Busy Bee Tools

12” Jointer Planer Combo

BBJP12

User’s Manual

General Shop Safety Instructions

Notice: Safety First! The paramount concern in operating this equipment is safety. It is imperative to adhere strictly to the following instructions. Neglecting any of the listed guidelines may lead to risks such as electric shock, fire hazards, or severe personal injury.

This tool is specifically designed for certain applications. We emphasize the importance of refraining from modifying or repurposing the tool for any other use beyond its designated application. If you have inquiries regarding its appropriate application, refrain from using the tool until you have communicated with us and received our guidance. Please refer to the below safety symbols

Implies an imminently hazardous situation, which, if not avoided, could 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, could result in minor or moderate injury.

Please note that this manual has some instructions and processes to help you maintain and prolong the life of your machine. Please perform all the recommended cleaning and maintaining maintenance processes diligently.

Introduction

It is with distinct honor and excitement that we present to you the BBJP12, a premier addition to our esteemed line of precision woodworking equipment. At Busy Bee Tools, we are committed to engineering excellence, and this machine exemplifies our dedication to providing craftsmen with superior tools for their trade.

This manual has been meticulously crafted to guide you through the setup, safe operation, and maintenance of your new BBJP12. By following the detailed instructions and recommendations contained within these pages, you can anticipate many years of dependable and satisfying performance. This commitment to quality underscores Busy Bee Tools' promise of enhancing customer satisfaction through innovation and reliability.

This manual includes precise specifications, illustrations, and photographs representing the BBJP12 in its current configuration. Please note, that in our pursuit of continual improvement and to exceed industry standards, Busy Bee Tools reserves the right to make enhancements to this model without prior notice.

For your convenience, we continuously update all our product manuals on our website at www.busybeetools.com . We encourage you to visit this site regularly to download the latest updates and ensure that you are always informed about the best practices for operating and maintaining your machine. At Busy Bee Tools, your safety and satisfaction are our utmost priority, and we are dedicated to ensuring that your experience with the BBJP12 is exceptional.

Welcome to the Busy Bee Tools family, where craftsmanship meets innovation.

Contact Us

In case you require additional assistance or have any further questions, please do not hesitate to reach out to our dedicated Customer Service and Technical Support Department at:

Busy Bee Tools Head Office
130 Great Gulf Drive
Concord ON, L4K 5W1

Or at any of our stores across Canada.

Visit our website www.busybeetools.com for the latest deals and for more information. Call us Toll Free: 1-800-461-2879.

Email us at: cs@busybeetools.com

Our team of experts is here to provide you with the guidance and support you need to ensure the safe and efficient operation of your machine. Your satisfaction and safety are our top priorities, and we are committed to assisting you in any way we can.

Machine Data Sheet

This machine has a helical cutterhead with carbide inserts.

Motor	3 HP
Motor Speed (no load)	3400 RPM
Volts	220 V
Amps, Hertz	12 A, 60 Hz
Cutterhead Diameter	4” (69.85mm)
Cutterhead Speed (RPM / CPM)	5000 RPM / 20,000 CPM
Number of Carbide Inserts	4-sided x56
BBJP12 Knife Insert Size (L x W x T)	0.59” x 0.59” x 0.10”
Maximum Depth of Cut (Planing & Jointing)	1/8” (3.18 mm)
Maximum Cutting Width (Planing & Jointing)	12” (304.8 mm)
Maximum Planing Height	7-7/8” (200 mm)
Planer Table Size	21-1/4” x 12-1/8” (540 x 308 mm)
Feed Speed Planing SF/min	23 (7 SM/min)
Jointer Table Size	12-1/4” x 55-1/2” (311 x 1410 mm)
Jointer Table Height	33-1/2”(850mm)
Fence Size	6” x 43-1/4” (152.4x1100mm)
Fence Tilting Degree	0 - 45°
Dust Port	4” Diameter (100 mm)
Dust Collection Required CFM	650
Noise Level (no load)	≤98dB
Overall Size (LxWxH)	55-3/4” x 29 1/2” x 39-1/2”
	(1410 x 749 x 1003 mm)
Base Size	21-1/4” x 19-1/4” (540 x 489 mm)
Net Weight	445 lbs(202kg).
Mobility Kit	Optional.

The specifications, pictures, diagrams, and information in this manual represent the current model when the manual was prepared. Changes and improvements may be made at any time, with no obligation on the part of Busy Bee Tools to modify previously delivered units. A lot of care has been taken to ensure that the information in this manual is correct, providing you with the guidelines for the proper safety, assembly, and operation of these machines. Manuals are periodically updated you can always download an updated version from our website: www.busybeetools.com.

Figure 1: Front View 1

Controls and Components

A.....Cabinet
B.....ON/OFF Switch
C.....Jointer Table Lock Handle
D.....Cutterhead Guard Assembly
E.....Jointer Fence
F. .....Infeed Table
G. .....Planer Table
H. .....Planer Outfeed Table
I.....Motor Mounting Fasteners

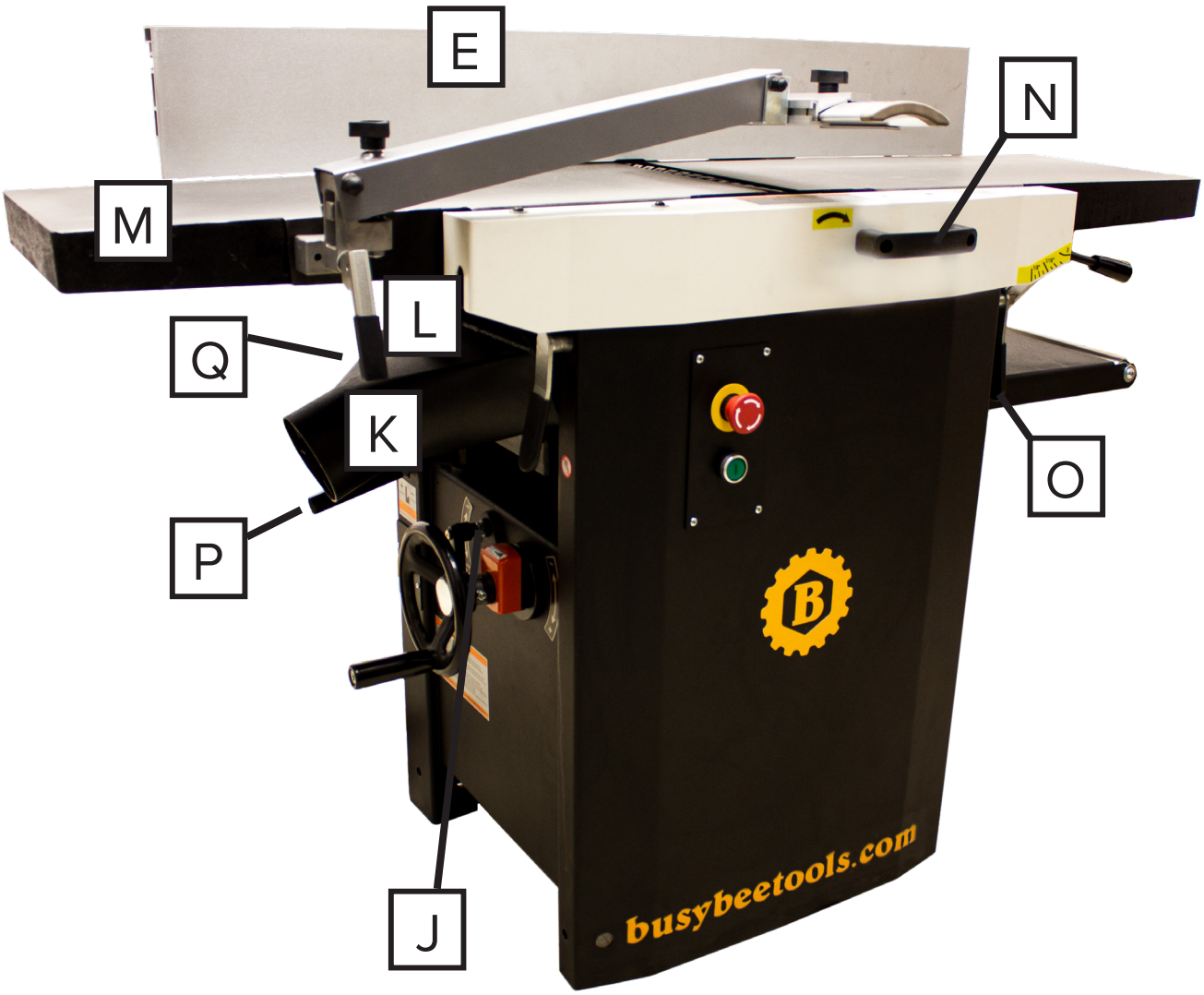

Figure 2: Front View 2

Controls and Components

J. ..... Planer Table Height Adjustment Wheel
K. ..... Dust Port (Jointing Position)
L. ..... Guard Release Lever Handle
M. ..... Outfeed Table
N. ..... Jointer Table Lift Handle
O. ..... Jointer Table Height Adjustment Lever
P. ..... Planer Drive Belt Release Lever
Q. ..... Planer Height Scale

Figure 3: Planer view.

Controls and Components

F. .....Infeed Table
O. .....Jointer Table Height
.....Adjustment Lever
M. .....Outfeed Table
R. .....Dust Port (Planing Position)
S. .....Dust Port Lock & Release
.....Knob

Section 1: Safety

General Shop Safety instructions

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Self protection and personal Safety
GENERAL SAFETY
Familiarize Yourself with Your Power Tool: Carefully study the owner's manual to understand the tool's intended applications, capabilities, and potential hazards.

Pre-Use Checks: Before operating the machine, thoroughly read and adhere to all Safety and Operating Instructions to prevent serious injury and equipment damage.

1. Hazardous Dust Awareness: Acknowledge that certain dust produced by power tools contains chemicals recognized by the State of California as potential causes of cancer, birth defects, or reproductive harm. Examples include lead, crystalline silica, arsenic, and chromium. Minimize exposure by working in well-ventilated areas and utilizing approved safety equipment such as dust masks designed to filter microscopic particles.

2. Comprehensive Manual Reading: Fully acquaint yourself with the Owner's Manual to understand proper tool usage for its designated applications.

3. Grounding Protocol: Ensure all tools are properly grounded by connecting to a 3-contact electrical receptacle as specified. Never remove the grounding prong to prevent accidental electric shock.

4. Environmental Considerations: Avoid using electrical tools in damp or rainy conditions, as well as in the presence of flammable substances.

5. Workspace Organization: Maintain a clean, well-lit, and orderly work area, free from slippery surfaces or hazardous debris.

6. Restricted Access: Prohibit access to the immediate work area, especially during tool operation, to prevent accidents involving visitors or children.

7. Proper Tool Usage: Refrain from forcing tools to perform tasks beyond their designed capacity to ensure safety and optimal performance.

8. Personal Protective Equipment: Wear suitable attire, avoiding loose clothing or accessories that may become entangled in moving parts. Long hair should be secured to prevent contact with machinery.

9. Workshop Safety Measures: Implement childproofing measures such as removing switch keys and padlocking tools when not in use.

10. Electrical Safety: Always disconnect tools from power sources before adjusting, replacing parts, or performing maintenance.

11. Guard Maintenance: Ensure protective guards are in place and functioning correctly to prevent accidents.

12. Startup Precautions: Verify that power switches are in the “OFF” position before connecting to power sources to prevent accidental activation.

13. Clear Workspace: Remove all maintenance tools from the vicinity before initiating machine operation.

14. Correct Accessory Usage: Utilize only recommended accessories to prevent operator injury and tool damage.

15. Respiratory Protection: Wear appropriate dust masks in well-ventilated areas to avoid inhaling harmful particles, following the Canadian Center for Occupational Health and Safety CCOHS/OSHA guidelines for respiratory protection.

16. Supervision During Operation: Never leave tools running unattended; ensure they come to a complete stop before leaving them.

17. Tool Usage Caution: Avoid standing on tools to prevent tipping or accidental contact.

18. Safe Storage Practices Ensure the unit is stored in such a manner that it cannot be used as a step by standing on it.

19. Balance Maintenance: Maintain balance and wear appropriate footwear to prevent slips or falls.

20. Tool Maintenance: Keep tools clean and well-maintained, sharpen blades regularly, and replace worn abrasive accessories promptly.

21. Inspection Protocol: Prior to use, thoroughly inspect tools for damaged parts, ensuring all guards are operational and aligned correctly.

22. Operating Conditions: Refrain from operating tools while fatigued or under the influence of drugs, medication, or alcohol.

23. Workpiece Securing: Always secure workpieces with clamps or jigs instead of relying on manual holding.

24. Vigilance During Operation: Stay alert, exercise caution, and use common sense when operating power tools to avoid accidents.

25. Correct Extension Cord Usage: Utilize appropriate extension cords in good condition, ensuring they can carry the necessary current without voltage drops or overheating. Only use 3-wire extension cords with proper grounding.

26. Additional Resources: Access further information regarding safe tool operation from authorized sources.

Machine Specific Safety Instructions

Technical and Professional Guidelines for Safe Operation of the jointer/planer machine. This machine is designed specifically for processing natural, solid wood within designated dimensions as outlined in the Technical Specification. DO NOT use this machine with engineered wood, such as MDF, etc. Any deviation from intended use, such as modifications to the machine or utilization of unapproved parts, poses potential risks leading to unforeseen damages and will void the machine’s warranty.

Attention:The operation of this planer/jointer entails inherent risks that cannot be entirely mitigated by the manufacturer. Hence, users must exercise caution and adhere strictly to safety protocols as woodworking machines inherently entail hazards if operated without due care.

Guidelines for Safe Operation of the Jointer/Planer:

1. Familiarize yourself thoroughly with the provided instructions before operating the machine.

2. Ensure complete assembly of the machine before attempting to operate it.

3. Do not power ON the machine if any components are damaged or missing.

4. Proper grounding of the machine is mandatory.

5. Seek assistance from a qualified individual if you are unfamiliar with the machine’s operation.

6. Always wear approved safety eyewear and hearing protection while operating the machine.

7. Utilize a dust mask, ensure adequate dust collection, and maintain proper ventilation.

8. Avoid wearing loose clothing or jewelry and secure long hair.

9. Prior to plugging in the machine, ensure the power switch is in the OFF position.

10. When not in use or during cleaning, assembly, or setup operations, always unplug the machine and ensure the power switch is OFF.

11. Confirm all safety guards and hardware are securely tightened before commencing operation.

12. Regularly inspect and secure the blades in the cutterhead.

13. Exercise caution to keep hands and fingers away from moving parts to prevent injuries. Employ push blocks for handling shorter or narrower stocks.

14. Avoid jointing wood less than 8" long, widths under 3/4", or material thinner than 1/4".

15. Limit cuts to a maximum depth of 1/8" for optimal results.

16. Ensure the workpiece is free from knots, nails, or foreign objects before surfacing.

17. Exercise caution when handling large, warped, or small workpieces. Flatten warped boards before planing.

18. Use additional supports for large workpieces to prevent tipping.

19. Always plane wood in the direction of the grain and avoid planing end cuts.

20. Process only one workpiece at a time and vary feeding along the cutterhead for blade longevity.

21. Avoid reaching into the machine while it's in operation to prevent accidents.

22. In the event of a jammed workpiece, stop the machine, unplug it, and then clear the obstruction.

23. Position yourself to the side of the machine during operation to avoid potential kickback hazards.

24. Use only manufacturer-recommended accessories or attachments to prevent injuries and machine damage.

25. Promptly replace dull or damaged knives to prevent user or machine harm.

26. Do not mix the inserts. Use replacement inserts with the exact same specifications, sourced from manufacturer's recommended suppliers.

27. Maintain a clean work area by removing debris.

Warning: This manual serves as a guide for assembly, adjustments, and general usage and is not intended for instructional purposes. DO NOT use this machine unless you are trained on its operations properly.

Electrical Safety Instructions
ELECTRICAL SAFETY:
This device necessitates the installation of a 220V plug (not included) and mandates grounding during operation to mitigate the risk of electric shock to the operator.

Grounding serves as the preferred pathway for electrical current in the event of a malfunction or breakdown, thereby diminishing the likelihood of electric shock. Equipped with an electric cord housing an equipment grounding conductor, this tool demands a grounding plug (not provided). The grounding plug must be inserted into a corresponding electrical receptacle that is appropriately installed and grounded in accordance with all local codes and ordinances.

Under no circumstances should any modifications be made to the plug. In cases where it does not fit the electrical receptacle, it is imperative to engage a qualified electrician for the proper installation of the requisite electrical receptacle.

Improper electrical connection of the equipment grounding conductor may precipitate the risk of electric shock. The equipment grounding conductor is identified by its green insulation (with or without yellow stripes). When repair or replacement of the electric cord or plug becomes necessary, refrain from connecting the equipment grounding conductor to a live terminal.

If uncertainties persist regarding the grounding instructions or the proper grounding of the tool during plug installation or replacement, consult with qualified electrician or service personnel.

Promptly replace any damaged or worn cord.

This tool is designed for utilization on a circuit equipped with a 220-volt electrical receptacle. Figure (7) illustrates the type of 220V, 3-wire electrical plug and electrical receptacle featuring a required grounding conductor.

GUIDELINES FOR UTILIZING EXTENSION CORDS

The use of an extension cord with this machine is discouraged. For optimal power and safety, connect the machine directly to a dedicated grounded electrical outlet within the supplied cord length of the machine.

In scenarios where an extension cord is necessitated, it should only be employed for limited machine operation. The extension cord should be as short as possible and possess a minimum gauge size of 14AWG.

Utilize solely a 3-wire extension cord furnished with the appropriate type of 3-prong grounding plug, matching both the machine's 3-prong plug and the 3-pole receptacle accepting the tool's plug.

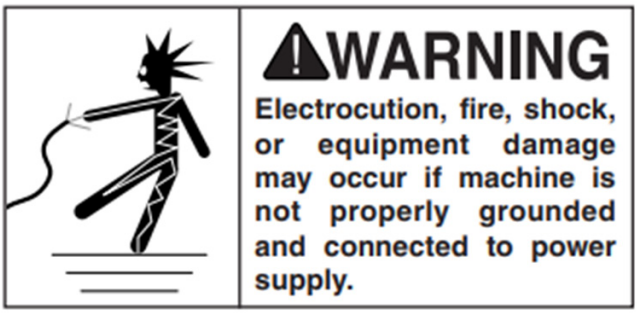
Before each use, inspect extension cords thoroughly, and replace any damaged ones immediately. The use of a tool with a damaged cord must be avoided, as contact with the compromised area may result in electrical shock, leading to severe injury.

Select an appropriate extension cord, ensuring it is listed by Underwriters Laboratories (UL). Utilization of extension cords not meeting these standards may result in voltage drop, diminishing power output, and potentially causing tool overheating. When operating a power tool outdoors, employ an outdoor extension cord labeled as "W-A" or "W," specifically designed for outdoor usage, thereby minimizing the risk of electric shock.

Maintain clear space around the extension cord within the working area to prevent entanglement with lumber, tools, or other obstructions during tool operation.

Canadian electrical codes mandate certification of extension cords as SJT type or better. In Canada, the use of adapters is deemed unacceptable.

Section 2: Power Supply



Convenience

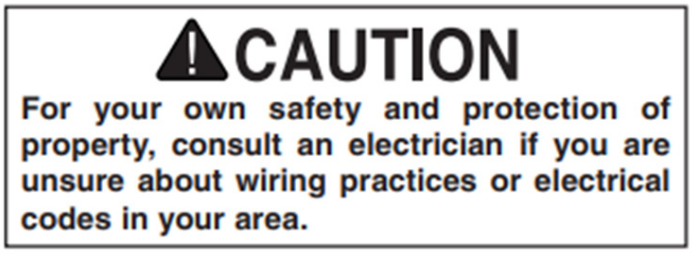
Before installing any machine, consider the availability and proximity of the needed electric supply. A new electric breaker and circuit must be installed if the existing ones are not suitable for your new machine, such procedure will minimize the risk of damage to personnel and to the machine.

