table movement in 0.001" increments, with one full revolution equalling 0.100".

Use the thumb screw shown in **Figure 19** to adjust the graduated dial to a relative starting point.

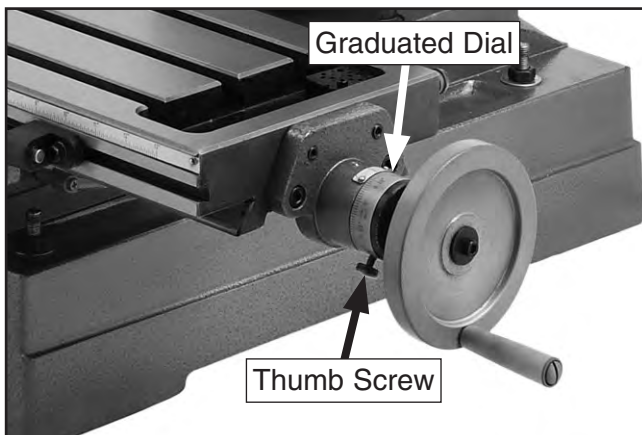


Figure 19. Graduated dial and thumb screw.

X-Axis Handwheel

Tool Needed

Hex Wrench 5mm..... 1

Qty

To use the X-axis handwheel:

1. Loosen the two X-axis table locks shown in **Figure 20**.

Note: When tightened, table locks provide table rigidity in that path of table travel for increased precision.

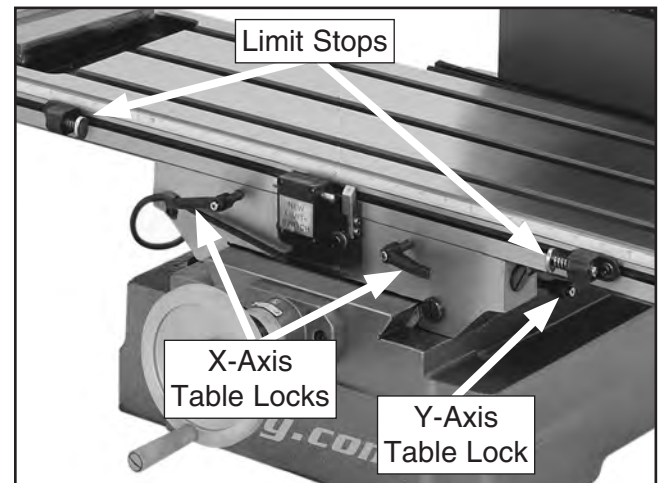


Figure 20. Table locks and limit stops.

2. Position limit stops so they will not interfere with intended table travel.
3. Adjust X-axis graduated dial to zero, then use handwheel to move table.

Y-Axis Handwheel

The saddle does not have limit stops. To move the table along the Y-axis, loosen the Y-axis table lock shown in **Figure 20**, then use the handwheel in front of the table in the same manner as the X-axis handwheel.



X-Axis Power Feed

Use **Figures 21–22** and the following descriptions to become familiar with the power feed controls.

Note: *The power feed must be connected to an independent, grounded 110V power supply to operate.*

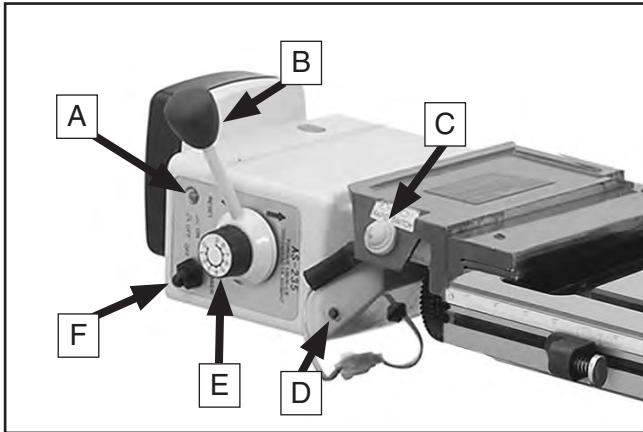


Figure 21. X-axis power feed controls.

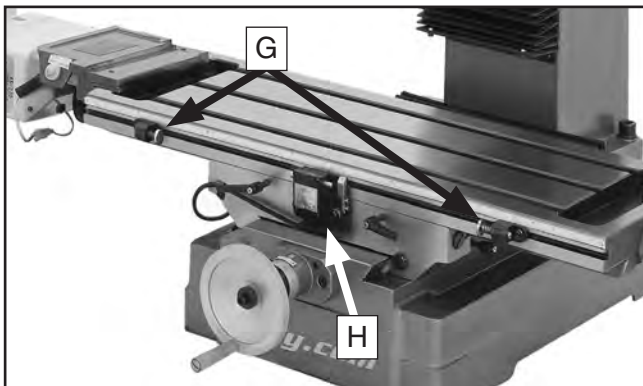


Figure 22. Limit switch and limit stops.

- A. ON/OFF Light.** Illuminates when the unit is turned **ON**.
- B. Direction Lever.** Controls the direction of powered table travel.
- C. Rapid Switch.** Moves the table rapidly in the direction chosen when held down.
- D. Power Light.** Illuminates when the unit is connected to power.
- E. Speed Dial.** Controls the rate of power feed.
- F. ON/OFF Switch.** Turns the power feed **ON** and **OFF**.

- G. Limit Stops.** Work with limit switch to restrict X-axis table movement.
- H. Limit Switch.** Stops table movement when either side plunger contacts a limit stop.

Installing/Removing Tooling

The Model G0761 includes the following spindle tools (see **Figure 23**):

- A. B16 Drill Chuck w/R-8 Arbor.** Joined with the drill chuck.
- B. R-8–MT#3 Spindle Sleeve.** Used for MT#3 tools and will accommodate tools with a tang. It also has a drift key slot for tool removal.
- C. MT#3–MT#2 Spindle Sleeve.** Used with the R-8–MT#3 spindle sleeve for MT#2 tools and has a drift key slot for tool removal.

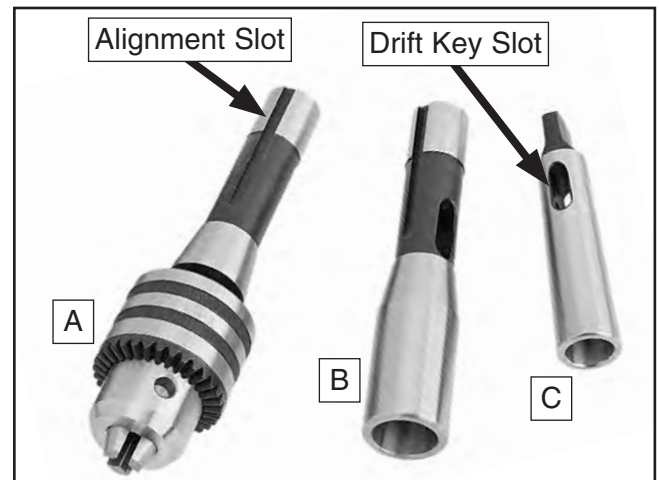


Figure 23. Tool and arbors included with Model G0761.

	<p>⚠ CAUTION Cutting tools are sharp and can easily cause laceration injuries. Always protect your hands with leather gloves or shop rags when handling cutting tools.</p>
--	---



Installing Tooling

Tools Needed	Qty
Wrench 19mm	1

To install tooling:

1. DISCONNECT MACHINE FROM POWER!
2. Remove drawbar cap, as shown in **Figure 24**.

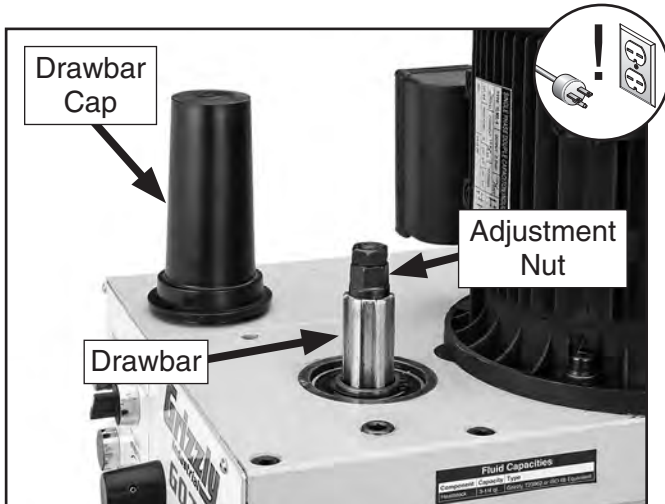


Figure 24. Drawbar components.

3. Position tool alignment slot (see **Figure 23** on previous page) with pin inside spindle, then insert tooling into spindle until it contacts drawbar.

Note: Height of drawbar inside spindle can be changed by rotating adjustment nut (see **Figure 24**).

4. Working from the top, thread drawbar by hand into tooling until it is snug, then use wrench to tighten it.

Note: Do not overtighten drawbar. Overtightening makes tool removal difficult and will damage arbor and threads.

5. Re-install drawbar cap.

Removing Tooling

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

To remove tooling:

1. DISCONNECT MACHINE FROM POWER!
2. Remove drawbar cap.
3. Unthread drawbar from tooling one full rotation.

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

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



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 cutting task, 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 25**.

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

Figure 25. 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

Use the chart below or the one on the headstock when setting the spindle speed.

Spindle Speed	High/Low Range Lever	Spindle 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 high/low range and spindle speed levers (see **Figure 26**) to set the spindle speed.

Note: If necessary, rotate the spindle by hand to mesh the gears when changing speeds.

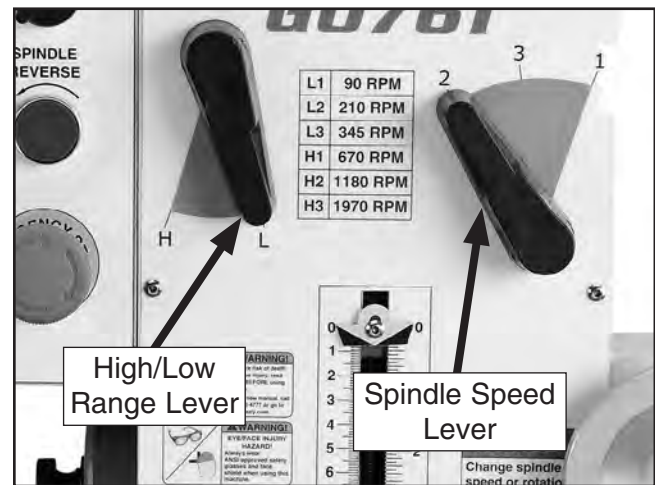


Figure 26. Spindle speed controls.



Tapping Mode

In tapping mode, the spindle rotates clockwise when the tap is lowered into the workpiece until the depth stop is engaged, then the spindle will rotate counterclockwise to unthread the tap from the hole.

