

# MODEL T25920/T25926 VARIABLE-SPEED WOOD LATHE

### **OWNER'S MANUAL**

(For models manufactured since 08/14)



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## INTRODUCTION

### **Contact Info**

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

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

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

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

### **Manual Accuracy**

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

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

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

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

		MACHINE NAME
SPECIFICAT	IONS	A WARNING!
Motor: Specification: Specification:	Manu	To reduce risk of serious injury when using this machine: nual before operation. facture Date affety glasses and respirator. rectly adjusted/setup and
Specification: Specification: Weight:	late	<ol> <li>power is connected to grounded circuit before starting</li> <li>Make sure the motor has stopped and disconnect power before adjustments, maintenance, or service.</li> <li>DO NOT expose to rain or dampness.</li> <li>DO NOT modify this machine in any way.</li> </ol>





### MODELS T25920 & T25926 BENCHTOP LATHES

Model Number	T25920	T25926	
Product Dimensions			
Weight	84 lbs.	75 lbs.	
Width (side-to-side) x Depth (front-to-back) x Height	38¾ x 12 X 17 in.	37¾ x 12 x 13 in.	
Footprint (length x width)	30 x 8 in.	30 x 8 in.	
Shipping Dimensions			
Туре	Car	rdboard	
Content	Ma	achine	
Weight	89 lbs.	79 lbs.	
Width (side-to-side) x Depth (front-to-back) x Height	32 x 19 x 12 in.	33 x 17 x 13 in.	
Must Ship Upright		Yes	
Electrical			
Power Requirement	110V, Single	e-Phase, 60 Hz	
Prewired Voltage	110V		
Full-Load Current Rating	5.3A	6A	
Minimum Circuit Size	15A		
Connection Type	Corc	d & Plug	
Power Cord Included		Yes	
Switch	Toggle Switch	n w/Disabling Key	
Cord Length		6 ft.	
Cord Gauge	18	AWG	
Plug Included	Yes		
Included Plug Type	NEM	MA 5-15	
Motor			
Туре	Universal Br	rush-Type Motor	
Horsepower	550W (¾ HP)	370W (½ HP)	
Phase	Single-Phase		
Amps	5.3A	6A	
Speed	170	00 RPM	
Bearings	Shielded & Permanently Sealed		
Power Transfer	V	/-Belt	





Model Number	T25920	T25926
Operation Information		
Swing Over Bed	12 in.	9¾ in.
Dist. Between Centers	16½ in.	16¾ in.
Bed Width	7¼ ir	I.
Faceplate Size	31⁄8 ir	l.
Swing Over Tool Rest Base	9½ in.	7 <sup>1</sup> / <sub>4</sub> in.
No. Of Spindle Speeds	Variab	le
Spindle Speed Range	650 – 3800	) RPM
Spindle Information		
Spindle Taper	MT#2	2
Spindle Thread Size	1 in.	
Spindle TPI	8 TP	I
Spindle Thread Direction	Right H	and
Spindle Bore	Through-Hol	e <sup>11</sup> / <sub>16</sub> in.
Type of Included Spindle Center	Spur	
Tailstock Information		
Tailstock Taper	MT#2	2
Tailstock Center Type	Live	
Tool Rest Information		
Tool Rest Width	5 <sup>7</sup> / <sub>8</sub> in.	5¾ in.
Tool Rest Post Diameter	5% in.	
Tool Rest Post Length	3 in.	2¾ in.
Tool Rest Base Height	1¼ in.	1% in.
Construction		
Headstock	Cast Ir	on
Bed	Cast Ir	on
Frame	Cast Ir	on
Base	Cast Ir	on
Tailstock	Cast Ir	on
Paint	Uretha	ne
Other		
Country of Origin	China	a
Warranty	1 Yea	r
Serial Number Location	ID Lab	el
ISO 9001 Factory	Yes	
Assembly Time	10 Minu	ites



### Identification

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



Figure 1. T25920/T25926 control and component identification.

- A. Headstock
- B. Faceplate
- C. Tool Rest
- D. Live Center
- E. Tailstock Lock Lever
- F. Quill Lock Lever
- G. Quill Handwheel
- H. Tailstock

- I. Tool Rest Lock Lever
- J. Base Lock Lever
- K. Belt Tension Lever
- L. Lathe ON/OFF Switch
- M. Spindle Speed Dial
- N. Headstock Handwheel
- O. Digital Readout





# Controls & Components



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

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 2. Tension lever and ON/OFF switch.

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



Figure 3. 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 4. 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 5. 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.

