



MODEL T33959/T33960/T33961

15" & 17" VARIABLE-SPEED

DRILL PRESSES

OWNER'S MANUAL

(For models manufactured since 08/23)



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*****Keep for Future Reference*****



WARNING!

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

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

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

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



WARNING!

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

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

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

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INTRODUCTION

Contact Info

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

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

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

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

WARNING

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

CAUTION

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



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.

		MODEL GXXXX MACHINE NAME	
SPECIFICATIONS		 WARNING!	
Motor:		To reduce risk of serious injury when using this machine:	
Specification:		1. Read manual before operation.	
Specification:		2. Wear safety glasses and respirator.	
Specification:		3. Make sure machine is properly 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 machine if impaired by drugs or alcohol.	
		10. Maintain machine carefully to prevent accidents.	
Manufactured for Grizzly in Taiwan			

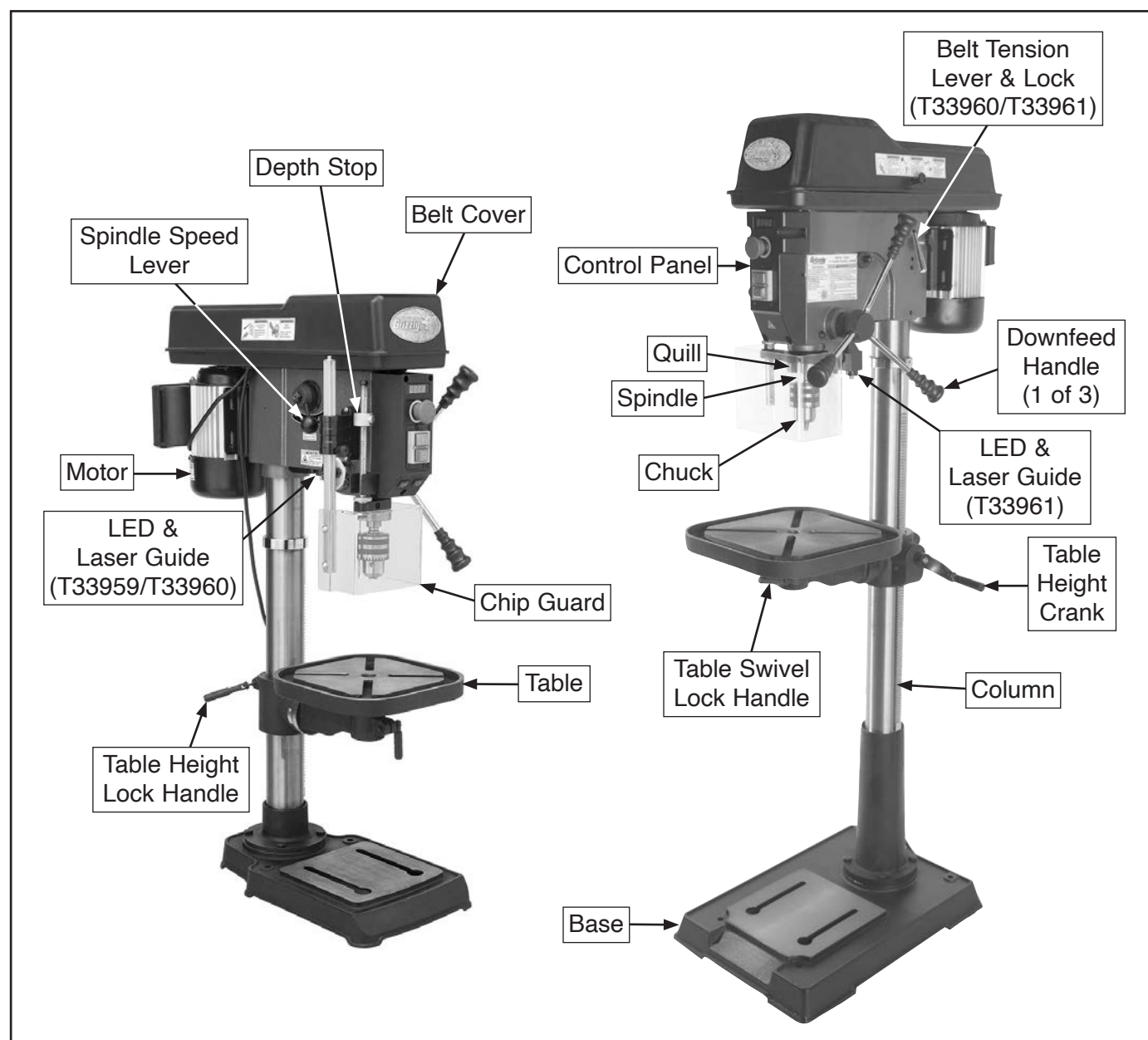
Manufacture Date:

Serial Number:



Identification

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



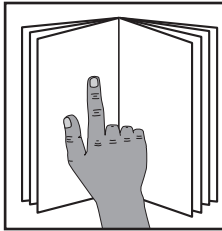
WARNING

For Your Own Safety Read Instruction Manual Before Operating Drill Press

- a) Wear eye protection.
- b) Do not wear gloves, necktie, or loose clothing.
- c) Clamp workpiece or brace against column to prevent rotation.
- d) Use recommended speed for drill accessory and workpiece material.



Controls & Components



! WARNING

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

Refer to the following figures and descriptions to become familiar with the basic controls and components of this machine. Understanding these items and how they work will help you understand the rest of the manual and minimize your risk of injury when operating this machine.

Power Controls (T33959/T33960)

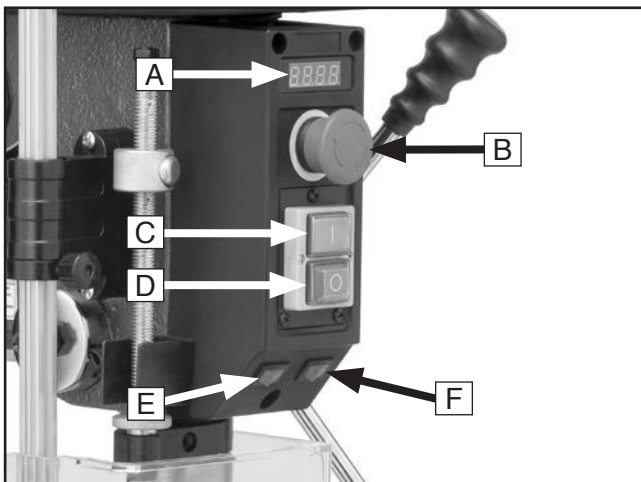


Figure 1. Control panel components.

- A. Spindle Speed Digital Readout:** Displays spindle speed (RPM).
- B. Emergency Stop Button:** Turns **OFF** machine and prevents it from turning **ON**. To reset, twist button clockwise until it pops out.
- C. ON Button:** Turns spindle **ON**.
- D. OFF Button:** Turns spindle **OFF**.
- E. LED Switch:** Turns LED **ON** or **OFF**.
- F. Laser Switch:** Turns laser guide **ON** or **OFF**.

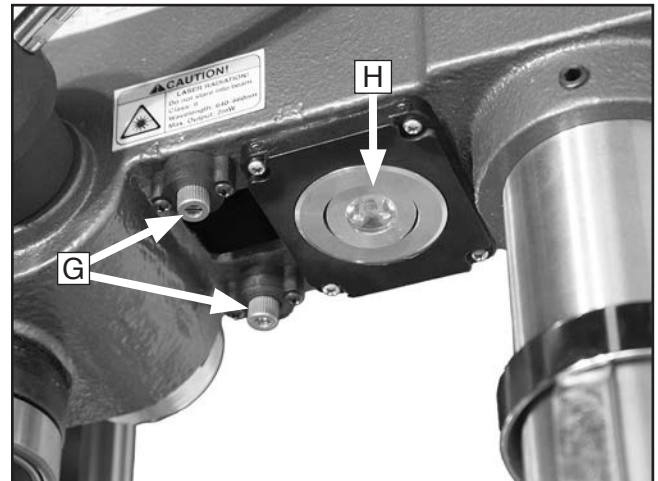


Figure 2. Laser guide and LED.

- G. Laser Guide:** Projects crosshairs on table to align workpiece to drill bit.
- H. LED:** Adjusts in headstock seat to illuminate work area.

Power Controls (T33961)

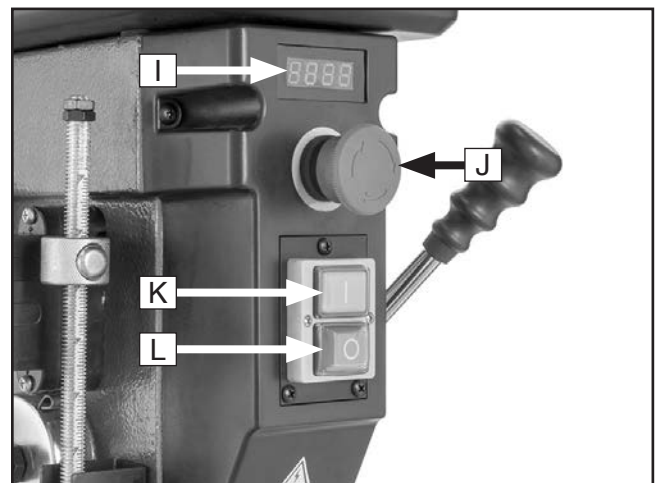


Figure 3. Control panel components.

- I. Spindle Speed Digital Readout:** Displays spindle speed (RPM).
- J. Emergency Stop Button:** Turns **OFF** machine and prevents it from turning **ON**. To reset, twist button clockwise until it pops out.
- K. ON Button:** Turns spindle **ON**.
- L. OFF Button:** Turns spindle **OFF**.



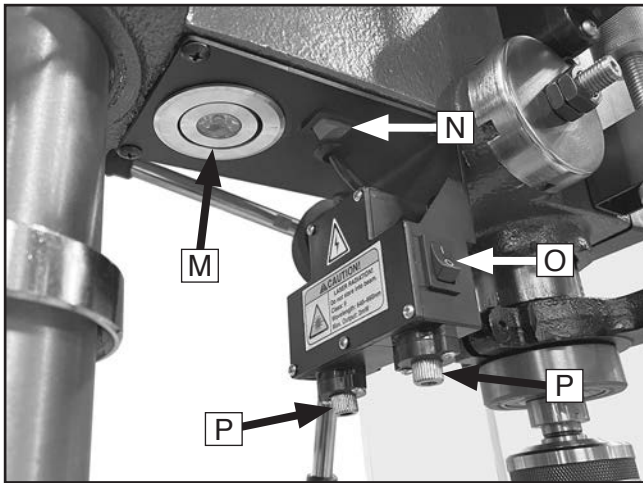


Figure 4. Laser guide and LED.

- M. LED:** Adjusts in headstock seat to illuminate work area.
- N. LED Switch:** Turns LED **ON** or **OFF**.
- O. Laser Switch:** Turns laser guide **ON** or **OFF**.
- P. Laser Guide:** Projects crosshairs on table to align workpiece to drill bit.

Headstock

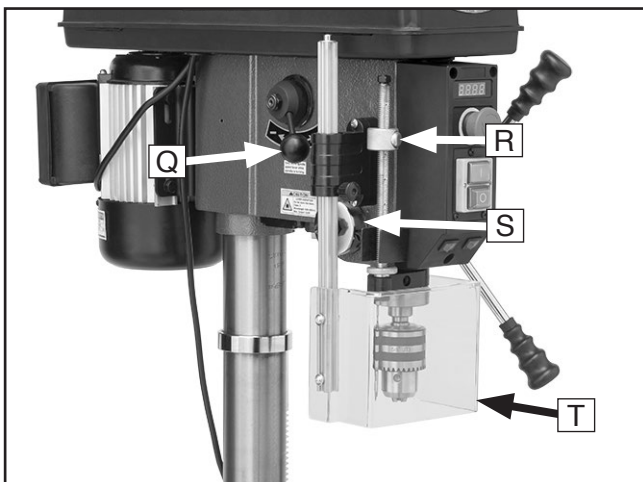


Figure 5. Left headstock components.

- Q. Spindle Speed Lever:** Adjusts spindle speed.
- R. Depth Stop:** Stops spindle travel at predetermined drilling depth. Bottom of depth stop nut indicates depth on scale.
- S. Spindle Return Spring:** Automatically returns quill into headstock.

- T. Chip Guard:** Protects user from flying debris. When chip guard is opened, micro switch stops spindle and prevents it from starting. Adjusts up and down and pivots out of the way for tooling changes and maintenance.

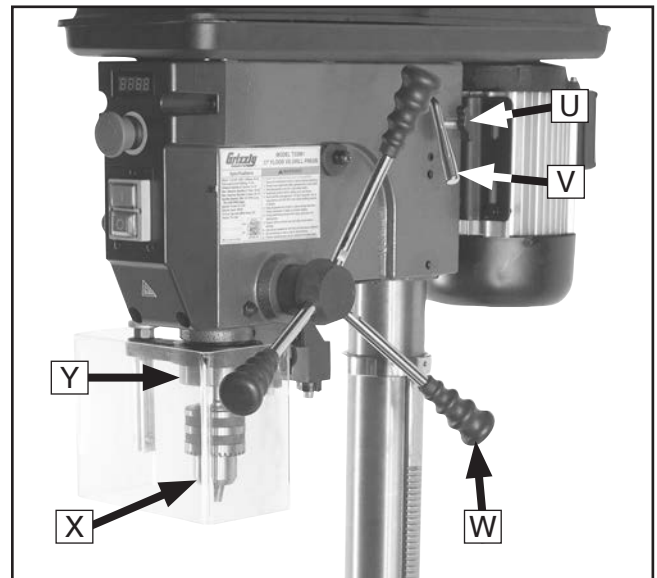


Figure 6. Right headstock components.

- U. Belt Tension Lock (T33960/T33961 Only):** Locks motor position.
- V. Belt Tension Lever (T33960/T33961 Only):** Adjusts motor position to tension and release belts for changing spindle speed and service.
- W. Downfeed Handle (1 of 3):** Moves spindle down when pulled down. Spindle automatically returns to top position when released.
- X. Chuck:** Accepts drill bits with up to 5/8" shanks.
- Y. Quill:** Houses spindle and spindle bearings.



Power Transfer (T33959)

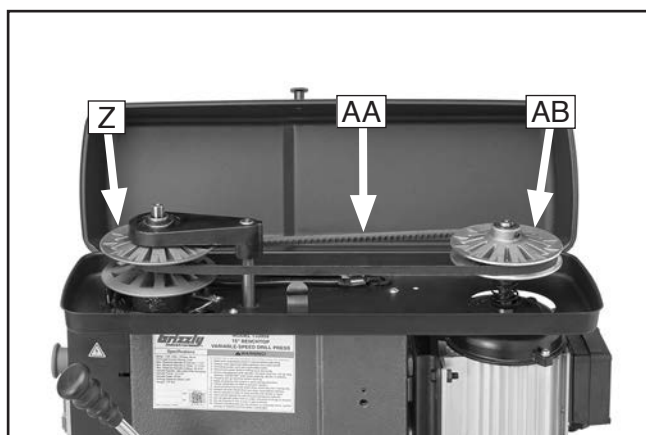


Figure 7. Power transfer components.

Z. Spindle Pulley: Adjusts belt tension to control spindle speed.

AA. V-Belt: Transfers motor power from motor to spindle.

AB. Motor Pulley: Holds V-belt.

Power Transfer (T33960/T33961)

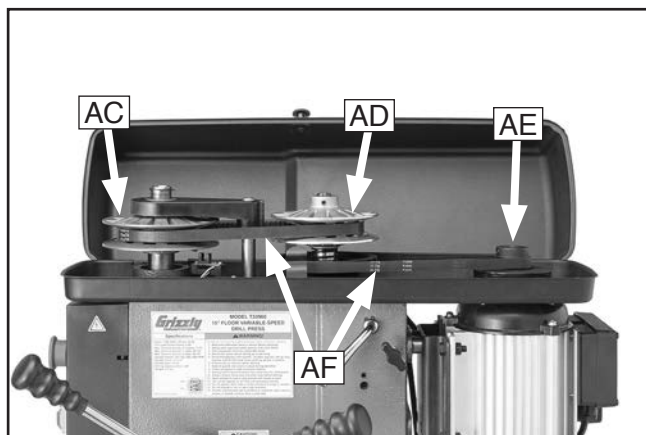


Figure 8. Power transfer components (T33961 shown).

AC. Spindle Pulley: Adjusts belt tension to control spindle speed.

AD. Idler Pulley: Holds V-belts and transfers power from motor pulley to spindle pulley.

AE. Motor Pulley: Holds drive V-belt.

AF. V-Belts: Determine spindle speed range and transfer power from motor to spindle.

Table

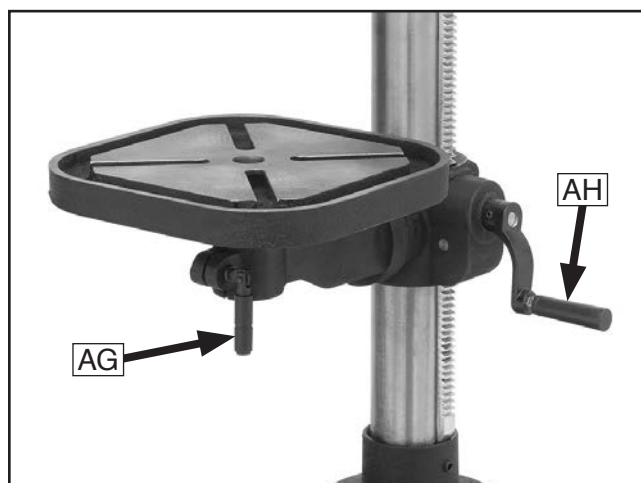


Figure 9. Right table components.

AG. Table Swivel Lock Handle: Loosens to allow rotation of table; tightens to lock table rotation.

AH. Table Height Crank: Adjusts table up and down.

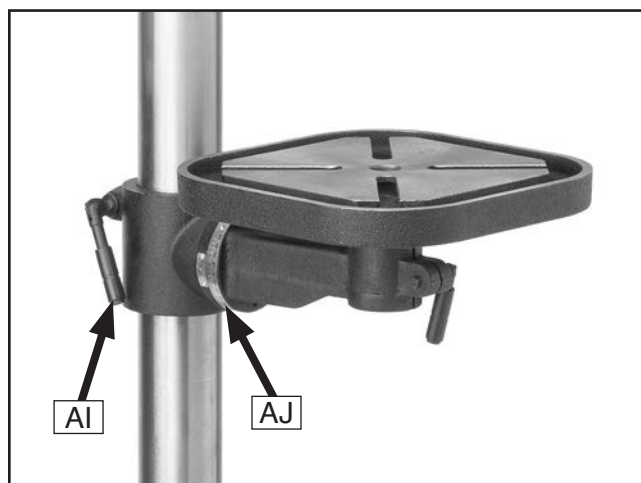


Figure 10. Left table components.

AI. Table Height Lock Handle: Loosens to allow adjustment of table position on column; tightens to lock table position.

AJ. Tilt Scale: Displays current table tilt angle.





MACHINE DATA SHEET

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

15" & 17" VARIABLE-SPEED DRILL PRESSES

Model Number	T33959	T33960	T33961
Product Dimensions			
Weight	127 lbs.	137 lbs.	210 lbs.
Width (side-to-side)/Depth (front-to-back)/Height	14-1/2 x 26 x 44-1/2 in.	14-1/2 x 28 x 65 in.	17 x 30 x 67 in.
Foot Print (Width/Depth)	19½ x 11½ in.		23 x 16½ in.
Shipping Dimensions			
Carton #1 Type	Cardboard Box		
Content	Machine		
Weight	137 lbs.	148 lbs.	232 lbs.
Width (side-to-side)/Depth (front-to-back)/Height	38 x 24 x 12 in.	57 x 24 x 12 in.	61 x 28 x 12 in.
Electrical			
Power Requirement	120V, Single-Phase, 60 Hz		
Full-Load Current Rating	8.9A		11.9A
Minimum Circuit Size	15A		
Connection Type	Cord & Plug		
Power Cord Included	Yes		
Power Cord Length	71 in.		
Power Cord Gauge	16 AWG		14 AWG
Plug Included	Yes		
Included Plug Type	5-15		
Switch Type	ON/OFF Push Button		
Main Motor			
Horsepower	1 HP		1-1/4 HP
Phase	Single-Phase		
Amps	8.9A		11.9A
Speed	1700 RPM		
Type	TEFC Induction		
Power Transfer	Belt		
Bearings	Shielded & Permanently Lubricated		



Model Number	T33959	T33960	T33961
Operation Information			
Type	Benchtop	Floor	
Swing	15 in.		17 in.
Spindle Taper	MT#2		
Spindle Travel	4-11/16 in.		5-11/16 in.
Max. Distance From Spindle to Column	7-1/2 in.		8-1/2 in.
Max. Distance From Spindle to Table	17-11/16 in.	26-1/2 in.	25-5/8 in.
Number of Spindle Speeds	Variable		
Range of Spindle Speeds	550 - 3500 RPM	200 - 880, 800 - 3400 RPM	200 - 720, 700 - 2200 RPM
Drilling Capacity (Mild Steel)	5/8 in.		
Drilling Capacity (Cast Iron)	5/8 in.		
Drill Chuck Type	JT3 Keyed		
Drill Chuck Size	5/8 in.		
Spindle Information			
Distance From Spindle to Base	26-9/16 in.	46-1/4 in.	45-1/4 in.
Quill Diameter	2.448 in.	2.455 in.	2.010 in.
Table Information			
Max. Table Tilt (Left/Right)	45 deg.		
Table Swivel Around Center	360 deg.		
Table Swivel Around Column	360 deg.		
Max. Movement of Work Table	13-3/4 in.	25-15/16 in.	23-3/16 in.
Table Length	11-3/16 in.		14 in.
Table Width	11-3/16 in.		14 in.
Table Thickness	1-3/16 in.		1-1/4 in.
Number of T-Slots	4		
T-Slot Size	5/8 in.		
T-Slot Centers	2-11/16 in.		2-3/8 in.
Floor-To-Table Height	11 - 24-3/4 in.	22 - 47-15/16 in.	22 - 45-3/16 in.
Construction			
Table	Precision-Ground Cast Iron		
Column	Steel		
Spindle Housing	Cast Iron		
Head	Cast Iron		
Base	Cast Iron		
Paint Type/Finish	Powder Coated/Enamel		



Model Number	T33959	T33960	T33961
Other Related Information			
Base Length	19-1/2 in.		22-7/8 in.
Base Width	11-3/8 in.		16-3/8 in.
Column Diameter	2-7/8 in.		3-1/8 in.
Depth Stop Type	Threaded Rod w/Positive Stop		
Has Work Light	Yes		
Light Socket Type	3.5V LED		
Maximum Bulb Wattage	1W		
Has Laser Guide	Yes		
Laser Classification	Class II		
Laser Wavelength	640 - 660nm		
Laser Maximum Output	2mW		
Other Specifications			
Country of Origin	China		
Warranty	1 Year		
Approximate Assembly & Setup Time	20 Minutes	25 Minutes	30 Minutes
Serial Number Location	Machine ID Label		
ISO 9001	Yes		



SECTION 1: SAFETY

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

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



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



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



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

NOTICE

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

Safety Instructions for Machinery

WARNING

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

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

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

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

ELECTRICAL EQUIPMENT INJURY RISKS.

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

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

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



WARNING

WEARING PROPER APPAREL. Do not wear loose clothing, gloves, neckties, 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 Drill Presses

WARNING

Serious injury or death can occur from getting clothing, jewelry, or long hair entangled in rotating spindle or bit/cutting tool. Contact with rotating bit/cutting tool can result in severe cuts or amputation of fingers. Flying metal chips can cause blindness or eye injuries. Broken bits/cutting tools, unsecured workpieces, chuck keys, or other adjustment tools thrown from rotating spindle can strike nearby operator or bystanders with deadly force. To reduce the risk of these hazards, operator and bystanders **MUST** completely heed hazards and warnings below.

EYE/FACE/HAND PROTECTION. Flying chips created by drilling can cause eye injuries or blindness. Always wear a face shield in addition to safety glasses. Always keep hands and fingers away from drill bit/cutting tool. Avoid awkward hand positions, where a sudden slip could cause hand to move into bit/cutting tool.

AVOIDING ENTANGLEMENT. DO NOT wear loose clothing, gloves, or jewelry. Tie back long hair. Keep all guards in place and secure. Always allow spindle to stop on its own. DO NOT stop spindle using your hand or any other object.

REMOVING ADJUSTMENT TOOLS. Chuck key, wrenches, and other tools left on machine can become deadly projectiles when spindle is started. Remove all loose items or tools used on spindle immediately after use.

CORRECT SPINDLE SPEED. Using wrong spindle speed can cause bits/cutting tools to break and strike operator or bystanders. Follow recommended speeds and feeds for each size/type of bit/cutting tool and workpiece material.

SECURING BIT/CUTTING TOOL. Firmly secure bit/cutting tool in chuck so it cannot fly out of spindle during operation or startup.

DRILLING PREPARATION. To avoid loss of drilling control or bit breakage, only drill into a flat surface that is approximately perpendicular to bit. Clear table of all objects before starting spindle. Never start spindle with bit pressed against workpiece.

SECURING TABLE AND HEADSTOCK. To avoid loss of control leading to accidental contact with tool/bit, tighten all table and headstock locks before operating drill press.

WORKPIECE CONTROL. An unsecured workpiece may unexpectedly shift, spin out of control, or be thrown if bit/cutting tool “grabs” during operation. Clamp workpiece to table or in table-mounted vise, or brace against column to prevent rotation. NEVER hold workpiece by hand during operation. NEVER start machine with bit/cutting tool touching workpiece; allow spindle to gain full speed before drilling.

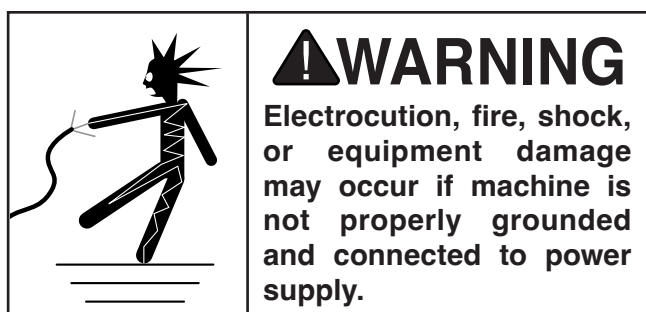
INSPECTING BIT/CUTTING TOOL. Damaged bits/cutting tools may break apart during operation and hit operator or bystanders. Dull bits/cutting tools increase cutting resistance and are more likely to grab and spin/throw workpiece. Always inspect bits/cutting tools for sharpness, chips, or cracks before each use. Replace dull, chipped, or cracked bits/cutting tools immediately.



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.

T33959/T33960 8.9 Amps
T33961 11.9 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.

120V Circuit Requirements

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

Nominal Voltage 110V, 115V, 120V
Cycle 60 Hz
Phase Single-Phase
Power Supply Circuit 15 Amps
Plug/Receptacle NEMA 5-15

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

! CAUTION

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

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



Grounding & Plug Requirements

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

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug. Only insert plug into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances. **DO NOT** modify the provided plug!

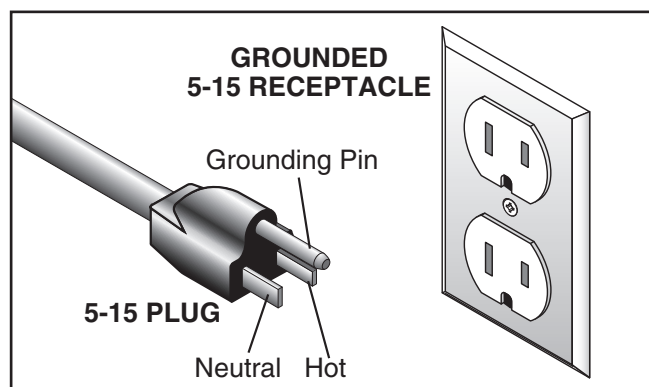
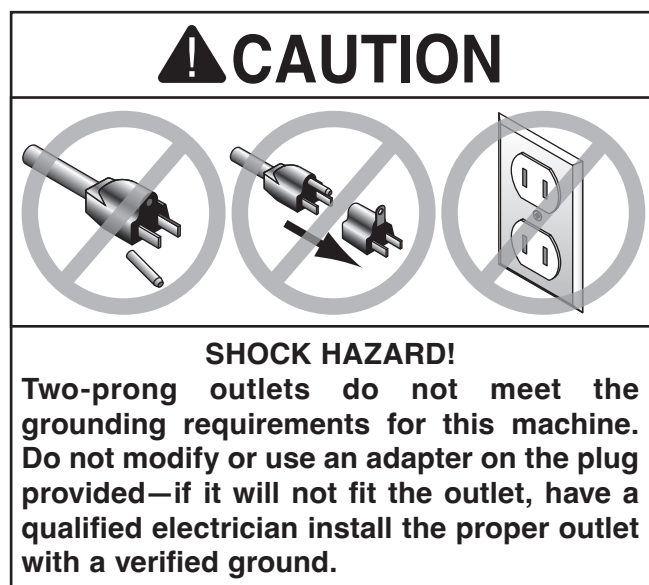


Figure 11. Typical 5-15 plug and receptacle.