Full-Load Current

Full load current is the amperage input to a machine at 100% output. For machines with multiple motors the input is calculated as the sum of all motors and electrical components or the Amperage of the largest motor. Overloading a machine will result in excess Amperage draw, and over time this will eventually cause significant damage to the motor and the machine.

Circuit Information

Included in the power supply circuit, are all electrical components between the breaker box, and the machine. The power supply circuit must be designed to accommodate the machine's electrical needs so it can handle the current drawn by the machine. In cases where the machine is connected to a fuse protected circuit, then it must be a delay fuse. The electrical requirement information is provided below for your convenience.



Electric Motor Information

This motor is:

- 3HP.
- 220 Volts.
- 12 Amp.
- 3400 RPM.
- A 20 Amp breaker is needed for this machine.

Section 3: Set-up and Assembly instructions

Hardware Packing List:

- Wrenches 13mm & 10/8 mm.
- T20 Star T-wrench, 2 pc.
- Allen keys 4mmm, 5mm, 6mm.
- Cutterhead Guard Cap (not shown in the figure).
- Push Block.
- Spare cutterhead knives and screws X 5 pc each.

Figure 4: Accessories and hardware.

Unboxing the Machine and Location Choice

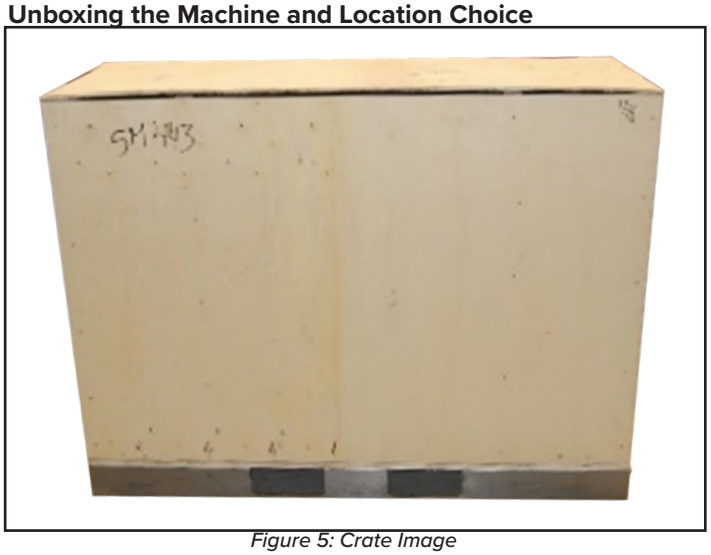


Figure 5: Crate Image

This machine was carefully packaged in a wooden crate to protect it during the transportation. Carefully remove the wooden crate with a crowbar. The machine is wrapped in a plastic bag, and it is oiled to protect it from humidity and rust. Prior to assembly, please perform a quick inventory of the accessories included in the crate with the machine. Contact our customer service department immediately should you require replacement of the missing parts Inspect the crate for signs of visible damage. Note any damage found on the delivery slip prior to providing a signature. Photograph any signs of damage to the crate and contact our customer service department immediately. Should any concealed damage be found upon unpacking, photograph the damage and packaging. Contact our customer service department immediately. Do not carry or move the machine by the infeed or outfeed tables. If the machine needs to be moved use a forklift or a pallet jack; alternatively, raise the planer bed to allow inserting straps or two 2”x4” wooden posts. Do not discard the packing material and shipping carton. It is crucial not to dispose of these materials until the setup is completed and the machine is operational. Retaining the packing materials is essential as they can be repurposed for shipping in the event of that any issues arise during setup or operation.

⚠ WARNING

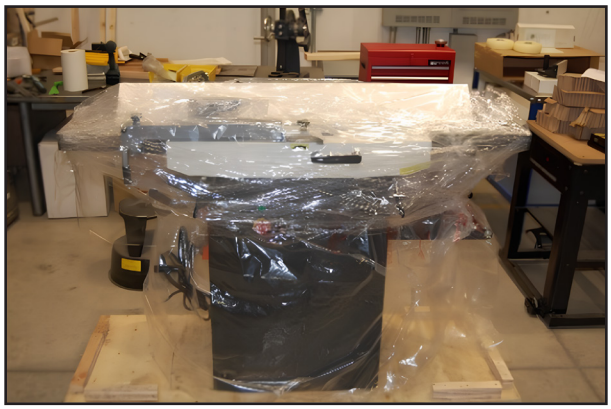


Figure 6: Here Machine is Unpacked.

1. LOCATION CHOICE
   - Ensure to install the machine on a stable, level foundation, providing adequate space, both in front and behind the planer/jointer, for the manipulation of lumber to be milled.
   - Prevent kickback hazards by ensuring no aisle, doorway, or other occupied workspace is within the trajectory of the machine.
   - Do not install or use the machine in an environment with high humidity.

2. Affix the machine securely to a pallet using four bolts and nuts. Upon reaching its designated location, unfasten the machine from the pallet by removing the bolts located within the two designated openings at the bottom ends.

3. Exercise caution when maneuvering the machine off the pallet, utilizing the lower body/frame for pushing while avoiding exertion on the extension table, upper lid area, or the jointer infeed & outfeed tables, which could potentially compromise the integrity of the machine.

4. Upon final placement within the workshop, ensure the machine’s stability by securing it to the floor using lag

screws (not provided). Utilize the same four holes initially used for securing the planer/jointer to the transport pallet.

Initial Clean up

As mentioned earlier oil has been applied to all exposed metallic parts of this machine to prevent rust damage. Cleaning the machine thoroughly is important. You can use a degreaser to remove all traces of oil from the machine prior to the operation.

DO NOT use any aggressive degreaser or remover such as brake cleaning fluid, gasoline, paint thinner, mineral spirits, these will strip the paint off the machine.

Once the machine is cleaned and oil-free apply a light coat of protective wax to all exposed metal surfaces. Wipe thoroughly with a clean dry microfiber cloth; this will aid in protecting the metal from rust. When reaching inside the planer please mind the cutterhead inserts; these knives are very sharp and can cause serious injury if touched.

Assembly

It is imperative that the machine remains unplugged, and the power switch is set to the 'OFF' position until the assembly process is fully completed. This machine requires minimal assembly.

Installing the Power Plug

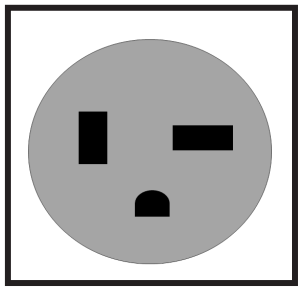


Figure 7: NEMA6-20P plug image.

The Planer/Jointer is intentionally shipped without an electrical 220 volt plug to allow for the installation of the appropriate plug type, matching the 220 Volt outlet in your workshop. A NEMA6-20P is one of the appropriate plugs you can use see figure (7). Refer to the electrical and power supply section for detailed information on electrical safety protocols, as well as proper plug connections and usage. It is imperative that the plug is inserted into a corresponding electrical receptacle that has been correctly installed and grounded in compliance with ALL local codes and ordinances. If there are any uncertainties regarding the grounding instructions or the proper grounding of the tool when installing or replacing a plug, it is strongly advised to consult with qualified electrician or service personnel for clarification and assistance.

This machine is designed for operation on a circuit equipped with a 220-volt electrical receptacle. As depicted in figure (7), the electrical plug and receptacle are of the 220V, 3-wire configuration, featuring a grounding conductor, which is mandatory for proper usage and safety compliance. Consult a certified electrician if the machine is to be placed more than 30 feet away from the electrical panel.

Installing the Cutterhead Guard

The cutterhead guard of this machine is delivered in two parts: the Arm and Bracket Assembly, pre-assembled on the outfeed table, and the Guard separately. When fully assembled, the cutterhead guard can be adjusted to afford maximum protection to the user against the sharp insert knives of the cutterhead, see figure (8).

Figure 8: Cutterhead Guard.

It is essential to always operate the machine with the guard properly adjusted to the width and thickness of the stock being jointed. Additionally, ensure that the guard covers the full cutterhead when the machine is not in use to mitigate any potential accidents. When working on or near the machine's bed, exercise caution to avoid the risk of personal injury from cuts that may result from contact with the sharp edges of the knife inserts.

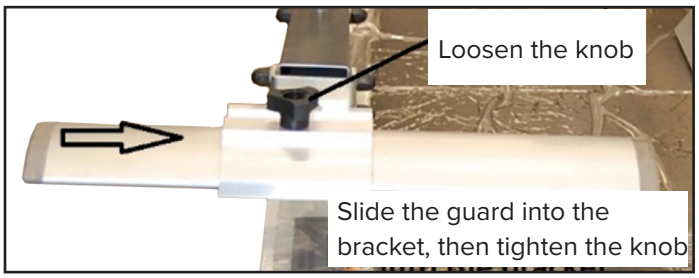


Figure 9a: The cutterhead guard Installation.

WARNING

1. Insert the 16-7/8 inches long x 4 inches wide Cutterhead Guard through the guard assembly Sleeve. The guard can be slid back and forth to cover the cutterhead and can be secured in position using the sleeve's top Handle/Knob, as depicted in Figure 9a

2.Release the spring-loaded Handle, figure 8 allowing the guard assembly to move forward and disengage from the Locking Support bolted to the outfeed table.

3. Once released from the support, the entire guard assembly can be rotated to the left, allowing it to hang down out of the way below the jointer table, as illustrated below

Figure 9b: Guard Hanging Down

4. To reinstall the guard assembly for normal surfacing protection, reverse the aforementioned process.

NOTE: Extra caution must be exercised when rotating the Cutterhead Guard Assembly off the machine, as the sharp knives of the cutterhead are exposed.

Dust Collection

The operational efficiency of this machine necessitates a dust collection rate ranging between 500-600 CFM (Cubic Feet per Minute) at the machine's port. In the event of connection to a dust collection system, it is imperative that all machines linked to this system are equipped with blast gates capable of being opened and closed as per the specific machines in use at any given time. This ensures optimal dust collection performance and operational effectiveness.

First Run

Upon completing the assembly of the cutterhead guard and the machine, proceed to plug the machine into the power source and press the ON button to initiate its first operation. Pay close attention to the sounds emitted by the machine. Is it smooth? Are there any grinding noises? Is there any indication of the motor hunting? If the machine fails to start, kindly refer to the troubleshooting section of this manual and follow the instructions provided therein. After making sure that the machine is operating well, and it is safe to start the adjustments, you may begin by executing the workpiece squaring example.

Adjustments and Tuning

DO NOT plug the machine into the power outlet while performing any adjustments or maintenance work, this may result in serious injury and bodily harm.

Jointer Adjustment

The jointer fence plays a crucial role in providing lateral support during surface planing operations.

1. To adjust the jointer fence to accommodate different workpiece widths, begin by loosening the 2 locking levers. See Figure 10. This allows for the movement of the fence forward or backward over the jointer bed and cutterhead until it matches the width of the workpiece.

2. The jointer fence also offers flexibility in angle adjustment, ranging from 90° (0°) to 45° (135°). To modify the fence angle, loosen the large Locking Handle by lifting it up. The Angle Scale provides an approximate indication of the fence tilt angle. For precise angle settings, it is recommended to utilize a calibrated gauge in conjunction with the fence adjustment.

3. Once the desired angle is achieved, securely tighten the locking handle by pushing it down to firmly position the fence in place, ensuring stability during operation.

Setting the Fence's 90° and 45°

1. To ensure the fence is precisely perpendicular to the table surface at a 90° angle, employ a try square placed against the fence extrusion.

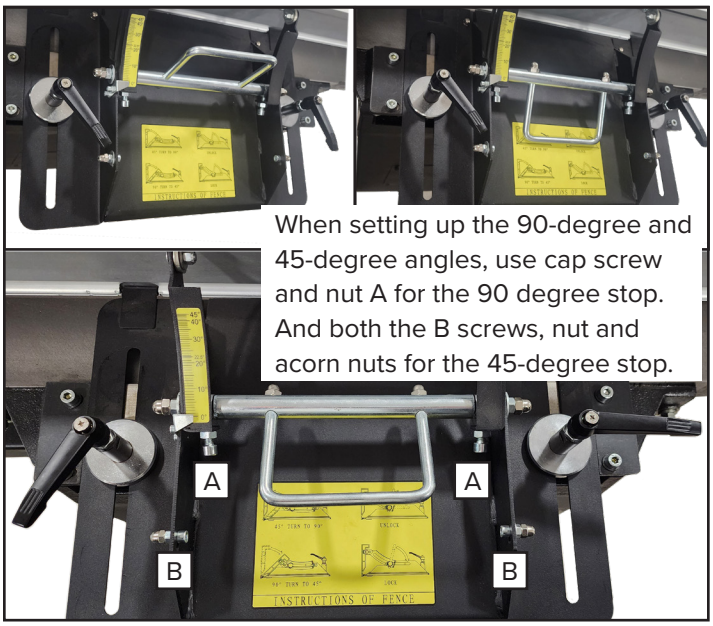


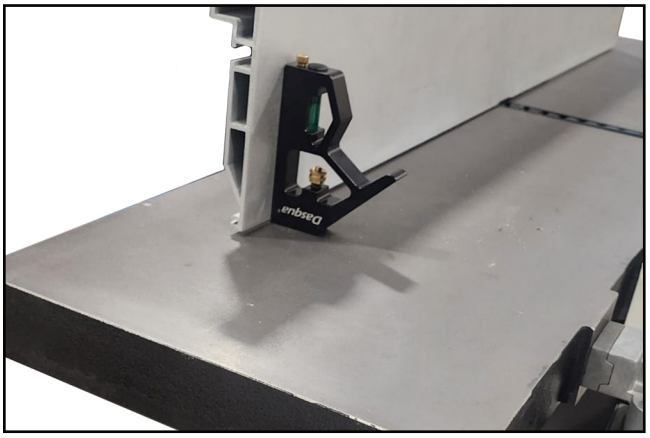
Figure 10a (top left), Figure 10b (top right), Figure 10 (bottom): Fence Angle Adjustment .

CAUTION

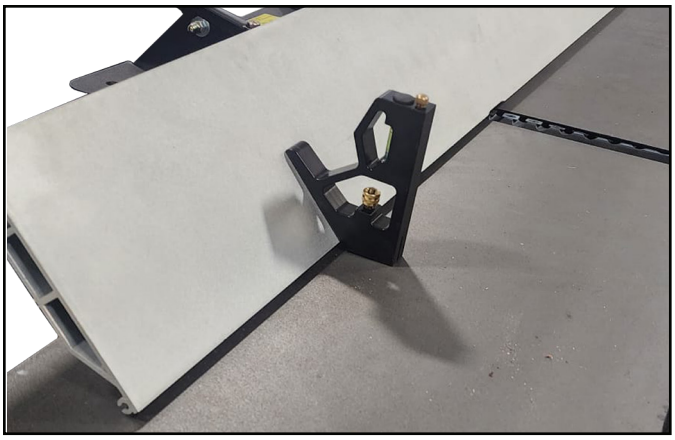
2. If the fence is not at 90 degrees to the tables, loosen the large Locking Handle. Then gently loosen the two cap screws located on the rear of the curved Arm Supports. See Figure 9C. Use a 6mm hex wrench.

3.Align the fence with the try square. Adjust the cap screws to touch the shaft of the large Locking Handle. Then tighten the hex nuts to firmly lock the fence in its position. Loosen

the 2 cap screws holding the pointer on the degree scale. See Figure 10. Use a 3mm hex wrench. Adjust the point to the zero-degree mark. Secure the cap screws. Therefore, after angle adjustments have been made, the fence will automatically revert to the 90-degree setting when brought into contact with the two preset cap screws.



4. For setting the fence precisely at a 45° angle, utilize a miter square against the fence extrusion. It's important to note that this angle represents 135° from the jointer table.



5. There are two cap screws integrated into the vertical sides of the Support Plate. See Figure 10. These screws contact the rear of the Support Arms when the fence is set at the 45° position. Adjust the 2 cap screws until the fence extrusion is accurately set at 45 degrees. Use a 5mm hex wrench. Secure the cap screws in position using their hex nuts and acorn nuts.

Infeed Table Adjustment

The vertical adjustment of the jointer's infeed table is controlled by the lever situated next to the graduated scale on the underside of the table. This lever controls the cutting depth for surface planing and edge jointing.

1. Utilize the adjusting Lever to manipulate the vertical position of the table, allowing for raising or lowering the table as necessary.

2. Adjacent to the adjusting lever, the Scale provides a reference for the depth of cut, indicating the amount of material being removed. This scale ranges from 0" to 1/8".

Do not make cuts deeper than 1/8". Optimal results are achieved by executing multiple cuts of 1/16" or less, ensuring a superior finish quality.

Planer Table Height Adjustment

The height adjustment of the planer's table is facilitated by the Hand wheel located below the jointer's outfeed table. Each complete turn of the crank results in a 5/32" change in the height of the Planer's Table.

• Clockwise rotation of the Hand wheel raises the planer bed.

• Conversely, counterclockwise rotation lowers the planer bed. The thickness of the material being planed is indicated on the Scale.

It's essential to adhere to the following guidelines:
- A maximum material removal of 1/8" is permitted in a single pass through the planer. Exceeding this depth of cut may lead to machine damage.
- The maximum thickness of stock eligible for planing is 7-7/8", while the maximum width of boards is 12" wide.

ON and OFF Switches

The planer is outfitted with a safety-oriented push button ON/OFF Switch prominently positioned on the front panel of the machine, as depicted in Fig. (1, #H).
- To initiate planer operations, press the top blue button.
- Conversely, press the lower red button to promptly halt planer activity.

In addition to the primary ON/OFF Switch, an integrated safety feature in the form of an automatic OFF micro-switch () is discretely located beneath the rear, Right Guard (#91) of the machine. This safeguard is designed to promptly cease machine operation in the event that the cover is opened while the machine is in operation, ensuring user safety and preventing potential accidents.

Note: Before maintenance or service tasks can be performed on the machine, the red OFF button must be engaged and the power cord must be unplugged from the power source. This will avoid inadvertent activation and injury.

Rotating or Replacing Cutterhead inserts

This machine features a state-of-the-art helical cutterhead comprising four rows of carbide knife inserts, totaling 56 inserts overall. Each insert is meticulously indexed and

possesses four sharpened sides for extended operational efficiency. In the event of dullness or damage, such as nicks, the user can effortlessly address the issue by simply loosening the retaining screws utilizing the provided star head wrench. Subsequently, the inserts can be lifted, rotated to expose a fresh cutting edge, and then repositioned onto the cutterhead. No intricate setting procedures are necessary, as the cutterhead is precision-machined to automatically index and align the inserts for seamless operation. Please note that these inserts are four sided and can be used on all sides before replacement.

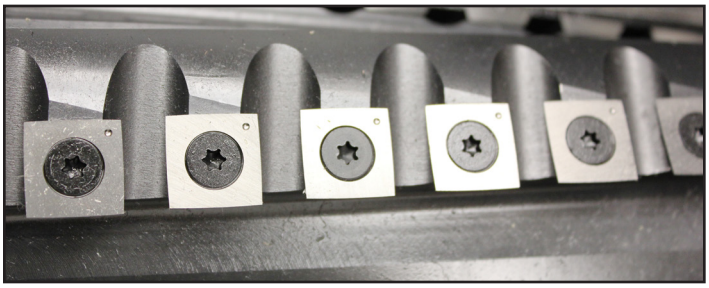


Figure 11: Cutterhead Inserts.

To facilitate the rotation or replacement of an insert knife, adhere to the following steps:

1. Disconnect the power cable to ensure safety during maintenance procedures.

2. Remove the screw, responsible for securing the Insert in the cutterhead, along with the Insert Knife, use the Torx wrench provided with the machine, see Figure 11.

