MODEL T33962/T33963
16"/20" VARIABLE-SPEED TAPPING DRILL PRESS
OWNER'S MANUAL
(For models manufactured since 10/23)



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#CS23032 PRINTED IN CHINA V1.02.24

******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

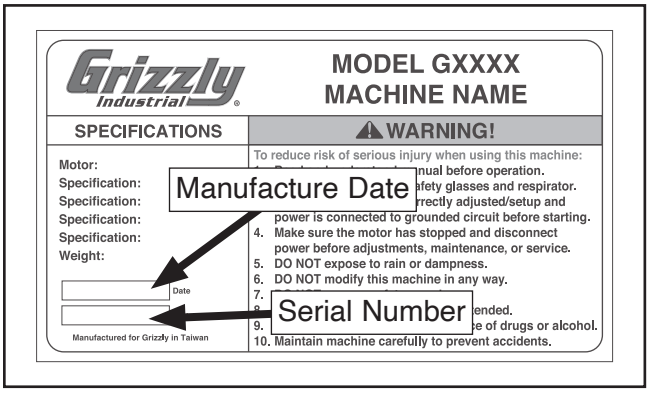
Manual Accuracy

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**.

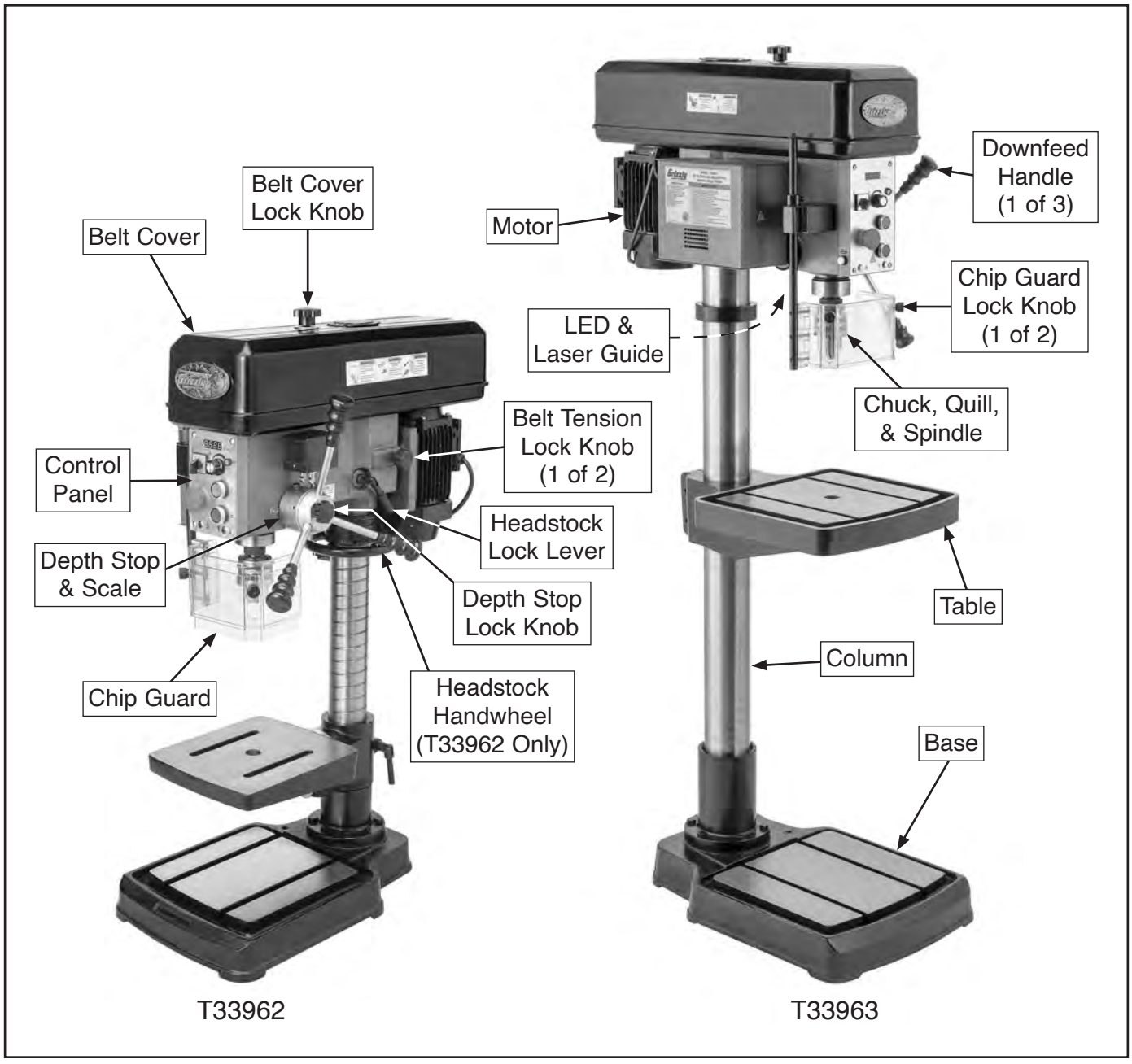
If you find this to be the case, and the difference between the manual and machine leaves you confused or unsure about something, check our website for an updated version. We post current manuals and manual updates for free on our website at **www.grizzly.com**.

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.



Identification

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

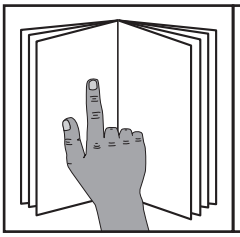


⚠WARNING

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.

Control Panel

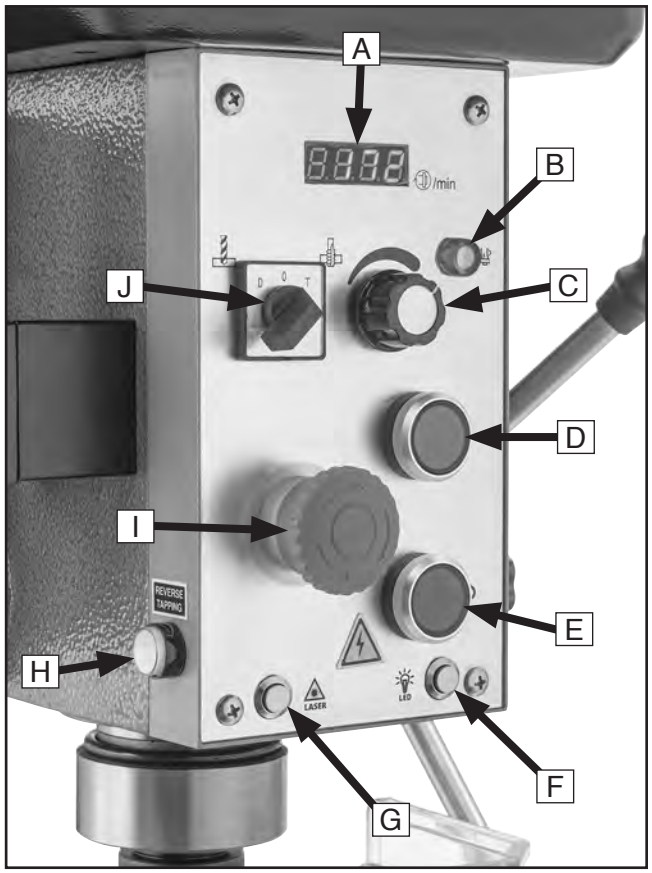


Figure 1. Control panel components.

A. Spindle Speed Digital Readout: Displays spindle speed (RPM).

B. Spindle Reverse Indicator Light: Illuminates when spindle is turning counterclockwise (when viewed from above) while tapping.

C. Spindle Speed Dial: Adjusts spindle speed between 0–600 RPM when configured for low speed range, or between 0–2100 RPM when configured for high speed range.

D. Spindle ON Button: Starts spindle rotation.

E. Spindle OFF Button: Stops spindle rotation.

F. LED Button: Turns LED ***ON*** or ***OFF***.

G. Laser Button: Turns laser guide ***ON*** or ***OFF***.

H. REVERSE TAPPING Button: Reverses spindle rotation while tapping to clear chips.

I. Emergency Stop Button: Turns machine ***OFF*** and prevents it from turning ***ON***. To reset, twist button clockwise until it pops out.

J. Mode Switch: Selects drilling (**D**), tapping (**T**), or neutral (**0**) operation mode.

LED & Laser Guide

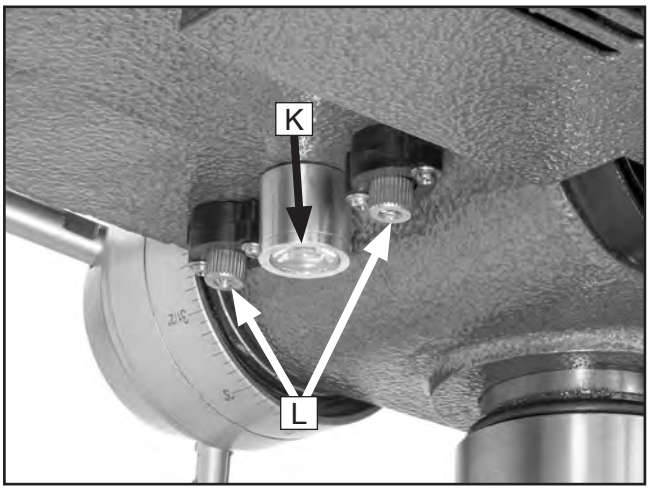


Figure 2. LED & laser guide components (T33963 shown).

K. LED: Illuminates work area.

L. Laser Guide: Projects crosshairs on table to align workpiece to cutting tool.

Headstock

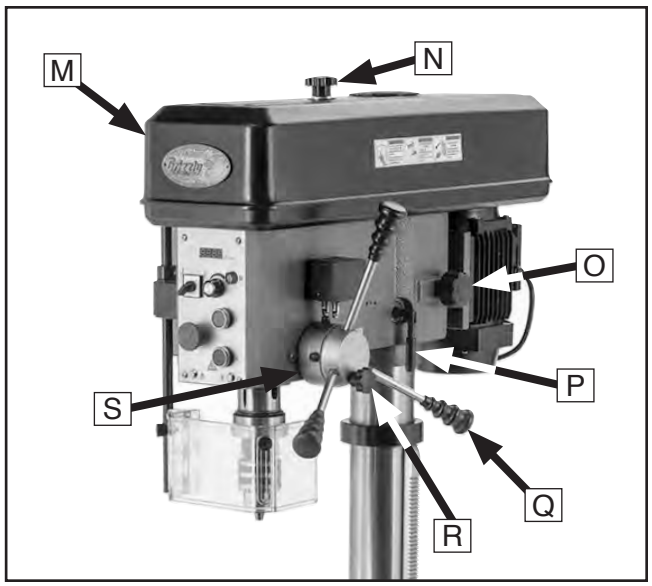


Figure 3. Right headstock components (T33963 shown).

M. Belt Cover: Protects user from revolving pulleys and V-belts; removes for speed range changes, maintenance, and service. When belt cover is removed, safety switch stops spindle and prevents it from starting.

N. Belt Cover Lock Knob: Secures belt cover.

O. Belt Tension Lock Knob (1 of 2): Locks motor position.

P. Headstock Lock Lever: Loosens to allow adjustment of headstock rotation on column; tightens to lock headstock rotation.

Note: *Model T33962 has additional headstock height adjustment.*

Q. Downfeed Handle (1 of 3): Moves spindle down when pulled down. Spindle automatically returns to top position when released.

R. Depth Stop Lock Knob: Loosens to allow adjustment of depth stop; tightens to lock depth stop.

S. Depth Stop & Scale: Displays spindle travel and stops spindle travel at predetermined drilling depth.

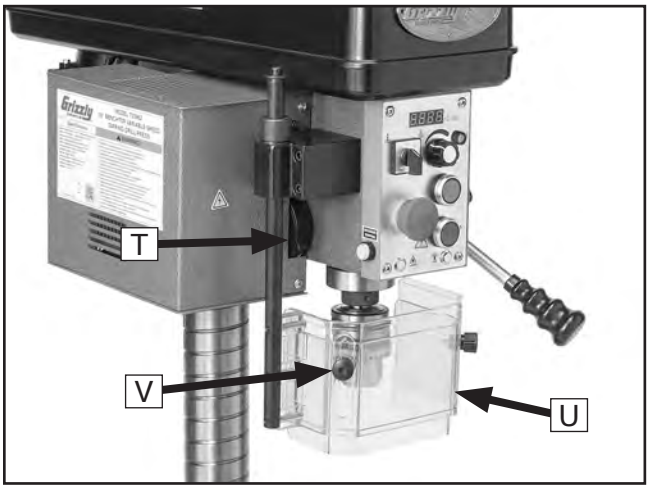


Figure 4. Left headstock components (T33962 shown).

T. Spindle Return Spring: Automatically returns quill into headstock.

U. 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.

V. Chip Guard Lock Knob (1 of 2): Loosens to allow adjustment of chip guard extension; tightens to secure chip guard extension.

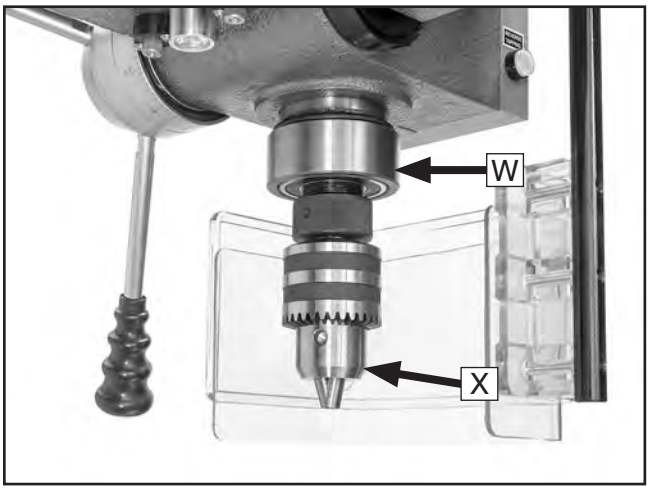


Figure 5. Under headstock components.

W. Quill: Houses spindle and spindle bearings.

X. Chuck: Accepts up to ⅝" shank cutting tools.

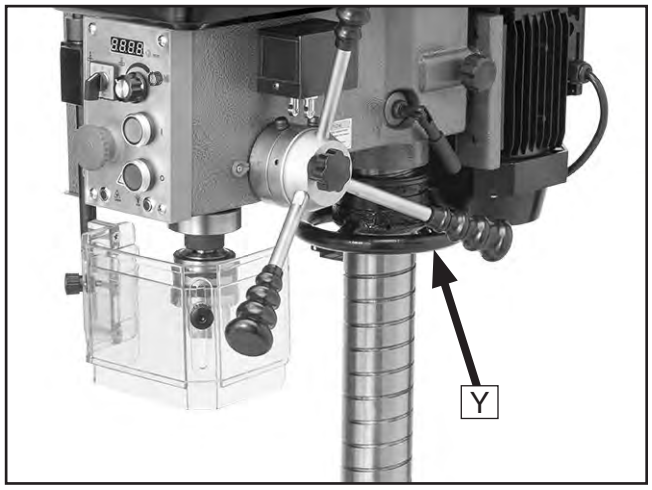


Figure 6. Headstock handwheel.

Y. Headstock Handwheel (T33962 Only): Adjusts headstock up and down.

Table (T33962)

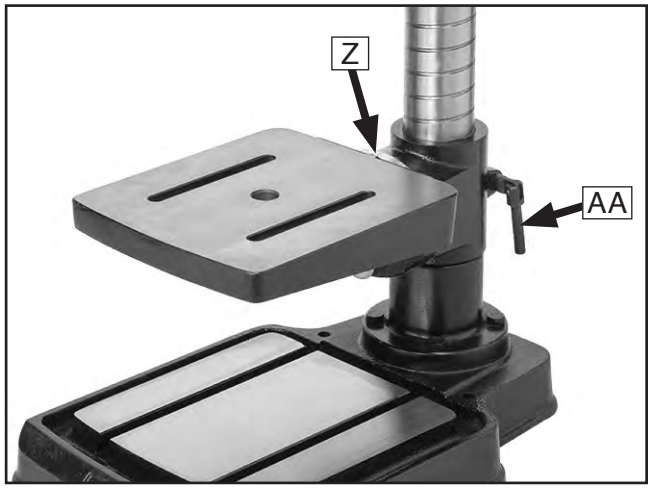


Figure 7. T33962 main table components.

Z. Tilt Scale: Displays current table tilt angle.

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

Table (T33963)

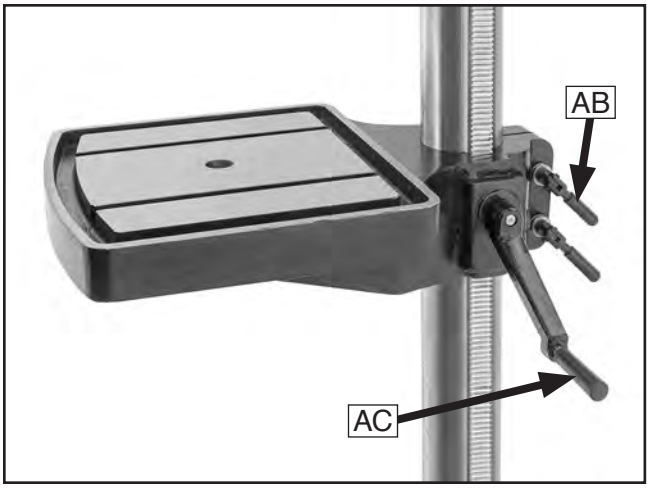


Figure 8. T33963 table components.

AB. Table Lock Handle (1 of 2): Loosens to allow adjustment of table position on column; tightens to lock table position.

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

MACHINE DATA SHEET

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

MODEL T33962 16" BENCHTOP VARIABLE-SPEED TAPPING DRILL PRESS

Product Dimensions:

Weight	194 lbs.
Width (side-to-side) x Depth (front-to-back) x Height	16 x 28-1/2 x 39-1/2 in.
Footprint (Length x Width)	20-1/2 x 14 in.

Shipping Dimensions:

Type	Cardboard Box
Content	Machine
Weight	204 lbs.
Length x Width x Height	42 x 24 x 17 in.

Electrical:

Power Requirement	120V, Single-Phase, 60 Hz
Full-Load Current Rating	7.8A
Minimum Circuit Size	15A
Connection Type	Cord & Plug
Power Cord Included	Yes
Power Cord Length	72 in.
Power Cord Gauge	16 AWG
Plug Included	Yes
Included Plug Type	5-15
Switch Type	ON/OFF Push Buttons
Inverter (VFD) Type	LSD-C7100
Inverter (VFD) Size	2 HP

Motors:

Main

Horsepower	3/4 HP
Phase	3-Phase
Amps	3A
Speed	910 RPM
Type	TEFC Induction
Power Transfer	Belt
Bearings	Shielded & Permanently Lubricated

Main Specifications:

Operation Information

Type	Benchtop
Swing	16 in.
Spindle Taper	MT#2
Spindle Travel	3-15/16 in.
Max. Distance From Spindle to Column	8 in.
Max. Distance From Spindle to Table	12-9/16 in.
Number of Spindle Speeds	Variable
Range of Spindle Speeds	0 - 600, 0 - 2100 RPM
Drilling Capacity (Mild Steel)	9/16 in.
Drilling Capacity (Cast Iron)	3/4 in.
Drill Chuck Type	JT3 Keyed
Drill Chuck Size	5/8 in.
Tapping Capacity	1/2 in.

Spindle Information

Distance From Spindle to Base	8-5/8 - 21-1/4 in.
Quill Diameter	2.045 in.

Table Information

Max. Table Tilt (Left/Right)	45 deg.
Table Swivel Around Column	360 deg.
Max. Movement of Work Table	8-13/16 in.
Table Length	11-1/8 in.
Table Width	9-3/4 in.
Table Thickness	1-1/16 in.
Floor-To-Table Height	11 - 24-3/8 in.

Construction

Table	Cast Iron
Column	Steel
Spindle Housing	Cast Iron
Head	Cast Iron
Base	Cast Iron
Paint Type/Finish	Powder Coated

Other Related Information

Base Length	20-7/16 in.
Base Width	13-9/16 in.
Column Diameter	2-3/4 in.
Quill Flange/Collar Diameter	2-9/16 in.
Depth Stop Type	Hub
Has Work Light	Yes
Light Socket Type	3 - 6V LED
Maximum Bulb Wattage	0.5 W
Has Laser Guide	Yes
Laser Classification	Class II
Laser Wavelength	650nm
Laser Maximum Output	1mW

Other Specifications:

Country of Origin	China
Warranty	1 Year
Approximate Assembly & Setup Time	10 Minutes
Serial Number Location	Machine ID Label
ISO 9001 Factory	Yes

MACHINE DATA SHEET

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

MODEL T33963 20" FLOOR VARIABLE-SPEED TAPPING DRILL PRESS

Product Dimensions:

Weight	437 lbs.
Width (side-to-side) x Depth (front-to-back) x Height	22 x 33-1/2 x 70 in.
Footprint (Length x Width)	26 x 17-1/2 in.

Shipping Dimensions:

Type	Cardboard Box
Content	Machine
Weight	496 lbs.
Length x Width x Height	63 x 28 x 24 in.

Electrical:

Power Requirement	120V, Single-Phase, 60 Hz
Full-Load Current Rating	15.2A
Minimum Circuit Size	20A
Connection Type	Cord & Plug
Power Cord Included	Yes
Power Cord Length	72 in.
Power Cord Gauge	14 AWG
Plug Included	Yes
Included Plug Type	5-15
Switch Type	Push Button
Inverter (VFD) Type	LSD-C7100
Inverter (VFD) Size	2 HP

Motors:

Main

Horsepower	1 HP
Phase	3-Phase
Amps	4A
Speed	910 RPM
Type	TEFC Induction
Power Transfer	Belt
Bearings	Shielded & Permanently Lubricated

Main Specifications:

Operation Information

Type	Floor
Swing	20 in.
Spindle Taper	MT#3
Spindle Travel	5-5/16 in.
Max. Distance From Spindle to Column	10 in.
Max. Distance From Spindle to Table	31-15/16 in.
Number of Spindle Speeds	Variable
Range of Spindle Speeds	0 - 600, 0 - 2100 RPM
Drilling Capacity (Mild Steel)	1-1/8 in.
Drilling Capacity (Cast Iron)	1-1/4 in.
Drill Chuck Type	JT3 Keyed
Drill Chuck Size	5/8 in.
Tapping Capacity	1/2 in.

Spindle Information

Distance From Spindle to Base	46-9/16 in.
Quill Diameter	2.440 in.

Table Information

Table Swivel Around Column	360 deg.
Max. Movement of Work Table	28-5/16 in.
Table Length	16-1/4 in.
Table Width	15 in.
Table Thickness	2-1/8 in.
Number of T-Slots	2
T-Slot Size	9/16 in.
T-Slot Centers	7-1/4 in.
Floor-To-Table Height	17 - 45-5/16 in.

Construction

Table	Cast Iron
Column	Steel
Spindle Housing	Cast Iron
Head	Cast Iron
Base	Cast Iron
Paint Type/Finish	Powder Coated

Other Related Information

Base Length	25-9/16 in.
Base Width	17-5/16 in.
Column Diameter	3-13/16 in.
Quill Flange/Collar Diameter	3 in.
Depth Stop Type	Hub
Has Work Light	Yes
Light Socket Type	3 - 6V LED
Maximum Bulb Wattage	0.5 W
Has Laser Guide	Yes
Laser Classification	Class II
Laser Wavelength	650nm
Laser Maximum Output	1mW

Other Specifications:

Country of Origin	China
Warranty	1 Year
Approximate Assembly & Setup Time	15 Minutes
Serial Number Location	Machine ID Label
ISO 9001 Factory	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.

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

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

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

NOTICE **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.

⚠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.

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.



⚠WARNING

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

Full-Load Current Rating

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

T33962 ..... 7.8 Amps
T33963 ..... 15.2 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
T33962 ..... 15 Amps
T33963 ..... 20 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!

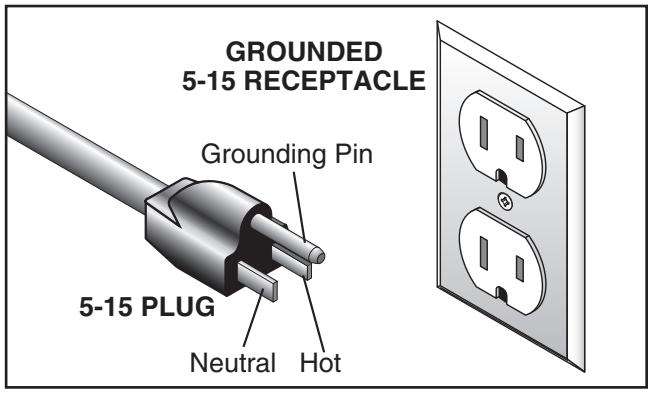
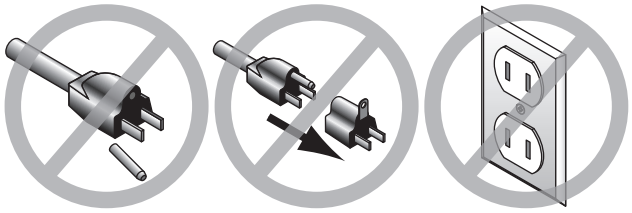


Figure 9. Typical 5-15 plug and receptacle.

⚠CAUTION



SHOCK HAZARD!

Two-prong outlets do not meet the grounding requirements for this machine. Do not modify or use an adapter on the plug provided—if it will not fit the outlet, have a qualified electrician install the proper outlet with a verified ground.