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.

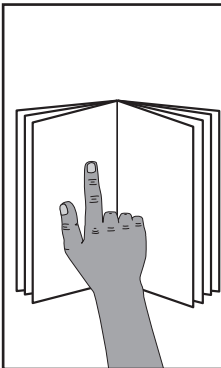
Extension cords cause voltage drop, which can damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

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 Size16 AWG
Maximum Length (Shorter is Better).....50 ft.

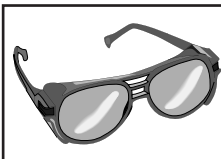


SECTION 3: SETUP



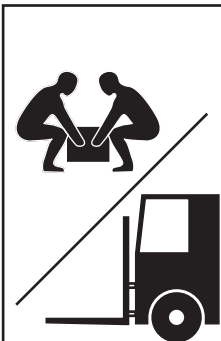
!WARNING

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



!WARNING

Wear safety glasses during the entire setup process!



!WARNING

HEAVY LIFT!
Straining or crushing injury may occur from improperly lifting machine or some of its parts. To reduce this risk, get help from other people and use a forklift (or other lifting equipment) rated for weight of this machine.

Needed for Setup

The following items are needed, but not included, for the setup/assembly of this machine.

Description	Qty
• Another Person	1
• Safety Glasses (for each person).....	1
• Cleaner/Degreaser	As Needed
• Acetone or Lacquer Thinner.....	As Needed
• Disposable Rags	As Needed
• Disposable Gloves	As Needed
• Mounting Hardware	As Needed
• Wrench or Socket 8mm.....	1
• Wrench or Socket 5/8" (T33959/T33960)	1
• Wrench or Socket 18mm (T33961)	1
• Open-End Wrench 10mm.....	1
• Phillips Head Screwdriver #2	1
• Measuring Tape or Ruler.....	1
• Marker	1
• Plumb Bob.....	1
• Block of Wood	1

Unpacking

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

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



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.

Loose Items (Figure 12)	Qty
A. Headstock	1
B. Table Height Crank.....	1
C. Column Assembly	1
D. Table.....	1
E. Chip Guard Rail.....	1
F. Chip Guard	1
G. Belt Cover Knob	1
H. Folding Handle M12-1.75 x 35	1
I. Folding Handle M10-1.5 x 25.....	1
J. Base	1
K. Downfeed Handles	3
L. Spindle Speed Lever.....	1
M. Drift Key.....	1
N. Hex Wrenches 3, 4, 5mm.....	1 Ea.
O. Drill Chuck $\frac{5}{8}$ " JT3	1
P. Arbor MT#2 x JT3	1
Q. Drill Chuck Key.....	1
R. Hex Bolts M10-1.5 x 40 (T33959/T33960) .	4
Hex Bolts M12-1.75 x 40 (T33961)	4

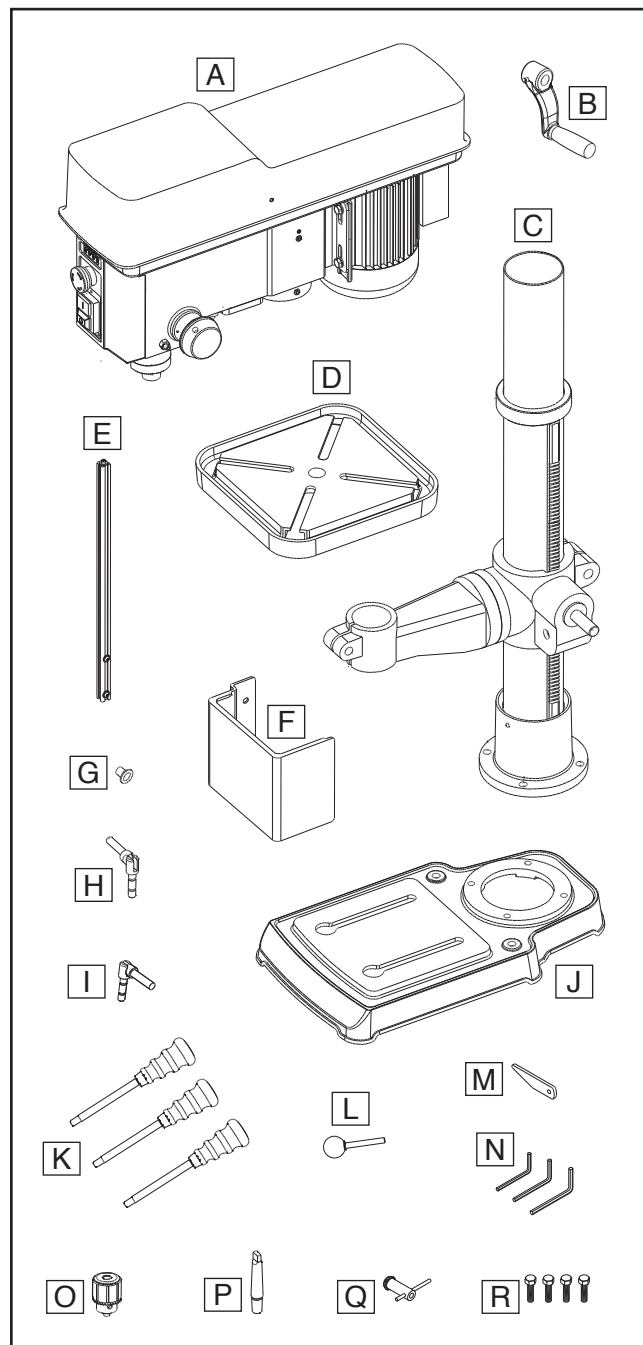


Figure 12. Inventory (T33959 shown).



Hardware Recognition Chart

USE THIS CHART TO MATCH UP
HARDWARE DURING THE INVENTORY
AND ASSEMBLY PROCESS.

MEASURE BOLT DIAMETER BY PLACING INSIDE CIRCLE

#10

1/4"

5/16"

3/8"

7/16"

1/2"

4mm

5mm

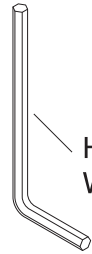
6mm

8mm

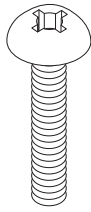
10mm

12mm

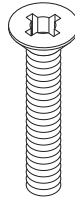
16mm



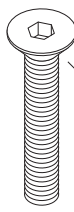
Hex
Wrench



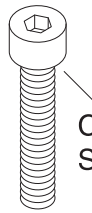
Phillips
Head
Screw



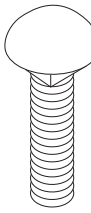
Flat
Head
Screw



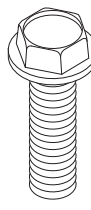
Flat
Head
Cap
Screw



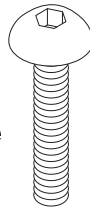
Cap
Screw



Carriage
Bolt



Flange
Bolt



Button
Head
Screw



Tap
Screw



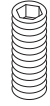
External
Retaining
Ring



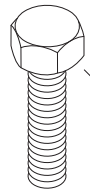
Internal
Retaining
Ring



E-Clip



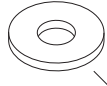
Set
Screw



Hex
Bolt



Key



Flat Washer

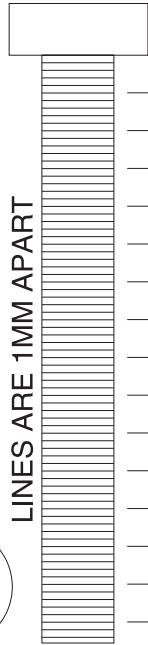


Lock
Washer



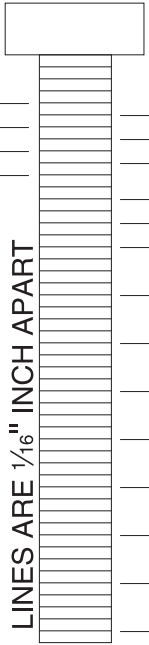
Hex
Nut

LINES ARE 1MM APART



5mm
10mm
15mm
20mm
25mm
30mm
35mm
40mm
45mm
50mm
55mm
60mm
65mm
70mm
75mm

LINES ARE 1/16" INCH APART



1/4"
3/8"
1/2"
5/8"
5/16"
7/16"
9/16"
3/4"
7/8"
1"
1 1/4"
1 1/2"
1 3/4"
2
2 1/4"
2 1/2"
2 3/4"
3

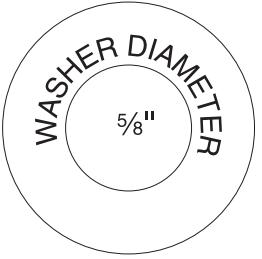
WASHERS ARE MEASURED BY THE INSIDE DIAMETER



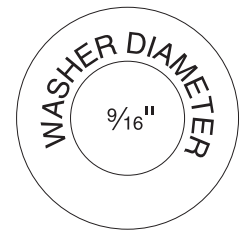
Lock
Nut



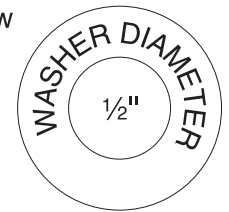
Wing
Nut



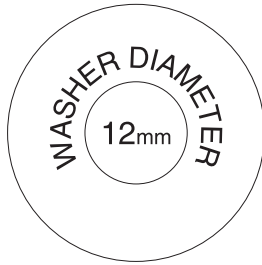
WASHER DIAMETER
5/8"



WASHER DIAMETER
9/16"



WASHER DIAMETER
1/2"



WASHER DIAMETER
12mm



WASHER DIAMETER
7/16"



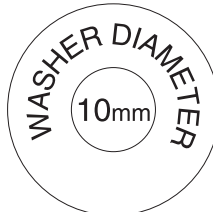
WASHER DIAMETER
3/8"



WASHER DIAMETER
4mm



WASHER DIAMETER
5/16"



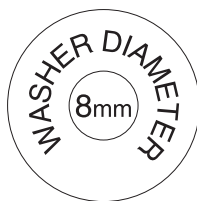
WASHER DIAMETER
10mm



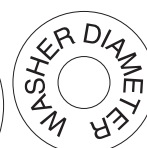
WASHER DIAMETER
5mm



WASHER DIAMETER
1/4"



WASHER DIAMETER
8mm



WASHER DIAMETER
6mm



WASHER DIAMETER
#10



Cleanup

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

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

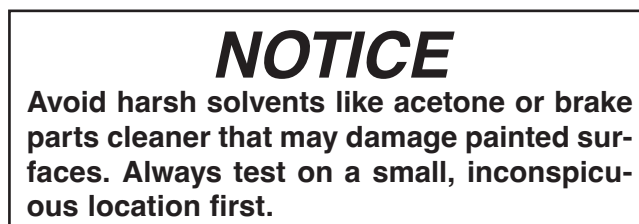
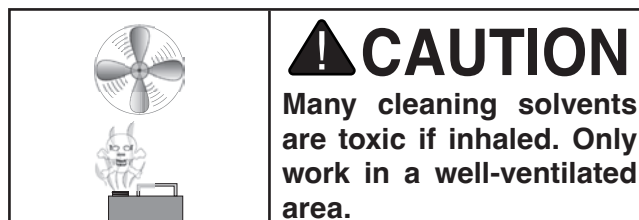
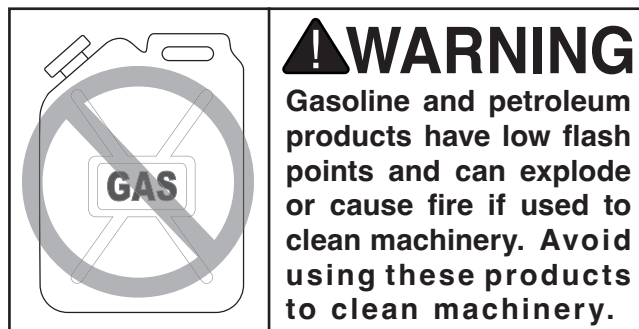
There are many ways to remove this rust preventative, but the following steps work well in a wide variety of situations. Always follow the manufacturer's instructions with any cleaning product you use and make sure you work in a well-ventilated area to minimize exposure to toxic fumes.

Before cleaning, gather the following:

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

Basic steps for removing rust preventative:

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



T23692—Orange Power Degreaser

A great product for removing the waxy shipping grease from the **non-painted** parts of the machine during clean up.



Figure 13. T23692 Orange Power Degreaser.



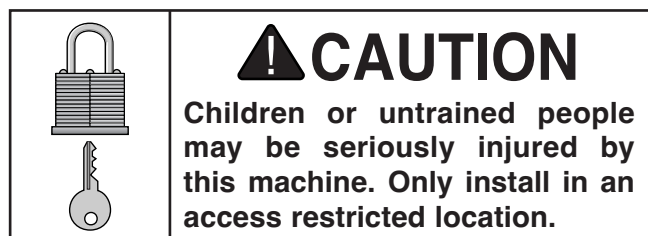
Site Considerations

Weight Load

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

Space Allocation

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



Physical Environment

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

Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave enough space around machine to disconnect power supply or apply a lockout/tagout device, if required.

Lighting

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

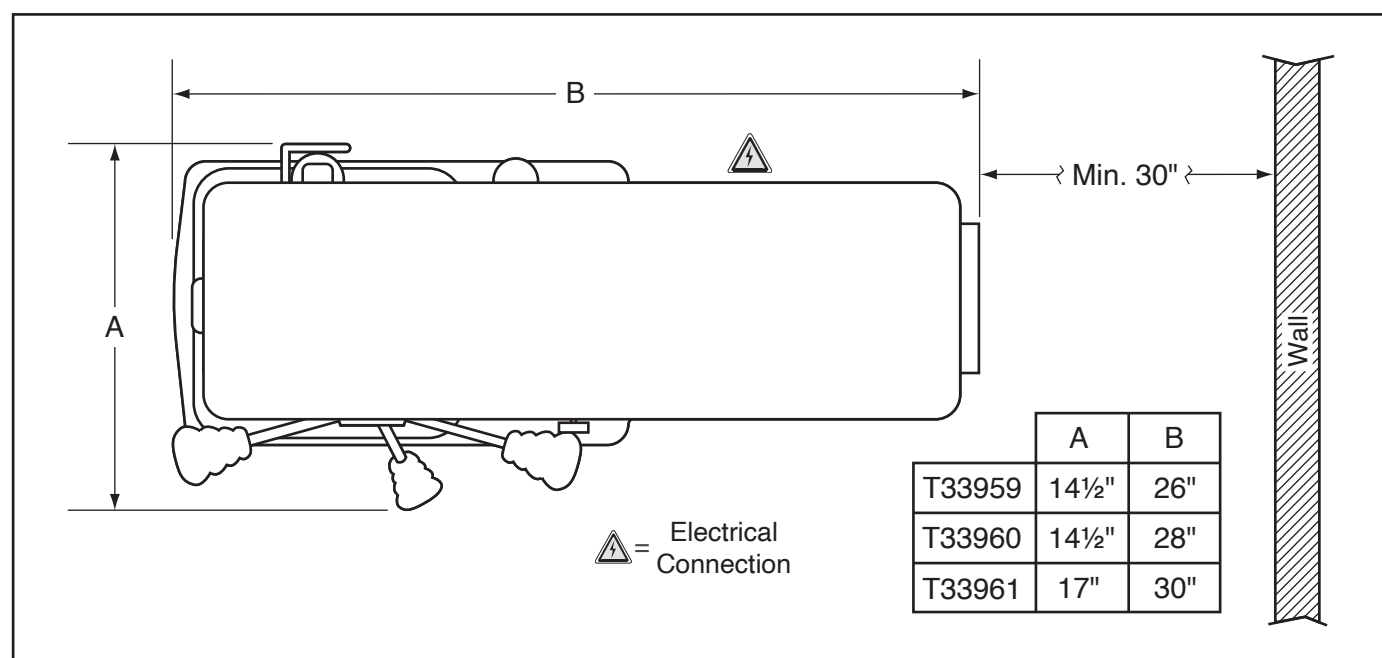


Figure 14. Minimum working clearances.



Bench Mounting (T33959)

Number of Mounting Holes 2
Diameter of Mounting Hardware Needed .. 1/2"

The Model T33959 base has holes that allow it to be fastened to a workbench or other mounting surface to prevent it from moving during operation and causing accidental injury or damage.

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

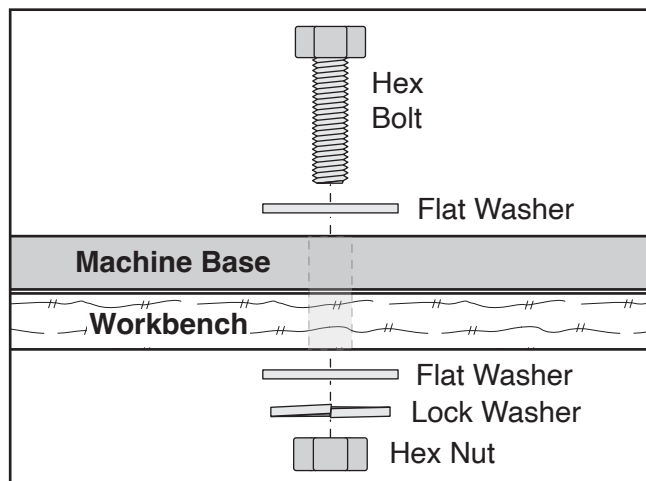


Figure 15. "Through Mount" setup.

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

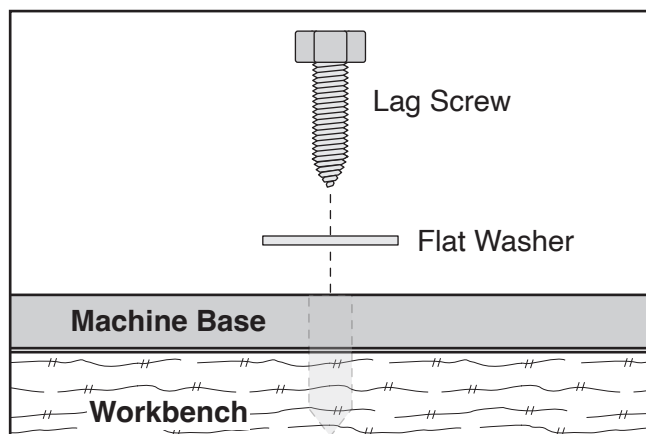


Figure 16. "Direct Mount" setup.

Anchoring to Floor (T33960/T33961)

Number of Mounting Holes
T33960 2
T33961 4
Diameter of Mounting Hardware..... 1/2"

Anchoring machinery to the floor prevents tipping or shifting and reduces vibration that may occur during operation, resulting in a machine that runs slightly quieter and feels more solid.

If the machine will be installed in a commercial or workplace setting, or if it is permanently connected (hardwired) to the power supply, local codes may require that it be anchored to the floor.

If not required by any local codes, fastening the machine to the floor is an optional step. If you choose not to do this with your machine, we recommend placing it on machine mounts, as these provide an easy method for leveling and they have vibration-absorbing pads.

Anchoring to Concrete Floors

Lag shield anchors with lag screws (see below) are a popular way to anchor machinery to a concrete floor, because the anchors sit flush with the floor surface, making it easy to unbolt and move the machine later, if needed. However, anytime local codes apply, you **MUST** follow the anchoring methodology specified by the code.

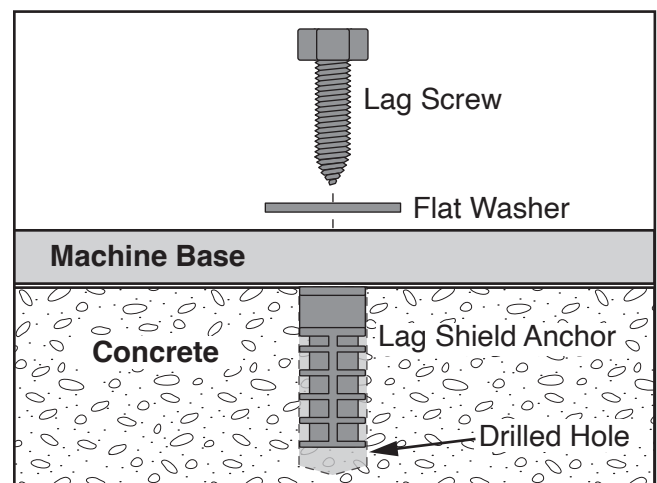


Figure 17. Popular method for anchoring machinery to a concrete floor.



Assembly

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

To assemble machine:

1. **T33959/T33960:** Attach column assembly to base with (4) M10-1.5 x 40 hex bolts (see **Figure 18**).

T33961: Attach column assembly to base with (4) M12-1.75 x 40 hex bolts (see **Figure 18**).

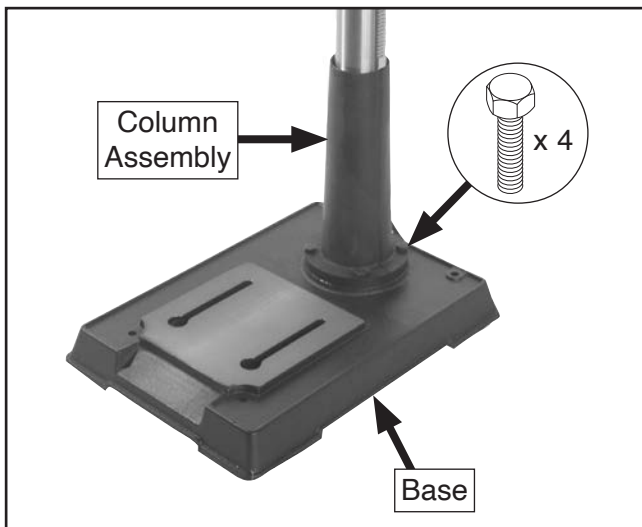


Figure 18. Column assembly attached to base (T33961 shown).

2. Remove Phillips head screw from belt cover knob, then use screw to install knob on belt cover, as shown in **Figure 19**.

3. With help, carefully lift headstock and slide it onto column (see **Figure 19**).

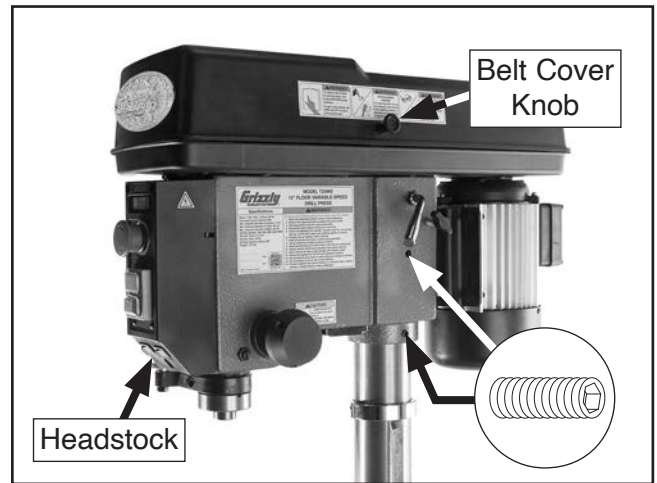


Figure 19. Belt cover knob installed and headstock placed on column (T33960 shown).

4. Use measuring tape or ruler to find and mark center of base, then suspend plumb bob from center of headstock spindle over base, as shown in **Figure 20**.

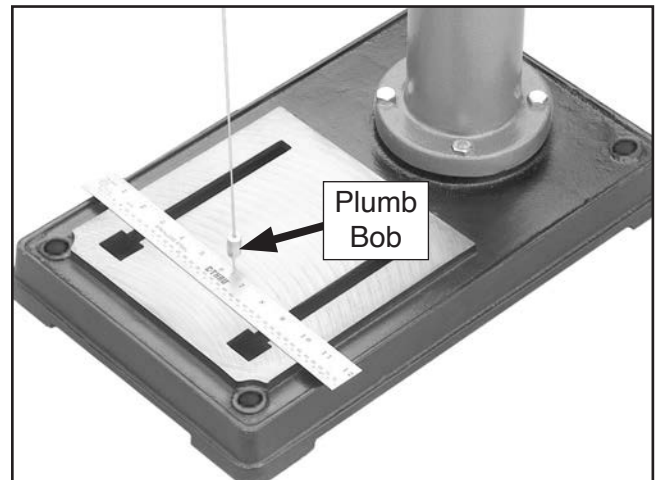


Figure 20. Example of aligning headstock with center of base.

5. Adjust headstock on column until it is directly over center of base, as indicated by plumb bob, then secure headstock by tightening (2) set screws shown in **Figure 19**.



6. Install table height crank over worm shaft in table bracket shown in **Figure 21**, then tighten set screw in crank against flat part of shaft to secure.
7. Thread M12-1.5 x 50 folding handle into table bracket (see **Figure 21**), and tighten until table bracket will not move.

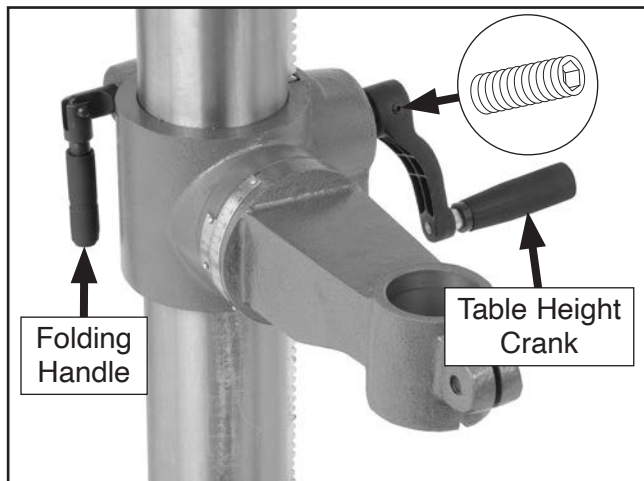


Figure 21. Example of table height crank and folding handle installed.

8. Insert table shaft into table mounting arm (see **Figure 22**), and thread M10-1.5 x 35 folding handle into table bracket until table is secure.

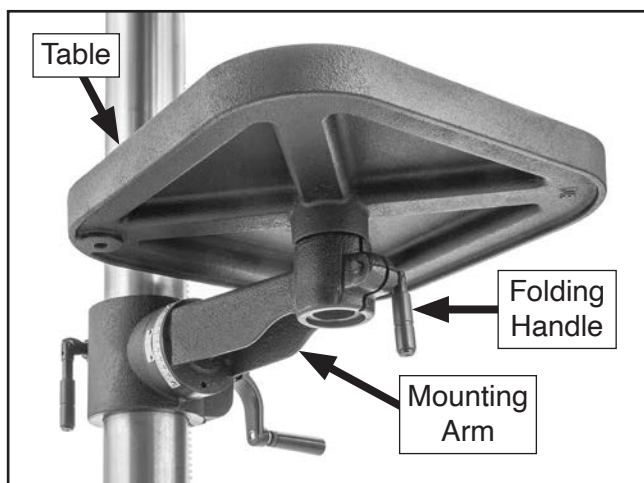


Figure 22. Table and table swivel lock handle installed (T33961 shown).

9. Remove (2) Phillips head screws, (4) flat washers, and (2) hex nuts from chip guard rail, then use fasteners to attach chip guard to chip guard rail, as shown in **Figure 23**.
10. Remove chip guard rail cap screw and flat washer shown in **Figure 23**.