Pilot holes must be drilled prior to beginning any tapping operation.

To use tapping mode:

1. DISCONNECT MACHINE FROM POWER!
2. Clamp workpiece to table.
3. Select spindle speed of 90 RPM (lowest).
4. Install tap.
5. Adjust Z-axis position of headstock so tap is just above workpiece.

6. Rotate depth stop adjustment knob (see **Figure 27**) to adjust depth stop for depth of hole.

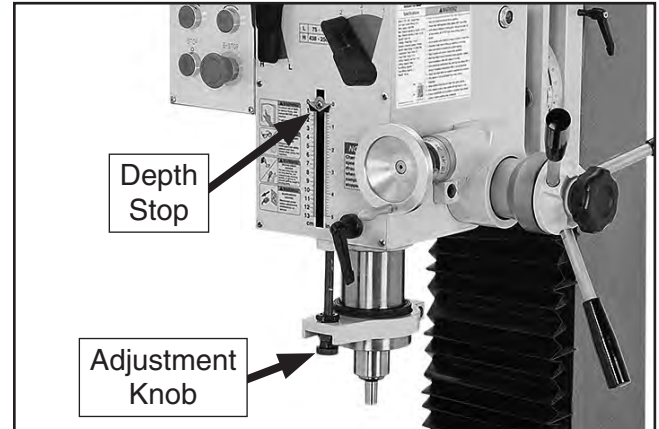


Figure 27. Locations of depth stop adjustment knob and depth stop.

7. Apply tapping fluid to contact point on workpiece.
8. Connect machine to power.
9. Rotate the mode selection switch to TAPPING.
10. Slowly lower spindle until tap begins threading into workpiece, then release pressure on the downfeed control.

When the spindle dog makes contact with depth stop, spindle rotation will reverse and tap will unthread from hole.



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.

G7156—4" (3⁵/₈") Precision Milling Vise

G7154—5" (4¹/₂") Precision Milling Vise

G7155—6" (5⁵/₈") Precision Milling Vise

Swiveling Milling Vises feature perfectly aligned, precision ground jaws, large Acme® screws and easy to read 0°–360° scales.



Figure 28. G7154 Precision Milling Vise.

G7066—5" Tilting/Swiveling Milling Vise

H7576—Precision Self-Centering Vise

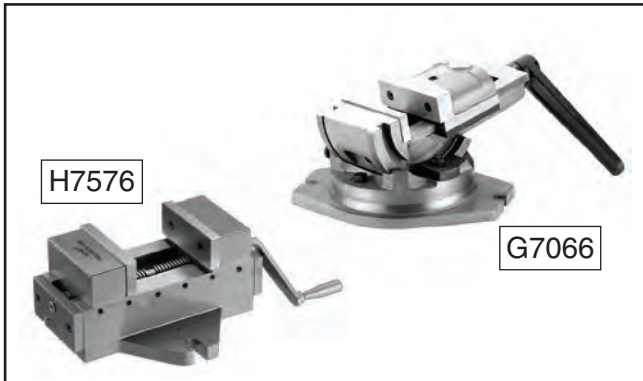


Figure 29. Specialty milling vises.

SB1365—South Bend Lathe Way Oil, 12 Oz.

T23962—ISO 68 Moly-D Machine/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 30. 12 oz. way oil & 5 gal. machine oil.

High-Pressure Oil Can For Ball Oilers

H7617—Flexible Plastic Nozzle

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



Figure 31. H7617 High-Pressure Oil Can.

order online at www.grizzly.com or call 1-800-523-4777



H7527—6" Rotary Table Set

Use this 6" Rotary Table in either the horizontal or vertical position for a variety of milling applications, and with the set of dividing plates and adjustable tailstock, your milling applications are nearly unlimited. With 4° table movement per handle rotation and 20 second vernier scale, control is very accurate and precise. Also includes a 3/8" clamping set for the 4-slot table. Everything you need in one great set!



Figure 32. H7527 6" Rotary Table Set.

T26419—Syn-o-Gen High Speed Bearing Grease

Syn-O-Gen Multi-purpose Synthetic Grease is formulated with 100% pure synthesized hydrocarbon basestocks to impart its remarkable properties. Superior lubricating properties coupled with extremely low pour point and extremely high temperature oxidation and thermal stability produce a grease that is unmatched in performance for numerous applications.



Figure 33. T26419 Syn-O-Gen Grease.

G1075—58-Pc. Clamping Kit

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.

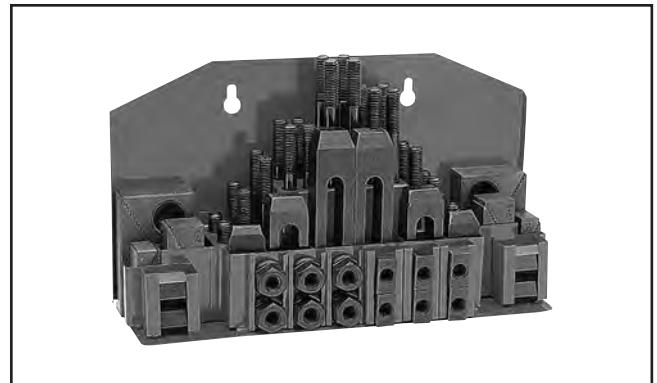


Figure 34. G1075 58-Pc. Clamping Kit.

SB1348—South Bend® 8-Pc. R-8 Collet Set

SB1349—South Bend® 16-Pc. R-8 Collet Set

Get true South Bend® quality and precision with one of these Quick-Change Collet Sets. Each set includes hardened and precision-ground spring collets for maximum holding power, collet chuck, spanner wrench, and protective moulded case.

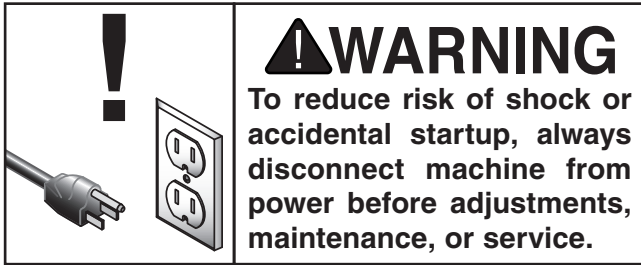


Figure 35. Model SB1349 South Bend 16-Pc. R-8 Collet Set.

order online at www.grizzly.com or call 1-800-523-4777



SECTION 6: MAINTENANCE



Schedule

Ongoing

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

- Loose mounting bolts.
- Damaged saw blade.
- Worn or damaged wires.
- Any other unsafe condition.

Every 8 Hours of Operation:

- Check/add headstock oil (**Page 31**).
- Lubricate ball oilers (**Page 32**).
- Lubricate table and column ways (**Page 32**).
- Lubricate quill outside surface (**Page 33**).

Every 40 Hours of Operation:

- Lubricate table leadscrews (**Page 33**).

Every 90 Hours of Operation:

- Lubricate column leadscrew, nut, and pinion gear (**Page 34**).
- Lubricate quill rack and pinion (**Page 34**).

Annually

- Change headstock oil (**Page 31**).

Cleaning and Protecting

Metal chips left on the machine that have been soaked with water-based coolant 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 28** for offerings from Grizzly).

Lubrication

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

Lube Type...Model T23962 or ISO 68 Equivalent
 Lube 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 shown in **Figure 36** is halfway full.



Figure 36. Headstock oil sight glass.

Tool Needed	Qty
Hex Wrench 8mm.....	1

To change headstock oil:

1. Run spindle at 670 RPM for approximately 10 minutes to warm oil.
2. DISCONNECT MACHINE FROM POWER!
3. Remove fill plug (see **Figure 37**).



Figure 37. Headstock oil fill plug.

4. Place a 1-gallon or larger drain pan on table under headstock.
5. Remove drain plug (see **Figure 38**) from underneath headstock and allow oil to drain into pan.

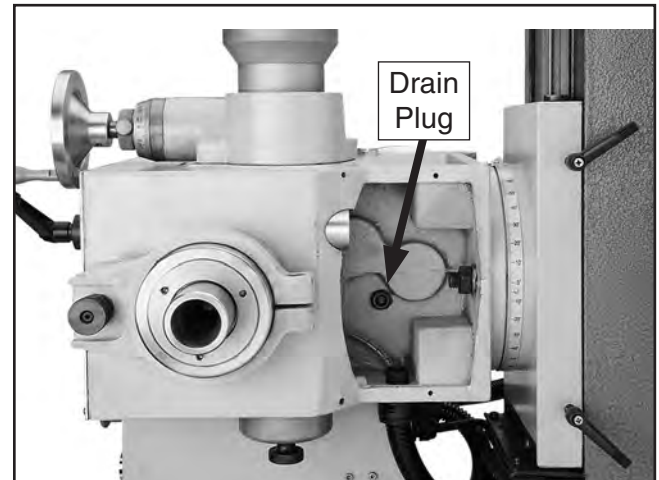


Figure 38. Headstock drain plug (headstock tilted 90° for clarity).

NOTICE

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

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



Ball Oilers

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

Proper lubrication of the handwheel ball oilers shown in **Figure 39** is done with a pump-type oil can that has a plastic or rubberized cone tip (see **Page 28** 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.

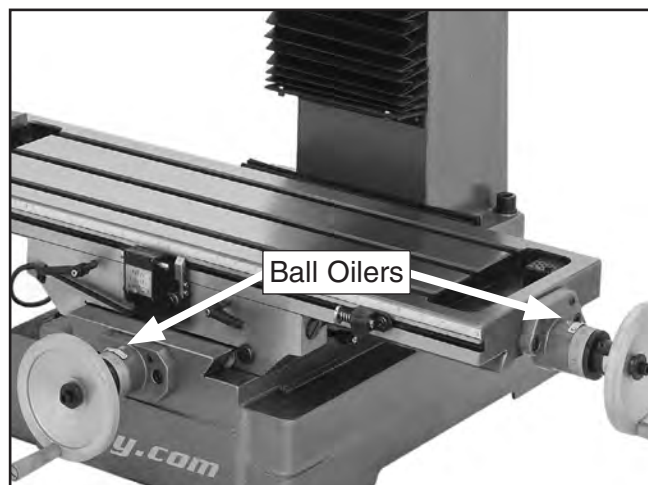


Figure 39. Location of handwheel ball oilers.

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.

Table & Column Ways

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

Using a 4mm hex wrench, disconnect one side of the column way cover, then move the table and headstock to access the entire length of the table and column ways for this procedure (see **Figure 40**).

