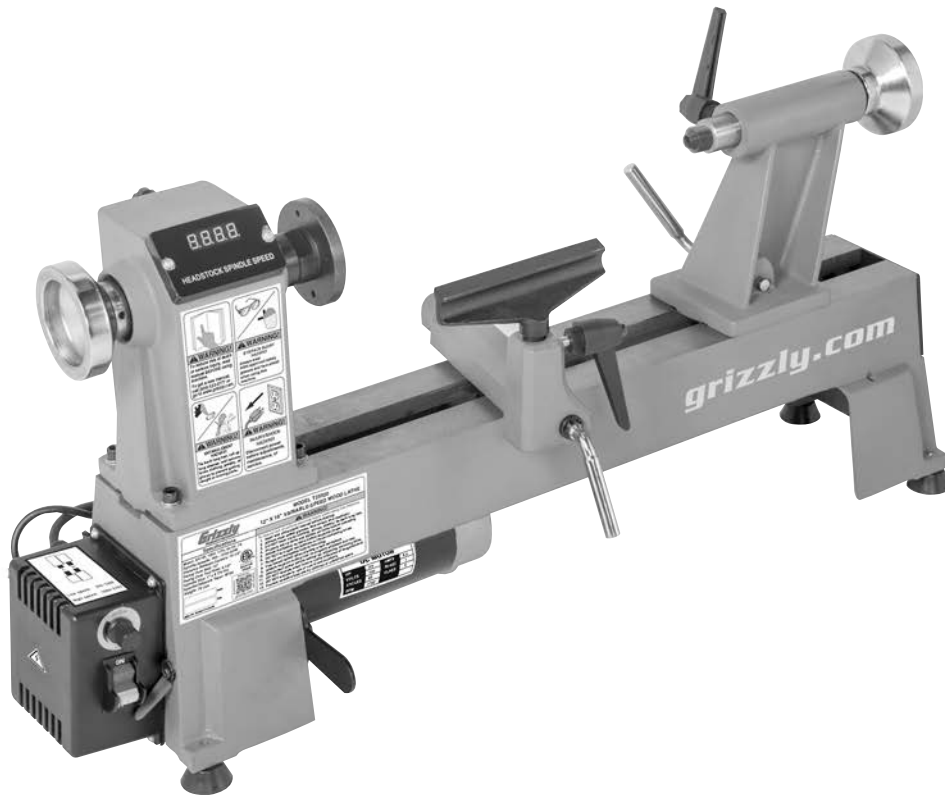


# *Grizzly* *Industrial, Inc.*®

## MODEL T25920 12" X 18" VARIABLE-SPEED WOOD LATHE OWNER'S MANUAL *(For models manufactured since 01/20)*



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OR FORM WITHOUT THE WRITTEN APPROVAL OF GRIZZLY INDUSTRIAL, INC.**  
#AWWK17009 PRINTED IN CHINA

V3.01.20



## **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

## Contact Info

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

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

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

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

### **WARNING**

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



## Manual Accuracy

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

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

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

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

		MODEL GXXXX MACHINE NAME	
SPECIFICATIONS		 <b>WARNING!</b>	
Motor:	To reduce risk of serious injury when using this machine:		
Specification:	manual before operation.		
Specification:	safety glasses and respirator.		
Specification:	rectly 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. ended.		
	10. Maintain machine carefully to prevent accidents.		
Manufactured for Grizzly in Taiwan			

Manufacture Date

Serial Number





# MACHINE DATA SHEET

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

## MODEL T25920 12" X 18" VARIABLE-SPEED BENCHTOP WOOD LATHE

### Product Dimensions:

Weight..... 79 lbs.  
Width (side-to-side) x Depth (front-to-back) x Height.....39 x 12 x 17 in.  
Footprint (Length x Width)..... 30 x 8 in.

### Shipping Dimensions:

Type..... Cardboard Box  
Content..... Machine  
Weight..... 84 lbs.  
Length x Width x Height..... 32 x 19 x 12 in.  
Must Ship Upright..... Yes

### Electrical:

Power Requirement..... 120V, Single-Phase, 60 Hz  
Full-Load Current Rating..... 7A  
Minimum Circuit Size..... 15A  
Connection Type..... Cord & Plug  
Power Cord Included..... Yes  
Power Cord Length..... 6 ft.  
Power Cord Gauge..... 18 AWG  
Plug Included..... Yes  
Included Plug Type..... 5-15  
Switch Type..... Toggle Switch ON/OFF

### Motors:

#### Main

Horsepower..... 3/4 HP  
Phase..... Single-Phase  
Amps..... 5.3A  
Speed..... 1700 RPM  
Type..... Universal Brush-Type Motor  
Power Transfer ..... V-Belt  
Bearings..... Shielded & Permanently Lubricated

### Main Specifications:

#### Operation Information

Swing Over Bed..... 12 in.  
Swing Over Tool Rest Base..... 9-1/2 in.  
Distance Between Centers..... 18 in.  
Max. Distance Tool Rest to Spindle Center..... 5-3/8 in.  
No of Spindle Speeds..... Variable  
Spindle Speed Range..... 300 – 3700 RPM



**Spindle Information**

Spindle Taper..... MT#2  
Spindle Thread Size..... 1" x 8 TPI  
Spindle Thread Direction..... Right Hand  
Type of Included Spindle Center..... Spur

**Tool Rest Information**

Tool Rest Width..... 5-7/8 in.  
Tool Rest Post Diameter..... 5/8 in.  
Tool Rest Post Length..... 3 in.  
Tool Rest Base Height..... 1-1/4 in.

**Tailstock Information**

Tailstock Taper..... MT#2  
Type of Included Tailstock Center..... Live

**Construction**

Bed..... Cast Iron  
Frame..... Cast Iron  
Base..... Cast Iron  
Headstock..... Cast Iron  
Tailstock..... Cast Iron  
Paint Type/Finish..... Urethane

**Other Related Information**

Bed Width..... 7-1/4 in.  
Faceplate Size..... 3-1/8 in.

**Other Specifications:**

Country of Origin ..... China  
Warranty ..... 1 Year  
Serial Number Location ..... ID Label  
Certified by a Nationally Recognized Testing Laboratory (NRTL) ..... Yes

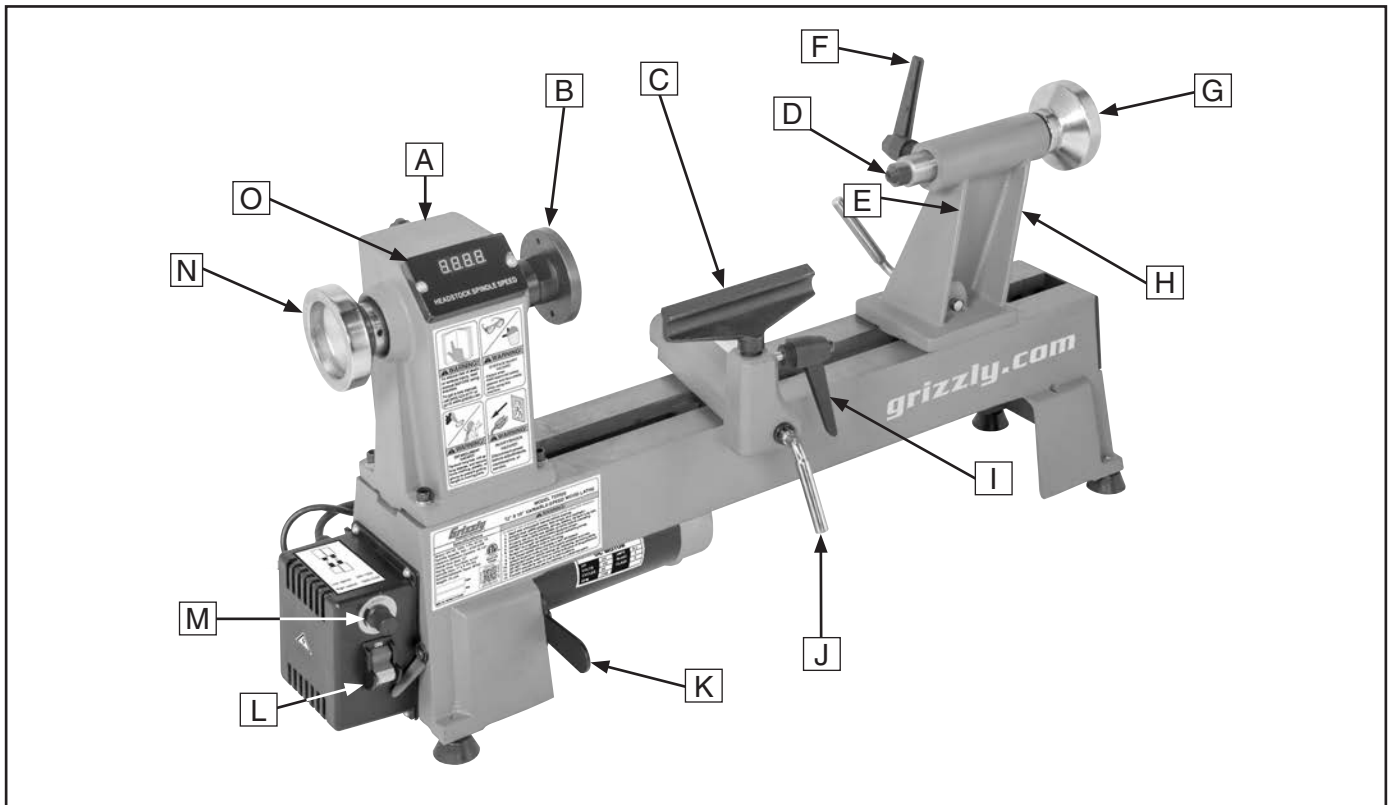
**Features:**

- Solid cast-iron construction
- Quick-release on rest & tailstock for easy adjustment
- Live & spur centers
- 5-7/8" tool rest
- 3-1/4" faceplate



# Identification

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



- |                         |                         |
|-------------------------|-------------------------|
| A. Headstock            | I. Tool Rest Lock Lever |
| B. Faceplate            | J. Base Lock Lever      |
| C. Tool Rest            | K. Belt Tension Lever   |
| D. Live Center          | L. Lathe ON/OFF Switch  |
| E. Tailstock Lock Lever | M. Spindle Speed Dial   |
| F. Quill Lock Lever     | N. Headstock Handwheel  |
| G. Quill Handwheel      | O. Digital Readout      |
| H. Tailstock            |                         |

## **⚠️ WARNING**

**For Your Own Safety Read Instruction Manual Before Operating Lathe**

- a) Wear eye protection.
- b) Do not wear gloves, necktie, or loose clothing.
- c) Tighten all locks before operating.
- d) Rotate workpiece by hand before applying power.
- e) Rough out workpiece before installing on faceplate.
- f) Do not mount split workpiece or one containing knot.
- g) Use lowest speed when starting new workpiece.



# Controls & Components



Use descriptions and figures below to become familiar with basic controls of your lathe.

**ON/OFF Switch:** Turns power ON/OFF to lathe motor, which rotates spindle.

**Belt Tension Lever:** Releases tension on belt to change speeds or replace belt.

**Spindle Speed Dial:** Adjusts speed of the spindle within current belt position speed range.

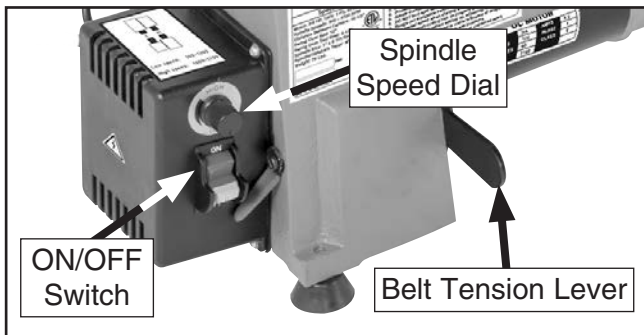


Figure 1. Tension lever and ON/OFF switch.

**RPM Display:** Displays spindle speed in revolutions per minute (RPM).



Figure 2. RPM display on headstock.

**Tool Rest:** Provides a stable resting position for turning tools.

**Tool Rest Lock Lever:** Locks tool rest in position relative to tool rest base.

**Base Lock Lever:** Lock and unlocks tool rest base and allows it to be repositioned along lathe bed.

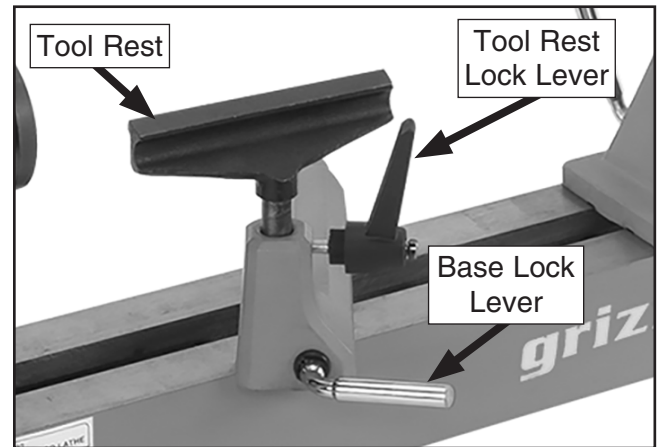


Figure 3. Tool rest control levers.

