READ THIS FIRST

Model G0762

IMPORTANT UPDATE

For Machines Mfd. Since 2/18
and Owner's Manual Revised 1/18

For questions or help with this product contact Tech Support at (570) 546-9663 or techsupport@grizzly.com

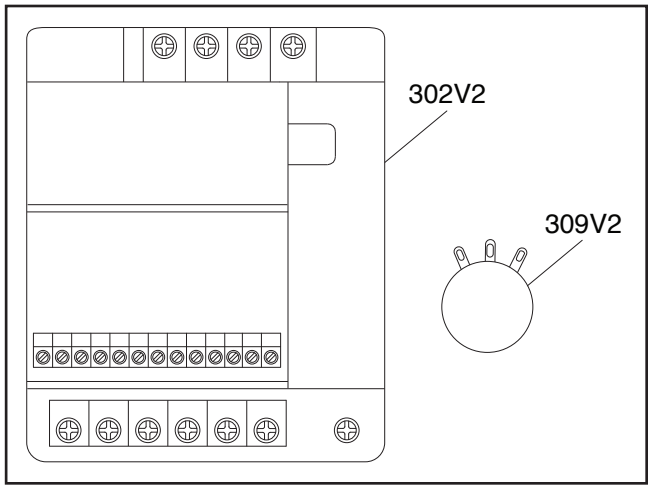
The following changes were recently made since the owner's manual was printed:

- Delta inverter has replaced Toshiba model.
- Potentiometer has been changed.
- Wiring diagrams have been revised.

Aside from this information, all other content in the owner's manual applies and MUST be read and understood for your own safety. **IMPORTANT: Keep this update with the owner's manual for future reference.**

For questions or help, contact our Tech Support at (570) 546-9663 or techsupport@grizzly.com.

Revised Parts Breakdown

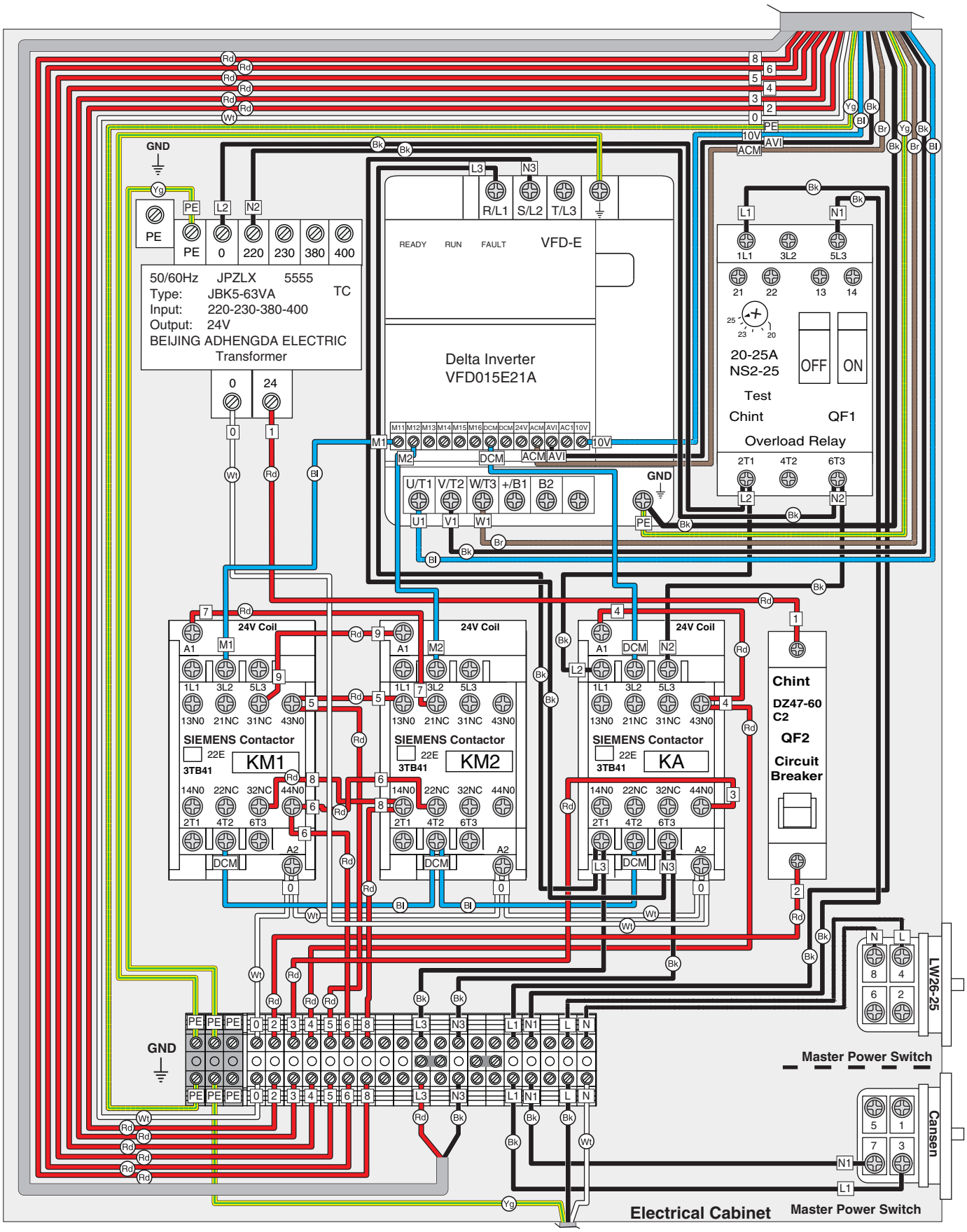


REF	PART #	DESCRIPTION
302V2	P0762302V2	INVERTER DELTA VFD015E21A V2.02.18
309V2	P0762309V2	POTENTIOMETER XINGHUD WXD3-13 V2.02.18

#MN19807 PRINTED IN CHINA

(Replaces Page 42 in Manual)

Electrical Cabinet Wiring Diagram

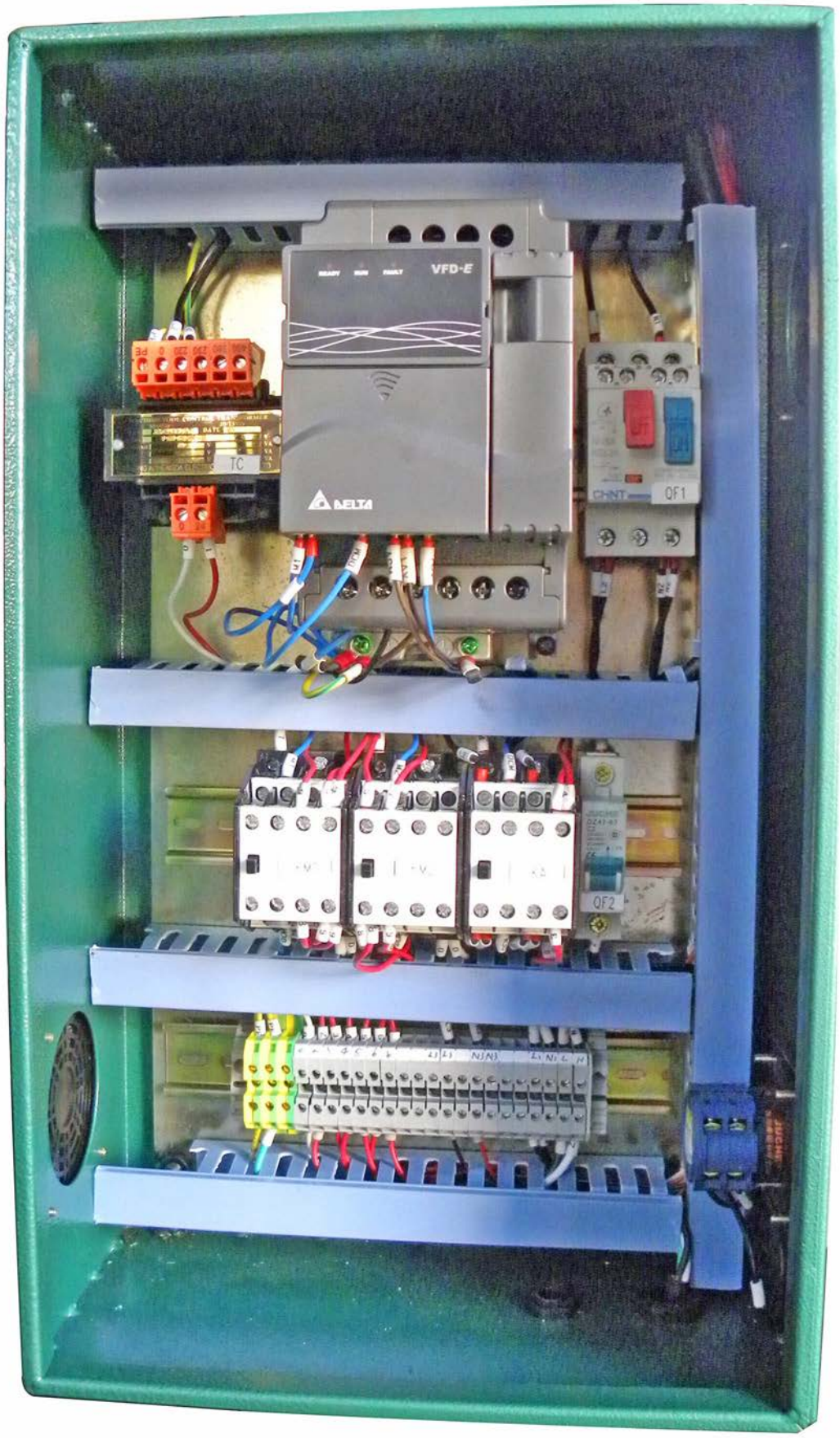


To Power Cord **Page 44**

STOP ***READ ELECTRICAL SAFETY IN OWNER'S MANUAL***

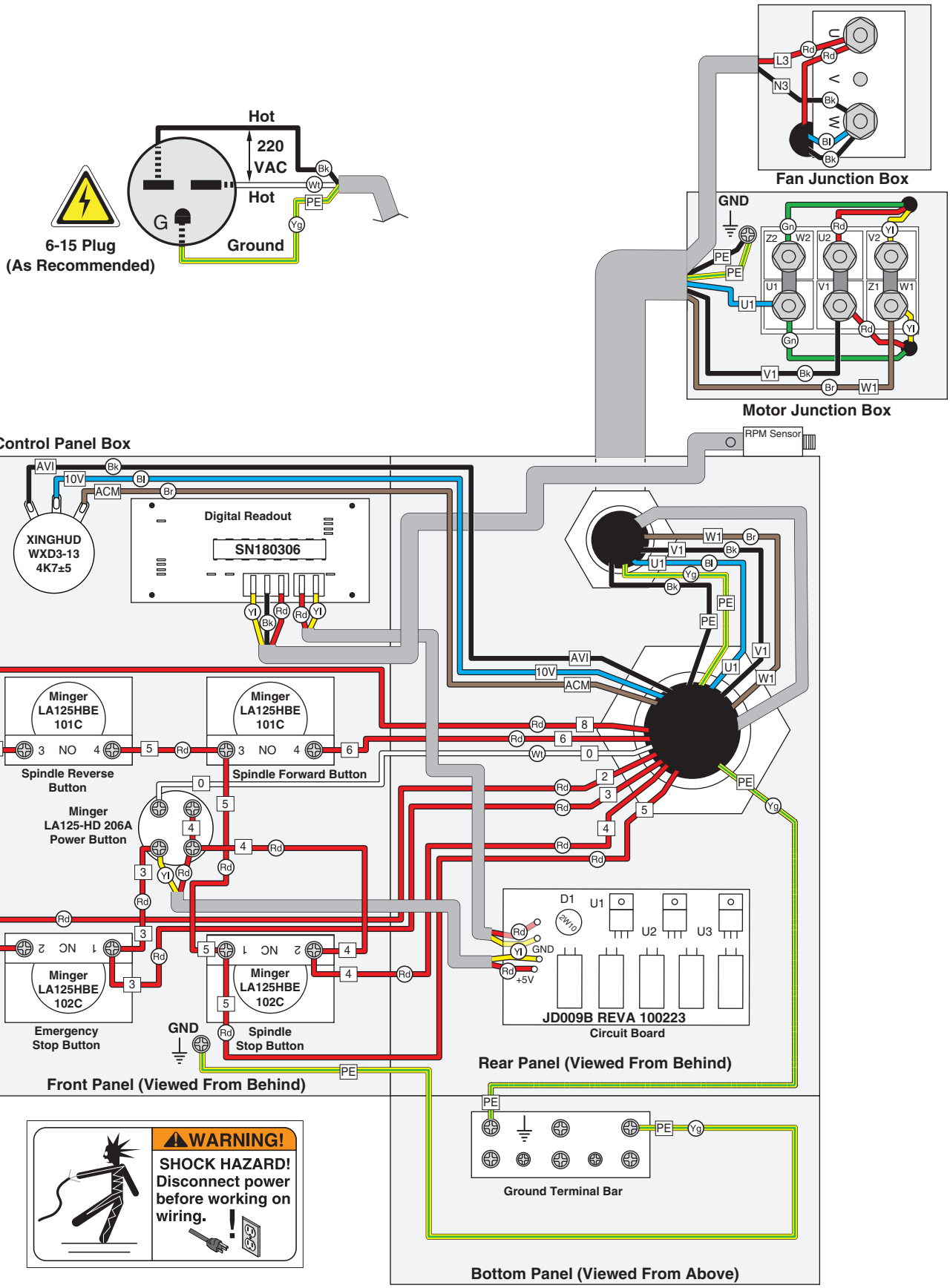
(Replaces Page 43 in Manual)

Electrical Cabinet Wiring



(Replaces Page 44 in Manual)

Control Panel & Motor Wiring Diagrams



STOP *READ ELECTRICAL SAFETY IN OWNER'S MANUAL*

(Replaces Page 45 in Manual)

Control Panel & Motor Wiring

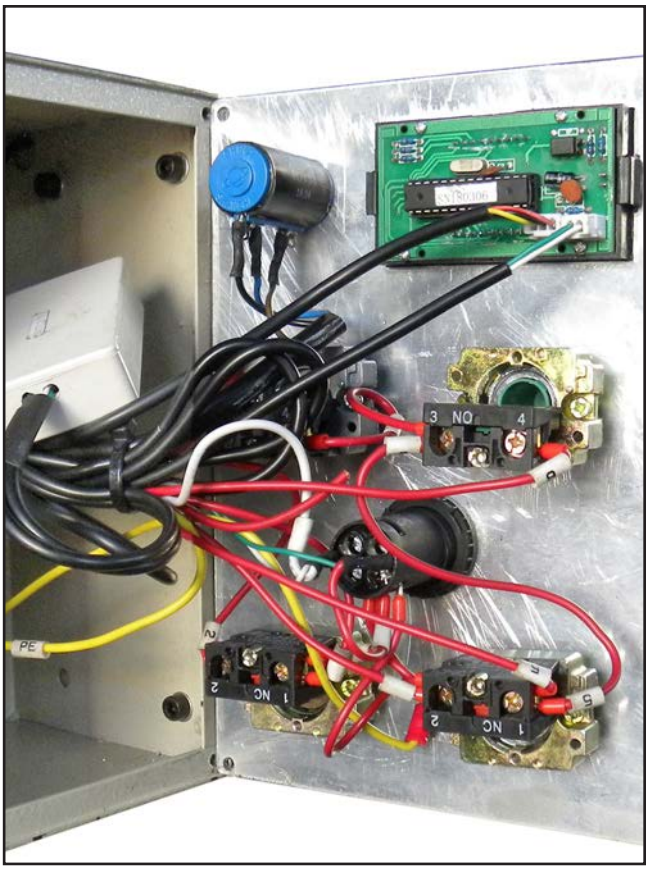


Figure 52. Control panel with circuit board.

Figure 53. Motor junction box.

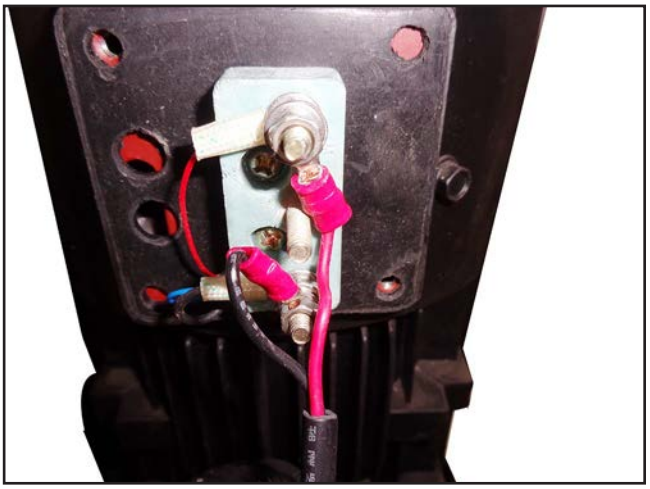


Figure 54. Motor fan junction box.

MODEL G0762
HEAVY-DUTY VARIABLE-SPEED MILL/DRILL w/POWER FEED

OWNER'S MANUAL

(For models manufactured since 5/14)

#TSDM16171 PRINTED IN CHINA V1.01.18

⚠ 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.

Table of Contents

INTRODUCTION

Machine Description

This mill/drill is used to shape metal workpieces by removing material with the use of a rotating cutting tool.

In milling operations, the cutting tool rotates in place while the workpiece moves under it with the table.

In drilling operations, the workpiece is held stationary on the table while the rotating cutting tool moves up-and-down with the movement of the spindle.

The spindle is reversible and features both coarse and fine downfeed controls. The variable spindle speeds of 75–2500 RPM are controlled by an electronic variable-speed dial and one gearbox lever, with the current spindle speed displayed on the digital readout.

Contact Info

We stand behind our machines. If you have any questions or need help, use the information below to contact us. Before contacting, please get the serial number and manufacture date of your machine. This will help us help you faster.