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

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

Extension Cords

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

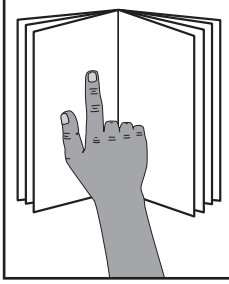
Extension cords cause voltage drop, which can damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

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

Minimum Gauge Size

T33962.....16 AWG
T33963.....12 AWG
Maximum Length (Shorter is Better).....50 ft.

SECTION 3: SETUP



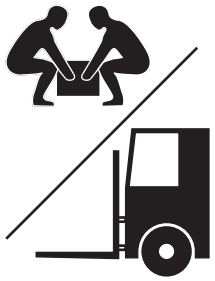
⚠WARNING

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
• Safety Glasses (for each person)	1
• Cleaner/Degreaser	As Needed
• Disposable Rags	As Needed
• Disposable Gloves	As Needed
• Lifting Slings	
(Rated for at least 275 lbs. for T33962)	2
(Rated for at least 650 lbs. for T33963)	2
• Forklift or Hoist	
(Rated for at least 275 lbs. for T33962)	1
(Rated for at least 650 lbs. for T33963)	1
• Another Person	1
• Phillips Screwdriver #2 (T33962 Only)	1
• Mounting Hardware	As Needed
• Open-End Wrench 5/8"	1
• Acetone/Lacquer Thinner	As Needed
• 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.

Main Inventory (Figure 10)	Qty
A. Headstock	1
B. Downfeed Handles	3
C. Chip Guard	1
D. Hex Wrenches 2.5, 3, 5mm	1 Ea.
E. Drill Chuck Key	1
F. Drift Key	1
G. Headstock Lock Assembly	1

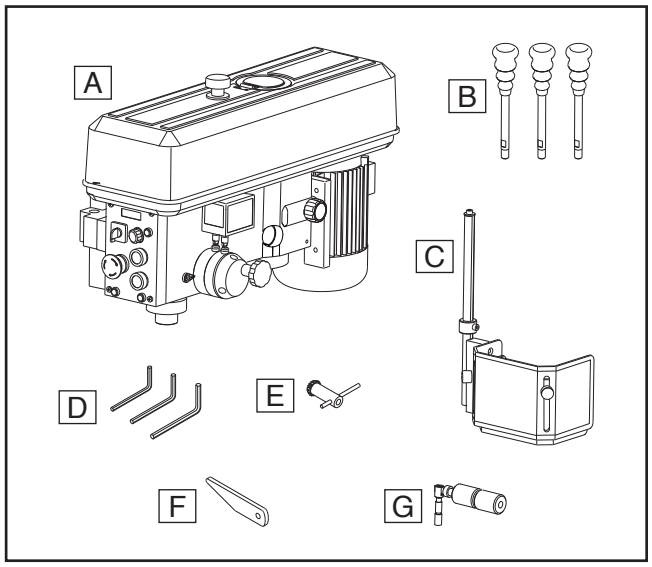


Figure 10. Main inventory.

T33962 Only (Figure 11)	Qty
H. Arbor (Pre-installed in Headstock)	1
I. Drill Chuck JT3	1
J. Phillips Head Screw M4-.7 x 16	1
K. Base Assembly	1

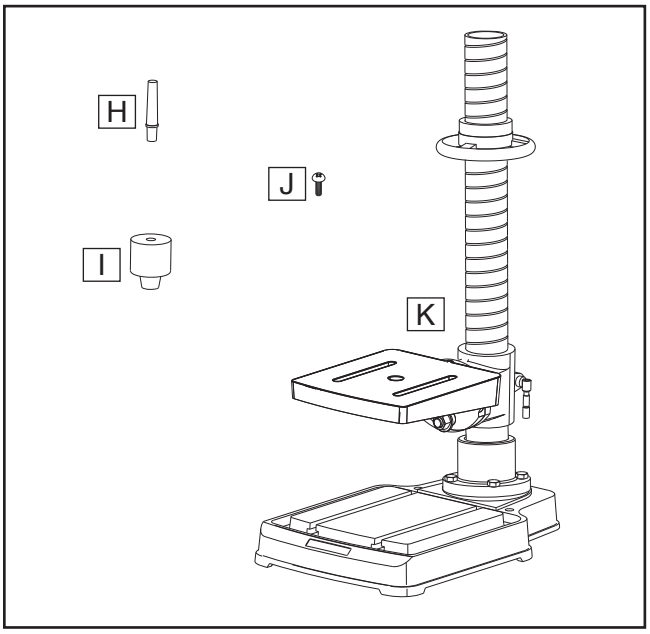


Figure 11. T33962 additional inventory.

T33963 Only (Figure 12)	Qty
L. Table Height Crank	1
M. Drill Chuck JT3 & Arbor	1
N. Base Assembly	1

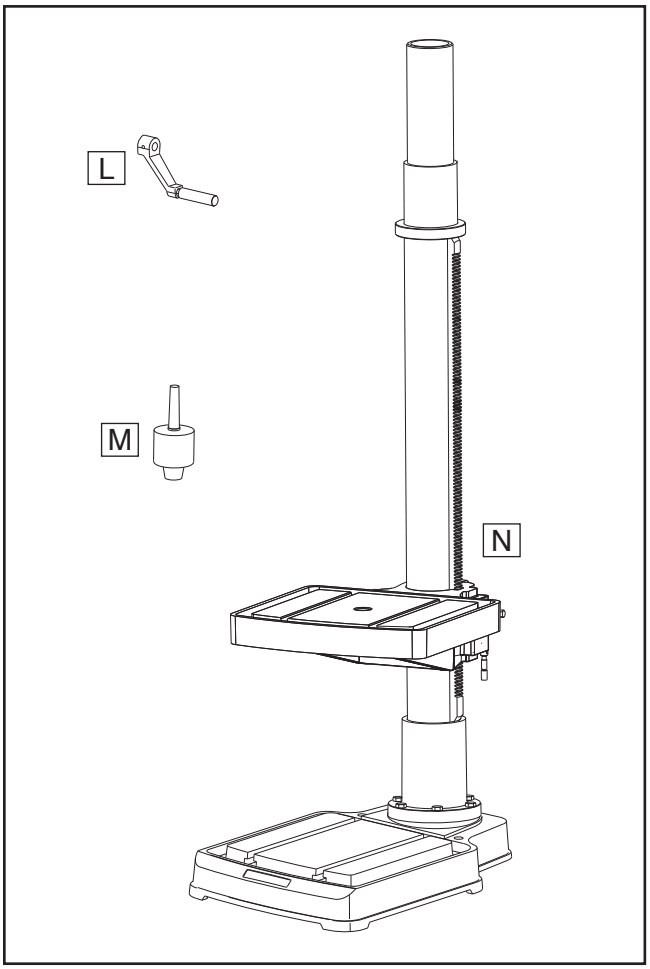


Figure 12. T33963 additional inventory.

Cleanup

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

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

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

Before cleaning, gather the following:
- Disposable rags
- Cleaner/degreaser (WD•40 works well)
- Safety glasses & disposable gloves
- Plastic paint scraper (optional)

Basic steps for removing rust preventative:

1. Put on safety glasses.

2. Coat the rust preventative with a liberal amount of cleaner/degreaser, then let it soak for 5–10 minutes.

3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily. If you have a plastic paint scraper, scrape off as much as you can first, then wipe off the rest with the rag.

4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant to prevent rust.



⚠WARNING

Gasoline and petroleum products have low flash points and can explode or cause fire if used to clean machinery. Avoid using these products to clean machinery.



⚠CAUTION

Many cleaning solvents are toxic if inhaled. Only work in a well-ventilated area.

NOTICE

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

T23692—Orange Power Degreaser
A great product for removing the waxy shipping grease from the ***non-painted*** parts of the machine during clean up.

Order online at
www.grizzly.com
OR
Call 1-800-523-4777



Figure 13. T23692 Orange Power Degreaser.

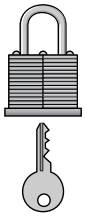
Site Considerations

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.**



⚠CAUTION

Children or untrained people may be seriously injured by this machine. Only install in an access restricted location.

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.

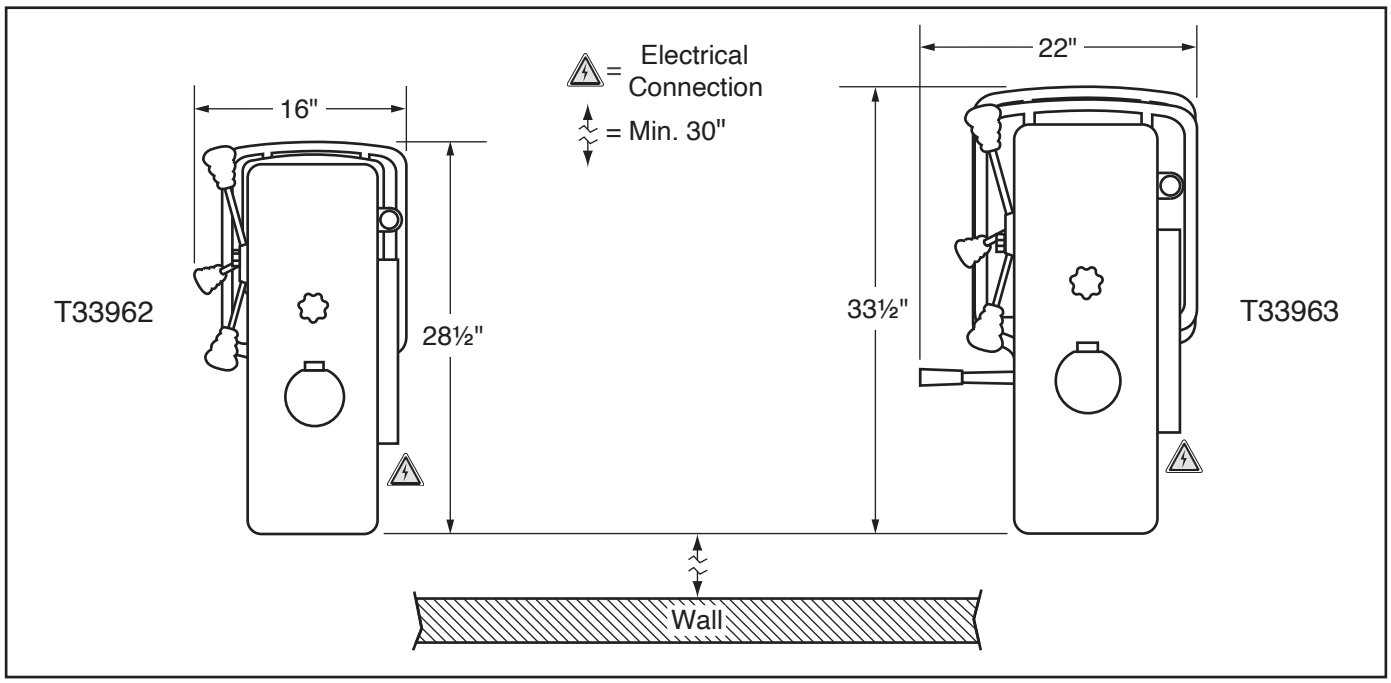


Figure 14. Minimum working clearances.

Bench Mounting (T33962)

Number of Mounting Holes 2
Diameter of Mounting Hardware Needed .. ½"

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

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

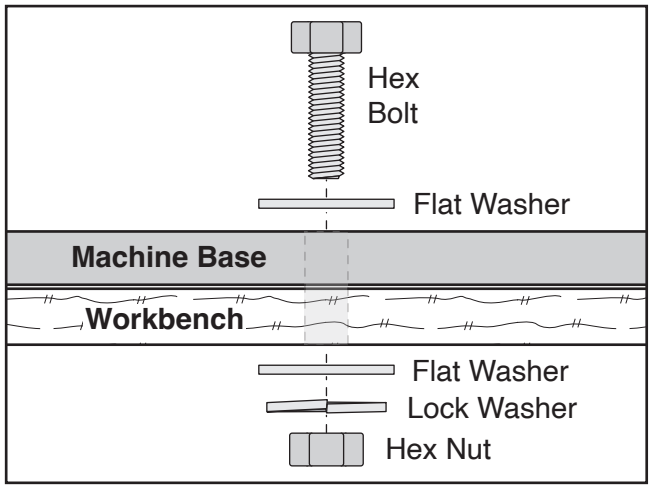


Figure 15. "Through Mount" setup.

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

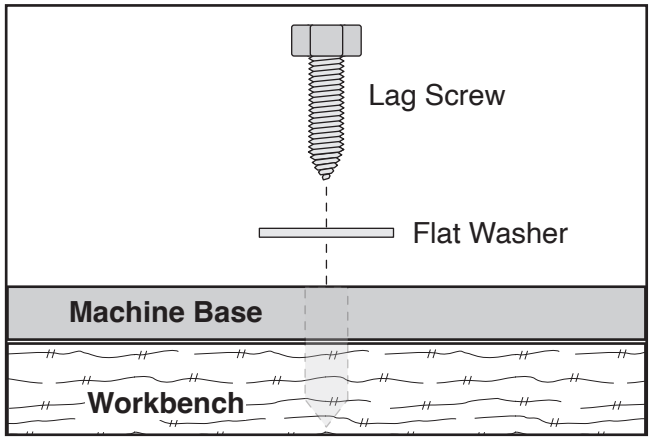


Figure 16. "Direct Mount" setup.

Anchoring to Floor (T33963)

Number of Mounting Holes 2
Diameter of Mounting Hardware..... ½"

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.

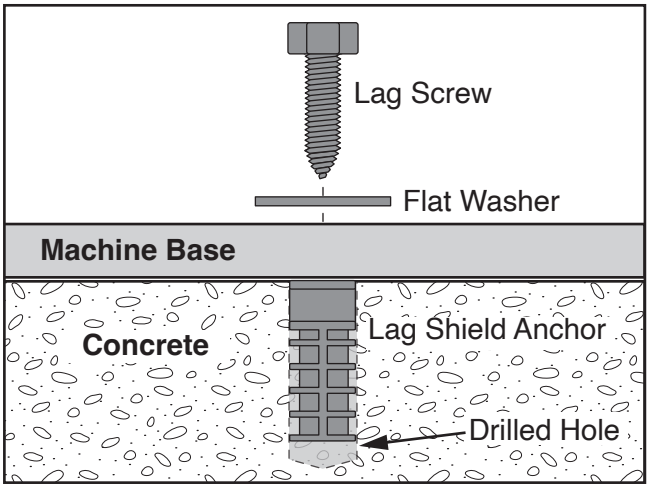
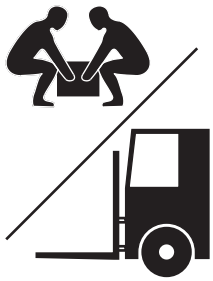


Figure 17. Popular method for anchoring machinery to a concrete floor.

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).



⚠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.

To assemble machine:

1. Place shipping box near final machine mounting location.

2. Remove small items from shipping box.

3. Use lifting sling and lifting equipment to remove base assembly from shipping box and place assembly upright on base (see **Figure 18**).

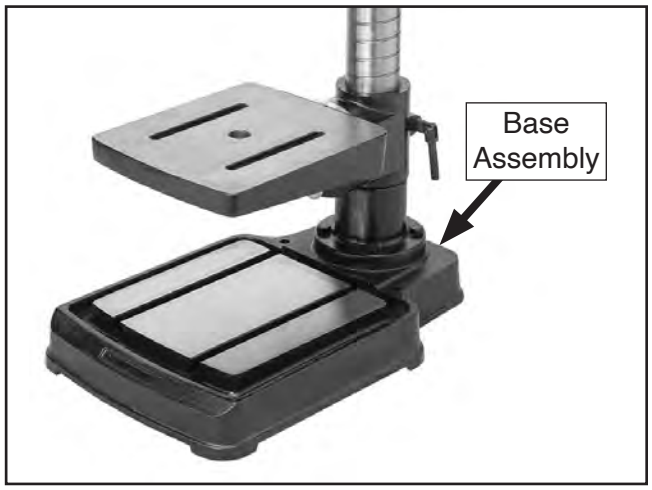


Figure 18. Base assembly upright (T33962 shown).

4. Use (2) lifting slings and lifting equipment to carefully lift headstock and slide it onto column (see **Figure 19**).

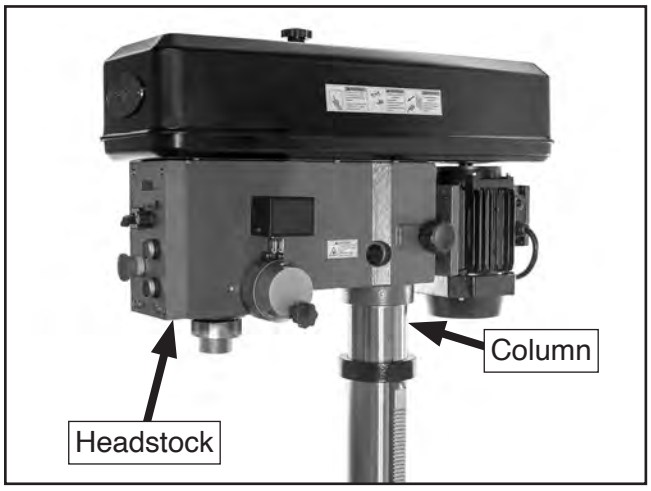


Figure 19. Headstock placed on column (T33963 shown).

Note: *For Model T33962, rotate headstock handwheel clockwise (as viewed from above) to lower headstock on column until column protrudes out of belt cover (see **Figure 20**).*

5. **T33962 Only:** Install M4-.7 x 16 Phillips head screw in column at location shown in **Figure 20**.

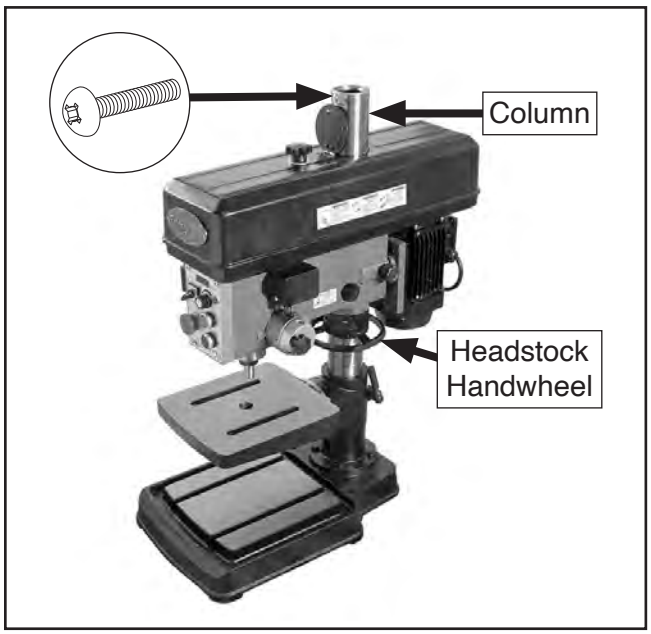


Figure 20. T33962 placed on column and headstock limit screw installed.

6. Remove threaded clamp block from headstock lock assembly (see **Figure 21**).

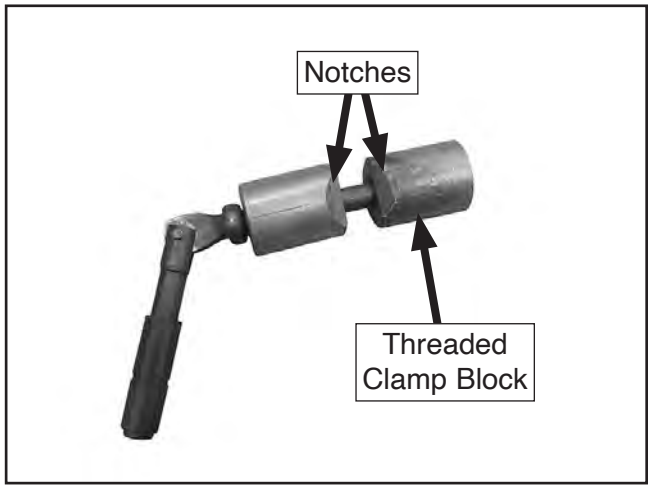


Figure 21. Threaded clamp block location on headstock lock assembly.

7. Insert threaded clamp block removed in **Step 6** into left side of headstock, as shown in **Figure 22**.

   Note: *Notches in clamp blocks (see **Figure 21**) must press against column inside of headstock in this step and **Step 8** in order to firmly secure headstock with lock lever.*



Figure 22. Threaded clamp block inserted into left side of headstock (T33963 shown).

8. Insert unthreaded clamp block and headstock lock lever into right side of headstock, and thread lock lever into threaded clamp block (see **Figure 23**). Do not fully tighten lock lever until instructed later.

9. Thread (3) downfeed handles into spindle hub (see **Figure 23**).

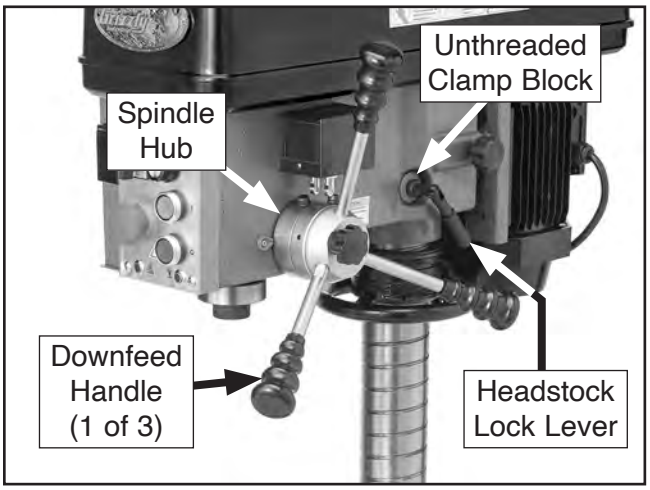


Figure 23. Headstock lock assembly and downfeed handles installed (T33962 shown).

10. Adjust headstock on column so quill and control panel are centered over base, then fully tighten headstock lock lever to secure.

11. Remove cap screw and flat washer at top of chip guard rail, then loosen rail lock collar cap screw to remove lock collar (see **Figure 24**).

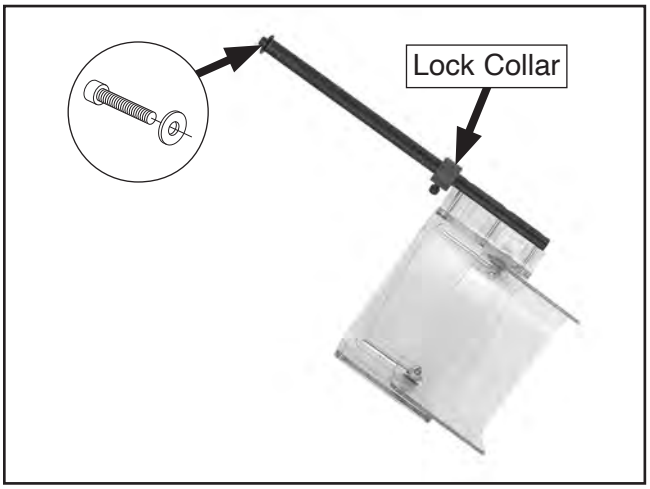


Figure 24. Chip guard components to remove.

12. Insert chip guard rail up through bottom of mount on side of headstock, aligning notch in rail with steel balls in mount, as shown in **Figure 25**.

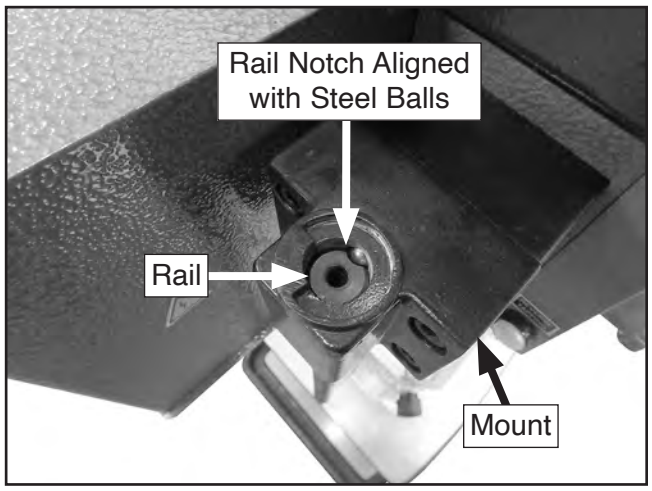


Figure 25. Chip guard rail notch aligned with steel balls in mount.

13. Install rail lock collar against mount, as shown in **Figure 26**. Tighten cap screw to secure.

14. Install flat washer and cap screw removed in **Step 11**.

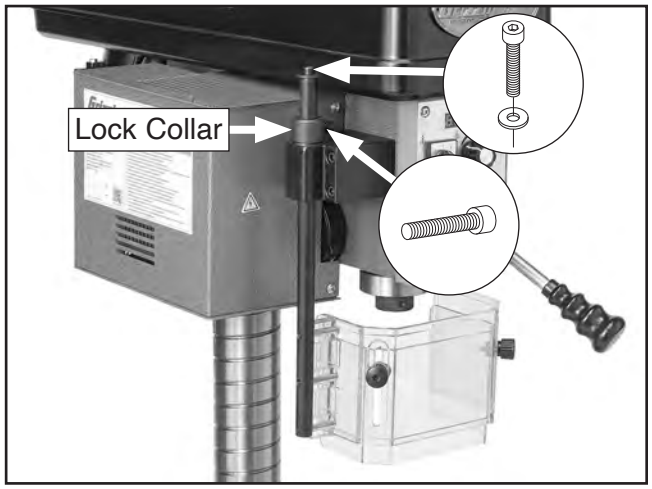


Figure 26. Chip guard rail installed in mount.

