

# *Grizzly* **Industrial, Inc.**®

## **MODEL T10814 TOOL GRINDER w/CUP GRINDING WHEEL OWNER'S MANUAL** *(For models manufactured since 5/15)*



COPYRIGHT © JULY, 2014 BY GRIZZLY INDUSTRIAL, INC. REVISED JULY, 2017 (JH)  
**WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE  
OR FORM WITHOUT THE WRITTEN APPROVAL OF GRIZZLY INDUSTRIAL, INC.**

#MNTSDM16565 PRINTED IN CHINA

V2.07.17



## **WARNING!**

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

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

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

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



## **WARNING!**

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

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

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

# Table of Contents

<b>INTRODUCTION</b> .....	<b>2</b>	<b>SECTION 5: ACCESSORIES</b> .....	<b>26</b>
Machine Description .....	2	<b>SECTION 6: MAINTENANCE</b> .....	<b>28</b>
Contact Info.....	2	Schedule .....	28
Manual Accuracy .....	2	Cleaning and Protecting .....	28
Identification.....	3	Lubrication .....	28
Controls & Components.....	4	<b>SECTION 7: SERVICE</b> .....	<b>30</b>
<b>SECTION 1: SAFETY</b> .....	<b>8</b>	Troubleshooting .....	30
Safety Instructions for Machinery .....	8	Gib Adjustment .....	31
Additional Safety for Tool Grinders.....	10	Belt Tension & Replacement .....	32
<b>SECTION 2: POWER SUPPLY</b> .....	<b>11</b>	<b>SECTION 8: WIRING</b> .....	<b>33</b>
<b>SECTION 3: SETUP</b> .....	<b>13</b>	Wiring Safety Instructions .....	33
Needed for Setup.....	13	<b>T10814 Wiring</b> .....	34
Unpacking .....	13	Wiring Photos.....	35
Inventory .....	14	<b>SECTION 9: PARTS</b> .....	<b>36</b>
Cleanup.....	14	Main .....	36
Site Considerations.....	15	Main Parts List.....	37
Assembly .....	15	<b>WARRANTY &amp; RETURNS</b> .....	<b>41</b>
Initial Lubrication.....	15		
Test Run .....	16		
Inspections & Adjustments .....	16		
<b>SECTION 4: OPERATIONS</b> .....	<b>17</b>		
Operation Overview .....	17		
Wheel Care .....	18		
Wheel Selection .....	18		
Wheel Inspection .....	19		
Installing/Removing Wheel .....	20		
Truing/Dressing Wheel .....	21		
Moving Tool Bracket.....	22		
Tool Holder .....	23		
Installing/Removing Tooling.....	24		
Spindle Controls.....	25		

# INTRODUCTION

## Machine Description

The Model T10814 Tool Grinder is designed for sharpening or grinding HSS and carbide cutting tools, including both single- and multiple-lip cutters. It is equipped with a head bracket that can be adjusted to almost any shape or angle, and comes with five collets to accommodate a wide variety of tool shank sizes. Included is an aluminum-oxide cup grinding wheel for HSS.

## 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

## 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**.

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.

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

Manufacture Date

Serial Number



# Identification

Become familiar with the names and locations of the controls and features shown below. These terms are referred to throughout this manual, so it is important that you take a few minutes to learn them in order to better understand the instructions in this manual.

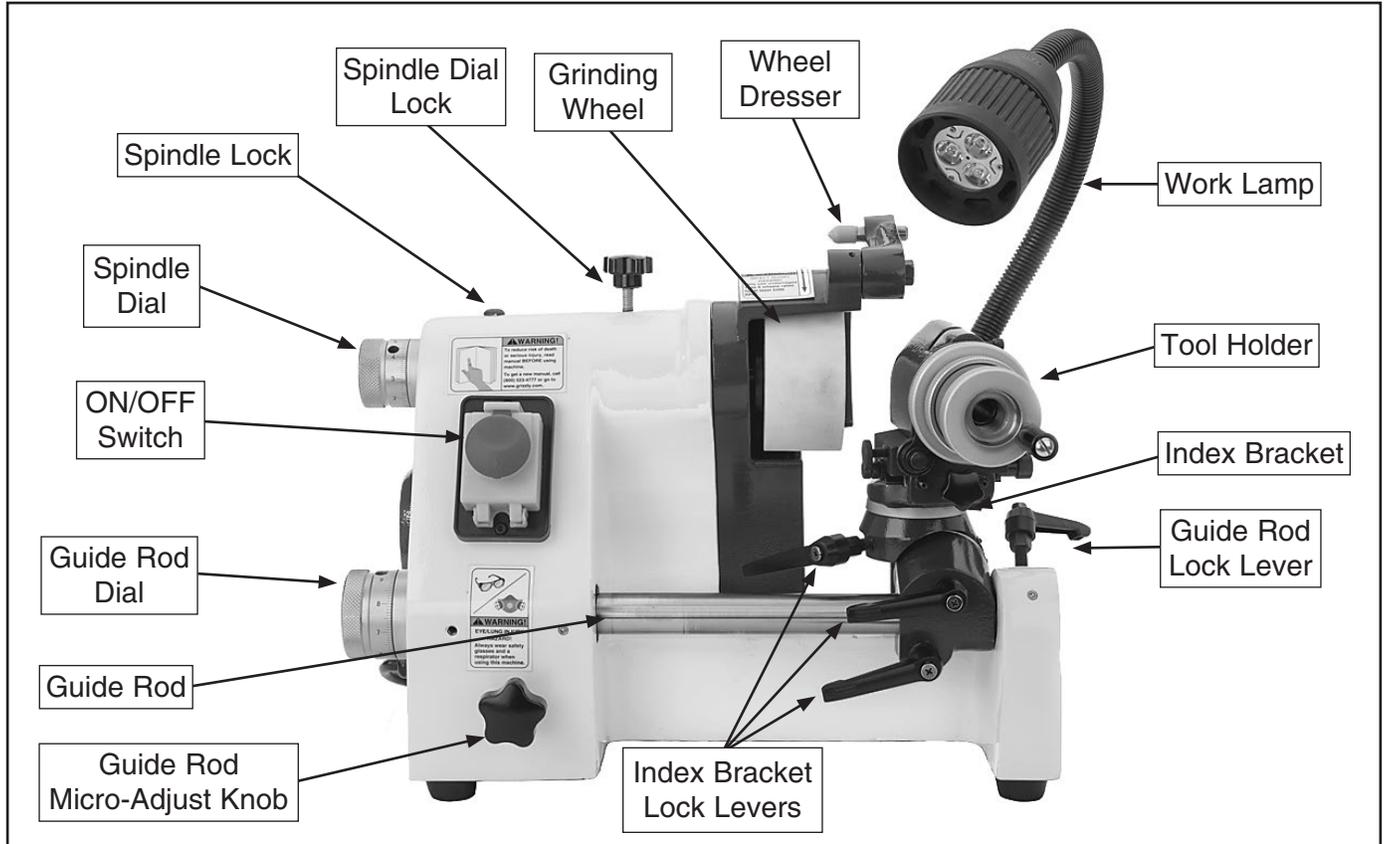
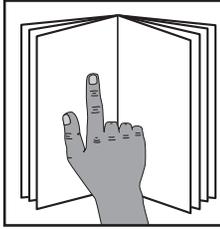


Figure 1. Model T10814 names and locations of controls and features.



# Controls & Components

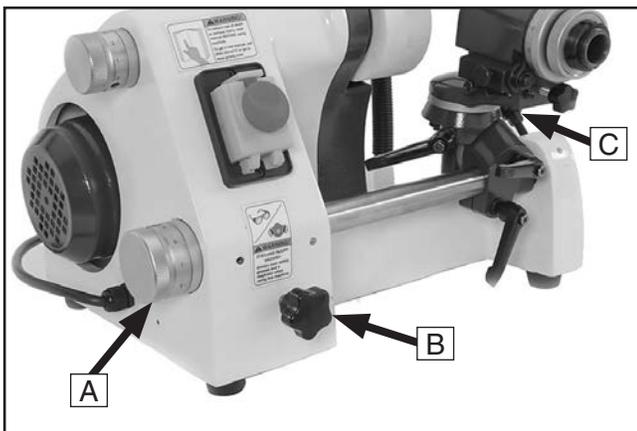


## **! WARNING**

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

Refer to **Figures 2–4** and the following descriptions to become familiar with the basic controls of this tool grinder.

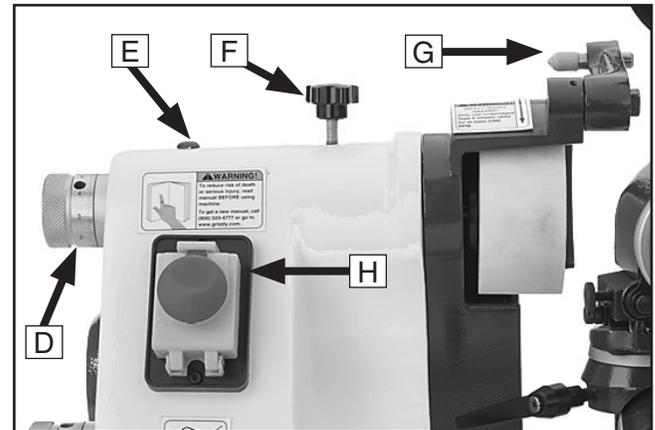
## Guide Rod



**Figure 2.** Guide rod controls.

- A. Guide Rod Dial:** Moves the guide rod side to side, parallel with the grinding wheel, for fine tuning the position of the index bracket during operations.
- B. Guide Rod Micro-Adjust Knob:** Rotates the guide rod toward and away from the grinding wheel to control rate of feed during operations.
- C. Guide Rod Lock Lever:** Locks the guide rod in place for greater accuracy during operations.

## Spindle



**Figure 3.** Spindle controls.

- D. Spindle Dial:** Moves the spindle side to side, parallel with the guide rod, to fine tune the position of the wheel during operations.
- E. Spindle Lock:** When tightened, prevents spindle from turning.
- F. Spindle Dial Lock Knob:** When tightened, prevents dial from moving.
- G. Wheel Dresser:** Flips down to true and dress the face of the grinding wheel.
- H. ON/OFF Switch:** Starts and stops grinding wheel rotation for main operations.



## Index Bracket

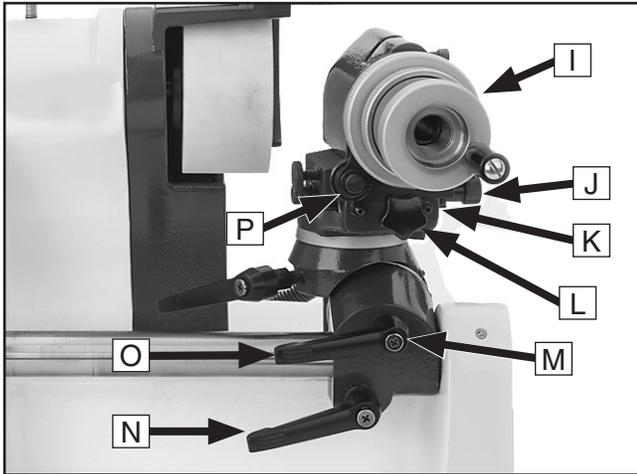


Figure 4. Index bracket controls.