Note: *Each sliding component has two dovetail ways—one on each side of the component.*

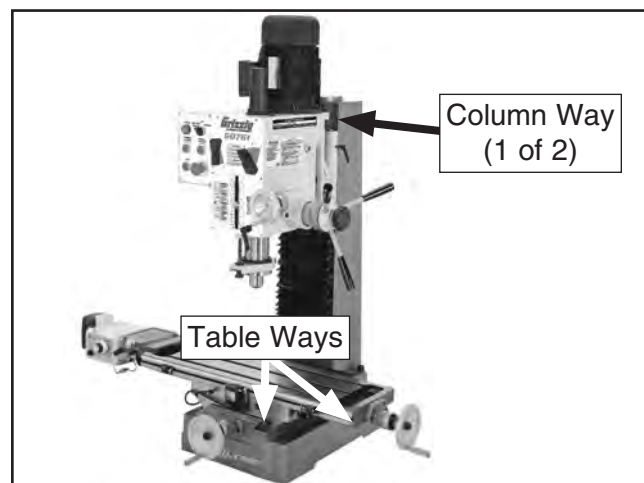


Figure 40. Location of table and column ways.

Clean the ways with mineral spirits and shop rags. When dry, apply a liberal coat of lubricant, then move the sliding components through their full path a few times to evenly distribute the oil. Re-install the column way cover.



Quill Outside Surface

Lube Type...Model T23962 or ISO 68 Equivalent
Lube AmountThin Coat
Lubrication Frequency 8 hrs. of Operation

Without disturbing the grease on the quill rack, clean the outside smooth surface of the quill (see **Figure 41**) with mineral spirits and shop rags.

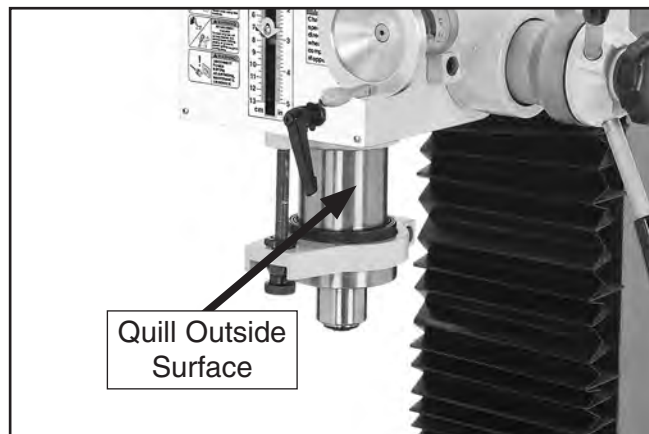


Figure 41. Outside surface of quill.

When dry, apply a thin coat of lubricant to the smooth surface, then move the spindle up and down to evenly distribute the oil.

Table Leadscrews

Lube Type...Model T23962 or ISO 68 Equivalent
Lube AmountThin 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 42–43**), then use mineral spirits, shop rags, and a brush to clean them.

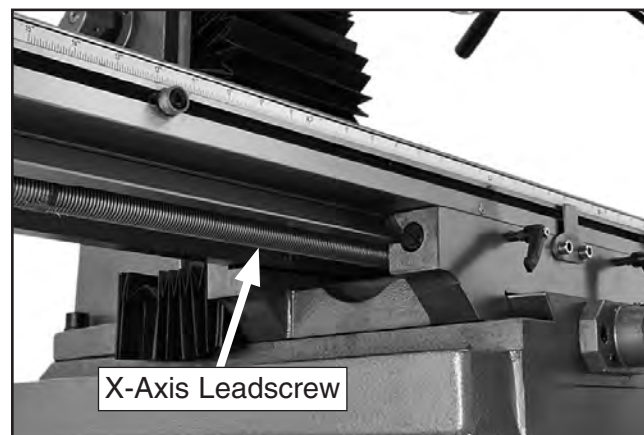


Figure 42. X-axis leadscrew.

Use a 4mm hex wrench to remove the way cover from the base to access the Y-axis leadscrew.

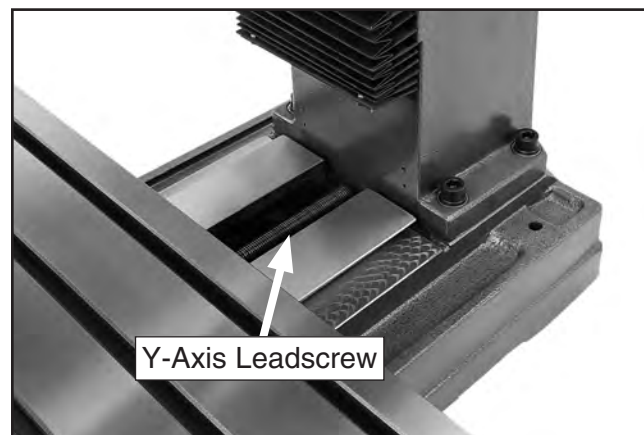


Figure 43. Y-axis leadscrew.

When dry, 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.



Column Leadscrew, Nut, & Pinion Gear

Lube Type..Model T23964 or NLGI#2 Equivalent
Lube AmountThin Coat
Lubrication Frequency 90 hrs. of Operation

Using a 5mm hex wrench, remove the column rear cover to access Z-axis leadscrew components (see **Figure 44**).

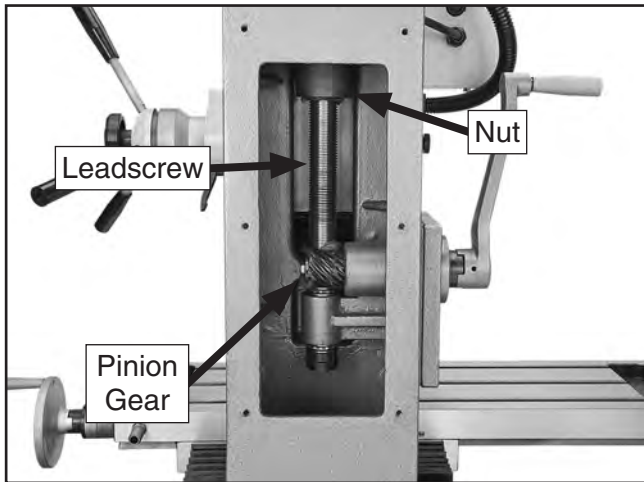


Figure 44. Column rear cover removed to access Z-axis leadscrew components.

Use shop rags, a stiff brush, and mineral spirits to clean away the grease and grime from the Z-axis components. When dry, apply a medium coat of grease to the components and threads of the leadscrew. Move the headstock up and down a few times to evenly distribute the lubricant. Re-install rear cover.

Quill Rack & Pinion

Lube Type..Model T23964 or NLGI#2 Equivalent
Lube AmountThin 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 45**), then clean the teeth with mineral spirits, shop rags, and a brush.

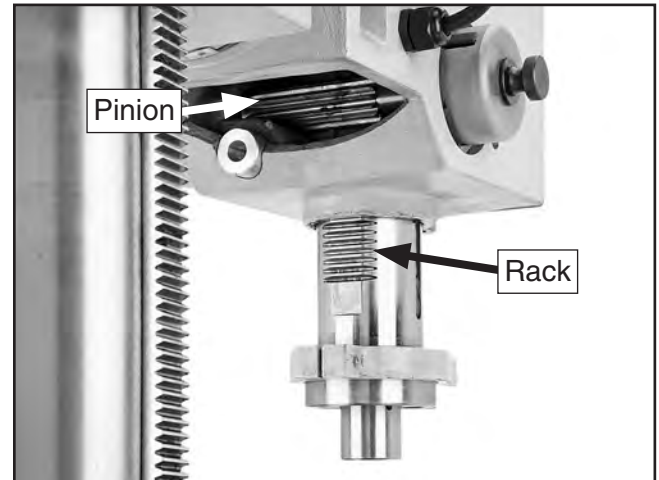


Figure 45. Quill rack and pinion.

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

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



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



Symptom	Possible Cause	Possible Solution
Machine does not start.	<ol style="list-style-type: none"> 1. Plug at fault or wired incorrectly. 2. Incorrect power supply voltage. 3. Wall fuse/circuit breaker is blown/tripped. 4. Wiring is open/has high resistance. 5. Spindle switch is at fault. 6. Motor wired incorrectly. 7. Motor is at fault. 	<ol style="list-style-type: none"> 1. Ensure plug is not damaged and is wired correctly. 2. Ensure power supply voltage matches circuit requirements (Page 10). 3. Ensure circuit size is correct and a short does not exist. Reset breaker or replace fuse. 4. Check for broken wires or disconnected/corroded connections; repair/replace as necessary. 5. Ensure switch is wired correctly; replace if at fault. 6. Ensure motor wiring is correct (Page 42). 7. Test/repair/replace.
Machine stalls or is overloaded.	<ol style="list-style-type: none"> 1. Feed rate/cutting speed too fast. 2. Wrong cutter type. 3. Machine is undersized for the task or tooling is incorrect for the task. 4. Motor has overheated. 5. Motor wired incorrectly. 6. Motor bearings are at fault. 7. Motor is at fault. 	<ol style="list-style-type: none"> 1. Decrease feed rate/cutting speed. 2. Use the correct cutter for the task. 3. Use smaller or sharper tooling; reduce feed rate or spindle speed; use cutting fluid if possible. 4. Clean off motor, let cool, and reduce workload. 5. Ensure motor wiring is correct (Page 42). 6. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement. 7. Test/repair/replace motor.
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> 1. Motor or machine component is loose. 2. Workpiece not secure. 3. Excessive depth of cut. 4. Cutter/tooling is loose. 5. Cutter is dull or at fault. 6. Bit is chattering. 7. Machine is incorrectly mounted or sits unevenly. 8. Motor fan is rubbing on fan cover. 9. Motor bearings are at fault. 	<ol style="list-style-type: none"> 1. Inspect/replace stripped or damaged bolts/nuts, and retighten with thread locking fluid. 2. Properly clamp workpiece on table or in vise. 3. Decrease depth of cut. 4. Make sure tooling is properly secured. 5. Replace/resharpen cutter. 6. Replace/sharpen bit; index bit to workpiece; use appropriate feed rate and cutting RPM. 7. Tighten/replace mounting bolts in bench; relocate/shim machine. 8. Replace dented fan cover or damaged fan. 9. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.