**Quill Handwheel:** Moves quill in and out to allow clamping or releasing of workpiece.

**Quill Lock Lever:** Locks quill in place to prevent loosening during operation of lathe.

**Tailstock Lock Lever:** Unlocks tailstock to allow quick position adjustments.

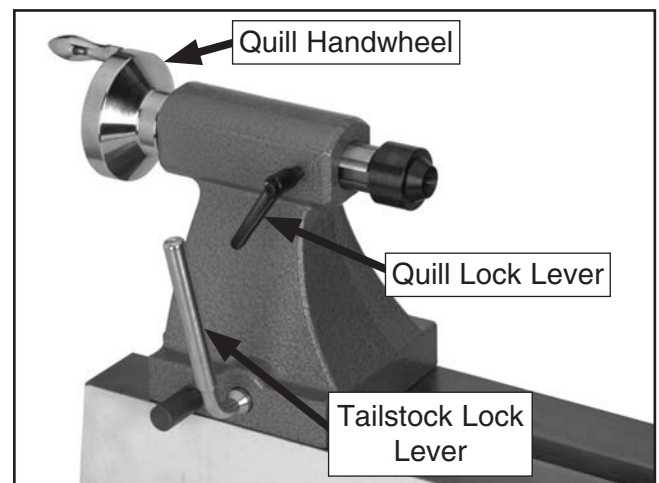


Figure 4. Typical tailstock controls.





# 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.



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



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



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

**NOTICE**

Alerts the user to useful information about proper operation of the machine to avoid machine damage.

## Safety Instructions for Machinery

### **WARNING**

**OWNER'S MANUAL.** Read and understand this owner's manual **BEFORE** using machine.

**TRAINED OPERATORS ONLY.** Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make your workshop kid proof!

**DANGEROUS ENVIRONMENTS.** Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

**MENTAL ALERTNESS REQUIRED.** Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

### **ELECTRICAL EQUIPMENT INJURY RISKS.**

You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

**DISCONNECT POWER FIRST.** Always disconnect machine from power supply **BEFORE** making adjustments, changing tooling, or servicing machine. This prevents an injury risk from unintended startup or contact with live electrical components.

**EYE PROTECTION.** Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are **NOT** approved safety glasses.



# WARNING

**WEARING PROPER APPAREL.** Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to reduce risk of slipping and losing control or accidentally contacting cutting tool or moving parts.

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

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

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

**USE CORRECT TOOL FOR THE JOB.** Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

**AWKWARD POSITIONS.** Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.

**CHILDREN & BYSTANDERS.** Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

**GUARDS & COVERS.** Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly BEFORE operating machine.

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

**NEVER STAND ON MACHINE.** Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

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

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

**UNATTENDED OPERATION.** To reduce the risk of accidental injury, turn machine **OFF** and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

**MAINTAIN WITH CARE.** Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

**DAMAGED PARTS.** Regularly inspect machine for damaged, loose, or mis-adjusted parts—or any condition that could affect safe operation. Immediately repair/replace BEFORE operating machine. For your own safety, DO NOT operate machine with damaged parts!

**MAINTAIN POWER CORDS.** When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

**EXPERIENCING DIFFICULTIES.** If at any time you experience difficulties performing the intended operation, stop using the machine! Contact our Technical Support at (570) 546-9663.



# Additional Safety for Wood Lathes

## WARNING

Serious injury or death can occur from getting entangled in, crushed between, or struck by rotating parts on a lathe! Rotating workpieces can come loose and strike operator or bystanders with deadly force if they are improperly secured, rotated too fast, or are not strong enough for the rotational forces required for turning. Improper tool setup or usage can cause tool kickback or grabbing, resulting in impact injury or entanglement. To reduce the risk of operator (or bystander) injury or death, anyone operating this machine **MUST** completely heed the hazards and warnings below.

**VERIFY WORKPIECE INTEGRITY.** Verify each workpiece is free of knots, splits, nails, or foreign material to ensure it can safely rotate on spindle without breaking apart or causing tool kickback.

**PROPERLY PREPARE WORKPIECE.** Before mounting, cut off waste portions to balance workpiece for safe rotation and removal of large edges that can catch on tooling.

**SECURE LOCKS.** Verify tool rest, headstock, and tailstock are secure before turning lathe **ON**.

**SECURE WORKPIECE.** Use proven setup techniques and always verify workpiece (and centers/tooling holding workpiece) are well-secured before starting lathe. Only use high-quality fasteners with non-tapered heads for faceplate attachment.

**ADJUST TOOL SUPPORT.** An improperly supported tool may be grabbed or ejected. Adjust tool rest approximately  $\frac{1}{4}$ " away from workpiece and  $\frac{1}{8}$ " above workpiece center line to provide proper support for turning tool. Firmly hold turning tool with both hands against tool rest.

**REMOVE ADJUSTMENT TOOLS.** Remove all chuck keys, wrenches, and adjustment tools before turning lathe **ON**. These items can become deadly projectiles when spindle is started.

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

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

**WEAR PROPER PPE.** Always wear a face shield and safety glasses when operating lathe. Do not wear gloves, necktie or loose clothing. Keep long hair away from rotating spindle.

**USE CORRECT SPEEDS.** Select correct spindle speed for workpiece size, type, shape, and condition. Use low speeds when roughing or when turning large, long, or non-concentric workpieces. Allow spindle to reach full speed before turning.

**AVOID TOOL KICKBACK.** This occurs when turning tool is grabbed or ejected from workpiece with great force. Commonly caused by poor workpiece selection/preparation, improper tool usage, or improper machine setup or tool rest adjustment.

**SAFELY PERFORM ROUGHING.** Use correct tool. Take light cuts, use low speeds, and firmly support tool with both hands.

**USE SHARP TOOLS.** Sharp tools cut with less resistance than dull tools. Using dull tools increases the risk of tool kickback or grabbing.

**SAFELY STOPPING ROTATION.** Always allow rotating workpiece to stop on its own. Never put hands or another object on workpiece to stop it.

**SAFELY MEASURE WORKPIECE.** Only measure mounted workpiece after it has completely stopped. Trying to measure a spinning workpiece increases entanglement risk.

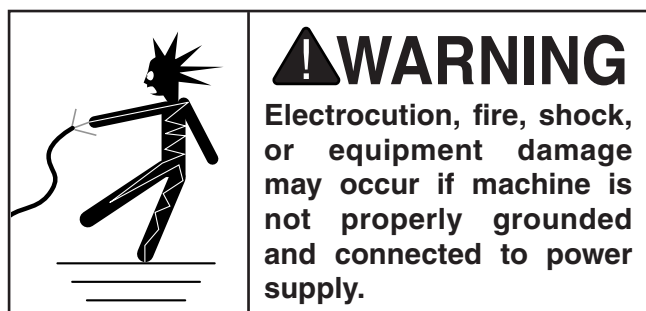
**SANDING/POLISHING.** To reduce entanglement risk, remove tool rest before sanding. Never completely wrap sandpaper around workpiece.



# 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 ..... 7A**

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 machine to power before completing setup process. DO NOT connect to power until instructed later in this manual.**

## 120V 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.**

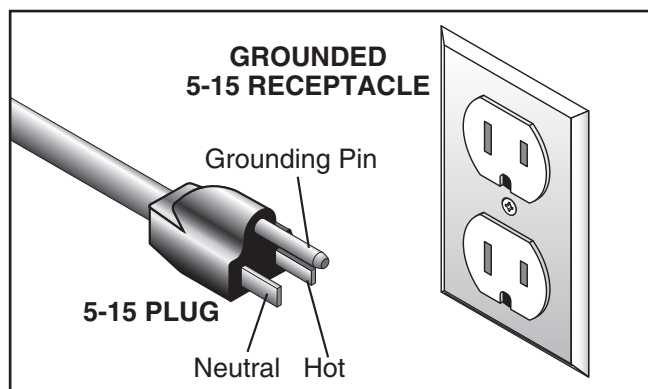
**Note:** *Circuit requirements in this manual apply to a dedicated circuit—where only one machine will be running on the circuit at a time. If machine will be connected to a shared circuit where multiple machines may be running at the same time, consult an electrician or qualified service personnel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



## Grounding & 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. Only insert plug into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances. **DO NOT** modify the provided plug!



**Figure 5.** 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 can damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must be in good condition and contain a ground wire and matching plug/receptacle. Additionally, it must meet the following size requirements:

- Minimum Gauge Size ..... 16 AWG**
- Maximum Length (Shorter is Better).....50 ft.**



# SECTION 3: SETUP

## Unpacking


This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage. ***If items are damaged, please call us immediately at (570) 546-9663.***

**IMPORTANT:** Save all packaging materials until you are completely satisfied with the machine and have resolved any issues between Grizzly or the shipping agent. ***You MUST have the original packaging to file a freight claim. It is also extremely helpful if you need to return your machine later.***

## Needed for Setup

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

Description	Qty
• Additional People .....	1
• Safety Glasses .....	1
• Cleaner/Degreaser .....	As Needed
• Disposable Shop Rags.....	As Needed
• Phillips Head Screwdriver #2 .....	1
• Flat-Head Screwdriver.....	1

	<p><b>⚠ WARNING</b> This machine is heavy. <b>DO NOT</b> over-exert yourself while unpacking or moving machine—get assistance.</p>
---	--

	<p><b>⚠ WARNING</b> Wear safety glasses during the entire setup process!</p>
---	--

## 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.

Box 1 (Figure 6)	Qty
A. Knockout Rod.....	1
B. Hex Wrenches 3, 6, 8mm.....	1 Ea.
C. Live Center .....	1
D. Handwheel Handle .....	1
E. Spur Center .....	1
F. Rubber Feet M8-1.25 x 15.....	4
G. Open-End Wrench 32 X 42mm.....	1

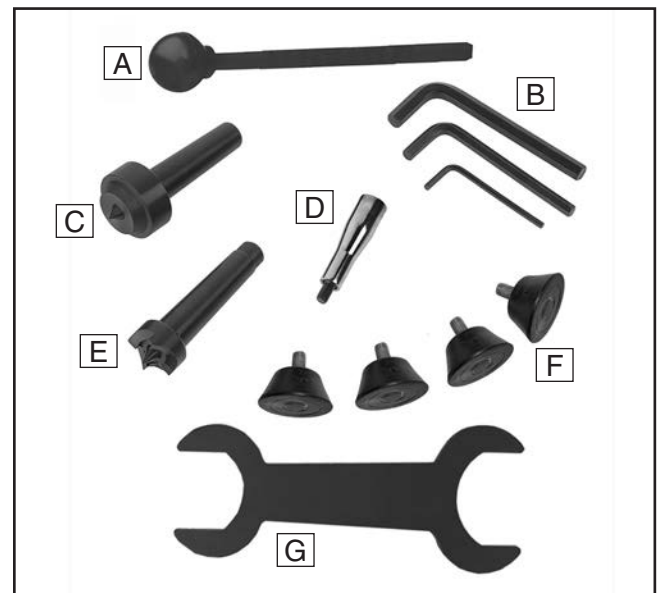


Figure 6. Inventory components.

<p><b>NOTICE</b></p> <p>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.</p>
--



# 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.

## NOTICE

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

# Site Considerations

## Workbench Load

Refer to the **Machine Data Sheet** for the weight and footprint specifications of your machine. Some workbenches may require additional reinforcement to support the weight of the machine and workpiece materials.

## Placement Location

Consider anticipated workpiece sizes and additional space needed for auxiliary stands, work tables, or other machinery when establishing a location for this machine in the shop. Below is the minimum amount of space needed for the machine.

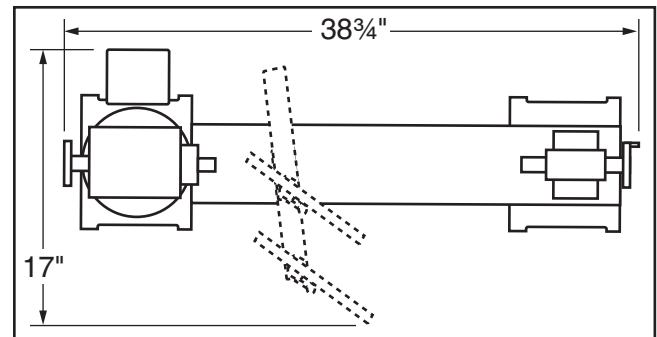


Figure 7. Minimum working clearances.

	<p><b>CAUTION</b></p> <p>Children and visitors may be seriously injured if unsupervised around this machine. Lock entrances to the shop or disable start switch or power connection to prevent unsupervised use.</p>
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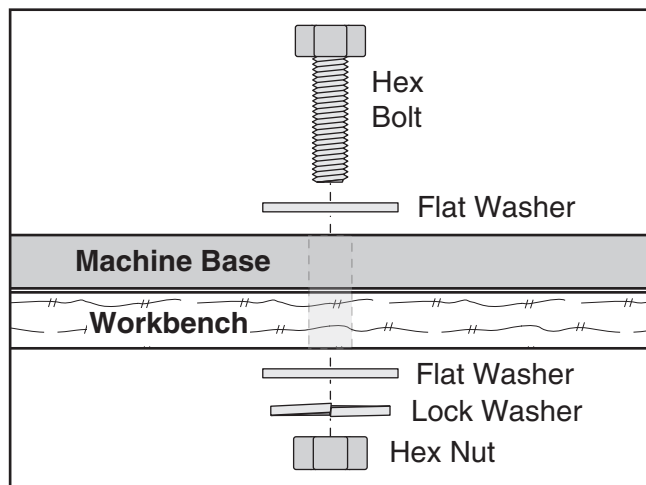


# Bench Mounting

**Number of Mounting Holes** ..... 4  
**Diameter of Mounting Hardware Needed** .. 1/4"

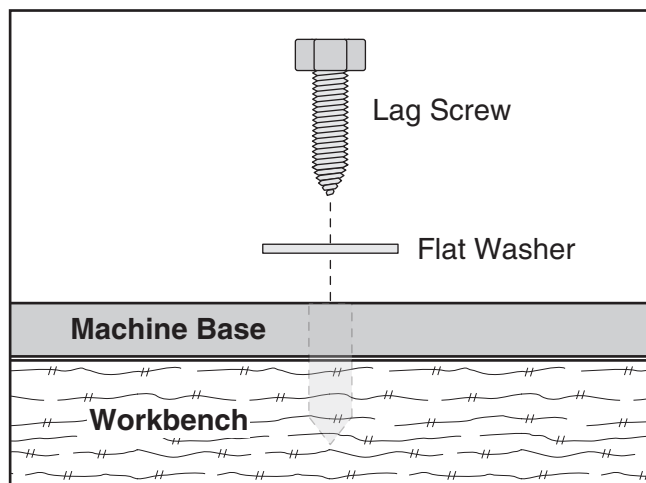
The base of this machine has mounting holes that allow it to be fastened to a workbench or other mounting surface to prevent it from moving during operation and causing accidental injury or damage.

