

INSTRUCTION MANUAL

Original Instructions

Benchtop Wood Jointer

ITEM # 22102

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.

Contents

MACHINE SPECIFICATIONS (Page 3)

IDENTIFICATION (Page 4)

CONTROL & COMPONENTS (Page 5)

SAFETY (Page 6 - 8)

POWER SUPPLY (Page 9 - 10)

SETUP (Page 11 - 18)

OPERATIONS (Page 19 - 27)

MAINTENANCE (Page 28)

SERVICE (Page 29)

TROUBLESHOOTING (Page 29 - 30)

ADJUSTING/ REPLACING BELTS (Page 31)

REPLACING MOTOR BRUSHES (Page 32)

REPLACING CUTTERHEAD KNIVES (Page 33)

PARTS & EXPLOSION DIAGRAMS (Page 34 - 35)

MACHINEN SPECIFICATIONS

MODEL 22102

6" Benchtop Wood Jointer

- Voltage required: 220V, single-phase
- Motor power: 1-1/2 HP
- Full-load current rating: 6A
- Min. circuit size: 10A
- Switch type: Magnetic switch
- Precision-ground cast iron table: 724mm x158mm
- Fence size: 570mm(L) x110mm(H)
- Fence material: Aluminum
- Fence stops: 45°, 90°, 135°
- Max. cutting width: 156mm
- Max. cutting depth: 3.2mm
- Min. workpiece length: 203mm
- Min. workpiece thickness: 12.7mm
- Cutterhead type: 2 HSS knives, single sided
- Cutterhead dia.: 47mm
- Cutterhead speed: 10000RPM
- Number of cuts per minutes: 20000
- Knife size: 158mm x22mm x1.6mm
- Infeed table adjustment knob: Yes
- Dust port size: 63.5mm
- Foot print: 495mm x270mm
- Overall size: 750mm x 502mm x 318mm
- Machine weight: 25kgs
- Packing dimensions: 845mm x390mm x310mm
- Shipping weight: 28kgs

Identification

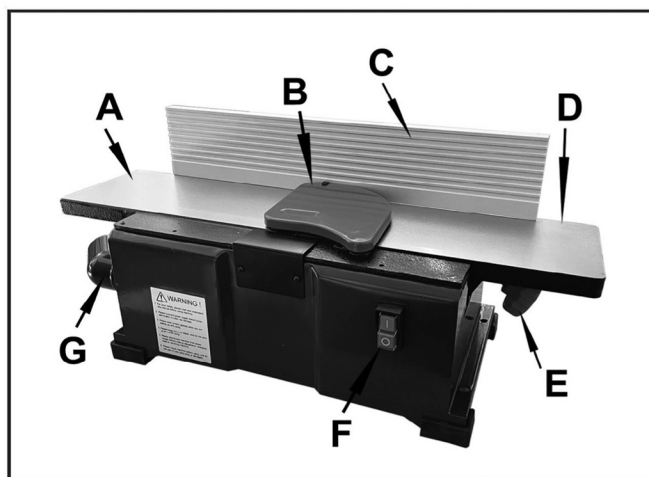


Figure 1. identification (front).

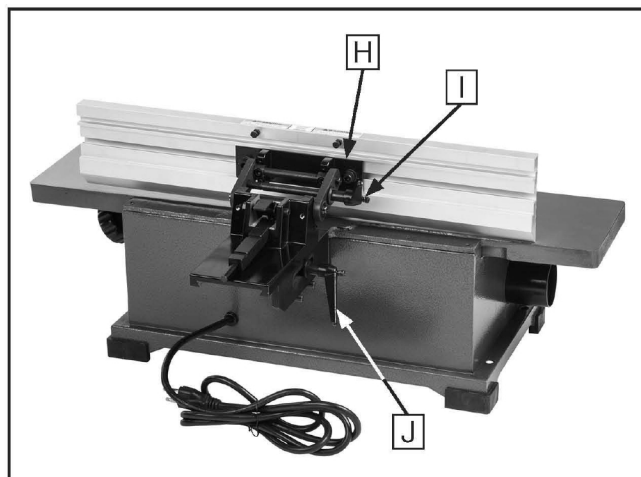


Figure 2. identification (rear).

- A.** Outfeed Table
- B.** Cutterhead Guard
- C.** Fence
- D.** Infeed Table
- E.** Depth-of-Cut Adjusting Knob
- F.** ON/OFF Switch w/Disabling Key
- G.** Dust Port

- H.** Fence Bracket Assembly
- I.** Fence Tilting Handle
- J.** Fence Sliding Handle

WARNING

For Your Own Safety, Read Instruction Manual Before Operating Jointer

- a) Wear eye protection.**
- b) Always keep cutterhead and drive guards in place and proper operating condition.**
- c) Always use hold down/push blocks for jointing material narrower than 3 inches, or planing material thinner than 3 inches.**
- d) Never perform jointing or planing on pieces shorter than 8 inches.**

Controls & Components

This section covers the basic parts and controls used during routine operations. See **Figures 3–4** for basic parts and control locations.

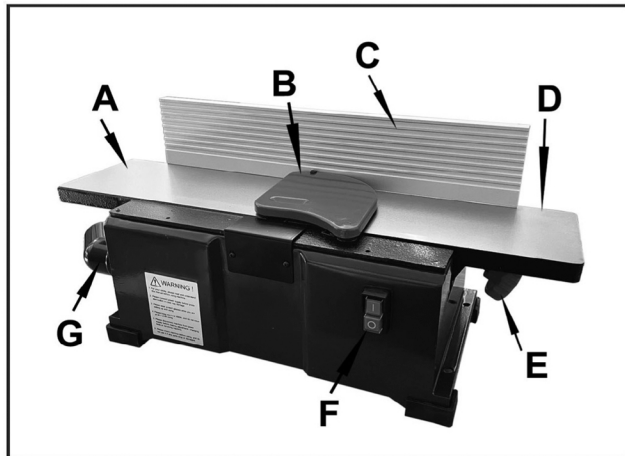


Figure 3. parts and controls (front).

- A. Outfeed Table:** Supports workpiece after it passes over cutterhead.
- B. Cutterhead Guard:** Shields cutterhead for operator safety during operation. Cutterhead guard is under spring tension—it must (unless blocked) snap forward to hit the fence. *DO NOT* operate jointer if guard is not functioning properly.
- C. Fence:** Supports workpiece laterally as it moves across cutterhead; determines angle of cut when edge or bevel jointing.
- D. Infeed Table:** Supports workpiece as it is pushed across cutterhead. The height of the infeed table relative to the cutterhead determines the depth of the cut.
- E. Depth-of-Cut Adjustment Knob:** This knob adjusts height of infeed table, controlling depth of cut. Best results are achieved by limiting maximum depth to $\frac{1}{8}$ " when edge jointing and $\frac{1}{32}$ " when surface planing. You can set depth of cut precisely with this adjustment knob. To determine depth of stock cutterhead will remove from your workpiece, place a straightedge across outfeed table and use a ruler to measure the gap between straight-edge and infeed table.

- F. ON/OFF Switch:** This paddle switch starts and stops cutterhead rotation. The yellow part of the switch is a safety device. When it is removed (by pulling it out), the switch locks in the OFF position. Always remove this yellow key before leaving jointer work area. This prevents unsupervised persons in your shop (especially children) from starting jointer.

- G. Dust Collection Chute and Bag:** This assembly collects debris from workpiece as it is cut. The internal fan—powered by the motor—pulls debris away from cutterhead and blows it through chute into bag.

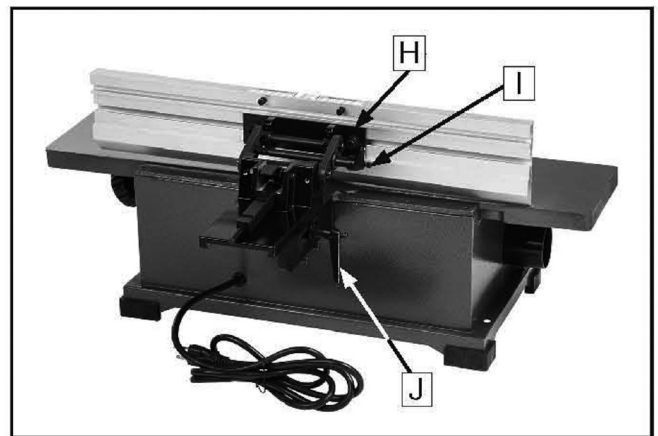


Figure 4. parts and controls (rear).

- H. Fence Bracket Assembly:** The various parts of this assembly let you change the position of the fence relative to the tables and secure it in position during operation.
- I. Fence Tilting Handle:** Lets you change angle of fence and lock it at angle desired. The fence can be quickly set to 90° (perpendicular to tables), 45° inward, and 45° outward by setting and using fence stops on bracket assembly.
- J. Fence Sliding Handle:** This handle locks position of fence across the tables. **ALWAYS** firmly tighten sliding handle before you begin operations. The position of fence determines maximum width of cut as you pass workpiece over cutterhead.

SECTION 1: SAFETY

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

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



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



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



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

NOTICE

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

Safety Instructions for Machinery

WARNING

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

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

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

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

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

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

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

WARNING

WEARING PROPER APPAREL. Do not wear 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!

Additional Safety for Jointers

WARNING

Serious cuts, amputation, entanglement, or death can occur from contact with rotating cutterhead or other moving components! Flying chips from cutting operations can cause eye injuries or blindness. Workpieces or inserts/knives thrown by cutterhead (kickback) can strike nearby operator or bystanders with deadly force. To reduce the risk of serious personal injury from these hazards, operator and bystanders **MUST** completely heed the hazards and warnings below.

KICKBACK. Occurs when workpiece is ejected from machine at a high rate of speed. Kickback injuries occur from getting struck by workpiece or hands being pulled into cutterhead. To reduce the risk of kickback, only use proper workpieces, safe feeding techniques, and proper machine setup or maintenance.

GUARD REMOVAL. Operating jointer without guards unnecessarily exposes operator to knives/inserts and other hazardous moving parts. Except when rabbeting, never operate jointer or allow it to be connected to power if any guards are removed. Turn jointer **OFF** and disconnect power before clearing any shavings or sawdust from around cutterhead. After rabbeting or maintenance is complete, immediately replace all guards and ensure they are properly installed/adjusted before resuming regular operations.

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

OUTFEED TABLE ALIGNMENT. Setting outfeed table too high can cause workpiece to hit table or get stuck while feeding. Setting outfeed table too low may cause workpiece to rock or shift while feeding. Both of these results will increase risk of kickback. Always keep outfeed table even with knives/inserts at highest point during rotation.

INSPECTING STOCK. Impact injuries or kickback may result from using improper workpieces. Thoroughly inspect and prepare workpiece before cutting. Verify workpiece is free of nails, staples, loose knots or other foreign material. Always joint warped workpieces with cupped side facing down.

MAXIMUM CUTTING DEPTH. To reduce risk of kickback, never cut deeper than $\frac{1}{8}$ " per pass.

GRAIN DIRECTION. Jointing against the grain or end grain can increase risk of kickback. It also requires more cutting force, which produces chatter or excessive chip out. Always joint or surface plane **WITH** the grain.

CUTTING LIMITATIONS. Cutting workpieces that do not meet minimum dimension requirements can result in kickback or accidental contact with cutterhead. Never perform jointing, planing, or rabbeting cuts on pieces smaller than specified in machine data sheet.

PUSH BLOCKS. Push blocks reduce risk of accidental cutterhead contact with hands. Always use push blocks when planing materials less than 3" high or wide. Never pass your hands directly over cutterhead without a push block.

WORKPIECE SUPPORT. Poor workpiece support or loss of workpiece control while feeding will increase risk of kickback or accidental contact with cutterhead. Support workpiece with fence continuously during operation. Support long stock with auxiliary tables if necessary.

