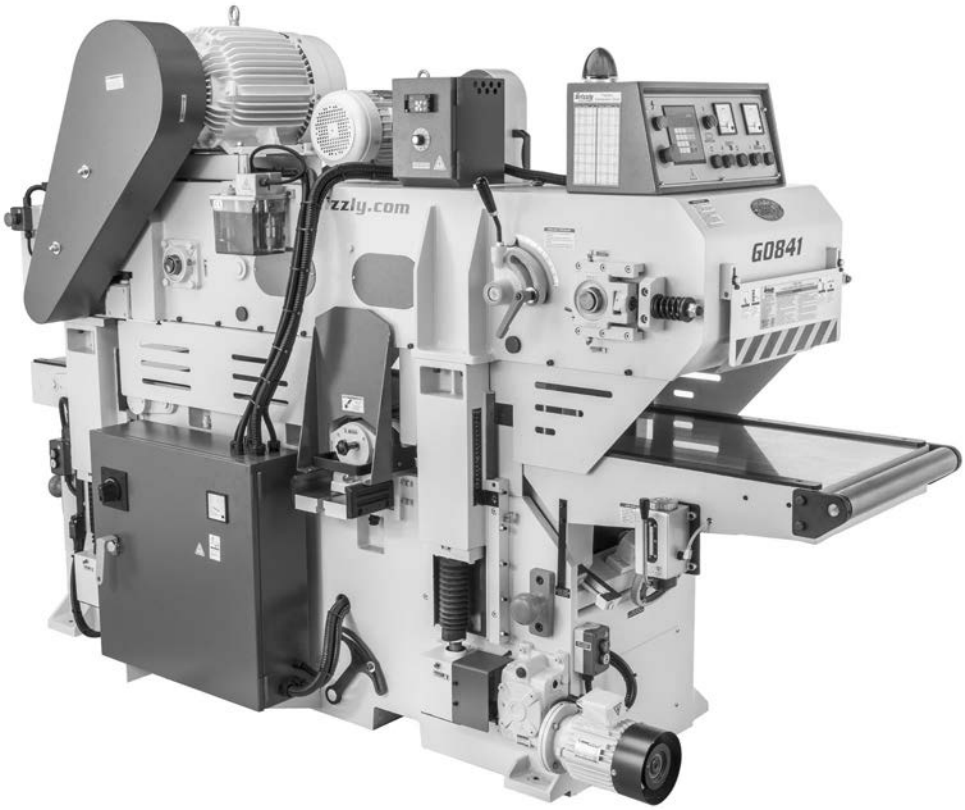
MODEL G0841
18" DOUBLE-SIDED PLANER w/SPIRAL CUTTERHEADS

OWNER'S MANUAL

(For models manufactured since 06/18)



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#ESTK19509 PRINTED IN TAIWAN V1.07.18

⚠ WARNING!

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

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

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

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

⚠ WARNING!

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

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

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

Table of Contents

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

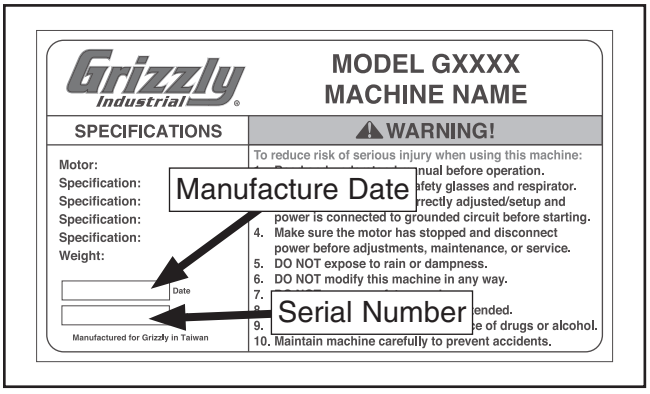
Manual Accuracy

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**.

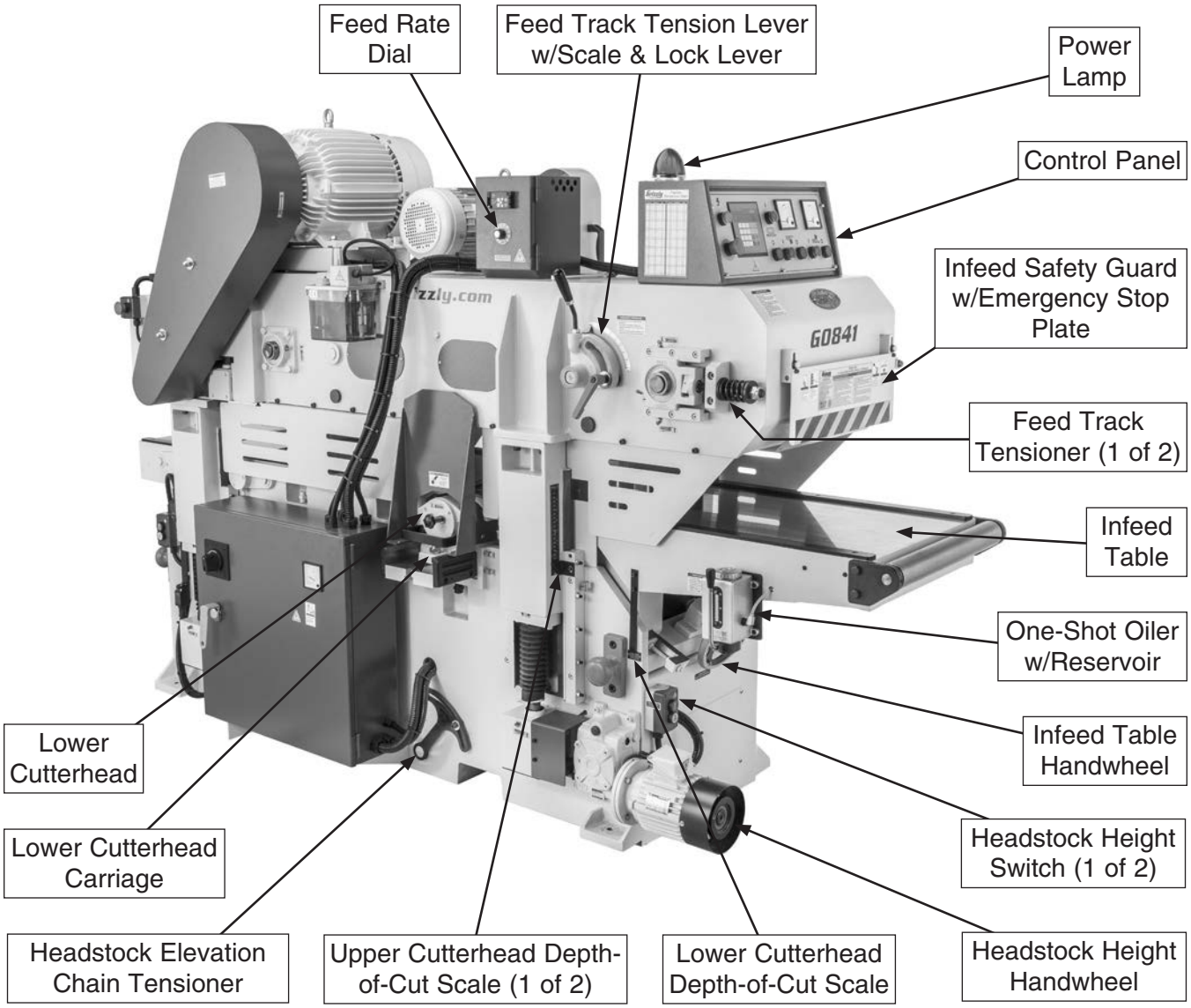
If you find this to be the case, and the difference between the manual and machine leaves you confused or unsure about something, check our website for an updated version. We post current manuals and manual updates for free on our website at **www.grizzly.com**.

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 (Front)

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



⚠WARNING

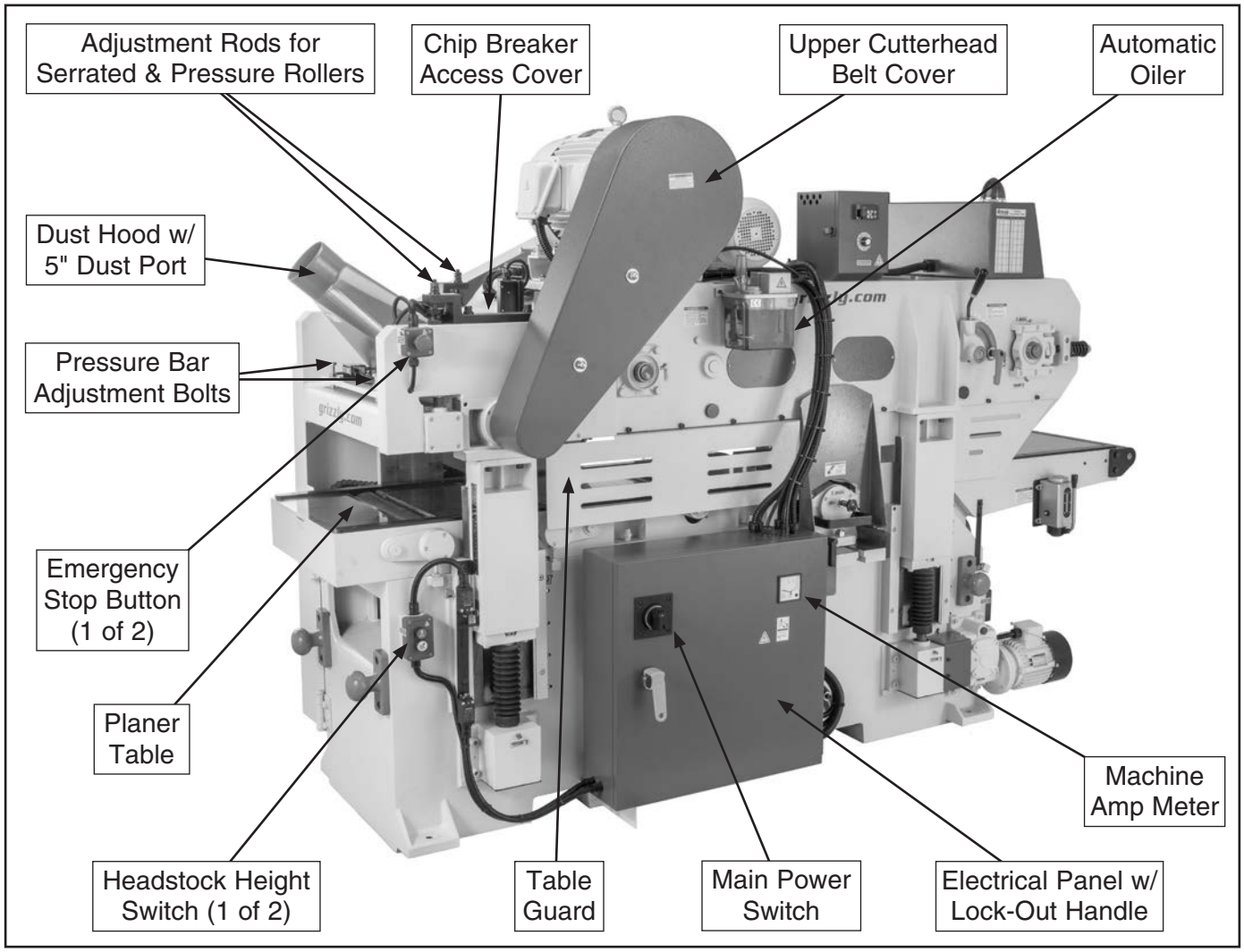
Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to decrease the risk of operator injury. If normal safety precautions are overlooked or ignored, serious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

⚠WARNING

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.

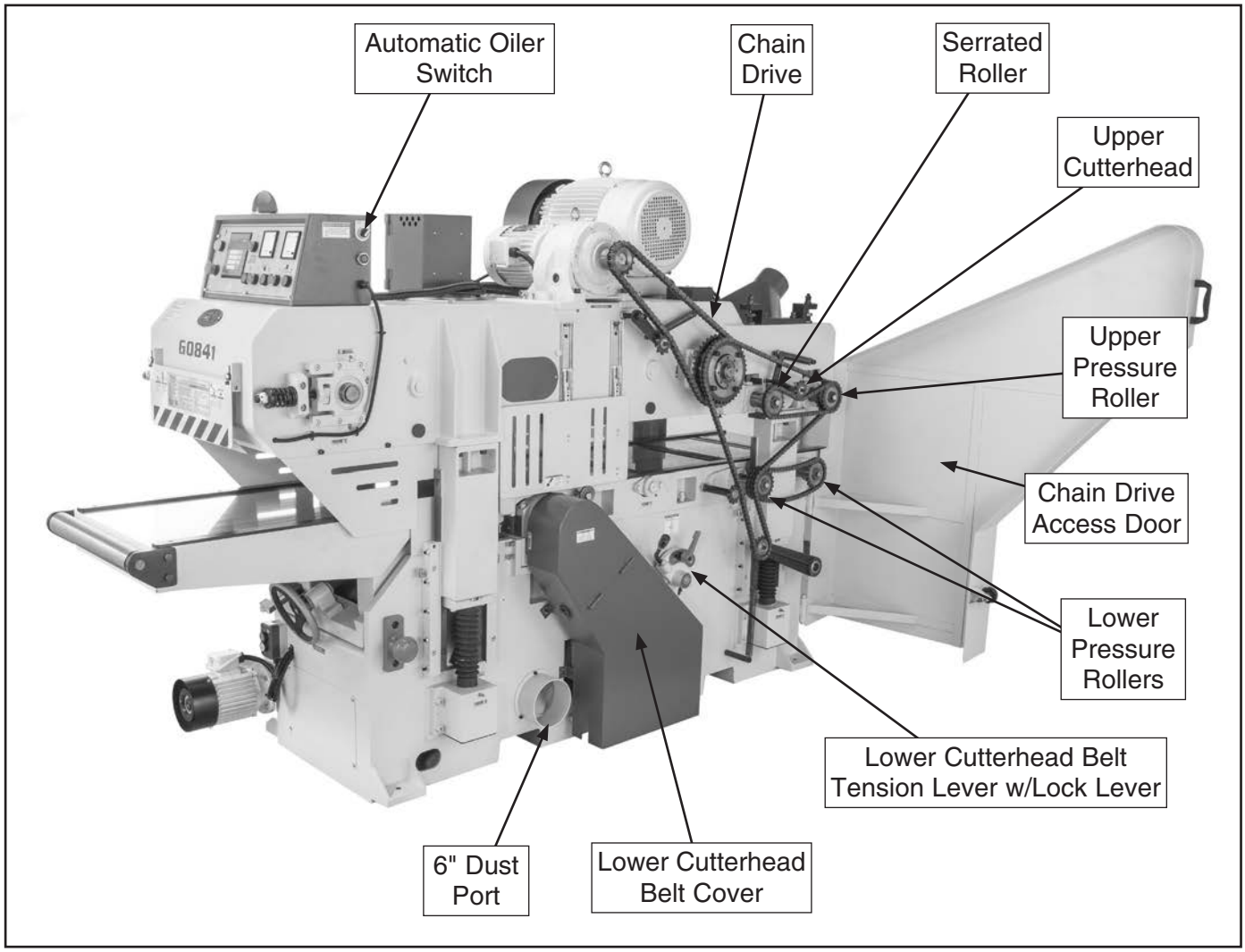
Identification (Rear)

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

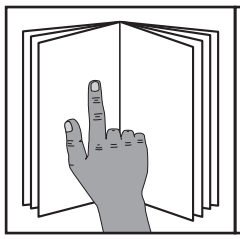


Identification (Right)

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



Controls & Components



⚠WARNING

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

Refer to **Figures 1–7** and the following 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 how to properly operate this machine.

Control Panel

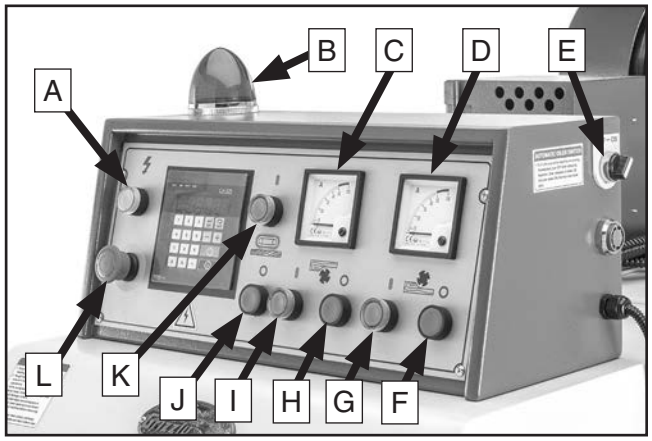


Figure 1. Control panel.

A. Power Button: Push to enable power to all motors and electrical systems (if Emergency Stop buttons are not in depressed position).

B. Power Lamp: Illuminates when machine is connected to power.

C. Lower Cutterhead Motor Amp Meter: Displays lower cutterhead motor amp draw.

D. Upper Cutterhead Motor Amp Meter: Displays upper cutterhead motor amp draw.

E. Automatic Oiler On/Off Switch: Use to turn automatic oiler system on and off. Always turn ***ON*** before starting feed system.

F. Upper Cutterhead Off Button: Push to stop upper cutterhead motor. (Upper cutterhead requires 30–40 seconds to come to complete stop.)

G. Upper Cutterhead On Button: Push to start upper cutterhead motor. (Upper cutterhead requires 5–15 seconds to reach full speed.)

H. Lower Cutterhead Off Button: Push to stop lower cutterhead motor. (Upper cutterhead requires 30–40 seconds to come to complete stop.)

I. Lower Cutterhead On Button: Push to start lower cutterhead motor. (Lower cutterhead requires 5–15 seconds to reach full speed.)

J. Feed System Off Button: Push to stop feed system.

K. Feed System On Button: Push to start feed system, including: feed track, serrated roller, pressure rollers, and chain drive. Button only functions when cutterheads reach full speed.

L. Emergency Stop Button (1 of 2): Push to stop all machine functions and disable power button. Remains in depressed position until manually reset. Reset by twisting button clockwise until it springs outward.

Digital Control Pad

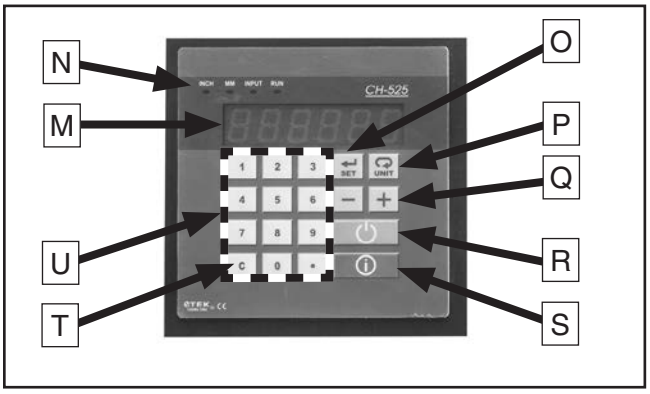


Figure 2. Digital control pad.

Note: *You use the digital control pad to enter a value for your final workpiece thickness (i.e., distance from bottom dead center (BDC) of upper cutterhead to planer table).*

M. Digital Display: Displays current final workpiece thickness (i.e., distance from BDC of upper cutterhead to planer table).

N. Unit/Mode Display: Identifies active unit of measurement (INCH or MM) and mode (INPUT or RUN) of digital contol pad.

O. SET Key: Press [SET] key to enter Input mode. INPUT is highlighted in the unit/mode display (see **Figure 2**). Input mode must be active to enter a final workpiece thickness value.

P. UNIT Key: Press [UNIT] key to switch between inches or millimeters as unit of measurement for digital control pad. The selected unit (INCH or MM) is highlighted in unit/mode display (see **Figure 2**).

Q. Plus & Minus Keys: Press [+] or [−] keys to quickly raise or lower the headstock, which increases or decreases final workpiece thickness (i.e., distance from BDC of upper cutterhead to planer table). Push and hold buttons to raise or lower headstock steadily, or push and release buttons to raise or lower headstock in 0.01" or 0.1mm increments.

R. Start Key: Press [⏻] key to enter Run mode. The headstock will move up or down, depending on the entered final workpiece thickness (i.e., distance from BDC of upper cutterhead to planer table).

S. Stop Key: Press [ⓘ] key while in Run mode to immediately stop headstock while it is moving.

T. Clear Key: Press [C] key to clear current final workpiece thickness value while in Input mode.

U. Numerical Key Pad: Enter specific values for final workpiece thickness. Press 0–9 and decimal keys as needed to enter desired final workpiece thickness. The displayed value flashes until you press [⏻] key.

Example: To enter a final workpiece thickness of 2½", press [SET] key, then press following keys: [2] [•] [5] [0], and then press [⏻] key.

Headstock (Front)

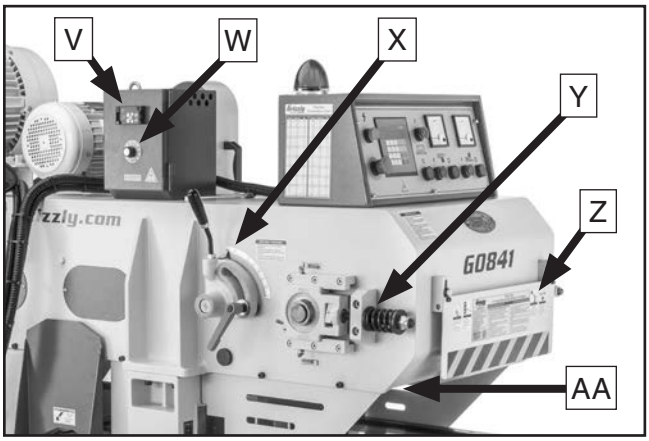


Figure 3. Headstock (front) controls & components.

V. Variable Frequency Drive (VFD) Control Module: Set at factory. *DO NOT* adjust!

W. Feed Rate Dial: Turn to set machine feed rate between 0–100% (26–72 FPM). Feed rate is the speed in Feet Per Minute (FPM) that the feed system moves workpieces through the machine.

X. Feed Track Pressure Adjustment w/Scale & Lock Lever: Adjust to increase or decrease feed track pressure on workpiece. Set pressure to "0" for normal planing operations; if belt slips on workpiece, increase downward pressure by no more than 0.5mm at a time.

Y. Feed Track Tensioner (1 of 2): Tighten or loosen spring-loaded hex bolt to increase or decrease tension on the feed track.

Z. Infeed Safety Guard w/Emergency Stop Plate: Provides additional safety for operator when feeding workpieces into machine. Guard is adjustable for varying pre-cut workpiece thicknesses. If contact is made with emergency stop plate, cutterhead motors and feed system immediately stop.

AA. Feed Track: Feeds workpieces into lower cutterhead and toward serrated roller (refer to **Feed Track** on **Page 10** for more information).

Base (Front)

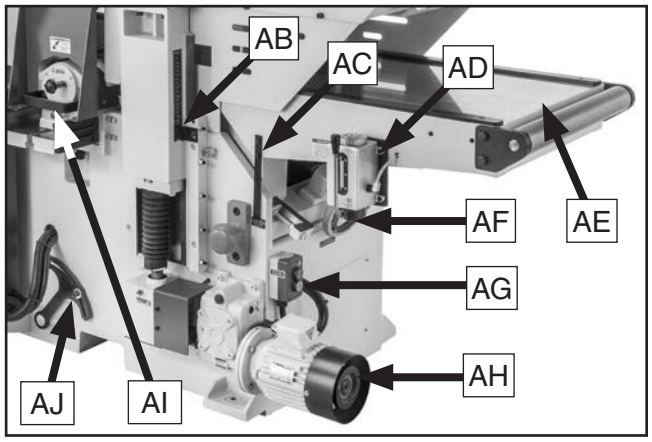


Figure 4. Base (front) controls & components.

AB. Upper Cutterhead Depth-of-Cut Scale (1 of 2): Indicates final workpiece thickness (i.e., distance from BDC of upper cutterhead to planer table) in inches and millimeters.

AC. Lower Cutterhead Depth-of-Cut Scale: Indicates amount of material to be removed from bottom of workpiece (i.e., table offset) in millimeters.

AD. One-Shot Oiler w/Reservoir: Pull lever down to dispense oil onto infeed table surface. Oiling table surface reduces friction between workpieces and table surface. Use oiler sparingly to avoid saturating workpieces.

AE. Infeed Table: Provides a smooth and level surface to feed workpieces into lower cutterhead (refer to **Infeed Table** on **Page 10** for more information).

AF. Infeed Table Handwheel: Rotate to raise or lower infeed table (refer to **Infeed Table** on **Page 10** for more information).

AG. Headstock Height Switch (1 of 2): Push UP or DOWN buttons to quickly raise or lower the headstock. Sets final workpiece thickness (i.e., distance from BDC of upper cutterhead to planer table).

AH. Headstock Height Handwheel: Rotate handwheel clockwise or counterclockwise to precisely raise or lower the headstock in 0.1mm (0.004 in.) increments. Handwheel is located at back of elevation motor.

AI. Lower Cutterhead Carriage w/Handle: Provides access to lower cutterhead for service/maintenance.

AJ. Elevation Chain Tensioner: Adjust to increase or decrease tension on the elevation chain.

Headstock (Rear)

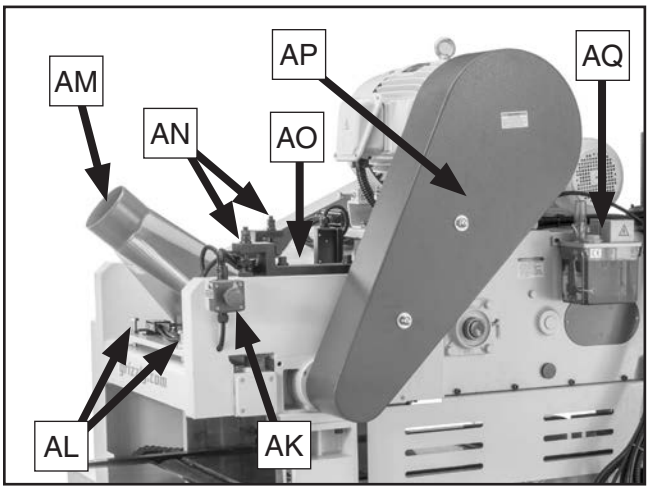


Figure 5. Headstock (rear) controls & components.

AK. Emergency Stop Button (1 of 2): Push to stop all machine functions and disable power button. Remains in depressed position until manually reset. Reset by twisting button clockwise until it springs outward.

AL. Pressure Bar Adjustment Bolts: Adjust bolts to set pressure bar height. Jam nuts lock adjustment bolts in position.

AM. Dust Hood w/5" Dust Port: Covers upper cutterhead to extract wood particles. 5" dust port provides connection to dust-collection system. Remove hood to access upper cutterhead, pressure bar, and pressure rollers for service/maintenance.

AN. Serrated & Upper Pressure Roller Adjustment Rods (2 of 4): Adjust rods to set serrated and upper pressure roller height. Jam nuts lock adjustment rods in position.

AO. Chipbreaker Access Cover: Remove cover to access chipbreaker segments for service/maintenance.

AP. Upper Cutterhead Belt Guard: Protects operator from spinning upper cutterhead belts and pulleys during operation. Remove cover to access belts and pulleys for service/maintenance.

AQ. Automatic Oiler w/Reservoir: Slowly oils feed track gear and chain.

Base (Rear)

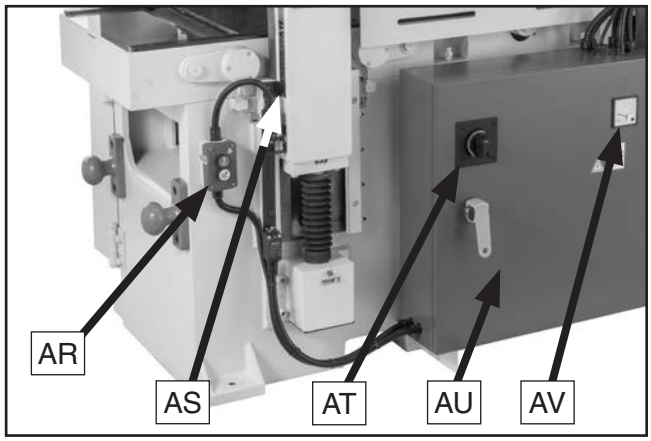


Figure 6. Base (rear) controls & components.

AR. Headstock Height Switch (1 of 2): Push UP or DOWN buttons to quickly raise or lower the headstock. Sets final workpiece thickness (i.e., distance from BDC of upper cutterhead to planer table).

AS. Upper Cutterhead Depth-of-Cut Scale (1 of 2): Indicates final workpiece thickness (i.e., distance from BDC of upper cutterhead to planer table) in inches and millimeters.

AT. Main Power Switch w/Integrated Lock-out: Trips when amperage draw exceeds set threshold. Turn switch to reset tripped breaker. Switch has lock-out feature to disable machine start up.

AU. Electrical Panel w/Lock-out Handle: Provides access to machine wiring for initial setup. Lock-out handle is easily removable to prevent unauthorized access.

AV. Machine Amp Meter: Displays total machine amperage draw.

Machine (Right)

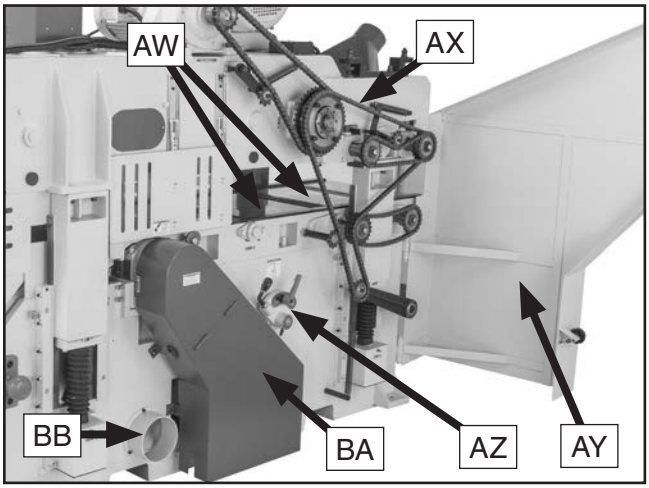


Figure 7. Machine (right) controls & components.

AW. Planer Table: Provides a smooth and level surface to feed workpieces into upper cutterhead (refer to **Planer Table** on **Page 10** for more information).

AX. Chain Drive: Transfers power to feed track, serrated roller, and pressure rollers.

AY. Chain Drive Access Door: Protects operator from moving gears and chain during operation. Open door to access upper cutterhead, serrated roller, pressure rollers, and drive chain for service/maintenance.

AZ. Lower Cutterhead Belt Tensioner w/Lock Knob: Adjust to increase or decrease belt tension on lower cutterhead.

BA. Lower Cutterhead Belt Cover: Protects operator from spinning belts and pulleys during operation. Open cover to access lower cutterhead for service/maintenance; remove cover to access belts and pulleys for service/maintenance.

BB. 6" Dust Port: Provides connection to dust-collection system.

