

# Grizzly

**Industrial, Inc.**®

## MODEL G0745

### 4" X 6" MICRO METAL LATHE

#### OWNER'S MANUAL

*(For models manufactured since 11/13)*



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#BLTSDM16121 PRINTED IN CHINA

V1.01.20



## **WARNING!**

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

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

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

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



## **WARNING!**

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

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

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

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# INTRODUCTION

## Machine Description

A lathe removes material from a rotating workpiece secured to the spindle with a chuck or faceplate. A cutting tool is mounted in the tool post or tailstock and moved against the spinning workpiece to perform the cut.

This micro lathe is great for jewelers, model makers, or hobbyists who want to turn small parts, but don't have the need (or space) for a full-sized lathe. It features a 4" swing, 6" distance between centers, variable-speed spindle, and a 3-jaw chuck.

## 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](http://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.

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

Manufactured for Grizzly in Taiwan



# Identification

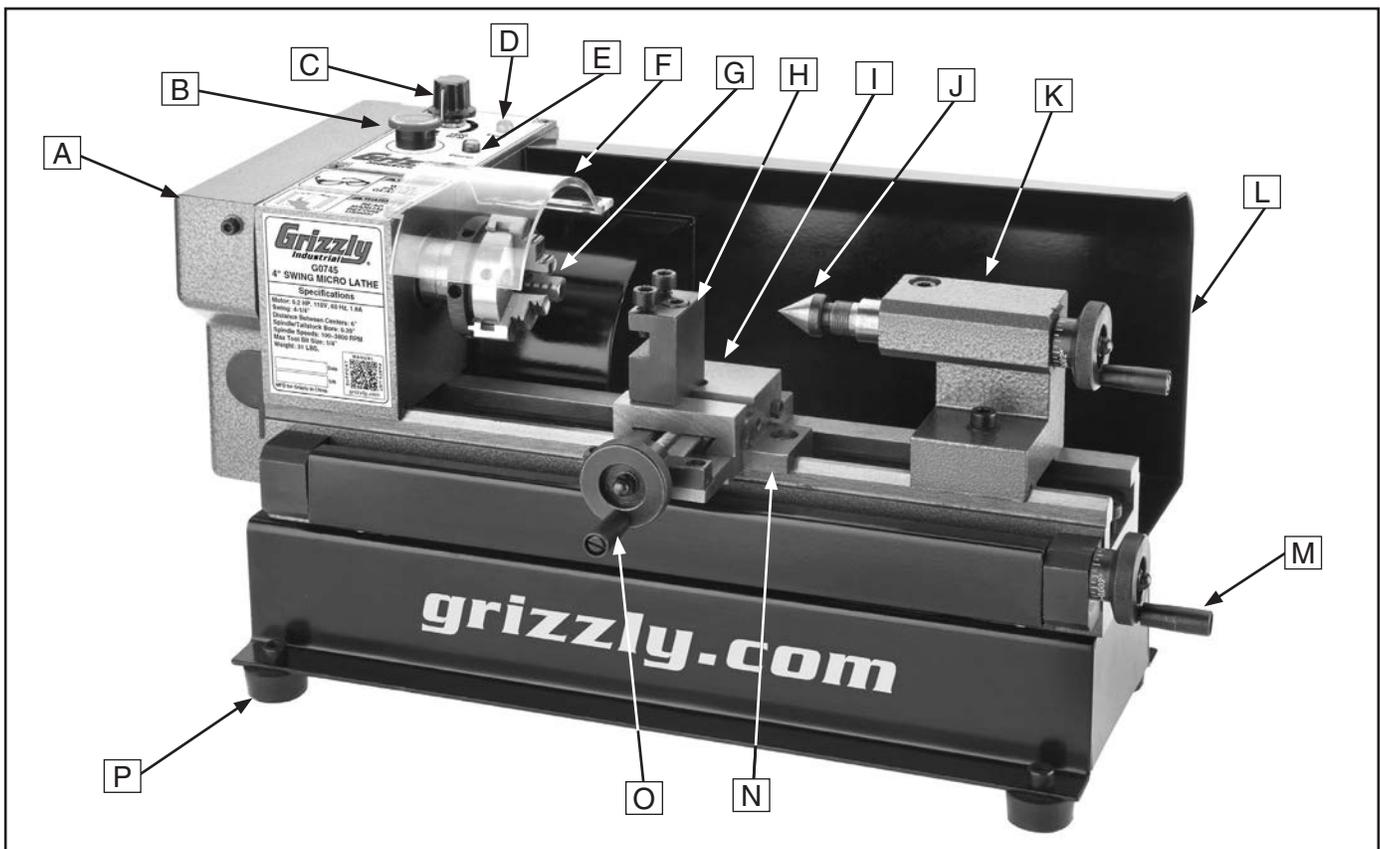


Figure 1. G0745 identification.

- |                          |                          |
|--------------------------|--------------------------|
| A. Headstock End Cover   | I. Cross Slide           |
| B. Emergency Stop Button | J. Center                |
| C. Spindle Speed Dial    | K. Tailstock             |
| D. Fault Indicator Light | L. Backsplash            |
| E. Power Light           | M. Carriage Handwheel    |
| F. Chuck Guard           | N. Carriage              |
| G. 3-Jaw Chuck           | O. Cross Slide Handwheel |
| H. Tool Post             | P. Rubber Foot           |

## **!WARNING**

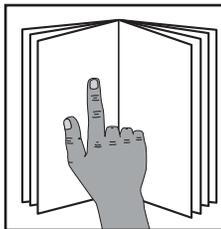
Serious personal injury could occur if you connect the machine to power before completing the setup process. **DO NOT** connect power until instructed to do so later in this manual.

## **!WARNING**

Untrained lathe operators have an increased risk of becoming seriously injured. Do not operate this machine until you have understood this entire manual and received proper training.



# Controls & Components

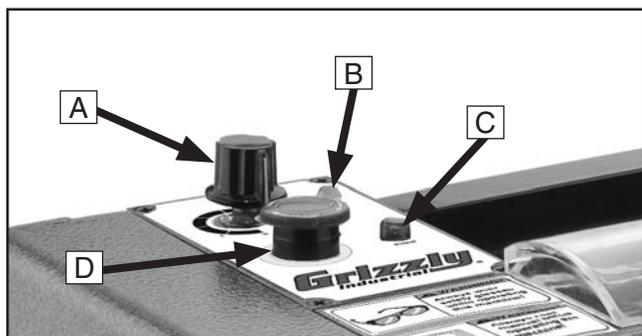


## **!WARNING**

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

Refer to **Figures 2–6** and the following descriptions to become familiar with the basic controls of this lathe.

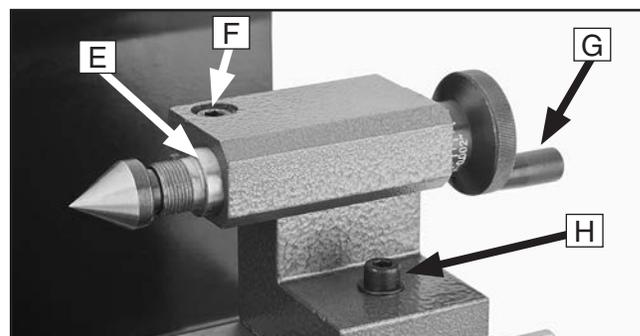
## Electrical Controls



**Figure 2.** Electrical controls.

- A. Spindle Speed Dial:** Starts and stops spindle rotation, and controls spindle speed when rotated. Rotate fully counterclockwise to turn OFF. Rotate fully clockwise to maximize spindle speed.
- B. Fault Indicator Light:** Illuminates if chuck guard is opened during spindle rotation. Close guard and turn spindle speed dial OFF to reset indicator.
- C. Power Light:** Illuminates when machine is connected to power.
- D. Emergency Stop Button:** Cuts power to motor and electrical controls when pressed. Remains depressed until reset by twisting clockwise.

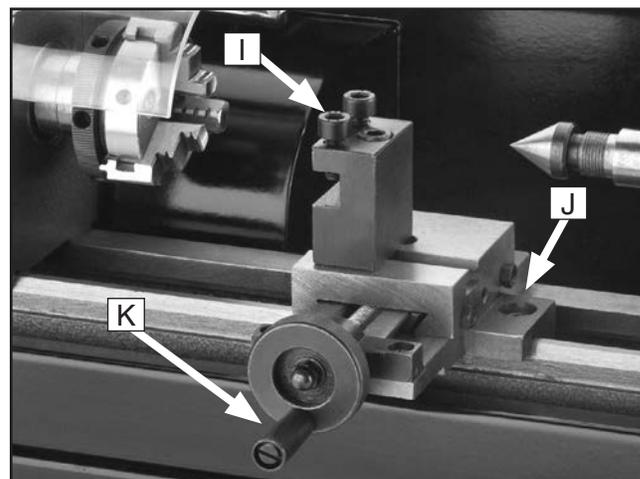
## Tailstock



**Figure 3.** Tailstock controls.

- E. Tailstock Quill:** Holds centers or tooling.
- F. Quill Lock Screw:** Secures the quill.
- G. Tailstock Quill Handwheel:** Moves the mounted center toward or away from the workpiece.
- H. Tailstock Lock:** Secures tailstock to bedway.

## Carriage



**Figure 4.** Carriage controls.

- I. Tool Post:** Holds tooling.
- J. Carriage Lock Screw:** Secures the carriage for greater rigidity when it should not move.
- K. Cross Slide Handwheel:** Moves the tool toward and away from the workpiece.

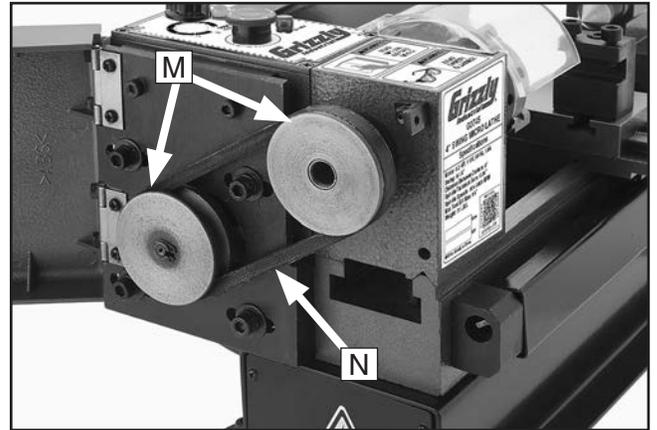




**Figure 5.** Carriage handwheel location.

**L. Carriage Handwheel:** Moves carriage along bedway.

## V-Belt & Pulleys



**Figure 6.** G0745 V-belt and pulleys.

**M. Pulleys:** Transfer power from motor to the spindle with the V-belt.

**N. V-Belt:** Transfers power from the motor pulley to the spindle pulley.

# Glossary of Terms

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

**Arbor:** A machine shaft that supports a cutting tool.

**Backlash:** The amount of free-play felt while changing rotation directions with the handwheels.

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

**Facing:** In lathe work, cutting across the end of a workpiece, usually to machine a flat surface.

**Feed:** The movement of a cutting tool into a workpiece.

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





# MACHINE DATA SHEET

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

## MODEL G0745 4" X 6" MICRO METAL LATHE

### Product Dimensions:

Weight..... 31 lbs.  
 Width (side-to-side) x Depth (front-to-back) x Height..... 16-1/4 x 11-1/2 x 11-1/2 in.  
 Footprint (Length x Width)..... 14 x 5-1/2 in.

### Shipping Dimensions:

Type..... Cardboard Box  
 Content..... Machine  
 Weight..... 36 lbs.  
 Length x Width x Height..... 21 x 9 x 15 in.

### Electrical:

Power Requirement..... 110V, Single-Phase, 60 Hz  
 Prewired Voltage..... 110V  
 Full-Load Current Rating..... 1.8A  
 Minimum Circuit Size..... 15A  
 Connection Type..... Cord & Plug  
 Power Cord Included..... Yes  
 Power Cord Length..... 5 ft.  
 Power Cord Gauge..... 18 AWG  
 Plug Included..... Yes  
 Included Plug Type..... 5-15  
 Switch Type..... Variable Speed Dial

### Motors:

#### Main

Type..... Universal  
 Horsepower..... 150W (1/5 HP)  
 Phase..... Single-Phase  
 Amps..... 1.8A  
 Speed..... 0 – 4000 RPM  
 Power Transfer..... V-Belt Drive  
 Bearings..... Shielded & Permanently Lubricated

### Main Specifications:

#### Operation Info

Swing Over Bed..... 4.25 in.  
 Distance Between Centers..... 6 in.  
 Swing Over Cross Slide..... 2 in.  
 Swing Over Saddle..... 2-3/4 in.  
 Maximum Tool Bit Size..... 5/16 in.  
 Carriage Travel..... 7-1/8 in.  
 Cross Slide Travel..... 1-1/2 in.



**Headstock Info**

Spindle Bore..... 0.39 in.  
Spindle Threads..... M14-1.0  
Number of Spindle Speeds..... Variable  
Spindle Speeds..... 100 – 3800 RPM  
Spindle Bearings..... Sealed & Permanently Lubricated Ball Bearing

**Tailstock Info**

Tailstock Quill Travel..... 7/8 in.  
Tailstock Barrel Diameter..... 0.39 in.

**Dimensions**

Bed Width..... 2-5/16 in.  
Leadscrew Diameter..... 5/16 in.  
Leadscrew TPI..... 18 TPI  
Leadscrew Length..... 12 in.

**Construction**

Headstock..... Cast Iron  
Bed..... Hardened and Precision-Ground Cast Iron  
Body..... Cast Iron  
Stand..... Formed Steel  
Paint..... Epoxy

**Other Specifications:**

Country Of Origin ..... China  
Warranty ..... 1 Year  
Serial Number Location ..... ID Label on Headstock  
ISO 9001 Factory ..... Yes  
CSA Certified ..... No

**Features:**

Chuck Safety Shield  
Variable Spindle Speeds of 100 – 3800 RPM  
Small Footprint  
Non-Marring Rubber Feet

**Accessories Included:**

2" 3-Jaw Chuck  
Tailstock Dead Center  
Cross-Slide Mounted Tool Holder  
Open-End Wrench 5.5 x 7mm  
Phillips Screwdriver #2  
Hex Wrenches 3, 4, and 5mm



# 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 Metal Lathes

## WARNING

Serious injury or death can occur from getting entangled in, crushed between, or struck by rotating parts on a lathe! Unsecured tools or workpieces attached to rotating objects can also strike nearby operators with deadly force. To minimize the risk of getting hurt or killed, anyone operating this machine **MUST** completely heed the hazards and warnings below.

**CLOTHING, JEWELRY & LONG HAIR.** Tie back long hair, remove jewelry, and do not wear loose clothing or gloves. These can easily get caught on rotating parts and pull you into lathe.

**ROTATING PARTS.** Always keep hands and body at a safe distance from rotating parts—especially those with projecting surfaces. Never hold anything against rotating workpiece, such as emery cloth, that can pull you into lathe.

**GUARDING.** Guards and covers protect against injuries from entanglement or flying objects. Always ensure they are properly installed and positioned before startup.