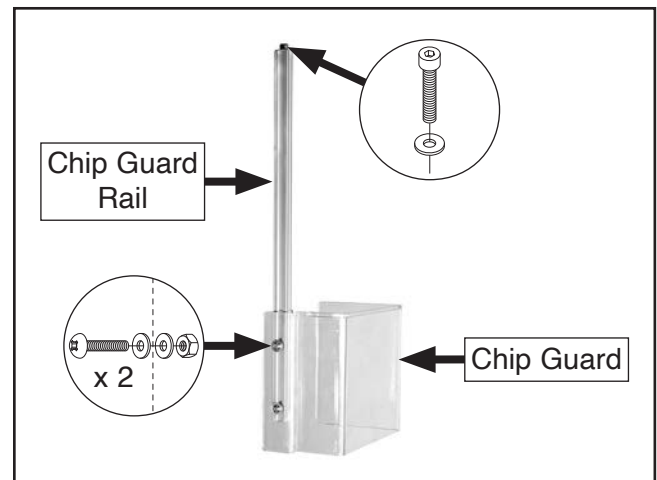


Figure 23. Chip guard attached to rail and location of rail cap screw and flat washer.

11. Loosen chip guard lock knob (see **Figure 24**), insert chip guard rail through bottom of mount on side of headstock, then tighten lock knob to secure.

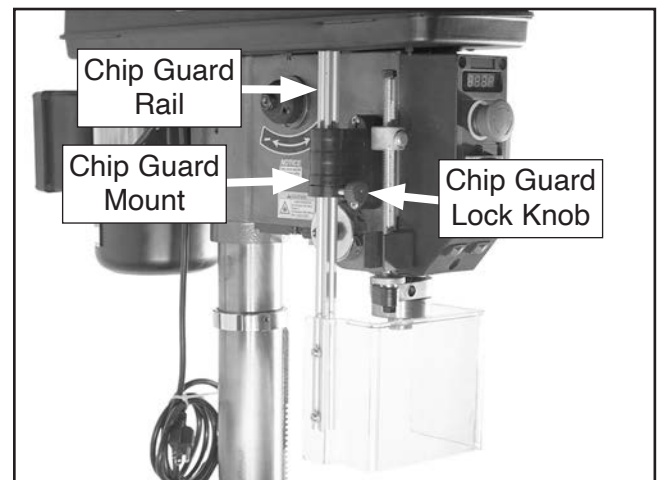


Figure 24. Chip guard rail inserted through mount (T33960 shown).



12. Install cap screw and flat washer removed in **Step 10**.
13. Thread spindle speed lever into speed adjustment hub (see **Figure 25**).

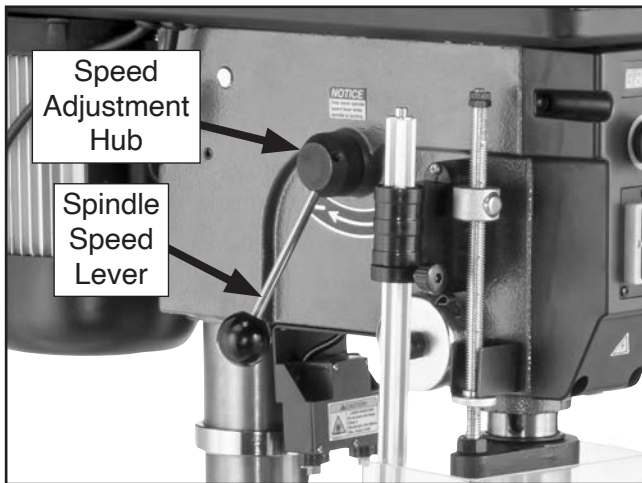


Figure 25. Spindle speed lever installed (T33961 shown).

14. Thread downfeed handles into spindle hub (see **Figure 26**).

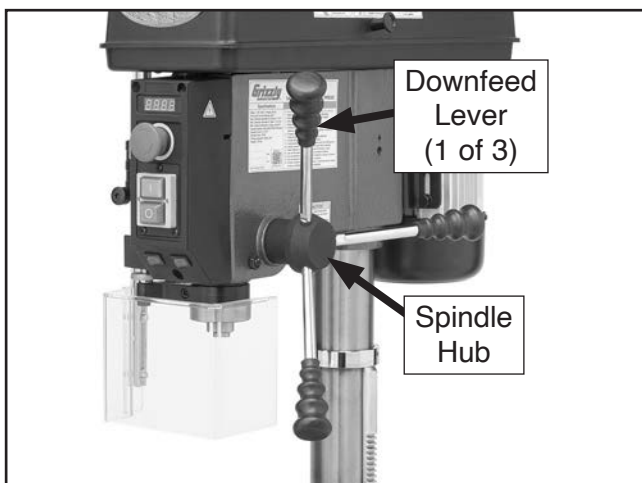


Figure 26. Downfeed handles installed (T33959 shown).

Joining Drill Chuck & Arbor

An arbor is included for the drill chuck that comes with this machine. The following procedure describes how to install the arbor in the chuck.

After the arbor is installed in the drill chuck, it is very difficult to separate the assembly. If you would like to use a different chuck in the future, we recommend obtaining a new arbor.

IMPORTANT: DO NOT install the drill chuck and arbor assembly into the spindle until **AFTER** the test run.

To join drill chuck and arbor:

1. Use acetone or lacquer thinner to clean drill chuck and arbor mating surfaces, especially the bore.
2. Retract chuck jaws completely into chuck.
3. Insert small end of arbor into chuck.
4. Hold assembly by the arbor and tap chuck onto a block of wood with medium force, as illustrated below.

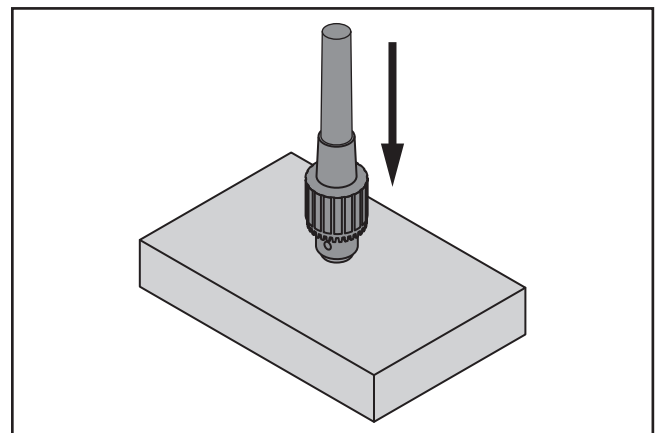


Figure 27. Tapping drill chuck/arbor on block of wood.

5. Attempt to separate drill chuck and arbor by hand—if they separate, repeat **Steps 3–4**.



Test Run

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

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

The Test Run consists of verifying the following: 1) The motor powers up and runs correctly, 2) the chuck guard safety switch disables the machine properly, and 3) the Emergency Stop button disables the machine properly.

WARNING

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

WARNING

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

To test run machine:

1. Clear all setup tools away from machine.
2. Press Emergency Stop button (see **Figure 28**).

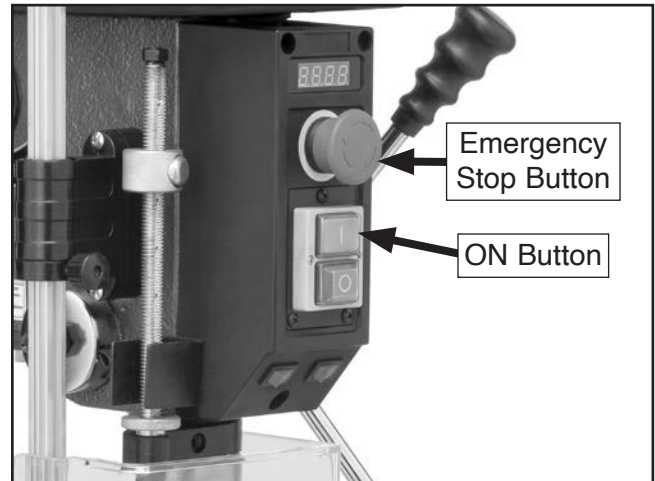


Figure 28. Location of power controls (T33959 shown).

3. Connect machine to power supply.

Note: Spindle speed digital readout will not illuminate until **Step 4** is completed.

4. Twist Emergency Stop button clockwise until it springs out (see **Figure 29**). This resets switch so machine can start.



Figure 29. Resetting Emergency Stop button.

5. Press green ON button (I) to start spindle rotation (see **Figure 28**). Verify motor starts up and runs smoothly without any unusual problems or noises.



6. While being careful to avoid rotating spindle, pivot chip guard forward and away from spindle (see **Figure 30**). Spindle should stop rotating.

- If spindle *does not* stop, immediately turn machine **OFF** and disconnect power. Safety feature of chip guard safety switch is NOT working properly and must be replaced before further using machine.

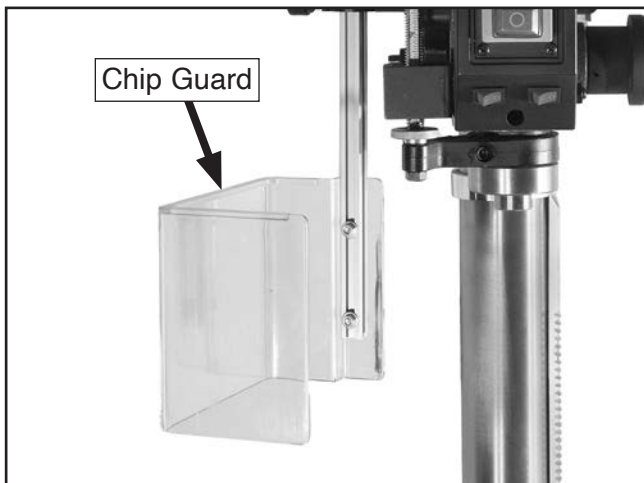


Figure 30. Chip guard pivoted away from spindle (T33960 shown).

7. Without pivoting chip guard back in place, try to start spindle rotation by pressing ON button.

- If spindle *does not* start, safety feature of chip guard is working correctly. Proceed to **Step 8**.
- If spindle *does* start, immediately turn machine **OFF** and disconnect power. Safety feature of chip guard safety switch is NOT working properly and must be replaced before further using machine.

8. Pivot chip guard back into place.

9. Press ON button.

10. Press Emergency Stop button to turn machine **OFF**.

11. WITHOUT resetting Emergency Stop button, try to turn machine **ON** by pressing ON button. Machine should not start.

- If machine *does not* turn **ON**, safety feature of Emergency Stop button is working correctly. Congratulations! Test Run is complete. For Model T33960/T33961 only, complete **Spindle Break-In** on **Page 26** before proceeding with operations.

- If machine *does* turn **ON**, immediately turn it **OFF** and disconnect power. Safety feature of Emergency Stop button is NOT working properly and must be replaced before further using machine.



Spindle Break-In (T33960/T33961)

The spindle break-in procedure distributes lubrication throughout the bearings to reduce the risk of early bearing failure if there are any "dry" spots or areas where lubrication has settled in the bearings. You **must** complete this procedure **before** placing operational loads on the spindle for the first time when the machine is new or if it has been sitting idle for longer than 6 months.

Always start the spindle break-in at the lowest speed to minimize wear if there *are* dry spots. Allow the spindle to run long enough to warm up and distribute the bearing grease, then incrementally increase spindle speeds and repeat this process at each speed until reaching the maximum spindle speed. Following the break-in procedure in this progressive manner helps minimize any potential wear that could occur before lubrication is fully distributed.

NOTICE

Complete spindle bearing break-in procedure to prevent rapid wear and tear of spindle components once drill press is placed into operation.

To perform spindle break-in:

1. Make sure spindle area is free of obstructions.
2. Connect machine to power and start spindle rotation.
3. Move spindle speed lever (see **Figure 31**) toward motor as far as it will go to set spindle to lowest speed in speed range. Allow spindle to run at this speed for 10 minutes.

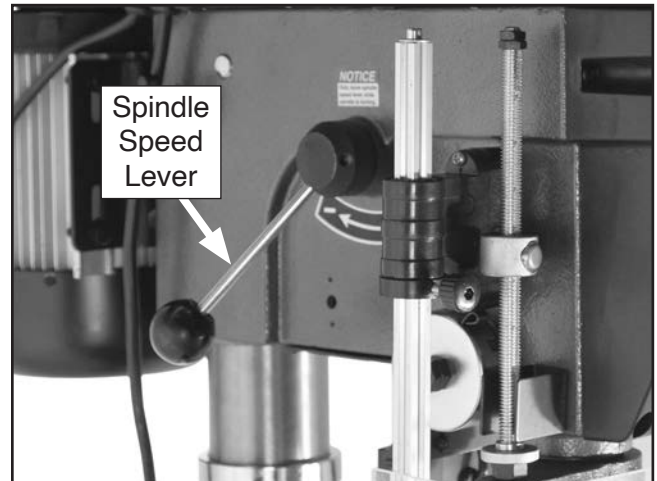


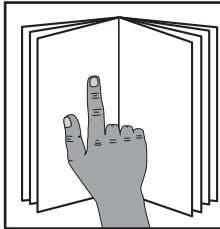
Figure 31. Location of spindle speed lever (T33961 shown).

4. Move spindle speed lever away from motor so it points straight down to set spindle to middle speed in speed range. Allow spindle to run at this speed for 5 minutes.
5. Move spindle speed lever as far away from motor as it will go to set spindle to highest speed in speed range. Allow spindle to run at this speed for 5 minutes.
6. Turn machine **OFF**, allow spindle to come to complete stop, then **DISCONNECT MACHINE FROM POWER!**
7. Use V-belt to adjust machine to high spindle speed range (refer to **Changing Spindle Speed Range** on **Page 31**).
8. Repeat **Steps 3–5** for high speed range.
9. Turn machine **OFF**.

Congratulations! Spindle break-in is now complete.



SECTION 4: OPERATIONS

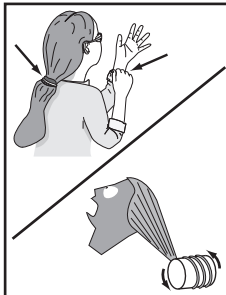
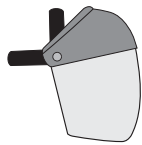


!WARNING

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

!WARNING

To reduce risk of eye or face injury from flying chips, always wear approved safety glasses and a face shield when operating this machine.



!WARNING

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.

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, seek additional training from experienced machine operators, and do additional research outside of this manual by reading "how-to" books, trade magazines, or websites.

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

1. Examines workpiece to make sure it is suitable for drilling.
2. Puts on required safety glasses and face shield.
3. Firmly secures workpiece to table using vise or T-slot clamps.
4. Installs correct drill bit for operation.
5. Adjusts table to correct height and tilt, then locks it in place.
6. Selects appropriate spindle speed according to drill bit speed chart located on **Page 30**.
7. **T33960/T33961 Only:** Configures machine for appropriate spindle speed range.
8. Connects machine to power, starts spindle rotation, and uses spindle speed lever to set spindle speed.
9. Performs drilling operation.
10. When finished, turns machine **OFF** and disconnects it from power.



Installing/Removing Arbor

Usually, once the chuck and arbor have been properly mounted together, they are considered semi-permanent connections. If you would like to install a different chuck, we recommend getting a new arbor for that chuck.

Installing Arbor in Spindle

Items Needed	Qty
Acetone or Lacquer Thinner.....	As Needed
Rubber Mallet	1

To install arbor in spindle:

1. DISCONNECT MACHINE FROM POWER!
2. Pivot chip guard out of the way.
3. Join chuck and arbor (refer to **Joining Drill Chuck & Arbor** on **Page 23**).
4. Rotate chuck on arbor until chuck jaws retract into drill chuck body.
5. Use acetone or lacquer thinner to clean mating surfaces of arbor and spindle socket.
6. Slide arbor into spindle socket while slowly rotating chuck to line up tang on arbor with slot in socket (see **Figure 32**).

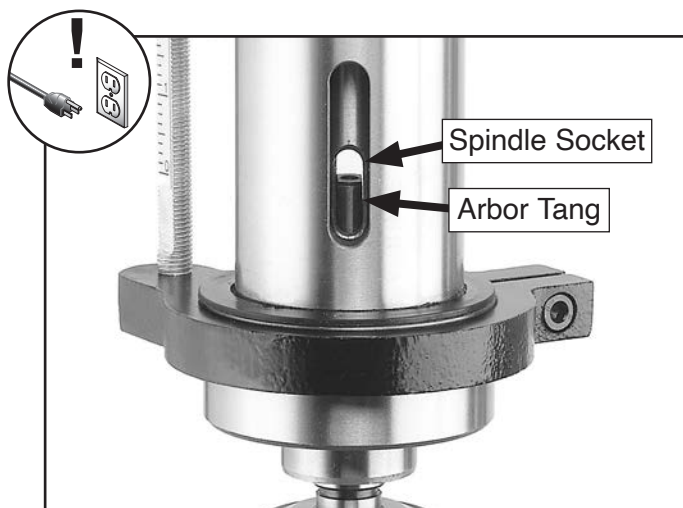


Figure 32. Example of arbor tang lined up with spindle socket.

7. Strike face of chuck from below with rubber-faced mallet to seat arbor in spindle.
8. Check seat by gently pulling down on chuck.
9. Pivot chip guard back into place.

Removing Arbor from Spindle

The arbor can be removed to install other Morse Taper #2 tooling in the spindle. A drift key is included to help remove the arbor or other tooling from the spindle.

Items Needed	Qty
Drift Key.....	1
Metal Hammer	1
Towel or Cloth.....	As Needed

To remove arbor from spindle:

1. DISCONNECT MACHINE FROM POWER!
2. Rotate downfeed handles until drift key slot is exposed in side of quill (see **Figure 33**).
3. Adjust feed return stop nut shown in **Figure 33** so it touches stop bracket. Quill should not return up into head casting when depth stop is adjusted this way.

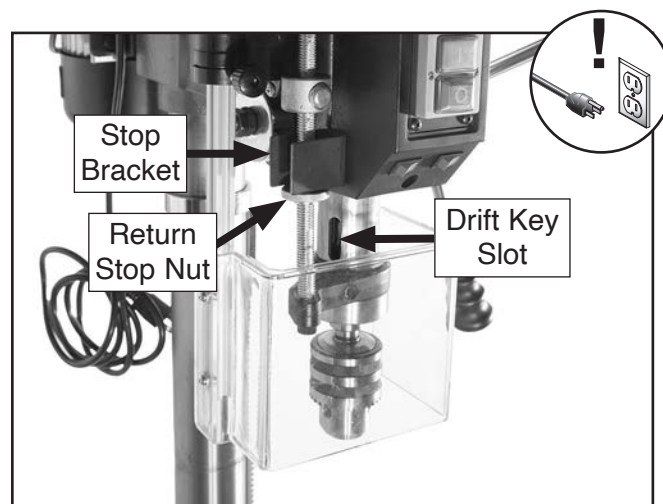


Figure 33. Feed return stop nut adjusted to keep drift key slot exposed (T33960 shown).

4. Pivot chip guard out of the way.
5. Move table up until it is 1/4" below bottom of chuck, and place towel or cloth under chuck.



6. Rotate spindle until inner drift key slot is aligned with outer slot (see **Figure 34**). You will see through spindle when slot is properly aligned.

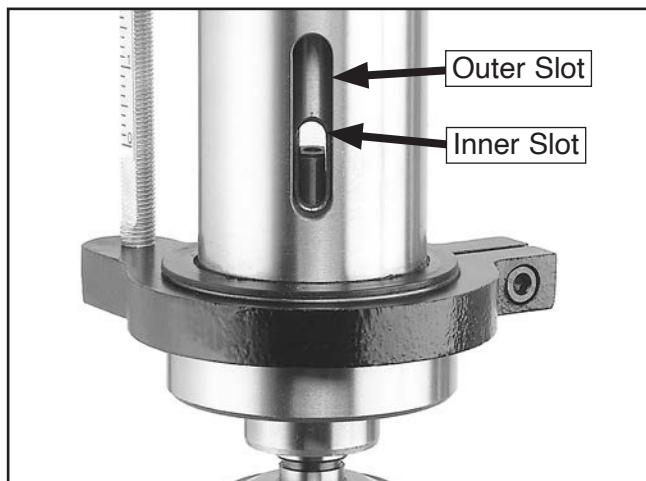


Figure 34. Example of inner and outer drift key slots aligned.

7. Insert drift key into drift key slot, then tap drift key with metal hammer (see **Figure 35**) until chuck releases.



Figure 35. Example of using drift key to remove arbor from spindle.

8. Hold downfeed handle with one hand, and adjust feed return stop back to bottom of depth stop with the other hand so quill can fully retract back into headstock.
9. Pivot chip guard back into place.

Installing/Removing Drill Bits

Any drill bit you install in the chuck must be tight enough that it will not come loose during operation.

Items Needed

Qty

Chuck Key	1
Rag	1

Installing Drill Bit

1. DISCONNECT MACHINE FROM POWER!
2. Open drill chuck wide enough to accept shank of drill bit.
3. Insert drill bit as far as possible into chuck WITHOUT allowing chuck jaws to touch fluted portion of bit, then hand-tighten chuck.

Note: Make sure small bits are not trapped between edges of two jaws; if they are, re-install drill bit or it will not be secure enough to use for drilling.

4. Tighten chuck firmly with chuck key (see **Figure 36**), then remove chuck key from chuck.



Figure 36. Example of tightening chuck.

Removing Drill Bit

1. DISCONNECT MACHINE FROM POWER!
2. Use chuck key to open drill chuck, and catch drill bit with rag to protect hands.



Choosing Spindle Speeds

Using Drill Bit Speed Chart

The chart shown in **Figure 37** is intended as a generic guide only. Always follow the manufacturer's speed recommendations if provided with your drill bits, cutters, or hole saws. Exceeding the recommended speeds may be dangerous to the operator.

The speeds shown here are intended to get you started. The optimum speed will always depend on various factors, including tool diameter, drilling pressure, material hardness, material quality, and desired finish.

Often, when drilling materials other than wood, some type of lubrication is necessary.

Lubrication Suggestions

WoodNone
 PlasticsSoapy Water
 BrassWater-Based Lubricant
 Aluminum..... Paraffin-Based Lubricant
 Mild Steel..... Oil-Based Lubricant

CAUTION

Larger bits turning at slower speeds tend to grab workpiece aggressively. This can result in operator's hand being pulled into bit or workpiece being thrown with great force. Always clamp workpiece to table to prevent reduce risk of injury.

Twist/Brad Point Drill Bits	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
1/16" – 3/16"	3000	2500	2500	2500	3000	2500
13/64" – 3/8"	2000	1500	2000	1250	2500	1250
25/64" – 5/8"	1500	750	1500	750	1500	600
11/16" – 1"	750	500	1000	400	1000	350

Spade/Forstner Bits	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
1/4" – 1/2"	2000	1500				
9/16" – 1"	1500	1250				
1-1/8" – 1-7/8"	1000	750				
2–3"	500	350				

Hole Saws	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
1/2" – 7/8"	500	500	600	600	600	500
1" – 1-7/8"	400	400	500	500	500	400
2" – 2-7/8"	300	300	400	400	400	300
3" – 3-7/8"	200	200	300	300	300	200
4" – 5"	100	100	200	200	200	100

Rosette Cutters	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
Carbide Insert Type	350	250				
One-Piece Type	1800	500				

Tenon/Plug Cutters	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
3/8" – 1/2"	1200	1000				
5/8" – 1"	800	600				

Figure 37. Drill bit speed chart (RPMs).



Changing Spindle Speed

Spindle Speeds

T33959	550–3500 RPM
T33960	200–880, 800–3400 RPM
T33961	200–720, 700–2200 RPM

Changing Spindle Speed

For the Model T33959, adjusting the speed is as simple as moving the spindle speed lever until the digital readout displays the desired speed (see **Figure 38**).

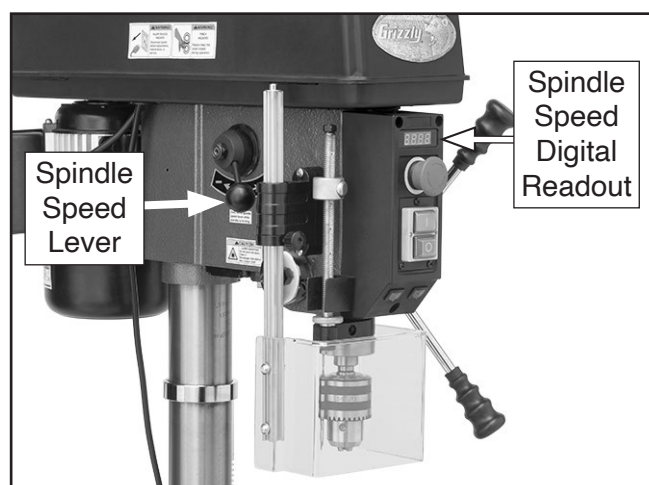


Figure 38. Location of spindle speed lever and digital readout.

Pull the spindle speed lever forward to increase spindle speed. Push the lever backward to decrease spindle speed.

Note: Spindle speed lever should only be adjusted when spindle is running.

The speed of the Model T33960 and Model T33961 is adjusted the same way, but these models are also equipped with an extra pulley and V-belt to achieve two separate speed ranges: low and high. Refer to the following section to change the speed range.

Changing Spindle Speed Range (T33960/T33961 Only)

The speed range of the Model T33960/T33961 is determined by how the drive belt is positioned on the idler and motor pulleys (see **Figure 39**).

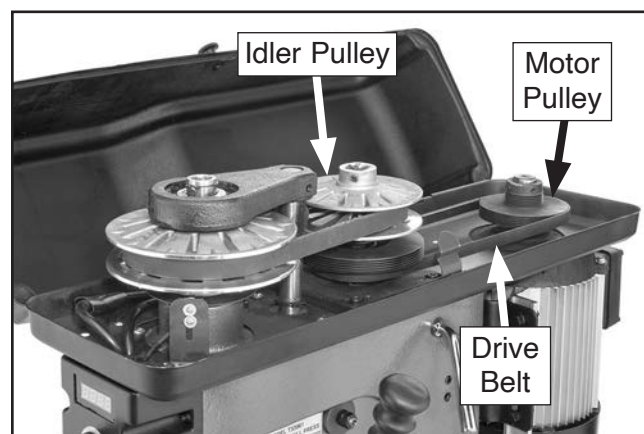


Figure 39. Location of drive belt and speed pulleys (T33961 shown).

The low speed range is obtained when the drive belt is positioned on the upper pulley sheaves, and the high speed range is obtained when the drive belt is positioned on the lower pulley sheaves, as shown in **Figure 40**.

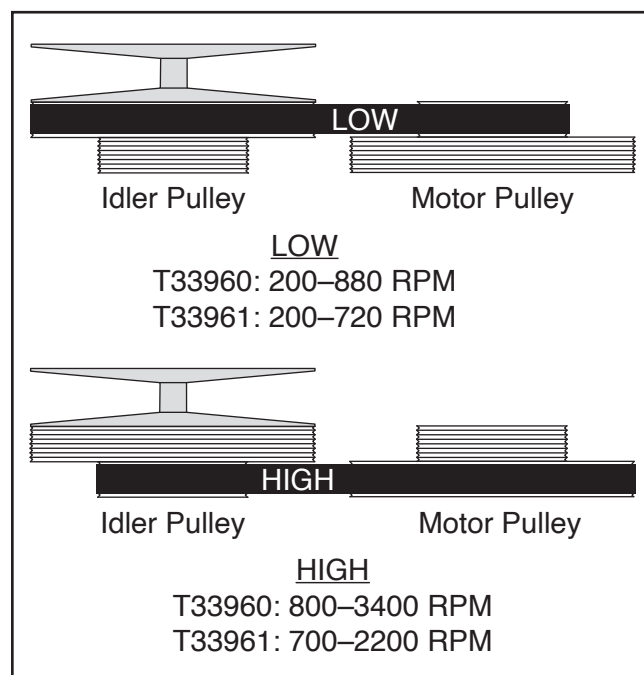


Figure 40. Belt configuration chart.



CAUTION

Use care when handling V-belts as they could pinch your fingers. They may also get hot after extended use, so wait to touch V-belts if drill has been in use.

To change spindle speed range:

1. DISCONNECT MACHINE FROM POWER!
2. Determine correct spindle speed for operation (see **Choosing Spindle Speeds** on **Page 30**).
3. Loosen (2) belt tension locks (see **Figure 41**).
4. Rotate belt tension lever clockwise to take tension off of drive belt (see **Figure 41**).
5. Open belt cover and move drive belt onto desired sheaves on motor and idler pulleys (see **Figures 40–41**).
 - If drive belt is cracked, torn, excessively worn, or damaged, refer to **Replacing V-Belt** on **Page 43** to replace it.