Internal Components

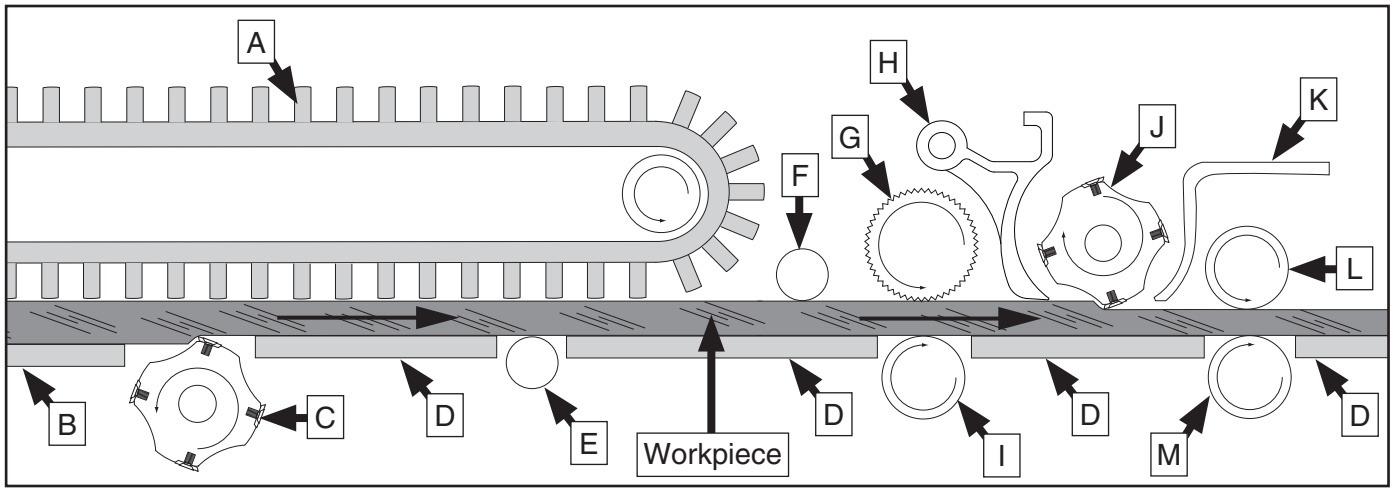


Figure 8. Major planing components (side cutaway view).

A. Feed Track: Chain-driven conveyor track that securely grabs, holds, and feeds workpieces into the lower cutterhead and toward the upper cutterhead. Feed track has spring-loaded fingers to grip workpieces.

B. Infeed Table: Provides a smooth and level path for workpieces as they are fed into the lower cutterhead. Table height is adjustable. Infeed table can be set 0–15mm (0.0"–0.60") lower than planer table (**D**), depending on how much material needs to be removed from bottom of the workpieces.

C. Lower Cutterhead: Belt-driven cutterhead that holds 114 indexable carbide inserts in a longitudinal spiral pattern. Spins at 4000 RPM to remove material from bottom of the workpieces.

D. Planer Table: Provides a smooth and level path for workpieces as they are fed into and through the upper cutterhead. Table height is not adjustable.

E. Table Roller: Provides a rolling surface to help feed workpieces toward the upper cutterhead.

F. Idler Roller: Spring-loaded idler roller that holds workpieces down as they are fed toward serrated roller.

G. Serrated Roller: Chain-driven roller that grabs and pulls workpieces into the upper cutterhead.

H. Chip Breaker: Breaks off chips created by the upper cutterhead to reduce tearout and assists in deflecting wood particles toward the dust hood.

I. Lower Pressure Roller: Chain-driven roller that pulls workpieces into the upper cutterhead.

J. Upper Cutterhead: Belt-driven cutterhead that holds 114 indexable carbide inserts in a longitudinal spiral pattern. Spins at 4000 RPM to remove material from top of the workpiece.

K. Pressure Bar: Stabilizes workpieces as they leave the upper cutterhead and assists in deflecting wood particles toward the dust hood.

L. Upper Pressure Roller: Chain-driven roller that pulls workpieces through the upper cutterhead.

M. Lower Pressure Roller: Chain-driven roller that pulls workpieces through the upper cutterhead.

MACHINE DATA SHEET

Grizzly Industrial, Inc.®

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

MODEL G0841
18" DOUBLE-SIDED PLANER w/SPIRAL CUTTERHEADS

Product Dimensions:

Weight	5512 lbs.
Width (side-to-side) x Depth (front-to-back) x Height	39 x 106 x 67 in.
Footprint (Length/Width)	74-1/2 x 27 in.

Shipping Dimensions:

Type	Wood Crate
Content	Machine
Weight	6614 lbs.
Length x Width x Height	110 x 47 x 70 in.
Must Ship Upright	Yes

Electrical:

Power Requirement	240V, 3-Phase, 60 Hz
Full-Load Current Rating	69.2A
Minimum Circuit Size	100A
Connection Type	Permanent (Hardwired to Shutoff Switch)
Switch Type	Magnetic w/Overload Protection

Motor:

Upper Cutterhead

Horsepower	15 HP
Phase	3-Phase
Amps	38.5A
Speed	1760 RPM
Type	TEFC Induction
Power Transfer	Belt Drive
Bearings	Sealed & Permanently Lubricated

Lower Cutterhead

Horsepower	10 HP
Phase	3-Phase
Amps	23A
Speed	1760 RPM
Type	TEFC Induction
Power Transfer	Belt Drive
Bearings	Sealed & Permanently Lubricated

Feed System

Horsepower	2 HP
Phase	3-Phase
Amps	6.1A
Speed	1720 RPM
Type	TEFC Induction
Power Transfer	Gearbox
Bearings	Sealed & Permanently Lubricated

Feed System Power Inverter (VFD)

Type	Fuji Electric Frenic-Ace FRN2.2E2S-2J
Power Requirement	200–240V, 3-Phase, 50/60 Hz

Headstock Elevation

Horsepower	1/2 HP
Phase	3-Phase
Amps	1.6A
Speed	1700 RPM
Type	TEFC Induction
Power Transfer	Gearbox
Bearings	Sealed & Permanently Lubricated

Main Specifications:

Operation Information

Planer Table Size	18 in.
Max. Cut Width	18 in.
Max. Stock Thickness	8 in.
Max. Cut Height	7-3/4 in.
Min. Stock Length	12 in.
Min. Stock Width	2-1/2 in.
Min. Stock Thickness	1/2 in.
Number of Cuts Per Inch	77–28 Cuts/in.
Number of Cuts Per Minute	24,000 (effective)
Cutterhead Speed	4000 RPM
Planing Feed Rate	26–72 FPM
Max. Cut Depth Upper Cutterhead Full Width	3/16 in.
Max. Cut Depth Upper Cutterhead 6-Inch Wide Board	5/16 in.
Max. Cut Depth Lower Cutterhead Full Width	3/16 in.
Max. Cut Depth Lower Cutterhead 6-Inch Wide Board	5/16 in.

Cutterhead Information (Upper)

Cutterhead Type	Spiral
Cutterhead Diameter	5-1/8 in.
Number of Cutter Rows	6
Number of Indexable Cutters	114
Cutter Insert Type	Indexable Carbide
Cutter Insert Size Length	15 mm
Cutter Insert Size Width	15 mm
Cutter Insert Size Thickness	2.5 mm

Cutterhead Information (Lower)

Cutterhead Type	Spiral
Cutterhead Diameter	5-1/8 in.
Number of Cutter Rows	6
Number of Indexable Cutters	114
Cutter Insert Type	Indexable Carbide
Cutter Insert Size Length	15 mm
Cutter Insert Size Width	15 mm
Cutter Insert Size Thickness	2.5 mm

Table Information

Table Bed Size Length	102 in.
Table Bed Size Width	18 in.
Table Bed Size Thickness	2-1/2 in.
Floor-to-Table Height	31-1/2–39-1/2 in.

Construction

Table	Ground & Polished Steel
Body	Cast Iron
Cutterhead Assembly	Steel
Infeed Roller	Steel
Outfeed Roller	Steel
Paint Type/Finish	Urethane

Other

Measurement Scale	Inch & Metric
Number of Dust Ports	2
Dust Port Size	5 & 6 in.

Other Specifications:

Country of Origin	Taiwan
Warranty	1 Year
Approximate Assembly & Setup Time	1 Hour
Serial Number Location	ID Label
ISO 9001 Factory	No
Certified by a Nationally Recognized Testing Laboratory (NRTL)	No

Features:

Dual Spiral Cutterheads with 114 Indexable Cutters/each
Variable Feed Speed from 26–72 FPM
Feed Belt with Spring-Loaded Fingers
Automatic Oiler for Easy Feed System Lubrication
One-Shot Table Oiler
Programmable Height Adjustment with DRO
5" & 6" Dust Ports
Maximum 8" Workpiece Thickness Capacity
3/8" Maximum Cutting Depth (Full Width)
Emergency Stop Button on Outfeed End of Table

Included Accessories:

Toolbox
Adjustable Wrench 10"
1/4" Ratchet Drive w/T-20 Torx Bits (5)
Pneumatic Screwdriver w/Hose Adapter and Phillips Bits (2)
Open-Ended Wrenches: 19/21mm, 12/14mm
Hex Wrench Set: 1.5, 2, 2.5, 3, 4. 5, 5.5, 6, 8, 10mm
T-Handle Hex Wrench 4mm
Replacement Carbide Inserts 15 x15 x 2.5mm (10)
Torx Head Screws M6-1 x 12 (20)
Block Gauge

SECTION 1: SAFETY

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

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

DANGER	**Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.**
WARNING	**Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.**
CAUTION	**Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.**
NOTICE	**This symbol is used to alert the user to useful information about proper operation of the machine.**

Safety Instructions for Machinery

WARNING

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

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

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

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

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

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

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

⚠WARNING

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Additional Safety for Double-Sided Planers

⚠WARNING

Amputation, serious cuts, entanglement, or death can occur from contact with rotating cutterheads, feed track, or other moving parts! Flying chips can cause blindness or eye injuries. Inserts or workpieces thrown by cutterheads 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.

AVOID CONTACT WITH FEED TRACK. The feed track grabs, holds, and pulls material with great force into spinning cutterheads. To reduce risk of being pulled into machine and spinning cutterheads, keep hands, loose clothing, jewelry, and long hair away from feed track during operation.

FEED WORKPIECES PROPERLY. To reduce risk of contacting feed track and being pulled into machine, stand at arms-length away from infeed table when feeding workpieces into machine. To reduce risk of kickback and jams, only feed workpieces into machine when feed system is ***ON***, and DO NOT change feed rate speed during cutting operation.

CLEARING JAMMED WORKPIECES. Feeding too much material into machine at one time or improper feed techniques will likely cause workpieces to become jammed. If workpieces get jammed in machine, turn machine ***OFF*** and disconnect power before clearing jam. NEVER reach inside machine or use a piece of wood to clear a jam during operation or while machine is connected to power. Otherwise, you could be seriously injured if you accidentally touch the spinning cutterheads or get entangled in moving parts.

KICKBACK. Kickback occurs when workpieces are ejected from the machine at a high rate of speed. To reduce risk of kickback and serious impact injuries, only use proper workpieces and feed techniques, and NEVER start cutterhead motors with workpieces touching cutterheads.

CUTTING LIMITATIONS. To reduce risk of kickback and jams, DO NOT exceed maximum depth of cut or minimum board size dimensions found in **Machine Data Sheet**. DO NOT cut multiple boards of thicknesses varying more than 3⁄16" side-by-side at same time.

INSPECTING STOCK. To reduce risk of kickback, jams, and machine damage, thoroughly inspect and prepare stock before cutting. Verify workpieces are free of nails, staples, loose knots, debris, and foreign objects.

PLANING CORRECT MATERIAL. Only plane natural wood stock with this machine. DO NOT plane MDF, OSB, plywood, laminates or other synthetic materials that can break up inside machine and be ejected towards operator or bystanders.

AVOID CONTACT WITH MOVING PARTS. NEVER reach inside planer or open chain drive access door or belt covers during operation or while machine is connected to power. Serious injury or death can occur if you contact cutterhead or get entangled in moving chain drive or belts.

LOOKING INSIDE MACHINE. Wood chips fly around inside machine at a high rate of speed during operation. To avoid injury from flying wood chips, DO NOT look inside planer during operation.

SECURE INSERTS. Improperly secured inserts can break apart or come loose and become dangerous projectiles. Always verify inserts are secure and properly adjusted before operation.

DULL/DAMAGED INSERTS. Dull or damaged inserts increase risk of kickback and jams and cause poor workpiece finish. Only use sharp, undamaged inserts.

WORKPIECE SUPPORT. To reduce risk of kickback and jams, always make sure workpieces can move completely across tables without rocking or tipping. For long stock, use auxiliary support stands on infeed and outfeed ends of machine.

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.

Full-Load Current Rating at 220V .. 67.6 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.

Circuit Information

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.*

Circuit Requirements for 240V

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

Nominal Voltage 220V, 230V, 240V
Cycle .....60 Hz
Phase 3-Phase
Power Supply Circuit ..... 100 Amps

Connection Type

A permanently connected (hardwired) power supply is typically installed with wires running through mounted and secured conduit. A disconnecting means, such as a locking switch (see following figure), must be provided to allow the machine to be disconnected (isolated) from the power supply when required. This installation must be performed by an electrician in accordance with all applicable electrical codes and ordinances.

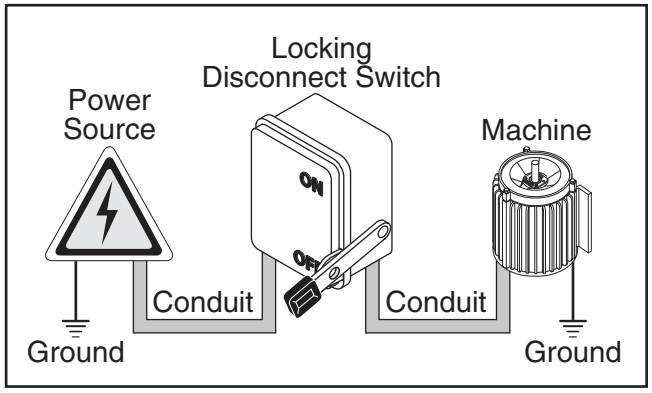


Figure 9. Typical setup of a permanently connected machine.

Grounding Instructions

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electrical current to reduce the risk of electric shock. A permanently connected machine must be connected to a grounded metal permanent wiring system; or to a system having an equipment-grounding conductor. All grounds must be verified and rated for the electrical requirements of the machine. Improper grounding can increase the risk of electric shock!

⚠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.

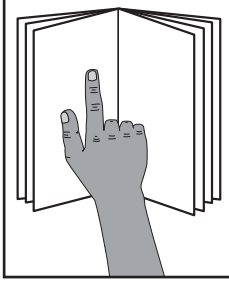
Extension Cords

Since this machine must be permanently connected to the power supply, an extension cord cannot be used.

NOTICE

DO NOT use a phase converter to supply 3-Phase power, as it could damage or decrease life of electrical components. Damage caused by running this machine with a phase converter will not be covered under warranty.

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

This is an extremely heavy machine! Serious personal injury or death may occur if safe lifting and moving methods are not followed. To be safe, you will need assistance and power equipment when moving the shipping crate and removing the machine from the crate. Seek assistance from a professional rigger if you are unsure about your abilities or maximum load ratings of your lifting equipment.

⚠WARNING

SUFFOCATION HAZARD!

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

Needed for Setup

The following are needed to complete the setup process:

- **For Lifting and Moving:**
  —Two additional people
  —A forklift or other power lifting equipment rated for at least 7000 lbs.
  —Four lifting straps rated for at least 7000 lbs. each
  —A lifting safety hook rated for at least 7000 lbs.

- **For Power Connection:**
  —A power source that meets minimum circuit requirements for machine (review **Power Supply** on **Page 17** for details)
  —An electrician or qualified service personnel to ensure a safe and code-compliant connection to power source

- **For Assembly:**
  —Safety glasses for each person
  —Leather gloves for each person
  —Disposable Shop Rags
  —Cleaner/degreaser (see **Page 21**)
  —Quality metal protectant lubricant
  —Precision level at least 12" long
  —Phillips Screwdriver #2

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.

Inventory (Figures 10–11)		**Qty**
A.	Double-Sided Planer	1
B.	Toolbox	1
C.	Adjustable Wrench 10"	1
D.	Ratcheting Drive ¼" w/T-20 Torx Bits (5)	1
E.	Pneumatic Screwdriver w/Hose Adapter & Phillips Bits (2)	1
F.	Open-End Wrench 19/21mm	1
G.	Open-End Wrench 12/14mm	1
H.	Hex Wrench Set (1.5, 2, 2.5, 3, 4, 5, 5.5, 6, 8, 10mm)	1
I.	T-Handle Hex Wrench 4mm	1
J.	Replacement Carbide Inserts (10-Pk) w/Torx Head Screws M6-1 x 12 (20)	1
K.	T-Handle Drive ¼" w/T-20 Torx Bits (10)	1
L.	Electrical Panel Lock-out Handle	1
M.	Block Gauge	1
N.	Hex Bolts M16-1.5 x 75 w/Hex Nuts M16-1.5	4
O.	Leveling Pads	4

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.

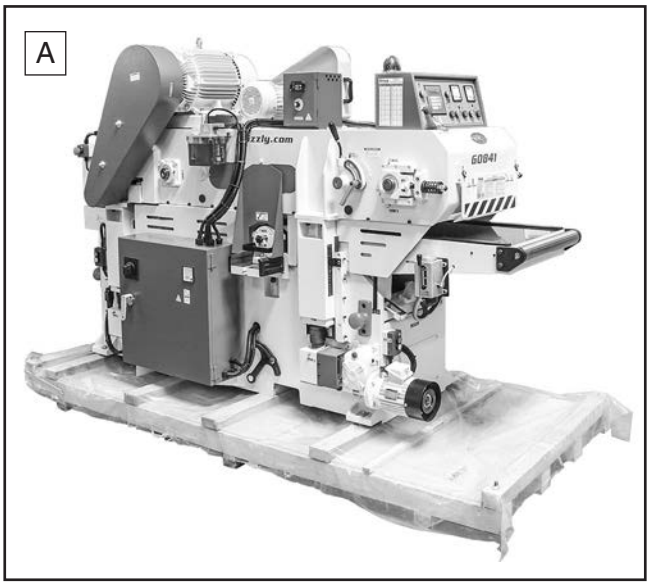


Figure 10. Inventory—machine.

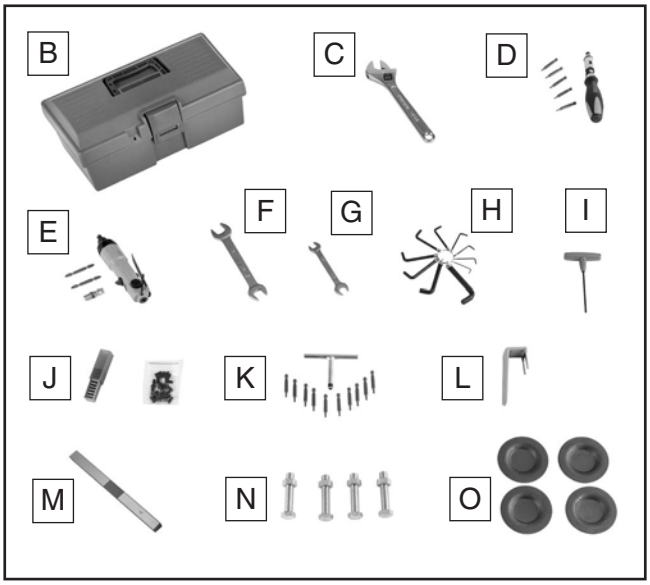


Figure 11. Inventory—tools.

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)

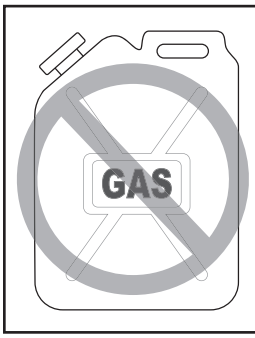
Basic steps for removing rust preventative:

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.

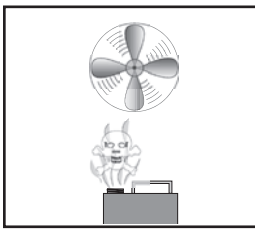
3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily. If you have a plastic paint scraper, scrape off as much as you can first, then wipe off the rest with the rag.

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



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

T23692—Orange Power Degreaser
A great product for removing the waxy shipping grease from your machine during clean up.

Figure 12. T23692 Orange Power Degreaser.

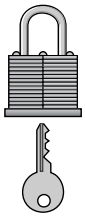
Site Considerations

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.

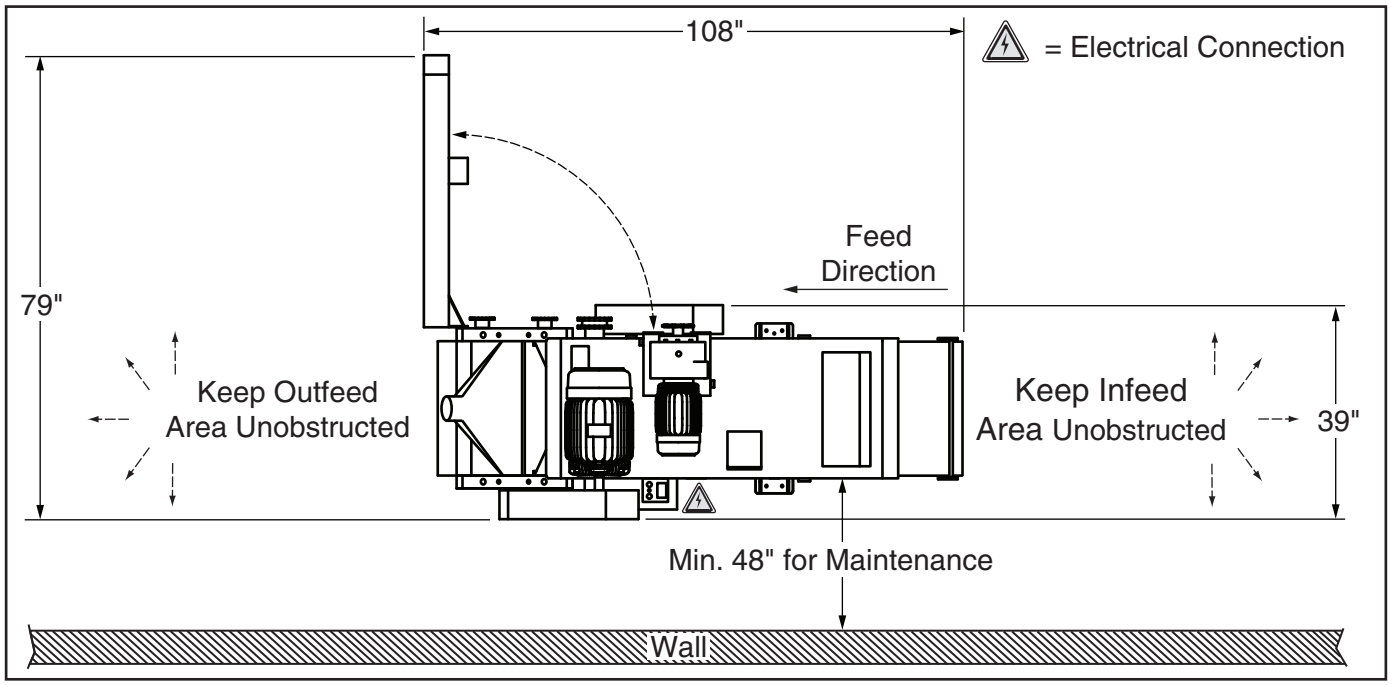


Figure 13. Minimum working clearances.

Lifting & Placing

WARNING

This is an extremely heavy machine! Serious personal injury or death may occur if safe lifting and moving methods are not followed. To be safe, you will need assistance and power equipment when moving the shipping crate and removing the machine from the crate. Seek assistance from a professional rigger if you are unsure about your abilities or maximum load ratings of your lifting equipment.

DO NOT attempt to lift or move machine without using proper lifting equipment (such as forklift or crane) and assistance from other people. Each piece of lifting equipment must be rated for **at least 7000 lbs.** to support dynamic loads that may be applied while lifting.

Review the **Power Supply** section beginning on **Page 17**, then prepare a permanent location for the machine.

IMPORTANT: *Make sure prepared location is clean and level.*

To lift and place machine:

1. Move machine near its prepared location while still inside shipping crate.

2. Remove top and sides of shipping crate, then place small items aside in safe location.

3. Remove (4) lag screws and flat washers that secure machine to shipping pallet (see **Figure 14**).

   IMPORTANT: *Take care not to damage threaded holes in machine footings when removing lag screws.*

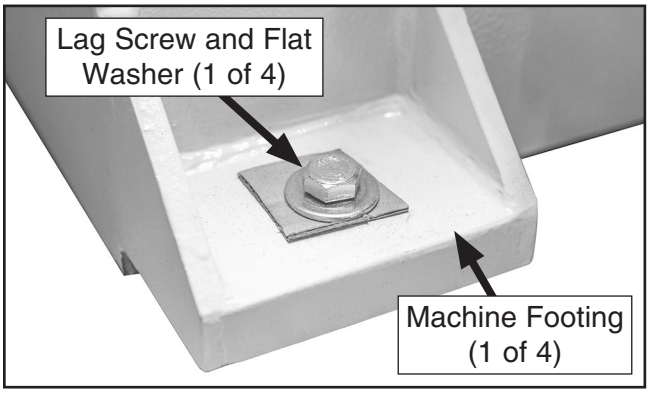


Figure 14. Machine secured to shipping pallet.

4. Carefully lift machine off shipping crate. Below are two methods for performing this operation. Use best method for your situation.

   — Secure lifting straps around (4) cleats on machine (see **Figure 15**) and attach straps to lifting equipment with heavy-duty shackles or other rigging equipment. Cleats are positioned on machine to balance weight of machine when using four lifting straps of equal length.

   IMPORTANT: *Eye bolts on top of motors are for lifting the motors only. DO NOT lift machine by eye bolts.*

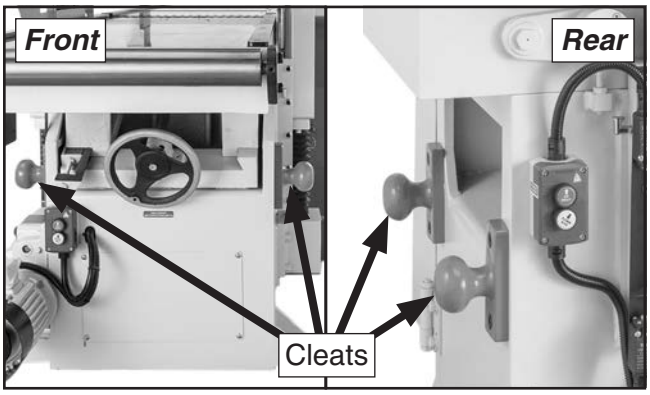


Figure 15. Location of lifting cleats.

— Insert forklift forks through slots on bottom of machine (see **Figure 16**). Slots are 36" on center and accept forks up to 6" wide.

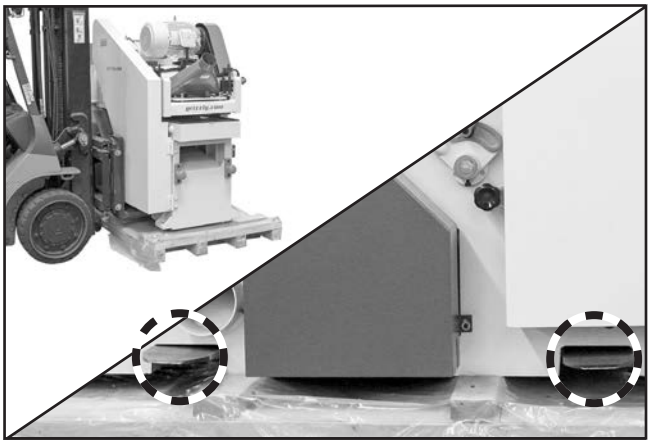


Figure 16. Example of lifting machine with forklift.

5. Raise machine a couple of inches and check balance of load. If using straps, have two other people carefully steady machine to help prevent it from swinging.

6. Raise machine enough to clear shipping pallet and carefully remove pallet.

7. Slowly lower machine into position.

Leveling

⚠ CAUTION

For accurate planing results and to prevent warping or twisting of cast iron base, machine MUST be leveled from side to side and from front to back on both ends.

Re-check the machine 24 hours after installation, two weeks after that, and then annually to make sure it remains level.

Leveling machinery helps precision components remain straight and flat during the lifespan of the machine. Components on an improperly leveled machine may slowly twist due to the dynamic loads placed on the machine during operation.

To level machine:

1. Slide (4) leveling pads under (4) footings at corners of machine, as shown in **Figure 17**. Make sure center of threaded hole in footing aligns with center of leveling pad.

2. Insert (4) M16-1.5 x 75 hex bolts with (4) M16-1.5 jam nuts into (4) threaded holes in footings, as shown in **Figure 17**.

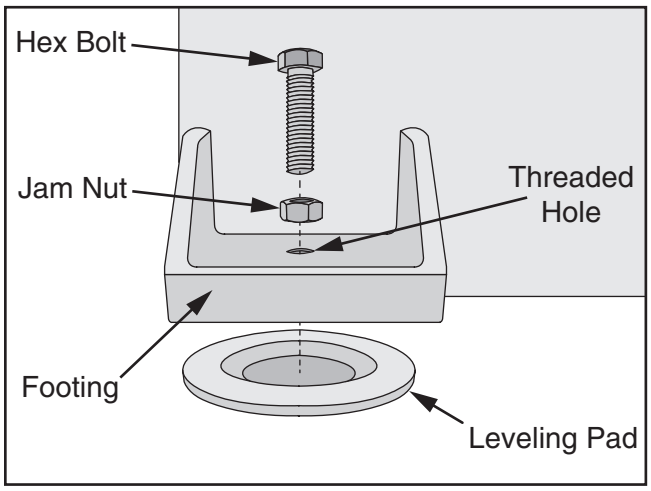


Figure 17. Leveling hardware orientation (1 of 4).

3. Thread (4) M16-1.5 x 75 hex bolts until they just touch center of leveling pad.

4. Place level on planer table, and make necessary adjustments to hex bolts on each footing so table is level from side-to-side and front-to-back; then tighten jam nuts to secure these adjustments.

   This process will help machine components remain straight and flat.

   Note: *For best results, use a precision level that is at least 12" long and sensitive enough to measure movement to 0.003".*

H2683—Master Machinist's Level 12"
This incredibly accurate level is used for setting up fine machinery. It measures to 0.0005" (half a thousandths of an inch) within a 10" span.

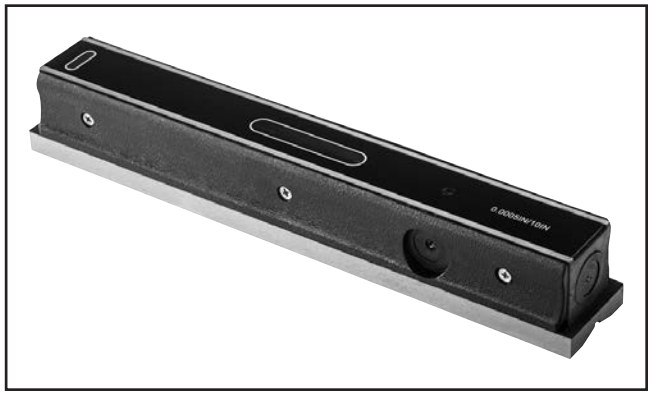


Figure 18. Model H2683 Master Machinist's Level.

Assembly

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

To assemble machine:

1. Remove rust-preventing plastic film from upper and lower cutterheads (refer to **Rotating/Replacing Cutterhead Inserts** on **Page 42** for information about accessing cutterheads). Remove related shipping tag from control panel when done.

2. Attach pressure-bar limit switch to rear of machine with (2) M6-1 x 10 Phillips head screws, as shown in **Figure 19**. Adjust limit switch so trigger just touches pressure bar when fully extended (see **Figure 19**).