**ADJUSTMENT TOOLS.** Remove all chuck keys, wrenches, and adjustment tools before turning lathe **ON**. A chuck key or other tool left on the lathe can become a deadly projectile when spindle is started.

**SAFE CLEARANCES.** Before starting spindle, verify workpiece has adequate clearance by hand-rotating it through its entire range of motion.

**NEW SETUPS.** Test each new setup by standing to the side of the lathe and starting spindle rotation at the lowest speed until workpiece reaches full speed and you can verify safe rotation.

**SPINDLE SPEEDS.** Using spindle speeds that are too fast for the workpiece or clamping equipment can cause rotating parts to come loose and strike nearby people with deadly force. Always use slow spindle speeds with large or non-concentric workpieces. Never exceed rate RPM of the chuck.

**LONG STOCK SAFETY.** Long stock can whip violently if not properly supported. Always support any stock that extends from the chuck/headstock more than three times its own diameter.

**CLEARING CHIPS.** Metal chips can be razor sharp. Avoid clearing them by hand or with a rag. Use a brush or vacuum instead.

**SECURE WORKPIECE.** An improperly secured workpiece can fly off spindle with deadly force. Make sure workpiece is properly secured before starting the lathe.

**STOPPING SPINDLE.** Always allow spindle to completely stop on its own. Never put hands or another object on a spinning workpiece to make it stop faster.

**CRASHING.** A serious explosion of metal parts can occur if cutting tool or other lathe component hits rotating chuck or a projecting part of workpiece. Resulting metal fragments can strike nearby people and lathe will be seriously damaged. To reduce risk of crashing, **NEVER** leave lathe unattended, and **CHECK** all clearances before starting lathe.

**SANDING/POLISHING.** To reduce risk of entanglement, never wrap emery cloth around rotating workpiece. Instead, use emery cloth with the aid of a tool or backing board.

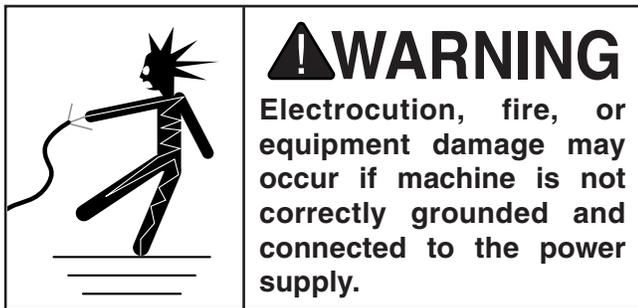
**MEASURING WORKPIECE.** To reduce risk of entanglement, never measure a spinning workpiece.



# SECTION 2: POWER SUPPLY

## Availability

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



## Full-Load Current Rating

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

### Full-Load Current Rating at 110V..... 1.8 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 specified circuit requirements.

## **! 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.**

## 110V Circuit Requirements

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

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

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the full-load current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

## **! CAUTION**

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

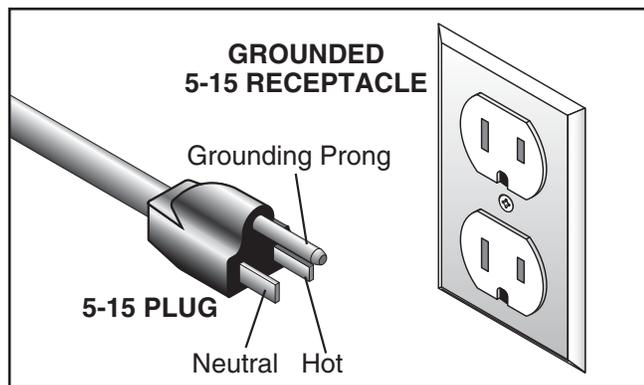
**Note:** *The circuit requirements listed in this manual apply to a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult a qualified electrician to ensure that the circuit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



## Grounding & Plug Requirements

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

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug (similar to the figure below). 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 7.** 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.**

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 .....18 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.



## Needed for Setup

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

Description	Qty
• Safety Glasses .....	1
• Cleaner/Degreaser ( <b>Page 15</b> ) ....	As Needed
• Disposable Shop Rags.....	As Needed
• Screwdriver Flat Head #1 .....	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.

Box 1 (Figures 8–9)	Qty
A. 3-Jaw Chuck 2" (Pre-installed).....	1
B. Tool Post (Pre-installed) .....	1
C. Tailstock (Pre-installed) .....	1
D. Handwheel Handles .....	3
E. Chuck Guard .....	1
F. Spindle Key 5mm .....	1
G. Chuck Keys 5mm .....	2
H. Wrench 5.5 x 7mm Open-Ends.....	1
I. Phillips Head Screwdriver #1.....	1
J. Hex Wrenches 3, 4, 5mm.....	1 Ea.
K. Center.....	1
L. Replacement Fuse 2A.....	1



Figure 8. Lathe as shipped, with pre-installed inventory items shown.

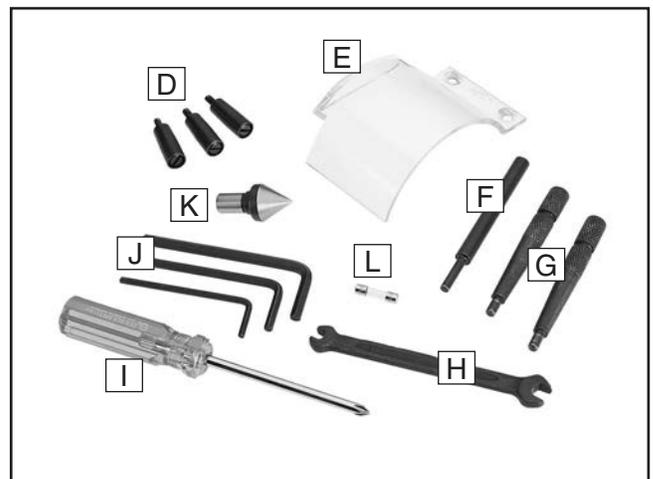


Figure 9. Loose inventory items.



# 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.

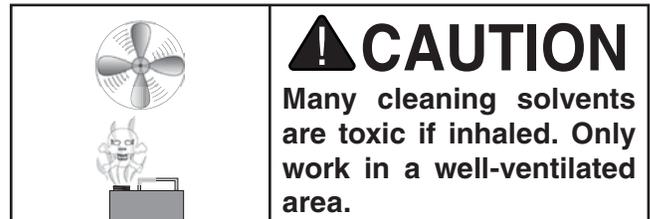
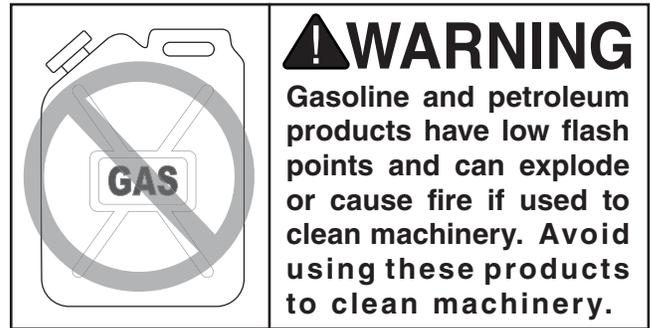
There are many ways to remove this rust preventative, but the following steps work well in a wide variety of situations. Always follow the manufacturer's instructions with any cleaning product you use and make sure you work in a well-ventilated area to minimize exposure to toxic fumes.

## 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 10. T23692 Orange Power Degreaser.



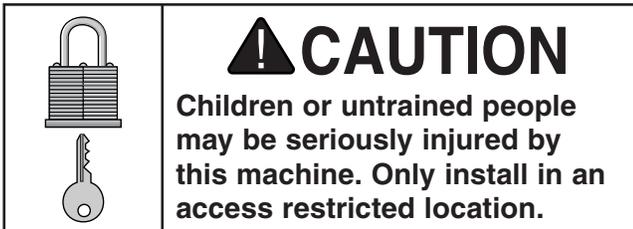
# Site Considerations

## Weight Load

Refer to the **Machine Data Sheet** for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

## Space Allocation

Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual. **See below for required space allocation.**



## Physical Environment

The physical environment where the machine is operated is important for safe operation and longevity of machine components. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature range exceeds 41°–104°F; the relative humidity range exceeds 20–95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

## Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave access to a means of disconnecting the power source or engaging a lockout/tagout device, if required.

## Lighting

Lighting around the machine must be adequate enough that operations can be performed safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

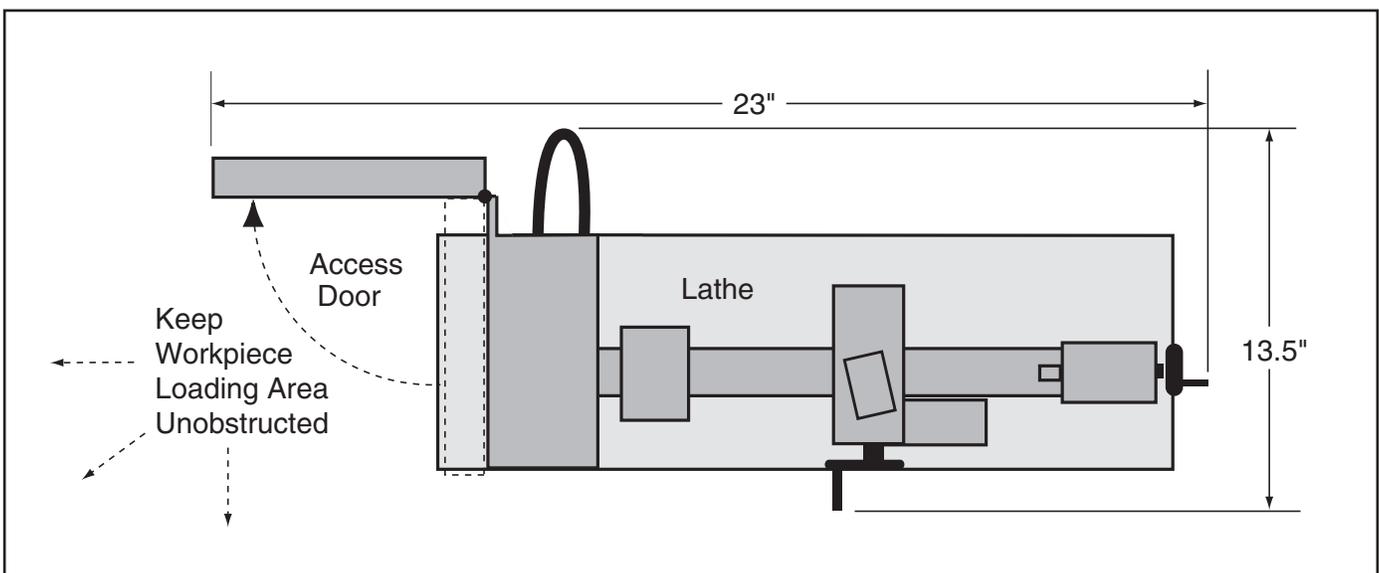


Figure 11. Minimum working clearances.

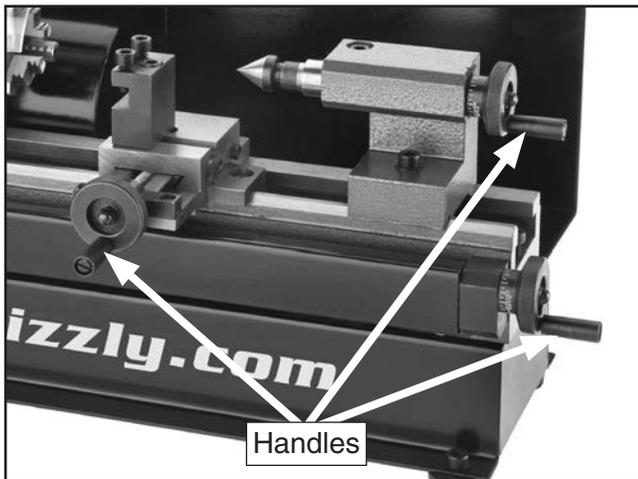


# Assembly

With the exception of the handwheel handles and the chuck guard, the lathe is fully assembled when shipped.

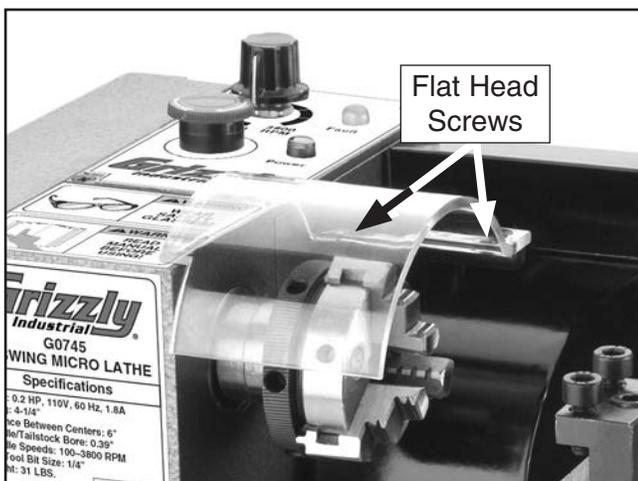
## To assemble your machine:

1. Thread the handles onto the cross slide, carriage, and tailstock handwheels, as shown in **Figure 12**.



**Figure 12.** Handles installed on handwheels.

2. Install the chuck guard with the two pre-installed M4-.7 x 8 flat head screws (see **Figure 13**).



**Figure 13.** Chuck guard installed.

# Power Connection

Before the machine can be connected to the power source, all previous setup instructions in this manual must be completed to ensure that the machine has been assembled and installed properly.

## Connecting Power

Make sure the spindle speed dial on the headstock is turned to "0" (rotated fully counterclockwise) before connecting power.

Insert the power cord plug into a matching power supply receptacle.

## Disconnecting Power

If you need to disconnect the machine from power for maintenance, service, or adjustments, press the emergency stop button, rotate the spindle speed dial fully counterclockwise, and pull the plug completely out of the receptacle.

# Test Run

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

The test run consist of verifying the following: 1) The motor powers up and runs correctly, and 2) the safety features of the emergency stop button and chuck guard work correctly.

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

## **!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.**

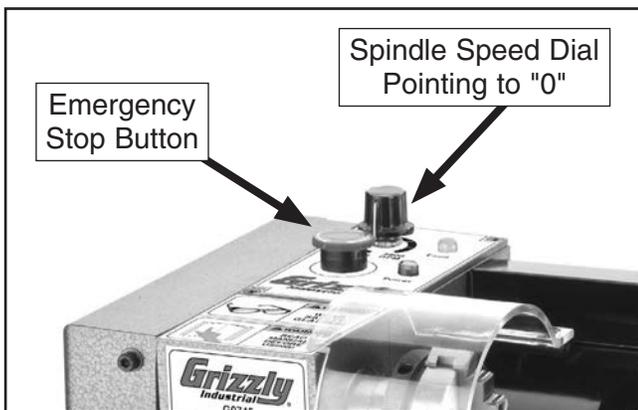


## **!WARNING**

**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 your machine:

1. Turn the spindle speed dial (see **Figure 14**) fully counterclockwise to "0", then press the emergency stop button.



**Figure 14.** Headstock controls.

2. Make sure chuck and jaws, if installed, are secure (see **Chuck Installation** on **Page 21**).

**Note:** *If a chuck is not installed on the lathe, you do not need to install one for this test.*

3. Reset the emergency stop button by twisting it clockwise until it pops out. The green power light *should* illuminate to indicate the lathe is connected to the power supply.
4. Turn the spindle speed dial past "1" on the RPM label. The spindle *should* begin rotating counterclockwise—down and toward you as you face the lathe.

