Planer

Model 4455/4455B

Owner's Manual

For Models Manufactured Since 06/2019

C US
175370

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For Stock Number:
4455.103.B
4455.104.B
4455.103
4455.104

Manual Version: 2.0.0

READ AND UNDERSTAND ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO ASSEMBLE OR OPERATE THE MACHINE.

FOLLOW THE INSTRUCTIONS AND THINK SAFETY!

THE OWNER OF THIS MACHINE IS SOLELY RESPONSIBLE FOR THE SAFETY OF ANYONE USING THIS MACHINE. SUCH RESPONSIBILITY INCLUDES BUT NOT LIMITED TO:

- **PROPER ASSEMBLY, OPERATION, INSPECTION, MAINTENANCE, AND RELOCATION OF THE MACHINE.**
- **PROPER TRAINING FOR THE OPERATORS AND ENSURES THIS MANUAL IS AVAILABLE AT ALL TIMES.**
- **USAGE AUTHORIZATION.**
- **USAGE OF SAFETY AND PROTECTION DEVICES.**

OLIVER MACHINERY DISCLAIMS ANY LIABILITY FOR MACHINES THAT HAVE BEEN ALTERED OR ABUSED. OLIVER MACHINERY RESERVES THE RIGHT TO EFFECT AT ANY TIME, WITHOUT PRIOR NOTICE, THOSE ALTERATIONS TO PARTS, FITTINGS, AND ACCESSORY EQUIPMENT WHICH THEY MAY DEEM NECESSARY FOR ANY REASON WHATSOEVER.

**** SAVE THIS MANUAL FOR FUTURE REFERENCE. ****

PROP 65 NOTICE

WARNING: Drilling, sawing, sanding, or machining wood products can expose you to wood dust and/or other chemicals that are known to the State of California to cause cancer, birth defects, or other reproductive harm.

Some examples of these chemicals are:

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

Avoid inhaling wood dust and other harmful chemicals. Use a dust mask and/or other safety devices for personal protection.

For more information, visit http://www.P65Warnings.ca.gov/wood

Table of Contents

Introduction

Thank you for choosing Oliver! This manual contains important information on how to set up, operate, and maintain this machine safely. Please take the time to read this manual and ensure you understand all the instructions.

While this manual may provide tips on optimizing the result of your workpiece, the manual is not a substitute for formal woodworking training. Please consult qualified training resources if you need to know how to complete a woodworking task safely.

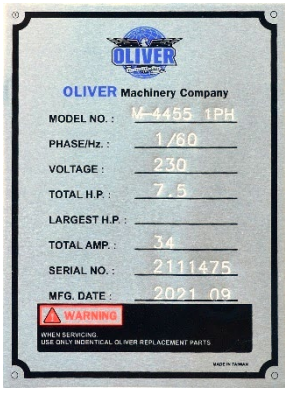
We made every effort to keep this manual up-to-date. Instructions, specifications, drawings, and photographs in this manual should match the machine delivered. If you find any discrepancies or anything that seems confusing in this manual, or if some instructions are not available, please check our website for an updated version:

WWW.OLIVERMACHINERY.NET/MANUALS

Alternatively, you can contact our technical support for help:

1-800-559-5065

Before calling, please note down the production date and the machine's serial number on the nameplate located on the back of the planer. This information is needed to provide proper technical support and to determine if an updated manual is available for your machine.



Please let us know how well this manual serves you. If you have any suggestions, please call the number above or email us at:

info@olivermachinery.net

We love to hear from our customers and make improvements.

Specifications

Quick View

Model	4455 Planer			
Stock Number	4455.103	4455.104	4455.103B	4455.104B
Cutterhead Type	Straight Knife		Byrd Shelix	
Motor Horsepower	7.5HP	10HP	7.5HP	10HP
Power Requirement	230V, 1Ph	230/460V, 3Ph	230V, 1Ph	230/460V, 3Ph
Max. Stock Width	22"			
Max Depth of Cut	3/16"			
Dimensions	43-1/2" (L) x 38" (D) x 56-1/2" (H)			
Footprint	44"(L) x 22-1/2" (D)			
Fully Assembled Weight	1375 lbs.			
Warranty	1 Year (Motor and electronics) 2 Years (All other parts)			

Product Dimensions

Fully Assembled Dimensions	43-1/2" (L) x 38" (D) x 56-1/2" (H)
Footprint	44" (L) x 22-1/2" (D)
Fully Assembled Weight	1375 lbs.

Shipment Info

Type	Wood crate with pallet
Content	Planer and accessories
Dimensions	48" (L) x 35" (D) x 61" (H)
Weight	1540 lbs.
Approximate Setup Time	60 minutes
Must Ship Upright	YES
Stackable	NO

Electricals

Stock Number	4455.103 / 4455.103B	4455.104 / 4455.104B
Power Requirement	230V, 1Ph, 60Hz	230/460V, 3Ph, 60Hz (Prewired to 230V)
Full Load Current Rating	34A	26/13A
Recommended circuit size	50A	40/20A
Power Switch Type	Magnetic switch with auto-resetting thermal overload relay.	
Connection Type	Cord and plug not included. Professional electrical hookup required.	

Motor

Stock Number	4455.103 / 4455.103B	4455.104 / 4455.104B
Motor Type	TEFC Induction Motor	
Horsepower	7.5HP	10HP
Speed	3450 RPM	3450 RPM
Efficiency	84%	89.3%
Power Factor	86.1%	88.1%
Power Transfer Mechanism	V-belt and pulleys	
Bearing type	Permanently sealed ball bearing	

Planer Capacity and Performance

Maximum Stock Width	22"
Maximum Depth of Cut	3/16"
Maximum Stock Thickness	9"
Minimum Stock Thickness	1/8"
Minimum Stock Length	10"
Feed Rate	20/30 FPM

Byrd Cutterhead (For Stock 4455.103B and 4455.104B)

Cutterhead Diameter	3"
Cutterhead Speed	5000 RPM
Number of Cutter Inserts	110
Rows of Cutter Inserts	5
Number of Cuts Per Square Inch	104.2 @ 20FPM 69.4 @ 30FPM
Cutter Insert Type	Four-sided, indexable carbide inserts
Cutter Insert Dimensions	15mm x 15mm x 2.5mm
Cutter Blade Angle	30 degree
Cutter Insert Screw Torque	40-45 lbs.-inch

Straight Knife Cutterhead (For Stock 4455.103 and 4455.104)

Cutterhead Diameter	3"
Cutterhead Speed	5000 RPM
Number of Blades	4
Number of Cuts Per Inch	83.3 @ 20FPM 55.6 @ 30FPM
Knife Material	HSS
Knife Size	22-1/8" x 1" x 1/8"

Headstock

Infeed Roller Type	Segmented & serrated steel rollers (22 segments)
Outfeed Roller Type	Smooth steel roller
Chipbreaker Type	Segmented (10 segments)
Table Height Change Per Revolution of Handwheel	1/16"

Measurements

Measurement Units	Inch/mm
Measurement Devices	Digital Readout
Digital Readout Resolution	0.0005” / 0.01mm
Digital Readout Accuracy	±0.001” / 0.03mm
Backup Measurement Device	Table height scale

Table

Table Dimensions	23-3/4"(L) x 32-1/4(D)"
Table Height Above Ground	31-1/2" – 40-1/2"
Table Height Lock	Equipped
Material	Precision ground cast iron
Bed Rollers	Two (with adjustment control)
Bed Roller Height Settings	0" – 0.05"

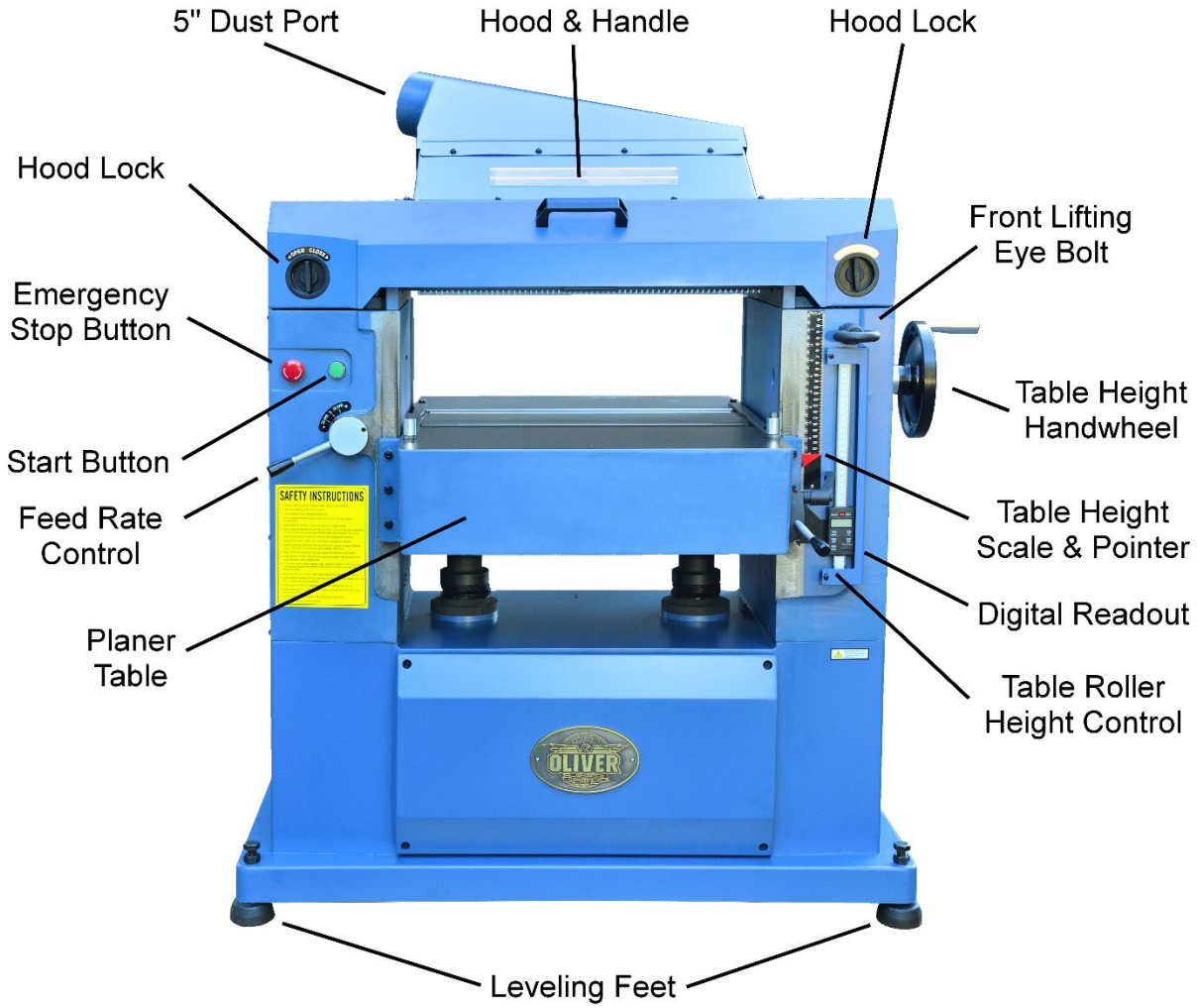
Safety

Number of Dust Ports	1
Dust Port Size	5"
Minimum CFM Required	900 CFM
Sound Rating @ 2' distance	85 dB

Others

Serial Number Location	On the back of the machine.
Spare Parts Included	10 cutter inserts.
Certification	CSA 175370
Country of Origin	Taiwan

Identification



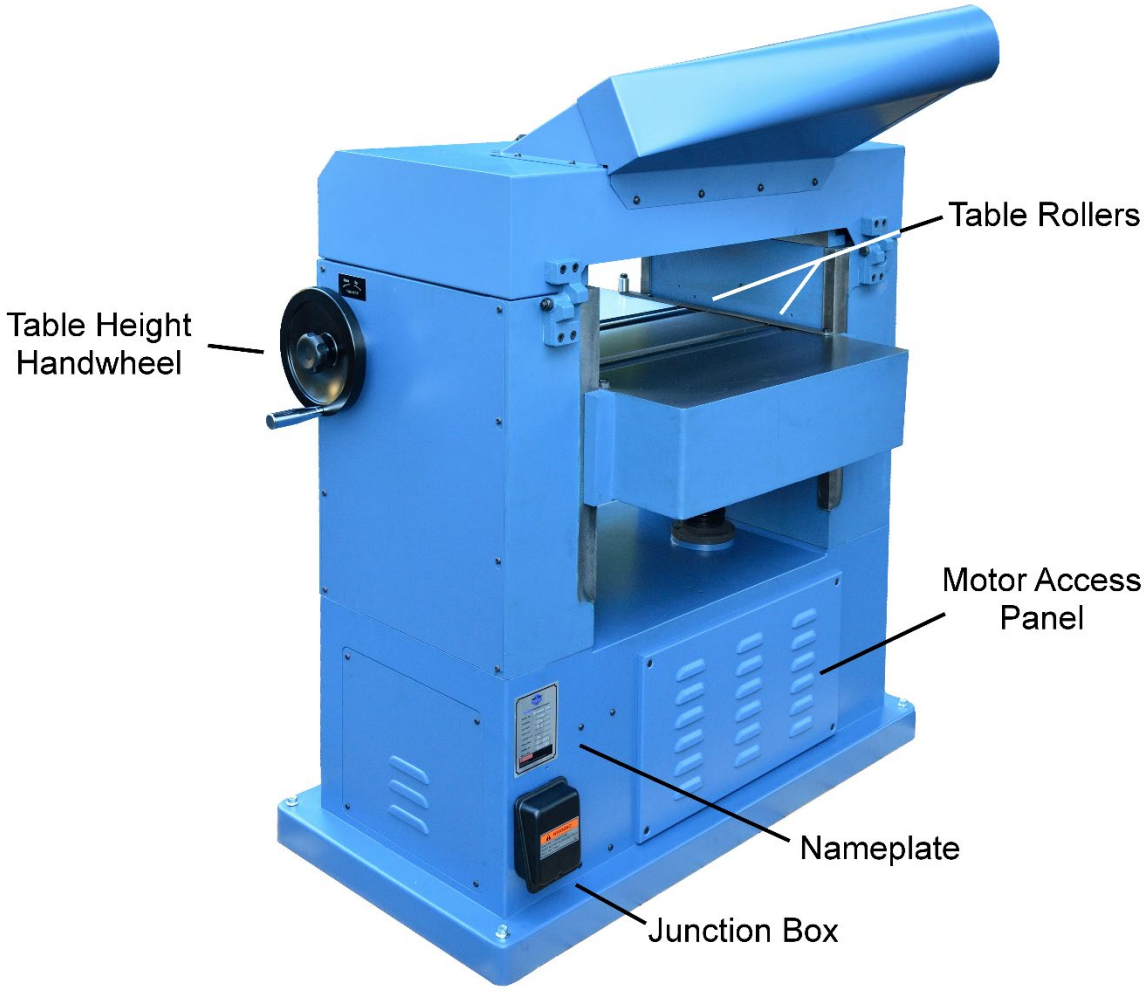
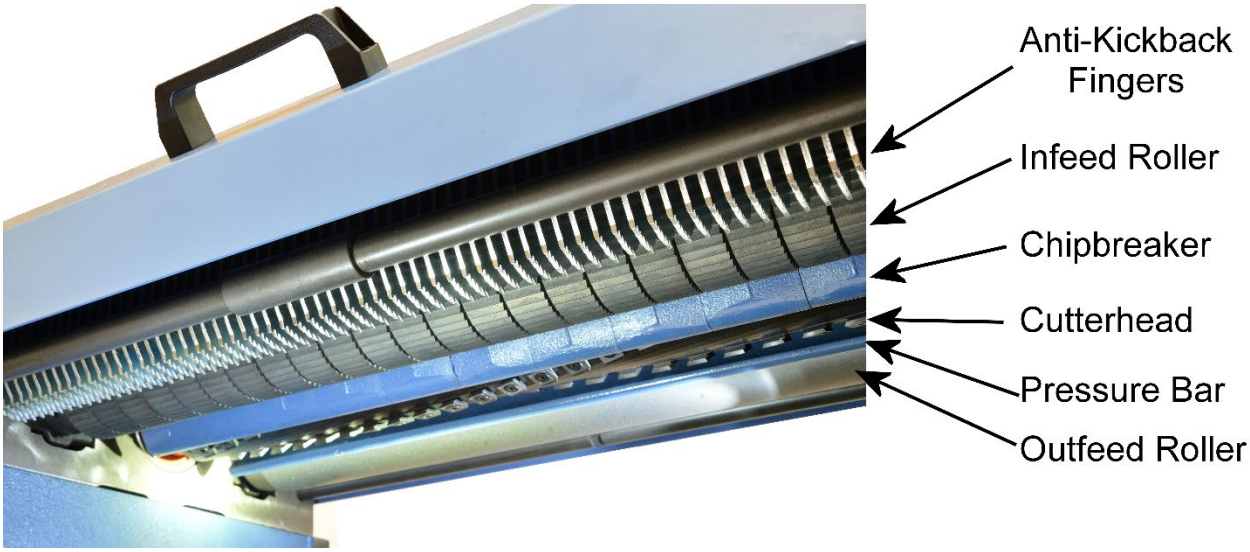


