

Grizzly ***Industrial, Inc.***®

MODEL G1006/G1007 HEAVY-DUTY MILL/DRILL

OWNER'S MANUAL

(For models manufactured since 09/09)



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**WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE
OR FORM WITHOUT THE WRITTEN APPROVAL OF GRIZZLY INDUSTRIAL, INC.**
#JB11121 PRINTED IN CHINA



WARNING!

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

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

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

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



WARNING!

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

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

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

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INTRODUCTION

Manual Accuracy

We are proud to offer this manual with your new machine! We've made every effort to be exact with the instructions, specifications, drawings, and photographs of the machine we used when writing this manual. However, sometimes we still make an occasional mistake.

Also, owing to our policy of continuous improvement, **your machine may not exactly match the manual**. If you find this to be the case, and the difference between the manual and machine leaves you in doubt, check our website for the latest manual update or call technical support for help.

Before calling, find the manufacture date of your machine by looking at the date stamped into the machine ID label (see below). This will help us determine if the manual version you received matches the manufacture date of your machine.

		MODEL GXXXX MACHINE NAME	
SPECIFICATIONS		WARNING!	
Motor:		Manufacture Date of Your Machine When using this machine: 1. Always wear eye protection, earplugs and respirator. 2. Read and understand the manual before starting. 3. Do not touch the cutting tool while the machine is running. 4. Make sure the motor has stopped and disconnect power before adjustments, maintenance, or service. 5. DO NOT expose to rain or dampness. 6. DO NOT modify this machine in any way. 7. DO NOT remove safety guards. 8. Never leave machine running unattended. 9. DO NOT operate under the influence of drugs or alcohol. 10. Maintain machine carefully to prevent accidents.	
Specification:			
Specification:			
Specification:			
Weight:			
<input type="text"/>	Date		
<input type="text"/>	Serial Number		
Manufactured for Grizzly in Taiwan			

For your convenience, we post all available manuals and manual updates for free on our website at www.grizzly.com. Any updates to your model of machine will be reflected in these documents as soon as they are complete.

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

Machine Description

The Model G1006/G1007 Mill/Drill is used to shape metal workpieces by removing material with the use of a rotating cutting tool. The difference between the two models is the G1006 uses a set of handwheels to move the table longitudinally; the G1007 uses a variable speed powerfeed and handwheel to move the table longitudinally.

In milling operations, the location of the cutting tool is stationary while the workpiece is fed into the cutter by moving the table.

In drilling operations, the workpiece is held stationary on the table while the cutting tool is fed vertically into the workpiece with the movement of the spindle and head.



Identification

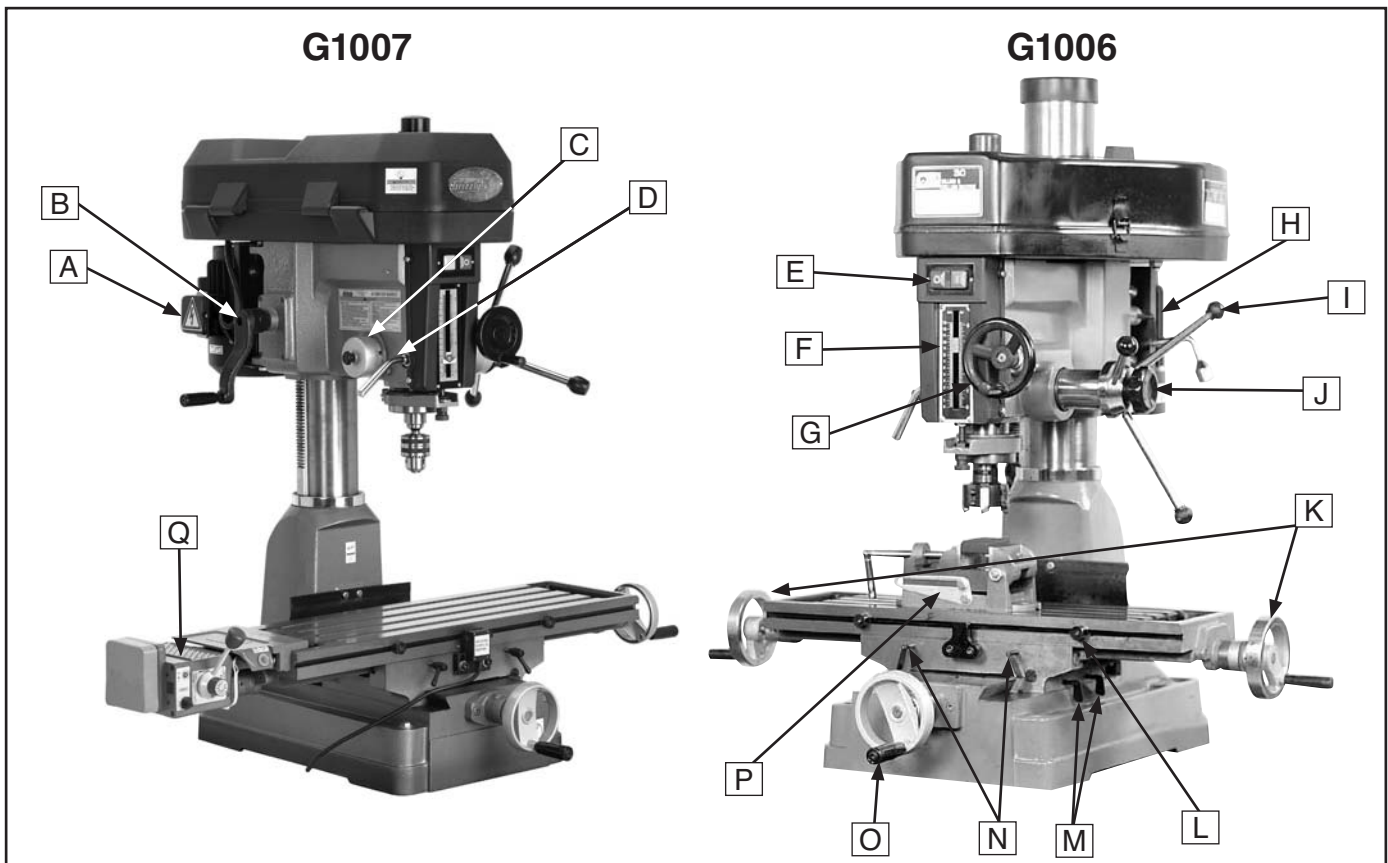
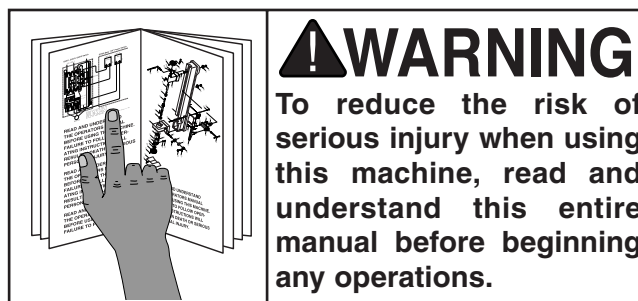


Figure 3. Identification.

- | | |
|--|---|
| <ul style="list-style-type: none"> A. Junction Box B. Headstock Height Crank C. Return Spring Assembly D. Quill Lock E. ON/OFF Switch F. Depth Stop G. Micro-Downfeed Handwheel H. Motor Pivot Lock I. Downfeed Handles | <ul style="list-style-type: none"> J. Pinion Hub Lock Knob K. X-Axis Handwheels L. Longitudinal Stops M. Y-Axis Lock Handles N. X-Axis Lock Handles O. Y-Axis Handwheel P. Drilling Angle Vise Q. Power Feed (G1007 Only) |
|--|---|





MACHINE DATA SHEET

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

MODEL G1006 2 HP MILL/DRILL

Product Dimensions:

Weight..... 566 lbs.
 Width (side-to-side) x Depth (front-to-back) x Height..... 50 x 40 x 48-1/2 in.
 Footprint (Length x Width)..... 24 x 16 in.

Shipping Dimensions:

Type..... Wood Crate
 Content..... Machine
 Weight..... 674 lbs.
 Length x Width x Height..... 38 x 30 x 46 in.

Electrical:

Minimum Circuit Size..... 20 amps at 110V, 15 amps at 220V
 Switch..... Push Button with Thermal Overload Protection
 Switch Voltage..... 110V
 Cord Length..... 6 ft.
 Cord Gauge..... 14 gauge
 Plug Included..... Yes

Motors:

Main

Type..... TEFC Capacitor Start Induction
 Horsepower..... 2 HP
 Voltage..... 110/220V
 Prewired..... 110V
 Phase..... Single
 Amps..... 16/8A
 Speed..... 1725 RPM
 Cycle..... 60 Hz
 Number of Speeds..... 1
 Power Transfer Belt Drive
 Bearings..... Shielded, Permanently Lubricated

Main Specifications:

Operation Info

Spindle Travel..... 5 in.
 Swing..... 15-7/8 in.
 Longitudinal Table Travel..... 23-1/2 in.
 Cross Table Travel..... 7 in.
 Ram Travel..... 12 in.
 Head Travel..... 5-1/4 in.
 Head Tilt (Left-to-Right)..... 360 deg.
 Maximum Distance Spindle to Column..... 8 in.
 Maximum Distance Spindle to Table..... 18 in.
 Drilling Capacity for Cast Iron..... 1-1/4 in.
 Drilling Capacity for Steel..... 1-1/4 in.
 Number of Vertical Spindle Speeds..... 12
 Range of Vertical Spindle Speeds..... 150, 225, 255, 350, 400, 500, 850, 1200, 1500, 1600, 2300, 3000 RPM
 Quill Diameter..... 2.950 in.



Table Info

Table Length.....	32 in.
Table Width.....	9-1/2 in.
Table Thickness.....	1-7/8 in.
Number of T-Slots.....	4
T-Slots Width.....	0.625 in.
T-Slots Height.....	7/8 in.
T-Slots Centers.....	2-1/16 in.
Stud Size.....	1/2 in.

Spindle Info

Spindle Taper.....	R-8
End Milling Capacity.....	3/4 in.
Face Milling Capacity.....	3 in.
Drawbar Diameter.....	7/16 in.
Drawbar TPI.....	7/16 - 20
Drawbar Length.....	16-1/2 in.
Spindle Bearings.....	Tapered Roller

Lead Screw Info

Leadscrew Diameter.....	15/16 in.
Leadscrew TPI.....	10
Leadscrew Length.....	36 in.

Construction

Spindle Housing/Quill.....	Cast Iron
Table.....	Ground Cast Iron
Head.....	Cast Iron
Column.....	Ground Cast Iron
Base.....	Cast Iron
Paint.....	Epoxy

Other

Collar Graduations.....	0.001 in.
Column Diameter.....	4-1/2 in.
Optional Stand.....	G5944
Recommended Mobile Base.....	G7314Z

Other Specifications:

ISO Factory	ISO 9001
Country Of Origin	China
Warranty	1 Year
Serial Number Location	ID Label on Head Casting
Assembly Time	1 hour

Features:

- Clutch-Type Downfeed Mechanism
- Graduations in Inches
- Exclusive Fine Downfeed is Graduated in .001" and is Engaged by Clutch-Type Mechanism
- Heavy-Duty 12 Speed Tapered Roller Bearing Spindle
- Top Quality Workmanship Throughout
- Push Button Switch with Thermal Overload Protector

Accessories Included:

- 1/2" Drill Chuck
- 3" Angle Vise
- 3" Face Mill





MACHINE DATA SHEET

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

MODEL G1007 MILL/DRILL W/ VARIABLE SPEED POWER FEED

Product Dimensions:

Weight..... 566 lbs.
Width (side-to-side) x Depth (front-to-back) x Height..... 50 x 40 x 48-1/2 in.
Footprint (Length x Width)..... 24 x 16 in.

Shipping Dimensions:

Type..... Wood Crate
Content..... Machine
Weight..... 686 lbs.
Length x Width x Height..... 38 x 30 x 46 in.

Electrical:

Minimum Circuit Size..... 20 amps at 110V, 15 amps at 220V
Switch..... Push Button with Thermal Overload Protection
Switch Voltage..... 110V
Cord Length..... 6 ft.
Cord Gauge..... 14 gauge
Plug Included..... Yes

Motors:

Main

Type..... TEFC Capacitor Start Induction
Horsepower..... 2 HP
Voltage..... 110/220V
Prewired..... 110V
Phase..... Single
Amps..... 16/8A
Speed..... 1725 RPM
Cycle..... 60 Hz
Number of Speeds..... 1
Power Transfer Belt Drive
Bearings..... Shielded, Permanently Lubricated



Main Specifications:

Operation Info

Spindle Travel.....	5 in.
Swing.....	15-7/8 in.
Longitudinal Table Travel.....	23-1/2 in.
Cross Table Travel.....	7 in.
Ram Travel.....	12 in.
Head Travel.....	5-1/4 in.
Head Tilt (Left-to-Right).....	360 deg.
Maximum Distance Spindle to Column.....	8 in.
Maximum Distance Spindle to Table.....	18 in.
Drilling Capacity for Cast Iron.....	1-1/4 in.
Drilling Capacity for Steel.....	1-1/4 in.
Number of Vertical Spindle Speeds.....	12
Range of Vertical Spindle Speeds.....	150, 225, 255, 350, 400, 500, 850, 1200, 1500, 1600, 2300, 3000 RPM
Number of Longitudinal Feeds.....	Variable
Feed Rate.....	0 - 140 RPM
Quill Diameter.....	2.950 in.

Table Info

Table Length.....	32 in.
Table Width.....	9-1/2 in.
Table Thickness.....	1-7/8 in.
Number of T-Slots.....	4
T-Slots Width.....	0.625 in.
T-Slots Height.....	7/8 in.
T-Slots Centers.....	2-1/16 in.
Stud Size.....	1/2 in.

Spindle Info

Spindle Taper.....	R-8
End Milling Capacity.....	3/4 in.
Face Milling Capacity.....	3 in.
Drawbar Diameter.....	7/16 in.
Drawbar TPI.....	7/16 - 20
Drawbar Length.....	16-1/2 in.
Spindle Bearings.....	Tapered Roller

Lead Screw Info

Leadscrew Diameter.....	15/16 in.
Leadscrew TPI.....	10
Leadscrew Length.....	36 in.

Construction

Spindle Housing/Quill.....	Cast Iron
Table.....	Ground Cast Iron
Head.....	Cast Iron
Column.....	Ground Cast Iron
Base.....	Cast Iron
Paint.....	Epoxy

Other

Collar Graduations.....	0.001 in.
Column Diameter.....	4-1/2 in.
Optional Stand.....	G5944
Recommended Mobile Base.....	G7314Z



Other Specifications:

ISO Factory ISO 9001
Country Of Origin China
Warranty 1 Year
Serial Number Location ID Label on Head Casting
Assembly Time 1-1/2 hours

Features:

Clutch-Type Downfeed Mechanism
Graduations in Inches
Exclusive Fine Downfeed is Graduated in .001" and is Engaged by Clutch-Type Mechanism
Heavy Duty 12 Speed Tapered Roller Bearing Spindle
Top Quality Workmanship Throughout
Push Button Switch with Thermal Overload Protector
Servo-Type Variable Speed Power Feed Table, Mounted on Left Side

Accessories Included:

1/2" Drill Chuck
3" Angle Vise
3" Face Mill



Glossary Of Terms

The following is a list of common definitions, terms and phrases used throughout this manual as they relate to this mill and metalworking in general. Become familiar with these terms for assembling, adjusting and operating this mill. Your safety is **VERY** important to us at Grizzly!