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

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

NOTICE

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

### **Safety Instructions for Machinery**

### **A**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.



### 

**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 work-piece 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 Wood Lathes**

### **A**WARNING

MAIN INJURY HAZARDS: Death or crushing injury from getting entangled in rotating spindle or workpiece; death, blindness, or broken bones from being struck by a workpiece that breaks apart or comes loose during rotation, turning tool kickback, or flying wood chips. To minimize your risk of these hazards, always heed the following warning information:

**INTEGRITY OF STOCK.** 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 turning tool kickback.

**WORKPIECE PREPARATION.** Before mounting, cut off waste portions with a bandsaw or other tool to ensure workpiece has no large edges to catch turning tool, and it will rotate without dangerous wobbling.

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

**SECURING WORKPIECE.** An improperly secured workpiece can fly off spindle with deadly force. Use proven setup techniques and always verify workpiece is well-secured before starting lathe. Only use high-quality fasteners with non-tapered heads for faceplate attachment.

**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.

**TOOL KICKBACK.** Occurs when turning tool is ejected from workpiece with great force, striking operator or bystanders. Commonly caused by poor workpiece selection/preparation, improper tool usage, or improper machine setup or tool rest adjustment.

**ADJUSTMENT TOOLS.** Remove all chuck keys, wrenches, and adjustment tools before turning lathe *ON*. A 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 handrotating it through its entire range of motion.

**EYE/FACE PROTECTION**. Always wear a face shield and safety glasses when operating lathe.

**PROPER APPAREL.** Do not wear gloves, necktie or loose clothing. Keep keep long hair away from rotating spindle.

**SPEED RATES.** 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.

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

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

**SHARP TOOLS.** Only use sharp turning tools they cut with less resistance than dull tools. Dull turning tools can catch or grab and pull your hands into the rotating workpiece.

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

**ADJUSTMENTS/MAINTENANCE.** Make sure wood lathe is turned *OFF*, disconnected from power, and all moving parts are completely stopped before doing adjustments or maintenance.

**MEASURING WORKPIECE.** Only measure workpiece after it has 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.



### 

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

#### **Full-Load Current Rating**

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

#### T25920 Full-Load Current Rating .....5.3A T25926 Full-Load Current Rating ......6.0A

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
Cycle	
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.)

### 

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 6. Typical 5-15 plug and receptacle.



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

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

#### **Extension Cords**

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

Extension cords cause voltage drop, which 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 ......14 AWG Maximum Length (Shorter is Better)......50 ft.





## **SECTION 3: SETUP**

### Unpacking

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

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

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



#### **AWARNING** SUFFOCATION HAZARD!

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

### **Needed for Setup**

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

#### Description

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



### 

Qtv

Model T25920/T25926 is a heavy machine. DO NOT over-exert yourself while unpacking or moving your machine—get assistance.



**AWARNING** Wear safety glasses during

the entire setup process!



### Inventory

### Cleanup

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.

#### 



Figure 7. Inventory components.

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



#### 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 8. T25920 minimum working clearances.



Figure 9. T25926 minimum working clearances.



**A**CAUTION 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.



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. The rubber feet on the bottom of the base must be removed to "Through Mount" the lathe.



Figure 10. "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 11. "Direct Mount" setup.

### Assembly

Assembly consists of installing the electrical box onto the base with two pre-installed Phillips head screws, then installing the handwheel handle onto the tailstock quill with the pre-installed flathead screw.

#### To assemble machine:

1. Use (2) pre-installed Phillips head screws and (2) flat washers to attach electrical box to lathe, as shown in **Figure 12**.



Figure 12. Electrical box installed.

- 2. Insert handwheel handle into quill handwheel and tighten with flathead screwdriver.
- 3. To insert centers, refer to Installing/ Removing Headstock Center and Installing/ Removing Tailstock Center on Page 22.

### Test Run

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

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

### WARNING

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

### 

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.





- 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 and seek additional training from experienced machine operators, and do additional research outside of this manual by reading "howto" 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.







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

### 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 to make it roughly concentric.
- **3.** Installs workpiece between centers, or attaches it to faceplate or chuck.
- **4.** Adjusts tool rest to <sup>1</sup>/<sub>8</sub>" above workpiece centerline, and sets minimum clearance between the workpiece and lip of tool rest to <sup>1</sup>/<sub>4</sub>".
- 5. Rotates workpiece by hand to verify that the spindle and workpiece rotate freely throughout the range of motion.
- 6. Positions dust collection hood near work piece to collect wood chips secure in place.
- **7.** Ties back loose hair and clothing, and puts on face shield and respirator. Takes all other required safety precautions.
- **8.** Starts lathe, adjusts lathe speed, and carefully begins turning operation, keeping chisel against tool rest entire time it is cutting.