5. Push the emergency stop button to turn the lathe **OFF**, then, without resetting the emergency stop, try to restart spindle rotation. The spindle *should not* start.

—If spindle stop *does* start with the emergency stop button pressed in, the button is not operating correctly. This safety feature must operate properly before continuing operation. Use the spindle speed dial to stop the machine, disconnect it from power, and call Tech Support for help.

6. Reset the emergency stop button, then lift the chuck guard all the way up. Try restarting the spindle. It *should not* start when the chuck guard is up.

—If spindle rotation *does* start with the chuck guard open, the chuck guard is not operating correctly. This safety feature must operate properly before continuing operation. Use the spindle speed dial to stop the machine, disconnect it from power, and call Tech Support for help.

7. Reposition the chuck guard over the chuck.

Congratulations! The test run is complete.

## **Recommended Adjustments**

The following adjustments have been made at the factory. However, because of the many variables involved with shipping, we recommend you verify these adjustments to ensure the best results:

### **Factory adjustments that should be verified:**

- Cross slide and carriage backlash (see **Page 35**).
- Gib (see **Page 36**).



# 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.



### **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. Puts on safety glasses and a face shield, ties back long hair, rolls up long sleeves, removes loose clothing, jewelry, or gloves that could get entangled in moving parts.
2. Examines the workpiece to make sure it is suitable for turning, then securely mounts the workpiece in a chuck, faceplate, or between centers.
3. Mounts the tooling, aligns it with the workpiece, then backs it away to establish a safe startup clearance.
4. Clears all setup tools from the lathe.
5. Checks for safe clearances by rotating the workpiece by hand at least one full revolution.
6. Starts spindle rotation.
7. Sets the correct spindle speed for the operation.
8. Uses various handwheel controls to move the tooling into the workpiece for operations.
9. When finished, moves the spindle speed dial to the "0" position, waits for the spindle to completely stop, then removes the workpiece.

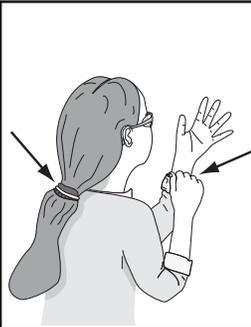


# Chuck & Faceplate Mounting

This lathe is equipped with an M14-1.0 threaded spindle nose. With this type of spindle, the chuck or faceplate (not included) screws directly onto the spindle nose.

## **!WARNING**

**Never use spindle speeds faster than the chuck RPM rating or the safe limits of your workpiece. Excessive spindle speeds greatly increase the risk of the workpiece or chuck being thrown from the machine with deadly force!**



## **!WARNING**

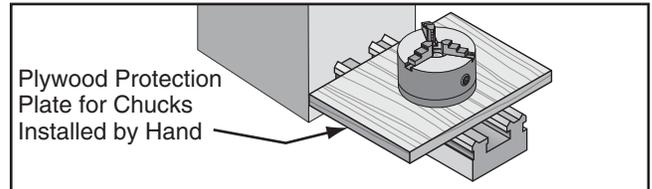
**Loose hair, clothing, or jewelry could get caught in machinery and cause serious personal injury. Keep these items away from moving parts at all times to reduce this risk.**

This lathe ships with the 3-jaw chuck installed. This is a scroll-type chuck where all three jaws move in unison when the chuck key is used.

If the chuck cannot hold your workpiece, use a faceplate (not included) with slots for T-bolts that hold standard or custom clamping hardware. With the correct clamping hardware, a faceplate offers a wide range of uses, including machining non-concentric workpieces, straight turning between centers, and boring.

# Installation & Removal Device

Because a chuck may become damaged or damage the bedways if dropped, always use a support or protective device during installation or removal. Refer to the following figure for an example.



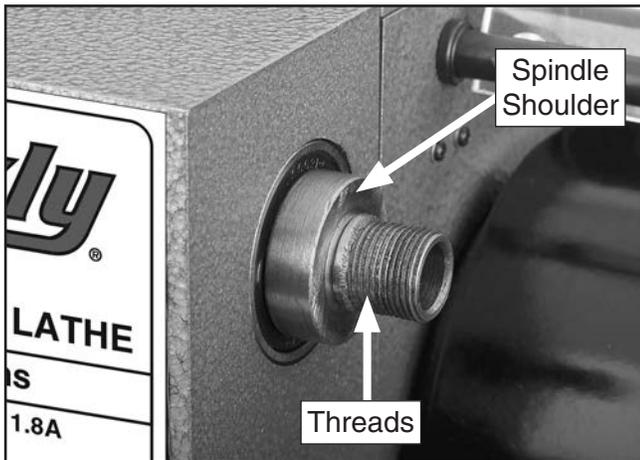
**Figure 15.** Example of common device used during chuck installation and removal.



# Chuck Installation & Removal

To ensure accurate work, it is extremely important that the spindle nose and chuck mating surfaces remain clean during installation. Even a small amount of dirt or debris can affect accuracy.

The chuck is properly installed when it threads all the way onto the spindle nose (see **Figure 16**) and evenly seated against the spindle shoulder.



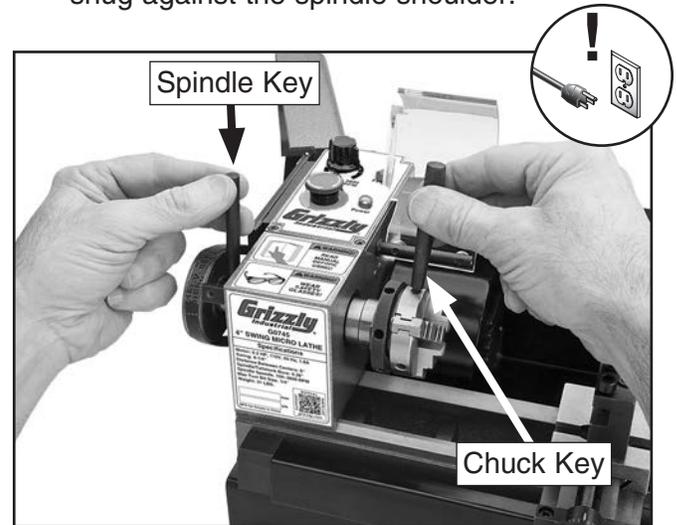
**Figure 16.** Spindle nose (M14-1.0 threads).

Tools Needed:	Qty
Chuck Keys .....	2
Spindle Key .....	1

## Chuck Installation

1. DISCONNECT LATHE FROM POWER!
2. Use an appropriate device to protect the ways during the installation process (refer to **Installation & Removal Device** on **Page 20**).
3. Thoroughly clean, inspect, deburr, and lightly oil all threads and mating surfaces.
4. Thread the chuck onto the spindle nose and hand-tighten it.
5. Remove the cap screw that secures the end cover, then open the end cover.

6. Insert the spindle key and chuck key, as shown in **Figure 17**, and tighten the chuck snug against the spindle shoulder.



**Figure 17.** Tightening chuck onto spindle with spindle and chuck keys.

7. Close and secure the end cover.

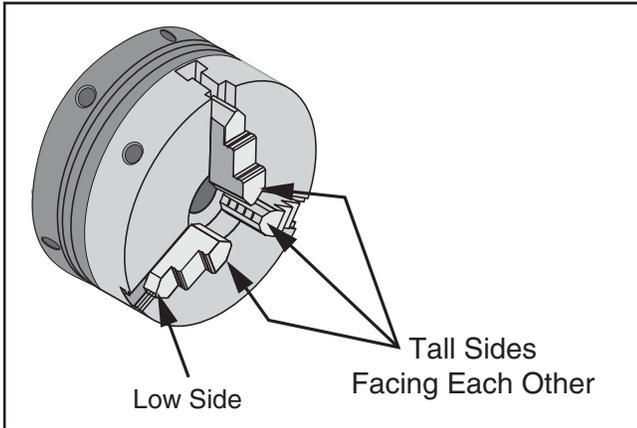
## Chuck Removal

1. DISCONNECT LATHE FROM POWER!
2. Use an appropriate device to protect the ways (refer to **Installation & Removal Device** on **Page 20**).
3. Remove the cap screw that secures the end cover, then open the end cover.
4. Use the spindle key and chuck key, as shown in **Figure 17**, to loosen and remove the chuck.



# Reversing Jaws

The included 3-jaw scroll chuck features reversible hardened steel jaws (see **Figure 18**) that move in unison to converge evenly against concentric workpieces.

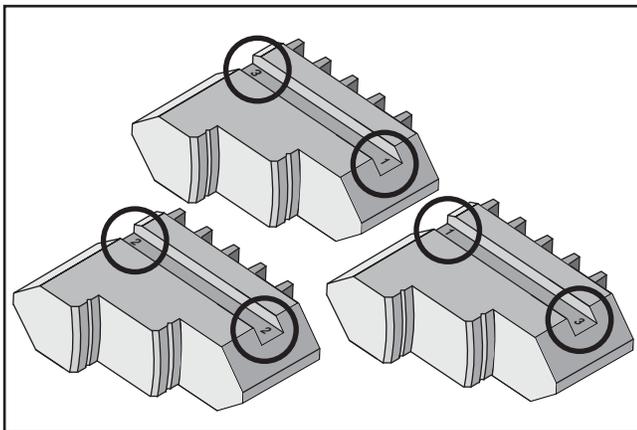


**Figure 18.** Chuck with reversible jaws.

When installing the jaws, it is important to make sure they are installed correctly. Incorrect installation will result in jaws that do not converge evenly and are unable to securely clamp a workpiece.

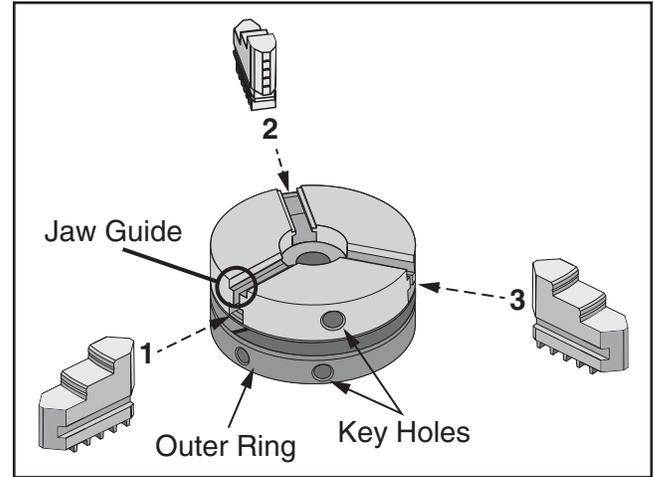
All of the tall ends of the jaws—or all of the low ends—should face each other when installed (see **Figure 18**). The jaws should be oriented so they correctly hold the workpiece (refer to **Figure 22** on **Page 23**).

Each end of a jaw is stamped with a number (1, 2, or 3), as shown in **Figure 19**.



**Figure 19.** Numbers stamped into each end of jaws.

Using the stamped numbers, the jaws are installed in numerical order in the jaw guides (see **Figure 20**), so they will converge.



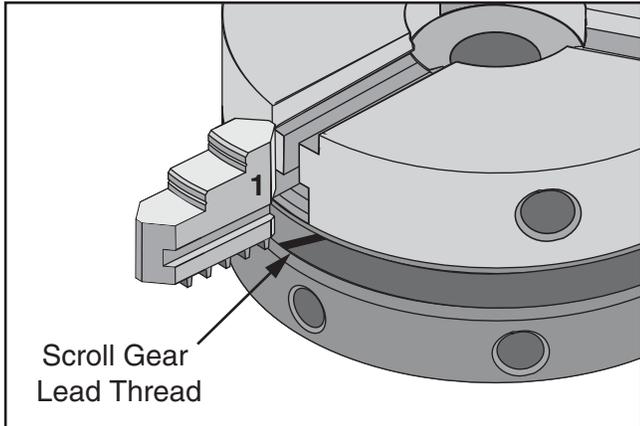
**Figure 20.** Jaw installation sequence using numbers stamped on tall end of jaw.

## To reverse the jaws:

1. DISCONNECT LATHE FROM POWER!
2. Use an appropriate device to protect the ways during the installation process (refer to **Installation & Removal Device** on **Page 20**).
3. Insert chuck keys into holes in chuck and outer ring (see **Figure 20**). Hold chuck key stationary while turning outer ring counter-clockwise, then back jaws out and remove them.
4. Use mineral spirits to clean debris and grime from jaws and chuck jaw guides.



- Rotate outer ring until tip of scroll-gear lead thread begins to enter a jaw guide (see **Figure 21**).



**Figure 21.** Lead thread entering jaw guide.

- Insert jaw #1 into the same jaw guide.
- Rotate outer ring so tip of scroll-gear lead thread engages jaw. Pull the jaw; it should be locked into the jaw guide.
- Install remaining jaws in numerical order in the same manner, starting to the right of the jaw you just installed. The jaws should converge evenly at the center of the chuck when properly installed.

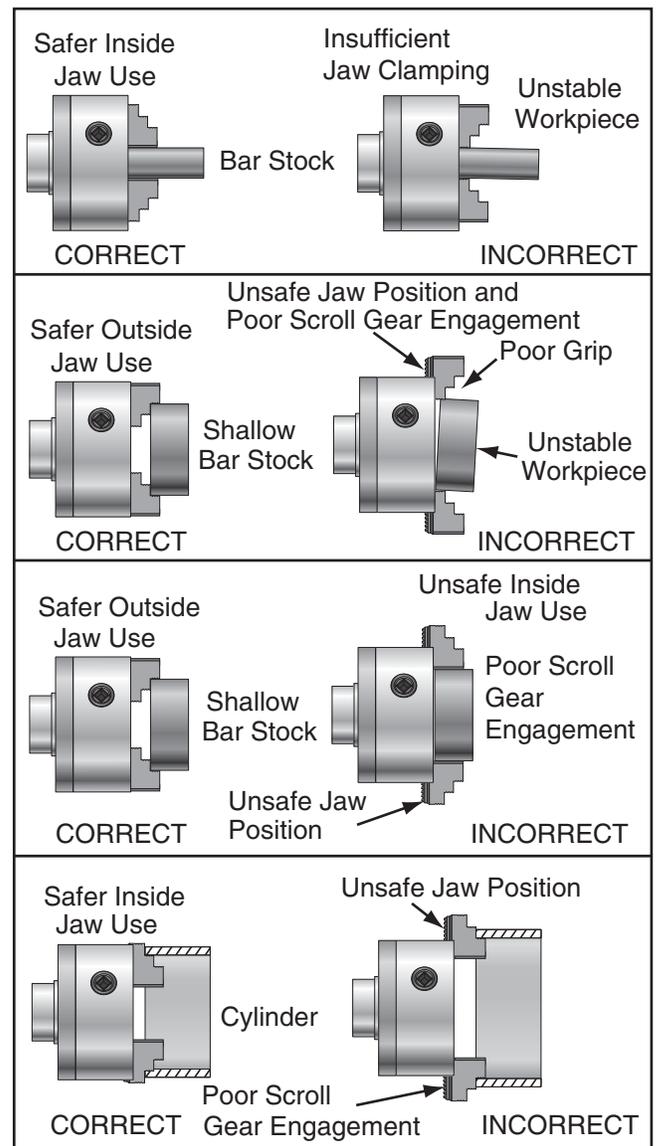
**Tip:** To ensure smooth installation, make sure the jaws are straight up and down and do not bind in the scroll gear.