3. While the insert is removed, meticulously cleanse any resin buildup or trapped dust from the cutterhead surfaces using a suitable solvent. A toothbrush is recommended for safe cleaning around the sharp inserts, as any accumulated dust may compromise the insert's seating within the cutterhead.

4. Rotate the insert to position a new, sharpened edge accordingly. Each insert is conveniently equipped with an indication mark on its top surface corner to facilitate the referencing of dulled or sharpened edges see Fig. (12).

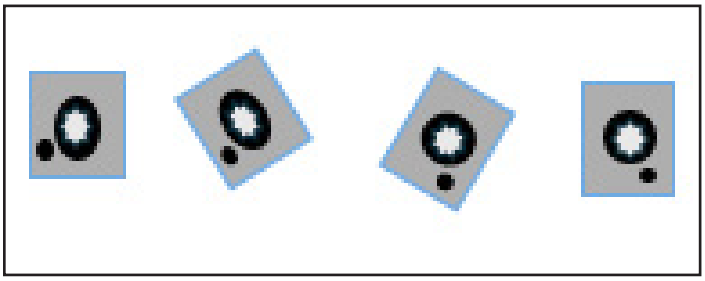


Figure 12: Rotating the Inserts.

5. Carefully tighten the insert's set screw to secure it in place, ensuring not to over-tighten to avoid damaging the insert. Recommended torque is within the range of 50-55 in/lbs. The inserts are very sharp yet very brittle. So, this operation must be completed very carefully.

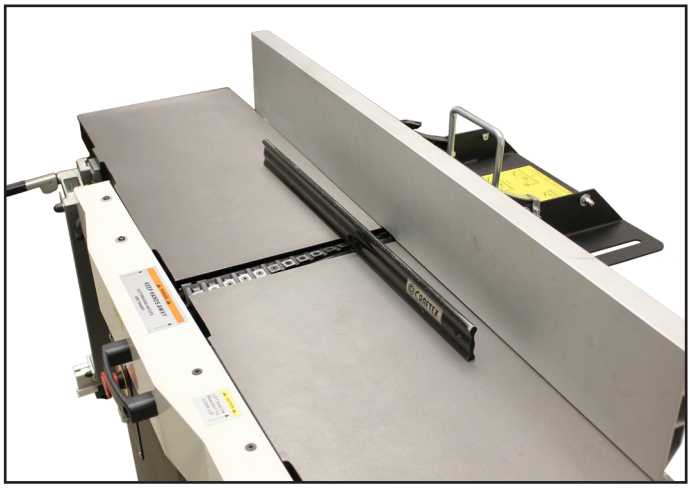


Figure 13: Jointer Table Positioning.

6. Reconnect the power cable once all maintenance tasks are completed and resume jointing and planing operations.

Aligning the Jointer Table

For the ideal resurfacing performance of workpieces, precise alignment of the jointer's infeed and outfeed tables is essential. This alignment is critical to obtaining accurate surfacing results when measuring the flatness of a board from side to side and end to end.

The machine is calibrated at the factory, with the infeed table aligned to the cutterhead knives, followed by the outfeed table being set to the infeed table. However, once the machine is installed in its final location within the workshop, it is imperative to verify the alignment of the tables to mitigate any potential displacement during transportation or handling.

To perform the alignment, follow the below steps:

1. Securely position the infeed table at its highest setting, denoted as '0', ensuring it is level with the outfeed table.

2. Shift the fence and cutterhead guard to the sides, enabling full access to the surfaces of both tables Fig. (9). Note: Removing the fence assembly and guard may simplify this process.

3. Rotate the cutterhead to a position where the knife inserts do not obstruct the measurement process.

4. Utilizing a long metal straight edge, place it lengthwise along the outfeed table, extending it onto the infeed table. The straight edge should seamlessly rest level across both tables Fig 13. If so, it indicates proper alignment between the tables, and the machine guards can be reinstalled for

operational use Fig. (14). However, if the straight edge fails to lie flat across both tables, adjustments are required.

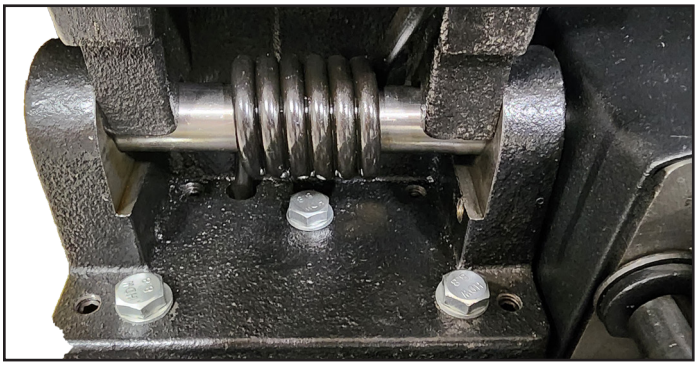


Figure 14: Infeed Table Adjustment.

In such cases, fine-tuning should focus on the outfeed table, aligning it similarly to how the infeed table was initially set at the factory to match the cutterhead.

Outfeed Table Adjustment

1. To begin the adjustment process, elevate the jointer table upwards and back into its vertical (0) position, for (steps 1 & 2). Ensure that the Dust Chute (#66) remains in the down position (for jointer use), facilitating adjustments.

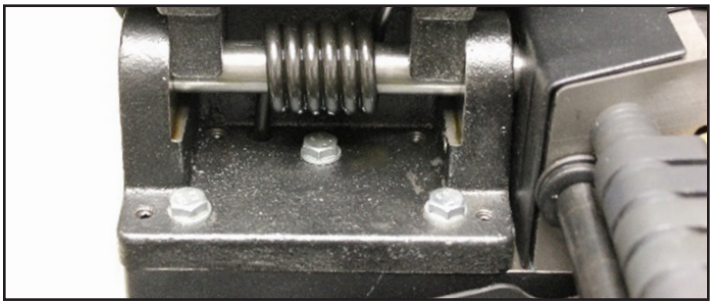


Figure 15: Outfeed Table Adjustment.

2. With the table elevated, the Support Base (#120) for the outfeed table becomes accessible. This base is secured to the cabinet using three Hex Bolts (#132) and four Set Screws (#134). The set screws can be manipulated to minutely tilt the table, aligning it with the infeed table Fig. (17- A,B,C, and D).

3. Slightly loosen the three hex bolts to enable adjustment of the set screws. Utilizing small increments of 1/8 or 1/4 turns, adjust the set screws as necessary. Clockwise turns will advance the set screws, while counterclockwise turns will retract them from the base casting.

- The pair of set screws to the far left (A & B) will raise the left end of the table.

- The pair of set screws to the far right (C & D) will raise the forward edge of the table, closest to the cutterhead.

- The pair of screws furthest back in the base (B & C) will tilt the back of the table upward.

- The pair of set screws at the front of the base (A & D) will lift the front edge of the table.

- The table can be tilted towards a specific corner if needed, requiring adjustment of three set screws. For instance, to tilt the far-left corner of the table , adjust set screws D, then A & C, with screw B serving as the pivot point.

4. Additionally, the table can be tilted forward or backward using the 3 Special Bolts Figs. 17 The combination of these three bolts and four set screws (A-D) provides a wide range of table positioning options to achieve alignment with the infeed table.

5. After adjustments, lower the outfeed table and reassess flatness with the straight edge. Further adjustments may be necessary to achieve alignment. Once leveled, tighten the three hex bolts (#132) to secure the settings. Ensure the 3 Special Bolts (Figure 16, E,F & G) are firmly in contact with the table's underside.

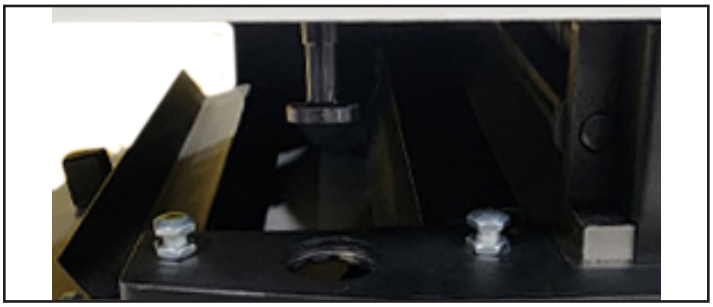


Figure 16: Jointer table outfeed Locking Mechanism.

6. Confirm that the two safety Table Locks (#104, G) engage properly when the table is lowered. These bolts (E, F) can be adjusted vertically using their threaded ends and then secured with attached Nuts (#106) Fig. (16).

7. Reinstall or readjust the fence and guard to the table surface and secure them firmly.

With these adjustments completed, the jointer is ready for operation.

Adjusting the Infeed Table

The Infeed Table is pre-set by the factory to align with the cutterhead's knife inserts. Should an adjustment be required, the following steps are needed.

1. Raise the infeed table to its highest, 0", level and use a metal straight edge to check its level flatness with the outfeed table, see Figure 13.

2. The jointer table, with the fence and cutterhead guard, needs to be lifted up and back into a vertical position.

3. Follow steps 1 & 2, for full details on this process. The Dust Chute (#66) should be left in the down, jointer-use position so adjustments can be made.

4. With the table up, the Support Base (#120) for the infeed table is exposed. The base has three Hex Bolts (#132) and four Set Screws (A,B,C,D) that fasten the table to the cabinet. The set screws can be adjusted to slightly tilt the infeed table to align it with the outfeed table. FIG. (17)

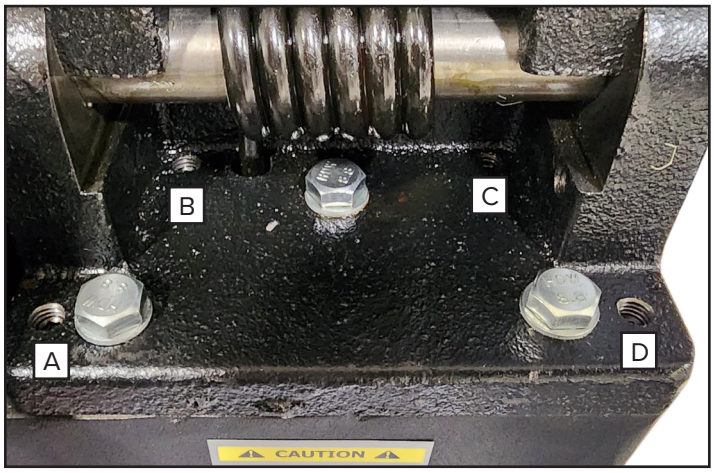


Figure 17: Infeed Table Adjustment.

5. Slightly loosen the three hex bolts so that the set screws can be adjusted. With small 1/8 or 1/4 turns of the set screws, tilt the table as needed. A clockwise turn will advance the set screw, a counterclockwise turn will retract them from the base casting.

• The pair of 2 set screws to the far left will raise the left end of the table. FIG. 17, A & B.

• The pair of 2 set screws to the far right will raise the forward edge of the table, nearest the cutterhead. C & D.

• The pair of screws furthest back in the base will tilt the back of the table upward. B & C.

• The pair of 2 set screws at the front of the base will lift up the front edge of the table. A & D.

• The table can also be tilted down, or up, towards a specific corner should the situation arise. Three of the set screws would be adjusted for this. Example: To tilt the far-left corner of the table up, set screws D, then A & C would be turned. Screw B would be the pivot point.

6. The table can also be tilted forward or back with the 3 Special Bolts FIG 16 E & F. The combination of the 3 hex bolts and 4 set screws (A through F Fig. 15 and 16) provide a great range of table positioning to level it the infeed table with the outfeed table.

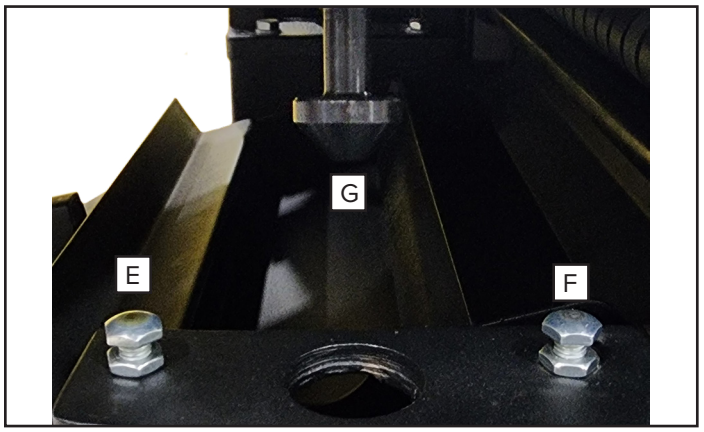


Figure 18: Infeed Table Locking Mechanism.

7. Once adjustments are made, the infeed table should be checked for flatness with the outfeed table with a straight edge. FIG. 21. Aligning the tables might require several attempts. When the infeed table is flat to the outfeed table, the hex bolts can be tightened to lock the settings.

8. With the table lowered, make sure the two safety Table Locks (#104, G) will engage. These special bolts (E,F) Fig. (18)can be adjusted up or down by their threaded ends, and then secured with their attached Nuts (#106). FIG. (18).

Reinstall or readjust the fence and guard to the table surface and secure them firmly. With these adjustments completed, the jointer is ready for operation.

Planer Table Alignment

The planer's table is meticulously set parallel to the cutterhead knives at the factory. However, upon installation in the workshop, it is imperative to verify the alignment to ensure no displacement occurred during handling.

WARNING: When handling or working near the machine's bed, exercise caution to avoid potential personal injury from the sharp edges of the knife inserts.

1. Ensure the planer/jointer's switch is turned off and disconnect the plug from the power source.

2. Elevate the jointer table, along with the fence and cutterhead guard, into a vertical position as outlined in figure 14. Pivot the Dust Chute (#66) onto the infeed table to facilitate adjustments Fig. 19.

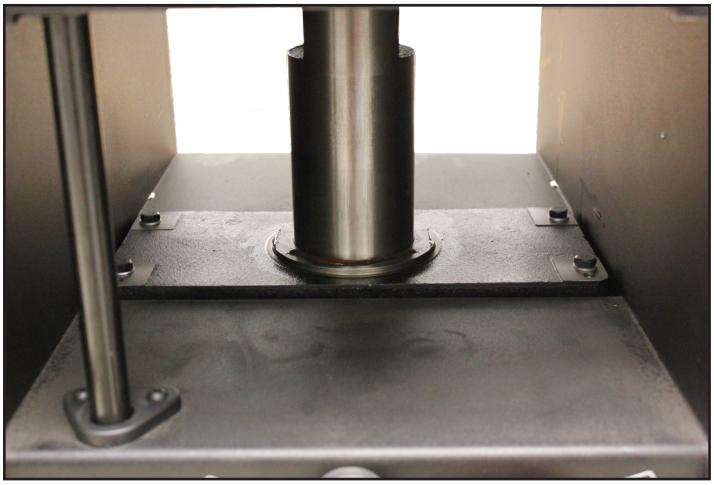


Figure 19: Planer Table Adjustment.

NOTE: The cutterhead remains fixed, necessitating adjustments through the table's setting.

3. Confirm the planer table's alignment parallel to the cutterhead by measuring the distance from the table surface to the underside of the cutterhead. The measurement taken from the far-right side of the planer's table should match that from the far left.

4. Position a Gauge Block or another measuring tool onto the planer table directly beneath the cutterhead.

5. Utilizing the hand wheel, raise the table until the gauge block contacts either the cutterhead knife inserts or the solid body of the cutterhead cylinder.

6. Shift the gauge block to the opposite side of the table to ensure uniformity in measurement. If discrepancies arise, adjustments to the planer table are necessary to rectify the difference.

NOTE: Due to the helical design of the cutterhead, precision is crucial in ensuring measurements are taken consistently at the same spot on either end of the head. This may entail rotating the cutterhead to align the gauge block with either the knife inserts or the body, as previously employed during the initial measurement.

Adjusting the Planer Table

1. The planer table assembly is affixed to the cabinet using four Hex Bolts (#184, FIG. 20, A). Adjacent to these bolts are four Hex Socket Set Screws (#180, B), which are adjustable to elevate an end of the planer table to achieve parallelism with the cutterhead.

2. Slightly loosen the four hex bolts located at the corners of the base plate.

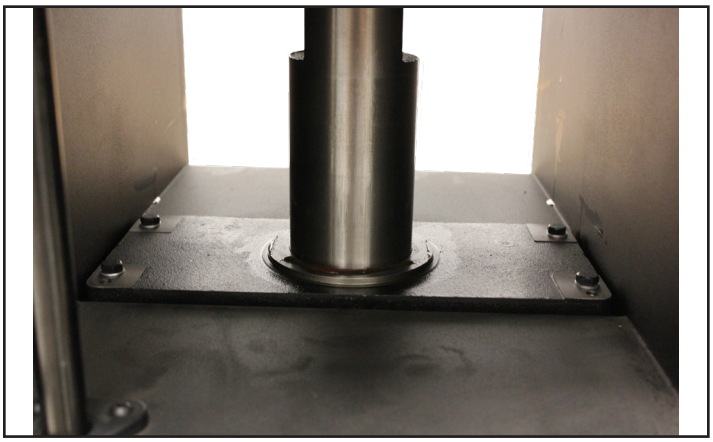


Figure 20: Planer Table Screws.

3. Depending on the side of the planer table requiring adjustment, manipulate the hex screws on that side of the base to raise/lower the base/table accordingly.

4. Measure repeatedly with the gauge block and continuously adjust until the table achieves parallelism with the cutterhead.

5. Upon achieving parallel alignment between the table and cutterhead, securely tighten the four hex bolts to firmly secure the fasteners in place.

6. Remove the gauge block from the planer's mouth and meticulously inspect all components to ensure readiness for machine operation.

Adjusting the cutterhead

The Cutterhead, one of the main components of the machine, is securely fastened to the cabinet and is non-adjustable. The factory presets all other parts, including rollers and tables, to align precisely with the cutterhead based on its position. However, if any of the tables or rollers deviate from parallelism with the cutterhead, they can be independently adjusted following the instructions outlined in this manual, see Figure 21.

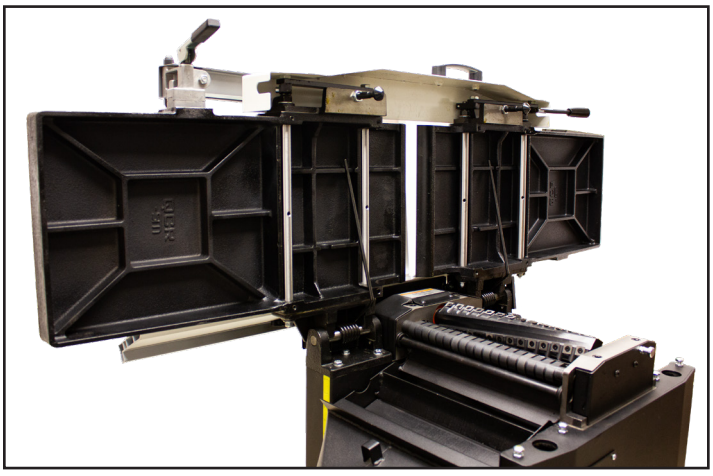


Figure 21: Jointer Table Raised.

Adjusting the Infeed/Outfeed Rollers

1. Ensure that the planer/jointer's switch is turned off and disconnect the plug from the power source.

2. Raise the jointer table, along with the fence and cutterhead guard, into a vertical position.

3. Release the infeed and outfeed locking handles.

4. Use the handle in the center of the jointer table to lift it to the vertical position see Figure 21.

5. With the jointer table elevated, remove the Front Guard and Rear Guard to access the bolts for adjusting the feed rollers' pressure. See Figures 20,21, and 22.

NOTE: The Front Guard, with the removal of its 2 screws (#52), can be rotated out of the way, leaving the dust collector's spring-loaded Locating Pin (#51, P) intact (FIG. 19). The Rear Guard can be removed once the 2 locating screws are detached by lowering the jointer table and then removing the fence assembly.