# Stock Inspection & Requirements

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 cutting natural and man-made wood products, and some plastics. Never attempt to cut any metal, stone, or rubber workpiece; cutting 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 personal injury. Choose workpieces that do not have large/loose knots.

#### • Wet or "Green" Stock:

Cutting wood with a moisture content over 20% causes unnecessary wear on tooling blades, increases the risk of tool grab, and yields poor results.

#### • 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 impact injures. Only turn concentric workpieces!



### Adjusting Spindle Speeds

Your lathe has three speed ranges for maximum turning options. These ranges are selected by changing belt positions on the motor and spindle pulleys (see **Figure 14**).



Figure 14. 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. Mid range (**B**) is a compromise between the high and low ranges. Low range (**C**), 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 15** 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 15. Speed recommendations.

### 

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 16). Be sure belt tension lever moves freely to release tension from belt.



Figure 16. Belt tension lever.

3. Open side access cover and remove rear access cover (see Figure 17).



Figure 17. Side and rear access covers.



 Locate desired speed on speed chart on top of control box (see Figure 15 on Page 19) and move belt to necessary grooves on motor and spindle pulleys, as shown in Figure 18.



Figure 18. 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 19.** 



Figure 19. 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 20).



Figure 20. 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 21).



Figure 21. Mounting nut location.



### **Adjusting Tool Rest**

The tool rest base is equipped with a cam-action clamping system to secure it to the lathe bed. When the lever is engaged, a locking plate lifts up and secures the tool rest base to the bed.

#### **Positioning Along Bed**

1. Disengage base lock lever and slide tool rest base along bed (see Figure 22).



Figure 22. 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.

### 

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 approximately <sup>1</sup>/<sub>4</sub>" away from the workpiece and approximately <sup>1</sup>/<sub>8</sub>" above the workpiece center line, as shown in **Figure 23**.



Figure 23. Tool rest position relative to workpiece.

**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 24**).

### 

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



Figure 24. 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!
- 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 25).



Figure 25. 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 <sup>3</sup>/<sub>4</sub>".



**3.** Insert live center, as shown in **Figure 26**, and push firmly.



Figure 26. 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.

### 

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 27**.

#### **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 27. 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

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 28. 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 29. 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 30. 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 doubleground.



Figure 31. 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 30** 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 32**.



Figure 32. 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 33**.



Figure 33. 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 <sup>1</sup>/<sub>4</sub>" drill bit, drill <sup>1</sup>/<sub>4</sub>" deep hole at center mark on end of workpiece to be mounted on headstock spur center.
- To help embed spur center into workpiece, cut <sup>1</sup>/<sub>8</sub>" 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 34**).



Figure 34. Corners of workpiece removed.

 Drive spur center into end center mark of workpiece with wood mallet to embed it at least <sup>1</sup>/<sub>4</sub>" into workpiece, as shown in Figure 35.



Figure 35. Spur center properly embedded.



7. With workpiece still attached, insert spur center into headstock spindle (refer to **Installing/ Removing Headstock Center** on **Page 22** 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 **Page 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 <sup>1</sup>/<sub>4</sub>".

### 

Do not press workpiece too firmly with tailstock or bearings will bind and overheat. 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 21).
- **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 15** on **Page 19**).
- 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 36**. This type of turning is usually done with open-faced workpieces like bowls or plates.



Figure 36. Typical faceplate turning operation.

#### Mounting Workpiece to Faceplate

1. Mark workpiece center in same manner as described in **Spindle Turning** (see Page 25).

**Note:** Cut off corners of workpiece to make it as close to "round" as possible, as described in **Spindle Turning** on **Page 25**.

 Center faceplate on workpiece and attach with wood screws that do not have tapered heads (see Figure 37).



Figure 37. Typical attachment of faceplate to workpiece.

### NOTICE

Only use screws with non-tapered heads (see Figure 38) to attach the faceplate to the workpiece. Screws with tapered heads can split the faceplate or snap off during operation.



Figure 38. Correct and incorrect screw types for mounting workpiece to faceplate.

- Thread and secure faceplate onto headstock spindle (refer to Removing/Installing Faceplate on Page 23 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 28).



### 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 <sup>1</sup>/<sub>4</sub>" 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 27) 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 39**.



Figure 39. 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.





## **SECTION 5: ACCESSORIES**

### 

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 40. Model T27327 Bed Extension.