- I. **Tool Holder:** Holds tooling during operations.
- J. **Carriage Slide Adjustment Knob:** Moves the tool holder left and right, relative to the grinding wheel.
- K. **Cross Slide Gib Lock Knob:** Locks the cross slide in place.
- L. **Carriage Slide Gib Lock Knob:** Locks the carriage slide in place.
- M. **Horizontal Mount Lever:** Tilts the tool holder left to right from 0° to 45°.
- N. **Vertical Mount Lever:** Tilts the tool holder front to back.
- O. **Lateral Mount Lever:** Swivels the tool holder side to side.
- P. **Cross Slide Adjustment Wheel:** Moves the tool holder toward and away from the grinding wheel.





# MACHINE DATA SHEET

© Grizzly Industrial, Inc. • Customer Service: (800) 523-4777 • Tech Support: (570) 546-9663

## MODEL T10814 TOOL GRINDER w/CUP GRINDING WHEEL

### Product Dimensions:

Weight ..... 102 lbs.  
Width (side-to-side) x Depth (front-to-back) x Height ..... 20" x 17" x 13"  
Foot Print (Length/Width)..... 15¼" x 11¼"

### Shipping Dimensions:

Type ..... Cardboard  
Weight ..... 115 lbs.  
Length/Width/Height..... 22" x 17" x 15"  
Must Ship Upright ..... Yes

### Electrical:

Power Requirement ..... 110V, Single-Phase, 60 Hz  
Full-Load Current Rating..... 3A  
Minimum Circuit Size ..... 15A  
Connection Type..... Cord & Plug  
Power Cord Included ..... Yes  
Power Cord Length ..... 9 ft.  
Power Cord Gauge ..... 14 AWG  
Plug Included ..... Yes  
Included Plug Type ..... 5-15  
Switch Type ..... ON/OFF Push Button

### Motor:

#### Main

Type..... TEFC Induction  
Horsepower ..... ¼ HP  
Voltage ..... 110V  
Phase ..... Single-Phase  
Amps ..... 3A  
Speed ..... 3450 RPM  
Cycle..... 60 Hz  
Power Transfer..... Round Belt  
Bearings ..... Shielded and Permanently Sealed



**Main Specifications:**

**Operation Information**

Spindle Speed .....	5000 RPM
Collet Clamping Diameter Range.....	3 – 16mm (1/8" – 5/8")
Longitudinal Travel .....	230mm (9")
Taper Range .....	0° – 180°
Negative Angle Range .....	0° – 52°
Relief Range.....	0° – 45°

**Grinding Wheel Information**

Wheel Diameter OD .....	100mm (4")
Wheel Overall Height .....	48mm (1 7/8")
Wheel Rim Thickness.....	10mm (3/8")
Wheel Base Thickness.....	10mm (3/8")
Wheel Bore Diameter .....	20mm
Type.....	Type 6, Straight Cup
Grit.....	80 Grit

**Construction**

Base .....	Cast Iron
Body .....	Cast Iron & Formed Steel
Paint .....	Acrylic

**Other Specifications:**

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

**Features:**

- Micrometer dial for depth adjustment
- Built-in wheel dresser
- Halogen work light

**Accessories:**

- Aluminum-oxide grinding wheel for HSS
- 5 collets (1/8", 1/4", 3/8", 1/2", 5/8")
- Service tools



# SECTION 1: SAFETY

## For Your Own Safety, Read Instruction Manual Before Operating This Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures. Always use common sense and good judgment.

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

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

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

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

## Safety Instructions for Machinery

### **WARNING**

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

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

## **WARNING**

The primary risks of operating a Tool Grinder are as follows: You can be blinded or killed by flying debris created by a chipped or damaged grinding wheel. Your fingers can be cut or amputated by the rotating grinding wheel. You can also suffer crushing injuries from getting hair, loose clothing, or jewelry entangled in the wheel. To reduce your risk of serious injury when operating this machine, completely heed and understand the following.

**PERFORM WHEEL INSPECTION.** Before installing a grinding wheel, visually check it for cracks, chips, nicks or dents in the wheel surface. Additionally, perform a “ring” test. Do not use the wheel if it fails inspection.

**USE UNDAMAGED WHEELS.** Never use a wheel that has been dropped or received a heavy blow, even if there is no obvious damage.

**SAFELY START UP GRINDER.** To protect yourself, always stand to the side of the grinder until the wheel reaches full speed. Allow it to run for at least one minute before grinding. If a wheel is damaged, it will usually fly apart shortly after startup.

**USE CORRECT SPEED RATING.** Wheels operated at a faster speed than rated for may break or burst. Before mounting a new wheel, be sure wheel RPM rating is equal to or higher than speed of grinder. Never use unmarked wheels.

**USE CORRECT WHEEL BORE.** Only use wheel with same bore as machine arbor.

**AVOID TOUCHING MOVING WHEEL.** Be aware where your hands are relative to the grinding wheel, and keep them away from wheel while grinding.

**WEAR PROPER CLOTHING.** Do not wear gloves, necktie or loose clothing. Keep long hair away from rotating grinding spindle.

**WEAR PROPER PPE.** Grinding ejects small particles at a high rate of speed. These particles can cause blindness, skin injuries or respiratory damage. ALWAYS wear approved clothing, safety goggles or safety glasses with side shields and face shield, and a respirator appropriate for the type of grinding to be done.

**NEWLY GROUND TOOLS WILL BE HOT.** Cutting tools can be sharp and get hot during grinding operations. Use leather gloves or shop rags to protect your hands when installing or removing cutting tools. Remove the gloves before operating.

**REDUCE RISK OF FIRE AND EXPLOSIONS.** This machine creates a shower of hot sparks that can ignite explosive or flammable materials nearby. Move these types of materials a safe distance away.

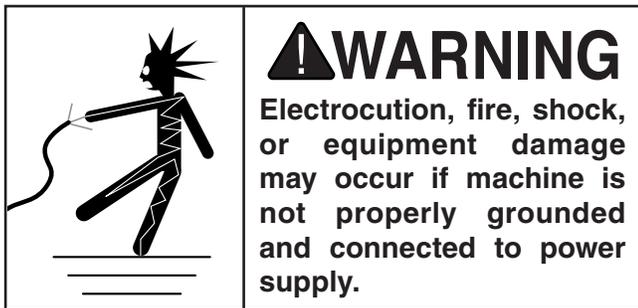
**PROPERLY MAINTAIN MACHINE.** Keep machine in proper working condition to help ensure all components work as intended and function safely. Perform routine inspections and all necessary maintenance, as indicated in owner’s manual. Never operate machine with damaged or worn parts that can break during operation.



# SECTION 2: POWER SUPPLY

## Availability

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



## Full-Load Current Rating

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

### Full-Load Current Rating at 110V..... 3 Amps

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

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

## **! WARNING**

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

## 110V Circuit Requirements

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

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

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

## **! CAUTION**

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

**Note:** *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 (similar to the figure below). The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances.

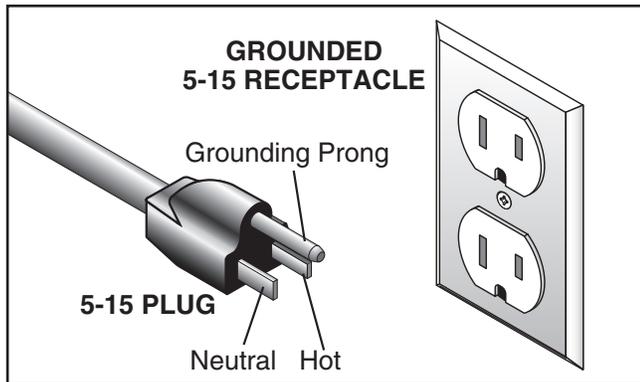
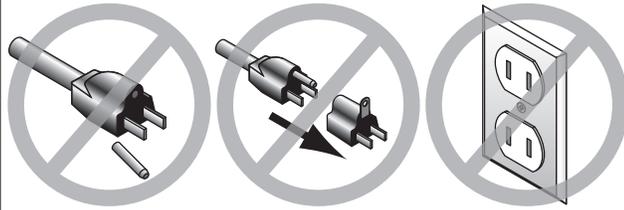


Figure 5. Typical 5-15 plug and receptacle.

**⚠ 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.

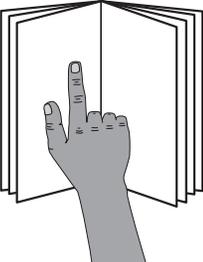
Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

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

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



# SECTION 3: SETUP

	<p><b>⚠️ WARNING</b>            This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!</p>
---	---

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

	<p><b>⚠️ WARNING</b>            Lifting heavy machinery or parts without proper assistance or equipment may result in strains, back injuries, crushing injuries, or property damage.</p>
--	--

## Needed for Setup

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

Description	Qty
• Safety Glasses .....	1
• Cleaner/Degreaser .....	As Needed
• Disposable Shop Rags.....	As Needed

## 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.

	<p><b>⚠️ WARNING</b>  <b>SUFFOCATION HAZARD!</b>            Keep children and pets away from plastic bags or packing materials shipped with this machine. Discard immediately.</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.

## NOTICE

If you cannot find an item on this list, carefully check around/inside the machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.

Small Item Inventory (Figure 6)	Qty
A. Aluminum-Oxide Grinding Wheel.....	1
B. Collets 1/8", 1/4", 3/8" 1/2", 5/8".....	1 Ea
C. Hex Wrenches 2, 2.5, 3, 4, 5, 6mm.....	1 Ea
D. Spanner Wrenches 38, 42mm.....	1 Ea
E. Guide Rod Micro-Adjust Knob.....	1
F. Quill Handwheel.....	1
G. Face Spanner Wrench.....	1
H. Flat Screwdriver #2.....	1
I. Phillips Head Screwdriver #2.....	1

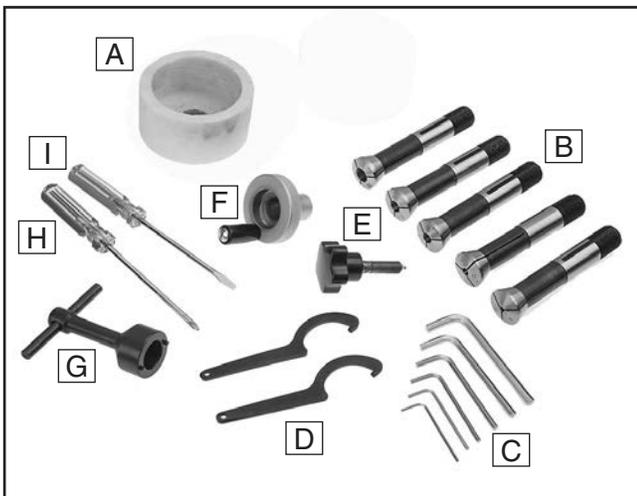


Figure 6. Small item inventory.