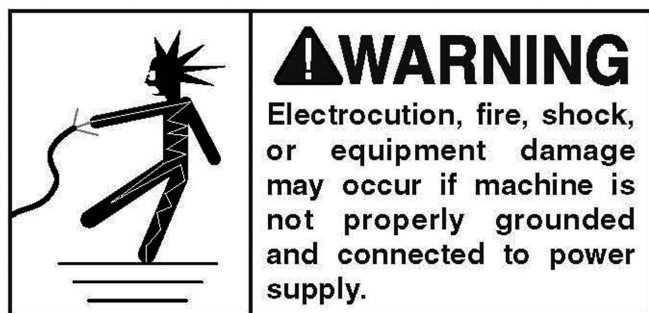
FEED WORKPIECE PROPERLY. Kickback or accidental cutterhead contact may result if workpiece is fed into cutterhead the wrong way. Allow cutterhead to reach full speed before feeding. Never start jointer with workpiece touching cutterhead. Always feed workpiece from infeed side to outfeed side without stopping until cut is complete. Never move workpiece backwards while feeding.

SECURE KNIVES/INSERTS. Loose knives or improperly set inserts can be thrown from cutterhead with dangerous force. Always verify knives/inserts are secure and properly adjusted before operation. Straight knives should never project more than $\frac{1}{8}$ " (0.125") from cutterhead body.

SECTION 2: POWER SUPPLY

Availability

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



Full-Load Current Rating

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

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

!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.

Circuit Requirements

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

Nominal Voltage 220V - 240V
Cycle..... 50 Hz
Phase..... Single-Phase
Power Supply Circuit 10 Amps

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

!CAUTION

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

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

Grounding & Plug Requirements

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

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

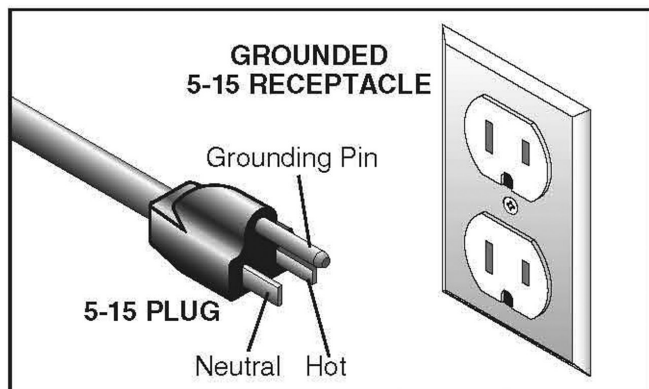


Figure 5. Typical 5-15 plug and receptacle.



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

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

Extension Cords

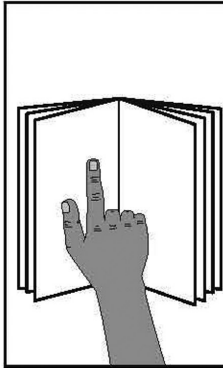
We do not recommend using an extension cord with this machine. If you must use an extension cord, only use it if absolutely necessary and only on a temporary basis.

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

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

Minimum Gauge Size 14 AWG
Maximum Length (Shorter is Better).....50 ft.

SECTION 3: SETUP



!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 machine and its components are very heavy. Get lifting help if needed.

Needed for Setup

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

Description	Qty
• Safety Glasses	1
• Cleaner/Degreaser	As Needed
• Disposable Shop Rags.....	As Needed
• Additional People	1
• Straightedge 3'	1
• Screwdriver Phillips #2	1
• Hex Wrench 6mm.....	1
• Scrap Block of Wood.....	1

Unpacking

This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage.

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.

Jointer Inventory (Figures 6–7)		Qty
A.	Jointer Bed Assembly.....	1
B.	Fence.....	1
C.	Dust Collection Bag.....	1
D.	Limit Block.....	1
E.	Push Blocks.....	2
F.	Fence Tilting Handle	1
G.	Fence Bracket Assembly.....	1
H.	T-Handle Torx Driver T-30.....	1
I.	Fence Sliding Handle	1
J.	Fence Support.....	1
K.	Locking Plate Assembly	1
L.	Dust Chute	1
M.	Dust Collection Bag Clamp	1
N.	T-Handle Hex Wrench 4mm.....	1
O.	Hex Wrench 6mm.....	1
P.	Hex Wrench 5mm.....	1

Hardware (Not shown)

—	Cap Screws M8-1.25 x 20	2
—	Lock Washers 8mm.....	2
—	Cap Screws M6-1 x 20	2
—	Lock Washers 6mm.....	2

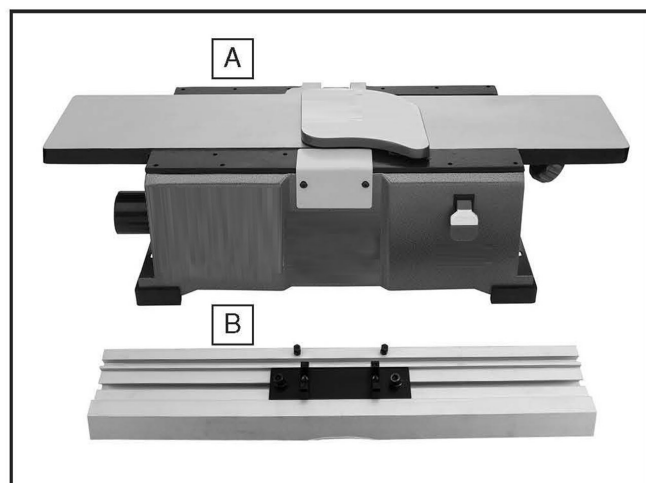


Figure 6. Large components.

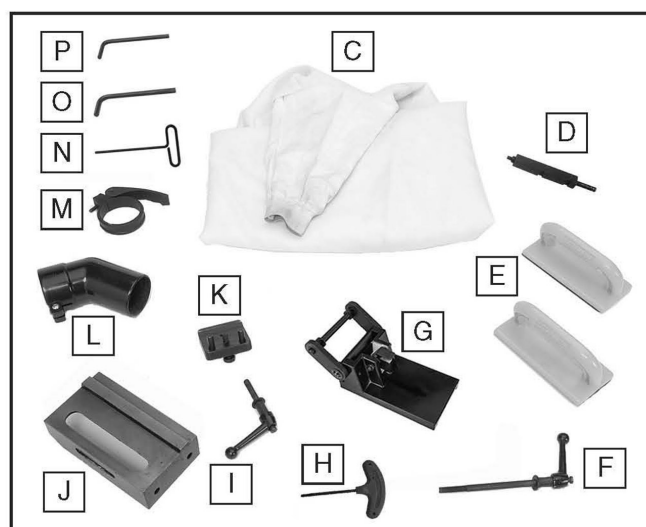


Figure 7. Small components.

NOTICE

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

Cleanup

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

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

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

Before cleaning, gather the following:

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

Basic steps for removing rust preventative:

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

NOTICE

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

Site Considerations

Workbench Load

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

Placement Location

Consider existing and anticipated needs, size of material to be processed through each machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your new machine. See **Figure 8** for the overall machine measurements.

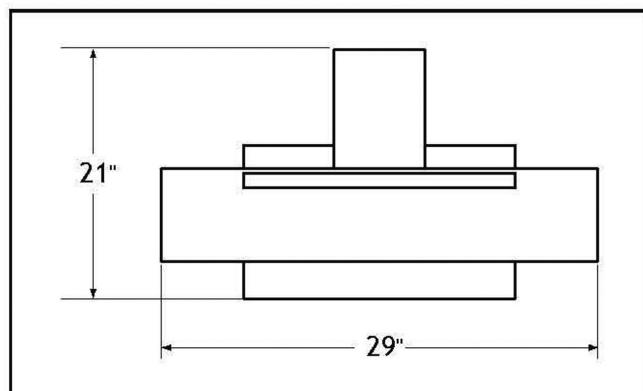
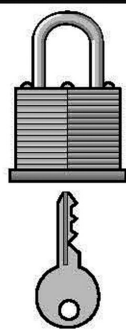


Figure 8. Machine overall measurements.



CAUTION

Children and visitors may be seriously injured if unsupervised around this machine. Lock entrances to the shop or disable start switch or power connection to prevent unsupervised use.

Mounting

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

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

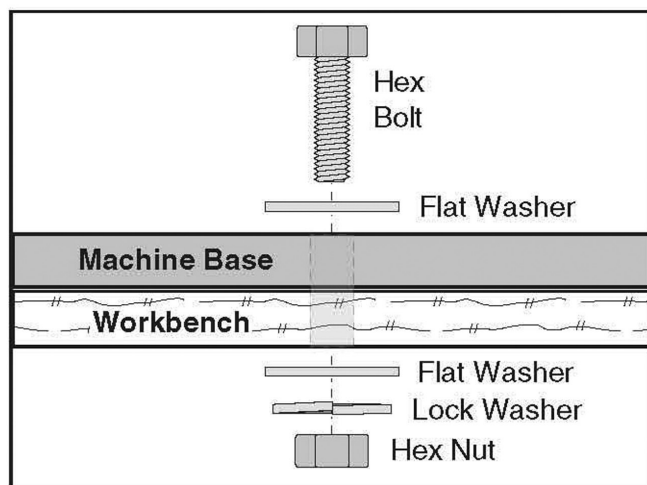


Figure 9. Example of a "Through Mount" setup.

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

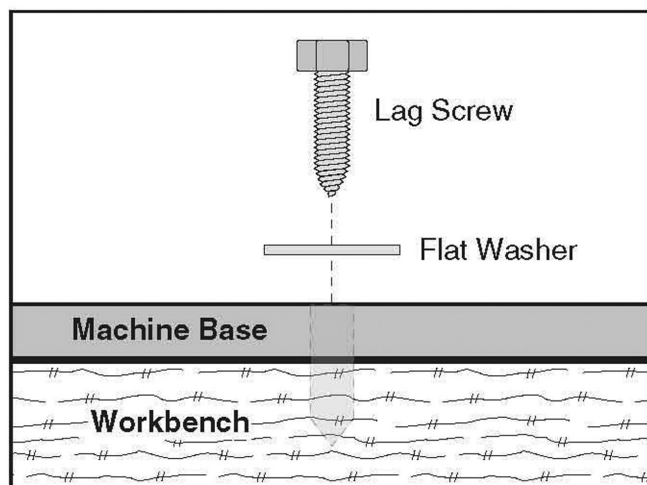


Figure 10. Example of a "Direct Mount" setup.

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 jointer:

1. Use (2) M8-1.25 x 20 cap screws and (2) 8mm lock washers to attach fence support to jointer bed (see **Figure 11**).

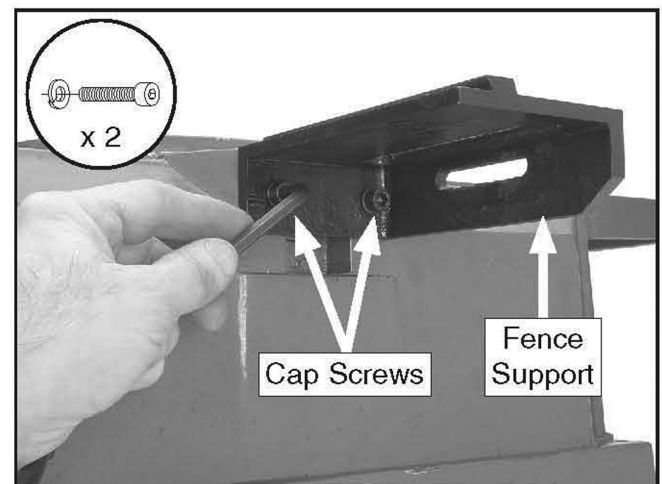


Figure 11. Attaching the fence support to the bed assembly.