Grizzly Technical Support
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
Email: techsupport@grizzly.com

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

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

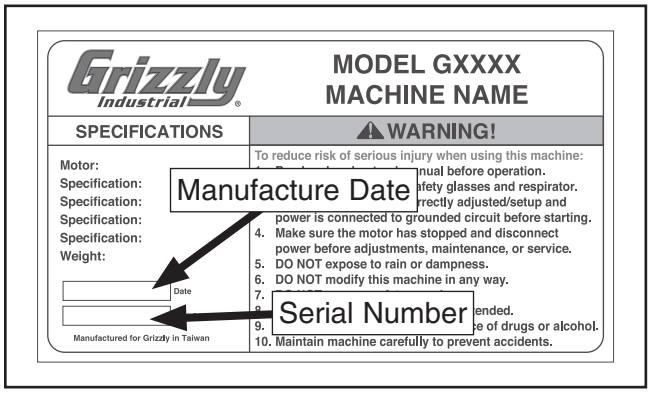
Manual Accuracy

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

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

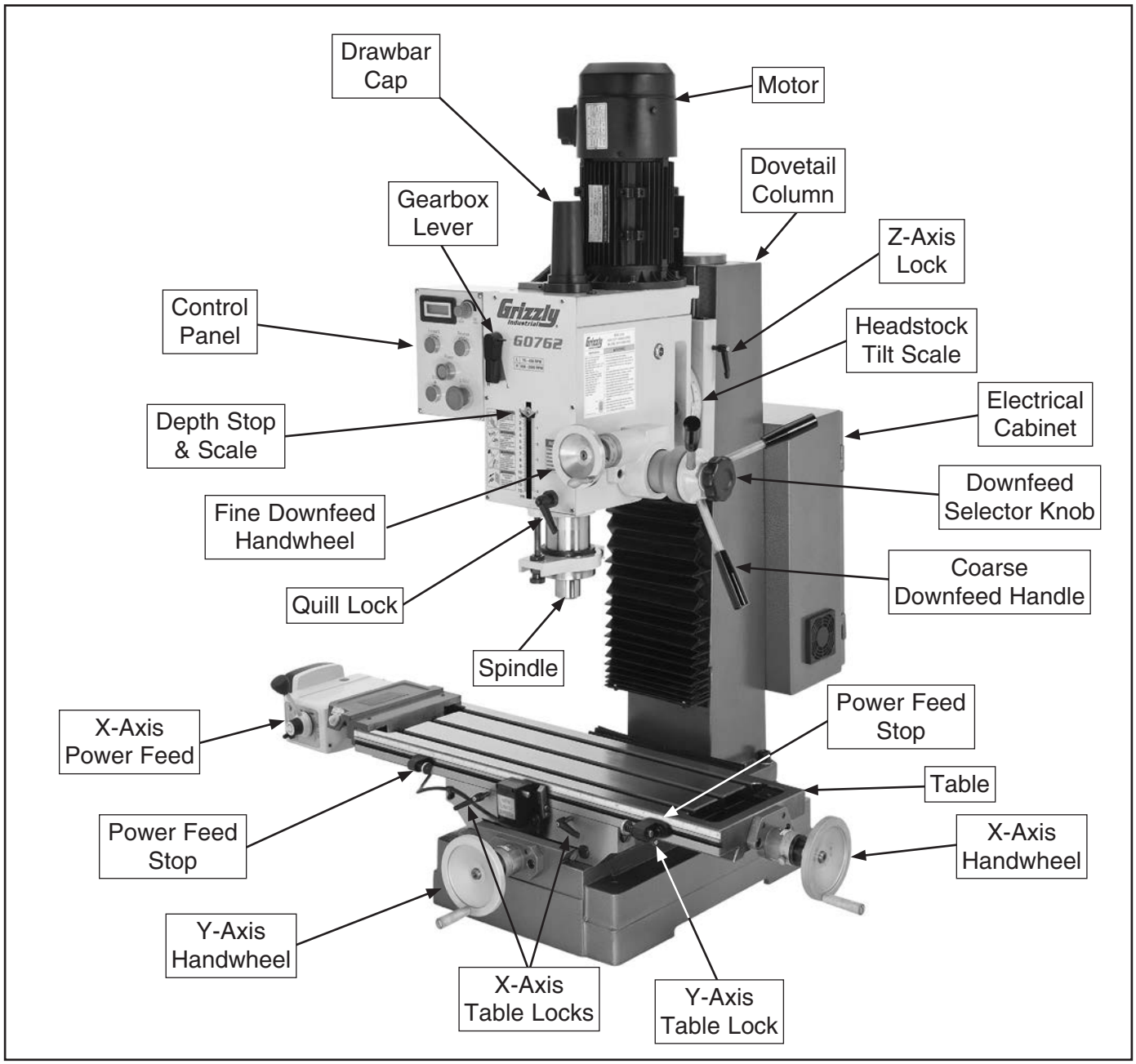
If you find this to be the case, and the difference between the manual and machine leaves you confused about a procedure, check our website for an updated version. We post current manuals and manual updates for free on our website at **www.grizzly.com**.

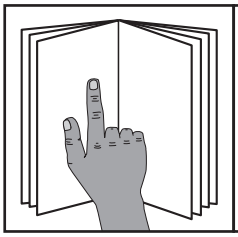
Alternatively, you can call our Technical Support for help. Before calling, please write down the **Manufacture Date** and **Serial Number** stamped into the machine ID label (see below). This information helps us determine if updated documentation is available for your machine.



Identification

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

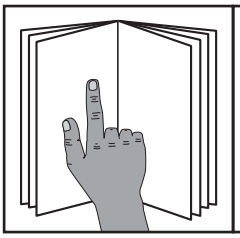




⚠WARNING

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

Controls & Components



⚠WARNING

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

Refer to **Figures 1–5** and the following descriptions to become familiar with the basic controls of this machine.

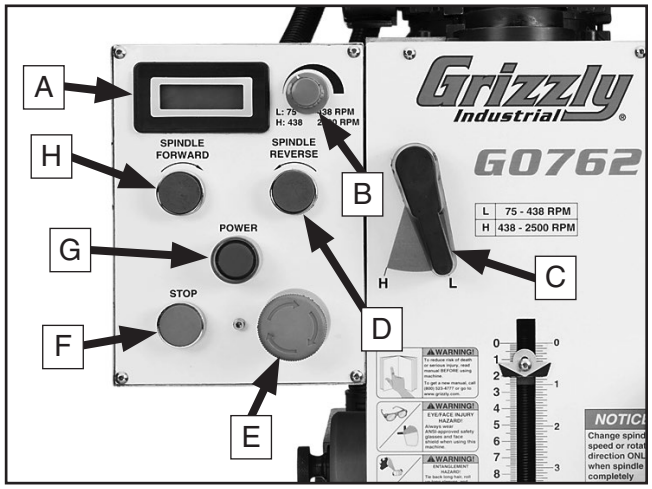


Figure 1. Control panel and spindle speed controls.

A. RPM Digital Readout: Displays spindle speed.

B. Variable-Speed Dial: Controls spindle speed within the selected range.

C. High/Low Range Lever: Selects either high or low spindle speed range.

D. SPINDLE REVERSE Button: Starts counterclockwise spindle rotation (as viewed from above). The spindle must be completely stopped before this button is pushed.

E. EMERGENCY STOP Button: Cuts power to the spindle motor and remains depressed until reset. Twist clockwise until it pops out to reset.

F. STOP Button: Stops spindle rotation.

G. POWER Button: When pushed, enables power to the control panel and illuminates.

H. SPINDLE FORWARD Button: Starts clockwise spindle rotation (as viewed from above). The spindle must be completely stopped before this button is pushed.

I. Master Power Switch: Enables power to the machine.

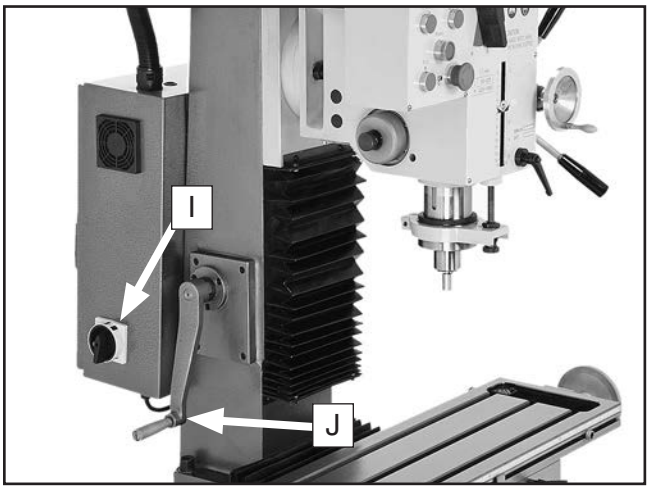


Figure 2. Location of master power switch and Z-axis crank.

J. Z-Axis Crank: Moves headstock up and down.

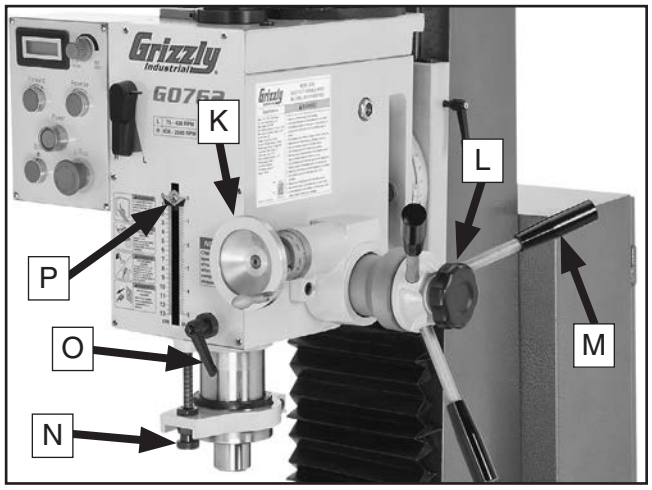


Figure 3. Downfeed controls.

K. Fine Downfeed Handwheel: Moves spindle up and down in small increments. One revolution equals 0.10" of spindle travel.

L. Downfeed Selector Knob: Selects fine or coarse downfeed controls. When loosened, coarse downfeed is engaged; when tightened, fine downfeed is engaged.

M. Coarse Downfeed Handle: Moves spindle up and down rapidly.

N. Depth Stop Adjustment Knob: Adjusts depth stop.

O. Quill Lock Lever: When milling, locks quill in place for greater rigidity for more precision.

P. Depth Stop and Scale: Shows the position of the spindle and can limit spindle travel.

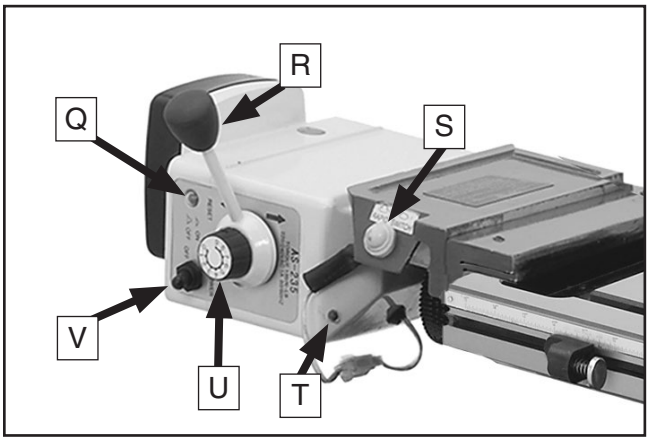


Figure 4. X-axis power feed controls.

Q. ON/OFF Light: Illuminates when the unit is turned ***ON***.

R. Directional Lever: Controls the direction of table travel.

S. Rapid Switch: Moves the table rapidly in the direction chosen when held down.

T. Power Light: Illuminates when the unit is connected to power.

U. Speed Dial: Controls the rate of feed.

V. ON/OFF Switch: Turns the power feed ***ON*** and ***OFF*.**

W. Limit Stops: Work with limit switch to restrict X-axis table movement.

X. Limit Switch: Stops table movement when either side plunger contacts a limit stop.

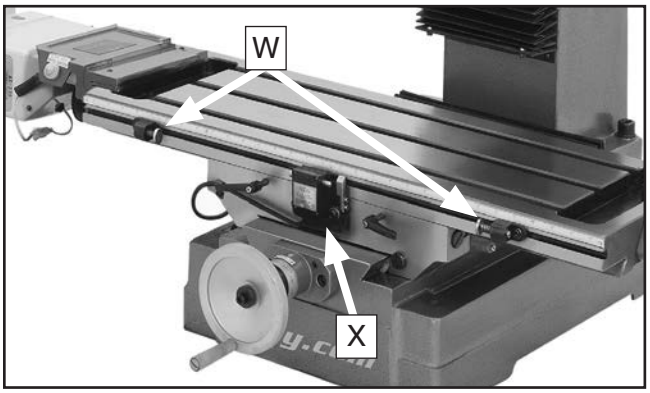


Figure 5. Limit switch and limit stops.

MACHINE DATA SHEET

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

MODEL G0762 HEAVY-DUTY BENCHTOP MILL/DRILL WITH VARIABLE-SPEED AND POWER FEED

Product Dimensions:

Weight	728 lbs.
Width (side-to-side) x Depth (front-to-back) x Height	49-5/8 x 36-5/8 x 61 in.
Footprint (Length x Width)	21-5/8 x 17-3/4 in.

Shipping Dimensions:

Type	Wood Crate
Content	Machine
Weight	732 lbs.
Length x Width x Height	35 x 36 x 46 in.

Electrical:

Power Requirement	220V, Single-Phase, 60Hz
Full-Load Current Rating	6.2A
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	3-Phase
Amps	6.2A
Speed	2300 RPM
Type	TEFC Induction
Power Transfer	Gear Drive
Bearings	Shielded & Permanently Lubricated

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	1-1/4 in.
Drilling Capacity for Steel	1 in.
End Milling Capacity	1 in.
Face Milling Capacity	3 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	Variable
Range of Vertical Spindle Speeds	75 – 2500 RPM
Quill Diameter	3 in.
Drawbar Thread Size	7/16-20
Drawbar Length	17-3/4 in.
Spindle Bearings	High-Precision "P5" Tapered Roller Bearings

Construction

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

Other Specifications:

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

Features:

Inverter speed control
Dovetail ways
High-precision P5 tapered-roller spindle bearings
Coolant trough built into table
High efficiency motor fan
Digital spindle speed display

Accessories Included:

Drill chuck 1-13mm with B16 taper
Tool box

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 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 avoid accidental slips, which could cause loss of workpiece control.

HAZARDOUS DUST. Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear a NIOSH-approved respirator to reduce your risk.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

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.

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.

CHECK DAMAGED PARTS. Regularly inspect machine for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating machine.

MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside. 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

The primary risks of operating a Mill/Drill are as follows: You can be seriously injured or killed by getting clothing, jewelry, or long hair entangled with rotating cutter. You can be severely cut or have your fingers amputated from contact with the rotating cutter. You can be blinded or struck with great force by broken cutting tools, metal chips, workpieces, or adjustment tools thrown from the rotating spindle. 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.

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.

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.

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

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.

ALLOW SPINDLE TO STOP. To minimize your risk of entanglement, always allow spindle to stop on its own. DO NOT stop spindle using your hand or any other object.

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.

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.

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.

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.

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 electrican or qualified service personnel in accordance with all applicable codes and standards.

⚠WARNING

Electrocution, fire, or equipment damage may occur if machine is not correctly grounded and connected to the power supply.

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 .... 6.2 Amps

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

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

Circuit Information

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.*

Circuit Requirements

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

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

Grounding Requirements

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

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug. 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.

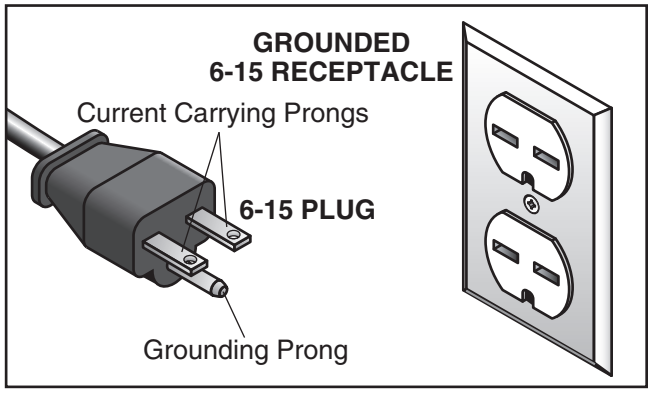
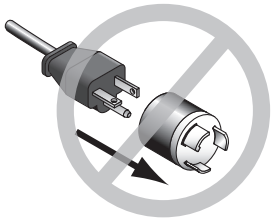


Figure 6. Typical 6-15 plug and receptacle.

⚠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.

⚠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.

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

SECTION 3: SETUP

Unpacking

Your machine was carefully packaged for safe transportation. Remove the packaging materials from around your machine and inspect it. If you discover any damage, *please call us immediately at (570) 546-9663 for advice.*

Save the containers and all packing materials for possible inspection by the carrier or its agent. *Otherwise, filing a freight claim can be difficult.*

When you are completely satisfied with the condition of your shipment, inventory the contents.

⚠WARNING

SUFFOCATION HAZARD!

Keep children and pets away from plastic bags or packing materials shipped with this machine. Discard immediately.

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 15**)	As Needed
• Disposable Shop Rags	As Needed
• Forklift	1
• Lifting Sling (rated for at least 1000 lbs.)	1
• Mounting Hardware (**Page 17**)	As Needed
• Flat Head Screwdriver #2	1
• Mineral Spirits (**Page 19**)	As Needed
• Block of Wood (**Page 19**)	1

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 (Figures 7–8)	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. Wrenches 17/19, 22/24mm	1 Ea
F. Hex Wrenches 2.5, 3, 4, 5, 10mm	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
L. Handwheels	2
M. Compression Spring (X-Axis Handwheel)	1
N. Cap Screws M8-1.25 x 12 (Handwheels)	2
O. Handwheel Flat Washers 8mm	2
P. Power Feed Assembly (Not Shown)	1
Q. Cap Screws M8-1.25 x 20 (Not Shown; Power Feed)	2

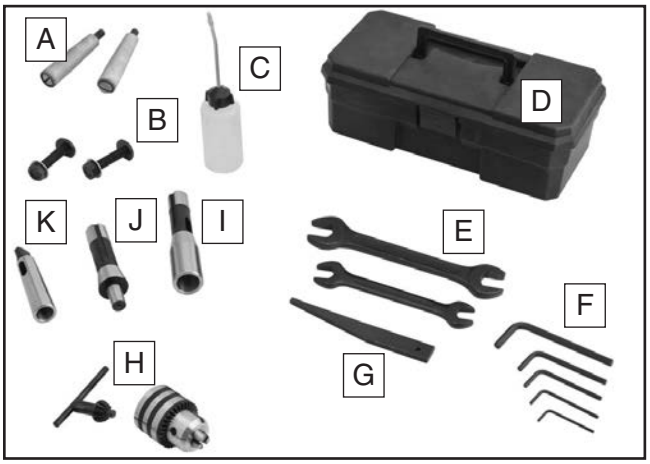


Figure 7. Small item inventory.

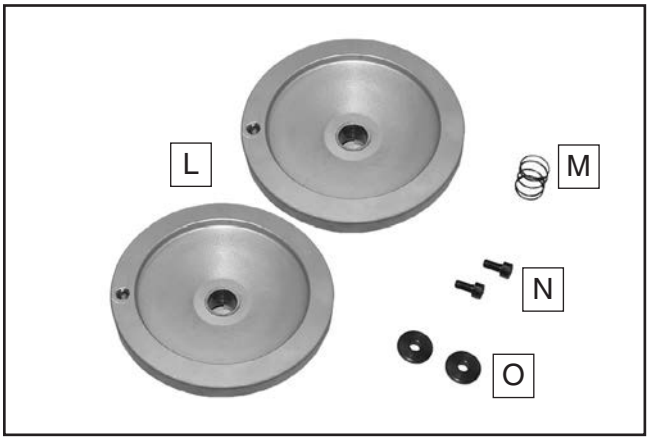


Figure 8. Small item inventory.