15. **T33962 Only:** Remove arbor from spindle (refer to **Removing Arbor from Spindle** on **Page 31**).

16. **T33963 Only:** Install table height crank over worm shaft in table bracket shown in **Figure 27**, then tighten set screw in crank against flat part of shaft to secure.

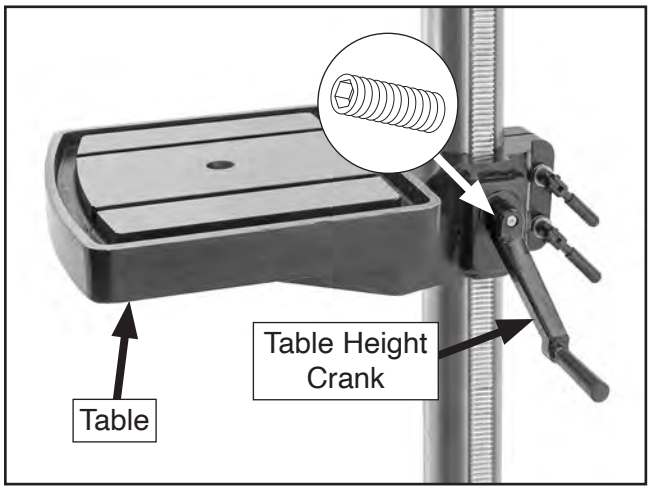


Figure 27. Table height crank installed.

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.

Note: *The drill chuck and arbor that come with the Model T33963 are pre-joined. Refer to* ***Step 5*** *below to confirm they are secure.*

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.

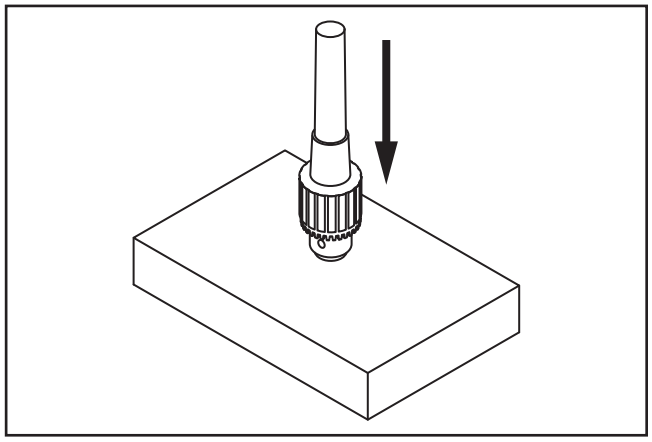


Figure 28. Tapping drill chuck/arbor on block of wood.

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, 3) the belt cover safety switch disables the machine properly, and 4) 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 in (see **Figure 29**).

3. Turn spindle speed dial all the way counterclockwise (see **Figure 29**).

4. Turn mode switch to neutral (0) position (see **Figure 29**).

5. Connect machine to power. Spindle speed digital readout (see **Figure 29**) will illuminate.

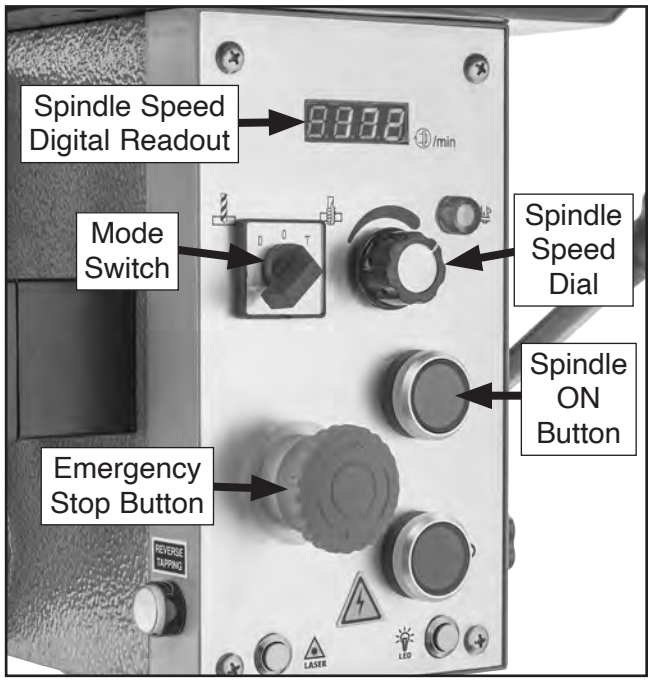


Figure 29. Location of power controls.

6. Twist Emergency Stop button clockwise until it springs out (see **Figure 30**). This resets button so machine can start.



Figure 30. Resetting button.

7. Turn mode switch counterclockwise to drilling (D) mode.

8. Press green spindle ON (I) button (see **Figure 29**) and slowly rotate spindle speed dial clockwise to full speed, then rotate counterclockwise until spindle speed digital readout displays about 60 RPM. Verify motor starts up and runs smoothly without any unusual problems or noises.

9. While being careful to avoid rotating spindle, pivot chip guard forward and away from spindle (see **Figure 31**). 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.

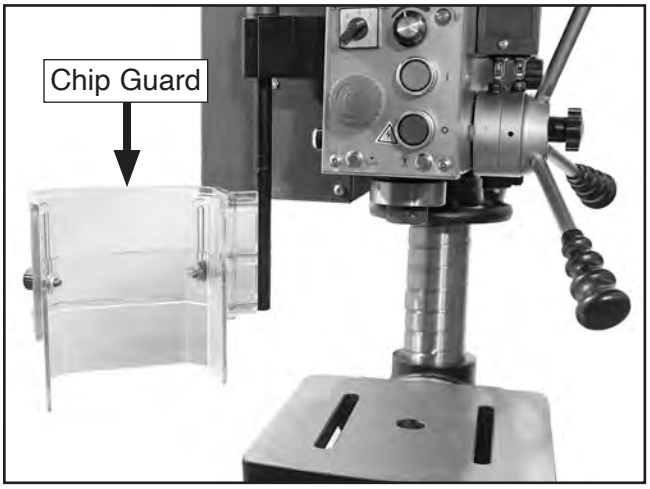


Figure 31. Chip guard pivoted away from spindle.

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

    — If spindle *does not* start, safety feature of chip guard is working correctly. Proceed to **Step 11**.

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

11. Pivot chip guard back into place.

12. Press spindle ON button to start spindle rotation.

13. While being careful to avoid rotating spindle, remove belt cover lock knob and flat washer (see **Figure 32**).

14. Carefully lift belt cover from headstock (see **Figure 32**). Spindle should stop rotating.

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

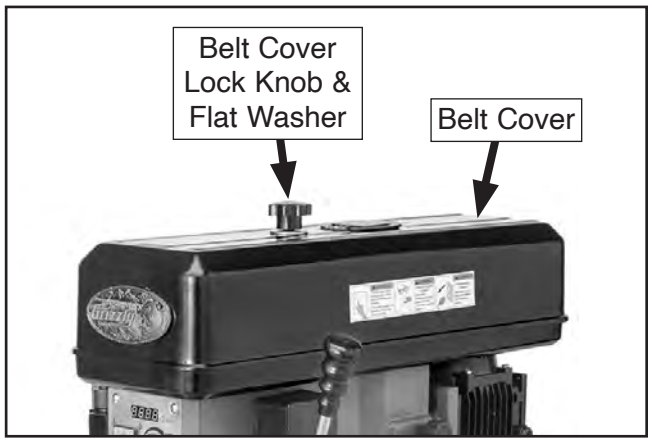


Figure 32. Location of belt cover lock knob and flat washer.

15. Without installing belt cover, try to start spindle rotation by pressing spindle ON button.

— If spindle *does not* start, safety feature of belt cover is working correctly. Proceed to **Step 16**.

— If spindle *does* start, immediately turn machine ***OFF*** and disconnect power. Safety feature of belt cover is NOT working properly and must be replaced before further using machine.

16. Install belt cover and secure with flat washer and belt cover lock knob.

17. Press spindle ON button to start spindle rotation.

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

19. WITHOUT resetting Emergency Stop button, try to start spindle by pressing spindle ON button. Spindle should not start.

— If spindle *does not* start, safety feature of Emergency Stop button is working correctly. Congratulations! Test Run is complete. Complete **Spindle Break-In** on **Page 27** before proceeding with operations.

— If spindle *does* start, immediately turn machine ***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

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.

Tool Needed	**Qty**
Open-End Wrench 5/8"	1

To perform spindle break-in:

1. DISCONNECT MACHINE FROM POWER!

2. Remove belt cover lock knob and flat washer to remove belt cover (see **Figure 33**).

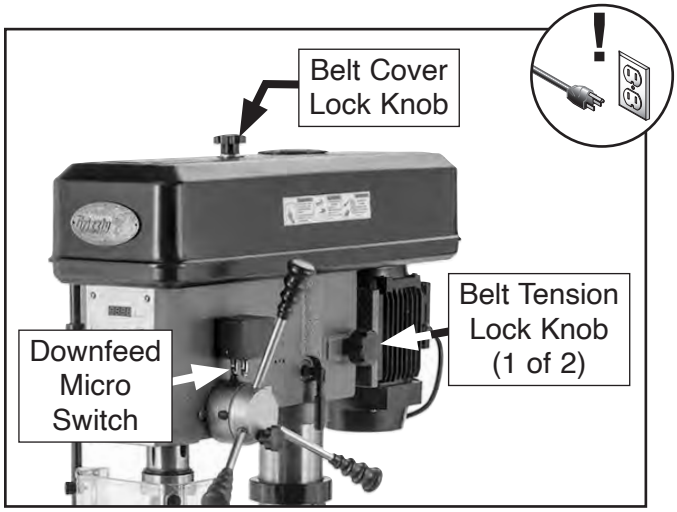


Figure 33. Location of belt cover lock knob, belt tension lock knobs, and downfeed micro switch.

— If V-belt *is* installed on upper motor and spindle pulley sheaves (see **Figure 34**), no adjustment is required, proceed to **Step 8**.

— If V-belt *is not* installed on upper motor and spindle pulley sheaves (see **Figure 34**), proceed to **Step 3**.

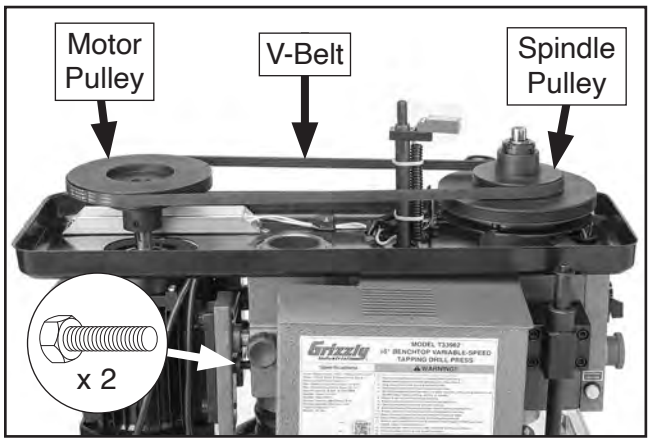


Figure 34. Spindle speed range adjustment components.

3. Loosen (2) belt tension lock knobs (see **Figure 33**).

4. Adjust (2) hex bolts shown in **Figure 34** away from motor to take tension off of V-belt.

5. Move V-belt onto upper sheaves on pulleys (see **Figure 34**).

6. After belt is positioned on pulleys, use hex bolts from **Step 4** to push motor away from headstock and engage belt tension.

   Note: *Correct belt tension is set if belt flexes ¼" when thumb pressure is applied at midpoint of belt between pulleys (see **Figure 35**).*

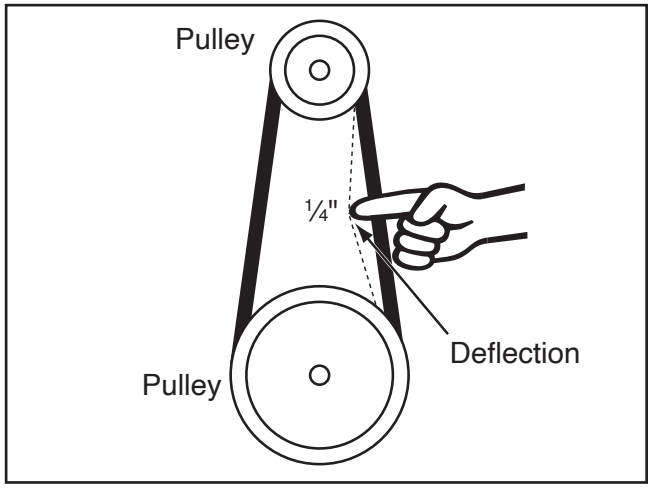


Figure 35. Checking belt tension.

7. Tighten (2) belt tension lock knobs to secure.

8. Install belt cover, and secure with flat washer and belt cover lock knob removed in **Step 2**.

9. Make sure spindle area is free of obstructions.

10. Connect machine to power.

11. Reset Emergency Stop button.

12. Turn mode switch clockwise to tapping (T) mode.

13. Press spindle ON button to start spindle rotation.

14. Allow spindle to run clockwise (as viewed from above) at about 60 RPM for 10 minutes.

15. Use spindle downfeed handles to pull spindle down just enough to disengage downfeed micro switch (see **Figure 33** on **Page 27**).

16. Press reverse tapping button (see **Figure 36**) to reverse spindle rotation, and run spindle counterclockwise at about 60 RPM for another 10 minutes.

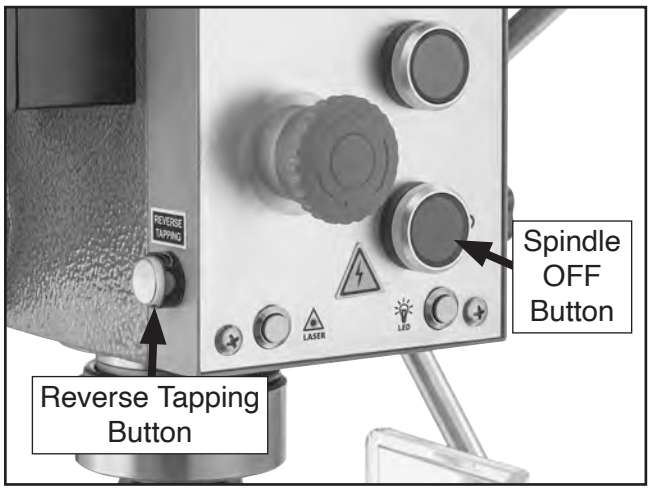


Figure 36. Location of reverse tapping button and spindle OFF button.

17. Use downfeed handles to retract spindle back into headstock.

18. Use spindle speed dial to adjust spindle speed to about 200 RPM, then run spindle in either direction for 10 minutes, using downfeed micro switch and reverse tapping button to reverse spindle rotation.

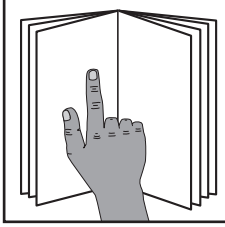
19. Repeat **Step 18** for each speed listed below in progressive order:

    a. 500 RPM
    b. 1000 RPM
    c. 2100 RPM

20. Press spindle OFF button to stop spindle rotation (see **Figure 36**).

Congratulations! The spindle break-in is now complete.

SECTION 4: OPERATIONS



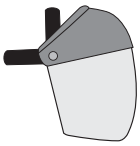
⚠WARNING

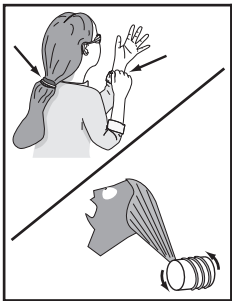
To reduce your risk of serious injury, read this entire manual BEFORE using machine.

⚠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 or tapping.
2. Puts on required safety glasses and face shield.
3. Firmly secures workpiece to table using vise or T-slot clamps.
4. Installs correct cutting tool for operation.
5. **T33962 Only:** Adjusts table to correct tilt, then locks it in place.
6. Adjusts table height, then locks it in place.
7. Adjusts depth stop to desired drilling or tapping depth.
8. Connects machine to power, starts spindle rotation, and uses spindle speed dial to set spindle to appropriate spindle speed for operation.
9. Performs drilling or tapping 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 24**).
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. Fully tighten spindle nut shown in **Figure 37**.

   Note: *If nut is too loose, it may prevent arbor from seating in spindle in following steps.*

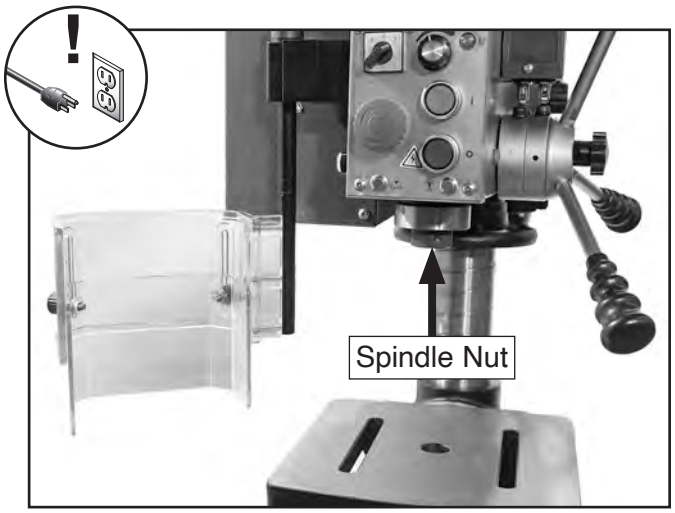


Figure 37. Location of spindle nut.

7. Slide arbor into spindle socket while slowly rotating chuck to line up tang on arbor with slot in socket (see **Figure 38**).

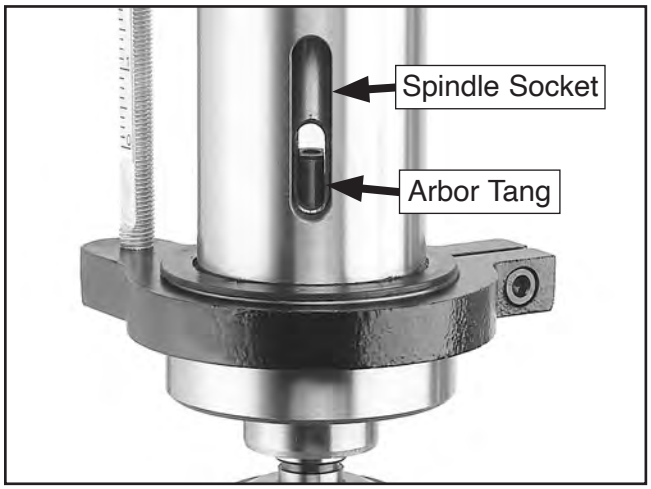


Figure 38. Example of arbor tang aligned with spindle socket.

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

Scan this code to see a video of this installation process!

Removing Arbor from Spindle

The arbor can be removed to install other Morse Taper tooling in the spindle. On the Model T33962, this tooling must be MT#2; on the Model T33963, it must be MT#3. 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. Pivot chip guard out of the way.

3. Rotate downfeed handles until drift key slot is exposed in side of quill (see **Figure 39**).

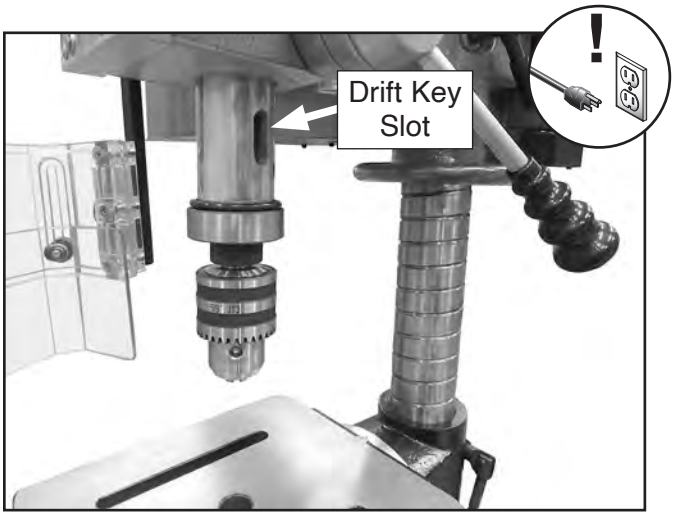


Figure 39. Drift key slot exposed.

4. Move table up until it is ¼" below bottom of chuck, and place towel or cloth under chuck.

5. Rotate spindle until inner drift key slot is aligned with outer slot (see **Figure 40**). You will see through spindle when slot is properly aligned.

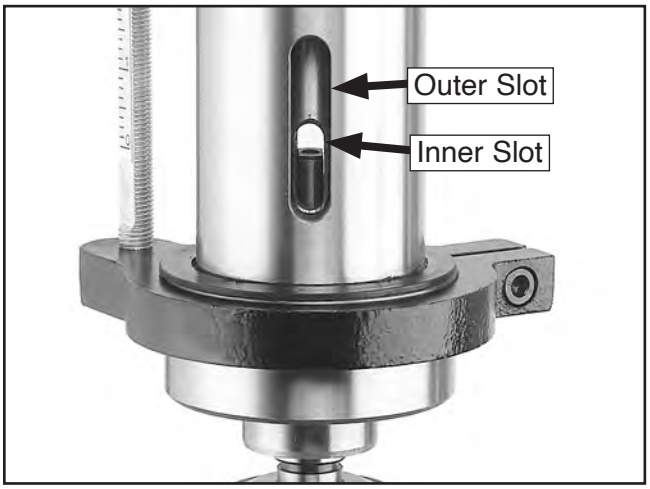


Figure 40. Example of inner and outer drift key slots aligned.

6. Insert drift key into drift key slot, then tap drift key with metal hammer (see **Figure 41**) until chuck releases.

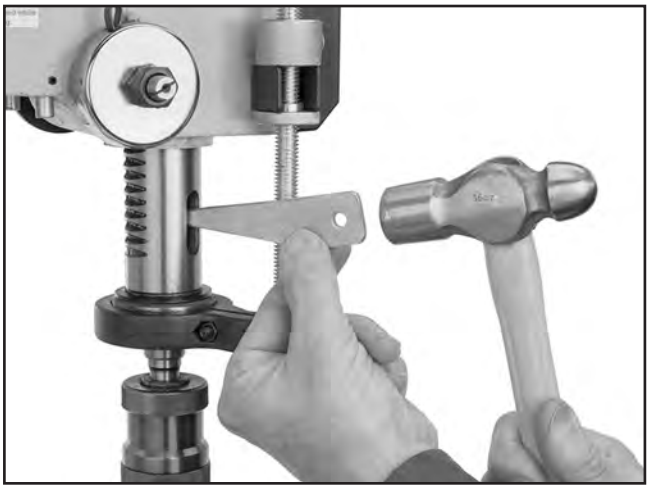


Figure 41. Example of using drift key to remove arbor from spindle.

7. Use downfeed handles to retract quill back into headstock.

8. Pivot chip guard back into place.

Installing/Removing Cutting Tool

Any bit or tap 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 Cutting Tool

1. DISCONNECT MACHINE FROM POWER!

2. Open drill chuck wide enough to accept shank of cutting tool.

3. Insert cutting tool as far as possible into chuck WITHOUT allowing chuck jaws to touch fluted portion of cutting tool, then hand-tighten chuck.

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

4. Tighten chuck firmly with chuck key (see **Figure 42**), then remove chuck key from chuck.



Figure 42. Example of tightening chuck.

Removing Cutting Tool

1. DISCONNECT MACHINE FROM POWER!

2. Use chuck key to open drill chuck, and catch cutting tool with rag to protect hands.

Positioning Table

Remove any loose items from the table surface before adjusting the table position.

Positioning Model T33962 Table

The Model T33962 table moves vertically, rotates 360° around the column, and tilts 45° left or right using the components shown in **Figure 43**.

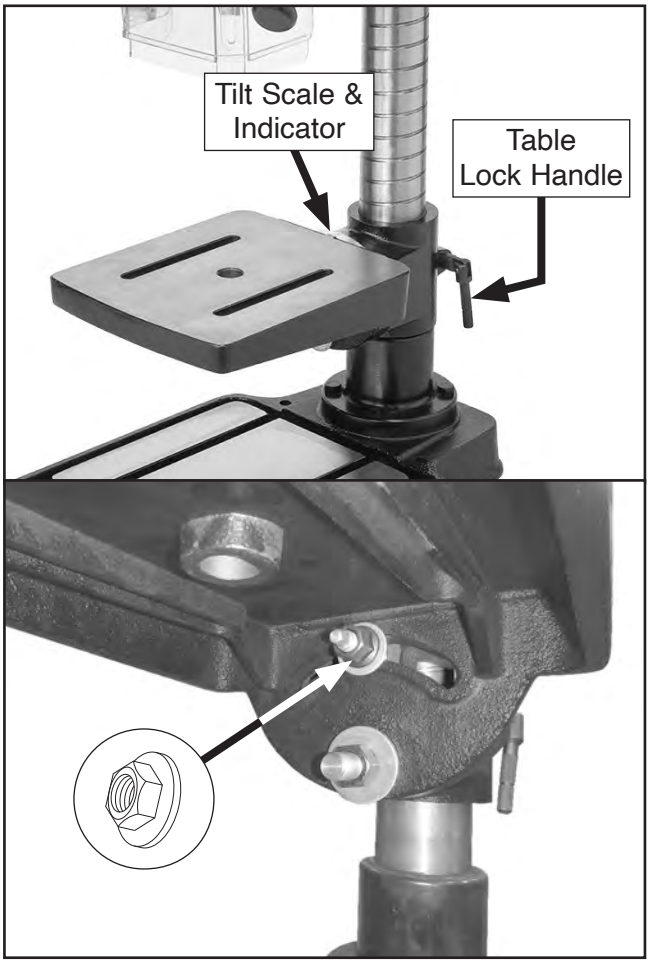


Figure 43. Model T33962 table adjustment components.