# Cleanup

The unpainted surfaces of your machine are coated with a heavy-duty rust preventative that prevents corrosion during shipment and storage. This rust preventative works extremely well, but it will take a little time to clean.

Be patient and do a thorough job cleaning your machine. The time you spend doing this now will give you a better appreciation for the proper care of your machine's unpainted surfaces.

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

### Before cleaning, gather the following:

- Disposable Rags
- Cleaner/degreaser (WD•40 works well)
- Safety glasses & disposable gloves
- Plastic paint scraper (optional)

### Basic steps for removing rust preventative:

1. Put on safety glasses.
2. Coat the rust preventative with a liberal amount of cleaner/degreaser, then let it soak for 5–10 minutes.
3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily. If you have a plastic paint scraper, scrape off as much as you can first, then wipe off the rest with the rag.
4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant to prevent rust.

## NOTICE

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



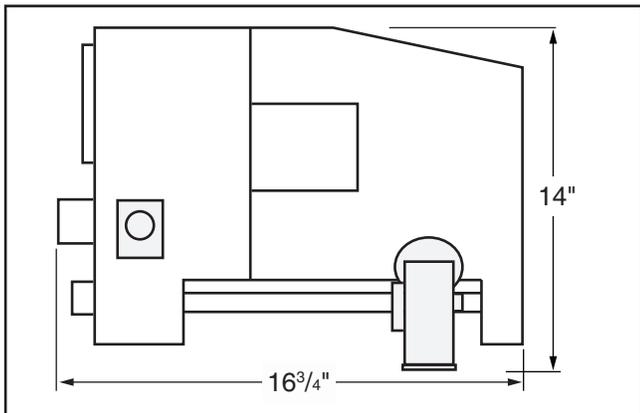
# Site Considerations

## Workbench Load

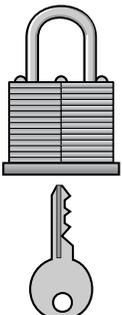
Refer to the **Machine Data Sheet** for the weight and footprint specifications of your machine. Some workbenches may require additional reinforcement to support the weight of the machine and workpiece materials.

## 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>
---	--

# Assembly

The tool grinder was completely assembled at the factory, except for the guide rod micro-adjust knob. To install it, screw the knob into the threaded hole, as shown in **Figure 8**. For the sake of simplicity, the grinding wheel should not be installed until after the **Test Run**.



**Figure 8.** Guide rod micro-adjust knob installed.

## Initial Lubrication

Your machine was lubricated at the factory, but we strongly recommend that you inspect all lubrication points yourself and provide additional lubrication as necessary. Refer to **Lubrication** on **Page 28** for specific details.



# 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.

## **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 tool grinder:

1. Clear all setup tools away from machine.
2. Connect machine to power supply.
3. Access ON/OFF switch by pulling down on red release button on face of switch cover.
4. Stand to side of machine, away from wheel. Turn machine **ON** by pressing green ON button. Allow wheel to reach full speed and rotate for at least one minute, then turn **OFF**. The motor should run smoothly and without unusual problems or noises.

# Inspections & Adjustments

---

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

- Gib Adjustments .....**Page 31**
- Belt Adjustments .....**Page 32**

Be aware that machine components can shift during the shipping process. Pay careful attention to these adjustments during operation of the machine. If you find that the adjustments are not set according to the procedures in this manual or your personal preferences, re-adjust them.

## **NOTICE**

**After the first 16 hours of use, the round belt will stretch and seat into the pulley grooves. The belt must be retensioned after this period to ensure proper power transmission and avoid reducing belt life. Refer to *Belt Tension & Replacement* on Page 31 for detailed instructions.**

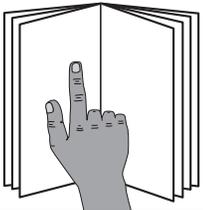


# SECTION 4: OPERATIONS

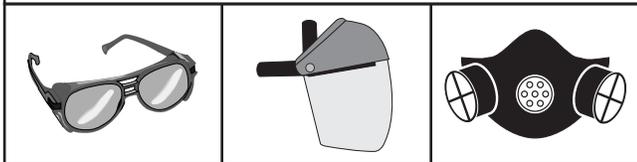
## Operation Overview

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

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

	<p><b>!WARNING</b> To reduce your risk of serious injury, read this entire manual <b>BEFORE</b> using machine.</p>
--	--

<p><b>!WARNING</b> To reduce risk of eye or face injury from flying chips or lung damage from breathing dust, always wear a faceshield, safety glasses, and a respirator when operating this machine.</p>
---



<p><b>NOTICE</b> If you are not experienced with this type of machine, <b>WE STRONGLY RECOMMEND</b> 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.</p>
--

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

1. Chooses appropriate grinding wheel for operation and tooling material.
2. Examines grinding wheel for any signs of damage, then installs wheel.
3. Inserts tooling into collet. The tooling should *not* be loose inside collet; it should be a snug fit.
4. Installs collet assembly in tool holder and tightens firmly with quill handwheel.
5. Adjusts tilt of tool holder, as necessary, to the correct angle of desired grind.
6. Adjusts grinding wheel and tool holder positions with spindle and guide-rod dials (respectively) to prepare for operation.
7. Puts on personal protective equipment.
8. Stands to side of tool grinder and starts machine.
9. Allows wheel to reach full speed and rotate for one minute.
10. Feeds tooling into grinding wheel until desired results are achieved.
11. Stops machine and removes tooling.



# Wheel Care

---

---

When grinding, your safety depends, to a large degree, on the condition of the wheel. A wheel in poor condition presents the possibility of breaking apart during rotation and injuring the operator and others in the area.

## Here are some tips to help you avoid breaking the wheel:

- Always transport, store and handle wheels with care. Wheels may be damaged if they are dropped or if heavy objects are stacked on them.
- Select the right grinding wheel for the job. DO NOT grind material inappropriate for the wheel type.
- Only use wheels that are rated for the RPM of the tool grinder.
- Mount the wheel properly (see **Installing/Removing Wheel** on **Page 20**).
- Do not push the tooling into the grinding wheel with such force that it causes the grinder to bog down. And do not apply pressure to stop the wheel after turning the grinder **OFF**.
- Dress the wheel when necessary. Do not allow it to become glazed (see **Truing/Dressing Wheel** on **Page 21**).
- Do not store wheels in damp or wet locations.
- Do not overtighten the nut when mounting the wheel.
- Do not leave the wheel mounted when machine is not in use.

# Wheel Selection

---

---

The Model T10814 accepts Type 6 grinding wheels with a 20mm bore. Included with the tool grinder is an aluminum-oxide wheel for grinding HSS. A diamond wheel is also available for grinding carbide steel (see **Accessories** on **Page 26**).

Generally, grinding wheels are marked in a uniform manner by most major manufacturers. Understanding these markings will help you understand the capabilities of various wheels. Always refer to the manufacturer's grinding recommendations when selecting a wheel for your project.

## The basic format for wheel numbering is:

Prefix	Abrasive Type	Grit Size	Grade Type	Bond Type
Type 6	A	60	L	V

The **Prefix** is the manufacturer's designation for a particular type of grinding wheel.

The **Grit Size** refers to the size of the abrasive grain in the wheel. The smaller the number, the coarser the wheel. Grit sizes range from 8, which is a very coarse grit used for roughing, to 220, which is generally for fine finish work.

**Grade** is an indication of the hardness of the wheel—"A" being the softest and "Z" being the hardest.

**Bond Type** refers to the type of bonding material used to hold the abrasive material. Most general-purpose wheels have a "V" indicating vitrified clay, which provides high strength and good porosity.



# Wheel Inspection

Before installing a grinding wheel, it must always be inspected. DO NOT assume that a wheel is in sound condition just because it is new. Often, damage can occur during shipping, with age, or with exposure to moisture.

A damaged grinding wheel can fly apart at high RPM, throwing pieces of abrasive at the operator and anyone in the vicinity.

First, do a **Visual Inspection**. Look for any cracks, chips, nicks or dents in the surface of the wheel. If you see any of these, DO NOT use the wheel.

Second, do a **Ring Test**. This test will give you an indication of any internal damage that may not be obvious during a visual inspection.

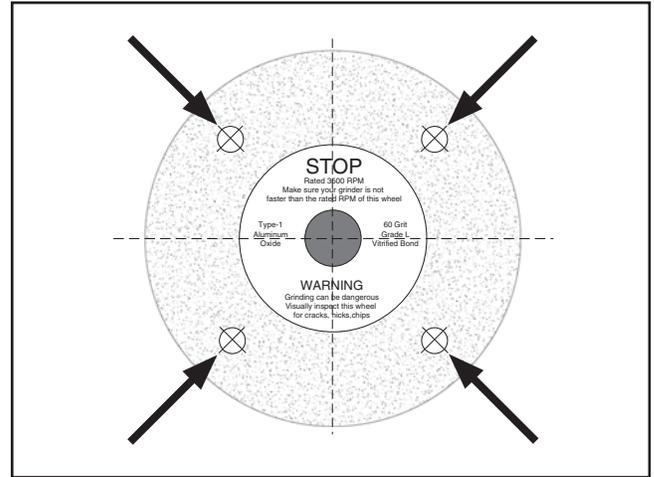
## **WARNING**

**A damaged grinding wheel can fly apart and eject chunks of abrasive material with great force, causing serious injury or death. Inspect every grinding wheel before it is mounted. DO NOT use a damaged grinding wheel!**

### To perform a ring test:

1. Make sure wheel is clean and dry; otherwise, you may get false results.
2. Balance wheel with your finger in hole. If this is not possible, hang the wheel in the air with a piece of cord or string looped through hole in center.

3. At points shown in **Figure 9**, gently tap wheel with light, non-metallic device such as handle of screwdriver or a wooden mallet.



**Figure 9.** Tapping locations when performing a ring test.

4. An undamaged wheel will emit a clear metallic ring or “ping” sound in each of these spots. A damaged wheel will respond with a dull thud that has no clear tone.
5. If you determine from the ring test that the wheel is damaged, DO NOT use it!