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.

Figure 9. T23692 Orange Power Degreaser.

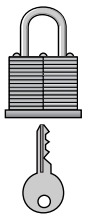
Site Considerations

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.**



⚠CAUTION

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

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.

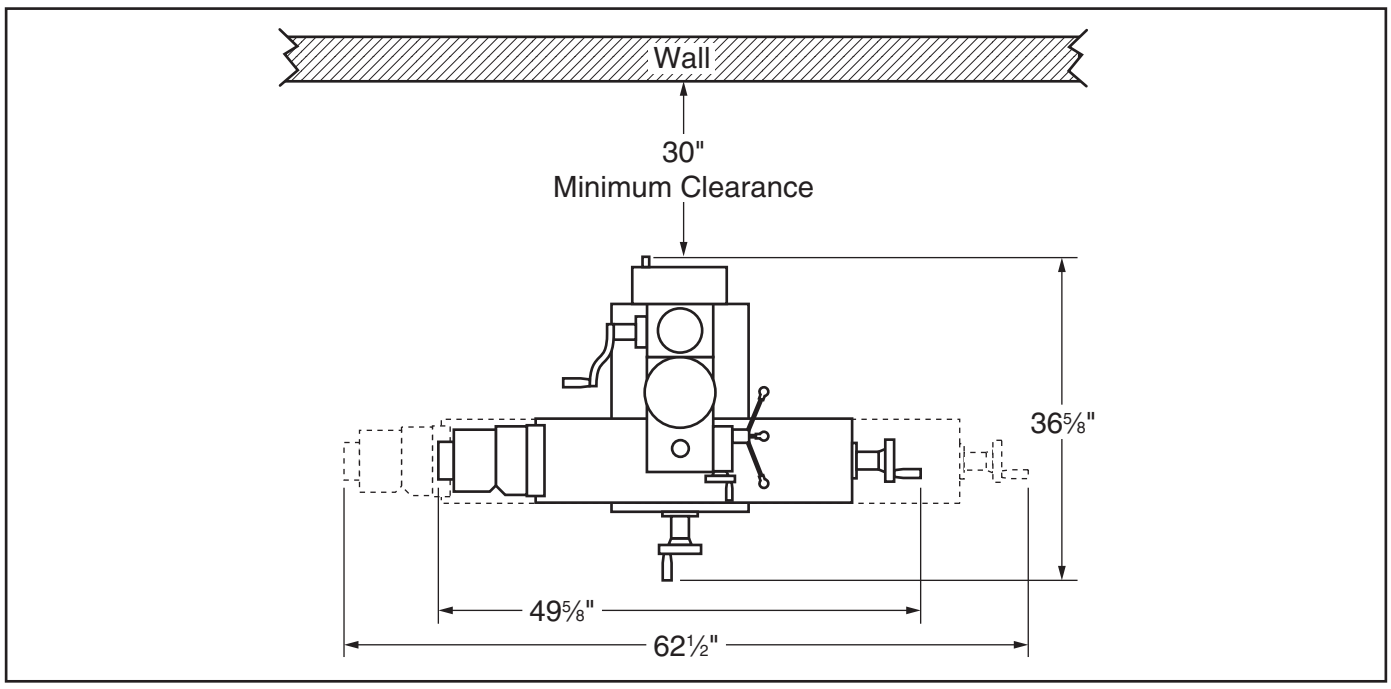
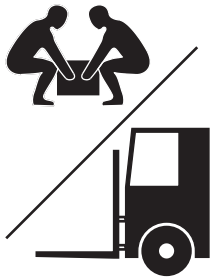


Figure 10. Minimum working clearances.

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 lift and place machine:

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 helps balance machine when moving.

3. Tighten Z-axis locks to avoid sudden shifts when lifting.

4. Place a lifting sling under the headstock, as shown in **Figure 11**, connect sling ends to a forklift, then lift and place machine.

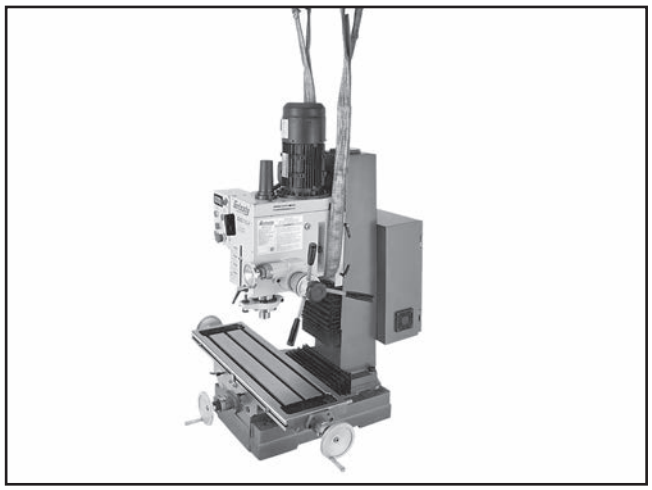


Figure 11. Recommended lifting sling position.

Bench Mounting

Number of Mounting Holes 4
Diameter of Mounting Hardware..... ½"

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.

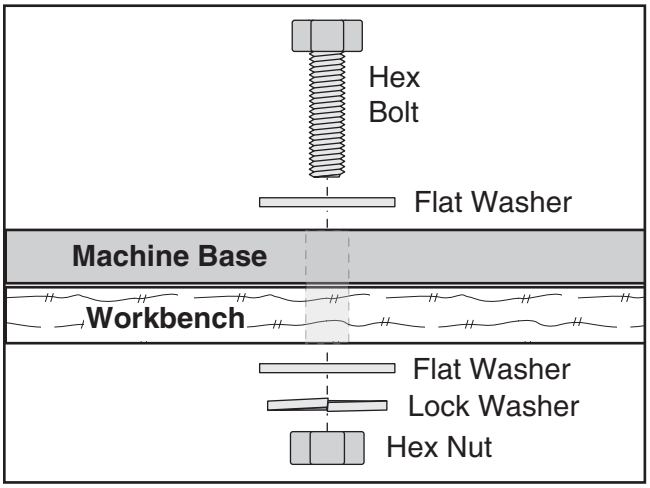


Figure 12. Example of a "Through Mount" setup.

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

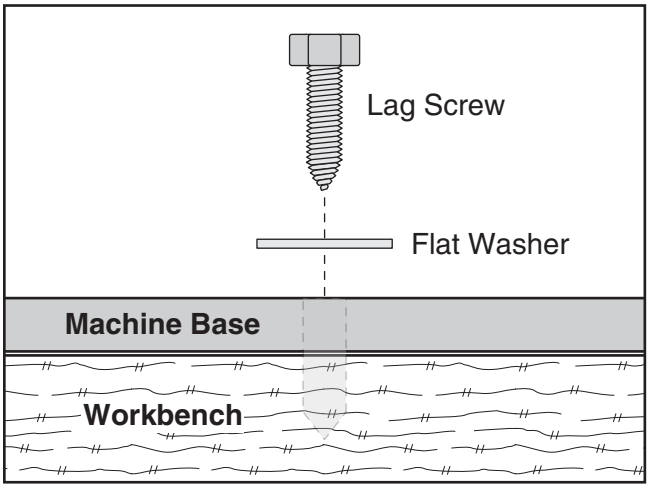


Figure 13. Example of a "Direct Mount" setup.

Assembly

Assembly of the Model G0762 consists of attaching the power feed to the table and installing the handwheels.

To assemble machine:

1. Position power feed assembly on left side of table so that pins shown in **Figure 14** fit into holes on top of table.

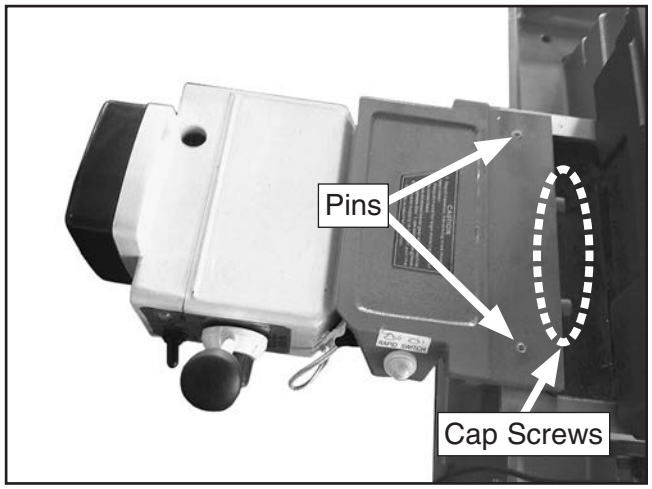


Figure 14. Power feed assembly attached to table.

2. Secure power feed assembly to table with (2) M8-1.25 x 20 cap screws (see **Figure 14**).

3. Slide compression spring onto right end of X-axis leadscrew, as shown in **Figure 15**. This will keep handwheel disengaged when using power feed.

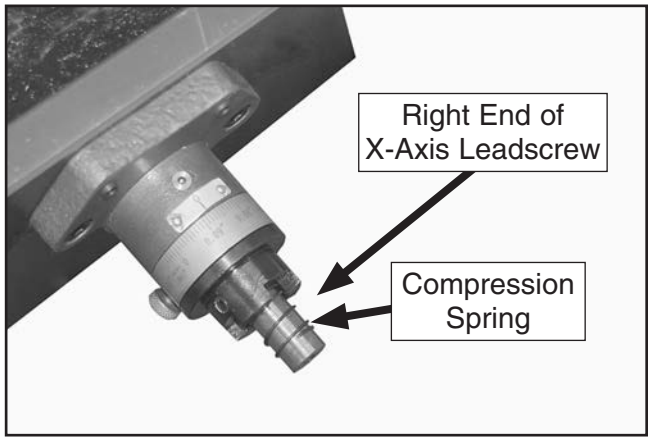


Figure 15. Compression spring installed on right side of X-axis leadscrew.

4. Thread handwheel handles into handwheels.

5. Slide handwheels onto right end of X-axis leadscrew and Y-axis leadscrew (see **Figure 16**), then secure them with (2) M8-1.25 x 12 cap screws and (2) 8mm handwheel flat washers.

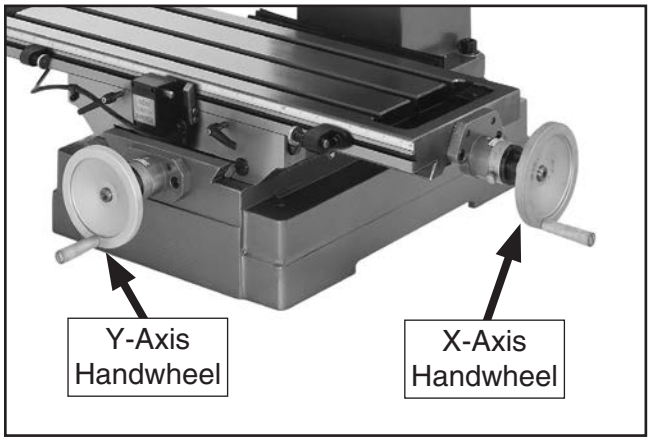


Figure 16. Handwheel handles attached.

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 17**.

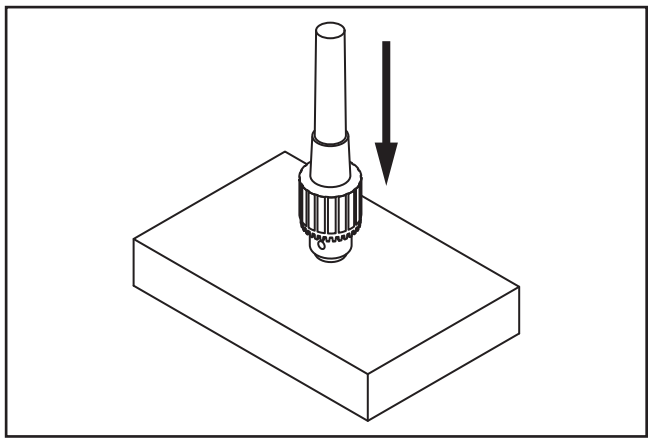


Figure 17. Tapping drill chuck/arbor on block of wood.

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. Refer to the **Lubrication** subsection, beginning on **Page 31**, for details on how to check and add oil.

NOTICE

Damage caused by running the mill/drill without oil in the reservoir will not be covered under warranty.

Test Run

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

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

⚠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 setup machine may result in malfunction or unexpected results that can lead to serious injury, death, or machine/property damage.

To test run mill/drill:

1. Clear all setup tools away from machine.

2. Press EMERGENCY STOP button (see **Figure 18**). This helps prevent unexpected startup when machine is connected to power.

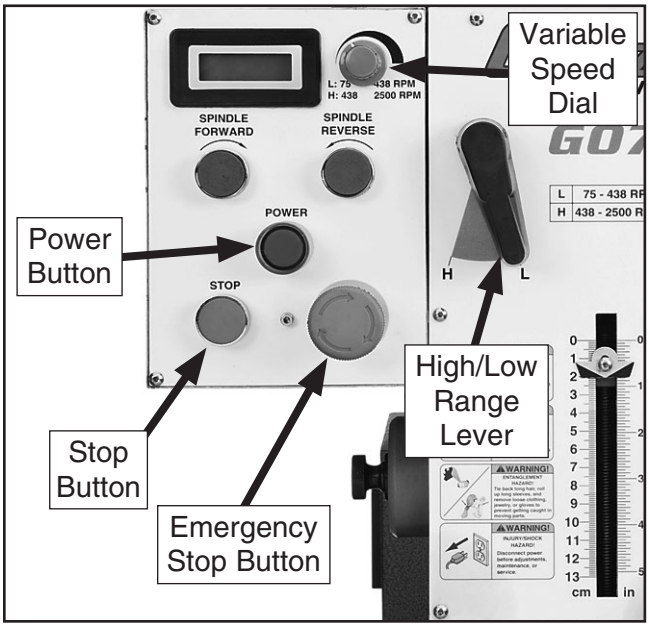


Figure 18. Control panel and spindle speed controls.

3. Shift high/low range lever to "**L**". This selects low spindle speed range.

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

4. Rotate variable-speed dial all the way counterclockwise to set spindle speed to lowest value.

5. Connect machine to power supply.

6. Twist EMERGENCY STOP button clockwise until it pops out. This resets button and enables power to control panel.

7. Rotate master power switch (see **Figure 19**) all the way clockwise to enable power to machine.

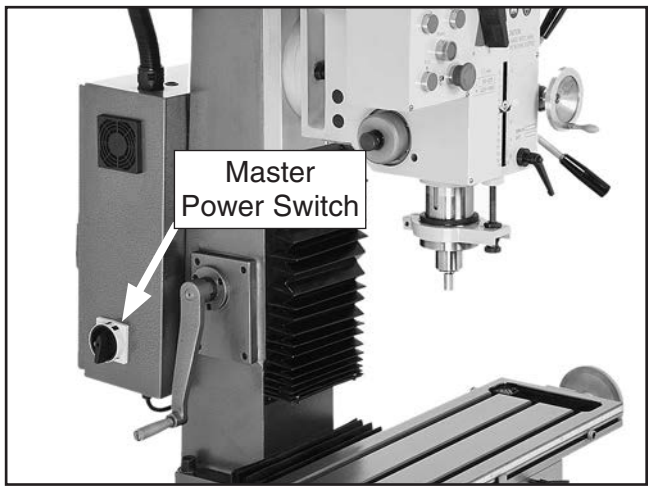


Figure 19. Location of master power switch.

8. Press POWER button. This enables power to control panel. The POWER button should illuminate.

9. Press SPINDLE FORWARD button and rotate variable-speed dial clockwise. Spindle should rotate clockwise (as viewed from top) and machine should run smoothly with little to no vibration or rubbing noises.

10. Press STOP button and wait for spindle to completely stop.

11. Press SPINDLE REVERSE button. Spindle should rotate counterclockwise (as viewed from top).

12. Press EMERGENCY STOP button and wait for spindle to completely stop. In the next step, you will verify that EMERGENCY STOP button safety feature functions properly.

13. *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 36** for help.

14. Twist EMERGENCY STOP button clockwise to reset it. Congratulations! The **Test Run** is complete. Continue to the next subsection, **Spindle Bearing Break-In**.

Spindle Bearing Break-In

The spindle break-in procedure distributes lubrication throughout the bearings to reduce the risk of early bearing failure if there are any "dry" spots or areas where lubrication has settled in the bearings. You ***must*** complete this procedure ***before*** placing operational loads on the spindle for the first time when the machine is new or if it has been sitting idle for longer than 6 months.

Always start the spindle break-in at the lowest speed to minimize wear if there *are* dry spots. Allow the spindle to run long enough to warm up and distribute the bearing grease, then incrementally increase spindle speeds, allowing the spindle to run the same amount of time at each speed, until reaching the maximum spindle speed. Following the break-in procedure in this progressive manner helps minimize any potential wear that could occur until lubrication is fully distributed.

To perform spindle break-in procedure:

1. Use high/low range lever and variable-speed dial to set spindle speed to 75 RPM (refer to **Setting Spindle Speed** on **Page 29** for detailed instructions).

2. Press STOP button, wait for spindle to completely stop, then run spindle for a minimum of 5 minutes in reverse direction.

3. Repeat **Steps 1–2** at spindle speeds of 1000 RPM and 2500 RPM.

4. Change headstock oil while it is still warm (refer to **Lubrication** on **Page 32** for detailed instructions). This ensures you start operation with clean headstock oil.

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

Inspections & Adjustments

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

- Gib Adjustments ..... **Page 38**
- Leadscrew Backlash Adjustment ... **Page 38**

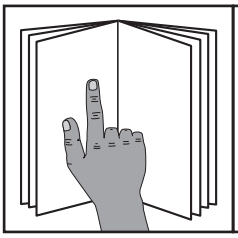
Be aware that these can change during the shipping process. Pay careful attention to these adjustments when first operating the machine. If you find that the adjustments are not set to your personal preferences, re-adjust them.

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.

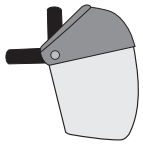


⚠WARNING

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

⚠WARNING

To reduce risk of eye or face injury from flying chips, always wear approved safety glasses and face shield when operating this machine.



NOTICE

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

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

1. Examines workpiece to make sure it is suitable for milling/drilling.
2. Puts on personal protective equipment.
3. Securely clamps workpiece to table.
4. Installs correct cutting tool.
5. Adjusts headstock height above table.
6. Uses high/low range lever to select spindle speed range.
7. Connects machine to power and turns it ***ON***.
8. Uses variable-speed dial to select correct spindle speed.
9. Uses downfeed controls or table controls to perform cutting operation.
10. Turns machine ***OFF*** and waits for spindle to completely stop before removing workpiece, changing tooling, or changing spindle speed range.

Spindle Movement

The coarse downfeed handle and fine downfeed handwheel (see **Figure 20**) move the spindle up and down for various milling/drilling operations.