Table Rollers
Table Height
Handwheel
Motor Access
Panel
Nameplate
Junction Box


Anti-Kickback
Fingers
Infeed Roller
Chipbreaker
Cutterhead
Pressure Bar
Outfeed Roller

Safety

Oliver Machinery has made every attempt to provide a safe, reliable, easy-to-use piece of machinery. Safety, however, is ultimately depending on the individual machine operator. **Before operating this machine, please become familiar with the following safety labels and guidelines.**

DANGER	This indicates an imminently hazardous situation that must avoid, or it **WILL** cause death or severe injury.
WARNING	This means if the warning is not taken seriously, it **CAN** cause death or severe injury.
CAUTION	This means if the precaution is not taken, it **MAY** cause injury.
IMPORTANT	This is a tip for properly operating the machine to avoid machine damage.

General Safety Guidelines

1. **FAMILIARIZE** yourself with all safety instructions found in this manual. Know the limitations and hazards associated with this machine. Do not operate or service this machine until you are properly trained.

2. **ELECTRICAL GROUNDING**, when done correctly, reduce the risk of electrocution, shocks, and fire. Make certain that the machine frame is electrically grounded and that a ground lead is included in the incoming electrical service. In cases where a cord and a plug are used, make sure that the grounding plug connects to a suitable ground. Follow the grounding procedure indicated in the electrical code of your area.

3. **DISCONNECT** the machine from power before performing any service, maintenance, or adjustments. A machine under repair should be RED TAGGED to show it should not be used until the repair is complete.

4. **EYE PROTECTION**: Always wear an approved safety face shield, goggles, or glasses that complies with ANSI Z87.1 and CSA Z94.3 standards. Common eyeglasses are not safety glasses and may not provide adequate protection.

5. **EAR PROTECTION**: Use hearing protective devices where the noise exceeds the level of exposure allowed in Section 1910.95 of the OSHA Regulations. When in doubt, use it.

6. **OTHER PERSONAL PROTECTION**: Before starting the planer, remove tie, rings, watch, and other jewelry. Roll up sleeves above elbows. Remove all loose outer clothing and confine long hair. Protective footwear should be used. Do not wear gloves unless it is instructed to perform specific step(s) in the manual.

7. **GUARDS**: Keep machine guards in place for all applicable operations. If any guards are removed for maintenance, DO NOT OPERATE the machine until all guards are reinstalled. Check clearance between the guards and the cutter before starting the machine.

8. **WORKPLACE SAFETY**: Keep the floor around the machine clean. Scrap material, sawdust, oil, and other liquids increase the risk of tripping or slipping. Be sure to clean up the table before starting the machine. Make certain the work area is well lighted, and a proper exhaust system is used to minimize dust. Use anti-skid floor strips on the floor area where the operator typically stands and mark off the machine work area. Provide adequate workspace around the machine.

9. **ACCESS CONTROL** should be enforced so only trained personnel can access the work area and operate the machine. Make use of the child-proof safety feature of the power switch when equipped.

10. **STAY ALERT** at all times. Do not operate this machine while under the influence of drugs/alcohol or when not feeling well.

11. **REPLACEMENT PARTS:** Use only genuine Oliver Machinery replacement parts and accessories recommended for this machine. Generic parts made by other manufacturers may create a safety hazard and WILL void the factory warranty and other guarantees.

12. **PROPER USE:** Do not use this machine for anything other than its intended use. If used for other purposes, Oliver Machinery disclaims any real or implied warranty and holds itself harmless for any injury or damage which may result from that use.

Safety Guidelines Specific to Planer

Before Work Begins:

1. **USE ONLY NATURAL, SOLID WOOD.** Do not plane any material such as plywood, MDF, OSB, laminate, or anything that can disintegrate during operation. Do not plane treated lumber or anything that contains harmful chemicals, as this spreads wood dust that contains such harmful chemicals. Do not attempt to plane any workpiece with loose knots or with any other foreign materials.

2. **CHECK CUTTER INSERTS:** Make sure cutter inserts are sharp, clean, and free from damage. Forcing dull/damaged cutter inserts to work invites accidents and lowers the quality of the finish. Use the recommended torque to fasten all inserts onto the cutterhead securely.

3. **SERVICING CUTTER INSERTS / PLANER KNIFES:** Wear heavy-duty leather gloves to protect your hands when handling cutter inserts or planer knives. Ensure the cutterhead is thoroughly clean before installing the cutter inserts or knives. In particular, debris between the cutter insert and the platform can create uneven pressure, causing the insert to break and lead to accidents and injuries.

4. **SUPPORT LONG WORKPIECE** with auxiliary stock feeding rollers/tables to reduce the risk of accidents and improve the finish quality.

When Planning:

1. **DUST COLLECTION SYSTEM** is required for this planer. Please make sure the system is on and provides enough suction before an operation begins.

2. **KICKBACK** happens when a workpiece is ejected, usually towards the infeed side of the planer, during the operation. **This can cause serious injuries or even death.** This planner is equipped with metal anti-kickback fingers to reduce the risk of kickback. Make sure they are clean and moving freely before work begins. Even with this safety device installed, kickback can still happen due to workpiece quality, grain orientation, and many factors. The operator should be cautious about possible kickbacks.

    - **ALWAYS** wear proper protection devices.
    - **NEVER** stand directly behind a workpiece while it is being fed into the planer.
    - **NEVER** look inside the planer during operation.
    - **NEVER** plane boards that are shorter than 10", as mentioned in the specifications.

3. **PROPER WORKPIECE FEEDING** avoids kickback. Never start the machine with the workpiece engaging the cutterhead. Never start feeding until the planer has reached its full speed. Ensure the feeding rollers have a firm grip on the workpiece.

    - **NEVER** force a workpiece through the planer. Make adjustments as needed.
    - To plane multiple boards at a time, make sure boards are at least 4" apart from side to side. Doing so ensures the boards are not sharing any infeed roller or chipbreaker segment.
    - For twisted workpieces, use a jointer to face joint the bottom side of the workpiece before planning.

4. **STUCK WORKPIECE** should be removed only after the planer is powered off and the cutterhead comes to a complete stop. Do not use hands or push sticks to force-feed a workpiece through the planer, as it can result in severe injuries and/or machine damage.

5. **DEPTH OF CUT SETTINGS:** Never exceed the designed maximum depth of cut capacity found in the specification. Failing to comply can cause machine damage and injuries. Consider the hardness of the workpiece when setting the depth of cut, as harder wood types increase the workload of the planer.

After Operation

1. **STOP THE MACHINE** if the operator leaves the machine for any reason.
2. **WAIT** until the machine comes to a complete stop.
3. **CLEAN UP** the work area before departure.

Electricals

WARNING

Faulty electrical work can cause electrocution and is a fire hazard.

All electrical work must be completed by a licensed electrician and must meet the local electrical code in your area, or the warranty is void.

Minimum Circuit Size Required for Model 4455 Planer

Stock Number	**Operation Voltage**	**Minimum Circuit Size Required**
4455.103 / 4455.103B	230V	50A
4455.104 / 4455.104B	230/460V	40/20A

Please ensure the electrical circuit for this machine meets the minimum circuit size requirement. The minimum circuit size requirement applies to a dedicated circuit that provides power to one 4455 Planer. If more machines share the same circuit, consult a licensed electrician to ensure the designated circuit is correctly sized for safe operation.

If a circuit is available but not meeting the minimum circuit size requirement, a new circuit must be installed for this machine.

Grounding

WARNING

Improper grounding can cause electric shock, fire, and equipment damage.

Proper grounding reduces the risk to the operator in the event of electrical malfunction or breakdown. This machine must connect to a grounding conductor, and all grounding connections must meet or exceed the electrical code requirements in your area. Furthermore, all grounds must be verified and meet or exceed the electrical requirement of the machine. If grounding is unavailable, consider using a GFCI protection device as an alternative if this complies with the electric code in your area. When in doubt, consult a licensed electrician in your area.

Electrical Wiring

This machine must be wired to a power source before use.

To connect the machine directly to the electrical panel ("Hardwiring"), ensure an electrical disconnect is installed near the machine, so the operator or service person can easily disconnect the machine from power.

To connect this machine with a plug and a cord, use a UL/CSA listed plug that meets the power requirements. Organize the power cord so it does not create a tripping hazard.

Refer to the section "Wiring Diagram" on page 59 for wiring your machine to a power source.

Use the correct power cord type when connecting this planer to the power source. Power cord types with a voltage rating of 300V are not suitable for 460V circuits. The ampacity rating of the power cord or wires is determined by many factors. It is important to have the wiring work completed by a licensed electrician, and the work must meet or exceed the requirements of the local electrical code. Otherwise, the warranty is void.

Use a compatible strain relief to protect and secure the electrical wire at the exit hole of the connection box. Use a compatible conduit connector if the planer is wired with armored cables or conduit.

Use ring-type or fork-type connectors to connect the wires to the terminals of the planer.

WARNING **Use properly sized wires that meet the power requirement of your machine. Using undersized wires can cause overheating and increase the risk of fire and machine damage.**

WARNING **Improper copper-aluminum wire connection is a fire hazard. If the power circuit available uses aluminum wires, use certified CU/AL wire connectors.**

230V/460V Conversion

The three-phase 4455 planer variants are prewired to 230V in the factory and can be converted for 460V power sources. A licensed electrician must complete the rewiring work, or the warranty is void. Refer to the section "Wiring Diagram" on page 59 for rewiring your machine for a different voltage.

Setup

Shop Preparation

Space Requirement
The dimensions of this machine are 43-1/2" (L) x 38" (D). You need additional space for manipulating your workpiece, electrical connection, and dust collection.

Load Limits
This machine has a shipping weight of 1540 lbs. and a net weight of 1375 lbs. Please ensure all lifting tools and building structures have adequate load capacity for transporting and supporting the total weight of this machine, the operator, and related items.

Electricals
Ensure a properly sized circuit and an electrical terminal are available nearby the machine. If the machine is to be hardwired, there must be a readily accessible power disconnect nearby so that the machine can be disconnected from the power source for servicing and adjustments. If the machine is to be connected with a cord and a plug, please ensure a matching outlet is installed nearby the machine.

Please refer to section "Electricals" in this manual for details regarding electrical requirements.

Lighting
Operate this machine with adequate overhead non-glare lighting.

Safety Labels
If this machine introduces new safety hazards to your workplace, display proper warning signs in highly visible locations.

Dust Collection
Wood dust created by this planer is a health hazard. Connect a dust collection system to this machine. Check air suction regularly to ensure the dust collection system is working effectively.

Dust masks should be available for using the planer.

⚠ **CAUTION**	**Use a dust collection system that is rated above 900 CFM. Doing so improves air quality in the workplace and protects the machine from jamming.** **The ductwork and leaks reduce the effectiveness of the dust collection system. Make sure there is significant suction at the dust port, so dust and debris can be effectively removed from the machine.**

Receiving

Your shipment should come with one wood crate. Upon receiving your shipment, check for any significant damages before signing the delivery confirmation.

IMPORTANT	If items are damaged, please call us immediately at **1-800-559-5065**

⚠ **CAUTION**	**You may need to remove the straps on your package. The straps may spring back violently when released and cause injury. Always wear safety goggles and gloves before removing the straps.**

Moving Machine into the Shop

Your machine will be delivered by freight service, and it will be left outside of your workshop by default. On the day of delivery, please be sure help is available to move the machine to its final location.

⚠ **WARNING**	**4455 Planer has a gross weight of 1540 lbs. and a net weight of 1375 lbs.** **Safe moving techniques and proper lifting equipment are required, or serious personal injury may occur.**

⚠ **WARNING**	**Your shipment may be secured by the straps. Do not lift your shipment by the strap. They are not designed to hold the total weight of your shipment. They may snap without warning and cause severe injury and machine damage.**

Unboxing

The crate contains a mostly assembled planer and three paper boxes with loose parts and accessories. Please note that the planer is bolted onto the pallet to prevent damage in the shipment process.

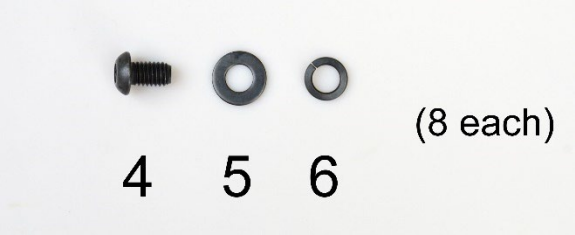
Inventory

Carefully unwrap the packaging and make sure all components are included in the shipment. Lay out all items received and put them in groups.