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



**Figure 8.** "Through Mount" setup.

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



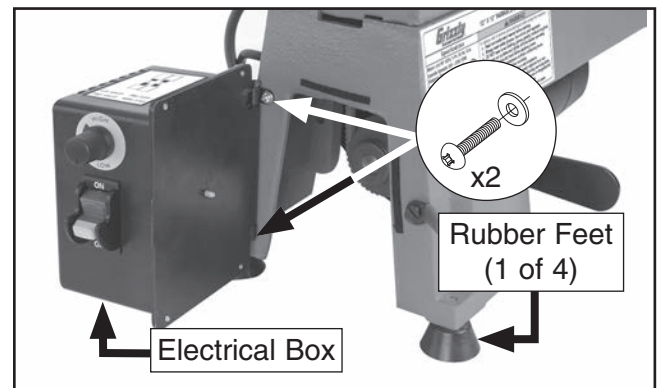
**Figure 9.** "Direct Mount" setup.

# Assembly

The machine must be fully assembled before it can be operated. Before beginning the assembly process, refer to **Needed for Setup** and gather all listed items. To ensure the assembly process goes smoothly, first clean any parts that are covered or coated in heavy-duty rust preventative (if applicable).

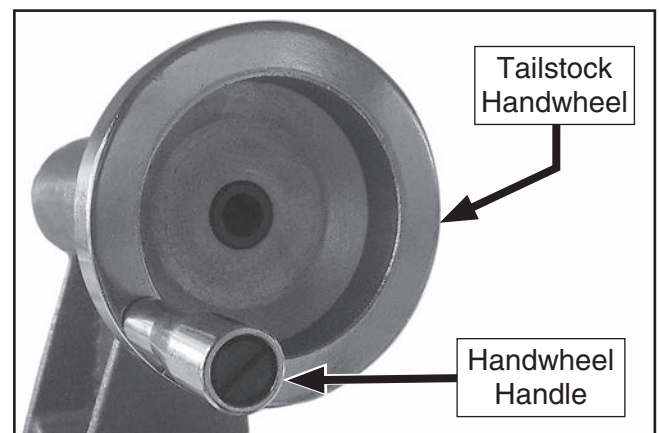
## To assemble machine:

1. Thread (4) rubber feet into mounting holes (see **Figure 10**). Adjust feet until lathe sits level, without rocking.
2. Use two pre-installed Phillips head screws and flat washers to attach electrical box to lathe, as shown in **Figure 10**.



**Figure 10.** Rubber feet and electrical box installed.

3. Use a flathead screwdriver to install handwheel handle into tailstock handwheel (see **Figure 11**).



**Figure 11.** Tailstock handwheel handle installed.





# Test Run

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

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

The test run consists of verifying the following:  
1) The motor powers up and runs correctly, and  
2) the safety disabling mechanism on the switch works correctly.

## **!WARNING**

**Serious injury or death can result from using this machine BEFORE understanding its controls and related safety information. DO NOT operate, or allow others to operate, machine until the information is understood.**

## **!WARNING**

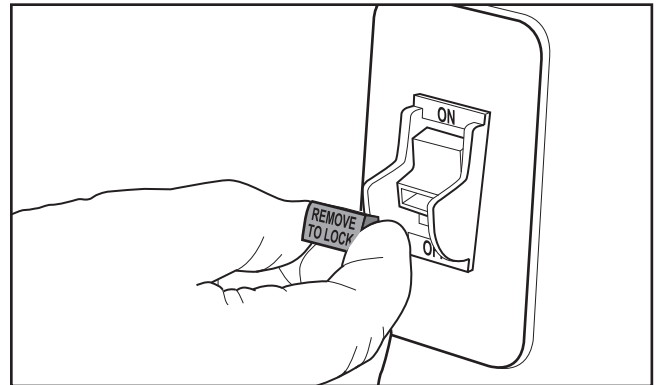
**DO NOT start machine until all preceding setup instructions have been performed. Operating an improperly set up machine may result in malfunction or unexpected results that can lead to serious injury, death, or machine/property damage.**

### To test run machine:

1. Clear all setup tools away from machine.
2. Connect machine to power supply.
3. Turn machine **ON**, verify motor operation, and then turn machine **OFF**.

The motor should run smoothly and without unusual problems or noises.

4. Remove key from toggle switch, as shown below.



**Figure 12.** Removing key from toggle switch.

5. Try to start machine.  
— Machine should **NOT** start. If it *does* start, switch disabling feature is not functioning properly and switch must be replaced.



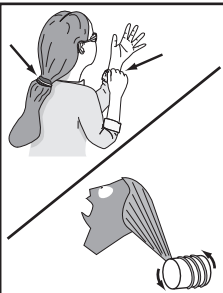
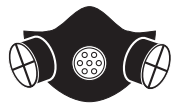
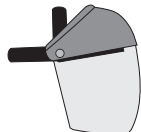
# SECTION 4: OPERATIONS

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

Due to the generic nature of this overview, it is **not** intended to be an instructional guide. To learn more about specific operations, read this entire manual, seek additional training from experienced machine operators, and do additional research outside of this manual by reading "how-to" books, trade magazines, or websites.

## **! WARNING**

Eye injuries or respiratory problems can occur while operating this tool. Wear personal protective equipment to reduce your risk from these hazards.



## **! WARNING**

Keep hair, clothing, and jewelry away from moving parts at all times. Entanglement can result in death, amputation, or severe crushing injuries!

## **! CAUTION**

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

## **NOTICE**

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

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

1. Examines workpiece to make sure it is suitable for turning. No extreme bows, knots, or cracks should exist.
2. Prepares and trims workpiece with a bandsaw or table saw to make it roughly concentric.
3. Installs workpiece between centers, or attaches it to faceplate or chuck.
4. Adjusts tool rest according to type of operation, and sets minimum clearance between workpiece and lip of tool rest to 1/4" gap.
5. Rotates workpiece by hand to verify spindle and workpiece rotate freely throughout full range of motion.
6. Verifies pulley speed range is set for type of wood and size of workpiece installed.
7. Verifies spindle speed dial is turned all the way counterclockwise so spindle does not start in high speed.
8. Puts on safety glasses, face shield, and respirator.
9. Starts spindle, adjusts spindle speed, and carefully begins turning operation, keeping chisel against tool rest entire time it is cutting.
10. Turns spindle **OFF** when cutting operation is complete.



# Workpiece Inspection

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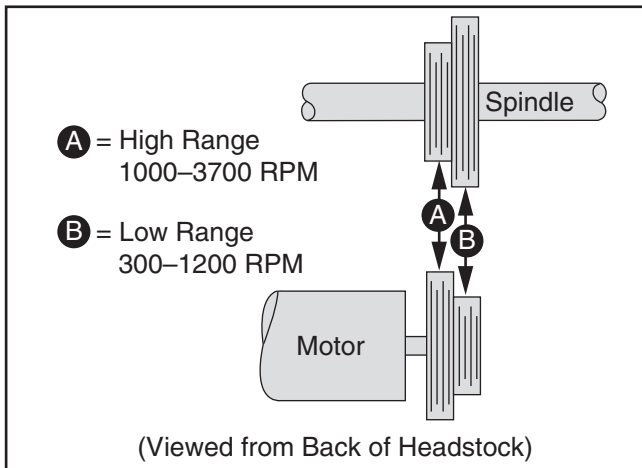
Some workpieces are not safe to turn or may require modification before they are safe to turn. **Before turning a workpiece, inspect all workpieces for the following:**

- **Workpiece Type:**  
This machine is intended for turning natural wood products. Never attempt to turn any composite wood materials, plastics, metal, stone, or rubber workpieces; turning these materials can lead to machine damage or severe injury.
- **Foreign Objects:**  
Nails, staples, dirt, rocks and other foreign objects are often embedded in wood. While cutting, these objects can become dislodged and hit the operator, cause tool grab, or break the turning tool, which might then fly apart. Always visually inspect your workpiece for these items. If they can't be removed, DO NOT turn the workpiece.
- **Large/Loose Knots:**  
Loose knots can become dislodged during the turning operation. Large knots can cause a workpiece to completely break in half during turning and cause machine damage and injury. Choose workpieces that do not have large/loose knots.
- **Excessive Warping:**  
Workpieces with excessive bowing or twisting are unstable and unbalanced. Never turn these workpieces at high speed, or instability will be magnified and the workpiece can be ejected from the lathe causing injury. Only turn concentric workpieces!



# Adjusting Spindle Speeds

Your lathe has two speed ranges for maximum turning options. These ranges are selected by changing belt positions on the motor and spindle pulleys (see **Figure 13**).



**Figure 13.** Speed ranges for each belt position.

High range (**A**) is best when turning a workpiece where a clean finish is required and only light cuts are made. Low range (**B**), which has more torque, is best when turning a workpiece where a lot of material must be removed and a rough finish does not matter. Use the speed dial to adjust the spindle speed within each range.

Refer to the speed recommendations chart in **Figure 14** to choose the appropriate RPM for your operation. Then choose the speed range that will include the selected RPM.

Diameter of Work-piece	Roughing RPM	General Cutting RPM	Finishing RPM
Under 2"	1520	3000	3000
2–4"	760	1600	2480
4–6"	510	1080	1650
6–8"	380	810	1240
8–10"	300	650	1000
10–12"	255	540	830

**Figure 14.** Speed recommendations.

## ⚠ WARNING

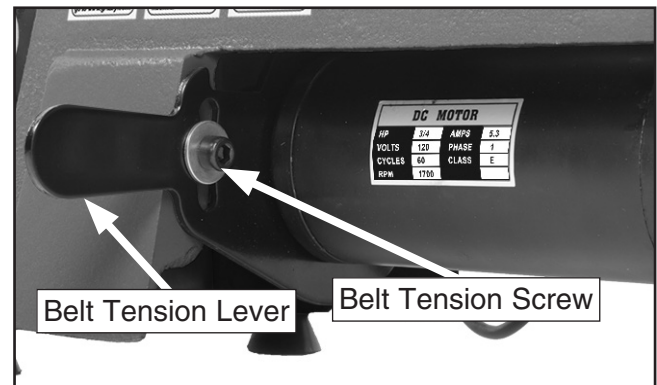
Always choose correct spindle speed for your operation. Using wrong speed may lead to workpiece breaking loose or being thrown from lathe at a high rate of speed, causing fatal or severe impact injuries.

### Tool Needed:

Hex Wrench 6mm..... 1

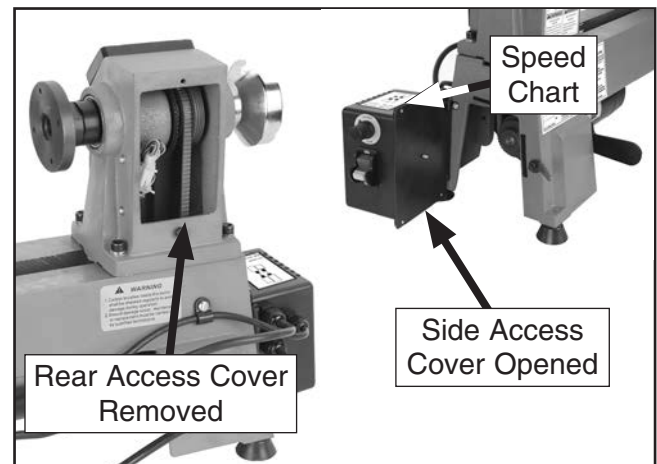
### To change speeds:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen belt tension screw (see **Figure 15**). Be sure belt tension lever moves freely to release tension from belt.



**Figure 15.** Belt tension lever.

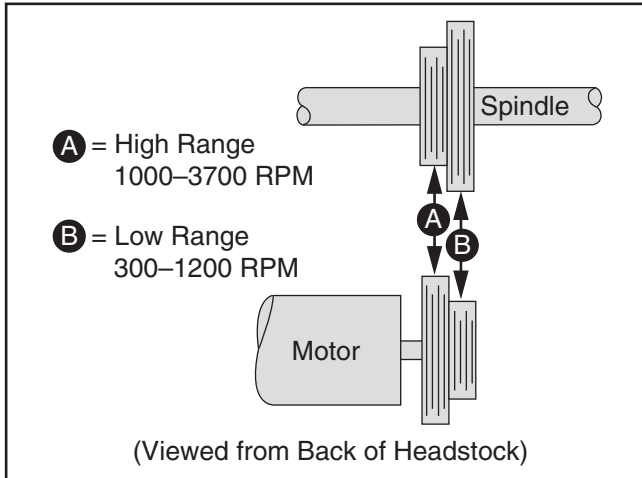
3. Open side access cover and remove rear access cover (see **Figure 16**).



**Figure 16.** Side and rear access covers.



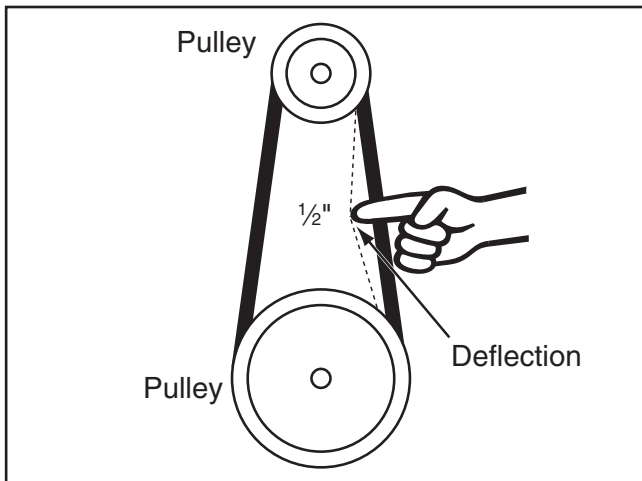
4. Locate desired speed on speed chart on top of control box, then move belt to necessary grooves on motor and spindle pulleys (see **Figure 17**).