2. Insert locking plate assembly into fence support, positioning it so both pins are against bottom edge of fence support (see **Figure 12**).

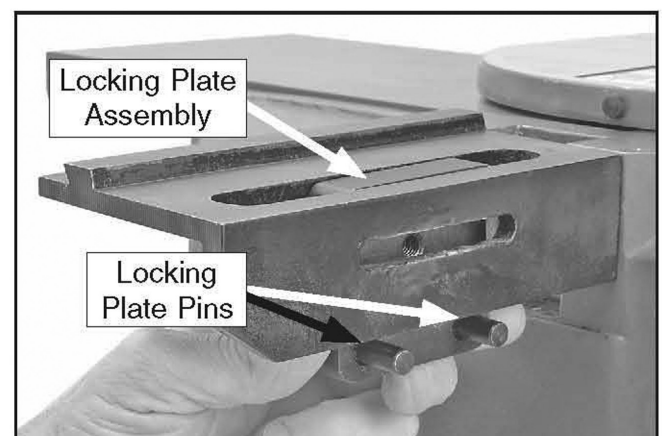


Figure 12. Inserting the locking plate.

3. Attach the fence sliding handle to the locking plate assembly. Secure the locking plate in position by tightening the fence sliding handle, as shown in **Figure 13**.

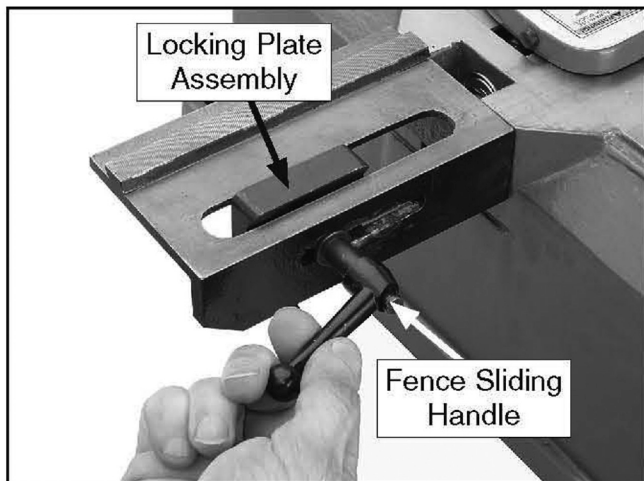


Figure 13. Securing the locking plate assembly with the fence sliding handle.

4. Press down on limit plate tab on fence assembly, and insert limit block with notched side facing upward (see **Figure 14**).
5. Use (2) M6-1 x 20 cap screws and (2) 6mm lock washers to attach fence to fence bracket assembly (see **Figure 14**).

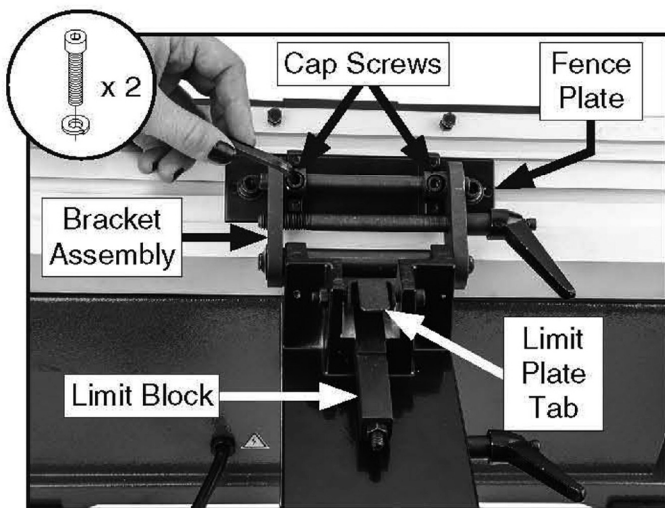


Figure 14. Attaching fence to fence bracket assembly.

6. Slide the fence bracket assembly onto the support dovetails, as shown in **Figure 15**.

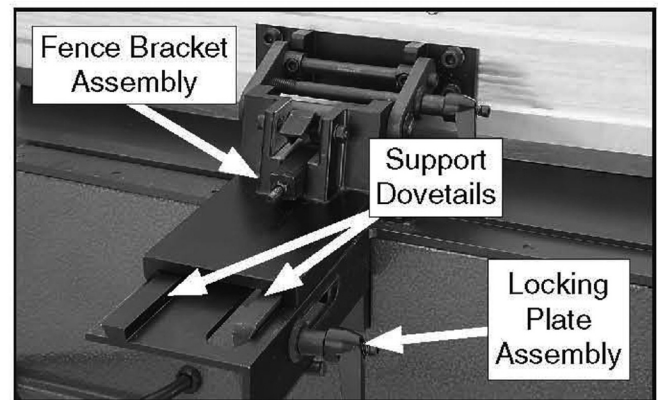


Figure 15. Fence bracket assembly positioned over dovetails.

7. Install the fence tilting handle by threading the handle shaft into the bracket assembly, as shown in **Figure 16**.

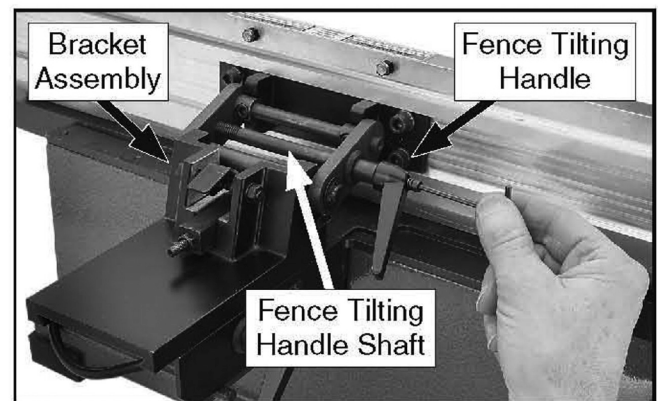


Figure 16. Installing the fence tilting handle.

8. Slide the fence forward until it contacts the cutterhead guard. The guard should completely cover the cutterhead, as shown in **Figure 17**.

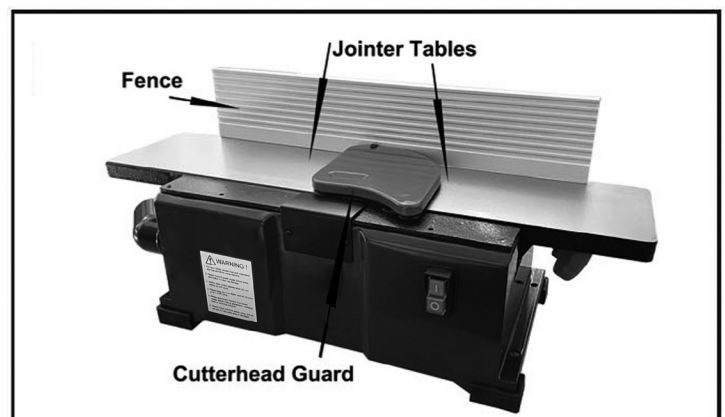


Figure 17. Fence positioned over the jointer tables.

Checking Outfeed Table Alignment

The cutterhead knives **MUST** be level with the outfeed table when they are at top dead center (their highest point during rotation) or the workpiece cannot be fed across the jointer safely.

To check outfeed table alignment:

1. DISCONNECT MACHINE FROM POWER!
2. Place a straightedge on the outfeed table so it extends over the cutterhead. For best results, use a straightedge that will stand on edge without having to be held in place.
3. Rotate the cutterhead under the straightedge until one of the knives is at top dead center, as illustrated in **Figure 18**.

—If your cutterhead knives brush the straightedge and move it slightly ($\frac{1}{8}$ ") forward and back when you turn the cutterhead, then no adjustments are necessary.

—If the knives fall below the straightedge and do not move it, or if the knives lift the straightedge and move it more than $\frac{1}{8}$ " , the knives must be adjusted.

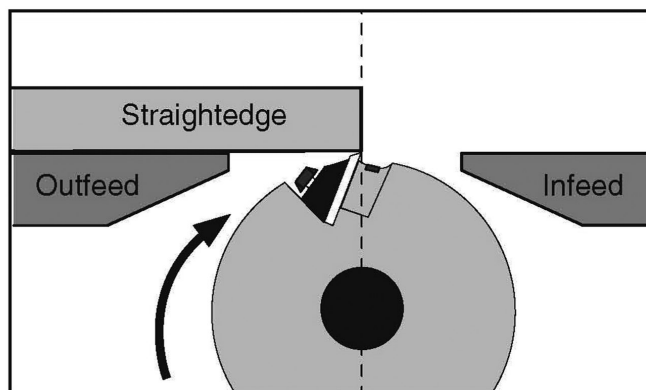


Figure 18. Illustration of a typical outfeed table alignment setup.

To adjust height of cutterhead knives:

1. DISCONNECT MACHINE FROM POWER!
2. Block the cutterhead guard back so the cutterhead is fully exposed.
3. Locate the knife clamp screws and knife adjustment jack screws (see **Figures 19–20**).

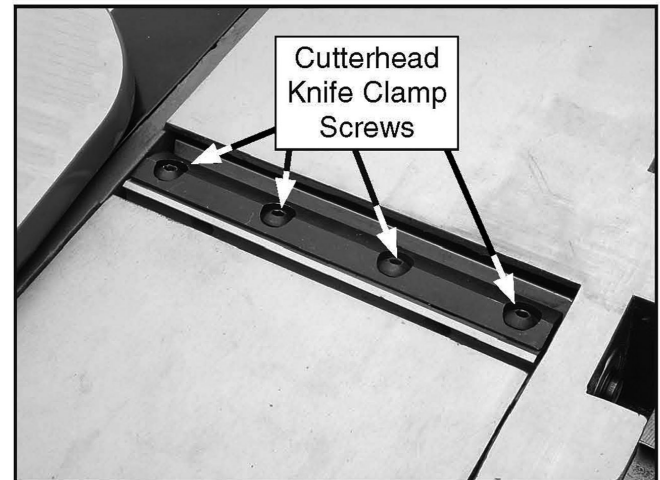


Figure 19. Cutterhead knife clamp screws.

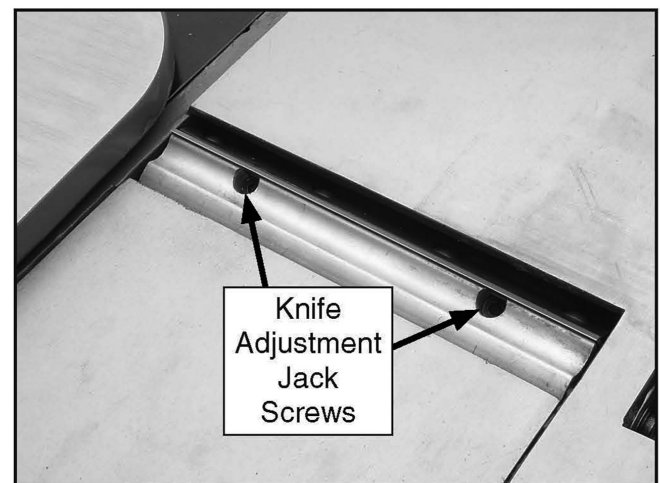


Figure 20. Knife adjustment jack screws.

4. Loosen the four knife clamp screws.

5. Move the straightedge to position **A**, as shown in **Figure 21**. Turn the jack screw nearest the fence counter-clockwise $\frac{1}{8}$ of a turn until the end of the knife touches the straightedge.
6. Move the straightedge to position **B**, as shown in **Figure 21**. Turn the jack screw nearest the guard counter-clockwise $\frac{1}{8}$ of a turn until the end of the knife touches the straightedge.