Group 1: Lifting Eye Bolts

Item	Description	QTY
1	Eye Bolt	2
2	Jam Nuts	2

Group 2: Dust Hood Assembly



Item	Description	QTY
3	Dust Hood	1
4	Hex Cap Screw	8
5	Flat Washer	8
6	Spring Washer	8

Group 3: Table Height Handwheel Assembly

Item	Description	QTY
7	Handwheel	1
8	Handle	1
9	Knob	1
10	Key	1

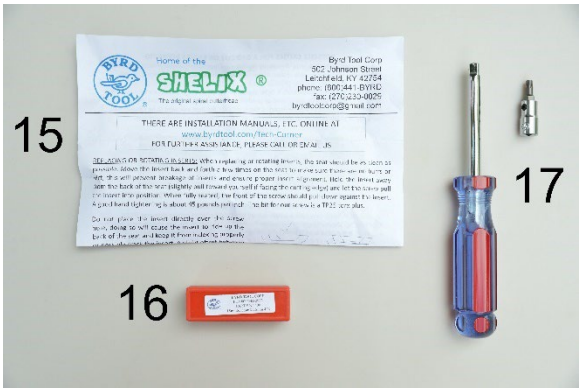
Group 4: Table Roller Handle

Item	Description	QTY
11	Handle	1

Group 5: Leveling Feet and Hardware

Item	Description	QTY
12	Leveling Pads	4
13	Leveling Bolt	4
14	Jam Nut	4

Group 6: Cutterhead Accessories (Only for stock #4455.103B and 4455.104B)

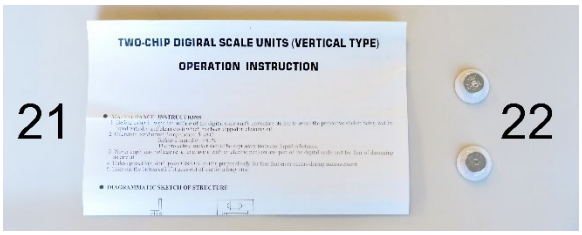


Item	Description	QTY
15	Cutter Insert Installation Guide	1
16	Spare Inserts	10
17	T-25 Torx Screw Driver	1

Group 7: Assembly Tools

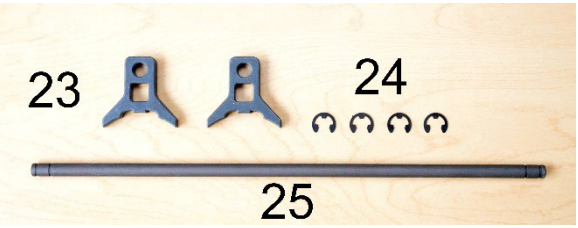
Item	Description	QTY
18	Combination Wrench Set (8/10/12/14/17/19/22/24mm)	1 Set
19	Philips screwdriver	1
20	Hex Key Set (3/4/6/8mm)	1

Group 8: DRO Instructions and Batteries



Item	Description	QTY
21	DRO Instructions	1
22	SR44 Battery	2

Group 9: Planer Knife Gauge Assembly
(Only for stock #4455.103 and 4455.104)



Item	Description	QTY
23	Flanges	2
24	Retaining Rings	4
25	Rod	1

NOTICE: If you cannot find the item in the list above, please check if they are still attached to the packaging or inside the cabinet. Occasionally the item may have been pre-installed at the factory. Please refer to the parts list section in this manual to ensure you have all the components to set up this machine.

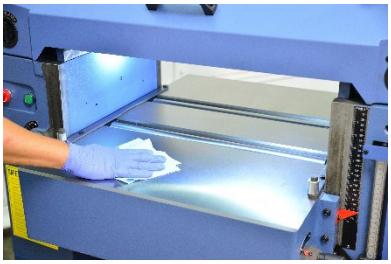
NOTICE: This machine comes with various standard-sized, non-proprietary parts. If any of these parts are missing, we are happy to deliver them to you. To have the machine up and running as soon as possible, you can also find these parts at your local hardware store.

Additional Items Recommended for Assembly

Item	Purpose
Safety Glasses	Protection
Disposable Gloves	Protection
Paper Towel / Rags	Cleaning
Rust Inhibitor	Rust protection.
Straight edge	Check alignments.
Metric Hex Wrench Set	Assembly and Maintenance
Torque Wrench	Cutter inserts installation and inspection of Torx screw tension.
T25 Star Bit Socket	Cutter inserts installation.

Cleaning

The cast iron table and the table rollers are covered with machine oil and plastic film to prevent rusting. Remove the plastic film, then wipe off the machine oil with paper towels or rags.



After cleaning the table, apply rust preventive such as Boeshield® T-9 or paste wax routinely. Do not use rust preventives that contain silicone, which is known to interfere with certain wood finishes and glues.

Also, check the feeding components above the table and remove any oil drippings that can contaminate the workpiece.

IMPORTANT

Please note that the table ways are lubricated with grease. Do not remove the grease on the table ways when cleaning the table.

Assembly

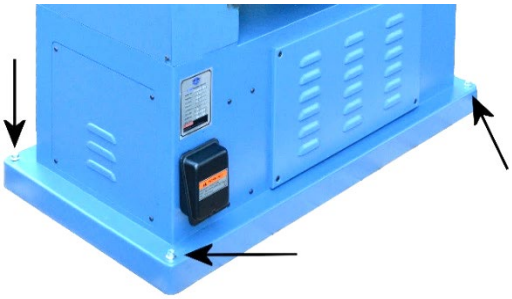
This planer is mostly assembled in the factory. When all items are ready for the final assembly, lift the planer from the pallet. There are a few more items to set up before the machine is ready for a test run.

It takes approximately 60 minutes to clean the planer and complete the final assembly.

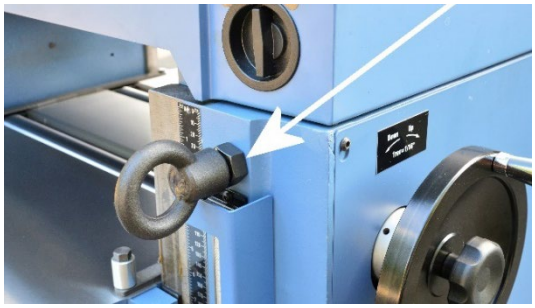
Lifting Machine from Pallet

1. Gather the eye bolt and the jam nuts.

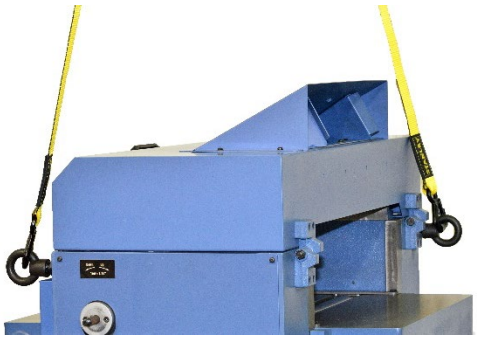
2. The base of the planer is bolted onto the pallet to prevent shifting during transport. Remove the bolts at the four corners of the base.



3. To lift the machine, thread the provided eye bolts into the holes at the right front corner and the rear left corner. Secure the eye bolts with the jam nut.



4. Connect the lifting slings to the eye bolt and ensure the slings are balanced.



5. Lift the planer from overhead.
6. When placing the planer on the floor, lower the planer gently to prevent machine damage.
7. The planer can be directly bolted onto the floor. Use proper anchor bolt type that matches the floor material and thickness.
8. To place the planer on the leveling feet, do not detach the planer from the lifting devices until completing the next step, "Leveling Planer".

WARNING

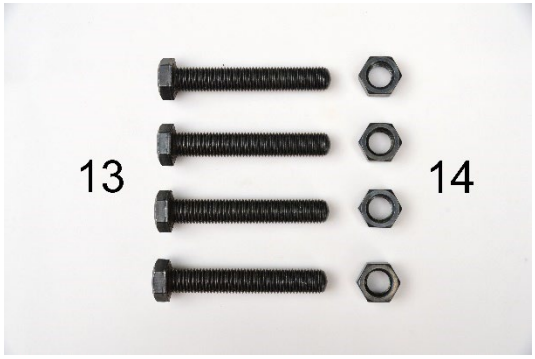
4455 Planer has a net weight of 1375 lbs. All lifting devices must be capable of handling the load, or serious personal injury and machine damage may occur.

IMPORTANT

If the planer needs to be moved again in the future, remove the dust hood to reduce the risk of getting it damaged.

Leveling Planer

1. Gather the leveling pads, bolts, and jam nuts.

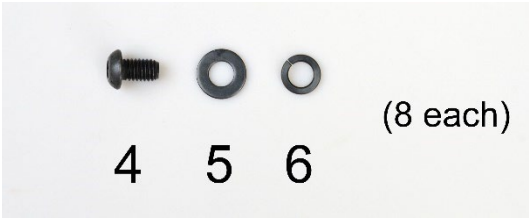


2. Attach the jam nuts, then thread the leveling bolts into the holes at each corner of the base. The bolts can be difficult to turn initially. Make sure the threaded hole is free of debris. Back out the bolt and clean the threads as needed. Install the bolt with hand tools and avoid cross-threading.
3. Lift the planer and place the four leveling pads under the bolts.

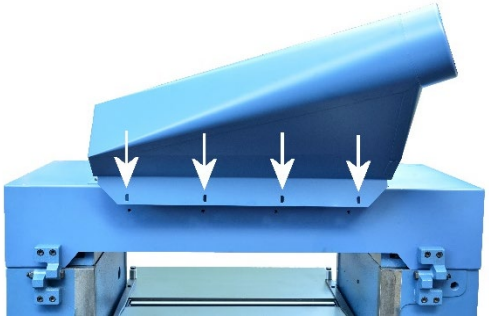
4. Place a level on the planer table. Adjust the leveling bolts until the machine is leveled front-to-back and side-to-side.
5. Tighten the jam nuts against the base to keep the leveling bolts from turning.

Dust Hood Installation

1. Gather the dust hood and the mounting hardware.



2. Mount the dust hood onto the planer top cover. When installed correctly, the screw holes on the dust hood should align with the screw holes on the top cover.

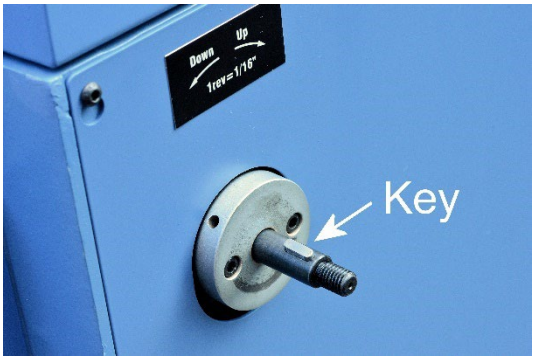


3. Secure the dust hood with the hex cap screws (#4), spring washers (#6), and the flat washer (#5). Hand thread all cap screws and then tighten with a 3mm hex key.

Table Height Handwheel Installation

1. Gather the handwheel assembly.

2. Locate the keyway on the handwheel shaft, then insert the key into the keyway.



3. Insert the handwheel and make sure the keyway on the handwheel aligns with the key.
4. Install the handwheel handle and tighten it with a 14mm wrench, then install the handwheel knob. The handwheel knob keeps the handwheel on the shaft and can also lock the handwheel in place when fully tightened.

Table Roller Control Handle Installation

1. Gather the handle.

2. Install the handle and tighten it with a 12mm wrench.

Knife Setting Gauge Assembly

1. Gather the parts of the knife settings gauge.

2. Install the inner retaining ring.

3. Install the flange.
4. Secure the flange by installing the outer retaining ring.
5. Repeat steps [2-4] on the other side of the knife settings gauge.

Electrical Connection

This planer is a heavy-duty, industrial-grade machine. The electrical work must be completed by a licensed electrician and meet the local electrical code requirements. Failure to comply can create electrical and fire hazards and void this planer's warranty.

Dust Collection System Connection

This wood planer can generate a lot of wood shavings and dust. Connect this machine to a dust collection system. The minimum CFM requirement for this planer is 900 CFM at the dust port, which means the dust collection system should have a rating greater than 900 CFM, as air friction and air leakage can reduce the effective CFM at the dust port.

IMPORTANT	**Running this planer without a dust collection system, or using a dust collection system with inadequate suction, will cause dust and shavings to accumulate inside the planer. This can damage the machine and cause other hazardous situations. Check your dust collection system regularly to make sure it is not jammed or filled up.**

Break-in Period

The planer's belts and gearbox have a break-in period. Complete the following services to keep the planer running in optimal condition:

After 16 hours of operation: Adjust V-belt tension.
After 50 hours of operation: Replace gearbox oil.

Accessories

Cutter Inserts

Genuine Byrd four-sided indexable carbide cutter inserts compatible with the Byrd cutterhead.

Parts number: A-BYRD 10

Touchup Paint

A good coat of paint keeps the machine rust-free. We have pre-mixed spray paint available in Oliver-Blue for purchase.

Accessories are available on our website: **OLIVERMACHINERY.NET**

To order by phone, please call us at **1-800-559-5065.** We are available Monday through Friday, 7:30 AM - 4 PM Pacific Time. You can also email us at **PARTS@OLIVERMACHINERY.NET** to purchase accessories.

Please visit our website at **OLIVERMACHINERY.NET** for additional recommended accessories.

WARNING **Using unapproved accessories may cause the machine to malfunction, resulting in severe injury and/or machine damage. Only use accessories recommended for this machine.**

Controls and Features

ON / OFF Switch

This machine has a magnetic power switch with an emergency stop button.

To turn off the planer, press the red emergency stop button.

To start the planer, rotate the red emergency stop button clockwise until it pops up, then press the green ON button.

NOTE 1: If a power outage occurs while the planer is running, the magnetic switch prevents the planer from starting unexpectedly when power resumes. To restart the machine after a power failure, press the green ON button.

NOTE 2: As a safety feature, this planer will not start if the hood is open.

NOTE 3: The planer is protected by an auto-resetting thermal relay. If the planer is overloaded and stops running, wait at least 5 minutes for the motor to cool down. Remove the workpiece before starting the planer.

Feed Rate Control

This planer4455 Planer can feed stock at 20/30 FPM (feet-per-minute).

When switching to the "0" position, the infeed and outfeed rollers can move freely for servicing and adjustments.

To change the feed rate, shift the position of the feed rate lever when the machine is running at full speed with no load.

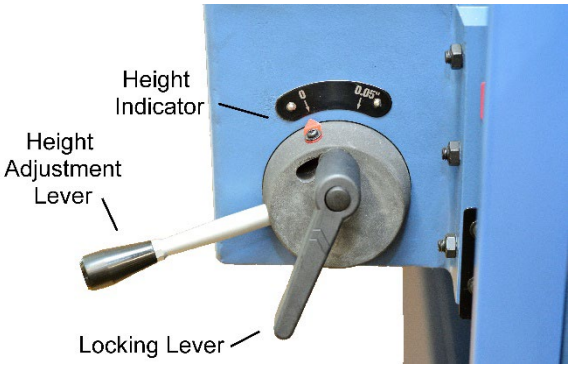
IMPORTANT

Only change the feed rate when the machine is running at full speed. Failure to do so may cause the gearbox to jam and damage the machine.

Table Roller Height Control

This planer is equipped with a pair of table rollers to reduce feed resistance. The table roller height control allows the operator to adjust the roller height quickly for different situations. As a rule of thumb, increase the roller height if a workpiece is rough and is not feeding smoothly. For a workpiece that is easy to feed, reducing the roller height can help reduce snipe.

The height of the roller can be set between 0" to 0.05".



To adjust the roller's height, loosen the locking lever, then raise or lower the height adjustment lever to set the height. Re-tighten the locking lever when the table rollers' height is set.

WARNING

Never change the table rollers' height while the machine is running. Doing so can lead to a kickback accident that can result in severe injury or death.

Table Height Scale

The table height scale is located on the right side of the table next to the digital readout. A metal pointer marks the current height of the table.

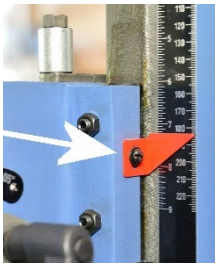


Table Height Adjustment

The table height adjustment handwheel is located on the right side of the planer.

To raise the table, turn the handwheel clockwise, and vice versa. Each rotation of the handwheel changes the height by 1/16".

Changing the table height sets the depth of cut for planing. This planer can remove 3/16" of wood in a single pass. Reducing the depth of cut can help to produce a finer finish.

The handwheel knob keeps the handwheel on the shaft and works as a lock. Tighten the knob to lock the table height.

WARNING

Never change the table's height while the machine is running. Doing so can lead to a kickback accident that can result in severe injury or death.

If a workpiece is jammed, turn off the planer and wait for the cutterhead to come to a complete stop before removing the jammed piece.

Digital Readout (DRO)

This planer is equipped with a DRO with 0.0005"/0.01mm resolution.

On/Off/Zero Button
- Press the button to turn on the DRO.
- Hold the button for 3 seconds to turn off the DRO.
  (See "ABS Button" below for important notes.)
- To zero the reading, press the button while DRO is on.