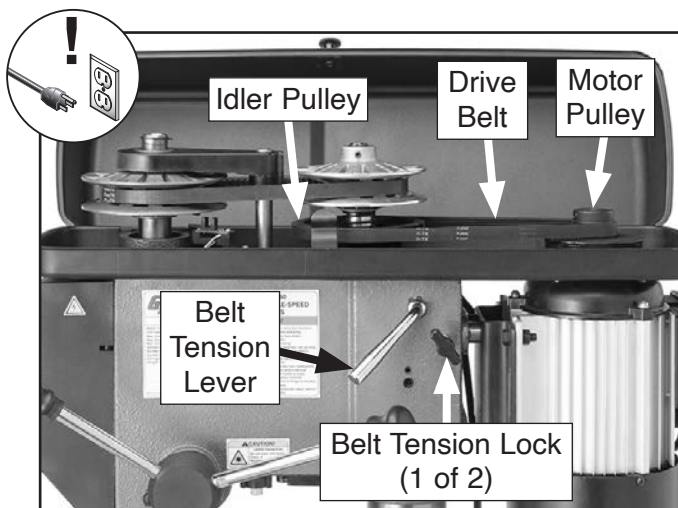


Figure 41. Spindle speed range adjustment components (T33960 shown).

6. Rotate belt tension lever counterclockwise until drive belt is tight.
7. Tighten belt tension locks and close belt cover.

Adjusting Depth Stop

The depth stop allows you to drill repeat non-through holes to the same depth every time. The scale on the front of the depth stop shows the depth in inches.

The depth stop consists of a threaded rod attached to the quill with a depth stop nut that can be lowered or raised against a stop bracket to control drilling depth. **Figure 42** shows the various components of the depth stop.

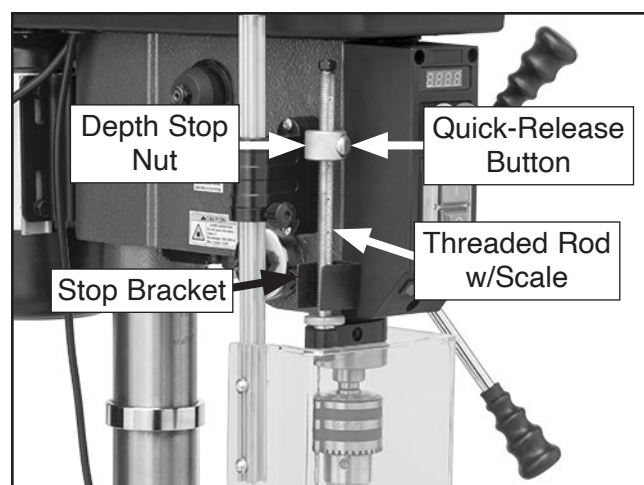


Figure 42. Depth stop components (T33959 shown).

To adjust depth stop:

1. Lower drill bit to required height.
2. Thread depth stop nut down against stop bracket.

Tip: Press quick-release button on depth stop nut to quickly adjust nut up or down on rod.

Note: Scale on depth stop can be calibrated if it gets moved or has changed since factory setting. Refer to **Calibrating Depth Stop** on **Page 45** for instructions on how this is done.



Positioning Table

The table moves vertically, swivels 360° around its center, rotates 360° around the column, and tilts 45° left or right. Remove any loose objects from the table surface before adjusting the table position using the controls shown in **Figure 43**.

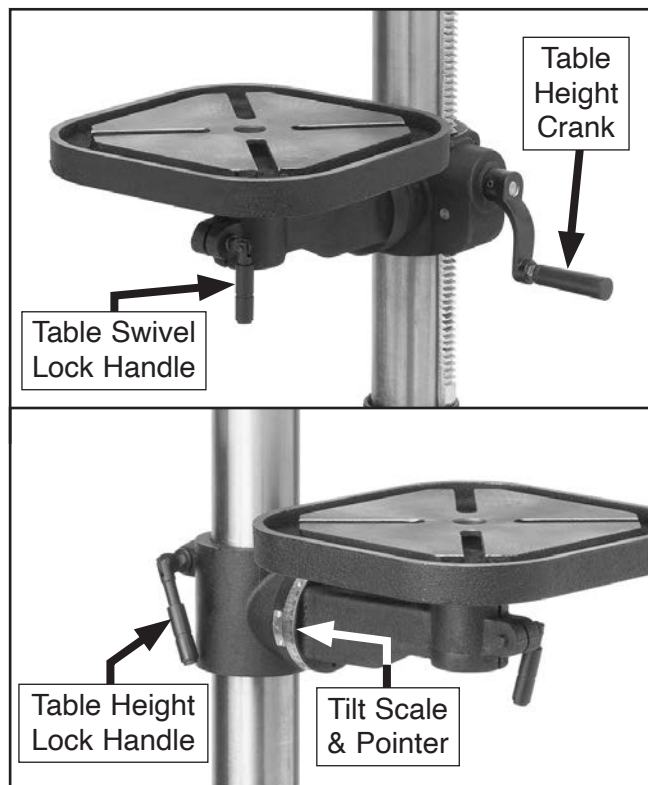


Figure 43. Table adjustment components (T33959 shown).

There is also a set screw under the table that can adjust the table squareness when the tilt is set to 0° (see **Figure 45**). Tighten this screw to reduce the angle of the table in relation to the column.

Raising/Lowering Table

1. Loosen table height lock handle.
2. Raise or lower table by rotating table height crank, then tighten table height lock handle to secure.

Swiveling Table Around its Center

1. Loosen table swivel lock handle.
2. Swivel table to desired position, then tighten table swivel lock handle to secure.

Rotating Table Around Column

1. Loosen table height lock handle.
2. Rotate table to desired location on column, making sure to guide column rack with table (see **Figure 44**), then tighten table height lock handle to secure.

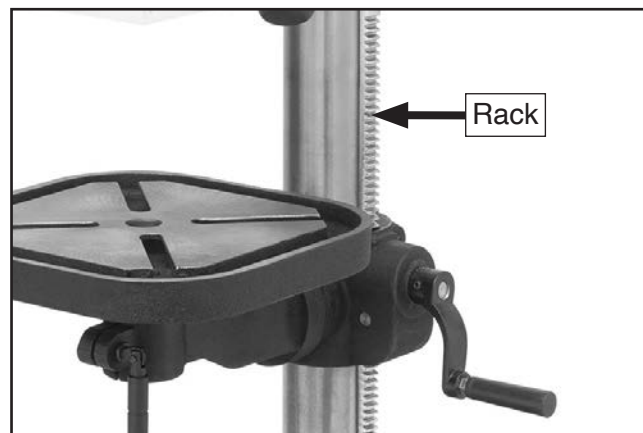


Figure 44. Location of column rack.

Tilting Table

Tools Needed	Qty
Socket 24mm.....	1
Hex Wrench 3mm.....	1

To tilt table:

1. Loosen hex bolt and set screw shown in **Figure 45**.

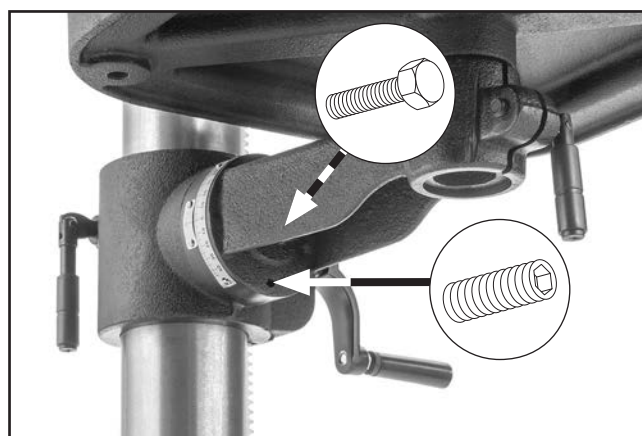


Figure 45. Location of table tilt hex bolt and set screw (hex bolt hidden by table arm).

2. Tilt table until pointer aligns with desired angle on scale.
3. Tighten hex bolt to secure.



Adjusting Laser Guide

The laser guide should be checked and adjusted for accuracy when you change drill bits, raise or lower the table, or change the workpiece thickness.

⚠ CAUTION

DO NOT look directly into laser. Eye injury may result.

Tool Needed	Qty
Phillips Head Screwdriver #1	1

To adjust laser guide:

1. DISCONNECT MACHINE FROM POWER!
2. Install drill bit in chuck (see **Installing/Removing Drill Bit** on **Page 29**).
3. Clamp workpiece to table.
4. Adjust table so workpiece is just below drill bit, then lock table in position.
5. Lower bit so it touches workpiece, making slight indentation in surface, then raise bit.
6. Connect drill press to power. Use laser switch to turn laser guide **ON** (see **Figures 46–47**).

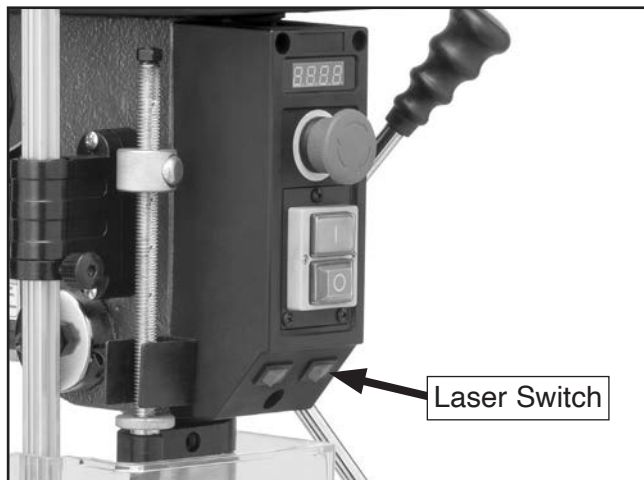


Figure 46. Location of T33959/T33960 laser switch.

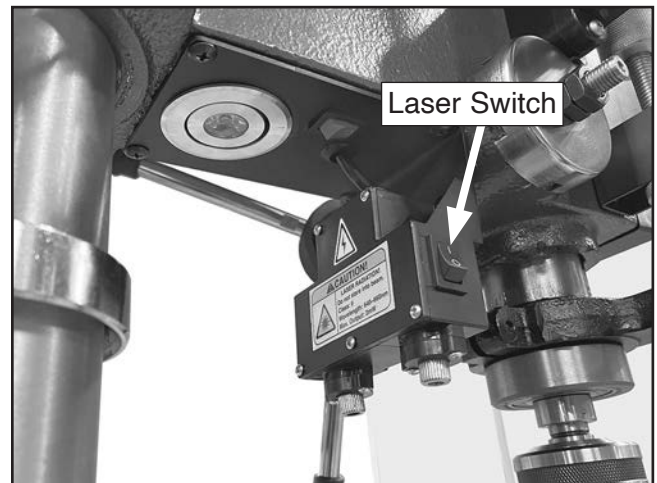


Figure 47. Location of T33961 laser switch.

- If laser crosshairs align with indentation you made in **Step 5** (see **Figure 48**), no adjustment is necessary.
- If laser crosshairs *do not* align with indentation you made in **Step 5** (see **Figure 48**), proceed to **Step 7**.

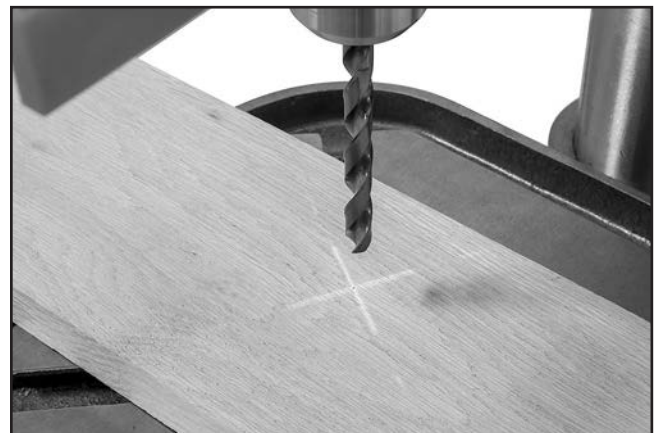


Figure 48. Example of laser crosshairs aligned with indentation on workpiece.

7. Loosen (2) Phillips head screws shown in **Figures 49–50**, then adjust laser modules by hand, positioning them so crosshairs align with indentation you made in **Step 5**.
 - Turning each laser module will adjust each crosshair line angle.
 - Adjusting laser module position in seat will adjust crosshair line positions.



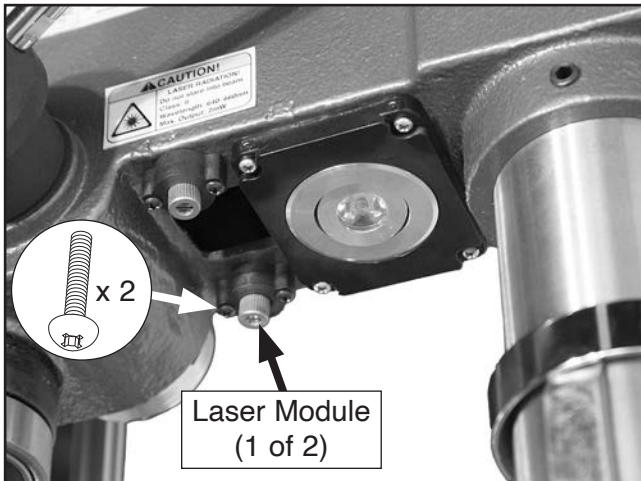


Figure 49. T33959/T33960 laser module adjustment components.

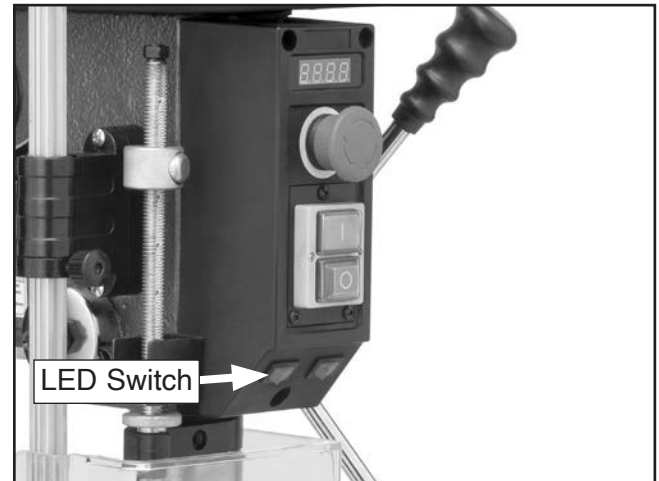


Figure 51. Location of T33959/T33960 LED switch.

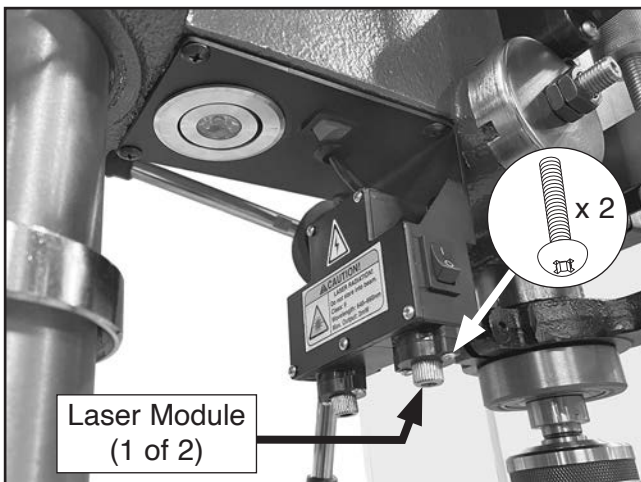


Figure 50. T33961 laser module adjustment components.



Figure 52. Location of T33959/T33960 LED.

8. Once crosshairs are aligned with indentation in workpiece, tighten screws loosened in **Step 7** to secure laser module positions.

Adjusting LED Worklight

Use the LED switch to turn **ON** the LED (see **Figures 51–53**). The LED can be repositioned as necessary by pivoting it forward or backward.

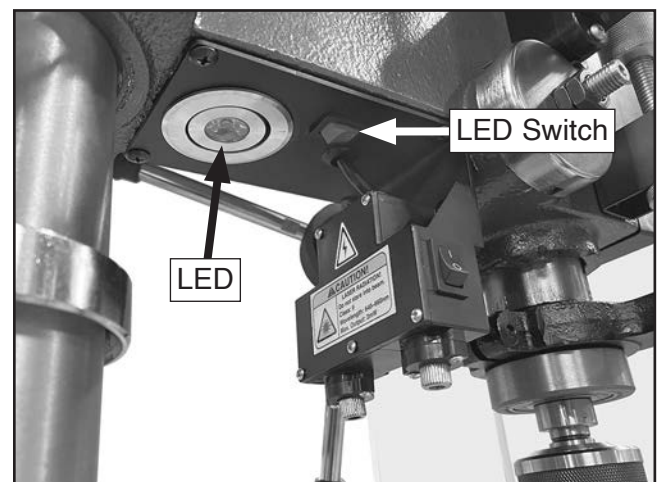


Figure 53. Location of T33961 LED and LED switch.



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.

G8583— $\frac{1}{32}$ "— $\frac{5}{8}$ " x JT3 Keyless Drill Chuck

Industrial-grade keyless chucks are excellent for quick bit changes. Knurled grips and exceptional accuracy make these chucks an indispensable part of any shop. Use on drill presses, lathe tailstocks and milling machines. $\frac{1}{32}$ "— $\frac{5}{8}$ " capacity with a Jacobs Taper #3 in back.



Figure 54. G8583 $\frac{1}{32}$ "— $\frac{5}{8}$ " x JT3 Keyless Drill Chuck.

SB1365—South Bend Way Oil-ISO 68 T26419—Syn-O-Gen Synthetic Grease



Figure 55. Recommended lubrication products.

G5562—SLIPIT® 1 Qt. Gel G5563—SLIPIT® 11 Oz. Spray

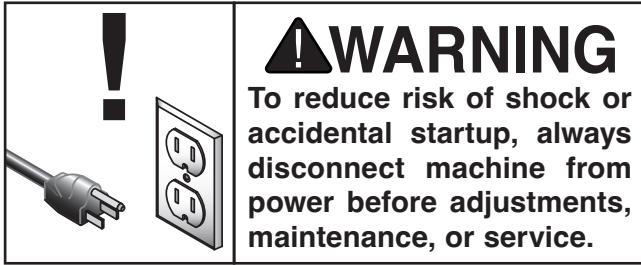


Figure 56. Recommended products for protecting unpainted cast-iron and steel.

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



SECTION 6: MAINTENANCE



Schedule

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

Ongoing

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

- Loose mounting bolts.
- Damaged tooling.
- Worn or damaged wires.
- Worn switch.
- Debris and built up grime.
- Damaged V-belt(s).
- Any other unsafe condition.

Weekly Maintenance

- Lubricate quill and column surfaces (**Page 38**).

Monthly Check

- Check V-belt(s) for damage or wear.
- Lubricate column rack and quill rack and pinion (**Page 38**).
- Clean/vacuum dust buildup off motor.

Cleaning & Protecting

Cleaning the machine 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 table and base by wiping it clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces. Keep the table and base rust-free with regular applications of metal protectant products like SLIPIT® (see **Figure 56** on **Page 36**).

Lubrication

An essential part of lubrication is cleaning the components before lubricating them.

This step is critical because grime and chips build up on lubricated components, which makes them hard to move. Simply adding more lubricant will not result in smooth moving parts.

Lubricate components with recommended products like those shown **Figure 55** in **Accessories** on **Page 36**.

DISCONNECT MACHINE FROM POWER BEFORE PERFORMING LUBRICATION!



Quill & Column Surfaces

Oil Type Grizzly SB1365 or ISO 68 Equivalent
 Oil Amount.....Thin Coat
 Lubrication Frequency8 Hrs. of Operation

Items Needed	Qty
Mineral Spirits.....	As Needed
Shop Rags.....	As Needed

Move the spindle all the way down to access the smooth surfaces of the quill. Adjust the table height as necessary to access the entire length of the column (see **Figures 57–58**). Clean both with mineral spirits and shop rags.

Note: Avoid removing the grease from the column and quill racks during cleaning.

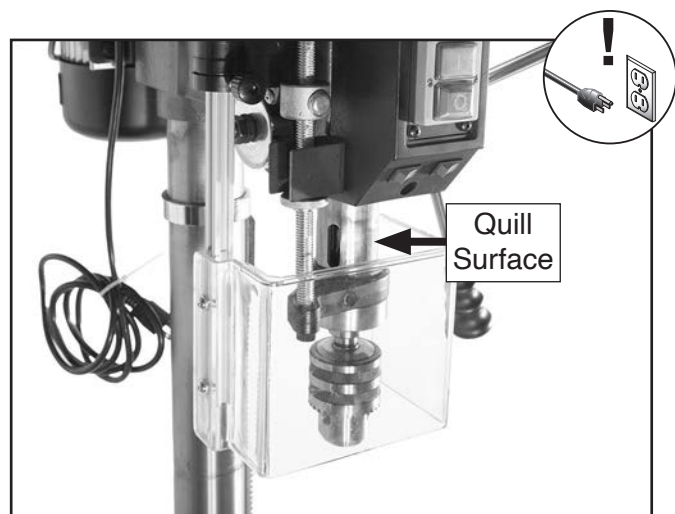


Figure 57. Spindle moved down to expose quill surface.

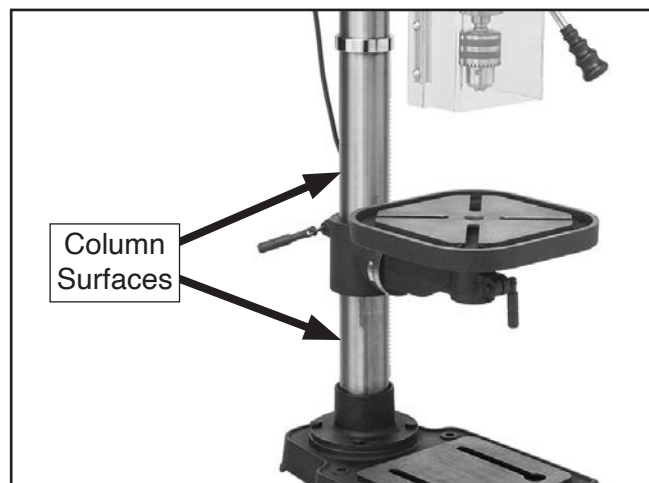


Figure 58. Column surface locations (T33959 shown).

After cleaning, allow mineral spirits to dry, then apply a thin coat of oil to the surfaces.

Column Rack, Quill Rack & Pinion

Grease Type Grizzly T26419 or NLGI#2 Equiv.
 Grease AmountThin Coat
 Lubrication Frequency 90 hrs. of Operation

Items Needed	Qty
Mineral Spirits.....	As Needed
Shop Rags.....	As Needed
Stiff Brushes.....	2

Move spindle all the way down to gain access to quill rack (see **Figure 59**), then clean teeth with mineral spirits, shop rags, and a brush.

Clean the column rack teeth (see **Figure 59**) in a similar manner with mineral spirits, shop rags, and a brush.

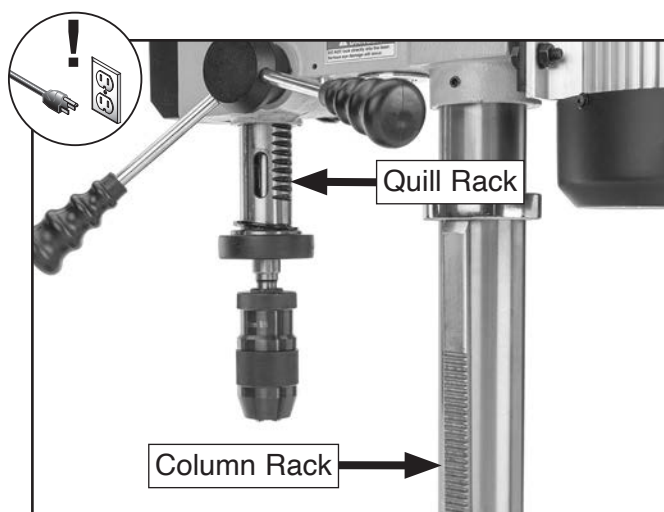


Figure 59. Example of quill and column racks exposed.

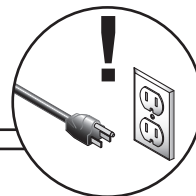
Allow racks to dry, use a brush to apply a thin coat of grease to the rack teeth, then fully raise/lower the quill and table to distribute the grease.



SECTION 7: SERVICE

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

Troubleshooting



Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start, or power supply breaker immediately trips after startup.	<ol style="list-style-type: none"> Emergency Stop button depressed. Chip guard open. Incorrect power supply voltage or circuit size. Power supply circuit breaker or fuse blown. Motor wires connected incorrectly. Wiring broken, disconnected, or corroded. ON/OFF switch at fault. Emergency Stop button at fault. Chip guard micro switch at fault. Motor or motor bearings at fault. 	<ol style="list-style-type: none"> Rotate Emergency Stop button head to reset. Close chip guard. Ensure correct power supply and circuit size (Page 13). Ensure circuit is free of shorts. Reset circuit breaker or replace fuse. Correct motor wiring connections (Page 53). Fix broken wires or disconnected/corroded connections (Page 53). Replace switch. Replace Emergency Stop button. Replace micro switch. Replace motor.
Machine stalls or is underpowered.	<ol style="list-style-type: none"> Workpiece material unsuitable for machine. Feed rate/cutting speed too fast. V-belt(s) slipping/pulleys misaligned. Motor wires connected incorrectly. Pulley slipping on shaft. Machine undersized for task. Motor overheated. Run capacitor at fault. Extension cord too long. Motor or motor bearings at fault. 	<ol style="list-style-type: none"> Only cut wood with moisture below 20% and correct type/size of metal. Decrease feed rate/cutting speed (Page 31). Clean/tension/replace V-belt(s) (Page 43); ensure pulleys are aligned. Correct motor wiring connections (Page 53). Tighten/replace loose pulley/shaft. Use sharp bits/reduce feed rate/reduce spindle RPM (Page 31). Clean motor, let cool, and reduce workload. Test/repair/replace. Move machine closer to power supply; use shorter extension cord (Page 14). Replace motor.
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> Motor or component loose. V-belt(s) worn, loose, pulleys misaligned or belt slapping cover. Pulley loose. Motor mount loose/broken. Spindle loose, improperly installed or damaged. Workpiece loose. Chuck or cutter at fault. 	<ol style="list-style-type: none"> Replace damaged or missing bolts/nuts or tighten if loose. Inspect/replace V-belt(s) with new matched set (Page 43). Realign motor pulley if necessary (T33960/T33961 only). Secure pulley on shaft. Tighten/replace. Tighten loose spindle, re-install spindle ensuring mating surfaces are clean, replace spindle if damaged. Use correct holding fixture and reclamp workpiece. Replace out-of-round chuck; dull, or bent cutter.



Motor & Electrical (Cont.)

Symptom	Possible Cause	Possible Solution
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> Motor fan rubbing on fan cover. Spindle bearings at fault. Motor bearings at fault. 	<ol style="list-style-type: none"> Fix/replace fan cover; replace loose/damaged fan. Test by rotating spindle; rotational grinding/loose shaft requires bearing replacement. Test by shaft; rotational grinding/loose shaft requires bearing replacement.
LED does not illuminate.	<ol style="list-style-type: none"> Lens covered with dust. Wiring broken, disconnected, or corroded. LED damaged/at fault. Spindle speed digital readout circuit board damaged/at fault (T33959/T33960 only). LED driver damaged/at fault (T33961 only). LED switch at fault. 	<ol style="list-style-type: none"> Clean lens. Fix broken wires or disconnected/corroded connections (Page 53). Replace LED (Pages 46–52). Replace spindle speed digital readout. Replace driver. Replace LED switch.
Laser guide does not illuminate.	<ol style="list-style-type: none"> Lens covered with dust. Wiring broken, disconnected, or corroded. Laser module(s) damaged/at fault. Spindle speed digital readout circuit board damaged/at fault (T33959/T33960 only). Laser LED driver damaged/at fault (T33961 only). Laser switch at fault. 	<ol style="list-style-type: none"> Clean lens. Fix broken wires or disconnected/corroded connections (Page 53). Replace laser module(s) (Pages 46–52). Replace spindle speed digital readout. Replace driver. Replace laser switch.
Digital readout does not illuminate/display is incorrect.	<ol style="list-style-type: none"> Speed sensor is catching on pulley. Wiring broken, disconnected, or corroded. Speed sensor at fault. Spindle speed digital readout damaged/at fault. 	<ol style="list-style-type: none"> Adjust sensor position. Fix broken wires or disconnected/corroded connections (Page 53). Replace sensor. Replace spindle speed digital readout.