—If the jaws do not converge evenly, remove them. Re-install the jaws sequentially 1–3, and make sure each one engages with the scroll-gear lead thread during its first rotation.

## Scroll Chuck Clamping

This 3-jaw scroll-type chuck has an internal scroll-gear that moves all jaws in unison when adjusted with the chuck key. This chuck holds cylindrical parts on-center with the axis of spindle rotation and can be rotated at high speeds if the workpiece is properly clamped and balanced.

**Never mix jaw types or positions to accommodate an odd-shaped workpiece.** The chuck will spin out of balance and may throw the workpiece! Instead, use an independent jaw chuck or a faceplate (not included).



**Figure 22.** Jaw selection and workpiece holding.

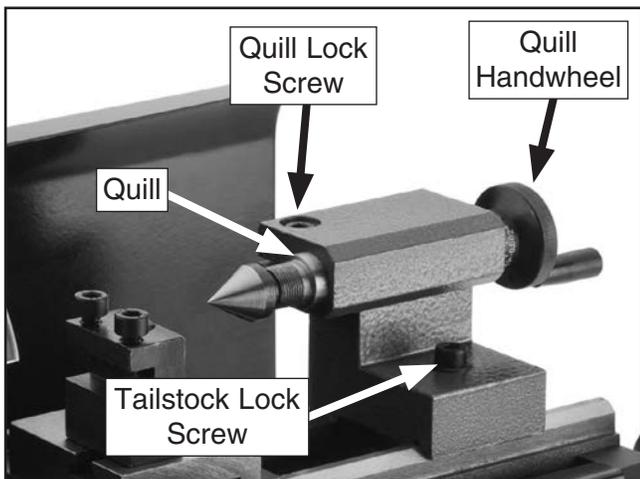


# Tailstock

The tailstock is typically used to support long workpieces at the opposite end of the spindle, using a center. It can hold a drill chuck (not included) with a regular drill bit for boring holes. Unlike boring done with a drill press where the workpiece is fixed and the drill bit rotates, the drill bit in a tailstock remains stationary while the workpiece is rotated by the spindle.

The entire tailstock can be repositioned and locked in place along the length of the bed with the tailstock lock screw.

The tailstock quill features a handwheel that moves it toward or away from the spindle in a precise manner; it is locked with the quill lock screw.



**Figure 23.** Tailstock controls and features.

Tools Needed to Make Adjustments:	Qty
Hex Wrench 5mm.....	1

## Tailstock Quill Specs

### Graduated Dial

Increments.....	0.002"
One Full Revolution.....	0.056"

## Positioning Tailstock

1. Loosen the tailstock lock screw to unlock the tailstock from the bedway.
2. Slide the tailstock to the desired position.
3. Tighten the tailstock lock screw to secure the tailstock against the bedway.

## Using Quill

1. Loosen the quill lock screw to unlock the quill.
2. Turn the quill handwheel clockwise to move the quill toward the spindle or counterclockwise to move it away from the spindle.
3. Tighten the quill lock screw to secure the quill.



# Center

**Figure 24** shows the center included with the lathe.

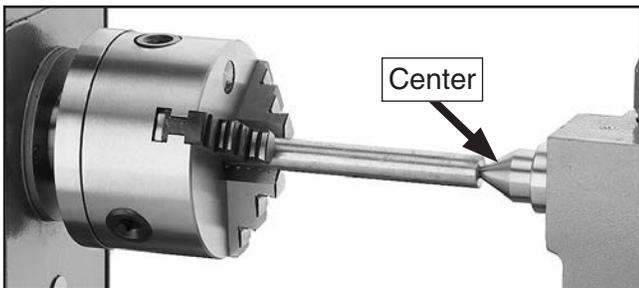


**Figure 24.** Included center.

The center is used to support long, slender workpieces when held between the tailstock and spindle.

## Mounting Center in Tailstock

The **Figure** below shows an example photo of a center mounted in a tailstock.



**Figure 25.** Example of using center installed in tailstock.

### To mount a center in the tailstock:

1. DISCONNECT LATHE FROM POWER!
2. Thoroughly clean and dry the mating surfaces of the tailstock quill bore and the center, making sure that no debris remains.
3. Lubricate the shaft and tip of the center with NLGI#2 grease, then insert it into the tailstock quill.
4. Seat the center into the quill during workpiece installation by rotating the quill handwheel clockwise to apply pressure against the workpiece.

**Note:** Only apply enough pressure with the tailstock quill to securely mount the workpiece between centers. Avoid overtightening the center against the workpiece, as it will result in excessive friction and heat, which may damage the workpiece and center.

## Mounting Workpiece Between Centers

1. DISCONNECT LATHE FROM POWER!
2. Drill center holes in both ends of the workpiece.
3. Install a center in the chuck with a lathe dog (not included), then install the included center in the tailstock quill.
4. Lubricate the workpiece center holes, then mount it between the centers and hold it in place with light pressure from the tailstock center.
5. Rotate the quill handwheel clockwise to apply pressure against the workpiece (see example in **Figure** below).



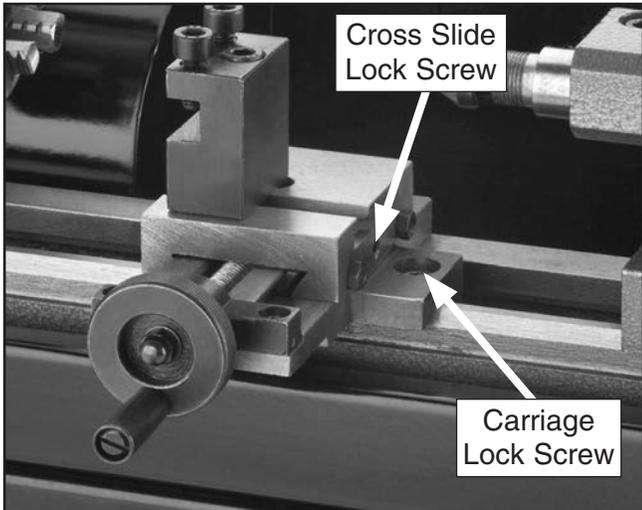
**Figure 26.** Example photo of workpiece mounted between centers.



# Carriage & Slide Locks

The carriage and cross slide have screws that can be tightened to provide additional rigidity during operation, especially during heavy cuts.

See **Figure 27** to identify the locations of the locks for each device.



**Figure 27.** Carriage and cross slide locks.

# Tool Post

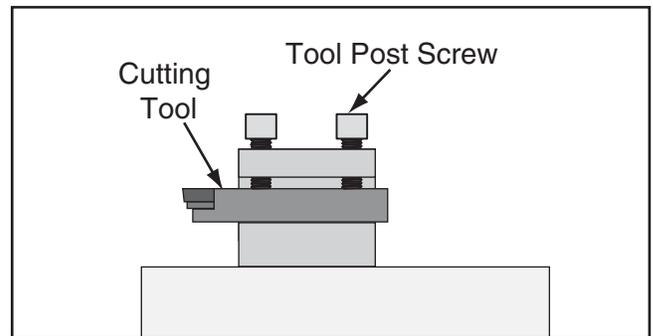
The tool post is mounted on top of the cross slide and allows one tool to be loaded at a time.

## Installing Tool

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

### To install a tool in the tool post:

1. Adjust the tool post screws so the cutting tool can fit underneath them (see **Figure 28**).



**Figure 28.** Example of tool mounted in tool post.

## **!**WARNING

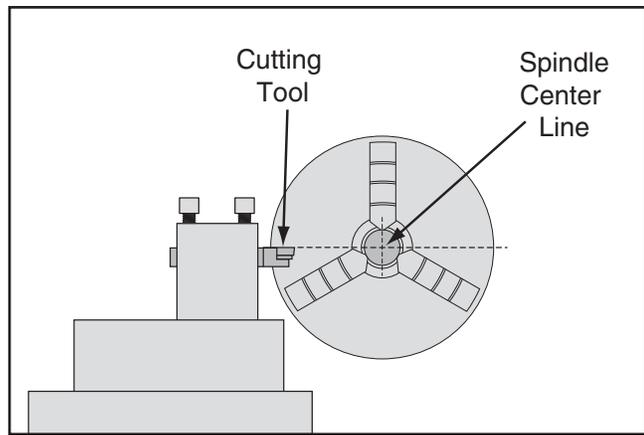
Over-extending a cutting tool from the tool post will increase the risk of tool chatter, breakage, or tool loosening during operation, which could cause metal pieces to be thrown at the operator or bystanders with great force. **DO NOT** extend a cutting tool more than 2.5 times the width of its cross-section (e.g.,  $2.5 \times 0.5" = 1.25"$ ).

2. Firmly secure the cutting tool with both tool post screws.
3. Check and adjust the tip of the cutting tool to the spindle centerline, as instructed in the next subsection.



## Aligning Cutting Tool with Spindle Centerline

For most operations, the cutting tool tip should be aligned with the spindle centerline, as illustrated in **Figure 29**.



**Figure 29.** Cutting tool aligned with spindle centerline (viewed from tailstock).

There are a number of ways to check and align the cutting tool to the spindle centerline. If necessary, you can raise the cutting tool by placing steel shims underneath it. The shims should be as long and as wide as the cutting tool to properly support it.

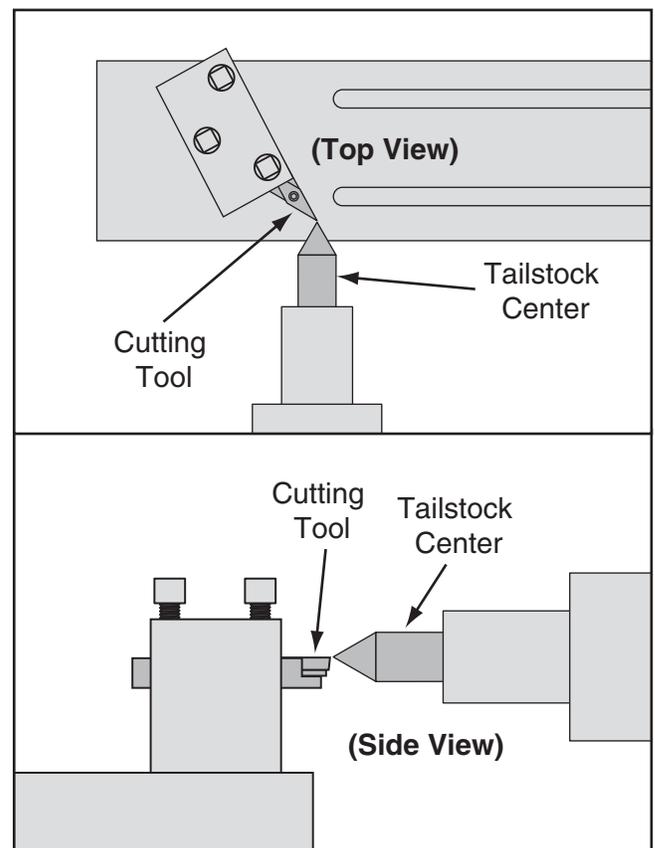
### Below are two common methods:

- Move the tailstock center over the cross slide and use a fine ruler to measure the distance from the surface of the cross slide to the tip of the center. Adjust the cutting tool height so it is the same distance above the cross slide as the tailstock center.
- Align the tip of the cutting tool with a tailstock center, as instructed in the following procedure.

Tools Needed	Qty
Hex Wrench 5mm.....	1
Steel Shims .....	As Needed
Cutting Tool .....	1
Tailstock Center.....	1

### To align the cutting tool with the tailstock center:

1. Mount the cutting tool in the tool post, then secure the post so the tool faces the tailstock.
2. Install a center in the tailstock, and position the center tip near the cutting tool tip.
3. Lock the tailstock and quill in place.
4. Adjust the height of the cutting tool so that the tool tip is aligned vertically with the center tip, as illustrated below.

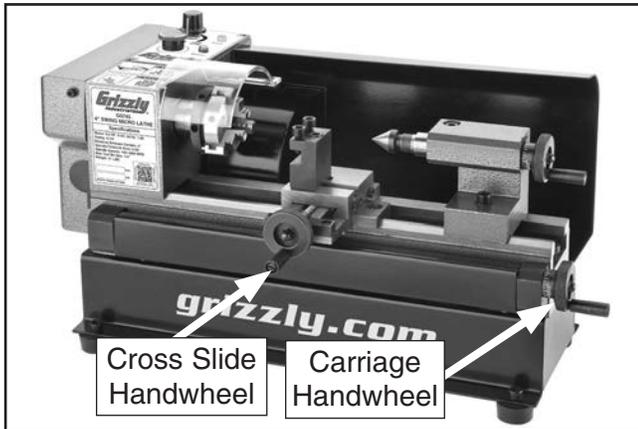


**Figure 30.** Cutting tool aligned to the tailstock center.



# Manual Feed

The handwheels shown in **Figure 31** allow the operator to manually move the cutting tool.



**Figure 31.** Manual handwheel controls.

## Carriage Handwheel

Use the carriage handwheel to move the carriage left or right along the bed when setting up and performing turning operations.

## Cross Slide Handwheel

### Graduated Dial

Increments..... 0.002" (0.051mm)

One Full Revolution..... 0.056" (1.42mm)

Use this handwheel to move the tool toward and away from the work. The cross slide handwheel has an indirect-read graduated dial. This means the distance shown on the scale represents the actual distance the tool moves.



# Spindle Speed

Using the correct spindle speed is important for getting 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 lathe controls to produce the required spindle speed.

## Determining Spindle Speed

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

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

\*Double if using carbide cutting tool

**Figure 32.** Spindle speed formula for lathes.

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

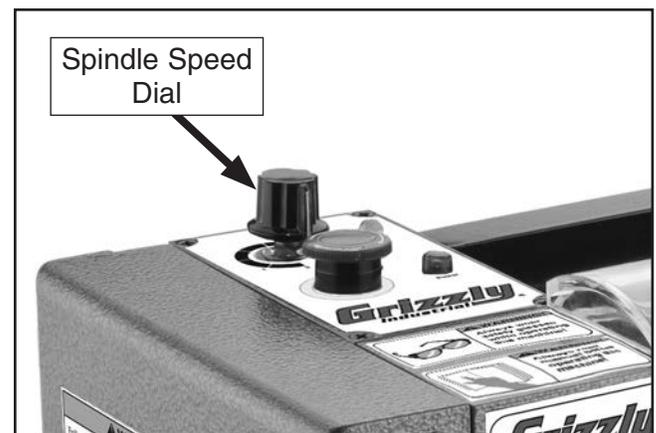
A recommended cutting speed is an ideal speed for cutting a type of material in order to produce the desired finish and optimize tool life.

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.