Symptom	Possible Cause	Possible Solution
Tool slips in spindle.	<ol style="list-style-type: none"> 1. Tool is not fully drawn up into spindle taper. 2. Debris on tool or in spindle taper. 3. Taking too big of a cut. 	<ol style="list-style-type: none"> 1. Tighten drawbar. 2. Clean collet and spindle taper. 3. Lessen depth of cut and allow chips to clear.
Breaking tools or cutters.	<ol style="list-style-type: none"> 1. Spindle speed/feed rate is too fast. 2. Cutting tool too small. 3. Cutting tool getting too hot. 4. Taking too big of a cut. 5. Spindle extended too far down. 	<ol style="list-style-type: none"> 1. Set spindle speed correctly (Page 26) or use slower feed rate. 2. Use larger cutting tool and slower feed rate. 3. Use coolant or oil for appropriate application. 4. Decrease depth of cut. 5. Fully retract spindle and lower headstock. This increases rigidity.
Workpiece vibrates or chatters during operation.	<ol style="list-style-type: none"> 1. Table locks not tight. 2. Workpiece not secure. 3. Spindle speed/feed rate is too fast. 4. Spindle extended too far down. 	<ol style="list-style-type: none"> 1. Tighten down table locks. 2. Properly clamp workpiece on table or in vise. 3. Set spindle speed correctly (Page 26) or use a slower feed rate. 4. Fully retract spindle and lower headstock. This increases rigidity.
Table is hard to move.	<ol style="list-style-type: none"> 1. Table locks are tightened down. 2. Chips have loaded up on ways. 3. Ways are dry and need lubrication. 4. Table limit stops are interfering. 5. Gibs are too tight. 	<ol style="list-style-type: none"> 1. Make sure table locks are fully released. 2. Frequently clean away chips that load up during milling operations. 3. Lubricate ways (Page 32). 4. Check to make sure that all table limit stops are not in the way. 5. Adjust gibs (see Page 37).
Bad surface finish.	<ol style="list-style-type: none"> 1. Spindle speed/feed rate is too fast. 2. Using a dull or incorrect cutting tool. 3. Wrong rotation of cutting tool. 4. Workpiece not secure. 5. Spindle extended too far down. 	<ol style="list-style-type: none"> 1. Set spindle speed correctly (Page 26) or use a slower feed rate. 2. Sharpen cutting tool or select one that better suits the operation. 3. Check for proper cutting rotation for cutting tool. 4. Properly clamp workpiece on table or in vise. 5. Fully retract spindle and lower headstock. This increases rigidity.



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 milling results.

Tight gibs make table movement more accurate but stiff. Loose gibs make moving the table sloppy but easier to do. The goal of gib adjustment is to remove unnecessary sloppiness without causing the ways to bind.

Tip: *Some experienced machinists recommend adjusting the gibs until there is a slight drag in table movement.*

Screws on each end of the gib allow gib adjustment to increase or decrease the friction pressure between the sliding surfaces. Correctly positioning the gib is a matter of trial and error and patience.

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 using the handwheels to move the table until you feel a slight drag in that path of movement.

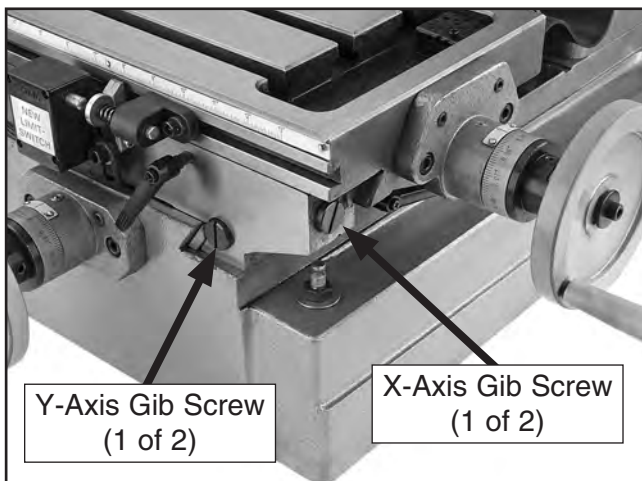


Figure 46. Location of table gib screws.

Adjusting Leadscrew Backlash

Leadscrew backlash is the amount of free-play movement in the leadscrew (when changing the direction of rotation) before the attached device begins to move.

Leadscrews must have a certain amount of backlash, but over time, this will increase with normal wear. 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 by using a long 5mm hex wrench to tighten/loosen the cap screw on the leadscrew nut. This adjusts the force the split 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 machine base.



Figure 47. X-axis leadscrew nut adjusting cap screw.



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 48**) just enough to pull the cover back to clear the roll pin, then rotate the cover clockwise to fit the roll pin in the next slot.

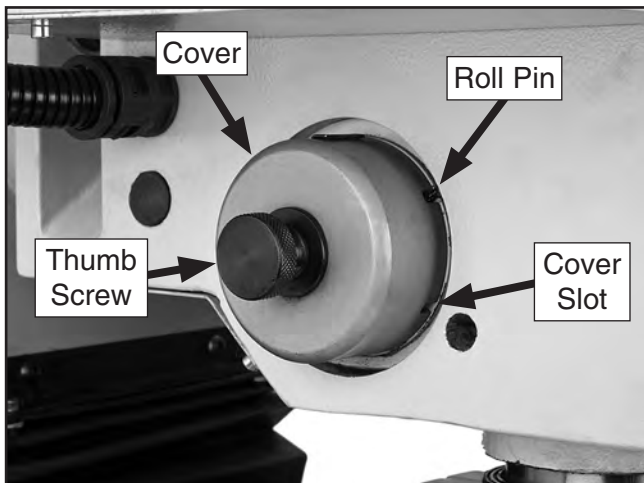


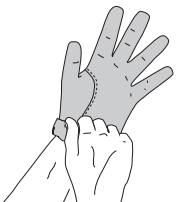

Figure 48. Return spring components.

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 roll pin—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 spring will not unwind, loosen thumb screw approximately $\frac{1}{4}$ ".
6. Pull cover out just enough to disengage it with roll pin, then rotate it clockwise to engage roll pin in next slot in cover.
7. Retighten thumb screw to secure setting.

	⚠ WARNING 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

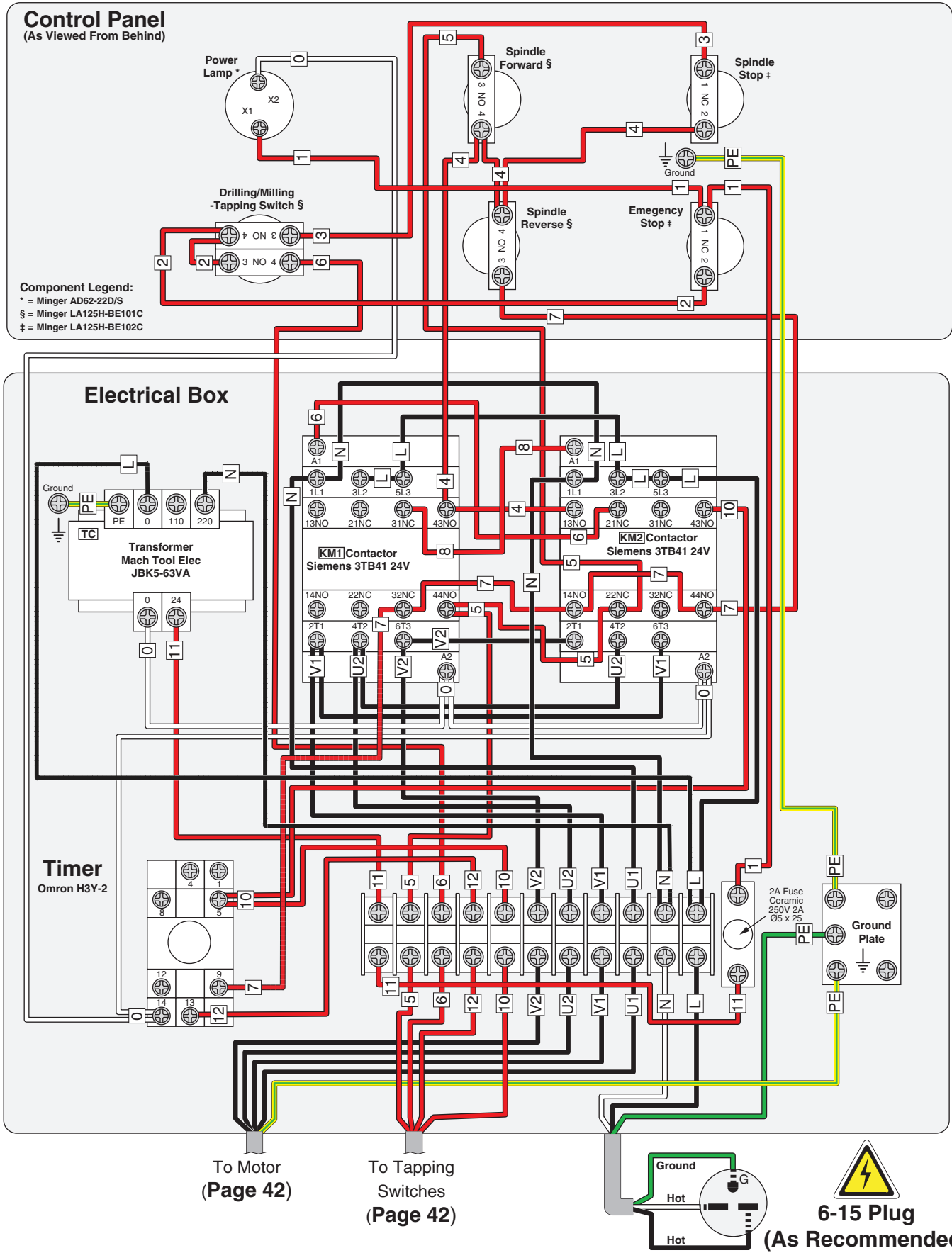
The photos and diagrams included in this section are best viewed in color. You can view these pages in color at www.grizzly.com.