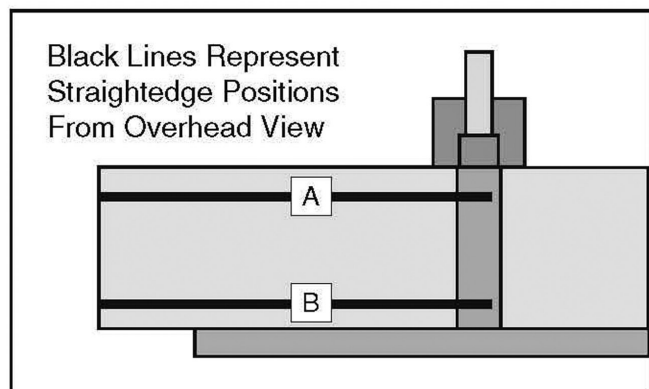


Figure 21. Straightedge positions A and B.

7. Rotate the cutterhead slightly without disturbing the knife clamp to check the knife height.
 - If the knife moves the straight edge slightly ($\frac{1}{8}$ ") forward and back on the table, the knife height is set correctly.
 - If the knife does not move the straightedge slightly ($\frac{1}{8}$ ") forward and back on the table, continue to make fine adjustments with the jack screws until the knife is set correctly.
8. Repeat **Steps 4–8** with the other cutterhead knife.
9. When the knife height is set correctly, firmly tighten each of the knife clamp screws.

Dust Collection

The Model G0725 has a built-in dust collection fan and includes a dust collection bag. It can also be hooked up to a pre-existing dust collection system.

⚠ CAUTION

DO NOT operate the Model G0725 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.

Recommended CFM at Dust Port: 150 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 Install dust collection chute and bag:

1. Install the dust chute by attaching the dust chute to the chip exhaust and tighten the hex nut.
2. Slip the bag clamp over the collection bag, then attach the collection bag to the chute and clamp it, as shown in **Figure 22**.



Figure 22. Attaching the dust collection bag.

Test Run

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

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

The Test Run consists of verifying the following:

- 1) The motor powers up and runs correctly, and
- 2) the switch disabling key disables the switch properly.

WARNING

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

WARNING

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

CAUTION

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

To test run machine:

1. Clear all setup tools away from machine.
2. Connect machine to power supply.
3. Turn machine **ON**, verify motor operation, and then turn machine **OFF**.

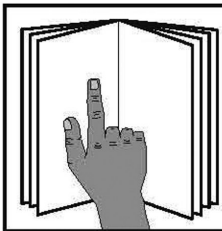
The motor should run smoothly and without unusual problems or noises.

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.

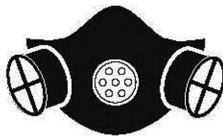


!WARNING

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.

NOTICE

If you have never used this type of machine or equipment before, **WE STRONGLY RECOMMEND** that you read books, review industry trade 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 with the jointer, the operator does the following:

1. Examines workpiece to verify it is safe and suitable for cutting.
2. Adjusts fence for width of workpiece and locks it in place.
3. Adjusts fence tilt, if necessary.
4. Adjusts infeed table height to set depth of cut per pass.
5. Puts on safety glasses, respirator, and any other required protective equipment.
6. Starts jointer.
7. Using push blocks as needed, holds workpiece firmly against infeed table and fence, and feeds workpiece into cutterhead at a steady and controlled rate until entire length of workpiece has been cut and it clears the cutterhead on the outfeed table side.
8. Repeats cutting process described above until desired results are achieved.
9. Stops jointer.

Stock Inspection & Requirements

Follow these rules when choosing and jointing stock:

- **DO NOT joint or surface plane stock that contains large or loose knots.** Injury to the operator or damage to the workpiece can occur if a knot becomes dislodged during the cutting operation.
- **DO NOT joint or surface plane against the grain direction.** Cutting against the grain increases the likelihood of kickback, as well as tear-out on the workpiece.
- **Jointing and surface planing with the grain produces a better finish and is safer for the operator.** Cutting with the grain is described as feeding the stock on the jointer so the grain points down and toward you as viewed on the edge of the stock (see **Figure** below).

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

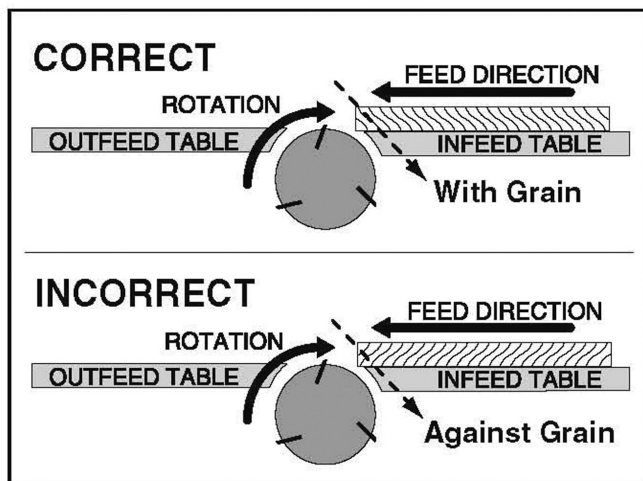


Figure 24. Proper grain alignment with cutterhead.

- **Only cut natural wood.** This jointer is only designed for cutting natural wood stock. Never use it to cut MDF, particle board, plywood, laminates, drywall, backer board, metals, glass, stone, tile, products with lead-based paint, or products that contain asbestos. Cutting these may lead to injury or machine damage.

- **Scrape all glue off the workpiece before jointing.** Glue deposits on the workpiece, hard or soft, will gum up the cutterhead and produce poor results.
- **Remove foreign objects from the workpiece.** Make sure that any stock you process with the jointer is clean and free of dirt, nails, staples, tiny rocks or any other foreign objects that could damage the cutterhead. These particles could also cause a spark as they strike the cutterhead and create a fire hazard.

IMPORTANT: Wood stacked on a concrete or dirt surface can have small pieces of concrete or stone pressed into the surface.

- **Make sure all stock is sufficiently dried before jointing.** Wood with a moisture content over 20% will cause unnecessary wear on the cutters and poor cutting results. Excess moisture can also hasten rust and corrosion.

!WARNING

Make sure your workpiece exceeds the minimum dimension requirements shown below before processing it through the jointer, or the workpiece may break or kick back during the operation.

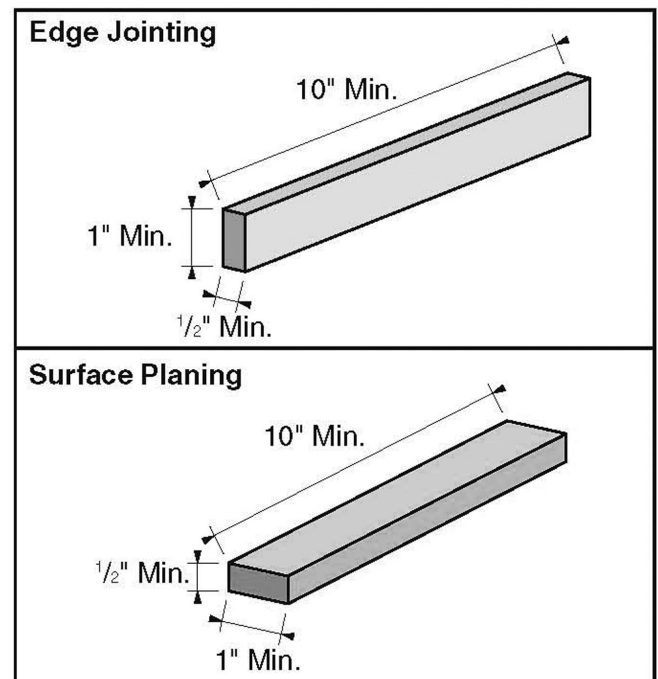


Figure 25. Minimum stock dimensions for jointer.

Squaring Stock

Squaring stock means making it flat and parallel along both length and width, and making the length and width perpendicular to one another.

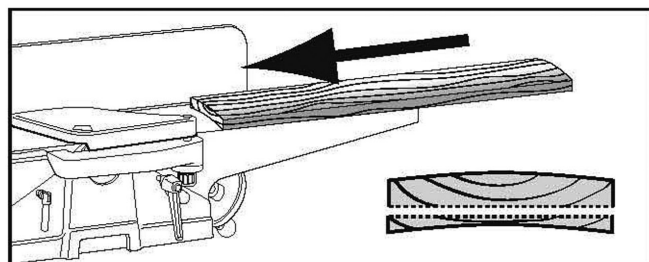
The purpose of squaring stock is to prepare it for accurate cuts and construction later on.

A properly "squared up" workpiece is essential for tasks such as accurate table saw cuts, glue-ups/laminations, cutting accurate bevels on a bandsaw, and many other applications where one surface of a workpiece is used to reference another.

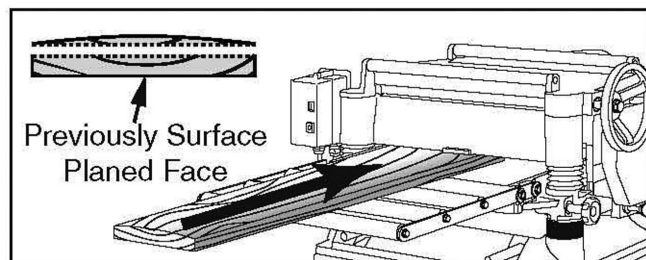
Items Needed	Qty
Jointer.....	1
Planer	1
Table Saw.....	1

Squaring stock involves four steps performed in the order below:

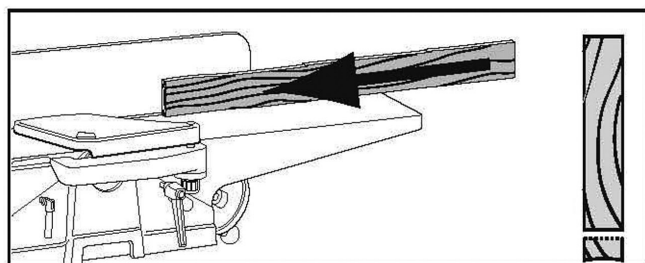
1. **Surface Plane on Jointer**—Concave face of workpiece is surface planed flat with jointer.



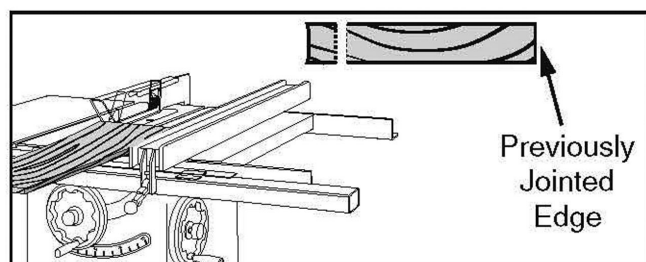
2. **Surface Plane on a Thickness Planer**—Opposite face of workpiece is surface planed flat with a thickness planer.



3. **Edge Joint on Jointer**—Concave edge of workpiece is jointed flat with jointer.



4. **Rip Cut on a Table Saw**—Jointed edge of workpiece is placed against a table saw fence and opposite edge cut off.



Setting Fence Stops

The fence angle stops simplify the task of adjusting the fence to 45° inward, 90°, and 45° outward (135°).

Items Needed	Qty
45° Square	1
90° Square	1
Sliding Bevel.....	1
Open-End Wrench 10mm.....	1
Hex Wrench 6mm.....	1
Flathead Screwdriver.....	1

Setting 90° Fence Stop

1. DISCONNECT MACHINE FROM POWER!
2. Loosen fence tilting handle (see **Figure 26**), and press limit plate tab forward into limit block rear slot.