**Figure 17.** Speed ranges for each belt position.

5. Move belt tension lever down to tension belt, then tighten belt tension lever screw.

**Note:** When properly tensioned, the belt should deflect about  $\frac{1}{2}$ " when moderate pressure is applied to the belt mid-way between upper and lower pulleys, as shown in **Figure 18**.



**Figure 18.** Checking belt deflection.

6. After verifying belt tension is correct, re-install rear cover and close side access cover.

## Adjusting Tailstock

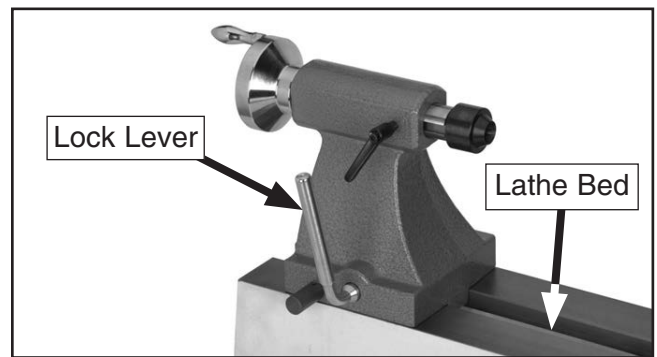
The tailstock is equipped with a cam-action clamping system to secure it to the lathe bed. When the lock lever is engaged, a plate lifts and secures the tailstock to the bed.

### Tool Needed:

Wrench 12mm ..... 1

### To position tailstock along bed:

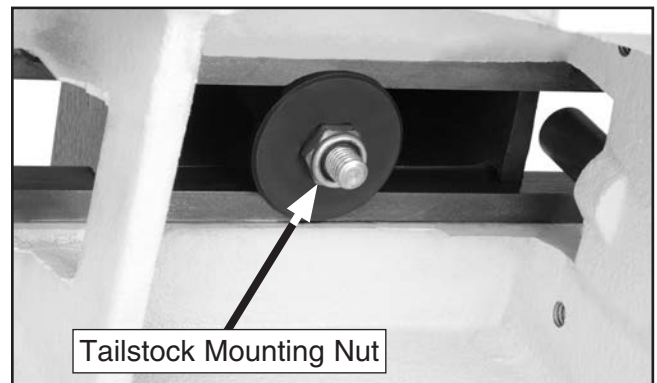
1. Disengage lock lever and move tailstock to desired position (see **Figure 19**).



**Figure 19.** Typical tailstock lock lever to adjust tailstock position.

2. Re-engage lock lever.

— If lock lever will not lock or unlock, then adjust tailstock base mounting nut (located on underside of tailstock base) in small increments to achieve proper clamping pressure (see **Figure 20**).



**Figure 20.** Mounting nut location.



# Adjusting Tool Rest

The tool rest assembly consists of two components: the tool rest base (or banjo) and the tool rest. The tool rest base moves forward/backward and along the length of the lathe bed. The tool rest rotates and moves up and down in the tool rest base. Locks for both components allow you to secure the tool rest in position after making these adjustments.

When adjusting the tool rest, position it as close as possible to the workpiece without actually touching it. This maximizes support where the cutting occurs and minimizes leverage, reducing the risk of injury if a "catch" occurs.

Many woodturners typically set the height of the tool rest  $\frac{1}{8}$ " above or below the centerline of the workpiece, depending on their height, the type of tool they're using, and the type of operation they're performing.

**As a rule of thumb:** For most (spindle) turning operations, the cutting tool should contact the workpiece slightly above centerline. For most inside (bowl) turning operations, the cutting tool should contact the workpiece slightly below centerline.

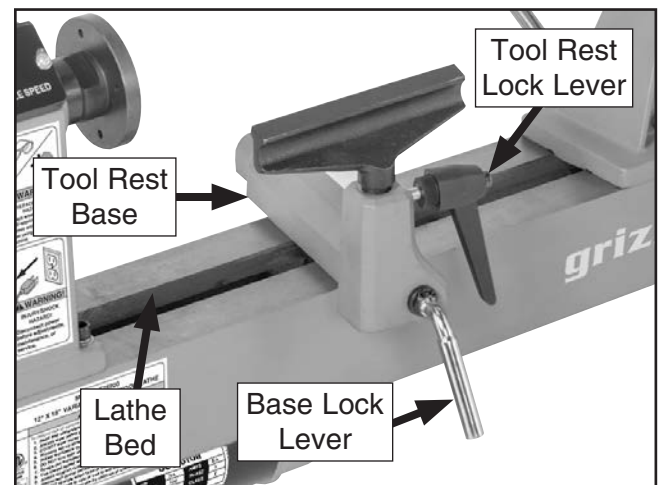
Keeping all these factors in mind, your main goal when adjusting the tool rest should be providing maximum support for the type of tool being used, in a position that is safe and comfortable for you.

## **!WARNING**

Improperly supported or positioned cutting tools can "catch" on workpiece, ejecting tool from your hands with great force. To reduce this risk, always ensure tool rest is properly positioned for each type of operation, cutting tool is firmly supported against tool rest BEFORE cutting, and cutting tool is properly positioned to cut at the correct angle for tool and operation type.

## Positioning Along Bed

1. Disengage base lock lever and slide tool rest base along bed to desired position (see **Figure 21**).



**Figure 21.** Typical tool rest controls to adjust position and height.

2. Re-engage the tool rest base lock lever to secure the tool rest assembly in position.

**Note:** The large clamping hex nut underneath the tool rest base will require occasional adjusting to ensure proper clamping pressure of the tool rest assembly to the bed. Turn this hex nut in small increments to fine tune the clamping pressure as needed.

## **!WARNING**

Always operate the lathe with the tool rest assembly firmly locked in position. Otherwise, serious personal injury may occur by the tool being pulled from the operator's hands.

## Adjusting Angle or Height

1. Loosen the tool rest base lock lever and the tool rest lock lever to adjust the position of the tool rest.
2. Position the tool rest in desired location.
3. Re-tighten the tool rest lock lever and the tool rest base lock lever to secure the tool rest in position.



# Installing/Removing Headstock Center

The spur center installs in the headstock spindle with an MT#2 taper fit.

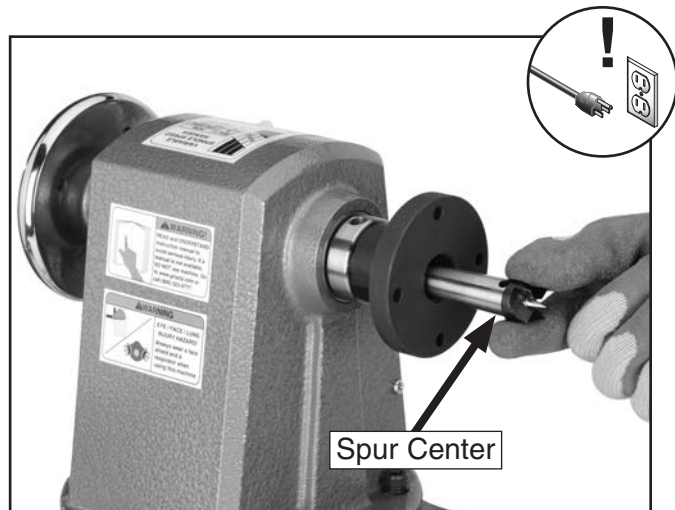
## Tools Needed:

- Gloves ..... 1
- Knockout Rod..... 1

## Installing Headstock Center

1. DISCONNECT MACHINE FROM POWER!
2. Make sure surface of center and spindle are free of debris and oily substances before inserting center.
3. Insert tapered end of center into spindle, and push it in quickly and firmly (see **Figure 22**).

**CAUTION**  
Spur center is sharp and may cause cuts. Wear gloves when installing spur center.

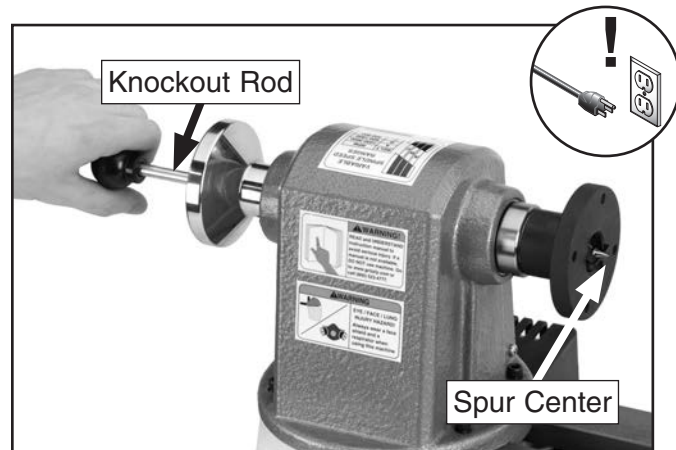


**Figure 22.** Typical installation of spur center into headstock.

4. Check that center is securely installed by giving it a quick tug. (A properly installed center will not pull out by hand.)

## Removing Headstock Center

1. DISCONNECT MACHINE FROM POWER!
2. Insert knockout rod into outboard end of spindle. Use a shop rag or wear a glove to catch center and gently tap rod handle until spur center is freed from spindle (see **Figure 23**).



**Figure 23.** Typical spur center removal from headstock spindle.

# Installing/Removing Tailstock Center

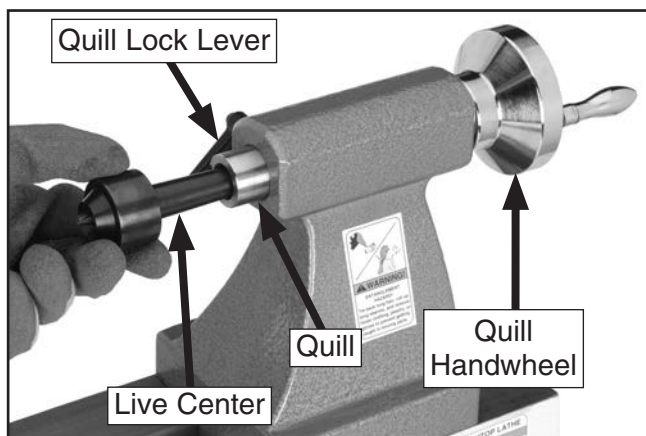
The included live center installs into the tailstock with an MT#2 tapered fit.

## Installing Live Center in Tailstock

1. Loosen quill lock handle (if locked) approximately half a turn.
2. Rotate quill handwheel clockwise until quill protrudes about  $\frac{3}{4}$ ".



3. Insert live center, as shown in **Figure 24**, and push firmly.



**Figure 24.** Typical live center installation.

4. Tighten quill lock handle.

### Removing Live Center from Tailstock

1. Loosen quill lock handle (if locked) approximately half a turn.
2. Turn quill handwheel counterclockwise until tailstock quill fully retracts, causing live center to be forced out of quill.

## **⚠️ WARNING**

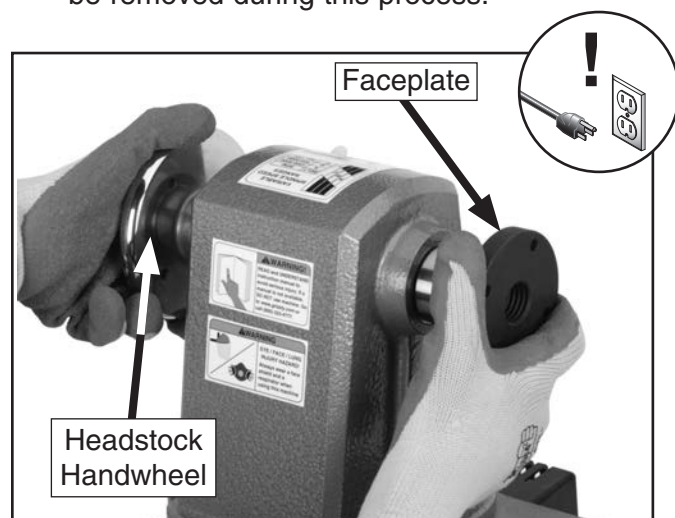
**Tailstock quill must always be locked during lathe operation. Workpiece can be thrown from lathe if this step is not observed. Also, tailstock quill should not protrude from tailstock housing more than 2" or quill will not be supported enough. Failure to follow warnings may result in personal injury.**

## Removing/Installing Faceplate

These instructions cover removing and installing the faceplate. To mount a workpiece to your faceplate, refer to **Faceplate Turning** on **Page 26**.

### Removing Faceplate

1. **DISCONNECT MACHINE FROM POWER!**
2. Hold headstock handwheel securely while turning faceplate counterclockwise until it is removed. If the spur center is installed, it will be removed during this process.



**Figure 25.** Typical faceplate removal.

### Installing Faceplate

1. **DISCONNECT MACHINE FROM POWER!**
2. Thread faceplate onto spindle shaft until secure against shoulder on spindle shaft.