Adjusting Table Position on Column

1. While supporting table, loosen table lock handle (see **Figure 43**).

2. Position table around column and raise or lower table as desired, then tighten table lock handle to secure.

Tilting Table

Tool Needed	Qty
Wrench 19mm	1

To tilt table:

1. Loosen flange nut shown in **Figure 43** on **Page 32**.

2. Tilt table until pointer aligns with desired angle on tilt scale (see **Figure 43** on **Page 32**), then tighten flange nut from **Step 1** to secure.

Positioning Model T33963 Table

The Model T33963 table moves vertically and rotates 360º around the column using the components shown in **Figure 44**.

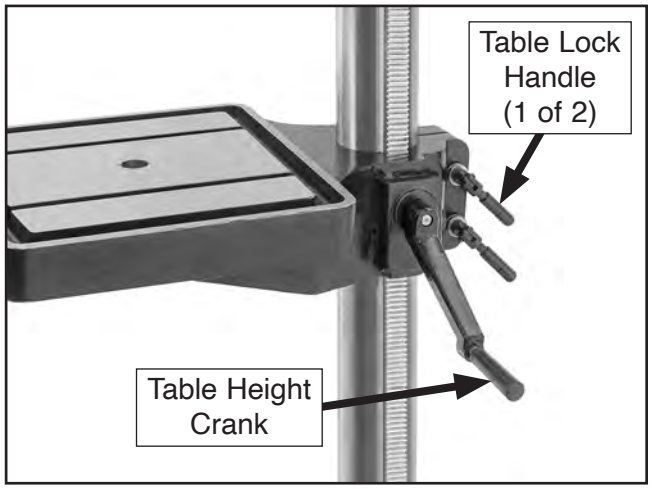


Figure 44. Model T33963 table adjustment components.

Raising/Lowering Table

1. Loosen (2) table lock handles (see **Figure 44**).

2. Raise or lower table by rotating table height crank (see **Figure 44**), then tighten table lock handles to secure.

Rotating Table Around Column

1. Loosen (2) table lock handles (see **Figure 44**).

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

Positioning Headstock

The headstock rotates 360º around the column. In addition, the Model T33962 headstock also moves vertically on the column.

⚠WARNING

Drill press base must be secured to bench or floor. Machine is top heavy and rotating headstock will unbalance machine. Failure to heed this warning could result in accidental injury or property damage.

Positioning Model T33962 Headstock

1. DISCONNECT MACHINE FROM POWER!

2. Rotate headstock handwheel counterclockwise to move it up on column until it is touching bottom of headstock (see **Figure 45**).

3. Loosen headstock lock lever (see **Figure 45**).



Figure 45. Headstock adjustment components.

4. Position headstock around column and raise or lower headstock by rotating headstock handwheel (see **Figure 45**), then tighten headstock lock lever to secure.

Positioning Model T33963 Headstock

1. DISCONNECT MACHINE FROM POWER!

2. Loosen headstock lock lever (see **Figure 46**).



Figure 46. Location of headstock lock lever.

3. Position headstock around column, then tighten headstock lock lever to secure.

Adjusting Depth Stop

The Model T33962/T33963 has a depth stop that allows you to drill or tap repeat, non-through holes to the same depth every time. It is also equipped with micro switches that stop and reverse the spindle when the final tapping depth is achieved in order to back out a tap.

To adjust depth stop:

1. DISCONNECT MACHINE FROM POWER!

2. Secure workpiece to table.

3. Install correct cutting tool for operation.

4. Adjust table (and headstock height, if desired, for Model T33962), then lock it in place.

5. Loosen depth stop lock knob (see **Figure 47**).

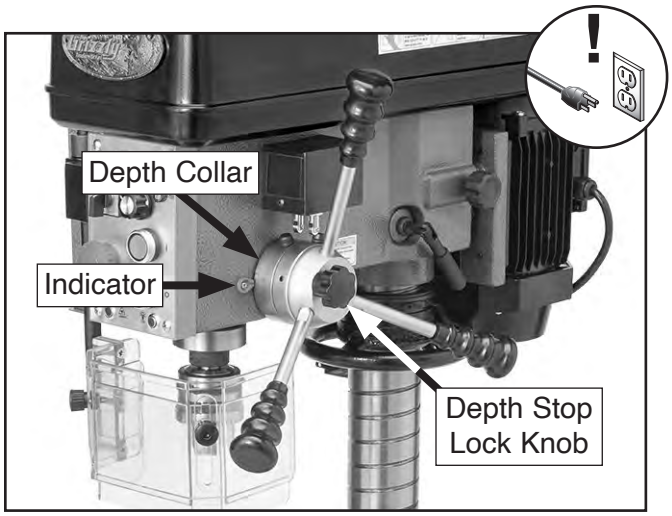


Figure 47. Location of depth stop components.

6. Use downfeed handles to lower spindle until cutting tool just contacts surface of workpiece.

7. With cutting tool contacting workpiece surface, rotate depth collar until indicator displays desired depth (see **Figure 47**).

8. Tighten depth stop lock knob to secure, then allow quill and spindle to return to top position.

Adjusting Laser Guide

The laser guide should be checked and adjusted for accuracy when you change cutting tools, raise or lower the table (or the Model T33962 headstock), or change the workpiece thickness.

⚠CAUTION

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

To adjust laser guide:

1. DISCONNECT MACHINE FROM POWER!
2. Secure workpiece to table.
3. Install correct cutting tool for operation.
4. Adjust table (and headstock height, if desired, for Model T33962), then lock it in place.
5. Use downfeed handles to lower spindle until cutting tool just contacts surface of workpiece, making a slight indentation in surface, then raise spindle.
6. Connect drill press to power. Press laser button (see **Figure 48**) to turn laser guide ***ON***.

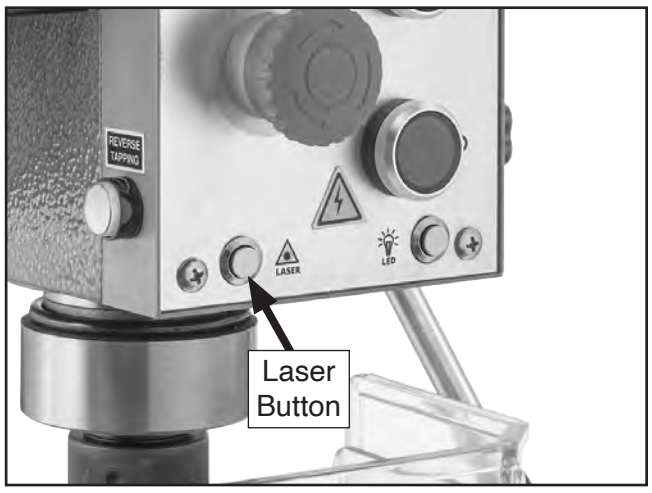


Figure 48. Location of laser button.

— If laser crosshairs align with indentation you made in **Step 5** (see **Figure 49**), no adjustment is necessary.

— If laser crosshairs *do not* align with indentation you made in **Step 5** (see **Figure 49**), proceed to **Step 7**.

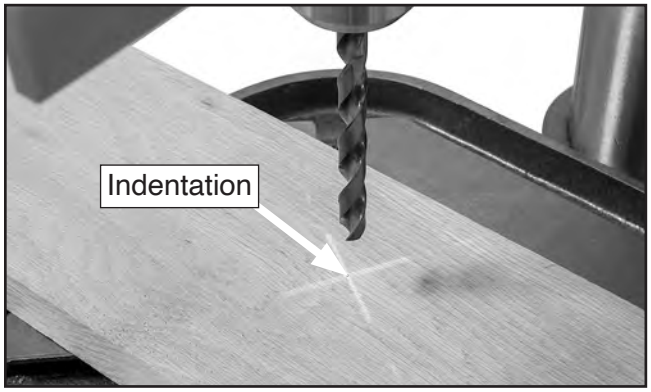


Figure 49. Example of laser crosshairs aligned with indentation on workpiece.

7. Adjust laser modules in seat by hand (see **Figure 50**), positioning them so crosshairs align with indentation you made in **Step 5**.

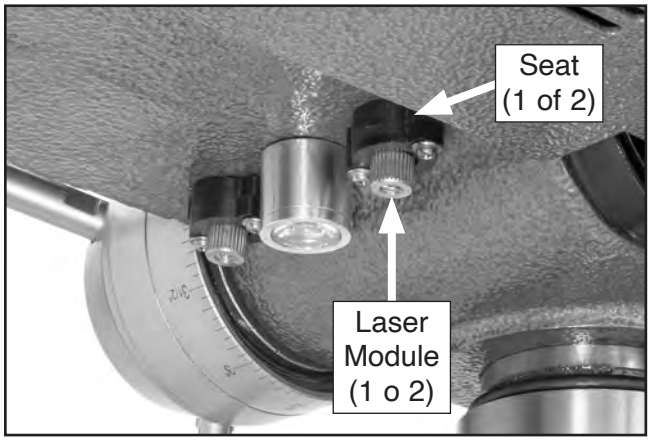


Figure 50. Laser module adjustment components (T33963 shown).

Spindle Speed

Using the correct spindle speed is important for safe and satisfactory results, as well as maximizing tool life.

To set the spindle speed for your operation, you will need to: 1) Determine the best spindle speed for the cutting task, 2) configure the machine for the correct speed range, and 3) adjust the spindle speed dial to produce the required spindle speed.

Refer to **Determining Drilling Spindle Speed** and **Determining Tapping Spindle Speed** for guidance on determining the best spindle speed for drilling and tapping operations. Additionally, the books *Machinery's Handbook* or *Machine Shop Practice*, and some internet sites, provide excellent recommendations for which cutting speeds or feed speeds to use when calculating the spindle speed. These sources also provide a wealth of additional information about the variables that affect this speed and they are a good educational resource.

Also, there are a large number of easy-to-use spindle speed calculators that can be found on the internet. These sources will help you take into account the applicable variables in order to determine the best spindle speed for the operation.

When you are have determined the correct spindle speed for your operation, refer to **Changing Spindle Speed Range** on **Page 38** to configure your machine for the correct speed range.

Determining Drilling Spindle Speed

Many variables affect the optimum spindle speed to use for any given drilling operation, but the two most important are the recommended cutting speed for the workpiece material and the diameter of the cutting tool, as noted in the formula shown in **Figure 51**.

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

*Double if using carbide cutting tool

Figure 51. Drilling spindle speed formula.

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

A recommended cutting speed is an ideal speed for cutting a type of material in order to produce the desired finish and optimize tool life. Refer to the **Spindle Speed Chart** on **Page 37** for additional information.

Determining Tapping Spindle Speed

There are a number of variables to consider when determining the spindle speed for a power tapping operation: the tap diameter, the flute style of the tap; the number of chamfered threads on the tap; the workpiece material; the depth of the intended tap; and the coarseness of the thread pitch.

Turning a tap at too high of an RPM increases the risk of it binding or breaking, and taps are hardened and therefore difficult to remove if they break off inside your workpiece. While some tapping setups will allow you to turn the spindle at a higher RPM, we recommend setting the Model T33962/T33963 as slow as possible (less than 80 RPM). This will allow you to observe the tap as it threads to ensure the tap does not come loose in the chuck and to back out the tap as needed to clear chips or otherwise resolve any issues.

Most tapping operations require a lubricant or tapping fluid to aid in tapping threads. A list of suggested tapping lubricants based on material type has been provided below.

MATERIAL	TAPPING LUBRICANT
Plastics/Fiberglass	Dry, Freezing Spray, Liquid Soap
Aluminum	Soluble Oil
Aluminum Alloys	Soluble Oil, Light Base Oil, Lard Oil
Gun Grade Metal	
Brass	Neat Cutting Oil
Bronze	
Copper	
Grey Cast Iron	Dry
Magnesium Alloy	Soluble Oil, Paraffin-Based Lubricant
Malleable Iron	
Nimonic Alloy	High Pressure Cutting Oil
Cast Iron Alloy	Sulfur-Based Cutting Oil
Carbon Steel	
Mild Steel	
Stainless Steel	
Steel Alloys	
Tool Steel	

Drilling Spindle Speed Chart

Using Drilling Spindle Speed Chart

The chart shown in **Figure 52** 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

Wood .....None
Plastics .....Soapy Water
Brass .....Water-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 52. Drilling spindle speed chart (RPMs).

Changing Spindle Speed Range

This machine has two speed ranges: a low speed range that operates between 0–600 RPM, and a high speed range that operates between 0–2100 RPM. The speed range is determined by how the V-belt is installed on the motor and spindle pulleys (see **Figure 53**).

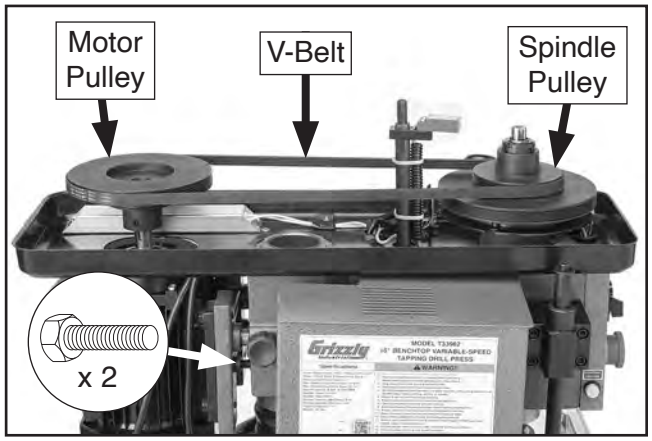


Figure 53. Spindle speed range adjustment components.

The low speed range is obtained when the V-belt is positioned on the lower pulley sheaves, and high speed range is obtained when the V-belt is positioned on the upper pulley sheaves, as shown in **Figure 54**.

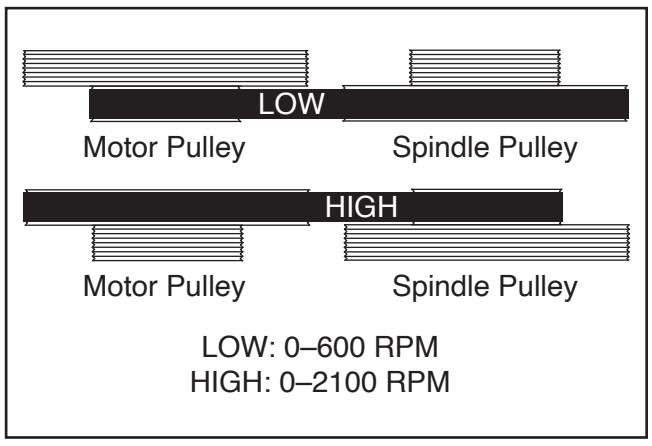


Figure 54. Belt configuration chart.

The V-belt transfers power from the motor to the spindle. If the V-belt is worn or damaged in any way, the drill press will not operate optimally, and unnecessary wear on the moving parts will occur. Whenever you are changing the spindle speed range, inspect the V-belt for damage or wear and replace it if necessary.

⚠CAUTION

Use care when handling V-belt as it could pinch your fingers. It may also be hot after extended use, so wait to touch V-belt if machine has been in use.

Tool Needed	**Qty**
Open-End Wrench 5/8"	1

To change spindle speed range:

1. DISCONNECT MACHINE FROM POWER!
2. Determine correct spindle speed for operation (see **Spindle Speed** on **Page 36**).
3. Remove belt cover lock knob and flat washer to remove belt cover (see **Figure 55**).
4. Loosen (2) belt tension lock knobs (see **Figure 55**).

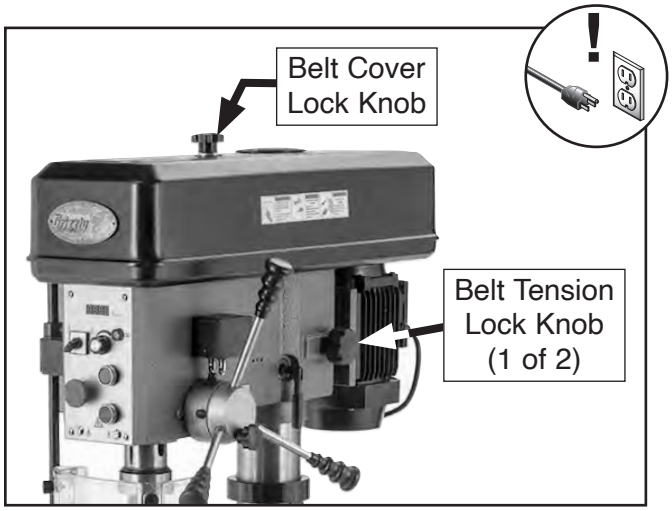


Figure 55. Location of belt cover and belt tension lock knobs.

5. Adjust (2) hex bolts shown in **Figure 53** away from motor to take tension off of V-belt.

6. Move V-belt onto desired sheaves on motor and spindle pulleys (see **Figures 53–54** on **Page 38**).

   — If V-belt is cracked, torn, excessively worn, or damaged, replace it.

7. After belt is positioned on pulleys, use hex bolts from **Step 5** to push motor away from headstock and engage belt tension.

   Note: *Correct belt tension is set if belt flexes ¼" when thumb pressure is applied at mid-point of belt between pulleys (see **Figure 56**).*

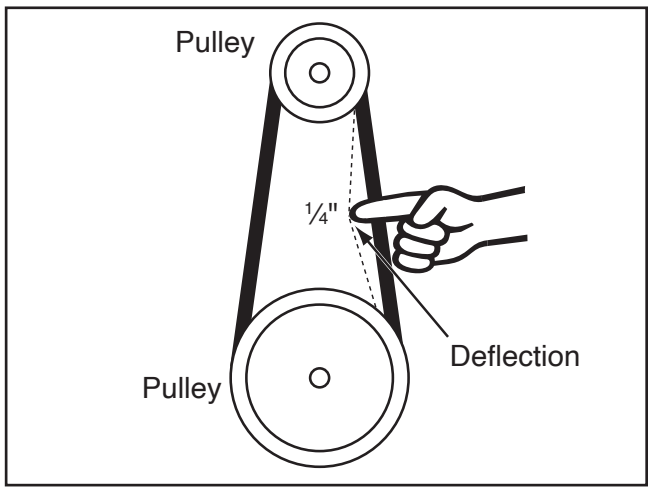


Figure 56. Checking belt tension.

   — If V-belt has more than ¼" of deflection when hex bolts are fully adjusted, replace V-belt.

8. Tighten (2) belt tension lock knobs to secure.

9. Install belt cover, and secure with flat washer and belt cover lock knob removed in **Step 3**.

Drilling

This drill press is designed for vertical drilling and tapping operations. Use the following steps to complete a typical drilling operation.

⚠WARNING

In order to prevent injury to operator and bystanders, DO NOT clear chips from workpiece surface while machine is *ON* or use hands or compressed air to clear chips.

To complete a typical drilling operation:

1. DISCONNECT MACHINE FROM POWER!

2. Put on required safety glasses and face shield.

3. Secure workpiece to table or base.

4. Install correct cutting tool for operation (refer to **Installing/Removing Arbor** on **Page 30** and **Installing/Removing Cutting Tool** on **Page 32**).

5. Position table and headstock for operation (refer to **Positioning Table** on **Page 32** and **Positioning Headstock** on **Page 33**).

6. Adjust depth stop to desired drilling depth (refer to **Adjusting Depth Stop** on **Page 34**).

7. Determine correct spindle speed for your drilling operation (refer to **Spindle Speed** on **Page 36**).

8. Configure machine for required speed range, if necessary (refer to **Changing Spindle Speed Range** on **Page 38**).

9. Connect machine to power.

10. Adjust laser guide (refer to **Adjusting Laser Guide** on **Page 35**).

11. Turn mode switch counterclockwise to drilling (D) mode (see **Figure 57**).

12. Press spindle ON button to start spindle rotation (see **Figure 57**).

13. Adjust spindle speed dial until spindle speed digital readout displays spindle speed determined in **Step 8** (see **Figure 57**).

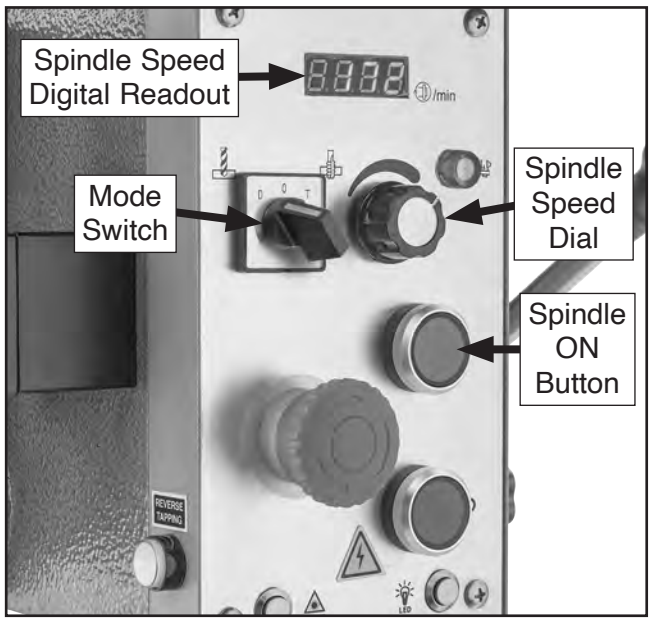


Figure 57. Control panel components.

14. Allow spindle to reach spindle speed set in **Step 13**, then use downfeed handles to lower cutting tool into workpiece to perform drilling operation.

15. Allow spindle to return to top position.

16. Turn machine ***OFF***, allow spindle to come to a complete stop, and DISCONNECT MACHINE FROM POWER before removing workpiece.

Tapping

When in tapping mode on the Model T33962/T33963, the spindle direction immediately alternates between forward and reverse when the spindle reaches the drilling depth set by the depth stop. This feature is critical because it backs the tap out of a hole before it bottoms out and snaps off.

The spindle direction can also be reversed when the REVERSE TAPPING button is pressed after the tap is engaged and prior to the drilling depth being reached. This button will allow you to clear waste chips out of the hole during the tapping process or immediately back out a tap if you notice the tap binding or slipping in the chuck. Frequently removing waste chips will prevent galling and tap breakage.

The following steps describe a typical tapping operation on this machine, but different taps and operation requirements may vary. If you are unfamiliar with tapping on a drill press, we strongly recommend that you read books, review industry trade magazines, or get formal training before attempting tapping projects.

⚠WARNING

Use correct diameter of drill bit to drill pilot hole prior to beginning any tapping operation. Attempting to cut threads into an incorrectly sized hole can cause tap to snap and eject splinters.

⚠WARNING

DO NOT use hand taps on this machine. Hand taps are not designed to eject chips during operation so they require a much slower spindle RPM and feeding technique.

⚠WARNING

In order to prevent injury to operator and bystanders, DO NOT clear chips from workpiece surface while machine is *ON* or use hands or compressed air to clear chips.

To complete a typical tapping operation:

1. DISCONNECT MACHINE FROM POWER!

2. Put on required safety glasses and face shield.

3. Secure workpiece to table or base.

4. Install correct tap for operation (refer to **Installing/Removing Arbor** on **Page 30** and **Installing/Removing Cutting Tool** on **Page 32**).

5. Position table and headstock for operation (refer to **Positioning Table** on **Page 32** and **Positioning Headstock** on **Page 33**).

   Note: *There must be at least ¼" between tap and workpiece for micro switches to engage correctly for automatic spindle reverse feature to function.*

6. Determine maximum tapping depth and adjust depth stop accordingly (refer to **Adjusting Depth Stop** on **Page 34**).

   Note: *You MUST adjust stop to keep tap from bottoming-out in order for spindle direction to automatically reverse and back tap out.*

7. Determine correct spindle speed for your tapping operation (refer to **Spindle Speed** on **Page 36**).

   Note: *Do not exceed 80 RPM unless you have researched and are familiar with speed requirements of your operation.*

8. Configure machine for required speed range, if necessary (refer to **Changing Spindle Speed Range** on **Page 38**).

9. Apply tapping fluid to contact point of tap and workpiece (refer to **Spindle Speed** on **Page 36** for list of recommended lubricants).

10. Connect machine to power.

11. Adjust laser guide (refer to **Adjusting Laser Guide** on **Page 35**).

12. Turn mode switch clockwise to tapping (T) mode (see **Figure 58**).

13. Press spindle ON button to start spindle rotation (see **Figure 58**).

14. Adjust spindle speed dial until spindle speed digital readout displays spindle speed determined in **Step 8** (see **Figure 58**).

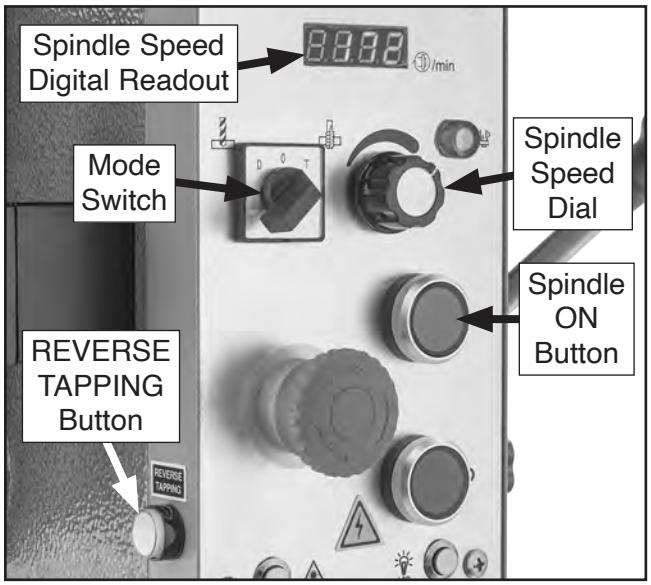


Figure 58. Control panel components.