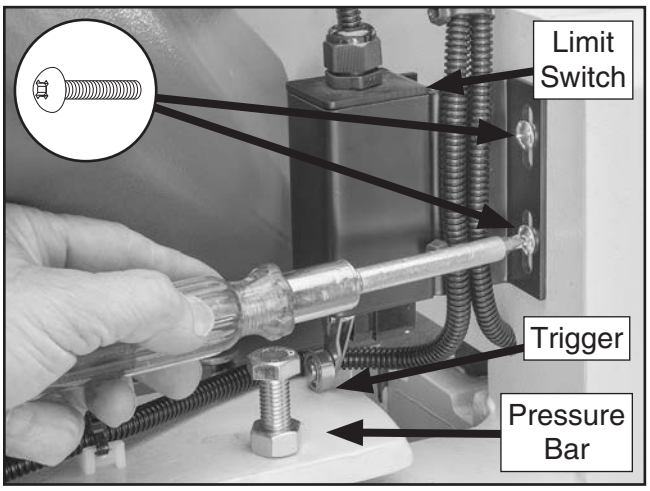


Figure 19. Attaching pressure bar limit switch.

Lubricating Machine

The elevation system and feed system gearboxes and the automatic oiler and one-shot oiler reservoirs must have the proper amount of oil in them before the machine can be operated.

IMPORTANT: *Damage caused to the bearings, gears, and chains from running the machine without oil in the gearboxes and reservoirs will not be covered under warranty. Refer to the* ***Lubrication*** *section, beginning on* ***Page 49****, for checking and adding oil.*

In addition to the gearboxes and reservoirs, we also recommend that you lubricate all other points on the machine at this time. To do this, follow the steps provided in the lubrication schedule on **Page 50**.

Dust Collection

⚠CAUTION

DO NOT operate your machine without an adequate dust-collection system. This machine creates substantial amounts of wood dust while operating. Failure to use a dust-collection system can result in short and long-term respiratory illness.

Minimum CFM at 5" Dust Port: 625 CFM
Minimum CFM at 6" Dust Port: 900 CFM
Do not confuse this CFM recommendation with the rating of the dust collector. To determine the CFM at the dust port, you must consider these variables: (1) CFM rating of the dust collector, (2) hose type and length between the dust collector and the machine, (3) number of branches or wyes, and (4) amount of other open lines throughout the system. Explaining how to calculate these variables is beyond the scope of this manual. Consult an expert or purchase a good dust collection "how-to" book.

To connect dust-collection hoses:

1. Fit 5" and 6" dust hoses over dust ports and secure in place with hose clamps (see **Figure 20**).

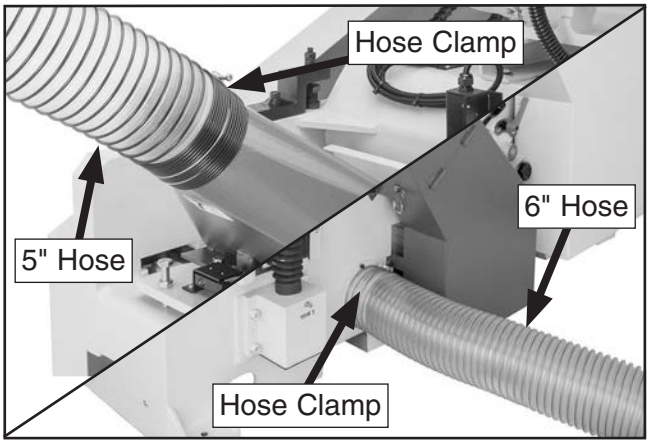


Figure 20. Dust hoses attached to dust ports.

2. Tug hoses to make sure they do not come off. A tight fit is necessary for proper performance.

Power Connection

Before the machine can be connected to the power source, an electrical circuit and connection device must be prepared per the **POWER SUPPLY** section in this manual; and all previous setup instructions in this manual must be complete to ensure that the machine has been assembled and installed properly. The disconnect switch installed by the electrician (as recommended) is the primary means for disconnecting or connecting the machine to the power source.

Move the disconnect switch handle to the ON position, as illustrated below. The machine is now connected to the power source.

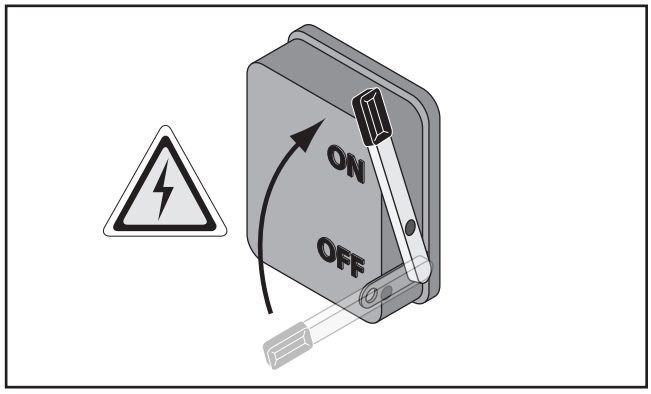


Figure 21. Connecting power to machine.

Move the disconnect switch handle to the OFF position, as illustrated below. The machine is now disconnected from the power source.

Note: *Lock the switch in the OFF position to restrict others from starting the machine.*

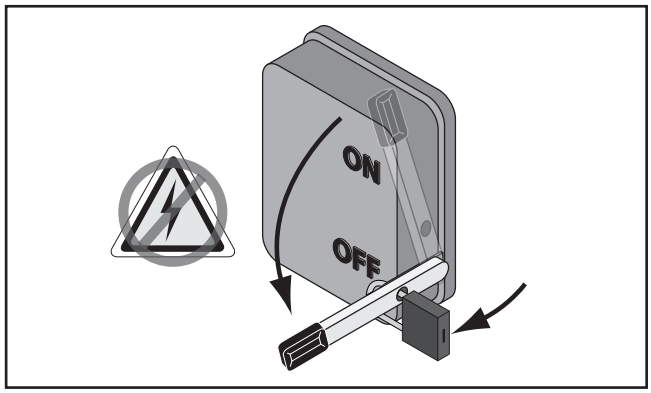
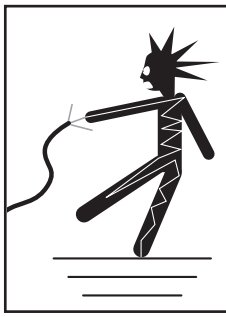


Figure 22. Disconnecting power from machine.



WARNING

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

NOTICE

DO NOT use a phase converter to supply 3-Phase power, as it could damage or decrease life of electrical components. Damage caused by running this machine with a phase converter will not be covered under warranty.

IMPORTANT: *Due to the complexity required for planning, bending, and installing the conduit necessary for a code-compliant hardwire setup, an electrician or other qualified person MUST perform this type of installation. Hardwire setups typically require power supply wires to be enclosed inside of a solid or flexible conduit, which is securely mounted at both ends with the appropriate conduit fittings. All work must adhere to the required electrical codes.*

To connect machine to power:

1. Open electrical panel (see **Figure 23**).

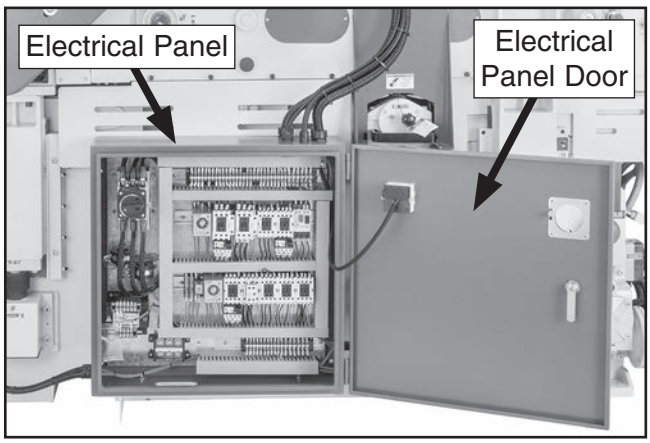


Figure 23. Electrical panel opened.

4. Connect conduit to electrical panel through access hole (see **Figure 24**).

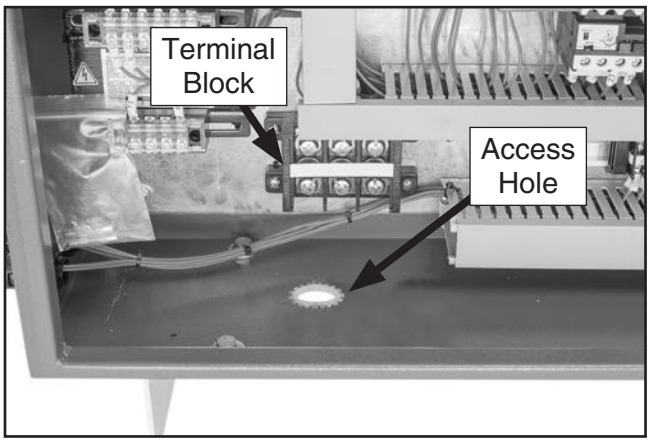


Figure 24. Location of electrical panel access hole and terminal block.

5. Feed wires through conduit to electrical panel. Make sure wires have enough slack inside eletrical panel so they are not pulled tight or stretched.

6. Connect ground wire to ground terminal (see **Figure 25**), then connect incoming power wires to power terminals (see **Figure 25**). (Refer to G0841 Wiring Manual for detailed wiring diagrams.)

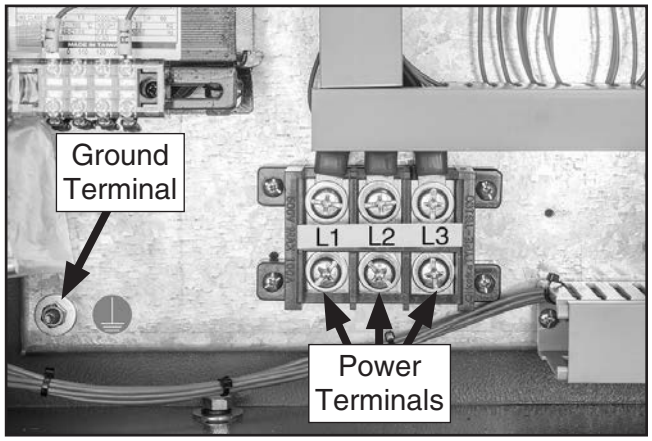


Figure 25. Terminal locations to connect ground wire and incoming power wires.

7. Close and secure electrical panel door, then perform **Test Run** in following section to verify correct power phase polarity.

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 verifies the following: 1) 3-phase power supply polarity is correct, 2) the Emergency Stop button safety features work correctly, and 3) the motors power up and run correctly.

⚠WARNING

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

⚠WARNING

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

To test run machine:

1. Read and follow safety instructions at beginning of manual, take all required safety precautions, and make sure all previous setup/assembly steps in this manual have been followed and completed.

2. Clear all setup tools and loose items away from machine.

3. Make sure machine is disconnected from power source (refer to **Power Connection** on **Page 27**).

4. Push Emergency Stop button on control panel (see **Figure 26**).

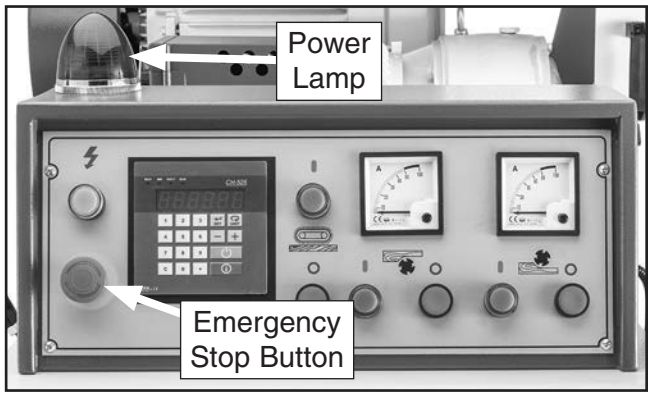


Figure 26. Location of Emergency Stop button and power lamp.

5. Connect machine to power source (refer to **Power Connection** on **Page 27**). Power lamp (see **Figure 26**) on control panel should illuminate to indicate power is connected.

6. Twist Emergency Stop button on control panel clockwise until it pops out (see **Figure 27**). This resets button so machine will start.

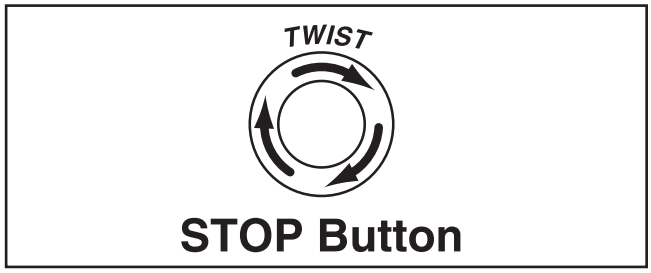


Figure 27. Resetting the Emergency Stop button.

7. Push power button (see **Figure 28**) to enable power to all motors and electrical systems.

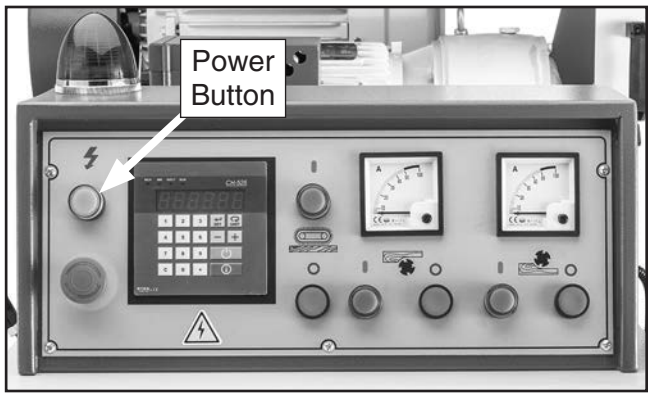


Figure 28. Location of power button.

8. Verify correct 3-phase power supply polarity by using headstock height switches (see **Figure 29**) to raise and lower headstock.

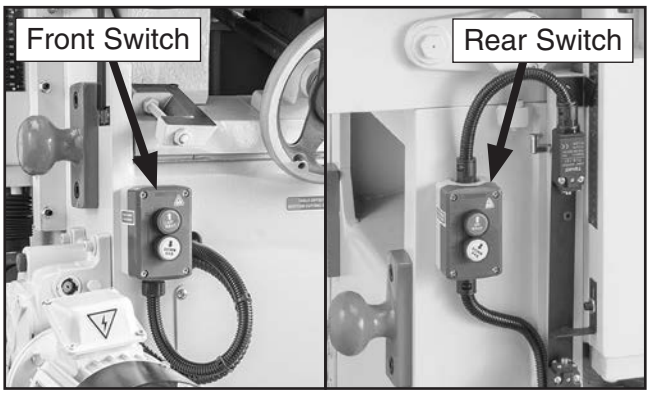


Figure 29. Location of headstock height switches.

— If headstock *raises* when UP button is pushed and *lowers* when DOWN button is pushed, then phase polarity *is correct*. Remove related shipping tag from control panel and continue to **Step 9**.

— If headstock *lowers* when UP button is pushed and *raises* when DOWN button is pushed, then power phase polarity *is not correct*. Push Emergency Stop button, disconnect machine from power source, switch any two of three incoming power supply wires inside electrical panel (refer to **Figure 25** on **Page 28**), then restart Test Run.

9. Push lower cutterhead ON button (see **Figure 30**) to turn lower cutterhead ***ON***. Wait 5–15 seconds for cutterhead to reach full speed. A correctly operating cutterhead motor will run smoothly with little or no vibration or rubbing noises.

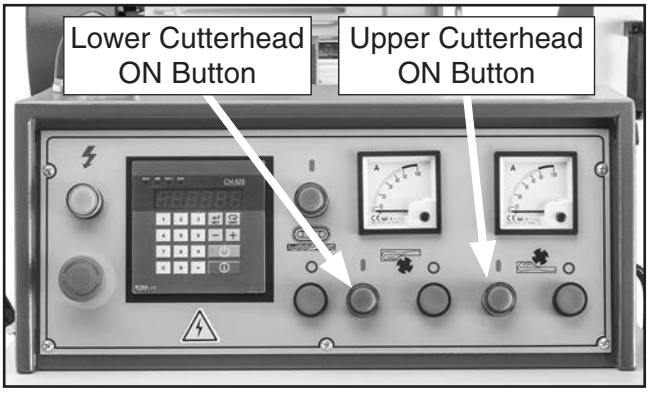


Figure 30. Location of lower and upper cutterhead ON buttons.

10. Push upper cutterhead ON button (see **Figure 30**) to turn upper cutterhead ***ON***. Wait 5–15 seconds for cutterhead to reach full speed. A correctly operating cutterhead motor will run smoothly with little or no vibration or rubbing noises.

11. Turn feed rate dial to 20% (see **Figure 31**).

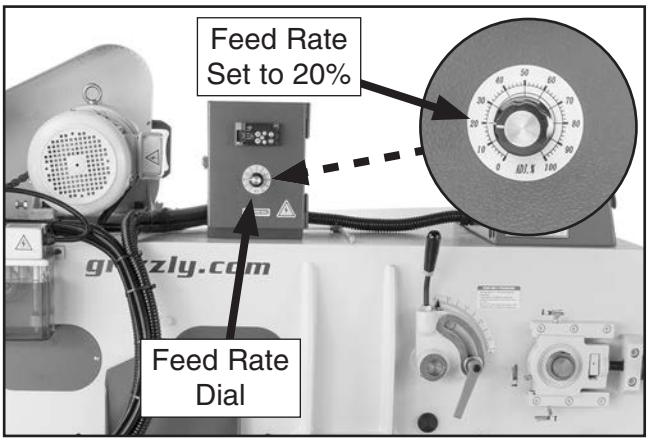


Figure 31. Location of feed rate dial.

12. Push feed system ON button (see **Figure 32**) to start feed track and chain drive.

Figure 32. Location of feed system ON button.

13. Slowly turn feed rate dial up to 80% and then back down to 20%. A correctly operating feed system will run smoothly and change speeds with moderate to little vibration and no grinding noises.

14. Push Emergency Stop button on control panel (see **Figure 26** on **Page 29**) and wait 30–40 seconds for cutterheads to come to complete stop.

15. WITHOUT resetting Emergency Stop button on control panel, press lower cutterhead ON button, upper cutterhead ON button, and feed system ON button.

    — If all motors and feed system *DO NOT START*, the Emergency Stop button safety feature is working correctly. Proceed to **Step 16**.

    — If any motors or feed system *DO START* (with Emergency Stop button pushed in), immediately disconnect power to machine. The Emergency Stop button safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

16. Twist Emergency Stop button on control panel clockwise until it pops out (see **Figure 27** on **Page 29**). This resets button so machine will start.

17. Push power button (see **Figure 28** on **Page 29**) to enable power to all motors and electrical systems

18. Repeat **Steps 9–12**.

19. Push Emergency Stop button on rear of machine (see **Figure 33**) and wait 30–40 seconds for cutterheads to come to complete stop.

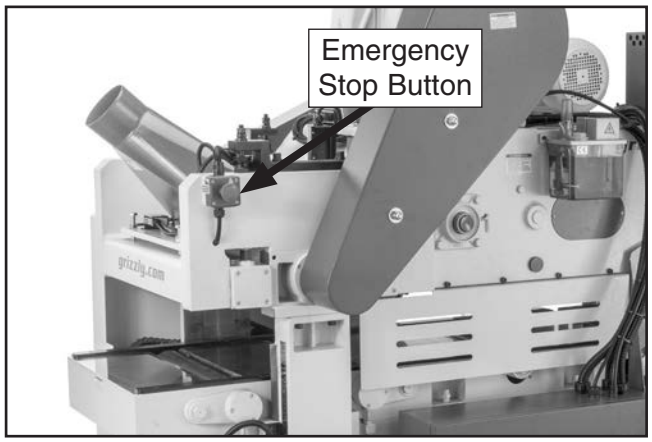


Figure 33. Location of rear Emergency Stop button.

20. WITHOUT resetting Emergency Stop button on rear of machine, press lower cutterhead ON button, upper cutterhead ON button, and feed system ON button.

    — If all motors and feed system *DO NOT START*, the Emergency Stop button safety feature is working correctly. Proceed to **Step 21**.

    — If any motors or feed system *DO START* (with Emergency Stop button pushed in), immediately disconnect power to machine. The OFF button safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

21. Twist Emergency Stop button on rear of machine clockwise until it pops out (see **Figure 27** on **Page 29**). This resets button so machine will start.

22. Push power button (see **Figure 28** on **Page 29**) to enable power to all motors and electrical systems.

23. Repeat **Steps 9–12**.

24. Use a pushstick or workpiece to push emergency stop plate on front of machine (see **Figure 34**). ***DO NOT*** push emergency stop plate by hand!

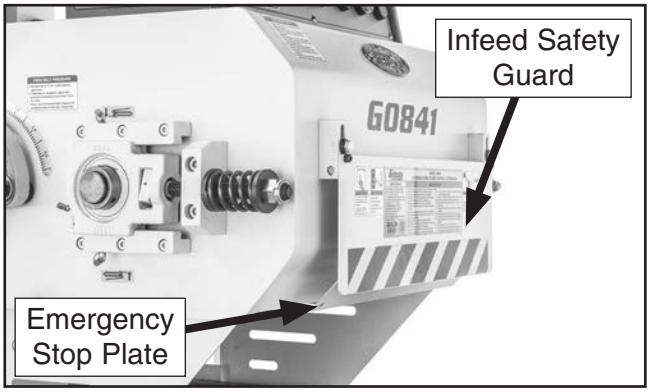


Figure 34. Location of emergency stop plate.

    — If all motors and feed system *DO* stop, the emergency pressure plate safety feature is working correctly. Congratulations! The Test Run is complete.

    — If any motors or feed system *DO NOT* stop, immediately disconnect power to machine. The emergency pressure plate safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

Tightening Belts

The final step in the setup process must be done after approximately 16 hours of operation. During this first 16 hours, belts will stretch and seat into the pulley grooves. After this time, you must retension the belts to avoid slippage and burn out. Refer to **Page 59** when you are ready to perform this important adjustment.

Note: *Pulleys and belts can get hot. This is a normal condition. Allow them to cool before making adjustments.*

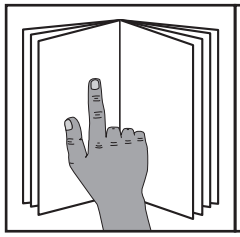
A buildup of black belt dust at the bottom of the belt cover is normal during the life of the machine and does not indicate a problem with the machine or belts.

SECTION 4: OPERATIONS

Operation Overview

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

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

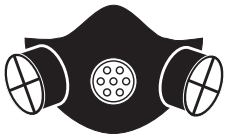


WARNING

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

WARNING

To reduce risk of eye injury from flying chips or lung damage from breathing dust, always wear safety glasses and a respirator when operating this machine.



NOTICE

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

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

1. Makes sure machine is disconnected from power.
2. Examines workpiece to make sure it is suitable for planing (refer to **Workpiece Inspection** on **Page 34** for more information).
3. Calculates amount of material to remove by lower cutterhead to make a flat surface on bottom of workpiece. (Refer to **Setting Lower Cutterhead Depth of Cut** on **Page 36** for more information.)
4. Calculates amount of material to remove by upper cutterhead to produce final workpiece thickness. (Refer to **Setting Upper Cutterhead Depth of Cut** on **Page 37** for more information).
5. If workpiece is longer than can be supported by planer tables, arranges for assistance or uses roller accessories to support workpiece.
6. Adjusts infeed safety guard according to pre-cut workpiece thickness.
7. Connects machine to power and turns it ***ON***.
8. Sets lower cutterhead depth of cut (refer to **Setting Lower Cutterhead Depth of Cut** on **Page 36** for detailed instructions).
9. Sets upper cutterhead depth of cut (refer to **Setting Upper Cutterhead Depth of Cut** on **Page 37** for detailed instructions).
10. Makes sure feed rate dial is set to 0% (26 FPM).
11. Puts on safety glasses, respiratory, and any other required protective equipment.
12. When all safety precautions have been taken, turns lower cutterhead, upper cutterhead, automatic oiler, and feed system ***ON***.

13. Sets feed rate for planing operation (refer to **Feed Rate** on **Page 41** for more information).

14. Stands an arms-length away from infeed table to reduce risk of contacting feed track, then feeds workpiece into front of machine until feed track grabs it.

    Note: *Feed system controls feed rate of workpiece as it passes through machine. Operator does not push or pull on workpiece.*

    — If the depth of cut is too much and the machine bogs down, immediately turn it ***OFF*** . Allow cutterheads to come to complete stop, then raise headstock remove the workpiece. Reduce the depth of cut and repeat **Step 14**.

15. Once workpiece is clear of machine and stops moving, operator removes workpiece from planer table and measures workpiece thickness. If further planing is required, operator "zeroes" lower cutterhead depth of cut, adjusts upper cutterhead to slightly increase depth of cut , then feeds workpiece into front of machine again.

16. Continues process until desired workpiece thickness is achieved, then turns machine ***OFF***.

⚠ CAUTION

To avoid kickback, only feed workpieces into machine when feed system is *ON*. To reduce likelihood of jams, DO NOT change feed rate speed during cutting operation, and allow 1" gaps between workpieces and table rails when feeding multiple workpieces into machine. DO NOT cut multiple boards of thicknesses varying more than 3/16" side-by-side at same time.

NOTICE

The Model G0841 is not designed to flatten excessively cupped, bowed, or twisted stock. For best results, use a standard jointer to flatten stock with these characteristics before running it through this machine.

Planing Tips

- Keep your work area clear to help ensure safe working conditions.
- Plane ONLY natural wood fiber. Do not plane wood composites or other materials that could break up in the planer and cause operator injury or damage to planer.
- Inspect all stock to make sure it is free of excessive cupping, bowing, or twisting. Stock with these characteristics is dangerous to plane.
- Inspect all stock to make sure it is free of large knots or foreign objects that may damage your inserts, cause kickback, or be ejected from the machine.
- Scrape off excess glue when planing glued-up panels. Dried glue can dull inserts.
- Get assistance from another person if you are planing long lumber, or use roller stands to support the workpiece.
- Measure the workpiece thickness before and after cutting with calipers to get exact results.
- Never remove more than the recommended amount of material on each pass. Remove less material on each pass when planing wide or dense stock.
- When possible, plane equal amounts on each side of the board to reduce the chance of twisting or cupping.
- Use the entire width of the machine to wear inserts evenly. With narrow workpieces, alternate between far left, far right, and the middle of the table. Your inserts will remain sharp much longer. Alternatively, plane multiple workpieces of similar thicknesses side-by-side.
- To avoid "chip marks," always plane WITH the grain direction of the wood. Never plane cross-grain or end-grain.

Workpiece Inspection

Some workpieces are not safe to use or may require modification before they are. **Before cutting, inspect all workpieces for the following:**

- **Material Type:** This machine is only intended for workpieces of natural wood fiber. Attempting to use workpieces of any other material that may break apart during operation could lead to serious personal injury and property damage.

- **Foreign Objects:** Inspect lumber for defects and foreign objects (nails, staples, tramp metal, embedded gravel, etc,). If you have any questions about the quality of your lumber, DO NOT use it. Remember, wood stacked on a concrete floor can have small pieces of stone or concrete pressed into the surface.

- **Large/Loose Knots:** Loose knots can become dislodged during operation. Large knots can cause kickback and machine damage. Always use workpieces that do not have large/loose knots.

- **Wet or "Green" Stock:** Avoid using wood with a high water content. Wood with more than 20% moisture content or wood exposed to excessive moisture (such as rain or snow), will plane poorly and cause excessive wear to the machine. Excess moisture can also hasten rust and corrosion of the machine and/or individual components.

- **Excessive Warping:** Workpieces with excessive cupping, bowing, or twisting are dangerous to plane because they are unstable and often unpredictable when being planed. DO NOT use workpieces with these characteristics!

- **Grain Direction:** Cutting against the grain increases the likelihood of kickback, as well as tear-out on the workpiece. Cutting with the grain is described as feeding the stock into the lower cutterhead so the grain points down and toward you as viewed on the edge of the stock (see **Figure 35**).

  Note: *If the grain changes direction along the edge of the board, decrease the cutting depth and make additional passes.*

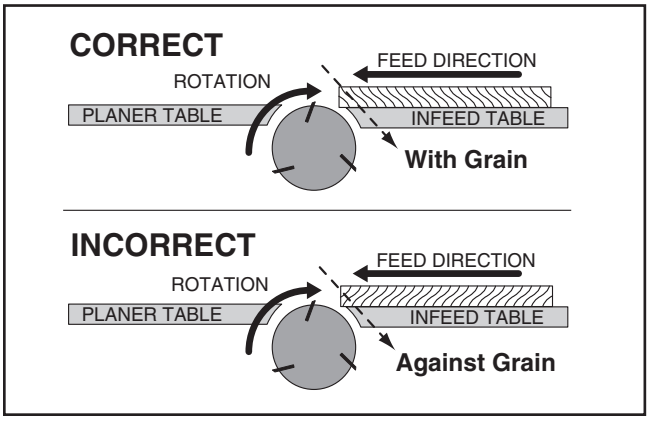


Figure 35. Proper grain alignment with lower cutterhead.

- **Dimension Requirements:** Make sure your workpiece exceeds the minimum dimension requirements shown below, before processing it through the machine, or the workpiece may break or kickback during the operation.

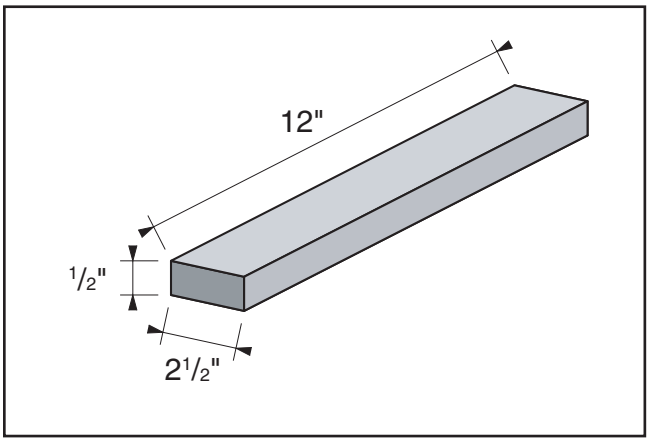


Figure 36. Minimum stock dimensions.

Wood Types

The species of wood, as well as its condition, greatly affects the depth of cut the machine can effectively take with each pass.

The chart in the figure below shows the Janka Hardness Rating for a number of commonly used species. The higher the number, the harder the workpiece, and the less material should be removed in any one pass for good results.

Note: *The Janka Hardness Rating is expressed in pounds of force required to embed a 0.444" steel ball into the surface of the wood to a depth equal to half the ball's diameter.*

Species	Janka Hardness
Ebony	3220
Red Mahogany	2697
Rosewood	1780
Red Pine	1630
Sugar Maple	1450
White Oak	1360
White Ash	1320
American Beech	1300
Red Oak	1290
Black Walnut	1010
Teak	1000
Black Cherry	950
Cedar	900
Sycamore	770
Douglas Fir	660
Chestnut	540
Hemlock	500
White Pine	420
Basswood	410
Eastern White Pine	380
Balsa	100

Figure 37. Janka Hardness Rating for some common wood species.

Cutting Problems

Below is a list of wood characteristics you may encounter when planing. The following descriptions of defects will give you some possible answers to problems you may encounter while planing different materials. Possible solutions follow the descriptions.

Chipped Grain

Problem: Usually a result of cutting against the grain, planing lumber with knots or excessive amount of cross grain, or using dull inserts.

Solution: Decrease the depth of cut. Inspect your lumber and determine if its grain pattern is causing the problem. If the lumber does not show substantial crossgrain, inspect your inserts.

Fuzzy Grain

Problem: Usually caused by planing lumber containing too much moisture. Sometimes fuzzy grain is an unavoidable characteristic of some woods, such as basswood. Fuzzy grain can also be caused by dull inserts.

Solution: Check the lumber with a moisture meter. If moisture is greater than 20%, sticker the lumber and allow it to dry. Otherwise, inspect the insert condition.

Snipe

Problem: Occurs when board ends have more material removed than the rest of the board. Usually caused when the workpiece is not properly supported as it goes through the machine. In many cases, however, a small amount of snipe is inevitable.