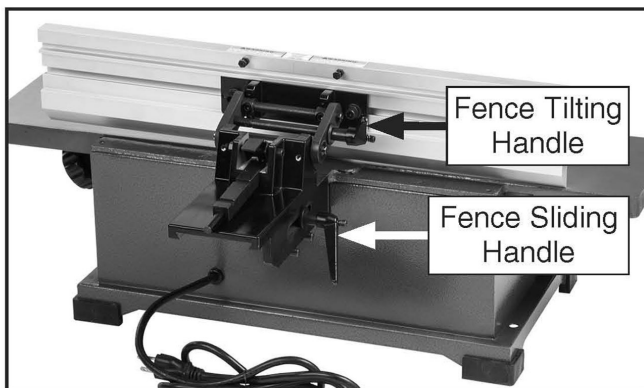


Figure 26. Fence carriage overview.

3. Use a 90° square to adjust fence to 90° (see **Figure 27**), then tighten fence tilting handle.

Note: Fence should stop at 90° when it contacts limit block shaft (see **Figure 28**).

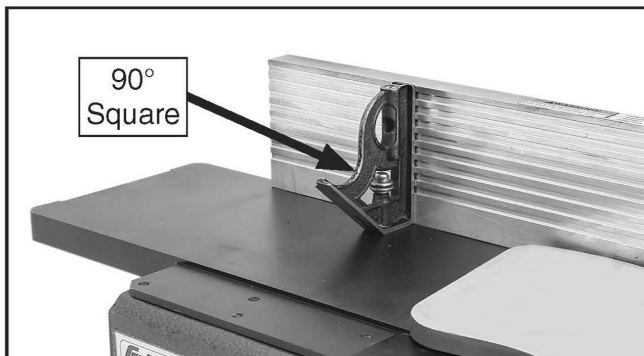


Figure 27. Checking the 90° stop.

— If fence stops at 90° when it contacts limit block shaft, it is adjusted correctly. No further adjustments are necessary.

— If fence *does not* stop at 90° when it contacts limit block shaft, 90° stop is not adjusted correctly. Proceed to **Steps 4–6**.

4. Bring fence to 90°, then loosen jam nut located on rear of limit block shaft (see **Figure 28**)

Note: Keep limit plate in limit block rear slot while making adjustments.

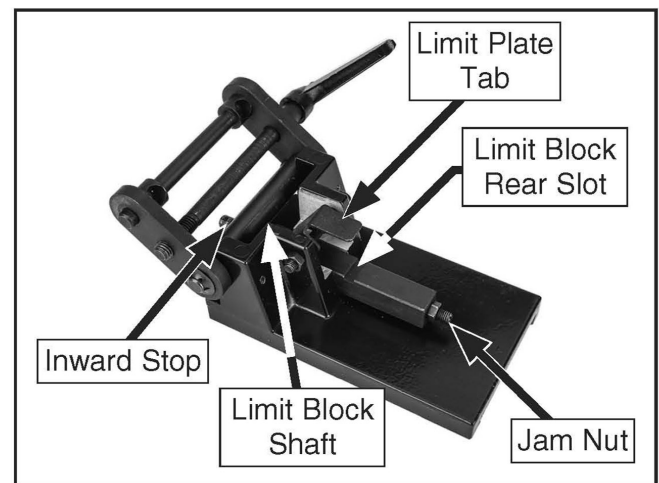


Figure 28. Fence stop parts identification.

5. Turn limit block shaft until it contacts fence.
6. Re-tighten jam nut. The 90° stop is now set precisely.

Setting 45° Fence Stop

1. DISCONNECT MACHINE FROM POWER!
2. Loosen fence tilting handle, and release fence from 90° limit block stop.
3. Tip fence towards table as far as it will go, ensuring limit plate stays in limit block rear slot, then tighten fence tilting handle.

Note: When fence tilts towards table, it will stop when it contacts inward stop (see **Figure 28**).

4. Use a 45° square to adjust fence to 45° position, as shown in **Figure 29**.

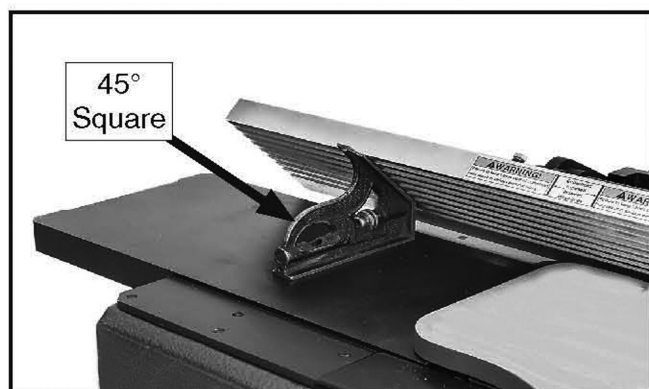


Figure 29. Checking 45° fence stop.

5. Remove limit block from fence bracket assembly and set it aside (see **Figure 30**).
6. Adjust inward stop bolt (see **Figure 30**) until it contacts fence face at precisely 45° inward, then tighten jam nut (where bolt meets bracket assembly) while holding stop bolt in place. Replace limit block and set limit plate.

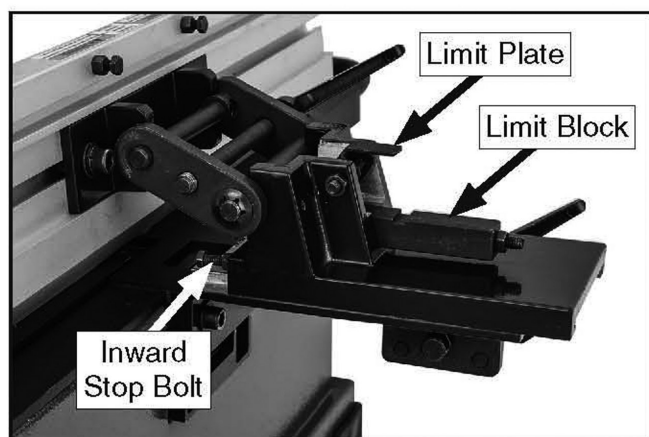


Figure 30. Adjusting the inward stop.

Setting 135° Fence Stop

1. DISCONNECT MACHINE FROM POWER!
2. Loosen fence tilt lock, remove limit block and set it aside.

Note: You will need to move fence carriage toward front of machine slightly to avoid bottom of fence catching on edge of table.

3. Tip fence back (away from table) until it stops.

Note: Fence will stop when outward stop bolt contacts fence bracket.

4. Use a 45° square to check fence angle, as shown in **Figure 31**.

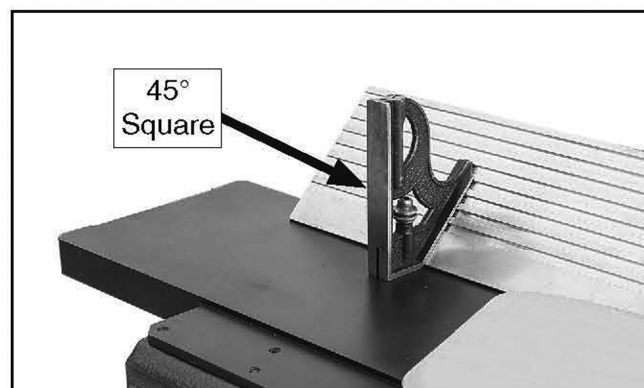


Figure 31. Checking 45° outward (135°) stop.

— If fence tilts away from table at 135°, outward stop is set correctly. Put limit block back, bring fence to 90° and tighten fence tilting handle.

— If fence does *not* tilt away from table at 135°, perform **Steps 5–6** to set outward stop correctly.

5. With outward stop bolt resting against fence bracket, adjust length of stop bolt until fence is at 135°, then tighten jam nut (see **Figure 32**).

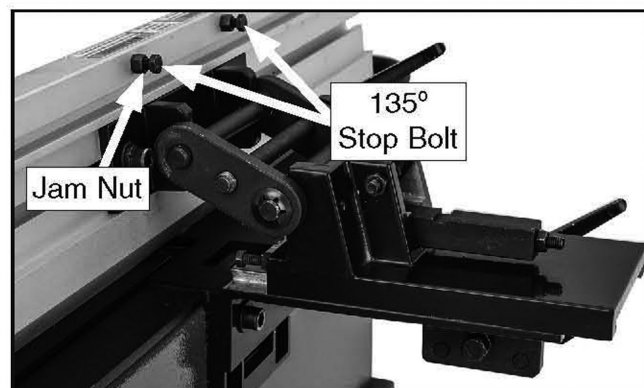


Figure 32. 135° fence stop detail.

6. Put limit block back, position fence at 90°, and tighten fence tilt lock.

NOTICE

Check accuracy of each setting frequently with a machinist's combination square and re-adjust as necessary.

Setting Depth of Cut

The depth of cut on a jointer affects the amount of material removed from the bottom of the workpiece as it passes over the cutterhead.

The depth of cut is set by adjusting the height of the infeed table relative to the cutterhead knives at top dead center (TDC) and the outfeed table.

Tools Needed	Qty
Precision Straightedge 24"	1
Hex Wrench 3mm.....	1
Open-End Wrench 10mm.....	1

Adjusting Infeed Table Height

To adjust infeed table height, rotate the infeed table adjustment knob to raise or lower the table (see **Figure 33**).

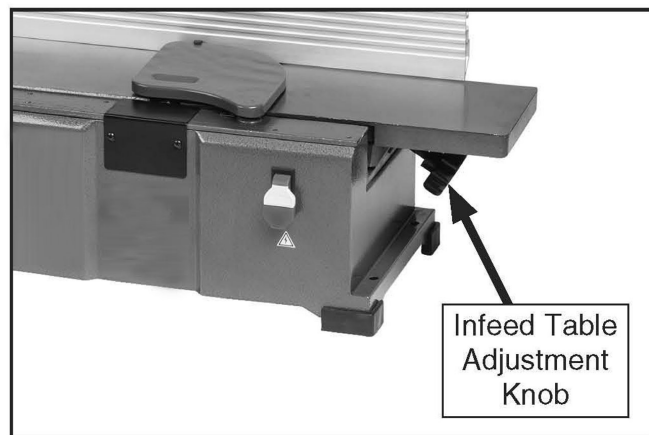


Figure 33. Location of infeed table adjustment knob.

!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.

Adjusting Zero Stop

The zero stop (see **Figure 34**) allows the operator to consistently bring the infeed table even with the outfeed table height.

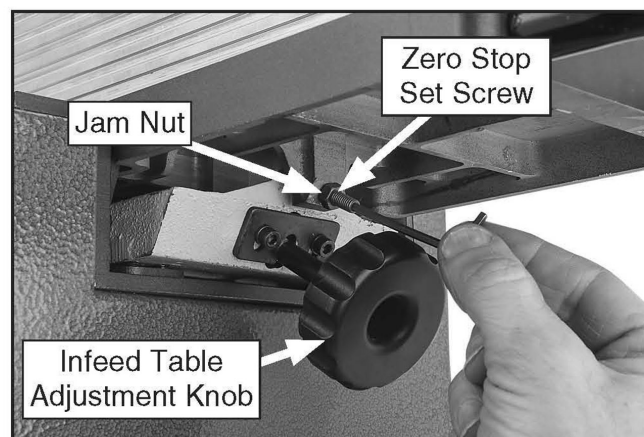


Figure 34. Zero stop components.

To set zero stop:

1. Place a straightedge on top of outfeed table (see **Figure 35**) and use infeed table adjustment knob to raise or lower table until table contact is even along straightedge.