Arbor: A machine shaft that supports a cutting tool.

Collet: A conical shaped split-sleeve bushing that holds round tools by pressing against their outside diameter.

Cutting Speed: The distance a point on a cutter moves in one minute, expressed in surface meters or feet per minute.

Dial Indicator: An instrument used in setup and inspection work that shows the amount of error in size or alignment of a part.

Dividing Head: A milling machine accessory used to divide a circular object into a number of equal parts.

Down or Climb Milling: Feeding the workpiece in the same or opposite direction as the cutter rotation.

End Milling: The operation of machining flat surfaces either horizontal, vertical, or at an angle using an end mill as a cutter.

Face Milling: The milled surface in this method results from the combined action of cutting edges located on the face or end of the cutting tools.

Feed Rate: Usually measured in inches per minute.

Fixture: A device that securely holds the workpiece in place during a cutting operation.

Form Milling: The machining of irregular contours by using form cutters.

Gang Milling: When more than two cutters are mounted on the arbor to machine surfaces of a workpiece.

Gib: A tapered wedge located along a sliding member to take up wear or to ensure a proper fit.

Headstock: The mill component that houses the vertical spindle, motor, and drive system.

Knee: The mill device that the saddle and table are mounted on, which can move along the Z-axis path.

Lead Screw: The device that moves the table along the X-axis, Y-axis, and Z-axis paths.

Peripheral Milling: The milled surface in this method is produced by cutting teeth located on the periphery (outer edge) of the cutter body.

Ram: The mill component that holds the headstock and moves in a linear path across the column.

Saddle: The sliding component that holds the table and moves along the Y-axis path.

Side Milling: The operation of machining a vertical surface on the side of a workpiece using a side milling cutter.

Slitting and Cutting Off: Metal slitting saws are used for milling narrow slots and for cutting off stock.

Spindle: The revolving hollow shaft that holds and drives the tool holder or arbor.

Turret: The top part of the column that the ram rotates on.

Ways: The precision machined and flat tracks on the mill on which the table, saddle, and knee travel.

X, Y, and Z-Axis: The straight path the table can travel longitudinally, crosswise, or vertically respectively.



SECTION 1: SAFETY

WARNING

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.



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



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



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

NOTICE

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

WARNING

Safety Instructions for Machinery

OWNER'S MANUAL. Read and understand this owner's manual **BEFORE** using machine. Untrained users can be seriously hurt.

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.

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.

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 a loss of workpiece control.

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.

MENTAL ALERTNESS. Be mentally alert when running machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.



WARNING

DISCONNECTING POWER SUPPLY. Always disconnect machine from power supply before servicing, adjusting, or changing cutting tools (bits, blades, cutters, etc.). Make sure switch is in OFF position before reconnecting to avoid an unexpected or unintentional start.

APPROVED OPERATION. Untrained operators can be seriously hurt by machinery. Only allow trained or properly supervised people to use 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 wet or rainy locations, cluttered areas, around flammables, or in dark areas. Keep work area clean, dry, and well-lighted.

ONLY USE AS INTENDED. Only use machine for its intended purpose. Never modify machine for a purpose not intended by the manufacturer!

USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.

CHILDREN & BYSTANDERS. Keep children and bystanders a safe distance away from work area. Stop using machine if children or bystanders become a distraction.

REMOVE ADJUSTING TOOLS. Never leave adjustment tools, chuck keys, wrenches, etc. in or on machine—especially near moving parts. Verify removal before starting!

SECURING WORKPIECE. When required, use clamps or vises to secure workpiece. A secured workpiece protects hands and frees both of them to operate the machine.

FEED DIRECTION. Unless otherwise noted, feed work against the rotation of blades or cutters. Feeding in the same direction of rotation may pull your hand into the cut.

FORCING MACHINERY. Do not force machine. It will do the job safer and better at the rate for which it was designed.

GUARDS & COVERS. Guards and covers can protect you from accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly before using machine.

NEVER STAND ON MACHINE. Serious injury or accidental contact with cutting tool may occur if machine is tipped. Machine may be damaged.

STABLE MACHINE. Unexpected movement during operations greatly increases risk of injury or loss of control. Before starting, verify machines are stable and mobile base (if used) is locked.

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.

UNATTENDED OPERATION. Never leave machine running while unattended. Turn machine **OFF** and ensure all moving parts completely stop before walking away.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. An improperly maintained machine increases risk of injury.

CHECK DAMAGED PARTS. Regularly inspect machine for damaged parts, loose bolts, mis-adjusted or mis-aligned parts, binding, or any other conditions that may affect safe operation. Always 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 are experiencing difficulties performing the intended operation, stop using the machine! Contact our Technical Support Department at (570) 546-9663.



WARNING

Additional Safety for Mills

UNDERSTANDING CONTROLS. Make sure you understand the use and operation of all controls.

SAFETY ACCESSORIES. Always use a chip guard in addition to your safety glasses when milling to prevent bodily injury.

WORK HOLDING. Before starting the machine, be certain the workpiece has been properly clamped to the table. NEVER hold the workpiece by hand when using the mill.

CHUCK KEY SAFETY. Always remove your chuck key, drawbar wrench, and any service tools immediately after use.

SPINDLE SPEEDS. Select the spindle speed that is appropriate for the type of work and material. Allow the mill/drill to gain full speed before beginning a cut.

POWER DISRUPTION. In the event of a local power outage during use of the mill, turn **OFF** all switches to avoid possible sudden start up once power is restored.

SPINDLE DIRECTION CHANGES. Never reverse spindle direction while the mill/drill is in motion.

STOPPING SPINDLE. DO NOT stop the mill/drill using your hand against the chuck.

BE ATTENTIVE. DO NOT leave mill/drill running unattended for any reason.

MACHINE CARE AND MAINTENANCE. Never operate the mill with damaged or worn parts. Maintain your mill in proper working condition. Perform routine inspections and maintenance promptly. Put away adjustment tools after use.

DISCONNECT POWER. Make sure the mill is turned **OFF**, disconnected from its power source and all moving parts have come to a complete stop before starting any inspection, adjustment, or maintenance procedure.

AVOIDING ENTANGLEMENT. Keep loose clothing articles such as sleeves, belts or jewelry items away from the mill spindle. Never wear gloves when operating the mill.

TOOL HOLDING. Always use the proper tools for the material you are milling. Make sure they are held firmly in the proper tool holder for the job.

CLEAN-UP. DO NOT clear chips by hand. Use a brush, and never clear chips while the mill is turning.

CUTTING TOOL INSPECTION. Inspect drills and end mills for sharpness, chips, or cracks before each use. Replace dull, chipped, or cracked cutting tools immediately. Handle new cutting tools with care. Leading edges are very sharp and can cause lacerations.

WARNING

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

CAUTION

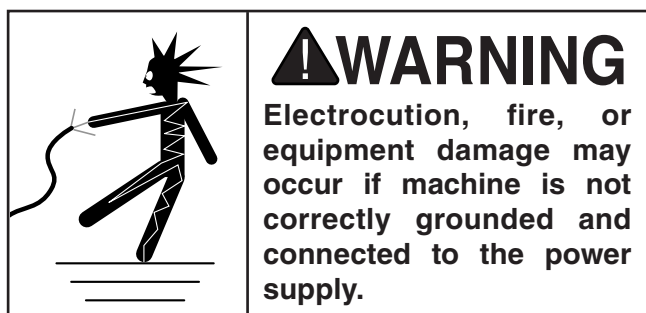
No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or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



SECTION 2: POWER SUPPLY

Availability

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



Full-Load Current Rating

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating at 110V..... 16 Amps

Full-Load Current Rating at 220V 8 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 for 110V

This machine is prewired to operate on a 110V power supply circuit that has a verified ground and meets the following requirements:

Nominal Voltage 110V/120V
Cycle 60 Hz
Phase Single-Phase
Power Supply Circuit 20 Amps
Plug/Receptacle NEMA 5-15

Circuit Requirements for 220V

This machine can be converted to operate on a 220V power supply (refer to **Page 40**). This power supply must have a verified ground and meet the following requirements.

Nominal Voltage 220V/240V
Cycle 60 Hz
Phase Single-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.

For 110V operation: This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug (see following figure). 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.

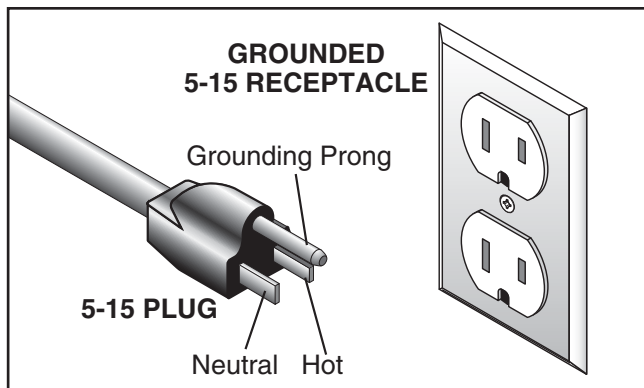


Figure 4. Typical 5-15 plug and receptacle.

⚠ CAUTION

SHOCK HAZARD!

Two-prong outlets do not meet the grounding requirements for this machine. Do not modify or use an adapter on the plug provided—if it will not fit the outlet, have a qualified electrician install the proper outlet with a verified ground.

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

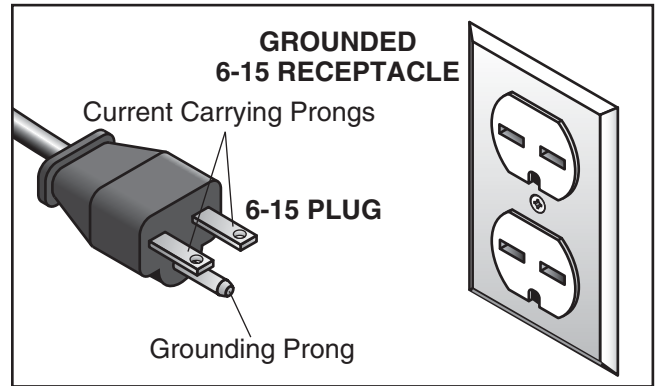


Figure 5. Typical 6-15 plug and receptacle.

Improper connection of the equipment-grounding wire can result in a risk of electric shock. The wire with green insulation (with or without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

Extension Cords

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

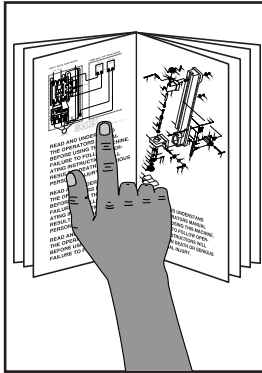
Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle, and meet the following requirements:

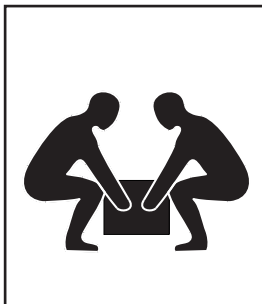
- Minimum Gauge Size12 AWG**
- Maximum Length (Shorter is Better).....50 ft.**



SECTION 3: SETUP



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



!WARNING
 This machine and its components are very heavy. Get lifting help or use power lifting equipment such as a forklift to move heavy items.

Needed for Setup

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

Description	Qty
• Safety Glasses for Each Person	1
• Cleaner/Degreaser (Page 17)	As Needed
• Disposable Shop Rags.....	As Needed
• Additional People	1
• Wrenches 10, 12, 14, 19mm.....	1Ea
• Hex Wrenches 2.5, 3, 4, 5	1Ea

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.



Inventory

The following is a description of the main components shipped with your machine. Lay the components out to 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.

G1006/G1007

Box 1: (Figure 3)	Qty
A. Drilling Angle Vise (Not Shown)	1
B. Drill Chuck	1
C. R8 Arbor	1
D. Feed Levers with Knobs.....	3
E. Plastic Handwheels w/Handles	3
F. Lug Wrench 23mm.....	1
G. Head Crank w/Handle	1
H. Cap Screw M10-1.5 x 25 (Fly Cutter)	1
I. Fender Washer 10mm (Fly Cutter).....	1
J. Fly Cutter.....	1



Figure 6. Inventory.

NOTICE

If you cannot find an item on this list, carefully check the machine and the packaging materials. Some of these items may be pre-installed for shipping or become misplaced during unpacking.

G1007 Only

In addition to the parts shown in Figure 6, the Model G1007 comes with the power feed and its attachment accessories.

Power Feed (G1007 Only) (Figure 7)	Qty
K. Cap Screws ¼-20 x 1-½ (End Stops)	2
L. Flat Washers ¼" (End Stops)	2
M. End Stops.....	2
N. End Stop Clamp Plates	2
O. Hex Bolts M8-1.25 x 25 (Power Feed)	2
P. Lock Washers 8mm (Power Feed).....	2
Q. Flange Bushings 8mm (Power Feed).....	2
R. Powerfeed Mounting Bracket	1
S. Hex Bolts w/Tapered Tip M8-1.25 x 25 (Power Feed)	2
T. Gear Cover	1
U. Limit Switch Plate	1
V. Cap Screws M8-1.25 x 12 (Stop Bracket) ..	4
W. Flat Washers 8mm (Stop Bracket)	2
X. Powerfeed Unit (Not Shown)	1

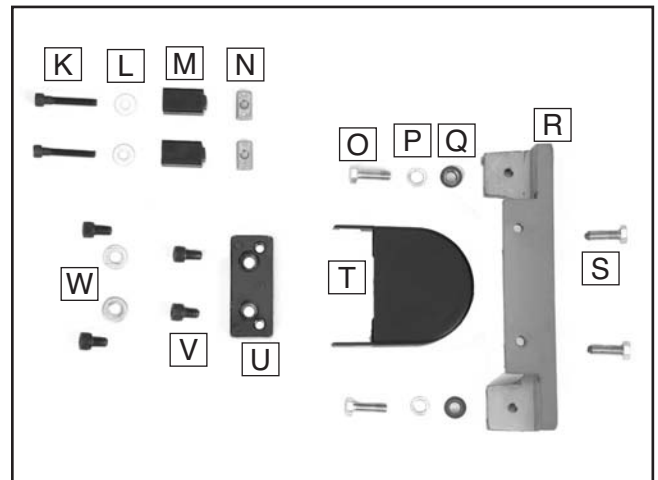


Figure 7. G1007 Power feed inventory.



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.