## Selecting Spindle Speed

Twist the emergency stop button clockwise to reset it, then rotate the spindle speed dial (**Figure 33**) until the desired spindle speed is achieved.



**Figure 33.** Spindle speed dial location.



# 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.

### **D2056—Woodstock Tool Table**

Get that bench-top tool off your bench and put it on this sturdy Shop Fox® stand instead! Flared legs and adjustable rubber feet ensure stability and reduce machine vibration. Butcher block finish table top measures 1" x 13" x 23" and is 30½" from the floor. Bottom measures 21" x 32". 700 lb. Capacity!



Figure 34. D2056 Tool Table.

### **T26622—Threaded Tailstock Chuck**

This tailstock chuck, which features M14-1.0 threads and 3/64"–5/16" capacity, is designed for the Model G0745.

### **T25206—11 Pc. Carbide Bit Set 5/16"**

This 11-Pc. Carbide-Tipped Tool Bit Set includes a wide variety of tool types for just about any machining operation. This set also includes two boring bars. Boring bars measure 47/8" long. Shank size for all is 5/16".

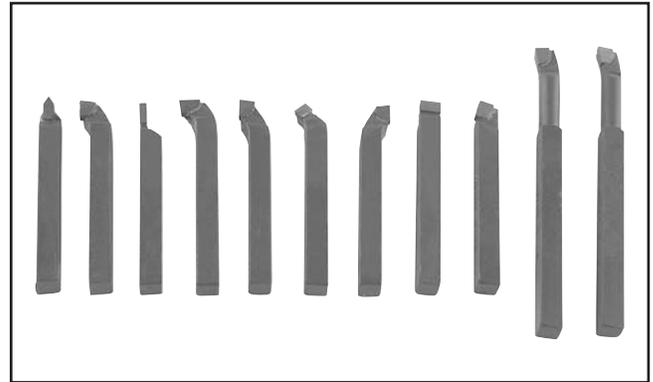


Figure 35. 11-Pc. Carbide-Tipped Tool Set.

### **SB1365—South Bend Way Oil for Lathes**

Engineered for the high pressure exerted on horizontal or vertical ways and slides. Protects against rust and corrosion. Ensures stick-free, smooth motion which maximizes finishes and extends the life of your machine. Won't gum up! 12 oz. AMGA#2 (ISO 68 Equivalent).



Figure 36. Way Oil.

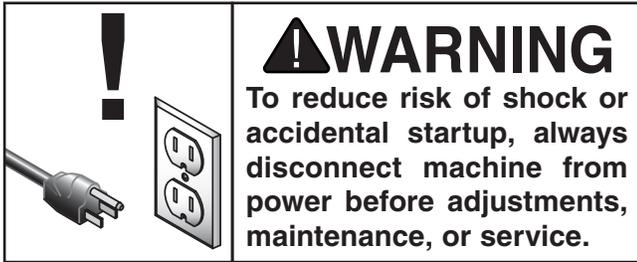
**order online at [www.grizzly.com](http://www.grizzly.com) or call 1-800-523-4777**



# SECTION 6: MAINTENANCE

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## Schedule

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### Ongoing

To help reduce the risk of injury and ensure proper machine operation, if you ever observe any of the items below, shut down the machine immediately and fix the problem before continuing operations.

- Worn, frayed, cracked, or damaged wires.
- Guards or covers open or removed.
- Emergency STOP button not working correctly.
- Damaged or malfunctioning components.

### Daily, Before Operations

- Clean/lubricate the longitudinal and cross slide leadscrews (**Page 32**).
- Lubricate the bedways (**Page 32**).
- Ensure carriage lock bolt is loose.

### Daily, After Operations

- Turn the spindle direction switch to "0", and press the emergency stop button (to prevent accidental startup).
- Vacuum/clean all chips and swarf from bed and slides.
- Wipe down all unpainted or machined surfaces with an oiled rag.

## Cleaning/Protecting

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Typically, the easiest way to clean swarf from the machine is to use a wet/dry shop vacuum that is dedicated for this purpose. The small chips left over after vacuuming can be wiped up with a slightly oiled rag. Avoid using compressed air to blow off chips, as this may drive them deeper into the moving surfaces or cause sharp chips to fly into your face or hands.

All unpainted and machined surfaces should be wiped down daily with way oil to keep them rust free and in top condition. This includes any surface that is vulnerable to rust if left unprotected.



# Lubrication

The lathe has metal-to-metal sliding surfaces that require regular lubrication to maintain smooth movement and ensure long-lasting operation.

Other than the lubrication points covered in this section, all other bearings are internally lubricated and sealed at the factory. Simply leave them alone unless they need to be replaced.

Before performing any lubrication task, **DISCONNECT LATHE FROM POWER!**

We recommend using Model SB1365 Way Oil (see **Accessories** on **Page 30**) for most of the lubrication tasks.

## **NOTICE**

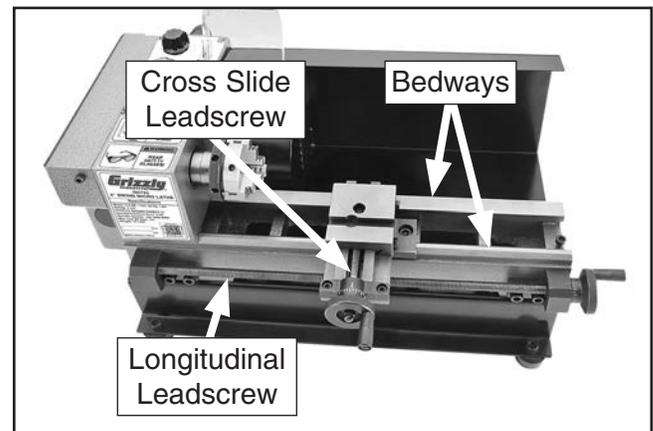
The recommended lubrication is based on light-to-medium usage. Keeping in mind that lubrication helps to protect the value and operation of the lathe, these lubrication tasks may need to be performed more frequently than recommended here, depending on usage.

Failure to follow reasonable lubrication practices as instructed in this manual could lead to premature failure of lathe components and will void the warranty.

## Leadscrews

Oil Type .... Grizzly SB1365 or ISO 68 Equivalent  
Oil Amount..... As Needed  
Lubrication Frequency..... Daily

Before lubricating the longitudinal and cross slide leadscrews (see **Figure 37**), clean them first with mineral spirits. To access the longitudinal leadscrew, remove the leadscrew cover, which is attached with screws. Use a stiff brush to help remove any debris or grime. Apply a thin coat of oil along the length of the leadscrews. Use a stiff brush to make sure oil is applied into the leadscrew threads. Re-install the longitudinal leadscrew cover when finished.



**Figure 37.** Leadscrews and bedways (tailstock and leadscrew cover removed).

## Bedways

Oil Type .... Grizzly SB1365 or ISO 68 Equivalent  
Oil Amount..... As Needed  
Lubrication Frequency..... Daily

Before lubricating the bedways (see **Figure 37**), clean them with mineral spirits. Apply a thin coat of oil along the length of the bedway. Move the carriage and remove the tailstock (remove cap screw at end of bed) to access the entire length of the bedways. Re-install the tailstock when finished.



# 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 or a circuit breaker trips.	<ol style="list-style-type: none"> <li>Emergency stop button engaged or at fault.</li> <li>Spindle speed dial turned to "0" or at fault.</li> <li>Wall fuse/circuit breaker is blown/tripped; short in electrical system; start-up load too high for circuit.</li> <li>Wiring is open/has high resistance.</li> <li>Motor connection wired wrong.</li> <li>Machine fuse at fault.</li> <li>Motor brushes at fault.</li> <li>Motor at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Rotate button clockwise until it pops out to reset it for operation; replace if not working properly.</li> <li>Turn spindle speed dial past "1". Ensure dial has correct voltage. Replace if faulty.</li> <li>Verify circuit is rated for machine amp load; troubleshoot and repair cause of overload; replace weak breaker; find/repair electrical short.</li> <li>Check for broken wires or disconnected/corroded connections, and repair/replace as necessary.</li> <li>Correct motor wiring connections (<b>Page 40</b>).</li> <li>Replace fuse (<b>Page 37</b>).</li> <li>Replace brushes (<b>Page 38</b>).</li> <li>Test/repair/replace.</li> </ol>
Motor is loud when cutting, bogs down under load, or overheats.	<ol style="list-style-type: none"> <li>Excessive depth of cut or feed rate.</li> <li>Spindle speed or feed rate wrong for cutting operation.</li> <li>Cutting tool is dull.</li> </ol>	<ol style="list-style-type: none"> <li>Decrease depth of cut or feed rate.</li> <li>Refer to the feeds and speed charts in <b>Machinery's Handbook</b> or a speeds and feeds calculator on the internet.</li> <li>Sharpen or replace the cutting tool.</li> </ol>
Entire machine vibrates upon startup and while running.	<ol style="list-style-type: none"> <li>Workpiece is unbalanced.</li> <li>Workpiece is hitting stationary object.</li> <li>Loose or damaged V-belt.</li> <li>Chuck or faceplate is unbalanced or not installed properly.</li> <li>Spindle bearings at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Re-install workpiece as centered with the spindle centerline as possible.</li> <li>Stop lathe immediately and correct interference problem.</li> <li>Retension/replace the V-belt as necessary (<b>Page 36</b>).</li> <li>Check installation; rebalance chuck or faceplate; contact a local machine shop for help.</li> <li>Replace worn spindle bearings.</li> </ol>
Bad surface finish.	<ol style="list-style-type: none"> <li>Wrong spindle speed or feed rate.</li> <li>Dull tooling or poor tool selection.</li> <li>Tool height not at spindle centerline.</li> <li>Too much play in gib.</li> </ol>	<ol style="list-style-type: none"> <li>Adjust for appropriate spindle speed and feed rate.</li> <li>Sharpen tooling or select a better tool for the intended operation.</li> <li>Adjust tool height to spindle centerline (<b>Page 27</b>).</li> <li>Tighten gib (<b>Page 36</b>).</li> </ol>



Cross slide or carriage has sloppy operation.	<ol style="list-style-type: none"> <li>1. Gib out of adjustment.</li> <li>2. Excessive backlash.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust gib (see <b>Page 36</b>).</li> <li>2. Adjust backlash to a minimum (see <b>Page 35</b>).</li> </ol>
Cross slide or carriage feed handwheel hard to move.	<ol style="list-style-type: none"> <li>1. Ways loaded with shavings, dust, or grime.</li> <li>2. Lock screws tightened.</li> <li>3. Gib screws are too tight.</li> <li>4. Backlash setting too tight.</li> <li>5. Bedways are dry.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean ways and relubricate.</li> <li>2. Loosen lock screws.</li> <li>3. Loosen gib screw(s) slightly (see <b>Page 36</b>).</li> <li>4. Slightly loosen backlash setting (see <b>Page 35</b>).</li> <li>5. Lubricate bedways.</li> </ol>
Cutting tool or machine components vibrate excessively while cutting.	<ol style="list-style-type: none"> <li>1. Tool post not tight enough.</li> <li>2. Cutting tool sticks too far out of tool post; lack of support.</li> <li>3. Gib out of adjustment.</li> <li>4. Dull cutting tool.</li> <li>5. Incorrect spindle speed or feed rate.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for debris, clean, and retighten.</li> <li>2. Re-install cutting tool so no more than <math>\frac{1}{3}</math> of the total length is sticking out of tool post.</li> <li>3. Adjust gib (see <b>Page 36</b>).</li> <li>4. Replace or resharpen cutting tool.</li> <li>5. Use the recommended spindle speed and feed rate.</li> </ol>
Chuck jaws will not move or do not move easily.	<ol style="list-style-type: none"> <li>1. Chips lodged in the jaws or scroll plate.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove jaws, clean and lubricate scroll plate and jaws, then replace jaws.</li> </ol>



# Backlash Adjustment

Backlash is the amount of free-play in the lead-screws. It can be felt while changing rotation directions with the cross slide and longitudinal feed handwheels. Before beginning any adjustment, make sure all associated components are cleaned and lubricated, and the locks are loose.

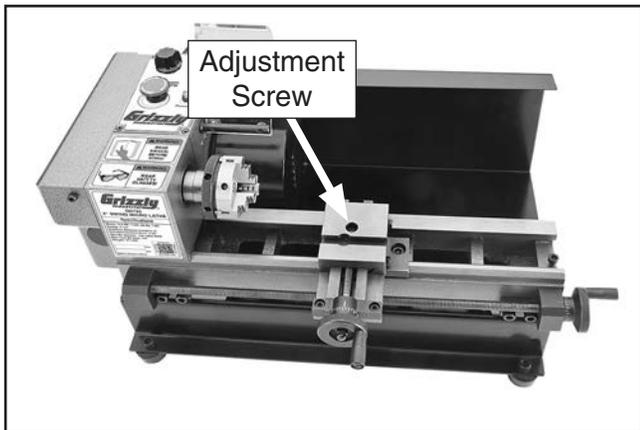
**NOTICE**

Reducing backlash to less than 0.002" is impractical and can lead to accelerated wear in the leadscrew and other components. Avoid the temptation to overtighten the backlash nut or screw while adjusting.

## Cross Slide

**Tools Needed:** Qty  
Phillips Head Screwdriver #1..... 1

The cross slide backlash is adjusted by loosening Phillips head screw (see **Figure 38**). When the screw is tightened, the leadscrew nut draws the leadscrew up, removing free-play.



**Figure 38.** Cross slide backlash adjustment screw.

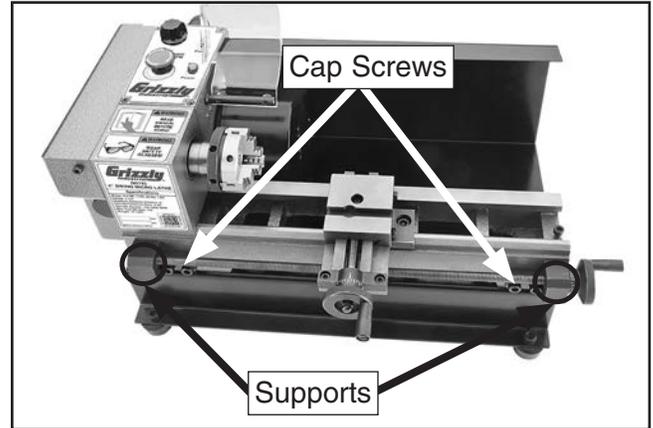
To adjust the backlash, move the tool post out of the way, or remove it. Then, rock the cross slide handwheel back and forth, and tighten the screw slowly until the backlash is approximately 0.002"–0.003" as indicated on the graduated dial.

If you end up adjusting the nut too tight, loosen the screw, turn the handwheel back and forth until it turns freely—then try again.

## Carriage

**Tools Needed:** Qty  
Hex Wrench 5mm..... 1

The carriage handwheel backlash is adjusted with the leadscrew supports (see **Figure 39**).



**Figure 39.** Carriage adjustment screws and leadscrew supports.

To access the leadscrew supports, remove the leadscrew cover. Loosen the four cap screws, push the leadscrew supports towards the center of the lathe, then tighten the cap screws. Turn the handwheel—backlash should be approximately 0.002"–0.003" as indicated on the graduated dial. If the adjustment is too tight, loosen the cap screws, and re-adjust the supports until the handwheel turns freely. Re-install the leadscrew cover when finished.