#### H8049—6" 4-Jaw Wood Chuck 1

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



Figure 41. 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 Gouge,  $\frac{3}{8}$ " 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 42. 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 43. T25535 Turning Wood Book.

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

Model T25920/T25926 (Mfd. Since 08/14)



H5954—Robert Sorby Stebcentre MT#2, 1<sup>1</sup>/4" 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 44. 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  $16^{3}/_{8}$ " x  $12^{7}/_{8}$ " hood adjusts from 23" to 43" high. Every shop needs one of these!



Figure 45. 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 46. 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 47. Swan neck hollowing tools.

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



## **SECTION 6: MAINTENANCE**



### 

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

### Schedule

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

#### Ongoing:

- 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, and quill.

#### Monthly:

• Belt tension, damage, or wear.

# Cleaning & Protecting

Cleaning the Model T25920/T25926 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 lathe bed by wiping it clean with a lightly oiled rag after every use—this ensures moisture from wood dust does not remain on bare metal surfaces. Keep the bed rust-free with regular applications of products like G96<sup>®</sup> Gun Treatment, SLIPIT<sup>®</sup>, or Boeshield<sup>®</sup> T-9.

### Lubrication

Lubricate locations shown in **Figure 48** with light machine oil or G96<sup>®</sup> Gun Treatment.



Figure 48. 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	1. Switch disabling key removed.	1. Install switch disabling key.
start or a breaker	2. Incorrect power supply voltage or circuit	2. Ensure correct power supply voltage and circuit
trips.	size.	size.
	3. Blown fuse.	3. Replace fuse/ensure no shorts.
	4. Power supply circuit breaker tripped or fuse	4. Ensure circuit is sized correctly and free of shorts.
	blown.	Reset circuit breaker or replace fuse.
	5. Wiring is open/has high resistance.	5. Check for broken wires or disconnected/corroded
		connections, and repair/replace as necessary.
	6. Potentiometer/variable-speed dial at fault.	6. Test/replace.
	7. ON/OFF switch at fault.	7. Replace switch.
	8. Motor brushes at fault.	8. Replace motor brushes.
	9. Motor is at fault.	9. Test/repair/replace.
Machine stalls or is	1. Machine is undersized for task.	1. Use sharp lathe tools; reduce feed rate/depth of cut.
underpowered.	2. Workpiece material not suitable.	2. Only cut wood/ensure moisture is below 20%.
	3. Feed rate/cutting speed too fast for task.	3. Decrease feed rate/cutting speed.
	4. Belt slipping.	4. Replace bad belt and re-tension (see Page 34).
	5. Motor connection is wired incorrectly.	5. Correct motor wiring connections.
	6. Pulley slipping on shaft.	6. Replace loose pulley.
	7. Plug/receptacle at fault.	7. Test for good contacts/correct wiring.
	8. Motor has overheated.	8. Clean off motor, let cool, and reduce workload.
	9. Potentiometer/variable-speed dial at fault.	9. Test/replace.
	10. Motor brushes at fault.	10. Replace motor brushes.
	11. Pulley/sprocket slipping on shaft	11. Replace loose pulley/shaft.
	12. Motor is at fault.	12. Test/repair/replace.
Machine has vibration or noisy	1. Machine incorrectly mounted to workbench or floor.	1. Adjust feet, shim, or tighten mounting hardware.
operation (without workpiece installed).	2. Motor or component is loose.	2. Inspect/replace stripped or damaged bolts/nuts, and re-tighten with thread locking fluid-4
	3. Belt worn or loose.	3. Inspect/replace belts (see Page 34).
	4. Motor mount loose/broken.	4. Tighten/replace.
	5. Pulley is loose.	5. Replace shaft, pulley, setscrew, and key as required.
	6. Motor bearings are at fault.	<ol> <li>Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> </ol>
	7. Workpiece or chuck at fault.	<ol> <li>Center workpiece in chuck/faceplate; reduce RPM; replace defective chuck.</li> </ol>