COLOR KEY

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



Electrical Box & Control Panel Wiring



Electrical Box & Control Panel Wiring

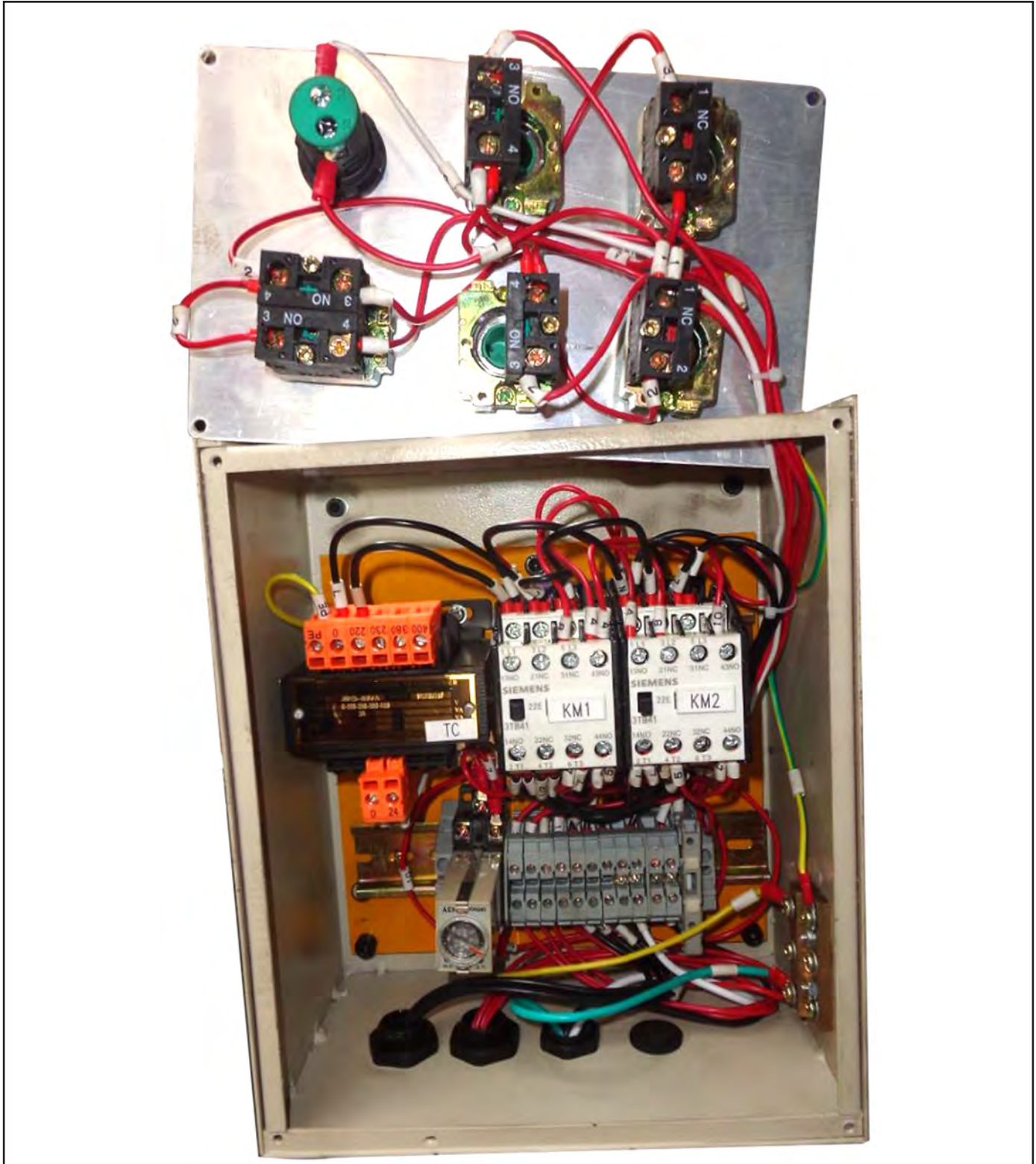
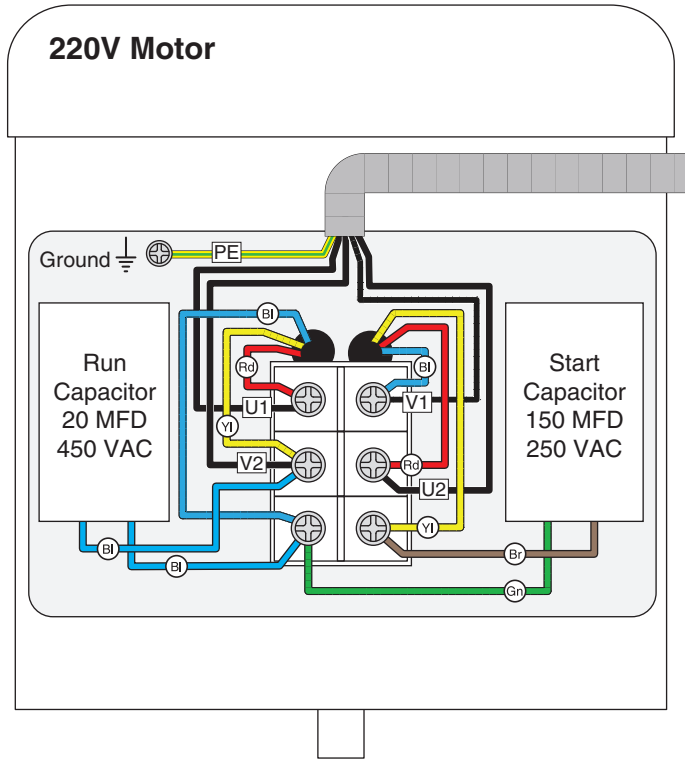


Figure 49. Control panel switches (top) and electrical box wiring.



Motor & Tapping Switches Wiring



To Electrical Box
(Page 40)



Figure 51. Motor wiring.

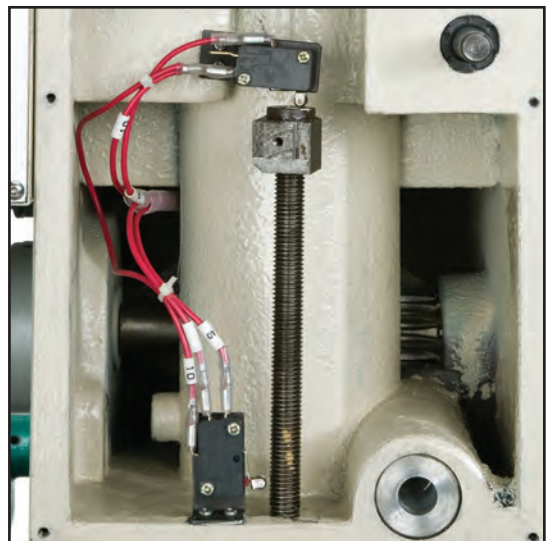
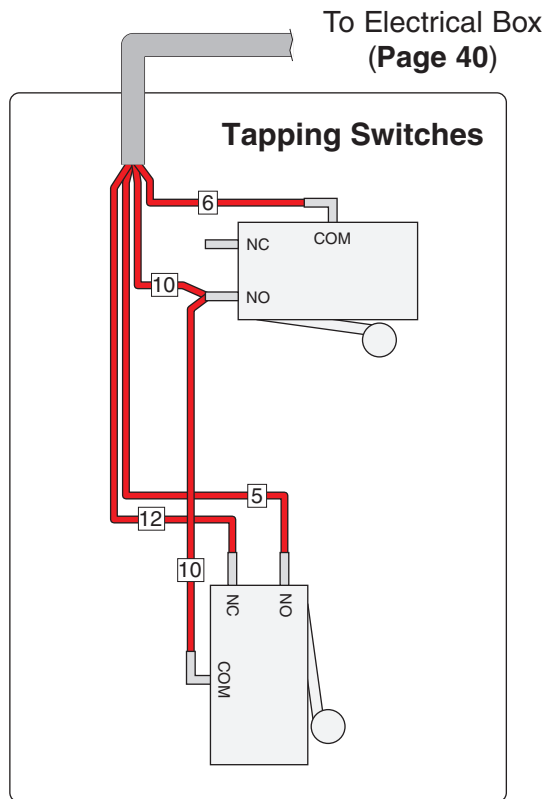
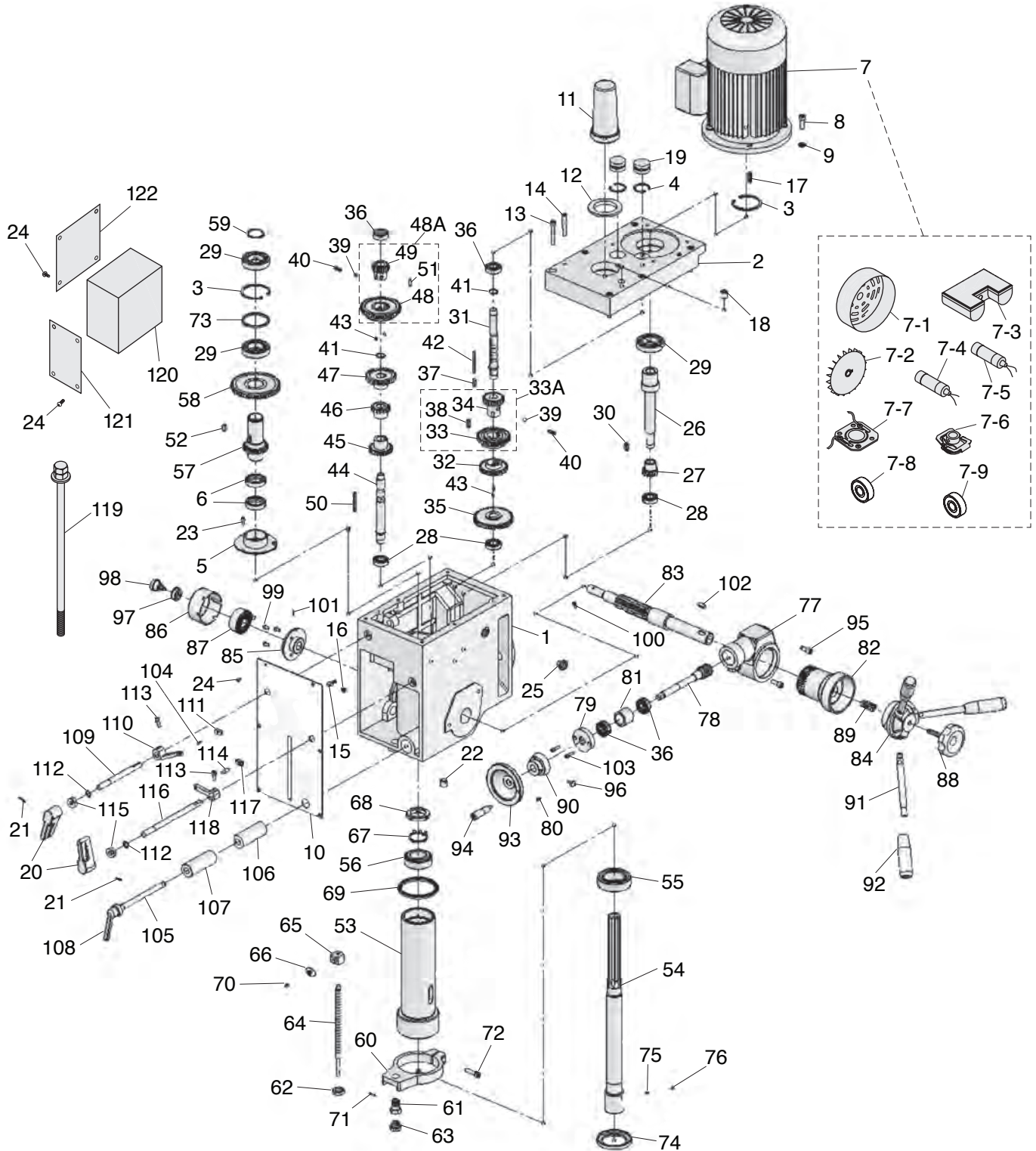


Figure 52. Tapping switch wiring.