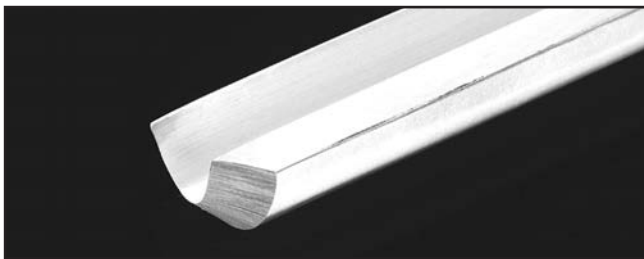


# Selecting Turning Tools

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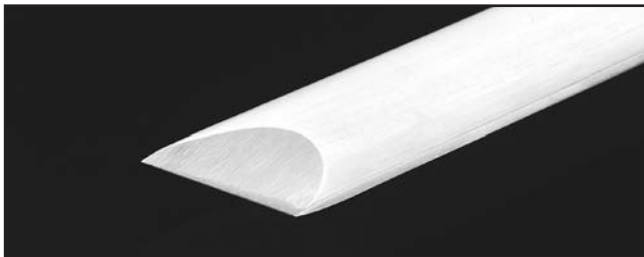
Lathe tools come in a variety of shapes and sizes and usually fall into five major categories.

- **Gouges**—Mainly used for rough cutting, detail cutting, and cove profiles. Rough gouge is a hollow, double-ground tool with a round nose, and detail gouge is a hollow, double-ground tool with either a round or pointed nose.



**Figure 26.** Example of a gouge.

- **Skew Chisel**—A very versatile tool that can be used for planing, squaring, V-cutting, beading, and parting off. The skew chisel is flat, double-ground with one side higher than the other (usually at an angle of 20-40°).



**Figure 27.** Example of a skew chisel.

- **Scrapers**—Typically used where access for other tools is limited, such as hollowing operations. This is a flat, double-ground tool that comes in a variety of profiles (round nose, spear point, square nose, etc.) to match many different contours.



**Figure 28.** Example of a round nose scraper.

- **Parting Tools**—Used for sizing and cutting off work. This is a flat tool with a sharp pointed nose that may be single- or double-ground.



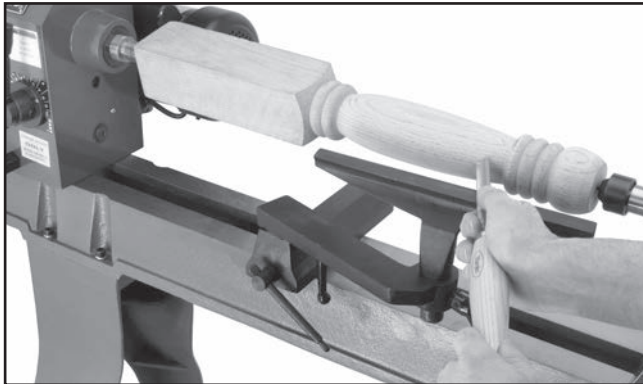
**Figure 29.** Example of a parting tool.

- **Specialty Tools**—These are the unique, special function tools to aid in hollowing, bowl making, cutting profiles, etc. The Swan Neck Hollowing Tool shown on **Page 29** is a good example of a specialty tool.



# Spindle Turning

Spindle turning is the operation performed when a workpiece is mounted between the headstock and the tailstock, as shown in **Figure 30**. Bowls, table legs, tool handles, and candlesticks are typical projects where this operation is used.



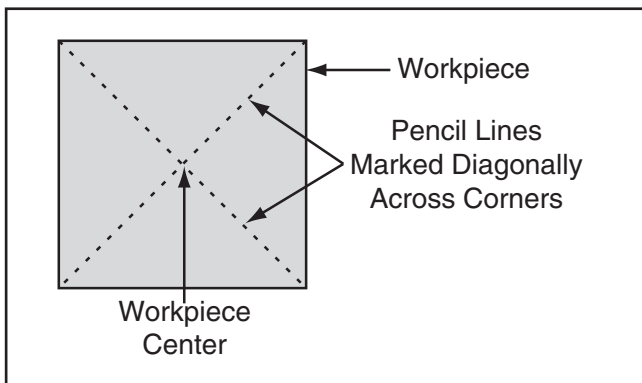
**Figure 30.** Typical spindle turning operation.

## **!WARNING**

Make sure the headstock and tailstock centers are properly aligned before beginning any turning operation. Failure to observe this warning could result in the workpiece being thrown from the lathe, resulting in serious personal injury.

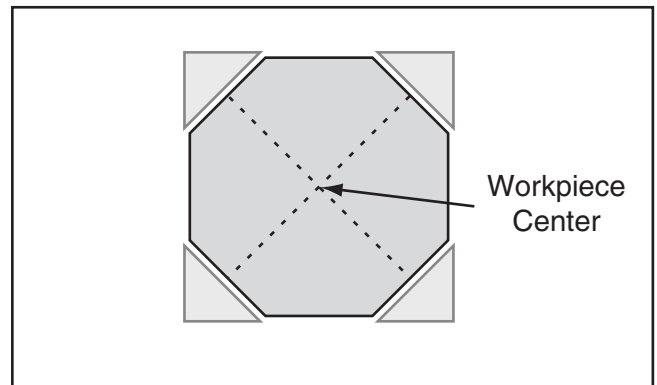
### To set up a spindle turning operation:

1. Find center point of both ends of your workpiece by drawing diagonal lines from corner to corner across end of workpiece, as shown in **Figure 31**.



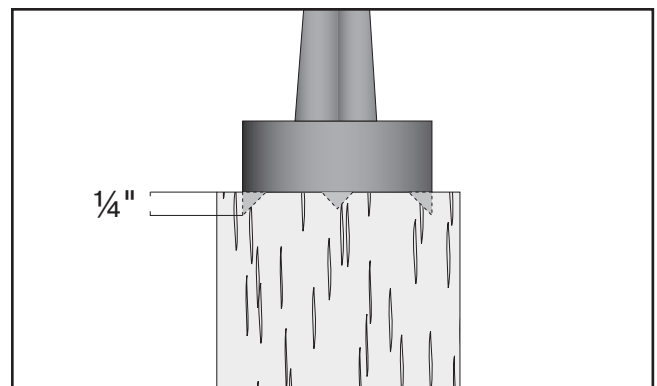
**Figure 31.** Workpiece marked diagonally from corner to corner to determine the center.

2. Make center mark by using wood mallet and tapping point of spur center into center of workpiece on both ends.
3. Using  $\frac{1}{4}$ " drill bit, drill  $\frac{1}{4}$ " deep hole at center mark on end of workpiece to be mounted on headstock spur center.
4. To help embed spur center into workpiece, cut  $\frac{1}{8}$ " deep saw kerfs in headstock end of workpiece along diagonal lines marked in **Step 1**.
5. If your workpiece is over 2" x 2", cut corners off workpiece lengthwise to make turning safer and easier (see **Figure 32**).



**Figure 32.** Corners of workpiece removed.

6. Drive spur center into end center mark of workpiece with wood mallet to embed it at least  $\frac{1}{4}$ " into workpiece, as shown in **Figure 33**.



**Figure 33.** Spur center properly embedded.



7. With workpiece still attached, insert spur center into headstock spindle (refer to **Installing/Removing Headstock Center** on **Page 21** for additional instructions).

**Note:** Use the tool rest to support the opposite end of workpiece so that the workpiece and spur center do not separate during installation.

8. Install live center into tailstock quill and tighten quill lock lever to lock quill in position (refer to **Pages 21–22** for additional instructions).
9. Slide tailstock toward workpiece until point of live center touches workpiece center mark, then lock tailstock in this position.
10. Loosen quill lock lever and rotate tailstock handwheel to push live center into workpiece at least a  $\frac{1}{4}$ ".

## **WARNING**

Do not press workpiece too firmly with tailstock or bearings will bind and over-heat. Do not adjust tailstock too loosely or workpiece will spin off lathe. Use good judgment and care, otherwise, serious personal injury could result from workpiece being ejected at high speeds.

11. Properly adjust tool rest to the workpiece (see **Adjusting Tool Rest** on **Page 20**).
12. Before beginning lathe operation, rotate workpiece by hand to ensure that there is safe clearance on all sides.

## **WARNING**

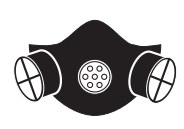
Keep lathe tool resting on tool rest ENTIRE time that it is in contact with workpiece or when preparing to make contact between lathe tool and workpiece. Otherwise, spinning workpiece could force lathe tool out of your hands or entangle your hands with workpiece. Failure to heed this warning could result in serious personal injury.

## Spindle Turning Tips:

- When turning the lathe **ON**, stand away from the path of the spinning workpiece until the spindle reaches full speed and you can verify that the workpiece will not come loose.
- Use the slowest speed when starting or stopping the lathe.
- Select the right speed for the size of workpiece that you are turning (refer to **Figure 14** on **Page 18**).
- Keep the turning tool on the tool rest the ENTIRE time that it is in contact with the workpiece.
- Learn the correct techniques for each tool you will use. If you are unsure about how to use the lathe tools, read books or magazines about lathe techniques, and seek training from experienced and knowledgeable lathe users.

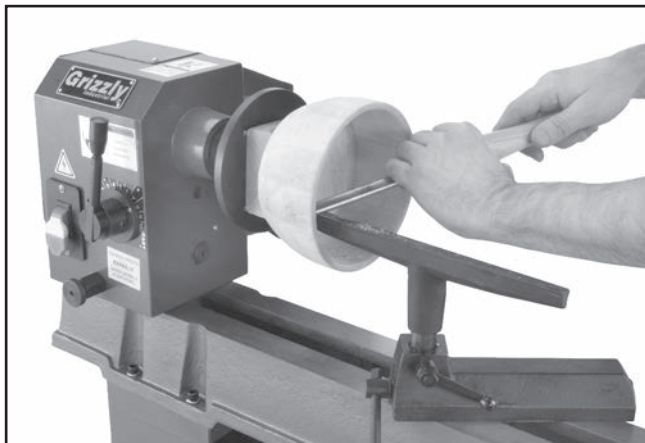
## **WARNING**

Eye injuries or respiratory problems can occur while operating this tool. Wear personal protective equipment to reduce your risk from these hazards.



# Faceplate Turning

Faceplate turning is when a workpiece is mounted to the faceplate, which is then mounted to the headstock spindle, as shown in **Figure 34**. This type of turning is usually done with open-faced workpieces like bowls or plates.



**Figure 34.** Typical faceplate turning operation.

## Mounting Workpiece to Faceplate

1. Mark workpiece center in same manner as described in **Spindle Turning** (see **Page 24**).

**Note:** *Cut off corners of workpiece to make it as close to "round" as possible, as described in **Spindle Turning** on **Page 24**.*

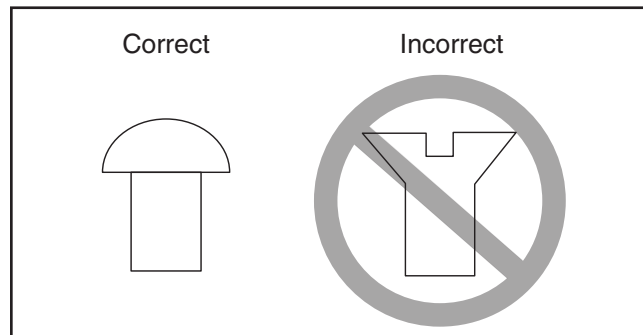
2. Center faceplate on workpiece and attach with wood screws that do not have tapered heads (see **Figure 35**).



**Figure 35.** Typical attachment of faceplate to workpiece.

## NOTICE

Only use screws with non-tapered heads (see **Figure 36**) to attach the faceplate to the workpiece. Screws with tapered heads can split the faceplate or snap off during operation.



**Figure 36.** Correct and incorrect screw types for mounting workpiece to faceplate.

3. Thread and secure faceplate onto headstock spindle (refer to **Removing/Installing Faceplate** on **Page 22** for faceplate mounting instructions).

—If wood screws cannot be placed in the workpiece, the faceplate can be mounted to a backing block attached to the workpiece (see **Mounting Workpiece to Backing Block** on **Page 27**).



## Mounting Workpiece to Backing Block

1. Make backing block from a suitable size piece of scrap wood.

**Note:** *The faces of the backing block must be flat and parallel to each other, or the uneven surfaces will cause the workpiece to spin eccentrically, causing unnecessary vibration and runout. It is best to mount the backing block to the faceplate and turn the other surface flat prior to mounting.*

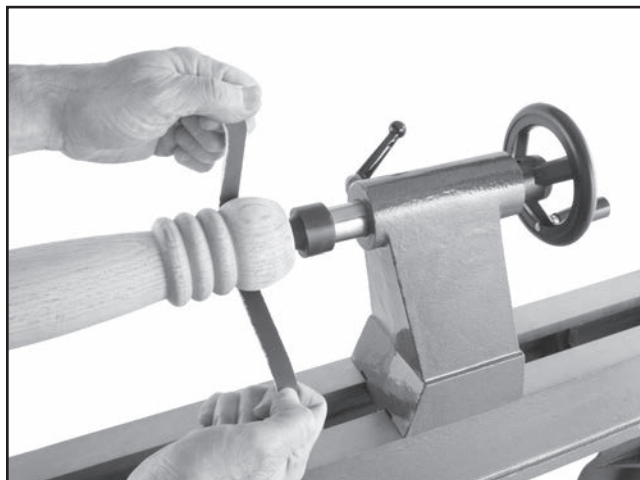
2. Locate and mark center of workpiece and backing block.
3. Drill a 1/4" hole through center of backing block.
4. Look through hole in backing block to line up center with workpiece, then glue and clamp backing block to workpiece.

**Note:** *Allow the glue to cure according to manufacturer instructions.*

5. Follow **Steps 1–3** in **Mounting Workpiece to Faceplate** (see **Page 26**) to attach backing block to the faceplate.