#### Wood Lathe Operation

Symptom	Possible Cause	Corrective Action
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 nec- essary install a soft, vibration dampening material between the belt cover and the headstock casting.
Excessive vibration (with workpiece installed).	<ol> <li>Workpiece mounted incorrectly.</li> <li>Headstock, tailstock, or tool rest not securely clamped to lathe bed.</li> <li>Workpiece warped, out of round, or is flawed.</li> <li>Spindle speed is set too fast for mounted workpiece.</li> </ol>	<ol> <li>Re-mount workpiece, making sure that centers are embedded in true center of workpiece.</li> <li>Check clamp levers and tighten if necessary.</li> <li>Cut workpiece to correct, or use a different workpiece.</li> <li>Reduce the spindle speed.</li> </ol>
	<ol> <li>Lathe is resting on an uneven surface.</li> <li>Motor mount bolts are loose.</li> <li>Belt is worn or damaged.</li> <li>Spindle bearings are worn.</li> </ol>	<ol> <li>Shim base or adjust feet on workbench to remove any wobbles.</li> <li>Tighten motor mount bolts.</li> <li>Replace belt (see Page 34).</li> <li>Replace spindle bearings.</li> </ol>
Chisels grab or dig into workpiece.	<ol> <li>Tool rest set too low.</li> <li>Tool rest set too far from workpiece.</li> <li>Wrong chisel/tool being used.</li> <li>Chisel/tool dull.</li> </ol>	<ol> <li>Set tool rest higher. See Page 21 for how to properly set tool rest height.</li> <li>Move the tool rest closer to the workpiece. See Page 21 for the proper workpiece/tool rest clearance.</li> <li>Use the correct chisel/tool; educate yourself by reading books, trade magazines, or seeking help from an experienced lathe operator.</li> <li>Sharpen or replace the chisel/tool you are using.</li> </ol>
Bad surface finish on workpiece.	<ol> <li>Wrong spindle speed.</li> <li>Dull chisel or wrong chisel being used for the operation.</li> </ol>	<ol> <li>Use trial-and-error to find a better spindle speed.</li> <li>Sharpen chisel or try a different chisel.</li> </ol>
Tailstock moves under load.	<ol> <li>Tailstock mounting bolt loose.</li> <li>Bed surface is oily or greasy.</li> </ol>	<ol> <li>Tighten.</li> <li>Clean bed surface to remove excess oil/grease.</li> </ol>
Can't remove tapered tool from tailstock barrel.	<ol> <li>Tailstock barrel not retracted all the way back into the tailstock.</li> <li>Debris was not removed from taper before inserting into barrel.</li> </ol>	<ol> <li>Turn the barrel handwheel until it forces taper out of barrel.</li> <li>Always make sure that taper surfaces are clean.</li> </ol>



# 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, 6mm1 Ea	
Rubber/Wood Mallet1	

#### **Tensioning Belt**

- 1. DISCONNECT MACHINE FROM POWER!
- 2. Remove rear access cover and loosen belt tension screw (see Figure 49).



Figure 49. 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 ½" deflection when pushed as shown in **Figure 50**.
  - If there is more than ½" deflection repeat the tensioning procedure until it is correct. If tension cannot be achieved replace belt.



Figure 50. 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 51), and turn clockwise to unthread and remove.



Figure 51. Set screw locations.

- 5. Loosen spindle pulley set screw.
- 6. Tap spindle far enough out of headstock so belt can be removed (see **Figure 52** on **Page 35**). A rubber or wooden mallet may be required. Take care not to damage spindle threads or lose parts. DO NOT remove spindle pulley.







Figure 52. Belt removal (pulley removed for clarity).

- 7. Place new belt over spindle pulley.
- 8. Slide spindle back through headstock and into original position. A mallet may be required to reseat bearing.
- **9.** Install headstock spindle handwheel and tighten both set screws.
- **10.** Loosely install belt on inner or outermost motor pulley position.
- **11.** Move belt tension lever down to tension belt then tighten belt tension screw.
- **12.** Follow **Step 4** in the **Tensioning Belt** procedure to set belt tension.
- **13.** 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.

#### To replace fuse:

- 1. DISCONNECT MACHINE FROM POWER!
- 2. Remove (4) Phillips head screws holding electrical box to side access cover (see Figure 53).



Figure 53. Electrical box screw locations, (side access door open for clarity).

**3.** Carefully remove fuse, then insert new fuse shown in **Figure 54**.



Figure 54. 10A fuse location on circuit board.

4. 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 the carbon brushes when the motor no longer reaches full power, or when the brushes measure less than  $\frac{1}{4}$ " long (new brushes are  $\frac{5}{8}$ " long).

Tools Needed	Qty
Hex Wrench 6mm	1
Flat Head Screwdriver #2	1

**T25920/T25926:** Both models use same motor replacement brushes (Part# PT25920084).

#### **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 55**).



Figure 55. Motor brush cap locations.

4. Carefully remove brush from motor (see Figure 56).



Figure 56. Removing brush from motor.