Solution: The best way to deal with snipe is by planing lumber longer than your intended work length and then cutting off the excess after planing is completed.

Pitch & Glue Build-Up

Problem: Glue and resin buildup on the rollers and cutterheads will cause overheating by decreasing cutting sharpness while increasing drag in the feed mechanism. The result can include scorched lumber, uneven insert marks, and chatter.

Solution: Clean the rollers and cutterhead.

Chip Marks or Indentations

Problem: Chip indentation or chip bruising is the result of wood chips not being thrown away from the cutterhead and out of the machine. Instead they are carried around the cutterheads, deposited on the planed surface and crushed by the outfeed roller. Some of the causes of chip indentation are:

- Wood chips/sawdust not being properly expelled from the cutterheads.
- The type of lumber being planed. Certain species have a tendency to chip bruise.
- A high moisture content (over 20%) or surface moisture.
- Dull inserts.
- Excessive depth of cut.

Solution:

- Use a proper dust collection system; adjust chip deflector in or out as necessary.
- Lumber must be completely dry, preferably kiln-dried (KD). Air-dried (AD) lumber must be seasoned properly and have no surface moisture. DO NOT surface partially-air-dried (PAD) lumber.
- Make sure planer inserts are sharp.
- Reduce depth of cut.

Rippled Cut

Problem: Regularly spaced indentations across face of workpiece are caused by excessive roller pressure or excessive feed rate.

Solution: Reduce roller pressure; reduce feed rate.

Setting Depth of Cut (Lower Cutterhead)

The lower cutterhead performs the surface planing of the workpiece (see **Figure 38**). This makes a flat face on the workpiece, preparing it for thickness planing by the upper cutterhead. Depth of cut means the amount of material that is removed from the bottom of the workpiece as it passes over the lower cutterhead.

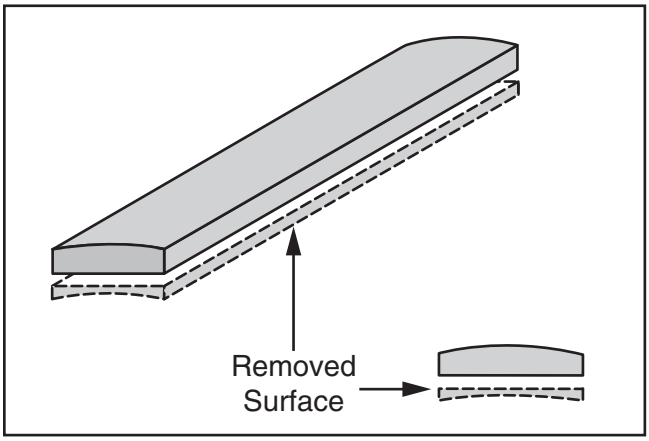


Figure 38. Example of surface planing.

Lower cutterhead depth of cut is determined by the height of the infeed table. During operations, the position of the lower cutterhead is fixed. Infeed table height is adjusted with the handwheel (see **Figure 39**) and measured with the depth-of-cut scale on the front left side of the machine (see **Figure 39**).

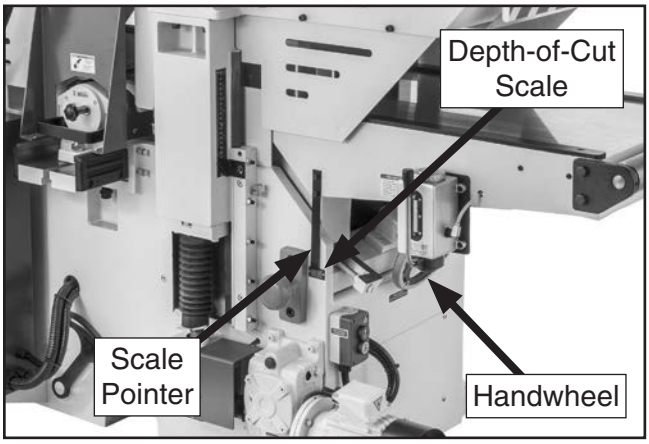


Figure 39. Location of infeed table handwheel and depth-of-cut scale.

To set lower cutterhead depth of cut:

1. Calculate amount of material to remove from bottom of workpiece to make a flat surface. Maximum depth of cut for lower cutterhead is 15mm (0.600 in.).

   Tip: *When determining lower cutterhead depth of cut, take into consideration final workpiece thickness. Make sure enough material will remain on workpiece after surface planing for thickness planing operation.*

2. While viewing lower cutterhead depth-of-cut scale, use infeed table handwheel to lower or raise infeed table to desired height. Turn handwheel clockwise to lower and counterclockwise to raise infeed table.

G2857—Thickness Gauge
Measure thicknesses and diameters quickly with this handy gauge. Wonderful for thickness planers, wood lathes, and other shop measurements. Measures from 1/16" to 2" in 1/32" increments. Made in the U.S.A.

Figure 40. G2857 Thickness Gauge.

Setting Depth of Cut (Upper Cutterhead)

The upper cutterhead performs the thickness planing of the workpiece (see **Figure 41**). Depth of cut means the amount of material that is removed from the top of the workpiece as it passes underneath the upper cutterhead.

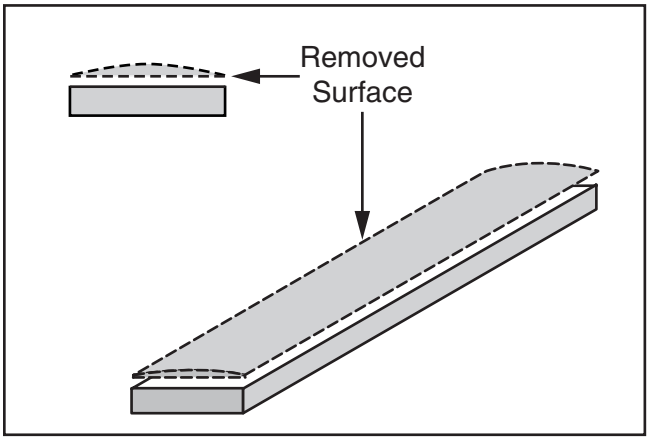


Figure 41. Example of thickness planing.

The upper cutterhead is housed in the headstock of the machine, and depth of cut is controlled by adjusting the distance from the upper cutterhead inserts to the planer table. This distance is the thickness of the workpiece minus the depth of cut.

There are two methods for setting the upper cutterhead depth of cut:

- Use the digital control pad on the control panel (see **Figure 42**) to enter a final workpiece thickness.

Figure 42. Location of digital controls.

- Use the headstock height switches (see **Figures 43–44**) and the depth-of-cut scales (see **Figures 43–44**) to set a final workpiece thickness.

  Note: *Alternatively, use the headstock height handwheel (see **Figure 43**) to precisely set depth of cut in 0.1mm/0.004 in. increments.*

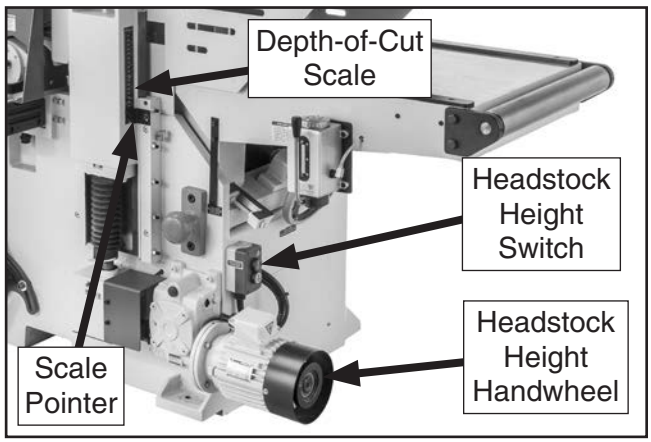


Figure 43. Front headstock height switch and depth-of-cut scale.

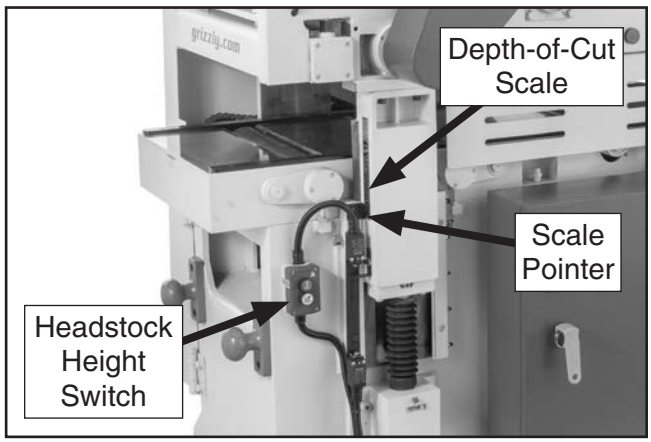


Figure 44. Rear headstock height switch and depth-of-cut scale.

Although the correct depth of cut varies according to wood hardness and workpiece width, we recommend the maximum depth of cut (per pass) be no more than 5⁄16" for boards less than 6" wide. A series of light cuts will give better end results and put less stress on the machine than trying to take off too much material in a single pass.

To set upper cutterhead depth of cut:

1. Calculate amount of material to remove from top of workpiece (i.e., final workpiece thickness).

   Tip: *When determining upper cutterhead depth of cut, take into consideration amount of material to be removed by lower cutterhead*

2. Adjust headstock height:

   — Enter final workpiece thickness using digital control pad (refer to **Digital Controls** on **Page 39** for instructions).

   — While viewing upper cutterhead depth-of-cut scale, push UP or DOWN buttons on headstock height switch to raise or lower headstock to desired final workpiece thickness. Use headstock height handwheel for fine adjustment.

Adjusting Infeed Safety Guard

The infeed safety guard (see **Figure 45**) provides additional safety when feeding workpieces into the machine. The guard helps shield the operator from the feed track. It is equipped with an emergency stop plate (see **Figure 45**) that immediately stops all machine functions if contacted. The height of the guard is adjustable. To adjust the guard, loosen the two hex bolts (see **Figure 45**) that hold it in place and raise or lower the guard according to pre-cut workpiece thickness.

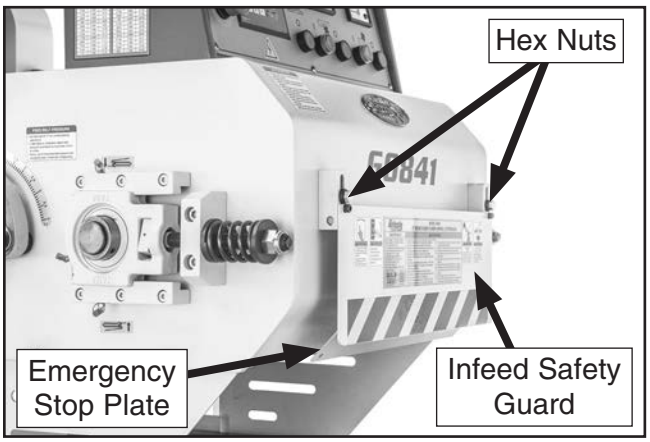


Figure 45. Infeed safety guard and components.

Using Digital Controls

The digital control pad is located on the control panel at the front of the machine, where the operator can easily and safely access it. The digital control pad (see **Figure 46**) is the primary control for setting final workpiece thickness (i.e., distance from bottom dead center (BDC) of upper cutterhead to planer table). Refer to **Digital Control Pad** on **Page 6** for functional descriptions of each button on the pad.

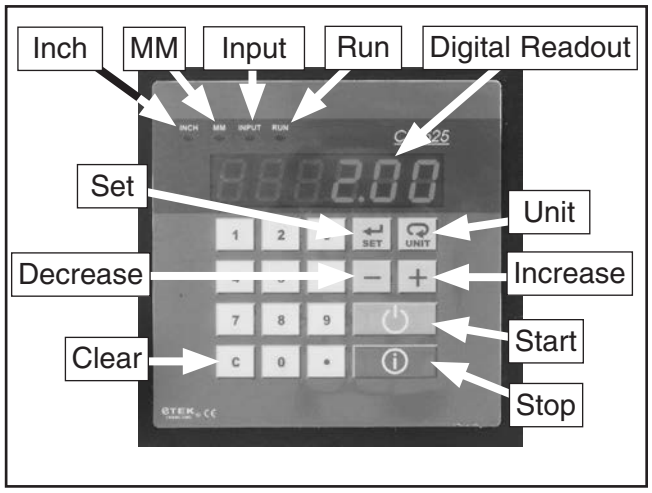


Figure 46. Digital control pad layout.

The digital control pad adds these convenient features:

- Accurately enter a final workpiece thickness.
- Raise or lower (i.e., jog) headstock to quickly increase or decrease current final workpiece thickness.
- Enter a value to quickly increase or decrease current final workpiece thickness.
- Save and quickly access up to ten preset final workpiece thicknesses in digital memory.

Changing Unit of Measure

The digital control pad functions in standard and metric units of measure. Press the (UNIT) key to toggle between inches and millimeters. The active unit of measure (INCH or MM) is highlighted in the digital controls (see **Figure 46**).

Entering Final Workpiece Thickness

The simplest method to set final workpiece thickness is to use the digital control pad to enter a value and allow the machine to automatically set the headstock height.

The digital control pad remains in Input mode unless the headstock is moving, then it changes to Run mode. The active mode (INPUT or RUN) is highlighted in the digital controls (see **Figure 46**).

To enter a final workpiece thickness:

1. Connect machine to power and turn it ***ON***. Digital readout displays last entered final workpiece thickness value.

2. Press (SET) key. Digital readout displays a flashing zero (0).

3. Use number (0–9) and decimal (.) keys to enter final workpiece thickness value.

   For example, to enter a final workpiece thickness of 2½", press 2 • 5 0. Value flashes on digital readout as it is entered.

4. Press key. Headstock automatically adjusts to entered final workpiece thickness and digital readout displays current value in real time.

   — If you need to cancel for any reason, Press key and headstock will stop immediately. Digital readout displays current final workpiece thickness value.

To raise or lower headstock to change final workpiece thickness:

1. Connect machine to power and turn it ***ON***. Digital readout displays last entered final workpiece thickness value.

2. Press + or − keys to raise or lower the headstock in 0.01" or 0.1mm increments

To enter a value to change final workpiece thickness:

1. Connect machine to power and turn it ***ON***. Digital readout displays last entered final-workpiece thickness value.

2. Press [SET] (SET) key. Digital readout displays a flashing zero (0).

3. Use number (0–9) and decimal (.) keys to enter value.

   — To increase current final workpiece thickness by entered value, press [+] key. Headstock automatically adjusts new final workpiece thickness and digital readout displays current value in real time.

   — To decrease final workpiece thickness by entered value, press [−] key. Headstock automatically adjusts new final workpiece thickness and digital readout displays current value in real time.

Creating and Using Presets

The digital control pad can save up to ten final workpiece thickness values. The saved values, or "presets", allow you to quickly adjust the headstock height. Using presets is convenient way to process batches of material to common final workpiece thicknesses.

To create a preset:

1. Connect machine to power and turn it ***ON***. Digital readout displays last entered workpiece thickness value.

2. Press a number key (0–9) to identify preset. For example, press [2] key to create preset #2. Last entered value begins to flash.

3. Press [C] key to clear last entered value. Digital readout displays a flashing zero (0).

4. Use number (0–9) and decimal (.) keys to enter value. For example, to enter final workpiece thickness of 2½", press the following keys: [2] [•] [5] [0]. Value flashes on digital readout as it is entered.

5. Press and hold [SET] (SET) key for 3 seconds to save entered final workpiece thickness value. Digital readout displays preset value.

To set final workpiece thickness with presets:

1. Connect machine to power and turn it ***ON***. Digital readout displays last entered workpiece thickness value.

2. Press preset number key.

   For example, press [2] key for preset #2. Digital readout displays preset value.

   — To set final workpiece thickness to preset value, Press [⏻] key. Headstock automatically adjusts to preset final workpiece thickness and digital readout displays current value in real time.

   — To increase final workpiece thickness by preset value, press [+] key. Headstock automatically adjusts new final workpiece thickness and digital readout displays current value in real time.

   — To decrease final workpiece thickness by preset value, press [−] key. Headstock automatically adjusts new final workpiece thickness and digital readout displays current value in real time.

Setting Feed Rate

The Model G0841 feed system includes a feed track, serrated roller, three pressure rollers, and a chain drive. The feed system moves workpieces through the machine while keeping them flat and providing a consistent rate of movement. The speed at which the feed system moves the workpieces through the machine is the feed rate.

The feed rate dial (see **Figure 47**) is a potentiometer that allows you to adjust the feed rate from 26–72 feet per minute (FPM). The correct speed to use depends on the type of stock you are using (hardwood vs. softwood) and the stage of finish with that workpiece. Generally, low feed rates are used for dimensioning passes, while higher feed rates are used for finishing passes.

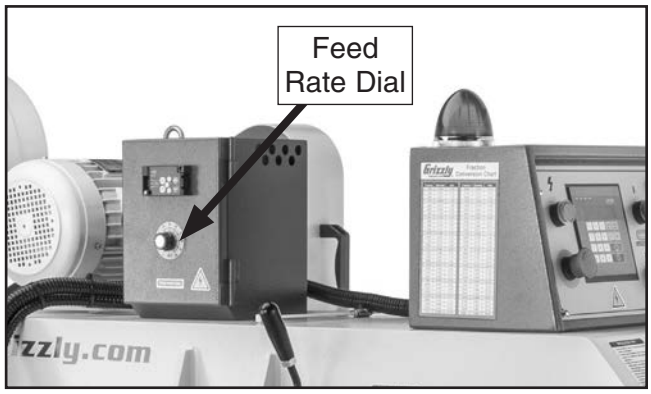


Figure 47. Location of feed rate dial.

NOTICE

ALWAYS start feed system with feed dial set to 0% (26 FPM), and DO NOT attempt to change feed rate during cutting operations or damage to the machine may result.

Adjusting Feed Track Pressure

If you notice the feed track slipping on workpieces during planing operations, adjust the downward pressure of the feed track. For normal operations, set the feed track at "0". Only adjust the downward pressure of the feedbelt 0.5mm at a time.

NOTICE

Heavy use of downward feed belt pressure will accelerate wear of feed belt components.

To adjust feed track pressure:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Loosen pressure lock lever (see **Figure 48**) and pull down on pressure lever (see **Figure 48**) until scale pointer indicates "0.5mm" While holding pressure lever in position, tighten pressure lock lever.

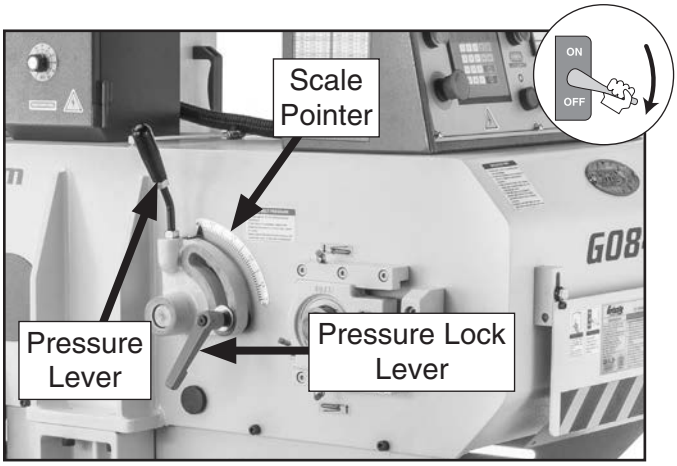


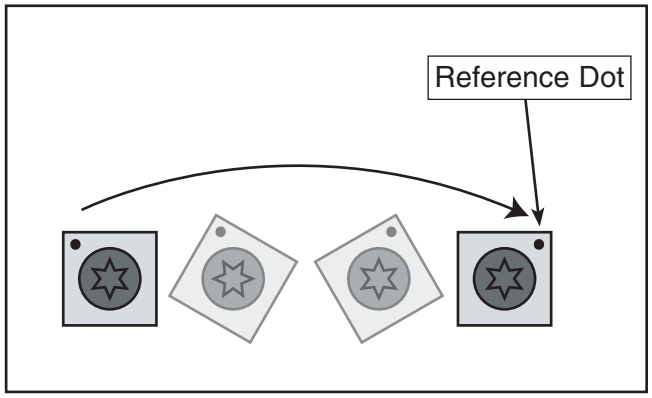
Figure 48. Location of feed track pressure adjustment compontents.

3. Connect machine to power and test feed track pressure, if feed track continues to slip on workpieces, repeat **Step 2** until proper feed track pressure is achieved.

Rotating/Replacing Cutterhead Inserts

The spiral cutterhead(s) is equipped with 4-sided indexable carbide inserts. Each insert can be rotated and re-installed to use any one of its four cutting edges. Therefore, if one cutting edge becomes dull or damaged, simply rotate it 90˚ (as shown below) to use a sharp cutting edge.

The inserts have a reference dot on one corner. The position of the reference dot on installed inserts can be used to track which edges are sharp/unused and which edges are dull or damaged. Replace inserts once the reference dot has been rotated back to its original position.



Items Needed	Qty
Indexable Carbide Inserts	As Needed
Torx Screws M6-1 x 12	As Needed
T-20 Torx Bit	1
Torque Wrench	1
Adjustable Wrench	1
Air Compressor or Shop Vacuum	1
Stiff Brush	1
Heavy Leather Gloves	1 Pair
T26685 or ISO 32 Equivalent Oil	As Needed
Paint Pen (Optional)	1

Lower Cutterhead Inserts

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Open chain drive access door and lower cutterhead belt cover (see **Figure 49**).

3. Loosen tension lock lever and pull up on tension lever until there is slack between V-belts and lower cutterhead pulley (see **Figure 49**). While pulling tension lever up, tighten tension lock lever.

   Tip: *To help ensure each V-belt remains with its matching pulley, use a paint pen to number V-belts.*

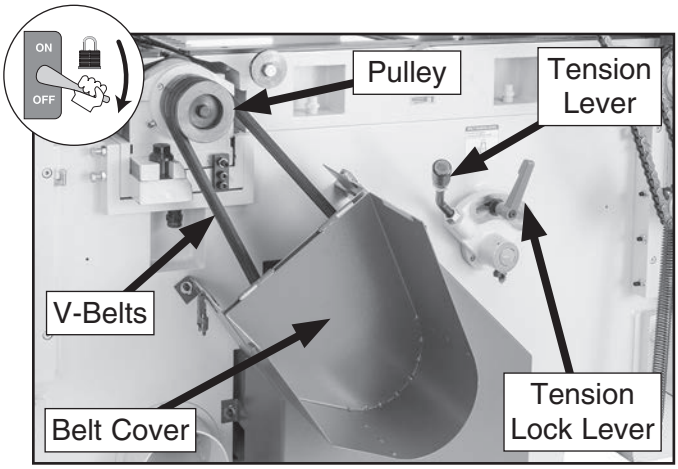


Figure 49. Lower cutterhead belt cover opened.

4. Remove V-belts from lower cutterhead pulley. Leave V-belts on motor pulley.

5. Loosen hex bolt and hex nut (see **Figure 50**) that secure lower cutterhead to carriage.

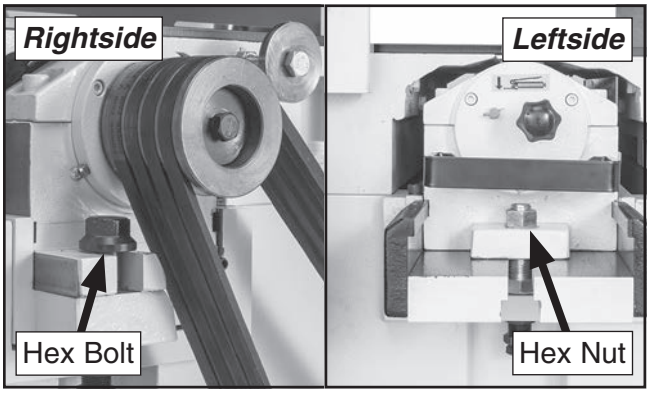


Figure 50. Location of lower cutterhead hex bolt and hex nut.

6. Use handle to pull lower cutterhead out of cutterhead carriage (see **Figure 51**).

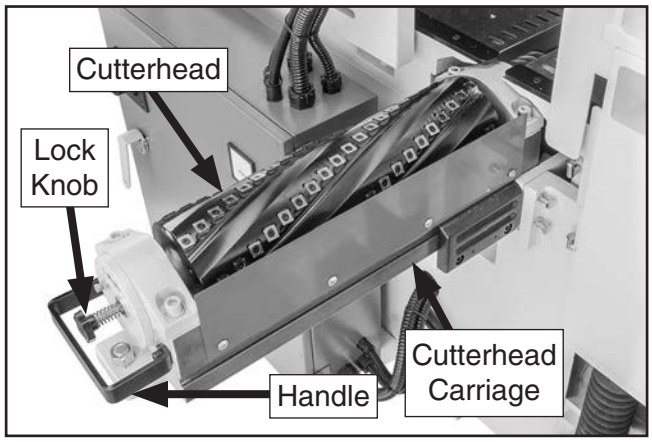


Figure 51. Lower cutterhead pulled out of cutterhead carriage.

⚠CAUTION

Indexable carbide inserts are sharp! Wear heavy leather gloves to protect fingers and hands from lacerations when rotating/ replacing inserts.

7. Rotate pulley as needed to make inserts accessible, and then tighten cutterhead lock knob (see **Figure 51**) to secure cutterhead while cleaning, rotating, and replacing inserts.

8. Thoroughly clean away all sawdust or debris from top of insert, Torx screw, threaded hole, and surrounding area (see **Figure 52**).

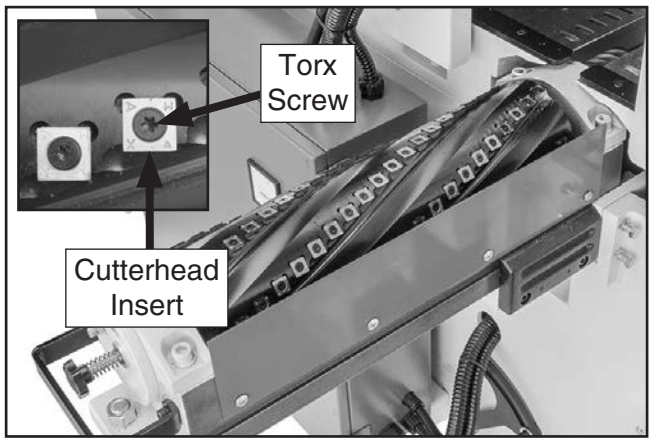


Figure 52. Location of lower cutterhead inserts and Torx screws.

9. Taking care not to strip Torx screw, carefully remove Torx screw and insert, then thoroughly clean away all dust and debris from insert and insert pocket in cutterhead.

   IMPORTANT: *This step is critical for achieving a smooth finish with cutting operations. Dirt or dust trapped under insert during installation will slightly raise insert in cutterhead, which will leave marks on final workpiece.*

   Tip: *Use low-pressure compressed air or vacuum nozzle to clean cutterhead pocket.*

10. Re-install insert with a sharp cutting edge facing outward. Make sure insert is properly seated in cutterhead pocket before securing.

    — If all four insert cutting edges have been used, replace insert with a new one. Always position reference dot in same position when installing a new insert to aid in rotational sequencing.

    Tip: *To help avoid leaving inserts loose or unrotated, use a paint pen to mark completed inserts.*

11. Install Torx head screws and torque screws to 48–50 inch/pounds.

12. Lubricate cutterhead carriage with a small amount of machine oil, and then use handle to push lower cutterhead back into cutterhead carriage.

13. Re-install V-belts belts. Make sure ribs of belts are seated in pulley grooves.

14. Tighten hex bolt and hex nut that secure secure lower cutterhead to carriage.

15. Tension V-belts (refer to **Steps 3–4** of **Tensioning Lower Cutterhead V-Belts** on **Page 59** for instructions).

16. Close lower cutterhead belt cover and chain drive access door.

Upper Cutterhead Inserts

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Open chain drive access door and remove upper cutterhead belt cover (see **Figure 53**).

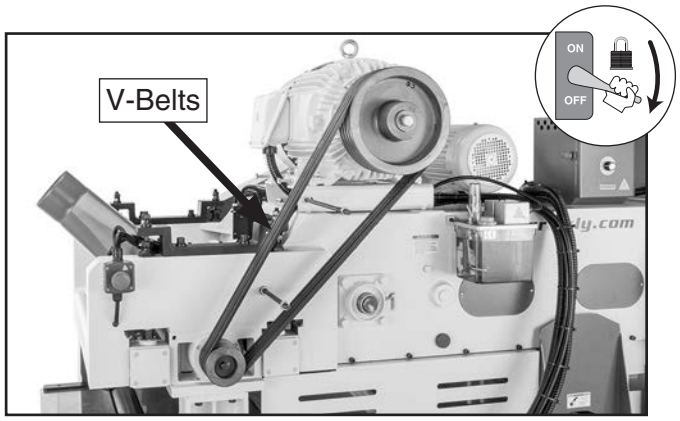


Figure 53. Upper cutterhead belt cover removed.

3. Remove upper cutterhead dust hood (see **Figure 54**).

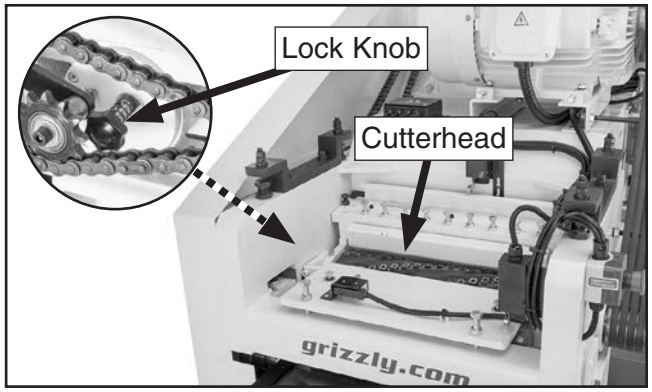


Figure 54. Upper cutterhead dust hood removed.

⚠ CAUTION

Indexable carbide inserts are sharp! Wear heavy leather gloves to protect fingers and hands from lacerations when rotating/replacing inserts.

4. Rotate pulley as needed to make inserts accessible for removal. Tighten cutterhead lock knob (see **Figure 54**) to secure cutterhead while cleaning, rotating, and replacing inserts.

5. Thoroughly clean away all sawdust or debris from top of insert, Torx screw, and surrounding area (see **Figure 55**).

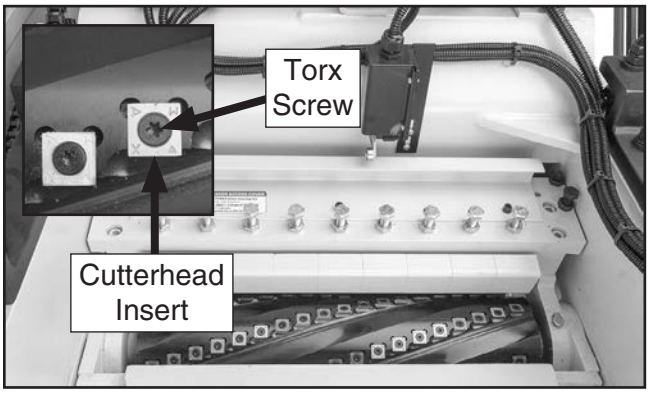


Figure 55. Location of upper cutterhead inserts and Torx screws.

6. Taking care not to strip Torx screw, carefully remove Torx screw and insert, then thoroughly clean away all dust and debris from insert and insert pocket in cutterhead.

   IMPORTANT: *This step is critical for achieving a smooth finish with cutting operations. Dirt or dust trapped under insert during installation will slightly raise insert in cutterhead, which will leave marks on final workpiece.*

   Tip: *Use low-pressure compressed air or vacuum nozzle to clean cutterhead pocket.*

7. Re-install insert with a sharp cutting edge facing outward. Make sure insert is properly seated in cutterhead pocket before securing.