# Gib Adjustment

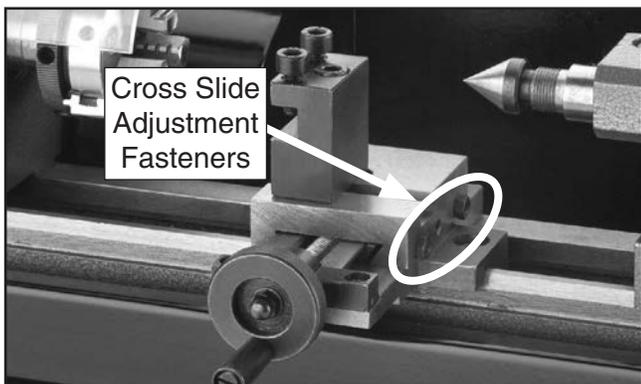
The goal of adjusting the cross slide gib is to remove sloppiness or free-play from the ways without making the cross slide overly stiff and difficult to move.

In general, loose gibs cause poor finishes and tool chatter. Over-tightened gibs cause premature wear and make the handwheel difficult to turn.

Tools Needed	Qty
Open-End Wrench 7mm.....	1
Hex Wrench 2mm.....	1

## To adjust the cross slide gib:

1. DISCONNECT LATHE FROM POWER!
2. Loosen the two hex nuts on the side of the slide (see **Figure 40**).



**Figure 40.** Cross slide gib adjustment hex nuts and set screws.

3. Adjust the set screws in small and equal increments, then test the movement of the slide by rotating the handwheel.

**Note:** *Turning the set screws clockwise tightens the gib, and turning them counterclockwise loosens the gib.*

4. When you are satisfied with the gib adjustment, keep the set screws from moving and re-tighten the hex nuts to secure the settings.
5. Re-check the movement of the slide and, if necessary, repeat **Steps 2–4**.

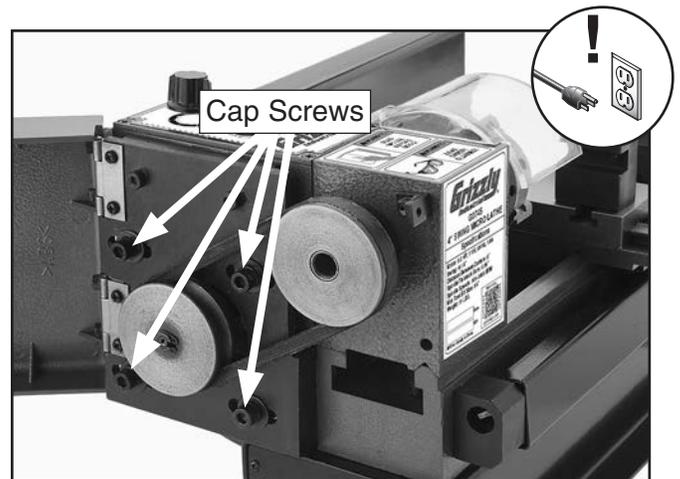
# V-Belt Tension & Replacement

The V-belt stretches and wears with use. An improperly tensioned V-belt will slip or poorly transmit power from the motor. Check the tension on a monthly basis to ensure optimal power transmission. Replace the V-belt if it becomes cracked, frayed, or glazed.

Tools Needed	Qty
Hex Wrench 3mm.....	1
Hex Wrench 5mm.....	1

## Tensioning V-Belt

1. DISCONNECT LATHE FROM POWER!
2. Open the end cover, which is secured with a cap screw.
3. Loosen the cap screws shown in **Figure 41**.

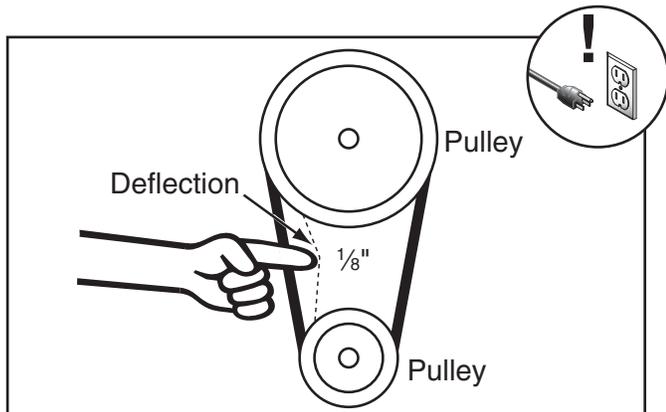


**Figure 41.** Location of cap screws for loosening V-belt.

4. Pull the motor away from the bed to tension the V-belt, then tighten the cap screws.



The V-belt is correctly tensioned when there is approximately 1/8" deflection when it is pushed with moderate pressure, as shown in **Figure 42**.



**Figure 42.** Correct V-belt deflection.

—If there is more than 1/8" deflection when the V-belt is pushed with moderate pressure, loosen the four cap screws, and adjust the tension until it is correct.

5. Close and secure the end cover.

### Replacing V-Belt

1. DISCONNECT LATHE FROM POWER!
2. Open the end cover.
3. Loosen the four cap screws shown in **Figure 41** on **Page 36**.
4. Carefully roll the V-belt off of the pulleys.
5. Install a new V-belt, then tension it as described on **Page 36**.

## Fuse Replacement

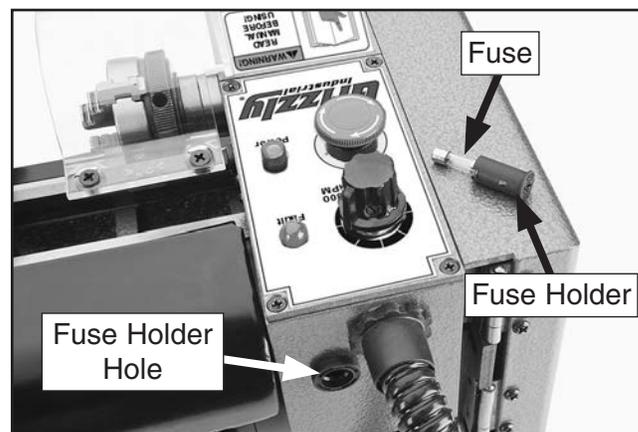
Tool Needed	Qty
Flat Head Screwdriver #1 .....	1

Replacement part number: P0745125.

If the spindle does not start, replace the fuse.

### To replace the fuse:

1. Using the screwdriver, push and twist the fuse holder (see **Figure 43**) to remove it from the hole in the rear of the headstock.



**Figure 43.** Fuse holder and fuse.

2. Insert a new fuse into the fuse holder.
3. Re-install the fuse holder.



# Brush Replacement

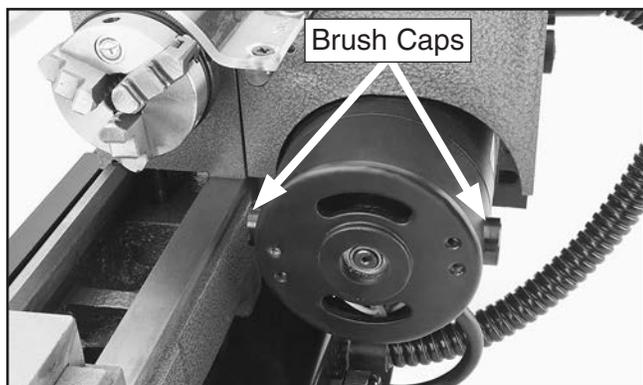
Tool Needed	Qty
Hex Wrench 3mm.....	1
Hex Wrench 5mm.....	1
Flat Head Screwdriver #1 .....	1

Replacement part number: P0745134

Replace the carbon brushes if the motor does not develop full power, or the brushes measure less than 1/4" long.

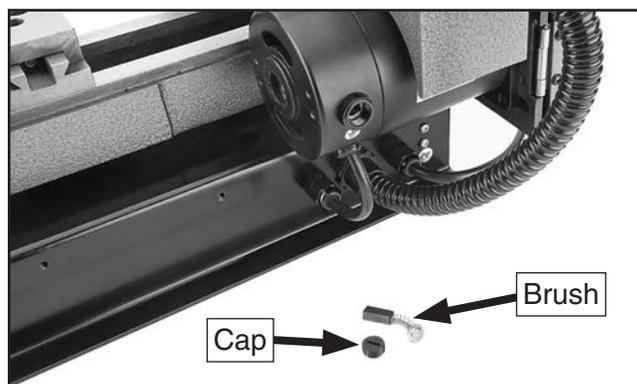
## To replace the motor brushes:

1. DISCONNECT LATHE FROM POWER!
2. Remove the backslash to gain access to both brushes (see **Figure 44**).



**Figure 44.** Location of motor brush caps (backslash removed).

3. Unscrew each brush cap and carefully remove each brush from the motor (see **Figure 45**).



**Figure 45.** Motor brush components removed (1 of 2 motor brushes shown).

4. Install new brushes.
5. Re-install the brush caps, then replace the backslash.



# SECTION 8: WIRING

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

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

## WARNING

### Wiring Safety Instructions

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

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

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

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

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

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

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

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

#### NOTICE

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

#### COLOR KEY

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



# Control Panel Wiring

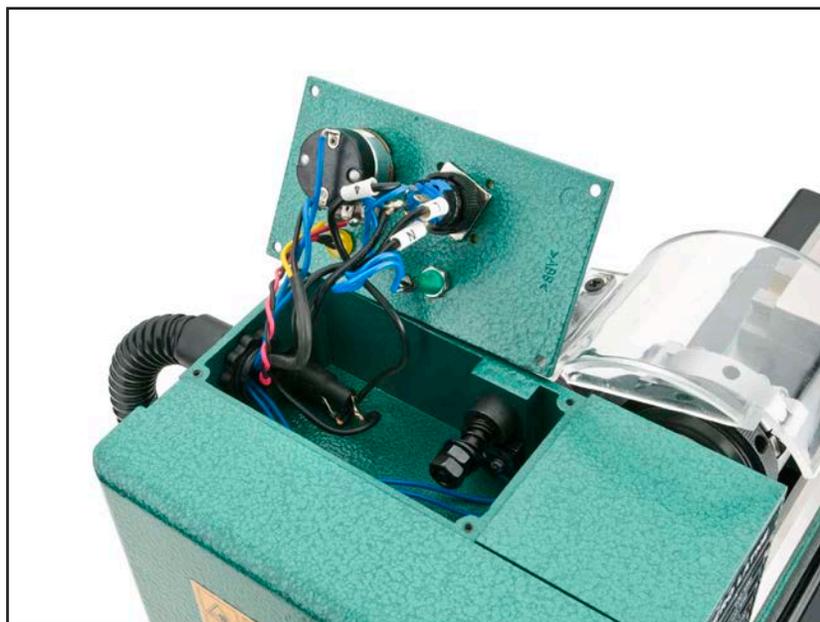
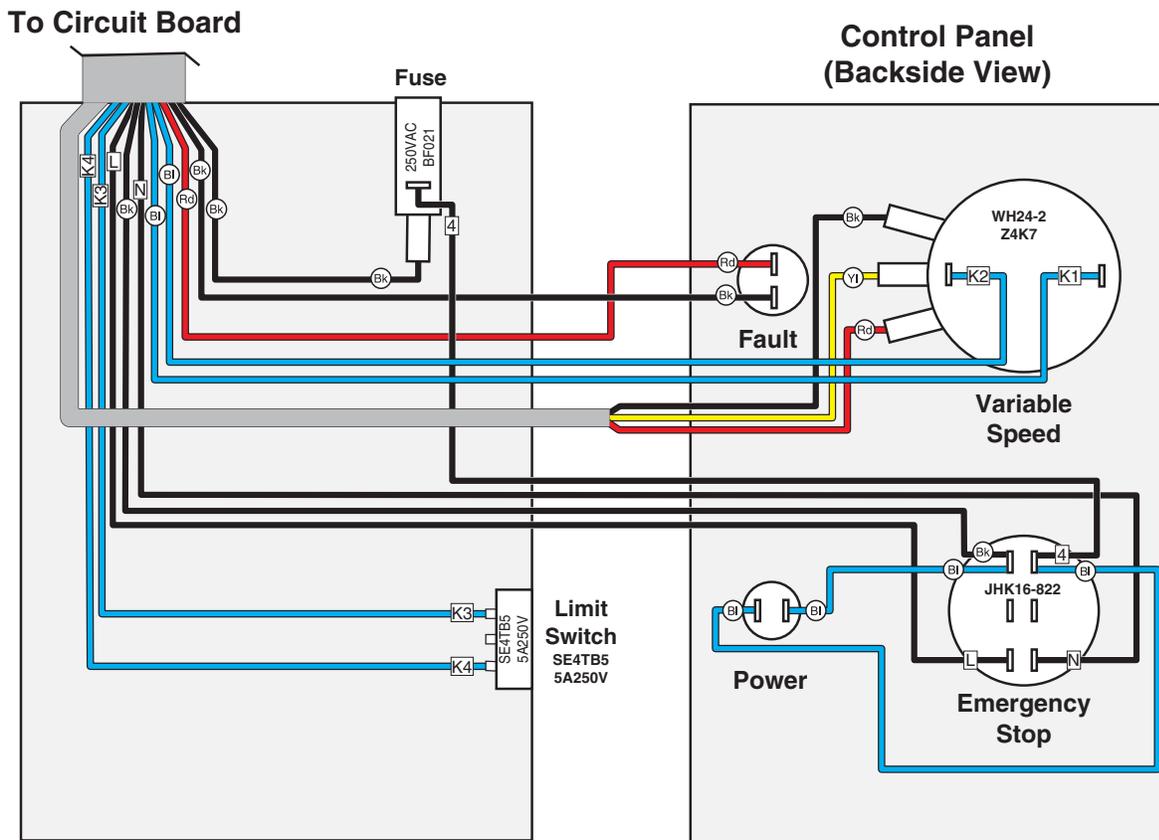
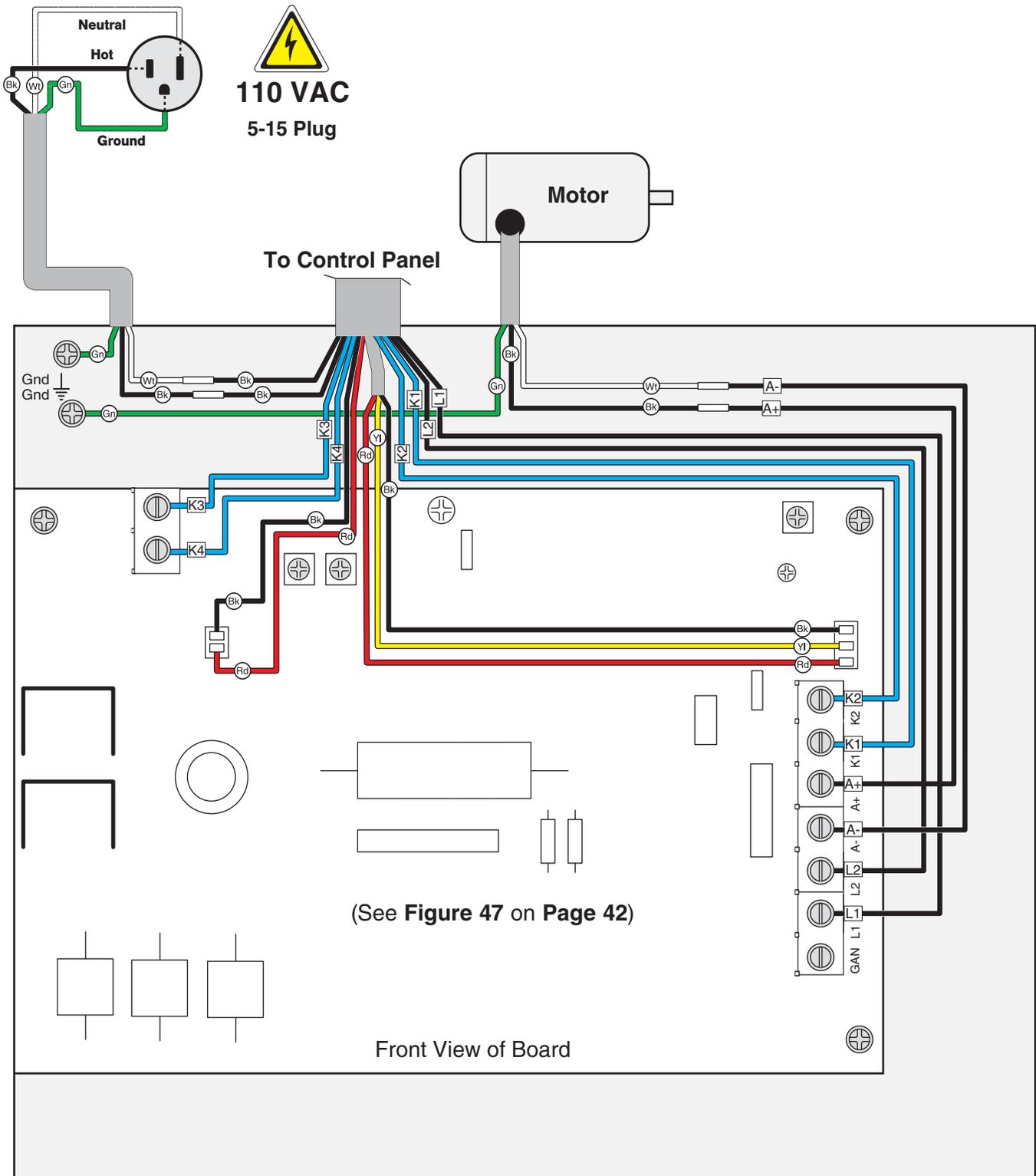
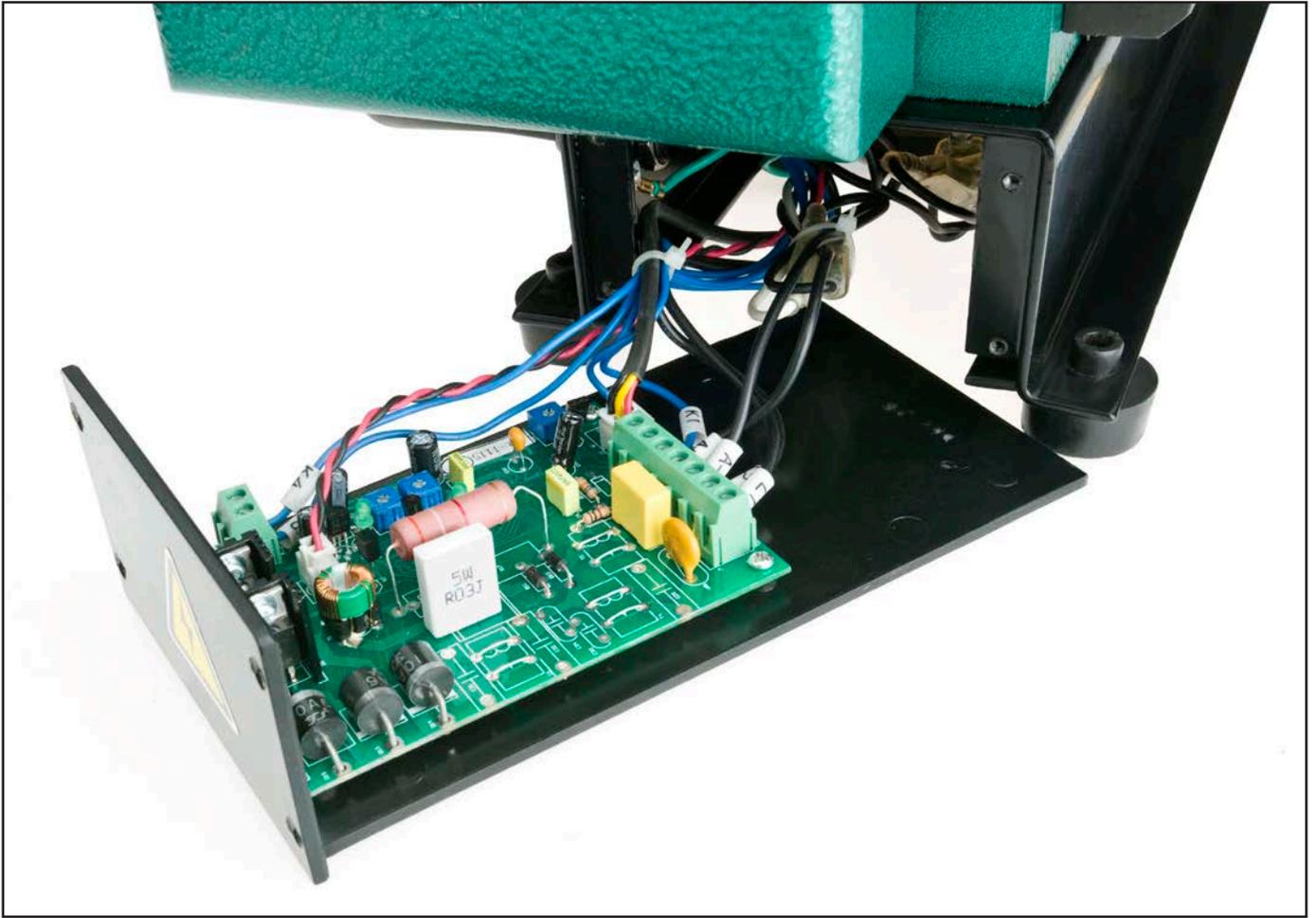


Figure 46. Control panel wiring.



# Circuit Board Wiring



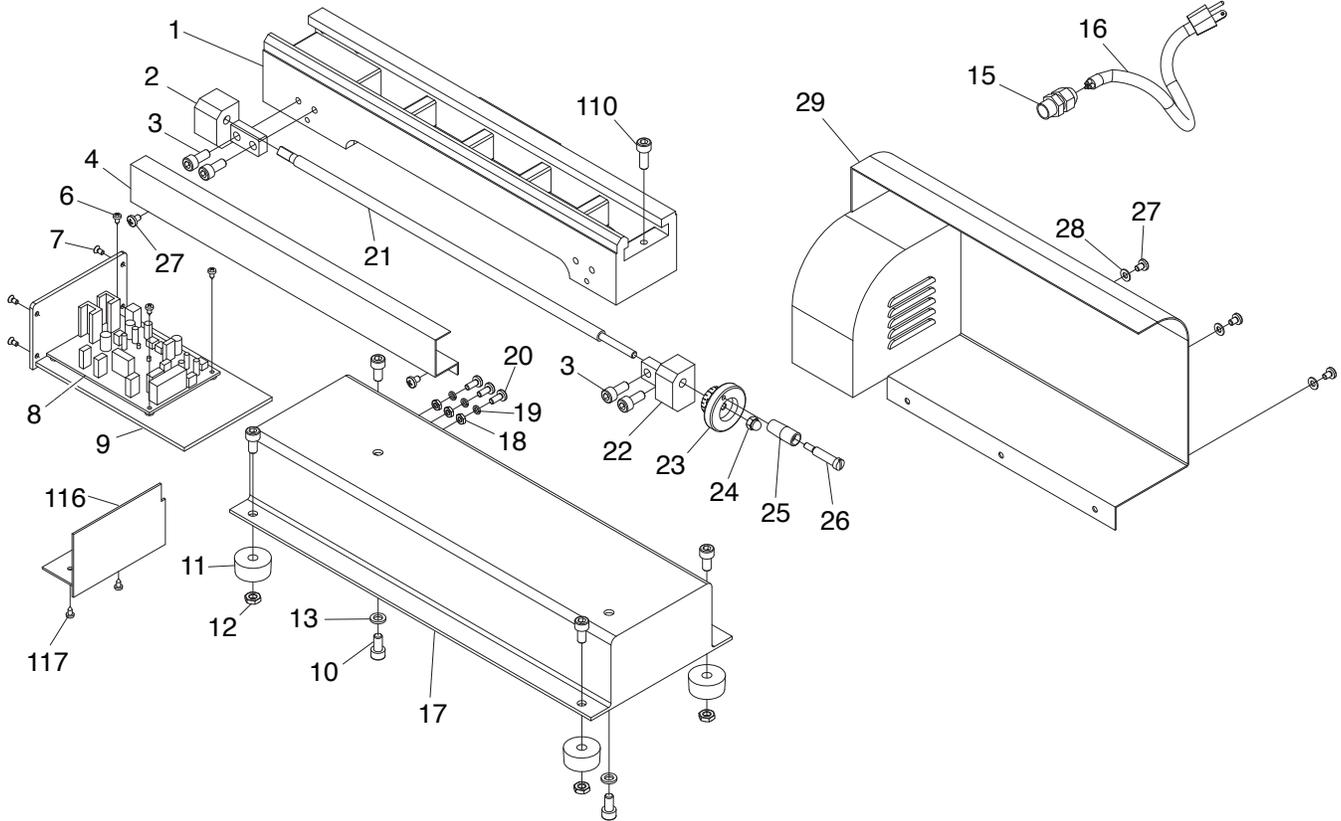


**Figure 47.** Circuit board.



# SECTION 9: PARTS

## Body & Bed



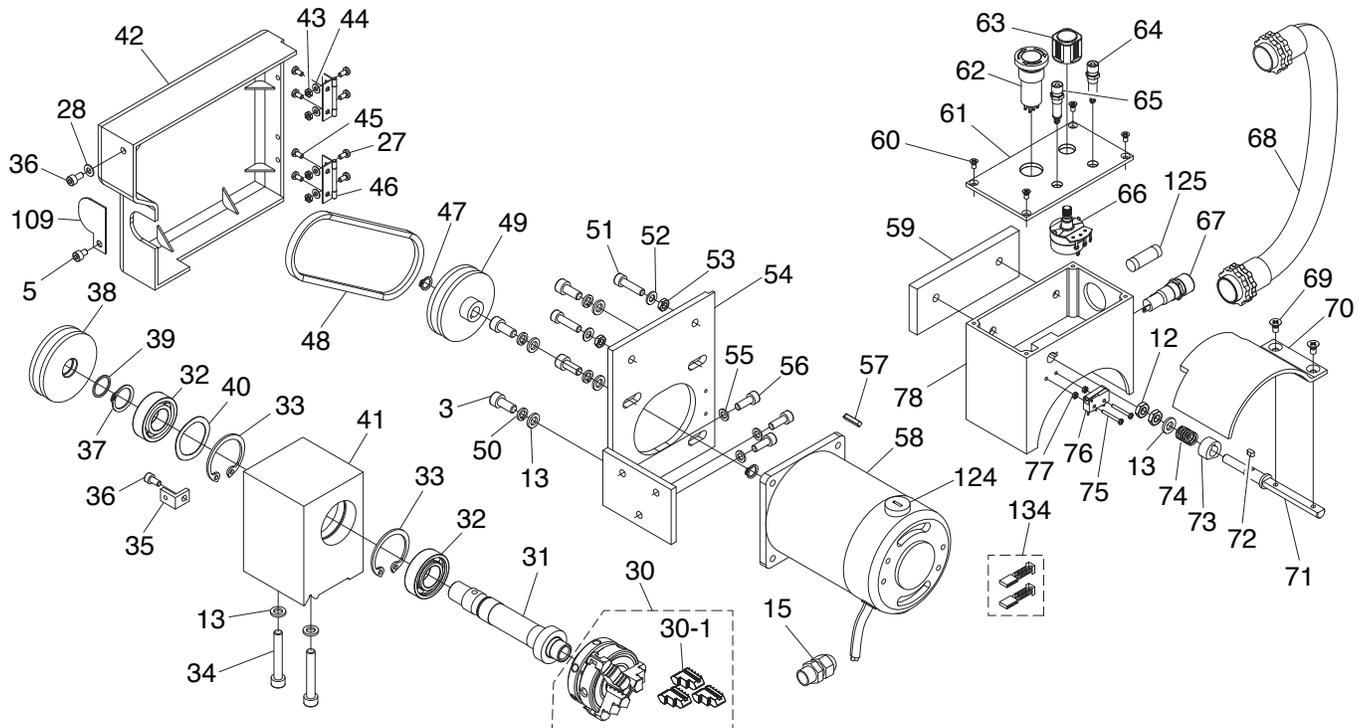
REF	PART #	DESCRIPTION
1	P0745001	BED
2	P0745002	LEADSCREW SUPPORT (LH)
3	P0745003	CAP SCREW M6-1 X 14
4	P0745004	LEADSCREW COVER
6	P0745006	TAP SCREW M2.9 X 6.5
7	P0745007	TAP SCREW M3 X 8
8	P0745008	CIRCUIT BOARD XMT1115
9	P0745009	CIRCUIT BOARD BACK PLATE
10	P0745010	CAP SCREW M6-1 X 12
11	P0745011	FOOT (RUBBER)
12	P0745012	HEX NUT M6-1
13	P0745013	FLAT WASHER 6MM
15	P0745015	STRAIN RELIEF M12
16	P0745016	POWER CORD 18G 3W 48" 5-15P
17	P0745017	BASE

REF	PART #	DESCRIPTION
18	P0745018	HEX NUT M4-.7
19	P0745019	LOCK WASHER 4MM
20	P0745020	PHLP HD SCR M4-.7 X 10
21	P0745021	LONGITUDINAL LEADSCREW
22	P0745022	LEADSCREW SUPPORT (RH)
23	P0745023	HANDWHEEL
24	P0745024	ACORN NUT M5-.8
25	P0745025	HANDWHEEL HANDLE
26	P0745026	HANDLE STEP SCREW M4-.7 X 8, 25L
27	P0745027	PHLP HD SCR M4-.7 X 6
28	P0745028	FLAT WASHER 4MM
29	P0745029	BACK SPLASH
110	P0745110	CAP SCREW M5-.8 X 10
116	P0745116	BAFFLE
117	P0745117	TAP SCREW M2.9 X 6.5