MM/IN Button
Press the button to toggle between inch and mm as the measurement unit.

ABS Button
There are two modes of measurement: **Absolute** and **Incremental**.

The absolute mode shows the distance between the table and the cutterhead. Once calibrated, the settings will be memorized unless the battery is exhausted, OR if a user hits the ON/OFF/ZERO button in absolute mode.

IMPORTANT	Do NOT turn off the DRO in absolute mode, or the calibration will be reset.

The incremental mode shows the distance the table traveled from the last reset position. The reading can be reset by pressing the ON/OFF/ZERO button.

Hold Button
The hold button helps the operator to memorize the current table height when an operation needs to be disrupted. It can be helpful for situations such as removing a jammed workpiece. The hold button works in both absolute and incremental modes.

Press **HOLD** once to retain the current reading. The indicator "H" will show on the screen, indicating that the DRO is in hold mode. DRO reading will remain unchanged regardless of the table position.

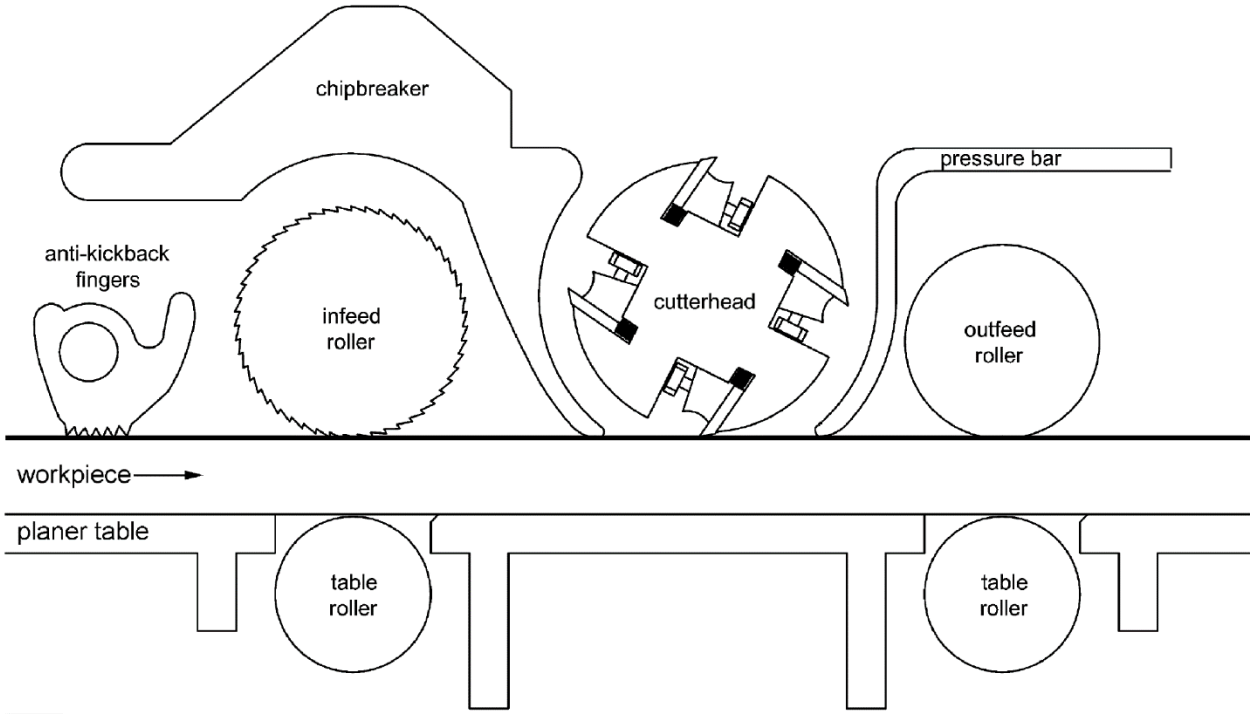
When the operation is ready to resume, memorize the reading in hold mode, then press **HOLD** to show the current table position. The operator can now move the table back to the previous position.

SET Button
This is for absolute mode calibration. Refer to the section "DRO Calibration" at the end of this chapter.

TOL Button
Not used.

Cutterhead and Feeding System

This diagram shows the planer components involved in planning a piece of wood:



How it works:

1. This planer is equipped with a height-adjustable table. Raise the table to increase the depth of cut and vice versa.
2. As a workpiece enters the planer, the anti-kickback fingers engage the workpiece to prevent accidental kickback.
3. As the workpiece moves further into the planer, the infeed roller brings the workpiece towards the chipbreaker and the cutterhead.
4. As the cutterhead cuts on the workpiece, the woodchips are broken down by the chipbreaker.
5. The chipbreaker diverts the wood chips towards the dust port for removal.
6. As the workpiece leaves the cutter head, the pressure bar holds the workpiece against the table to reduce snipe.
7. Further away from the cutterhead, the outfeed roller pulls the workpiece away from the planer.
8. The bottom side of the workpiece is supported by two table rollers. These rollers raise slightly above the planer table to reduce feed resistance. The height of the bed roller can be adjusted to accommodate workpieces with various roughness.

Test Run

Each planer has been inspected and calibrated before leaving the factory to meet our quality and precision standards. Due to various reasons, the machine may need to be re-adjusted when it arrives at your workshop. It is recommended to complete the test run before using the planer for production work. Repeat the test run if the planer is relocated.

Step 1: Verify that all electrical components are functional.

1. Remove all tools and debris from the machine.
2. Press the emergency stop button.
3. Connect the machine to the power source.
4. Rotate the emergency stop button to reset it, then press the ON button. The machine should be running with no excessive noise and vibration.
5. Press the emergency stop button to stop the machine.
6. Rotate the emergency stop button to reset it, then press the ON button to restart the machine. Disconnect the machine from the power source while the machine is running, then reconnect the machine to power. The machine should **NOT** restart.
7. Press the start button to restart the machine.
8. Press the emergency stop button to stop the machine.

Step 2: Verify that the planer is functional and calibrated.

1. Connect the planer to a dust collection system.
2. Raise the table all the way up. The table should stop at approximately 1/8" below the headstock.
3. Lower the table all the way down. Ensure all anti-kickback fingers can move freely.
4. Turn on the DRO and make sure the readings reflect the table's movements.
5. Prepare a piece of good quality, straight-grain wood board with a flat bottom for a test run. Choose a board close to 22" wide and at least 2 feet long.
6. Start the dust collection system.
7. Set the depth of cut to approximately 1/16" for a test pass.
8. Turn on the planer and set the feed rate to 20 FPM.
9. Feed the workpiece towards the infeed roller. Once the infeed roller engages the workpiece, it should pull the workpiece through the planer. Verify that the entire top surface is milled.
10. Inspect the workpiece for defective finish.
11. Use a caliper to measure the thickness of each side to ensure the cutterhead is parallel with the planer table. If the thicknesses are the same, check if the reading is the same as shown on the table height scale.
12. Check for excessive snipes. A minimum amount of snipe may occur at the ends of the board and is acceptable.
13. While the machine is running idle, move the feed rate control knob to change the feed rate. This ensures that the gearbox and feed rate control knob is functional.
14. **Press the emergency stop button to turn off the planer when all tests are complete.**

Congratulations! Your planer has completed the test run. If you discover any issues, please refer to the troubleshooting and maintenance sections for adjustment instructions.

DRO Calibration

You need a piece of flat scrap wood and a caliper for calibration.

1. Plane down the scrap wood until the entire surface is flattened. Lock the table with the table height handwheel knob.
2. Using a caliper, measure the thickness of the midsection of the workpiece. Note down the thickness.
3. Press the ABS button on the DRO to switch to absolute mode.
4. Hold the SET button until the "SET" indicator is flashing on the screen to enter calibration mode.

5. In calibration mode, holding the SET button will take you to the next digit for setting values, and tapping the set button will change/increment the value of the current digit.

6. As you hold the SET button, you will see either the (+) or the (-) sign flashing on the screen. Select (+) for the purpose of showing the position of the table relative to the cutterhead.
7. Hold the SET button again to move to the next digit, and enter the measurement taken in step #2. Tap on the SET button increases the value.
8. Continue to cycle through all the digits to enter the value until you see the flashing "SET" indicator again. Press SET once more to confirm and exit the calibration mode.
9. To abort the calibration process, hit the ON/OFF button at any point in calibration mode. The value entered will not be saved.

IMPORTANT	Do NOT turn off DRO in absolute mode, or the calibrated value will be reset.

Operation

For safety and to produce the best results, please take the following steps when using this planer.

Step 1: Preparation

Only Use Natural, Good Quality Wood

Cracked stock, boards with loose knots, plywood, and other engineered wood products can break apart and cause severe kickbacks, which can lead to severe injuries and machine damage.

Do not plane treated lumber or anything that contains harmful chemicals, as this will spread wood dust that contains such harmful chemicals. NEVER plane boards that are shorter than 10", as mentioned in the specifications.

Inspect the Workpiece

Carefully inspect workpieces for foreign objects. Nails, staples, rock chips, and other objects embedded on the wood surface will damage the planer. To avoid chipping/dulling the cutter inserts, clean a workpiece with a stiff brush to remove all dirt and foreign objects before planing, especially for rough-sawn or reclaimed lumber. Use a metal detector to scan for metal objects as needed.

Check Moisture Content

Check the moisture content of the workpiece before an operation. "Green wood" with moisture content over 20% will not cut properly and may jam the machine. Excessive moisture content will also cause the planer's unpainted surface to rust. Besides, as the workpiece dries, the once-flattened surface can become fuzzy and warped again. It is recommended to allow the workpiece to dry and stabilize before it is processed.

Warped Stock

The workpiece should have a flat bottom to be processed by a planer. It is acceptable to process a slightly cupped board with the cupped side facing down and begin with light cuts. Boards with moderate cupping, bowing, or twisting should have one side face-jointed before being processed by a planer.

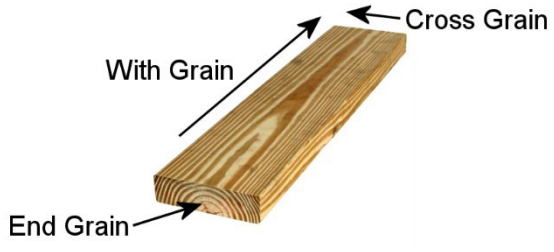
Avoid using boards with severe warping, as they can be unstable and might cause severe kickbacks during operation.

Glue-Ups

Glue left on the workpiece surface can dull the cutters and reduce cut quality. Scrape off all glue deposits before planing a workpiece.

Wood Grain Direction

This planer is designed to plane WITH the grain direction of the wood. Do not plane cross-grain or end-grain. Severe kickback and chipping may occur.



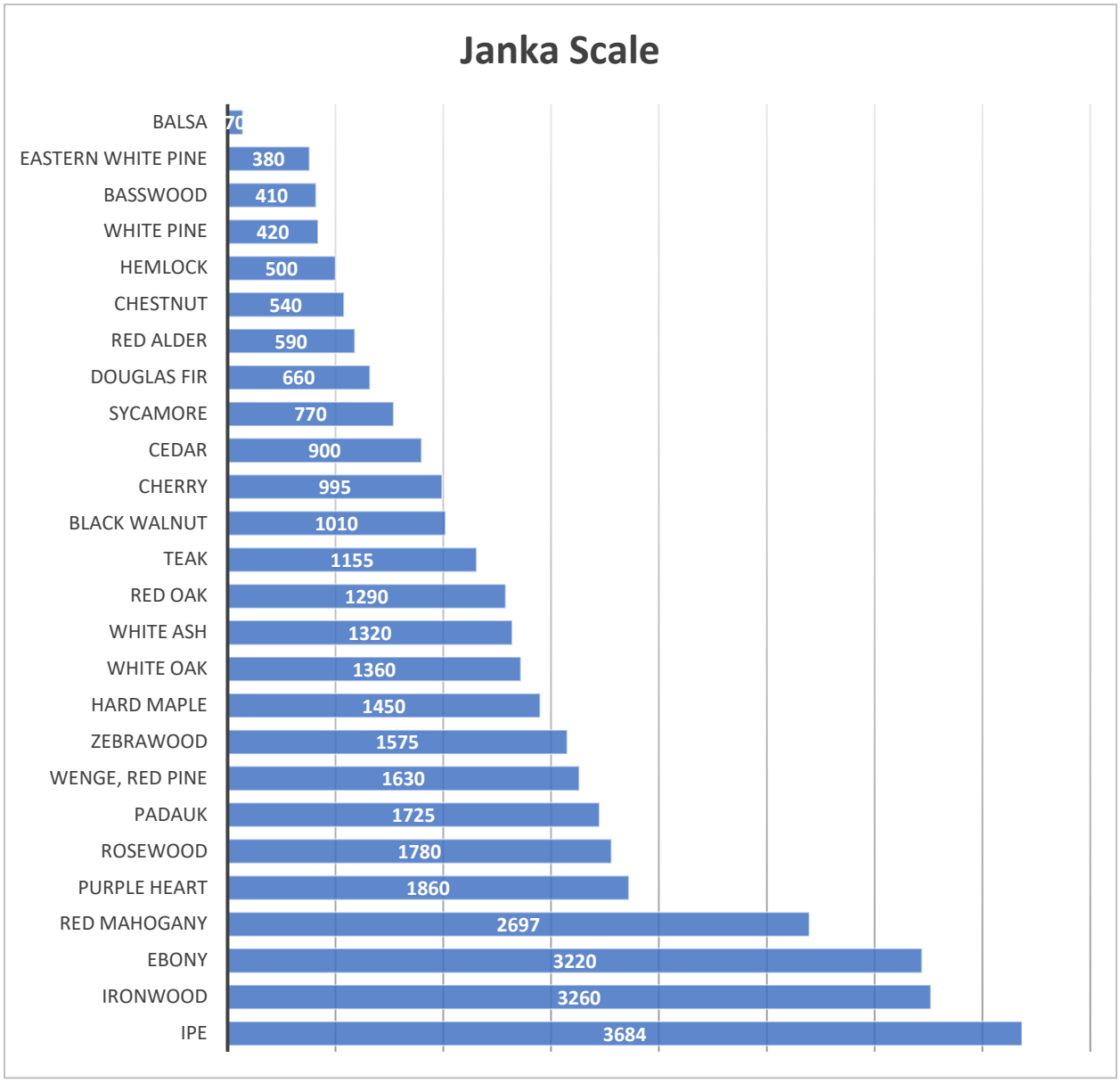
Step 2: Setting Depth of Cut and Feed Rate

This planer can remove at most 3/16" of material per pass. For best results, take light passes with a low feed rate when approaching the desired thickness.

Wood Hardness

Depending on the hardness and brittleness of the wood type, the operator should adjust the maximum depth of cut and feed rate accordingly. For hard or brittle workpieces, reduce the depth of cut and feed rate.

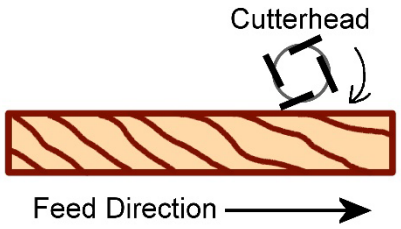
For your reference, this Janka scale shows the hardness of some common wood types. It ranks the hardness of various wood types by measuring the amount of force (in lbs.) required to embed a 0.444" steel ball halfway into the wood.



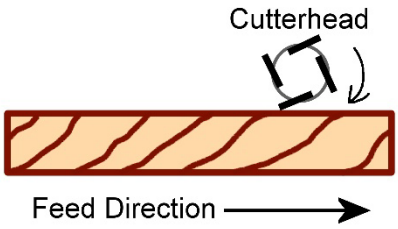
Step 3: Select Feed Direction

Inspect the workpiece and identify the direction of the edge grain. Choose a feed direction such that the workpiece receives a downhill cut.