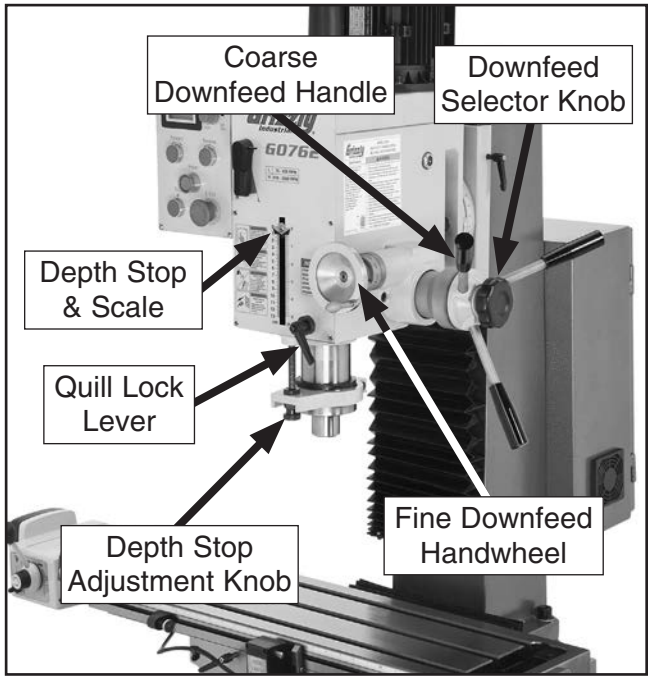


Figure 20. Spindle controls.

The coarse downfeed handles, which feature a spring return hub for quick spindle movement, are used to perform drilling. Spindle travel is shown on the depth scale and is limited by the depth stop.

The fine downfeed handwheel is used for precise drilling operations and Z-axis control when milling. The fine downfeed handwheel graduated dial measures spindle movement in 0.001" increments, with one full revolution equaling 0.10" of spindle travel. The graduated dial can be rotated to zero for a relative starting point.

Using Coarse Downfeed

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

Depth Stop

The depth stop limits the downward movement of the cutting tool. With the use of the depth stop adjustment knob (see **Figure 20**), it can be adjusted anywhere within 0"–5". This is useful when performing the same operation multiple times.

Headstock Movement

The headstock moves in the following ways:

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

Raising/Lowering Headstock

1. DISCONNECT MACHINE FROM POWER!

2. Loosen both Z-axis lock levers shown in **Figure 21**.

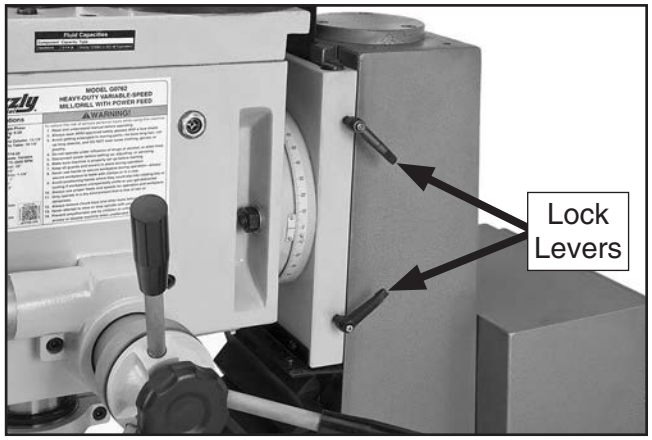


Figure 21. Z-axis lock levers.

3. Use Z-axis crank shown in **Figure 22** to adjust headstock height.

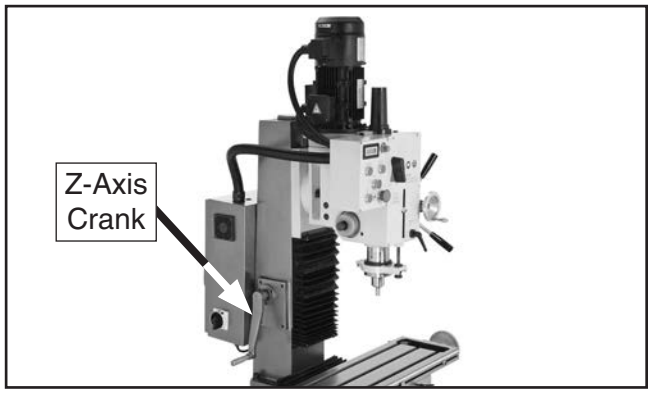


Figure 22. Z-axis crank.

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 23–24**).

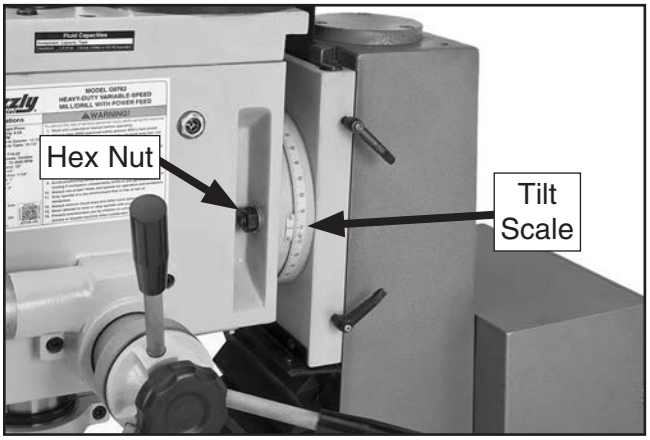


Figure 23. Tilt locking hex nut (one on each side of head).

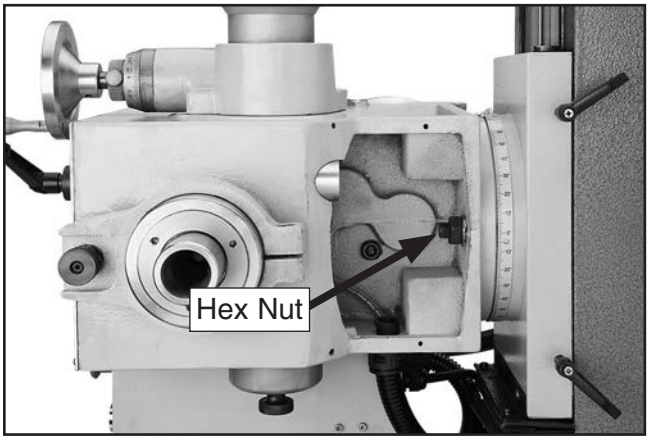


Figure 24. Hex nut underneath headstock.

3. Using scale shown in **Figure 23** 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 25**. These movements are controlled by handwheels and the X-axis power feed. Power feed table travel is restricted by positioning the limit stops along the front of the table.

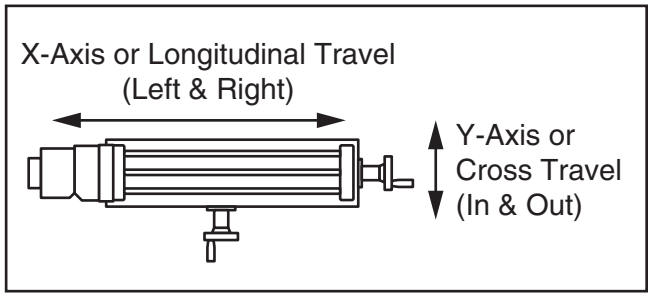


Figure 25. The directions of table movement.

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".

Loosen the thumb screw shown in **Figure 26** to rotate the graduated dial for a relative starting point.

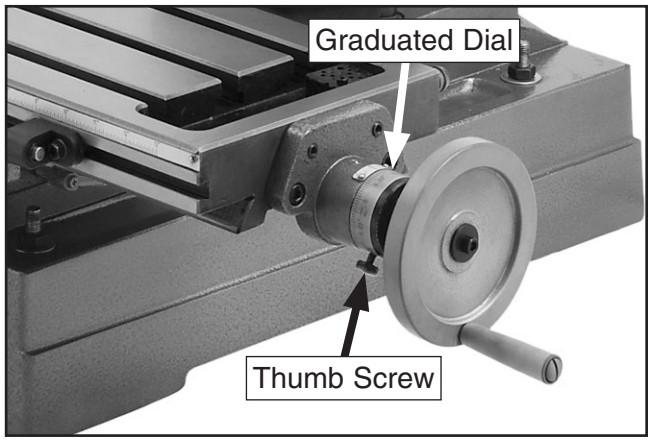


Figure 26. Graduated dial and thumb screw.

X-Axis Handwheel

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

To use X-axis handwheel:

1. Loosen both X-axis table locks shown in **Figure 27**.

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

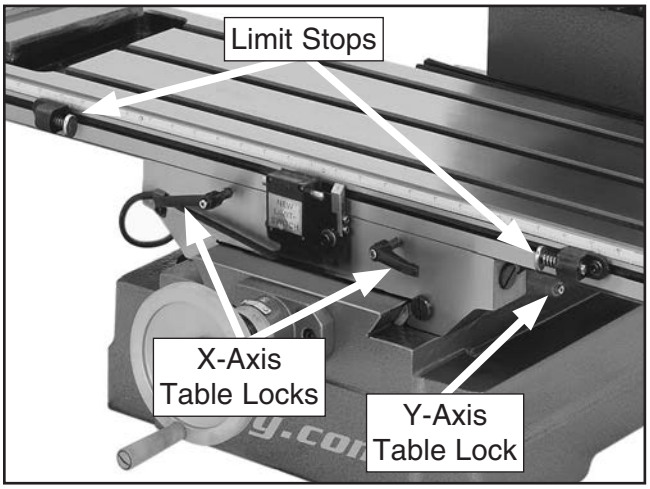


Figure 27. Table locks and limit stops.

2. Position limit stops so they will not interfere with intended table travel.

3. Adjust X-axis graduated dial to zero, then push handwheel in and rotate it 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 27**, then use the handwheel in front of the table in the same manner as the X-axis handwheel.

X-Axis Power Feed

Your mill/drill is equipped with a power feed unit for X-axis table movement.

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

Tool Needed	Qty
Hex Wrench 5mm	1

To operate X-axis power feed:

1. Loosen both X-axis table locks shown in **Figure 28**.

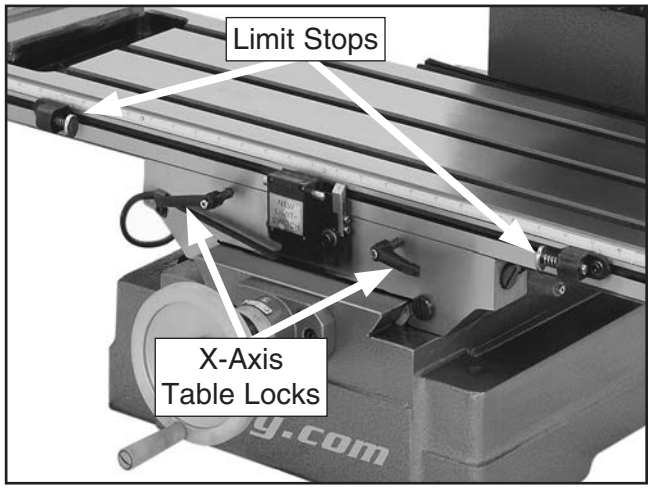


Figure 28. Table locks and limit stops.

2. Position limit stops along table to confine the distance you want table to travel.

3. Move power feed directional lever (see **Figure 29**) to center or neutral position. This will prevent table movement when unit is connected to power.

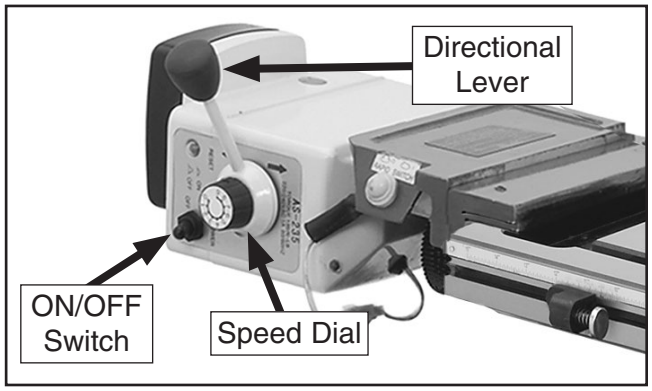


Figure 29. X-axis power feed controls.

4. Connect power feed unit to a grounded 110V power source.

5. Rotate speed dial to "0" and use directional lever to select direction of table movement.

6. Flip ON/OFF switch up to turn power feed ***ON***.

7. Adjust speed dial to move table at required feed rate for your operation.

   Note: *Power feed rates are difficult to precisely adjust. We recommend that you experiment with different dial settings to find feed rates that best work for you operation.*

8. When finished, leave directional lever in center or neutral position, and flip ON/OFF switch down to turn power feed ***OFF***.

Installing/Removing Tooling

The Model G0762 includes the following spindle tools (see **Figure 30**):

A. 1–13mm Drill Chuck w/R-8 x B16 Arbor. Joined with the drill chuck.

B. R-8 x 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 x MT#2 Spindle Sleeve. Used with the R-8 x MT#3 spindle sleeve for MT#2 tools and has a drift key slot for tool removal.

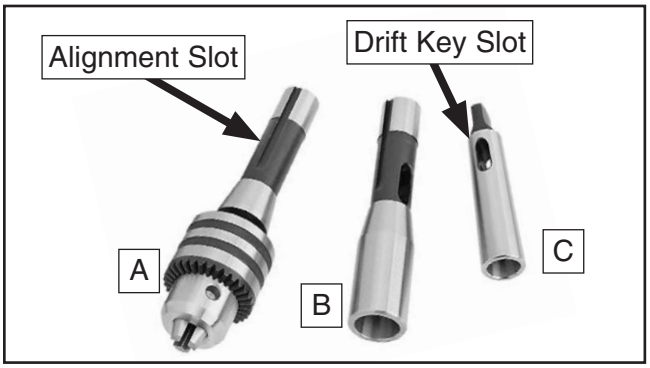


Figure 30. Spindle tools and arbor included with Model G0762.

Installing Tooling

Tools Needed	Qty
Wrench 19mm	1

To install tooling:

1. DISCONNECT MACHINE FROM POWER!

2. Remove drawbar cap, as shown in **Figure 31**.

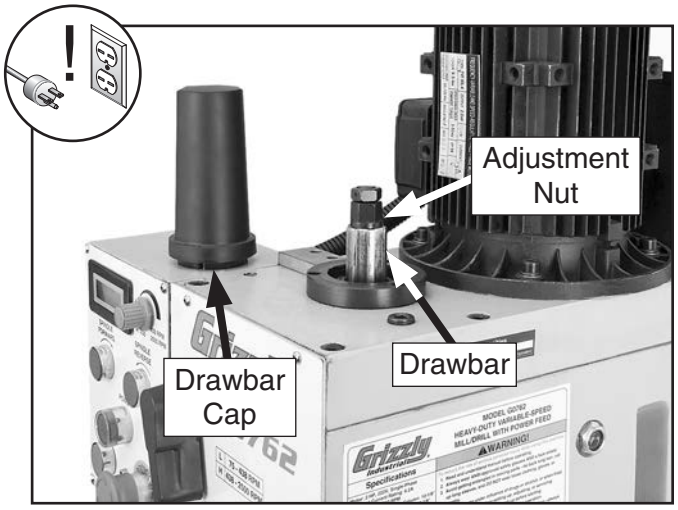


Figure 31. Drawbar components.

3. Position tool alignment slot (see **Figure 30** 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 31**).*

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 to remove tooling.

⚠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.

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 high/low range lever for the desired speed range, and 3) use the variable-speed dial and the RPM digital readout to set the 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 32**.

$$\frac{{}^{*}\text{Recommended Cutting Speed (FPM)} \times 12}{\text{Tool Dia. (in inches)} \times 3.14} = \text{Spindle Speed (RPM)}$$

*Double if using carbide cutting tool

Figure 32. *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

1. Shift high/low range lever (see **Figure 33**) to either "**L**" (spindle speeds 75–438 RPM) or "**H**" (spindle speeds 438–2500 RPM).

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

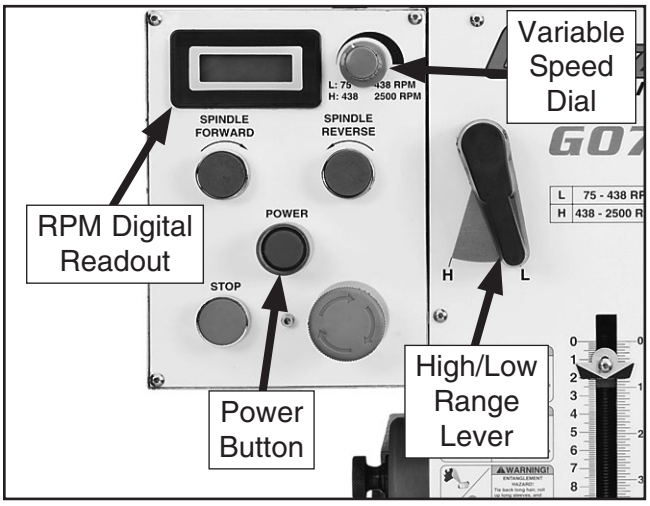


Figure 33. Control panel and spindle speed controls.

2. Rotate variable-speed dial all the way counterclockwise to set spindle speed to lowest value.

3. Rotate master power switch all the way clockwise to enable power.

4. Press POWER button and the correct spindle direction button for your operation.

5. Watch RPM digital readout and adjust variable-speed dial as needed until desired RPM is reached.

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" (3⅝") Precision Milling Vise
G7154—5" (4½") Precision Milling Vise
Swiveling Milling Vises feature perfectly aligned, precision ground jaws, large Acme® screws and easy to read 0°–360° scales.

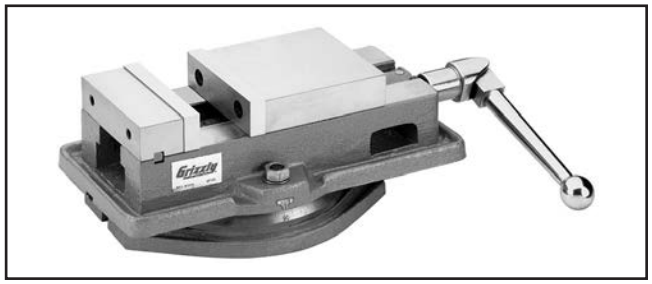


Figure 34. G7154 Precision Milling Vise.

G7066—5" Tilting/Swiveling Milling Vise
H7576—Precision Self-Centering Vise

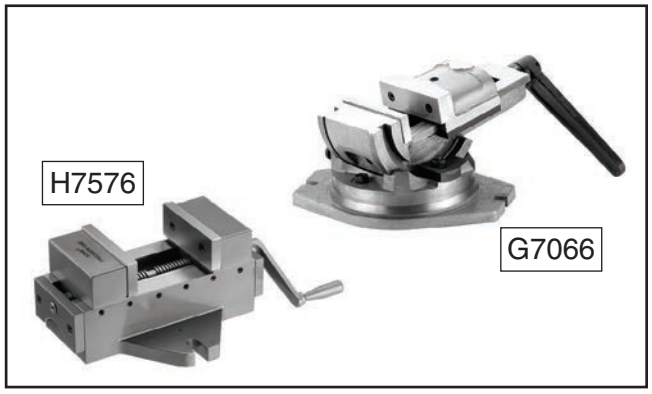


Figure 35. Specialty milling vises.