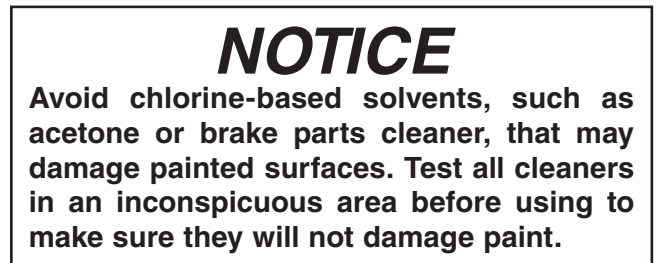
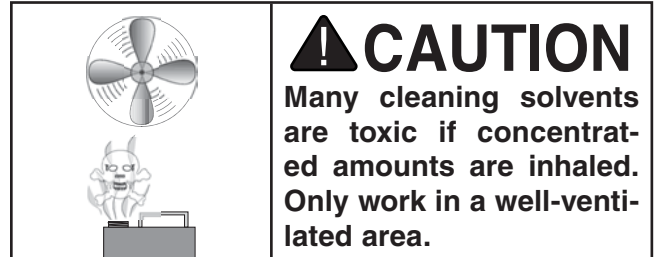
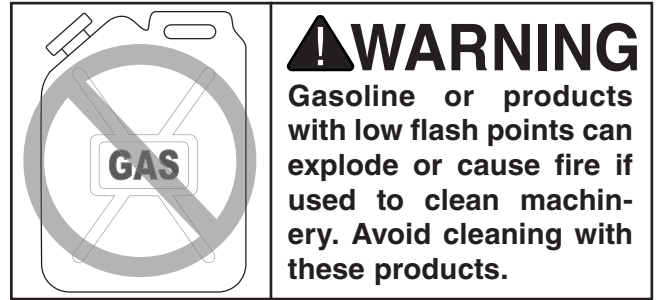
There are many ways to remove this rust preventative, but the following steps work well in a wide variety of situations. Always follow the manufacturer's instructions with any cleaning product you use and make sure you work in a well-ventilated area to minimize exposure to toxic fumes.

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.



T23692—Orange Power Degreaser

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



Figure 8. T23692 Orange Power Degreaser.



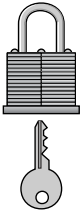
Site Considerations

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.**

	<p>CAUTION Children or untrained people may be seriously injured by this machine. Only install in an access restricted location.</p>
---	---

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.

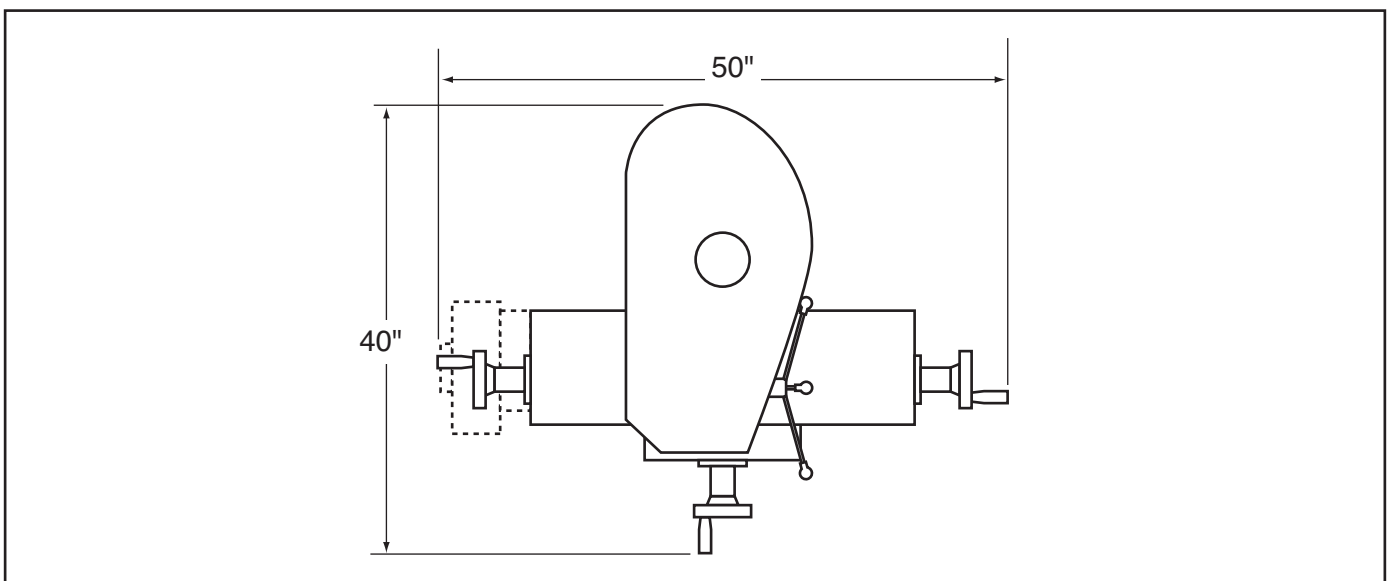


Figure 9. Minimum working clearances.



Mounting

Once you have determined that the inventory is complete, mount the machine to a workbench through the holes in the base. It is recommended that you cut a hole in your bench top to allow access to the under side of the base on the Mill/Drill. This will be necessary for adjusting the Y-plane leadscrew.

The strongest mounting option is a "Through Mount" where holes are drilled all the way through the workbench, and hex bolts, washers, and hex nuts are used to secure the drill press to the workbench.

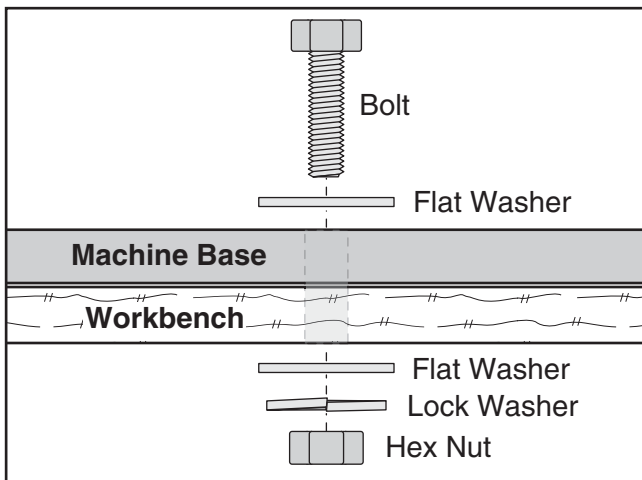


Figure 10. Example of a through mount setup.

Another option for mounting is a "Direct Mount" where the machine is simply secured to the workbench with a lag screw.

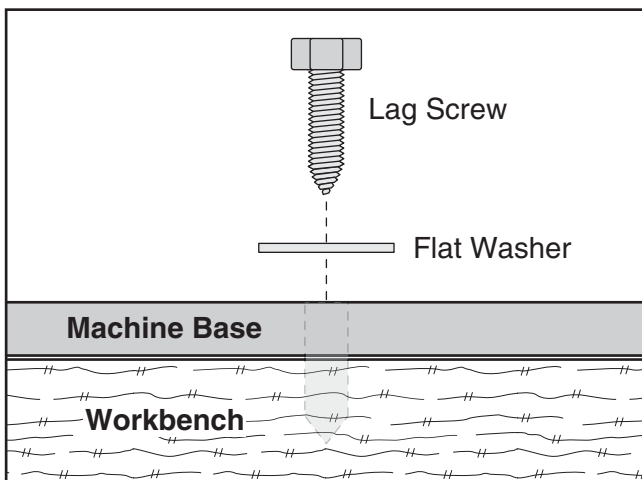


Figure 11. Example of a direct mount setup.

Assembly

Most of your Model G1006/G1007 has been assembled at the factory, but some parts must be assembled or installed after delivery. We have organized the assembly process into steps. Please follow along in the order presented here.

Drilling Angle Vise

The drilling angle vise provided with your Mill/Drill attaches to the table with a table clamping kit.

Table clamping kits are available through the Grizzly Catalog and must be purchased separately. See **Accessories** on **Page 31**. This table will accept 1/2" bolt clamping kits (G1076).

You can mount the drilling angle vise almost anywhere on the table, and it provides a myriad of uses when drilling.

!WARNING

Do not use the angle vise for milling. It is made strictly for holding materials to be drilled. This vise will not adequately clamp an object safely for a milling operation. There is not enough clamping pressure available and objects may be pulled out or upset in the vise jaws causing cutting tools to break and/or parts to be thrown. Any attempt to perform a milling operation using this vise may result in personal injury.



Power Feed (G1007 Only)

The Model G1007 features a 110V auto-feed mechanism which allows hands-free, side-to-side passes while milling. Variable-speed feed control makes flat surface milling more consistent.

To install the power feed:

1. Attach the 2 $\frac{1}{4}$ " diameter drive gear to the left end of the longitudinal table leadscrew. The gear couplers on the drive gear and table leadscrew will lock together (**Figure 12**).

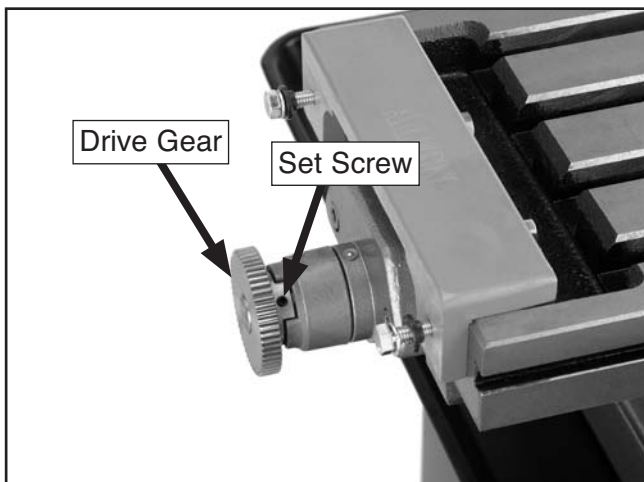


Figure 12. Attaching drive gear.

2. Set the clamping bracket assembly on the left end of the table. Mark the points on the table trough where the mounting bolts contact the table. Remove the clamping bracket assembly and spot drill to give the mounting bolts a small lip to “bite” without slipping on the rough cast surface. Set the clamping bracket assembly back on the end of the table and tighten down the mounting bolts (**Figure 13**).

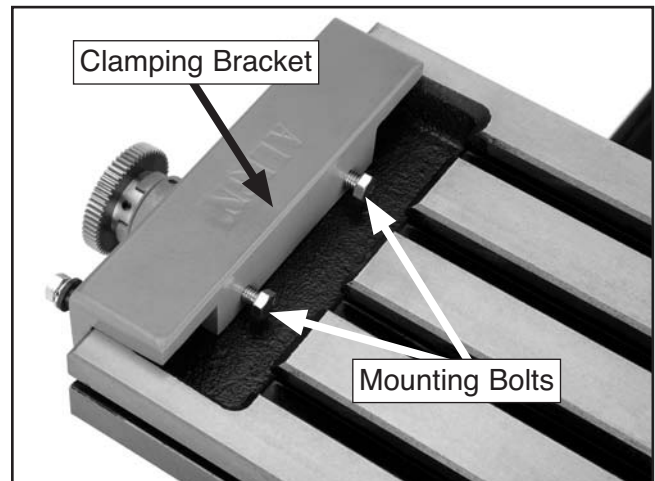


Figure 13. Clamping bracket assembly.

3. Attach the power feed body to the clamping bracket assembly with the hex bolts. Before tightening completely, position the power feed body so the gears mesh perfectly. Tighten the hex bolts when the gears are in mesh (**Figure 14**).

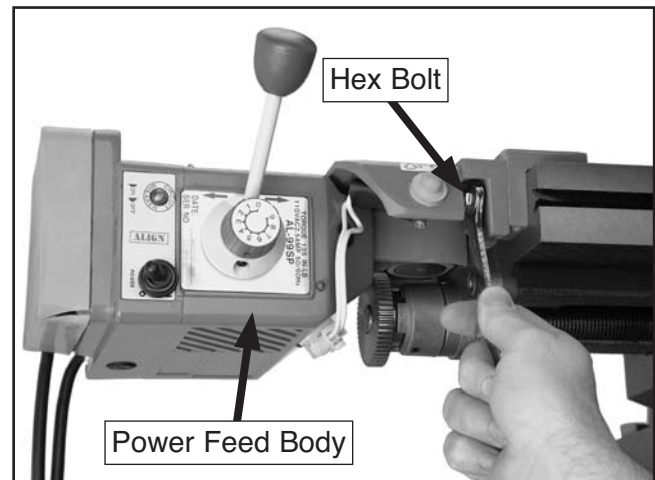


Figure 14. Attaching power feed body.

NOTICE

Use care when aligning the table leadscrew gears with the gearing on the power feed. The fit is correct when you can just slightly wiggle one gear without engaging the other. If there is too much space between the gears, teeth can be stripped under heavy loads. If the teeth mesh too tightly, the supporting bearings in the power feeder will wear out quickly.



4. Plug the rapid switch cord into the receptacle provided on the bottom of the power feed body.
5. Screw the knob onto the direction handle.
6. Place the plastic gear cover to the bottom of the power feed to protect the gears.
7. Insert the end stops into the slot on the front edge of the table, then tighten them (**Figure 15**).

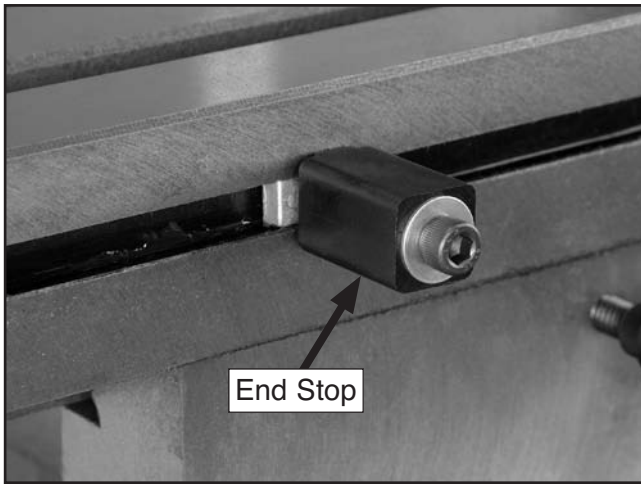


Figure 15. End stop.

NOTICE

Before using the G1007, place the power feeder cord and the control cord for the microswitch clear of any movements which could pinch or crush them. Before using the power feed, mark the maximum distance the table can move before the power feed comes in contact with the machine's base. Use that mark as a reference each time you re-adjust your table stops. This is the best way to avoid damaging the power feed and/or causing an unsafe condition.

8. Remove the center travel stop at the front of the table. Save the mounting bolts.
9. Secure the switch bracket to the front of the Mill/Drill. Use the mounting bolts saved in **Step 8 (Figure 16)**.

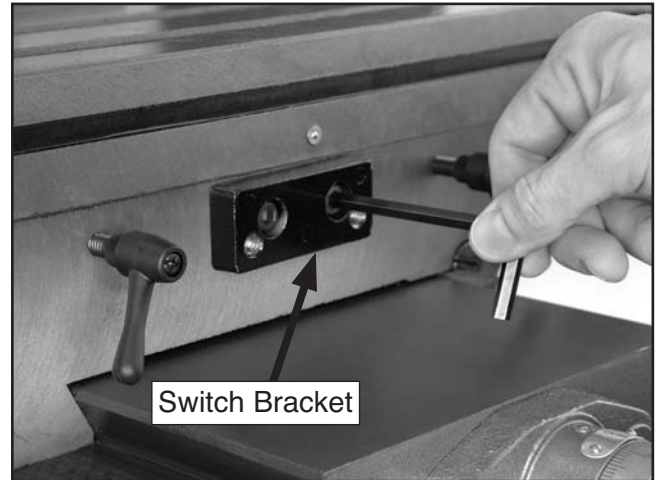


Figure 16. Limit switch bracket.