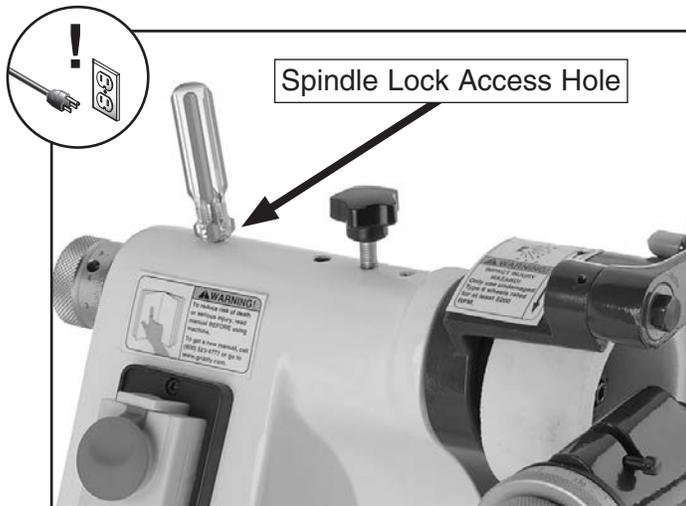


# Installing/Removing Wheel

Tools Needed	Qty
Hex Wrench 5mm.....	1
Phillips Head Screwdriver #2 .....	1
Face Spanner Wrench.....	1

## To install/remove grinding wheel:

1. DISCONNECT MACHINE FROM POWER!
2. Remove cap screw covering spindle lock access hole, and insert Phillips head screwdriver into hole (see **Figure 10**).



**Figure 10.** Screwdriver inserted in spindle lock access hole.

3. Rotate grinding wheel by hand until screwdriver enters completely. This will lock the spindle in place so it cannot rotate.

4. Use face spanner wrench to unscrew and remove spindle lock nut and washer (see **Figure 11**).



**Figure 11.** Spindle lock nut securing wheel to grinder

5. Slide grinding wheel off of spindle.
6. Inspect replacement wheel for defects (see **Wheel Inspection** on **Page 19**).
7. Slide replacement grinding wheel onto spindle, followed by large washer and spindle lock nut.
8. Retighten spindle lock nut using face spanner wrench.

## **NOTICE**

**Do not overtighten the spindle lock nut when mounting the grinding wheel. This can damage the grinding wheel and make it difficult to remove the lock nut later.**

9. Remove screwdriver from spindle lock access hole, and re-install cap screw.

**Note:** If grinding wheel is new, refer to **Truing/Dressing Wheel** on **Page 21** for further instructions.



# Truing/Dressing Wheel

Before using the aluminum-oxide grinding wheel for the first time, you must "true" it to the machine. This process makes the face of the wheel concentric to the spindle axis, minimizing potential vibration from the wheel being out-of-balance. Failure to do this will result in tool chatter and a poor finish on tooling.

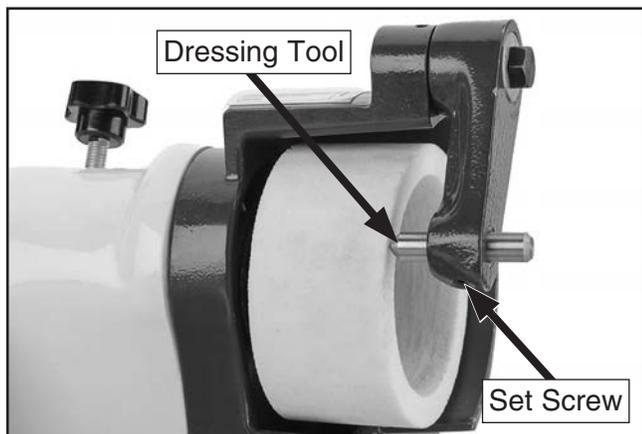
Over time, the aluminum-oxide grinding wheel will gradually "load up" and begin to cut less effectively. Often the wheel will begin to look dark or dirty when this has begun to occur. The solution is to "dress" the wheel by using the diamond dressing tool to grind a new edge on the face of the wheel. Performing light, frequent dressings will make the wheel last longer and perform better.

## Tools Needed

Hex Wrench 2.5mm..... 1

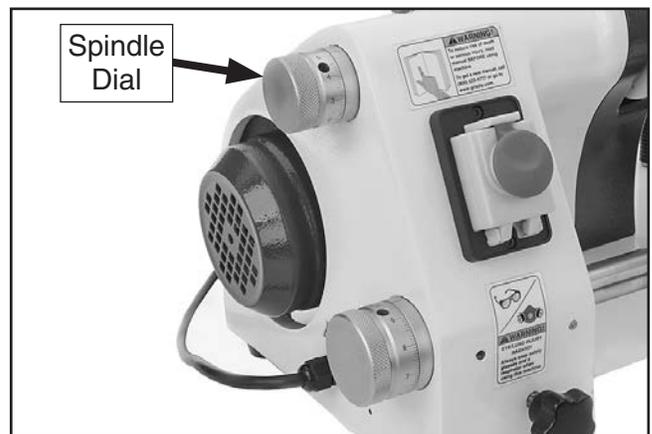
## To true/dress the grinding wheel:

1. Install aluminum-oxide grinding wheel (see **Installing/Removing Wheel** on **Page 20**, if necessary).
2. Rotate tool holder back and away from grinding wheel.
3. Swing diamond dressing tool down toward grinding wheel, then loosen set screw that secures tool in rotating arm (see **Figure 12**).



**Figure 12.** Dressing tool positioned against face of grinding wheel for truing (or dressing).

4. Position tip of diamond dressing tool against face of grinding wheel, then tighten set screw. Tip of dressing tool should just touch face of wheel.
5. Swing dressing tool up and away from grinding wheel.
6. Turn tool grinder **ON**.
7. Swing dressing tool down toward grinding wheel.
8. Push dressing tool slowly across face of wheel.
9. Pull dressing tool back across face of grinding wheel.
10. Repeat **Steps 7–8** two or three times, until diamond tool passes cleanly across face of wheel with no contact, then swing dressing tool back above grinding wheel.
11. Use spindle dial (**Figure 13**) to move grinding wheel 0.001" to the right.



**Figure 13.** Spindle dial used for positioning wheel left or right.

12. Repeat **Steps 7–8** one more time.

**⚠ CAUTION**

This process creates substantial amounts of dust. Breathing airborne dust on a regular basis can result in permanent respiratory illness. Reduce your risk by wearing a respirator and capturing the dust with a dust collection system.

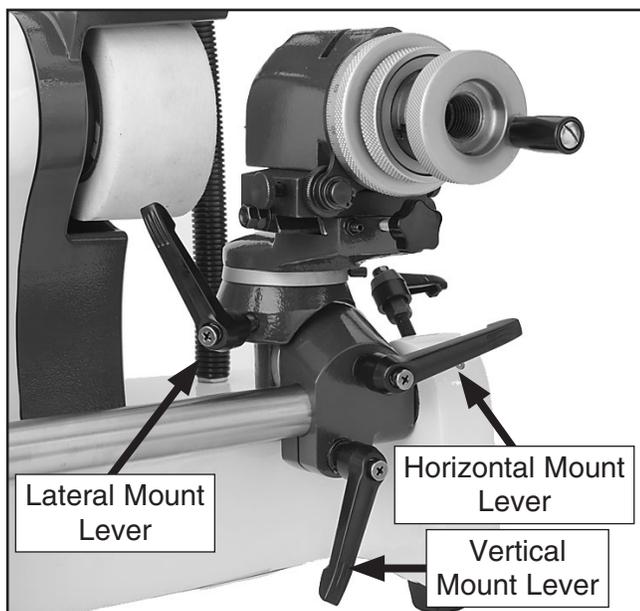


# Moving Tool Bracket

The tool carriage is comprised of three separate components: the index bracket, guide rod, and carriage slides. Each of these combine to provide refined control of the tooling during grinding operations.

## Index Bracket

The index bracket consists of three mounts that move independently of each other and can be locked in position anywhere along their arc of travel with locking levers (see **Figure 14**).



**Figure 14.** Location of locking levers on index bracket.

The vertical mount rotates front to back and allows the bracket to be moved manually along the length of the guide rod.

The horizontal mount tilts left to right from 0°–45° and includes an embedded degree scale.

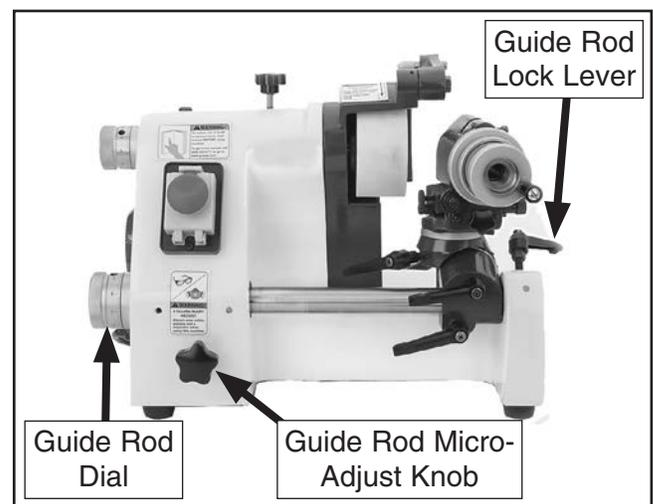
The lateral mount twists side-to-side, relative to the spindle, and includes an adjustable degree scale.

## Guide Rod

The guide rod is equipped with two mechanisms for adjusting the position of the index bracket: a dial and a micro-adjust knob.

The guide rod dial (see **Figure 15**) moves the guide rod side to side, parallel with the grinding wheel, and is graduated in 0.0005" increments. The guide rod micro-adjust knob rotates the guide rod forward and backward, relative to the grinding wheel.

The guide rod lock lever can be tightened to provide added rigidity during operation, especially for close tolerance work.



**Figure 15.** Location of guide rod components.



## Slides

The position of the tool holder is controlled by two dovetailed slides: a cross slide and a carriage slide. Each slide is equipped with a gib lock to provide added rigidity during grinding operations. (For further details, see **Gib Adjustment** on **Page 31**.)

### Cross Slide

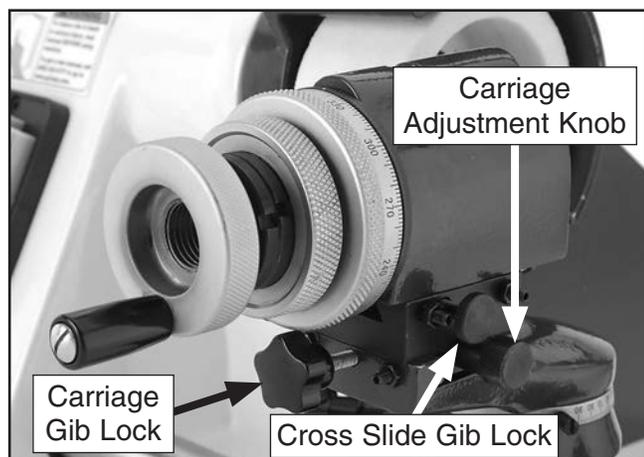
The cross slide moves the tool holder toward and away from the grinding wheel. It is positioned by rotating the cross slide adjustment wheel (see **Figures 16–17**) and can be secured using the gib lock.



**Figure 16.** Location of cross slide adjustment wheel.

### Carriage Slide

The carriage slide moves the tool holder left and right, parallel to the grinding wheel. It is positioned by rotating the adjustment knob (**Figure 17**) and can be secured with the gib lock.