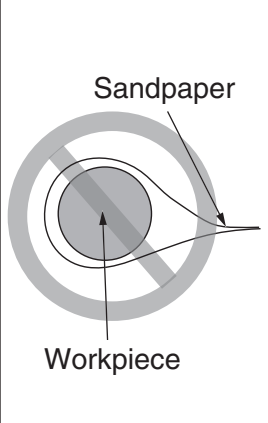
## Sanding/Finishing

After the turning operations are complete, the workpiece can be sanded and finished before removing it from the lathe, as shown in **Figure 37**.



**Figure 37.** Typical sanding operation.

**Note:** *Whenever sanding or finishing, move the tool rest holder out of the way to increase personal safety and gain adequate working room.*

	<p><b>⚠ WARNING</b></p> <p>Wrapping sandpaper completely around workpiece could pull your hands into moving workpiece and may cause serious injury. Never wrap sandpaper or finishing materials completely around workpiece.</p>
--	--



# SECTION 5: ACCESSORIES

## **!WARNING**

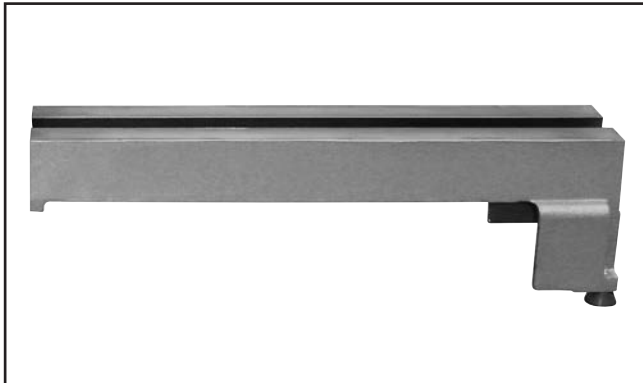
Installing unapproved accessories may cause machine to malfunction, resulting in serious personal injury or machine damage. To reduce this risk, only install accessories recommended for this machine by Grizzly.

## **NOTICE**

Refer to our website or latest catalog for additional recommended accessories.

### **T27327—22" Bed Extension**

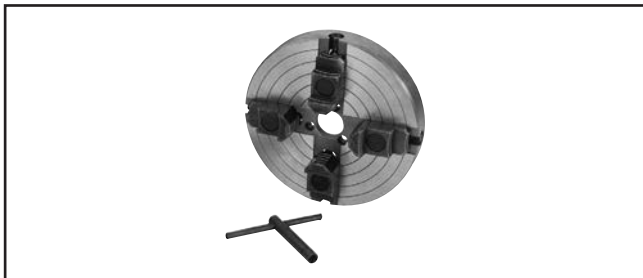
Need a longer lathe but don't want to dedicate the space to another machine, then add this 22" bed extension and turn stock up to 38" long.



**Figure 38.** Model T27327 Bed Extension.

### **H8049—6" 4-Jaw Wood Chuck 1" x 8 TPI**

Independently adjustable jaws hold odd shaped work. Jaws can be reversed for different holding applications. Includes chuck wrench.



**Figure 39.** Model H8049 4-Jaw Wood Chuck.

### **H6542—Robert Sorby HSS 8-Pc. Turning Set**

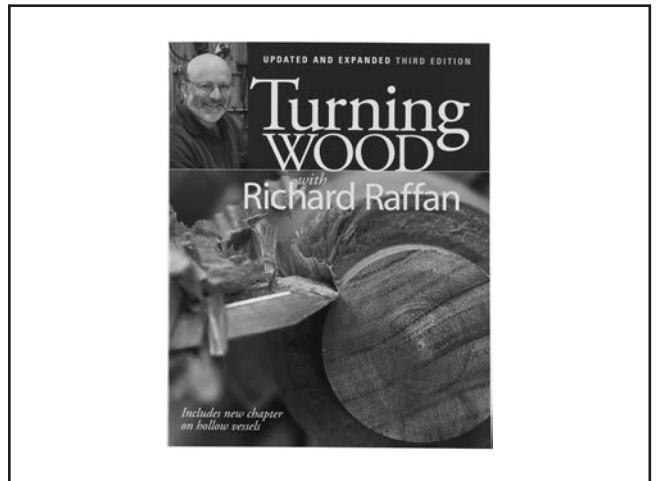
This 8-Pc. HSS Turning Tool Set includes  $\frac{3}{4}$ " Roughing Gouge,  $\frac{1}{4}$ " and  $\frac{1}{2}$ " Spindle Gouges,  $\frac{3}{8}$ " Bowl Gouge,  $\frac{3}{4}$ " Standard Skew,  $\frac{3}{16}$ " Diamond-Side Cut Scraper, 1" Square Scraper, and  $\frac{1}{2}$ " Round Scraper. Overall lengths are 16" to 19".



**Figure 40.** Model H6542 Robert Sorby 8-Pc. Set.

### **T25535—New Turning Wood Book**

The appeal of woodturning is simple: with only a few hand tools and a lathe, remarkable results can be quickly achieved, including beautiful bowls, boxes in the round, lamp bases, and furniture parts. For over 20 years, woodturners have been turning to Richard Raffan for expert advice and inspiration.



**Figure 41.** T25535 Turning Wood Book.

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



**H5954—Robert Sorby Stebcentre MT#2, 1¼"**  
 Razor sharp teeth bite into the workpiece for secure operation and the spring loaded center point controls the amount of drive or slip. This patented feature helps avoid the problem of 'dig-in'. Production turners can also load and unload their work while the lathe is still running!



**Figure 42.** Model H5954 MT#2 Stebcentre.

**T10117—Big Mouth Dust Hood with Stand**  
 Capture dust from any machine operation with this Big Mouth Dust Hood. Simply attach a 4" dust collection hose and adjust the hood right where you need it. The free-standing base eliminates complicated machine set-ups and the tilting 16<sup>3</sup>/<sub>8</sub>" x 12<sup>7</sup>/<sub>8</sub>" hood adjusts from 23" to 43" high. Every shop needs one of these!



**Figure 43.** Dust collector with hood.

**T10501—9-Piece Wood Lathe Center Kit**  
 This all-in-one set features a variety of interchangeable lathe centers for every spindle turning application. Includes: MT#1 and MT#2 live centers, 3 spur centers, 3 multi-spur centers, mounting adapter, wrenches and fitted case. Fits lathes with 1" x 8 TPI RH spindles.



**Figure 44.** Lathe center kit with fitted case.

**H0507—20" Swan Neck Hollowing Tool**

**H0508—24" Swan Neck Hollowing Tool**

An excellent choice for blind turning or undercutting where reach is restricted. H0507 is designed for end grain use while H0508 (with a more substantial steel cross section) is designed for both end grain and side grain (bowl) use.

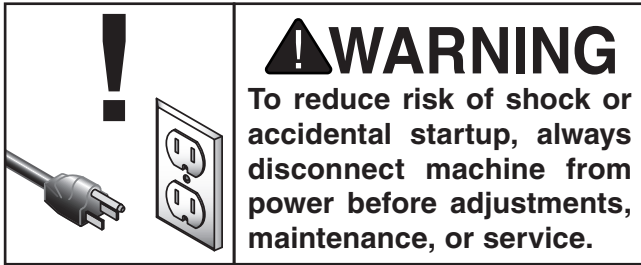


**Figure 45.** Swan neck hollowing tools.

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



# SECTION 6: MAINTENANCE



## Schedule

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

### Ongoing

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

- Loose faceplate or mounting bolts.
- Damaged center or tooling.
- Worn or damaged wires.
- Loose machine components.
- Any other unsafe condition.

### Daily

- Clean off dust buildup.
- Clean and lubricate lathe bed, spindle, tool rest, and quill.

### Monthly

- Belt tension, damage, or wear.

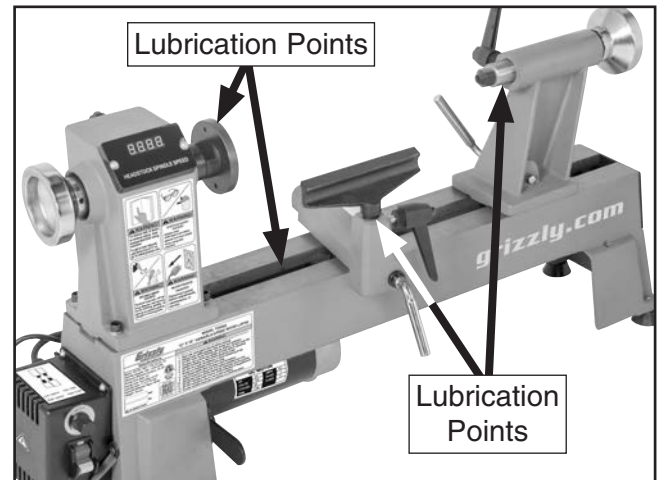
## Cleaning & Protecting

Cleaning this lathe is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin-dissolving cleaner to remove it.

Protect the unpainted cast-iron surfaces by wiping them clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces. Keep the surfaces rust-free with regular applications of products like G96® Gun Treatment, SLIPIT®, or Boeshield® T-9.

## Lubrication

Lubricate locations shown in **Figure 46** with light machine oil or G96® Gun Treatment.



**Figure 46.** Lubrication locations.

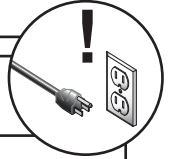




# SECTION 7: SERVICE

Review the troubleshooting and procedures in this section to fix or adjust your machine if a problem develops. If you need replacement parts or you are unsure of your repair skills, then feel free to call our Technical Support at (570) 546-9663.

## Troubleshooting



### Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	<ol style="list-style-type: none"> <li>1. Switch disabling key removed.</li> <li>2. Incorrect power supply voltage or circuit size.</li> <li>3. Blown fuse.</li> <li>4. Power supply circuit breaker tripped or fuse blown.</li> <li>5. Wiring is open/has high resistance.</li> <li>6. Potentiometer/variable-speed dial at fault.</li> <li>7. ON/OFF switch at fault.</li> <li>8. Motor brushes at fault.</li> <li>9. Motor is at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install switch disabling key.</li> <li>2. Ensure correct power supply voltage and circuit size.</li> <li>3. Replace fuse/ensure no shorts.</li> <li>4. Ensure circuit is sized correctly and free of shorts. Reset circuit breaker or replace fuse.</li> <li>5. Check for broken wires or disconnected/corroded connections, and repair/replace as necessary.</li> <li>6. Test/replace.</li> <li>7. Replace switch.</li> <li>8. Replace motor brushes.</li> <li>9. Test/repair/replace.</li> </ol>
Machine stalls or is underpowered.	<ol style="list-style-type: none"> <li>1. Machine is undersized for task.</li> <li>2. Workpiece material not suitable.</li> <li>3. Feed rate/cutting speed too fast for task.</li> <li>4. Belt slipping.</li> <li>5. Motor connection is wired incorrectly.</li> <li>6. Pulley slipping on shaft.</li> <li>7. Plug/receptacle at fault.</li> <li>8. Motor has overheated.</li> <li>9. Potentiometer/variable-speed dial at fault.</li> <li>10. Motor brushes at fault.</li> <li>11. Pulley/sprocket slipping on shaft.</li> <li>12. Motor is at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use sharp lathe tools; reduce feed rate/depth of cut.</li> <li>2. Only cut wood/ensure moisture is below 20%.</li> <li>3. Decrease feed rate/cutting speed.</li> <li>4. Replace bad belt and re-tension (<b>Page 33</b>).</li> <li>5. Correct motor wiring connections.</li> <li>6. Replace loose pulley.</li> <li>7. Test for good contacts/correct wiring.</li> <li>8. Clean off motor, let cool, and reduce workload.</li> <li>9. Test/replace.</li> <li>10. Replace motor brushes.</li> <li>11. Replace loose pulley/shaft.</li> <li>12. Test/repair/replace.</li> </ol>
Machine has vibration or noisy operation (without workpiece installed).	<ol style="list-style-type: none"> <li>1. Machine feet adjusted incorrectly.</li> <li>2. Motor or component is loose.</li> <li>3. Belt worn or loose.</li> <li>4. Motor mount loose/broken.</li> <li>5. Pulley is loose.</li> <li>6. Motor bearings are at fault.</li> <li>7. Workpiece or chuck at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust feet until machine sits evenly without wobbling.</li> <li>2. Inspect/replace stripped or damaged bolts/nuts, and re-tighten with thread-locking fluid.</li> <li>3. Inspect/replace belts (<b>Page 33</b>).</li> <li>4. Tighten/replace.</li> <li>5. Replace shaft, pulley, setscrew, and key as required.</li> <li>6. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> <li>7. Center workpiece in chuck/faceplate; reduce RPM; replace defective chuck.</li> </ol>



## Wood Lathe Operation

Symptom	Possible Cause	Possible Solution
Vibration noise while machine is running; noise changes when speed is changed.	1. Belt cover loose.	1. Tighten the knobs that secure the belt cover; if necessary install a soft, vibration dampening material between the belt cover and the headstock casting.
Excessive vibration (with workpiece installed).	1. Workpiece mounted incorrectly. 2. Headstock, tailstock, or tool rest not securely clamped to lathe bed. 3. Workpiece warped, out of round, or is flawed. 4. Spindle speed is set too fast for mounted workpiece. 5. Lathe is resting on an uneven surface. 6. Motor mount bolts are loose. 7. Belt is worn or damaged. 8. Spindle bearings are worn.	1. Re-mount workpiece, making sure that centers are embedded in true center of workpiece. 2. Check clamp levers and tighten if necessary. 3. Cut workpiece to correct, or use a different workpiece. 4. Reduce the spindle speed. 5. Shim base or adjust feet on workbench to remove any wobbles. 6. Tighten motor mount bolts. 7. Replace belt ( <b>Page 33</b> ). 8. Replace spindle bearings.
Chisels grab or dig into workpiece.	1. Tool rest set too low. 2. Tool rest set too far from workpiece. 3. Wrong chisel/tool being used. 4. Chisel/tool dull.	1. Set tool rest higher ( <b>Page 20</b> ). 2. Move the tool rest closer to the workpiece ( <b>Page 20</b> ). 3. Use the correct chisel/tool; educate yourself by reading books, trade magazines, or seeking help from an experienced lathe operator. 4. Sharpen or replace the chisel/tool you are using.
Bad surface finish on workpiece.	1. Wrong spindle speed. 2. Dull chisel or wrong chisel being used for the operation.	1. Use trial-and-error to find a better spindle speed. 2. Sharpen chisel or try a different chisel.
Tailstock moves under load.	1. Tailstock mounting bolt loose. 2. Bed surface is oily or greasy.	1. Tighten. 2. Clean bed surface to remove excess oil/grease.
Can't remove tapered tool from tailstock barrel.	1. Tailstock barrel not retracted all the way back into the tailstock. 2. Debris was not removed from taper before inserting into barrel.	1. Turn the barrel handwheel until it forces taper out of barrel. 2. Always make sure that taper surfaces are clean.