15. Allow spindle to reach spindle speed set in **Step 14**.

16. Use downfeed handles to slowly lower spindle until tap begins threading into workpiece, then release pressure on downfeed handles. Observe tap as it threads. When preset depth is reached, spindle will stop, reverse direction, and back out of hole.

    — If chips build up, press REVERSE TAPPING button (see **Figure 58**) to back tap out a couple of threads to eject chips from hole. Press button again to resume tapping.

    — If tap binds or slips in chuck, press REVERSE TAPPING button (see **Figure 58**) to reverse spindle direction and back tap completely out of hole. Do not resume tapping until issue has been resolved.

17. Allow spindle to return to top position.

18. Turn machine ***OFF***, allow spindle to come to a complete stop, and DISCONNECT MACHINE FROM POWER before removing workpiece or clearing chips from surface.

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—1/32"–5/8" x JT3 Keyless Drill Chuck
Industrial-grade keyless chucks are excellent for quick cutting tool changes. Knurled grips and exceptional accuracy make these chucks an indispensable part of any shop. Use on drill presses, lathe tailstocks and milling machines. 1/32"–5/8" capacity with a Jacobs Taper #3 in back.



Figure 59. G8583 1/32"–5/8" x JT3 Keyless Drill Chuck.

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



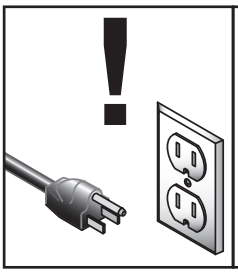
Figure 60. Recommended lubrication products.

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



Figure 61. Recommended products for protecting unpainted cast-iron and steel.

SECTION 6: MAINTENANCE



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

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.
- Damaged or missing chip guard.
- Worn or damaged wires.
- Worn or damaged buttons, switches, or dials.
- Debris and built up grime.
- Damaged V-belt.
- Any other unsafe condition.

Weekly Maintenance
- Lubricate quill and column surfaces (**Page 44**).

Monthly Check
- Check V-belt for damage or wear (**Page 38**).
- Lubricate quill rack and pinion (**Page 44**).
- **Model T33963 Only:** Lubricate column rack (**Page 44**).
- Clean/vacuum dust buildup off of motor.

Cleaning & Protecting

Cleaning the machine is relatively easy. Sawdust, wood chips, and metal chips that have been soaked with water-based cutting fluid or lubricant left on the machine will invite oxidation and a gummy residue build-up around the moving parts. 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. Use a brush and shop vacuum to remove metal chips and debris from the work surface. Never blow off debris with compressed air, as this will force chips deep into the mechanisms and may cause injury to yourself or bystanders.

Protect the unpainted cast iron table and base by wiping them 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 61** on **Page 42**).

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 in **Accessories** on **Page 42**.

DISCONNECT MACHINE FROM POWER BEFORE PERFORMING LUBRICATION!

Quill & Column Surfaces

Oil Type .... Grizzly SB1365 or ISO 68 Equivalent
Oil Amount.....Thin Coat
Lubrication Frequency.....8 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 (and headstock height, for the Model T33962) as necessary to access the entire length of the column (see **Figure 62**). Clean both with mineral spirits and shop rags.

Note: *Avoid removing the grease from the column rack on the Model T33963 and the quill racks on both models.*

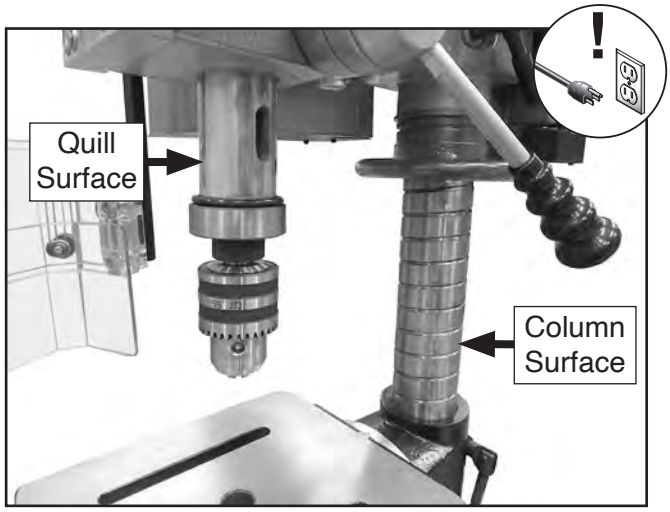


Figure 62. Quill and column surfaces exposed (T33962 shown).

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

Quill Rack & Pinion

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

Items Needed	Qty
Mineral Spirits	As Needed
Shop Rags	As Needed
Stiff Brush	1

Move spindle all the way down to gain access to quill rack (see **Figure 63**), then clean teeth with mineral spirits, shop rags, and a brush.

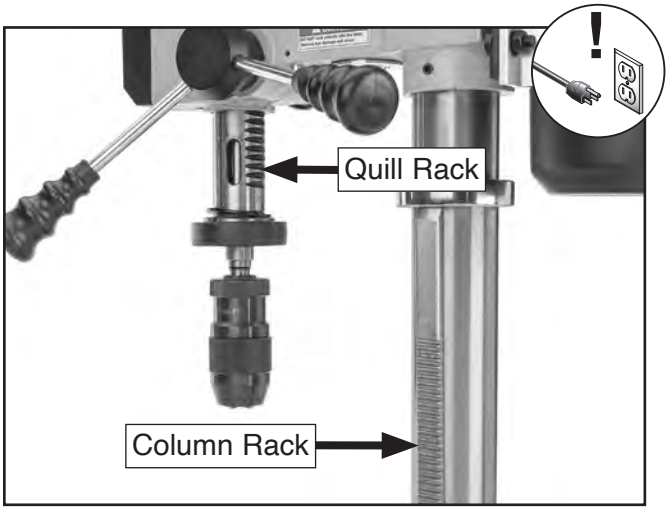


Figure 63. Example of quill and column racks exposed.

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

Column Rack (Model T33963 Only)

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

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

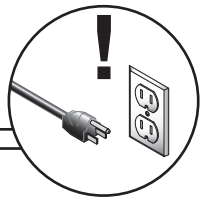
Clean the column rack teeth (see **Figure 63**) with mineral spirits, shop rags, and a brush.

Allow the rack to dry, use a brush to apply a thin coat of grease to the rack teeth, then fully raise/lower the 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.	1. Emergency Stop button depressed.	1. Rotate Emergency Stop button head to reset.
	2. Chip guard open.	2. Close guard.
	3. Belt cover removed.	3. Install belt cover.
	4. Mode switch is in neutral (0) position.	4. Move mode switch to drilling (D) or tapping (T) position.
	5. Incorrect power supply voltage or circuit size.	5. Ensure correct power supply voltage and circuit size (**Page 14**).
	6. Potentiometer at fault.	6. Test/replace if at fault.
	7. Power supply circuit breaker tripped or fuse blown.	7. Ensure circuit is free of shorts. Reset circuit breaker or replace fuse.
	8. Motor wires connected incorrectly.	8. Correct motor wiring connections (**Page 54**).
	9. Wiring broken, disconnected, or corroded.	9. Fix broken wires or disconnected/corroded connections (**Page 54**).
	10. Spindle ON, spindle OFF, or Emergency Stop button at fault.	10. Replace button.
	11. Chip guard or belt cover safety switch at fault.	11. Replace safety switch.
	12. Mode switch at fault.	12. Test/replace switch.
	13. Braking resistor at fault.	13. Test/replace if at fault.
	14. VFD at fault.	14. Inspect VFD; replace if at fault.
	15. Relay at fault.	15. Replace relay.
	16. Motor or motor bearings at fault.	16. Replace motor.
Machine stalls or is underpowered.	1. Workpiece material unsuitable for machine.	1. Only cut wood with moisture below 20% and correct type/size of metal.
	2. Feed rate/cutting speed too fast.	2. Decrease feed rate/cutting speed (**Page 36**).
	3. Belt slipping/pulleys misaligned.	3. Clean/tension/replace belt (**Page 38**); ensure pulleys are aligned (**Page 49**).
	4. Motor wires connected incorrectly.	4. Correct motor wiring connections (**Page 54**).
	5. Pulley slipping on shaft.	5. Tighten/replace loose pulley/shaft.
	6. Machine undersized for task.	6. Use sharp cutting tools; reduce feed rate; reduce spindle RPM (**Page 36**); use cutting fluid if possible.
	7. Motor overheated.	7. Clean motor, let cool, and reduce workload.
	8. Extension cord too long.	8. Move machine closer to power supply; use shorter extension cord (**Page 15**).
	9. Mode switch at fault.	9. Test/replace switch.
	10. Motor or motor bearings at fault.	10. Replace motor.
Machine has vibration or noisy operation.	1. Motor or component loose.	1. Replace damaged or missing bolt/nuts or tighten if loose.
	2. V-belt worn, loose, pulleys misaligned, or belt slapping cover.	2. Inspect/replace belt. Realign pulleys if necessary (**Page 49**).

Motor & Electrical (Cont.)

Symptom	Possible Cause	Possible Solution
Machine has vibration or noisy operation.	3. Pulley loose. 4. Machine is incorrectly mounted to floor or workbench. 5. Motor mount loose/broken. 6. Spindle loose, improperly installed, or damaged. 7. Workpiece loose. 8. Chuck or cutting tool at fault. 9. Motor fan rubbing on fan cover. 10. Spindle bearings at fault. 11. Motor bearings at fault.	3. Secure pulley on shaft. 4. Shim base or tighten mounting hardware. 5. Tighten/replace. 6. Tighten loose spindle, re-install spindle ensuring mating surfaces are clean, replace spindle if damaged. 7. Use correct holding fixture and reclamp workpiece. 8. Replace unbalanced chuck; replace/sharpen cutting tool; use correct feed rate. 9. Fix/replace fan cover; replace loose/damaged fan. 10. Test by rotating spindle; rotational grinding/loose shaft requires bearing replacement. 11. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.
Machine operates in reverse.	1. Motor wire connections are wired out of phase.	1. Correct phase polarity.
LED or laser guide does not illuminate.	1. Lens covered with dust. 2. Wiring broken, disconnected, or corroded. 3. LED/laser module damaged/at fault. 4. LED/laser button at fault. 5. Transformer at fault.	1. Clean lens. 2. Fix broken wires or disconnected/corroded connections (**Page 54**). 3. Replace LED/laser module (**Page 51**). 4. Replace button. 5. Replace transformer.
Digital readout does not work/ display is incorrect.	1. Spindle speed sensor catching on pulley. 2. Wiring broken, disconnected, or corroded. 3. Spindle speed sensor at fault. 4. Digital readout is at fault.	1. Adjust sensor position. 2. Fix broken wires or disconnected/corroded connections (**Page 54**). 3. Replace sensor. 4. Replace digital readout.
REVERSE TAPPING button does not reverse spindle rotation while tapping.	1. Workpiece is too close to tap. 2. Spindle downfeed depth stop micro switch needs to be adjusted. 3. Wiring broken, disconnected, or corroded. 4. REVERSE TAPPING button at fault. 5. Spindle downfeed micro switch at fault.	1. There must be at least ¼" between tap and workpiece for downfeed micro switch to disengage and allow rotation reversal. 2. Adjust spindle downfeed micro switch so it disengages when spindle is moved down. 3. Fix broken wires or disconnected/corroded connections (**Page 54**). 4. Replace button. 5. Replace micro switch.

Operation

Symptom	Possible Cause	Possible Solution
Tools falls out or loose in chuck.	1. Chuck jaws loose. 2. Excessive feed pressure.	1. Tighten chuck jaws. 2. Decrease feed pressure and allow chips to clear.
Chuck and arbor fall out or are loose in spindle.	1. Debris on chuck, arbor, or in spindle taper. 2. Excessive feed pressure.	1. Clean chuck, arbor, and spindle taper, then re-install (**Page 30**). 2. Decrease feed pressure and allow chips to clear.
Table hard to move.	1. Table locked. 2. Dirty or dry column surfaces. 3. Dirty or dry rack and pinion (T33963 only).	1. Disengage table lock(s) (**Page 32**). 2. Clean and lubricate column surfaces (**Page 44**). 3. Clean and lubricate rack and pinion (**Page 44**).

Operation (Cont.)

Symptom	Possible Cause	Possible Solution
Breaking cutting tools or cutters.	1. Spindle speed/feed rate too fast. 2. Taking too big of a cut at one time/flutes of cutting tool clogged with chips. 3. Improper cutting technique or type of cut for tool/machine. 4. Cutting tool too small. 5. Cutting tool getting too hot/lack of cutting fluid or wrong cutting fluid. 6. Spindle extended too far down during or at beginning of operation.	1. Reduce spindle speed (**Page 36**); reduce feed rate. 2. Decrease feed pressure and allow chips to clear. 3. Use right technique, tool, or machine for job. 4. Use larger cutting tool and slower feed rate. 5. Use coolant or oil for appropriate application; reduce cutting speed (**Page 36**). 6. Fully retract spindle and raise table to increase rigidity.
Workpiece or tool vibrates or chatters during operation.	1. Spindle extended too far down during or at beginning of operation. 2. Headstock or table lock(s) not tight. 3. Workpiece not secure. 4. Spindle speed/feed rate too fast.	1. Fully retract spindle and raise table to increase rigidity. 2. Tighten headstock (**Page 33**) and table lock(s) (**Page 32**). 3. Properly clamp workpiece on table or in vise. 4. Reduce spindle speed (**Page 36**)/feed rate.
Bad surface finish.	1. Lack of cutting fluid/wrong cutting fluid. 2. Spindle speed/feed rate too fast. 3. Dull or incorrect cutting tool. 4. Wrong rotation direction of cutting tool. 5. Workpiece not secure. 6. Spindle extended too far down during or at beginning of operation.	1. Use correct cutting fluid for operation. 2. Reduce spindle speed (**Page 36**)/feed rate. 3. Sharpen cutting tool or select one that better suits operation. 4. Reverse cutting tool direction. 5. Properly clamp workpiece on table or in vise. 6. Fully retract spindle and raise table to increase rigidity.
Spindle overheats.	1. Machine operated at high speeds for extended period.	1. Allow machine to cool.
Spindle does not fully retract.	1. Debris on spindle/quill rack. 2. Worn return spring.	1. Clean and lubricate spindle/quill rack (**Page 44**). 2. Replace return spring.
Cutting tool drifts.	1. Dull/incorrectly sharpened cutting tool. 2. Cutting tool or chuck incorrectly installed. 3. Cutting tool is not designed for clockwise rotation.	1. Correctly sharpen cutting tool. 2. Correctly re-install cutting tool (**Page 32**) or chuck (**Page 30**). 3. Only use cutting tools designed for clockwise rotation on this machine.
Cutting tool slips in chuck or stuck in workpiece.	1. Chuck jaws loose. 2. Workpiece squeezing cutting tool. 3. Feed rate too fast. 4. Spindle speed/feed rate too slow.	1. Tighten chuck jaws. 2. Properly clamp workpiece on table or in vise. 3. Decrease feed rate. 4. Increase spindle speed (**Page 36**)/feed rate.
Workpiece thrown from table.	1. Workpiece not secure. 2. Cutting tool too large for feed speed.	1. Properly clamp workpiece on table or in vise. 2. Use smaller cutting tool or decrease feed speed.
Backside of workpiece splinters.	1. Scrap board not installed between table and workpiece.	1. Install scrap board between table and workpiece.
Excessive runout or wobbling in chuck/cutting tool.	1. Debris between chuck-to-spindle mating surfaces. 2. Cutting tool bent. 3. Cutting tool installed incorrectly. 4. Spindle bearings worn.	1. Remove chuck, clean, deburr tapered chuck and spindle mating surfaces, then reassemble (**Page 30**). 2. Replace with straight cutting tool. 3. Install cutting tool correctly (**Page 32**). 4. Replace spindle bearings.

Operation (Cont.)

Symptom	Possible Cause	Possible Solution
Tap snaps.	1. Lack of cutting fluid/wrong cutting fluid. 2. Operation requires more frequent chip clearing. 3. Spindle speed too fast. 4. Misalignment between tap and pilot hole. 5. Wrong size pilot hole. 6. Wrong style of tap/tap has too many flutes. 7. Tap bottomed out.	1. Use correct cutting fluid for operation. 2. Frequently back out tap during operation to clear chips. 3. Reduce spindle speed. 4. Fix alignment between tap and pilot hole. 5. Use correct diameter of drill bit to drill pilot hole. 6. Use spiral/spiral point tap/use tap with fewer flutes to provide extra chip room. Do not use hand taps with this machine; hand taps require specific speeds and feeds. 7. Set depth stop to less than workpiece thickness to keep tap from bottoming out.
Tapped threads are not smooth.	1. Tap cutting edges chipped or dull. 2. Chip packing. 3. Galling.	1. Replace tap. 2. Use spiral/spiral point tap; use tap with fewer flutes to provide extra chip room, and/or back out tap more often during tapping operation. 3. Use proper coolant; reduce spindle speed.

Aligning Motor Pulley

Pulley alignment is an important factor in power transmission and belt life. The pulleys should be parallel to each other and in the same plane (coplanar) for optimum performance.

Use a straightedge to check the pulley alignment, as shown in **Figure 64**. The motor pulley can be adjusted up and down on its shaft.

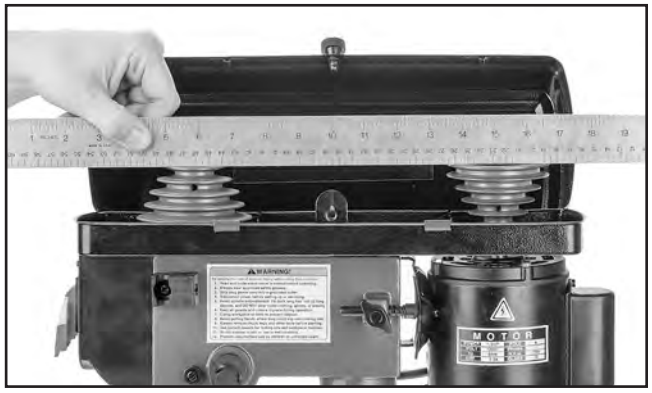


Figure 64. Example of checking pulley alignment.

Tools Needed	**Qty**
Hex Wrench 3mm	1
Straightedge 24"	1

To align motor pulley:

1. DISCONNECT MACHINE FROM POWER!

2. Remove belt cover lock knob and flat washer to remove belt cover (see **Figure 65**).

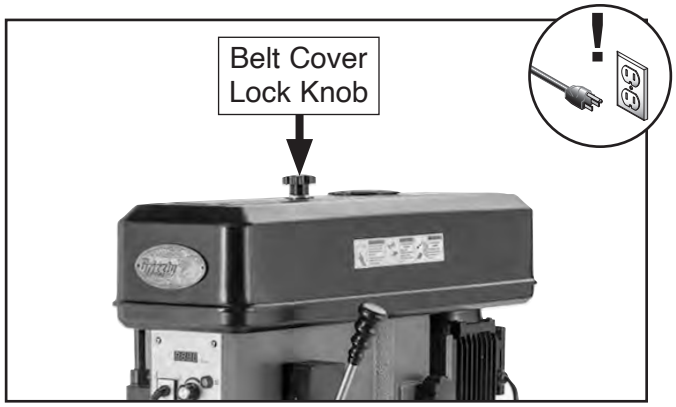


Figure 65. Location of belt cover lock knob.

3. Place straightedge against motor and spindle pulleys (see **Figure 66**) and check that they are aligned. There should be no space anywhere between straightedge and pulleys.

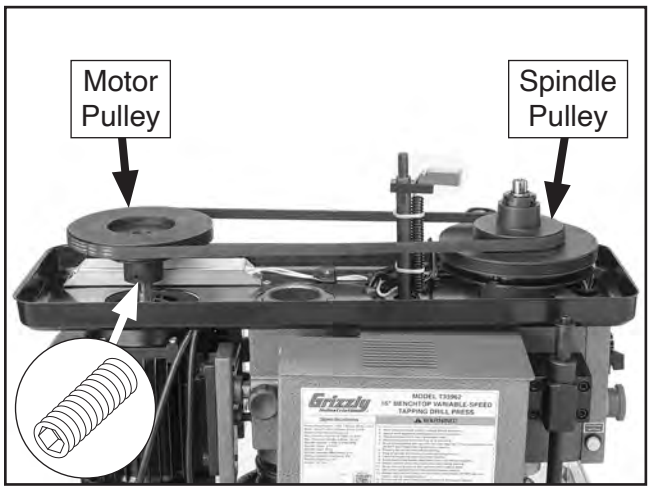


Figure 66. Location of pulleys and motor pulley set screw.

— If pulleys *are* aligned, no adjustment is necessary. Install belt cover, and secure with flat washer and belt cover lock knob removed in **Step 2**.

— If pulleys *are not* aligned, proceed to **Step 4**.

⚠CAUTION

Use care when handling V-belt as it could pinch your fingers. It may also be hot after extended use, so wait to touch V-belt if machine has been in use.

4. Loosen set screw on motor pulley (see **Figure 66**), adjust pulley on shaft until it aligns with spindle pulley, then tighten set screw.

5. Install belt cover, and secure with flat washer and belt cover lock knob removed in **Step 2**.

Calibrating Depth Stop

The depth stop allows you to drill multiple holes at the same depth and also initiates the automatic spindle rotation reverse function that is necessary for tapping. The scale on this depth stop can be calibrated if it ever becomes incorrect.

Items Needed	Qty
Scrap Workpiece	1
Phillips Head Screwdriver #2	1

To calibrate depth stop:

1. DISCONNECT MACHINE FROM POWER!

2. Secure scrap workpiece to table.

3. Install cutting tool.

4. Loosen depth stop lock knob (see **Figure 67**).

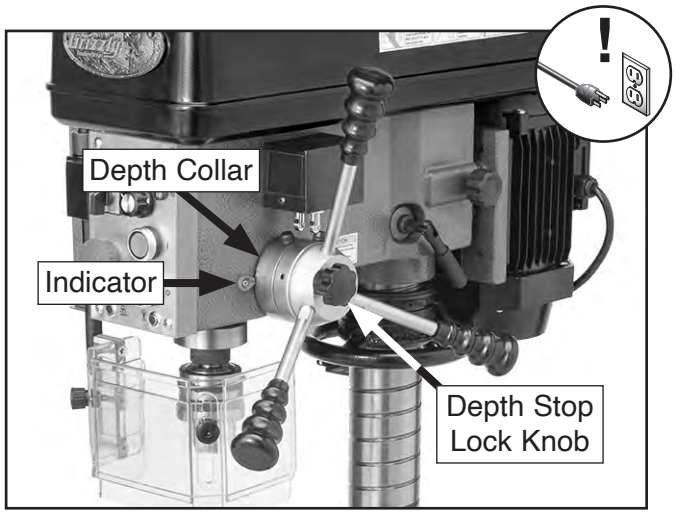


Figure 67. Location of depth stop components.

5. Use downfeed handles to lower spindle until cutting tool just contacts surface of workpiece.

6. With cutting tool contacting workpiece surface, rotate depth collar until indicator displays desired depth (see **Figure 67**).

7. Tighten depth stop lock knob to secure, then allow quill and spindle to return to top position.

8. Put on required safety glasses and face shield.

9. Connect machine to power and drill a test hole, then allow spindle to return to top position.

10. Turn machine ***OFF***, allow spindle to come to a complete stop, and DISCONNECT MACHINE FROM POWER.

11. Measure depth of drilled hole.

— If hole depth *is* the same as desired depth set in **Step 6**, no adjustment is necessary.

— If hole depth *is not* the same as desired depth set in **Step 6**, proceed to **Step 12**.

12. Use downfeed handles to lower spindle until cutting tool just contacts surface of workpiece.

13. Loosen Phillips head screw securing indicator (see **Figure 67**).

14. Adjust indicator until it indicates depth of hole measured in **Step 11**.

15. While holding indicator in place, tighten screw from **Step 13** to secure setting.

16. Repeat **Steps 4–11** at different location on workpiece to test adjustment.

Replacing LED/ Laser Modules

If the LED or either one of the laser modules burns out and needs to be replaced, use the following applicable section to replace it. A wiring diagram is provided in the wiring section beginning on **Page 54** for your reference.

Replacing LED

Items Needed	Qty
Phillips Head Screwdrivers	
#1	1
#2 with 6½" Shaft	1
Flat Head Screwdriver 0.100"	1
Replacement LED Assembly (#PT33962173)	1
String (12" Minimum)	1
Wire Ferrule Terminal (18G)	1
Wire Ferrule Terminal (22G)	1
Wire Crimper	1

To replace LED:

1. DISCONNECT MACHINE FROM POWER!

2. Turn LED assembly (see **Figure 68**) counterclockwise to remove LED from headstock, then pull LED just enough to reveal connected wires.