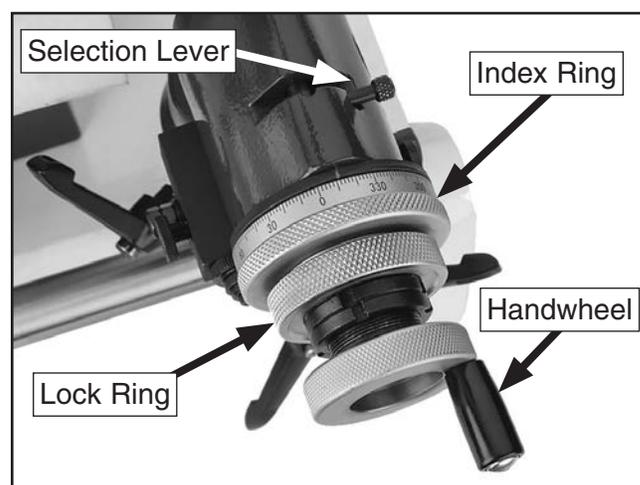
**Figure 17.** Locations of cross slide and carriage controls.

## Tool Holder

The tool holder contains a quill that holds tooling during operations. The quill uses a collet that accepts the tooling, which is then secured by a threaded handwheel at the back of the quill.

### Graduated Index Ring

The tool holder is equipped with an index ring (see **Figure 18**) that is graduated in degrees. The ring rotates the quill inside the tool holder so that the tooling can be positioned precisely along a 360° arc.



**Figure 18.** Location of index ring and selection lever.

The selection lever at the top of the tool holder controls the movement of the ring and quill.

When positioned to the left, the lever allows the quill to spin freely in either direction.

When positioned in the middle, the lever allows the quill to spin exactly 180° from a fixed point.

When positioned to the right, the lever locks the quill in place.

### To reposition index ring:

1. Twist lock ring to left until index ring moves freely and does not engage quill.
2. Twist index ring to desired position.
3. Retighten lock ring.



# Installing/Removing Tooling

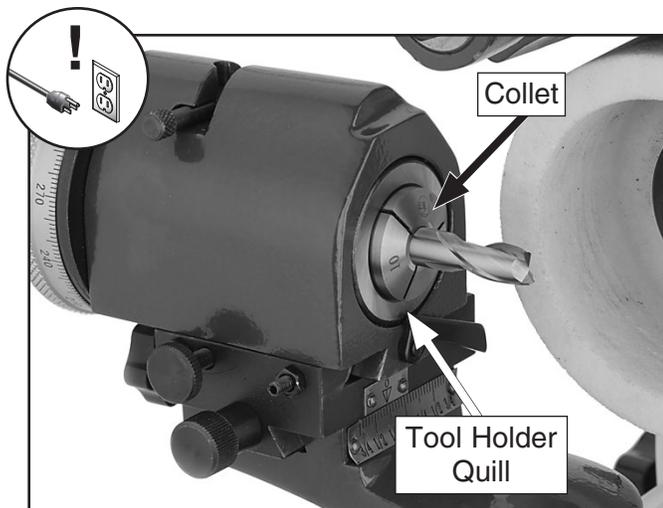
The Model T10814 Tool Grinder comes with five collets ( $\frac{1}{8}$ ",  $\frac{1}{4}$ ",  $\frac{3}{8}$ "  $\frac{1}{2}$ ",  $\frac{5}{8}$ ") to accommodate a wide range of tool sizes.

## **CAUTION**

Cutting tools are sharp and can easily cut you. Use heavy leather gloves or shop rags to protect your hands when handling tools.

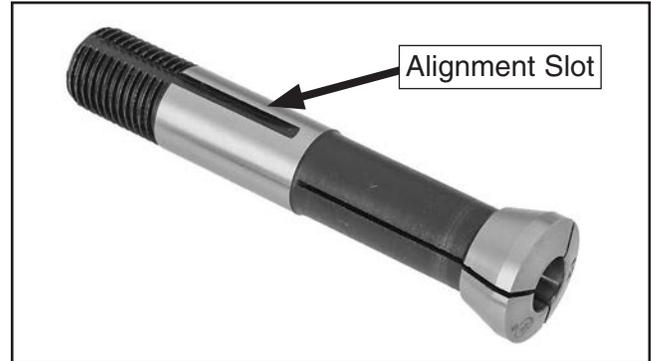
### To install tooling:

1. DISCONNECT MACHINE FROM POWER!
2. Insert tooling in collet that most closely matches shank diameter of tooling. If collet is too large, tooling will move during grinding.
3. Place collet in tool holder quill (see **Figure 19**).



**Figure 19.** Example of collet and tooling installed in tool holder quill.

**Note:** Interior of quill has an alignment pin that must be aligned with slot in collet (see **Figure 20**).



**Figure 20.** Slot must be aligned with pin inside of quill.

4. Shift quill selection lever to the righthand position to lock quill rotation.
5. Thread handwheel onto end of collet and tighten.

### To remove tooling:

1. DISCONNECT MACHINE FROM POWER!
2. Shift quill selection lever to righthand position to lock quill rotation.
3. Unscrew handwheel from collet and set aside.
4. Slide collet out of quill. You may need to tap the collet gently to remove it.
5. Remove tooling from collet.



# Spindle Controls

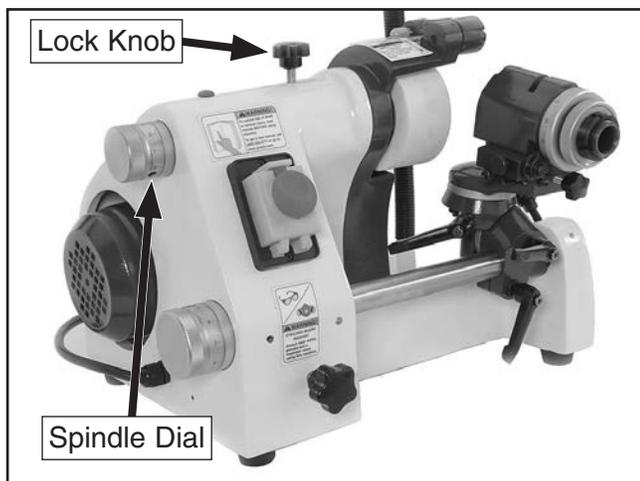
---

By rotating the spindle dial, the grinding wheel can be moved left and right, parallel with the guide rod. The dial has a graduated dial with 0.0005" increments, and one full revolution moves the spindle 0.05".

## To adjust spindle:

1. Ensure tool holder is clear of grinding wheel to avoid accidental contact.
2. Loosen spindle lock knob (see **Figure 21**).

3. Rotate dial clockwise to move grinding wheel right; rotate dial counterclockwise to move grinding wheel left.
4. When satisfied with spindle position, tighten spindle lock. This will prevent dial from inadvertently turning during operations.



**Figure 21.** Locations of spindle dial and lock knob.



# 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.

### **H7616—Oil Can w/Plastic Nozzle**

### **H7617—Oil Can w/Flexible Plastic Nozzle**

These high-pressure oil cans are perfect for lubricating the ball oilers found on your machine. Each can holds 5 ounces of oil.



Figure 22. High-pressure oil cans for ball oilers.

### **Replacement Collets for the T10814**

T26575— $\frac{1}{4}$ "

T26576— $\frac{3}{8}$ "

T26577— $\frac{1}{2}$ "

T26578— $\frac{5}{8}$ "

### **T10815—Grinding Attachments for T10814**

Designed specifically for the T10814 Tool Grinder, this kit includes sharpening attachments for end mills and reamers, lathe tools, and drill bits.

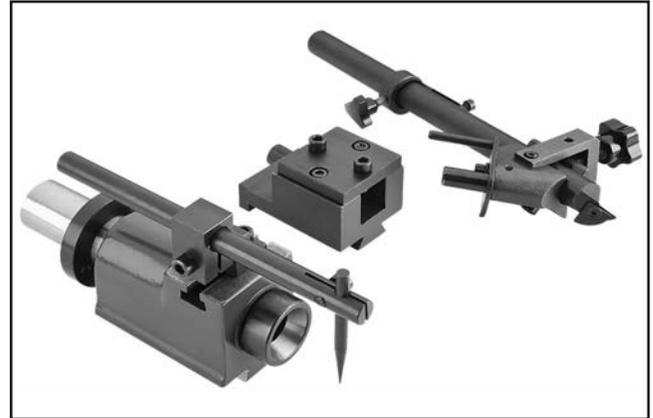


Figure 23. T10815 Grinding Attachment Kit.

### **T26602—Replacement Diamond Wheel for the T10814**

Designed for grinding carbide steel, this grinding wheel is a precise fit for the T10814 Tool Grinder.



Figure 24. T26602 Replacement Diamond Wheel for the T10814 Tool Grinder.

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



- T20501—Face Shield Crown Protector 4"
- T20502—Face Shield Crown Protector 7"
- T20503—Face Shield Window
- T20451—"Kirova" Clear Safety Glasses
- T20452—"Kirova" Anti-Reflective S. Glasses
- H7194—Bifocal Safety Glasses 1.5x
- H7195—Bifocal Safety Glasses 2.0x
- H7196—Bifocal Safety Glasses 2.5x



Figure 25. Eye protection assortment.

**H7695—Giant Brad Point Bit 6 Pc. Set**

Combines the wood boring accuracy of brad point bits with hard-to-find larger sizes. Each bit measures 9 3/4" long and includes 9/16" with 3/8" stepped shank, 5/8" with 3/8" stepped shank, 3/4" with 1/2" stepped shank, 7/8" with 1/2" stepped shank, 15/16" with 1/2" stepped shank and 1" with 1/2" stepped shank. Comes in a wooden case.



Figure 26. H7695 Giant Brad Point Bit Set.

- H2499—Small Half-Mask Respirator
- H3631—Medium Half-Mask Respirator
- H3632—Large Half-Mask Respirator
- H3635—Cartridge Filter Pair P100

Wood dust has been linked to nasal cancer and severe respiratory illnesses. If you work around dust everyday, a half-mask respirator can be a lifesaver. Also compatible with safety glasses!



Figure 27. Half-mask respirator with disposable cartridge filters.

**SB1365—Way Oil For Lathes**

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



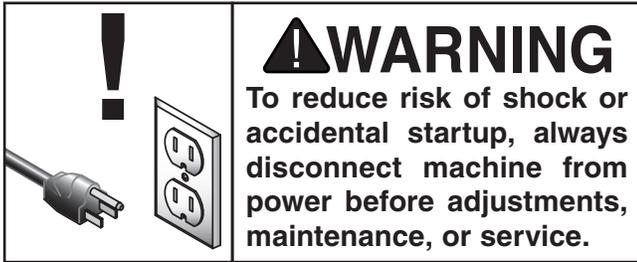
Figure 28. SB1365 Way Oil.



# SECTION 6: MAINTENANCE

---

---



## Schedule

---

---

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

### Daily Check

- Worn or damaged grinding wheel.
- Worn or damaged wires.
- Any other unsafe condition.