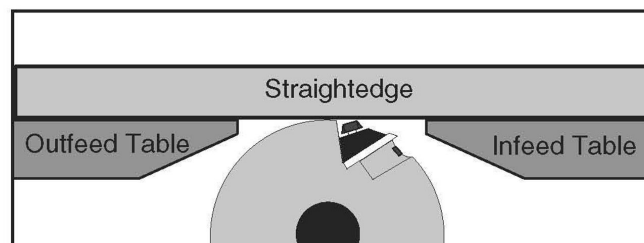


Figure 35. Checking table parallelism.

2. Loosen jam nut, and adjust zero stop set screw until it contacts table base (see **Figure 34**).
3. Tighten jam nut to secure height setting.

Surface Planing

The purpose of surface planing (see example **Figures** below) on the jointer is to make one flat face on a piece of stock to prepare it for thickness planing on a planer.

!WARNING

Failure to use push blocks when surface planing could result in your hands contacting rotating cutterhead, which will cause serious personal injury. **ALWAYS** use push blocks when surface planing on jointer!

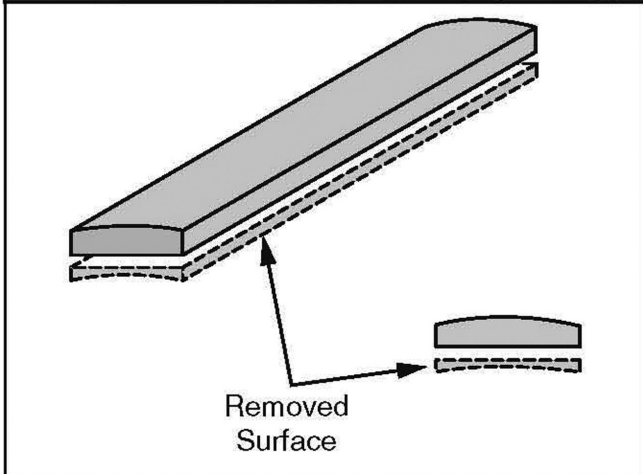


Figure 36. Example photo of a typical surface planing operation.

NOTICE

If you are not experienced with a jointer, set depth of cut to 0", and practice feeding workpiece across tables as described. This will help you prepare for actual operations.

To surface plane on jointer:

1. Inspect stock to ensure it is safe and suitable for the operation (see **Stock Inspection & Requirements** section).
2. Set infeed table height to desired cutting depth for each pass.

▲ CAUTION: To minimize risk of kickback, do not exceed a cutting depth of $\frac{1}{16}$ " per pass when surface planing.

3. Set fence to 90°.
4. Start jointer.
5. Place workpiece firmly against fence and infeed table.

▲ CAUTION: To ensure workpiece remains stable during cut, concave sides of workpiece must face toward table and fence.

6. Feed workpiece completely across cutterhead while keeping it firmly against fence and tables during the entire cut.

▲ CAUTION: Keep hands at least 4" away from cutterhead during the entire cut. Instead of allowing a hand to pass directly over cutterhead, lift it up and over cutterhead, and safely reposition it on the outfeed side to continue supporting workpiece. Use push blocks whenever practical to further reduce risk of accidental hand contact with cutterhead.

7. Repeat **Step 6** until entire surface is flat.

Tip: When squaring up stock, cut opposite side of workpiece with a planer instead of the jointer to ensure both sides are parallel.

Edge Jointing

Edge jointing (see example **Figures** below) produces a flat and true surface along the side of a workpiece by removing uneven areas. It is an essential step for squaring up warped or rough stock and when preparing a workpiece for joinery or finishing.

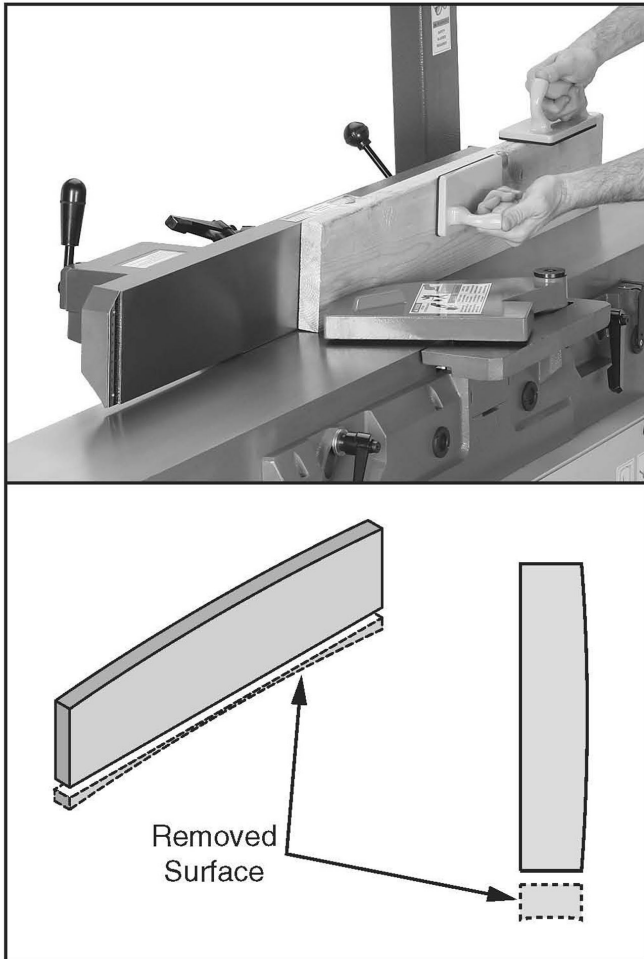


Figure 37. Example photo of a typical jointing operation.

NOTICE

If you are not experienced with a jointer, set depth of cut to 0", and practice feeding workpiece across tables as described. This will help you prepare for actual operations.

To edge joint on jointer:

1. Inspect stock to ensure it is safe and suitable for the operation (see **Stock Inspection & Requirements** section).
2. Set infeed table height to desired cutting depth for each pass.

⚠ CAUTION: To minimize risk of kickback, do not exceed a cutting depth of $\frac{1}{8}$ " per pass.

3. Set fence to 90°.
4. Start jointer.
5. Place workpiece firmly against fence and infeed table.

⚠ CAUTION: To ensure workpiece remains stable during cut, concave sides of workpiece must face toward table and fence.

6. Feed workpiece completely across cutterhead while keeping it firmly against fence and tables during the entire cut.

⚠ CAUTION: Keep hands at least 4" away from cutterhead during the entire cut. Instead of allowing a hand to pass directly over cutterhead, lift it up and over cutterhead, and safely reposition it on the outfeed side to continue supporting workpiece. Use push blocks whenever practical to further reduce risk of accidental hand contact with cutterhead.

7. Repeat **Step 6** until the entire edge is flat.

Tip: When squaring up stock, cut opposite edge of workpiece with a table saw instead of the jointer—otherwise, both edges of workpiece will not be parallel with each other.

Bevel Cutting

Bevel cuts (see example **Figures** below) can be made by setting the fence at the desired angle and feeding the workpiece firmly along the fence face, with the bottom inside corner firmly against the table. The cutting process typically requires multiple passes or cuts to bevel the entire edge of a workpiece.

This jointer has fence stops you can set at 90°, 45° inward, and 45° outward (135°). If your situation requires a different angle, the fence can be locked anywhere between these angles.

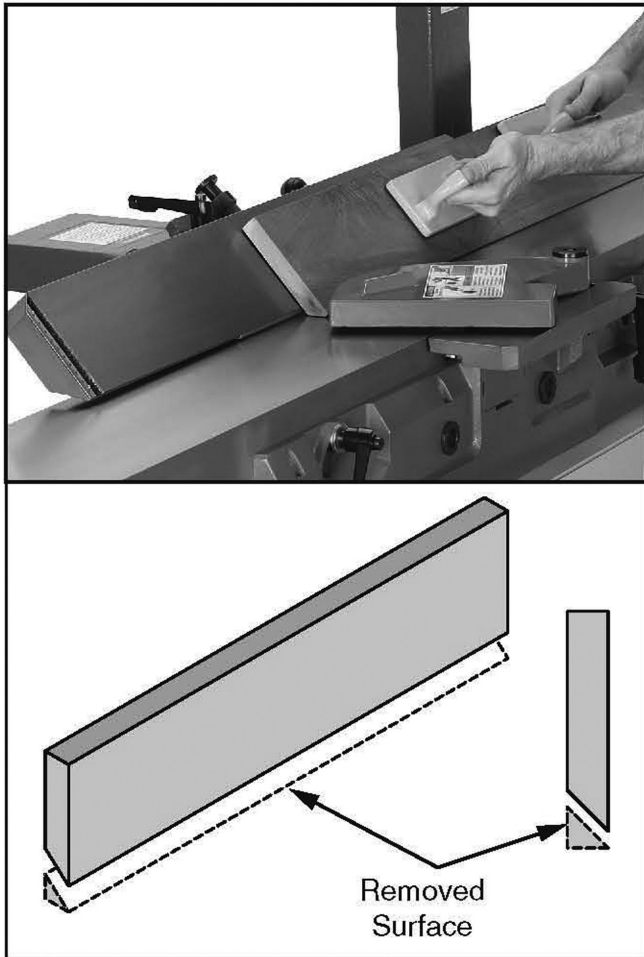


Figure 38. Example photo of fence setup for a bevel cut of 45°.

NOTICE

If you are not experienced with a jointer, set depth of cut to 0", and practice feeding workpiece across tables as described. This will help you prepare for actual operations.

To bevel cut on jointer:

1. Inspect stock to ensure it is safe and suitable for the operation (see **Stock Inspection & Requirements** section).
2. Set infeed table height to cutting depth desired for each pass.

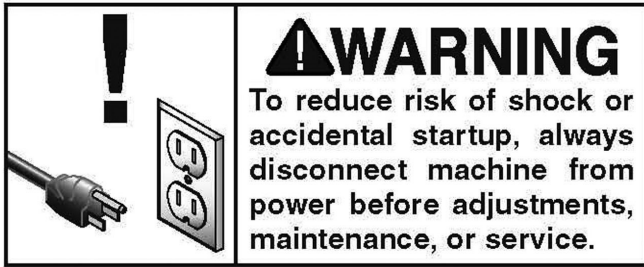
▲ CAUTION: Cutting depth for bevel cuts is typically between 1/16" and 1/8", depending on hardness and width of stock.

3. Set fence tilt to desired angle of cut.
4. Place workpiece against fence and infeed table with concave side face down.
5. Start jointer.
6. With a push block in your leading hand, press workpiece against table and fence with firm pressure, and feed workpiece over cutterhead with a push block in your trailing hand.

▲ CAUTION: When your leading hand gets within 4" of the cutterhead, lift it up and over cutterhead, and place push block on portion of the workpiece once it is 4" past cutterhead. Now, focus your pressure on outfeed end of the workpiece while feeding, and repeat same action with your trailing hand when it gets within 4" of cutterhead. To help keep your hands safe, DO NOT let them get closer than 4" from moving cutterhead at any time during operation!

7. Repeat cutting process, as necessary, until you are satisfied with the results.

SECTION 5: MAINTENANCE



Schedule

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:

- Loose mounting bolts.
- Damaged cutterhead knives
- Worn or damaged wires.
- Any other unsafe condition.

Weekly Maintenance

- Empty dust collection bag.
- Wipe down tables and other unpainted surfaces with a metal protectant

Monthly Check

- Cutterhead knife alignment
- Fence angle stops
- Belt tension, damage, or wear
- Clean/vacuum dust from inside the cabinet and around the motor.

Lubrication

All bearings are sealed and permanently lubricated. Do not lubricate them; leave them alone until they need to be replaced.

Cleaning

Cleaning the Model 22102 is easy and should be done often. Vacuum excess wood chips and sawdust, and wipe off the remaining dust away 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 will help prevent moisture from wood dust accumulating on bare metal surfaces.