Good – Planer Cuts Downhill



Not Ideal – Planer Cuts Uphill



Sometimes it is impossible to perform a downhill cut for the entire length of a workpiece. In this case, try feeding the workpiece in the opposite direction and see what works best. Reducing the depth of cut and feed rate can also help improve cut quality.

Step 4: Planing Wood to Desired Thickness

⚠ **WARNING**	**ALWAYS wear goggles and other protection devices when operating this machine. Stay on the side of the planer next to the power switch to avoid kickback-related accidents. NEVER look inside the planer during operation. Failing to comply may result in serious injuries or death.**

⚠ **CAUTION**	**Use an ear protection device to prevent hearing loss. Ensure the dust collection system is functional and use a dusk mask to avoid inhaling harmful airborne particles.**

With the above preparation steps completed, the workpiece is ready for planing.

1. Please put on all protection devices before work begins. If you have a long workpiece, please make sure it is properly supported throughout the process.
2. Measure the thickness/height of the workpiece, then set the initial depth of cut to no more than 1/16". This allows the feed rollers to properly engage the workpiece and not remove too much material for a test pass.
3. Turn on the dust collection system and the planer.
4. While standing on the side of the planer, place the workpiece on the table with the flat side down. Gently feed the workpiece towards the infeed roller. Once the infeed roller engages the workpiece, allow the machine to feed the workpiece. **DO NOT** force feed the workpiece through the planer.

   If the infeed roller does not engage the workpiece:
   - The table height is set too low.
   - Stop the machine. Wait for the machine to come to a complete stop.
   - Lower the table to remove the workpiece.
   - Increase the initial table height, and restart from step 3.

If the machine stalls or the workpiece gets stuck:

- The table height is set too high.
- Stop the machine and wait for the cutterhead to come to a complete stop.
- Lower the table to remove the workpiece.
- Decrease the depth of cut, and restart from step 3.

5. If the workpiece is feeding properly, wait until the entire workpiece clears the outfeed roller, then remove the workpiece.
6. After the initial pass, measure the thickness at the midsection of the workpiece.

If more material needs to be removed, continue with the following steps.

7. If you need to remove a lot of material, run a few passes with deeper cuts, then finish with a light pass and a low feed rate.
8. If your DRO is already calibrated, simply switch to absolute mode. Gradually plane down the wood until the desired thickness is achieved. Remove no more than 3/16" of material for each pass, and reduce the maximum depth of cut for harder wood types.
9. Alternatively, you may toggle to INC mode and progressively plane the workpiece to the desired thickness. Upon completion of each pass, reset the reading of DRO. Use a caliper to measure the workpiece's mid-section thickness and decide the depth of cut for the next pass. Repeat the process until the desired thickness is achieved.

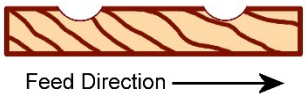
Turn the machine off when an operation completes.

Common Cutting Problems

Snipe

When a workpiece is not properly supported as it enters or leaves the machine, the ends of the workpiece will have more materials removed than the rest of the section. To mitigate this problem, hold the workpiece up slightly as it enters and leaves the machine. Sometimes, a small amount of snipe is inevitable. The best way to completely eliminate sniping is to prepare a workpiece with extra length, then trim the ends when planing is done.

Clip Marks



If the workpiece is gouged approximately 6" at the beginning and/or the end, check the pressure bar's height setting and spring tension. See "Pressure Bar – Cutterhead Parallelism" on page 53 for details.

Chipping

It happens when cutting against the grain direction. See "Uphill" cut in Step 3 of this section. For highly figured lumber and areas near a knot, some amount of chipping is normal. In this case, moistening the problematic area before planing can sometimes mitigate the issue.

Chipping can also cause by dirty or dull cutters. If chipping happens while planing straight grain stocks, inspect the cutter inserts and remove all resin build-ups. Rotate/replace dull cutter inserts when they are dull.

Indentation

This can happen when a foreign object is pressed on the workpiece when it passes through the planer. Remove all resin build-ups from the rollers, the cutterhead, and the table. Also, check the dust collection system and ensure all wood chips are effectively removed. Adjust the chipbreaker as needed.

Fuzzy Grain

This can occur when planing wood with high moisture content or if the cutter is dull. Sometimes this is unavoidable due to the nature of certain wood types. To mitigate this issue, avoid using wood with high moisture content and use sharp cutters.

Washboard Finish

This can happen on models with straight knife cutterhead. A washboard finish indicates that the knives are not mounted at the same height. Check the height setting of knives with the provided knife settings gauge. See "Setting / Changing Knives" on page 44 for details.

Ridged or Grooved Finish

This can happen on models with helical cutterhead. One or more of the cutter inserts may be seated incorrectly. Make sure the inserts are seated properly, and there is no debris between the insert and the cutterhead. Sede "Rotate / Replace Cutter Inserts" on page 43 for details.

Tapers

This indicates that the cutterhead is not in parallel with the table. See "Table – Cutterhead Parallelism" on page 49 for details. For the straight knife models, tapered cuts can cause by ununiform knife height settings.

Maintenance

Routine maintenance keeps your planer in top shape. Please follow the maintenance schedule below, and use the maintenance record worksheet included in the manual to document all tasks completed.

NOTICE: The recommended schedule is designed for typical usage in professional settings. The actual schedule may vary for individual users due to different situations and safety requirements.

WARNING	**Disconnect the machine from the power source before performing any maintenance work. After servicing the planer, remove all wrenches and tools before restarting the machine. Failure to comply can cause serious injury!**

Maintenance Schedule

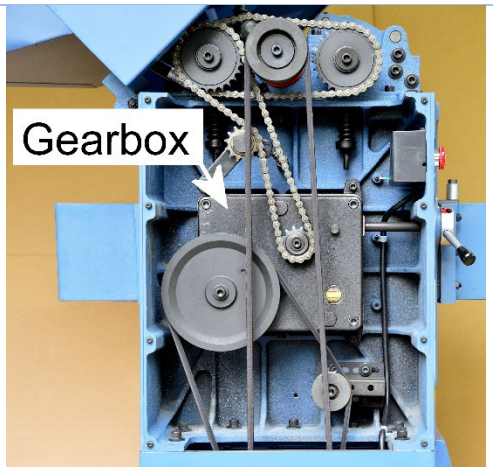
Interval	**Component**
Every day	Remove dust build-ups from the planer table and dust collection system.
	Inspect the power cord for signs of aging and damage. Replace as needed.
Every week	Inspect and clean cutterhead, rollers, and anti-kickback fingers. Remove any dust and resin accumulation.
	Inspect cutters. If the carbide cutter inserts are dull, rotate them to use a new edge. Knives can be resharpened. Replace cutters when they can no longer provide a sharp edge.
	Apply rust protectant on unpainted cast iron surfaces.
Every month	Check V-belt tension and replace if the belt shows signs of cracking or glazing.
Every 4-6 months	Remove dust build-up from the motor and the cabinet.
	Inspect table chains for chain slacks.
	Check the parallelism between the table and the cutterhead, and the parallelism of other components in the feeding system.

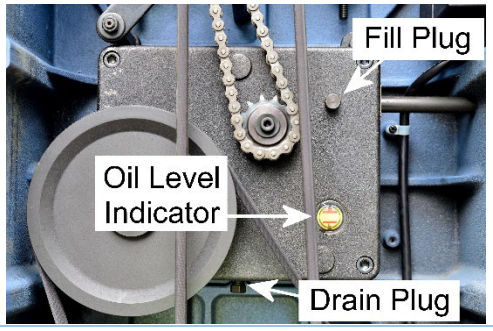
**** Refer to the next section, "Lubrication" for lubrication schedules. ****

Lubrication

Gearbox

Frequency	Replace oil after the first 50 hours of use and every year thereafter.
Lubricant Type	Standard gear oil, 60-90 weight. (Approx. 0.5 gallon)
How to apply	Remove the gearbox panel on the left side of the planer to access the gearbox. Identify the drain plug and fill plug as shown in the picture. Remove the drain plug to drain the oil from the gearbox. Used oil should be recycled. Refill oil until the oil level is between "H" and "L" as shown on the oil level indicator. Check oil level regularly and top off as needed.





InFeed / Outfeed Roller Bearings

Frequency	Every 30 hours
Lubricant Type	SAE-30 oil.
How to apply	Drip SAE-30 oil through the oil cup on the bearing blocks. There are two bearing blocks for each roller.

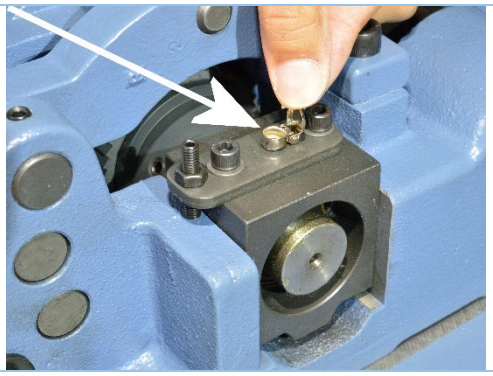


Table ways

Frequency	Weekly
Lubricant Type	General purpose grease
How to apply	Wipe general-purpose grease on all four table ways.

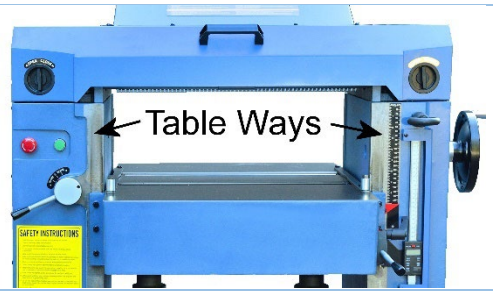
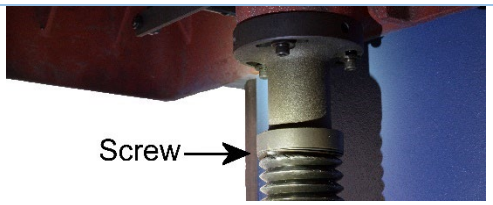
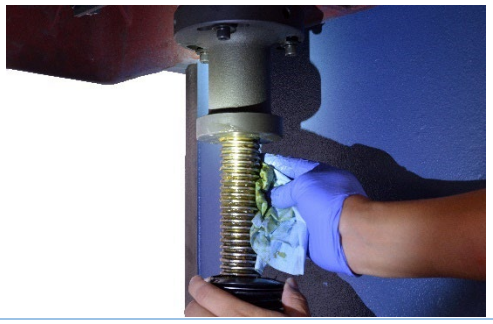


Table Elevation Screws

Frequency	Once every 3 months	
Lubricant Type	General purpose grease	
How to apply	Raise the table and remove the screws at the top that holds the cover. Lower the cover and then apply a coat of general-purpose grease.	

Outfeed Roller / Table Rollers

Frequency	Clean and lubricate as needed.	
Lubricant Type	SAE-30 oil	
How to apply	Clean the rollers to remove pitch and gum, then apply a very light coat of SAE-30 oil to prevent the steel rollers from rusting.	

Anti-Kickback Fingers

Frequency	Clean and lubricate as needed.	
Lubricant Type	SAE-30 oil	
How to apply	Clean the anti-kickback fingers, then apply a very light coat of SAE-30 oil with an oiled brush to prevent the steel fingers from rusting.	

Chains (Roller Chain / Table Elevation Chain)

Frequency	Clean and lubricate as needed.	
Lubricant Type	SAE-30 oil	
How to apply	A very light coat of SAE-30 oil, WD-40, or dry bike chain lube. Remove dust and accumulations on the chain before lubrication. Avoid over lubrication as this attracts dust and can cause premature chain failure.	

Motor Bearings and Cutterhead Bearings

Frequency	**Do not lubricate.** These bearings are permanently lubricated and sealed.	

WARNING

Disconnect the machine from the power source before performing any maintenance work. After servicing the planer, remove all wrenches and tools before restarting the machine. Failure to comply can cause serious injury!

Anti-Kickback Fingers Inspection

This planner is equipped with anti-kickback fingers. Once engaged, the workpiece can only move towards the cutterhead. This prevents accidental kickbacks, which can cause serious injuries.

Inspect the anti-kickback fingers regularly to ensure they can move freely. Make sure their teeth are clean and sharp enough to stop a board from moving backward. Clean and apply a very light coat of SAE-30 machine oil as needed to prevent rust.

Replace anti-kickback fingers if they are damaged or worn.

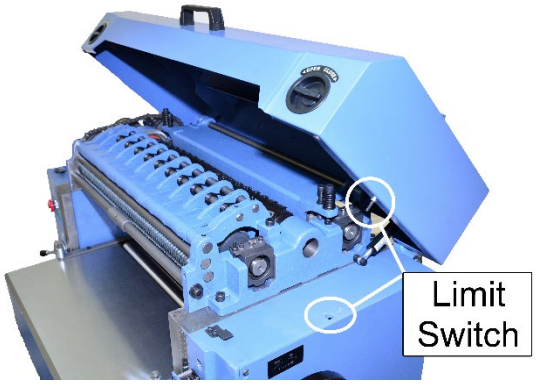
CAUTION

Do not operate this planer without functioning anti-kickback fingers. Failure to comply can result in serious injury.

Planer Hood

The hood conceals the cutterhead and other components that require maintenance.

As a safety feature, this planer is equipped with a limit switch and will not start when the hood is opened. Make sure to close and lock the hood when the maintenance work completes. Inspect the limit switch regularly and remove dust accumulation as needed.



1. **Disconnect the planer from the power source!!**
2. Unlock both hood locks.

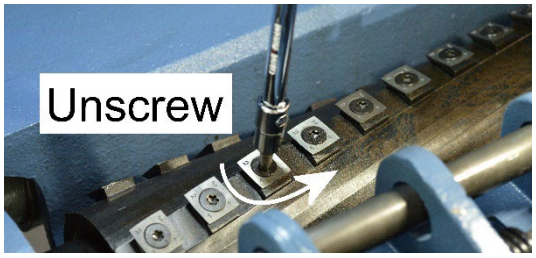
3. Lift the hood by the handle. The struts will support the weight of the hood and keep it open.
4. Make sure the hood is fully closed and locked before starting the planer.

Rotate / Replace Cutter Inserts

4455 Planer (stock # 4455.103b & 4455.104b) comes with Byrd helical cutterhead with four-sided indexable carbide inserts. When the inserts become dull, rotate all cutter inserts to use a new edge. When a single insert is damaged, rotate the insert to use a fresh edge. Replace the insert if the damage is severe.

> ⚠
> **CAUTION**
>
> **Cutter inserts are extremely sharp. Protect your hands with thick leather gloves to avoid injuries.**

1. **Disconnect the planer from the power source!!**
2. Open the hood.
3. Remove dust and resin accumulations on cutterhead and areas nearby.
4. To rotate/replace a cutter insert, remove the Torx screw with a T-25 Torx bit. Turn **COUNTERCLOCKWISE** to loosen the screw.



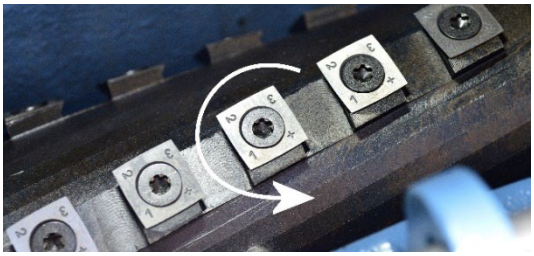
5. With the cutter insert removed from its platform, thoroughly clean the cutter insert platform with a vacuum or compressed air.