- 5. Install new brush and re-install brush cap.
- 6. Repeat Steps 3–5 to replace brush on topside of motor.
- 7. Tension belt (refer to **Tensioning & Replacing Belt** on **Page 34** 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.* 

### AWARNING Wiring Safety Instructions

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

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

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

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

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

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

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

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

#### NOTICE

BLACK I Bk BLUE (BI) YELLOW LIGHT The photos and diagrams BLUE included in this section are YELLOW WHITE = (Wt) BROWN (Br) Yq BLUE GREEN best viewed in color. You WHITE GREEN (Gn) GRAY (Gy) PURPLE can view these pages in TUR-QUOISE (Or) color at www.grizzly.com. RED (Rd) ORANGE PINK Pk

**COLOR KEY** 



#### T25920/T25926 Wiring Diagram



Figure 57. Digital readout display board.



Figure 58. Connections in headstock.



Figure 59. Electrical box.





## **SECTION 9: PARTS**

#### T25920 Breakdown



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



#### **T25920 Parts List**

REF	PART #	DESCRIPTION	
1	PT25920001	HANDWHEEL 82MM X M18-2.5 LH BORE	
2	PT25920002	SET SCREW M6-1 X 12	
3	PT25920003	COLLAR SPINDLE	
4	PT25920004	BALL BEARING 80105	
5	PT25920005	CAP SCREW M8-1.25 X 25	
6	PT25920006	LOCK WASHER 8MM	
7	PT25920007	REAR BELT ACCESS DOOR	
8	PT25920008	THUMB SCREW M58 X 9	
9	PT25920009	STATIONARY KNOB M58	
10	PT25920010	SHOULDER SCREW M58 X 7, 2	
11	PT25920011	FLAT HD SCR M58 X 10	
12	PT25920012	HEADSTOCK	
13	PT25920013	INT RETAINING RING 47MM	
14	PT25920014	HEADSTOCK SPINDLE	
15	PT25920015	FACEPLATE 3-1/4"	
16	PT25920016	SPUR CENTER MT#2	
17	PT25920017	TOOL REST LOCK HANDLE	
18	PT25920018	EXT RETAINING RING 10MM	
19	PT25920019	TOOLREST BUSHING	
20	PT25920020	TOOLREST 150MM	
21	PT25920021	TOOLREST BASE	
22	PT25920022	TOOLREST CAM FOLLOWER	
23	PT25920023	ADJUSTABLE HANDLE M8-1.25 X 20	
24	PT25920024	HEX WRENCH 3MM	
25	PT25920025	HEX WRENCH 6MM	
26	PT25920026	HEX WRENCH 8MM	
27	PT25920027	LIVE CENTER MT#2	
28	PT25920028	FENDER WASHER 8MM	
29	PT25920029	MOTOR CARBON BRUSH 2-PC SET	
30	PT25920030	TAILSTOCK LEADSCREW	
31	PT25920031	TAILSTOCK QUILL	
32	PT25920032	TAILSTOCK	
33	PT25920033	TAILSTOCK LEVER	
34	PT25920034	HANDWHEEL 83MM X 15MM BORE	
35	PT25920035	HANDWHEEL HANDLE 6MM X 50MM	
36	PT25920036	SHOULDER SCREW M6-1 X 53	
37	PT25920037	TAILSTOCK CLAMP BOLT M8-1.25 X 30	
38	PT25920038	BED	
39	PT25920039	RETAINING PLATE	
40	PT25920040	CAP SCREW M10-1.5 X 12	
41	PT25920041	LOCK PLATE	
42	PT25920042	LOCK NUT M10-1.5	