6. Beneath the Cutter block Brackets, the Tightening Screws secure the compression Springs onto the brass Shaft Sleeves. Utilize a wrench to adjust the feed rollers via the bottom Hex Bolts. See Fig. 22.

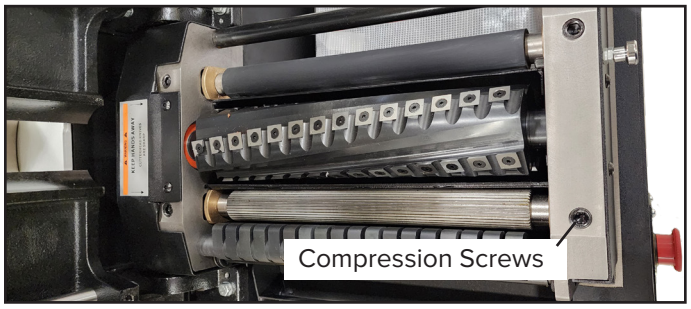


Figure 22: Tightening the Rollers

- Raising the hex bolts UP compresses the spring, increasing the downward pressure exerted by its roller on the lumber passing through the planer.

- Lowering the hex bolts DOWN reduces spring compression, decreasing the pressure exerted by its rollers on the lumber.

7. Once the desired pressure is achieved, secure the Bolts (Fig. 22) in place by tightening the Nuts, reattach the guards, lower the jointer table with fence & guard, and the machine is ready for operation.

Tensioning the Drive Belts

Periodic checks and re-tightening of the cutterhead drive belt and the feed gear drive belt are essential maintenance tasks, especially considering that belts tend to stretch over time, particularly when new and during the breaking-in period.

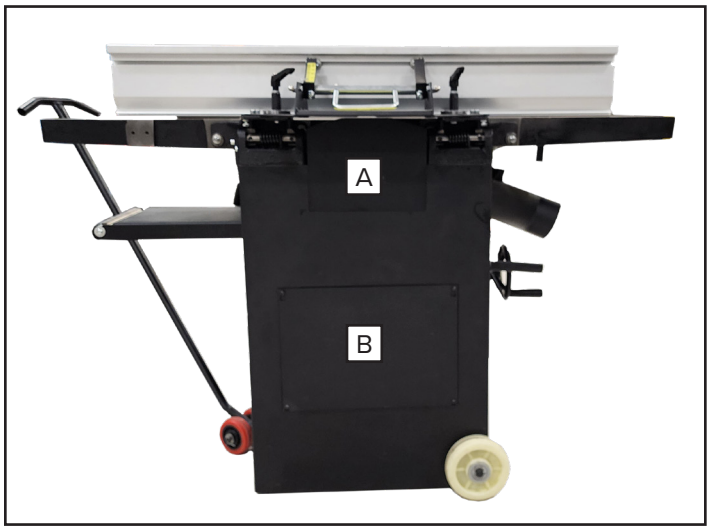


Figure 23: Rear Panels

THE MACHINE MUST NOT BE PLUGGED IN, AND THE POWER SWITCH MUST BE IN THE OFF POSITION UNTIL ALL ADJUSTMENTS ARE COMPLETE.

To inspect, adjust, or change the drive belts, follow these steps:

1. Ensure that the planer/jointer's switch is turned off and disconnect the plug from the power source.

2. Remove the fence assembly, the Rear Guard (#91-A), and the cabinet's rear Belt Cover Plate (#40- B) in Fig. 23 A and B to expose the motor, pulleys, and belts. See Figure 24.

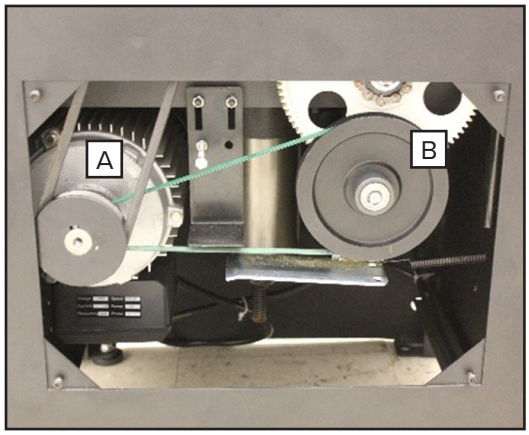


Figure 24: Drive Belt Position.

Both drive belts are situated behind the machine's rear cover and side panel Figure 24. (A & B).

Tensioning the Drive Belt

1. Check the tension of the Cutterhead Drive V-Belt (#228, FIG. 25, A) by applying thumb pressure. The drive belt should not give more than 3/8" in the center.

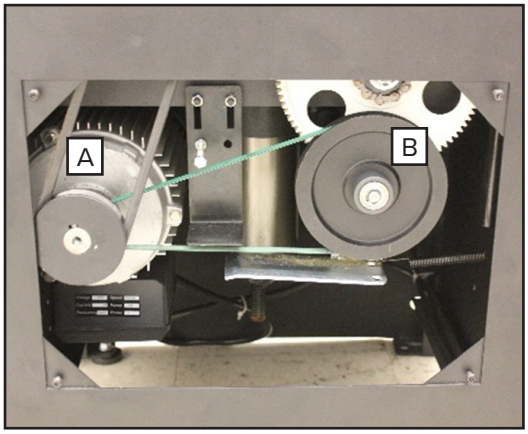


Figure 25: Drive Belt Tensioning.

2. Loosen the four Cap Acorn Nuts (#201, FIG. 26) located when facing the machine on the exterior right-side panel to release the tension on the motor. Adjust the motor position upwards to loosen the belt or downwards to increase tension.

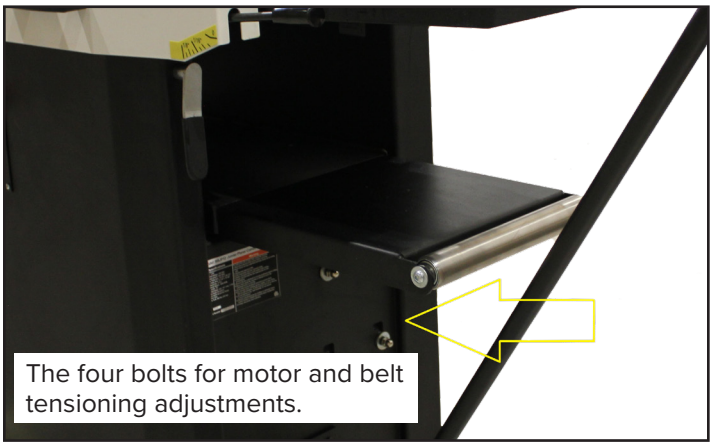


Figure 26: Motor Cap Bolts location.

3. Once the belt tension is correct, tighten the same motor mounting acorn nuts that were loosened in step 4.

4. The tension of the Feed Roller V-Belt (#214, FIG. 26, B) is automatically regulated by the Spring (#229, C) and does not require manual adjustments.

5. The setting of the Feed Roller Chain (#227) FIG. 22) is preset at the factory and typically does not need adjustments. However, to modify the chain overlap, adjust the Pulley with Sleeves (#32, E) by moving it in or out using its center Bolt and Nut (#20 & #31).

Replacing the Drive Belt

1. To replace the Drive V-Belt (#228), follow the same steps as detailed in #3-5 above. Loosen the tension until the belt can be easily removed from the Motor Pulley (#208 - A) and Cutterhead Pulley (#94). Once removed, reverse the steps to install and re-tension the new belt on the pulleys.

2. To replace the Feed Roller V-Belt (#214), first remove the Drive Belt. With the motor loosened and lifted, there should be sufficient slack to install a new Feed Roller Belt. If needed, unhook the tensioning Spring (#229) to allow the Handle & Bracket Assembly (#217) to swing freely. Reattach the spring once the new belt is installed. Then, reverse the steps to install the Drive Belt and re-tension it on the pulleys.

3. Once all work on the belts is complete, reattach the rear guard and belt cover plate securely using their respective screws. See figure 23.

Section 4: Operations

Before turning on the machine, it is imperative to review the safety precautions outlined on pages 3 to 6 of the manual. Ensure thorough understanding of the machine's features, adjustments, and capabilities as detailed throughout the manual. This comprehensive understanding is crucial for safe and effective operation of the machine.

Inspecting the fist workpiece
Overview
Stock Inspection & Requirements

When selecting stock for jointing or planing, adhere following guidelines:

The four bolts fo tensioning adjus

- Avoid Large or Loose Knots: Do not process stock containing large or loose knots, as these could dislodge during cutting operations, resulting in operator injury or damage to the workpiece.

- Grain Direction: Do not joint or surface-plane against the grain direction, as this increases the risk of kickback and tear-out.

- Cupped Side Down: When jointing, place the cupped side of the workpiece facing down to prevent rocking during the cut.
- Cutting with the Grain: Joint and surface-plane with the grain for a better finish and increased safety.

- Wood Selection: *Only cut natural wood with the machine,* avoiding materials such as MDF, particle board, plywood, laminates, metals, glass, stone, tile, products with lead-based paint, or those containing asbestos, as using the machine on these materials may lead to injury or machine damage. See figures 27, 32 for proper grain orientation.

- Glue Removal: Scrape off all glue deposits from the workpiece before jointing or planing, as glue residues will significantly affect cutterhead

- Foreign Objects: Ensure the workpiece is free of foreign objects such as dirt, nails, staples, rocks, or other debris, which could damage the cutterhead or pose a fire hazard.

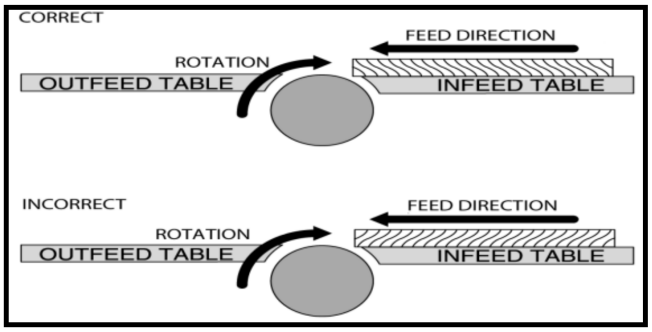


Figure 27: correct Jointing Grain Direction.

- Wood Moisture Content: Verify that all stock has an appropriate moisture content, as wood with moisture levels exceeding 20% can accelerate wear on the cutters, resulting in subpar cutting.

- To ensure safe and effective machine operation, it is imperative that your workpiece meets or exceeds the

r motor and belt l dimensions outlined below before proceeding

tments. machining operation. Failure to adhere to these specifications may lead to workpiece breakage or kickback during operation, posing a risk of injury to the operator and potential damage to the machine.

⚠ WARNING

Please consult Figures 28 and 30 to verify that your workpiece dimensions comply with the specified minimum requirements before commencing machine operations. This precautionary measure is vital to maintain operational safety and the integrity of both the workpiece and the machine.

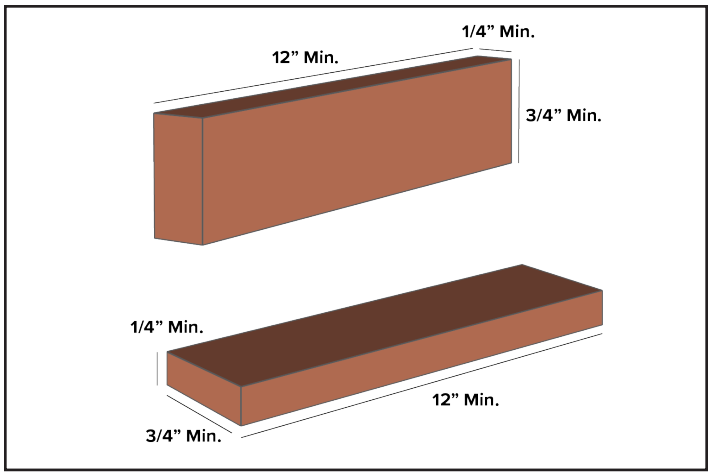


Figure 28: Minimum Dimensions for Jointing.

Jointing Operation

The primary function of the jointer is to surface plane flat on one side or edge of a board or workpiece. To effectively utilize the jointer, follow these steps:

1. Place the workpiece on top of the right, infeed table.

2. The underside of the workpiece will be cut by the rotating cutterhead inserts.

3. When jointing, feed the workpiece right-to-left over the cutterhead FIG.29.

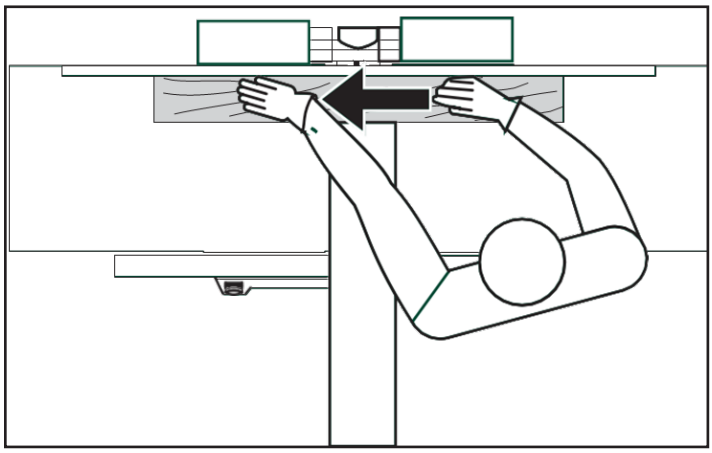


Figure 29: the Correct Jointing operation.

PLEASE NOTE that the workpiece dimensions are crucial for the safe operation of this machine please adhere to the dimensions given below:

- Length: Use a push stick for boards shorter than 12"; for lumber over 60", utilize support rollers.
- Width: Maximum 12".

- Thickness: Minimum 1/4". Use push blocks for face planing thin material.

- Depth of Cut: Maximum 1/8". Multiple cuts of 1/16" or less produce better finish results and prolong the life of the cutterhead inserts.

4. Set the jointer fence position and angle as required.

5. Set the desired depth of cut/thickness.

6. Adjust the cutterhead guard for user protection (FIG. 29).

7. Release the Belt Lever for Planer Drive Rollers (#217) at the jointer outfeed end of the cabinet. This action transfers more power directly to the cutterhead.

8. Place the workpiece against the jointer fence for support during the cutting action.

9. Assume the proper operating position: Stand to the side of the infeed table with feet apart for stability throughout the cutting process FIG. (31).

NOTE: When cutting narrow board edges or workpieces more than 3" thick, position the cutterhead guard close to the side against the workpiece (FIG. 29).

- For planing the face of a plank or a workpiece up to 3" thick, lower the cutterhead guard to just above the workpiece. Adjust the guard to distances not exceeding the recommended dimensions (FIG. 28):

- Rear edge (A): Workpiece maximum distance 1/8" (3mm).

- Front edge (B): Workpiece maximum distance 3/32" (2mm).

10. Turn on the machine and place the workpiece on the infeed table. Feed the workpiece toward the cutterhead, applying downward pressure until the workpiece clears the cutterhead on the outfeed table side. Keep hands away from the cutterhead to prevent accidents.

- Run boards at different positions along the width of the cutterhead to utilize the full length of the cutting knives. Jointing in one area of the cutterhead will quickly dull the knives in that area.

Planing Operation

Thickness planing is employed to reduce a workpiece with one surface already planed to a desired thickness. Here's how to use the planer effectively:

1. Secure the jointer fence and cutterhead guard in place using their respective locking handles (#256, 259 & 375, figure 21, G).

2. Twist the two clamping handles (#12 & 39) FIG. 19 upwards and then pull them outward to release the jointer tables. Swing the table and fence assemblies up and towards the back of the machine. Ensure that the table's Locking Block is engaged to maintain the table in the upward position.

3. Engage the planing mode by releasing the belt lever handle see figure (2, part P).

NOTE: When closing or lowering the table, always remember to release the locking block to prevent damage to the machine.

4. Pivot the Dust Chute #66, FIG.30 up and over the cutterhead where it will automatically lock in place with the Locking Pin (#51, F) see Fig. (15). Attach a 4" hose from your dust collector to the dust port before commencing any planing operations.

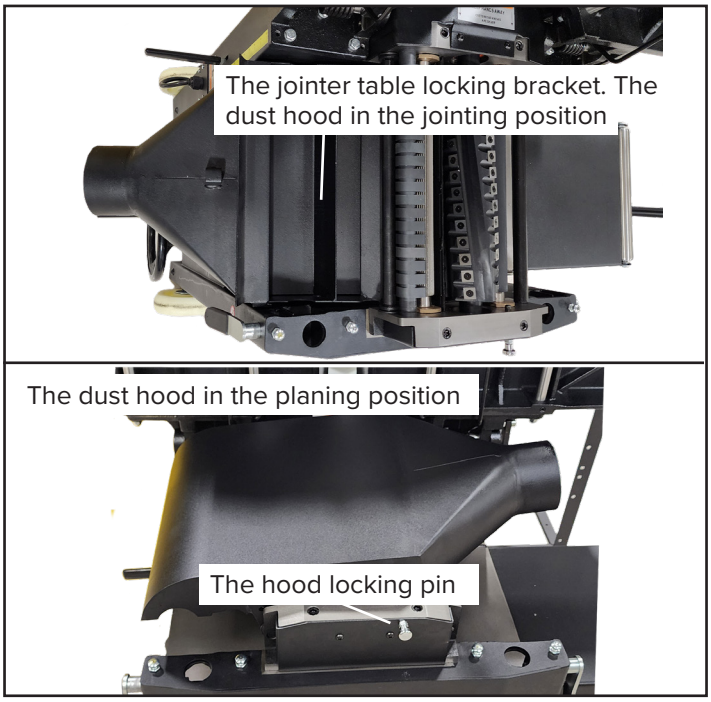


Figure 30: Pivoting dust shoot.

It is imperative to use a dust collection system with this planer to eliminate harmful airborne dust, prevent chip build-up that may jam the roller system in the cutterhead, and maintain a clean working area free of debris.

To utilize the planer effectively:

- Place the board with one surface already jointed flat downwards onto the planer's table.

- The board will be cut on its upper surface by the cutterhead as it passes through the planer.

- When planing, feed the workpiece left-to-right under the cutterhead FIG. 31.

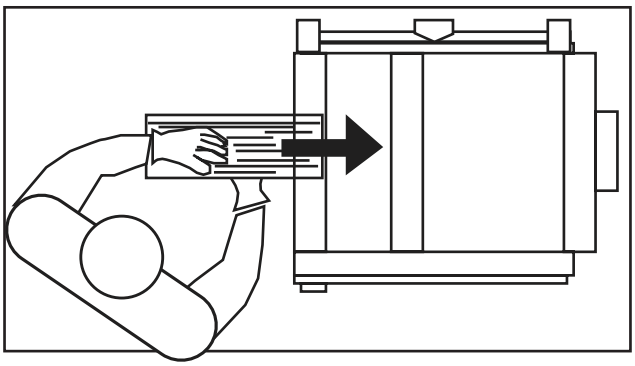


Figure 31: Correct Planing Direction.

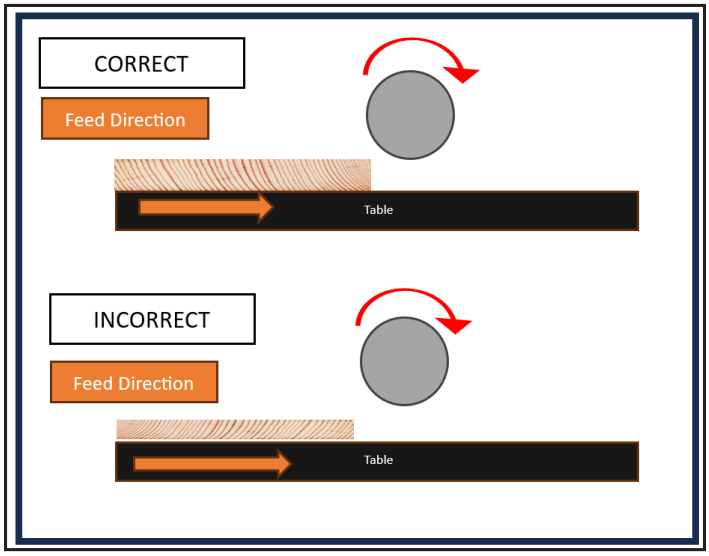


Figure 32: The Correct Grain Direction for Planing.