10. Mount the switch to the switch bracket with the cap screws provided. When the switch is depressed, the power feed automatically turns **OFF** and table movement stops (**Figure 17**).

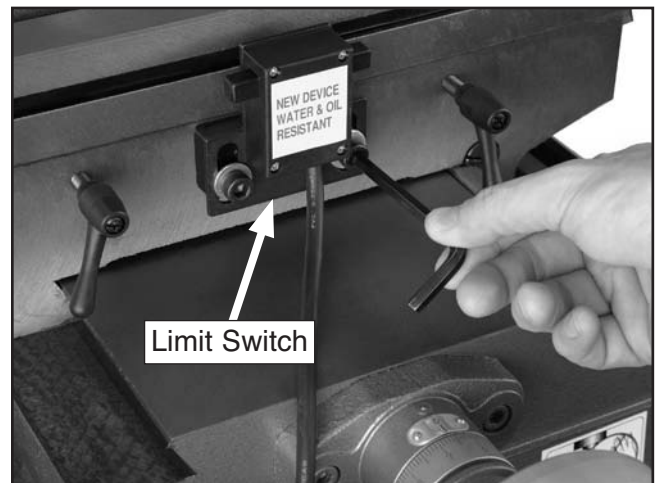


Figure 17. Limit switch.



Handwheels

There are three handwheels provided with the machine that control table movement. The Model G1007 only uses two of the handwheels.

To mount the handwheels to the machine:

1. Turn the lock nut on the handwheel handles until it is almost against the plastic handle.
2. Screw the handle into the handwheel and tighten the lock nut against the wheel. This nut acts as a locknut and a spacer (**Figure 18**).

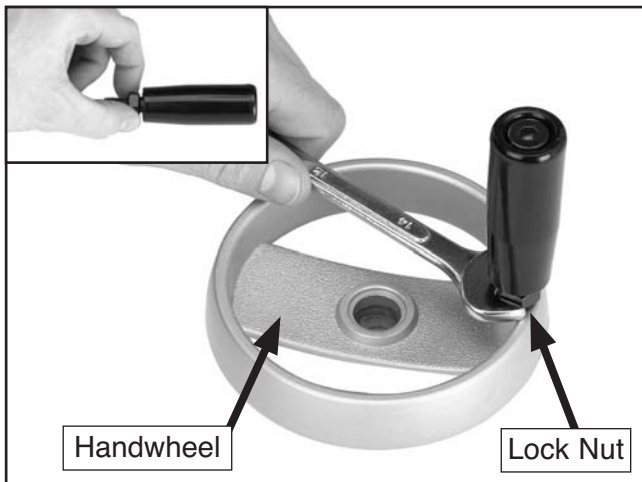


Figure 18. Handwheel assembly.

3. Secure one handwheel in each of the locations shown by sliding the handwheel onto the leadscrew and tightening the set screw (**Figure 19**).

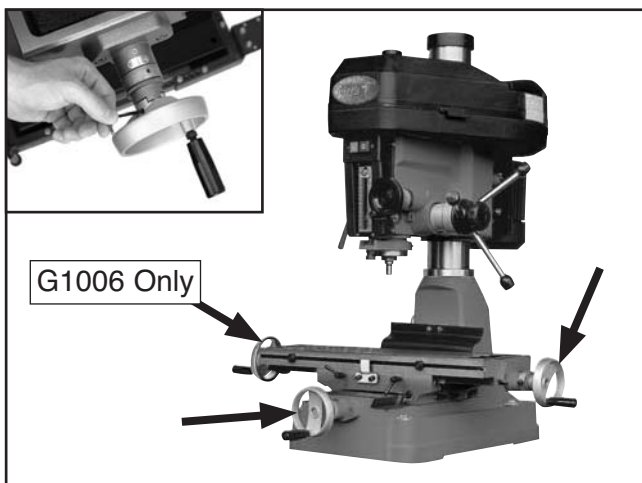


Figure 19. Handwheel installation.

Head Crank

The head crank secures to the left side of the machine and is used to adjust the height of the headstock.

To mount the head crank to the machine:

1. Assemble the head crank by attaching the handle in the same method used for the handwheels. Thread the handle into the crank body, then tighten the lock nut.
2. Slide the head crank onto the shaft, then tighten the set screw to secure it in place (**Figure 20**).

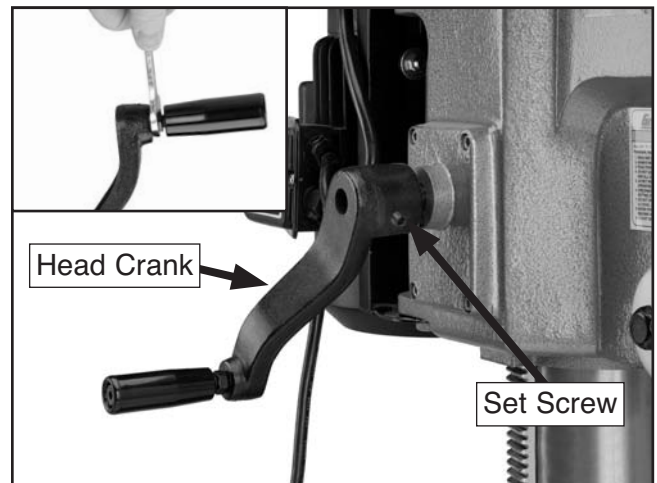


Figure 20. Head crank.



Feed Levers

The feed levers control the up and down movement of the spindle

To mount the feed levers to the machine:

1. Screw a black knob onto an end of each of the three chrome feed levers.
2. Screw the levers with knobs into the threaded holes on the hub, located on the right side of the machine (**Figure 21**).

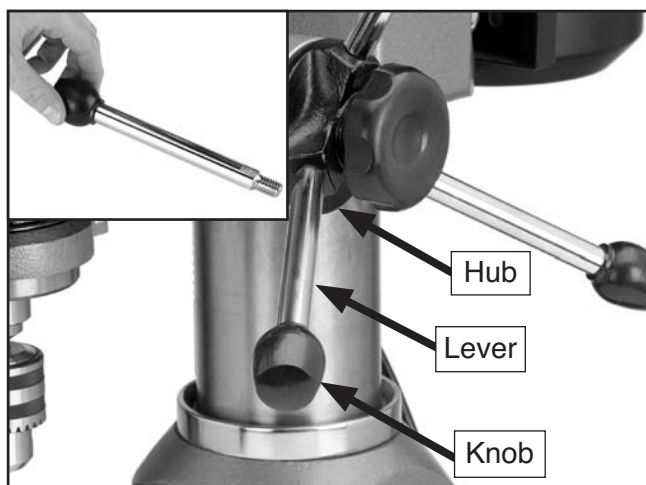


Figure 21. Feed levers.

Collet/Arbor

The Model G1006/G1007 feature an R-8 spindle which accepts many industrial collets and arbors.

To install a collet or an arbor:

1. Release the latches on the head cover and open it.
2. Insert the collet or cutting tool's arbor up into the spindle housing. Rotate the collet or arbor to line up the keyway with the matching pin in the spindle opening (**Figure 22**).

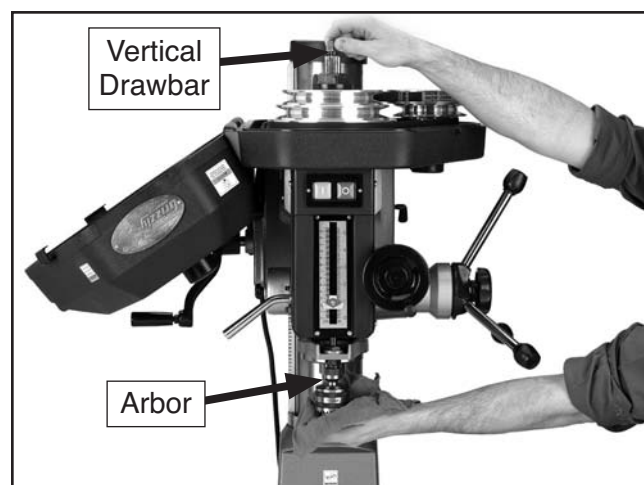


Figure 22. Collet arbor installation.

3. Turn the hex head at the top of the drawbar (located on the top, front of the head) clockwise until the threads at the bottom of the drawbar mesh with the female threads in the top of the collet or arbor.
4. Insert the cutter in the hole at the bottom of the collet and continue to tighten the drawbar until both the collet and cutter are tightly in place. Do not over-tighten the collet. Grasp the V-Belt that goes around the front pulley. Pull gently while tightening.



To remove a collet or an arbor:

1. Loosen the hex head at the top of the drawbar (2 or 3 turns).
2. Hold the cutter with a shop towel to prevent it from dropping completely out of the machine. Tap on the top of the drawbar with a rubber mallet to loosen the collet from the spindle (**Figure 23**).

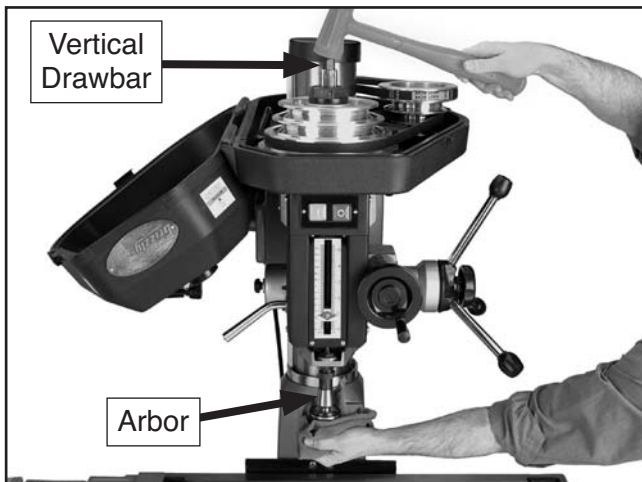


Figure 23. Collet removal.

3. Continue to turn the drawbar counterclockwise until it is free from the collet. Once loose, remove and replace with your desired collet. Remove cutting tools from spindle when not in use.

Drill Chuck/Arbor

Your Mill/Drill has been pre-fitted with a drill chuck arbor that has an R-8 shank and a Jacob's Taper. It is ready to accept the standard drill chuck provided with this machine.

To install the drill chuck:

1. Clean the grease off the drill chuck. Pay particular attention to the bore in the drill chuck: it must be free from all grease, oil and debris.
2. Clean any grease, oil or debris off the Jacob's Taper already installed in your Mill/Drill.
3. Retract the drill chuck jaws fully by turning the body of the drill chuck clockwise.
4. Press the drill chuck onto the Jacob's Taper. Tap lightly with a rubber mallet to get a good fit.

Note: While it may not seem like there is anything keeping the drill chuck in place, the Jacob's Taper fitting provides a strong bond and will hold the drill chuck tightly (**Figure 24**).

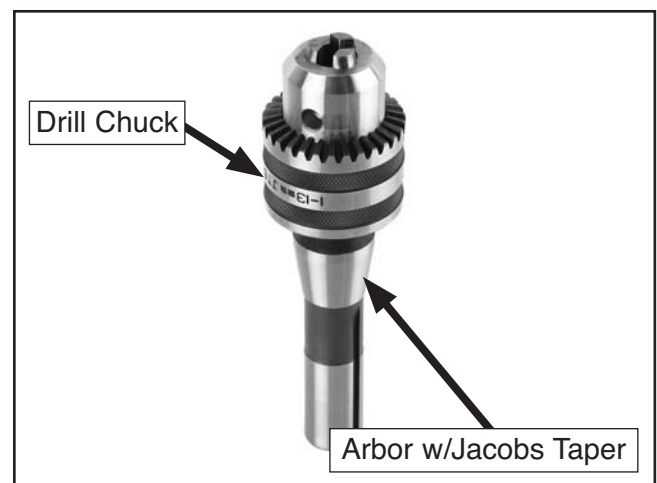


Figure 24. Drill chuck.

5. This drill chuck installation is permanent. Do not try to remove the drill chuck from the Jacob's Taper.



Fly Cutter/Arbor

⚠ CAUTION

All types of milling cutters and drill bits are sharp. It is recommended that these not be handled directly. Use paper towels to hold sharp tooling to avoid cuts to your hands. Be careful while handling them and store them in a child safe location.

Your Mill/Drill comes equipped with a fly cutter that fits on the 1" stub end of the R-8 arbor.

To install the fly cutter:

1. Clean all grease, oil and debris off the R-8 arbor.
2. Clean all grease, oil and debris off the fly cutter.
3. Fit the fly cutter onto the stub end of the arbor so the keys on the arbor and the keyways on the fly cutter come together (**Figure 25**).

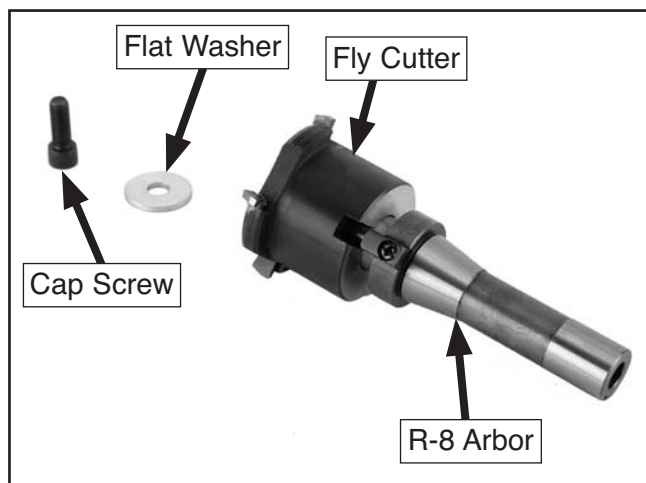


Figure 25. Fly cutter.

4. Secure the fly cutter to the arbor with the cap screw and washer provided.
5. Install the arbor with fly cutter into the Mill/Drill as described in **Collet/Arbor** on **Page 23**.

Power Connection

After you have completed all previous setup instructions and circuit requirements, the machine is ready to be connected to the power supply.

To avoid unexpected startups or property damage, use the following steps whenever connecting or disconnecting the machine.

Connecting Power

1. Turn the machine power switch **OFF**.
2. Insert the power cord plug into a matching power supply receptacle. The machine is now connected to the power source.

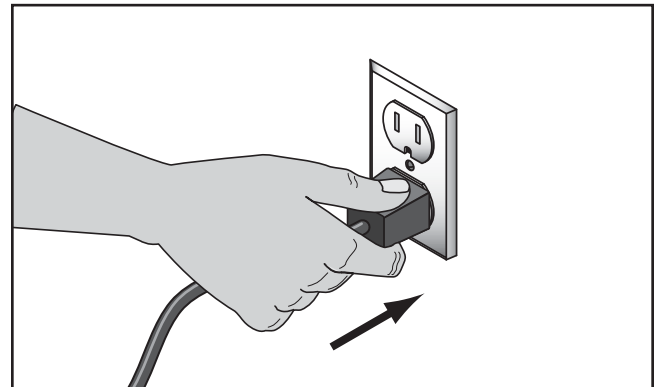


Figure 26. Connecting power.