SECTION 9: PARTS

Headstock



Please Note: We do our best to stock replacement parts whenever possible, but we cannot guarantee that all parts shown here are available for purchase. Call (800) 523-4777 or visit our online parts store at www.grizzly.com to check for availability.

Model G0761 (Mfd. Since 06/15)



BUY PARTS ONLINE AT GRIZZLY.COM!
Scan QR code to visit our Parts Store.



Headstock Parts List

REF	PART #	DESCRIPTION
1	P0761001	HEADSTOCK HOUSING
2	P0761002	HEADSTOCK TOP COVER
3	P0761003	INT RETAINING RING 62MM
4	P0761004	INT RETAINING RING 35MM
5	P0761005	FLANGED END CAP
6	P0761006	SHAFT SEAL 45 X 35 X 10
7	P0761007	MOTOR 2HP 220V 1-PH
7-1	P0761007-1	MOTOR FAN COVER
7-2	P0761007-2	MOTOR FAN
7-3	P0761007-3	MOTOR JUNCTION BOX
7-4	P0761007-4	S CAPACITOR 150M 250V 1-5/8 X 3
7-5	P0761007-5	R CAPACITOR 20M 450V 1-1/2 X 3-1/4
7-6	P0761007-6	CENTRIFUGAL SWITCH 25MM 1725 RPM
7-7	P0761007-7	CONTACT PLATE
7-8	P0761007-8	BALL BEARING 6205ZZ
7-9	P0761007-9	BALL BEARING 6205ZZ
8	P0761008	HEX BOLT M8-1.25 X 25
9	P0761009	FLAT WASHER 8MM
10	P0761010	HEADSTOCK FRONT COVER
11	P0761011	DRAWBAR CAP
12	P0761012	DRAWBAR CAP RUBBER SEAL
13	P0761013	CAP SCREW M8-1.25 X 45
14	P0761014	TAPER PIN 8 X 40
15	P0761015	CAP SCREW M10-1.5 X 8
16	P0761016	SET SCREW M10-1.5 X 10 DOG-PT
17	P0761017	KEY 6 X 6 X 28
18	P0761018	OIL FILL PLUG 3/8" ZG
19	P0761019	CASTING PLUG
20	P0761020	SHIFT LEVER
21	P0761021	ROLL PIN 3 X 18
22	P0761022	OIL DRAIN PLUG 3/8" ZG
23	P0761023	PHLP HD SCR M5-.8 X 10
24	P0761024	BUTTON HD CAP SCR M4-.7 X 8
25	P0761025	OIL SIGHT GLASS M18-1.5
26	P0761026	DRIVE SHAFT
27	P0761027	GEAR 14T
28	P0761028	BALL BEARING 6003ZZ
29	P0761029	BALL BEARING 6007ZZ
30	P0761030	KEY 5 X 5 X 25
31	P0761031	IDLER SHAFT
32	P0761032	GEAR 29T
33A	P0761033A	MATCHED GEAR SET 35T/21T (3 PCS)
33	P0761033	GEAR 35T
34	P0761034	GEAR 21T
35	P0761035	GEAR 41T
36	P0761036	BALL BEARING 6202-OPEN P5
37	P0761037	KEY 6 X 6 X 14
38	P0761038	KEY 6 X 6 X 28
39	P0761039	STEEL BALL 8MM
40	P0761040	COMPRESSION SPRING
41	P0761041	EXT RETAINING RING 18MM
42	P0761042	KEY 5 X 5 X 50
43	P0761043	SET SCREW M6-1 X 12
44	P0761044	SPINDLE SHAFT

REF	PART #	DESCRIPTION
45	P0761045	GEAR 25T
46	P0761046	GEAR 18T
47	P0761047	GEAR 32T
48A	P0761048A	MATCHED GEAR SET 43T/16T (3 PCS)
48	P0761048	GEAR 43T
49	P0761049	GEAR 16T
50	P0761050	KEY 5 X 5 X 50
51	P0761051	KEY 6 X 6 X 18
52	P0761052	KEY 6 X 6 X 18
53	P0761053	QUILL
54	P0761054	SPINDLE R-8
55	P0761055	TAPERED ROLLER BEARING 30207 P5
56	P0761056	TAPERED ROLLER BEARING 30206 P5
57	P0761057	GEAR SHAFT 25T
58	P0761058	GEAR 53T
59	P0761059	EXT RETAINING RING 35MM
60	P0761060	DEPTH ROD MOUNT
61	P0761061	INT THREADED SHOULDER BOLT M16-2 X 10
62	P0761062	HEX NUT M16-2 THIN
63	P0761063	DEPTH ROD KNURLED THUMB KNOB M16-2
64	P0761064	STUD-FT M12-1.75 X 230
65	P0761065	DEPTH ROD DOG
66	P0761066	DEPTH POINTER
67	P0761067	SPANNER NUT LOCK WASHER 30MM
68	P0761068	SPANNER NUT M30-1.5
69	P0761069	RUBBER SEAL 90 X 75 X 6
70	P0761070	CAP SCREW M4-.7 X 8
71	P0761071	ROLL PIN 3 X 18
72	P0761072	CAP SCREW M8-1.25 X 30
73	P0761073	SPACER
74	P0761074	SPINDLE END SEAL
75	P0761075	SET SCREW M5-.8 X 6 DOG-PT
76	P0761076	SET SCREW M5-.8 X 4
77	P0761077	WORM GEAR HOUSING
78	P0761078	WORM SHAFT
79	P0761079	WORM SHAFT END BRACKET
80	P0761080	SET SCREW M6-1 X 12
81	P0761081	SPACER
82	P0761082	WORM GEAR
83	P0761083	PINION SHAFT
84	P0761084	LEVER HUB
85	P0761085	SPRING BASE
86	P0761086	SPRING COVER
87	P0761087	COILED SPRING
88	P0761088	KNOB BOLT M10-1.5 X 45
89	P0761089	COMPRESSION SPRING
90	P0761090	FINE DOWNFEED GRADUATED DIAL
91	P0761091	SHOULDER STUD-UDE M12-1.75 X 145 15,20
92	P0761092	TAPERED KNOB M12-1.75
93	P0761093	FINE DOWNFEED HANDWHEEL
94	P0761094	HANDWHEEL HANDLE
95	P0761095	CAP SCREW M8-1.25 X 25
96	P0761096	KNURLED THUMB SCREW M5-.8 X 12
97	P0761097	SPRING COVER FLAT WASHER 6MM



Headstock Parts List

REF	PART #	DESCRIPTION
98	P0761098	KNURLED THUMB SCREW M6-1 X 12
99	P0761099	CAP SCREW M6-1 X 12
100	P0761100	SET SCREW M5-.8 X 12
101	P0761101	ROLL PIN 3 X 12
102	P0761102	KEY 8 X 8 X 20
103	P0761103	CAP SCREW M5-.8 X 20
104	P0761104	ROLL PIN 3 X 15
105	P0761105	LOCK LEVER SHAFT
106	P0761106	INNER LOCK PLUNGER
107	P0761107	OUTER LOCK PLUNGER
108	P0761108	ADJUSTABLE HANDLE
109	P0761109	SPEED SHIFT SHAFT (LH)
110	P0761110	SPEED SHIFT ROCKER ARM (LH)

REF	PART #	DESCRIPTION
111	P0761111	SPEED SHIFT FORK (LH)
112	P0761112	EXT RETAINING RING 12MM
113	P0761113	CAP SCREW M6-1 X 16
114	P0761114	SHIFT ROD
115	P0761115	SHAFT SEAL 12 X 22 X 8
116	P0761116	SPEED SHIFT SHAFT (RH)
117	P0761117	SPEED SHIFT FORK (RH)
118	P0761118	SPEED SHIFT ROCKER ARM (RH)
119	P0761119	DRAWBAR ASSEMBLY 7/16-20 X 17-3/4
120	P0761120	ELECTRICAL CABINET
121	P0761121	ELECTRICAL CABINET FRONT COVER
122	P0761122	ELECTRICAL CABINET SIDE COVER