1. This step involves utilizing the jointer to flatten the surface of the first side of the workpiece.

2. Subsequently, after surfacing side 1, the workpiece is rotated 90° to align side 1 against the fence. Side 2 is then jointed flat. This operation results in two sides of the workpiece being perpendicular to each other.

3. Moving on to step 3, the planer is employed to run the workpiece with side 1 placed flat against the planer bed (down). This positioning facilitates the cutting of side 3, ensuring its parallelism to side 1.

4. In step 4, side 2 is positioned flat against the planer bed (down), resulting in, side 4 being planed flat and parallel to side 2.

Upon completion of these steps, the workpiece achieves squareness, achieving four flattened surfaces and four edges perpendicular to each other. See Figure 35.

NOTE: Workpiece dimensions for planing:

- Length: minimum 12”; for lumber over 60”, utilize roller supports.

- Width: maximum 12”.

- Thickness: minimum 1/4”; maximum 7-7/8”.

- Depth of Cut: maximum 1/8”. Multiple cuts of 1/16” or less produce better finish results.

Keep in mind that the wood’s hardness plays a significant role in determining the depth of cut i.e., for softer woods you can go up to 1/8” depth while for harder woods you must stay under 1/16” deep.

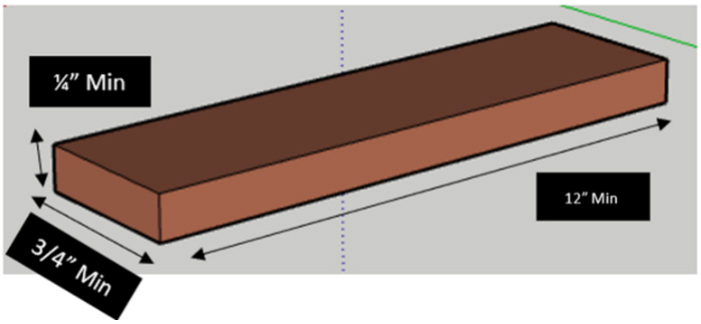


Figure 33: Minimum dimension of planing.

NOTE: The Belt Lever for Planer Drive Rollers (#217, FIG. 34) must be set in the ‘ENGAGE’ position to activate the drive rollers.

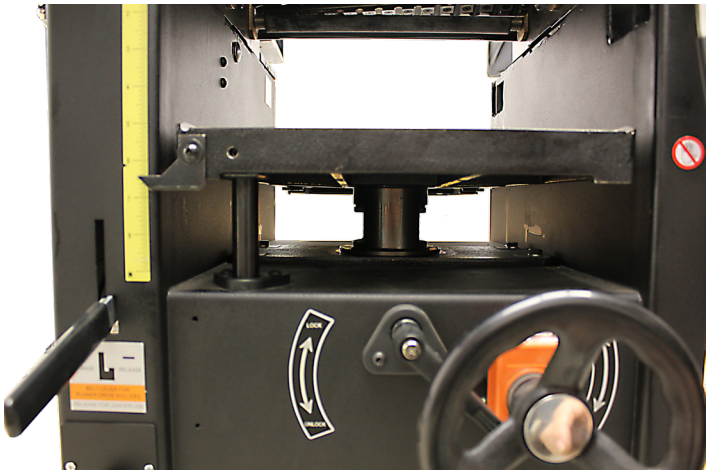


Figure 34: Jointer/Planer Motor lever.

1. To feed the workpiece into the machine, assume a proper operating position as in figure 30. Stand offset to one side of the feed opening to avoid any kick-back, should it occur. Do not push the lumber once the infeed roller has been engaged. Let the infeed roller move the workpiece into the planer at its own pace.

2. To remove the workpiece from the machine, position yourself offset to one side of the outfeed opening (FIG. 48). Do not pull the lumber as it exits the machine. Let the outfeed roller move the workpiece out of the planer at its own rate but support the lumber as it extends past the extension rollers, if needed. Continued on page ().

3. Set the planing thickness by measuring your board’s thickness and adjusting the planer accordingly, either to this measurement or 1/16” under this figure. It’s crucial to avoid removing an excessive amount of stock (over 1/8”) during the initial pass to prevent damage to the planer. Repeated passes through the planer will gradually achieve the final desired board thickness.

4. Feed boards slowly and directly into the planer. The infeed and outfeed rollers will automatically guide the boards through the planer.

- Ensure that workpieces are guided straight into and through the planer. The cutting action of the cutterhead may attempt to turn a board being surfaced, so slight control of the board may be necessary. Do not push the board forward; let the planer's rollers automatically move the board through the machine.

5. Remove the board from the planer. Refer to Step 2; do not pull the lumber as it exits the machine. Allow the outfeed roller to move the workpiece out of the planer at its own rate but support the lumber as it extends past the extension rollers, if needed.

- Ensure there are no loose knots, nails, staples, dirt, or foreign objects in the wood to be planed.

- Plane wood in the same direction as the grain, avoiding planing across the grain or end grain.

- Avoid planing boards shorter than 12"; shorter boards should be planed end to end with other boards to prevent kick-back and snipe.

- Provide additional support for boards longer than 60" to prevent tipping, which can cause snipe on the ends.

How to Square a Workpiece

1. FIG. (35 -A) - Utilize the jointer to ensure that surface side 1 is flat.

2. (B) - Following the surfacing of side 1, rotate the workpiece by 90°, aligning side 1 against the fence. Proceed to flatten side 2 using the jointer. This action results in two perpendicular sides.

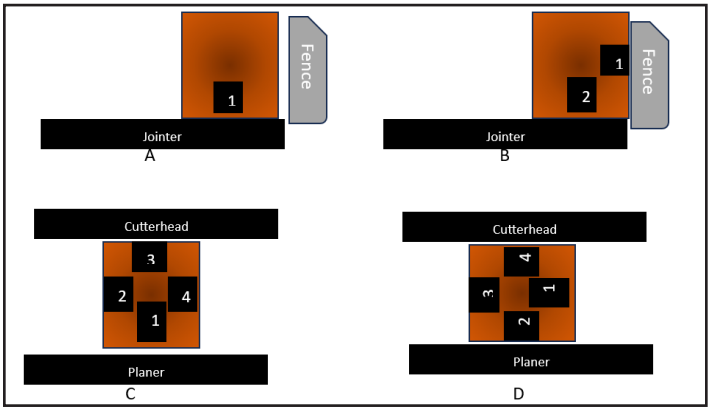


Figure 35: Squaring a workpiece.

3. (C) - Employ the planer to process the workpiece, positioning side 1 flat against the planer bed. Subsequently, side 3 can be machined to achieve parallelism with side 1.

4. (D) - Lay 2nd side flat against the planer bed to facilitate the planing of side 4, ensuring its flatness and parallel alignment with side 2.

Upon completion of these steps, the workpiece attains a square profile, featuring four flattened surfaces and four edges with perpendicular alignment.

- Utilize the full length of the cutting knives by running boards through the planer at different positions along the width of the bed. Planing only in the center or through one side of the planer will quickly dull the knives in that area.

- For thickness planing stock with non-parallel surfaces, use suitable feeding aids such as fitting templates.

Snipe

The term 'snipe' refers to the depression that may occur at the front or rear of a board during planing. It is caused by uneven pressure on the cutterhead when a board is fed into the planer or when exiting. Snipe can result in uneven surfaces and affect the overall quality of the finished board.

To avoid snipe, it's essential to keep your lumber firmly pressed down onto the planer bed at the beginning of the cut and also at the end of the cutting action as the lumber exits the planer. This ensures consistent pressure distribution across the board, minimizing the risk of snipe formation.

Section 5: Accessories

Mobility Kit: includes wheels, hardware, and the tow bar that helps with ease of moving the machine around the shop.

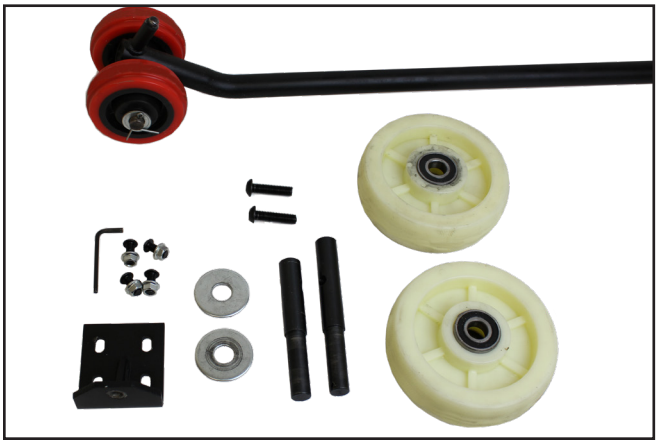


Figure 36: Mobility kit (sold separately)

Carbide Inserts for cutterhead: These inserts are made of carbide, an extremely hard metal sharpened to a mirror finish sharp edge. They come in a package of 10. Item number CXHCINSSR100.

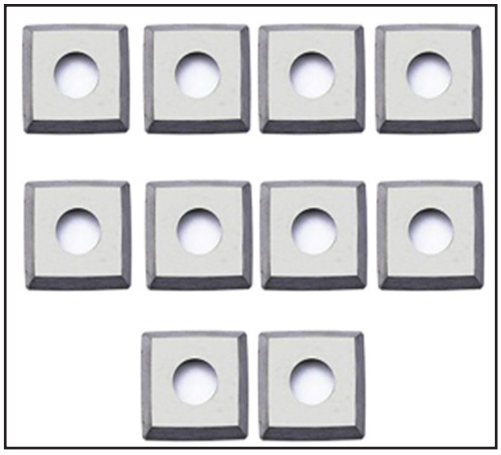


Figure 37: Cutterhead Inserts.

Blade cleaners: we carry a selection of blade and bit cleaners and rust protectors, such as Boeshield Rust free spray item number B3708, Boeshield T9 Protectant and lubricant item number B3707, Trend Tool and Bit Cleaner item number B3229.

Please visit: www.busybeetools .com for further information and a wide selection of products.

Section 6: PPE and personal safety

At Busy Bee Tools we carry a wide range of PPE and personal safety gear, ranging from basic eye, ear, and respiratory protective gear all the way to the most advanced Bluetooth earmuffs and earbuds that you can connect your mobile device to while protecting your ears from loud noises. Visit our website for a wide range of PPE and safety gear.

Section 7: Maintenance

List of lubricants and grease Required:

• Regular machine grease for all gears and chains.

• Blade and bit cleaner.

Scheduling

Based on the provided guidelines, here is a daily and weekly list of tasks for maintaining a jointer/planer:

Daily

Pre-use Check:

- Inspect power cord and plug for wear or damage.

- Ensure all screws and hardware are tight.

- Clear the area of any obstructions.

Weekly Cleaning and Protecting

Cleaning:

- Regularly clean all parts with a soft cloth, brush, or compressed air.

- Wear proper eye protection if blowing sawdust.

Lubrication:

- Regularly lubricate bearings and chains with light motor oil.

- Keep drive belts free of oil and grease.

Column Maintenance:

- Clean planer bed columns to prevent wood chip buildup.
- Treat columns with dry lubricant spray.

Table Maintenance:

- Keep jointer and planer tables free of resin and rust.
- Clean with non-flammable solvent and apply dry lubricant spray or wax.
- Lower planer table to avoid contact with sharp inserts.

Feed Roller Cleaning:

- Clean metal feed rollers with a soft rag and solvent if resin buildup occurs.
- Avoid applying solvents to rubber-coated rollers.
- Keep hands away from sharp cutterhead knife inserts.
- Do not lubricate rollers to ensure proper grip on lumber.

Anti-kickback Fingers:

- Clean anti-kickback fingers of dust or resin.
- Lubricate with dry lubricant only.

Belt Tension Check:

- Check belt tension after 3-5 hours of operation to prevent stretching.

Regular maintenance and checks are essential for ensuring the longevity, safety, and efficient operation of the jointer/planer combo machine.

Section 8: Wiring and Electrical Diagram

Wiring Safety Instructions
At Busy Bee Tools, we strive constantly to improve our machines and their performance. It's essential to take note of Busy Bee Tools advice regarding potential changes or updates to the electrical systems of your machine. Here are some key steps to follow if you suspect differences between your machine and the information provided in the manual:

1. Check the Manufacture Date: As mentioned in the manual, verify the manufacture date of your machine, which can be found on the main machine label.

2. Compare the Manual and Your Machine: Carefully compare the information and wiring diagrams provided in the manual with the actual components and wiring of your machine.

3. Contact Technical Support: If you identify any differences or have concerns about the electrical systems of your machine, reach out to the manufacturer's Technical Support team. They can provide guidance and updated wiring diagrams if necessary.

4. Provide Serial Number: Be prepared to provide the serial number of your machine when contacting Technical Support. This information helps them identify the specific model and configuration of your machine.

5. Do Not Make Unauthorized Changes: As a precaution, avoid making any unauthorized changes or modifications to the wiring of your machine until you have received guidance from Technical Support.

6. Prioritize Safety: Always prioritize safety when dealing with electrical systems. Ensure that the machine is disconnected from the power source before inspecting or making any changes.

By following these steps and seeking assistance from Busy Bee Tools Technical Support when needed, you can ensure that your machine operates safely and effectively, even if there have been updates or changes to its electrical systems since the manual was printed.

The warnings and guidelines provided in the manual are crucial for ensuring your safety and the proper functioning of your machine's electrical systems. Here's a summary of the key points to keep in mind:

1. Shock Hazard: Working on wiring connected to a power source can be extremely dangerous and may result in severe burns, electrocution, or even death. Always disconnect the power from the machine before servicing electrical components to prevent any electrical accidents.

2. Modifications: Avoid making unauthorized modifications to the wiring of your machine. Modifying the wiring beyond what is shown in the manufacturer's diagrams can lead to unpredictable and potentially hazardous results, including serious injury or fire. Busy Bee does not authorize the installation of unapproved aftermarket parts. Installing unapproved parts will void the warranty of the machine and will hold Busy Bee Tools safe from liability.

3. Wire Connections: Ensure that all wire connections are tight and secure. Loose connections can pose a safety risk and may lead to electrical problems during machine operation. After any wiring task, double-check all connections to confirm they are properly tightened.

4. Circuit Requirements: Adhere to the circuit requirements outlined at the beginning of the manual when connecting your machine to a power source. This includes using the appropriate voltage, phase, and circuit amperage to ensure safe and reliable operation.

5. Wire/Component Damage: Damaged wires or components can increase the risk of personal injury, fire, or machine damage. If you identify any wires or components that are damaged while performing a wiring task, it is crucial to replace them promptly to ensure safety and prevent further issues.

6. Motor Wiring: The motor wiring diagrams provided in the manual may not exactly match your machine's configuration. If you find discrepancies, consult the wiring diagram inside the motor junction box for accurate information.

7. Capacitors/Inverters: Some capacitors and power inverters can store an electrical charge for a significant duration (up to 10 minutes) after being disconnected from the power source. To reduce the risk of electrical shock, wait for at least this duration before working on capacitors.

8. Experiencing Difficulties: If you encounter difficulties understanding the information presented in this section or require assistance with your machine's wiring, don't hesitate to contact Technical Support for guidance and clarification.

Following these additional warnings and guidelines will help ensure that you work safely with your machine's electrical components and effectively address any wiring-related issues that may arise. Prioritize safety when handling electrical systems and components.

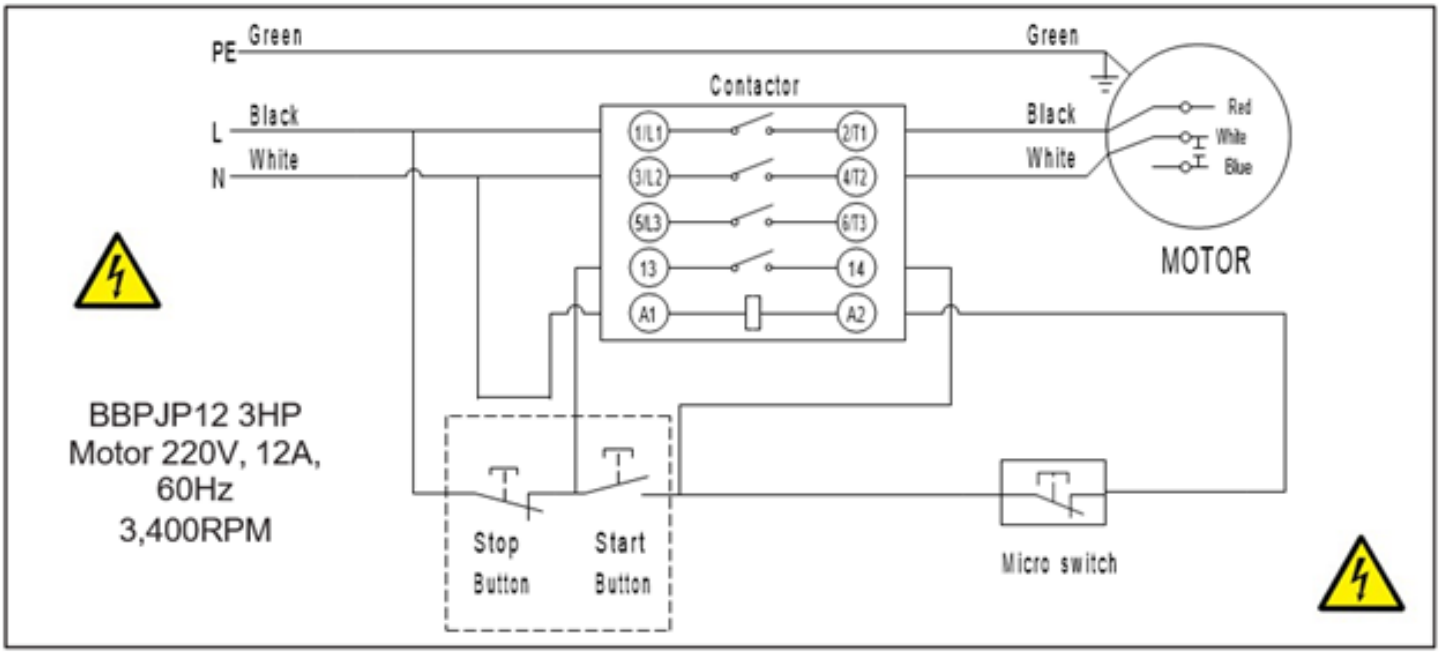


Figure38: Wiring Diagram.