Disconnecting Power

1. Turn the machine power switch **OFF**.
2. Grasp the molded plug and pull it completely out of the receptacle. Do not pull by the cord as this may damage the wires inside.

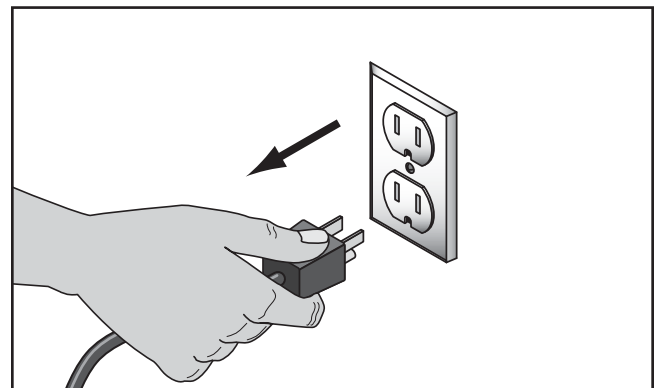


Figure 27. Disconnecting power.



Test Run

Once the assembly is complete, test run your machine to make sure it runs properly.

If, during the test run, you cannot easily locate the source of an unusual noise or vibration, stop using the machine immediately, then review the **Troubleshooting** on **Page 37**.

If you still cannot remedy a problem, contact our Tech Support at (570) 546-9663 for assistance.

To test run the machine:

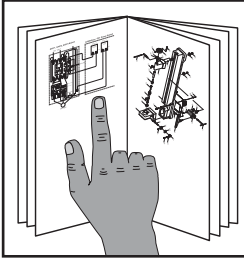
1. Make sure you have read the safety instructions at the beginning of the manual and that the machine is setup properly.
2. Make sure all tools and objects used during setup are cleared away from the machine.
3. Connect the machine to the power source.
4. Turn the machine **ON**.
5. Listen to and watch for abnormal noises or actions. The machine should run smoothly with little or no vibration or rubbing noises.

—Strange or unusual noises should be investigated and corrected before operating the machine further. Always disconnect the machine from power when investigating or correcting potential problems.

6. Turn the machine **OFF**.



SECTION 4: OPERATIONS

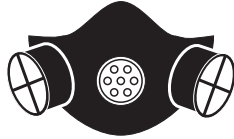


!WARNING

To reduce the risk of serious injury when using this machine, read and understand this entire manual before operating.

!WARNING

Damage to your eyes and lungs could result from using this machine without proper protective gear. Always wear safety glasses and a respirator when operating this machine.



NOTICE

If you have never used this type of machine or equipment before, WE STRONGLY RECOMMEND that you read books, review industry trade 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.

Graduated Dials

The graduated dials on the handwheels for the table and fine feed can be indexed or “zeroed” to help make accurate and convenient movements. Each dial can be reset or locked with the set-screw or thumbscrew provided.

Example:

Suppose you want to drill a series of holes in a workpiece at 0.625" centers. After locating the first hole's placement and drilling, you can set the dial of the appropriate axis to zero while holding the handwheel. Move the table 0.625". Drill the next hole and proceed as above (Figure 28).

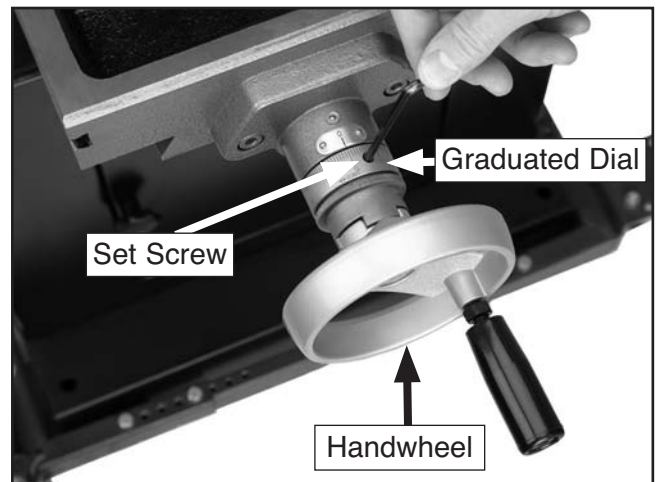


Figure 28. Setting dial indicators to zero.



Spindle Height

You have two options for spindle height adjustment—a drill press style, levered downfeed and a micro adjustment handwheel. To operate the downfeed lever, simply pull forward and down on the lever nearest you. The spindle will go down until you stop pulling or until it hits the depth stop.

To operate the micro-adjustment handwheel:

1. Tighten the locking knob located on the center of the hub for the down-feed levers (**Figure 29**).

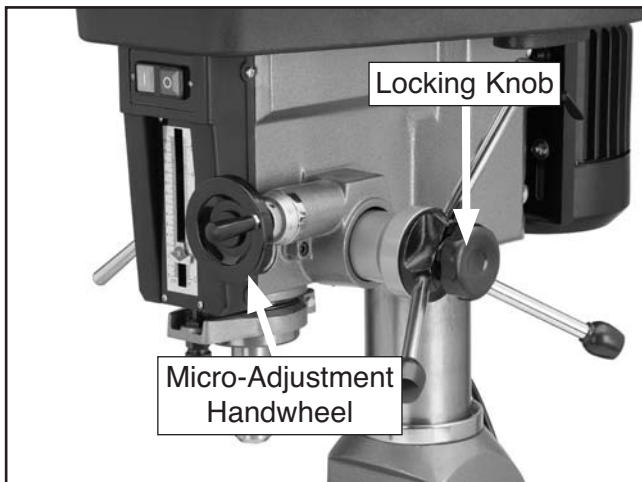


Figure 29. Micro-adjustment handwheel.

Note: *Locking out the levered downfeed will transfer control to the handwheel. The handwheel will not function if the locking knob is loose.*

2. Loosen the setscrew on the rim surface of the handwheel dial. Turn the dial until the "0" lines up with the index line. Tighten the set-screw.
3. Turn the handwheel according to the distance you want to move downward. Each complete revolution equals 0.100".

To lock the spindle:

1. Tighten the spindle locking lever to lock the spindle for milling operations.



Depth Stop

The depth stop is used to control the range of downward movement by the drill bit or cutter. Maximum depth is 5".

To calibrate the depth stop:

1. Make sure the spindle is drawn all the way up into the head. Place a piece of paper on the workpiece. Loosen the headstock bolts and lower the head until the drill bit or cutter just contacts the paper. Tighten the headstock bolts.
2. Turn the depth stop leadscrew until the top of the indicator plate is level with your desired depth as listed on the scale to the left or right. The depth stop leadscrew is controlled by the knurled knob under the front of the headstock (**Figure 30**).

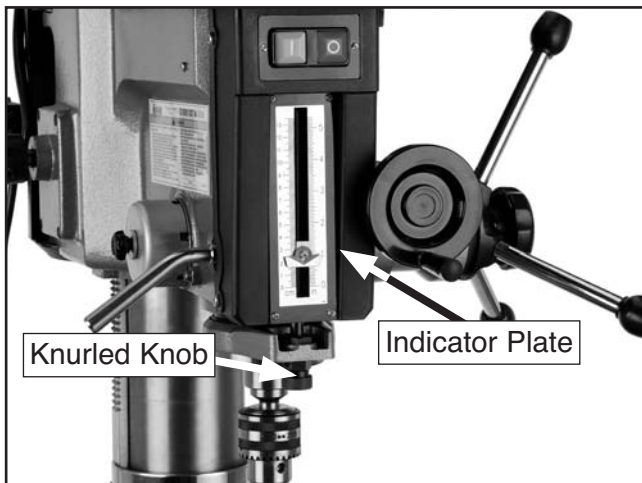


Figure 30. Setting depth stop.

Head Height

The head height on this Mill/Drill can be adjusted for various applications.

To adjust the head height:

1. Loosen the two head locking nuts located on the right side of the head near the back. Use the lug wrench provided (**Figure 31**).



Figure 31. Head locking nuts.

2. Use the head crank to move the head up or down according to your needs.
3. Tighten the two head locking nuts.



Speed Changes

The Model G1006/G1007 is capable of twelve different speed settings. Different types of cuts and types of materials require varying speeds. Consult outside sources for information about appropriate speeds for different applications.

To change spindle speeds:

1. Loosen the motor locking lever. Pull the motor inward to move the rear pulley toward the spindle (**Figure 32**).



Figure 32. Motor locking lever.

2. Loosen the two idler pulley bolts that hold the center pulley system in place, so the pulley will float (**Figure 33**).

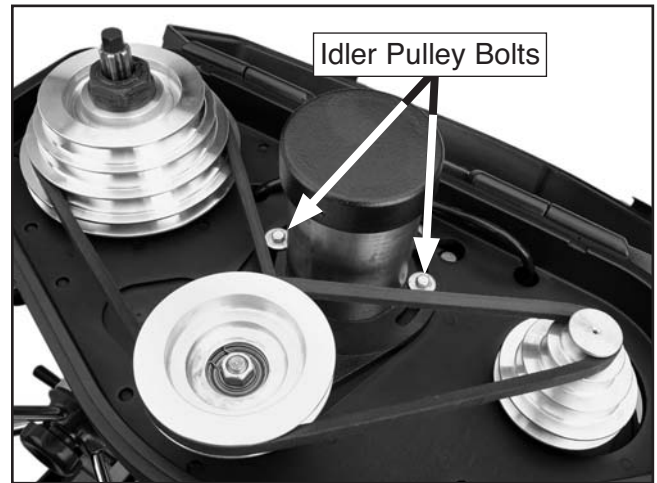


Figure 33. Pulley system.

3. With the center and rear pulleys loose, move the V-Belts to the position on the pulleys corresponding to the desired speed (**See chart below**).
4. Push the motor back to tighten the rear V-Belt and tighten the motor locking lever.
5. Tighten the bolts holding the center pulley in place.

RPM	Belt pos.	RPM	Belt pos.
150	4-5	850	1-6
225	3-5	1200	2-7
255	4-6	1500	3-8
350	2-5	1600	1-7
400	3-6	2300	2-8
500	4-7	3000	1-8

The belt arrangement shown below would result in a speed of 1600 RPM

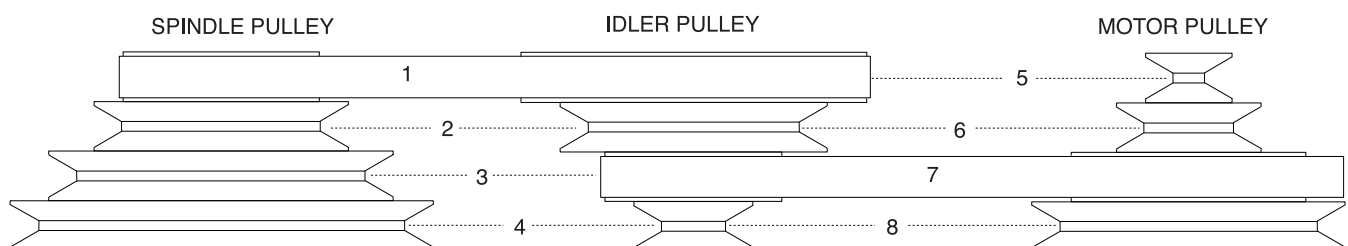


Figure 34. Spindle speed chart.



SECTION 5: ACCESSORIES

⚠️ WARNING

Some aftermarket accessories can be installed on this machine that could cause it to function improperly, increasing the risk of serious personal injury. To minimize this risk, only install accessories recommended for this machine by Grizzly.

NOTICE

Refer to the newest copy of the Grizzly Catalog for other accessories available for this machine.

T10067—8 Pc. R-8 Quick Change Collet Set

T10068—16 Pc. R-8 Quick Change Collet Set

These are the best collet sets we've ever carried. They can be used in production shops and for high precision work. Includes R-8 quick change collet chuck, $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ " and 1" collets, spanner wrench and moulded plastic case. The 16 pc. set includes everything in the 8 pc. set plus $\frac{1}{8}$ ", $\frac{3}{16}$ ", $\frac{7}{16}$ ", $\frac{9}{16}$ ", $\frac{11}{16}$ ", $\frac{13}{16}$ ", $\frac{7}{8}$ ", and $\frac{15}{16}$ " collets. Made in Taiwan!



Figure 35. T10067 & T10068 Collet Sets.

Call 1-800-523-4777 To Order

G9299—10" Yuasa-Type Rotary Table

This high precision rotary table features extra deep coolant channels, dual positive action locks, very low profiles, 10 second vernier scales, gear drives with oil immersion and satin chrome dials. See the current Grizzly catalog for full specifications. Features: 4.330" overall height (horizontal), 6.750" height to center hole (vertical), #3 Morse Taper, 0.465" T-slot width, and 117 lb. approximate shipping weight.

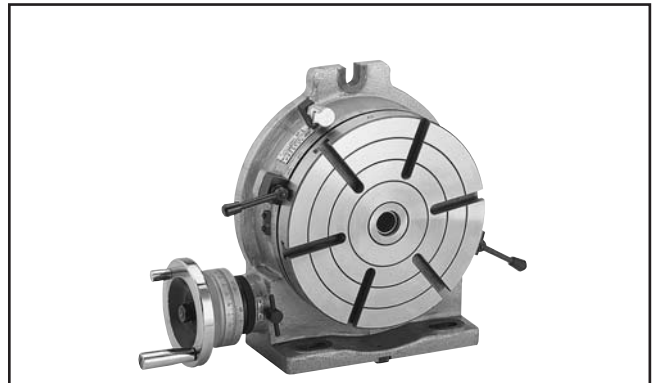


Figure 36. G9299 10" Yuasa-Type Rotary Table.

G1076—52-PC. Clamping Kit

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

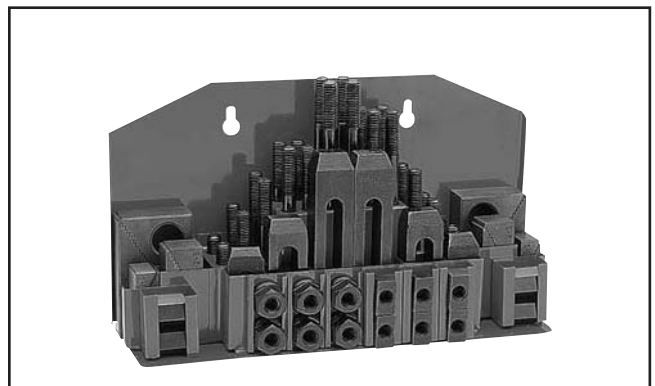


Figure 37. G1076 52-PC. Clamping Kit.



G9324—Boring Head Combo Set

Hardened and ground adjusting screws along with a wide base design guarantee a long life and trouble-free use. Includes a 3" boring head, R-8 shank with 1½"-18 TPI, and a 12 piece ¾" boring bar set.



Figure 38. G9324 Boring Head Combo Set.

G2861—Face Mill

G4051—Carbide Insert for Face Mill

This 2½" Face Mill accepts four carbide inserts (not included). Comes with an R-8 arbor.