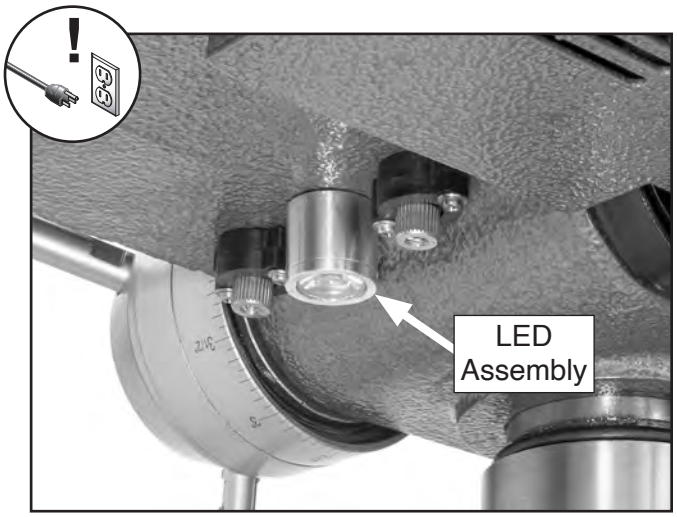


Figure 68. Location of LED assembly. (T33963 shown).

3. Remove (4) flange screws shown in **Figure 69** to remove electrical box cover.

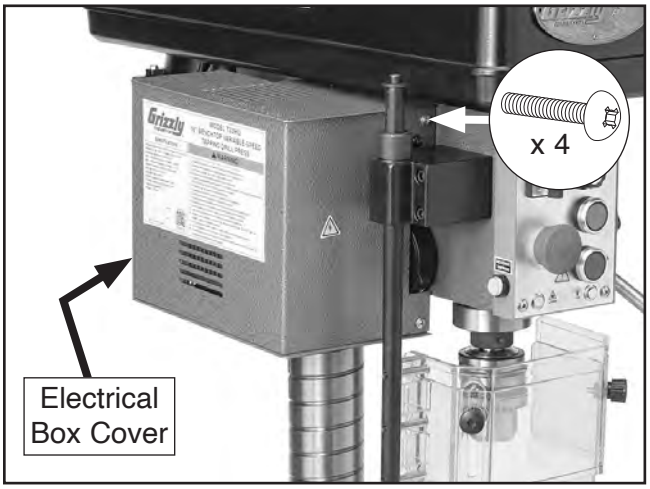


Figure 69. Location of electrical box cover and securing screws.

4. Adjust table so it is just under electrical box.

5. Remove (3) Phillips head screws shown in **Figure 70** to remove VFD from electrical box, then use table to support VFD to keep from straining wire connections inside electrical box.

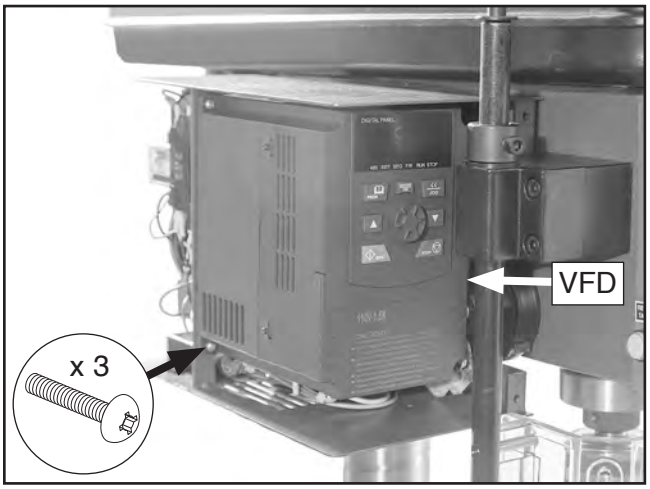


Figure 70. Location of VFD and securing screws.

6. Disconnect 16 and 18 wire ferrule terminals from headstock side of terminal block (see **Figures 71–72**), then remove 16 and 18 wires from wire ferrule terminals.

   Note: *Discard wire ferrule terminals. They will be replaced with new ones in later steps.*

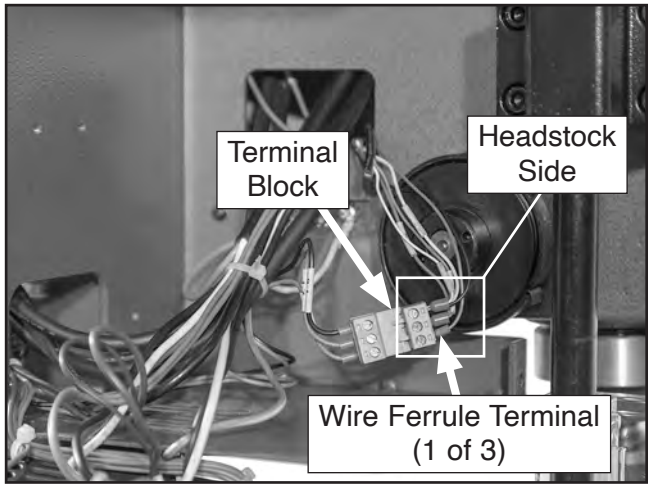


Figure 71. Location of terminal block and wire ferrule terminals.

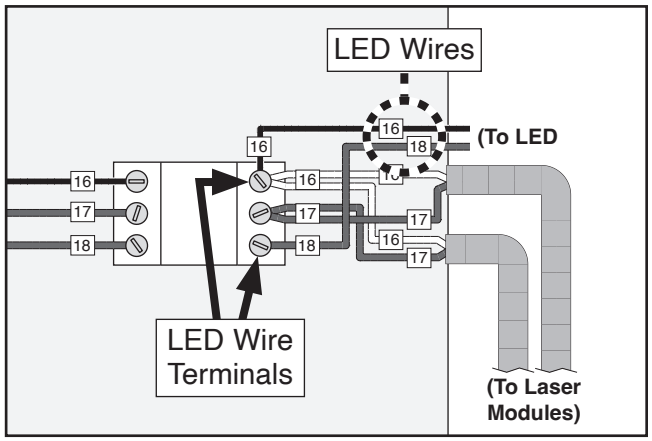


Figure 72. Terminal block wiring.

7. Identify which 16 and 18 wires are connected to LED by lightly tugging on LED.

8. Tie string to end of LED wires to aid in installation of new LED.

9. While keeping hold of untied end of string at electrical box, fully remove LED assembly from headstock, pulling wires with it. String will follow cord path.

10. Remove string from LED wires, and tie it to end of new LED wires.

11. Pull untied end of string to thread new LED wires through headstock and electrical box, then untie string.

12. Attach (2) white and (1) black 16 wires together with new 18G wire ferrule terminal, crimp ferrule, and attach ferrule to terminal block, as shown in **Figure 72**.

13. Insert (1) red 18 wire into new 22G wire ferrule terminal, crimp ferrule, and attach ferrule to terminal block, as shown in **Figure 72**.

14. Install VFD and electrical box cover.

15. Feed new LED wires into headstock and thread new LED onto headstock threads.

Replacing Laser Module

Items Needed	**Qty**
Phillips Head Screwdrivers	
#1	1
#2 with 6½" Shaft	1
Flat Head Screwdriver 0.100"	1
Replacement Laser Module (#PT33962170)	1
String (12" Minimum)	1
Wire Ferrule Terminals (18G)	2
Wire Crimper	1

To replace laser module:

1. DISCONNECT MACHINE FROM POWER!

2. Remove (2) Phillips head screws and flat washers securing faulty laser module in seat and remove lower laser seat (see **Figure 73**).

3. Pull faulty laser module just enough to remove it from headstock (see **Figure 73**).

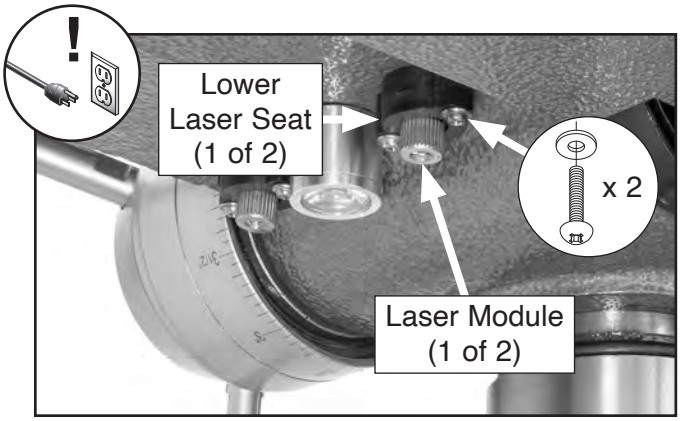


Figure 73. Laser module removal components (T33963 shown).

4. Complete **Steps 3–5** of **Replacing LED** on **Page 51**.

5. Disconnect 16 and 17 wire ferrule terminals from headstock side of terminal block (see **Figures 74–75**), then remove 16 and 17 wires from wire ferrule terminals.

   Note: *Discard wire ferrule terminals. They will be replaced with new ones in later steps.*

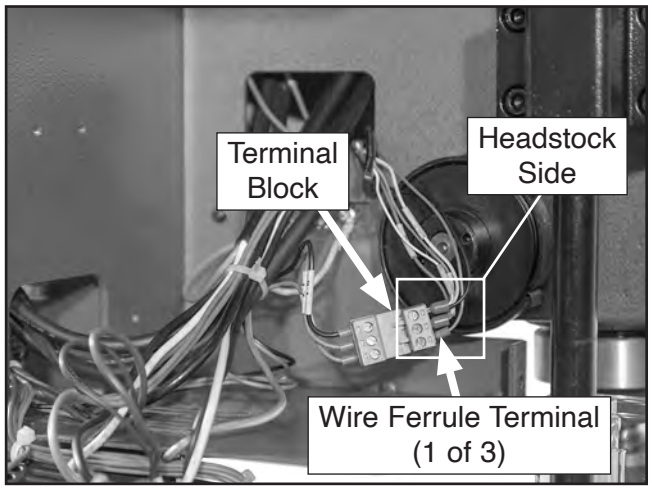


Figure 74. Location of terminal block and wire ferrule terminals.

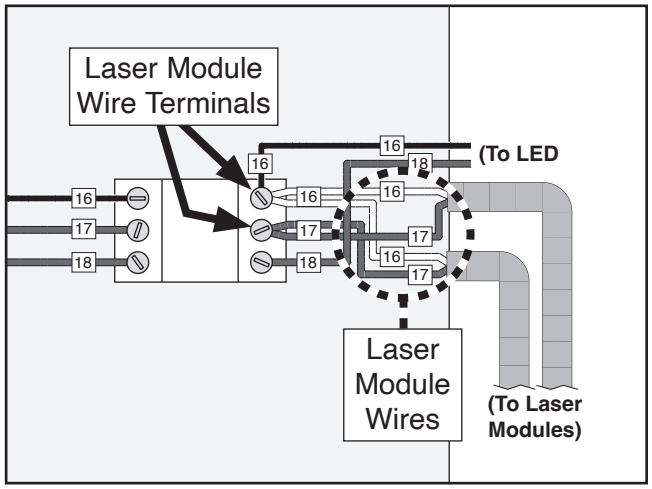


Figure 75. Terminal block wiring.

6. Identify which 16 and 17 wires are connected to faulty laser by lightly tugging on faulty laser.

7. Tie string to end of faulty laser module wires to aid in installation of new laser module.

8. While keeping hold of untied end of string at electrical 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, but leave string threaded through headstock.

10. Remove upper laser seat and laser collar from faulty laser module (see **Figure 76**), and place laser collar and upper laser seat on new laser module cord.

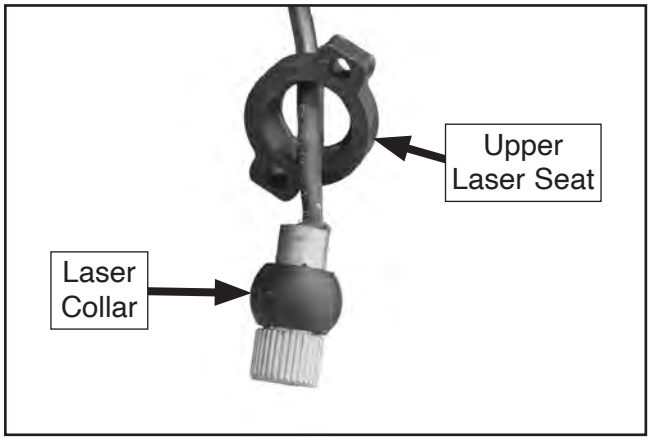


Figure 76. Laser seat components.

11. Tie string from **Step 9** to end of new laser module wires.

12. Pull untied end of string to thread new laser module wires through headstock and electrical box, then untie string.

13. Attach (2) white and (1) black 16 wires together with new wire ferrule terminal, crimp ferrule, and attach ferrule to terminal block, as shown in **Figure 75**.

14. Attach (2) red 17 wires together with new wire ferrule terminal, crimp ferrule, and attach ferrule to terminal block, as shown in **Figure 75**.

15. Install VFD and electrical box cover.

16. Feed new laser module cord and laser module into headstock, then secure with lower laser seat and fasteners removed in **Step 2**.

17. Refer to **Adjusting Laser Guide** on **Page 35** to 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 aftermarket parts.

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

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

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

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

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

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

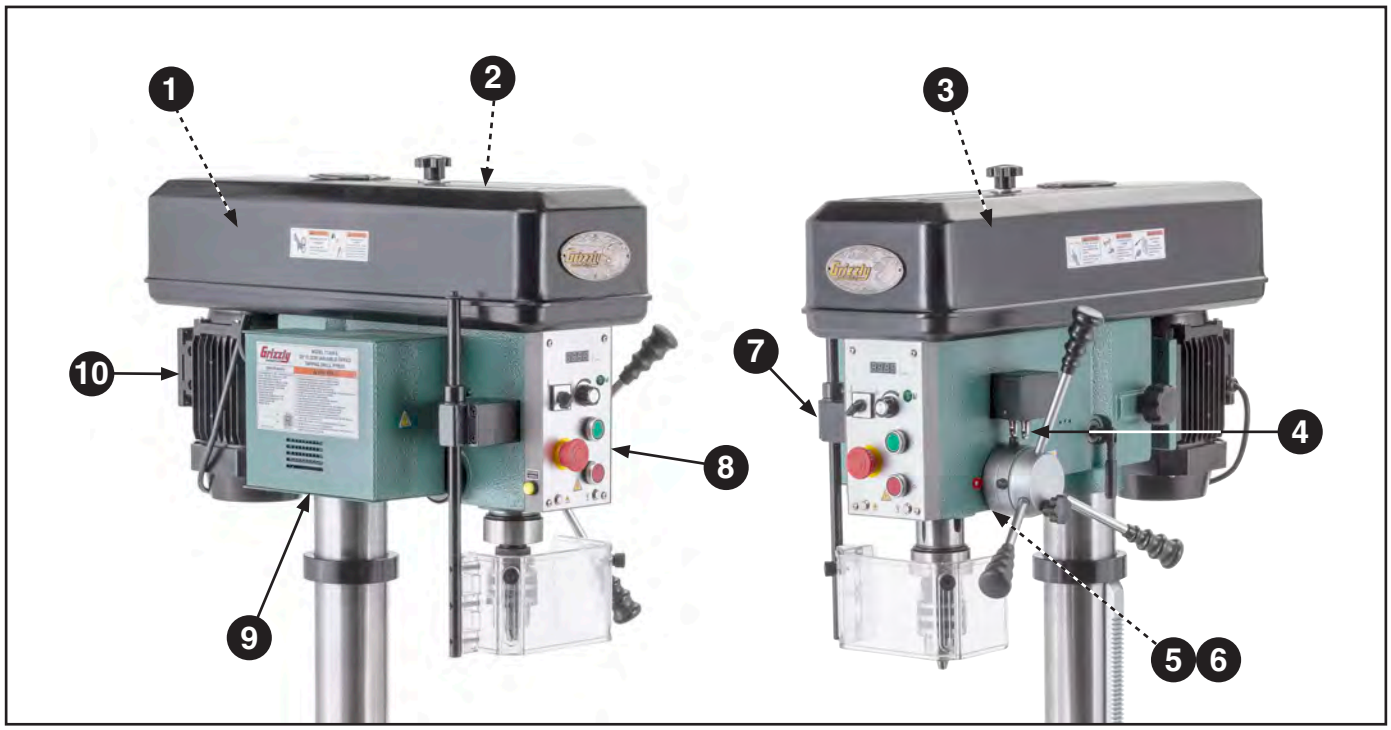
NOTICE

The photos and diagrams included in this section are best viewed in color. You can view these pages in color at www.grizzly.com.

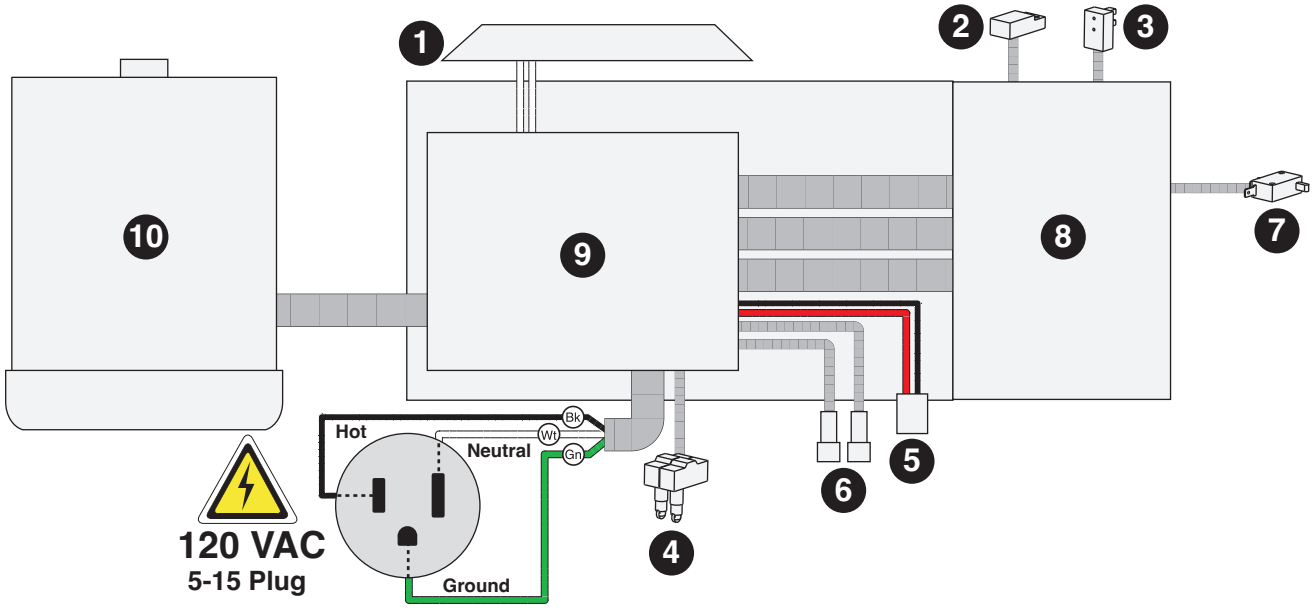
COLOR KEY

BLACK	Bk	BLUE	Bl	YELLOW	Yl	LIGHT BLUE	Lb
WHITE	Wt	BROWN	Br	YELLOW GREEN	Yg	BLUE WHITE	Bw
GREEN	Gn	GRAY	Gy	PURPLE	Pu	TURQUOISE	Tu
RED	Rd	ORANGE	Or	PINK	Pk		

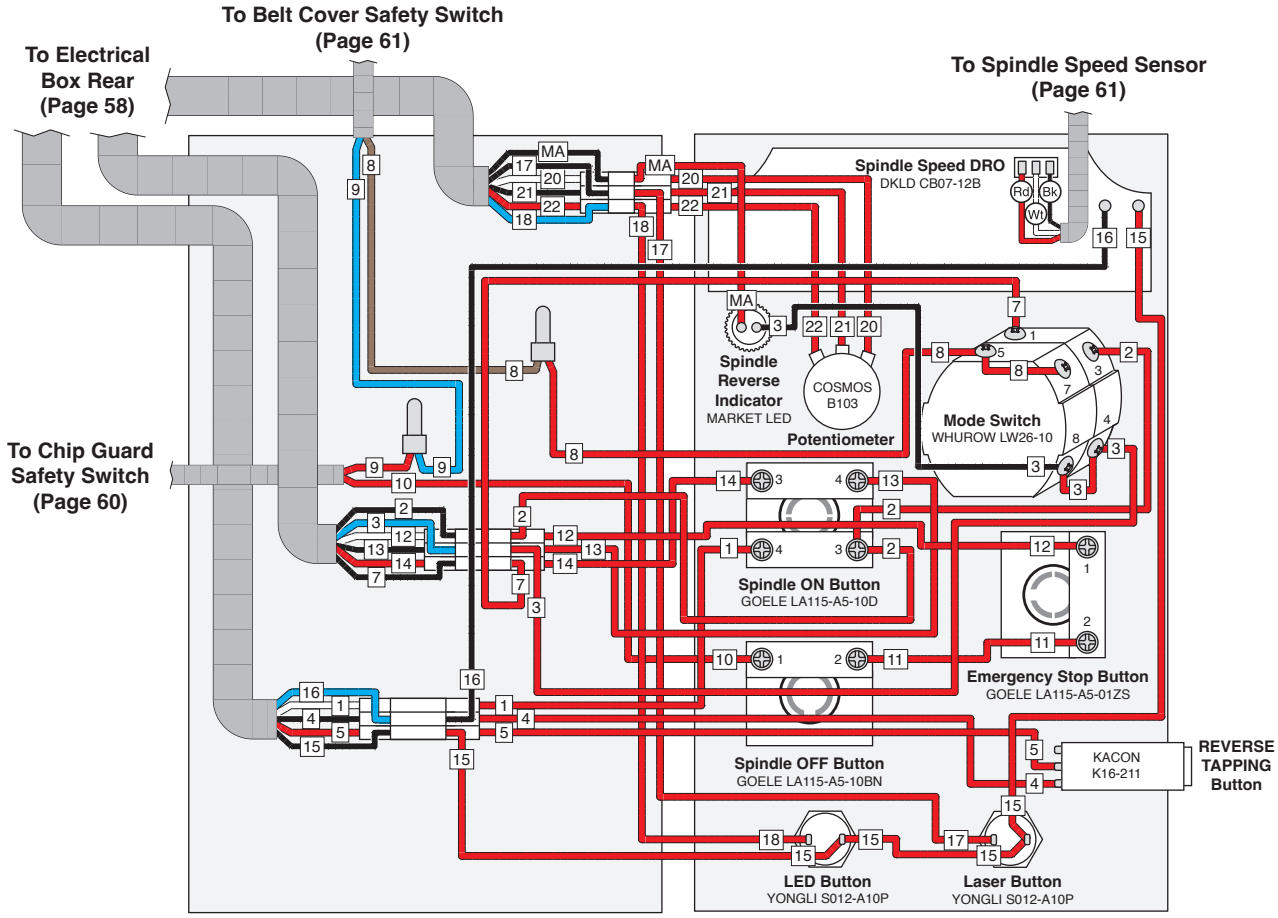
Wiring Overview



1	Braking Resistor (**Page 61**)	6	Laser Modules (**Page 60**)
2	Belt Cover Safety Switch (**Page 61**)	7	Chip Guard Safety Switch (**Page 60**)
3	Spindle Speed Sensor (**Page 61**)	8	Control Panel (**Page 56**)
4	Depth Stop Micro Switches (**Page 60**)	9	Electrical Box (**Pages 57–59**)
5	LED (**Page 60**)	10	Motor (**Page 61**)