Section 9: Troubleshooting

Issue	Cause	Solutions
Machine will not start.	1. No power 2. Fuse Burned 3. Main on/off switch or Micro switch is not functioning 4. Motor failure	1. Check the power source, plug, and wiring. 2. Check the fuse and replace it if it is blown. 3. Check the position of the switches. Contact Busy Bee Tools for repair or replacement. 4. Inspect the motor for failed components. Contact Busy Bee Tools for repair or replacement.
Circuit Breakers trip and /or Fuses are blown	1. Wrong circuit size for the machine 2. Motor is overloaded under strain from taking too heavy of cut 3. Use of an extension cord	1. Check the circuit/fuse rating and amps of the motor. Install the correctly rated breaker/ fuse. 2. Take lighter cuts in planing lumber. 3. DO NOT use an extension cord or use heavier gauge cord.
Machine bogs down in the cut	1. Excessive depth of cut 2. Feed rate is too fast 3. Cutterhead inserts are dull	1. Reduce depth of cut. 2. Reduce feed rate. 3. Rotate or replace the cutterhead inserts.
Cutting vs. planer feed rate is not consistent	1. Belts are loose 2. Chips and dust build-up on parts	1. Check the pulleys for damage and belts for tension & wear. 2. Unplug machine and clean all parts.
TROUBLESHOOTING THE JOINTER		
Jointer fence is not accurate at 90° or 45°	1. Fence stops are not properly adjusted 2. Locking handles are loose	1. Re-adjust the fence stops. 2. Check all handles to make sure that they are properly tightened before starting the machine.
'Chatter' marks on lumber	1. Feed rate is too fast	1. Slow the feed rate down.
Cutterhead slows down when jointing	1. Feed rate is too fast 2. Downward pressure on the cutterhead knives is too great 3. Planer infeed/outfeed rollers are operating	1. Slow down feeding the wood over the cutterhead. 2. Apply less downward pressure 3. Release belt lever for the planer drive rollers

Issue	Cause	Solutions
Small, raised lines are running along the surface	1. Knives are nicked or broken	1. Rotate insert knives to new sharp edges.
Jointed stock is concave on the back end of the board	1. Knives are set higher than the outfeed table	1. Rotate insert knives to new sharp edges.
Jointed stock is concave on the front end of the board	1. Outfeed table is set higher than the knives	1. Lower the outfeed table level with the cutterhead and the inserts.
Stock is concave in the middle of the board	1. Table is out of level	1. Raise the table ends.
Milled surface is torn - also called 'chip out' or 'tear out'	1. Cutting against the grain 2. The cut is too deep 3. Knives are dull	1. Cut with the grain. For figured woods, take shallow cuts to minimize tear out. 2. Reduce cutting depth to 1/16” or less. 3. Rotate insert knives to new sharp edges.
Milled surface grain is rough, raised, or fuzzy	1. Lumber has a high moisture content 2. Knives are dull	1. Reduce the moisture content by drying it, or switch to other properly seasoned lumber. 2. Rotate insert knives to new sharp edges.
Milled surface is glossy	1. Cutting depth is too shallow 2. Knives are dull 3. Feed rate is too slow	1. Increase the depth of cut slightly. 2. Rotate the insert knives to new sharp edges. 3. Increase feed rate.
TROUBLESHOOTING THE PLANER		
Poor feeding of lumber through the planer	1. Drive belt is worn or broken 2. The drive belt tension spring is broken 3. Lumber sticking on planer’s table 4. Feed rollers not applying enough pressure on lumber	1. Check and replace as necessary. 2. Check tension and/or replace the spring. 3. Clean the table and apply silicone-based lubricant to reduce friction. 4. Adjust the feed roller pressure.
Not planing lumber to a uniform thickness	1. Planer table is not level to with cutterhead	1. Adjust the table and/or cutterhead as needed.
Board thickness does not match scale markings	1. Depth of cut scale not set correctly	1. Adjust the scale to match board thickness

Issue	Cause	Solutions
Thin, elevated lines are running along the surface	1. Knives are nicked or broken	1. Rotate insert knives to new sharp edges.
Snipe on board ends (NOTE: Snipe can be reduced, but not fully eliminated)	1. Feed rollers not set properly 2. Lumber not supported when fed into or exiting the planer 3. Short boards not butted	1. Adjust feed roller height for applying pressure onto lumber to keep flat on table. 2. Support long boards with roller stands. 3. Run boards butted end to end through planer
Planed surface is torn - also called 'chip out' or 'tear out'	1. Cutting against the grain 2. The cut is too deep 3. Knives are dull	1. Cut with the grain. For figured woods, take shallow cuts to minimize tear out. 2. Reduce cutting depth to 1/16” or less. 3. Rotate insert knives to new sharp edges.
Planed surface grain is rough, raised, or fuzzy	1. Cutting against the grain 2. Cut is too deep 3. Knives are dull	1. Reduce the moisture content by drying it, or switch to other properly seasoned lumber. 2. Rotate insert knives to new sharp edges.
Planed surface is shiny	1. Cutting depth is too shallow 2. Knives are dull 3. Feed rate is too slow	1. Increase depth of cut slightly. 2. Rotate the insert knives to new sharp edges. 3. Increase feed rate.

More Troubleshooting

Troubleshooting Common Planing Issues

Listed below are common wood characteristics and associated problems that may arise during planing operations. Subsequent to each problem description, viable solutions are presented:

Chipped Grain:

Problem: Occurs typically when planing against the grain, processing lumber with knots, excessive cross grain, or using dull knives/inserts.

Solution: Decrease the depth of cut, reduce the feed rate, inspect lumber for grain patterns, and examine the condition of knives/inserts.

Fuzzy Grain:

Problem: Often a result of surfacing lumber with excessive moisture content or inherent to certain wood types like basswood. Dull knives/inserts may also contribute.

Solution: Check lumber moisture content, allow proper drying if moisture exceeds 20%, and assess the condition of knives/inserts.

Snipe:

Problem: Typically observed when board ends exhibit more material removal than the rest of the board. Misalignment or inadequate support during machining can be causal factors.

Solution: Lift the workpiece slightly as it exits the planer to

mitigate snipe. To prevent snipe altogether, plane lumber slightly longer than the intended work length and trim excess afterward.

Pitch & Glue-up:
Problem: Accumulated glue and resin on rollers and the cutterhead can lead to overheating, reduced cutting efficiency, scorched lumber, uneven insert marks, and machine chatter.

Solution: Thoroughly clean the rollers and cutterhead to remove glue and resin buildup.

Chip Marks or Indentations:
Problem: Wood chips are not efficiently expelled from the cutterhead, leading to chip indentation, or bruising on the wood surface.

Solution: Implement a proper dust collection system, ensure dry lumber, maintain sharp knives/inserts, and reduce the depth of cut to mitigate chip marks.

Wood Species Impact
The species of wood, in conjunction with its condition, significantly influences the depth of cut that the jointer/planer can effectively achieve per pass. Refer to the Janka Hardness Rating chart in Figure 45, where higher Janka numbers indicate harder wood. For optimal results, limit the material removal per pass, particularly with harder wood species, to preserve the quality of your machining operations.

Note: The Janka Hardness Rating quantifies the force (in pounds) required to embed a 0.444" steel ball into the wood's surface to a depth equivalent 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

Janka hardness table.

Section 9: Diagrams and Parts List

Base cabinet Assembly:

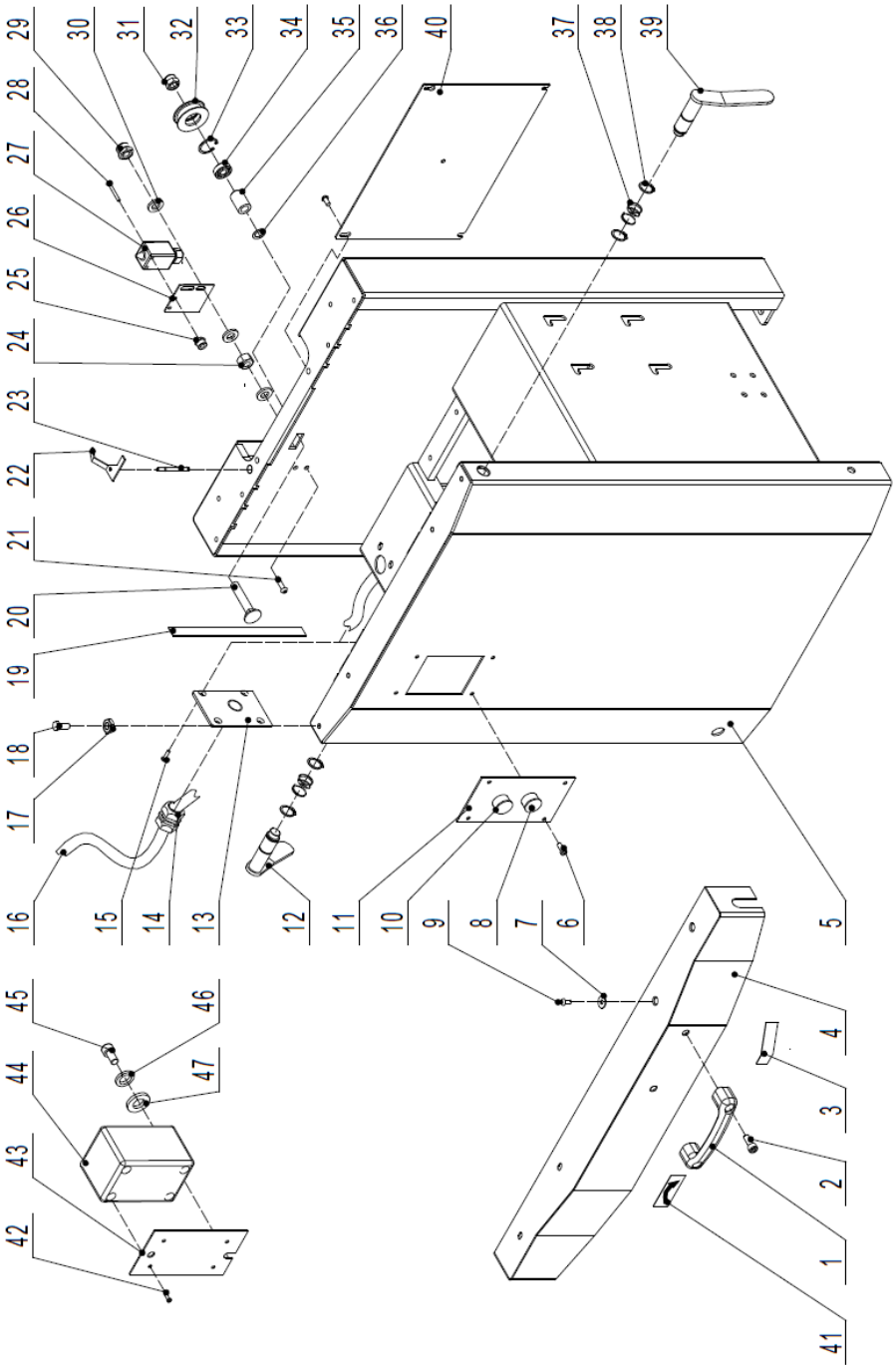


Figure 39: Cabinet Assembly.

Key	Mfg. Item #	Part Number	Description	Qty
1	JL45030030A	PBBPJ12001	Handle	1
2	M8X20GB70B	PBBPJ12002	Hex socket cap screw M8x20	2
3	JL45030031D	PBBPJ12003	Label	1
4	JL45032000B	PBBPJ12004	Left cover	1
5	JL45010000C	PBBPJ12005	Frame	1
6	M4X6GB818Z	PBBPJ12006	Pan screw M4X6	4
7	M6X12GB70D2B	PBBPJ12007	Pan head screw M6x12	8
8	A22-E-S-E01	PBBPJ12008	Scram button	1
9	WSH6GB96B	PBBPJ12009	Big washer M6	4
10	LA39-B2-10-g	PBBPJ12010	On switch	1
11	JL29000001A	PBBPJ12011	Switch box	1
12	JL45030026	PBBPJ12012	Handle	1
13	JL45090006	PBBPJ12013	Plug board	1
14	JL91046100	PBBPJ12014	Strain relief M20	1
15	M4X10GB818Z	PBBPJ12015	Pan screw M4X10	4
16	U13143500-608	PBBPJ12016	Three-core cable	1
17	M8GB6172Z	PBBPJ12017	Thin nut M8	4
18	JL45030016	PBBPJ12018	Ball head bolt	4
19	JL45040019A	PBBPJ12019	Scale	1
20	M12X65GB801Z	PBBPJ12020	Square neck bolt M12x65	1
21	M6X25GB70D2B	PBBPJ12021	Pan head screw M6x25	2
22	JL45090003	PBBPJ12022	Plate	1
23	JL45090005	PBBPJ12023	Rod	1
24	M6GB41Z	PBBPJ12024	Square nut M6	2
25	M4GB889Z	PBBPJ12025	Locknut M4	2
26	JL45090004	PBBPJ12026	Switch plate	1
27	QKS7	PBBPJ12027	Switch	1
28	M4X30GB818Z	PBBPJ12028	Pan screw M4X30	2
29	M6GB889Z	PBBPJ12029	Locknut M6	2
30	WSH6GB97D1Z	PBBPJ12030	Flat washer M6	6
31	M12GB889B	PBBPJ12031	Locknut M12	1
32	JL45053001	PBBPJ12032	Idle pulley	1
33	CLP28GB893D1B	PBBPJ12033	Ring Φ28	1
34	BRG6001-2RSGB276	PBBPJ12034	Bearing 6001	1
35	JL45052002B	PBBPJ12035	Tube	1
36	JL40020004	PBBPJ12036	Adjust cushion	1
37	JL45030032	PBBPJ12037	Handle spring	2

38	CLP20GB894D1B	PBBPJ12038	Circlip ring Φ20	4
39	JL45030014	PBBPJ12039	Handle	1
40	JL45010004	PBBPJ12040	Window plate	1
41	JL48020006A	PBBPJ12041	Sticker	1
42	M4X12GB818Z	PBBPJ12042	Pan screw M4X12	4
43	JL45090008	PBBPJ12043	Relay seat plate	1
44	JL48091100A	PBBPJ12044	Relay assembly	1
45	M8X12GB70Z	PBBPJ12045	Screw M8X12	2
46	WSH8GB93Z	PBBPJ12046	Spring washer M8	2
47	WSH8GB96Z	PBBPJ12047	Big washer M8	2

Cutterhead Assembly:

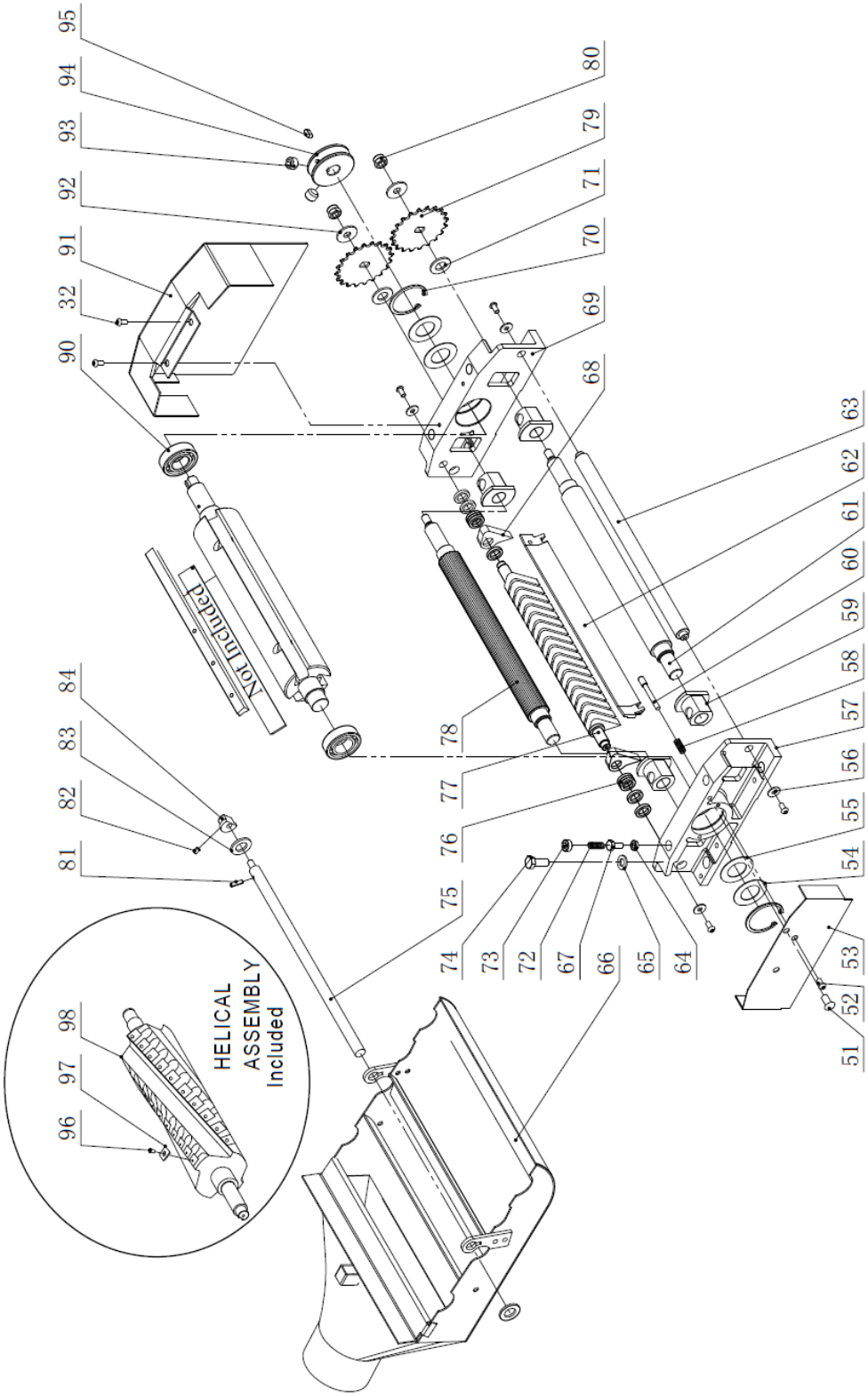


Figure 40: Cutterhead Assembly

Key	Mfg. Item #	Part Number	Description	Qty
51	JL45023002	PBBJP12051	Locating pin cover	1
52	M6X12GB70D2B	PBBJP12052	Pan head screw M6x12	8
53	JL45030023	PBBJP12053	Inner guide	1
54	JL45020016	PBBJP12054	Wave washer Φ49x28x1	2
55	JL45020017	PBBJP12055	Washer Φ49x28x1	2
56	WSH6GB96B	PBBJP12056	Big washer M6	4
57	JL45020002	PBBJP12057	Left cutterhead bracket	1
58	JL41025102	PBBJP12058	Spring	1
59	JL45020006	PBBJP12059	Shaft sleeve	4
60	JL45023001	PBBJP12060	Location pin	1
61	JL45020007	PBBJP12061	Outfeed roller	1
62	JL45020013	PBBJP12062	Dust board	1
63	JL45020012	PBBJP12063	Dust board	1
64	M8GB6172Z	PBBJP12064	Thin nut M8	4
65	WSH10GB97D1B	PBBJP12065	Flat washer M10	4
66	JL45022000	PBBJP12066	Dust collector	1
67	M8X16GB5781Z	PBBJP12067	Hexagon bolt M8x16	4
68	JL45020010	PBBJP12068	Non-return block	38
69	JL45020001	PBBJP12069	Right cutterhead bracket	1
70	CLP52GB893D1B	PBBJP12070	Retainer ring Φ52	2
71	JL45051005	PBBJP12071	Washer	2
72	JL45020004	PBBJP12072	Spring	4
73	JL45020003	PBBJP12073	Screw	4
74	M10X25GB5783B	PBBJP12074	Hexagon bolt M10x25	4
75	JL45020009	PBBJP12075	Rod	1
76	JL45020011	PBBJP12076	Bush	48
77	JL45020008	PBBJP12077	Rod	1
78	JL45020005	PBBJP12078	Infeed roller	1
79	JL45050003	PBBJP12079	Big chain wheel	2
80	M10GB889Z	PBBJP12080	Locknut M10	2
81	PIN5X18GB879B	PBBJP12081	Pin 5X18	1
82	M6X8GB77B	PBBJP12082	Set screw M6x8	1
83	WSH16GB97D1Z	PBBJP12083	Flat washer M16	2
84	JL45090002	PBBJP12084	Small eccentric wheel	1
90	BRG6205-DDUC3	PBBJP12090	Bearing 6205	2
91	JL45031000	PBBJP12091	Right guard	1
92	WSH10GB96Z	PBBJP12092	Big washer M10	2
93	M8X6GB77B	PBBJP12093	Set screw M8X6	2
94	JL45050001	PBBJP12094	Belt pulley for cutter shaft	1
95	PLN6X16GB1096	PBBJP12095	Flat key 6X16	1
96	M5X12GB2673D	PBBJP12096	Screw M5X12	56
97	JL45021006	PBBJP12097	Knife	56
98	JL45021001C	PBBJP12098	Cutter shaft	1