Operation

Symptom	Possible Cause	Possible Solution
Tool falls out or loose in chuck.	<ol style="list-style-type: none"> Chuck jaws loose. Excessive feed pressure. 	<ol style="list-style-type: none"> Tighten chuck jaws. Decrease feed pressure and allow chips to clear.
Chuck and arbor falls out or loose in spindle.	<ol style="list-style-type: none"> Debris on chuck, arbor, or in spindle taper. Excessive feed pressure. 	<ol style="list-style-type: none"> Remove chuck and arbor, clean chuck, arbor, and spindle taper, then re-install (Page 28). Deburr mating surfaces, if necessary. Decrease feed pressure and allow chips to clear.
Breaking tools or cutters.	<ol style="list-style-type: none"> Spindle speed/feed rate too fast. Taking too big of cut at one time. Improper cutting technique or type of cut for tool/machine. Cutting tool too small. Cutting tool getting too hot. Spindle extended too far down during or at beginning of operation. 	<ol style="list-style-type: none"> Reduce spindle speed (Page 31); reduce feed rate. Decrease feed pressure and allow chips to clear. Use right technique, tool, or machine for job. Use larger cutting tool and slower feed rate. Use coolant or oil for appropriate application; reduce cutting speed (Page 31). Fully retract spindle and raise table to increase rigidity.



Operation (Cont.)

Symptom	Possible Cause	Possible Solution
Workpiece or tool vibrates or chatters during operation.	<ol style="list-style-type: none"> 1. Spindle extended too far down during or at beginning of operation. 2. Table locks not tight. 3. Workpiece not secure. 4. Spindle speed/feed rate too fast. 5. Quill shaft lock screw not adjusted correctly. 	<ol style="list-style-type: none"> 1. Fully retract spindle and raise table to increase rigidity. 2. Tighten table locks (Page 33). 3. Properly clamp workpiece on table or in vise. 4. Reduce spindle speed (Page 31); reduce feed rate. 5. Adjust quill shaft lock screw.
Table hard to move.	<ol style="list-style-type: none"> 1. Table locked. 2. Dirty or dry rack and pinion. 	<ol style="list-style-type: none"> 1. Disengage table locks (Page 33). 2. Clean away chips/debris. Lubricate rack and pinion (Page 38).
Bad surface finish.	<ol style="list-style-type: none"> 1. Spindle speed/feed rate too fast. 2. Dull or incorrect cutting tool/bit. 3. Workpiece not secure. 4. Spindle extended too far down during or at beginning of operation. 	<ol style="list-style-type: none"> 1. Reduce spindle speed (Page 31); reduce feed rate. 2. Sharpen cutting tool or select one that better suits operation. 3. Properly clamp workpiece on table or in vise. 4. Fully retract spindle and raise table to increase rigidity.
Spindle overheats.	<ol style="list-style-type: none"> 1. Machine operated at high speeds for extended period. 	<ol style="list-style-type: none"> 1. Allow drill to cool.
Spindle does not fully retract.	<ol style="list-style-type: none"> 1. Poorly adjusted return spring. 2. Debris on spindle/quill rack. 3. Worn return spring. 	<ol style="list-style-type: none"> 1. Increase return spring tension (Page 42). 2. Clean and lubricate spindle/quill rack (Page 38). 3. Replace return spring.
Drill bit/cutting tool drifts.	<ol style="list-style-type: none"> 1. Dull or incorrectly sharpened drill bit/cutting tool. 2. Tool/bit/chuck incorrectly installed. 	<ol style="list-style-type: none"> 1. Correctly sharpen drill bit/cutting tool. 2. Correctly re-install tool/bit (Page 29)/chuck (Page 28).
Drill bit/cutting tool slips in chuck or stuck in workpiece.	<ol style="list-style-type: none"> 1. Chuck jaws loose. 2. Workpiece squeezing drill bit/cutting tool. 3. Feed rate too fast. 4. Spindle speed/feed rate too slow. 	<ol style="list-style-type: none"> 1. Tighten chuck jaws. 2. Properly clamp workpiece on table or in vise. 3. Decrease feed rate. 4. Increase spindle speed (Page 31); increase feed rate.
Workpiece thrown from table.	<ol style="list-style-type: none"> 1. Workpiece not secure. 2. Tool/bit too large for feed speed. 	<ol style="list-style-type: none"> 1. Properly clamp workpiece on table or in vise. 2. Use smaller tool/bit or decrease feed speed.
Excessive runout or wobbling in chuck/drill bit.	<ol style="list-style-type: none"> 1. Debris on chuck, arbor, or in spindle taper. 2. Tool/bit bent. 3. Tool/bit installed incorrectly. 4. Spindle bearings worn. 	<ol style="list-style-type: none"> 1. Remove chuck and arbor, clean chuck, arbor, and spindle taper, then re-install (Page 28). Deburr mating surfaces, if necessary. 2. Replace with straight tool/bit. 3. Install tool/bit correctly (Page 29) or replace. 4. Replace spindle bearings.
Backside of workpiece splinters.	<ol style="list-style-type: none"> 1. Scrap board not installed between table and workpiece. 	<ol style="list-style-type: none"> 1. Install scrap board between table and workpiece.



Adjusting Return Spring Tension

The spring tension for automatic quill recoil has been pre-set at the factory. In most cases, it will never need to be re-adjusted during the life of the machine. However, if the quill stops automatically recoiling, the spring may need to be adjusted for additional tension. If it does need adjustment, the spring housing is located on the left side of the headstock (see **Figure 60**).

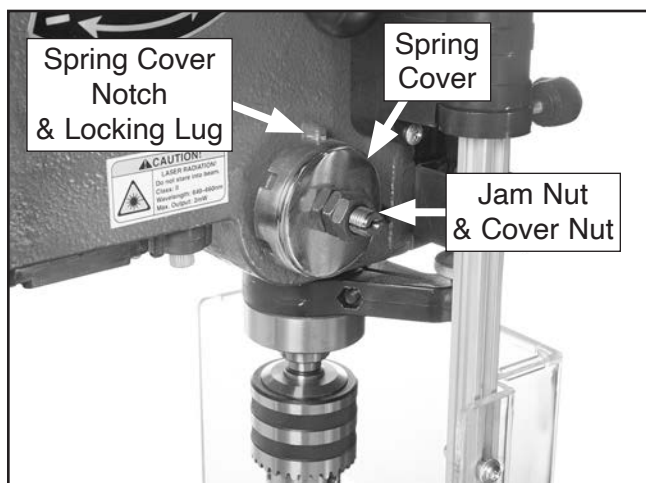
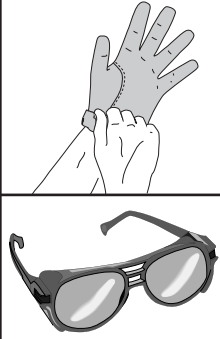


Figure 60. Spring adjustment components (T33960 shown).



⚠ WARNING

If return spring should come loose from spring cover and rapidly unwind, laceration or impact injuries could occur. Always wear heavy leather gloves and safety glasses when adjusting return spring tension.

Items Needed	Qty
Heavy Leather Gloves.....	1 Pr.
Safety Glasses	1 Pr.
Shop Rags.....	As Needed
Open-End Wrenches 19mm.....	2

To adjust spring tension:

1. DISCONNECT MACHINE FROM POWER!

2. Wipe any oil off spring cover so it does not slip in your fingers in following steps (see **Figure 60**).
3. Hold spring cover against side of headstock so cover stays splined with locking lug, then loosen jam nut and cover nut approximately 1/4" each (see **Figure 60**).

IMPORTANT: Hold spring cover tightly during **Step 4**, or force of spring will cause cover to spin out of your hands.

4. Wearing gloves, pull spring cover outward just enough to disengage spring cover notch from locking lug (see **Figure 60**).
5. Rotate cover counterclockwise to increase tension, or clockwise to reduce spring tension.
6. Engage next available spring cover notch with locking lug (see **Figure 61**) and hold spring cover tightly to side of headstock.



Figure 61. Location of spring cover notches and locking lug (T33960 shown).

7. Tighten cover nut against spring cover just until nut stops, and then back off nut approximately 1/3 turn.
8. Without moving cover nut, tighten jam nut against cover nut.
9. Check tension adjustment by downfeeding spindle. Spindle should return quickly when downward pressure is released.

— If spindle does not retract quickly, repeat **Steps 3–8**, and re-check tension until return speed is adequate.



Replacing V-Belts

The V-belts transfer power from the motor to the spindle. If either of the V-belts are worn or damaged in any way, the drill press will not operate optimally, and unnecessary wear on the moving parts will occur.

Replacing Spindle V-Belt

Use the following steps to replace the spindle V-belt (see **Figure 62**) if it is worn, damaged, or if belt deflection is incorrect.

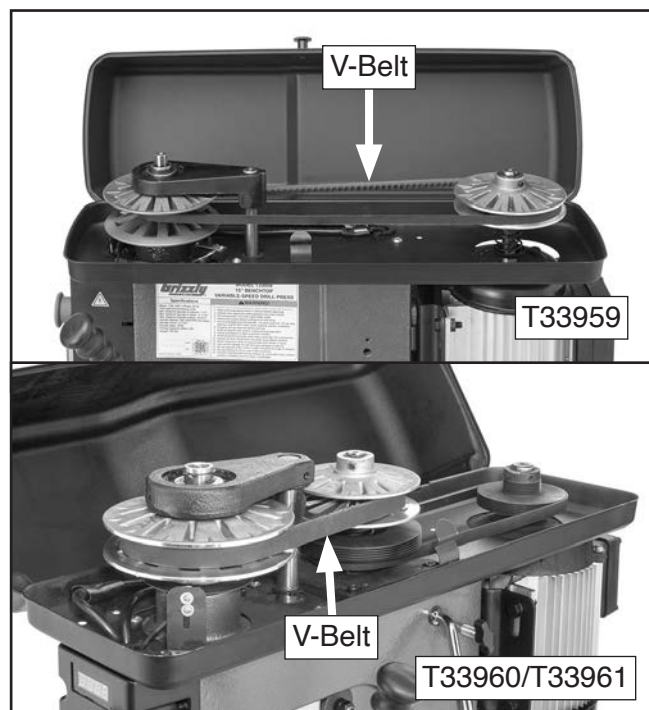


Figure 62. Location of V-belt.

Items Needed	Qty
Marker	1
Retaining Ring Pliers	
15mm Diameter (T33959/T33960)	1 Pr.
16mm Diameter (T33961)	1 Pr.
Hex Wrench 3mm	1
Replacement Spindle V-Belt	1

To replace spindle V-belt:

1. Connect machine to power and start spindle rotation.
2. Use spindle speed lever to adjust spindle speed to highest speed in speed range (refer to **Changing Spindle Speed** on **Page 31**).

3. Turn machine **OFF**, allow spindle to come to complete stop, then **DISCONNECT MACHINE FROM POWER!**

4. Open belt cover.

CAUTION

Use care when handling V-belts as they could pinch your fingers. They may also get hot after extended use, so wait to touch V-belts if drill has been in use.

5. Remove fixed pulley external retaining ring shown in **Figure 63**.

6. Loosen (2) set screws shown in **Figure 63** and remove upper half of fixed pulley.

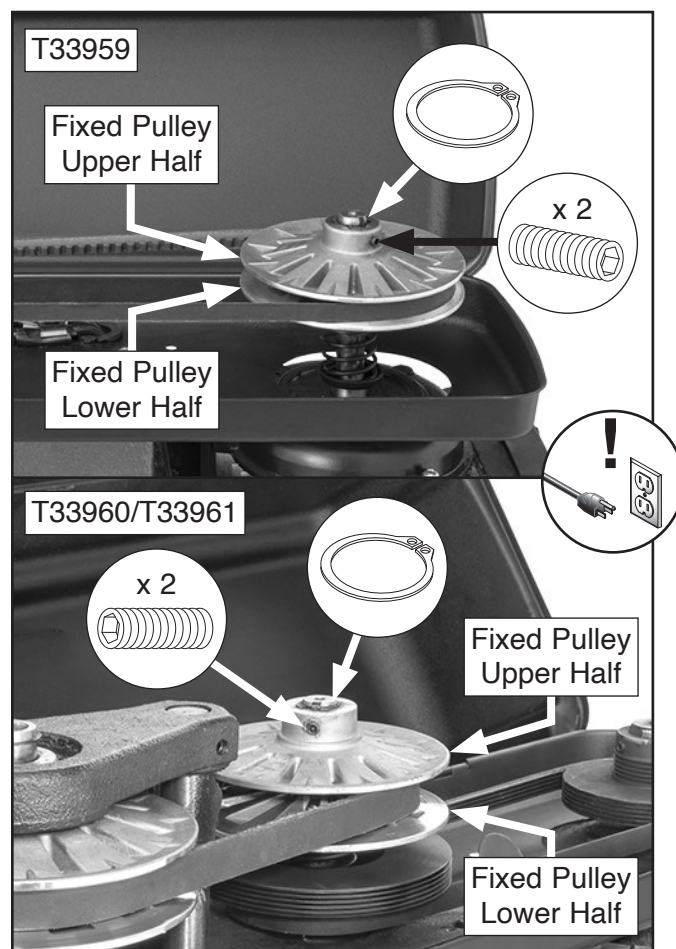


Figure 63. Location of fixed pulley external retaining ring and set screws.



7. Remove old V-belt and install new one.
8. Install upper half of fixed pulley and align upper pulley teeth with spaces of lower half, then tighten set screws from **Step 6** to secure.
9. Install external retaining ring.
10. Close belt cover.

Replacing Drive Belt (T33960/T33961 Only)

Use the following steps to replace the drive belt (see **Figure 64**) if it is worn, damaged, or if belt deflection is incorrect.



Figure 64. Location of drive belt (T33961 shown).

Items Needed	Qty
Marker	1
Retaining Ring Pliers	
15mm Diameter (T33960)	1 Pr.
16mm Diameter (T33961).....	1 Pr.
Hex Wrench 3mm.....	1
Replacement Drive V-Belt	1

To replace drive belt:

1. Perform **Steps 1–6 of Replacing Spindle V-Belt**.
2. Remove spindle V-belt.
 - If V-belt is cracked, torn, excessively worn, or damaged, replace it.
3. Loosen (2) belt tension locks (see **Figure 65**).
4. Rotate belt tension lever clockwise to take tension off of drive belt (see **Figure 65**).

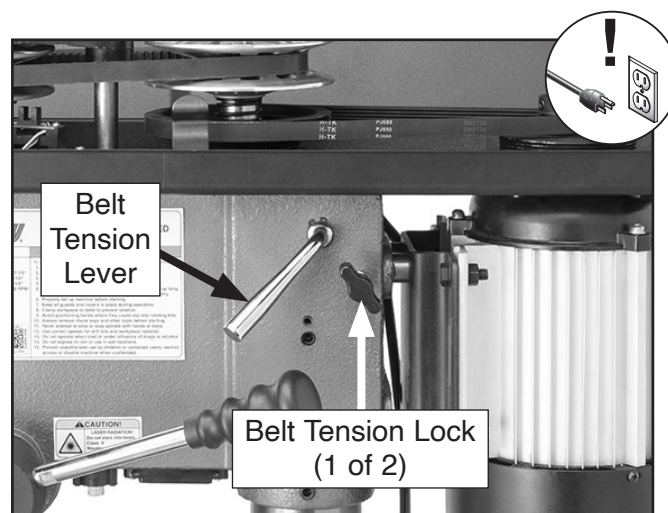


Figure 65. Location of belt tension locks and lever (T33961 shown).

5. Remove drive belt and install new one.
6. Rotate belt tension lever counterclockwise until drive belt is tight.
7. Install spindle V-belt.
8. Perform **Steps 8–10 of Replacing Spindle V-Belt**.



Calibrating Depth Stop

The depth stop allows you to drill multiple holes at the same depth. The scale on this depth stop can be calibrated if it ever becomes incorrect.

Tools Needed	Qty
Wrench or Socket 13mm (T33959/T33960).....	1
Open-End Wrench 18mm (T33961)	1

To calibrate depth stop:

1. DISCONNECT MACHINE FROM POWER!
2. Adjust return stop nut all the way down so quill is fully seated in headstock (see **Figure 66**).
3. Adjust depth stop nut all the way down so it sits against stop bracket (see **Figure 66**).

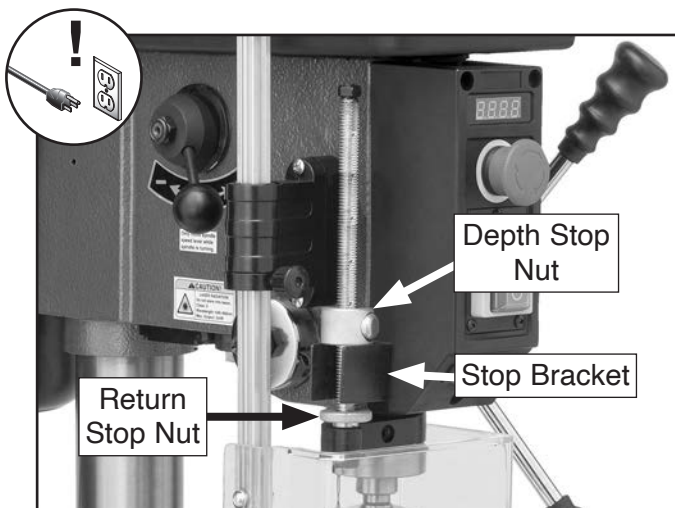


Figure 66. Return stop and depth stop nuts adjusted all the way down.

- If bottom of depth stop nut indicates 0" on scale, no adjustment is necessary.
- If bottom of depth stop nut *does not* indicate 0" on scale, proceed to **Step 4**.

4. Loosen hex nut shown in **Figure 67**.

5. Adjust depth rod up in depth collar a couple turns (see **Figure 67**).

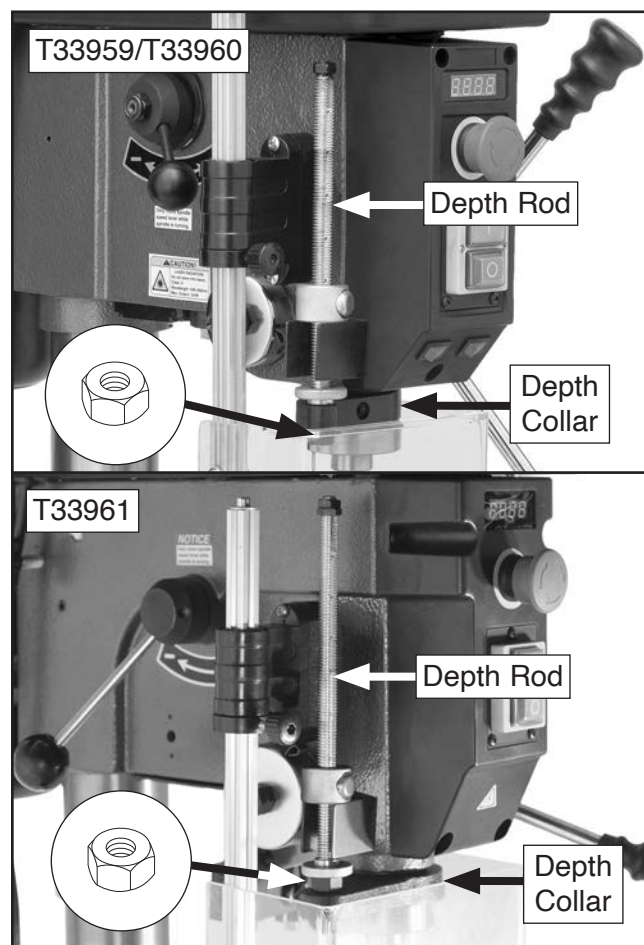


Figure 67. Depth stop calibration components.

6. Adjust depth stop nut until top of nut indicates 0" on scale.
7. Adjust depth rod until depth stop nut sits against stop bracket and scale is visible.

Note: If return stop nut prevents this, adjust it out of the way.

8. While holding depth rod in place, tighten hex nut from **Step 4** to secure setting.
9. Test depth stop by measuring how far spindle moves with respect to where you set depth stop nut.



Replacing Laser Modules & LED (T33959/T33960)

If either one of the laser modules or the LED on the Model T33959 or Model T33960 burns out and needs to be replaced, use the following sections. A wiring diagram is provided on **Page 54** for your reference.

Replacing Laser Module

Items Needed	Qty
Phillips Head Screwdrivers #1, #2.....	1 Ea.
Replacement Laser Module (#PT33959049)	1
String (3' Minimum).....	1
Electrical Tape.....	As Needed

To replace laser module:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen (2) Phillips head screws securing faulty laser module in seat and pull laser module just enough to remove it from seat (see **Figure 68**).

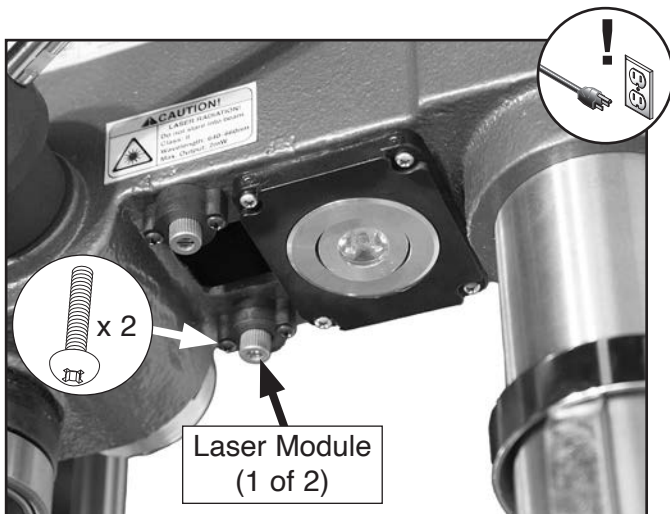


Figure 68. Laser module removal components.

3. Open belt cover and identify which cord is connected to faulty laser by lightly tugging cords fed into headstock (see **Figure 69**).
4. Follow cord to where it is fed into switch box (see **Figure 69**).

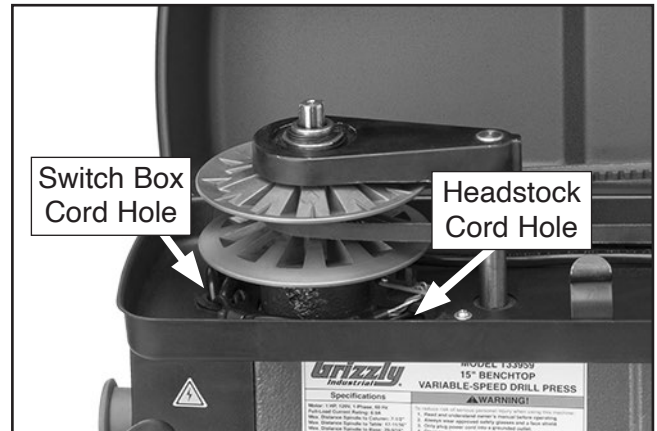


Figure 69. LED and laser module cords fed into headstock and switch box (T33959 shown).

5. Remove (3) tap screws shown in **Figure 70** to remove switch box from headstock.

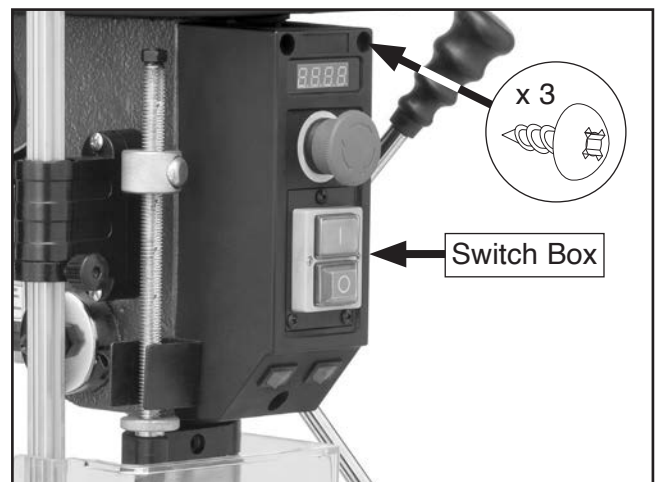


Figure 70. Location of switch box and securing screws.

6. Use technique from **Step 3** to identify which cord that is fed into switch box is connected to faulty laser.



7. Disconnect faulty laser module wires from wire crimp connector and laser switch (see **Figure 71**), then tie string to end of faulty laser module wires to aid in installation of new laser module.

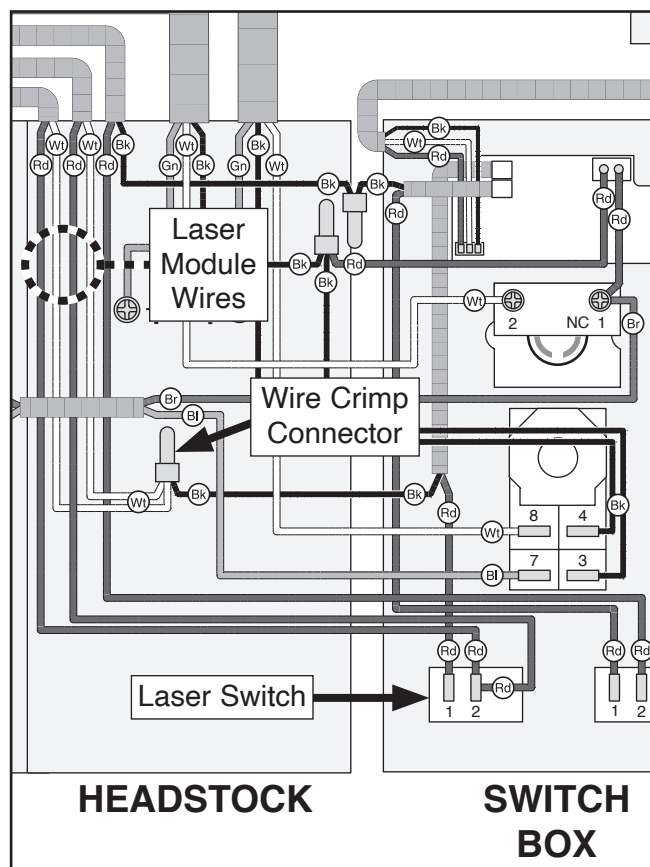


Figure 71. Laser module wiring.

8. While keeping hold of untied end of string at switch box, fully remove faulty laser module from headstock, pulling wires with it. String will follow cord path.
9. Remove string from faulty laser module wires, and tie it to end of new laser module wires.
10. Pull untied end of string to thread new laser module wires through headstock, belt cover, and switch box.

11. Untie string and attach new laser module wires to crimp wire connector and laser switch as they were connected in **Step 7**. Wrap wires at crimp connector with electrical tape so they will not come loose during operation.
12. Install switch box and close belt cover.
13. Feed new laser module cord and laser module into headstock.
14. Refer to **Adjusting Laser Guide** on **Page 34** to secure and adjust laser modules.

Replacing LED

Items Needed	Qty
Phillips Head Screwdriver #2	1
Replacement LED (#PT33959051)	1
String (3' Minimum)	1
Electrical Tape	As Needed

To replace LED:

1. DISCONNECT MACHINE FROM POWER!
2. Turn LED in mount until it releases from mount (see **Figure 72**).

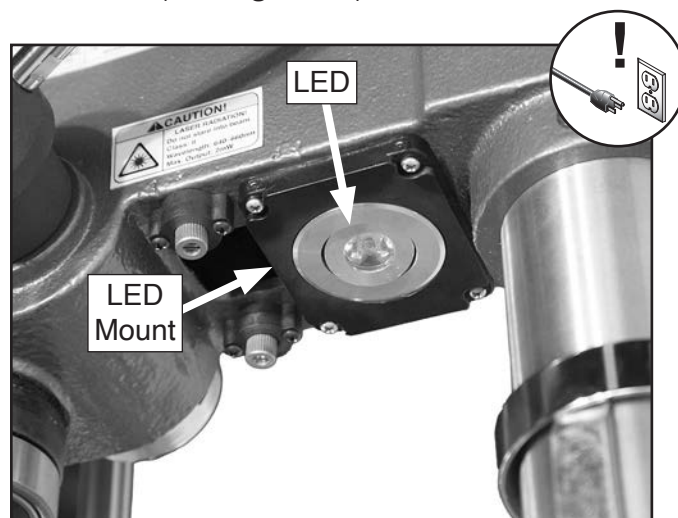


Figure 72. Location of LED and LED mount.