REF	PART #	DESCRIPTION	
43	PT25920043	MOTOR PLATE HANDLE ASSEMBLY	
44	PT25920044	MOTOR CORD 18G 3W 16"	
45	PT25920045	SWITCH CORD 18G 3W 22"	
46	PT25920046	MOTOR CARBON BRUSH CAP	
47	PT25920047	CAP SCREW M8-1.25 X 12	
48	PT25920048	MOTOR MOUNT PLATE	
49	PT25920049	FLAT WASHER 6MM	
50	PT25920050	LOCK WASHER 6MM	
51	PT25920051	MOTOR PULLEY	
52	PT25920052	DRIVE PULLEY	
53	PT25920053	POLY V-BELT 3V X 25L	
54	PT25920054	SWITCH BOX LATCH BOLT M47 X 5	
55	PT25920055	WAVY WASHER 6MM	
56	PT25920056	SWITCH BOX LATCH	
57	PT25920057	FLAT WASHER 4MM	
58	PT25920058	HINGE	
59	PT25920059	PHLP HD SCR M47 X 8	
60	PT25920060	SWITCH BOX PLATE	
61	PT25920061	HINGE PIN	
62	PT25920062	POWER CORD 18G 3W 72" 5-15P	
63	PT25920063	CIRCUIT BREAKER 6A GENERAL	
64	PT25920064	CIRCUIT BOARD	
65	PT25920065	PHLP HD SCR M47 X 6	
66	PT25920066	SWITCH BOX	
67	PT25920067	POTENTIOMETER B103	
68	PT25920068	TOGGLE SWITCH RU CB-8 E19 4417	
69	PT25920069	SET SCREW M6-1 X 12	
70	PT25920070	MOTOR 550W 110VDC	
71	PT25920071	RUBBER FOOT M8-1.25 X 15	
72	PT25920072	LOCK NUT M8-1.25	
73	PT25920073	EXT RETAINING RING 10MM	
74	PT25920074	FLAT WASHER 8MM	
76	PT25920076	FLAT HD SCR M6-1 X 12	
77	PT25920077	STRAIN RELIEF 5/16" SNAP-IN ST	
78	PT25920078	STRAIN RELIEF 1/4" SNAP-IN ST	
79	PT25920079	FUSE 10A 250V FAST-ACTING GLASS	
80	PT25920080	DIGITAL DISPLAY COVER	
81	PT25920081	DIGITAL DISPLAY PLATE	
82	PT25920082	PHLP HD SCR M47 X 16	
83	PT25920083	TRANSFORMER 110V/9V	
84	PT25920084	KNOCKOUT BAR	

#### 

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.



#### T25926 Breakdown



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



#### **T25926 Parts List**

REF	PART #	DESCRIPTION	
1	PT25926001	HANDWHEEL 82MM X M18-2.5 LH BORE	
2	PT25926002	SET SCREW M6-1 X 12	
3	PT25926003	COLLAR SPINDLE	
4	PT25926004	BALL BEARING 80105	
5	PT25926005	CAP SCREW M8-1.25 X 25	
6	PT25926006	LOCK WASHER 8MM	
7	PT25926007	REAR BELT ACCESS DOOR	
8	PT25926008	THUMB SCREW M58 X 9	
9	PT25926009	STATIONARY KNOB M58	
10	PT25926010	SHOULDER SCREW M58 X 7, 2	
11	PT25926011	FLAT HD SCR M58 X 10	
12	PT25926012	HEADSTOCK	
13	PT25926013	INT RETAINING RING 47MM	
14	PT25926014	HEADSTOCK SPINDLE	
15	PT25926015	FACEPLATE 3-1/8"	
16	PT25926016	SPUR CENTER MT#2	
17	PT25926017	TOOL REST LOCK HANDLE	
18	PT25926018	EXT RETAINING RING 10MM	
19	PT25926019	TOOLREST BUSHING	
20	PT25926020	TOOLREST 145MM	
21	PT25926021	TOOLREST BASE	
22	PT25926022	TOOLREST CAM FOLLOWER	
23	PT25926023	ADJUSTABLE HANDLE M8-1.25 X 20	
24	PT25926024	HEX WRENCH 3MM	
25	PT25926025	HEX WRENCH 6MM	
26	PT25926026	HEX WRENCH 8MM	
27	PT25926027	LIVE CENTER MT#2	
28	PT25926028	FENDER WASHER 8MM	
29	PT25926029	MOTOR CARBON BRUSH 2-PC SET	
30	PT25926030	TAILSTOCK LEADSCREW	
31	PT25926031	TAILSTOCK QUILL	
32	PT25926032	TAILSTOCK	
33	PT25926033	TAILSTOCK LEVER	
34	PT25926034	HANDWHEEL 83MM X 15MM BORE	
35	PT25926035	HANDWHEEL HANDLE 6MM X 50MM	
36	PT25926036	SHOULDER SCREW M6-1 X 53	
37	PT25926037	TAILSTOCK CLAMP BOLT M8-1.25 X 30	
38	PT25926038	BED	
39	PT25926039	RETAINING PLATE	
40	PT25926040	CAP SCREW M10-1.5 X 12	
41	PT25926041	LOCK PLATE	
42	PT25926042	LOCK NUT M10-1.5	