Infeed Table Assembly:

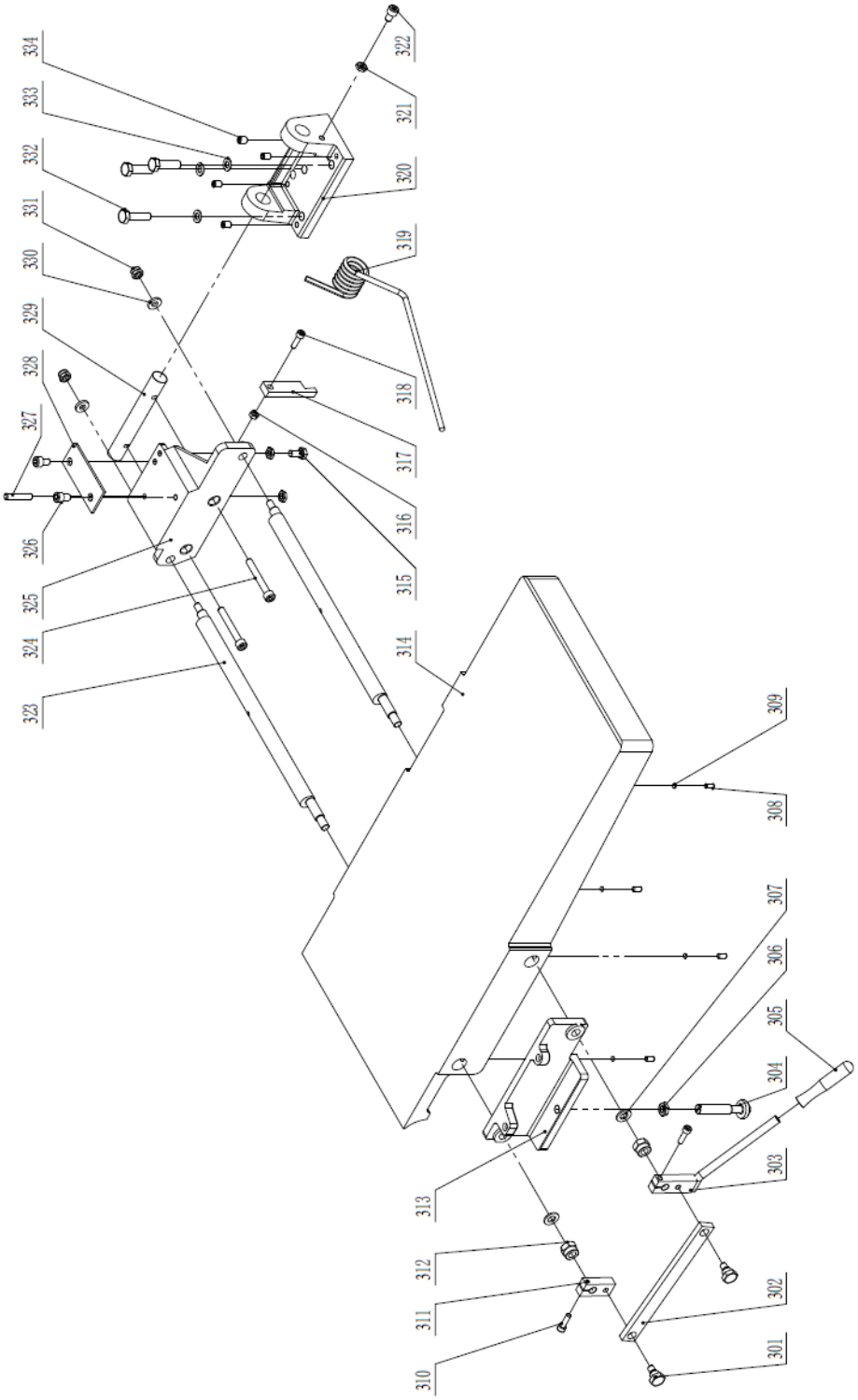


Figure 41: Infeed Table Assembly.

Key	Mfg. Item #	Part Number	Description	Qty
301	JL45030017	PBBJP12301	Shoulder bolt	2
302	JL45030013	PBBJP12302	Rod	1
303	JL45030012A	PBBJP12303	Hand shank	1
304	JL45030008	PBBJP12304	Tighten tube	1
305	JL45030035A	PBBJP12305	Handlebar grip	1
306	M12GB6172Z	PBBJP12306	Thin nut M12	1
307	WSH12GB97D1Z	PBBJP12307	Flat Wahser M12	2
308	M8X10GB77B	PBBJP12308	Set screw M8X10	4
309	JL45030029	PBBJP12309	Washer Φ6x1.5	4
310	M6X20GB70Z	PBBJP12310	Hex socket cap screw M6x20	3
311	JL45030011	PBBJP12311	Rod	1
312	M12GB889B	PBBJP12312	Locknut M12	2
313	JL45030006	PBBJP12313	Rising rack	1
314	JL45030001B	PBBJP12314	Planer table	1
315	M8X16GB5781Z	PBBJP12315	Hexagon bolt M8x16	1
316	M8GB6170Z	PBBJP12316	Nut M8	1
317	JL45030018	PBBJP12317	Block	1
318	M8X35GB70Z	PBBJP12318	Hex. Screw M8X35	1
319	JL43030009	PBBJP12319	Spring	1
320	JL45030005	PBBJP12320	Support base	1
321	M8GB6172Z	PBBJP12321	Thin nut M8	4
322	M8X12GB70Z	PBBJP12322	Hex.screw M8X12	1
323	JL45030015	PBBJP12323	Eccentric shaft	2
324	M8X60GB70B	PBBJP12324	Hex.screw M8X60	2
325	JL45030003	PBBJP12325	Front Rack	1
326	M8X10GB70B	PBBJP12326	Hex.screw M8X10	2
327	M8X40GB77B	PBBJP12327	Set screw M8X40	1
328	JL45060028	PBBJP12328	Guide plate	1
329	JL45030010	PBBJP12329	Support bar	1
330	JL45030020	PBBJP12330	Washer	2
331	M8GB889Z	PBBJP12331	Locknut M8	2
332	M8X30GB5783Z	PBBJP12332	Hexagon bolt M8x30	3
333	WSH8GB93B	PBBJP12333	Spring washer M8	3
334	M8X12GB80B	PBBJP12334	Set screw M8x12	4

Outfeed Table Assembly

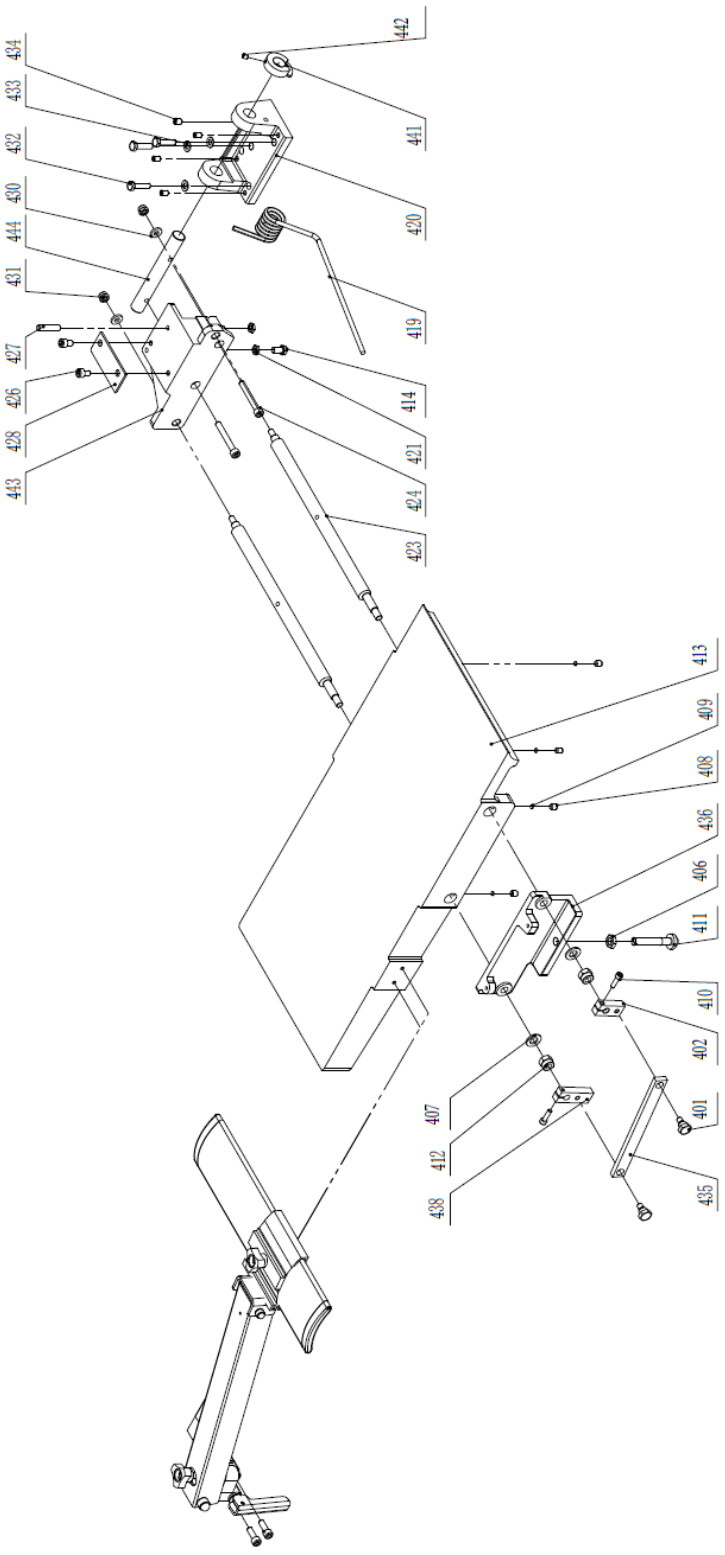


Figure 42: Outfeed Table Assembly.

Key	Mfg. Item #	Part Number	Description	Qty
401	JL45030017	PBBJP12401	Shoulder bolt	2
402	JL45030008	PBBJP12402	Tighten tube	1
406	M12GB6172Z	PBBJP12406	Thin nut M8	1
407	WSH12GB97D1Z	PBBJP12407	Flat Washer M12	2
408	M8X10GB77B	PBBJP12408	Set screw M8X10	4
409	JL45030029	PBBJP12409	Washer	4
410	M6X20GB70Z	PBBJP12410	Hex socket cap screw M6x20	4
411	JL45030011	PBBJP12411	Rod	1
412	M12GB889B	PBBJP12412	Locknut M12	2
413	JL45030001B	PBBJP12413	Planer table	1
414	M8X16GB5781Z	PBBJP12414	Hexagon bolt M8x16	1
419	JL43030009	PBBJP12419	Spring	1
420	JL45030005	PBBJP12420	Support base	1
421	M8GB6172Z	PBBJP12421	Thin nut M8	3
423	JL45030015	PBBJP12422	Eccentric shaft	2
424	M8X60GB70B	PBBJP12423	Hex socket cap screw M8x60	2
426	M8X10GB70B	PBBJP12426	Hex socket cap screw M8x10	2
427	M8X40GB77B	PBBJP12427	Set screw M8X40	1
428	JL45060028	PBBJP12428	Guide plate	1
430	JL45030020	PBBJP12430	Wahser	2
431	M8GB889Z	PBBJP12431	Locknut M8	2
432	M8X30GB5783Z	PBBJP12432	Hexagon bolt M8x30	3
433	WSH8GB93B	PBBJP12433	Spring washer M8	3
434	M8X12GB80B	PBBJP12434	Set screw M8x12	4
435	JL45030013A	PBBJP12435	Rod	1
436	JL45030007	PBBJP12436	Back rack	1
437	JL45070001	PBBJP12437	Plane cutter board	1
438	JL45030011A	PBBJP12438	Rod	1
440	FDPT1202070000-099A	PBBJP12440	Cutterhead guard	1
441	JL45090001	PBBJP12441	Big deflection wheel	1
442	M6X10GB77B	PBBJP12442	Set screw M6x10	1
443	JL45030004	PBBJP12443	Back rack	1
444	JL45030027	PBBJP12444	Back support bar	1

Planer Table Assembly:

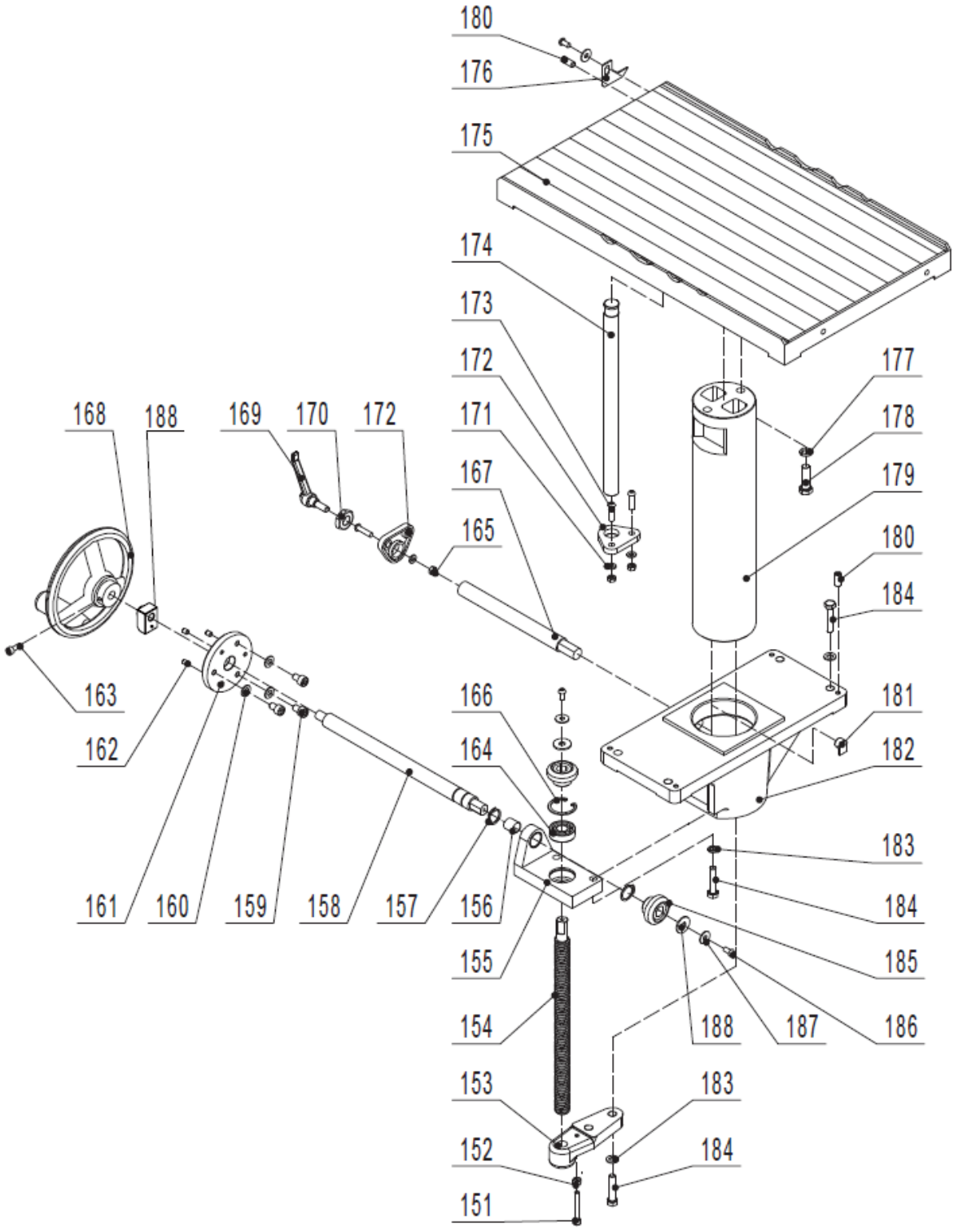


Figure 43: Planer Table Assembly.

Key	Mfg. Item #	Part Number	Description	Qty
151	M6X45GB70Z	PBBJP12151	Hex socket cap screw M6x45	1
152	M6GB41Z	PBBJP12152	Square nut M6	1
153	JL45040006	PBBJP12153	Thread Tube	1
154	JL45040007	PBBJP12154	Thread rod	1
155	JL45040004B	PBBJP12155	Bracket	1
156	P23X20X15GB12613	PBBJP12156	Shaft sleeve Φ23X20X15	1
157	CLP20GB894D1B	PBBJP12157	Circlip ring Φ20	2
158	JL45040009A	PBBJP12158	Lifting shaft	1
159	M8X12GB70Z	PBBJP12159	Hex socket cap screw M8x12	3
160	WSH8GB97D1Z	PBBJP12160	Flat washer M8	9
161	JL45040028	PBBJP12161	Flange plate	1
162	M6X8GB77B	PBBJP12162	Set screw M6x8	3
163	M6X16GB70Z	PBBJP12163	Hex socket cap screw M6x16	1
164	BRG6202-2Z-P5GB276	PBBJP12164	Bearing 6202	1
165	M6GB6170Z	PBBJP12165	Nut M6	4
166	CLP35GB893D1B	PBBJP12166	Circlip ring Φ35	1
167	JL45040008	PBBJP12167	Locking lever	1
168	SGSL-D160-d12A	PBBJP12168	Handwheel D160	1
169	KTSB-1-B-M8X63X20	PBBJP12169	Adjustable handle M8X63X20	1
170	M8GB6172Z	PBBJP12170	Thin nut M8	1
171	WSH6GB97D1Z	PBBJP12171	Flat washer M6	4
172	JL45040014	PBBJP12172	Rings	2
173	M6X25GB70D2B	PBBJP12173	Pan head screw M6x25	4
174	JL45040012	PBBJP12174	Rod	1
175	JL45040001B	PBBJP12175	Thicknesser table	1
176	JL45040020	PBBJP12176	Indicator	1
177	WSH10GB93B	PBBJP12177	Spring washer M10	2
178	M10X35GB5783B	PBBJP12178	Hexagon bolt M10x35	2
179	JL45040002A	PBBJP12179	Tube	1
180	M8X20GB77Z	PBBJP12180	Set screw M8X20	5
181	JL45040005	PBBJP12181	Locking plate	1
182	JL45040003A	PBBJP12182	Locating sleeve	1
183	WSH8GB93Z	PBBJP12183	Spring washer M8	2
184	M8X35GB5782B	PBBJP12184	Hexagon bolt M8x35	8
185	JL45040010	PBBJP12185	Gear	2
186	M6X12GB70D2B	PBBJP12186	Pan head screw M6x12	3
187	WSH6GB96Z	PBBJP12187	Big washer M6	3
188	JL09124D0E20	PBBJP12188	Position indicator	1

Drive and Motor Assembly

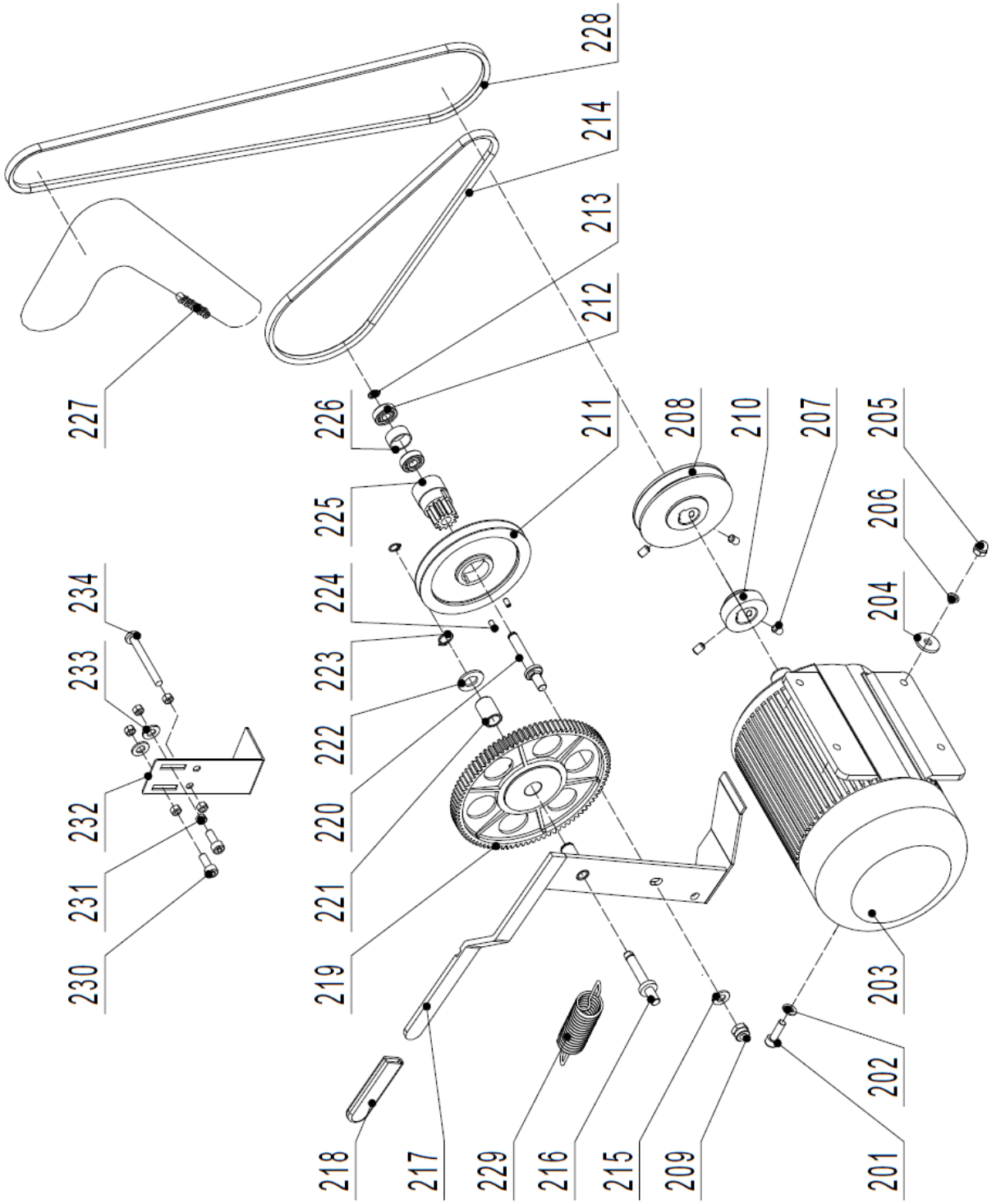


Figure 44: Drive and Motor Assembly.