IMPORTANT: Obstacles between the insert and cutterhead platform create uneven pressure against the insert. This lowers cut quality and may cause the insert to crack.

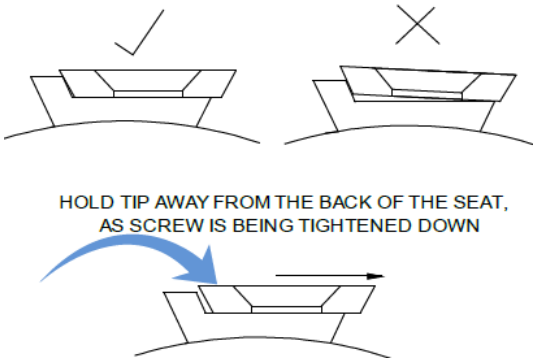
6. Inspect the Torx screw and replace any damaged screws. Lubricate screw thread with a thin coat of lightweight machine oil.

   IMPORTANT: Do not use an excessive amount of lubrication, or the Torx screw and the cutter insert may not sit properly.

7. Reinstall the cutter insert with a new edge facing out. The edges of the inserts are numbered for easy identification. Replace the inserts after all four edges are used.



8. Use the provided Torx screwdriver to thread the screw. To make sure the cutter insert is seated properly, slightly pull it towards the screw and away from its seat. Let the screw pull the cutter insert into position while tightening the screw. Do not fully tighten the screw yet.



9. Using a torque wrench, tighten the screw with 45 lbs.-inch of torque.

   IMPORTANT: Do not overtighten the screw, or the inserts may break. Do not use power tools to tighten the Torx screws, as it can strip the screws.

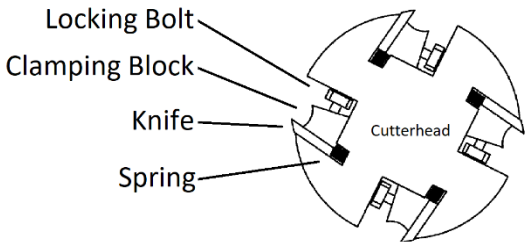
10. Remove all wrenches and tools before restarting the planer.
11. Close and lock the hood when the cutterhead service completes.

Setting / Changing Knives

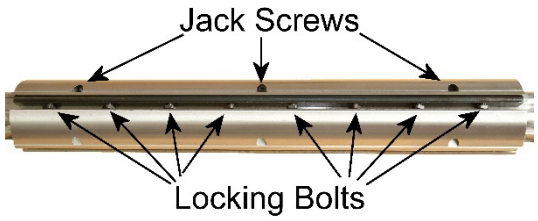
4455 Planer (stock # 4455.103 & 4455.104) uses 22-1/8" x 1" x 1/8" knives. End-to-end and knife-to-knife adjustment must be accurate within .001" to achieve a smooth finish. When possible, remove one knife at a time from the cutterhead to avoid distorting the cutterhead. Service all four knives at each service interval to keep the balance of the cutterhead.

> ⚠ **CAUTION**
>
> **Planer knives are extremely sharp. Protect your hands with thick leather gloves to avoid injuries.**

1. **Disconnect the planer from the power source!!**
2. Open the hood.
3. The planer knife is secured by the clamping block and the locking bolt. The base of the knife is supported by two springs. The springs push the knife upward to help set the knife height.



4. Loosen all eight locking bolts that secure the knife. The knife is supported by two springs underneath. After loosening the bolts, the springs should push the knife upward.



5. Remove the clamping block and the spring from the cutterhead slot. Clean the parts and the cutterhead slot before reinstalling a sharp knife.
6. Reinstall the springs, clamping block, and knife in the correct order. Turn the locking bolts so the knife can barely move up and down in the slot. When replacing old knives with new ones, the jack screw may need to be lowered to allow more room for the new knives. The jack screws can provide additional support to the knife, but when adjusting the height of the knife, the bottom of the knife should be sitting only on the springs.
7. Push down the knife with the knife setting gauge. The height of the knife is set when both flanges have full contact with the knife and the cutterhead, as shown in the picture.

8. With one hand holding down the knife setting gauge, tighten the two locking bolts at the center, and work towards the ends of the cutterhead.

9. Recheck the knife height with the knife settings gauge and tightness of the locking bolt before servicing the next knife.
10. Repeat steps [4-10] for the other three knives.
11. Close and lock the hood.

TIP: If the knives are nicked, shift the knives left and right by no more than 1/4" so that the nicked spots on the knives are in a staggered formation. The spot that is not cut by one knife should be covered by others.

Adjust Belt Tension

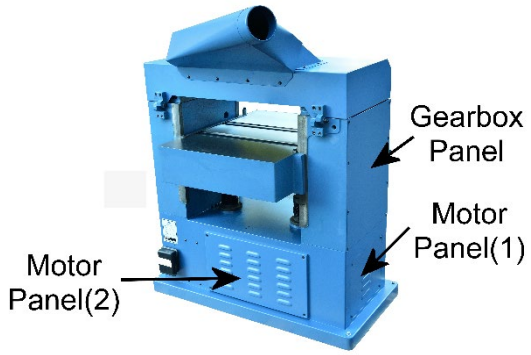
CAUTION

Belts and pulleys may be hot after operations. Allow components to cool before servicing.

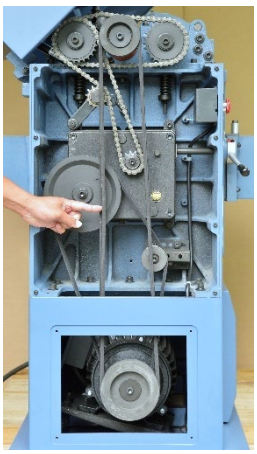
IMPORTANT

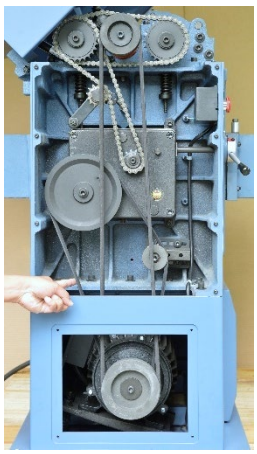
V-belts may stretch after the initial break-in period. Check and adjust belt tension after 16 hours of operation.

1. **Disconnect the planer from the power source!!**
2. Remove the gearbox panel and the motor panel (1).



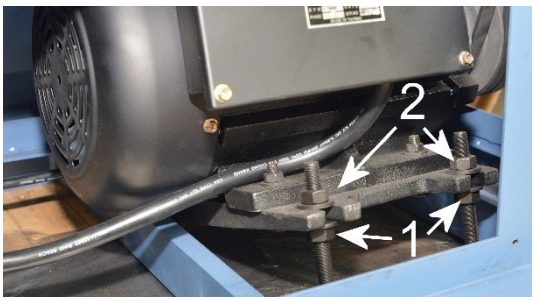
3. Open the hood.
4. There are two groups of belts. A properly tensioned V-belt should deflect by approximately 1/2" when applying moderate pressure midway between the two pulleys. Check the tension of all belts and watch for signs of aging and damage.





If belt tension needs adjustment:

1. Remove the motor panel (2) that is on the back of the planer.
2. To tighten the belt, loosen both lower motor mounting bolts (#1). Lower the motor until proper belt tension is reached. Secure the motor mounting plate by tightening both upper mounting bolts (#2), and the lower mounting bolts (#1).

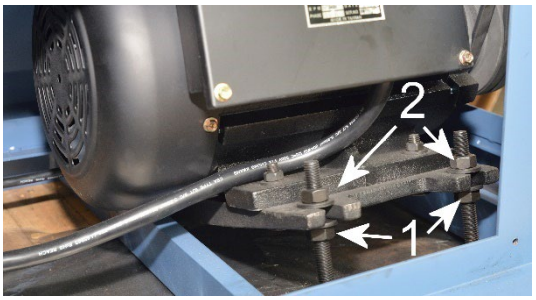


If V-belts need replacement:

IMPORTANT

V-Belts should be replaced as a group to ensure even wear and tear. The new V-belts may stretch after the initial break-in period. Check and adjust belt tension after 16 hours of operation.

1. Loosen the upper mounting bolts (#2). Raise the motor to loosen the belts, and roll the belts off the pulleys.



2. Install new belts and make sure the belts sit in the grooves of the pulleys.
3. Adjust belt tension.
4. Set a reminder to re-adjust belt tension after the break-in period, which is approximately 16 hours of run time.

When Belt Maintenance Completes

Reinstall the panels. Remove all wrenches and tools before restarting the planer.

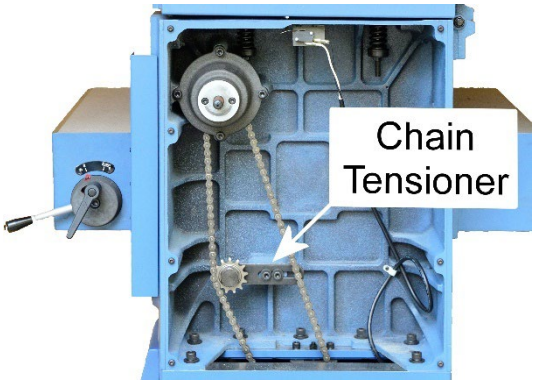
Adjust Table Chain Tension

The table chains were adjusted at the factory and should not require further adjustments. In case there is noticeable chain slack, there are two chain tensioners for inspection and adjustments.

IMPORTANT

Keep the table chain tensioned while loosening the locking bolt. If the chain falls off from the sprockets, it can take a lot of time to reinstall the chain and recalibrate the planer.

1. **Disconnect the planer from the power source!!**
2. Remove the table chain panel and inspect the chain slack. If needed, tighten the chain by shifting the chain tensioner to the left.



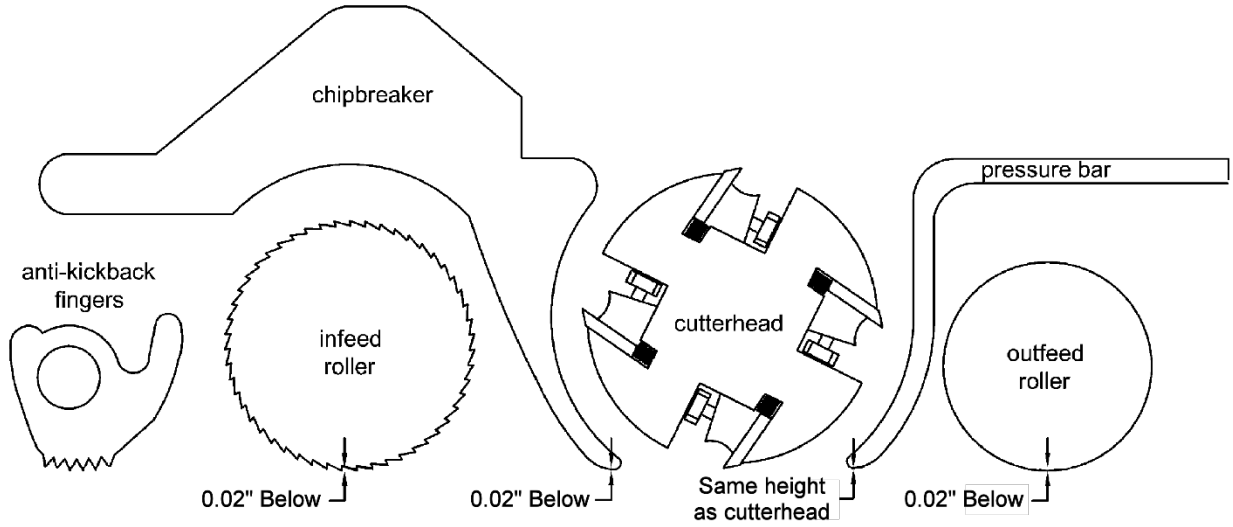
3. Remove the rear motor panel to inspect the other table chain. If needed, tighten the chain by shifting the chain tensioner towards the rear of the planer.

4. Reinstall all access panels after adjustment.

NOTE: The infeed / outfeed roller chains are paired with self-adjusting chain tensioners and do not require adjustments.

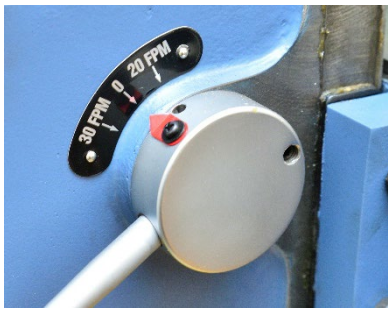
Planer Feed System Inspections and Adjustments

The planer feed system consists of the table, infeed roller, outfeed roller, chipbreaker, pressure bar, and table rollers. All components are calibrated at the factory and should require no further adjustments. This diagram shows the distance of components in relation to the bottommost point of the cutting circle formed by the cutterhead.



Set Planer Feeding Speed to Zero

To inspect and adjust the rollers, shift the gearbox to neutral so that the component can move freely when the planer is turned off. Only adjust the gearbox position when the planer is running with no load.



IMPORTANT **Changing the planer's feed rate when the machine is not running can damage the gearbox.**

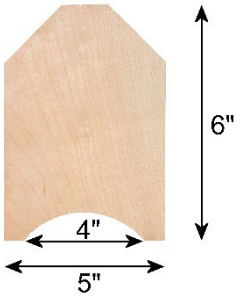
Clean Components Before Inspections

The table and all feed components must be cleaned before checking for alignment. Gum and pitch build-ups on components will skew the measurement values.

Measuring Gauge Block

A measuring gauge block and a 0.02" feeler gauge is needed for inspection and adjustments.

Using hardwood, build a gauge block similar to the one below. The exact dimension is not critical. Just make sure the base is at least 5" wide with an arch that spans across a table roller. The top should be chamfered for better tool access and visibility.



Caution **Wear thick leather gloves to protect the hands when performing maintenance work near the cutterhead to avoid hand injuries.**

Table – Cutterhead Parallelism

The parallelism between the cutterhead and the table is critical as the alignment of all other feed components is based on it. The factory tolerarnce is 0.004” or 0.1mm.

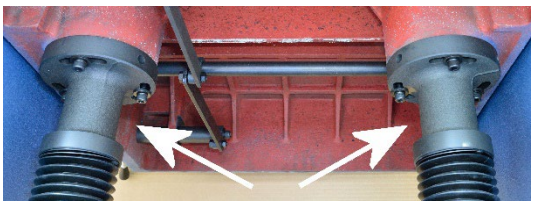
Follow these instructions to inspect/adjust table-cutterhead parallelism:

1. **Disconnect the planer from the power source!!**
2. Lift the hood to access the cutterhead pulley. This helps to rotate the cutterhead without touching the sharp cutter inserts.
3. Place the measuring gauge block under one end of the cutterhead. Raise the table and rotate the cutterhead so that when the planer knife/cutter insert is at the lowest spot, it barely touches the measuring gauge block. Tighten the table height handwheel knob to lock the table.

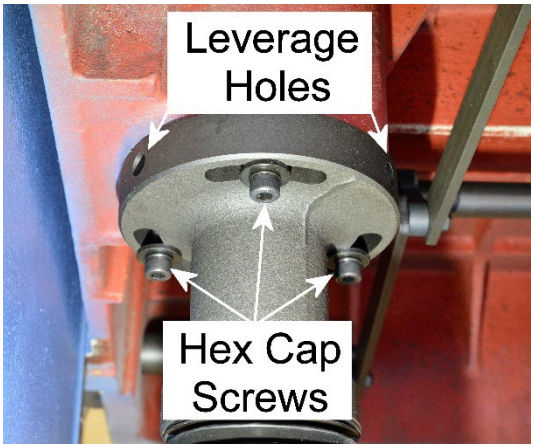
4. Move the measuring gauge block to the other end of the cutterhead and check if the cutting edge is also barely touching the block. If so, the table is in parallel with the cutterhead.