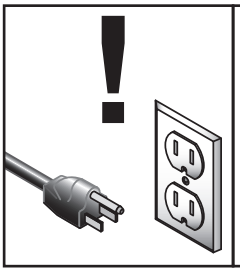
SB1365—South Bend Lathe Way Oil, 12 Oz.
T23962—ISO 68 Moly-D Machine/Way Oil 5-Gal.
T23963—ISO 32 Moly-D Machine Oil 5-Gal.
Moly-D oils are some of the best we've found for maintaining the critical components of machinery because they tend to resist run-off and maintain their lubricity under a variety of conditions—as well as reduce chatter or slip. Buy in bulk and save with 5-gallon quantities.

Figure 36. 12 oz. way oil & 5 gal. machine oil.

High Pressure Oil Cans For Ball Oilers
H7616—Plastic Nozzle
H7617—Flexible Plastic Nozzle
Whether you are lubricating cutting tools or maintaining machinery in top operating condition, you will appreciate these High Pressure Oil Cans. Each can holds 5 ounces of oil and has a trigger-activated, high-pressure pump.

Figure 37. High pressure oil cans.

SECTION 6: MAINTENANCE



⚠WARNING

To reduce risk of shock or accidental startup, always disconnect machine from power before adjustments, maintenance, or service.

Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

Daily Check:
- Loose mounting bolts.
- Damaged tooling.
- Worn or damaged wires.
- Clean debris and built up grime off of machine.
- Any other unsafe condition.

Every 8 Hours of Operation:
- Check/add headstock oil (**Page 32**).
- Lubricate ball oilers (**Page 33**).
- Lubricate table and column ways (**Page 33**).
- Lubricate quill outside surface (**Page 34**).

Every 40 Hours of Operation:
- Lubricate table leadscrews (**Page 34**).

Every 90 Hours of Operation:
- Lubricate Z-axis (column) leadscrew and pinion gear (**Page 35**).
- Lubricate quill rack and pinion (**Page 35**).

Annually
- Change headstock oil (**Page 32**).

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 30** 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 SB1365 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 38** is halfway full.

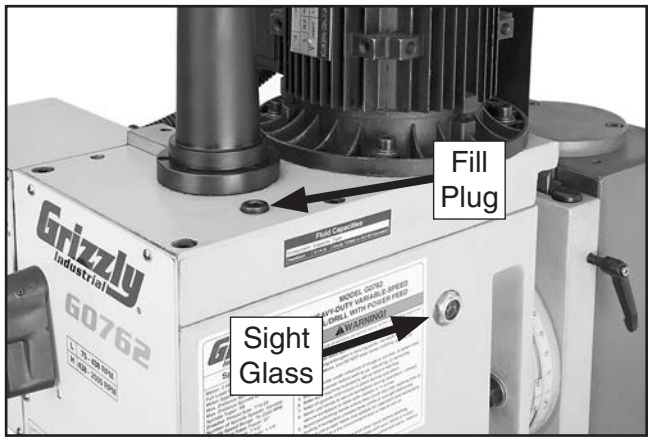


Figure 38. Headstock oil fill plug and sight glass.

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 38**).
4. Place a 1-gallon or larger drain pan on table under headstock.
5. Remove drain plug (see **Figure 39**) from underneath headstock and allow oil to drain into pan.

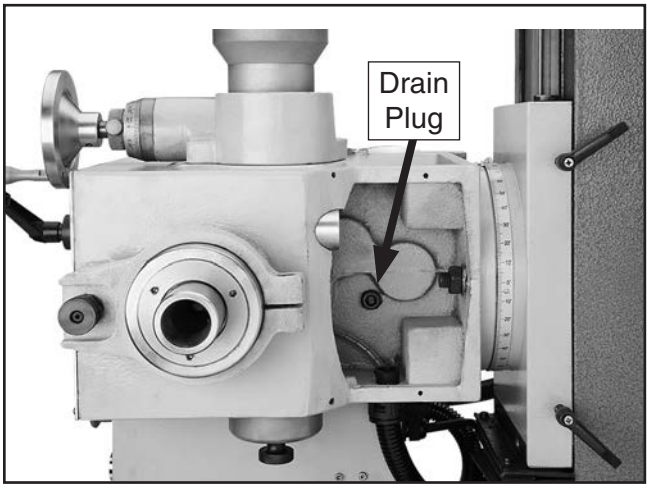


Figure 39. Headstock drain plug (headstock tilted 90° for clarity).

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 prevent 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 40** is done with a pump-type oil can that has a plastic or rubberized cone tip (see **Page 30** 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.

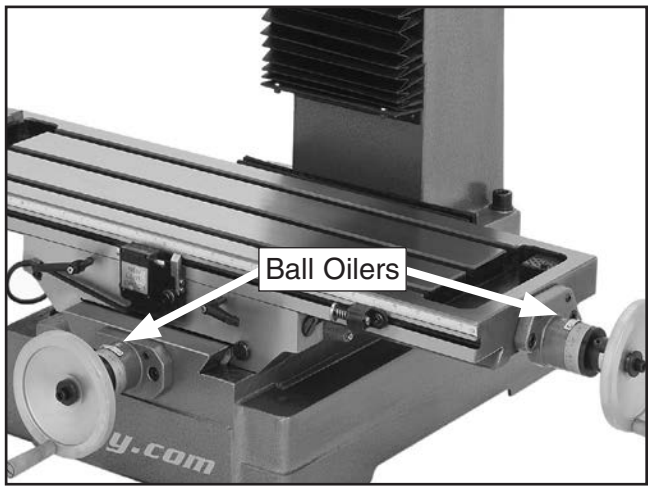


Figure 40. Location of handwheel ball oilers.

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 SB1365 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 41**).

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

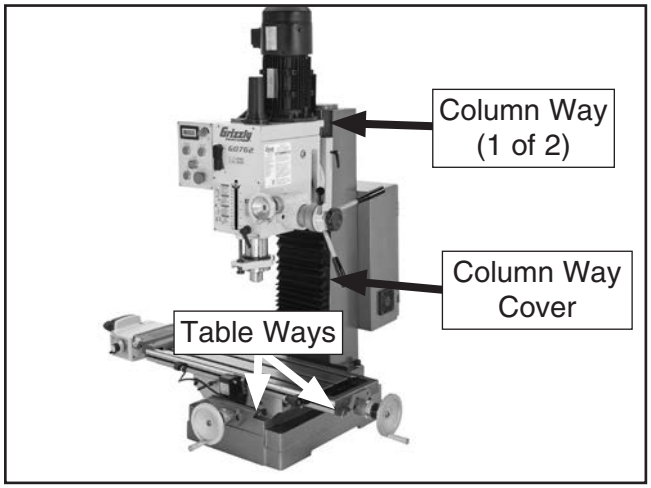


Figure 41. Location of table and column ways.

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 paths a few times to evenly distribute the oil. Re-install the column way cover.

Quill Outside Surface

Lube Type.. Model SB1365 or ISO 68 Equivalent
Lube Amount.....Thin 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 42**) with mineral spirits and shop rags.

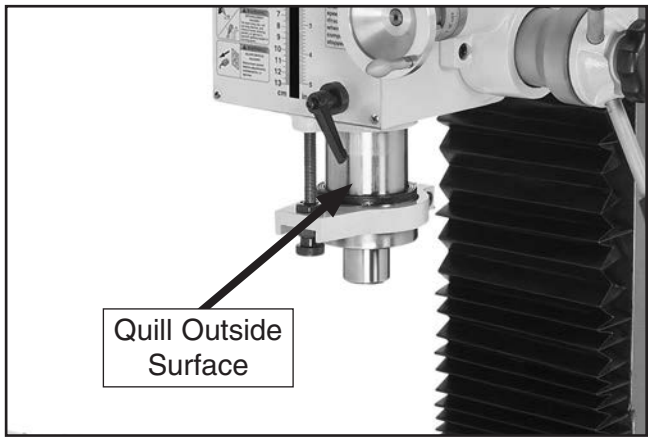


Figure 42. Outside surface of quill.

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 SB1365 or ISO 68 Equivalent
Lube Amount.....Thin Coat
Lubrication Frequency..... 40 hrs. of Operation

Move the table as necessary to access the entire length of the X- and Y-axis leadscrews (see **Figures 43–44**), then use mineral spirits, shop rags, and a brush to clean them.

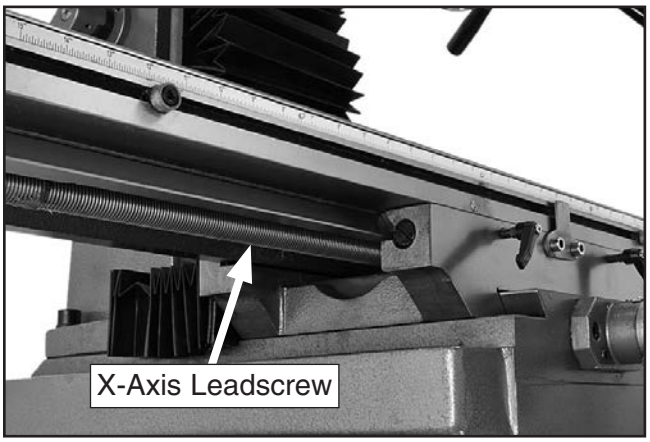


Figure 43. X-axis leadscrew.

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

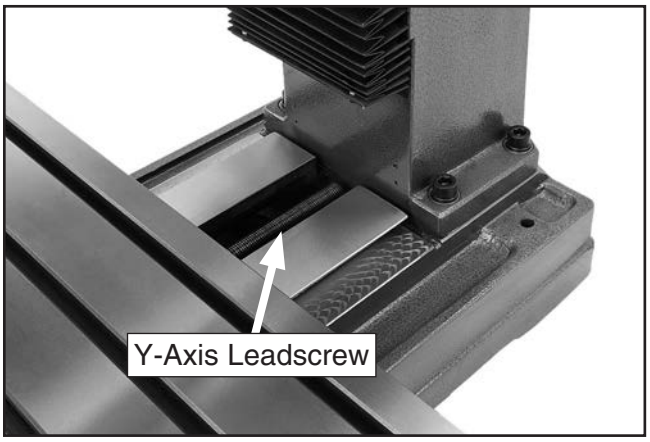


Figure 44. Y-axis leadscrew.

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.

Z-Axis Leadscrew & Pinion Gear

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

Using a 4mm hex wrench, remove top of the column way cover to access Z-axis leadscrew components (see **Figure 45**).

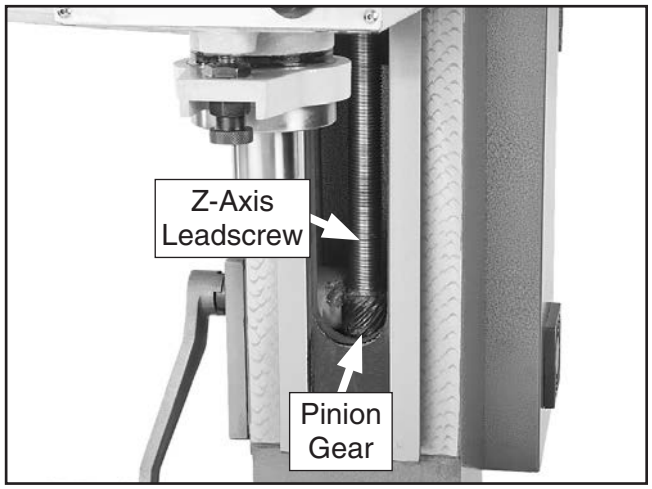


Figure 45. Column way cover removed to access Z-axis leadscrew components.

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 way cover.

Quill Rack & Pinion

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

Move the quill all the way down to gain full access to the quill rack (see **Figure 46**), lock the quill in place, then clean the teeth with mineral spirits, shop rags, and a brush.

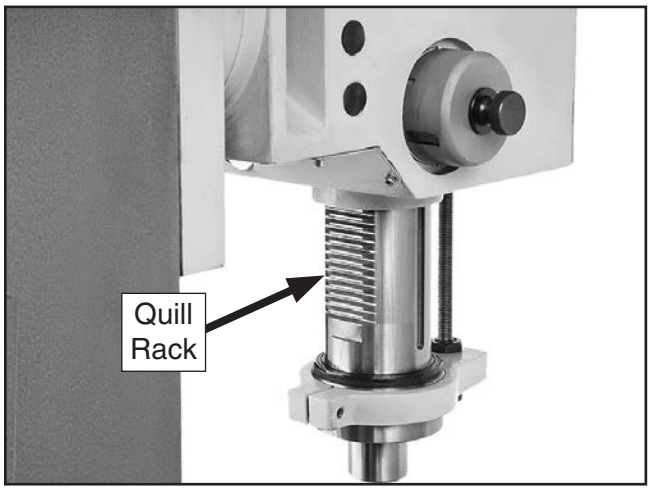


Figure 46. Quill extended to expose rack.

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 and 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 at (570) 546-9663.
Note: *Please gather the serial number and manufacture date of your machine before calling.*

Troubleshooting

Symptom	Possible Cause	Possible Solution
Machine does not start.	1. Master power switch turned ***OFF*** or at fault. 2. EMERGENCY STOP button pressed in or at fault. 3. Plug at fault or wired incorrectly. 4. Incorrect power supply voltage. 5. Wall fuse/circuit breaker blown/tripped. 6. Wiring is open/has high resistance. 7. Control panel components at fault. 8. Motor wired incorrectly. 9. Motor at fault.	1. Turn master power switch ***ON***; replace. 2. Reset EMERGENCY STOP button; replace. 3. Ensure plug is not damaged and is wired correctly. 4. Ensure power supply voltage matches circuit requirements (**Page 11**). 5. Ensure circuit size is correct and a short does not exist. Reset breaker or replace fuse. 6. Check for broken wires or disconnected/corroded connections; repair/replace as necessary. 7. Ensure control panel components are wired correctly (**Page 44**); replace if at fault. 8. Ensure motor wiring is correct (**Page 44**). 9. Test/repair/replace motor.
Machine stalls or is overloaded.	1. Feed rate/cutting speed too fast. 2. Wrong tooling. 3. Machine undersized for task or tooling incorrect for task. 4. Motor overheated. 5. Motor wired incorrectly. 6. Motor bearings at fault. 7. Motor at fault.	1. Decrease feed rate/cutting speed. 2. Use correct tooling for task. 3. Use smaller or sharper tooling; reduce feed rate or spindle speed; use coolant if possible. 4. Clean off motor, let cool, and reduce workload. 5. Ensure motor wiring is correct (**Page 44**). 6. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement. 7. Test/repair/replace motor.
Machine has vibration or noisy operation.	1. Motor or machine component loose. 2. Workpiece not secure. 3. Excessive depth of cut. 4. Cutter/tooling loose. 5. Cutter dull or at fault. 6. Bit chattering. 7. Machine incorrectly mounted or sits unevenly. 8. Motor fan rubbing on fan cover. 9. Motor bearings at fault. 10. Spindle extended too far down.	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 spindle 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. 10. Lower headstock so that only a minimum amount of spindle needs to be extended.

Symptom	Possible Cause	Possible Solution
Tool slips in spindle.	1. Tool not fully drawn up into spindle taper. 2. Debris on tool or in spindle taper. 3. Taking too big of a cut.	1. Tighten drawbar. 2. Clean collet and spindle taper. 3. Lessen depth of cut and allow chips to clear.
Breaking tools or cutters.	1. Spindle speed/feed rate too fast. 2. Tooling too small. 3. Tooling getting too hot. 4. Taking too big of a cut. 5. Spindle extended too far down.	1. Set spindle speed correctly (**Page 29**) or use slower feed rate. 2. Use larger tooling 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.	1. Table locks not tight. 2. Workpiece not secure. 3. Spindle speed/feed rate too fast. 4. Spindle extended too far down.	1. Tighten table locks. 2. Properly clamp workpiece on table or in vise. 3. Set spindle speed correctly (**Page 29**) or use a slower feed rate. 4. Fully retract spindle and lower headstock. This increases rigidity.
Table is hard to move.	1. Table locks tightened down. 2. Chips loaded up on ways. 3. Ways dry and need lubrication. 4. Table limit stops are interfering. 5. Gibs too tight.	1. Make sure table locks are fully released. 2. Frequently clean away chips that load up during operations. 3. Lubricate ways (**Page 33**). 4. Check to make sure that all table limit stops are not in the way. 5. Adjust gibs (see **Page 38**).
Bad surface finish.	1. Spindle speed/feed rate too fast. 2. Using dull or incorrect tooling. 3. Wrong spindle rotation of tooling. 4. Workpiece not secure. 5. Spindle extended too far down.	1. Set spindle speed correctly (**Page 29**) or use a slower feed rate. 2. Sharpen tooling or select one that better suits the operation. 3. Check for proper cutting rotation for tooling. 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 47**) 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.

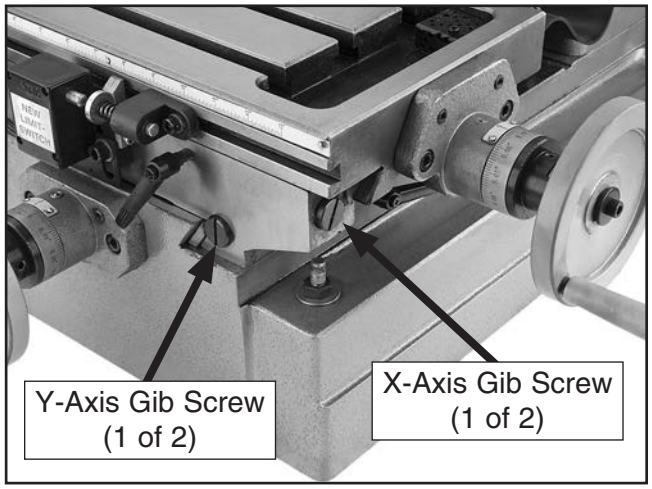


Figure 47. Location of table gib screws.

Adjusting Leadscrew Backlash

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

Leadscrews must have a small 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 48** 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.

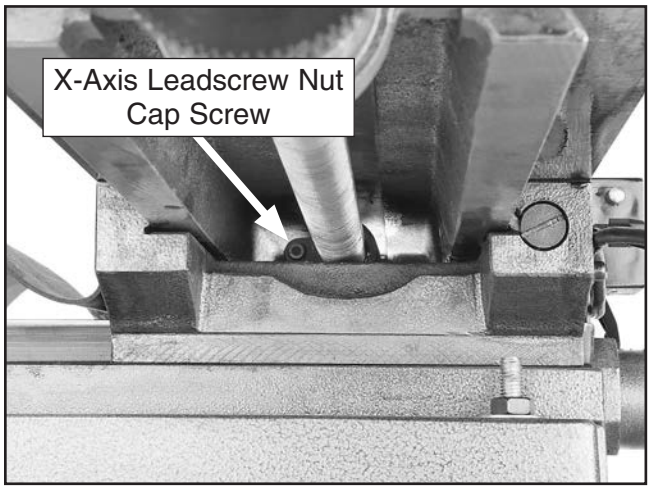


Figure 48. X-axis leadscrew nut adjusting cap screw.