# Tensioning & Replacing Belt

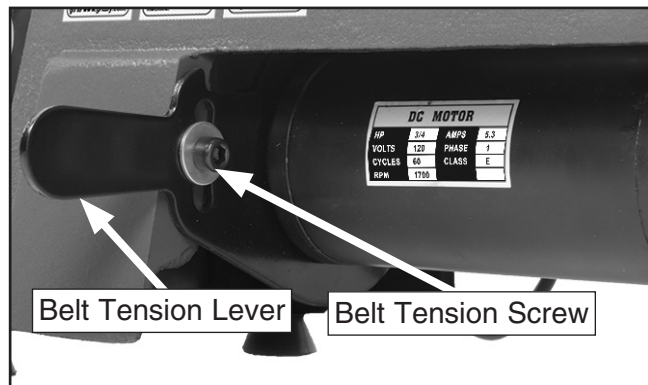
The drive belt stretches as the lathe is used. Most of the stretching will occur during the first 16 hours, but may continue with further use. If the lathe loses power while making a cut, the belt may be slipping and need tensioning. If the belt shows signs of excessive wear, or damage, replace it.

## Tools Needed:

Hex Wrenches 3mm, 6mm..... 1 Ea  
 Rubber/Wood Mallet..... 1

## Tensioning Belt

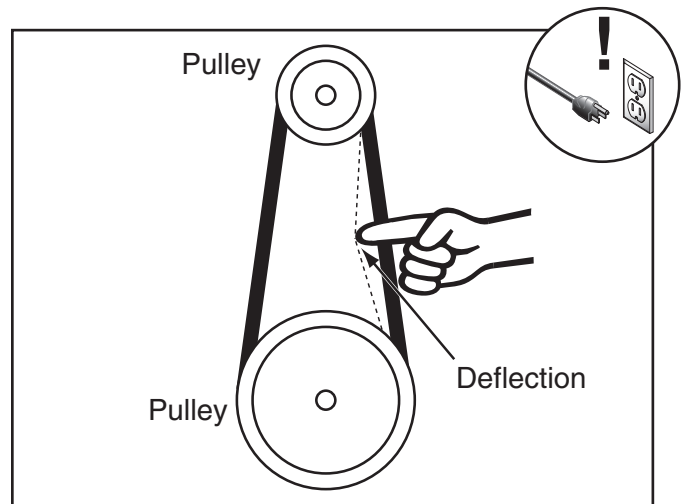
1. DISCONNECT MACHINE FROM POWER!
2. Remove rear access cover and loosen belt tension screw (see **Figure 47**).



**Figure 47.** Belt tension controls.

3. Press belt tension lever down, then tighten belt tension screw.
4. Press belt with moderate pressure in center to check tension. Belt is correctly tensioned when there is approximately 1/2" deflection when pushed as shown in **Figure 48**.

— If there is more than 1/2" deflection repeat the tensioning procedure until it is correct. If tension cannot be achieved replace belt.

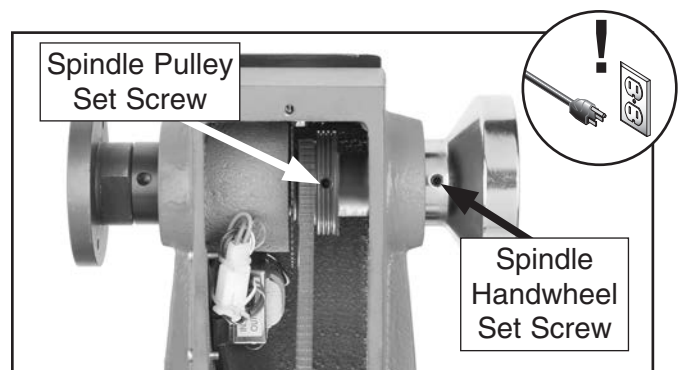


**Figure 48.** Checking belt deflection.

5. Re-install rear access cover.

## Replacing Belt

1. DISCONNECT MACHINE FROM POWER!
2. Remove rear access cover and open side access cover.
3. Release belt tension, then remove belt from motor pulley.
4. Loosen set screws on spindle handwheel (see **Figure 49**), and turn clockwise to unthread and remove.

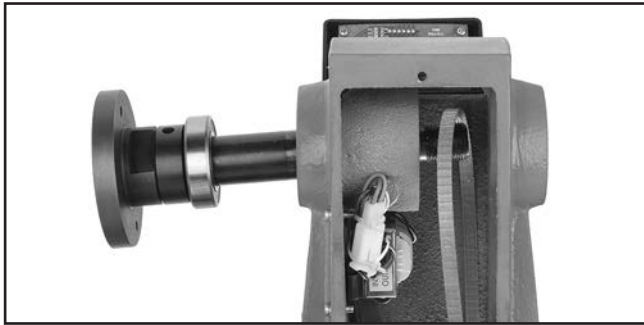


**Figure 49.** Set screw locations.

5. Loosen spindle pulley set screw.



- Tap spindle far enough out of headstock so belt can be removed (see **Figure 50**). A rubber or wooden mallet may be required. Take care not to damage spindle threads or lose parts. **DO NOT** remove spindle pulley.



**Figure 50.** Belt removal (pulley removed for clarity).

- Place new belt over spindle pulley.
- Slide spindle back through headstock and into original position. A mallet may be required to reseat bearing.
- Install headstock spindle handwheel and tighten both set screws.
- Loosely install belt on inner or outermost motor pulley position.
- Move belt tension lever down to tension belt then tighten belt tension screw.
- Follow **Step 4** in the **Tensioning Belt** procedure to set belt tension.
- Re-install rear access cover and close side access cover.

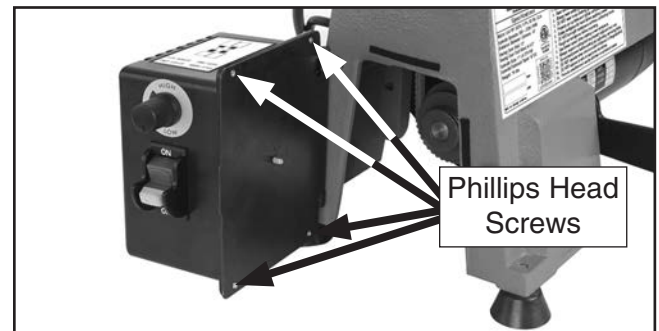
## Replacing Fuse

This lathe features an on-board fuse designed to protect sensitive electrical parts from thermal damage in the event of an overload. If the machine does not start check the fuse.

Items Needed	Qty
Phillips Head Screwdriver #2 .....	1
Replacement Fuse (PT25920079).....	1

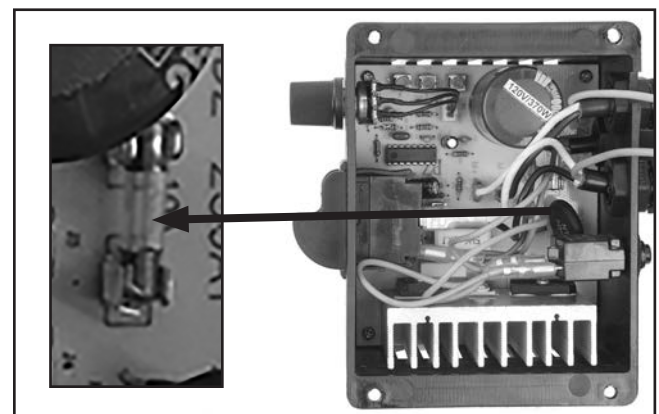
### To replace fuse:

- DISCONNECT MACHINE FROM POWER!**
- Remove (4) Phillips head screws holding electrical box to side access cover (see **Figure 51**).



**Figure 51.** Electrical box screw locations, (side access door open for clarity).

- Carefully remove fuse, then insert new fuse shown in **Figure 52**.



**Figure 52.** 10A fuse location on circuit board.

- Re-install electrical box onto side access cover with screws removed in **Step 2**, then test run.



# Replacing Brushes

Your machine is equipped with a universal motor that uses carbon brushes to transmit electrical current inside the motor. These brushes are considered to be regular "wear items" or "consumables" that will eventually need to be replaced. The frequency of this replacement is directly related to how much the motor is used and how hard it is pushed.

Replace both brushes at the same time if the motor no longer reaches full power, operates inconsistently, or when the brushes measure less than 1/4" long (new brushes are 5/8" long).

Items Needed	Qty
Hex Wrench 6mm.....	1
Flat Head Screwdriver #2.....	1
Replacement Brushes (PT25920084).....	2

## Replacing Lathe Motor Brushes

1. DISCONNECT MACHINE FROM POWER!
2. Loosen belt tension screw, raise motor to gain access to lower brush cap, then tighten belt tension screw.
3. Unscrew brush cap with flat head screwdriver (see **Figure 53**).



**Figure 53.** Motor brush cap locations.

4. Carefully remove brush from motor (see **Figure 54**).



**Figure 54.** Removing brush from motor.

5. Install new brush and re-install brush cap.
6. Repeat **Steps 3–5** to replace brush on top-side of motor.
7. Tension belt (refer to **Tensioning & Replacing Belt** on **Page 33** for details).
8. Re-install rear access cover, and close side access cover.
9. Test run machine.



# 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.















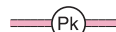
**CAPACITORS/INVERTERS.** Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

**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 	



# Wiring Diagram

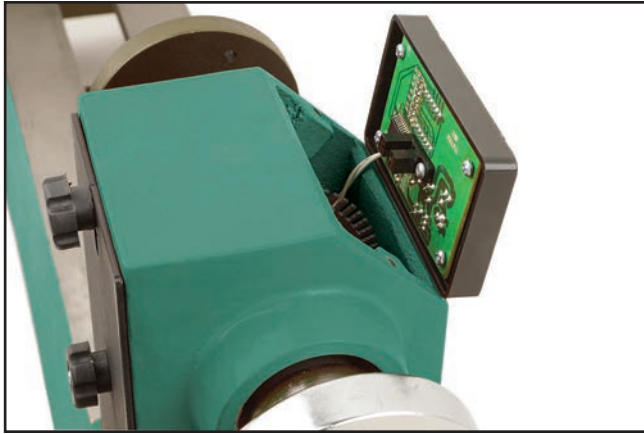


Figure 55. Digital readout display board.

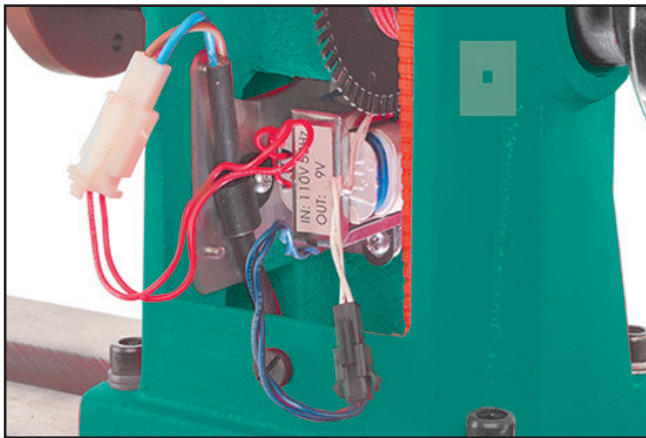


Figure 56. Connections in headstock.