SECTION 6: SERVICE

Review the troubleshooting procedures in this section if a problem develops with your machine. If you need replacement parts or additional help with a procedure, call our Technical Support. **Note:** *Please gather the serial number and manufacture date of your machine before calling.*

Troubleshooting



Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	<ol style="list-style-type: none"> 1. Safety key removed from ON/OFF switch, 2. Plug/receptacle is at fault or wired incorrectly. 3. Power supply is at fault/switched OFF. 4. Lockout key is at fault. 5. Motor brushes are at fault. 6. Motor ON/OFF switch is at fault. 7. Wiring is open/has high resistance. 8. Motor is at fault. 	<ol style="list-style-type: none"> 1. Replace safety key. 2. Test for good contacts; correct the wiring 3. Ensure hot lines have correct voltage on all legs and main power supply is switched ON. 4. Install/replace lockout key; replace switch. 5. Remove/replace brushes 6. Replace faulty ON/OFF switch. 7. Check for broken wires or disconnected/corroded connections, and repair/replace as necessary 8. Test/repair/replace.
Machine stalls or is overloaded.	<ol style="list-style-type: none"> 1. Wrong workpiece material. 2. Cutterhead belt slipping. 3. Plug/receptacle is at fault. 4. Motor brushes are at fault. 5. Motor bearings are at fault. 6. Machine is undersized for the task. 7. Knives dull, feed rate is too fast, depth of cut too great. 8. Motor has overheated. 9. Motor is at fault. 	<ol style="list-style-type: none"> 1. Use wood with correct moisture content, without glues, and little pitch/resins 2. Re-tension or replace cutterhead belt 3. Test for good contacts; correct the wiring 4. Remove/replace brushes 5. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement. 6. Stop operation and ensure stock is properly sized for safe machine operation 7. Use sharp knives; reduce feed rate/depth of cut. 8. Clean off motor, let cool, and reduce workload. 9. Test/repair/replace.
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> 1. Motor or component is loose. 2. Knife blades, clamp or jack screws are at fault. 3. Belts worn or loose. 4. Motor fan is rubbing on fan cover. 5. Loose mounting bolts. 6. Blade is at fault. 	<ol style="list-style-type: none"> 1. Inspect/replace stripped or damaged bolts/nuts, and re-tighten with thread locking fluid. 2. Resharpen/replace knives as required; set knife alignment correctly 3. Inspect/replace belts with a new ones 4. Replace dented fan cover; replace loose/damaged fan. 5. Replace/tighten as required. 6. Replace warped, bent, or twisted blade; resharpen dull blade

Cutting Operations



Symptom	Possible Cause	Possible Solution
Excessive snipe (gouge in the end of the board that is uneven with the rest of the cut).	<ol style="list-style-type: none"> 1. Outfeed table is out of alignment with the cutterhead. 2. Operator is pushing down on trailing edge of the workpiece 	<ol style="list-style-type: none"> 1. Align cutterhead with outfeed table 2. Reduce/eliminate downward pressure on that end of the workpiece.
Cutterhead stops during operation.	<ol style="list-style-type: none"> 1. Cutterhead belt is damaged/broken. 	<ol style="list-style-type: none"> 1. Replace cutterhead belt
Workpiece stops in the middle of the cut.	<ol style="list-style-type: none"> 1. Cutterhead is set lower than the outfeed table. 	<ol style="list-style-type: none"> 1. Align the cutterhead knives with the outfeed table at top dead center
Chipping.	<ol style="list-style-type: none"> 1. Knots or conflicting grain direction in wood. 2. Nicked or chipped knives. 3. Feeding workpiece too fast. 4. Taking too deep of a cut. 	<ol style="list-style-type: none"> 1. Inspect workpiece for knots and grain; only use clean stock 2. Adjust one of the nicked knives sideways; sharpen or replace blade 3. Slow down the feed rate. 4. Take a smaller depth of cut. Never exceed 1/8" per pass. Reduce cutting depth when working with hard woods.
Long lines or ridges that run along the length of the board.	<ol style="list-style-type: none"> 1. Nicked or chipped knives. 	<ol style="list-style-type: none"> 1. Adjust one of the nicked knives sideways; sharpen or replace blade
Uneven cutter marks, wavy surface, or chatter marks across the face of the board.	<ol style="list-style-type: none"> 1. Feeding workpiece too fast. 2. Knives not adjusted evenly with each other in the cutterhead. 	<ol style="list-style-type: none"> 1. Slow down the feed rate. 2. Adjust the knives so they are set up evenly with the cutterhead
Board edge is concave or convex after jointing.	<ol style="list-style-type: none"> 1. Board not held with even pressure on infeed and outfeed table during cut. 2. Board started too uneven. 3. Board has excessive bow or twist along its length. 4. Insufficient number of passes. 	<ol style="list-style-type: none"> 1. Hold board with even pressure as it moves over the cutterhead. 2. Take partial cuts to remove the extreme high spots before doing a full pass. 3. Surface plane one face so there is a good surface to position against the fence 4. It may take 3 to 5 passes to achieve a perfect edge, depending on the starting condition of the board and the depth of cut.
Overall, cut quality is poor; inconsistent snipe problems; or consistent difficulty feeding workpiece.	<ol style="list-style-type: none"> 1. Knives are out of alignment or cutterhead height is not even with the outfeed table. 2. Fence stops are set incorrectly. 3. Fence bracket parts are loose or parts are misaligned. 	<ol style="list-style-type: none"> 1. Reset the knives to correct height and alignment with cutterhead assembly 2. Recalibrate the fence stops 3. Check/tighten the fence bracket fasteners

Adjusting/Replacing Belts

The Model 22102 uses belts to drive both the cutterhead and the dust collection fan. When these belts are misaligned, damaged, or not tensioned correctly, the jointer will not function properly.

This sub-section describes how to service these belts. You can order replacement belts from us.

Tools Needed	Qty
Phillips Head Screwdriver.....	1
Hex Wrench 6mm.....	1

To re-align or replace cutterhead belt:

1. DISCONNECT MACHINE FROM POWER!
2. While facing the rear of the jointer, tip it away from you until it rests on the fence assembly.
3. Remove the Phillips screws fastening the motor cover to the jointer base. Lift the cover off and set it aside.
4. Remove all dust and debris from the motor and belt areas.
5. Inspect the cutterhead belt for proper tension, alignment and condition.

Note: The belt is properly tensioned if it deflects no more than $\frac{3}{8}$ " when you press down on middle of the belt with moderate pressure from your thumb or forefinger.

The belt is properly aligned if it lies flat and straight on the motor shaft and drive pulley.

Belt damage will be evident on inspection.

6. Loosen the four motor mounting cap screws (see **Figure 43**), but do not remove them. This will release the belt tension.

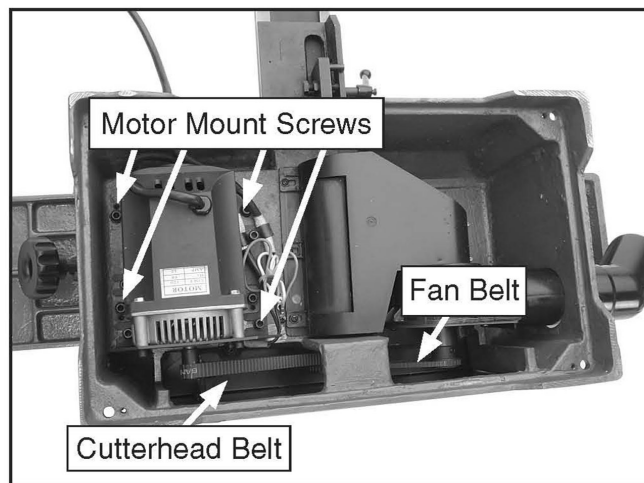


Figure 43. Motor mounting screws and belt locations.

7. Replace a damaged belt with a new one. Realign and re-tension the belt by tightening the four motor mounting cap screws.
8. Tighten the motor mounting cap screws and replace the motor cover.
9. Test run the jointer. Repeat this procedure if necessary. If repeating this procedure does not solve the problem, please contact us.

To replace fan belt:

1. DISCONNECT MACHINE FROM POWER!
2. Remove the motor cover and check the belt for damage.

—If the belt shows no wear or damage, precede to **Step 4**.
3. Remove the belt. Put one end of the new belt on the fan pulley, then fit the other end onto the drive pulley.

Note: It is highly unlikely that this belt will ever be misaligned or out of tension. If it is, the jointer needs to be serviced by a qualified technician. Call our Tech Support.

4. Re-install the motor cover.

Replacing Motor Brushes

The jointer has a universal motor that uses carbon brushes that normally wear out over time. If you are having trouble with the performance of the motor, refer to **Troubleshooting (Page 31)** to determine if the motor brushes must be replaced.

You can order a new brush kit (two brush assemblies) from Grizzly. The part number for the brush kit is P0725024-1.

Tools Needed	Qty
Phillips Head Screwdriver.....	1
Dime	1

To replace motor brushes:

1. DISCONNECT MACHINE FROM POWER.
2. While facing rear of jointer, tip it away from you until it rests on fence assembly.
3. Remove (4) Phillips screws fastening motor cover to jointer base. Lift off cover and set it aside.
4. Take this opportunity to clear dust and debris from inside jointer.
5. Use a dime to unscrew the brush caps (see **Figure 44**).

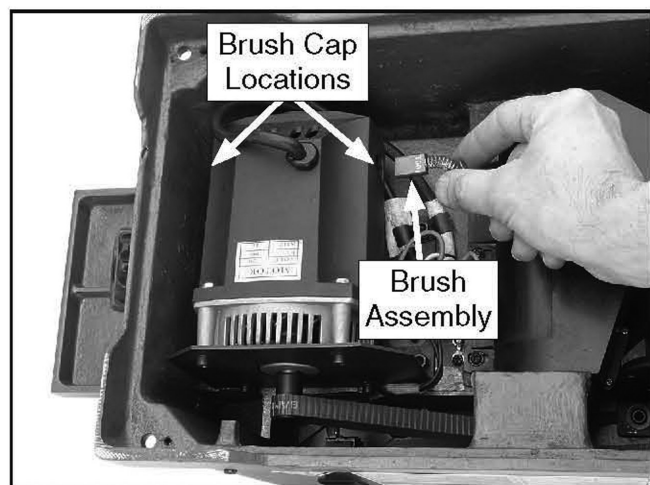


Figure 44. Removing a motor brush.

Note: When you remove the brush caps, a spring will pop out of the socket; the carbon brush is firmly attached to this spring. When you buy a new brush kit, you will get a pair of brush/spring assemblies. Do not separate the brush from the spring.

6. Check brushes for wear. If a brush is worn to less than $\frac{3}{32}$ " in length, replace both brushes.
7. Insert brush assemblies, positioning them so they slide into slots built into sockets.
8. Individually, press each brush cap against its spring, pushing it into the socket and turning brush cap to lock it in motor housing.
9. Re-install motor cover.
10. Test run jointer.

—If jointer runs properly, you are done.

—If motor does not start, either brushes are not correctly aligned in sockets or there is another problem with the motor or wiring. Double check all wire connections first, then refer to the **Troubleshooting**

Replacing Cutterhead Knives

The Model 22102 jointer has a two-knife cutterhead. Under normal operation these knives will become dull and need to be sharpened or replaced. Refer to **Troubleshooting** to determine if the knives may be dull.

You can order new knives or a knife hone from us .

To replace cutterhead knives:

1. DISCONNECT MACHINE FROM POWER.
2. Carefully rotate the cutterhead until clamp screws are accessible.

CAUTION

Cutterhead knives are sharp. Use caution when handling cutterhead knives. Use gloves to reduce the risk of injury.

3. Remove the four cutterhead clamp screws fastening the knife to cutterhead (see **Figure 45**). Carefully remove the knife and clamp from cutterhead.