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 49**) 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.

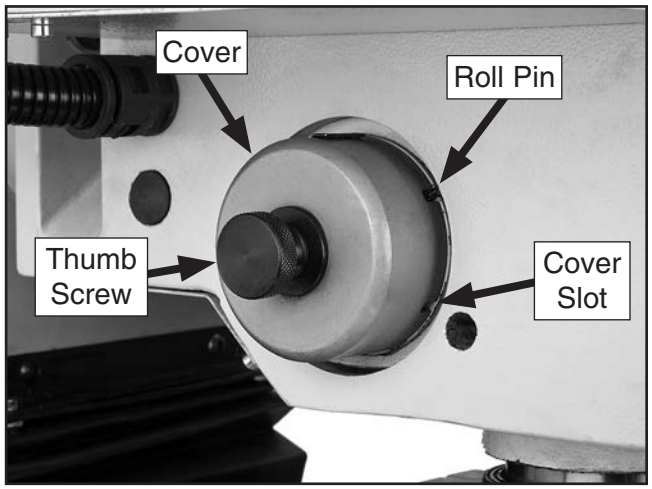
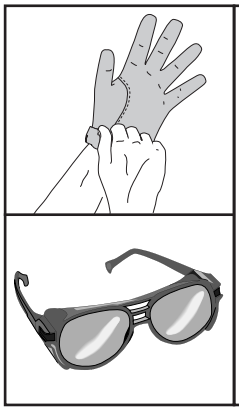


Figure 49. Return spring components.



⚠WARNING

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

To adjust 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 ¼".
6. Pull cover out just enough to disengage it from roll pin, then rotate it clockwise to engage roll pin in next slot in cover.
7. Retighten thumb screw to secure setting.

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 aftermarket 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	Bk	BLUE	Bl	YELLOW	Yl	LIGHT BLUE	Lb
WHITE	Wt	BROWN	Br	YELLOW GREEN	Yg	BLUE WHITE	Bw
GREEN	Gn	GRAY	Gy	PURPLE	Pu	TURQUOISE	Tu
RED	Rd	ORANGE	Or	PINK	Pk		

READ ELECTRICAL SAFETY ON PAGE 40!

Wiring Overview

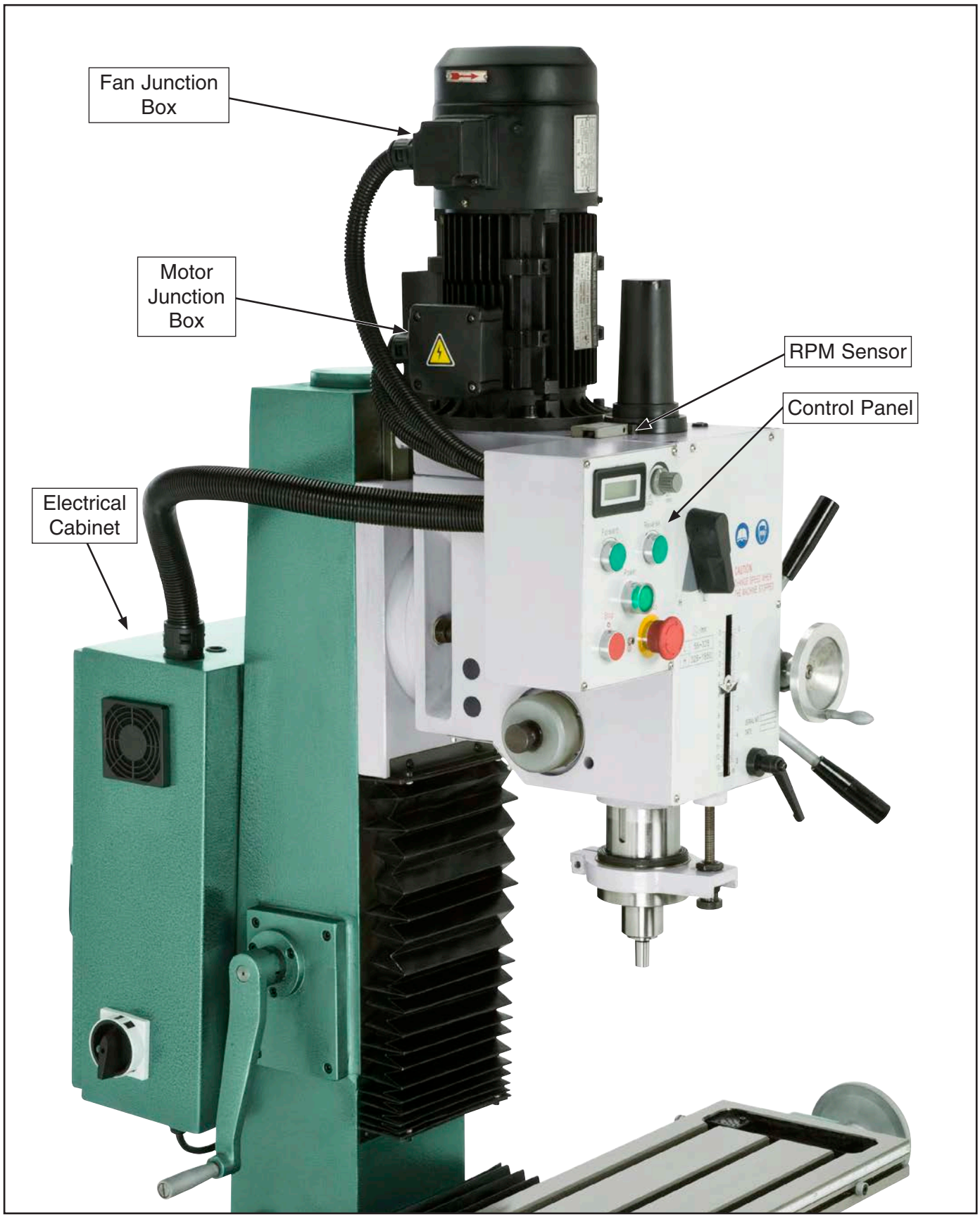
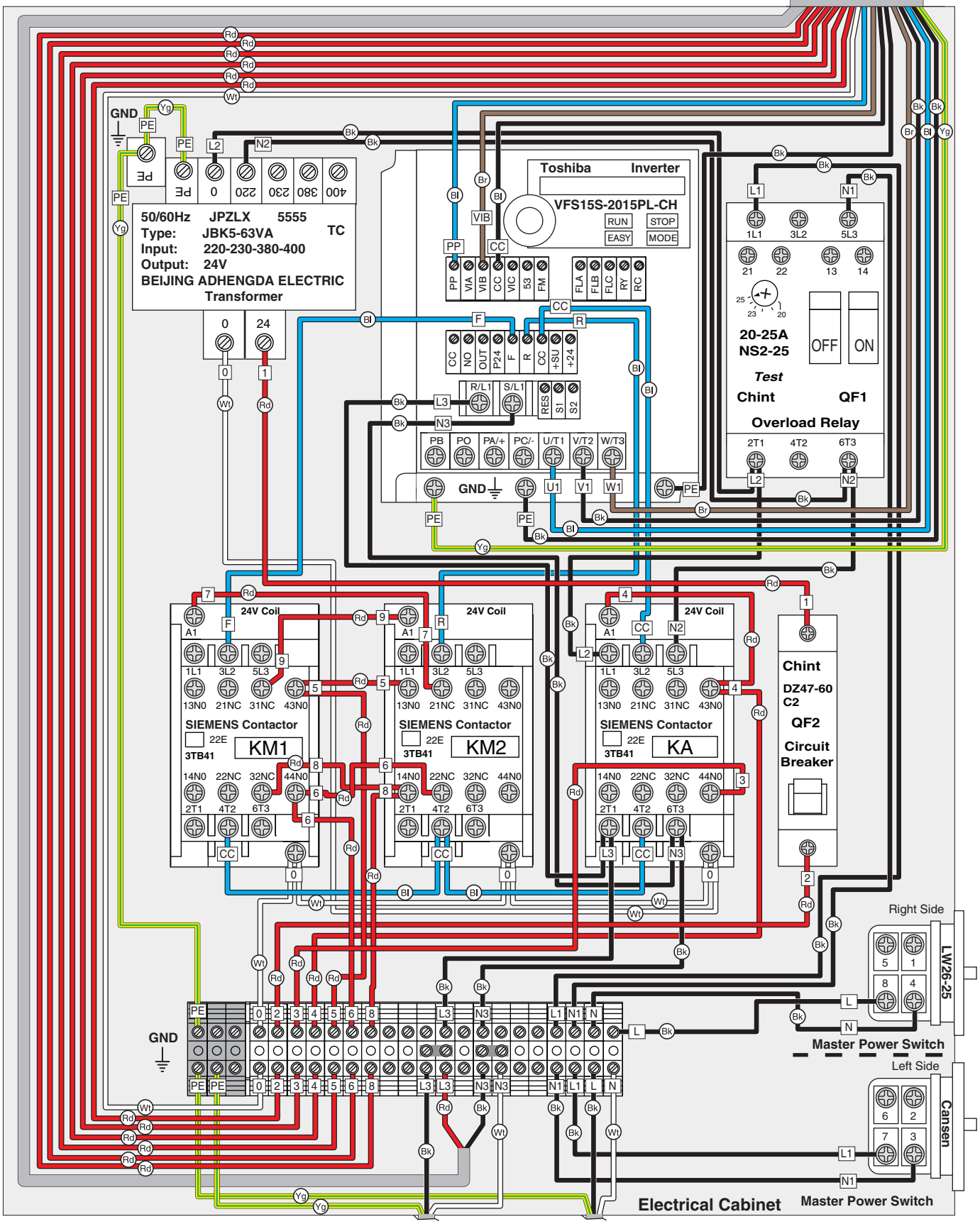


Figure 50. Electrical component wiring overview.

Electrical Cabinet Wiring

To Control Panel **Page 44**



To Power Feed

To Power Cord **Page 44**

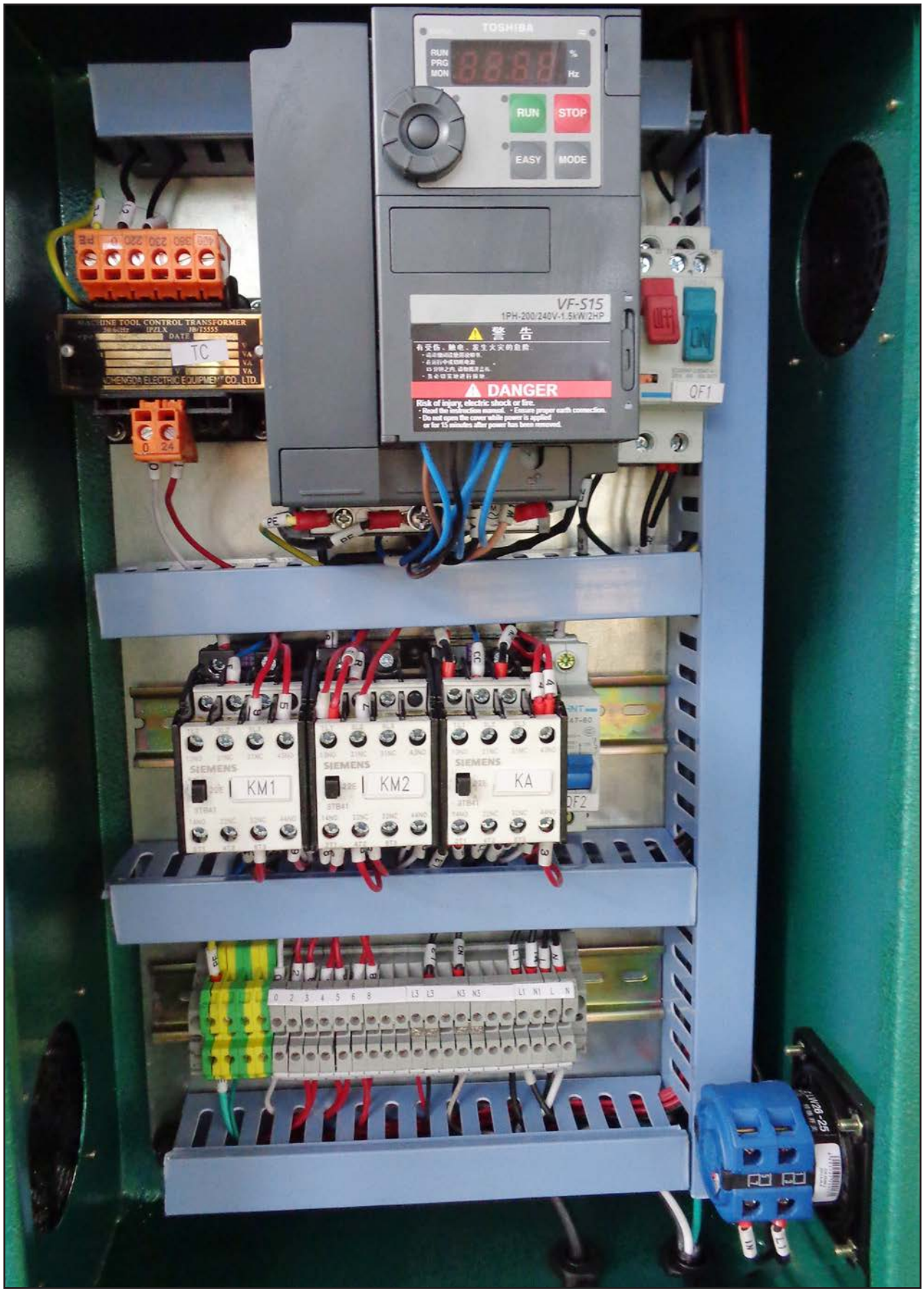
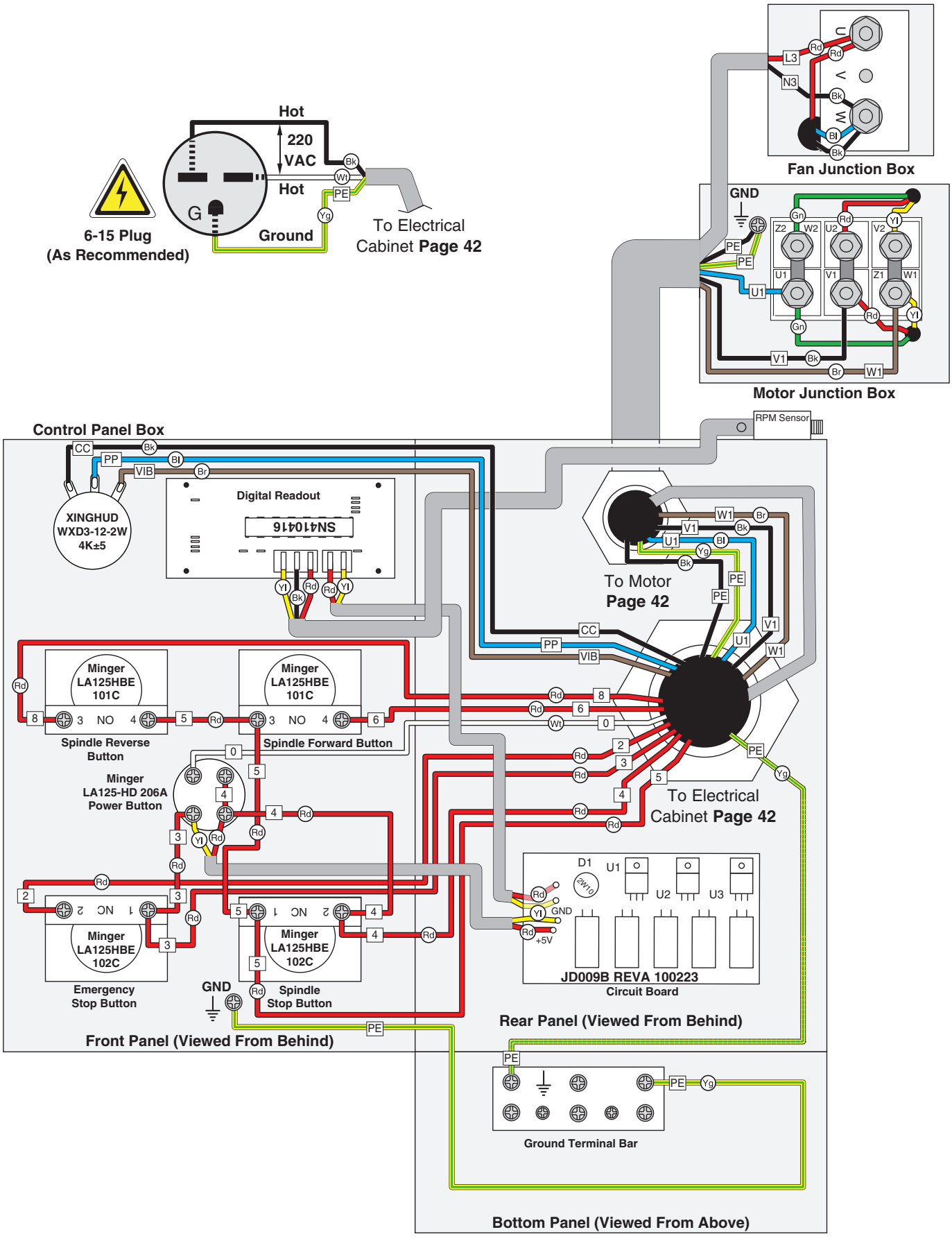


Figure 51. Electrical cabinet.

Control Panel & Motor Wiring



STOP **READ ELECTRICAL SAFETY ON PAGE 40!**

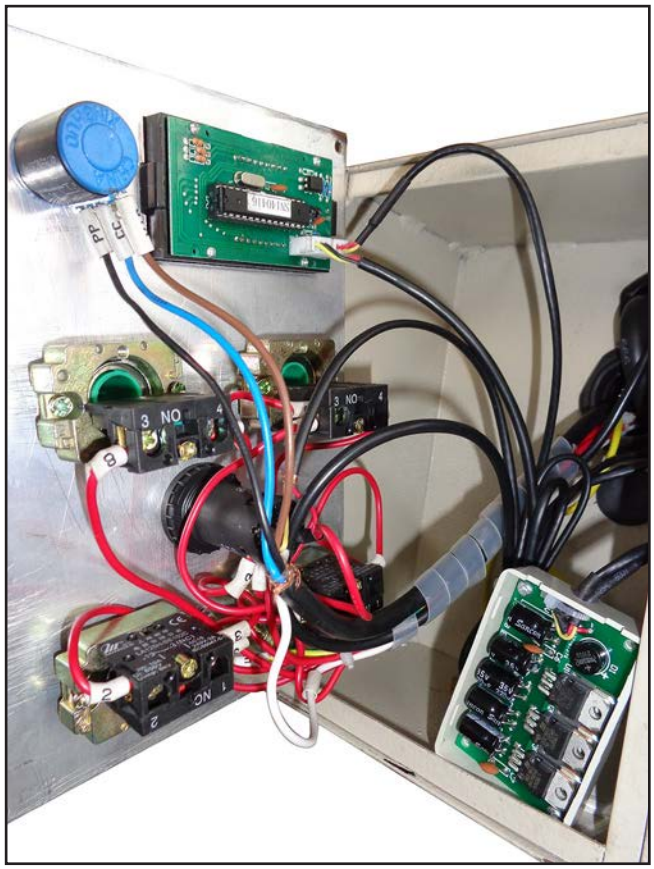


Figure 52. Control panel with circuit board.