3. Open belt cover and identify which cord is connected to LED by lightly tugging cords fed into headstock (see **Figure 73**).
4. Follow cord to where it is fed into switch box (see **Figure 73**).

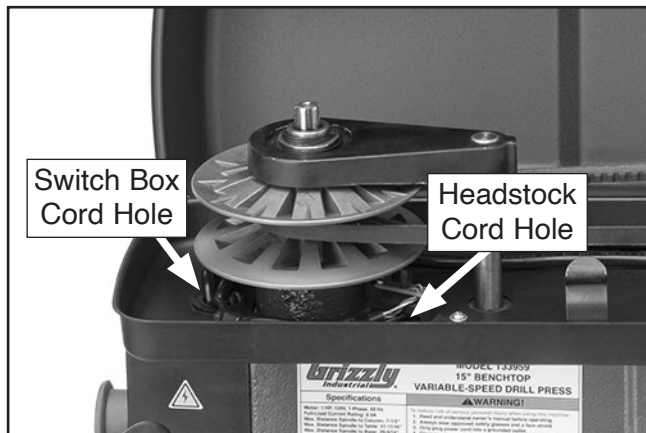


Figure 73. LED and laser module cords fed into headstock and switch box (T33959 shown).

5. Remove (3) tap screws shown in **Figure 74** to remove switch box from headstock.

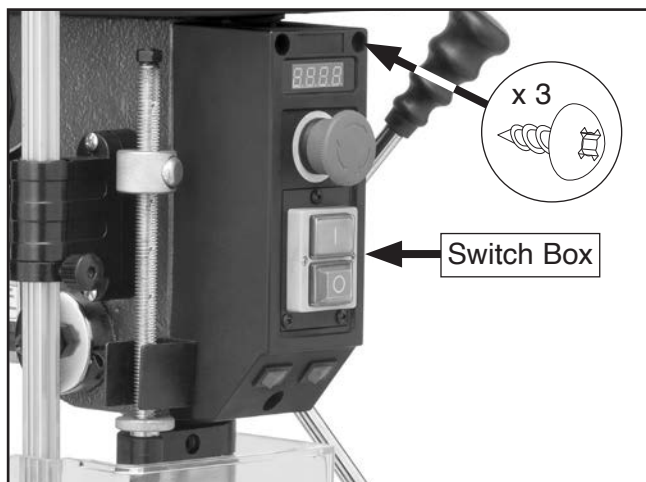


Figure 74. Location of switch box and securing screws.

6. Use technique from **Step 3** to identify which cord that is fed into switch box is connected to LED.

7. Disconnect LED wires from wire crimp connector and LED switch (see **Figure 75**), then tie string to end of LED wires to aid in installation of new LED.

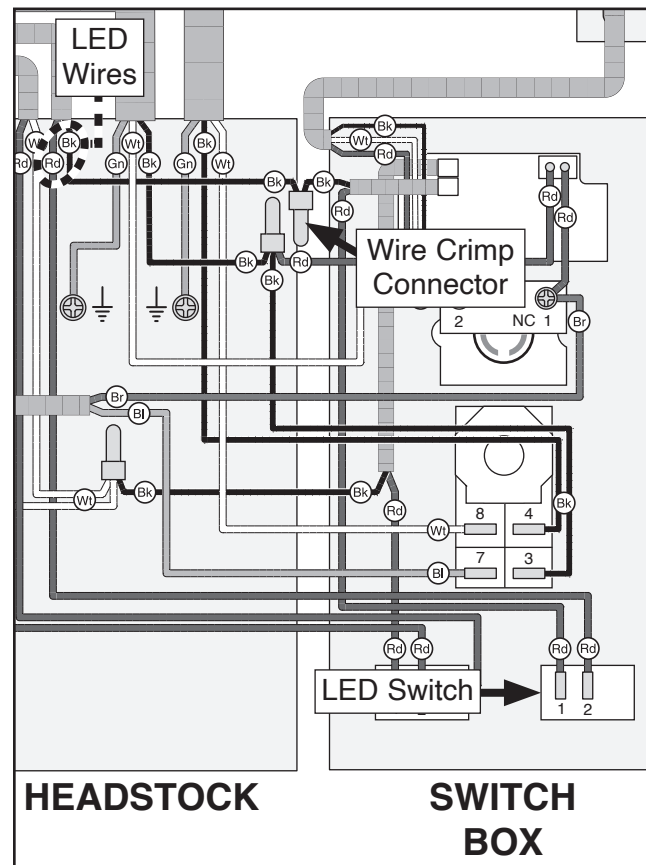


Figure 75. LED wiring.

8. While keeping hold of untied end of string at switch box, fully remove LED from headstock, pulling wires with it. String will follow cord path.
9. Remove string from LED wires, and tie it to end of new LED wires.
10. Pull untied end of string to thread new LED wires through headstock, belt cover, and switch box.



11. Untie string, and attach new LED wires to crimp wire connector and LED switch as they were connected in **Step 7**. Wrap wires at crimp connector with electrical tape so they will not come loose during operation.
12. Install switch box and close belt cover.
13. Feed new LED cord and LED into headstock, aligning screws in LED with slots in mount (see **Figure 76**).

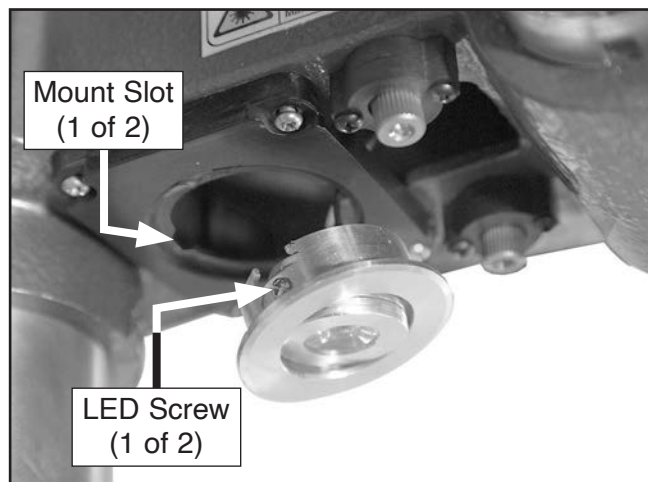


Figure 76. Location of LED screws and mount slots.

14. Turn LED 90° to secure it in mount.

Replacing Laser Modules & LED (T33961)

If either one of the laser modules or the LED on the Model T33961 burns out and needs to be replaced, use the following sections. A wiring diagram is provided on **Page 56** for your reference.

Replacing Laser Module

Items Needed

Qty

Phillips Head Screwdrivers #1, #2.....	1 Ea.
Replacement Laser Module (#PT33961159-7) ..	1
Electrical Tape	As Needed

To replace laser module:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen (2) Phillips head screws securing faulty laser module in seat and pull laser module just enough to remove it from seat (see **Figure 77**).
3. Remove (5) Phillips head screws to remove laser module electrical box cover (see **Figure 77**).

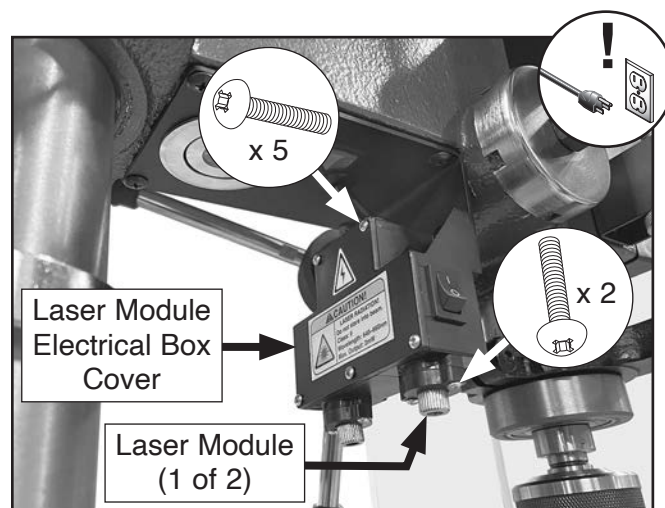


Figure 77. Laser module removal components.



4. Disconnect faulty laser module wires from wire crimp connectors (see **Figure 78**), then fully remove laser module from electrical box.

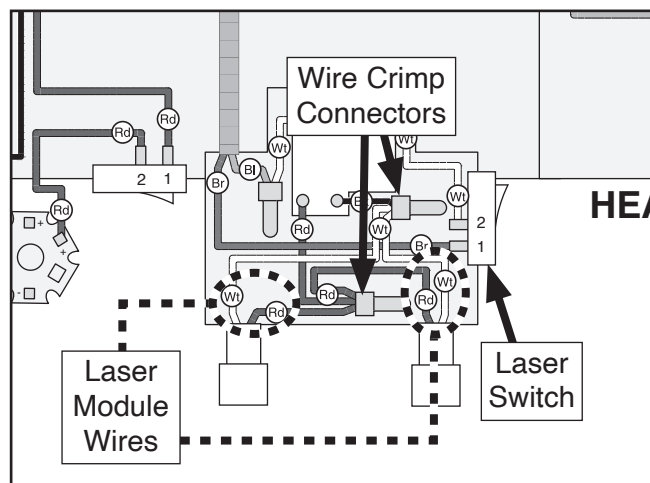


Figure 78. Laser module wiring.

5. Insert new laser module cord and wires through hole in electrical box, and attach wires to wire crimp connectors as they were connected in **Step 4**. Wrap wires at crimp connectors with electrical tape so they will not come loose during operation.
6. Feed new laser module back into electrical box, and install electrical box cover.
7. Refer to **Adjusting Laser Guide** on **Page 34** to secure and adjust laser modules.

Replacing LED

Items Needed	Qty
Phillips Head Screwdrivers #1, #2.....	1 Ea.
Hex Wrench 4mm.....	1
Wrench or Socket 8mm.....	1
Replacement LED Assembly (#PT33961195) ...	1
Electrical Tape	As Needed

To replace LED:

1. DISCONNECT MACHINE FROM POWER!

2. Remove (5) Phillips head screws to remove laser module electrical box cover (see **Figure 79**).

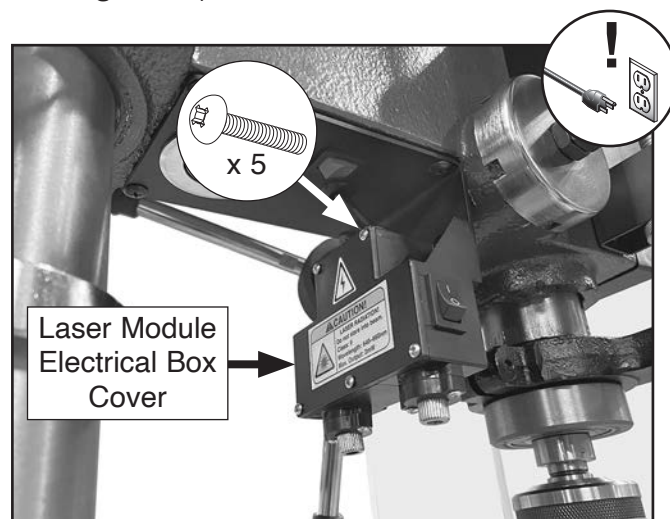


Figure 79. Location of laser module electrical box cover and securing screws.

3. Disconnect laser module cord wires from wire crimp connector and laser switch (see **Figure 80**).

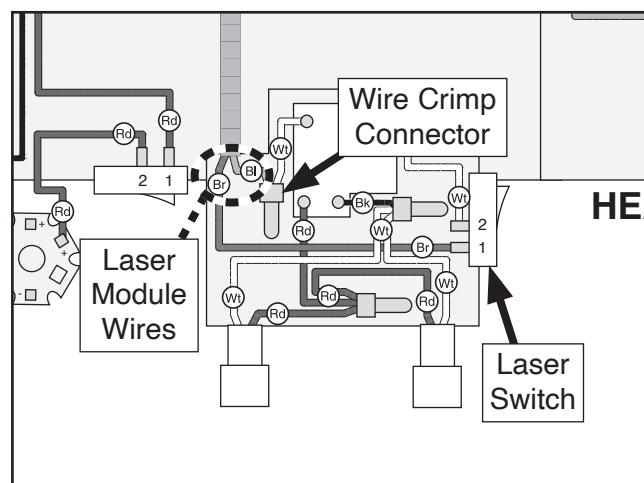


Figure 80. Laser module cord wires to disconnect.



4. Remove (4) cap screws, (8) flat washers, and (4) hex nuts shown in **Figure 81** to remove laser module electrical box from LED assembly. Set electrical box aside for now.
5. Remove (4) Phillips head screws to remove LED assembly from headstock (see **Figure 81**). Allow LED assembly to hang from headstock for now.

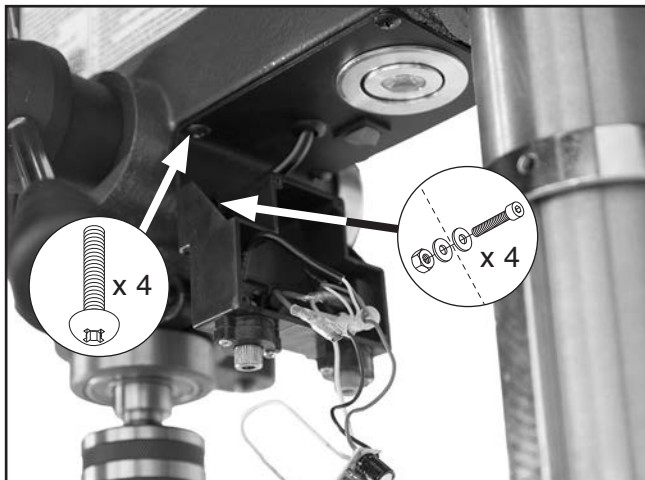


Figure 81. Location of laser module electrical box and LED assembly fasteners.

6. Open belt cover and identify which cord is connected to LED by lightly tugging cords fed into headstock (see **Figure 82**).
7. Follow cord to where it is fed into switch box (see **Figure 82**).

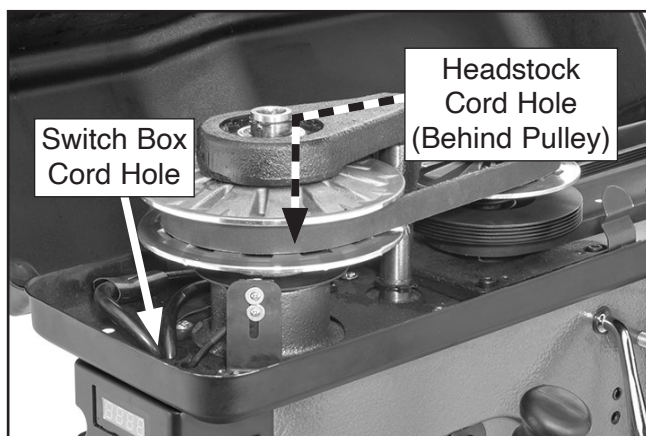


Figure 82. LED and laser module cords fed into headstock and switch box.

8. Remove (4) tap screws shown in **Figure 83** to remove switch box from headstock.

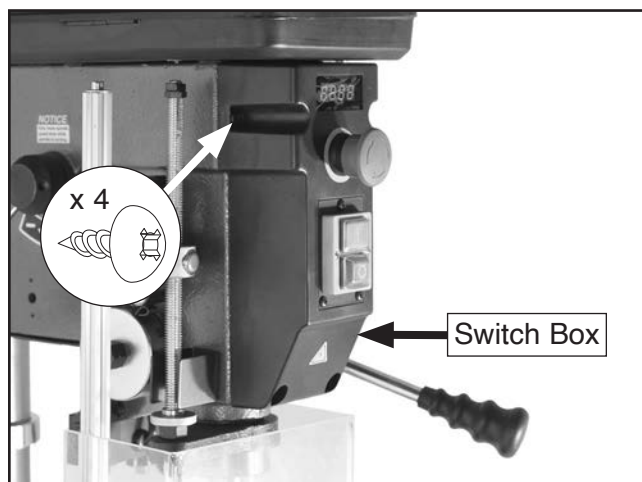


Figure 83. Location of switch box and securing screws.

9. Use technique from **Step 6** to identify which cord that is fed into switch box is connected to LED assembly.
10. Disconnect LED wires from wire crimp connectors shown in **Figure 84**, then tie string to end of LED wires to aid in installation of new LED.

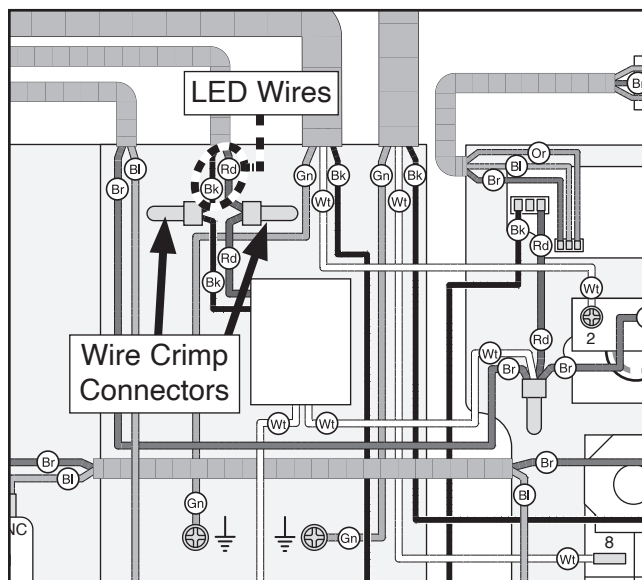


Figure 84. LED wiring.



11. While keeping hold of untied end of string at switch box, fully remove LED assembly from headstock, pulling wires with it. String will follow cord path.
12. Remove string from LED wires, and tie it to end of new LED wires.
13. Pull untied end of string to thread new LED wires through headstock, belt cover, and switch box.
14. Untie string, and attach new LED wires to crimp wire connectors as they were connected in **Step 10**. Wrap wires at crimp connectors with electrical tape so they will not come loose during operation.
15. Install switch box and close belt cover.
16. Feed laser module electrical box cord through hole in new LED assembly (see **Figure 85**).

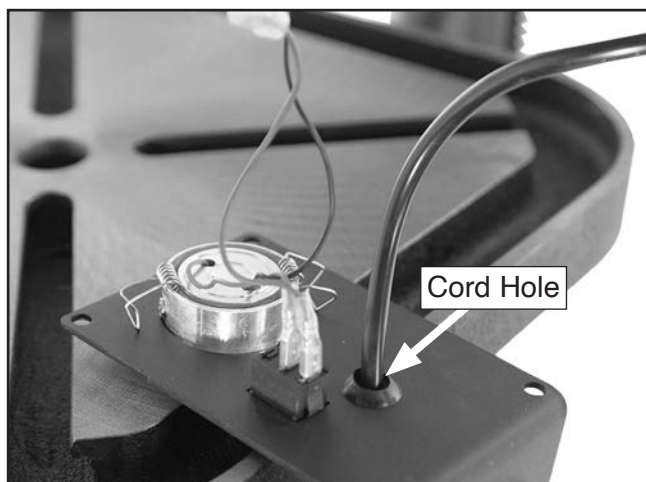


Figure 85. Laser module electrical box cord fed through LED assembly hole.

17. Feed new LED cord and LED into headstock, then attach new LED assembly with screws removed in **Step 5**.
18. Attach laser module electrical box to LED assembly with fasteners removed in **Step 4** (see **Figure 86**).



Figure 86. Laser module electrical box attached to LED assembly.

19. Attach laser module electrical box cord wires to crimp connector and laser switch as they were connected in **Step 3**. Wrap wires at crimp connector with electrical tape so they will not come loose during operation.
20. Feed any slack in laser module electrical box cord into headstock, then install laser module electrical box cover with screws removed in **Step 2**.
21. Refer to **Adjusting Laser Guide** on **Page 34** to secure and adjust laser modules.

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.


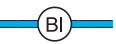
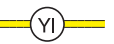


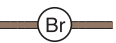


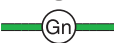

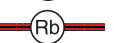


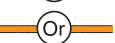
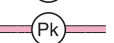
CAPACITORS/INVERTERS. Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

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.

COLOR KEY

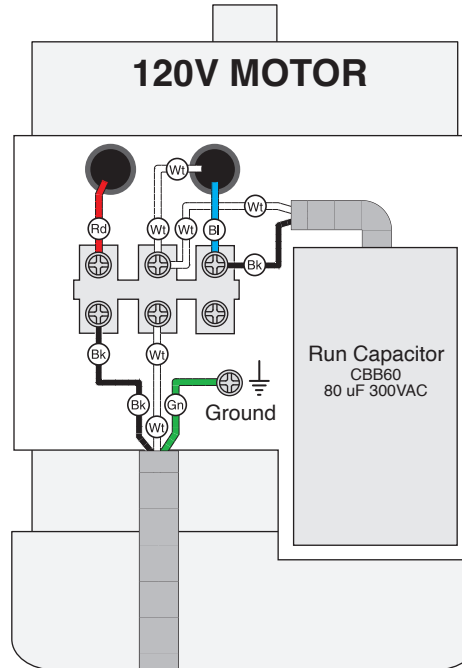
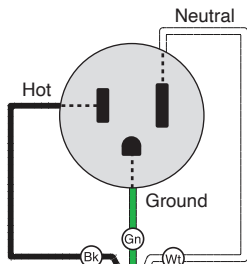
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WHITE		BROWN		YELLOW GREEN		BLUE WHITE	
GREEN		GRAY		RED		TURQUOISE	
RED		ORANGE		PINK			



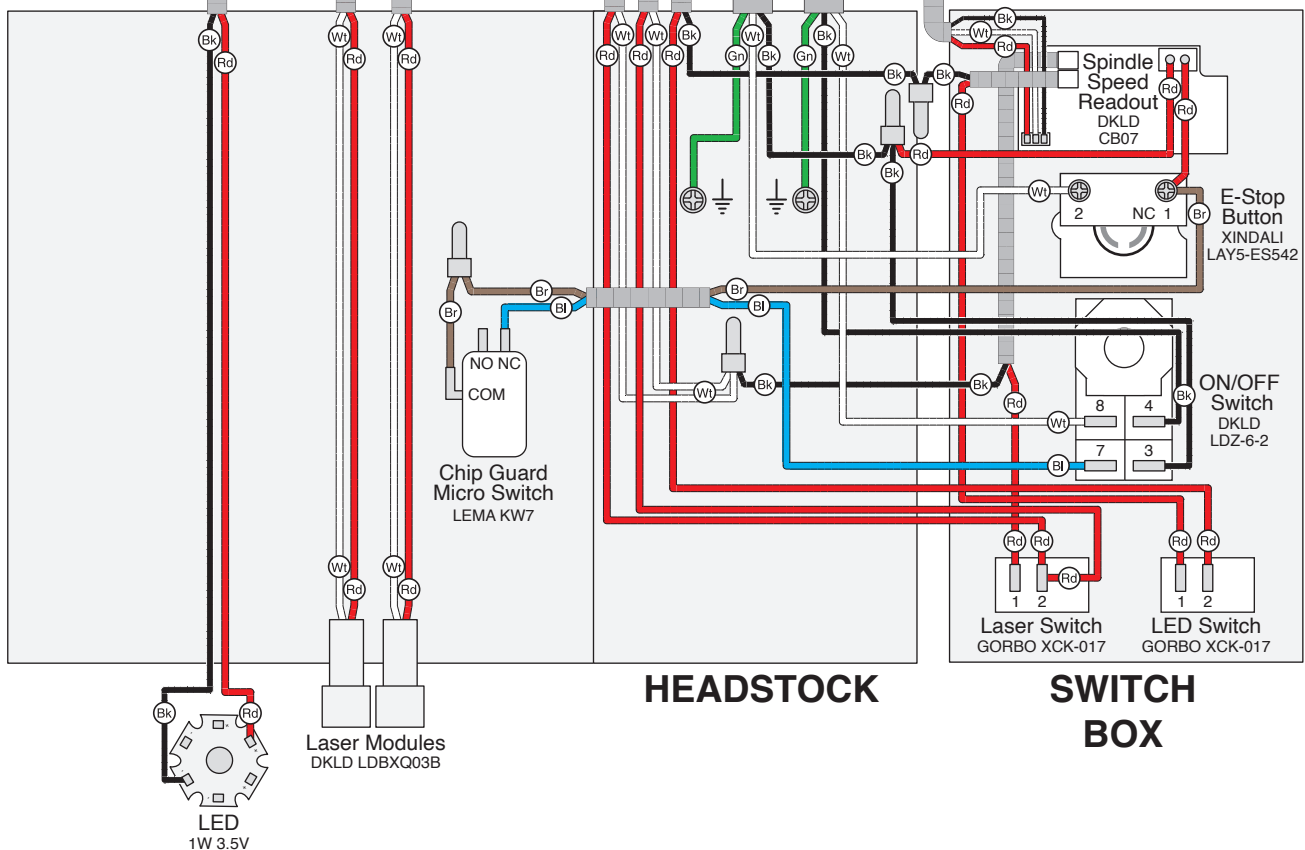
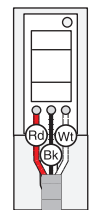
T33959/T33960 Wiring Diagram



120 VAC
5-15 Plug



Speed Sensor
DKLD CB07-5C



T33959/T33960 Electrical Components

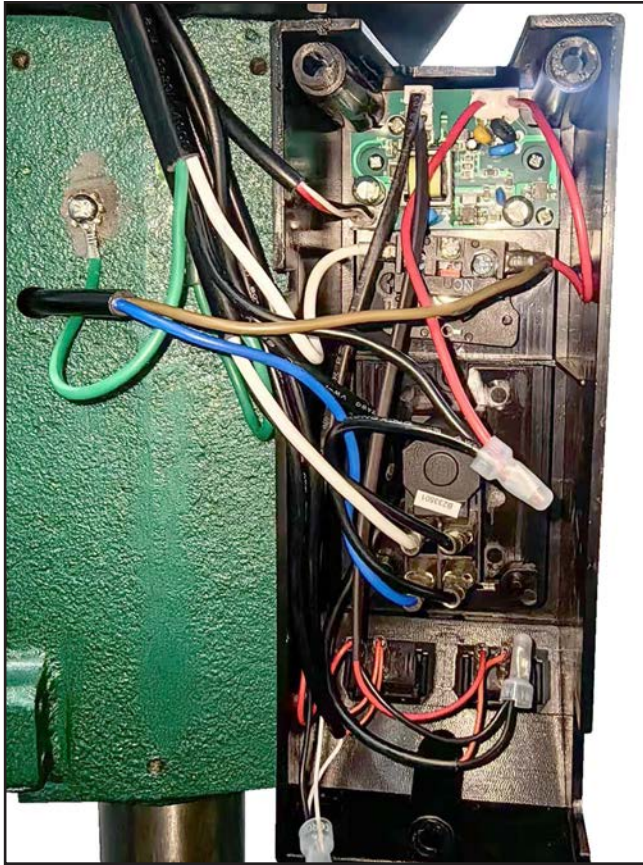


Figure 87. Switch box wiring.



Figure 89. Motor junction box wiring.



Figure 88. Spindle speed sensor.



Figure 90. Laser module and LED wiring.