Table & Column

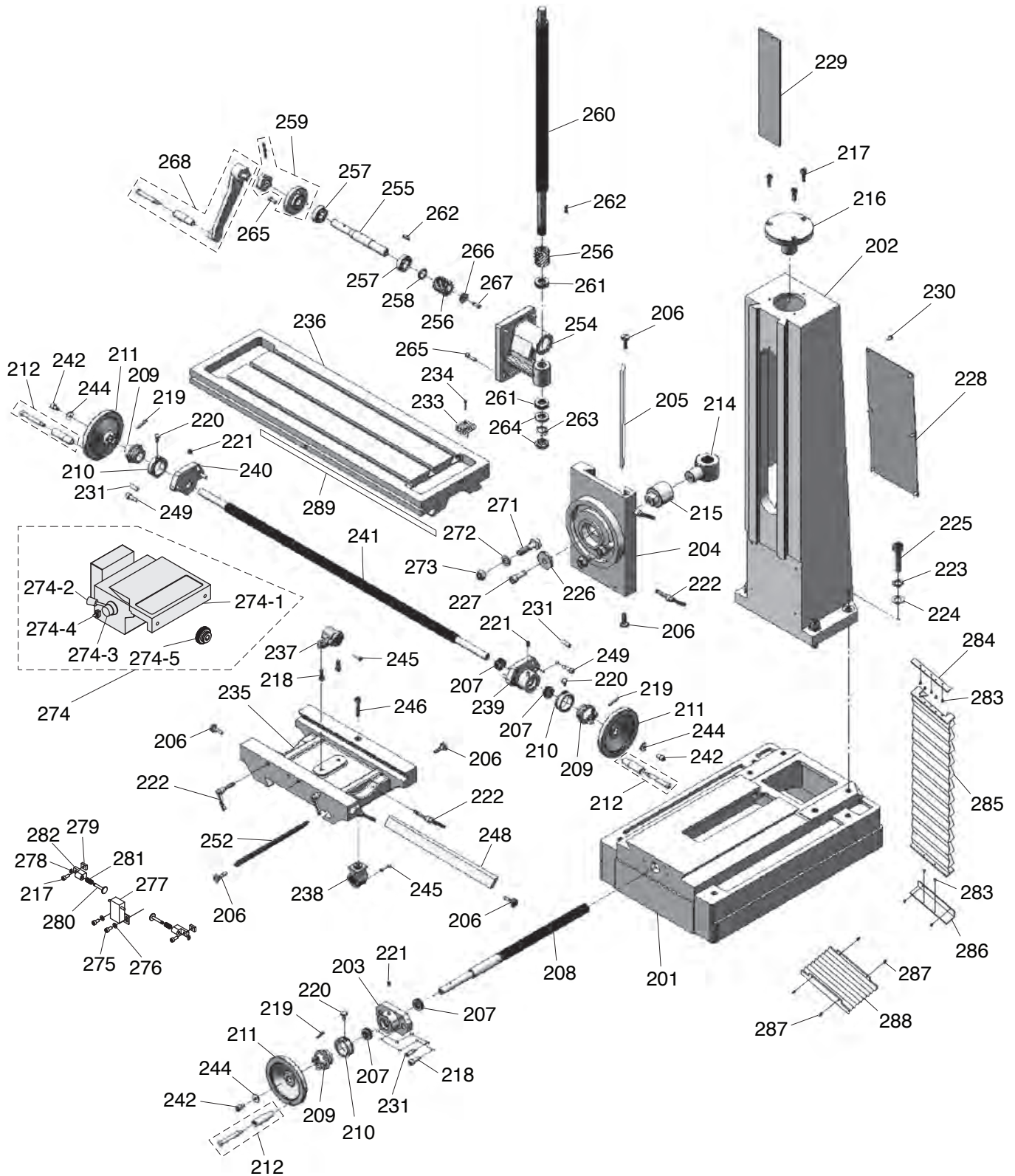


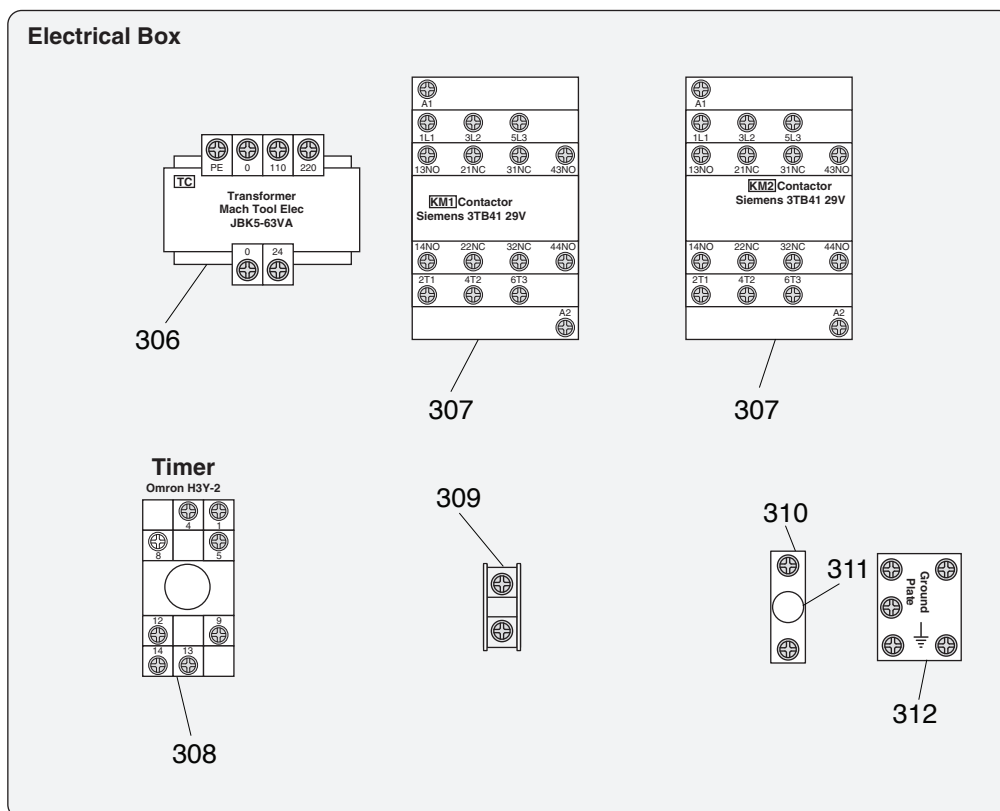
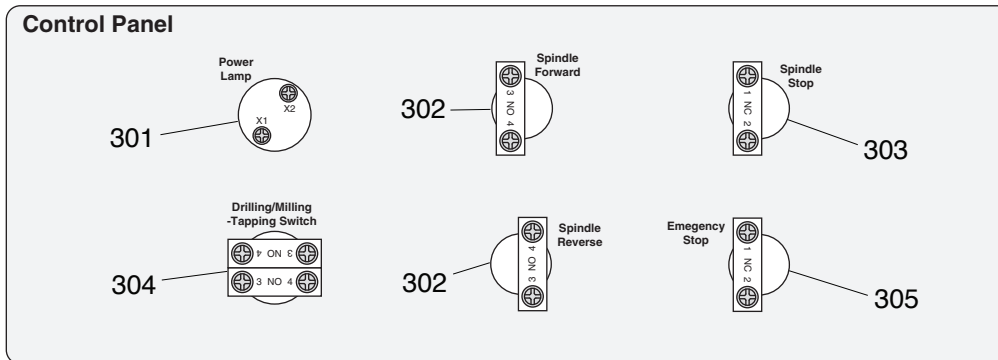
Table & Column Parts List

REF	PART #	DESCRIPTION
201	P0761201	BASE
202	P0761202	COLUMN
203	P0761203	Y-AXIS LEADSCREW BRACKET
204	P0761204	HEADSTOCK MOUNT
205	P0761205	Z-AXIS GIB
206	P0761206	GIB ADJUSTMENT SCREW
207	P0761207	THRUST BEARING 51103
208	P0761208	Y-AXIS LEADSCREW
209	P0761209	DIAL CLUTCH
210	P0761210	GRADUATED DIAL
211	P0761211	HANDWHEEL
212	P0761212	HANDWHEEL HANDLE W/SCREW
214	P0761214	Z-AXIS LEADSCREW NUT
215	P0761215	Z-AXIS LEADSCREW NUT BRACKET
216	P0761216	COLUMN TOP COVER
217	P0761217	CAP SCREW M8-1.25 X 20
218	P0761218	CAP SCREW M8-1.25 X 25
219	P0761219	ROLL PIN 5 X 35
220	P0761220	KNURLED THUMB SCREW M5-.8 X 12
221	P0761221	BALL OILER 8MM TAP-IN
222	P0761222	ADJUSTMENT HANDLE M8-1.25
223	P0761223	LOCK WASHER 16MM
224	P0761224	FLAT WASHER 16MM
225	P0761225	CAP SCREW M16-2 X 60
226	P0761226	HEADSTOCK MOUNT FLAT WASHER 12MM
227	P0761227	CAP SCREW M12-1.75 X 35
228	P0761228	COLUMN REAR COVER
229	P0761229	COLUMN FRONT COVER
230	P0761230	BUTTON HD CAP SCR M6-1 X 12
231	P0761231	ROLL PIN 8 X 30
233	P0761233	COOLANT DRAIN SCREEN
234	P0761234	PHLP HD SCR M3-.5 X 25
235	P0761235	SADDLE
236	P0761236	TABLE
237	P0761237	X-AXIS LEADSCREW NUT
238	P0761238	Y-AXIS LEADSCREW NUT
239	P0761239	X-AXIS LEADSCREW BRACKET (RH)
240	P0761240	X-AXIS LEADSCREW BRACKET (LH)
241	P0761241	X-AXIS LEADSCREW
242	P0761242	CAP SCREW M6-1 X 12
244	P0761244	HANDWHEEL STEP WASHER 6MM
245	P0761245	CAP SCREW M5-.8 X 20
246	P0761246	CAP SCREW M8-1.25 X 45

REF	PART #	DESCRIPTION
248	P0761248	X-AXIS GIB
249	P0761249	CAP SCREW M8-1.25 X 25
252	P0761252	Y-AXIS GIB
254	P0761254	Z-AXIS CRANK SHAFT BRACKET
255	P0761255	Z-AXIS CRANK SHAFT
256	P0761256	WORM GEAR
257	P0761257	BALL BEARING 6004ZZ
258	P0761258	SPACER
259	P0761259	CRANK SHAFT END FLANGE ASSY
260	P0761260	Z-AXIS LEADSCREW
261	P0761261	THRUST BEARING 51104
262	P0761262	KEY 6 X 6 X 20
263	P0761263	SPANNER NUT LOCK WASHER 20MM
264	P0761264	SPANNER NUT M20-1.5
265	P0761265	CAP SCREW M6-1 X 20
266	P0761266	WORM GEAR FLAT WASHER 8MM
267	P0761267	CAP SCREW M8-1.25 X 16
268	P0761268	Z-AXIS CRANK HANDLE ASSY
271	P0761271	T-BOLT M14-2 X 55
272	P0761272	FLAT WASHER 14MM
273	P0761273	HEX NUT M14-2
274	P0761274	POWER FEED ASSY ALIGN AS-235
274-1	P0761274-1	MOUNTING BRACKET 2-PC
274-2	P0761274-2	CONTROL HANDLE
274-3	P0761274-3	SPEED CONTROL KNOB
274-4	P0761274-4	ON/OFF SWITCH
274-5	P0761274-5	ZYTEL GEAR ASSEMBLY
275	P0761275	CAP SCREW M8-1.25 X 6
276	P0761276	FLAT WASHER 8MM
277	P0761277	POWER FEED LIMIT SWITCH
278	P0761278	EXT RETAINING RING 8MM
279	P0761279	SQUARE NUT M8-1.25
280	P0761280	POWER FEED LIMIT STOP
281	P0761281	COMPRESSION SPRING
282	P0761282	LIMIT STOP HOUSING
283	P0761283	PHLP HD SCR M4-.7 X 6
284	P0761284	Z-AXIS WAY COVER UPPER PLATE
285	P0761285	Z-AXIS WAY COVER
286	P0761286	Z-AXIS WAY COVER LOWER BRACKET
287	P0761287	PHLP HD SCR M5-.8 X 12
288	P0761288	Y-AXIS WAY COVER
289	P0761289	TABLE SCALE