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



# Headstock & Motor

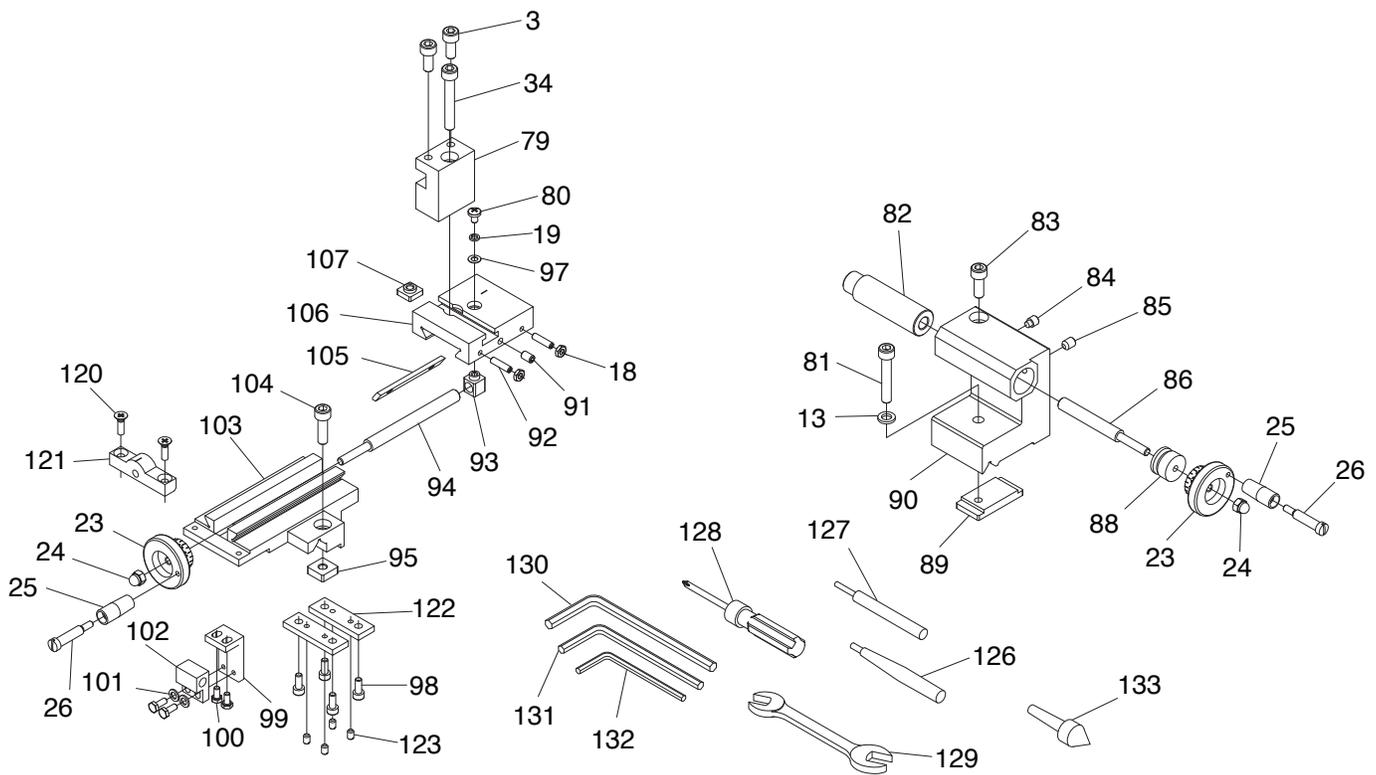


REF	PART #	DESCRIPTION
3	P0745003	CAP SCREW M6-1 X 14
5	P0745005	CAP SCREW M4-.7 X 6
12	P0745012	HEX NUT M6-1
13	P0745013	FLAT WASHER 6MM
15	P0745015	STRAIN RELIEF M12
27	P0745027	PHLP HD SCR M4-.7 X 6
28	P0745028	FLAT WASHER 4MM
30	P0745030	3-JAW CHUCK 2"
30-1	P0745030-1	REVERSIBLE CHUCK JAWS 3-PC SET
31	P0745031	SPINDLE
32	P0745032	BALL BEARING 6003ZZ
33	P0745033	INT RETAINING RING 35MM
34	P0745034	CAP SCREW M6-1 X 40
35	P0745035	L-BRACKET
36	P0745036	CAP SCREW M4-.7 X 8
37	P0745037	EXT RETAINING RING 17MM
38	P0745038	SPINDLE PULLEY
39	P0745039	SPACER
40	P0745040	SPACER
41	P0745041	HEADSTOCK
42	P0745042	PULLEY COVER
43	P0745043	HEX NUT M4-.7
44	P0745044	FLAT WASHER 4MM
45	P0745045	PHLP HD SCR M4-.7 X 8
46	P0745046	HINGE 38 X 31MM
47	P0745047	EXT RETAINING RING 8MM
48	P0745048	V-BELT K-1 5/16" X 1/4" X 14-1/2"
49	P0745049	MOTOR PULLEY
50	P0745050	LOCK WASHER 6MM
51	P0745051	CAP SCREW M5-.8 X 20
52	P0745052	FLAT WASHER 5MM

REF	PART #	DESCRIPTION
53	P0745053	HEX NUT M5-.8
54	P0745054	MOTOR MOUNT
55	P0745055	FLAT WASHER 5MM
56	P0745056	CAP SCREW M5-.8 X 14
57	P0745057	KEY 3 X 3 X 16
58	P0745058	MOTOR 150W 110VDC 60HZ 1.8A
59	P0745059	SPACER PLATE
60	P0745060	TAP SCREW M2.9 X 6.5
61	P0745061	CONTROL PANEL PLATE
62	P0745062	E-STOP BUTTON LAS-AY-22TS/P
63	P0745063	VARIABLE SPEED CONTROL KNOB
64	P0745064	LAMP HL2 (YELLOW)
65	P0745065	LAMP XD7-3 (GREEN)
66	P0745066	POTENTIOMETER WH24-2
67	P0745067	FUSE HOLDER
68	P0745068	FLEXIBLE CORD ASS7 13 X 270MM
69	P0745069	FLAT HD SCR M4-.7 X 8
70	P0745070	CHUCK GUARD
71	P0745071	CHUCK GUARD PIVOT SHAFT
72	P0745072	KEY 3 X 3 X 6
73	P0745073	SPACER
74	P0745074	COMPRESSION SPRING 16MM
75	P0745075	PHLP HD SCR M2-.4 X 20
76	P0745076	CHUCK GUARD LIMIT SWITCH SS5-GL
77	P0745077	HEX NUT M2-.4
78	P0745078	CIRCUIT BOARD COVER
109	P0745109	FINGER-HOLE COVER
124	P0745124	MOTOR BRUSH CAP
125	P0745125	FUSE 2A F2AL250V (GLASS)
134	P0745134	CARBON BRUSH 2-PC SET



# Carriage & Tailstock

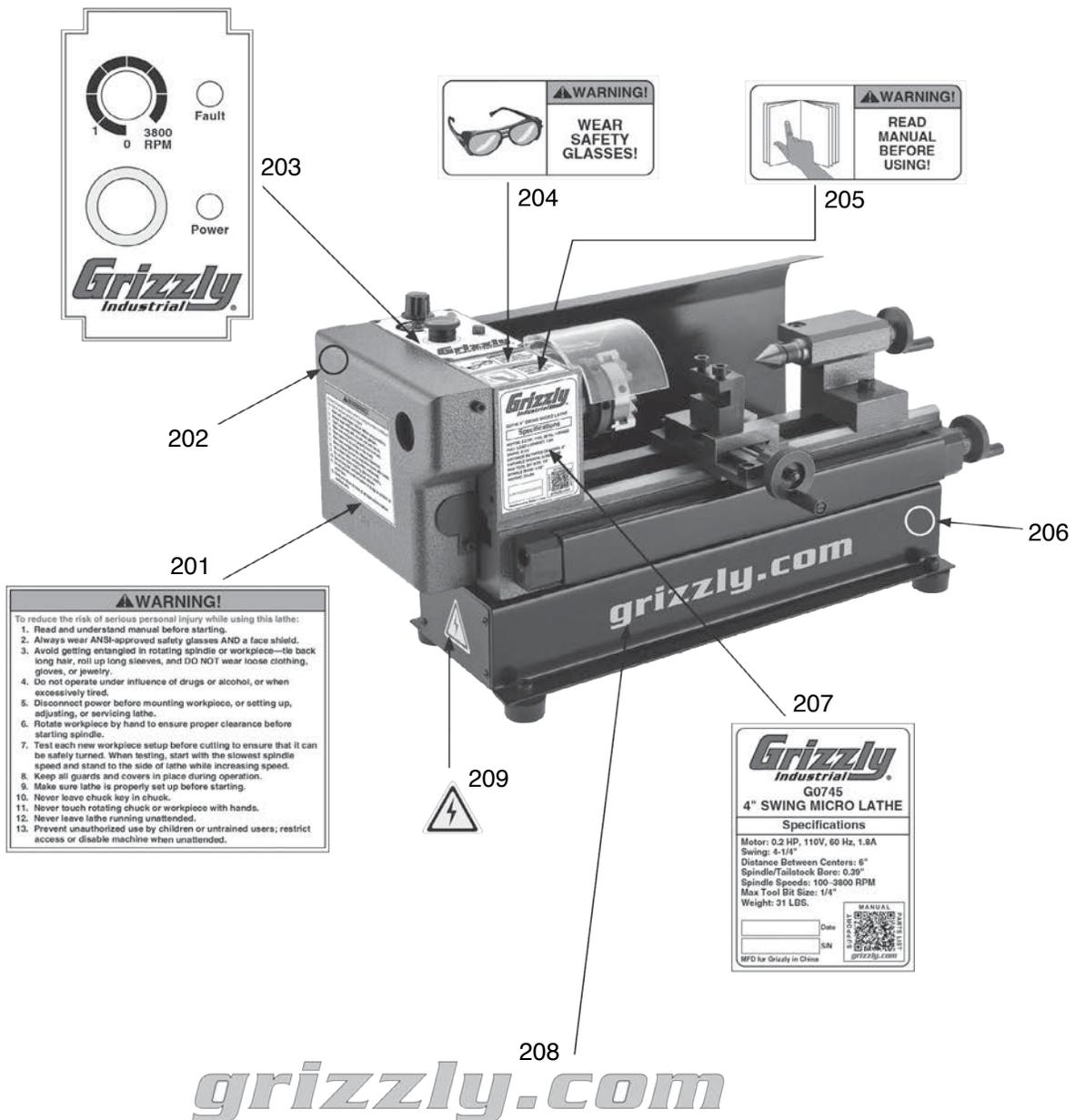


REF	PART #	DESCRIPTION
3	P0745003	CAP SCREW M6-1 X 14
13	P0745013	FLAT WASHER 6MM
18	P0745018	HEX NUT M4-.7
19	P0745019	LOCK WASHER 4MM
23	P0745023	HANDWHEEL
24	P0745024	ACORN NUT M5-.8
25	P0745025	HANDWHEEL HANDLE
26	P0745026	HANDLE STEP SCREW M4-.7 X 8, 25L
34	P0745034	CAP SCREW M6-1 X 40
79	P0745079	TOOL HOLDER
80	P0745080	PHLP HD SCR M4-.7 X 6
81	P0745081	CAP SCREW M6-1 X 35
82	P0745082	QUILL
83	P0745083	CAP SCREW M6-1 X 16
84	P0745084	SET SCREW M6-1 X 8 DOG-PT
85	P0745085	SET SCREW M6-1 X 8
86	P0745086	TAILSTOCK LEADSCREW
88	P0745088	GRADUATED DIAL
89	P0745089	TAILSTOCK CLAMP PLATE
90	P0745090	TAILSTOCK CASTING
91	P0745091	SET SCREW M5-.8 X 8
92	P0745092	SET SCREW M4-.7 X 16
93	P0745093	CROSS LEADSCREW NUT
94	P0745094	CROSS LEADSCREW

REF	PART #	DESCRIPTION
95	P0745095	CARRIAGE CLAMP PLATE
97	P0745097	FLAT WASHER 4MM
98	P0745098	CAP SCREW M4-.7 X 10
99	P0745099	SLIDE BLOCK SUPPORT
100	P0745100	HEX BOLT M4-.7 X 10
101	P0745101	FLAT WASHER 4MM
102	P0745102	LEADSCREW SLIDE BLOCK
103	P0745103	SADDLE
104	P0745104	CAP SCREW M6-1 X 20
105	P0745105	CROSS SLIDE GIB
106	P0745106	CROSS SLIDE
107	P0745107	TOOL HOLDER T-SLOT NUT
120	P0745120	CAP SCREW M4-.7 X 14
121	P0745121	CROSS LEADSCREW BRACKET
122	P0745122	CARRIAGE GIB PLATE
123	P0745123	SET SCREW M4-.7 X 6
126	P0745126	CHUCK KEY 5MM
127	P0745127	SPINDLE KEY 5MM
128	P0745128	PHILLIPS HEAD SCREWDRIVER #1
129	P0745129	WRENCH 5.5 X 7MM OPEN-ENDS
130	P0745130	HEX WRENCH 5MM
131	P0745131	HEX WRENCH 4MM
132	P0745132	HEX WRENCH 3MM
133	P0745133	DEAD CENTER



# Machine Labels & Cosmetics



REF	PART #	DESCRIPTION
201	P0745201	GENERAL WARNINGS LABEL
202	P0745202	GRIZZLY GREEN TOUCH-UP PAINT
203	P0745203	CONTROL PANEL LABEL
204	P0745204	SAFETY GLASSES LABEL
205	P0745205	READ MANUAL LABEL

REF	PART #	DESCRIPTION
206	P0745206	GLOSSY BLACK TOUCH-UP PAINT
207	P0745207	MACHINE ID LABEL
208	P0745208	GRIZZLY.COM LABEL
209	P0745209	ELECTRICITY 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](http://www.grizzly.com).





# WARRANTY CARD

Name \_\_\_\_\_  
 Street \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone # \_\_\_\_\_ Email \_\_\_\_\_  
 Model # \_\_\_\_\_ Order # \_\_\_\_\_ Serial # \_\_\_\_\_

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

1. How did you learn about us?
 

<input type="checkbox"/> Advertisement	<input type="checkbox"/> Friend	<input type="checkbox"/> Catalog
<input type="checkbox"/> Card Deck	<input type="checkbox"/> Website	<input type="checkbox"/> 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?
 

<input type="checkbox"/> \$20,000-\$29,000	<input type="checkbox"/> \$30,000-\$39,000	<input type="checkbox"/> \$40,000-\$49,000
<input type="checkbox"/> \$50,000-\$59,000	<input type="checkbox"/> \$60,000-\$69,000	<input type="checkbox"/> \$70,000+
  
4. What is your age group?
 

<input type="checkbox"/> 20-29	<input type="checkbox"/> 30-39	<input type="checkbox"/> 40-49
<input type="checkbox"/> 50-59	<input type="checkbox"/> 60-69	<input type="checkbox"/> 70+
  
5. How long have you been a woodworker/metalworker?
 

<input type="checkbox"/> 0-2 Years	<input type="checkbox"/> 2-8 Years	<input type="checkbox"/> 8-20 Years	<input type="checkbox"/> 20+ Years
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6. How many of your machines or tools are Grizzly?
 

<input type="checkbox"/> 0-2	<input type="checkbox"/> 3-5	<input type="checkbox"/> 6-9	<input type="checkbox"/> 10+
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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

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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

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Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

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.

# *grizzly.com*<sup>®</sup>

**TOOL WEBSITE**

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