   — If all four insert cutting edges have been used, replace insert with a new one. Always position reference dot in same position when installing a new insert to aid in rotational sequencing.

8. Install Torx screws and torque screws to 48–50 inch/pounds.

   Tip: *To help avoid leaving inserts loose or unrotated, use a paint pen to mark completed inserts.*

9. Close chain drive access door and and replace upper cutterhead dust hood and belt cover.

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.

G1738—Rotacator™ Precision Planer Tool
The Rotacator is a dial indicator on a magnetic base and is designed for quickly and accurately setting the critical tolerances needed when adjusting any planer, so that nasty surprises such as non-parallel and chattered cuts can be eliminated. Helps adjust infeed/outfeed rollers, pressure bars, chip breakers, and bed rollers. Also a great setup tool for other machines! Accurate to 0.001". Indicator rotates 360°

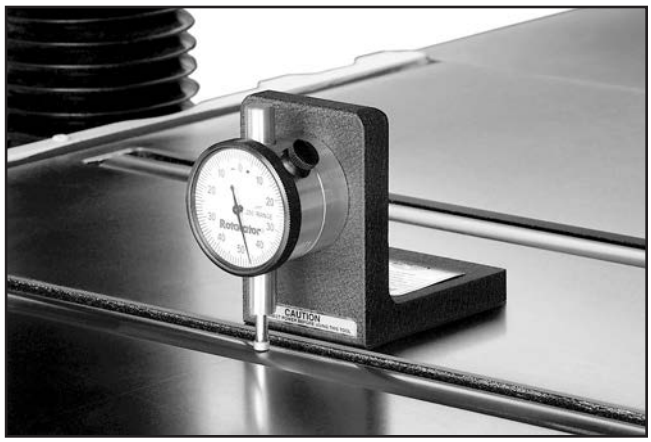


Figure 56. Rotacator™ Precision Planer Tool.

T28770—Indexable Carbide Inserts, 10 Pk.
Each insert in this 10-pack of Grizzly replacement indexable carbide inserts measures 15 x 15 x 2.5mm.

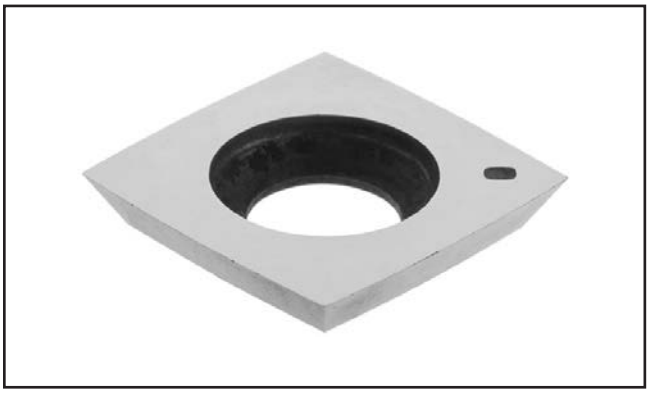


Figure 57. Replacement indexable carbide inserts.

T25231—Magnetic Micro Square
The Magnetic Micro Square makes squaring up your machine, effortless! The square sticks firmly to cast iron tables and allows hands-free adjustment of machine components.

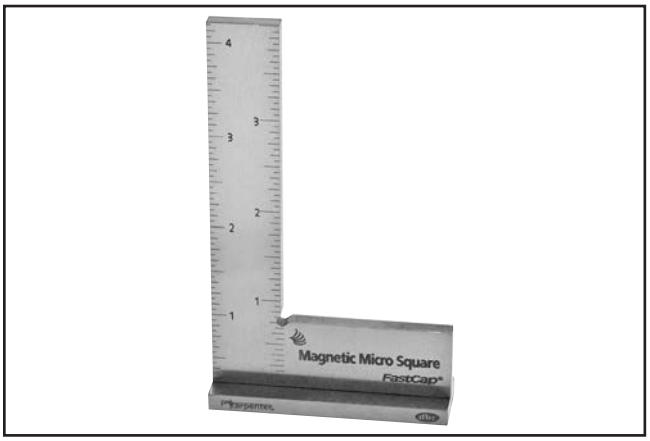


Figure 58. FastCap™ Magnetic Micro Square.

T28369—14" x 78" Heavy-Duty Roller Table
Increase material handling and processing efficiency with this Heavy-Duty Roller Table. Simply place a roller table on one or both sides of your machine and production time is automatically improved!. Adjustable legs for 28" to 48" working height, 17" wide material capacity, 440 lb. Capacity!

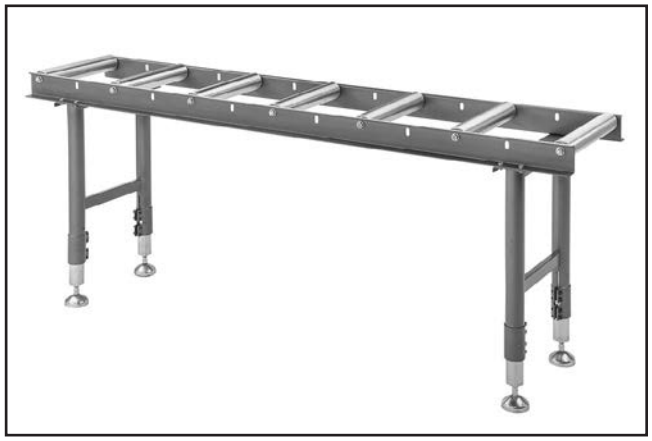


Figure **59**. Model T28369 Heavy-Duty Roller Table.

D2273—Single Roller Stand
D2274—5 Roller Stand
These large diameter ball bearing roller stands features smooth operation for a variety of processing and work support applications. Each stand is equipped with a heavy pedestal base for added stability.

Figure 60. Models D2273 and D2274 Roller Stands.

G0638HEP—10 HP Cyclone Dust Collector
Equipped with a dual-filtration HEPA filter system! Features a primary filter efficiency of 99.9% at 0.2-2 microns, and a secondary HEPA filter efficiency of 99.97% at 0.3 microns in size. Our largest cyclone dust collector features a whopping 4029 CFM capacity and can handle any large duct system with a static pressure loss less than 16.8". Dual collection drums minimize the downtime when emptying dust and chips, and the noise-reducing exhaust mufflers keep the noise level below 90 dB. The ramped air intake is so efficient, there is very little fine dust that makes it to the plastic filter bags—and with a 99.9% filter efficiency rating, essentially no dust escapes. The perfect choice for large shops with multiple woodworking machines operating at the same time, all day long.

Figure 61. Model G0683HEP 10 HP Cyclone Dust Collector.

H2499—Small Half-Mask Respirator
H3631—Medium Half-Mask Respirator
H3632—Large Half-Mask Respirator
H3635—Cartridge Filter Pair P100
Wood dust has been linked to nasal cancer and severe respiratory illnesses. If you work around dust everyday, a half-mask respirator can be a lifesaver. Also compatible with safety glasses!

Figure 62. Half-mask respirator with disposable cartridge filters.

Basic Hearing Protection

H4978—Deluxe Earmuffs - 27dB
H4979—Twin Cup Hearing Protector - 29dB
T20446—Ear Plugs 200 Pair - 31dB
It is imperative that workers in environments with the loudest noises have the correct level of ear protection since even minimal exposure can result in serious hearing damage.

Figure 63. Hearing protection assortment.

Basic Eye Protection

T20501—Face Shield Crown Protector 4"
T20502—Face Shield Crown Protector 7"
T20503—Face Shield Window
T20451—"Kirova" Clear Safety Glasses
T20452—"Kirova" Anti-Reflective S. Glasses

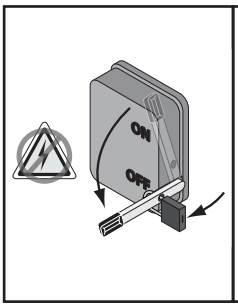
Figure 64. Assortment of basic eye protection.

T21272—Golden Pigskin Gloves
These durable gloves will help keep your hands safe while working with all types of parts and machinery. Features include suede pigskin palm, safety cuff, and wing thumb.

Figure 65. T21272 Golden Pigskin Gloves.

SECTION 6: MAINTENANCE

Schedule



⚠WARNING

To reduce risk of shock or accidental startup, always disconnect and lock-out machine from power source before adjustments, maintenance, or service.

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

Ongoing

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

- Check for dull or damaged cutterhead inserts (see **Page 42**).
- Check automatic oiler reservoir level (see **Page 50**) and one-shot oiler reservoir level (see **Page 50**).
- Clean and lubricate chain drive (see **Page 51**).
- Clean off any excessive resin or wood chip build-up.
- Check for worn or damaged wires.
- Any other unsafe condition.

Weekly Maintenance

- Lubricate feed track bearings and slideways (see **Page 51**).
- Lubricate elevation slideways (see **Page 52**).
- Lubricate chipbreaker segments (see **Page 52**).
- Lubricate chipbreaker/pressure bar hinges (see **Page 52**).
- Blow dust out of motor fans with compressed air.

Monthly Check

- Clean/vacuum dust buildup from all components and motors.
- Lubricate infeed table slideways (see **Page 53**).
- Lubricate cutterhead bearings (see **Page 53**).
- Check motor belts for tension, damage, or wear.
- Check feed chain for tension, damage, or wear.
- Inspect entire machine for loose parts or signs of abnormal wear.

Bi-Monthly Check

- Lubricate elevation screw bearings (see **Page 54**).
- Lubricate elevation leadscrews (see **Page 54**).
- Lubricate table roller bearings (see **Page 54**).

Yearly Check

- Change oil in feed system gearbox (see **Page 55**).
- Change oil in elevation system gearbox (see **Page 55**).

Cleaning & Protecting

Cleaning the Model G0841 is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin-dissolving cleaner to remove it.

Protect the unpainted cast-iron surfaces on the table by wiping the table clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces.

Keep tables rust-free with regular applications of products like G96® Gun Treatment, SLIPIT®, or Boeshield® T-9.

Recommended Metal Protectants

G5562—SLIPIT® 1 Qt. Gel
G5563—SLIPIT® 12 Oz. Spray
G2871—Boeshield® T-9 12 Oz. Spray
G2870—Boeshield® T-9 4 Oz. Spray
H3788—G96® Gun Treatment 12 Oz. Spray
H3789—G96® Gun Treatment 4.5 Oz. Spray

Figure 66. Recommended products for protecting unpainted cast iron/steel parts on machinery.

Lubrication

Use the information in the charts below as a guide for lubrication tasks. We recommend using Grizzly Model T23962, T23963, and T23964 lubricants for most of the lubrication tasks.

NOTICE

The recommended lubrication is based on light-to-medium usage. Keeping in mind that lubrication helps to protect the value and operation of the machine, these lubrication tasks may need to be performed more frequently than recommended here, depending on usage.

Failure to follow reasonable lubrication practices as instructed in this manual could lead to premature failure of machine components and will void the warranty.

T23962—ISO 68 Moly-D Way Oil, 5 gal.
T23963—ISO 32 Moly-D Machine Oil, 5 gal.
T26685—ISO 32 Moly-D Machine Oil, 1 gal.
T23964—NLGI#2 Moly-D Grease, 14.5 oz.
Moly-D oils are some of the best we've found for maintaining the critical components of machinery because they tend to resist run-off and maintain their lubricity under a variety of conditions—as well as reduce chatter or slip. Buy in bulk and save with 5-gallon quantities.

Figure 67. ISO 68 and ISO 32 machine oil and multi-purpose grease.

Lubrication Frequency

Lubrication Task	Frequency	Page Ref.
Automatic Oiler Reservoir	Daily	**53**
One-Shot Oiler Reservoir	Daily	**53**
Chain Drive	Daily	**51**
Feed Track Bearings & Slideways	200 hrs.	**51**
Elevation Slideways	200 hrs.	**52**
Chipbreaker (9 Holes)	200 hrs.	**52**
Chipbreaker/ Pressure Bar Hinges	200 hrs.	**52**
Infeed Table Slideways	700 hrs.	**53**
Cutterhead Bearings	700 hrs.	**53**
Elevation Screw Bearings	1200 hrs.	**54**
Table Roller Bearings	1500 hrs.	**54**
Feed System Gearbox	Yearly	**55**
Elevation System Gearbox	Yearly	**55**

Lubrication Amount & Type

Lubrication Task	Oil Type	Amount
Automatic Oiler Reservoir	ISO 32 (T23963)	52 oz.
One-Shot Oiler Reservoir	ISO 32 (T23963)	22 oz.
Chain Drive	NLGI #2	Light Coat
Feed Track Bearings & Slideways	NLGI #2	1 Pump
Elevation Slideways	ISO 68 (T23963)	Full Cup
Chipbreaker (9 Holes)	ISO 32 (T23963)	1-3 Drops
Chipbreaker/Pressure Bar Hinges	ISO 68 (T23963)	Full Cup
Infeed Table Slideways	ISO 68 (T23963)	Full Cup
Cutterhead Bearings	NLGI #2	2 Pumps
Elevation Screw Bearings	NLGI #2	1 Pump
Table Roller Bearings	NLGI #2	1 Pump
Feed System Gear box	ISO 320 (T28042)	74 oz.
Elevation Gearbox	ISO 320 (T28042)	17 oz.

Automatic Oiler

Lube Type .....T26685 or ISO 32 Equivalent
Lube Amount ..... As Needed
Lube Frequency .....Check Daily

Item(s) Needed: **Qty**
Funnel..... 1
Shop Rags..... As Needed

The automatic oiler (see **Figure 68**) lubricates the feed track chain and gear during operation. Check the automatic oiler reservoir level daily and fill as necessary to keep oil level at proper level indicated on reservoir. When filling reservoir, clean the vented fill plug, and if clogged, clear vent with low-pressure compressed air.

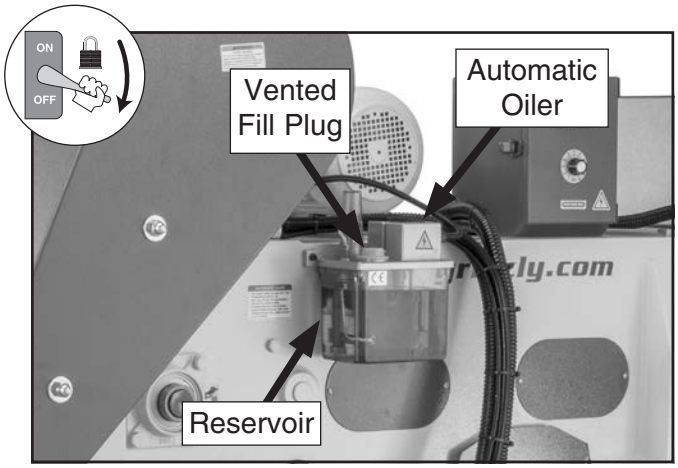


Figure 68. Location of automatic oiler.

One-Shot Oiler

Lube Type.....T26685 or ISO 32 Equivalent
Lube Amount ..... As Needed
Lube Frequency .....Check Daily

Item(s) Needed: **Qty**
Funnel..... 1
Shop Rags..... As Needed

The one-shot oiler (see **Figure 69** on **Page 51**) dispenses a small amount of oil onto the infeed table when the lever is pulled down. Check the one-shot oiler reservoir level daily and and fill as necessary to keep oil level at proper level indicated on reservoir.

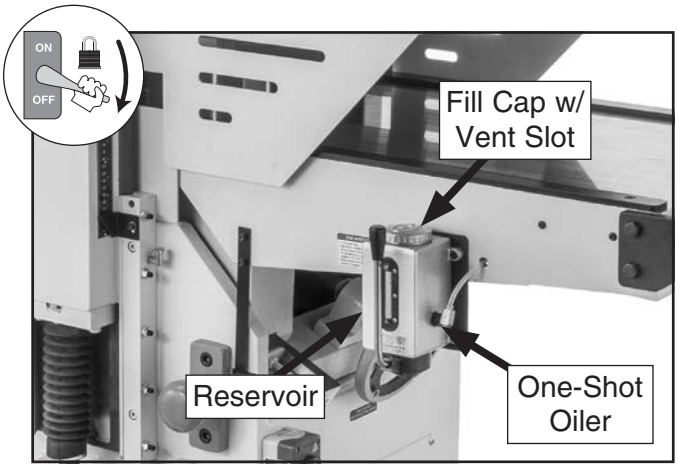


Figure 69. Location of one-shot oiler.

Chain Drive

Lube Type ..... T26419 or NLGI#2 Equivalent
Lube Amount .....Light Coat
Lube Frequency ..... Daily

Item(s) Needed:	**Qty**
Grease Brush	1
Stiff Brush	1
Mineral Spirits	As Needed
Shop Rags	As Needed

The chain drive (see **Figure 70**) supplies power to the feed track, serrated roller, and pressure rollers. To ensure smooth power delivery, clean chain drive daily with mineral spirits, stiff brush, and shop rags, and allow chain to dry, then lightly grease the chain drive at several points.

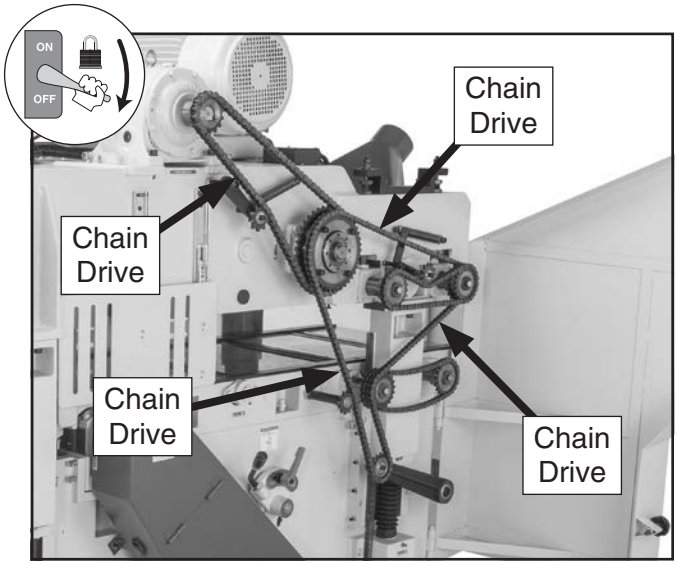


Figure 70. Location of chain drive.

Feed Track Bearings & Slideways

Lube Type..... T26419 or NLGI#2 Equivalent
Lube Amount .....1 Pump
Lube Frequency .....200 Hours

Item(s) Needed:	**Qty**
Grease Gun	1
Shop Rags	As Needed

The feed track bearings and associated slideways require a small amount of grease every 200 hours of operation to ensure smooth feed track movement and tensioning. The feed track bearings and slideways are lubricated by grease fittings (see **Figures 71–73**). Wipe grease fittings clean and use a grease gun to pump a small amount of grease into fittings, then wipe away any excess grease with a rag.

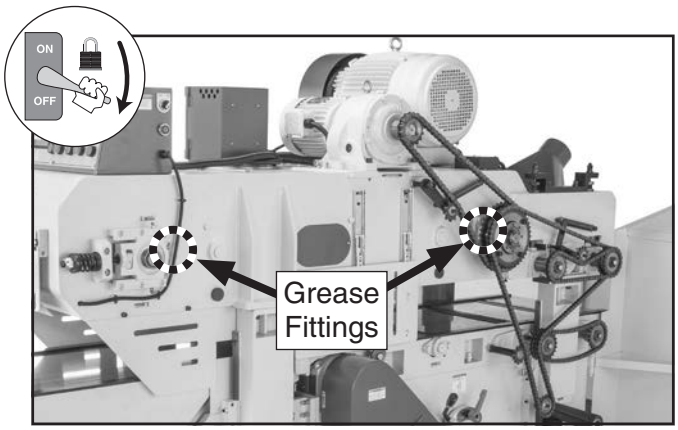


Figure 71. Location of feed track roller bearings grease fittings—rightside.

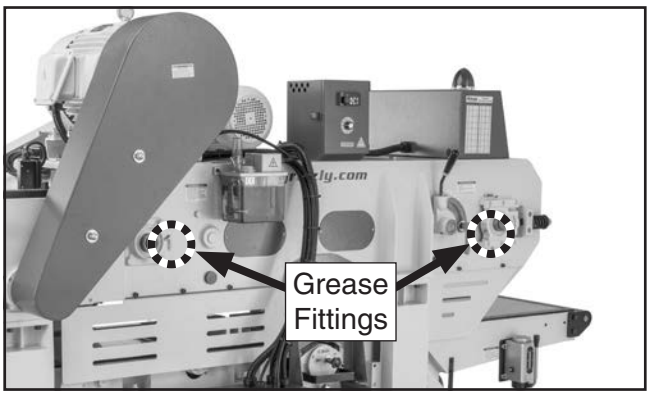


Figure 72. Location of feed track roller bearings grease fittings—leftside.

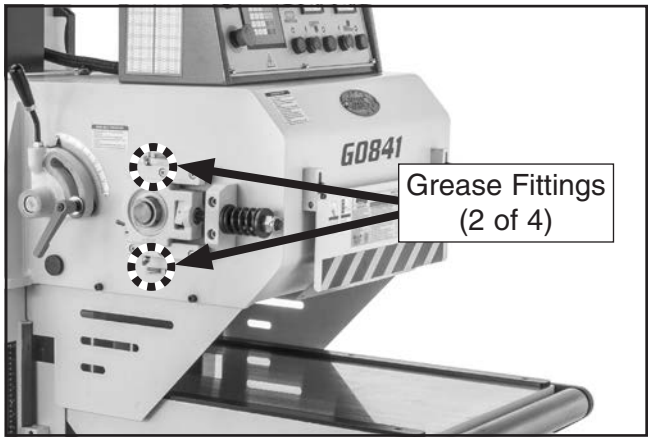


Figure 73. Location of feed track roller slideways grease fittings (2 of 4).

Elevation Slideways

Lube Type .....T23962 or ISO 68 Equivalent
Lube Amount .....Full Cup
Lube Frequency .....200 Hours

Item(s) Needed: **Qty**
Pump-Type Oil Can 1
Shop Rags..... As Needed

The elevation system slideways (see **Figure 74**) require lubrication every 200 hours of operation to ensure smooth movement of the headstock. To lubricate elevation slideways, wipe oil cups clean and fill with oil (see **Figure 74**). After all eight cups are filled, move headstock to its minimum and maximum heights to distribute oil along full length of the slideways.

If an oil cup is full and not draining into machine, the oil passage may be clogged. If this is the case, remove the oil cup and use low-pressure compressed air to clear the oil passage. Reinstall and refill oil cup after oil passage is cleared.

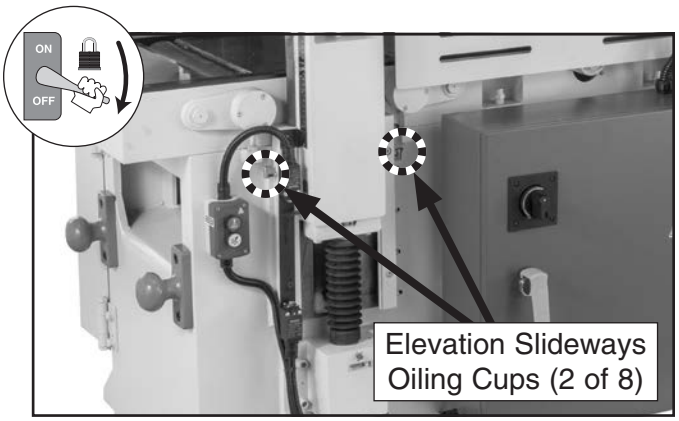


Figure 74. Location of elevation slideway oiling cups (2 of 8).

Chipbreaker Segments

Lube Type.....T26685 or ISO 32 Equivalent
Lube Amount ..... 1 to 3 Drops
Lube Frequency .....200 Hours

Item(s) Needed: **Qty**
Pump-Type Oil Can 1
Shop Rags..... As Needed

The chipbreaker (see **Figure 75**) requires lubrication monthly to ensure segments do not bind and apply even pressure across the workpiece. Place one to three drops of oil in the oiling hole of each chipbreaker segment (see **Figure 75**).

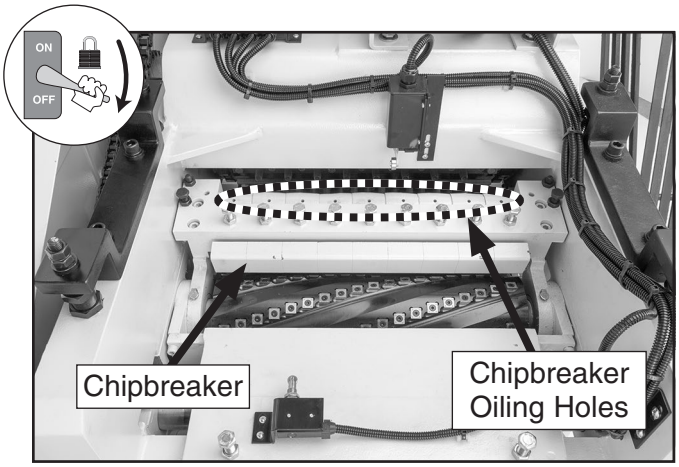


Figure 75. Location of chip breaker oiling holes.

Chipbreaker/Pressure Bar Hinges

Lube Type .....T23962 or ISO 68 Equivalent
Lube Amount .....Full Cup
Lube Frequency .....200 Hours

Item(s) Needed: **Qty**
Pump-Type Oil Can 1
Shop Rags..... As Needed

The chipbreaker/pressure bar hinges require lubrication monthly to ensure the chipbreaker and pressure bar move without binding. To lubricate chipbreaker/pressure bar hinges, wipe oil cups clean and fill with oil (see **Figure 76** on **Page 53**).

If an oil cup is full and not draining into machine, the oil passage may be clogged. If this is the case, remove the oil cup and use low-pressure compressed air to clear the oil passage. Reinstall and refill oil cup after oil passage is cleared.

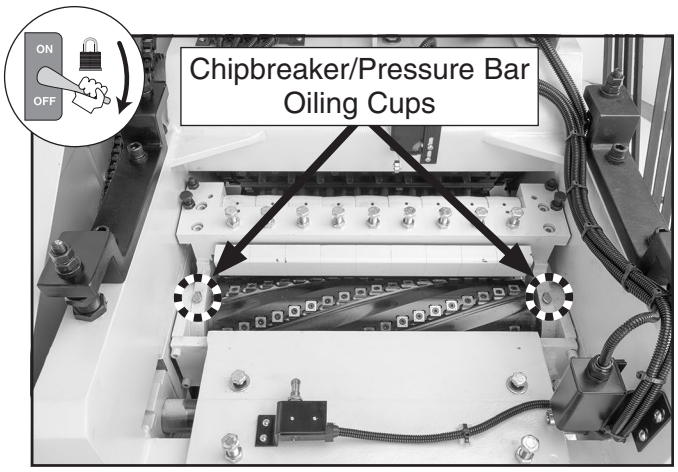


Figure 76. Location of chipbreaker/pressure bar oiling cups.

Infeed Table Slideways

Lube Type .....T23962 or ISO 68 Equivalent
Lube Amount .....Full Cup
Lube Frequency .....700 Hours

Item(s) Needed: **Qty**
Pump-Type Oil Can 1
Shop Rags..... As Needed

The infeed table slideways require lubrication every 700 hours of operation to ensure smooth movement of the infeed table. To lubricate infeed table slideways, wipe oil cups clean and fill with oil (see **Figure 77**).

If an oil cup is full and not draining into machine, the oil passage may be clogged. If this is the case, remove the oil cup and use low-pressure compressed air to clear the oil passage. Reinstall and refill oil cup after oil passage is cleared.

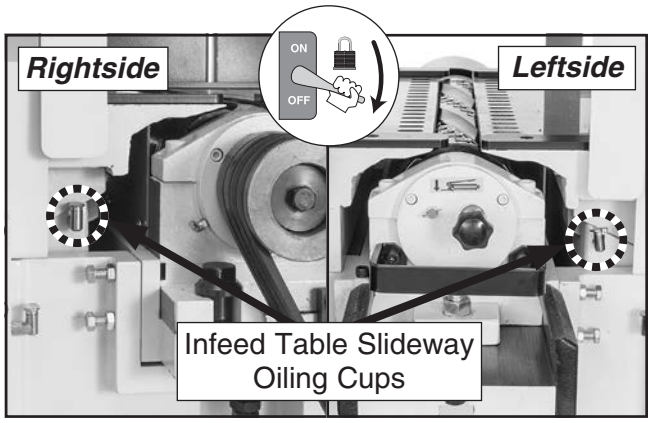


Figure 77. Location of infeed table slideway oiling cups.

Cutterhead Bearings

Lube Type..... T26419 or NLGI#2 Equivalent
Lube Amount .....2 Pumps
Lube Frequency .....700 Hours

Item(s) Needed: **Qty**
Grease Gun 1
Shop Rags..... As Needed

The upper and lower cutterheads require lubrication every 700 hours of operation to ensure smooth operation and prevent premature failure. The cutterhead bearings are lubricated by grease fittings (see **Figures 78–79**). Wipe grease fittings clean and use a grease gun to pump a small amount of grease into fittings, then wipe away any excess grease with a rag.

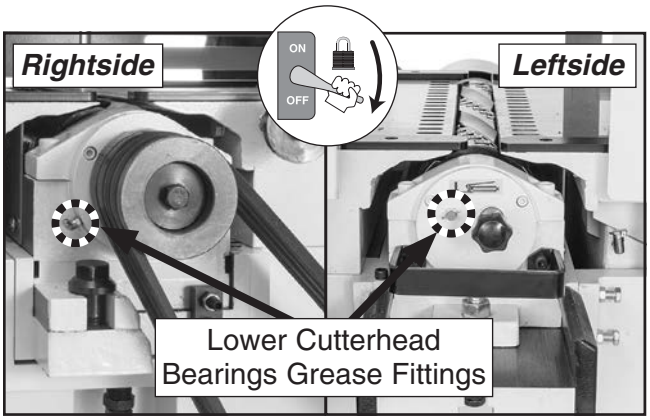


Figure 78. Location of lower cutterhead grease fittings.

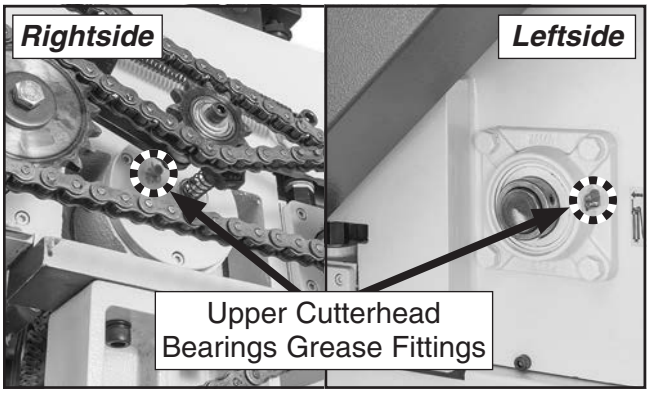


Figure 79. Location of upper cutterhead grease fittings.

Elevation Screw Bearings

Lube Type..... T26419 or NLGI#2 Equivalent
Lube Amount.....1 Pump
Lube Frequency .....1200 Hours

Item(s) Needed: **Qty**
Grease Gun..... 1
Shop Rags..... As Needed

The elevation system screw bearings require lubrication every 1200 hours of operation to ensure smooth movement of the headstock. The elevation screw bearings are lubricated by grease fittings (see **Figure 80**). Wipe grease fittings clean and use a grease gun to pump a small amount of grease into fittings, then wipe away any excess grease with a rag.