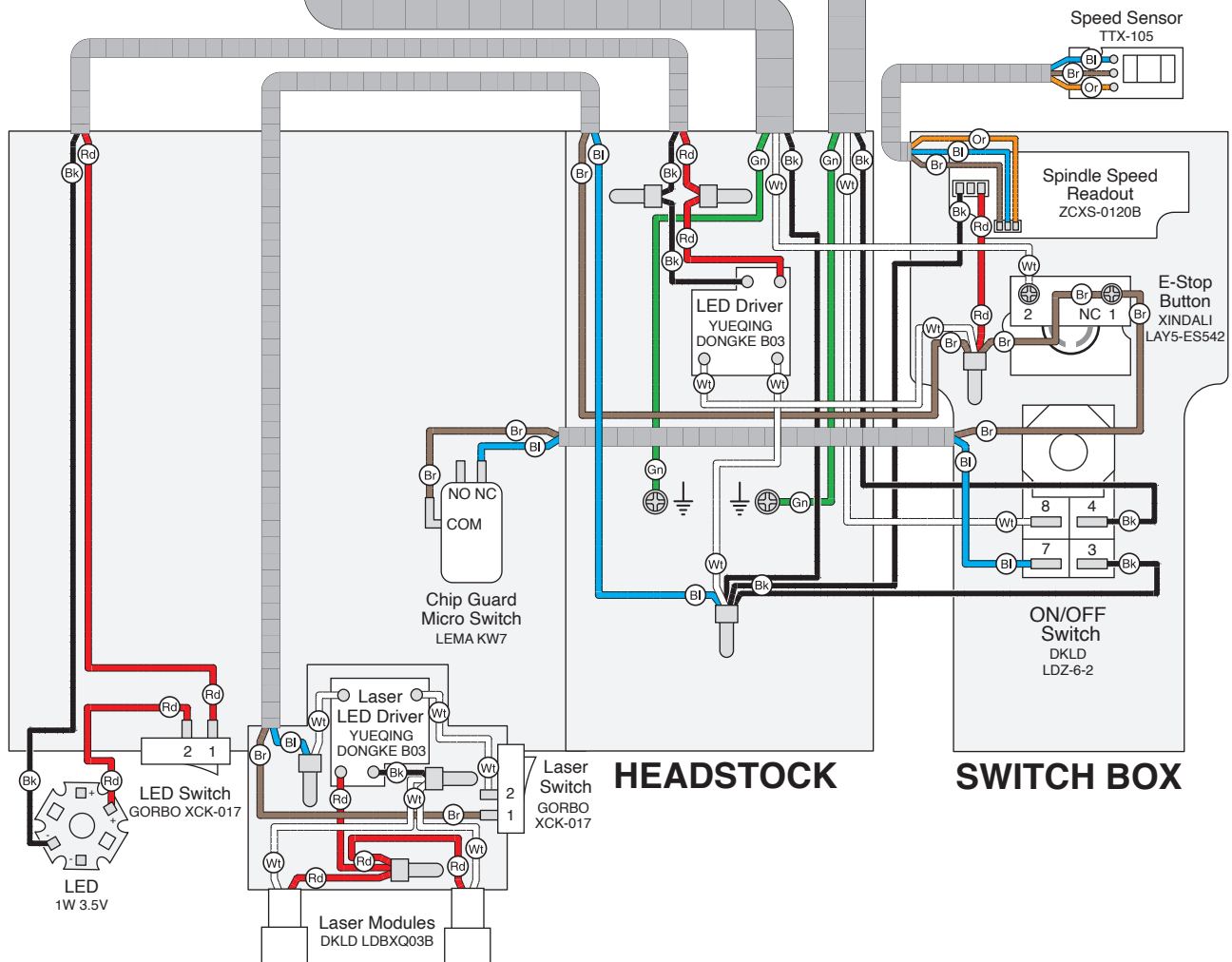
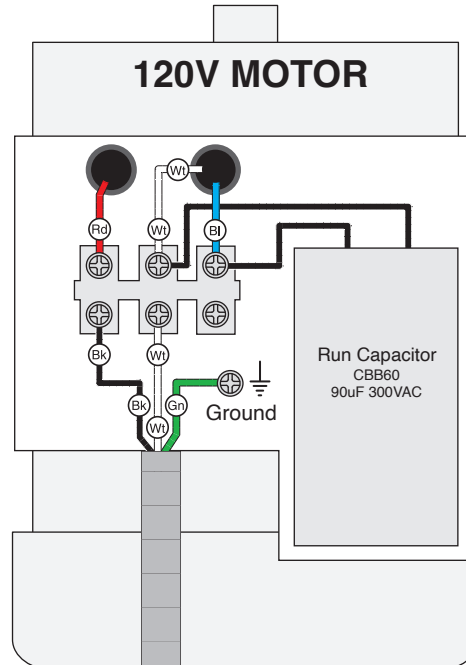
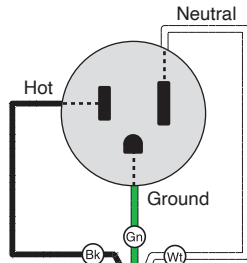


Figure 91. Chip guard micro switch wiring.

T33961 Wiring Diagram



120 VAC
5-15 Plug



T33961 Electrical Components

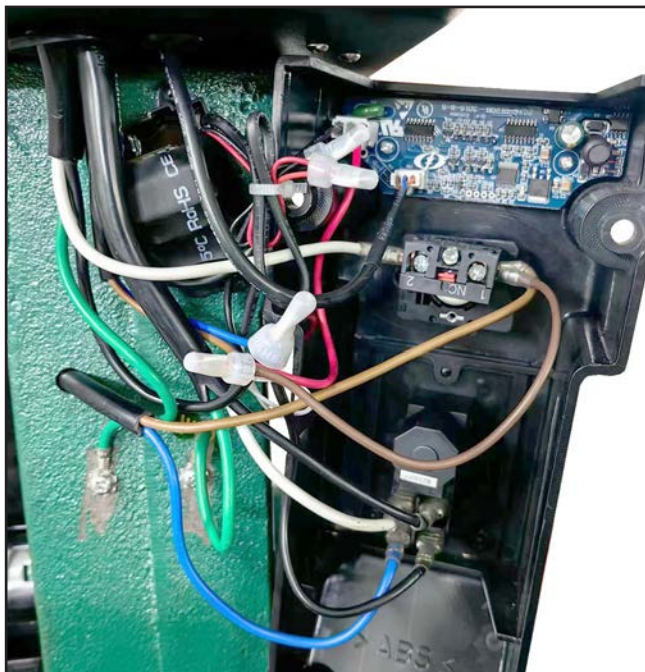


Figure 92. Switch box wiring.

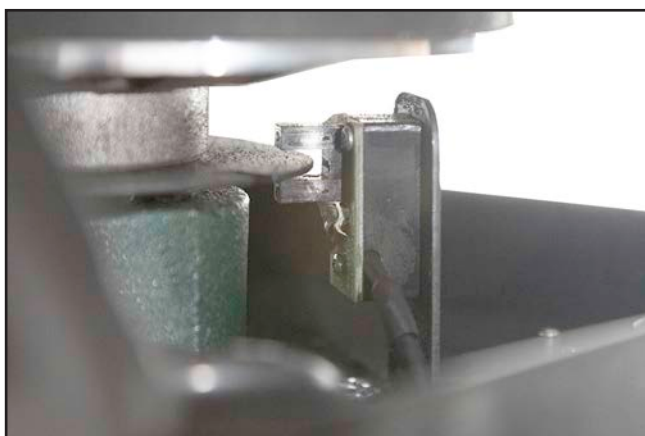


Figure 93. Spindle speed sensor.



Figure 94. Chip guard micro switch wiring.



Figure 95. Motor junction box wiring.

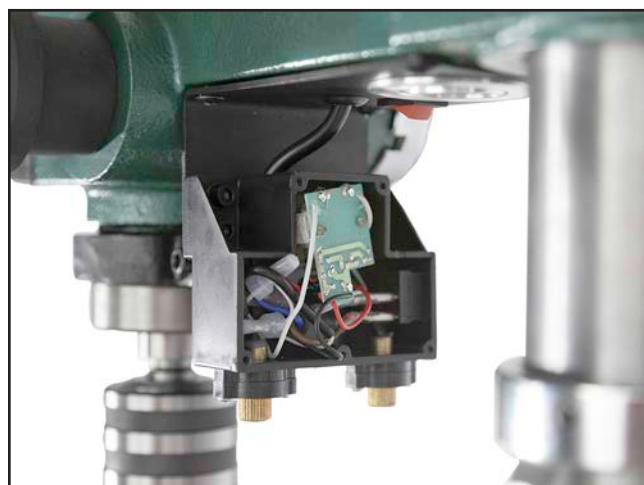


Figure 96. Laser module wiring.

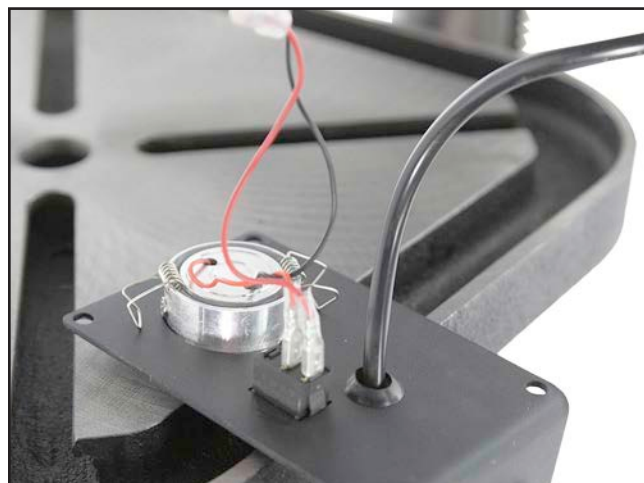
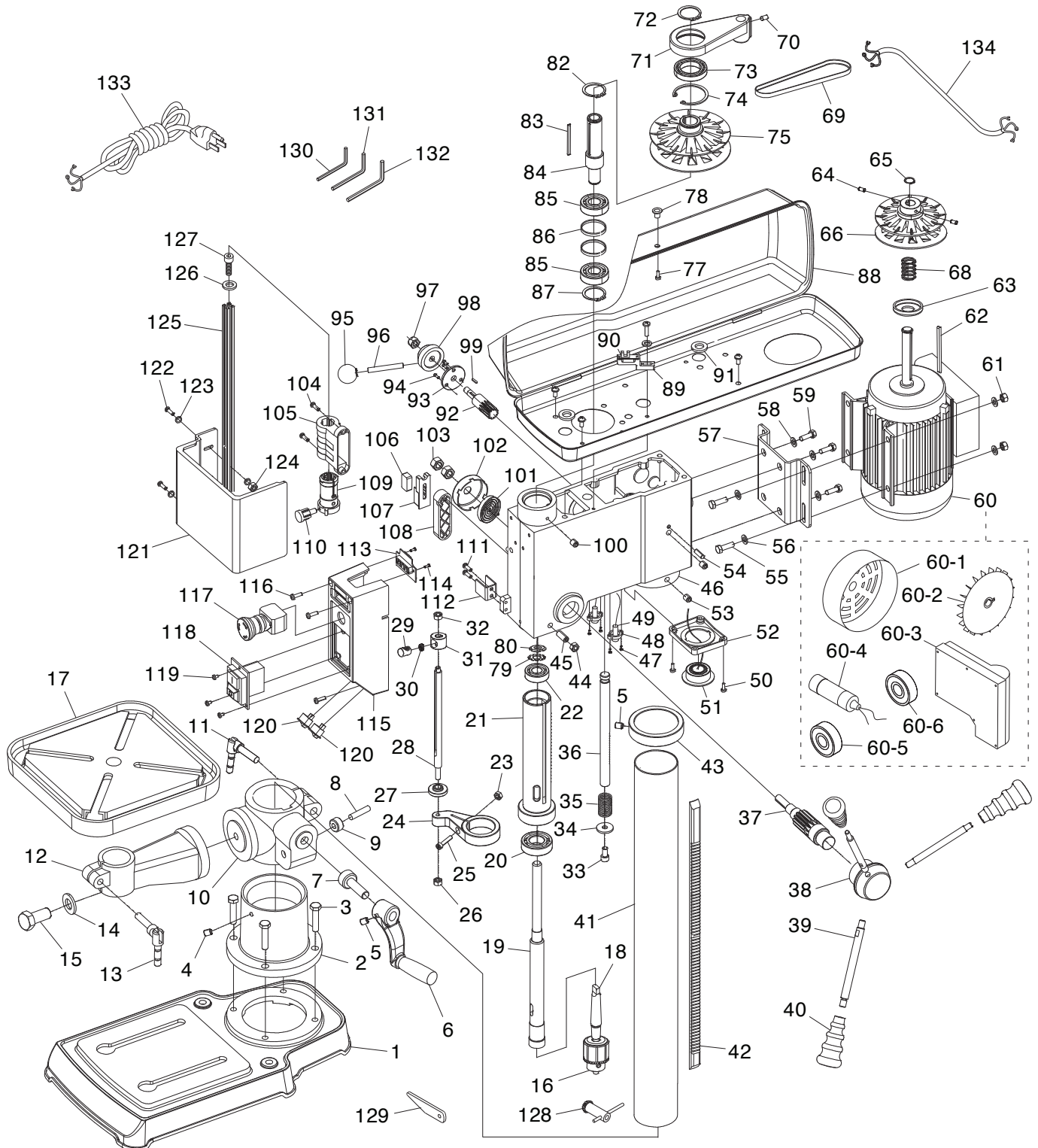


Figure 97. LED wiring.

SECTION 9: PARTS

We do our best to stock replacement parts when possible, but we cannot guarantee that all parts shown are available for purchase. Call (800) 523-4777 or visit www.grizzly.com/parts to check for availability.

T33959 Main



T33959 Main Parts List

REF	PART #	DESCRIPTION
1	PT33959001	BASE
2	PT33959002	COLUMN SEAT
3	PT33959003	HEX BOLT M10-1.5 X 40
4	PT33959004	SET SCREW M10-1.5 X 12
5	PT33959005	SET SCREW M6-1 X 10
6	PT33959006	TABLE HEIGHT CRANK
7	PT33959007	WORM SHAFT
8	PT33959008	GEAR SHAFT
9	PT33959009	GEAR 14T
10	PT33959010	TABLE BRACKET
11	PT33959011	FOLDING HANDLE M12-1.75 X 35, 80L
12	PT33959012	TABLE MOUNTING ARM
13	PT33959013	FOLDING HANDLE M10-1.5 X 25, 74L
14	PT33959014	LOCK WASHER 16MM
15	PT33959015	HEX BOLT M16-2 X 35
16	PT33959016	DRILL CHUCK JT3 5/8
17	PT33959017	TABLE
18	PT33959018	DRILL CHUCK ARBOR MT#2 X JT3
19	PT33959019	SPINDLE MT#2
20	PT33959020	BALL BEARING 6205ZZ
21	PT33959021	QUILL
22	PT33959022	BALL BEARING 6203ZZ
23	PT33959023	HEX NUT M6-1
24	PT33959024	DEPTH COLLAR
25	PT33959025	CAP SCREW M6-1 X 20
26	PT33959026	HEX NUT M8-1.25
27	PT33959027	RETURN STOP NUT
28	PT33959028	THREADED DEPTH ROD
29	PT33959029	QUICK-RELEASE BUTTON
30	PT33959030	COMPRESSION SPRING 1.2 X 14 X 14
31	PT33959031	DEPTH STOP NUT
32	PT33959032	HEX NUT M8-1.25
33	PT33959033	CAP SCREW M8-1.25 X 12
34	PT33959034	FLAT WASHER 8MM
35	PT33959035	COMPRESSION SPRING 2 X 22 X 80
36	PT33959036	SPEED SHAFT
37	PT33959037	PINION SHAFT
38	PT33959038	DOWNFEED LEVER HUB
39	PT33959039	STUD-DE M10-1.5 X 13, M8-1.25 X 15, 146
40	PT33959040	KNOB M8-1.25, D40
41	PT33959041	COLUMN
42	PT33959042	RACK
43	PT33959043	COLUMN COLLAR
44	PT33959044	HEX NUT M10-1.5 THIN
45	PT33959045	SET SCREW M10-1.5 X 28 SLOTTED
46	PT33959046	HEADSTOCK
47	PT33959047	PHLP HD SCR M4-.7 X 16
48	PT33959048	LASER SEAT
49	PT33959049	LASER MODULE DKLD 1801 LDBXQ03B
50	PT33959050	PHLP HD SCR M4-.7 X 16
51	PT33959051	LED 3.5V 1W
52	PT33959052	LED SEAT
53	PT33959053	SET SCREW M10-1.5 X 12
54	PT33959054	ROLL PIN 6 X 26

REF	PART #	DESCRIPTION
55	PT33959055	HEX BOLT M8-1.25 X 25
56	PT33959056	FLAT WASHER 8MM
57	PT33959057	MOTOR MOUNT
58	PT33959058	FLAT WASHER 8MM
59	PT33959059	HEX BOLT M8-1.25 X 16
60	PT33959060	MOTOR 1HP 120V 1-PH
60-1	PT33959060-1	MOTOR FAN COVER
60-2	PT33959060-2	MOTOR FAN
60-3	PT33959060-3	MOTOR JUNCTION BOX
60-4	PT33959060-4	R CAPACITOR 80M 300V 2 X 3-11/16
60-5	PT33959060-5	BALL BEARING 6205ZZ (FRONT)
60-6	PT33959060-6	BALL BEARING 6204ZZ (REAR)
61	PT33959061	HEX NUT M8-1.25
62	PT33959062	KEY 4 X 4 X 84
63	PT33959063	MOTOR SPRING SEAT
64	PT33959064	SET SCREW M6-1 X 10
65	PT33959065	EXT RETAINING RING 15MM
66	PT33959066	MOTOR PULLEY SET
68	PT33959068	COMPRESSION SPRING 2.5 X 28 X 78
69	PT33959069	V-BELT XPZ1060
70	PT33959070	SET SCREW M8-1.25 X 10
71	PT33959071	SPEED SEAT
72	PT33959072	EXT RETAINING RING 35MM
73	PT33959073	BALL BEARING 61907ZZ
74	PT33959074	INT RETAINING RING 55MM
75	PT33959075	SPINDLE PULLEY SET
77	PT33959077	PHLP HD SCR M5-.8 X 10
78	PT33959078	KNOB M5-.8, D22, ROUND KD
79	PT33959079	EXT TOOTH WASHER 17MM
80	PT33959080	SPANNER NUT M17-1
82	PT33959082	EXT RETAINING RING 24MM
83	PT33959083	KEY 4 X 4 X 64
84	PT33959084	SPINDLE PULLEY SHAFT
85	PT33959085	BALL BEARING 6204ZZ
86	PT33959086	SPACER 37 X 45 X 4MM
87	PT33959087	EXT RETAINING RING 20MM
88	PT33959088	BELT COVER
89	PT33959089	SPEED SENSOR MOUNT
90	PT33959090	SPEED SENSOR DKLD CB07-5C
91	PT33959091	GROMMET 11/16" RUBBER
92	PT33959092	SPEED CONTROL SHAFT
93	PT33959093	SPEED ADJUST PLATE
94	PT33959094	FLAT HD SCR M5-.8 X 16
95	PT33959095	KNOB M8-1.25, D32, BALL
96	PT33959096	STUD-DE M8-1.25 X 55, 12
97	PT33959097	LOCK NUT M10-1.5
98	PT33959098	SPEED HANDLE HUB
99	PT33959099	KEY 4 X 4 X 12
100	PT33959100	SET SCREW M8-1.25 X 8
101	PT33959101	FLAT COIL SPRING
102	PT33959102	RETURN SPRING COVER
103	PT33959103	HEX NUT M12-1.5 THIN
104	PT33959104	PHLP HD SCR M5-.8 X 30
105	PT33959105	MICRO SWITCH HOUSING



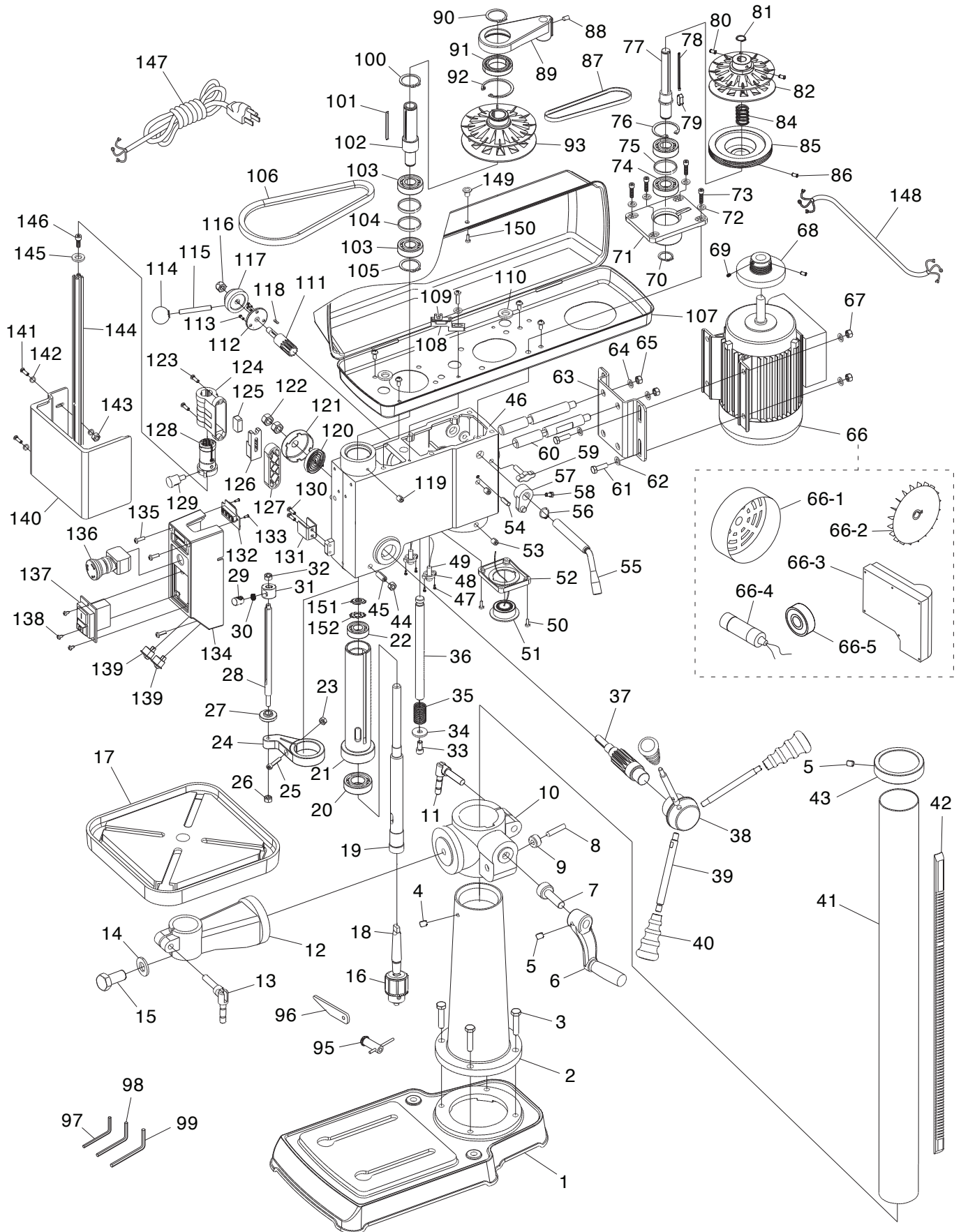
T33959 Main Parts List (Cont.)

REF	PART #	DESCRIPTION
106	PT33959106	MICRO SWITCH LIMA KW7
107	PT33959107	MICRO SWITCH ADJUSTMENT PLATE
108	PT33959108	CHUCK GUARD MOUNT
109	PT33959109	ROTATING SHAFT SLEEVE
110	PT33959110	KNOB BOLT M5-.8 X 20, D20, ROUND KD
111	PT33959111	PHLP HD SCR M5-.8 X 10
112	PT33959112	DEPTH STOP BRACKET
113	PT33959113	SPINDLE SPEED READOUT DKLD CB07
114	PT33959114	TAP SCREW M2.9 X 6.5
115	PT33959115	SWITCH BOX
116	PT33959116	PHLP HD SCR M5-.8 X 16
117	PT33959117	E-STOP BUTTON XINDALI LAY5-ES542
118	PT33959118	ON/OFF SWITCH DKLD LDZ-6-2
119	PT33959119	TAP SCREW M4.2 X 9
120	PT33959120	ROCKER SWITCH GORBO XCK-017

REF	PART #	DESCRIPTION
121	PT33959121	CHUCK GUARD
122	PT33959122	PHLP HD SCR M5-.8 X 25
123	PT33959123	FLAT WASHER 5MM
124	PT33959124	HEX NUT M5-.8
125	PT33959125	RAIL
126	PT33959126	FLAT WASHER 6MM
127	PT33959127	CAP SCREW M6-1 X 8
128	PT33959128	DRILL CHUCK KEY 5/16" TH 11T SD-5/8"
129	PT33959129	DRIFT KEY
130	PT33959130	HEX WRENCH 3MM
131	PT33959131	HEX WRENCH 4MM
132	PT33959132	HEX WRENCH 5MM
133	PT33959133	POWER CORD 16G 3W 71" 5-15P
134	PT33959134	MOTOR CORD 16G 3W 39"



T33960 Main



T33960 Main Parts List

REF	PART #	DESCRIPTION
1	PT33960001	BASE
2	PT33960002	COLUMN SEAT
3	PT33960003	HEX BOLT M10-1.5 X 40
4	PT33960004	SET SCREW M10-1.5 X 12
5	PT33960005	SET SCREW M6-1 X 10
6	PT33960006	TABLE HEIGHT CRANK
7	PT33960007	WORM SHAFT
8	PT33960008	GEAR SHAFT
9	PT33960009	GEAR 14T
10	PT33960010	TABLE BRACKET
11	PT33960011	FOLDING HANDLE M12-1.75 X 35, 80L
12	PT33960012	TABLE MOUNTING ARM
13	PT33960013	FOLDING HANDLE M10-1.5 X 25, 74L
14	PT33960014	LOCK WASHER 16MM
15	PT33960015	HEX BOLT M16-2 X 35
16	PT33960016	DRILL CHUCK JT3 5/8
17	PT33960017	TABLE
18	PT33960018	DRILL CHUCK ARBOR MT#2 X JT3
19	PT33960019	SPINDLE MT#2
20	PT33960020	BALL BEARING 6205ZZ
21	PT33960021	QUILL
22	PT33960022	BALL BEARING 6203ZZ
23	PT33960023	HEX NUT M6-1
24	PT33960024	DEPTH COLLAR
25	PT33960025	CAP SCREW M6-1 X 20
26	PT33960026	HEX NUT M8-1.25
27	PT33960027	RETURN STOP NUT
28	PT33960028	THREADED DEPTH ROD
29	PT33960029	QUICK-RELEASE BUTTON
30	PT33960030	COMPRESSION SPRING 1.2 X 14 X 14
31	PT33960031	DEPTH STOP NUT
32	PT33960032	HEX NUT M8-1.25
33	PT33960033	CAP SCREW M8-1.25 X 12
34	PT33960034	FLAT WASHER 8MM
35	PT33960035	COMPRESSION SPRING 2 X 22 X 80
36	PT33960036	SPEED SHAFT
37	PT33960037	PINION SHAFT
38	PT33960038	DOWNFEED LEVER HUB
39	PT33960039	STUD-DE M10-1.5 X 13, M8-1.25 X 15, 146
40	PT33960040	KNOB M8-1.25, D40
41	PT33960041	COLUMN
42	PT33960042	RACK
43	PT33960043	COLUMN COLLAR
44	PT33960044	HEX NUT M10-1.5 THIN
45	PT33960045	SET SCREW M10-1.5 X 28 SLOTTED
46	PT33960046	HEADSTOCK
47	PT33960047	PHLP HD SCR M4-.7 X 16
48	PT33960048	LASER SEAT
49	PT33960049	LASER MODULE DKLD 1801
50	PT33960050	PHLP HD SCR M4-.7 X 16
51	PT33960051	LED 3.5V 1W
52	PT33960052	LED SEAT
53	PT33960053	SET SCREW M10-1.5 X 12
54	PT33960054	ROLL PIN 6 X 26