If adjustment is needed:

1. Table parallelism can be adjusted by rotating just one of the elevation screw housing located at the bottom of the table.



2. When the table is not in parallel with the cutterhead, one side must be lower than another. Move the measuring gauge block to the side that needs to be raised.
3. Loosen the three hex cap screws on the elevation screw housing. Do not remove the screws. Rotate the housing to raise the table to the correct height. Inserting rods into the holes on the housing, as indicated in the picture, can provide more leverage and better precision for adjustment.



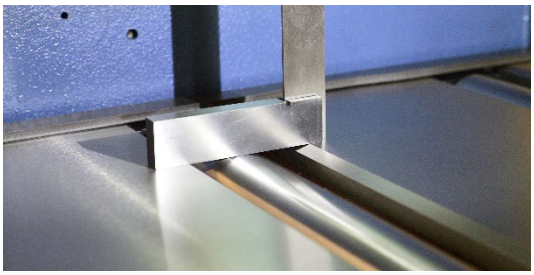
4. After the table height is adjusted, re-tighten the hex cap screws and remove all the adjustment tools from the planer. Close and lock the hood before starting the planer.

Table Rollers Alignment

Your planer is equipped with table rollers to reduce feed resistance. The table rollers' height and alignment were calibrated at the factory. No further adjustment is required unless the parallelism of the rollers is off by more than 0.004" or 0.1 mm.

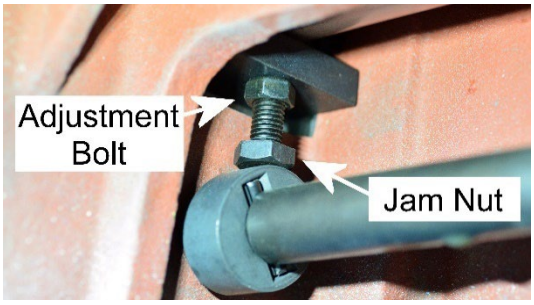
Use the following instructions to inspect/adjust table roller height:

1. **Disconnect the planer from the power source!!**
2. Place a straight edge on the table across the roller on one end. Using the roller height control, raise the roller until it barely touches the straight edge, then lock the roller height control.

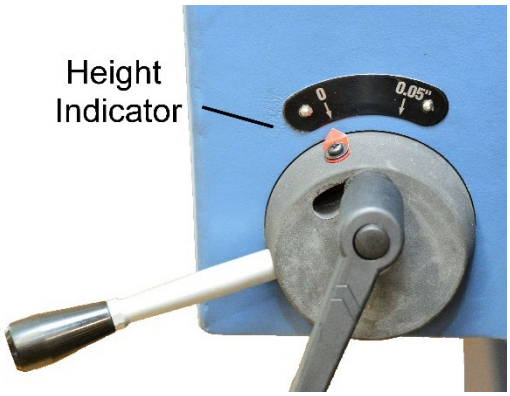


3. Move the straight edge to another end of the roller and see if the roller also barely touches the straight edge. Repeat the same test for another roller.
4. If adjustment is needed, raise the table to access the adjustment bolts at the bottom of the table.

5. Loosen the jam nut, and use the adjustment bolt to change the height of the roller until it is barely touching the straight edge.



6. Hold the adjustment bolt in place and tighten the jam nut, then recheck the height of the rollers with the straight edge.
7. After adjusting the roller height, check and adjust the position of the roller height indicator as needed.

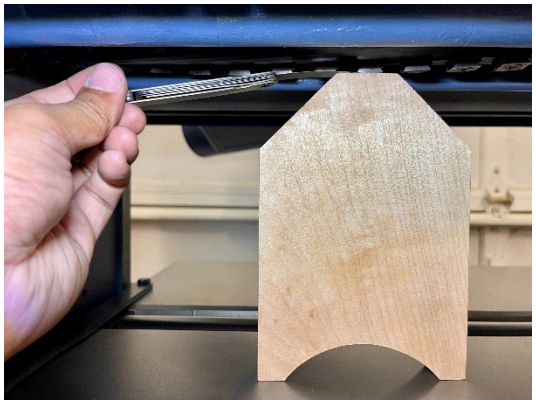


Feed Roller – Cutterhead Parallelism

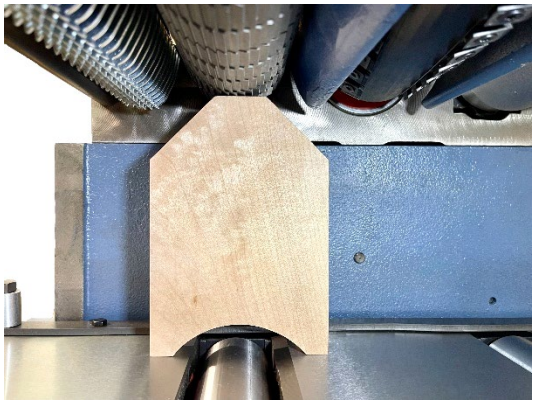
The infeed/outfeed rollers pull the workpiece through the planer. To ensure optimal feeding/cutting performance, make sure the lowest point of the feed rollers is 0.02" below the lowest point of the cutting circle.

Use the following instructions to inspect/adjust table roller height:

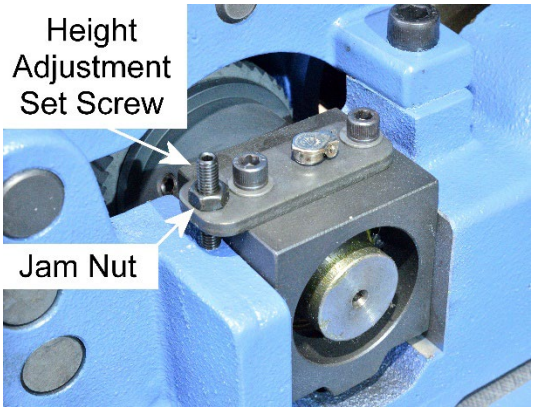
1. **Disconnect the planer from the power source!!**
2. Place the measuring gauge block and the 0.02" feeler gauge under the cutterhead.
3. Raise the table and rotate the cutterhead so that when the planer knife/cutter insert is at the lowest spot, it is barely touching the feeler gauge. Tighten the table height handwheel knob to lock the table.



4. Remove the feeler gauge and move the measuring gauge block under one end of the infeed roller. The block should fit under the infeed roller. Rotate the infeed roller to ensure the lowest spot barely touches the measuring gauge block. Repeat the check on the other end of the infeed roller and both ends of the outfeed roller.



5. To adjust the height of the feed rollers, loosen the jam nuts on the feed roller bracket. Rotate the set screws to change the height of the roller until the measuring gauge block fits right under the feed roller.

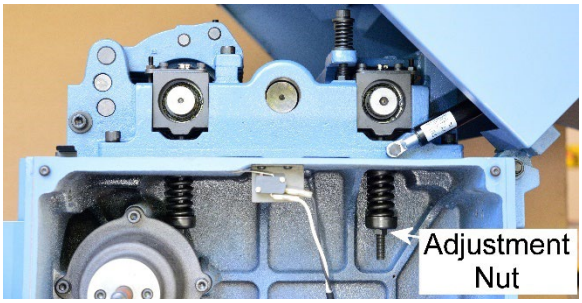


6. When the correct height is set, hold the set screws in place and re-tighten the jam nuts.
7. Recheck the height and parallelism of the adjusted roller.
8. After the adjustment, remove all adjustment tools from the roller. Close and lock the hood before starting the planer.

Adjust Feed Roller Tension

If the feed roller's height is properly set and the feeding issue persists, adjusting the feed roller pressure may help relieve the issue. **Disconnect the planer from power before adjusting the roller tension.**

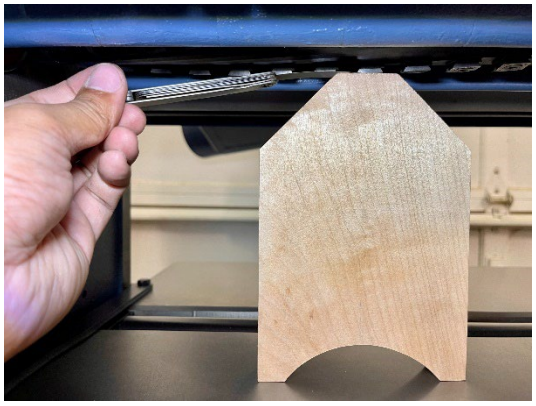
Under each roller bracket, there is an adjustment nut to regulate the feed roller pressure. Remove the side panels to reveal the adjustment nuts. Make the adjustments on both sides so the tension is the same on both ends of the roller.



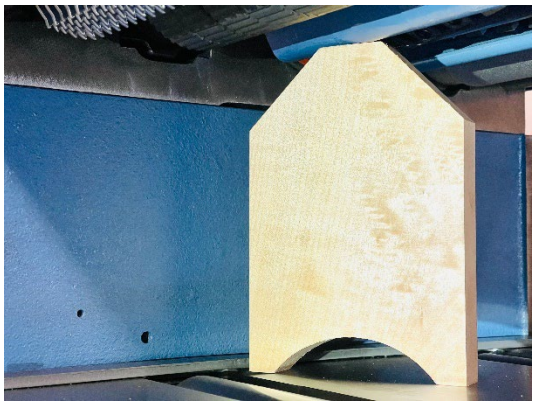
Chipbreaker – Cutterhead Parallelism

Similar to the feed rollers, the bottom edge of the chipbreaker needs to be set 0.02" below the cutting circle formed by the cutterhead.

1. **Disconnect the planer from the power source!!**
2. Place the measuring gauge block and the 0.02" feeler gauge under the cutterhead.
3. Raise the table and rotate the cutterhead so that when the planer knife/cutter insert is at the lowest spot, it is barely touching the feeler gauge. Tighten the table height handwheel knob to lock the table.

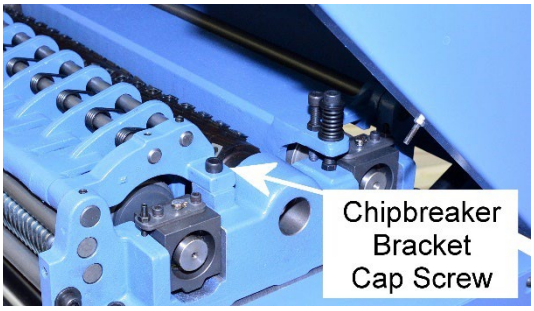


4. Remove the feeler gauge and move the measuring gauge block under one end of the chipbreaker. The chipbreaker should barely touch the measuring gauge block. Repeat the same check at the other end of the chipbreaker.



NOTE: This planer is equipped with segmented chipbreakers. It may be necessary to check all the chipbreaker segments to make sure they are set at approximately the same height.

5. If the chipbreaker is dipping too low and causing feeding issues, remove the cap screws that hold the chipbreaker brackets on each end. Shim the brackets until the entire bottom edge of the chipbreaker is 0.02" below the lowest point of the cutting circle formed by the cutterhead.



6. After adjusting the chipbreaker's height, secure the chipbreaker bracket with the cap screws. Remove all adjustment tools and lock the hood closed.

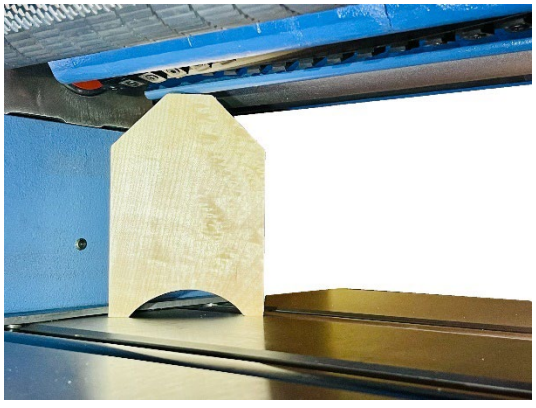
Pressure Bar – Cutterhead Parallelism

The bottom edge of the pressure bar needs to align with the lowest point of the cutting circle formed by the cutterhead. If the pressure bar is set too low, the workpiece may not feed through the planer. If it is set too high, there will be a noticeable clip at both ends of the workpiece.

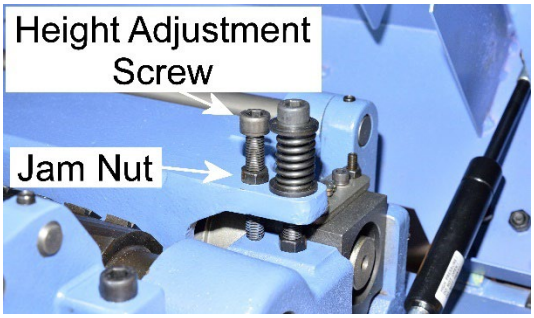
Use the following instructions to check and adjust the pressure bar:

1. **Disconnect the planer from the power source!!**
2. Place the measuring gauge block under the cutterhead.
3. Raise the table and rotate the cutterhead so that when the planer knife/cutter insert is at the lowest spot, it is barely touching the measuring gauge block. Tighten the table height handwheel knob to lock the table.

4. Move the measuring gauge block under one end of the pressure bar and make sure the block fits right under the pressure bar. Repeat the same test at the other end of the pressure bar.



5. If adjustment is needed, loosen the jam nut on each side of the pressure bar. Use the adjustment screw to set the height of the pressure bar, so the measuring gauge block fits right under the pressure bar.



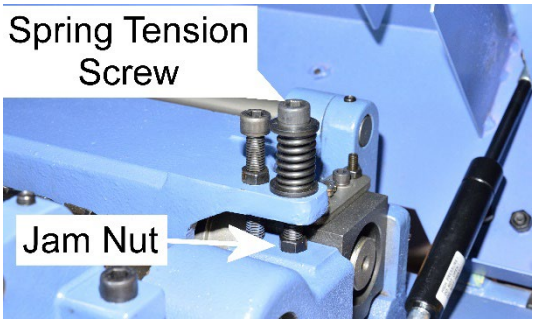
6. After the correct pressure bar height is set, re-tighten the jam nut and lock the hood closed.

Adjust Pressure Bar Spring Tension

The spring-loaded pressure bar keeps a workpiece on the table as it moves away from the cutterhead. If the pressure bar's spring tension is too low, it will not be able to provide enough hold-down force. On the other hand, too much spring tension may create feeding issues.

The spring tension of the pressure bar was calibrated at the factory. It can be adjusted when needed.

1. **Disconnect the planer from the power source!!**
2. Loosen the jam nut.

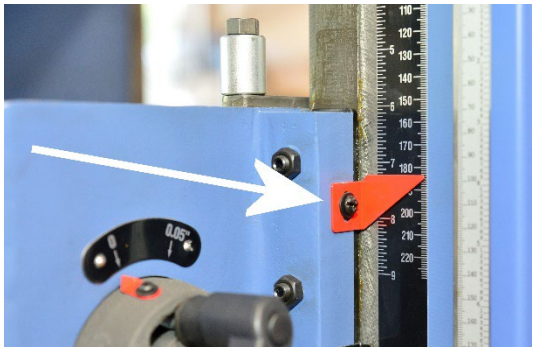


3. Use the adjustment screw to set the spring tension. Repeat the same adjustment on the other end of the pressure bar to keep the pressure consistent across the entire pressure bar.
4. Re-tighten the jam nuts after adjustments.

Adjust Cutterhead Height Indicator

The cutterhead height indicator was adjusted at the factory. It can be adjusted to accommodate a different viewing angle or if the indicator has shifted.