Figure 39. G2861 Face Mill.

G9765—9-PC. Ball End Mill Set

Features 2 flute ball nose end mills. Includes the following sizes: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8" and 3/4".



Figure 40. G9765 9 PC. Ball End Mill Set.

G9760—20-PC. 2 & 4 Flute TiN End Mill Set.

Includes these sizes and styles in two and four flute styles: 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/8", 11/16", and 3/4".



Figure 41. G9760 20-PC End Mill Set.

G5641—1-2-3 Blocks

G9815—Parallel Set

H5556—Edge Finder Set

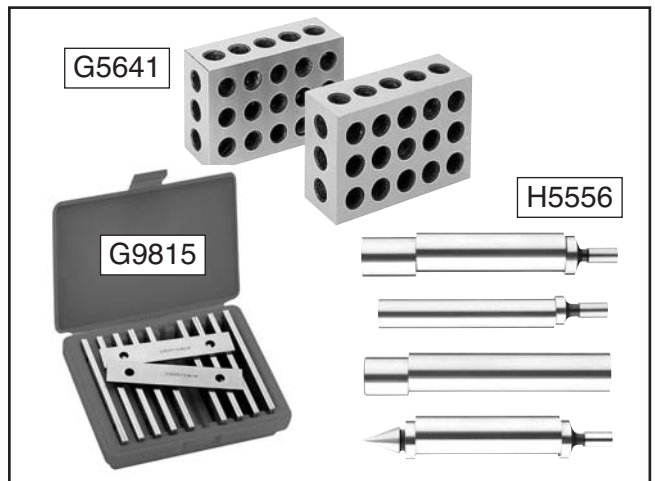


Figure 42. G5641 1-2-3 Blocks, G9815 Parallel Set, and H5556 Edge Finder Set.

Call 1-800-523-4777 To Order



SECTION 6: MAINTENANCE



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 cutting tools.
- Worn or damaged wires.
- Any other unsafe condition.
- Clean/Vacuum chip buildup from machine.

Monthly Check:

- V-belt tension, damage, or wear.

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. Never blow the mill off 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 and treat with a non-staining lubricant after cleaning.

Keep unpainted surfaces rust-free with regular applications of products like G96® Gun Treatment, SLIPIT®, or Boeshield® T-9.

Gibs

The gibs are pre-adjusted at the factory and will not need further adjustment by you until after extended use. If movement seems too tight at first, make sure that all rust preventative is removed from the ways, lubricate them with oil, and work the table back and forth several times to loosen it up.

The gibs are adjusted by turning the large slotted screw heads in the front and right side of the table base until you feel a slight drag when you turn the handwheels. The screw at the front of the machine affects movement from front to back. The screw under the right side of the table affects longitudinal movement. You can loosen the screws if your table movement seems excessively stiff.



Lubrication

Points requiring periodic lubrication are:

- **The main column.** A light film of oil (SAE 30) will smooth action and prevent rust and corrosion.
- **The quill.** A light coating of oil (SAE 30) will ensure smooth movement.
- **The quill return spring.** Oil annually with a light lubricant (SAE 30). Apply with a brush or squirt can.
- **The quill pinion.** Lubricate every 90 days with non-hardening grease.
- **The table leadscrews.** Lubricate once each week with several drops of SAE 30.
- **The table leadscrew bearings.** Lubricate the bearings located at the ends of the table and just in front of the Y axis hand crank on a daily basis. You will find oil ports with a ball. Apply a small amount of SAE 30 using the oil can's tip to push in the ball.
- **The table and apron slides.** Lubricate the table slides daily. An oil port with a ball is located on the operator's side of the table edge. The apron slide can be oiled directly. *Make sure to carefully clean chips and dirt off of this slide before oiling.*

V-Belts

Inspect regularly for tension and wear. Replace when necessary with a size B-42 belt for the spindle pulley to the idler pulley belt and a size B-34 belt from the idler pulley to the motor pulley belt. Check pulleys to ensure that they are properly aligned.

Quill

The internal quill pin is a setscrew and has been pre-adjusted at the factory. It should not need adjustment under normal circumstances.

The slotted setscrew on the left side of the head is used for limiting the amount of rotational play in the quill body. Loosening the check-nut and tightening the setscrew will work to eliminate this play in the quill.

If you are worried that you might have excessive quill play, spindle looseness or if an accident has occurred that requires re-adjusting this setscrew, contact Technical Support for advice.



Return Spring

⚠ CAUTION

The spring's tail is located on the perimeter of the spring housing. This part may be sharp! Use leather gloves or a heavy shop towel to cover the tail while loading or unloading return spring pressure. Failure to use such precautions may result in personal injury.

The spring tension for automatic quill recoil has been pre-set at the factory. It should not need adjustment under most normal circumstances. If it does need adjustment, the spring housing is located on the left side of the head.

To adjust the spring tension:

1. Loosen black thumb knob two or three turns (Figure 43).

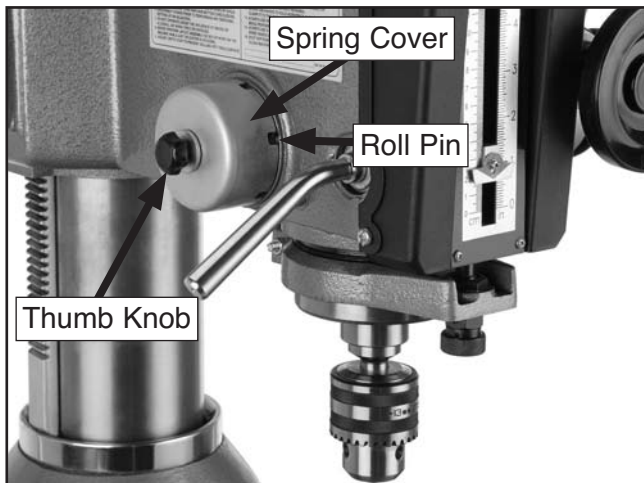


Figure 43. Spring cover.

⚠ WARNING

Do not completely remove the cover! If you remove the spring cover, the spring will uncoil rapidly and create a great risk of injury.

2. Put on gloves and pull the spring cover out until the notches just clear the roll pin. Hold the spring cover tightly or the force of the spring will make it spin out of control.
3. Rotate the cover to adjust the tension. Push the cover back in to engage the roll pin in one of the notches (Figure 44).



Figure 44. Adjusting spring tension.

4. Tighten the black thumb knob.



Table Leadscrews

When you turn the handwheels to adjust the position of the table, you will notice slight play in the handwheel before the table begins to move. If this play exceeds 0.010" (measured with the dial at the base of each handwheel), then you will need to adjust the leadscrews.

These adjusters may require you to fabricate extensions for your hex wrenches. Make adjustments in small increments. Over-tightening can add unnecessary wear to both the leadscrews and the adjusters.

To adjust the X-plane leadscrew:

1. Locate the X-plane leadscrew adjuster under the middle of the table. The head on the adjustment screw faces to the right (**Figure 45**).

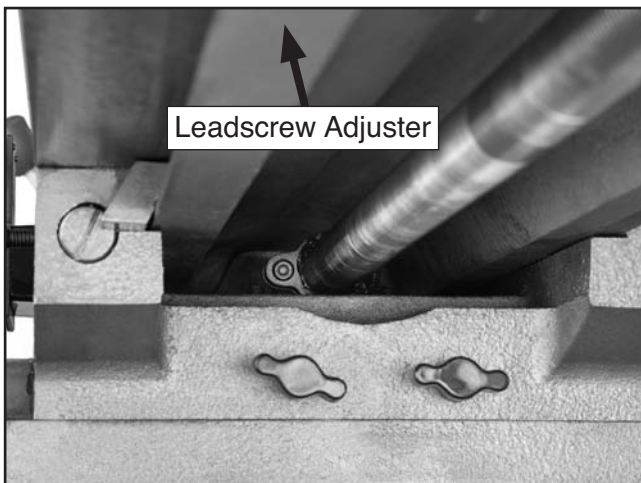


Figure 45. X-plane leadscrew adjuster.

2. Tighten the adjustment screw.
3. Test the adjustment by turning one of the side handwheels. You should detect less than 0.010" of play.

To adjust the Y-plane leadscrew:

1. Access the underside of the base through the hole in the bench under the base.
2. Locate the adjuster midway along the leadscrew, inside the base.
3. Tighten the set screw on the adjuster.
4. Test the adjustment by turning the front handwheel. You should detect less than 0.010" of play.



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



Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	<ol style="list-style-type: none"> 1. Plug/receptacle is at fault or wired incorrectly. 2. Motor connection wired incorrectly. 3. Wall fuse/circuit breaker is blown/tripped. 4. Overload relay has tripped. 5. Power supply switched OFF or is at fault. 6. Wiring is open/has high resistance. 7. Main power switch is at fault. 8. Motor is at fault. 	<ol style="list-style-type: none"> 1. Test for good contacts; correct the wiring. 2. Correct motor wiring connections. 3. Ensure circuit size is suitable for this machine; replace weak breaker. 4. Reset overload relay. 5. Ensure power supply is switch on; ensure power supply has the correct voltage. 6. Check for broken wires or disconnected/corroded connections, and repair/replace as necessary. 7. Replace faulty ON/OFF switch. 8. Test/repair/replace.
Machine stalls or is underpowered.	<ol style="list-style-type: none"> 1. Feed rate/cutting speed too fast for task. 2. Workpiece alignment is poor. 3. Wrong workpiece material. 4. Motor connection is wired incorrectly. 5. V-belt(s) slipping. 6. Plug/receptacle is at fault. 7. Motor bearings are at fault. 8. Machine is undersized for the task. 9. Motor has overheated. 10. Contactor not getting energized or has poor contacts. 11. Spindle rotation switch at fault. 12. Motor is at fault. 	<ol style="list-style-type: none"> 1. Decrease feed rate/cutting speed. 2. Eliminate workpiece binding; use jig or clamps and position table properly for workpiece alignment control. 3. Use metal with correct properties for your type of machining. 4. Correct motor wiring connections. 5. Replace bad V-belt(s). 6. Test for good contacts; correct the wiring. 7. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement. 8. Use smaller sharp cutters/drill bits; reduce the feed rate; reduce the spindle RPM; use cutting fluid if possible. 9. Clean off motor, let cool, and reduce workload. 10. Test for power on all legs and contactor operation. Replace if faulty. 11. Test/repair/replace switch. 12. Test/repair/replace motor.



Motor & Electrical (Continued)



Symptom	Possible Cause	Possible Solution
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> 1. Motor or component is loose. 2. V-belts are slapping belt cover; are worn or loose. 3. Belt pulley is loose. 4. Motor mount loose/broken. 5. Machine is incorrectly mounted or sits unevenly. 6. Workpiece is loose. 7. Motor fan is rubbing on fan cover. 8. Cutter is at fault. 9. Bit is chattering. 10. Motor bearings are at fault. 	<ol style="list-style-type: none"> 1. Inspect/replace stripped or damaged bolts/nuts, and re-tighten with thread locking fluid. 2. Replace/re-tension V-belts. 3. Replace shaft, pulley, setscrew, and key as required. 4. Tighten/replace. 5. Tighten/replace anchor studs in floor; relocate/shim machine. 6. Use the correct holding fixture and re-clamp workpiece. 7. Replace dented fan cover; replace loose/damaged fan. 8. Replace out-of-round cutter; replace/resharpen cutter; use appropriate feed rate and cutting RPM. 9. Replace/sharpen bit; index bit to workpiece; use appropriate feed rate and cutting RPM. 10. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.

Operation & Work Results

Symptom	Possible Cause	Possible Solution
Tool slips in collet.	<ol style="list-style-type: none"> 1. Collet is not fully drawn up into spindle taper. 2. Wrong size collet. 3. Debris in collet or in spindle taper. 4. Taking too big of a cut. 	<ol style="list-style-type: none"> 1. Snug up draw bar. 2. Measure tool shank diameter and match with appropriate diameter collet. 3. Remove all oil and debris from collet and spindle taper. 4. Lessen depth of cut and allow chips to clear.
Breaking tools or cutters.	<ol style="list-style-type: none"> 1. RPM and or feed rate is too fast. 2. Cutting tool getting too hot. 3. Taking too big of a cut. 	<ol style="list-style-type: none"> 1. Set correct RPM and feed rates. 2. Use coolant fluid or oil for appropriate application. 3. Lessen depth of cut and allow chips to clear.
Machine is loud when cutting. Overheats or bogs down in the cut.	<ol style="list-style-type: none"> 1. Excessive depth of cut. 2. Dull cutting tools. 	<ol style="list-style-type: none"> 1. Decrease depth of cut. 2. Use sharp cutting tools.
Workpiece vibrates or chatters during operation.	<ol style="list-style-type: none"> 1. Table locks not tight. 2. Quill lock not tight. 3. Workpiece not securely clamped to table or into mill vice. 4. RPM and feed rate too high. 	<ol style="list-style-type: none"> 1. Tighten down table locks. 2. Tighten quill lock. 3. Check that clamping is tight and sufficient for the job. Make sure mill vice is tight to the table. 4. Use appropriate RPM and feed for the job.
Table is hard to move.	<ol style="list-style-type: none"> 1. Table locks are tightened down. 2. Chips have loaded up on ways. 3. Ways are dry and in need of lubrication. 4. Limit stops are interfering. 5. Gibs are too tight. 	<ol style="list-style-type: none"> 1. Make sure table locks are fully released. 2. Frequently clean away chips that load up during milling operations. 3. Lubricate ways and handles. 4. Check to make sure that all limit stops are floating and not hitting the limit switch. 5. Adjust gibs (see Page 33).
Bad surface finish.	<ol style="list-style-type: none"> 1. Wrong RPM or feed rate. 2. Dull cutting tool or poor cutting tool selection. 3. Wrong rotation of cutting tool. 4. Workpiece not securely clamped. 	<ol style="list-style-type: none"> 1. Adjust for appropriate RPM and feed rate. 2. Sharpen cutting tool or select a better cutting tool for the intended operation. 3. Check for proper cutting rotation for cutting tool. 4. Secure properly.



SECTION 8: WIRING

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

If there are differences between your machine and what is shown in this section, call Technical Support at (570) 546-9663 for assistance BEFORE making any changes to the wiring on your machine. An updated wiring diagram may be available. **Note:** *Please gather the serial number and manufacture date of your machine before calling. This information can be found on the main machine label.*

WARNING

Wiring Safety Instructions

SHOCK HAZARD. Working on wiring that is connected to a power source is extremely dangerous. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Disconnect the power from the machine before servicing electrical components!

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

WIRE CONNECTIONS. All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.

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

WIRE/COMPONENT DAMAGE. Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components.