REF	PART #	DESCRIPTION
55	PT33960055	BELT TENSION LEVER
56	PT33960056	EXT RETAINING RING 15MM
57	PT33960057	BELT TENSION BLOCK
58	PT33960058	HEX BOLT M8-1.25 X 16
59	PT33960059	KNOB BOLT M10-1.5 X 33, D36, WING
60	PT33960060	SLIDE BAR LEFT
61	PT33960061	HEX BOLT M8-1.25 X 25
62	PT33960062	FLAT WASHER 8MM
63	PT33960063	MOTOR MOUNT
64	PT33960064	LOCK WASHER 8MM
65	PT33960065	HEX NUT M12-1.75
66	PT33960066	MOTOR 1HP 120V 1-PH
66-1	PT33960066-1	MOTOR FAN COVER
66-2	PT33960066-2	MOTOR FAN
66-3	PT33960066-3	MOTOR JUNCTION BOX
66-4	PT33960066-4	R CAPACITOR 80M 300V 2 X 3-11/16
66-5	PT33960066-5	BALL BEARING 6204ZZ
67	PT33960067	HEX NUT M8-1.25
68	PT33960068	MOTOR SPEED RANGE PULLEY
69	PT33960069	SET SCREW M6-1 X 10
70	PT33960070	EXT RETAINING RING 20MM
71	PT33960071	IDLER PULLEY BEARING SEAT
72	PT33960072	LOCK WASHER 6MM
73	PT33960073	CAP SCREW M6-1 X 20
74	PT33960074	BALL BEARING 6204ZZ
75	PT33960075	SPACER 37 X 45 X 4MM
76	PT33960076	INT RETAINING RING 47MM
77	PT33960077	IDLER PULLEY SHAFT
78	PT33960078	KEY 4 X 4 X 78
79	PT33960079	KEY 6 X 6 X 15
80	PT33960080	SET SCREW M6-1 X 10
81	PT33960081	EXT RETAINING RING 15MM
82	PT33960082	IDLER PULLEY SET
84	PT33960084	COMPRESSION SPRING 2.5 X 28 X 78
85	PT33960085	IDLER SPEED RANGE PULLEY
86	PT33960086	SET SCREW M6-1 X 10
87	PT33960087	V-BELT 5V X 27.6L RIBBED
88	PT33960088	SET SCREW M8-1.25 X 10
89	PT33960089	SPEED SEAT
90	PT33960090	EXT RETAINING RING 35MM
91	PT33960091	BALL BEARING 61907ZZ
92	PT33960092	INT RETAINING RING 55MM
93	PT33960093	SPINDLE PULLEY SET
95	PT33960095	DRILL CHUCK KEY 5/16" TH 11T SD-5/8"
96	PT33960096	DRIFT KEY
97	PT33960097	HEX WRENCH 3MM
98	PT33960098	HEX WRENCH 4MM
99	PT33960099	HEX WRENCH 5MM
100	PT33960100	EXT RETAINING RING 35MM
101	PT33960101	KEY 4 X 4 X 64
102	PT33960102	SPINDLE PULLEY SHAFT
103	PT33960103	BALL BEARING 6204ZZ
104	PT33960104	SPACER 37 X 45 X 4MM
105	PT33960105	EXT RETAINING RING 20MM



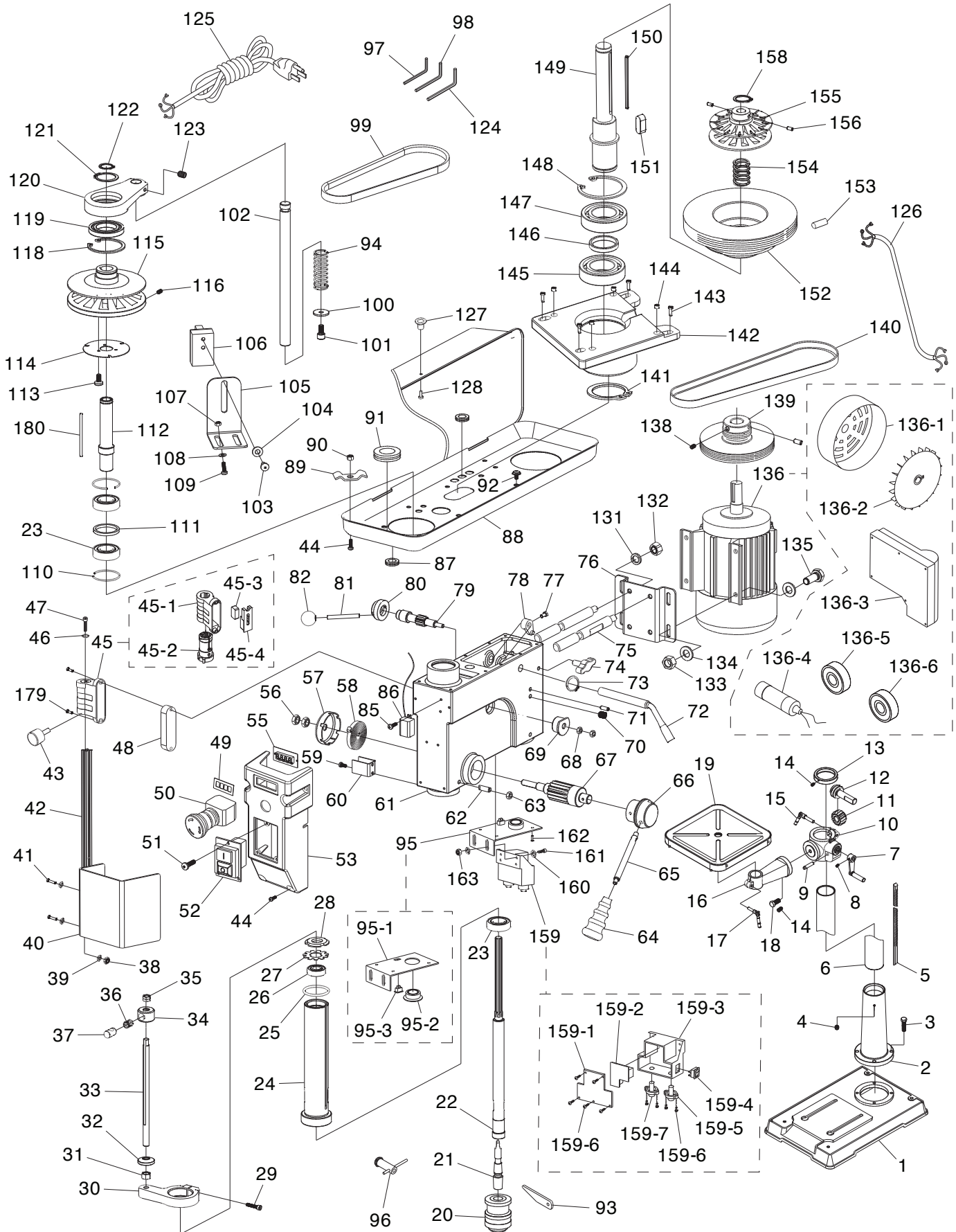
T33960 Main Parts List (Cont.)

REF	PART #	DESCRIPTION
106	PT33960106	V-BELT AX24
107	PT33960107	BELT COVER
108	PT33960108	SPEED SENSOR MOUNT
109	PT33960109	SPEED SENSOR DKLD CB07-5C
110	PT33960110	GROMMET 11/16" RUBBER
111	PT33960111	SPEED CONTROL SHAFT
112	PT33960112	SPEED ADJUST PLATE
113	PT33960113	FLAT HD SCR M5-.8 X 16
114	PT33960114	KNOB M8-1.25, D32, BALL
115	PT33960115	STUD-DE M8-1.25 X 55, 12
116	PT33960116	LOCK NUT M10-1.5
117	PT33960117	SPEED HANDLE HUB
118	PT33960118	KEY 4 X 4 X 12
119	PT33960119	SET SCREW M8-1.25 X 8
120	PT33960120	FLAT COIL SPRING
121	PT33960121	RETURN SPRING COVER
122	PT33960122	HEX NUT M12-1.5 THIN
123	PT33960123	PHLP HD SCR M5-.8 X 30
124	PT33960124	MICRO SWITCH HOUSING
125	PT33960125	MICRO SWITCH LIMA KW7
126	PT33960126	MICRO SWITCH ADJUSTMENT PLATE
127	PT33960127	CHUCK GUARD MOUNT
128	PT33960128	ROTATING SHAFT SLEEVE
129	PT33960129	KNOB BOLT M5-.8 X 20, D20, ROUND KD

REF	PART #	DESCRIPTION
130	PT33960130	PHLP HD SCR M5-.8 X 10
131	PT33960131	DEPTH STOP BRACKET
132	PT33960132	SPINDLE SPEED READOUT DKLD CB07
133	PT33960133	TAP SCREW M2.9 X 6.5
134	PT33960134	SWITCH BOX
135	PT33960135	PHLP HD SCR M5-.8 X 16
136	PT33960136	E-STOP BUTTON XINDALI LAY5-ES542
137	PT33960137	ON/OFF SWITCH DKLD LDZ-6-2
138	PT33960138	TAP SCREW M4.2 X 9
139	PT33960139	ROCKER SWITCH GORBO XCK-017
140	PT33960140	CHUCK GUARD
141	PT33960141	PHLP HD SCR M5-.8 X 25
142	PT33960142	FLAT WASHER 5MM
143	PT33960143	HEX NUT M5-.8
144	PT33960144	RAIL
145	PT33960145	FLAT WASHER 6MM
146	PT33960146	CAP SCREW M6-1 X 8
147	PT33960147	POWER CORD 16G 3W 71" 5-15P
148	PT33960148	MOTOR CORD 16G 3W 39"
149	PT33960149	KNOB M5-.8, D22, ROUND KD
150	PT33960150	PHLP HD SCR M5-.8 X 10
151	PT33960151	SPANNER NUT M17-1
152	PT33960152	EXT TOOTH WASHER 17MM



T33961 Main



T33961 Main Parts List

REF	PART #	DESCRIPTION
1	PT33961001	BASE
2	PT33961002	COLUMN SEAT
3	PT33961003	HEX BOLT M12-1.75 X 40
4	PT33961004	SET SCREW M10-1.5 X 12
5	PT33961005	RACK
6	PT33961006	COLUMN
7	PT33961007	TABLE HEIGHT CRANK
8	PT33961008	SET SCREW M6-1 X 10
9	PT33961009	GEAR SHAFT
10	PT33961010	TABLE BRACKET
11	PT33961011	GEAR 14T
12	PT33961012	WORM SHAFT
13	PT33961013	COLUMN COLLAR
14	PT33961014	SET SCREW M6-1 X 10
15	PT33961015	FOLDING HANDLE M12-1.75 X 35, 80L
16	PT33961016	TABLE MOUNTING ARM
17	PT33961017	FOLDING HANDLE M10-1.5 X 25, 74L
18	PT33961018	HEX BOLT M16-2 X 35
19	PT33961019	TABLE
20	PT33961020	DRILL CHUCK JT3 5/8
21	PT33961021	DRILL CHUCK ARBOR MT#2 X JT3
22	PT33961022	SPINDLE MT#2
23	PT33961023	BALL BEARING 6205ZZ
24	PT33961024	QUILL
25	PT33961025	O-RING 49 X 4.7
26	PT33961026	BALL BEARING 6203ZZ
27	PT33961027	EXT TOOTH WASHER 17MM
28	PT33961028	SPANNER NUT M17-1
29	PT33961029	CAP SCREW M6-1 X 30
30	PT33961030	DEPTH COLLAR
31	PT33961031	HEX NUT M12-1.75
32	PT33961032	RETURN STOP NUT
33	PT33961033	THREADED DEPTH ROD
34	PT33961034	DEPTH STOP NUT
35	PT33961035	HEX NUT M10-1.5
36	PT33961036	COMPRESSION SPRING 1.2 X 14 X 14
37	PT33961037	QUICK-RELEASE BUTTON
38	PT33961038	HEX NUT M5-.8
39	PT33961039	FLAT WASHER 5MM
40	PT33961040	CHIP GUARD
41	PT33961041	PHLP HD SCR M5-.8 X 25
42	PT33961042	RAIL
43	PT33961043	KNOB BOLT M5-.8 X 20, D20
44	PT33961044	PHLP HD SCR M5-.8 X 16
45	PT33961045	MICRO SWITCH ASSEMBLY
45-1	PT33961045-1	MICRO SWITCH HOUSING
45-2	PT33961045-2	ROTATING SHAFT SLEEVE
45-3	PT33961045-3	MICRO SWITCH LIMA KW7
45-4	PT33961045-4	MICRO SWITCH ADJUSTMENT PLATE
46	PT33961046	FLAT WASHER 6MM
47	PT33961047	CAP SCREW M6-1 X 8
48	PT33961048	CHUCK GUARD MOUNT
49	PT33961049	DIGITAL DISPLAY SCREEN
50	PT33961050	E-STOP BUTTON XINDALI LAY5-ES542

REF	PART #	DESCRIPTION
51	PT33961051	TAP SCREW M4.2 X 9
52	PT33961052	ON/OFF SWITCH DKLD LDZ-6-2
53	PT33961053	SWITCH BOX
55	PT33961055	SPINDLE SPEED READOUT ZCXS-0120B
56	PT33961056	HEX NUT M12-1.75 THIN
57	PT33961057	RETURN SPRING COVER
58	PT33961058	FLAT COIL SPRING
59	PT33961059	PHLP HD SCR M5-.8 X 12
60	PT33961060	DEPTH STOP BRACKET
61	PT33961061	HEADSTOCK
62	PT33961062	SET SCREW M10-1.5 X 28 SLOTTED
63	PT33961063	HEX NUT M10-1.5 THIN
64	PT33961064	KNOB M8-1.25, D40
65	PT33961065	STUD-DE M10-1.5 X 13, M8-1.25 X 15, 146
66	PT33961066	DOWNFEED LEVER HUB
67	PT33961067	PINION SHAFT
68	PT33961068	HEX NUT M8-1.25
69	PT33961069	BUSHING
70	PT33961070	SET SCREW M10-1.5 X 12
71	PT33961071	ROLL PIN 8 X 25
72	PT33961072	BELT TENSION LEVER
73	PT33961073	EXT RETAINING RING 15MM
74	PT33961074	KNOB BOLT M10-1.5 X 33, D36, WING
75	PT33961075	SLIDE BAR LEFT
76	PT33961076	MOTOR MOUNT
77	PT33961077	HEX BOLT M8-1.25 X 16
78	PT33961078	BELT TENSION BLOCK
79	PT33961079	SPEED SHAFT
80	PT33961080	SPEED HANDLE HUB
81	PT33961081	STUD-DE M8-1.25 X 120, 8
82	PT33961082	KNOB M8-1.25, D39, BALL
85	PT33961085	PHLP HD SCR M4-.7 X 10
86	PT33961086	LED DRIVER UEQING DONGKE B03
87	PT33961087	GROMMET 5/16" RUBBER
88	PT33961088	BELT COVER
89	PT33961089	CORD CLAMP
90	PT33961090	HEX NUT M5-.8
91	PT33961091	GROMMET 11/16" RUBBER
92	PT33961092	FLANGE SCREW M6-1 X 12
93	PT33961093	DRIFT KEY
94	PT33961094	COMPRESSION SPRING 2 X 22 X 80
95	PT33961095	LED ASSEMBLY
95-1	PT33961095-1	LED ASSEMBLY MOUNT
95-2	PT33961095-2	LED 3.5V 1W
95-3	PT33961095-3	ROCKER SWITCH GORBO XCK-017 RED
96	PT33961096	DRILL CHUCK KEY 5/16" TH 11T SD-5/8"
97	PT33961097	HEX WRENCH 3MM
98	PT33961098	HEX WRENCH 4MM
99	PT33961099	V-BELT BX27
100	PT33961100	FLAT WASHER 10MM
101	PT33961101	CAP SCREW M10-1.5 X 10
102	PT33961102	SPEED SHAFT
103	PT33961103	TAP SCREW M2.9 X 6
104	PT33961104	FLAT WASHER 3MM



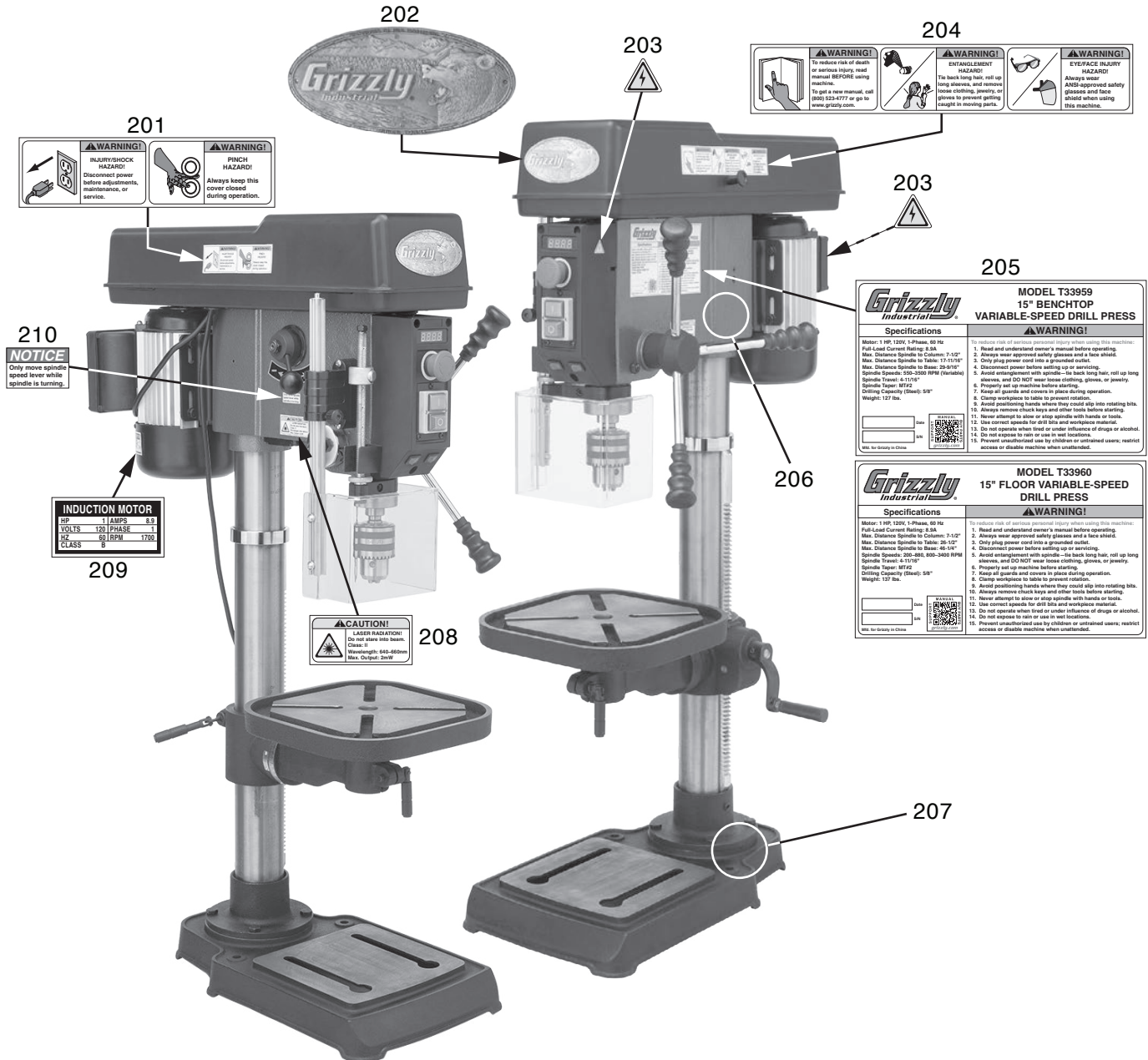
T33961 Main Parts List (Cont.)

REF	PART #	DESCRIPTION
105	PT33961105	SPEED SENSOR MOUNT
106	PT33961106	SPEED SENSOR TTX-105
107	PT33961107	HEX NUT M3-.5
108	PT33961108	FLAT WASHER 3MM
109	PT33961109	PHLP HD SCR M3-.5 X 10
110	PT33961110	SPACER 52 X 56 X 2MM
111	PT33961111	SPACER 42 X 50 X 5MM
112	PT33961112	SPINDLE PULLEY SHAFT
113	PT33961113	PHLP HD SCR M4-.7 X 8
114	PT33961114	PULLEY PLATE
115	PT33961115	SPINDLE PULLEY SET
116	PT33961116	SET SCREW M6-1 X 10
118	PT33961118	INT RETAINING RING 68MM
119	PT33961119	BALL BEARING 16008ZZ
120	PT33961120	SPEED SEAT
121	PT33961121	EXT RETAINING RING 40MM
122	PT33961122	EXT RETAINING RING 24MM
123	PT33961123	SET SCREW M8-1.25 X 12
124	PT33961124	HEX WRENCH 5MM
125	PT33961125	POWER CORD 14G 3W 71" 5-15P
126	PT33961126	MOTOR CORD 14G 3W 40"
127	PT33961127	KNOB M5-.8, D22, ROUND KD
128	PT33961128	PHLP HD SCR M5-.8 X 10
131	PT33961131	LOCK WASHER 12MM
132	PT33961132	HEX NUT M12-1.75
133	PT33961133	HEX NUT M8-1.25
134	PT33961134	FLAT WASHER 8MM
135	PT33961135	HEX BOLT M8-1.25 X 20
136	PT33961136	MOTOR 1-1/4HP 120V 1-PH
136-1	PT33961136-1	MOTOR FAN COVER
136-2	PT33961136-2	MOTOR FAN
136-3	PT33961136-3	MOTOR JUNCTION BOX
136-4	PT33961136-4	R CAPACITOR 90M 300V 2 X 3-15/16
136-5	PT33961136-5	BALL BEARING 6205ZZ (FRONT)
136-6	PT33961136-6	BALL BEARING 6204ZZ (REAR)

REF	PART #	DESCRIPTION
138	PT33961138	SET SCREW M6-1 X 10
139	PT33961139	MOTOR SPEED RANGE PULLEY
140	PT33961140	V-BELT 5V X 27.8L RIBBED
141	PT33961141	EXT RETAINING RING 25MM
142	PT33961142	IDLER PULLEY BEARING SEAT
143	PT33961143	HEX BOLT M6-1 X 20
144	PT33961144	SET SCREW M8-1.25 X 10
145	PT33961145	BALL BEARING 6005ZZ
146	PT33961146	SPACER 25 X 30 X 5MM
147	PT33961147	BALL BEARING 6005ZZ
148	PT33961148	INT RETAINING RING 47MM
149	PT33961149	IDLER PULLEY SHAFT
150	PT33961150	KEY 4 X 4 X 76
151	PT33961151	KEY 8 X 7 X 18
152	PT33961152	IDLER SPEED RANGE PULLEY
153	PT33961153	SET SCREW M6-1 X 12
154	PT33961154	COMPRESSION SPRING 3 X 30 X 58
155	PT33961155	IDLER PULLEY SET
156	PT33961156	SET SCREW M6-1 X 10
158	PT33961158	EXT RETAINING RING 16MM
159	PT33961159	LASER MODULE ASSEMBLY
159-1	PT33961159-1	LASER MODULE ELECTRICAL BOX COVER
159-2	PT33961159-2	LASER LED DRIVER UEQING DONGKE B03
159-3	PT33961159-3	LASER MODULE ELECTRICAL BOX
159-4	PT33961159-4	ROCKER SWITCH GORBO XCK-017 BLACK
159-5	PT33961159-5	LASER SEAT
159-6	PT33961159-6	TAP SCREW M2.9 X 12
159-7	PT33961159-7	LASER MODULE DKLD 1801 LDBXQ03B
160	PT33961160	FLAT WASHER 5MM
161	PT33961161	CAP SCREW M5-.8 X 12
162	PT33961162	PHLP HD SCR M5-.8 X 12
163	PT33961163	HEX NUT M5-.8
179	PT33961179	PHLP HD SCR M5-.8 X 45
180	PT33961180	KEY 4 X 4 X 76



T33959/T33960 Labels & Cosmetics



REF PART #	DESCRIPTION
201	PT33959201 SHOCK/PINCH HAZARD LABEL
202	PT33959202 GRIZZLY MINI NAMEPLATE
203	PT33959203 ELECTRICITY LABEL
204	PT33959204 MANUAL/ENTANGLEMENT/EYE-FACE LABEL
205	PT33959205 MACHINE ID LABEL (T33959)
205	PT33960205 MACHINE ID LABEL (T33960)

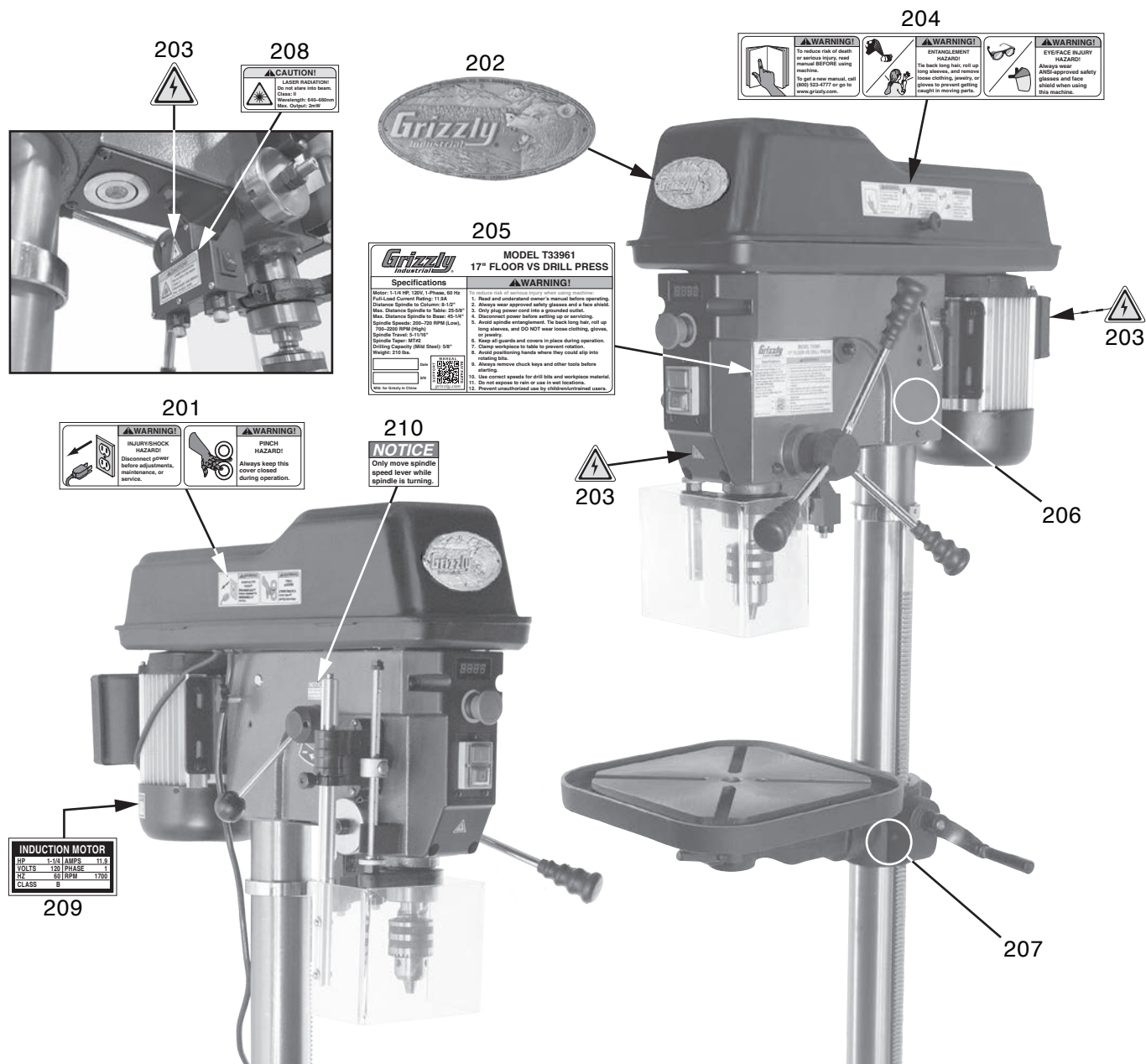
REF PART #	DESCRIPTION
206	PT33959206 TOUCH-UP PAINT, GRIZZLY GREEN
207	PT33959207 TOUCH-UP PAINT, GRIZZLY BLACK
208	PT33959208 LASER HAZARD LABEL
209	PT33959209 MOTOR LABEL
210	PT33959210 SPINDLE SPEED LEVER LABEL

⚠ WARNING

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



T33961 Labels & Cosmetics



REF	PART #	DESCRIPTION
201	PT33961201	SHOCK/PINCH HAZARD LABEL
202	PT33961202	GRIZZLY MINI NAMEPLATE
203	PT33961203	ELECTRICITY LABEL
204	PT33961204	MANUAL/ENTANGLEMENT/EYE-FACE LABEL
205	PT33961205	MACHINE ID LABEL

REF	PART #	DESCRIPTION
206	PT33961206	TOUCH-UP PAINT, GRIZZLY GREEN
207	PT33961207	TOUCH-UP PAINT, GRIZZLY BLACK
208	PT33961208	LASER HAZARD LABEL
209	PT33961209	MOTOR LABEL
210	PT33961210	SPINDLE SPEED LEVER LABEL

! WARNING

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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.

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

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

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

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

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





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