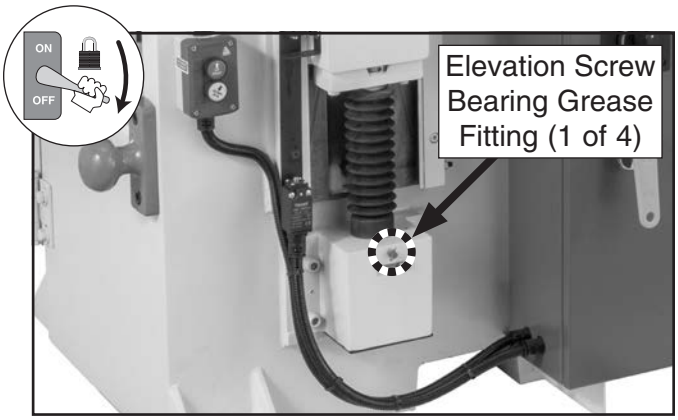


Figure 80. Location of elevation screw bearing grease fitting.

Elevation Leadscrews

Lube Type ..... T26419 or NLGI#2 Equivalent
Lube Amount.....Medium Coat
Lube Frequency .....1200 Hours

Item(s) Needed: **Qty**
Grease Brush 1
Stiff Brush..... 1
Mineral Spirits..... As Needed
Shop Rags..... As Needed

The leadscrews (see **Figure 81**) raise and lower the headstock. To ensure smooth movement and proper alignment of the headstock, clean leadscrews every 1200 hours of operation with mineral spirits, stiff brush, and shop rags, and allow chain to dry, then moderately grease the leadscrews. To access the leadscrews, raise the headstock to at least 7" and lift the leadscrew boots, as shown in **Figure 81**. Re-attach boots when done.

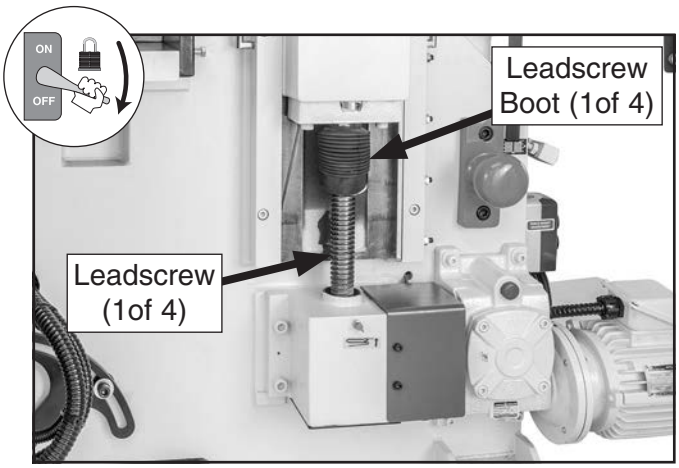


Figure 81. Boot lifted to expose leadscrew.

Table Roller Bearings

Lube Type..... T26419 or NLGI#2 Equivalent
Lube Amount.....1 Pump
Lube Frequency .....1500 Hours

Item(s) Needed: **Qty**
Grease Gun..... 1
Shop Rags..... As Needed

The table roller bearings require lubrication every 1500 hours of operation to ensure material rolls smoothly across the planer table. The table roller bearings are lubricated by grease fittings (see **Figure 82**). Wipe grease fittings clean and use a grease gun to pump a small amount of grease into fittings, then wipe away any excess grease with a rag.

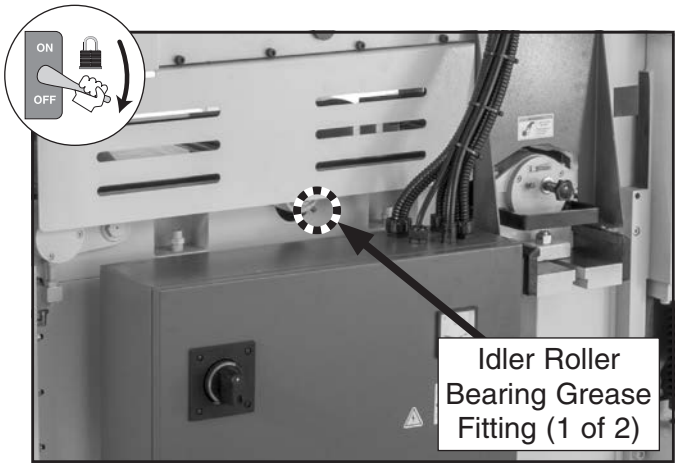


Figure 82. Location of idler roller bearing grease fitting (1 of 2).

Feed System Gearbox

Lube Type.....T28042 or ISO 320 Equivalent
Lube Amount.....74 oz. (2.2 liters)
Lube Frequency .....Yearly

Item(s) Needed: **Qty**
Adjustable Wrench 1
Funnel..... 1
Drain Pan..... 1
Shop Rags..... As Needed

The feed system gearbox (see **Figure 83**) requires draining and refilling yearly to prevent premature failure.

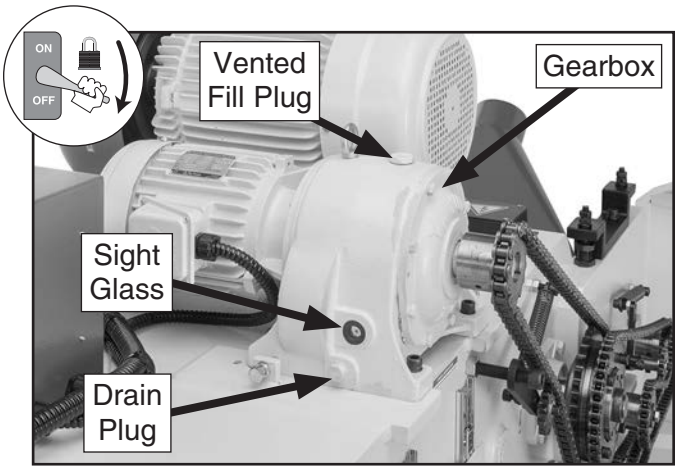


Figure 83. Location of chain drive gearbox and components.

To drain and refill chain drive gearbox:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Place oil drain pan beneath gearbox, and remove drain plug, located on bottom side of gearbox (see **Figure 83**).

3. Allow oil to drain out, and then clean and replace drain plug.

4. Remove vented fill plug (see **Figure 83**) and insert funnel into fill hole. Add approximately 74 oz. (2.2 liters) of ISO 320 or equivalent oil until oil level is halfway in sight glass. Wait 10 seconds to allow oil to settle in sight glass before taking a reading.

5. Wipe away any excess oil, then clean and replace vented fill plug. Clear vented fill plug with low-pressure compressed air if clogged.

Elevation System Gearbox

Lube Type.....T28042 or ISO 320 Equivalent
Lube Amount.....17 oz. (½-liter)
Lube Frequency .....Yearly

Item(s) Needed: **Qty**
Adjustable Wrench 1
Funnel..... 1
Oil Pump..... 1
Drain Pan..... 1
Shop Rags..... As Needed

The elevation system gearbox (see **Figure 84**) requires pumping-out and refilling yearly to prevent premature failure.

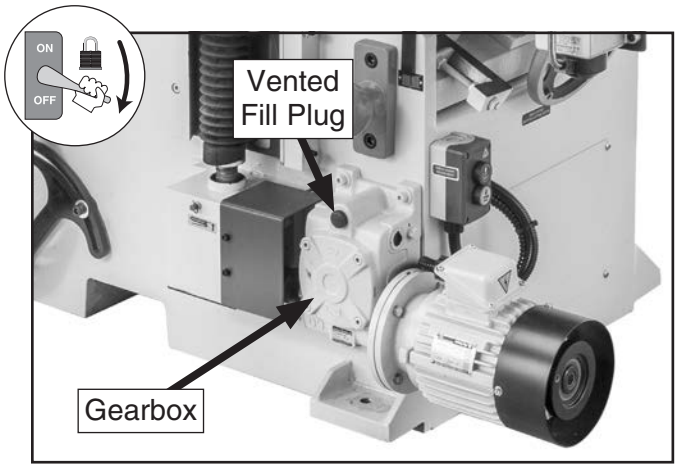


Figure 84. Location of elevation system gearbox and components.

To drain and refill chain drive gearbox:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Remove vented fill plug (see **Figure 84**) and pump oil out of gearbox.

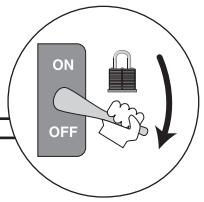
3. Insert funnel into fill hole. Add exactly 17 oz. (½-liter) of ISO 320 or equivalent oil.

4. Wipe away any excess oil, then clean and replace vented fill plug. Clear vented fill plug with low-pressure compressed air if clogged.

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
Control panel will not startup.	1. E-Stop Button(s) engaged or at fault. 2. Power supply turned OFF at source. 3. Power supply circuit breaker tripped or fuse blown. 4. Incorrect power supply voltage or circuit size.	1. Rotate E-Stop Button(s) to reset. Replace if necessary. 2. Turn power supply ON. 3. Reset circuit breaker on machine or at power supply source; replace fuse. 4. Contact certified electrician for repair.
Elevation system will not raise/lower headstock.	1. Elevation limit switch(es) triggered or at fault. 2. Height adjustment switch(es) at fault. 3. Magnetic contactor(s) at fault. 4. Headstock not square to table. 5. Motor/gearbox at fault.	1. Adjust limit switch(es); test/repair/replace. 2. Test/repair/replace. 3. Test/repair/replace contactors inside electrical panel; contact certified electrician for repair. 4. Square headstock (**Page 68**). 5. Test/repair/replace.
Elevation system raises/lowers headstock in reverse.	1. Incoming power supply out-of-phase.	1. Switch any two of three incoming power supply wires at terminal block inside electrical panel (**Page 28**).
Elevation system will not startup.	1. Wiring open/has high resistance. 2. Component in motor(s) power circuit at fault. 3. Magnetic contactor(s) at fault. 4. Motor(s) at fault.	1. Check/fix broken, disonnected, or corroded wires. 2. Contact certified electrician for repair. 3. Test/repair/replace contactors inside electrical panel; contact certified electrician for repair. 4. Test/repair/replace.
Upper and/ or lower cutterhead will not startup.	1. Safety interlock switch(es) triggered at fault. 2. Wiring open/has high resistance. 3. Cutterhead switch(es) at fault. 4. Component in motor(s) power circuit at fault. 5. Magnetic contactor(s) at fault. 6. Motor(s) at fault.	1. Adjust limit switch(es); test/repair/replace. 2. Check/fix broken, disonnected, or corroded wires. 3. Test/repair/replace. 4. Contact certified electrician for repair. 5. Test/repair/replace contactors inside electrical panel; contact certified electrician for repair. 6. Test/repair/replace.
Feed system will not startup.	1. Start delay sequence not completed. 2. Wiring open/has high resistance. 3. Component in motor(s) power circuit at fault. 4. Motor at fault.	1. Upper and lower cutterheads must be ON and reach full speed before feed system will startup. 2. Check/fix broken, disonnected, or corroded wires. 3. Contact certified electrician for repair. 4. Test/repair/replace.
Power-supply fuse/breaker immediately trips after startup.	1. Machine has short in power supply circuit. 2. Power supply circuit undersized for machine or fuse/breaker at fault.	1. Contact certified electrician for repair. 2. Ensure proper power supply; replace fuse/breaker; contact certified electrician for repair.

Motor & Electrical (continued)

Symptom	Possible Cause	Possible Solution
Machine stalls or is underpowered.	1. Workpiece material not suitable. 2. Feed rate too fast. 3. Excessive depth of cut. 4. Workpiece excessively bowed. 5. Dull inserts. 6. V-Belts slipping or pulleys misaligned. 7. Dust collection problem. 8. Dust collector undersized. 9. Motor(s) overheated. 10. Pulley/sprocket slipping on shaft. 11. Start delay module at fault. 12. Motor(s) bearings at fault.	1. Only cut wood/ensure moisture is below 20%. 2. Reduce feed rate. 3. Reduce depth of cut. (Hardwoods require a shallower depth of cut than soft woods.) 4. Only plane suitable workpieces (**Page 34**). 5. Rotate/replace inserts (**Page 42**). 6. Tension/replace V-belts (**Page 59**); ensure pulleys are aligned (**Page 62**). 7. Clear blockages, seal leaks, use smooth wall duct, eliminate bends, close other branches. 8. Move closer to machine /redesign ducting layout/ upgrade dust collector. 9. Let motor(s) cool; reduce workload. 10. Tighten/replace loose pulley/sprocket/shaft 11. Test/repair/replace. 12. Test/repair/replace.
Machine has vibration or noisy operation.	1. Motor, motor mount, or components loose. 2. V-belts worn, loose, or pulleys misaligned. 3. V-belts slapping guard(s). 4. Pulley(s) loose. 5. Chain drive access door not fully closed. 6. Chain drive off track. 7. Machine incorrectly resting on floor. 8. Motor fan(s) rubbing on fan cover(s). 9. Dull inserts. 10. Cutterhead(s) bearings at fault. 11. Motor(s) bearings at fault. 12. Feed system gearbox at fault.	1. Re-tighten component; inspect/replace damaged bolts/nuts. 2. Tension/replace V-belts (**Page 59**); ensure pulleys are aligned (**Page 62**). 3. Tension V-belts (**Page 59**); position and secure guards so V-belts will not contact. 4. Ensure pulleys are aligned (**Page 62**);replace shaft, pulley, set screw, and key. 5. Ensure access door is closed and latched. 6. Ensure chain is properly seated on sprockets. 7. Level machine (**Page 24**). 8. Fix/replace fan cover(s); replace damaged fan(s). 9. Rotate/replace inserts (**Page 42**). 10. Replace bearings/align cutterhead(s) (**Page 64**). 11. Replace bearings/align pulley(s) (**Page 62**). 12. Rebuild gearbox to replace bad gear(s)/bearing(s).

Operations

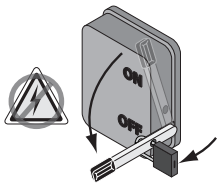
Symptom	Possible Cause	Possible Solution
Workpiece stops/ slows before reaching upper cutterhead.	1. Lower cutterhead removing too much material. 2. Resin build-up on planer components. 3. Idler roller and/or serrated roller too high.	1. Raise infeed table height to reduce lower cutterhead depth of cut. 2. Clean planer components with a resin dissolving solvent (**Page 49**). 3. Check/adjust idler roller (**Page 71**) and/or serrated roller (**Page 72**) height.
Finished workpiece not matching entered workpiece thickness value.	1. Lower cutterhead removing too much material. 2. Slack in elevation chain. 3. Digital controls and headstock height not synchronized.	1. Raise infeed table height to reduce lower cutterhead depth of cut. 2. Increase elevation chain tension (**Page 77**). 3. Reset headstock height (**Page 70**).

Operations (continued)

Symptom	Possible Cause	Possible Solution
Excessive snipe (gouge at the end of the workpiece that is uneven with the rest of the cut). **Note:** A small amount of snipe is inevitable with all types of planers.	1. Workpiece not properly supported as it leaves planer. 2. Chip breaker and/or pressure bar too low. 3. Lower pressure roller(s) too high. 4. Some snipe is inevitable.	1. Ensure workpiece remains properly supported until cutting operation is complete; use roller stand with extra long workpieces. 3. Check/adjust chip breaker (**Page 73**) and/or pressure bar (**Page 74**) height. 3. Check/adjust lower pressure roller(s) height (**Page 76**). 4. Plane stock longer than your intended workpiece length, then cut off excess after planing complete.
Uneven cut across entire bottom side of workpiece.	1. Lower cutterhead not parallel with table. 2. Lower pressure roller(s) not parallel with table.	1. Check/align lower cutterhead height (**Page 64**). 2. Check/adjust lower pressure roller(s) height (**Page 76**).
Uneven cut across entire top side of workpiece.	1. Upper cutterhead not parallel with table. 2. Idler roller and/or serrated roller not parallel with table.	1. Square headstock (**Page 68**). 2. Check/adjust idler roller (**Page 71**) and/or serrated roller (**Page 72**) height.
Workpiece chipping, tear-out, indentations, or overall rough cuts.	1. Workpiece not suitable for planing. 2. Operator not feeding workpiece to cut "with" the grain. 3. Excessive feed rate. 4. Excessive depth of cut. 5. Dull inserts. 6. Dust collection problems.	1. Ensure workpiece is suitable for planing (**Page 34**). 2. Turn the workpiece 180° before feeding again. 3. Reduce feed rate. 4. Reduce depth of cut. 5. Rotate/replace inserts (**Page 42**). 6. Clear blockages, seal leaks, move machine closer to dust collector, upgrade dust collector.
Chipping (consistent pattern).	1. Knots or conflicting grain direction in wood. 2. Excessive depth of cut. 3. Nicked or chipped inserts.	1. Inspect workpiece for knots and grain direction; only use clean stock, and cut WITH the grain. 2. Reduce depth of cut. (Hardwoods require a shallower depth of cut than soft woods.) 3. Rotate/replace inserts (**Page 42**).
Chipping (inconsistent pattern).	1. Chips not properly expelled from around cutterhead(s).	1. Ensure required CFM at dust ports; clean chips away from cutterhead(s).
Fuzzy grain in workpiece.	1. Wood has high moisture content. 2. Dull inserts.	1. Ensure wood moisture content is less than 20%. Allow to dry if necessary. 2. Rotate/replace inserts (**Page 42**).
Long lines or ridges that run along the length of the board.	1. Nicked or chipped inserts. 2. Loose or incorrectly installed insert(s). 3. Dirt or debris under inserts.	1. Rotate/replace inserts (**Page 42**). 2. Remove/replace insert(s) and install properly (**Page 42**). 3. Remove inserts, properly clean mounting pocket and re-install (**Page 42**).
Uneven cutter marks, wavy surface, or chatter marks across face of workpiece.	1. Excessive feed rate. 2. Inserts not consistently tightened/torqued. 3. Dirt or debris under inserts. 4. Worn cutterhead bearings.	1. Reduce feed rate. 2. Tighten/torque all inserts consistently when securing (**Page 42**). 3. Remove inserts, properly clean mounting pocket and re-install (**Page 42**). 4. Replace cutterhead bearings.
Glossy surface; scorching or burn marks on workpiece.	1. Feed rate too slow. 2. Dull inserts.	1. Increase feed rate. 2. Rotate/replace inserts (**Page 42**).
Workpiece remains concave or convex along its length after planing.	1. Workpiece excessively bowed or warped, and is not suitable for planing.	1. Ensure workpiece is suitable for planing (**Page 34**).

Tensioning/ Replacing V-Belts

V-belts transfer power from motor to cutterhead. To ensure efficient transfer of power to cutterhead, make sure V-belts are always properly tensioned and in good condition.



⚠WARNING

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

⚠CAUTION

V-belts and pulleys will be hot after operation. Allow them to cool before handling.

If the V-belts are worn, cracked, or damaged, replace them. Always replace the V-belts with a matched set, or belt tension may not be even among both belts, resulting in sub-optimal power transfer and premature belt failure.

Tensioning Lower Cutterhead V-Belts

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Open chain drive access door and lower cutterhead belt cover (see **Figure 85**).

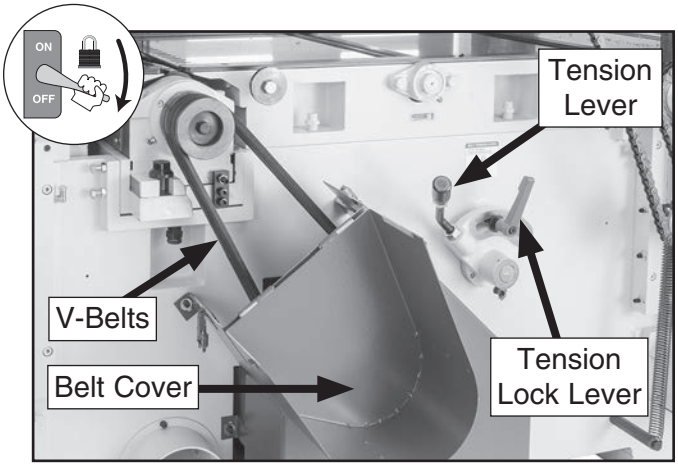


Figure 85. Location of lower cutterhead V-belts.

3. Check belt tension: Each belt is correctly tensioned when there is approximately ⅜" deflection when it is pushed with moderate pressure, as shown in **Figure 86**.

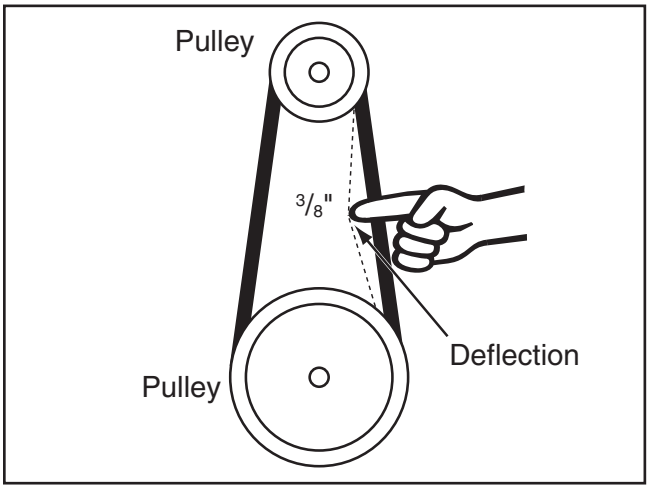


Figure 86. Correct belt deflection when properly tensioned.

— If there *is* approximately ⅜" deflection when V-belts are pushed with moderate pressure, V-belts are properly tensioned and no adjustment is necessary. Proceed to **Step 5**.

— If there is *not* approximately ⅜" deflection when V-belts are pushed with moderate pressure, V-belts are not properly tensioned. Proceed to **Step 4**.

4. Loosen tension lock lever (see **Figure 85**) and press down on tension lever (see **Figure 85**) until there is proper tension on V-belts. While holding tension lever down, tighten tension lock lever.

5. Close lower cutterhead belt cover and chain drive access door.

NOTICE

After approximately 16 hours of operation, V-belts will stretch and seat into pulley grooves. The V-belts need to be re-tensioned after this initial break-in period to ensure optimum power transfer and maximum overall life of the V-belts. It is normal to see a small build-up of rubber dust during the break-in period.

Tensioning Upper Cutterhead V-Belts

Item(s) Needed: **Qty**
Wrench Open-Ends 14mm 2
Wrench Open-Ends or Socket 17mm 2
Wrench Open-Ends or Socket 19mm 1

To tension upper cutterhead V-belts:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Remove upper cutterhead belt cover (see **Figure 87**).

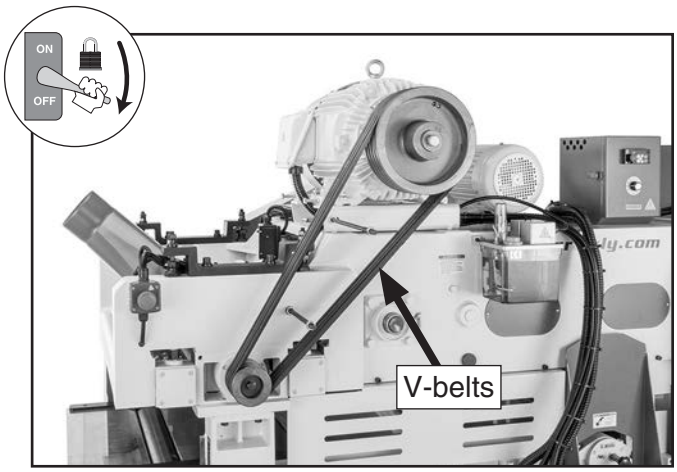


Figure 87. Location of upper cutterhead V-belts.

3. Check belt tension: Each belt is correctly tensioned when there is approximately ⅜" deflection when it is pushed with moderate pressure, as shown in **Figure 86** on **Page 59**.

— If there *is* approximately ⅜" deflection when V-belts are pushed with moderate pressure, V-belts are properly tensioned and no adjustment is necessary. Proceed to **Step 5**.

— If there is *not* approximately ⅜" deflection when V-belts are pushed with moderate pressure, V-belts are not properly tensioned. Proceed to **Step 4**.

4. Loosen hex nuts on hex bolts that secure motor to mounting plate (see **Figure 88**).

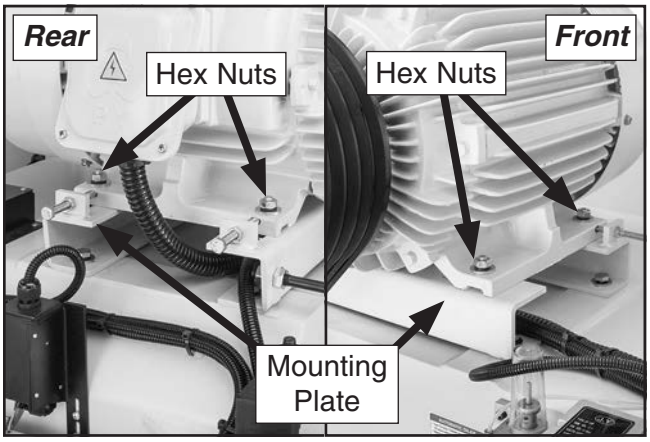


Figure 88. Location of upper cutterhead motor mounting hardware.

5. Loosen jam nuts on motor stop hex bolts (see **Figure 89**).

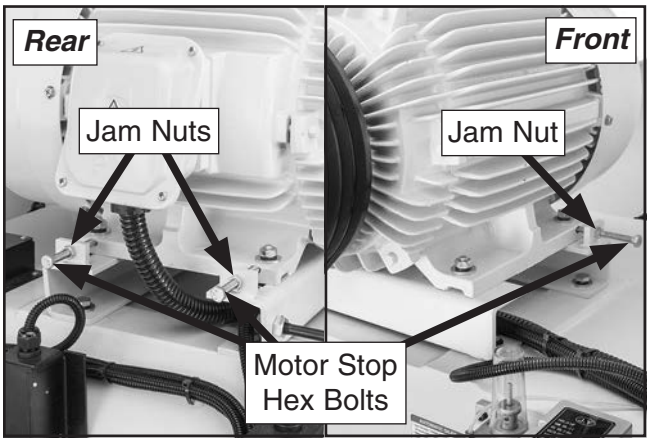


Figure 89. Location of upper cutterhead motor positioning hardware.

6. Loosen front motor stop hex bolt 1–2 turns, and then tighten rear motor stop hex bolts 1–2 turns.

IMPORTANT: *Turn all motor stop hex bolts same number of times.*

7. Re-check belt tension (refer to **Step 3**).

8. Repeat **Steps 6–7** as needed until proper belt tension is achieved.

9. Once V-belts are properly tensioned, tighten jam nuts and hex nuts to secure motor in position.

10. Replace upper cutterhead belt cover.

Replacing Lower Cutterhead V-Belts

Item(s) Needed: **Qty**
Hex Wrench 5mm..... 1

To replace lower cutterhead V-belts:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Open chain drive access door and remove lower cutterhead belt cover (see **Figure 90**).

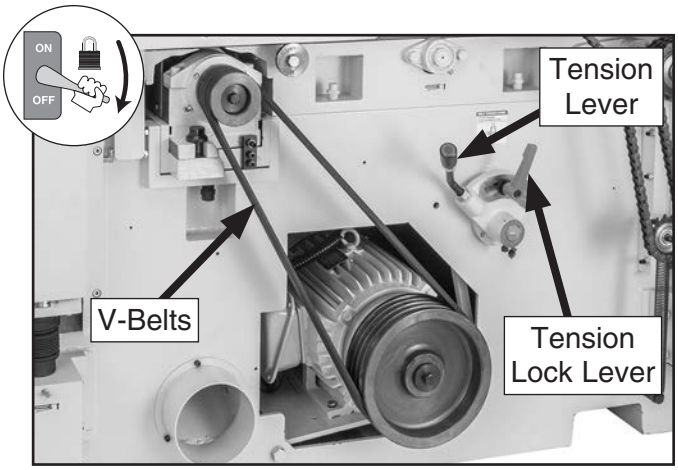


Figure 90. Lower cutterhead belt cover removed.

3. Loosen tension lock lever and pull up on tension lever (see **Figure 90**) until there is slack between V-belts and pulleys. While pulling tension lever up, tighten tension lock lever.

4. Remove V-belts belts and replace them with a matched set. Make sure ribs of V-belts are seated in pulley grooves.

5. Tension V-belts (refer to **Steps 3–4** of **Tensioning Lower Cutterhead V-Belts** on **Page 59** for instructions).

6. Re-install lower cutterhead belt cover and close chain drive access door.

Replacing Upper Cutterhead V-Belts

Item(s) Needed: **Qty**
Additional Person 1
Wrench Open-Ends 14mm 2
Wrench Open-Ends or Socket 17mm..... 2
Wrench Open-Ends or Socket 19mm..... 1

To replace upper cutterhead V-belts:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Remove upper cutterhead belt cover (see **Figure 91**).

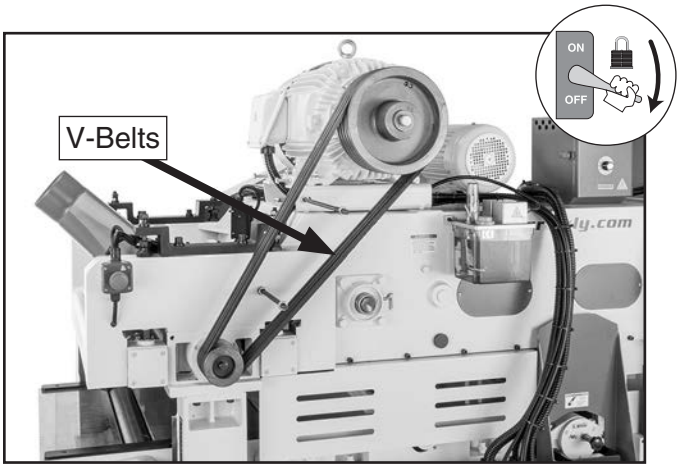


Figure 91. Upper cutterhead belt cover removed.

3. Loosen hex nuts on hex bolts that secure motor to mounting plate (see **Figure 92**).

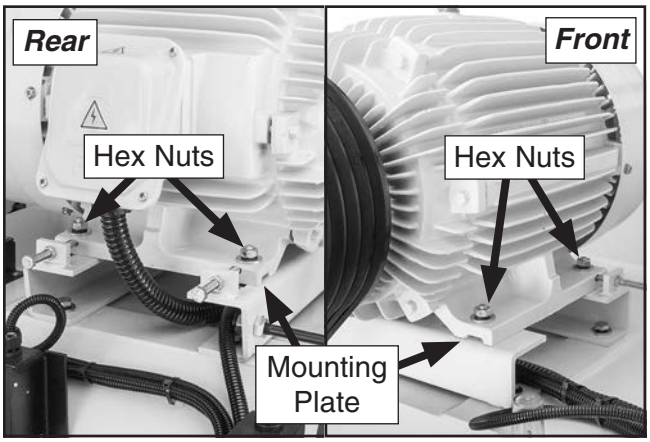


Figure 92. Location of upper cutterhead motor mounting hardware.

4. Loosen jam nuts on motor stop hex bolts (see **Figure 93**).

5. Loosen rear motor stop hex bolts (see **Figure 93**) 3–5 turns.

   IMPORTANT: *Turn motor stop hex bolts same number of times.*

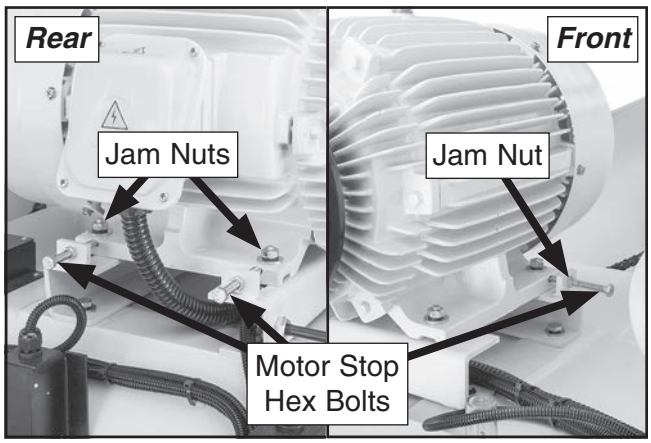


Figure 93. Location of upper cutterhead motor positioning hardware.