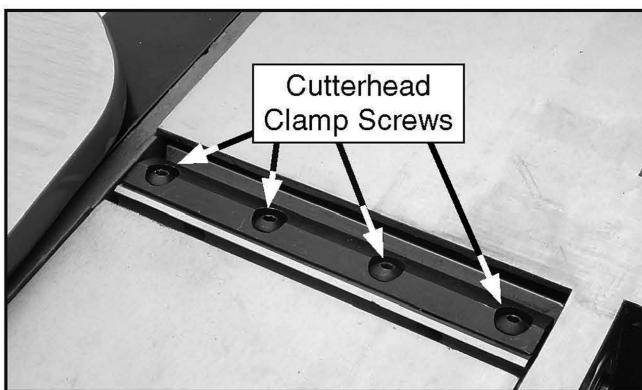


Figure 45. Cutterhead knife clamp screws.

4. Repeat **Steps 1–3** for the second cutterhead knife.
5. Clean the cutterhead thoroughly before installing new knives or re-installing sharpened knives.

6. Install the knife and clamp in the cutterhead and slightly tighten each of the clamp screws in sequence, as shown in **Figure 46**.

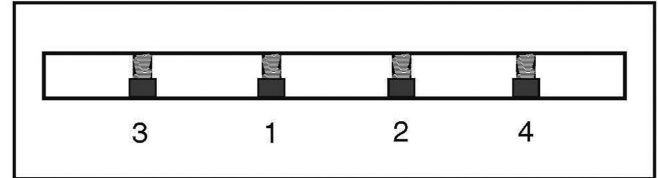


Figure 46. Clamp screw tightening sequence.

Note: By tightening the clamp screws out of sequence, the shape of the knife may be affected, hampering the jointing capabilities of the machine. Following the tightening sequence reduces that possibility.

7. Repeat **Step 6** for the second cutterhead knife.
8. Check the alignment of the knives to the outfeed table. They must be parallel. If the knife is not parallel to the outfeed table, use the knife adjustment jack screws (see **Figure 47**) to fine tune the position of the knife.

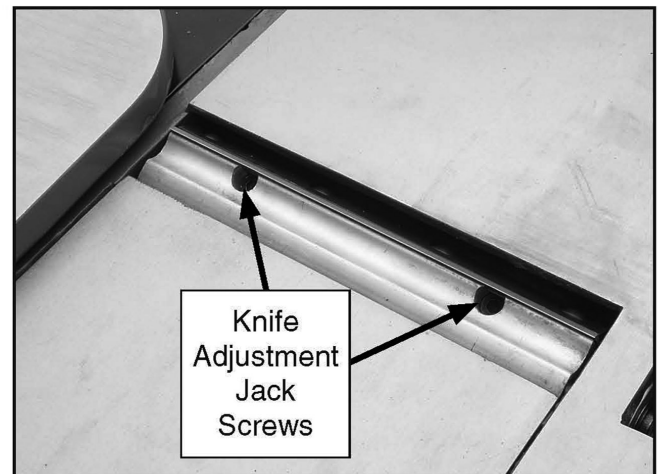
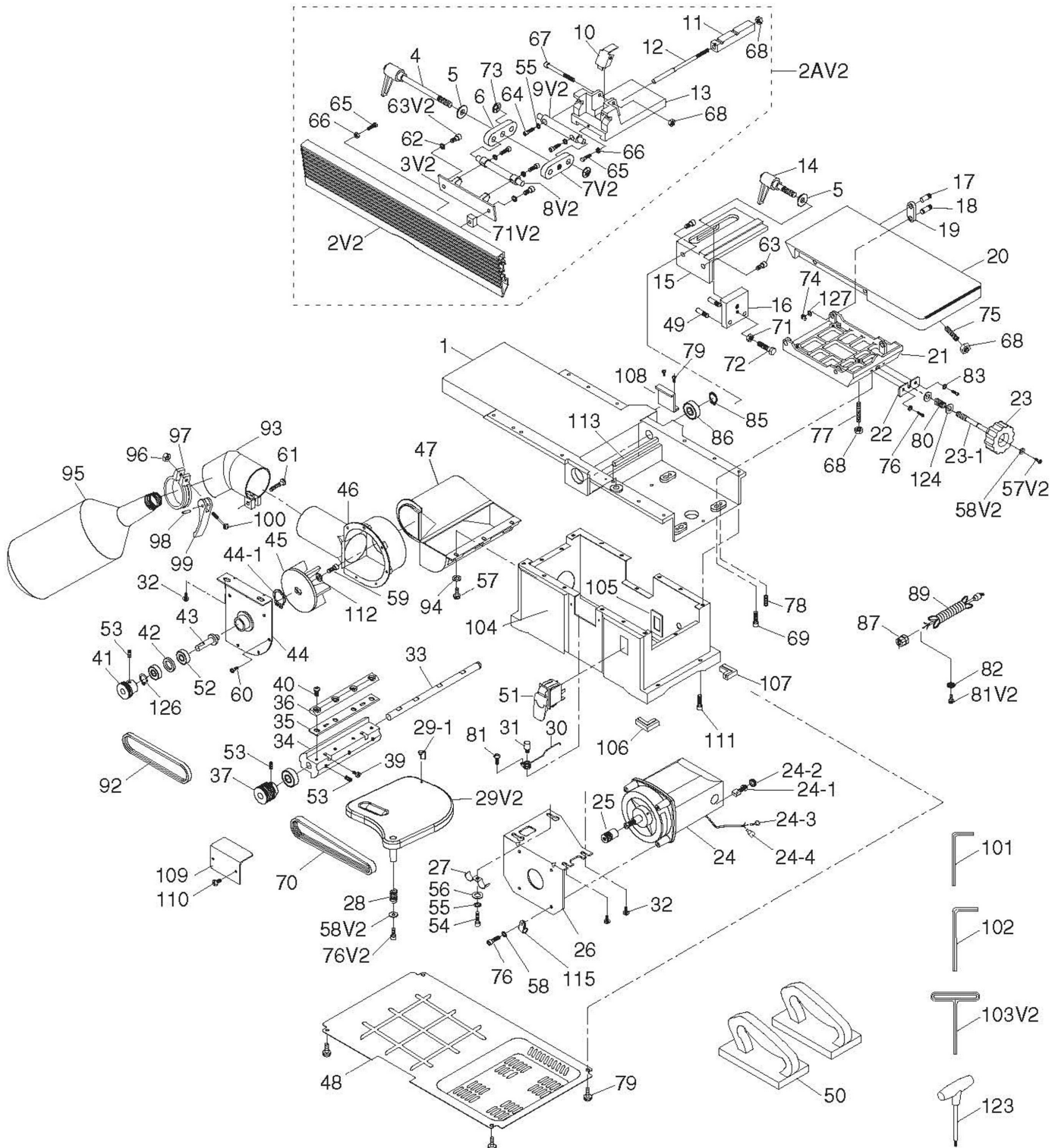


Figure 47. Knife adjustment jack screws.

9. Following the tightening sequence (see **Figure 46**), final tighten each of the clamp screws.
10. Return the cutterhead guard to the operating position and ensure it is working properly. Re-align the fence and tables as needed. Test the jointer on a piece of scrap material.

SECTION 7: PARTS

Main



Main Parts List

REF DESCRIPTION

1	TABLE
2V2	FENCE, ALUMINUM V2.08.18
2AV2	FENCE ASSEMBLY V2.08.18
3V2	FENCE PLATE V2.08.18
4	FENCE TILTING HANDLE
5	FLAT WASHER 8MM
6	RIGHT LINK
7V2	LEFT LINK (TAPERED) V2.03.18
8V2	PLATE SHAFT (TAPERED) V2.03.18
9V2	BRACKET SHAFT (TAPERED) V2.03.18
10	LIMIT PLATE
11	BLOCK
12	SHAFT
13	FENCE BRACKET
14	FENCE SLIDING HANDLE
15	FENCE SUPPORT
16	LOCKING PLATE
17	TABLE PIN
18	FRAME PIN
19	BRACKET
20	INFEED TABLE
21	TABLE FRAME
22	SUPPORT PLATE
23	KNOB 12-LOBE, 8MM, 60MM, ROUND
23-1	KNOB BOLT
24	MOTOR 2HP UNIVERSAL
24-1	CARBON BRUSH SET
24-2	BRUSH COVER
24-3	RING TERMINAL
24-4	SPADE TERMINAL
25	MOTOR PULLEY
26	MOTOR MOUNTING PLATE
27	CORD CLAMP
28	COMPRESSION SPRING
29V2	CUTTERHEAD GUARD V2.08.18
29-1	RUBBER BUMPER
30	TORSION SPRING
31	PIN
32	CAP SCREW M6-1 X 12
33	SHAFT
34	CUTTERHEAD
35	KNIVES 2-PC SET 6-1/4" X 7/8" X 3/32"
36	KNIFE CLAMP
37	DRIVE PULLEY
39	JACK SCREW M4-.7 X 10
40	BUTTON HD CAP SCR 1/4"-20 x 5/8"
41	FAN PULLEY
42	SPACER
43	FAN SHAFT
44	CHIP BLOWER MOUNTING PLATE
44-1	EXT RETAINING RING 26MM
45	IMPELLER
46	CHIP EXHAUST
47	CHIP COLLECTOR
48	BASE BOTTOM

REF DESCRIPTION

49	ALIGNMENT PIN
50	PUSH BLOCKS
51	PADDLE SWITCH
52	BALL BEARING 6000ZZ
53	SET SCREW M6-1 X 10
54	CAP SCREW M6-1 X 12
55	LOCK WASHER 6MM
56	FLAT WASHER 6MM
57V2	PHLP HD SCR M5-.8 X 14 V2.08.18
58	FLAT WASHER 5MM
58V2	FENDER WASHER 5 X 15.3 X 1.2 V2.09.18
59	CAP SCREW M4-.7 X 10
60	TAP SCREW M6 X 12
61	PHLP HD SCR M6-1 X 20
62	LOCK WASHER 8MM
63	CAP SCREW M8-1.25 X 20
63V2	CAP SCREW M8-1.25 X 25 V2.08.18
64	CAP SCREW M6-1 X 20
65	HEX BOLT M5-.8 X 25
66	HEX NUT M5-.8
67	CAP SCREW M6-1 X 55
68	HEX NUT M6-1
69	CAP SCREW M6-1 X 30
70	RIBBED V-BELT 171J5 NK
71V2	T-NUT M8-1.25 V2.08.18
72	HEX BOLT M8-1.25 X 35
73	SHAFT RETAINER M10
74	E-CLIP 6MM
75	SET SCREW M6-1 X 30
76	CAP SCREW M6-1 X 30
76V2	CAP SCREW M5-.8 X 10 V2.08.18
77	SET SCREW M6-1 X 35
78	SET SCREW M6-1 X 16
79	PHLP HD SCR M5-.8 X 8
80	COMPRESSION SPRING 14 X 10 X 2
81V2	PHLP HD SCR M5-.8 X 10 V2.08.18
82	EXT TOOTHED WASHER 4MM
83	LOCK WASHER 5MM
85	EXT RETAINING RING 12MM
86	BALL BEARING 6201ZZ
87	STRAIN RELIEF STR SNAP-IN 5/8"
89	POWER CORD 16G 3W 5-15
92	FAN RIBBED V-BELT V1.25-7A
93	DUST CHUTE
94	FLAT WASHER 5MM
95	DUST COLLECTION BAG
96	HEX NUT M6-1
97	CLAMP 60MM
98	SOLID PIN 4.5 X 20MM
99	CLAMP HANDLE
100	SWING BOLT M6-1 X 50
101	HEX WRENCH 5MM
102	HEX WRENCH 6MM
103V2	4MM SHORT T-HANDLE HEX WRENCH
104	BASE