REF	PART #	DESCRIPTION	
43	PT25926043	MOTOR PLATE HANDLE ASSEMBLY	
44	PT25926044	MOTOR CORD 18G 3W 16"	
45	PT25926045	SWITCH CORD 18G 3W 22"	
46	PT25926046	MOTOR CARBON BRUSH CAP	
47	PT25926047	CAP SCREW M8-1.25 X 12	
48	PT25926048	MOTOR MOUNT PLATE	
49	PT25926049	FLAT WASHER 6MM	
50	PT25926050	LOCK WASHER 6MM	
51	PT25926051	MOTOR PULLEY	
52	PT25926052	DRIVE PULLEY	
53	PT25926053	POLY V-BELT 3V X 25L	
54	PT25926054	SWITCH BOX LATCH BOLT M47 X 5	
55	PT25926055	WAVY WASHER 6MM	
56	PT25926056	SWITCH BOX LATCH	
57	PT25926057	FLAT WASHER 4MM	
58	PT25926058	HINGE	
59	PT25926059	PHLP HD SCR M47 X 8	
60	PT25926060	SWITCH BOX PLATE	
61	PT25926061	HINGE PIN	
62	PT25926062	POWER CORD 18G 3W 72" 5-15P	
63	PT25926063		
64	PT25926064	CIRCUIT BOARD	
65	PT25926065		
66	PT25926066	SWITCH BOX	
67	PT25926067	POTENTIOMETER B103	
68	PT25926068	TOGGLE SWITCH RU CB-8 E19 4417	
69	PT25926069	SET SCREW M6-1 X 12	
70	PT25926070	MOTOR 375W 110VDC	
71	PT25926071	RUBBER FOOT M8-1.25 X 15	
72	PT25926072	LOCK NUT M8-1.25	
73	PT25926073	EXT RETAINING RING 10MM	
74	PT25926074	FLAT WASHER 8MM	
76	PT25926076	FLAT HD SCR M6-1 X 12	
77	PT25926077	STRAIN RELIEF 5/16" SNAP-IN ST	
78	PT25926078	STRAIN RELIEF 1/4" SNAP-IN ST	
79	PT25926079	FUSE 10A 250V FAST-ACTING GLASS	
80	PT25926080	DIGITAL DISPLAY COVER	
81	PT25926081	DIGITAL DISPLAY PLATE	
82	PT25926082	PHLP HD SCR M47 X 16	
83	PT25926083	TRANSFORMER 110V/9V	
84	PT25926084	KNOCKOUT BAR	



#### T25920/T25926 Labels & Cosmetics





REF	PART #	DESCRIPTION	R
85	PT25920085	MACHINE ID LABEL (T25920)	88
85	PT25926085	MACHINE ID LABEL (T25926)	89
86	PT25920086	GRIZZLY.COM LABEL	90
87	PT25920087	SAFETY WARNING LABEL	91

REF	PART #	DESCRIPTION
88	PT25920088	SHOCK HAZARD LABEL
89	PT25920089	ELECTRICITY LABEL
90	PT25920090	CARBON BRUSHES NOTICE LABEL
91	PT25920091	GRIZZLY GREEN TOUCH-UP PAINT

#### **A**WARNING

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Мо	del #	_ Order #	_ Serial #
		a voluntary basis. It will be used for mains a strictly confident	
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2.	Which of the following magaz	zines do you subscribe to?	
	<ul> <li>Cabinetmaker &amp; FDM</li> <li>Family Handyman</li> <li>Hand Loader</li> <li>Handy</li> <li>Home Shop Machinist</li> <li>Journal of Light Cont.</li> <li>Live Steam</li> <li>Model Airplane News</li> <li>Old House Journal</li> <li>Popular Mechanics</li> </ul>	<ul> <li>Popular Science</li> <li>Popular Woodworking</li> <li>Precision Shooter</li> <li>Projects in Metal</li> <li>RC Modeler</li> <li>Rifle</li> <li>Shop Notes</li> <li>Shotgun News</li> <li>Today's Homeowner</li> <li>Wood</li> </ul>	<ul> <li>Wooden Boat</li> <li>Woodshop News</li> <li>Woodsmith</li> <li>Woodwork</li> <li>Woodworker West</li> <li>Woodworker's Journal</li> <li>Other:</li> </ul>
3.	What is your annual househo \$20,000-\$29,000 \$50,000-\$59,000	old income? \$30,000-\$39,000 \$60,000-\$69,000	\$40,000-\$49,000 \$70,000+
4.	What is your age group? 20-29 50-59	30-39 60-69	40-49 70+
5.	How long have you been a w 0-2 Years	oodworker/metalworker? 2-8 Years8-20 Year	rs20+ Years
6.	How many of your machines	or tools are Grizzly? 3-56-9	10+
7.	Do you think your machine re	epresents a good value?Y	/esNo
8.	Would you recommend Grizz	ly Industrial to a friend?	/esNo
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# **WARRANTY & RETURNS**

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

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

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

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

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

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



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