### Daily Maintenance

- Add oil to ball oilers (**Page 29**).
- Lubricate carriage slides (**Page 29**).

### Monthly Check

- Belt tension, damage, or wear.
- Clean/vacuum dust buildup on housing and index bracket.
- Grinding wheel for loading up.

## Cleaning and Protecting

---

---

Metal dust left on the machine will invite oxidation and residue build-up around the moving parts. Use a brush and shop vacuum to remove dust and debris from the working surfaces of the machine. Never blow off the machine with compressed air, as this will force metal dust deep into the mechanisms and may cause injury to yourself or bystanders.

Remove any rust buildup from unpainted cast iron surfaces of your machine and treat with a non-staining lubricant after cleaning.

Keep unpainted cast iron surfaces rust-free with regular applications of the same ISO 32 oil used for the ball oilers.

## Lubrication

---

---

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

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

Before performing any lubrication task, **DISCONNECT TOOL GRINDER FROM POWER!**

Items Needed	Qty
Clean Rag .....	As Needed
Mineral Spirits.....	As Needed
Stiff Brush.....	1
Pump-Type Oil Can w/Plastic Cone Tip .....	1



## Ball Oilers

Oil Type .....Model T23963 or ISO 32 Equivalent  
Amount .....1 or 2 Squirts  
Lubrication Frequency ..... Daily

This tool grinder has three ball oilers that should be oiled on a daily basis before beginning operation.

Proper lubrication of ball oilers is done with a pump-type oil can that has a plastic or rubberized cone tip. We do not recommend using metal needle or lance tips, as they can push the ball too far into the oiler, break the spring seat, and lodge the ball in the oil galley.

Lubricate the ball oilers before and after machine use, and more frequently under heavy use. When lubricating ball oilers, first clean the outside surface to remove any dust or grime. Push the tip of the oil can nozzle against the ball oiler to create a hydraulic seal, then pump the oil can once or twice. If you see sludge and contaminants coming out of the lubrication area, keep pumping the oil can until the oil runs clear. When finished, wipe away any excess oil.

Refer to **Figure 29** for the location of the ball oilers on this machine.

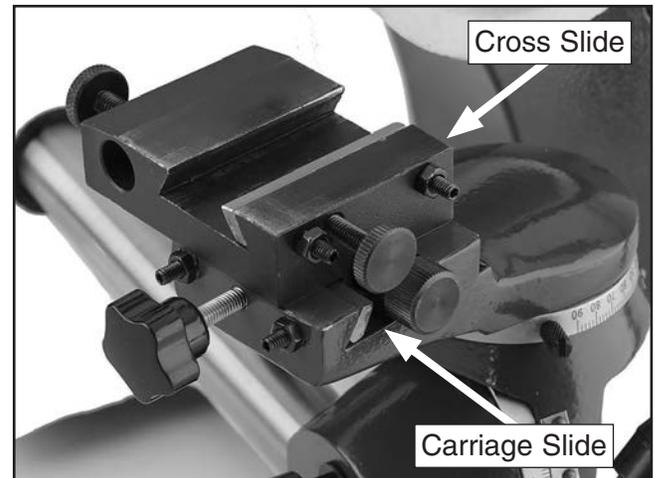


**Figure 29.** Location of ball oilers.

## Cross Slide & Carriage Slide

Oil Type .....Model T23963 or ISO 32 Equivalent  
Amount .....Thin Coat  
Lubrication Frequency ..... Daily

Remove the tool holder from the index bracket (see **Figure 30**), then move the carriage slide all the way to one side. Clean the slides with mineral spirits and wipe down with a rag. Apply lubricant and move the slides back and forth to distribute the oil. Then re-install the tool holder.



**Figure 30.** Location of cross slide and carriage slide.

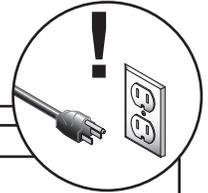


# SECTION 7: SERVICE

Review the troubleshooting and procedures in this section if a problem develops with your machine. If you need replacement parts or additional help with a procedure, call our Technical Support at (570) 546-9663.

**Note:** Please gather the serial number and manufacture date of your machine before calling.

## Troubleshooting



Symptom	Possible Cause	Possible Solution
Grinding wheel slows during operation.	1. Belt is loose.	1. Adjust tension of belt (see <b>Belt Tension &amp; Replacement</b> on <b>Page 32</b> ).
Spindle is noisy during operation.	1. Damaged spindle bearing.	1. Replace bearing.
Tooling finish is not smooth.	1. Grinding wheel not true to spindle. 2. Grinding wheel loaded up. 3. Wrong type of grinding wheel being used.	1. True the grinding wheel (see <b>Truing/Dressing Wheel</b> on <b>Page 21</b> ). 2. Dress grinding wheel (see <b>Truing/Dressing Wheel</b> on <b>Page 21</b> ); replace grinding wheel. 3. Ensure grinding wheel is appropriate to tooling material.
Machine vibrates during operation.	1. Machine not sitting flat. 2. Grinding wheel out of balance. 3. Grinding wheel loose. 4. Motor or component loose. 5. Motor bearings at fault.	1. Ensure machine is on solid, flat surface. 2. True the grinding wheel (see <b>Truing/Dressing Wheel</b> on <b>Page 21</b> ). 3. Retighten grinding wheel with wheel puller. 4. Inspect/replace damaged bolts/nuts and retighten. 5. Test by rotating shaft; loose/grinding spindle requires bearing replacement.
Machine does not start.	1. Break or short in wiring; or loose connections. 2. Power supply switched off/has incorrect voltage. 3. Wall circuit breaker tripped. 4. Motor ON/OFF switch at fault. 5. Capacitor at fault. 6. Motor at fault.	1. Trace/replace broken or corroded wires; fix loose connections. 2. Switch power supply on/verify voltage. 3. Ensure circuit size is correct/replace weak breaker. 4. Replace switch. 5. Test/repair/replace. 6. Test/repair/replace.
Machine stalls or is underpowered.	1. Plug/receptacle at fault. 2. Machine undersized for task. 3. Motor at fault. 4. Motor bearings at fault.	1. Test for good contacts/correct wiring. 2. Use new grinding wheel; reduce feed rate. 3. Test/repair/replace. 4. Test by rotating shaft; loose/grinding spindle requires bearing replacement.
Grinding wheel clogs or dulls quickly.	1. Too much pressure applied. 2. Grinding wheel loaded up. 3. Grinding wheel stored in damp environment.	1. Reduce pressure and feed rate. 2. Dress grinding wheel (see <b>Truing/Dressing Wheel</b> on <b>Page 21</b> ); replace grinding wheel. 3. Replace grinding wheel; store wheels in cool, dry area.



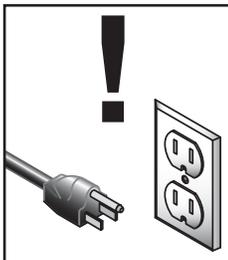
# Gib Adjustment

The goal of adjusting the gib screws is to remove sloppiness or "play" from the ways without over-adjusting them to the point where they become stiff and difficult to move.

In general, loose gibs cause poor finishes and tool chatter; however, over-tightened gibs cause premature wear and make it difficult to turn the handwheels.

The gib adjustment process usually requires some trial-and-error. Repeat the process as necessary until you find the best balance between loose and stiff movement. Most machinists find that the ideal gib adjustment is one where a small amount of drag or resistance is present, yet the handwheels are still somewhat easy to move.

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

	<p><b>! WARNING</b> To reduce risk of shock or accidental startup, always disconnect machine from power before adjustments, maintenance, or service.</p>
---	--

## To adjust cross slide and carriage slide gibs:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen two hex nuts on cross slide and carriage slide gib screws (see **Figures 31–32**).



**Figure 31.** Location of cross slide gib screws.



**Figure 32.** Location of carriage slide gib screws.

3. Adjust gib screws in small and equal increments, then test movement of slide by rotating adjustment wheel.

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

4. When satisfied with gib adjustment, use hex wrench to prevent gib screws from moving, then retighten hex nuts to secure settings.
5. Recheck movement of slide and, if necessary, repeat **Steps 2–4**.



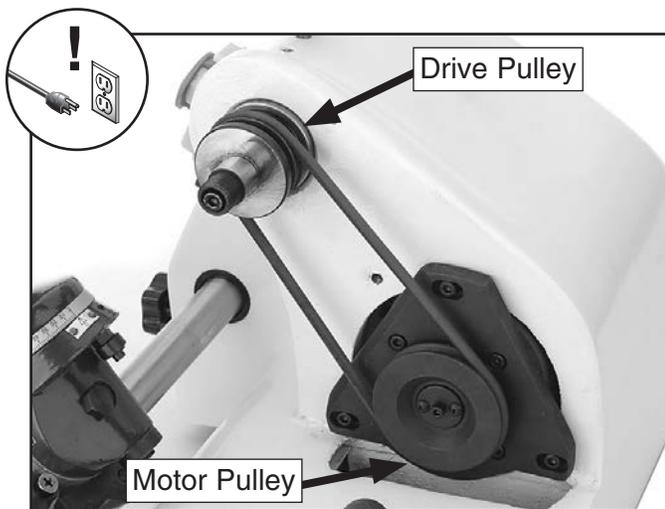
# Belt Tension & Replacement

The belt transfers power from the motor to the drive pulley. An improperly tensioned belt will slip, which quickly causes a loss of power and may damage the belt. Therefore, it is essential to properly maintain belt tension.

Tools Needed	Qty
Hex Wrench 4mm.....	1
Hex Wrench 5mm.....	1

## Replacing Belt

1. DISCONNECT MACHINE FROM POWER!
2. Remove grinding wheel.
3. Remove cover to access belt and pulleys (see **Figure 33**).

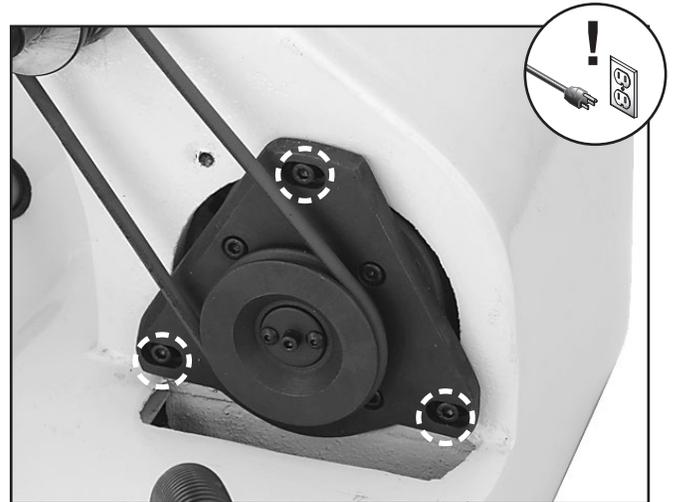


**Figure 33.** Belt and pulley components.

4. Roll belt off of drive pulley, then off of motor pulley.
5. Insert new belt in motor pulley, then pull onto drive pulley. This belt stretches easily and will slip into place.
6. Tension the belt (see **Tensioning Belt** for detailed instructions).
7. Re-install belt cover.