Key	Mfg. Item #	Part Number	Description	Qty
201	M8X25GB70B	PBBJP12201	Hex socket cap screw M8x25	4
202	WSH8GB97D1Z	PBBJP12202	Flat washer M8	4
203	YLKA901222D	PBBJP12203	Motor	1
204	WSH8GB96Z	PBBJP12204	Big washer M8	4
205	M8GB923Z	PBBJP12205	Cap nut M8	4
206	WSH8GB93Z	PBBJP12206	Spring washer M8	4
207	M6X10GB80B	PBBJP12207	Set screw M6x10	4
208	JL45050002D	PBBJP12208	Motor pulley	1
209	M10GB889Z	PBBJP12209	Locknut M10	1
210	JL47050005	PBBJP12210	Small wheel	1
211	JL47051101	PBBJP12211	Belt wheel	1
212	BRG6000-2ZGB276	PBBJP12212	Bearing 6000	2
213	CLP10GB894D1B	PBBJP12213	Circlip ring Φ10	2
214	JL47050007	PBBJP12214	Belt 775	1
215	WSH10GB97D1Z	PBBJP12215	Flat washer M10	1
216	JL45051004	PBBJP12216	Chain wheel spindle	1
217	JL45051300	PBBJP12217	Panel assembil	1
218	JL45050013	PBBJP12218	Handle sleeve	1
219	JL45051001	PBBJP12219	Big gearwheel	1
220	JL45051301	PBBJP12220	Belt wheel spindle	1
221	JL45051003	PBBJP12221	Minor sprocket bush	1
222	JL45051005	PBBJP12222	Washer	1
223	CLP15GB894D1B	PBBJP12223	Circlip ring Φ15	1
224	M5X10GB77B	PBBJP12224	Set screw M5X10	2
225	JL45051102	PBBJP12225	Small gearwheel	1
226	JL45051103	PBBJP12226	Bush	1
227	JL45050008	PBBJP12227	Chain	1
228	JL45050009A	PBBJP12228	V-belt 1168	1
229	JL45050010	PBBJP12229	Spring tension	1
230	M6X25GB70D2B	PBBJP12230	Pan head screw M6x25	2
231	M6GB41Z	PBBJP12231	Square nut M6	6
232	JL45050011	PBBJP12232	Clamp	1
233	WSH6GB97D1Z	PBBJP12233	Flat washer M6	2
234	M6X60GB5781Z	PBBJP12234	Hexagon bolt M6X60	1

Working Fence Assembly

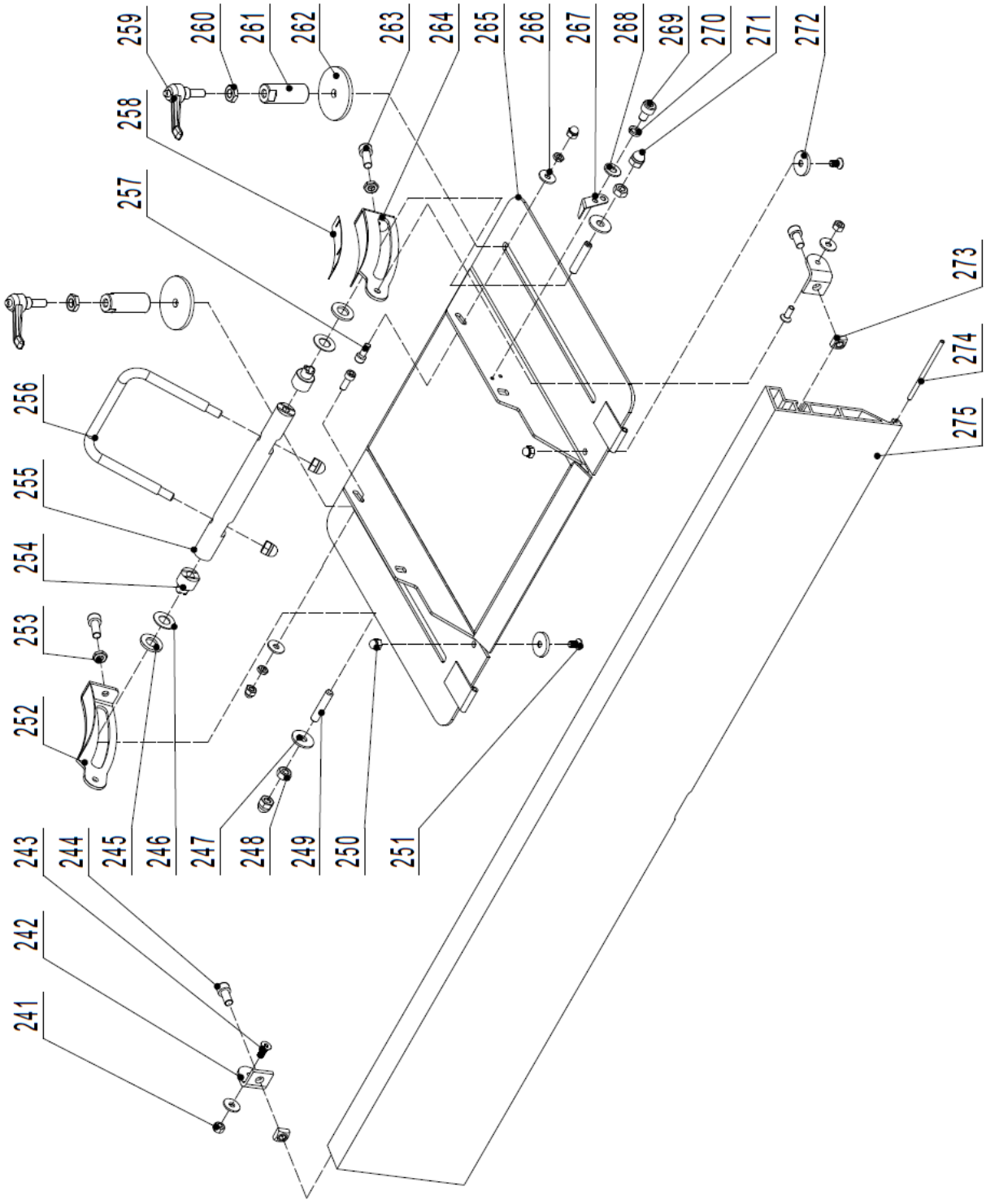


Figure 45: Jointer Fence Assembly.

Key	Mfg. Item #	Part Number	Description	Qty
241	M6GB41Z	PBBJP12241	Square nut M6	4
242	JL45060002	PBBJP12242	Support base	2
243	M6X16GB70D3Z	PBBJP12243	Hex countersunk head screw M6x16	2
244	M8X16GB70Z	PBBJP12244	Hex socket cap screw M8x16	2
245	WSH12GB97D1Z	PBBJP12245	Flat Wahser M12	2
246	JL46062006	PBBJP12246	Disc spring washer Φ12	2
247	WSH8GB96Z	PBBJP12247	Big washer M8	2
248	M8GB6170Z	PBBJP12248	Nut M8	2
249	M8X60GB80B	PBBJP12249	Set screw M8x60	2
250	M6GB923Z	PBBJP12250	Cap nut M6	4
251	M6X12GB70D3Z	PBBJP12251	Hex countersunk head screw M6x12	2
252	JL45060020	PBBJP12252	Right support arm	1
253	M8GB6172Z	PBBJP12253	Thin nut M8	2
254	JL45060024	PBBJP12254	Lock tube	2
255	JL45060023	PBBJP12255	Lock rod	1
256	JL45060027	PBBJP12256	Lock handle	1
257	M6X16GB70Z	PBBJP12257	Hex socket cap screw M6x16	2
258	JL45060007B	PBBJP12258	Angle label	1
259	KTSB-1-B-M10X80X20	PBBJP12259	Adjust handle M10X80X20	2
260	M10GB6172Z	PBBJP12260	Thin nut M10	2
261	JL43060006A	PBBJP12261	Lock cylinder	2
262	JL43060005	PBBJP12262	Washer	2
263	M8X20GB70Z	PBBJP12263	Hex socket cap screw M8X20	2
264	JL45060021	PBBJP12264	Left support arm	1
265	JL45063000A	PBBJP12265	Support plate	1
266	WSH6GB96Z	PBBJP12266	Big washer M6	6
267	JL45060026	PBBJP12267	Indicator	1
268	WSH4GB97D1Z	PBBJP12268	Flat washer M4	2
269	M4X6GB70Z	PBBJP12269	Hex socket cap screw M4x6	2
270	WSH4GB93Z	PBBJP12270	Spring washer M4	2
271	M8GB923Z	PBBJP12271	Cap nut M8	2
272	FDPT1202060016	PBBJP12272	Thick washer	2
273	M8GB39Z	PBBJP12273	Square nut M8	2
274	JL45060011	PBBJP12274	Long pin	2
275	JL45060001	PBBJP12275	Rip fence	1

Cutterhead Guard Assembly

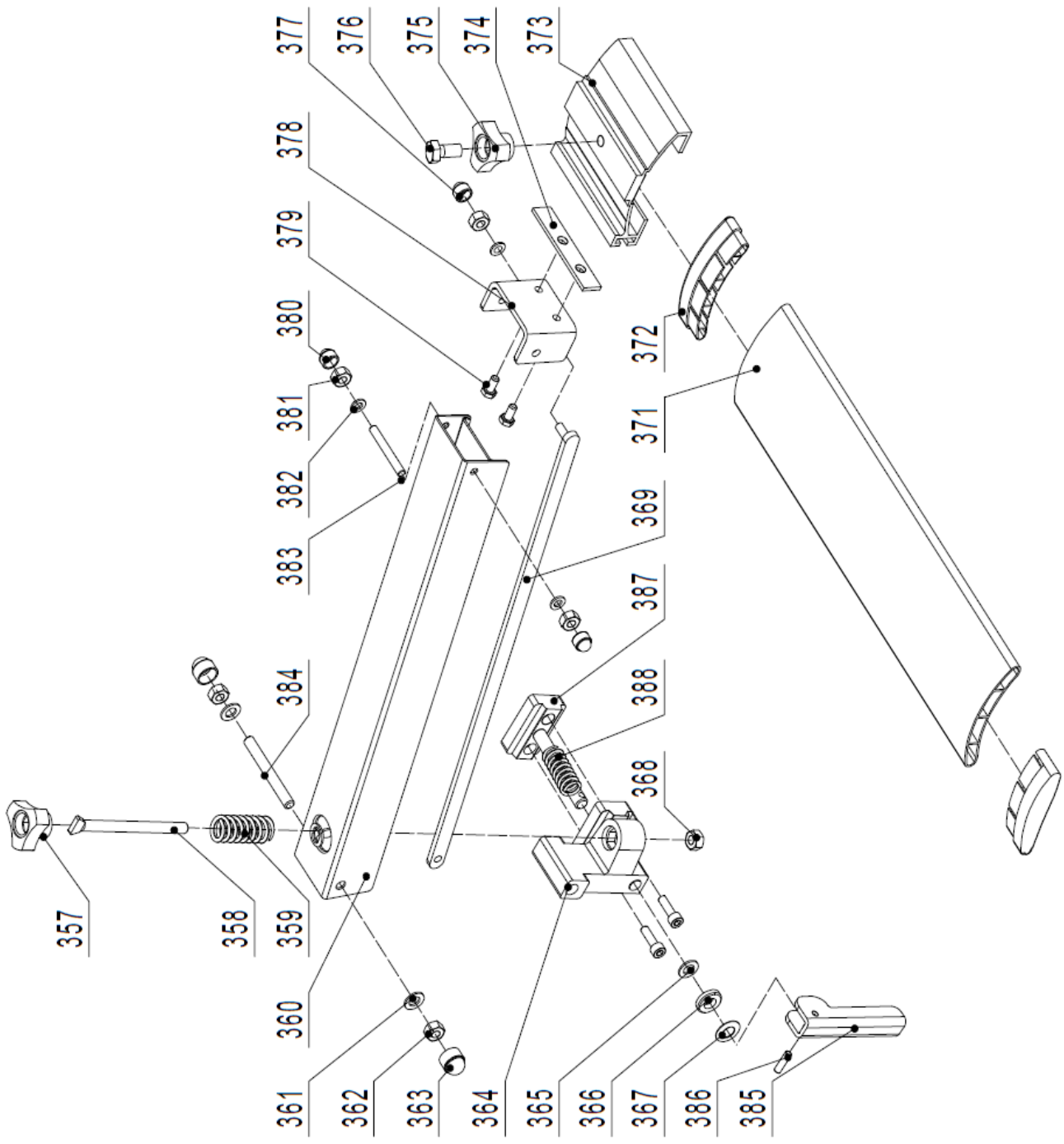


Figure 46: Cutterhead guard Assembly.

Key	Mfg. Item #	Part Number	Description	Qty
357	JL46090002A	PBBJP12357	Handle	1
358	JL46090011	PBBJP12358	Thread pull rod	1
359	JL46090010	PBBJP12359	Spring	1
360	JL46090200	PBBJP12360	Arm	1
361	WSH8GB97D1Z	PBBJP12361	Flat washer M8	2
362	M8GB889Z	PBBJP12362	Locknut M8	2
363	JL46090200	PBBJP12363	Nut cover	2
364	JL46090005	PBBJP12364	Locking support body	1
365	WSH10GB97D1Z	PBBJP12365	Flat washer M10	1
366	JL46090009	PBBJP12366	Thickness washer	1
367	JL46090021	PBBJP12367	Disc spring washer φ10	1
368	M8GB6170Z	PBBJP12368	Nut M8	1
369	JL46090300	PBBJP12369	Longer pull rod	1
371	JL45070001	PBBJP12371	Plane cutter board	1
372	JL45070002	PBBJP12372	End socket	2
373	JL46090016	PBBJP12373	Sliding sleeve	1
374	JL46090014	PBBJP12374	Base plate	1
375	JL46090002	PBBJP12375	Handle	1
376	JL46090003	PBBJP12376	Nylon bolt	1
377	M6GB889Z	PBBJP12377	Locknut M6	1
378	JL46090013	PBBJP12378	Sliding sleeve support	1
379	M5X10GB5783Z	PBBJP12379	Hex.head bolt M5X10	2
380	JL46090015	PBBJP12380	Nut cover M6	2
381	M6GB889Z	PBBJP12381	Locknut M6	2
382	JL46090020	PBBJP12382	Nylon washer	2
383	JL46090012	PBBJP12383	Screw head shaft M6	1
384	JL46090006	PBBJP12384	Screw head shaft M8	1
385	JL46091000	PBBJP12385	Handle assembly	1
386	PIN5X18GB119D1B	PBBJP12386	Pin roll 5X18	1
387	JL46090004	PBBJP12387	Locking support	1
388	JL46090008	PBBJP12388	Locking spring	1

Busy Bee Tools

BUSY BEE TOOLS 2 YEARS LIMITED WARRANTY

Busy Bee Tools warrants every product to be free from defects in materials and agrees to correct such defects where applicable. This warranty covers ***two years*** for parts and 90 days for labor (unless specified otherwise), to the original purchaser from the date of purchase but does not apply to malfunctions arising directly or indirectly from misuse, abuse, improper installation or assembly, negligence, accidents, repairs or alterations or lack of maintenance.

Proof of purchase is necessary.

All warranty claims are subject to inspection of such products or part thereof and Busy Bee Tools reserves the right to inspect any returned item before a refund or replacement may be issued.

This warranty shall not apply to consumable products such as blades, bits, belts, cutters, chisels, punches etc.

Busy Bee Tools shall in no event be liable for injuries, accidental or otherwise, death to persons or damage to property or for incidental contingent, special or consequential damages arising from the use of our products.

RETURNS, REPAIRS AND REPLACEMENTS

To return, repair, or replace a Busy Bee Tools product, you must visit the appropriate Busy Bee Tools showroom or call 1-800-461-BUSY.
For replacement parts directly from Busy Bee Tools, for this machine, please call 1-800-461-BUSY (2879), and have your model number and part number & payment option ready.

- All returned merchandise will be subject to a minimum charge of 15% for re-stocking and handling with the following qualifications.
- Returns must be pre-authorized by us in writing.
- We do not accept collect shipments.
- Items returned for warranty purposes must be insured and shipped pre-paid to the nearest warehouse
- Returns must be accompanied with a copy of your original invoice as proof of purchase. Returns must be in an un-used condition and shipped in their original packaging a letter explaining your reason for the return. Incurred shipping and handling charges are not refundable.
- Busy Bee will repair or replace the item at our discretion and subject to our inspection.
- Repaired or replaced items will be returned to you pre-paid by our choice of carriers.
- Busy Bee reserves the right to refuse reimbursement or repairs or replacement if a third party without our prior authorization has carried out repairs to the item.
- Repairs made by Busy Bee Tools are warranted for 30 days on parts and labour.
- Any unforeseen repair charges will be reported to you for acceptance prior to making the repairs.
- The Busy Bee Parts & Service Departments are fully equipped to do repairs on all products purchased from us with the exception of some products that require the return to their authorized repair depots. A Busy Bee representative will provide you with the necessary information to have this done.
- For faster service it is advisable to contact the nearest Busy Bee location for parts availability prior to bringing your product in for repairs.