Control Panel Wiring



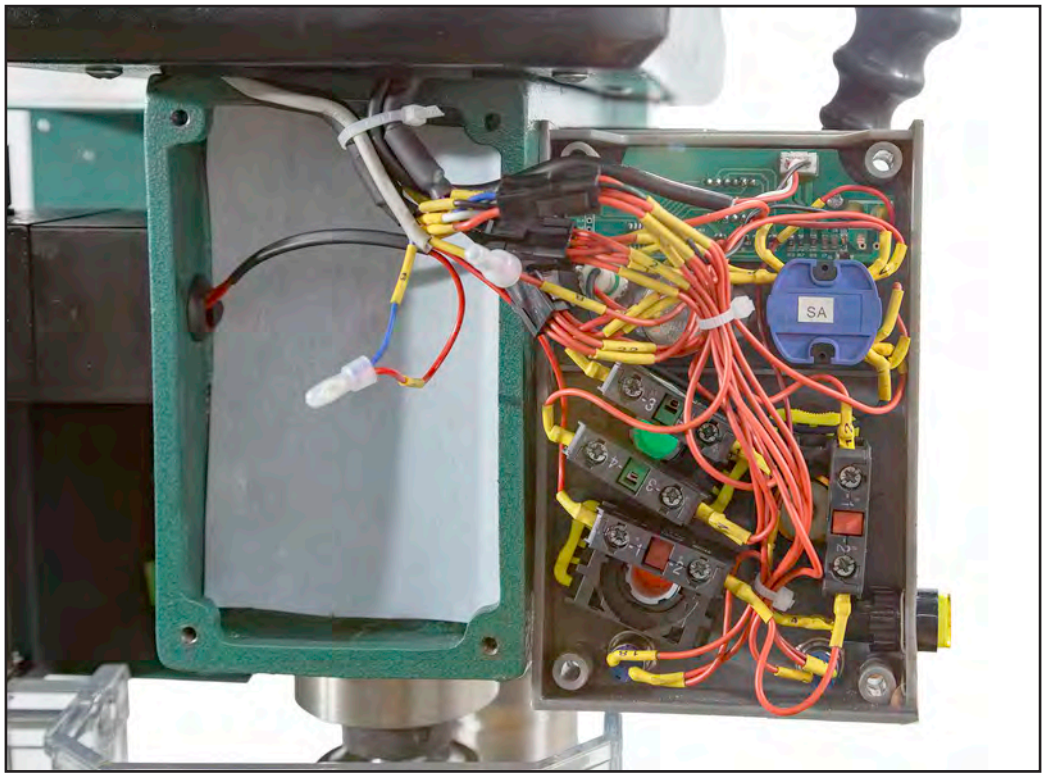
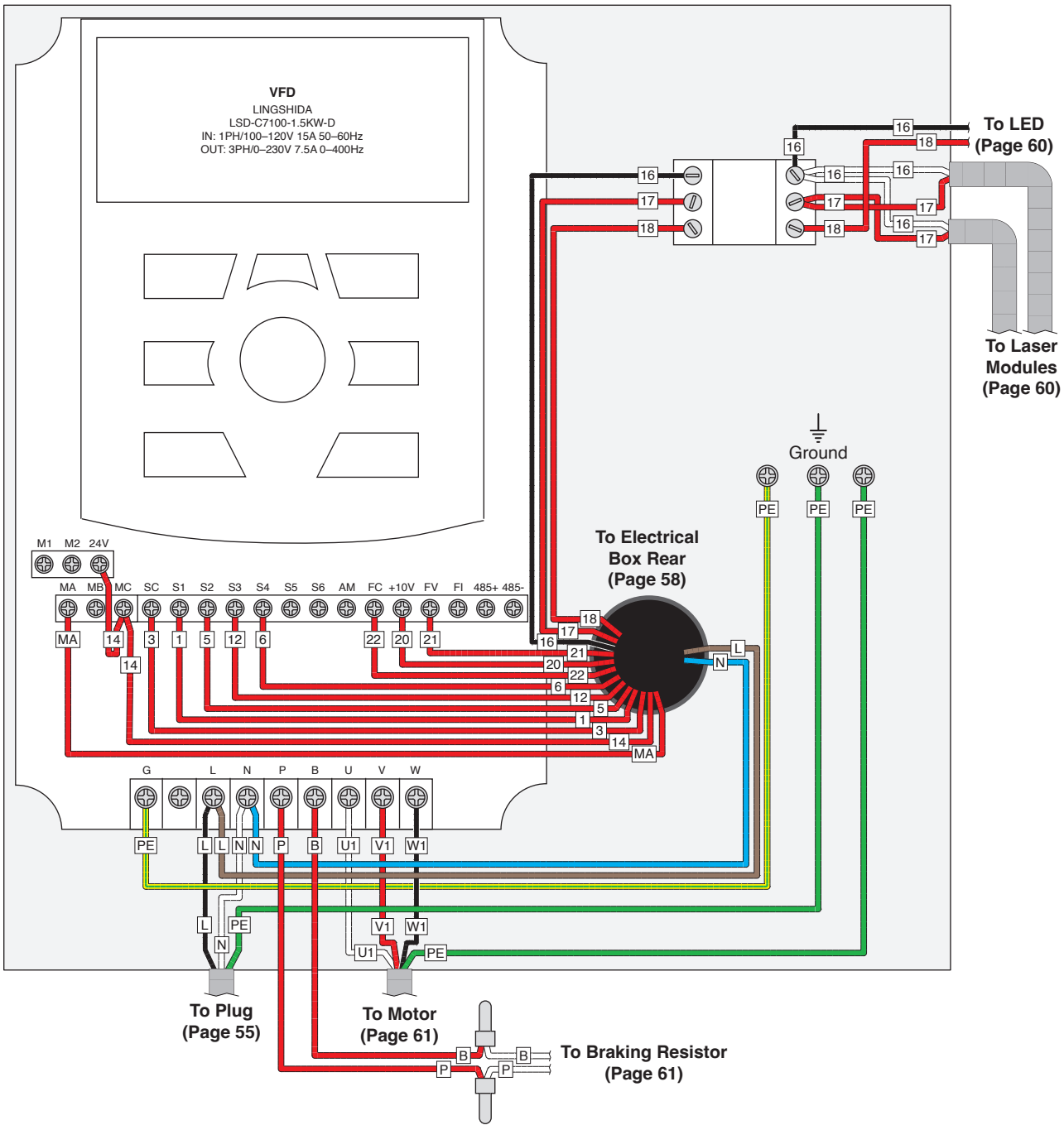


Figure 77. Control panel wiring.

STOP *READ ELECTRICAL SAFETY ON PAGE 54!*

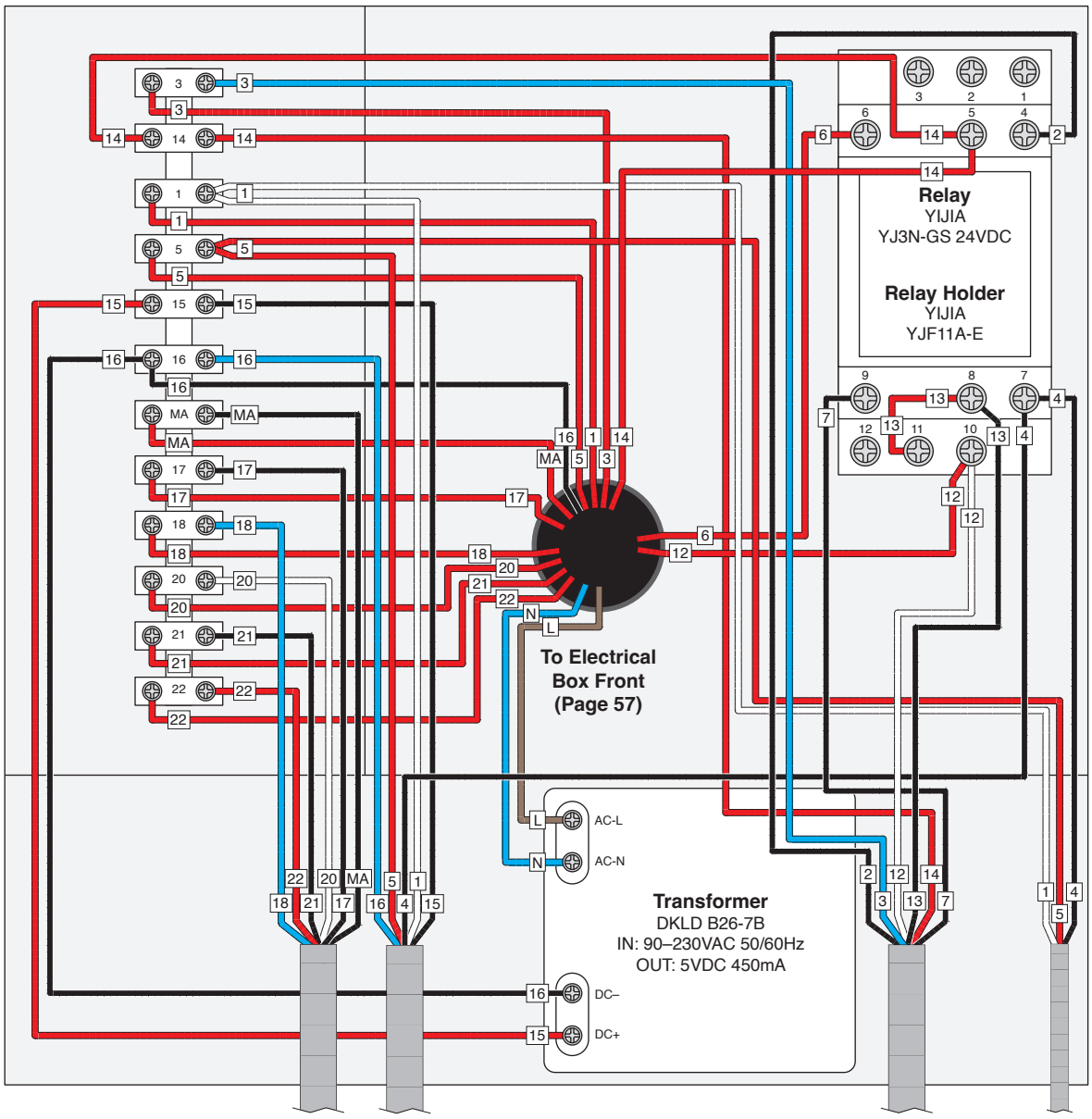
Electrical Box Front Wiring Diagram

ELECTRICAL BOX
(From Front)



Electrical Box Rear Wiring Diagram

ELECTRICAL BOX
(From Rear)

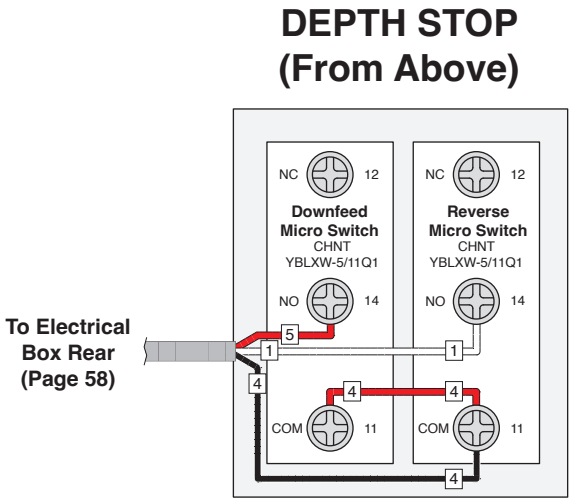


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Figure 78. Electrical box wiring.

Depth Stop Micro Switch Wiring



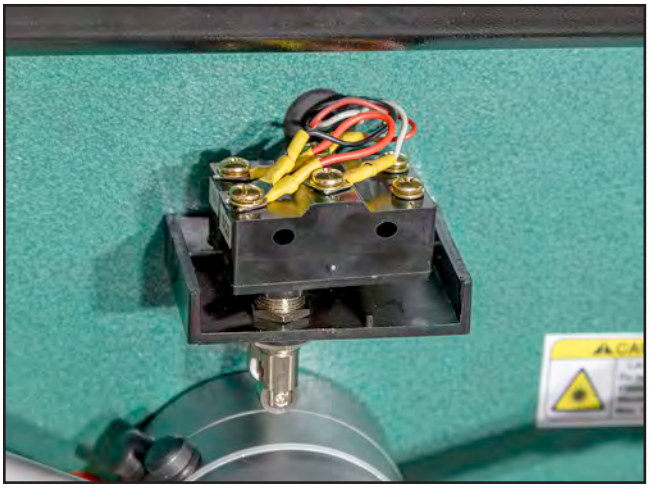
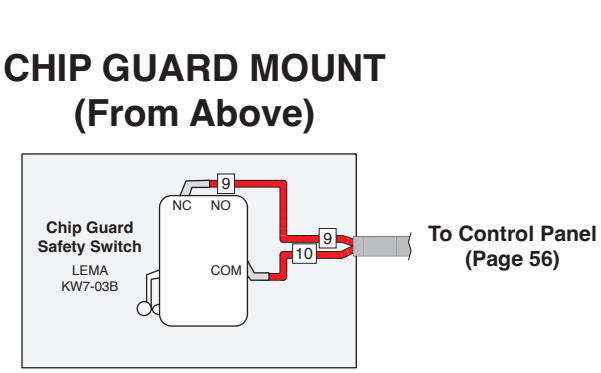


Figure 79. Depth stop micro switch wiring.

Chip Guard Safety Switch Wiring



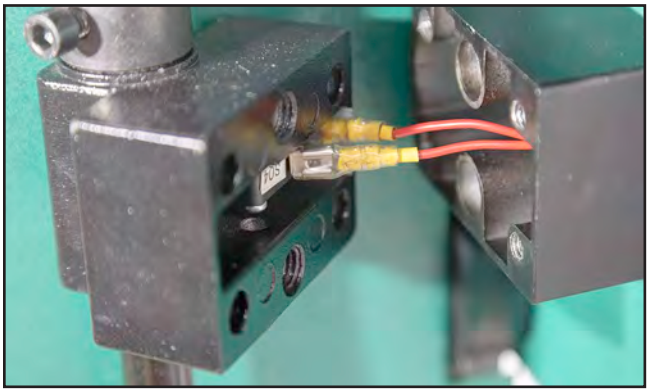
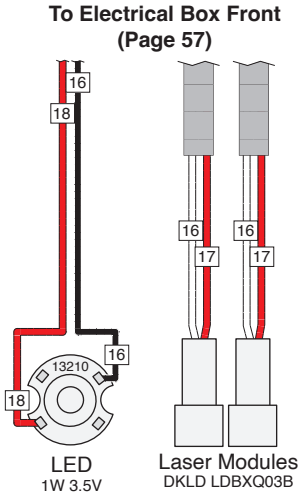


Figure 80. Chip guard safety switch wiring.

LED & Laser Module Wiring



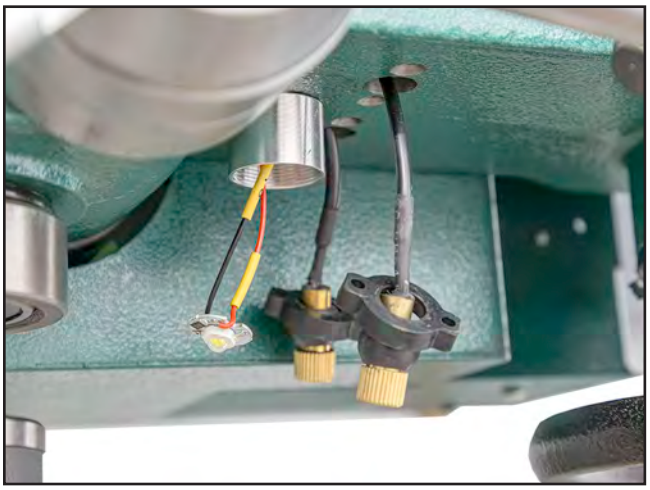


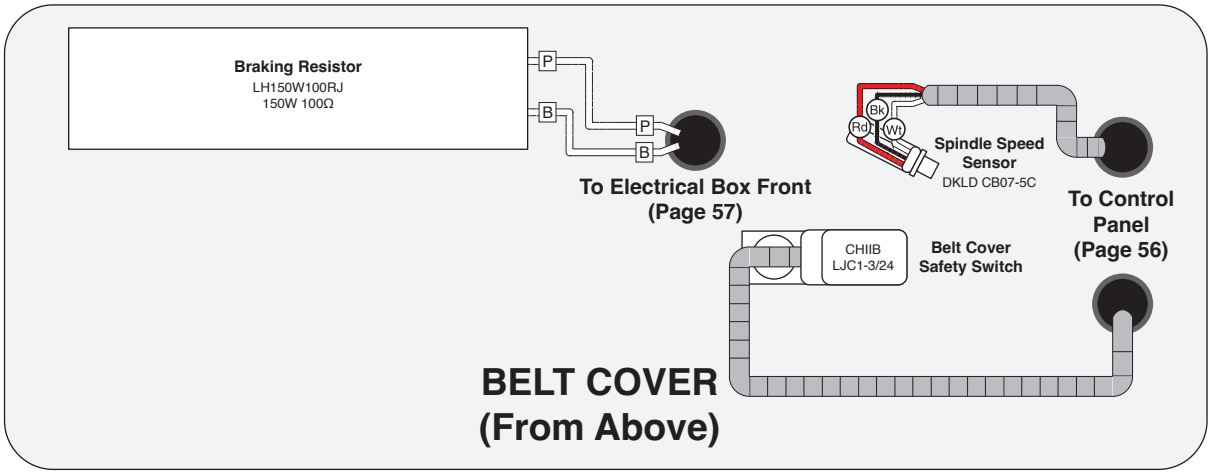
Figure 81. Laser module and LED wiring (T33962 shown).



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Belt Cover Wiring



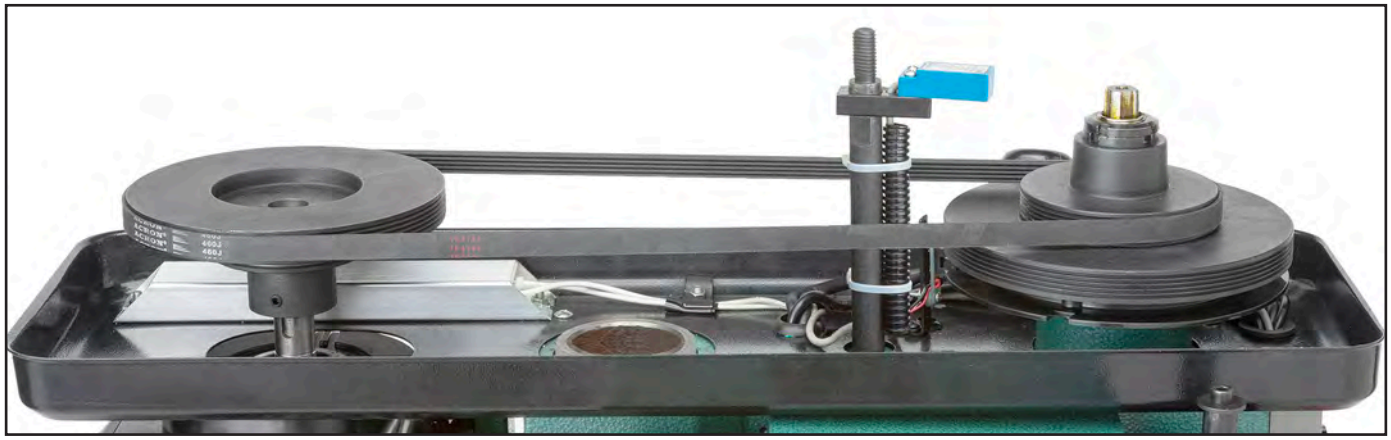
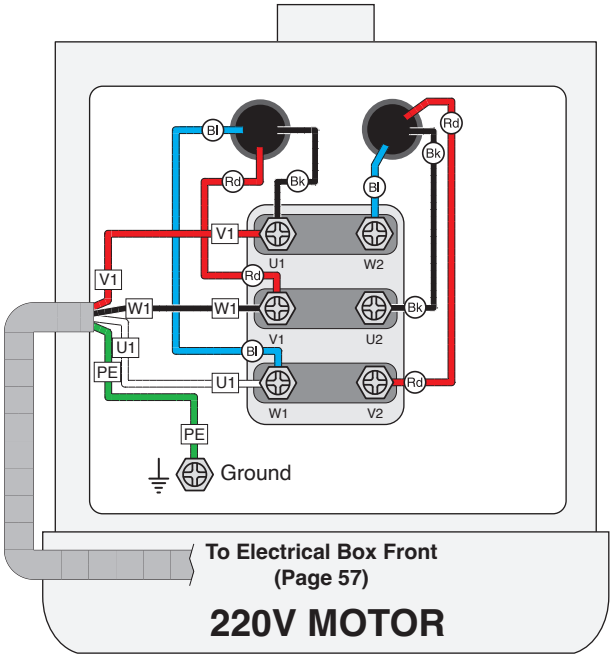


Figure 82. Belt guard wiring.

Motor Wiring



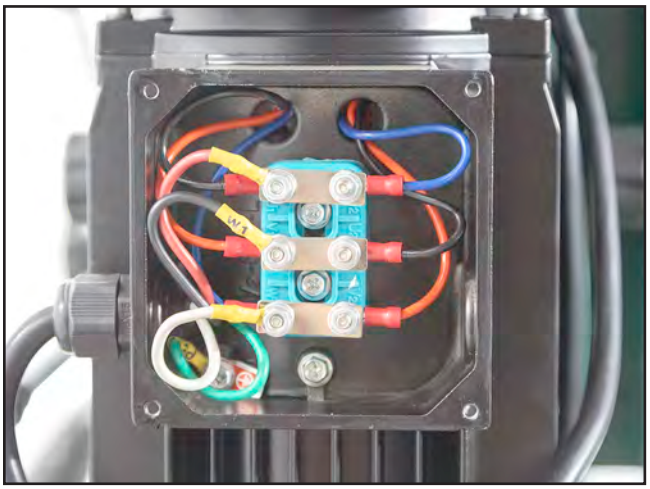
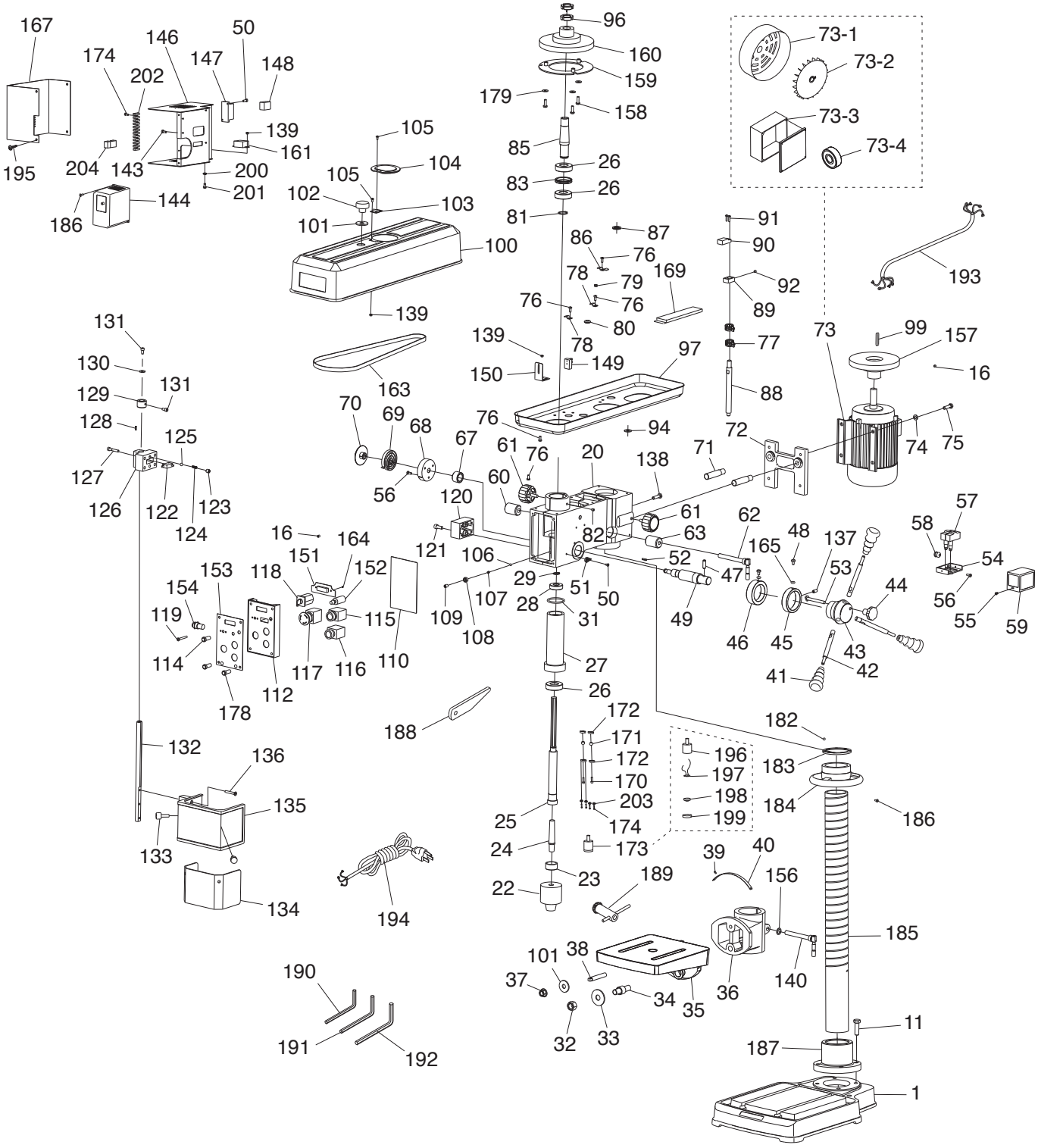


Figure 83. T33962 motor junction box wiring.

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.

T33962 Main



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Scan QR code to visit our Parts Store.