6. With help from another person, slide upper cutterhead motor towards *rear* of machine until there is slack between V-belts and pulleys.

7. Remove V-belts and replace them with a matched set. Make sure ribs of V-belts belt are seated in pulley grooves.

8. With help from another person, slide upper cutterhead motor towards *front* of machine until there is no slack between V-belts and pulleys.

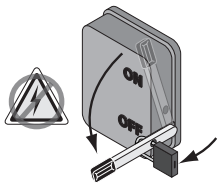
9. Tighten rear motor stop hex bolts same number of turns as loosened in **Step 5**.

10. Tension V-belts. (Refer to **Steps 3–9** of **Tensioning Upper Cutterhead V-Belts** on **Page 60**).

11. Once V-belts are properly tensioned, tighten jam nuts to secure motor in position.

12. Re-install upper cutterhead belt cover.

Checking/Adjusting Pulley Alignment



⚠WARNING

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

Proper pulley alignment is important for optimum power transfer and belt life. Pulley alignment is adjusted by slightly repositioning the motor on the motor mounting plate.

Lower Cutterhead Pulley

Item(s) Needed:	**Qty**
Adjustable Wrench	1
Wrench Open-Ends or Socket 14mm	1
Hex Wrench 5mm	1

To check and align pulleys on lower cutterhead:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Open chain drive access door and remove lower cutterhead belt cover.

3. Visually check alignment of both pulleys to make sure they are aligned and V-belts are straight up and down, as shown in **Figure 94**).

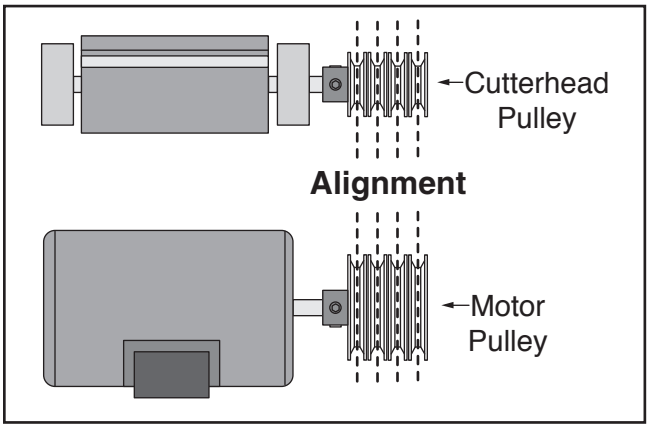


Figure 94. Pulleys correctly aligned.

— If pulleys *are* aligned, no adjustment is necessary.

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

4. Loosen hex bolt and hex nut (see **Figure 95**) that secure lower cutterhead to carriage.

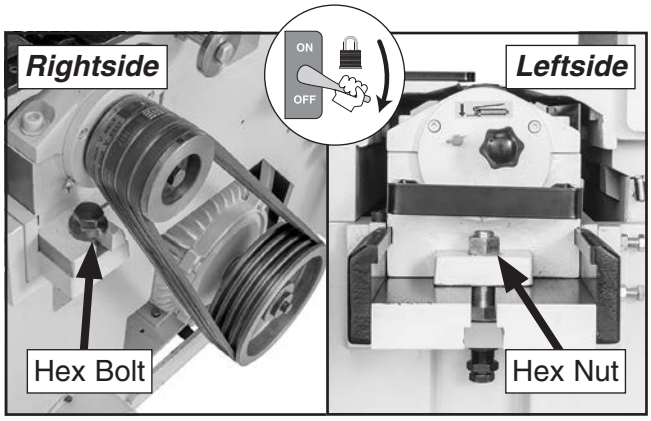


Figure 95. Location of lower cutterhead hex bolt and hex nut.

5. Loosen jam nut on lower cutterhead position set screw (see **Figure 96**).

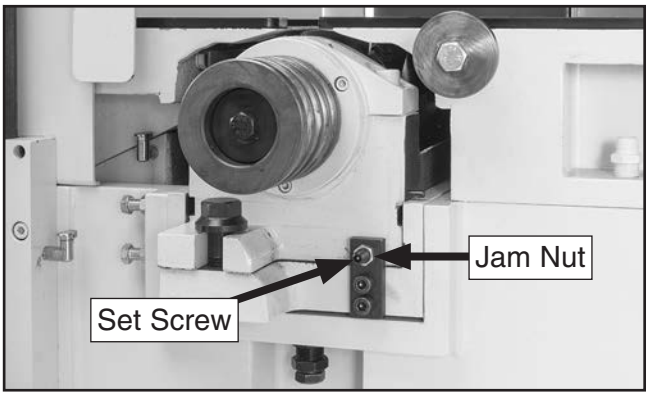


Figure 96. Location of lower cutterhead position set screw. (V-belts removed for clarity.)

6. Adjust set screw and move lower cutterhead to align cutterhead pulley with motor pulley.

7. Tighten jam nut to secure lower cutterhead in position.

8. Replace lower cutterhead belt cover and close chain drive access door.

Upper Cutterhead Pulley

Item(s) Needed: **Qty**

Wrench or Socket 14mm 2
Wrench or Socket 17mm 2
Wrench or Socket 19mm 1

To check and align pulleys on upper cutterhead:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Remove upper cutterhead belt cover.

3. Visually check alignment of both pulleys to make sure they are aligned and V-belts are straight up and down, as shown in **Figure 94** on **Page 62**.

— If pulleys *are* aligned, no adjustment is necessary.

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

4. Loosen hex nuts on hex bolts that secure motor to mounting plate (see **Figure 97**).

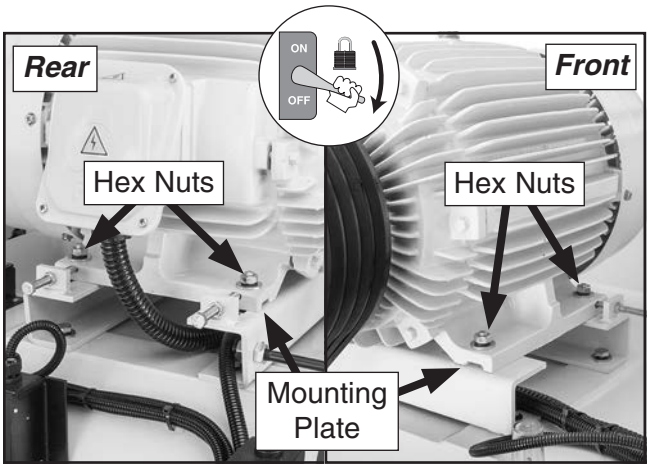


Figure 97. Location of upper cutterhead motor mounting hardware.

5. Loosen jam nuts on motor stop hex bolts (see **Figure 98**).

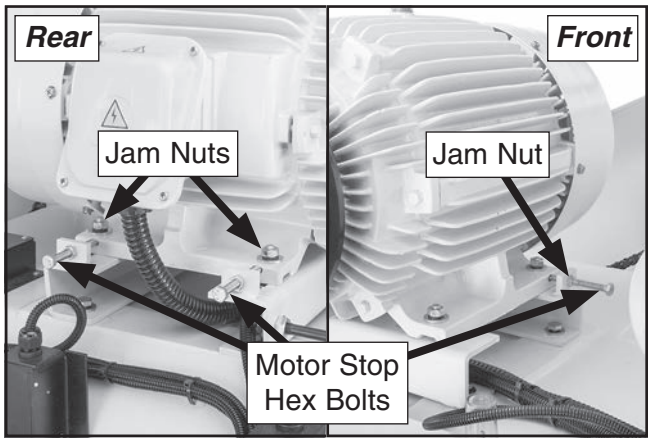


Figure 98. Location of upper cutterhead motor positioning hardware.

6. Loosen motor stop hex bolts 1 turn.

7. With help from another person, move upper cutterhead motor as needed to align motor pulley with cutterhead pulley.

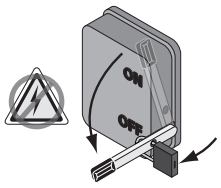
8. Tighten motor stop hex bolts.

9. Tension V-belts. (Rrefer to **Steps 3–9** of **Tensioning Upper Cutterhead V-Belts** on **Page 60**).

10. Once V-belts are properly tensioned, tighten jam nuts to secure motor in position.

11. Re-install upper cutterhead belt cover.

Aligning Lower Cutterhead Height



⚠WARNING

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

Proper lower cutterhead alignment ensures an even cut across the entire workpiece during surface planing.

Item(s) Needed:	**Qty**
Adjustable Wrench	1
Wrench Open-Ends or Socket 14mm	1
Hex Wrench 5mm	1
Block Guage (Supplied w/Machine)	1

To check and align lower cutterhead height:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Open chain drive access door and remove lower cutterhead belt cover.

3. Rotate cutterhead pulley until one cutterhead insert is at top dead center (its highest point during rotation), as shown in **Figure 99**.

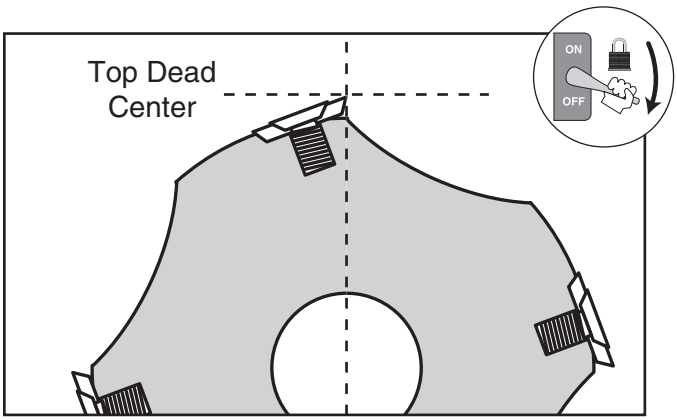


Figure 99. Cutterhead insert at top dead center.

4. Place block gauge in each position shown in **Figure 100** on planer table so it hangs over lower cutterhead.

Note: *Make sure side B of block gauge is face down.*

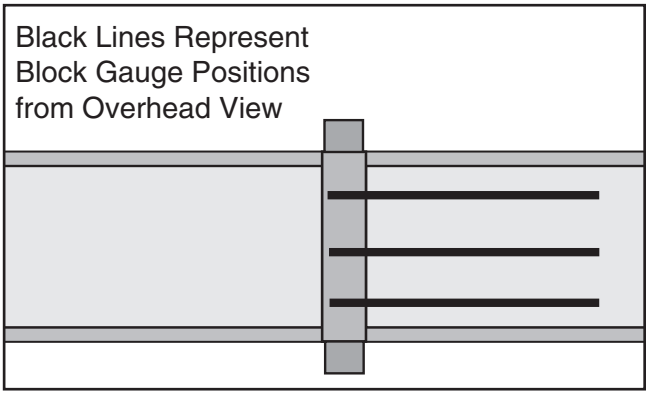


Figure 100. Block gauge positions for checking lower cutterhead height.

When correctly set, inserts will barely touch block gauge when cutterhead is rotated back and forth with pulley, as shown in **Figure 101**.

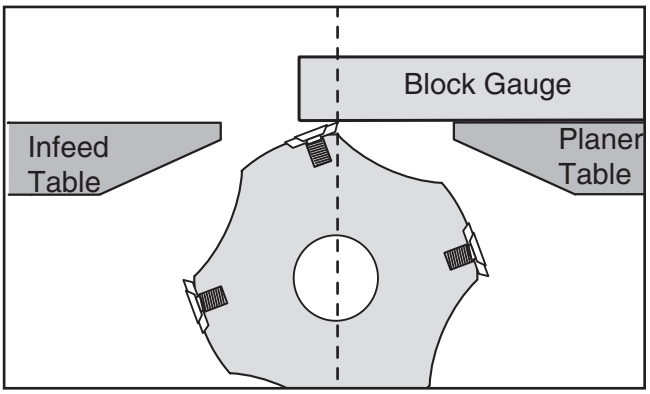


Figure 101. Using block gauge to check lower cutterhead height.

— If cutterhead height is correctly set, no adjustments are necessary.

— If cutterhead inserts lift block gauge off planer table or are below block gauge, then cutterhead height must be reset.

5. Loosen jam nuts and hex bolts that secure lower cutterhead carriage to machine base (see **Figure 102**).

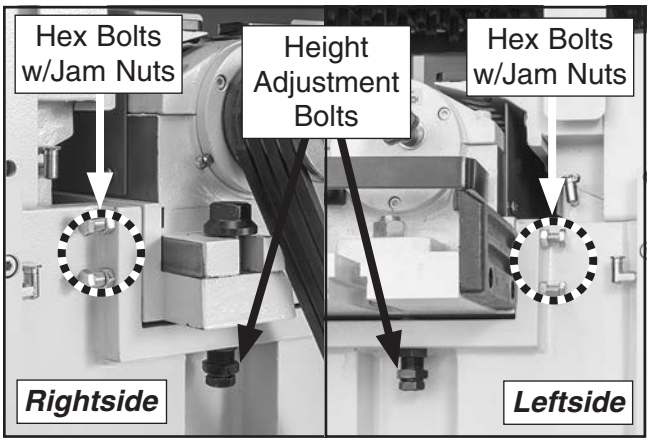


Figure 102. Location of lower cutterhead carriage hardware.

6. Use carriage height adjustment bolts (see **Figure 102**) to set lower cutterhead height even with planer table height.

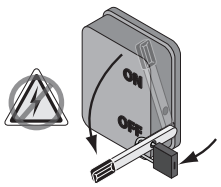
7. Re-check cutterhead height (refer to **Step 4**).

8. Repeat **Steps 5–6** as needed until proper cutterhead height is achieved.

9. Tighten hex bolts and jam nuts to secure carriage in position.

10. Close lower cutterhead belt cover and chain drive access door.

Calibrating Lower Cutterhead Depth of Cut



⚠WARNING

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

The lower cutterhead depth-of-cut scale can be calibrated or "zeroed" to make sure the cutting depth shown on the scale matches the actual cutting depth (per pass).

Item(s) Needed: **Qty**
Hex Wrench 5mm..... 1
Block Guage (Supplied w/Machine) 1

To calibrate infeed table depth-of-cut:

1. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

2. Align lower cutterhead. (Refer to **Aligning Lower Cutterhead** on **Page 64**.)

3. Place block gauge across infeed and planer tables, as shown in **Figure 103**.

   Note: *Make sure side B of block gauge is face down.*

4. Use infeed table handwheel to adjust infeed table even with planer table, as shown in **Figure 103**. Make sure there are no gaps between infeed table and block gauge and planer table and block gauge.

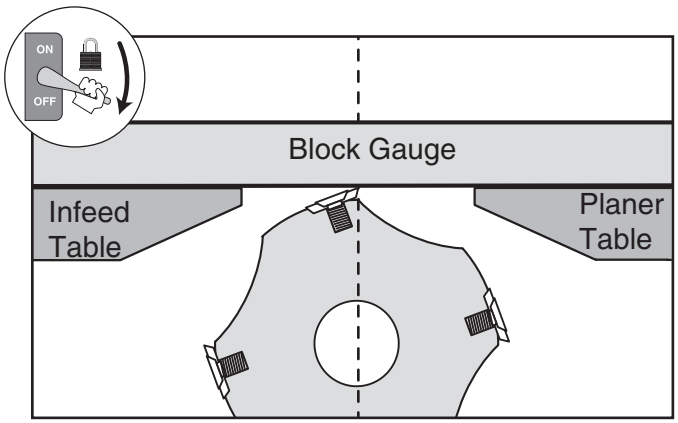


Figure 103. Infeed table even with planer table.

5. Loosen cap screws that secure scale pointer to base (see **Figure 104**), precisely adjust scale pointer to "0", and then re-tighten caps screws.

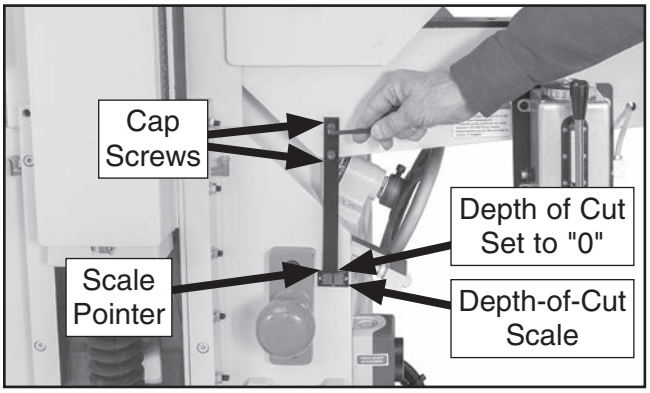
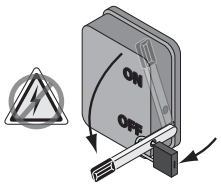


Figure 104. Adjusting scale pointer to "0".

Setting Upper Cutterhead at BDC



⚠WARNING

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

Prior to squaring the headstock and adjusting the upper cutterhead components, the upper cutterhead must be set at Bottom Dead Center (BDC), as shown in **Figure 105**.

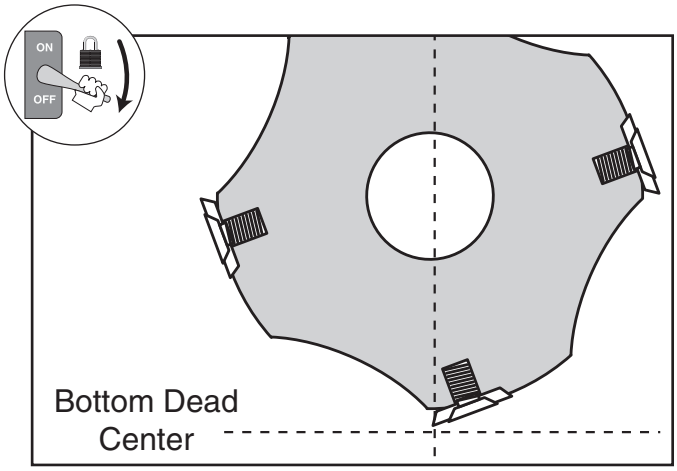


Figure 105. Upper cutterhead at BDC.

Item(s) Needed: **Qty**
Rotacator or Dial Indicator w/Base..... 1

To set upper cutterhead at BDC:

1. Set headstock height to 4".

2. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

3. Remove upper cutterhead belt cover and open chain drive access door.

4. Use upper cutterhead pulley to rotate cutterhead so insert on edge of cutterhead is close to BDC.

5. Connect machine to power.

6. Place Rotacator or dial indicator on planer table directly under edge insert and slowly lower headstock until insert just touches Rotacator or dial indicator plunger.

Note: *Headstock height switch will raise or lower headstock in 0.01" increments. Headstock height handwheel will raise or lower headstock in 0.004" increments.*

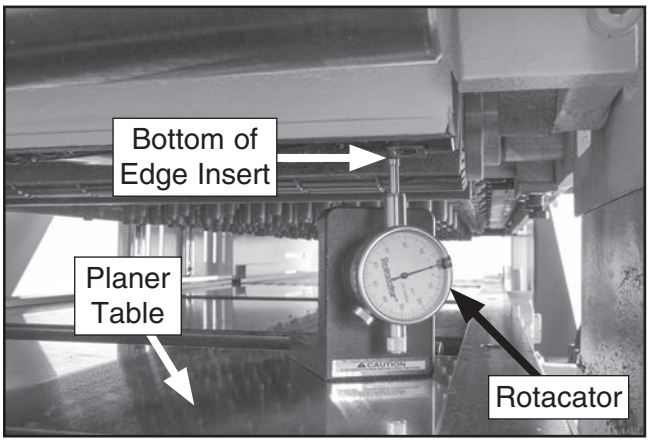
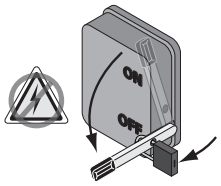


Figure 106. Headstock lowered to just touch Rotacator plunger.

7. Find BDC by slowly rocking cutterhead pulley back and forth so edge of insert just makes contact with plunger, and then set Rotacator or dial indicator to zero.

Squaring Headstock



⚠WARNING

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

NOTICE

ONLY perform the following procedures if you are certain the headstock is out-of-square. Attempting these procedure on an already square headstock will cause additional misalignment.

The headstock is properly squared to the planer table at the factory and should only require adjustment if the elevation leadscrews become misaligned. Elevation leadscrews may become misaligned if they are not lubricated regularly, or there is a limit switch failure and leadscrews are driven past headstock height capacity. If you notice the headstock binds when raising or lowering, then check to see if headstock is square to planer table.

Item(s) Needed:	**Qty**
Rotacator or Dial Indicator w/Base	1
Carpenter's Square	1
Calipers	1
Hex Wrench 8mm	1
Pin or Rod 5mm Dia.	1

Checking/Squaring Headstock Front-to-Rear

1. Set headstock height to 4".

2. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

3. Check front and rear upper cutterhead depth-of-cut scales.

— If scales indicate headstock height *is* 4", then proced to **Checking/Squaring Headstock Side-to-Side** on **This Page**.

— If scales indicate headstock height *is not* 4", then determine which end is higher and proceed to **Step 4**.

4. On end of machine where headstock is higher, loosen (4) cap screws securing left-side and rightside elevation leadscrew collars (see **Figure 107**).

5. Turn leftside and rightside elevation leadscrew collars (see **Figure 107**) counterclockwise until front and rear upper cutterhead depth-of-cut scales indicate headstock height is even front to back. Make sure to adjust both elevation leadscrews equally.

IMPORTANT: *Turn elevation leadscrew collars in measurable increments (i.e. quarter-turns or half-turns).*

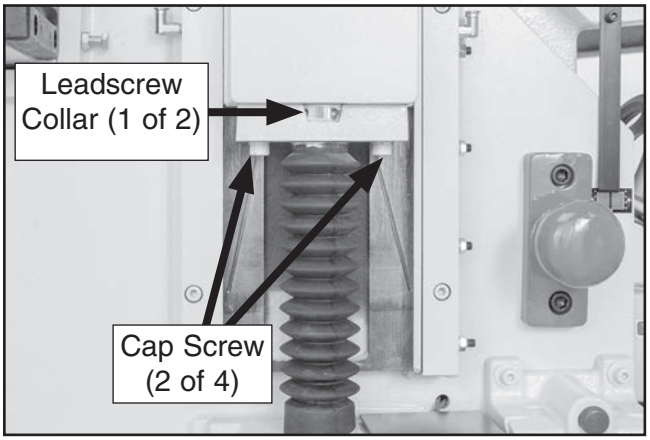


Figure 107. Location of elevation leadscrew collar and cap screws.

6. Tighten (4) cap screws securing elevation leadscrew collars.

7. Set headstock height. (Refer to **Setting Headstock Height** on **Page 70**.)

Checking/Squaring Headstock Side-to-Side

1. Set upper cutterhead at BDC. (Refer to **Setting Upper Cutterhead at BDC** on **Page 67**).

2. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

3. Place Rotacator or dial indicator on planer table directly under inserts on leftside and rightside edge of upper cutterhead (see **Figure 108**).

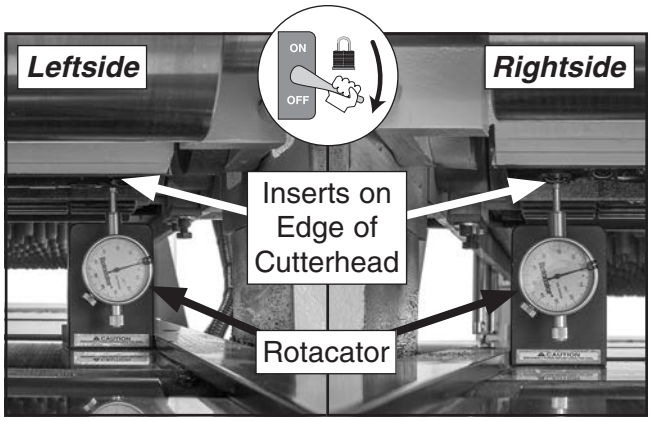


Figure 108. Rotacator placed under inserts on edge of upper cutterhead.

— If inserts *are* at BDC, then proceed to **Step 6**.

— If edge inserts *are not* at BDC, then determine which side is higher and proceed to **Step 4**.

4. On side of machine where headstock is higher, loosen (2) cap screws securing elevation leadscrew collar (see **Figure 107** on **Page 68**).

5. Turn elevation leadscrew collar (see **Figure 107** on **Page 68**) counterclockwise until inserts on leftside and rightside edge of upper cutterhead are at BDC, and then tighten (2) cap screws securing elevation leadscrew collar.

6. Place carpenter's square on rightside and leftside of infeed table under front edge of headstock (see **Figure 109**).

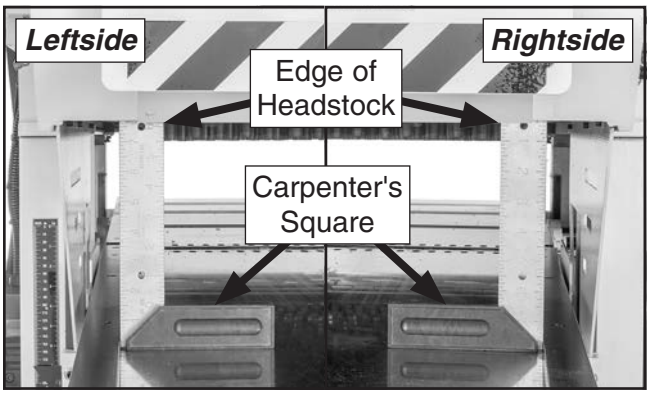


Figure 109. Capenter's square placed under front edge of headstock.

— If leftside and rightside of headstock *are* within 0.050" of one another, then no further adjustments are necessary.

— If leftside and rightside of headstock *are not* within 0.050" of one another, then determine which side is higher and proceed to **Step 7**.

7. On side of machine where headstock is higher, loosen (2) cap screws securing elevation leadscrew collar (see **Figure 107** on **Page 68**).

8. Turn elevation leadscrew collar (see **Figure 107** on **Page 68**) counterclockwise until leftside and rightside of headstock are even, and then tighten (2) cap screws securing elevation leadscrew collar.

9. Set headstock height. (Refer to **Setting Headstock Height** on **Page 70**.)

Setting Headstock Height

To achieve accurate planing results, the headstock height (i.e., distance from bottom dead center (BDC) of upper cutterhead to planer table) must be synchronized with the digital controls. Prior to setting headstock height in the digital controls, the headstock must be square to the table. (Refer to **Squaring Headstock** on **Page 68**.)

To set headstock height in digital controls:

1. Set lower cutterhead depth of cut to "0" and use digital control pad to set a workpiece thickness.

2. Run test workpiece through machine and measure result with calipers.

   — If measured workpiece thickness *is* same as value entered in **Step 4**, then proceed to **Step 3**.

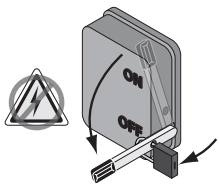
   — If measured workpiece thickness *is not* same as value entered in **Step 4**, then repeat **Squaring Headstock** procedures, starting on **Page 68**.

3. Press (SET) key on digital control pad and enter same value entered in **Step 4**.

4. Press and hold (SET) key for three seconds. Entered value is now displayed as current height.

5. Run another test workpiece through machine to verify setting.

Adjusting Upper Cutterhead Components



⚠WARNING

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

It is essential that the idler roller, serrated roller, chipbreaker, pressure bar, and pressure rollers are set at the correct distance below the upper cutterhead inserts at Bottom Dead Center (BDC). It is also essential that the lower pressure rollers are set at the correct distance above the planer table. When these components are set correctly, workpieces will move through the machine evenly and at the correct distance from the upper cutterhead inserts.

To ensure accurate results use a Rotacator for these adjustments (see **Accessories** on **Page 45**).

Adjusting Idler Roller

For best thickness planing results, set the idler roller 0.080–0.120" above BDC, as shown in **Figure 110**. Prior to adjusting idler roller, the headstock must be square to the table. (Refer to **Squaring Headstock** on **Page 68**.)

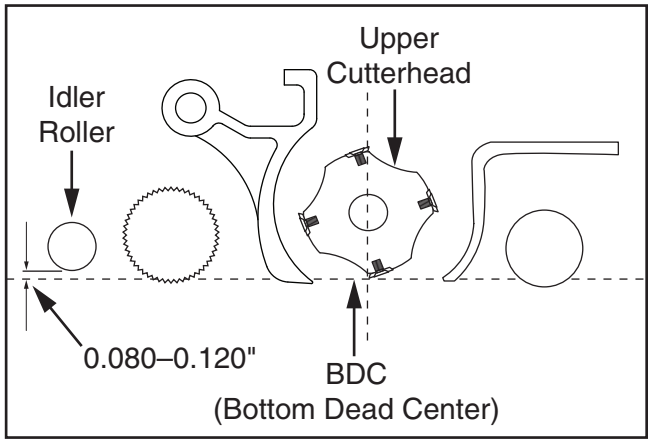


Figure 110. Correct idler roller height.

Item(s) Needed: **Qty**
Rotacator or Dial Indicator w/Base..... 1
Wrench Open-Ends or Socket 13mm..... 2

To adjust idler roller height:

1. Set upper cutterhead at BDC. (Refer to **Setting Upper Cutterhead at BDC** on **Page 67**).

2. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

3. Place Rotacator or dial indicator on planer table underneath left-side of idler roller (see **Figure 111**).

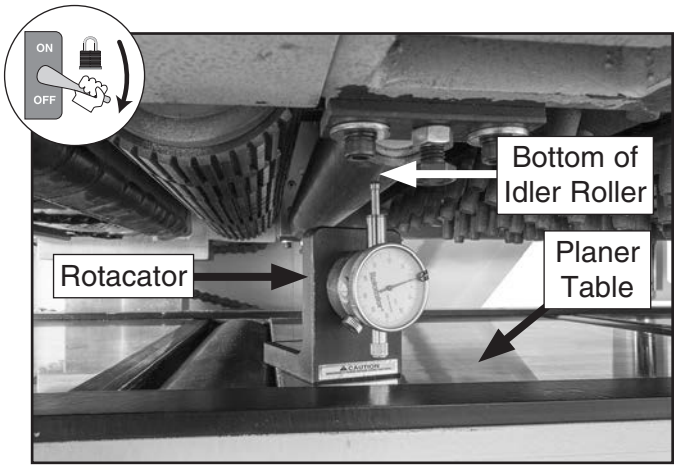


Figure 111. Rotacator placed underneath left-side of idler roller.

4. Slide Rotacator or dial indicator back and forth across bottom of idler roller.

   — If idler roller height *is* 0.080–0.120" above BDC, then no height adjustment is necessary. Skip to **Step 7**.

   — If idler roller height *is not* 0.080–0.120" above BDC, then adjust height of idler roller. Proceed to **Step 5**.

5. Loosen idler roller jam nut and height adjustment bolt (see **Figure 112**).

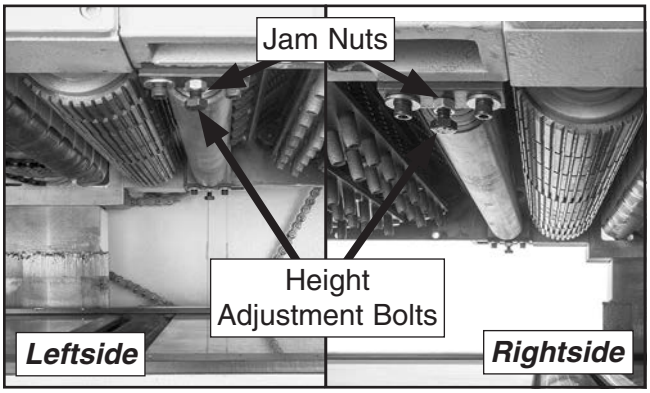


Figure 112. Location of idler roller height adjustment hardware.