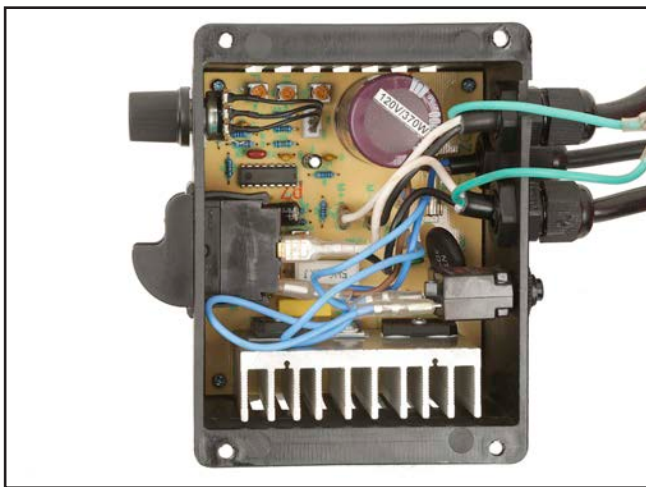
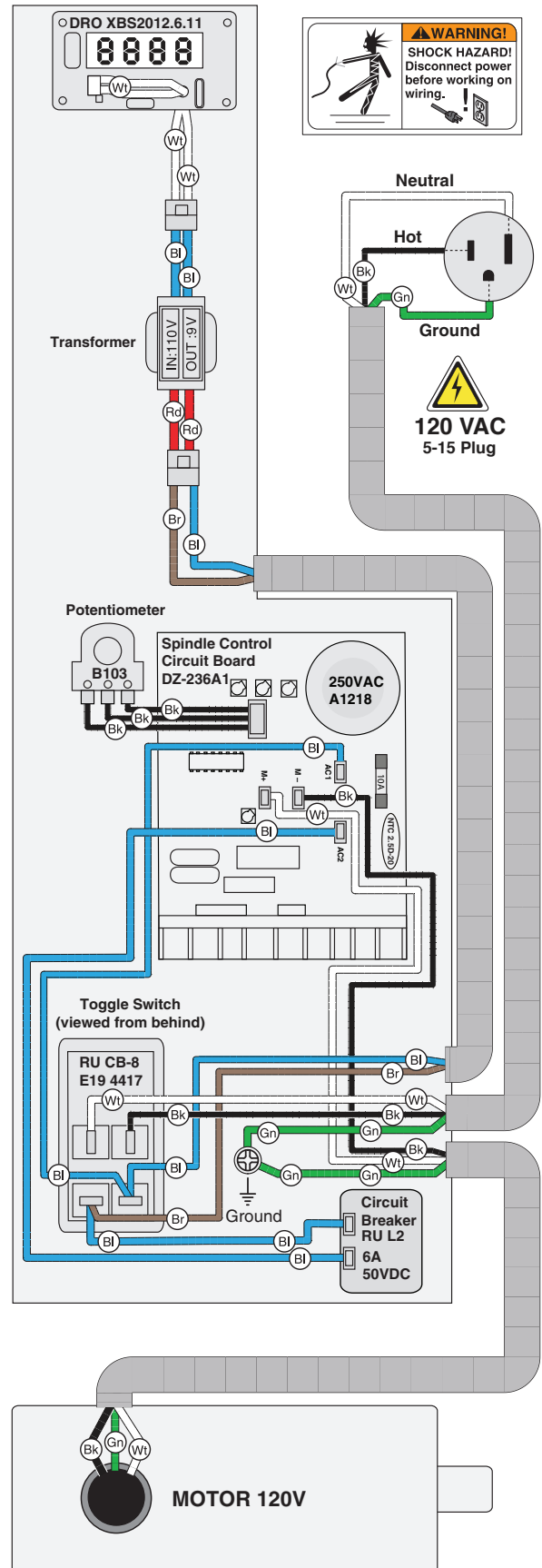


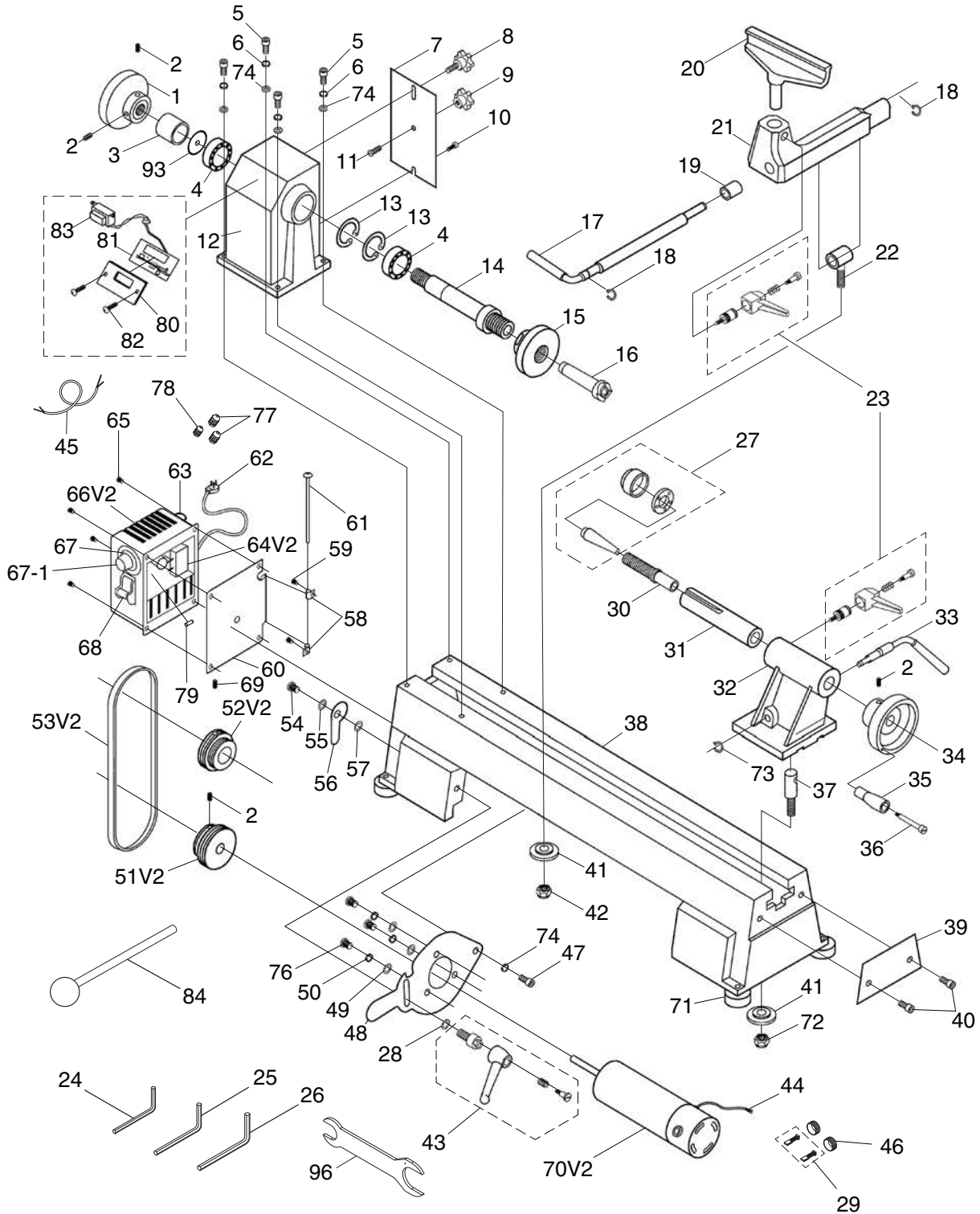
Figure 57. Electrical box.



# SECTION 9: PARTS

**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.

## Main



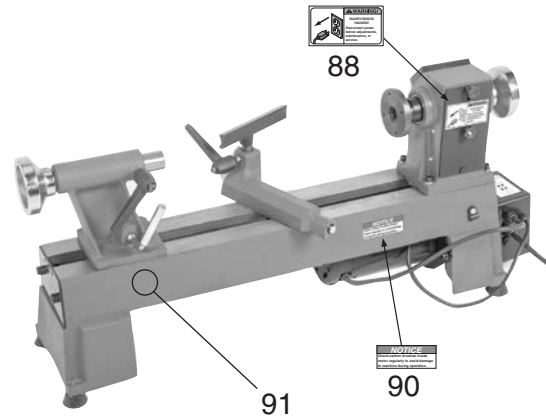
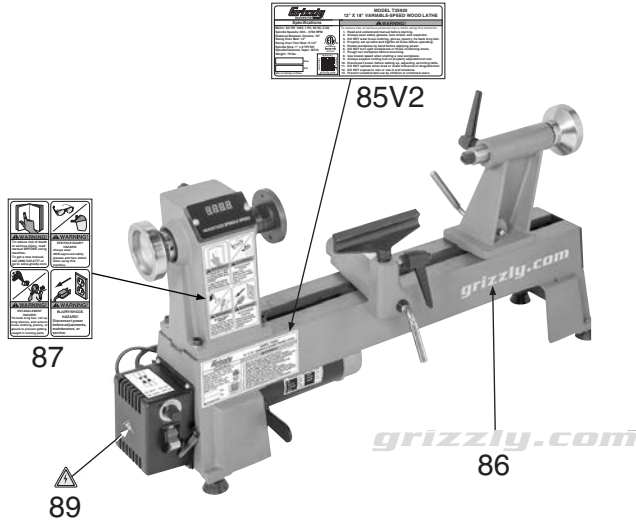


# Main Parts List

REF	PART #	DESCRIPTION	REF	PART #	DESCRIPTION
1	PT25920001	HANDWHEEL 82MM X M18-2.5 LH BORE	44	PT25920044	MOTOR CORD 18G 3W 16"
2	PT25920002	SET SCREW M6-1 X 12	45	PT25920045	SWITCH CORD 18G 3W 22"
3	PT25920003	COLLAR SPINDLE	46	PT25920046	MOTOR CARBON BRUSH CAP
4	PT25920004	BALL BEARING 6005-2RS	47	PT25920047	CAP SCREW M8-1.25 X 12
5	PT25920005	CAP SCREW M8-1.25 X 25	48	PT25920048	MOTOR MOUNT PLATE
6	PT25920006	LOCK WASHER 8MM	49	PT25920049	FLAT WASHER 6MM
7	PT25920007	REAR BELT ACCESS DOOR	50	PT25920050	LOCK WASHER 6MM
8	PT25920008	THUMB SCREW M5-.8 X 9	51V2	PT25920051V2	MOTOR PULLEY V2.01.20
9	PT25920009	STATIONARY KNOB M5-.8	52V2	PT25920052V2	DRIVE PULLEY V2.01.20
10	PT25920010	SHOULDER SCREW M5-.8 X 7, 2	53V2	PT25920053V2	POLY V-BELT 4V X 25L V2.01.20
11	PT25920011	FLAT HD SCR M5-.8 X 10	54	PT25920054	SWITCH BOX LATCH BOLT M4-.7 X 5
12	PT25920012	HEADSTOCK	55	PT25920055	FLAT WASHER 4MM
13	PT25920013	INT RETAINING RING 47MM	56	PT25920056	SWITCH BOX LATCH
14	PT25920014	HEADSTOCK SPINDLE	57	PT25920057	FLAT WASHER 4MM
15	PT25920015	FACEPLATE 3-1/4"	58	PT25920058	HINGE
16	PT25920016	SPUR CENTER MT#2	59	PT25920059	PHLP HD SCR M4-.7 X 8
17	PT25920017	TOOL REST LOCK HANDLE	60	PT25920060	SWITCH BOX PLATE
18	PT25920018	EXT RETAINING RING 10MM	61	PT25920061	HINGE PIN
19	PT25920019	TOOL REST BUSHING	62	PT25920062	POWER CORD 18G 3W 72" 5-15P
20	PT25920020	TOOL REST 150MM	63	PT25920063	CIRCUIT BREAKER 6A GENERAL
21	PT25920021	TOOL REST BASE	64V2	PT25920064V2	CIRCUIT BOARD V2.03.16
22	PT25920022	TOOL REST CAM FOLLOWER	65	PT25920065	PHLP HD SCR M4-.7 X 6
23	PT25920023	TOOL REST ADJ. HANDLE M8-1.25 X 20	66V2	PT25920066V2	SWITCH BOX V2.03.16
24	PT25920024	HEX WRENCH 3MM	67	PT25920067	POTENTIOMETER B103
25	PT25920025	HEX WRENCH 6MM	67-1	PT25920067-1	POTENTIOMETER KNOB
26	PT25920026	HEX WRENCH 8MM	68	PT25920068	TOGGLE SWITCH RU CB-8 E19 4417
27	PT25920027	LIVE CENTER MT#2	69	PT25920069	SET SCREW M6-1 X 12
28	PT25920028	FENDER WASHER 8MM	70V2	PT25920070V2	MOTOR 3/4HP 120VDC V2.01.20
29	PT25920029	MOTOR CARBON BRUSH 2-PC SET	71	PT25920071	RUBBER FOOT M8-1.25 X 15
30	PT25920030	TAILSTOCK LEADSCREW	72	PT25920072	LOCK NUT M10-1.5
31	PT25920031	TAILSTOCK QUILL	73	PT25920073	EXT RETAINING RING 10MM
32	PT25920032	TAILSTOCK	74	PT25920074	FLAT WASHER 8MM
33	PT25920033	TAILSTOCK LEVER	76	PT25920076	FLAT HD SCR M6-1 X 12
34	PT25920034	HANDWHEEL 83MM X 15MM BORE	77	PT25920077	STRAIN RELIEF 5/16" SNAP-IN ST
35	PT25920035	HANDWHEEL HANDLE 6MM X 50MM	78	PT25920078	STRAIN RELIEF 1/4" SNAP-IN ST
36	PT25920036	SHOULDER SCREW M6-1 X 53	79	PT25920079	FUSE 10A 250V FAST-ACTING GLASS
37	PT25920037	TAILSTOCK CLAMP BOLT M10-1.5 X 30MM	80	PT25920080	DIGITAL DISPLAY COVER
38	PT25920038	BED	81	PT25920081	DIGITAL DISPLAY PLATE
39	PT25920039	RETAINING PLATE	82	PT25920082	PHLP HD SCR M4-.7 X 16
40	PT25920040	CAP SCREW M10-1.5 X 12	83	PT25920083	TRANSFORMER 2W 110/230V-8.1-9.1V
41	PT25920041	LOCK PLATE	84	PT25920084	KNOCKOUT BAR
42	PT25920042	LOCK NUT M10-1.5	93	PT25920093	SPEED RING
43	PT25920043	MOTOR PLATE HANDLE ASSEMBLY	96	PT25920096	WRENCH 32 X 42MM OPEN-ENDS



# Labels & Cosmetics



REF	PART #	DESCRIPTION
85V2	PT25920085V2	MACHINE ID LABEL V2.01.20
86	PT25920086	GRIZZLY.COM LABEL
87	PT25920087	SAFETY WARNING LABEL
88	PT25920088	SHOCK HAZARD LABEL

REF	PART #	DESCRIPTION
89	PT25920089	ELECTRICITY LABEL
90	PT25920090	CARBON BRUSHES NOTICE LABEL
91	PT25920091	TOUCH-UP PAINT, GRIZZLY GREEN

## WARNING

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



# WARRANTY & RETURNS

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

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

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

In the event you need to use this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

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



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