T33962 Main Parts List

REF	PART #	DESCRIPTION
1	PT33962001	BASE
11	PT33962011	HEX BOLT M12-1.75 X 40
16	PT33962016	SET SCREW M6-1 X 8
20	PT33962020	HEADSTOCK
22	PT33962022	DRILL CHUCK JT3 5/8"
23	PT33962023	SPINDLE NUT M30-1.5 LH
24	PT33962024	DRILL CHUCK ARBOR MT#2 X JT3
25	PT33962025	SPINDLE MT#2
26	PT33962026	BALL BEARING 6205-2RS
27	PT33962027	QUILL
28	PT33962028	BALL BEARING 6203-2RS
29	PT33962029	EXT RETAINING RING 20MM
31	PT33962031	SPACER 50 X 58 X 4MM
32	PT33962032	HEX NUT M16-2
33	PT33962033	FENDER WASHER 16MM
34	PT33962034	TABLE TILT SHAFT
35	PT33962035	TABLE
36	PT33962036	TABLE MOUNTING BRACKET
37	PT33962037	FLANGE NUT M12-1.75
38	PT33962038	HEAD STUD M12-1.75 X 60
39	PT33962039	RIVET 2 X 2.5MM BLIND
40	PT33962040	TABLE TILT SCALE
41	PT33962041	KNOB M8-1.25, D40
42	PT33962042	STANDOFF-RD MM M8-1.25X15,M12-1.75X14,130
43	PT33962043	DOWNFEED HUB
44	PT33962044	KNOB M8-1.25, 7-LOBE, D22
45	PT33962045	DEPTH RING
46	PT33962046	COLLAR DEPTH STOP
47	PT33962047	ROLL PIN 8 X 30
48	PT33962048	DEPTH PIN
49	PT33962049	PINION SHAFT
50	PT33962050	PHLP HD SCR M4-.7 X 8
51	PT33962051	DEPTH INDICATOR
52	PT33962052	DOWEL PIN 4 X 16
53	PT33962053	CLAMP BOLT M8-1.25 X 75
54	PT33962054	LIMIT SWITCH BASE
55	PT33962055	TAP SCREW M3.5 X 8
56	PT33962056	PHLP HD SCR M5-.8 X 10
57	PT33962057	LIMIT SWITCH CHNT YBLXW-5/11Q1
58	PT33962058	GROMMET 3/8"
59	PT33962059	LIMIT SWITCH COVER
60	PT33962060	CLAMP BLOCK M12-1.75
61	PT33962061	KNOB BOLT M8-1.25 X 18, 8-LOBE, D34
62	PT33962062	FOLDING HANDLE M12-1.75 X 35, 110L
63	PT33962063	CLAMP BLOCK
67	PT33962067	SPACER 22 X 32 X 20MM
68	PT33962068	RETURN SPRING SEAT
69	PT33962069	FLAT COIL SPRING
70	PT33962070	RETURN SPRING COVER
71	PT33962071	SLIDE BAR
72	PT33962072	MOTOR MOUNT
73	PT33962073	MOTOR 3/4HP 220V 3-PH
73-1	PT33962073-1	MOTOR FAN COVER
73-2	PT33962073-2	MOTOR FAN
73-3	PT33962073-3	JUNCTION BOX
73-4	PT33962073-4	BALL BEARING 6204ZZ
74	PT33962074	FLAT WASHER 8MM

REF	PART #	DESCRIPTION
75	PT33962075	HEX BOLT M8-1.25 X 30
76	PT33962076	PHLP HD SCR M5-.8 X 12
77	PT33962077	CABLE TIE
78	PT33962078	CORD CLAMP SINGLE
79	PT33962079	HEX NUT M5-.8
80	PT33962080	GROMMET 9/16"
81	PT33962081	EXT RETAINING RING 25MM
82	PT33962082	SET SCREW M6-1 X 8
83	PT33962083	BUSHING
85	PT33962085	SPINDLE PULLEY SHAFT
86	PT33962086	CORD CLAMP DOUBLE
87	PT33962087	GROMMET 9/16"
88	PT33962088	PROXIMITY SWITCH SHAFT
89	PT33962089	PROXIMITY SWITCH MOUNT
90	PT33962090	PROXIMITY SWITCH CHIIB LJC1-3/24
91	PT33962091	PHLP HD SCR M4-.7 X 16
92	PT33962092	SET SCREW M6-1 X 8
94	PT33962094	FOAM RING 7 X 22 X 3MM
96	PT33962096	SPANNER NUT M24-1.5
97	PT33962097	BELT COVER SEAT
99	PT33962099	KEY 6 X 6 X 45
100	PT33962100	BELT COVER
101	PT33962101	FENDER WASHER 12MM
102	PT33962102	KNOB M12-1.75, 7-LOBE, D47
103	PT33962103	SPRING HINGE
104	PT33962104	COLUMN DOOR
105	PT33962105	PHLP HD SCR M4-.7 X 8
106	PT33962106	STEEL BALL 6.75MM
107	PT33962107	COMPRESSION SPRING 0.5 X 4.5 X 5.9MM
108	PT33962108	SET SCREW M8-1.25 X 12
109	PT33962109	HEX NUT M8-1.25
110	PT33962110	INSULATION SHEET
112	PT33962112	CONTROL PANEL
114	PT33962114	INDICATOR LIGHT MARKET LED
115	PT33962115	OFF BUTTON GOELE LA115-A5-01BN
116	PT33962116	ON BUTTON GOELE LA115-A5-10D
117	PT33962117	E-STOP BUTTON GOELE LA115-A5-01ZS
118	PT33962118	MODE SWITCH WHUROW LW26-10
119	PT33962119	PHLP HD SCR M5-.8 X 40
120	PT33962120	RAIL MOUNT BLOCK
121	PT33962121	CAP SCREW M8-1.25 X 20
122	PT33962122	MICRO SWITCH LEMA KW7-03B
123	PT33962123	SET SCREW M10-1.5 X 8
124	PT33962124	COMPRESSION SPRING 1 X 6 X 15.8MM
125	PT33962125	STEEL BALL 8MM
126	PT33962126	RAIL MOUNT ASSEMBLY
127	PT33962127	CAP SCREW M6-1 X 35
128	PT33962128	ROLL PIN 3 X 10
129	PT33962129	RAIL LOCK COLLAR
130	PT33962130	FLAT WASHER 6MM
131	PT33962131	CAP SCREW M6-1 X 12
132	PT33962132	CHIP GUARD RAIL
133	PT33962133	KNOB BOLT M6-1 X 20, D20 KD
134	PT33962134	CHIP GUARD EXTENSION
135	PT33962135	CHIP GUARD
136	PT33962136	FLAT HD SCR M6-1 X 40
137	PT33962137	SET SCREW M5-.8 X 6

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T33962 Main Parts List (Cont.)

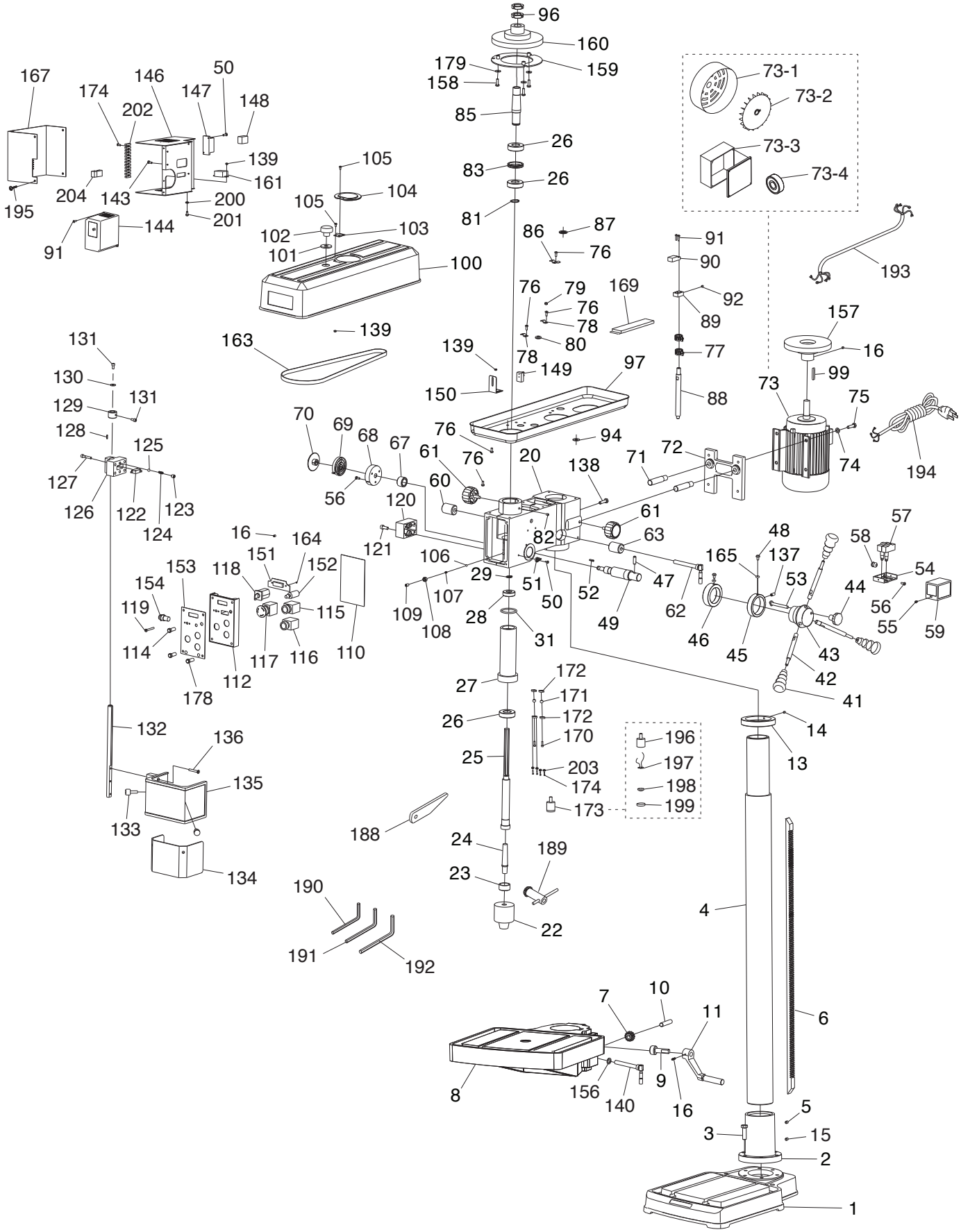
REF	PART #	DESCRIPTION
137	PT33962137	SET SCREW M5-.8 X 6
138	PT33962138	HEX BOLT M10-1.5 X 35
139	PT33962139	HEX NUT M4-.7
140	PT33962140	FOLDING HANDLE M12-1.75 X 35, 55L
143	PT33962143	PHLP HD SCR M4-.7 X 16
144	PT33962144	VFD LSD-D/C C7100-1.5KW-D
146	PT33962146	ELECTRICAL BOX
147	PT33962147	RELAY HOLDER YJF11A-E
148	PT33962148	RELAY YIJIA YJ3N-GS 24VDC
149	PT33962149	RPM SENSOR DKLD CB07-5C
150	PT33962150	SENSOR MOUNT
151	PT33962151	SPEED DRO DKLD CB07-12B
152	PT33962152	POTENTIOMETER W/DIAL COSMOS B103
153	PT33962153	CONTROL PANEL LABEL
154	PT33962154	REVERSE TAPPING BUTTON KACON K16-211
156	PT33962156	FLAT WASHER 12MM
157	PT33962157	MOTOR PULLEY
158	PT33962158	PHLP HD SCR M6-1 X 20
159	PT33962159	RPM INDICATOR
160	PT33962160	SPINDLE PULLEY
161	PT33962161	TRANSFORMER DKLD B26-7B
163	PT33962163	V-BELT 460J
164	PT33962164	TAP SCREW M2.2 X 4.5
165	PT33962165	O-RING 4 X 3
167	PT33962167	ELECTRICAL BOX COVER
169	PT33962169	BRAKING RESISTOR 150W 100OHM
170	PT33962170	LASER MODULE DKLD LDBXQ03B
171	PT33962171	LASER COLLAR

REF	PART #	DESCRIPTION
172	PT33962172	LASER SEAT
173	PT33962173	LED ASSEMBLY
174	PT33962174	PHLP HD SCR M3-.5 X 16
178	PT33962178	LED/LASER BUTTON YONGLI S012-A10P
179	PT33962179	FLAT WASHER 6MM
182	PT33962182	STEEL BALL 6MM
183	PT33962183	STEEL BALL RING
184	PT33962184	HEADSTOCK HANDWHEEL
185	PT33962185	COLUMN
186	PT33962186	PHLP HD SCR M4-.7 X 16
187	PT33962187	COLUMN BASE
188	PT33962188	DRIFT KEY
189	PT33962189	DRILL CHUCK KEY 21MM TH 11T SD-14.8MM
190	PT33962190	HEX WRENCH 2.5MM
191	PT33962191	HEX WRENCH 3MM
192	PT33962192	HEX WRENCH 5MM
193	PT33962193	MOTOR CORD 16G 4W 47"
194	PT33962194	POWER CORD 16G 3W 72" 5-15P
195	PT33962195	FLANGE SCREW M5-.8 X 10
196	PT33962196	LED HOUSING
197	PT33962197	LED
198	PT33962198	LENS
199	PT33962199	LED COVER
200	PT33962200	LOCK WASHER 4MM
201	PT33962201	PHLP HD SCR M4-.7 X 10
202	PT33962202	TERMINAL BAR 12P M3 X 104 TM3
203	PT33962203	FLAT WASHER 3MM
204	PT33962204	TERMINAL BLOCK FERRULE 3P

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T33963 Main



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T33963 Main Parts List

REF	PART #	DESCRIPTION
1	PT33963001	BASE
2	PT33963002	COLUMN BASE
3	PT33963003	HEX BOLT M12-1.75 X 45
4	PT33963004	COLUMN
5	PT33963005	ROLL PIN 8 X 30
6	PT33963006	RACK
7	PT33963007	GEAR 14T
8	PT33963008	TABLE
9	PT33963009	WORM SHAFT
10	PT33963010	GEAR SHAFT
11	PT33963011	TABLE HEIGHT CRANK
13	PT33963013	COLUMN COLLAR
14	PT33963014	SET SCREW M6-1 X 8
15	PT33963015	SET SCREW M8-1.25 X 10
16	PT33963016	SET SCREW M6-1 X 10
20	PT33963020	HEADSTOCK
22	PT33963022	DRILL CHUCK JT3 5/8
23	PT33963023	SPINDLE NUT M36-1.5 LH
24	PT33963024	DRILL CHUCK ARBOR MT#3 X JT3
25	PT33963025	SPINDLE MT#3
26	PT33963026	BALL BEARING 6206-2RS
27	PT33963027	QUILL
28	PT33963028	BALL BEARING 6204-2RS
29	PT33963029	EXT RETAINING RING 20MM
31	PT33963031	SPACER 60 X 70 X 5MM
41	PT33963041	KNOB M8-1.25, D40
42	PT33963042	STANDOFF-RD MM M8-1.25X15,M12-1.75X14,152
43	PT33963043	DOWNFEED HUB
44	PT33963044	KNOB M8-1.25, 7-LOBE, D22
45	PT33963045	DEPTH RING
46	PT33963046	COLLAR DEPTH STOP
47	PT33963047	ROLL PIN 8 X 35
48	PT33963048	DEPTH PIN
49	PT33963049	PINION SHAFT
50	PT33963050	PHLP HD SCR M4-.7 X 8
51	PT33963051	DEPTH INDICATOR
52	PT33963052	DOWEL PIN 4 X 16
53	PT33963053	CLAMP BOLT M8-1.25 X 75
54	PT33963054	LIMIT SWITCH BASE
55	PT33963055	TAP SCREW M3.5 X 8
56	PT33963056	PHLP HD SCR M5-.8 X 10
57	PT33963057	LIMIT SWITCH CHNT YBLXW-5/11Q1
58	PT33963058	GROMMET 3/8"
59	PT33963059	LIMIT SWITCH COVER
60	PT33963060	CLAMP BLOCK M12-1.75
61	PT33963061	KNOB BOLT M8-1.25 X 19, 8-LOBE, D53
62	PT33963062	FOLDING HANDLE M12-1.75 X 38, 117L
63	PT33963063	CLAMP BLOCK
67	PT33963067	SPACER 25 X 51 X 22.8MM
68	PT33963068	RETURN SPRING SEAT
69	PT33963069	FLAT COIL SPRING
70	PT33963070	RETURN SPRING COVER
71	PT33963071	SLIDE BAR
72	PT33963072	MOTOR MOUNT
73	PT33963073	MOTOR 1HP 220V 3-PH
73-1	PT33963073-1	MOTOR FAN COVER
73-2	PT33963073-2	MOTOR FAN
73-3	PT33963073-3	JUNCTION BOX
73-4	PT33963073-4	BALL BEARING 6205ZZ
74	PT33963074	FLAT WASHER 8MM
75	PT33963075	HEX BOLT M8-1.25 X 30
76	PT33963076	PHLP HD SCR M5-.8 X 12
77	PT33963077	CABLE TIE
78	PT33963078	CORD CLAMP SINGLE
79	PT33963079	HEX NUT M5-.8
80	PT33963080	GROMMET 9/16"
81	PT33963081	EXT RETAINING RING 25MM
82	PT33963082	SET SCREW M6-1 X 8
83	PT33963083	BUSHING
85	PT33963085	SPINDLE PULLEY SHAFT
86	PT33963086	CORD CLAMP DOUBLE
87	PT33963087	GROMMET 9/16"
88	PT33963088	PROXIMITY SWITCH SHAFT
89	PT33963089	PROXIMITY SWITCH MOUNT
90	PT33963090	PROXIMITY SWITCH CHIIB LJC1-3/24
91	PT33963091	PHLP HD SCR M4-.7 X 16
92	PT33963092	SET SCREW M6-1 X 8
94	PT33963094	FOAM RING 7 X 22 X 3MM
96	PT33963096	SPANNER NUT M24-1.5
97	PT33963097	BELT COVER SEAT
99	PT33963099	KEY 8 X 7 X 45
100	PT33963100	BELT COVER
101	PT33963101	FENDER WASHER 12MM
102	PT33963102	KNOB M12-1.75, 7-LOBE, D47
103	PT33963103	SPRING HINGE
104	PT33963104	COLUMN DOOR
105	PT33963105	PHLP HD SCR M4-.7 X 8
106	PT33963106	STEEL BALL 6.75MM
107	PT33963107	COMPRESSION SPRING 0.5 X 4.5 X 5.9MM
108	PT33963108	SET SCREW M8-1.25 X 12
109	PT33963109	HEX NUT M8-1.25
110	PT33963110	INSULATION SHEET
112	PT33963112	CONTROL PANEL
114	PT33963114	INDICATOR LIGHT MARKET LED
115	PT33963115	OFF BUTTON GOELE LA115-A5-01BN
116	PT33963116	ON BUTTON GOELE LA115-A5-10D
117	PT33963117	E-STOP BUTTON GOELE LA115-A5-01ZS
118	PT33963118	MODE SWITCH WHUROW LW26-10
119	PT33963119	PHLP HD SCR M5-.8 X 40
120	PT33963120	RAIL MOUNT BLOCK
121	PT33963121	CAP SCREW M8-1.25 X 20
122	PT33963122	MICRO SWITCH LEMA KW7-03B
123	PT33963123	SET SCREW M10-1.5 X 8
124	PT33963124	COMPRESSION SPRING 1 X 6 X 15.8MM
125	PT33963125	STEEL BALL 8MM
126	PT33963126	RAIL MOUNT ASSEMBLY
127	PT33963127	CAP SCREW M6-1 X 35
128	PT33963128	ROLL PIN 3 X 10
129	PT33963129	RAIL LOCK COLLAR
130	PT33963130	FLAT WASHER 6MM
131	PT33963131	CAP SCREW M6-1 X 12
132	PT33963132	CHIP GUARD RAIL
133	PT33963133	KNOB BOLT M6-1 X 20, D20 KD
134	PT33963134	CHIP GUARD EXTENSION
135	PT33963135	CHIP GUARD
136	PT33963136	FLAT HD SCR M6-1 X 40

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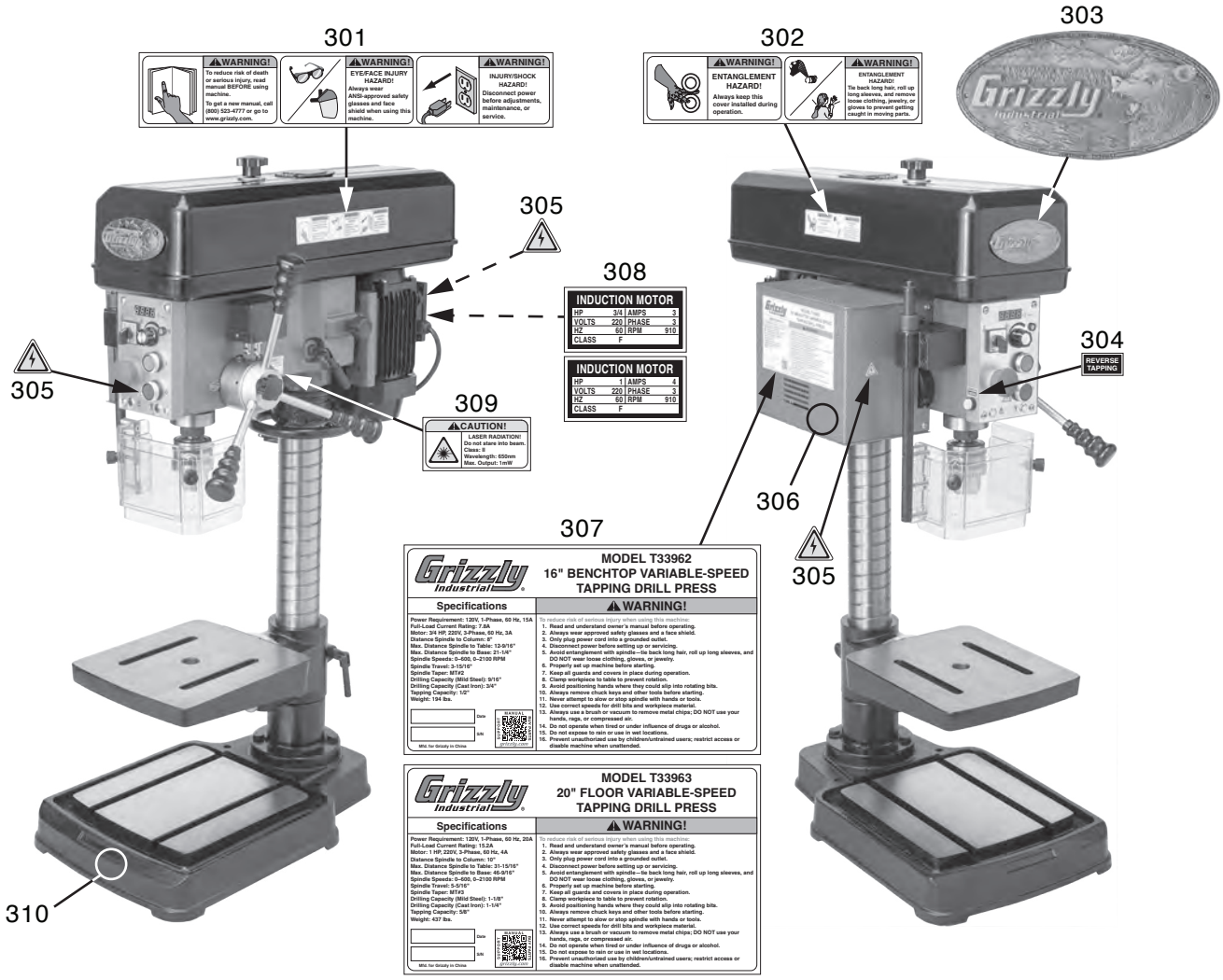
T33963 Main Parts List (Cont.)

REF	PART #	DESCRIPTION
137	PT33963137	SET SCREW M5-.8 X 6
138	PT33963138	HEX BOLT M10-1.5 X 35
139	PT33963139	HEX NUT M4-.7
140	PT33963140	FOLDING HANDLE M12-1.75 X 35, 55L
143	PT33963143	PHLP HD SCR M4-.7 X 16
144	PT33963144	VFD LSD-D/C C7100-1.5KW-D
146	PT33963146	ELECTRICAL BOX
147	PT33963147	RELAY HOLDER YJF11A-E
148	PT33963148	RELAY YIJIA YJ3N-GS 24VDC
149	PT33963149	RPM SENSOR DKLD CB07-5C
150	PT33963150	SENSOR MOUNT
151	PT33963151	SPEED DRO DKLD CB07-12B
152	PT33963152	POTENTIOMETER W/DIAL COSMOS B103
153	PT33963153	CONTROL PANEL LABEL
154	PT33963154	REVERSE TAPPING BUTTON KACON K16-211
156	PT33963156	FLAT WASHER 12MM
157	PT33963157	MOTOR PULLEY
158	PT33963158	PHLP HD SCR M6-1 X 20
159	PT33963159	RPM INDICATOR
160	PT33963160	SPINDLE PULLEY
161	PT33963161	TRANSFORMER DKLD B26-7B
163	PT33963163	V-BELT 530J
164	PT33963164	TAP SCREW M2.2 X 4.5
165	PT33963165	O-RING 4 X 3
167	PT33963167	ELECTRICAL BOX COVER

REF	PART #	DESCRIPTION
169	PT33963169	BRAKING RESISTOR 150W 100OHM
170	PT33963170	LASER MODULE DKLD LDBXQ03B
171	PT33963171	LASER COLLAR
172	PT33963172	LASER SEAT
173	PT33963173	LED ASSEMBLY
174	PT33963174	PHLP HD SCR M3-.5 X 16
178	PT33963178	LED/LASER BUTTON YONGLI S012-A10P
179	PT33963179	FLAT WASHER 6MM
188	PT33963188	DRIFT KEY
189	PT33963189	DRILL CHUCK KEY 21MM TH 11T SD-14.8MM
190	PT33963190	HEX WRENCH 2.5MM
191	PT33963191	HEX WRENCH 3MM
192	PT33963192	HEX WRENCH 5MM
193	PT33963193	MOTOR CORD 14G 4W 47"
194	PT33963194	POWER CORD 14G 3W 72" 5-15P
195	PT33963195	FLANGE SCREW M5-.8 X 10
196	PT33963196	LED HOUSING
197	PT33963197	LED
198	PT33963198	LENS
199	PT33963199	LED COVER
200	PT33963200	LOCK WASHER 4MM
201	PT33963201	PHLP HD SCR M4-.7 X 10
202	PT33963202	TERMINAL BAR 12P M3 X 104 TM3
203	PT33963203	FLAT WASHER 3MM
204	PT33963204	TERMINAL BLOCK FERRULE 3P

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Labels & Cosmetics



REF	PART #	DESCRIPTION
301	PT33962301	COMBO WARNING LABEL
302	PT33962302	ENTANGLEMENT HAZARD LABEL
303	PT33962303	GRIZZLY MINI NAMEPLATE
304	PT33962304	REVERSE TAPPING LABEL
305	PT33962305	ELECTRICITY LABEL
306	PT33962306	TOUCH-UP PAINT, GRIZZLY GREEN

REF	PART #	DESCRIPTION
307	PT33962307	MACHINE ID LABEL (T33962)
307	PT33963307	MACHINE ID LABEL (T33963)
308	PT33962308	MOTOR LABEL (T33962)
308	PT33963308	MOTOR LABEL (T33963)
309	PT33962309	LASER LABEL
310	PT33962310	TOUCH-UP PAINT, GRIZZLY BLACK

⚠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.

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