Electrical

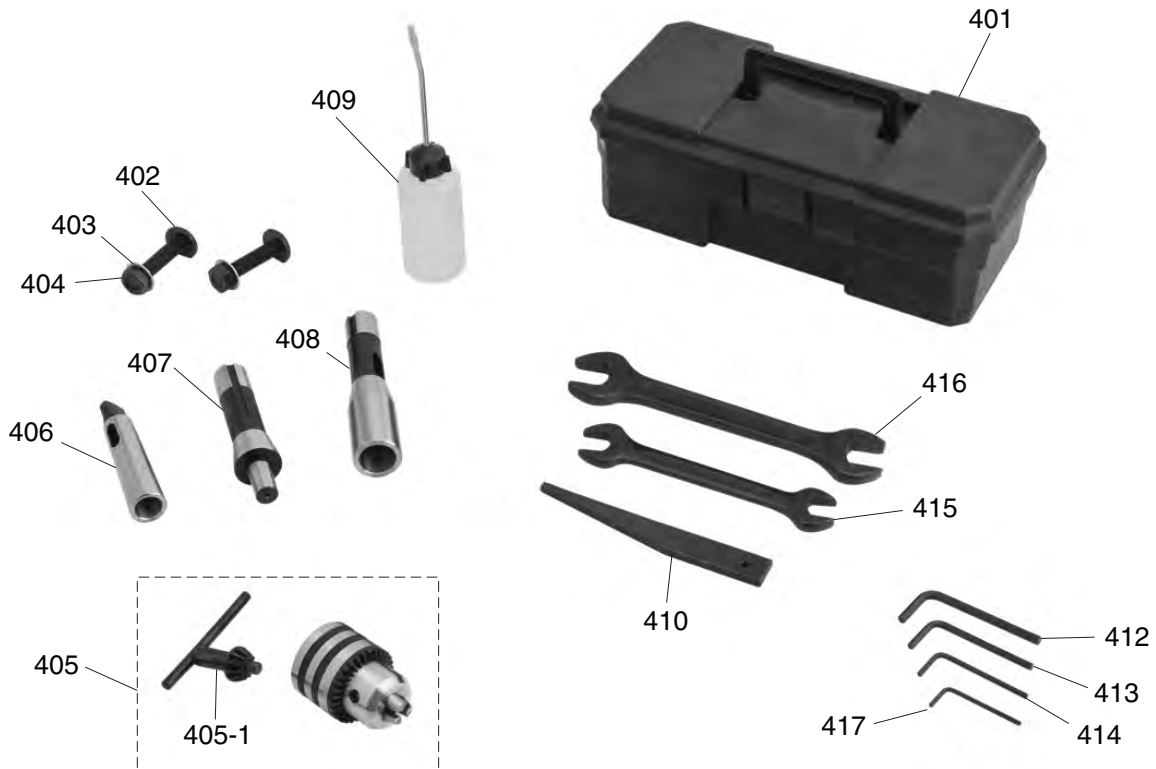


REF PART #	DESCRIPTION
301	P0761301 LAMP BUTTON MINGER AD62-22D/S 22MM
302	P0761302 START BUTTON MINGER LA125H-BE101C 22MM
303	P0761303 STOP BUTTON MINGER LA125H-BE102C 22MM
304	P0761304 TAP SWITCH MINGER LA125H-BE101C 22MM
305	P0761305 E-STOP MINGER LA125H-BE 102C 22MM
306	P0761306 TRANSFORMER MTE JBK5-63VA 0-220V
307	P0761307 CONTACTOR SIEMENS 3TB41 24V

REF PART #	DESCRIPTION
308	P0761308 TIMER OMRON H3Y-2
309	P0761309 TERMINAL BAR 1P
310	P0761310 FUSE HOLDER
311	P0761311 FUSE 2A 250V CERAMIC
312	P0761312 GROUND PLATE
313	P0761313 TAPPING SWITCH JUCHE LXW16-16/51C
314	P0761314 ELECTRICAL BOX MOUNTING BOARD



Accessories

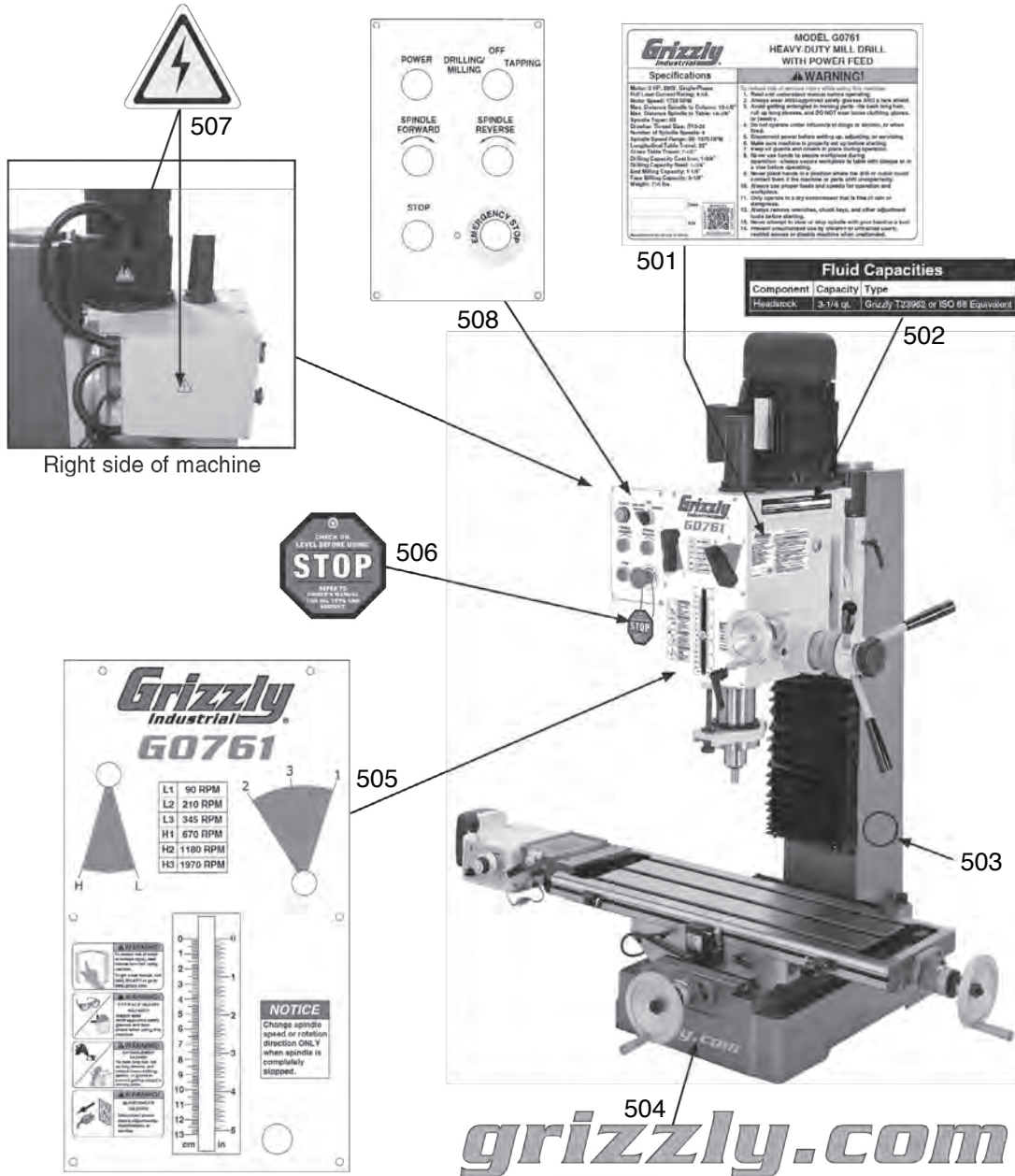


REF	PART #	DESCRIPTION
401	P0761401	TOOLBOX, PLASTIC
402	P0761402	T-BOLT M12-1.75 X 55
403	P0761403	FLAT WASHER 12MM
404	P0761404	HEX NUT M12-1.75
405	P0761405	DRILL CHUCK B16 1-13MM W/CHUCK KEY
405-1	P0761405-1	DRILL CHUCK KEY 8MM STD 11 SD-16MM
406	P0761406	SPINDLE SLEEVE MT#3-MT#2
407	P0761407	DRILL CHUCK ARBOR R8-B16
408	P0761408	SPINDLE SLEEVE R8-MT#3

REF	PART #	DESCRIPTION
409	P0761409	BOTTLE FOR OIL
410	P0761410	DRIFT KEY
412	P0761412	HEX WRENCH 5MM
413	P0761413	HEX WRENCH 4MM
414	P0761414	HEX WRENCH 3MM
415	P0761415	WRENCH 17 X 19MM OPEN-ENDS
416	P0761416	WRENCH 22 X 24MM OPEN-ENDS
417	P0761417	HEX WRENCH 2.5MM



Labels & Cosmetics



REF PART #	DESCRIPTION
501	P0761501 MACHINE ID LABEL
502	P0761502 FLUID CAPACITIES LABEL
503	P0761503 GRIZZLY GREEN TOUCH-UP PAINT
504	P0761504 GRIZZLY.COM LABEL

REF PART #	DESCRIPTION
505	P0761505 HEADSTOCK PANEL LABEL
506	P0761506 STOP/OIL WARNING LABEL
507	P0761507 ELECTRICITY LABEL
508	P0761508 CONTROL PANEL LABEL

⚠ 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.





WARRANTY CARD

Name _____
 Street _____
 City _____ State _____ Zip _____
 Phone # _____ Email _____
 Model # _____ Order # _____ Serial # _____

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. **Of course, all information is strictly confidential.**

1. How did you learn about us?

Advertisement Friend Catalog
 Card Deck Website Other:

2. Which of the following magazines do you subscribe to?

<input type="checkbox"/> Cabinetmaker & FDM	<input type="checkbox"/> Popular Science	<input type="checkbox"/> Wooden Boat
<input type="checkbox"/> Family Handyman	<input type="checkbox"/> Popular Woodworking	<input type="checkbox"/> Woodshop News
<input type="checkbox"/> Hand Loader	<input type="checkbox"/> Precision Shooter	<input type="checkbox"/> Woodsmith
<input type="checkbox"/> Handy	<input type="checkbox"/> Projects in Metal	<input type="checkbox"/> Woodwork
<input type="checkbox"/> Home Shop Machinist	<input type="checkbox"/> RC Modeler	<input type="checkbox"/> Woodworker West
<input type="checkbox"/> Journal of Light Cont.	<input type="checkbox"/> Rifle	<input type="checkbox"/> Woodworker's Journal
<input type="checkbox"/> Live Steam	<input type="checkbox"/> Shop Notes	<input type="checkbox"/> Other:
<input type="checkbox"/> Model Airplane News	<input type="checkbox"/> Shotgun News	
<input type="checkbox"/> Old House Journal	<input type="checkbox"/> Today's Homeowner	
<input type="checkbox"/> Popular Mechanics	<input type="checkbox"/> Wood	

3. What is your annual household income?

\$20,000-\$29,000 \$30,000-\$39,000 \$40,000-\$49,000
 \$50,000-\$59,000 \$60,000-\$69,000 \$70,000+

4. What is your age group?

20-29 30-39 40-49
 50-59 60-69 70+

5. How long have you been a woodworker/metalworker?

0-2 Years 2-8 Years 8-20 Years 20+ Years

6. How many of your machines or tools are Grizzly?

0-2 3-5 6-9 10+

7. Do you think your machine represents a good value? Yes No

8. Would you recommend Grizzly Industrial to a friend? Yes No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?

Note: We never use names more than 3 times. Yes No

10. Comments: _____

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P.O. BOX 2069
BELLINGHAM, WA 98227-2069



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Send a Grizzly Catalog to a friend:

Name _____
Street _____
City _____ State _____ Zip _____

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WARRANTY & RETURNS

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.

To take advantage of 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.

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.

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.

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