Figure 53. Motor junction box.

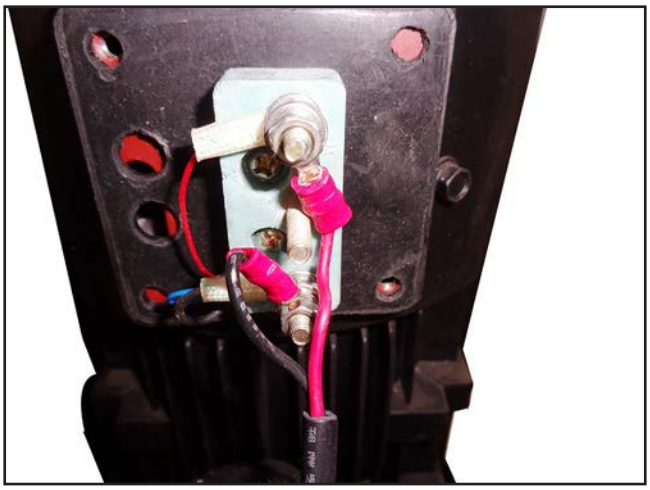
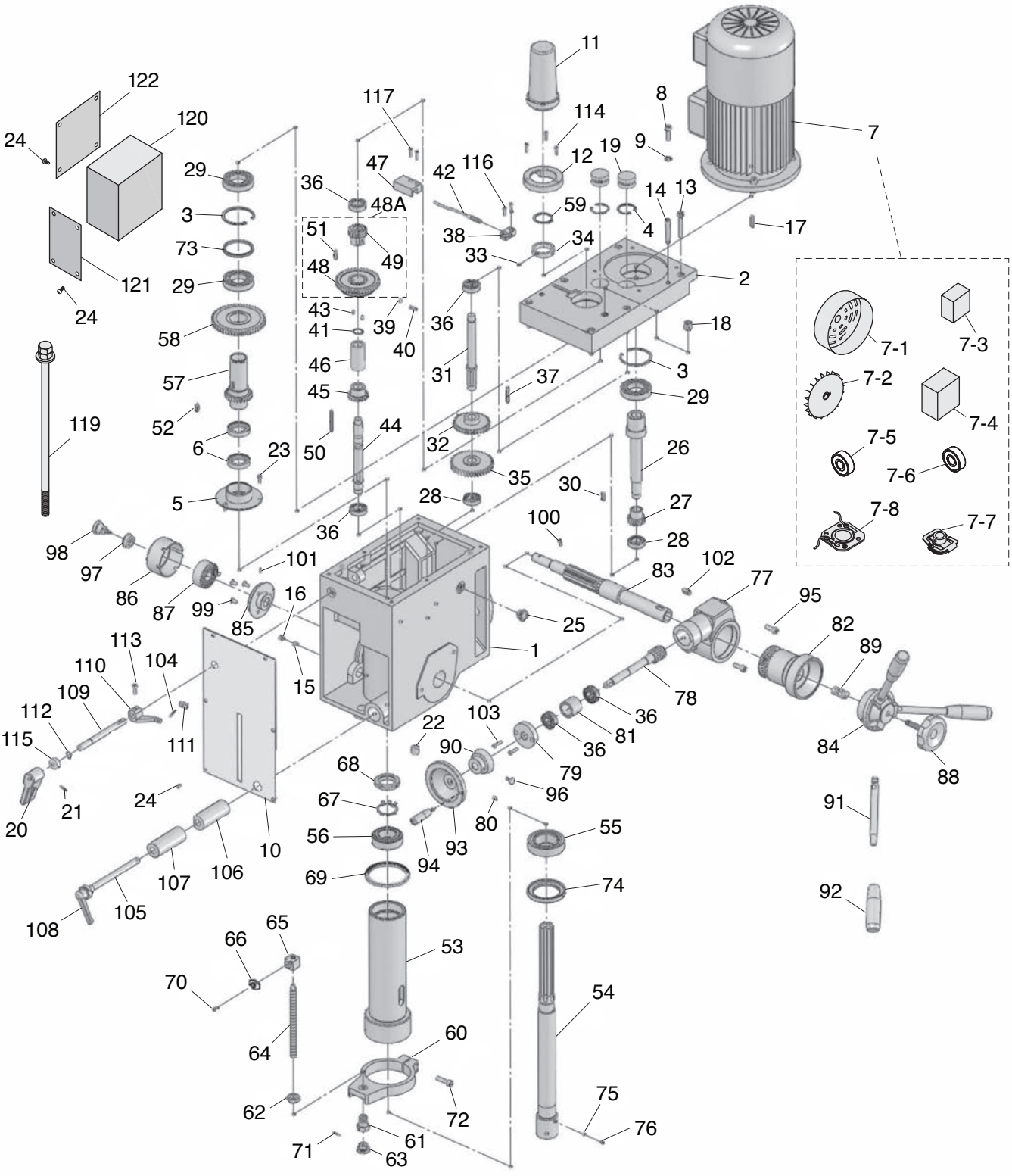


Figure 54. Motor fan junction box.

SECTION 8: PARTS

Headstock Diagram



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.*

Headstock Parts List

REF	PART #	DESCRIPTION
1	P0762001	HEADSTOCK HOUSING
2	P0762002	HEADSTOCK TOP COVER
3	P0762003	INT RETAINING RING 62MM
4	P0762004	INT RETAINING RING 35MM
5	P0762005	FLANGED END CAP
6	P0762006	QUILL SEAL 45 X 35 X 10MM
7	P0762007	MOTOR 2HP 220V 3-PH
7-1	P0762007-1	MOTOR FAN COVER
7-2	P0762007-2	MOTOR FAN
7-3	P0762007-3	MOTOR FAN JUNCTION BOX
7-4	P0762007-4	MOTOR JUNCTION BOX
7-5	P0762007-5	BALL BEARING 6205ZZ
7-6	P0762007-6	BALL BEARING 6205ZZ
7-7	P0762007-7	CENTRIFUGAL SWITCH
7-8	P0762007-8	CONTACT PLATE
8	P0762008	HEX BOLT M8-1.25 X 25
9	P0762009	FLAT WASHER 8MM
10	P0762010	HEADSTOCK FRONT COVER
11	P0762011	DRAWBAR CAP
12	P0762012	DRAWBAR CAP RUBBER SEAL
13	P0762013	CAP SCREW M8-1.25 X 45
14	P0762014	TAPER PIN 8 X 40
15	P0762015	CAP SCREW M10-1.5 X 8
16	P0762016	SET SCREW M10-1.5 X 10 DOG-PT
17	P0762017	KEY 6 X 6 X 28
18	P0762018	OIL FILL PLUG 3/8" ZG
19	P0762019	CASTING PLUG
20	P0762020	SHIFT LEVER
21	P0762021	ROLL PIN 3 X 18
22	P0762022	OIL DRAIN PLUG 3/8" ZG
23	P0762023	PHLP HD SCR M5-.8 X 10
24	P0762024	BUTTON HD CAP SCR M4-.7 X 8
25	P0762025	OIL SIGHT GLASS M18-1.5
26	P0762026	DRIVE SHAFT
27	P0762027	GEAR 14T
28	P0762028	BALL BEARING 6003ZZ
29	P0762029	BALL BEARING 6007ZZ
30	P0762030	KEY 5 X 5 X 25
31	P0762031	IDLER SHAFT
32	P0762032	GEAR 35T
33	P0762033	MAGNET
34	P0762034	SPEED SENSOR RING
35	P0762035	GEAR 41T
36	P0762036	BALL BEARING 6202ZZ
37	P0762037	KEY 6 X 6 X 36
38	P0762038	SPEED PROBE BRACKET
39	P0762039	STEEL BALL 8MM
40	P0762040	COMPRESSION SPRING
41	P0762041	EXT RETAINING RING 18MM
42	P0762042	SPEED SENSOR
43	P0762043	SET SCREW M6-1 X 12
44	P0762044	SPINDLE SHAFT

REF	PART #	DESCRIPTION
45	P0762045	GEAR 18T
46	P0762046	SPACER
47	P0762047	SPEED PROBE COVER
48A	P0762048A	MATCHED GEAR SET 43T/16T (3 PCS)
48	P0762048	GEAR 43T
49	P0762049	GEAR 16T
50	P0762050	KEY 5 X 5 X 50
51	P0762051	KEY 6 X 6 X 18
52	P0762052	KEY 6 X 6 X 18
53	P0762053	QUILL
54	P0762054	SPINDLE R-8
55	P0762055	TAPERED ROLLER BEARING 30207 P5
56	P0762056	TAPERED ROLLER BEARING 30206 P5
57	P0762057	GEAR SHAFT 25T
58	P0762058	GEAR 53T
59	P0762059	EXT RETAINING RING 35MM
60	P0762060	DEPTH ROD MOUNT
61	P0762061	INT THREADED SHOULDER BOLT M16-2 X 10
62	P0762062	HEX NUT M16-2 THIN
63	P0762063	DEPTH ROD KNURLED THUMB KNOB M16-2
64	P0762064	STUD-FT M12-1.75 X 230
65	P0762065	DEPTH STOP
66	P0762066	DEPTH POINTER
67	P0762067	SPANNER NUT LOCK WASHER 30MM
68	P0762068	SPANNER NUT M30-1.5
69	P0762069	QUILL RUBBER SEAL
70	P0762070	CAP SCREW M4-.7 X 8
71	P0762071	ROLL PIN 3 X 18
72	P0762072	CAP SCREW M8-1.25 X 30
73	P0762073	SPACER
74	P0762074	SPINDLE END SEAL
75	P0762075	SET SCREW M5-.8 X 6 DOG-PT
76	P0762076	SET SCREW M5-.8 X 4
77	P0762077	WORM GEAR HOUSING
78	P0762078	WORM SHAFT
79	P0762079	WORM SHAFT END BRACKET
80	P0762080	SET SCREW M6-1 X 12
81	P0762081	SPACER
82	P0762082	WORM GEAR
83	P0762083	PINION SHAFT
84	P0762084	LEVER HUB
85	P0762085	SPRING BASE
86	P0762086	SPRING COVER
87	P0762087	COILED SPRING
88	P0762088	KNOB BOLT M10-1.5 X 45
89	P0762089	COMPRESSION SPRING
90	P0762090	FINE DOWNFEED GRADUATED DIAL
91	P0762091	SHOULDER STUD-UDE M12-1.75 X 145 15,20
92	P0762092	TAPERED KNOB M12-1.75
93	P0762093	FINE DOWNFEED HANDWHEEL
94	P0762094	HANDWHEEL HANDLE

Headstock Parts List

REF	PART #	DESCRIPTION
95	P0762095	CAP SCREW M8-1.25 X 25
96	P0762096	KNURLED THUMB SCREW M5-.8 X 12
97	P0762097	SPRING COVER FLAT WASHER 6MM
98	P0762098	KNURLED THUMB SCREW M6-1 X 12
99	P0762099	CAP SCREW M6-1 X 12
100	P0762100	SET SCREW M5-.8 X 12
101	P0762101	ROLL PIN 3 X 12
102	P0762102	KEY 8 X 8 X 20
103	P0762103	CAP SCREW M5-.8 X 20
104	P0762104	ROLL PIN 3 X 15
105	P0762105	LOCK LEVER SHAFT
106	P0762106	INNER LOCK PLUNGER
107	P0762107	OUTER LOCK PLUNGER
108	P0762108	ADJUSTABLE HANDLE

REF	PART #	DESCRIPTION
109	P0762109	SPEED SHIFT SHAFT
110	P0762110	SPEED SHIFT ROCKER ARM
111	P0762111	SPEED SHIFT FORK
112	P0762112	EXT RETAINING RING 12MM
113	P0762113	CAP SCREW M6-1 X 16
114	P0762114	CAP SCREW M4-.7 X 16
115	P0762115	SHAFT SEAL 12 X 22 X 8
116	P0762116	CAP SCREW M4-.7 X 16
117	P0762117	CAP SCREW M4-.7 X 18
119	P0762119	DRAWBAR ASSEMBLY 7/16-20 X 17-3/4
120	P0762120	CONTROL PANEL CABINET
121	P0762121	CONTROL PANEL CABINET FRONT COVER
122	P0762122	CONTROL PANEL CABINET SIDE COVER

Table & Column Diagram

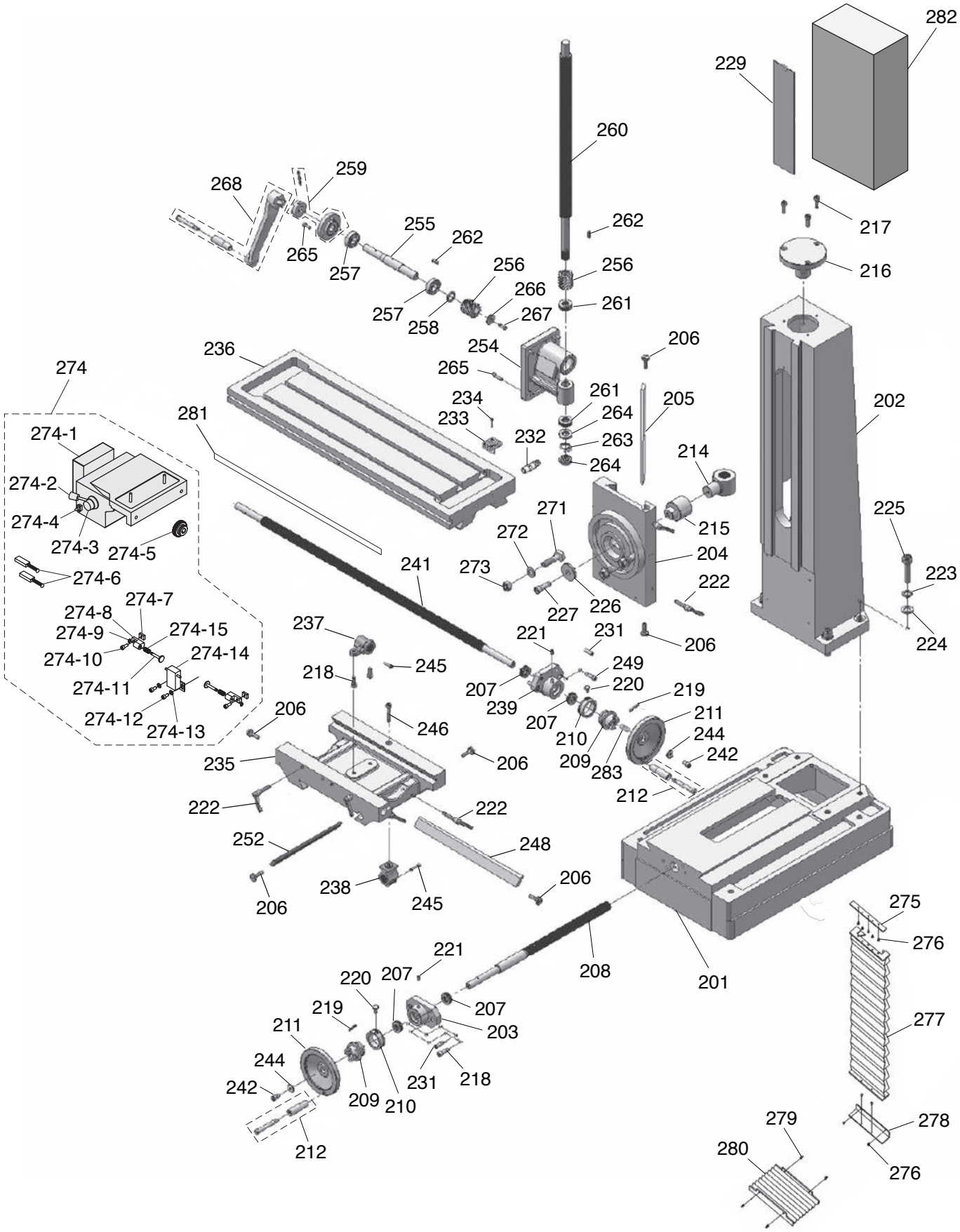
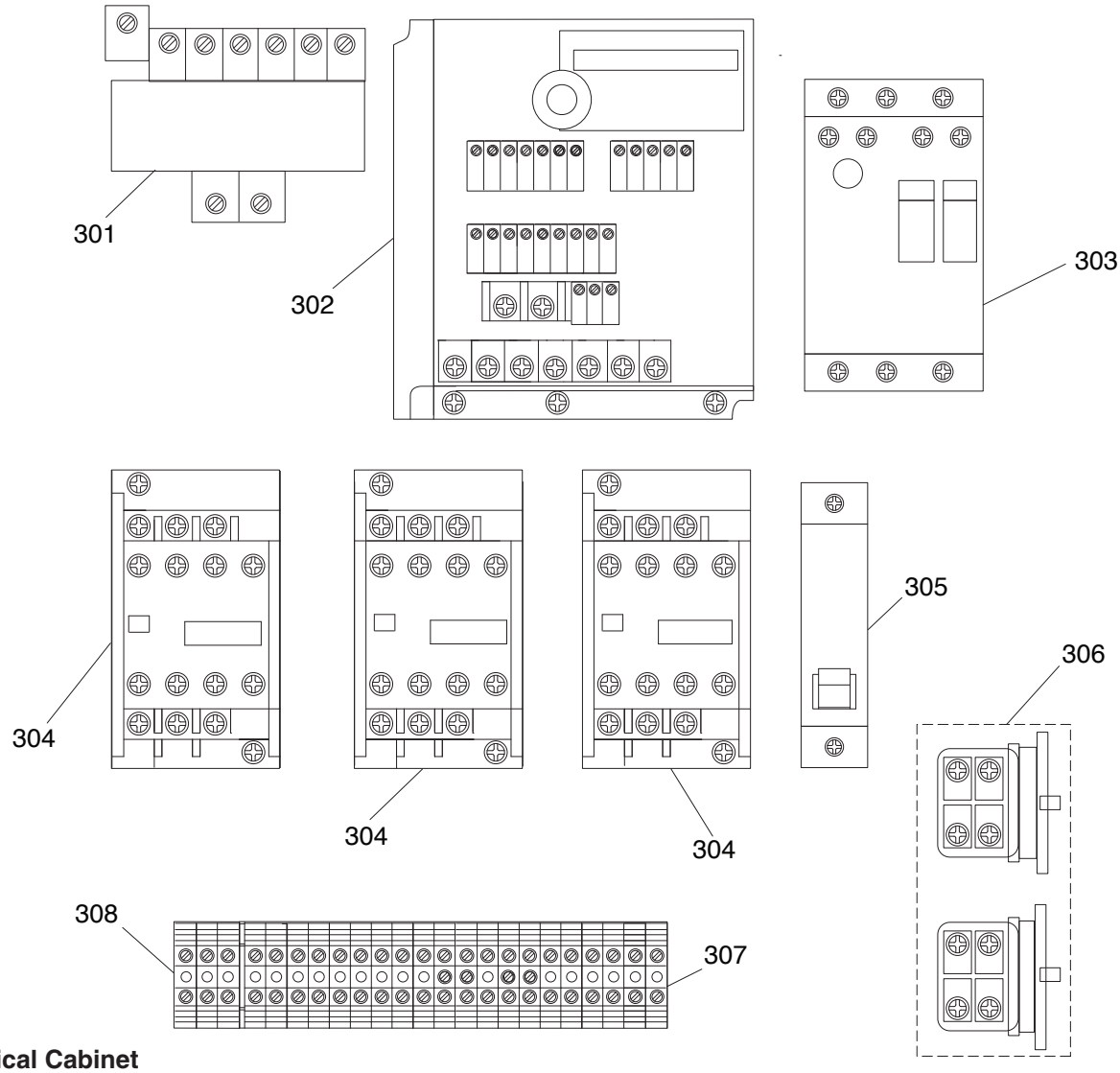