6. Tighten or loosen height adjustment bolt as needed to set correct idler roller height, and then tighten jam nut to secure correct height setting.

7. Repeat **Steps 3–6** on right-side of idler roller.

8. If needed, repeat **Steps 3–7** until entire idler roller height is correct.

Adjusting Serrated Roller

For best thickness planing results, set the serrated roller 0.000–0.005" below BDC, as shown in **Figure 113**. Prior to adjusting idler roller, the headstock must be square to the table. (Refer to **Squaring Headstock** on **Page 68**.)

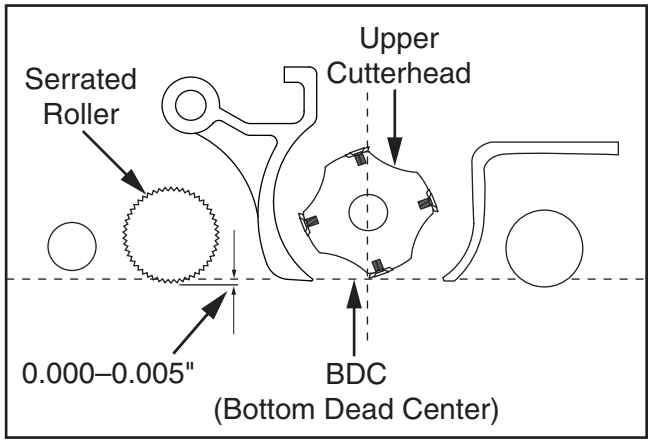


Figure 113. Correct serrated roller height.

Item(s) Needed: **Qty**
Rotacator or Dial Indicator w/Base..... 1
Wrench Open-Ends or Socket 19mm..... 2

To adjust serrated roller height:

1. Set upper cutterhead at BDC. (Refer to **Setting Upper Cutterhead at BDC** on **Page 67**).

2. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

3. Place Rotacator or dial indicator on planer table underneath left-side of serrated roller (see **Figure 114**).

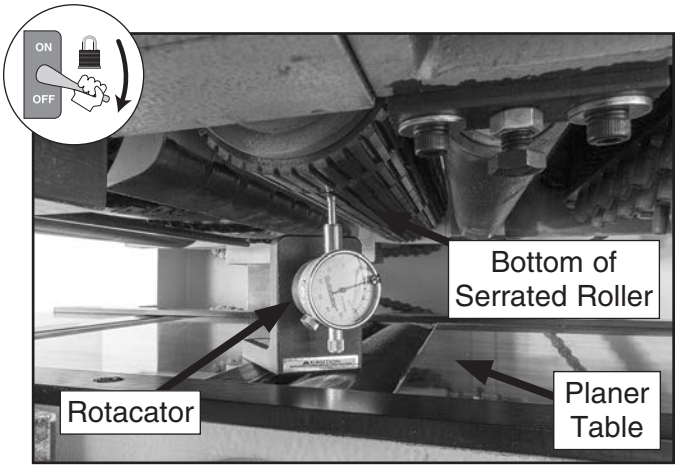


Figure 114. Rotacator placed underneath leftside of serrated roller

4. Slide Rotacator or dial indicator back and forth across bottom of serrated roller.

   — If serrated roller height *is* 0.000–0.005" below BDC, then no height adjustment is needed. Skip to **Step 7**.

   — If serrated roller height *is not* 0.000–0.005" below BDC, then adjust height of serrated roller. Proceed to **Step 5**.

5. Loosen serrated roller jam nut and hex nut on spring-loaded height adjustment rod (see **Figure 115**).

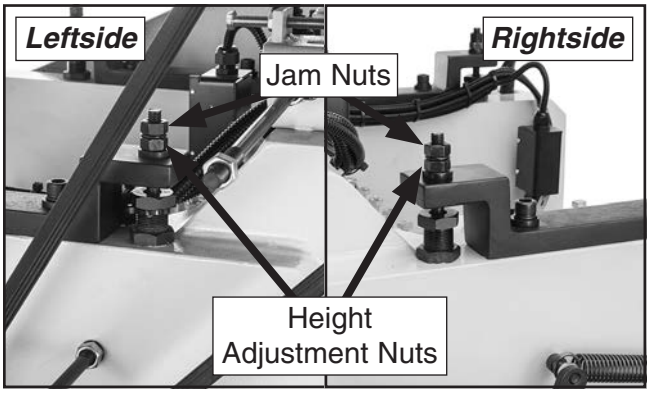


Figure 115. Location of serrated roller height adjustment hardware.

6. Tighten or loosen hex nut on height adjustment rod as needed to set correct serrated roller height, and then tighten jam nut to secure correct height setting.

7. Repeat **Steps 3–6** on right-side of serrated roller.

8. If needed, repeat **Steps 3–7** until entire serrated roller height is correct.

Adjusting Chipbreaker

For best thickness planing results, set the chipbreaker segments 0.000–0.008" below BDC, as shown in **Figure 116**. Prior to adjusting idler roller, the headstock must be square to the table. (Refer to **Squaring Headstock** on **Page 68**.)

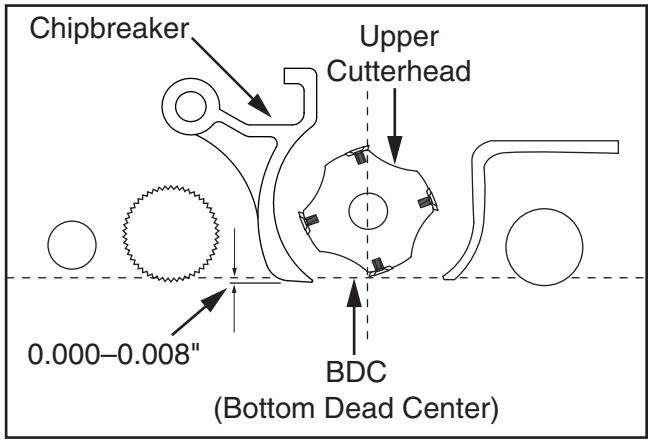


Figure 116. Correct chipbreaker height.

Item(s) Needed: **Qty**
Rotacator or Dial Indicator w/Base..... 1
Wrench Open-Ends or Socket 17mm..... 2
Step Stool..... 1

To adjust chipbreaker height:

1. Set upper cutterhead at BDC. (Refer to **Setting Upper Cutterhead at BDC** on **Page 67**).

2. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

3. Place Rotacator or dial indicator on planer table underneath first chipbreaker segment (see **Figure 117**).

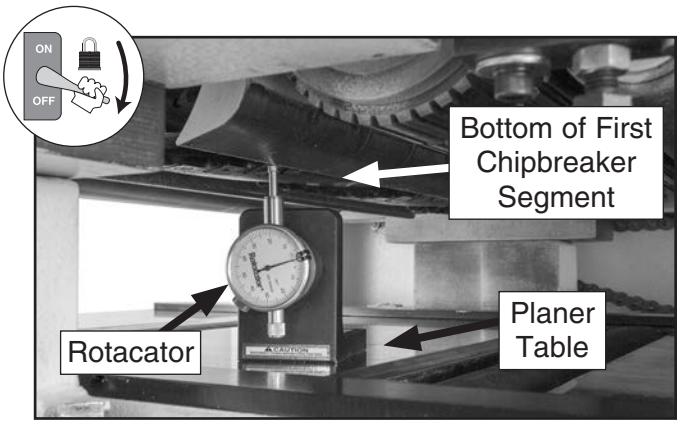


Figure 117. Rotacator placed underneath first chipbreaker segment.

4. Slide Rotacator or dial indicator back and forth across bottom of chipbreaker segment.

   — If chipbreaker segment height *is* 0.000–0.005" below BDC, then no height adjustment is necessary. Skip to **Step 7**.

   — If chipbreaker segment height *is not* 0.000–0.005" below BDC, then adjust height of chipbreaker segment. Proceed to **Step 5**.

5. Loosen chipbreaker segment jam nut and height adjustment bolt (see **Figure 118**).

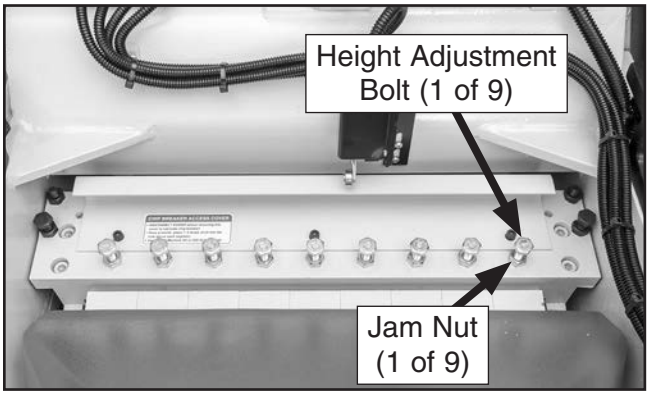


Figure 118. Location of chipbreaker height adjustment hardware.

6. Tighten or loosen height adjustment bolt as needed to set correct chipbreaker segment height, and then tighten jam nut to secure correct height setting.

7. Repeat **Steps 3–6** on remaining 8 chipbreaker segments.

Adjusting Pressure Bar

For best thickness planing results, set the pressure bar 0.004–0.005" below BDC, as shown in **Figure 119**. Prior to adjusting idler roller, the headstock must be square to the table. (Refer to **Squaring Headstock** on **Page 68**.)

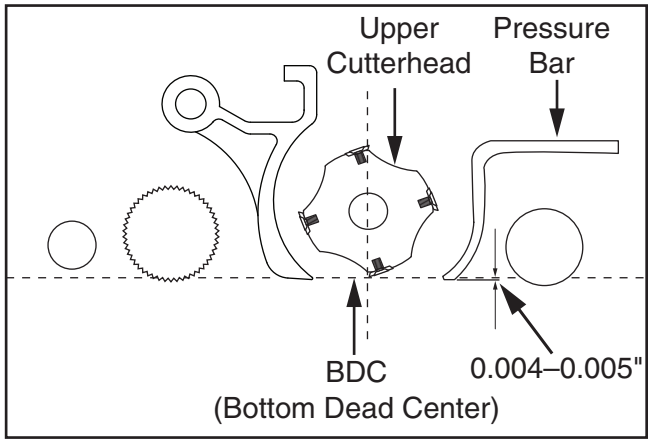


Figure 119. Correct pressure bar height.

Item(s) Needed: **Qty**
Rotacator or Dial Indicator w/Base..... 1
Wrench Open-Ends or Socket 19mm..... 2

To adjust pressure bar height:

1. Set upper cutterhead at BDC. (Refer to **Setting Upper Cutterhead at BDC** on **Page 67**).

2. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

3. Place Rotacator or dial indicator on planer table underneath left-side of pressure bar (see **Figure 120**).

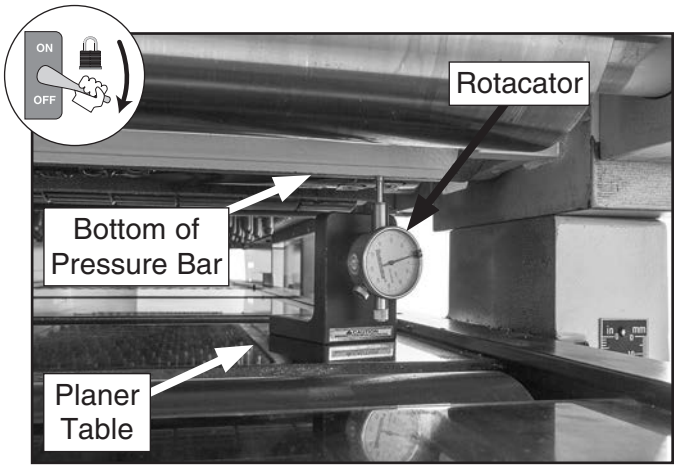


Figure 120. Rotacator placed underneath left-side of pressure bar.

4. Slide Rotacator or dial indicator back and forth across bottom of pressure bar.

   — If pressure bar height *is* 0.004–0.005" below BDC, then no height adjustment is needed. Skip to **Step 7**.

   — If pressure bar height *is not* 0.004–0.005" below BDC, then adjust height of pressure bar. Proceed to **Step 5**.

5. Loosen pressure bar jam nut and height adjustment bolt (see **Figure 121**).

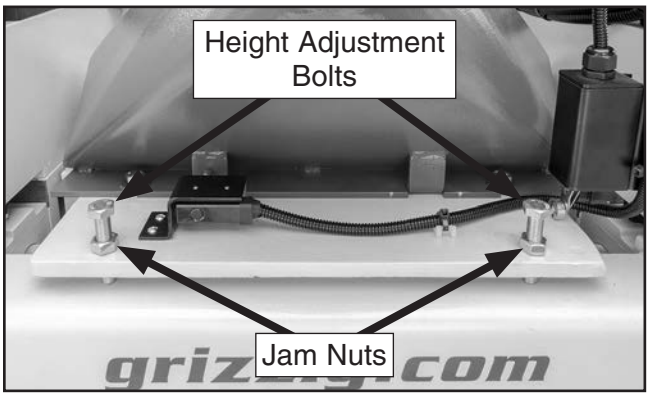


Figure 121. Location of pressure bar height adjustment hardware.

6. Tighten or loosen height adjustment bolt as needed to set correct pressure bar height, and then tighten jam nut to secure correct height setting.

7. Repeat **Steps 3–6** on right-side of pressure bar.

8. If needed, repeat **Steps 3–7** until entire pressure bar height is correct.

Adjusting Upper Pressure Roller

For best thickness planing results, set the upper pressure roller 0.020–0.028" below BDC, as shown in **Figure 122**. Prior to adjusting idler roller, the headstock must be square to the table. (Refer to **Squaring Headstock** on **Page 68**.)

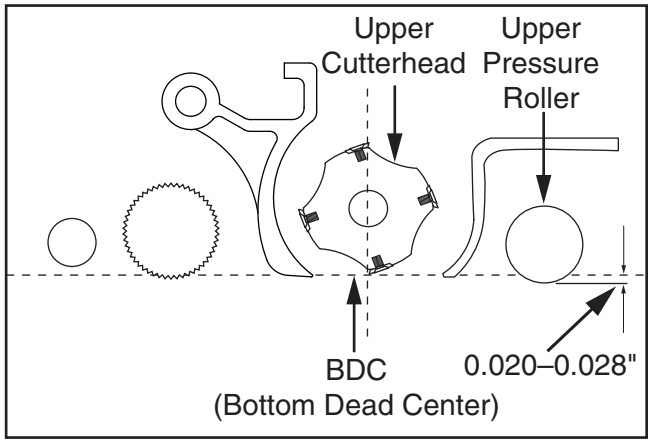


Figure 122. Correct upper pressure roller height.

Item(s) Needed: **Qty**
Rotacator or Dial Indicator w/Base..... 1
Wrench Open-Ends or Socket 19mm..... 2

To adjust upper pressure roller height:

1. Set upper cutterhead at BDC. (Refer to **Setting Upper Cutterhead at BDC** on **Page 67**).

2. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

3. Place Rotacator or dial indicator on planer table underneath leftside of upper pressure roller (see **Figure 123**).

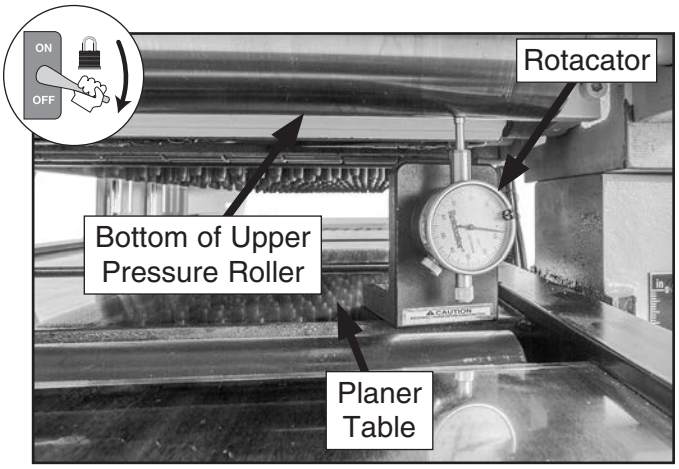


Figure 123. Rotacator placed underneath leftside of upper pressure roller.

4. Slide Rotacator or dial indicator back and forth across bottom of upper pressure roller.

   — If upper pressure roller height *is* 0.020–0.028" below BDC, then no height adjustment is needed. Skip to **Step 7**.

   — If upper pressure roller height *is not* 0.020–0.028" below BDC, then adjust height of upper pressure roller. Proceed to **Step 5**.

5. Loosen upper pressure roller jam nut and hex nut on spring-loaded height adjustment rod (see **Figure 124**).

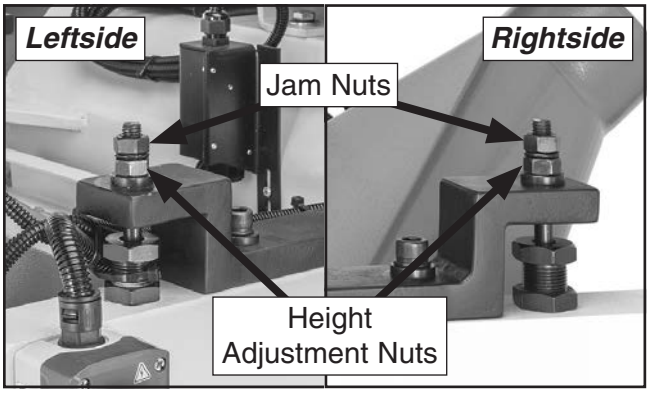


Figure 124. Location of upper pressure roller height adjustment hardware.

6. Tighten or loosen hex nut on height adjustment rod as needed to set correct upper pressure roller height, and then tighten jam nut to secure correct height setting.

7. Repeat **Steps 3–6** on rightside of upper pressure roller.

8. If needed, repeat **Steps 4–6** until upper pressure roller height is correct.

Adjusting Lower Pressure Rollers

For best thickness planing results, set the lower pressure rollers 0.004–0.008" above the planer table surface, as shown in **Figure 125**.

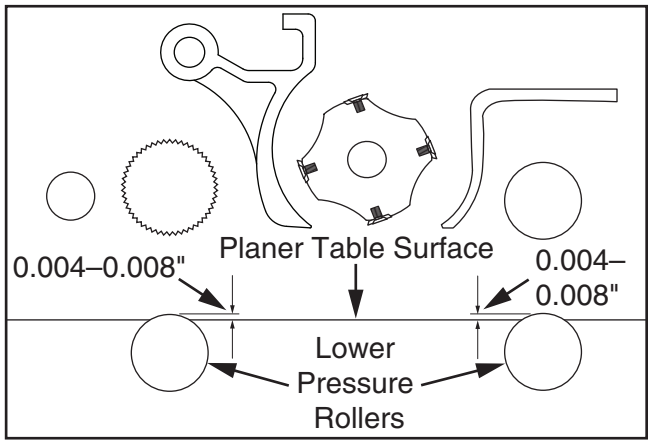


Figure 125. Correct lower pressure rollers height.

Item(s) Needed:	**Qty**
Block Guage (Supplied w/Machine)	1
Wrench Open-Ends or Socket 17mm	2

To adjust lower pressure rollers height:

1. Set headstock height to at least 4".

2. DISCONNECT AND LOCK-OUT MACHINE AT POWER SOURCE!

3. Open chain drive access door.

4. Place block gauge on planer table across one side of front lower pressure roller (see **Figure 126**).

Note: *Make sure side A of block gauge is face down and notch (see **Figure 127**) is centered over top of lower pressure roller.*

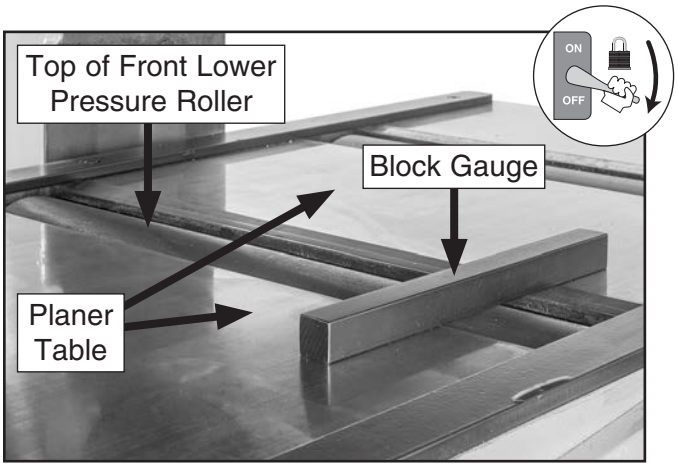


Figure 126. Block gauge placed over front lower pressure roller.

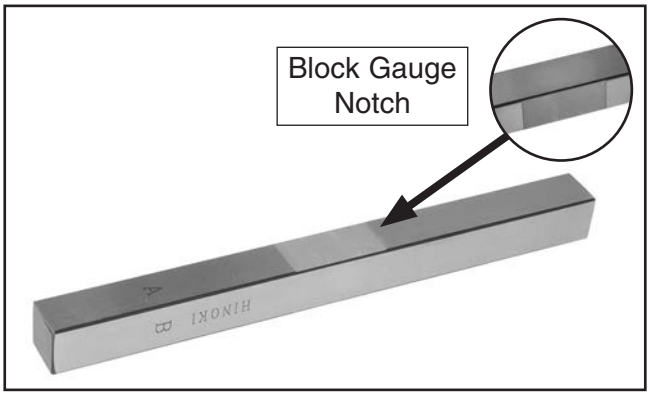


Figure 127. Block gauge—side A.

5. Slowly rock lower pressure roller back and forth.

— If block gauge *does* lay flat across planer table and *does* move when pressure roller is rocked back and forth height, then no height adjustment is needed. Skip to **Step 8**.

— If block gauge *does not* lay flat across planer table or *does not* move when pressure roller is rocked back and forth, then adjust height of lower pressure roller. Proceed to **Step 6**.

6. Loosen corresponding lower pressure roller jam nut and height adjustment bolt (see **Figures 129–128**).

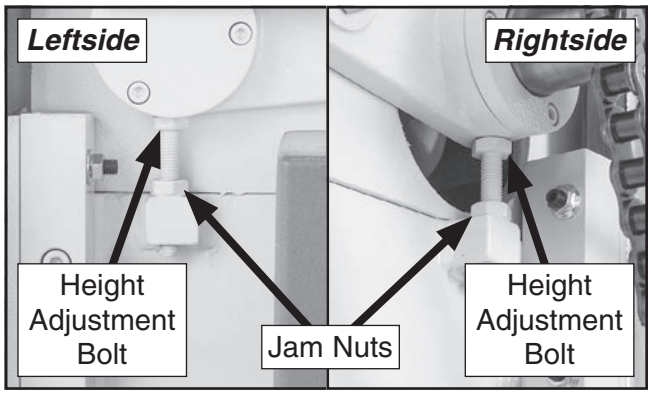


Figure 128. Location of front lower pressure roller height adjustment hardware.

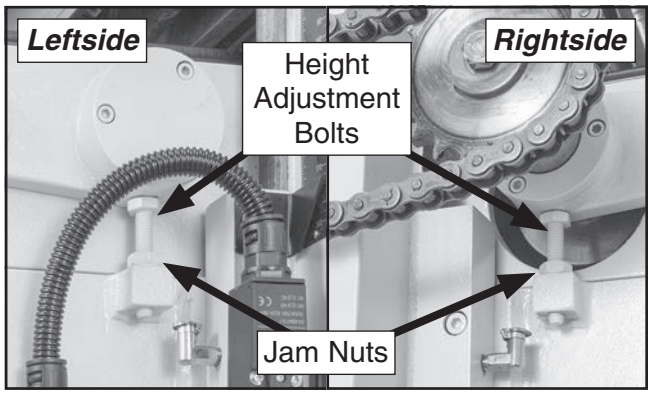


Figure 129. Location of rear lower pressure roller height adjustment hardware.

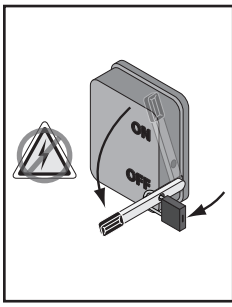
7. Tighten or loosen height adjustment bolt as needed to set correct pressure roller height, and then tighten jam nut to secure correct height setting.

8. Repeat **Steps 4–7** on other side of lower pressure roller.

9. Repeat **Steps 4–8** on rear lower pressure roller.

10. If needed, repeat **Steps 4–9** until front and rear lower pressure roller height is correct.

Tensioning Elevation Chain



WARNING

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

The elevation chain is properly tensioned at the factory and should only require adjustment after several years of operation. If you notice the headstock is not raising or lowering smoothly, the elevation chain may require tensioning.

Item(s) Needed:	**Qty**
Wrench Open-Ends or Socket 23mm	1
Hex Wrench 5mm	1
Hex Wrench 8mm	1

To adjust elevation chain tension:

1. DISCONNECT AND LOCK-OUT MACHINE FROM POWER!

2. Remove lower cutterhead belt cover, and then loosen hex bolt next to lower cutterhead motor pulley (see **Figure 130**).

   IMPORTANT: *When tensioning elevation chain, DO NOT allow chain to come off sprockets. Returning chain to its proper location on sprockets is a difficult task.*

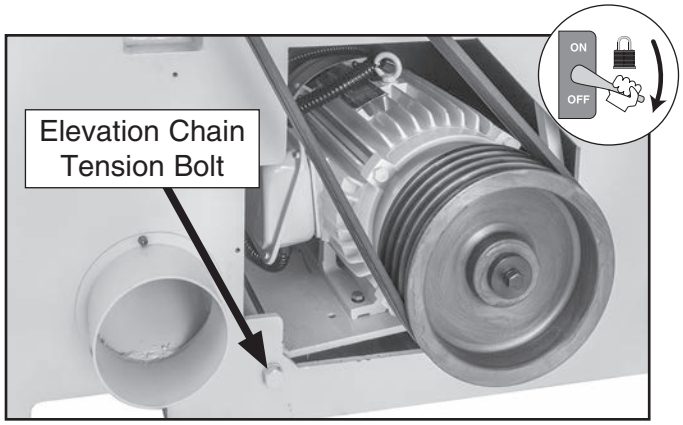


Figure 130. Location of elevation chain tension bolt.

4. Loosen cap screw (see **Figure 131**) that secures elevation chain bracket in place.

5. Push elevation chain bracket (see **Figure 131**) downward with moderate pressure. While maintaining pressure, tighten cap screw to secure setting.

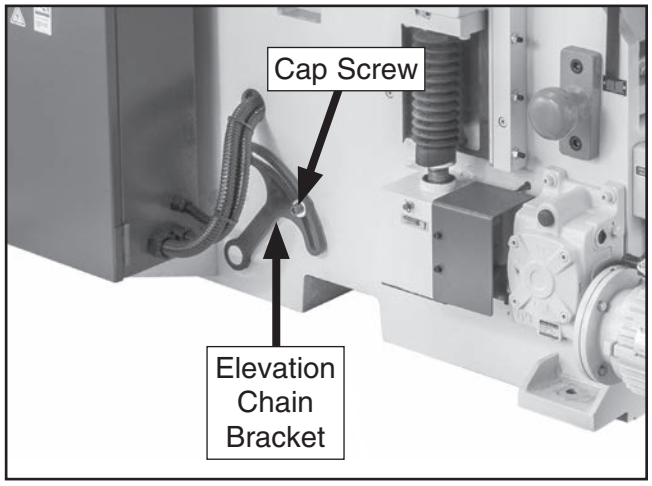
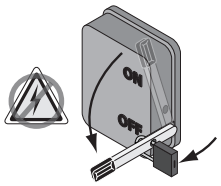


Figure 131. Location of elevation chain tensioning components.

6. Re-tighten elevation chain tension bolt

7. Reinstall lower cutterhead belt cover.

Tensioning Feed Track



⚠WARNING

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

The feed track is properly tensioned at the factory and should only require adjustment after several years of operation. If you notice the feed track is sagging and making a "slapping" sound during operation, the feed track may require tensioning.

Item(s) Needed:	**Qty**
Wrench Open-Ends or Socket 27mm	1
Calipers	1

To tension feed track:

1. DISCONNECT AND LOCK-OUT MACHINE FROM POWER!

2. Measure length of both compression springs to establish baselines.

3. Turn lock nut (see **Figure 132**) on one side of machine to increase or decrease tension.

   — Turn lock nut clockwise to compress spring and increase feed track tension.

   — Turn lock nut counterclockwise to release spring and decrease feed track tension.

   IMPORTANT: *Turn lock nut in measurable increments (i.e. quarter-turns or half-turns).*

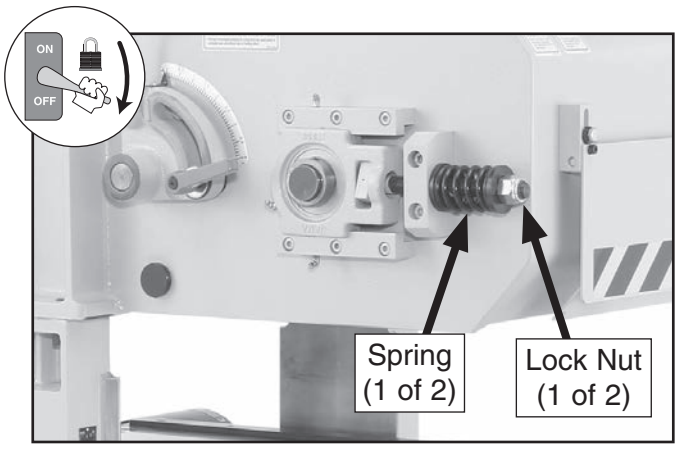


Figure 132. Location of feed track tensioning components.

4. Repeat **Step 3** on lock nut on other side of machine.

   IMPORTANT: *Turn second lock nut same amount of turns as first lock nut.*

5. Measure spring again to ensure both springs are adjusted equally.

6. Connect machine to power and run feed track to check adjustment.

7. Repeat **Steps 2-6** until correct feed track tension is achieved.

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Model # _____ Order # _____ Serial # _____

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1. How did you learn about us?

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____ Card Deck ____ Website ____ Other:

2. Which of the following magazines do you subscribe to?

____ Cabinetmaker & FDM
____ Family Handyman
____ Hand Loader
____ Handy
____ Home Shop Machinist
____ Journal of Light Cont.
____ Live Steam
____ Model Airplane News
____ Old House Journal
____ Popular Mechanics
____ Popular Science
____ Popular Woodworking
____ Precision Shooter
____ Projects in Metal
____ RC Modeler
____ Rifle
____ Shop Notes
____ Shotgun News
____ Today's Homeowner
____ Wood
____ Wooden Boat
____ Woodshop News
____ Woodsmith
____ Woodwork
____ Woodworker West
____ Woodworker's Journal
____ Other:

3. What is your annual household income?

____ $20,000-$29,000 ____ $30,000-$39,000 ____ $40,000-$49,000
____ $50,000-$59,000 ____ $60,000-$69,000 ____ $70,000+

4. What is your age group?

____ 20-29 ____ 30-39 ____ 40-49
____ 50-59 ____ 60-69 ____ 70+

5. How long have you been a woodworker/metalworker?

____ 0-2 Years ____ 2-8 Years ____ 8-20 Years ____ 20+ Years

6. How many of your machines or tools are Grizzly?

____ 0-2 ____ 3-5 ____ 6-9 ____ 10+

7. Do you think your machine represents a good value? _____Yes _____No

8. Would you recommend Grizzly Industrial to a friend? _____Yes _____No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?
Note: *We never use names more than 3 times.* _____Yes _____No

10. Comments: _____

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WARRANTY & RETURNS

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

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

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

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

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

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

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