## Tensioning Belt

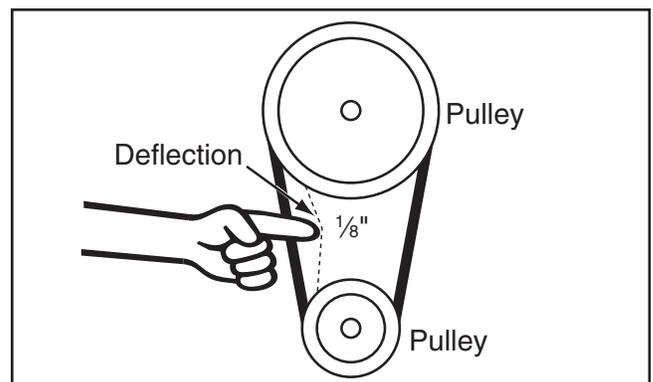
1. DISCONNECT MACHINE FROM POWER!
2. Remove cover to access belt and motor mount (see **Figure 33**).
3. Loosen motor mount cap screws (see **Figure 34**).



**Figure 34.** Location of motor mount cap screws.

4. Push motor toward back of machine using light/moderate pressure, then tighten motor mount cap screws.

The belt is correctly tensioned when there is approximately  $\frac{1}{8}$ " deflection when it is pushed with moderate pressure, as shown in **Figure 35**.



**Figure 35.** Correct timing-belt deflection.

5. Re-install belt cover.



# 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.

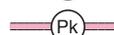
**CAPACITORS/INVERTERS.** Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

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

#### NOTICE

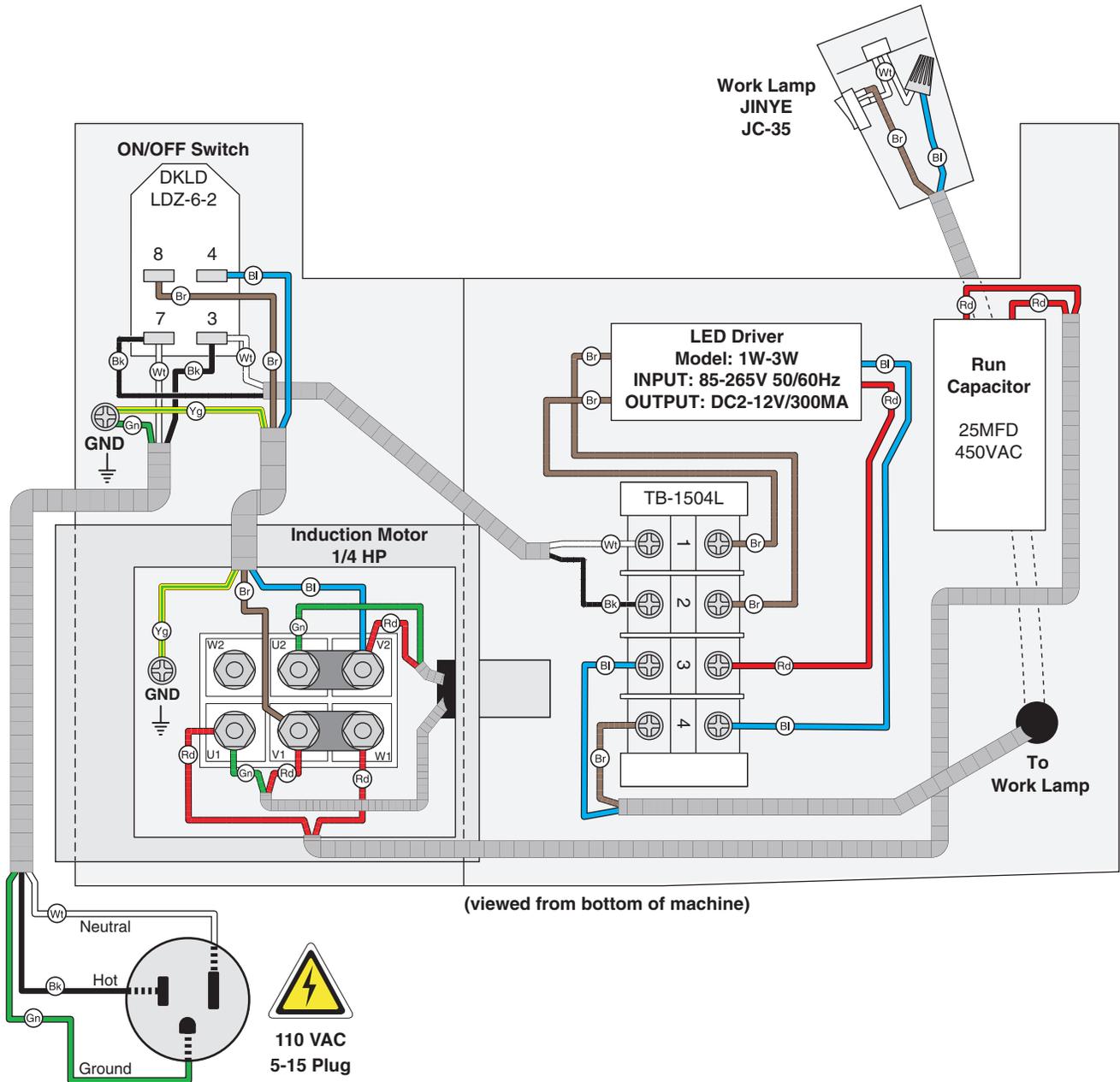
The photos and diagrams included in this section are best viewed in color. You can view these pages in color at [www.grizzly.com](http://www.grizzly.com).

#### COLOR KEY

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



# T10814 Wiring



# Wiring Photos

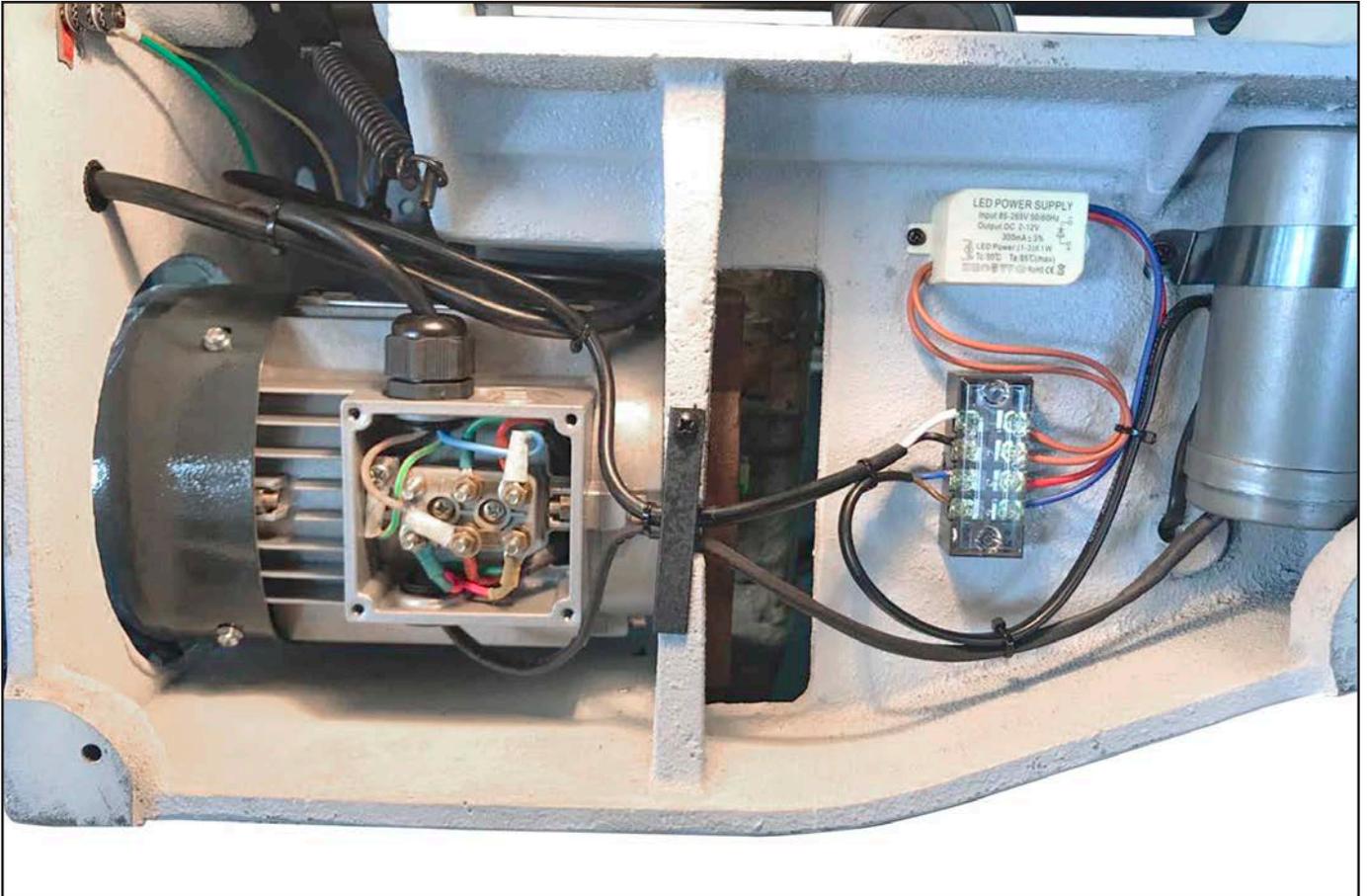


Figure 36. Wiring components viewed from below machine.

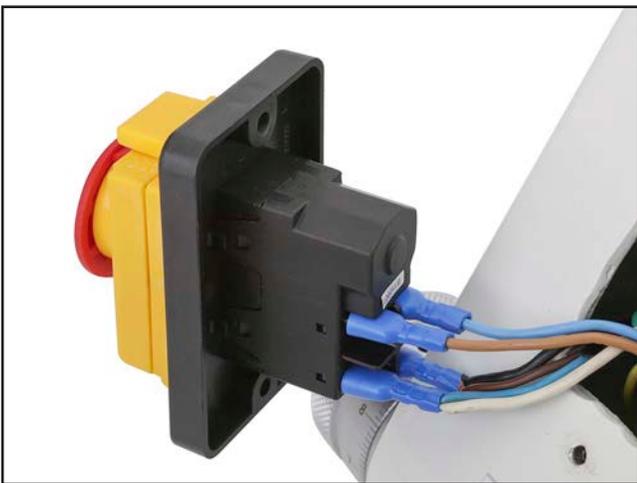


Figure 37. ON/OFF switch.