Table & Column Parts List

REF	PART #	DESCRIPTION
201	P0762201	BASE
202	P0762202	COLUMN
203	P0762203	Y-AXIS LEADSCREW BRACKET
204	P0762204	HEADSTOCK MOUNT
205	P0762205	Z-AXIS GIB
206	P0762206	GIB ADJUSTMENT SCREW
207	P0762207	THRUST BEARING 51103
208	P0762208	Y-AXIS LEADSCREW
209	P0762209	DIAL CLUTCH
210	P0762210	GRADUATED DIAL
211	P0762211	HANDWHEEL
212	P0762212	HANDWHEEL HANDLE W/SCREW
214	P0762214	Z-AXIS LEADSCREW NUT
215	P0762215	Z-AXIS LEADSCREW NUT BRACKET
216	P0762216	COLUMN TOP COVER
217	P0762217	CAP SCREW M8-1.25 X 20
218	P0762218	CAP SCREW M8-1.25 X 25
219	P0762219	ROLL PIN 5 X 35
220	P0762220	KNURLED THUMB SCREW M5-.8 X 12
221	P0762221	BALL OILER 8MM PRESS-IN
222	P0762222	ADJUSTMENT HANDLE M8-1.25
223	P0762223	LOCK WASHER 16MM
224	P0762224	FLAT WASHER 16MM
225	P0762225	CAP SCREW M16-2 X 60
226	P0762226	HEADSTOCK MOUNT FLAT WASHER 12MM
227	P0762227	CAP SCREW M12-1.75 X 35
229	P0762229	COLUMN FRONT COVER
231	P0762231	ROLL PIN 8 X 30
232	P0762232	HOSE CONNECTOR
233	P0762233	COOLANT DRAIN SCREEN
234	P0762234	PHLP HD SCR M3-.5 X 25
235	P0762235	SADDLE
236	P0762236	TABLE
237	P0762237	X-AXIS LEADSCREW NUT
238	P0762238	Y-AXIS LEADSCREW NUT
239	P0762239	X-AXIS LEADSCREW BRACKET
241	P0762241	X-AXIS LEADSCREW
242	P0762242	CAP SCREW M6-1 X 16
244	P0762244	HANDWHEEL STEP WASHER 6MM
245	P0762245	CAP SCREW M5-.8 X 20
246	P0762246	CAP SCREW M8-1.25 X 45
248	P0762248	X-AXIS GIB
249	P0762249	CAP SCREW M8-1.25 X 25
252	P0762252	Y-AXIS GIB

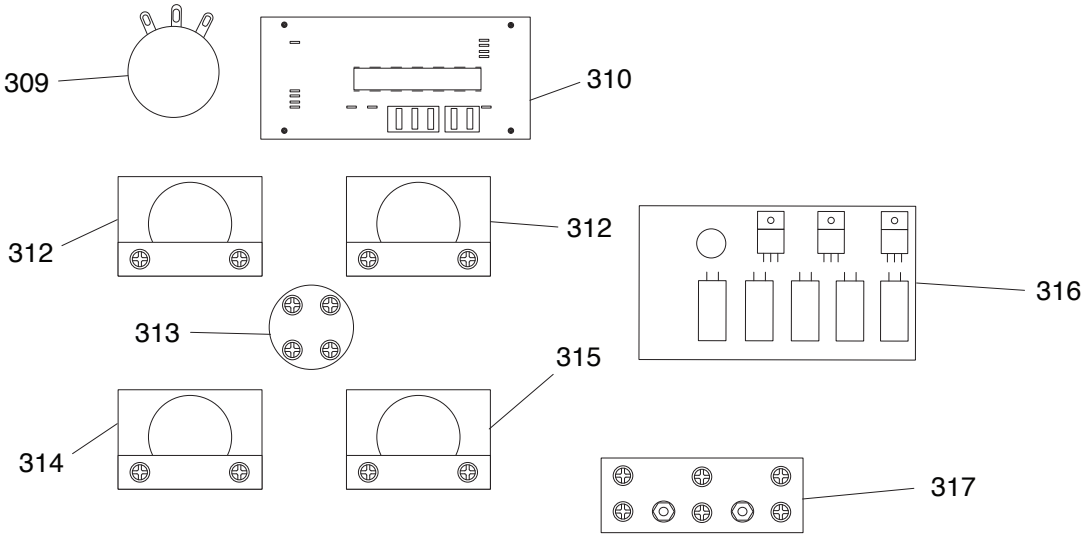
REF	PART #	DESCRIPTION
254	P0762254	Z-AXIS CRANK SHAFT BRACKET
255	P0762255	Z-AXIS CRANK SHAFT
256	P0762256	WORM GEAR
257	P0762257	BALL BEARING 6004ZZ
258	P0762258	SPACER
259	P0762259	CRANK SHAFT END FLANGE ASSY
260	P0762260	Z-AXIS LEADSCREW
261	P0762261	THRUST BEARING 51104
262	P0762262	KEY 6 X 6 X 20
263	P0762263	SPANNER NUT LOCK WASHER 20MM
264	P0762264	SPANNER NUT M20-1.5
265	P0762265	CAP SCREW M6-1 X 20
266	P0762266	WORM GEAR FLAT WASHER 8MM
267	P0762267	CAP SCREW M8-1.25 X 16
268	P0762268	Z-AXIS CRANK HANDLE ASSY
271	P0762271	T-BOLT M14-2 X 55
272	P0762272	FLAT WASHER 14MM
273	P0762273	HEX NUT M14-2
274	P0762274	POWER FEED ASSY ALIGN AS-235
274-1	P0762274-1	MOUNTING BRACKET 2-PC
274-2	P0762274-2	DIRECTION CONTROL HANDLE
274-3	P0762274-3	SPEED CONTROL KNOB
274-4	P0762274-4	ON/OFF SWITCH
274-5	P0762274-5	ZYTEL GEAR ASSEMBLY
274-6	P0762274-6	CARBON BRUSH 2-PC SET
274-7	P0762274-7	SQUARE NUT M8-1.25
274-8	P0762274-8	LIMIT STOP HOUSING
274-9	P0762274-9	EXT RETAINING RING 8MM
274-10	P0762274-10	CAP SCREW M8-1.25 X 20
274-11	P0762274-11	POWER FEED LIMIT STOP
274-12	P0762274-12	CAP SCREW M8-1.25 X 6
274-13	P0762274-13	FLAT WASHER 8MM
274-14	P0762274-14	POWER FEED LIMIT SWITCH
274-15	P0762274-15	COMPRESSION SPRING
275	P0762275	Z-AXIS WAY COVER UPPER PLATE
276	P0762276	PHLP HD SCR M4-.7 X 6
277	P0762277	Z-AXIS WAY COVER
278	P0762278	Z-AXIS WAY COVER LOWER BRACKET
279	P0762279	PHLP HD SCR M5-.8 X 12
280	P0762280	Y-AXIS WAY COVER
281	P0762281	TABLE SCALE
282	P0762282	ELECTRICAL CABINET W/DOOR
283	P0762283	HANDWHEEL COMPRESSION SPRING

Electrical Component Diagram



Electrical Cabinet

Control Panel

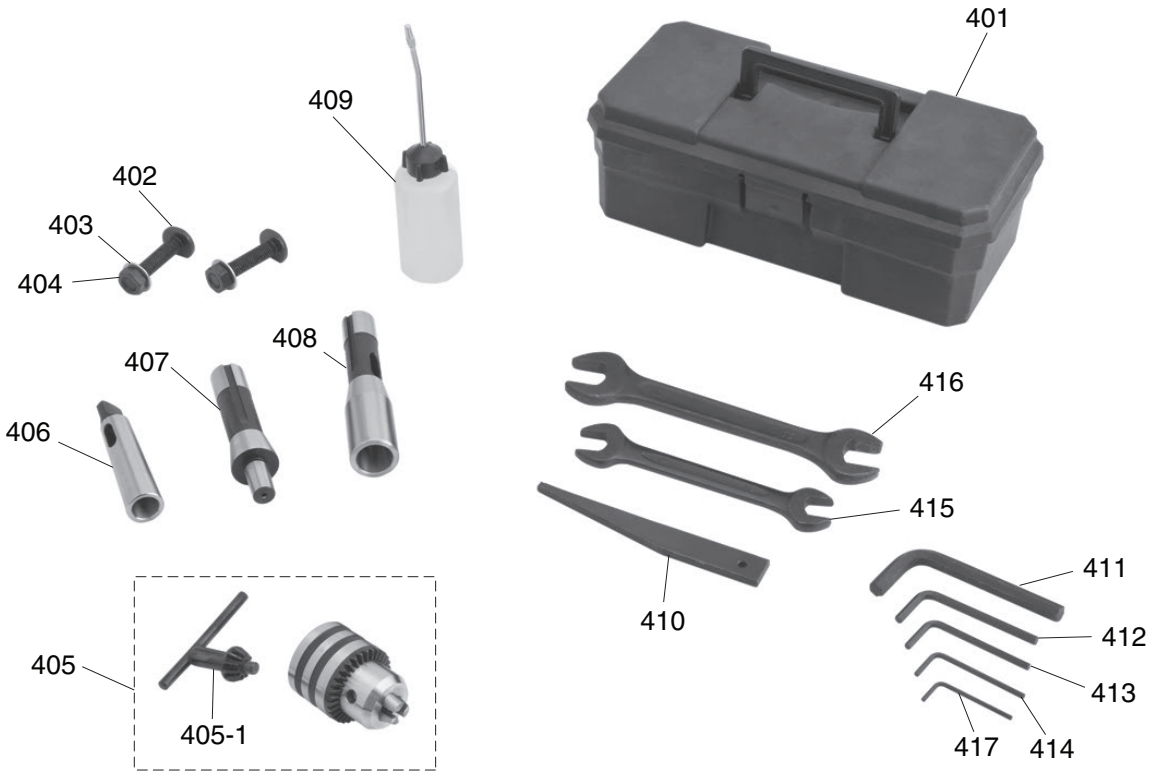


Electrical Component Parts List

REF	PART #	DESCRIPTION
301	P0762301	TRANSFORMER BAE JBK5-63VA 440V-24V
302	P0762302	INVERTER DRIVE TOSHIBA VFS15S-2015PL-CH
303	P0762303	CIRCUIT BREAKER CHINT NS2-25 20-25A
304	P0762304	CONTACTOR SIEMENS 3TB41 220V
305	P0762305	CIRCUIT BREAKER CHINT DZ47-62 C2
306	P0762306	ROTARY SWITCH LW26-25
307	P0762307	TERMINAL BAR 1P
308	P0762308	GROUND TERMINAL BAR 1P

REF	PART #	DESCRIPTION
309	P0762309	POTENTIOMETER XINGHUD WXD3-12-2W
310	P0762310	DIGITAL LED
312	P0762312	SPINDLE SWITCH MINGER LA125HBE 101C
313	P0762313	POWER BUTTON MINGER LA125-HD 206A
314	P0762314	E-STOP MINGER LA125HBE 102C
315	P0762315	STOP BUTTON MINGER LA125HBE 102C
316	P0762316	CIRCUIT BOARD JD009B REV-A 100223
317	P0762317	GROUND TERMINAL BAR 8P

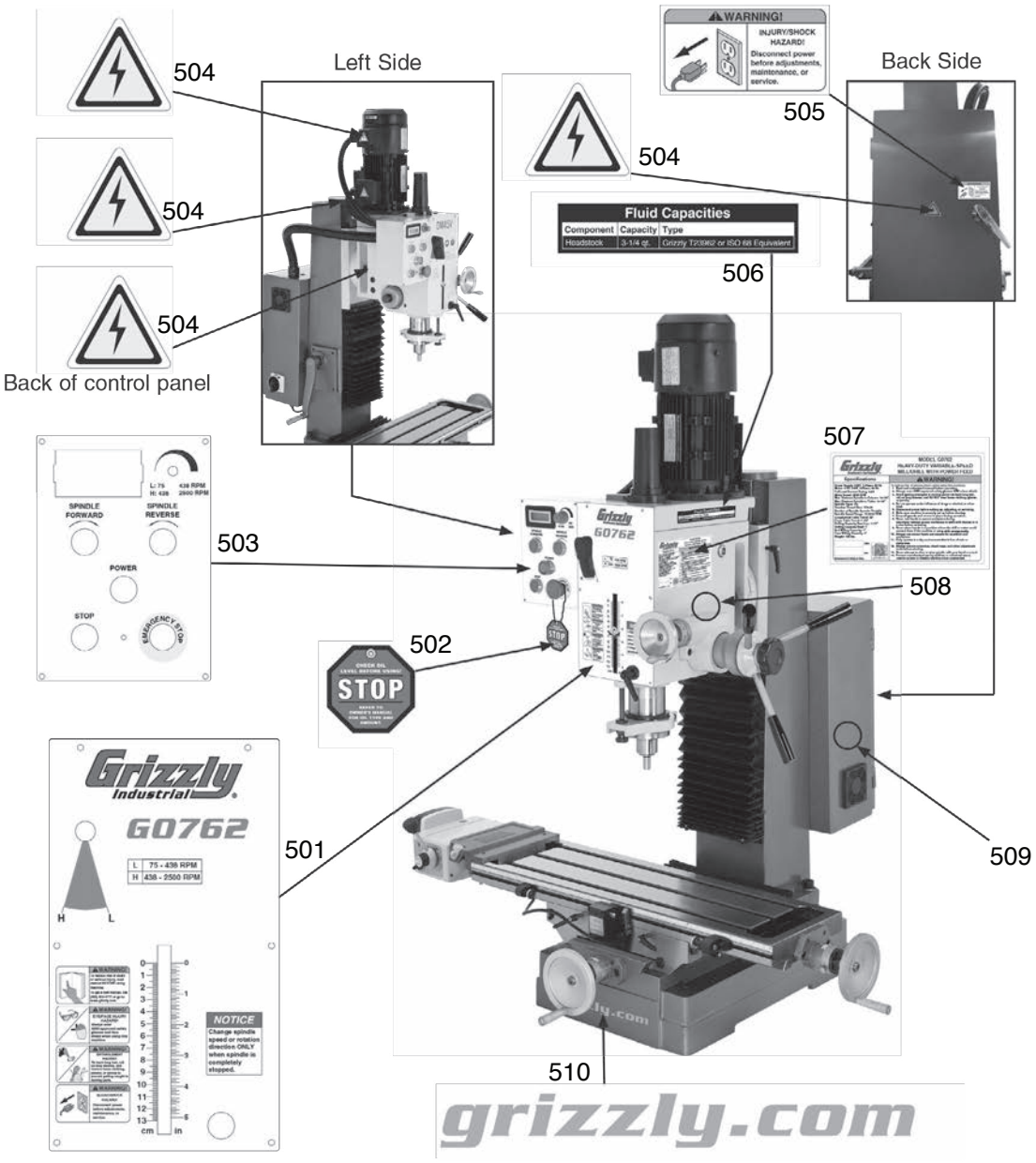
Included Accessories



REF	PART #	DESCRIPTION
401	P0762401	TOOLBOX
402	P0762402	T-BOLT M12-1.75 X 55
403	P0762403	FLAT WASHER 12MM
404	P0762404	HEX NUT M12-1.75
405	P0762405	DRILL CHUCK B16 W/CHUCK KEY
405-1	P0762405-1	DRILL CHUCK KEY 8MM STD 11 SD-16MM
406	P0762406	SPINDLE SLEEVE MT#3-MT#2
407	P0762407	DRILL CHUCK ARBOR R8-B16
408	P0762408	SPINDLE SLEEVE R8-MT#3

REF	PART #	DESCRIPTION
409	P0762409	BOTTLE FOR OIL
410	P0762410	DRIFT KEY
411	P0762411	HEX WRENCH 10MM
412	P0762412	HEX WRENCH 5MM
413	P0762413	HEX WRENCH 4MM
414	P0762414	HEX WRENCH 3MM
415	P0762415	WRENCH 17 X 19 OPEN-ENDS
416	P0762416	WRENCH 22 X 24 OPEN-ENDS
417	P0762417	HEX WRENCH 2.5MM

Labels & Cosmetics



REF	PART #	DESCRIPTION
501	P0762501	HEADSTOCK FRONT PANEL LABEL
502	P0762502	STOP/LUBRICATION LABEL
503	P0762503	CONTROL PANEL LABEL
504	P0762504	ELECTRICITY LABEL
505	P0762505	DISCONNECT POWER LABEL

REF	PART #	DESCRIPTION
506	P0762506	FLUID CAPACITIES LABEL
507	P0762507	MACHINE ID LABEL
508	P0762508	GRIZZLY PUTTY TOUCH-UP PAINT
509	P0762509	GRIZZLY GREEN TOUCH-UP PAINT
510	P0762510	GRIZZLY.COM 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.

Grizzly Industrial, Inc. 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?

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

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: _____

_____

_____

_____

CUT ALONG DOTTED LINE

FOLD ALONG DOTTED LINE

Place
Stamp
Here

GRIZZLY INDUSTRIAL, INC.
P.O. BOX 2069
BELLINGHAM, WA 98227-2069

FOLD ALONG DOTTED LINE

Send a Grizzly Catalog to a friend:

Name_____

Street_____

City_____State_____Zip_____

TAPE ALONG EDGES--PLEASE DO NOT STAPLE

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.