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

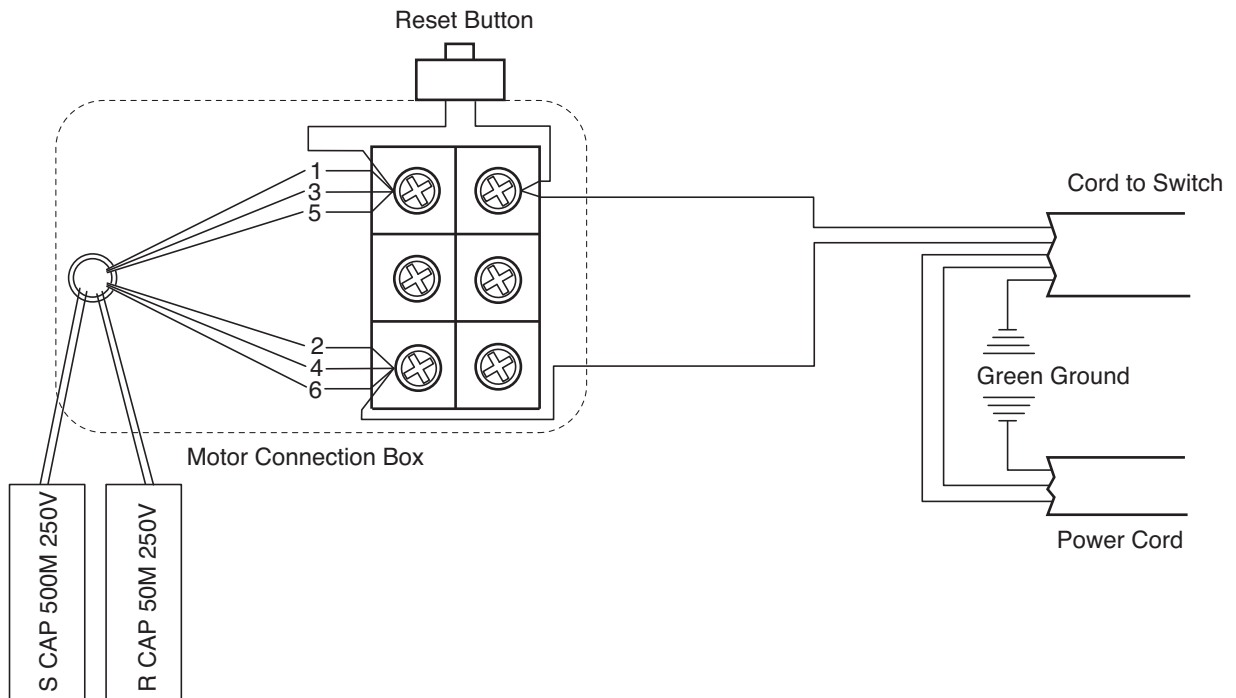
CAPACITORS/INVERTERS. Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

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



Wiring Diagram

110 Volt Wiring (Pre-Wired)

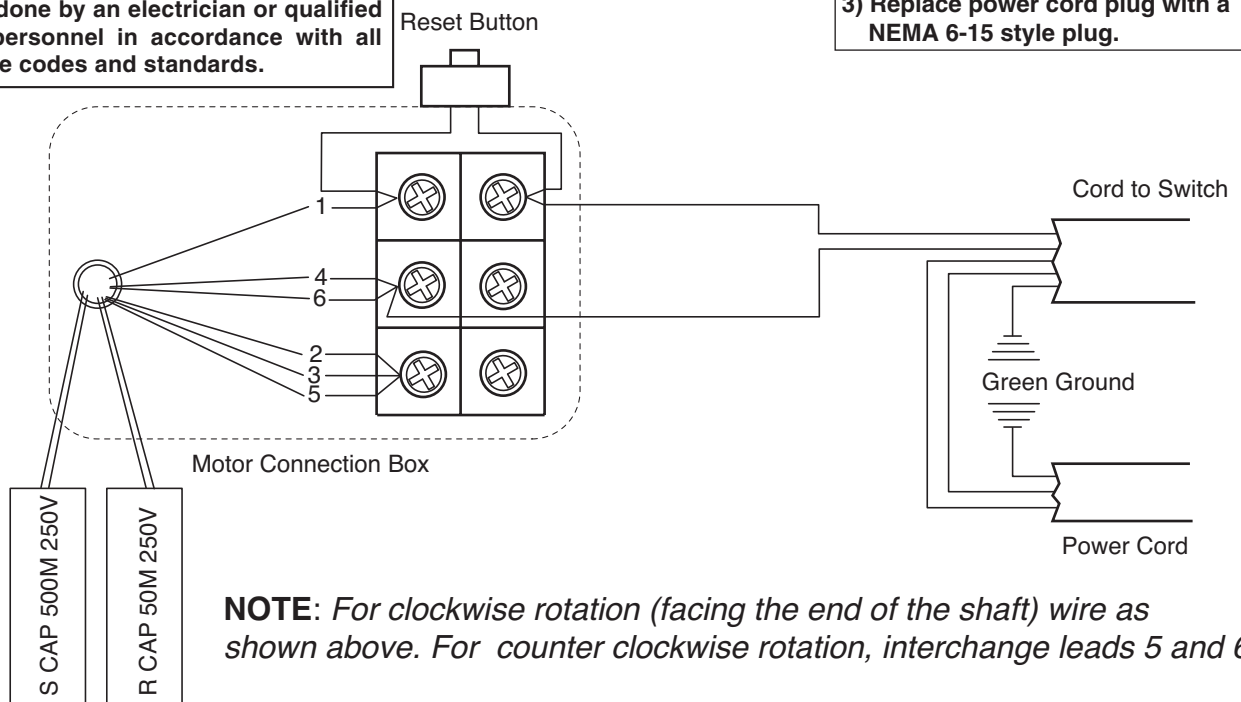


⚠ WARNING
 To minimize the risk of electrocution, fire, or equipment damage, voltage conversion must be done by an electrician or qualified service personnel in accordance with all applicable codes and standards.

220 Volt Wiring

VOLTAGE CONVERSION TO 220V

- 1) Disconnect power from machine!
- 2) Rewire motor to 220V.
- 3) Replace power cord plug with a NEMA 6-15 style plug.

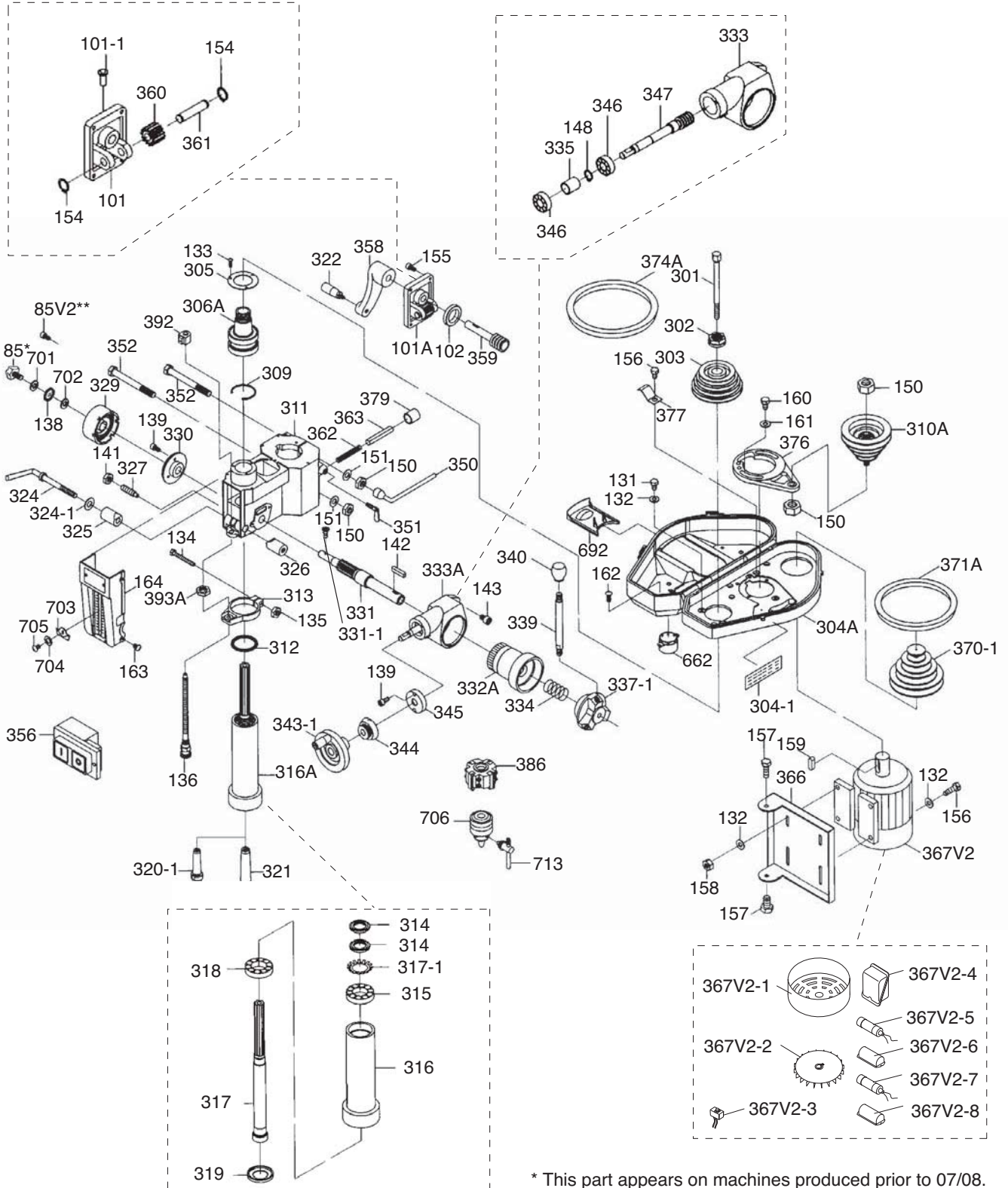


NOTE: For clockwise rotation (facing the end of the shaft) wire as shown above. For counter clockwise rotation, interchange leads 5 and 6.



SECTION 9: PARTS

Head Breakdown



* This part appears on machines produced prior to 07/08.
 **This part appears on machines produced after 07/08.



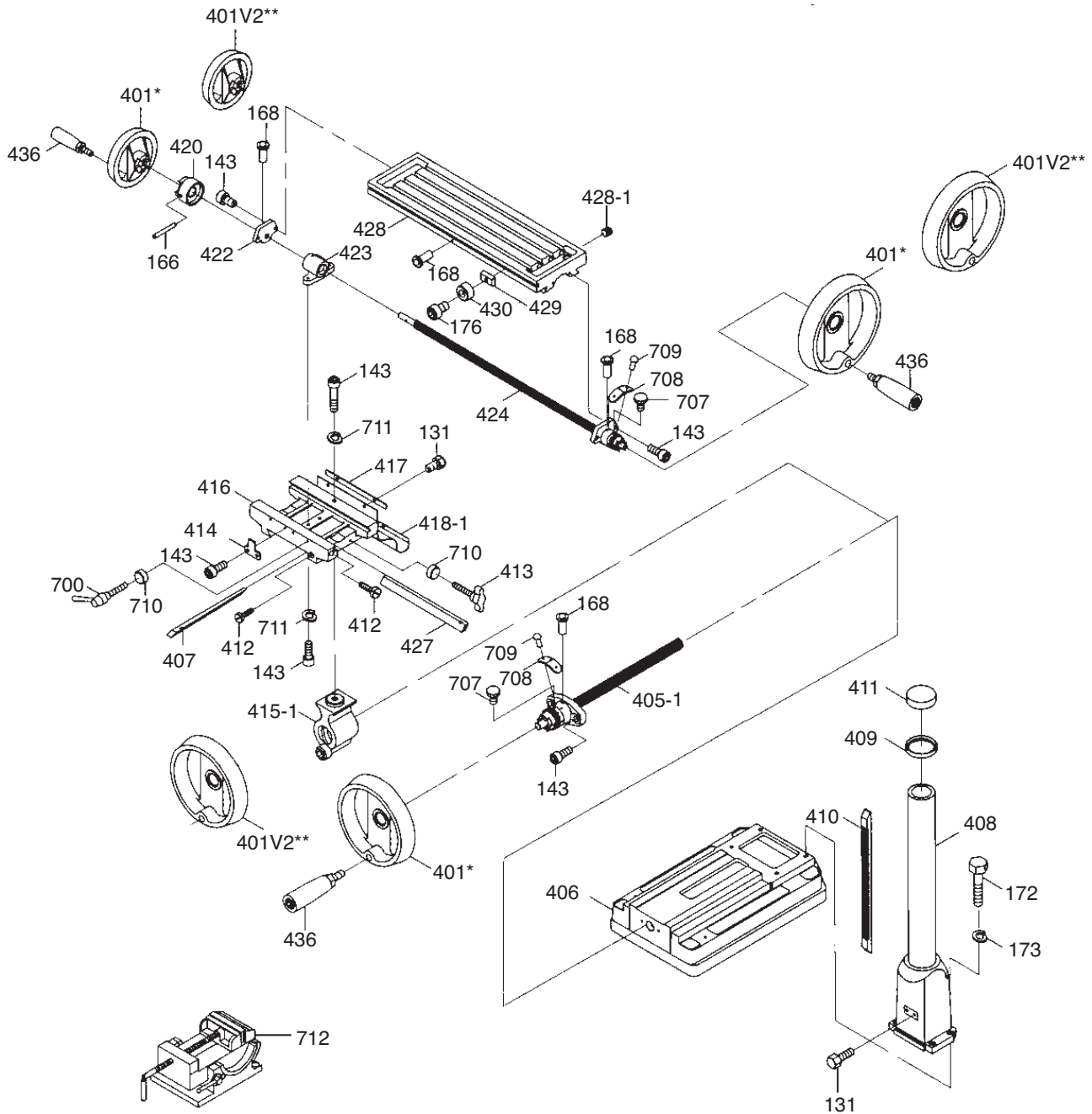
Head Parts List

REF	PART #	DESCRIPTION
85	PSW03-1	KNOB
85V2	PSB01	CAP SCREW 1/4-20 X 5/8
101	P1006101	CRANK BRACKET
101-1	P1006101-1	OIL CUP
101A	P1006101A	CRANK BRACKET ASSEMBLY
102	P1006102	WORM SHAFT BUSHING
131	PB07	HEX BOLT 5/16-18 X 3/4
132	PW07	FLAT WASHER 5/16
133	PS04	PHLP HD SCR 1/4-20 X 1/2
134	PB10	HEX BOLT 1/4-20 X 2
135	PN05	HEX NUT 1/4"-20
136	P1006136	GRADUATED ROD ASSY
138	P1014116	FENDER WASHER 1/4
139	PS01	PHLP HD SCR 10-24 X 1/2
141	PN08	HEX NUT 3/8"-16
142	PK25M	KEY 7 X 7 X 20
143	PSB07	CAP SCREW 5/16-18 X 3/4
148	PR05M	EXT RETAINING RING 15MM
150	PN04	HEX NUT 5/8"-11
151	PLW06	LOCK WASHER 5/8
154	PR02M	EXT RETAINING RING 14MM
155	PSB05	CAP SCREW 1/4-20 X 3/4
156	PB03	HEX BOLT 5/16-18 X 1
157	PB38	HEX BOLT 7/16-14 X 2
158	PN02	HEX NUT 5/16"-18
159	P1006159	KEY 7 X 7 X 37
160	PB11	HEX BOLT 5/16-18 X 1-1/2
161	PW07	FLAT WASHER 5/16
162	PB12	HEX BOLT 5/16-18 X 1-1/4
163	PS04	PHLP HD SCR 1/4-20 X 1/2
164	P1006164	FRONT COVER PLATE ASSEMBLY
301	P1126102	DRAWBAR 7/16-20 x 442L
302	P1006302	SPINDLE NUT 42-16 V1.08.97
303	P1006303	SPINDLE PULLEY
304-1	P1006304-1	SPEED CHART LABEL
304A	P1006304A	BOTTOM BELT COVER
305	P1006305	OUTER BEARING COVER
306A	P1006306A	TAPERED SPINDLE SLEEVE LH V2.12.98
309	PR52M	EXT RETAINING RING 80MM
310A	P1006310A	IDLER PULLEY ASSEMBLY
311	P1006311	HEAD CASTING
312	P1006312	RUBBER RING
313	P1006313	QUILL COLLAR
314	P1006314	TAKE UP NUT
315	P30206	TAPERED ROLLER BEARING 30206
316	P1006316	QUILL
316A	P1006316A	QUILL ASSEMBLY
317	P1006317	SPINDLE SHAFT
317-1	P1006317-1	SPECIAL STAR WASHER
318	P1006318	BEARING 30207J
319	P1006319	BEARING CAP
320-1	P1006320-1	CUTTER ARBOR ASSY
321	P1006321	CHUCK ARBOR
322	P1006322	HANDLE BOLT 3/8-16
324	P1006324	QUILL LOCK HANDLE
324-1	PW01	FLAT WASHER 1/2
325	P1006325	CLAMP COLLAR