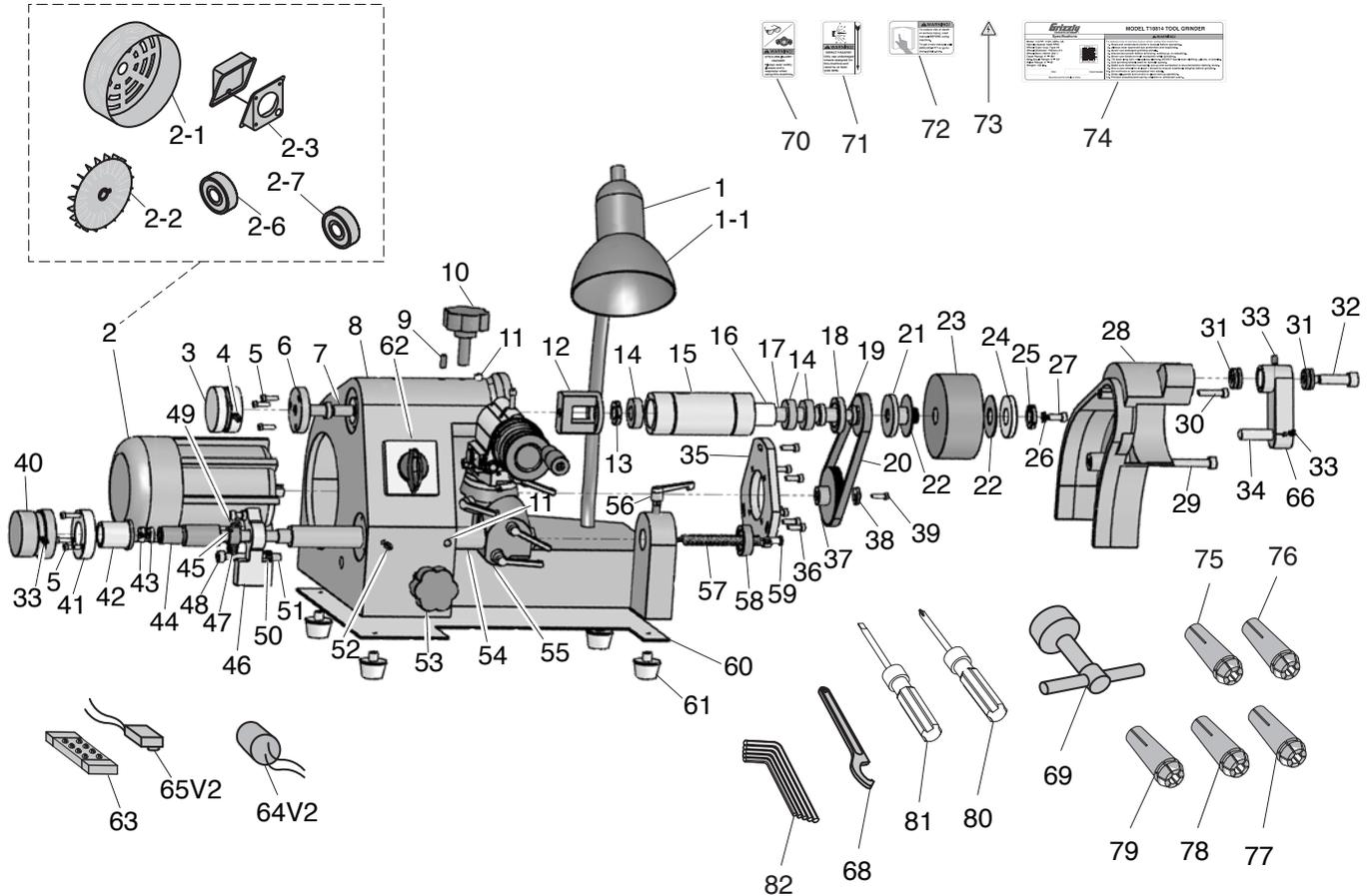


Figure 38. Work lamp.



# SECTION 9: PARTS

## Main



<p><b>PARTS STORE</b></p>  <p><b>grizzly.com</b></p>	<p><b>BUY PARTS ONLINE!</b></p> <p>Scan QR code with your digital device or visit <a href="http://www.grizzly.com/parts">www.grizzly.com/parts</a> to purchase replacement parts or check pricing and availability.</p>
---	---

**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 Parts List

REF	PART #	DESCRIPTION
1	PT10814001	WORK LAMP ASSY W/BULB MODULE
1-1	PT10814001-1	WORK LAMP BULB MODULE
2	PT10814002	MOTOR 1/4HP 110V 1-PH
2-1	PT10814002-1	MOTOR FAN COVER
2-2	PT10814002-2	MOTOR FAN
2-3	PT10814002-3	MOTOR JUNCTION BOX
2-6	PT10814002-6	MOTOR FRONT BEARING
2-7	PT10814002-7	MOTOR REAR BEARING
3	PT10814003	GRADUATED DIAL 45MM DIA
4	PT10814004	SET SCREW M6-1 X 16 CONE-PT
5	PT10814005	CAP SCREW M4-.7 X 16
6	PT10814006	DIAL BRACKET 45MM DIA
7	PT10814007	DIAL BRACKET SHAFT
8	PT10814008	BODY CASTING
9	PT10814009	SET SCREW M8-1.25 X 16 DOG-PT
10	PT10814010	MICRO ADJ. KNOB M8-1.25 X 15
11	PT10814011	BALL OILER 6MM TAP-IN
12	PT10814012	DRIVE AXLE JOINT
13	PT10814013	SPANNER NUT M16-1
14	PT10814014	BALL BEARING 6003ZZ
15	PT10814015	QUILL HOUSING
16	PT10814016	QUILL
17	PT10814017	SPINDLE
18	PT10814018	SPACER
19	PT10814019	DRIVE PULLEY
20	PT10814020	ROUND DRIVE BELT 6 X 450MM
21	PT10814021	WHEEL FLANGE (INNER)
22	PT10814022	PAPER GASKET
23	PT10814023	GRINDING WHEEL 100 X 20MM 80-GRIT
24	PT10814024	WHEEL FLANGE (OUTER)
25	PT10814025	WHEEL LOCKING RING
26	PT10814026	FLAT WASHER 8MM
27	PT10814027	CAP SCREW M8-1.25 X 25
28	PT10814028	WHEEL GUARD
29	PT10814029	CAP SCREW M8-1.25 X 60
30	PT10814030	CAP SCREW M8-1.25 X 30
31	PT10814031	THRUST BEARING 51100
32	PT10814032	HEX BOLT M8-1.25 X 45
33	PT10814033	SET SCREW M6-1 X 12
34	PT10814034	DIAMOND DRESSER
35	PT10814035	MOTOR MOUNT
36	PT10814036	CAP SCREW M5-.8 X 16
37	PT10814037	MOTOR PULLEY
38	PT10814038	PULLEY FLAT WASHER 4MM

REF	PART #	DESCRIPTION
39	PT10814039	CAP SCREW M4-.7 X 14
40	PT10814040	GRADUATED DIAL 55MM DIA
41	PT10814041	DIAL BRACKET 55MM
42	PT10814042	BUSHING
43	PT10814043	SPANNER NUT M8-1
44	PT10814044	SHAFT SLEEVE
45	PT10814045	FLANGE
46	PT10814046	LIMIT BLOCK
47	PT10814047	TENSION SPRING
48	PT10814048	CAP SCREW M6-1 X 25
49	PT10814049	HEX NUT M6-1
50	PT10814050	HEX NUT M8-1.25
51	PT10814051	CAP SCREW M8-1.25 X 70
52	PT10814052	SET SCREW M8-1.25 X 16 DOG-PT
53	PT10814053	MICRO ADJ. KNOB M12-1.75 X 55
54	PT10814054	X-AXIS SHAFT
55	PT10814055	UNIVERSAL CLAMP ASSEMBLY
56	PT10814056	ADJUSTABLE HANDLE M8-1.25 X 25
57	PT10814057	COMPRESSION SPRING
58	PT10814058	END CAP
59	PT10814059	SPRING DRIVING NAIL
60	PT10814060	BOTTOM COVER
61	PT10814061	FOOT M6-1 X 15 (RUBBER)
62	PT10814062	ON/OFF SWITCH DKLD LDZ-6-2
63	PT10814063	TERMINAL BAR 4P
64V2	PT10814064V2	R CAPACITOR 25M 350V 1-1/2 X 3-5/8 V2.03.17
65V2	PT10814065V2	LED DRIVER 1W-3W DC2-12V/300MA V2.05.15
66	PT10814066	DIAMOND DRESSER BRACKET
68	PT10814068	SPANNER WRENCH 38-42MM
69	PT10814069	FACE SPANNER WRENCH 1"
70	PT10814070	GLASSES/RESPIRATOR 1.5W X 2.5H
71	PT10814071	GRINDING WHEEL/DIRECTION LABEL
72	PT10814072	READ MANUAL 2.8W X 1.5H
73	PT10814073	ELECTRICITY 0.5W X 0.4H
74	PT10814074	MACHINE ID LABEL
75	PT10814075	COLLET 1/8"
76	PT10814076	COLLET 1/4"
77	PT10814077	COLLET 3/8"
78	PT10814078	COLLET 1/2"
79	PT10814079	COLLET 5/8"
80	PT10814080	SCREWDRIVER PHILLIPS #2
81	PT10814081	SCREWDRIVER FLAT #2
82	PT10814082	HEX WRENCH SET (2, 2.5, 3, 4, 5, 6MM)

## WARNING

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







# WARRANTY CARD

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

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

1. How did you learn about us?
 

<input type="checkbox"/> Advertisement	<input type="checkbox"/> Friend	<input type="checkbox"/> Catalog
<input type="checkbox"/> Card Deck	<input type="checkbox"/> Website	<input type="checkbox"/> Other:
  
2. Which of the following magazines do you subscribe to?
 

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

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

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

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

<input type="checkbox"/> 0-2	<input type="checkbox"/> 3-5	<input type="checkbox"/> 6-9	<input type="checkbox"/> 10+
------------------------------	------------------------------	------------------------------	------------------------------
  
7. Do you think your machine represents a good value?  Yes  No
  
8. Would you recommend Grizzly Industrial to a friend?  Yes  No
  
9. Would you allow us to use your name as a reference for Grizzly customers in your area?  
**Note: We never use names more than 3 times.**  Yes  No

10. Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CUT ALONG DOTTED LINE

FOLD ALONG DOTTED LINE

\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_



Place Stamp Here



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



FOLD ALONG DOTTED LINE

Send a Grizzly Catalog to a friend:

Name \_\_\_\_\_
Street \_\_\_\_\_
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

TAPE ALONG EDGES--PLEASE DO NOT STAPLE

# WARRANTY & RETURNS

---

---

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

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

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

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

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

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

# *grizzly.com*<sup>®</sup>

**TOOL WEBSITE**

Buy Direct and Save with Grizzly<sup>®</sup> – Trusted, Proven and a Great Value!  
~Since 1983~

*Visit Our Website Today For  
Current Specials!*

**ORDER  
24 HOURS A DAY!  
1-800-523-4777**