REF	PART #	DESCRIPTION
326	P1006326	CLAMP NUT 3/8-16
327	P1006327	SPECIAL SCREW 3/8-16 X 38
329	P11261103	SPRING COVER ASSY
330	P1006330	SPRING BASE 76 X 76 X 19
331	P1006331	PINION SHAFT
331-1	PS01	PHLP HD SCR 10-24 X 1/2
332A	P1006332A	FINE FEED CLUTCH ASSEMBLY
333	P1006333	FINE FEED HOUSING
333A	P1006333-1	FINE FEED ASSEMBLY
334	P1006334	SPRING 27 X 17.5 X 17.5
335	P1006335	BEARING SPACER 34 X 28
337-1	P1006337-1	HANDLE BASE ASSY
339	P1006339	HANDLE ROD
340	P1006340	ROUND KNOB
343-1	P1006343-1	HANDWHEEL ASSY
344	P1006344	GRADUATED DIAL
345	P1006345	SLEEVE
346	P6202	BALL BEARING 6202ZZ
347	P1006347	WORM SHAFT
350	P1006350	HEAD WRENCH
351	P1006351	THUMB SCREW 3/8-16
352	PB46	HEX BOLT 5/8-11 X 6
356	P1006356	ON/OFF SWITCH
358	P1006358	ELEVATION CRANK
359	P1006359	WORM GEAR SHAFT
360	P1006360	PINION GEAR
361	P1006361	GEAR AXLE
362	P1006362	COMPRESSION SPRING 13 X 83
363	P1006363	MOTOR POSITION PIN
366	P1006366	MOTOR BASE
367V2	P1006367V2	2HP MOTOR 110/220V SINGLE PHASE
367V2-1	P1006367-1	MOTOR FAN COVER
367V2-2	P1006367-2	MOTOR FAN
367V2-3	P1006367-3	CIRCUIT BREAKER BUTTON
367V2-4	P1006367-4	JUNCTION BOX
367V2-5	P1006367V2-5	S CAPACITOR 500M 250V 1-3/8 X 2-3/4
367V2-6	P1006367V2-6	S CAPACITOR COVER
367V2-7	P1006367V2-7	R CAPACITOR 50M 250V 1-3/8 X 2-3/4
367V2-8	P1006367V2-8	R CAPACITOR COVER
370-1	P1006370-1	MOTOR PULLEY SET
371A	PVB33	V-BELT B-33
374A	PVB42	V-BELT B-42
376	P1006376	PULLEY SWING BASE
377	P1006377	CLIP PLATE
379	P1006379	RUBBER COLLAR
386	P1006386	FACE CUTTER
392	P1006392	POSITION SET BRACKET
393A	P1006393A	FIXED NUT
662	P1006662	DRAW BOLT COVER 75 X 54 X 42.5
692	P1006692	BELT COVER LID
701	PLW02	LOCK WASHER 1/4
702	PW06	FLAT WASHER 1/4
703	P1006703	LIMIT PLATE
704	P1006704	FLAT WASHER 1/8
705	P1006705	PHLP HD SCR 5-40 X 3/8
706	P1006706	CHUCK 1/2"-JT6
713	P1006713	CHUCK KEY



Column & Table Parts Breakdown



* This part appears on machines produced prior to 07/08.

**This part appears on machines produced after 07/08.



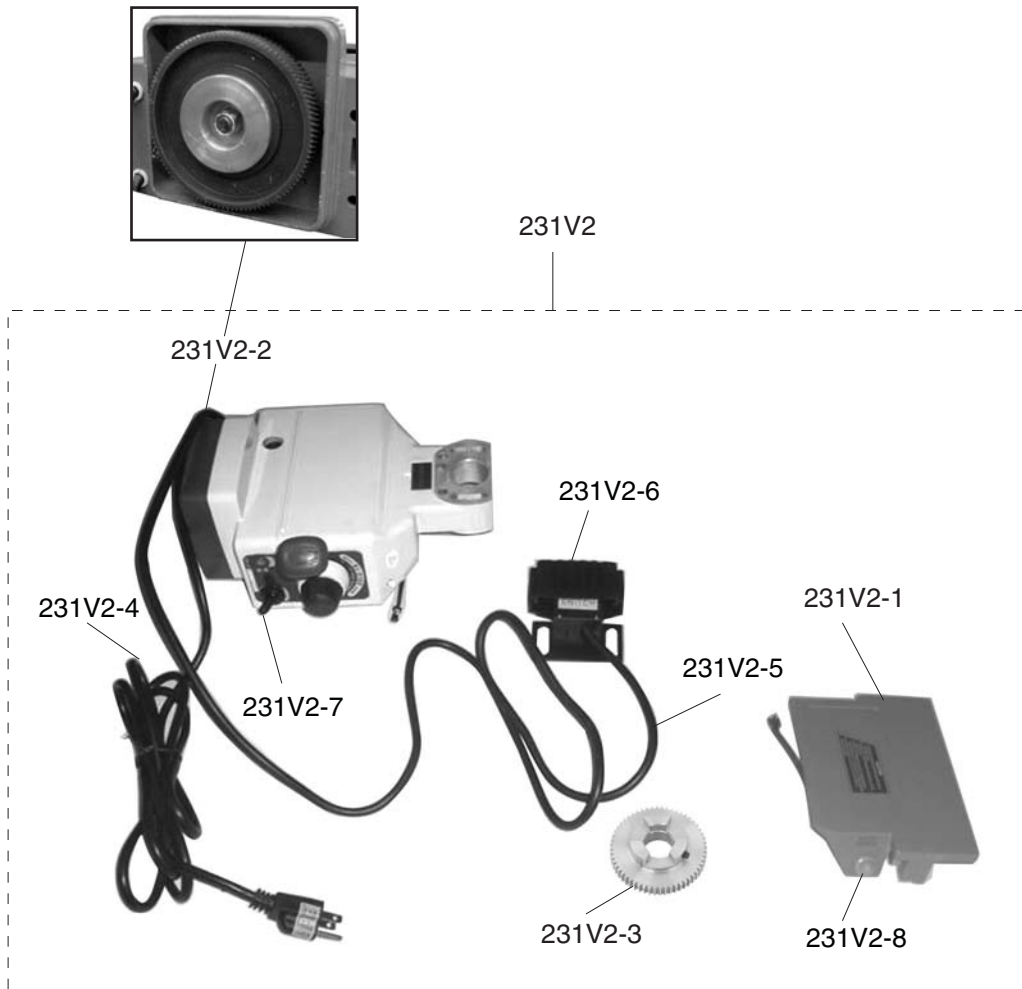
Column & Table Parts List

REF	PART #	DESCRIPTION
131	PB07	HEX BOLT 5/16-18 X 3/4
143	PSB07	CAP SCREW 5/16-18 X 3/4
166	PRP10M	ROLL PIN 5 X 36
168	PLUBE001	BALL OILER 1/4 PRESS-IN
172	PB64	HEX BOLT 5/8-11 X 2-1/2
173	PLW06	LOCK WASHER 5/8
176	PSB04	CAP SCREW 1/4-20 X 1/2
401	P1126201	HANDWHEEL W/HANDLE
401V2	P1006401V2	PLASTIC HANDWHEEL W/HANDLE V2.07.08
405-1	P1006405-1	ACME SCREW ASSY
406	P1006406	BASE
407	P1006407	SADDLE GIB
408	P1006408	COLUMN
409	P1006409	COLUMN FLANGE RING
410	P1006410	RACK
411	P1006411	COLUMN CAP
412	P1006412	GIB SCREW 5/16-18 X 35
413	P1006413	TABLE LOCK
414	P1006414	TABLE STOP
415-1	P1006415-1	CROSS LEADSCREW NUT ASSY

REF	PART #	DESCRIPTION
416	P1006416	SADDLE
417	P1006417	BOTTOM WAY COVER CLAMP
418-1	P1006418-1	WAY COVER ASSEMBLY
420	P1006420	LEADSCREW COLLAR
422	P1006422	LEFT FLANGE
423	P1005613	LONGITUDINAL LEADSCREW NUT
424	P1126224	LONGITUDINAL LEADSCREW
427	P1006427	TABLE GIB
428	P1006428	TABLE
428-1	P1006428-1	TABLE PLUG
429	P1006429	STOP BLOCK T-NUT 1/4-20
430	P1006430	SPACER
436	P1006436	HANDLE
700	P1006700	LOCK HANDLE
707	P1006707	KNURLED THUMB SCREW 1/4-20 X 3/8
708	P1006708	SCALE
709	P1006709	RIVET
710	P1006710	LOCK HANDLE BUSHING
711	PLW01	LOCK WASHER 5/16
712	P1006712	ANGLE VISE



Power Feed

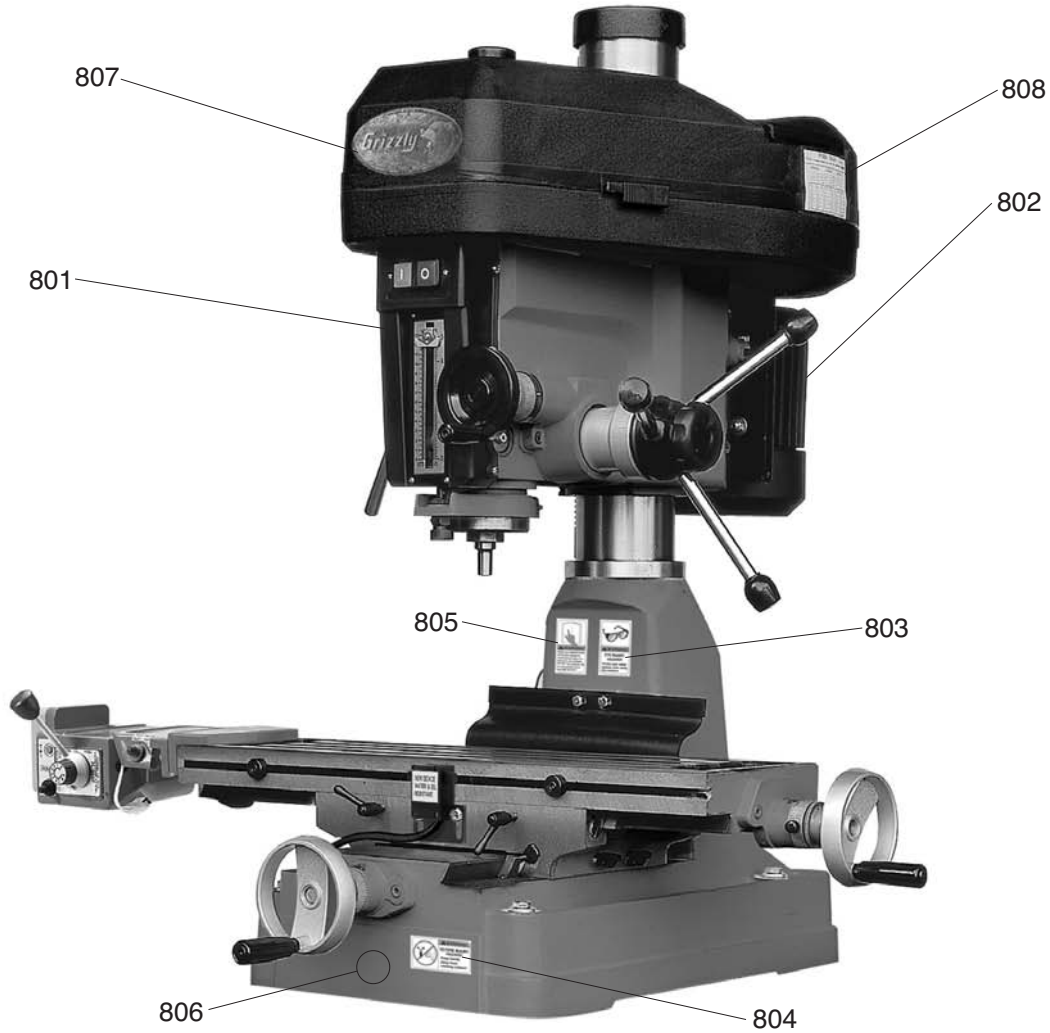


REF	PART #	DESCRIPTION
231V2	P1007231V2	POWER FEED ASSY AL-310S V2.09.09
231V2-1	P1007231V2-1	POWER FEED MOUNTING BRACKET
231V2-2	P1007231V2-2	POWER FEED LEXAN GEAR
231V2-3	P1007231V2-3	MAIN DRIVE GEAR
231V2-4	P1007231V2-4	POWER FEED POWER CORD

REF	PART #	DESCRIPTION
231V2-5	P1007231V2-5	LIMIT SWITCH CORD
231V2-6	P1007231V2-6	LIMIT SWITCH ASSEMBLY
231V2-7	P1007231V2-7	ON/OFF SWITCH
231V2-8	P1007231V2-8	RAPID SWITCH



Label Placement



REF	PART #	DESCRIPTION
801	P1006801	MACHINE ID LABEL
802	PLABEL-14	ELECTRICITY LABEL
803	P1006803	WEAR GLASSES LABEL
804	P1006804	ROTATING CUTTER LABEL

REF	PART #	DESCRIPTION
805	P1006805	READ MANUAL LABEL
806	PPAINT-1	GRIZZLY GREEN TOUCH UP PAINT
807	G9987	GRIZZLY NAMEPLATE-MINI
808	P1006808	SPINDLE SPEEDS LABEL

⚠️ WARNING

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





WARRANTY CARD

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

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

1. How did you learn about us?

Advertisement Friend Catalog
 Card Deck Website Other:

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

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

3. What is your annual household income?

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

4. What is your age group?

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

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

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

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

0-2 3-5 6-9 10+

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

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

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

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

10. Comments: _____

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.

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