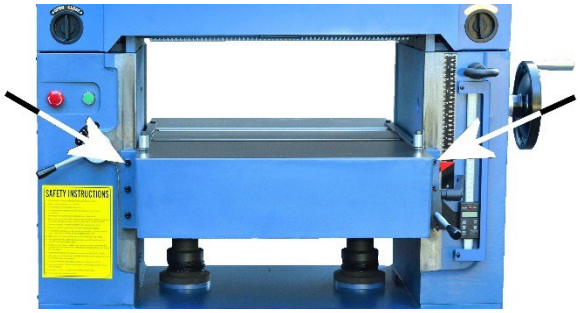
1. Prepare a piece of 2x4 with a flat bottom for calibration.
2. Plane the top and the bottom surface of the board. Use a caliper to measure the mid-section of the board for thickness.
3. Loosen the screw that holds the indicator in place.



4. Shift the indicator, so it is pointing at the exact value as the thickness of the board, then re-tighten the screw.

Table Gibs Adjustment

The two table gibs hold the table against the table ways and limit horizontal movements. The table gibs were adjusted at the factory and should not require adjustments initially. After a long period of use, if the table begins to rock back and froth, the table gibs should be tightened.



Adjust the table gibs by loosening the jam nuts and turning gib set screws so that the table ways are lightly contacted. You should be able to get a 0.005" feeler gauge in between the table gib and the table way.

After the corrected the table gib distance, re-tighten the jam nuts.

Test the tightness of the table gibs by changing the table height from the lowest possible to the highest possible position. The table should not bind to the table ways.

Troubleshooting

Problem	Possible Cause	Possible Solution
Machine does not start.	Machine is not connected to a power source.	1. Make sure the machine is plugged in or the power disconnect is at the ON position. 2. Check the electrical panel for tripped circuit breaker or blown fuse. 3. Ensure all electrical connections have good contacts.
	Low voltage / current.	Have a licensed electrician check/repair the power circuit.
	Faulty switch/motor/ capacitor.	Contact customer service for further assistance.
	Thermal protection activated.	Wait for at least five minutes for the motor to cool down. Remove the workpiece. Reduce the depth of cut and/or feed rate before restarting the planer.
Thermal protection triggered, tripped circuit breaker, or blown fuse.	Machine is undersized for operation.	Reduce the depth of cut and/or feed rate.
	Workpiece moisture level is too high.	Only plane wood with a moisture level below 20%.
	Machine is jammed.	Inspect the cutterhead and make sure it is not obstructed by woodchips. Check dust port and headstock and clear blockages.
	Too much load on a circuit.	Make sure the power circuit is sized for this machine. If the same circuit is shared, ensure the circuit is sized to supply power for all items in the circuit.
	Motor/capacitor issue.	Contact customer service for further assistance.
Machine stalls during operation.	Machine is undersized for operation.	Reduce the depth of cut. Lower feed rate.
	Dull cutters	Rotate/replace cutter inserts. Resharpen/replace planer knives.
	Belt slipping	Clean belt and the pulleys. Adjust belt tension.
	Motor/capacitor issue.	Contact customer service for further assistance.
Machine stopped during the operation.	Thermal overload protection triggered.	Wait for at least five minutes for the motor to cool down. Remove the workpiece. Reduce the depth of cut and/or feed rate before restarting the planer.

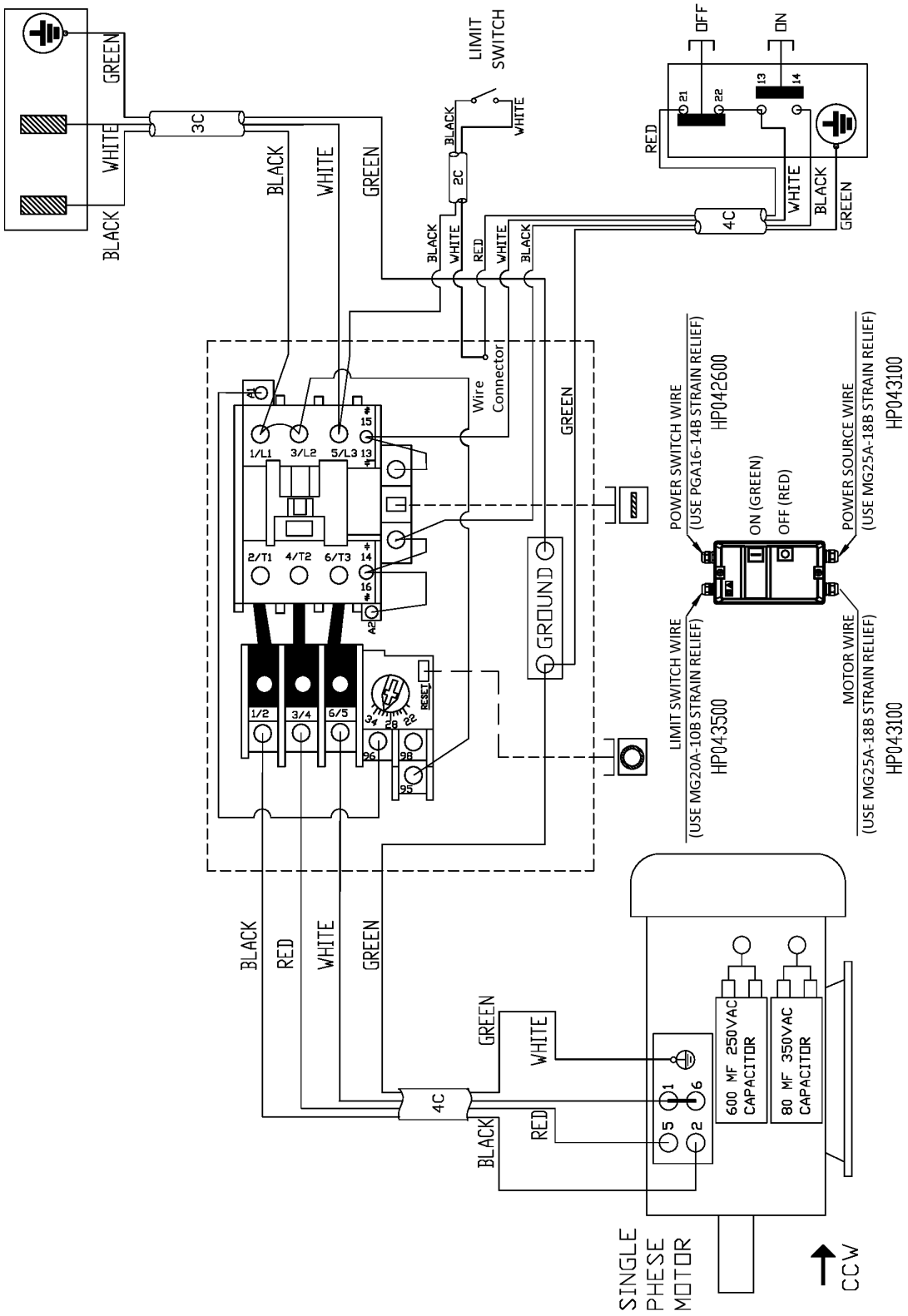
Problem	Possible Cause	Possible Solution
Chain jumps during operation.	Loose chain.	Adjust chain tensioner.
	Misaligned sprockets.	Align sprockets.
	Worn sprockets.	Replace sprockets and chains.
Digital readout is not functional.	Dead battery.	Replace battery.
Unable to move the feed rate knob.	Machine is not running.	Only move the feed rate knob while the machine is running at full speed with no load.
Feed rollers do not move when the machine is running.	Gearbox is in neutral.	Shift the feed rate control knob to set the feed rate to 20/30 FPM while the machine is running idle at full speed with no load.
Table height handwheel is stuck or difficult to turn.	Handwheel is locked	Loosen the handwheel knob.
	Dirty chains and sprockets.	Clean the chain and sprockets with a brush or vacuum. Do not grease the chain or sprockets.
	Table binds to table ways.	Adjust the distance between table way and table gib to 0.005".
Unable to move the table roller height control.	The control is locked.	Loosen the locking handle.
Workpiece does not feed smoothly.	Low feed roller pressure.	Adjust feed roller spring tension.
	Incorrect feed roller height setting.	Adjust the feed roller's height so the bottom of the rollers is below the lowest point of the cutterhead. Infeed Roller: 0.020". Outfeed Roller: 0.020".
	Dirty planer table/rollers.	Clean table and rollers. Apply paste wax on the table to reduce drag. Do not use silicone lubrication on the tabletop.
	Belt slipping	Clean belt and the pulleys. Adjust belt tension.
	Stuck planer bed roller.	Clean and lubricate the roller.
	Bed roller is too low.	Raise the bed roller if a workpiece is rough and dragging on the table.

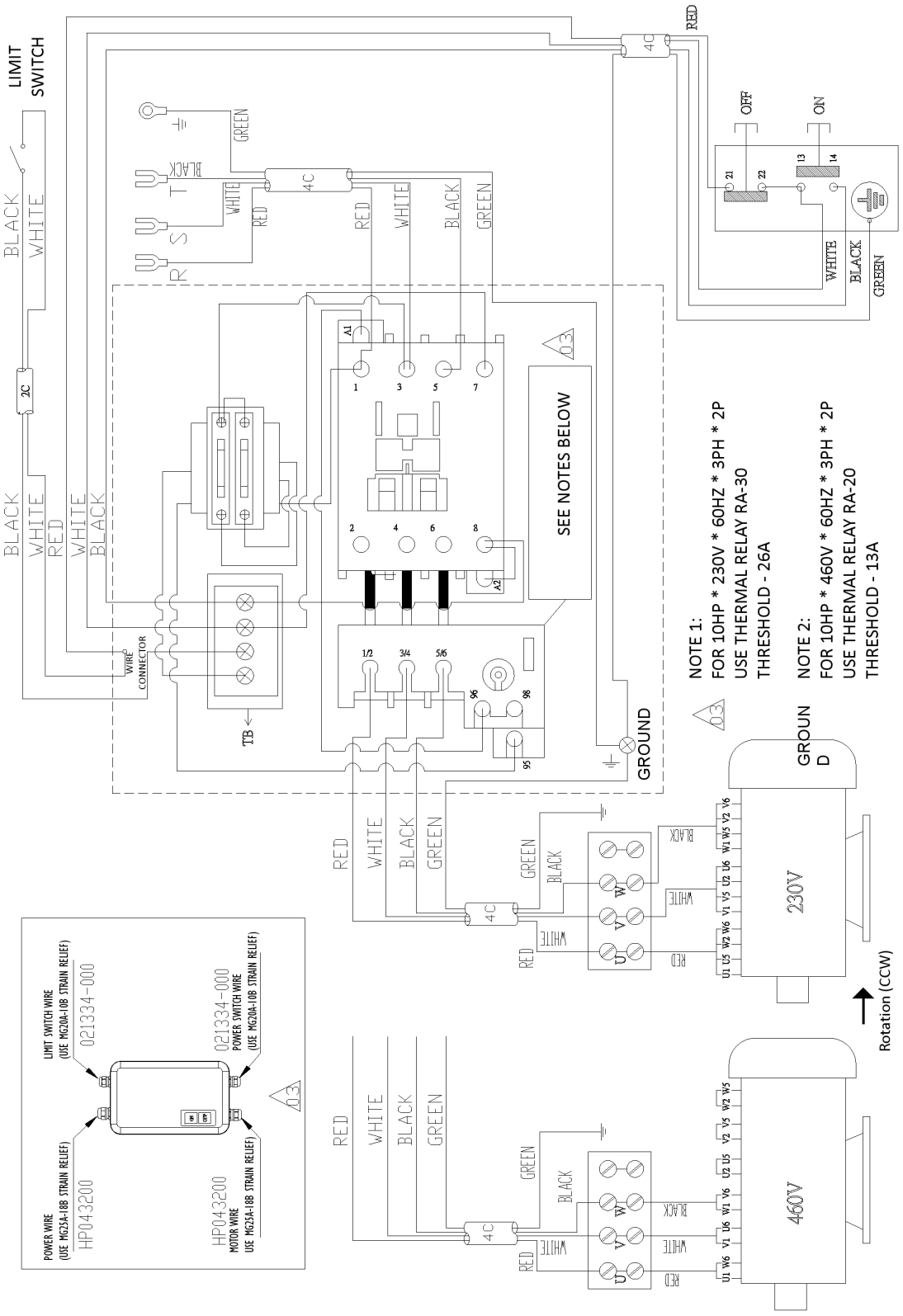
Problem	Possible Cause	Possible Solution
Machine vibrates excessively or makes unexpected noise.	Damaged cutter inserts/knives.	Replace cutter inserts/knives.
	Machine stands on an uneven floor.	Reposition on a flat, level surface.
	V-belt worn, slipping, or hitting belt cover.	Clean belt and pulleys. Adjust belt tension. Replace V-belt if it shows signs of aging.
	Feed roller bushing needs lubrication.	Lubricate bushings.
	Bent pulley	Replace pulley.
	Improper motor mounting.	Check and adjust motor mounting.
	Loose components.	Tighten the fasteners of the component.
	Worn bearings	Contact customer service for assistance.
Uneven depth of cut side to side.	Cutterhead is not in parallel with the planer table.	Adjust cutterhead-table parallelism. Tolerance: Less than 0.004" side-to-side.
	Ununiform straight knife height settings.	Use the knife settings gauge to check the knives' settings and adjust as needed.
Board thickness does not match the scale's measurement.	Table height indicator is mispositioned.	Adjust the indicator.
Workpiece came out twisted.	Workpiece is twisted before the cut.	Planer is not the tool to flatten a twisted workpiece. Flatten one side with a jointer before proceeding with a planer.
	The feed/bed roller is not in parallel with the cutterhead.	Adjust roller/table parallelism.
Excessive snipe	Long workpiece is not supported properly.	Use auxiliary rollers to support the long workpiece.
	A small amount of sniping can happen sometimes.	Add an extra 6" length on a workpiece for planing, and then trim off the ends.
Clip marks 6" at the beginning and/or end of a workpiece	Incorrect pressure bar settings.	Make sure the bottom edge of the pressure bar aligns with the lowest point of the cutting circle formed by the cutterhead. Increase pressure bar spring tension if needed.

Problem	Possible Cause	Possible Solution
End of workpiece chipping	Aggressive depth of cut for the wood type.	Reduce the depth of cut.
	Planing end grain.	Do not plane end grain. Use a drum sander instead.
Chipping in workpiece surface.	Dull cutter.	Rotate/replace cutter insert. Resharpen/replace knives.
	Planing against/across the grain; or knots.	Avoid planing workpieces with knots. Plane along the grain and perform downhill cuts whenever possible. Moisten problematic areas before planing.
	Too much material was removed in one pass.	Reduce feed rate/depth of cut.
Indentation in workpiece surface.	Dirty rollers.	Remove all build-ups on the infeed, outfeed, and table rollers.
	Inefficient chip removal.	Check the dust collection system for suction.
Fuzzy looking finish.	Wood moisture content is too high.	Only process wood with less than 20% moisture content.
	Dull cutter.	Rotate/replace cutter insert.
	Some wood types tend to have fuzzy grain.	Adjust feed rate/depth of cut. Use sharp cutters.
Glossy-looking finish.	Dull cutter.	Rotate/replace cutter insert. Resharpen/replace knives.
	Cutting depth is too shallow.	Increase depth of cut.
Long lines or ridges run along the length of the board.	Chipped cutter.	Rotate/replace cutter insert. Rearrange/replace knives.
Serrated marks on the workpiece.	Cutting depth is too shallow.	Increase depth of cut.

Wiring Diagram

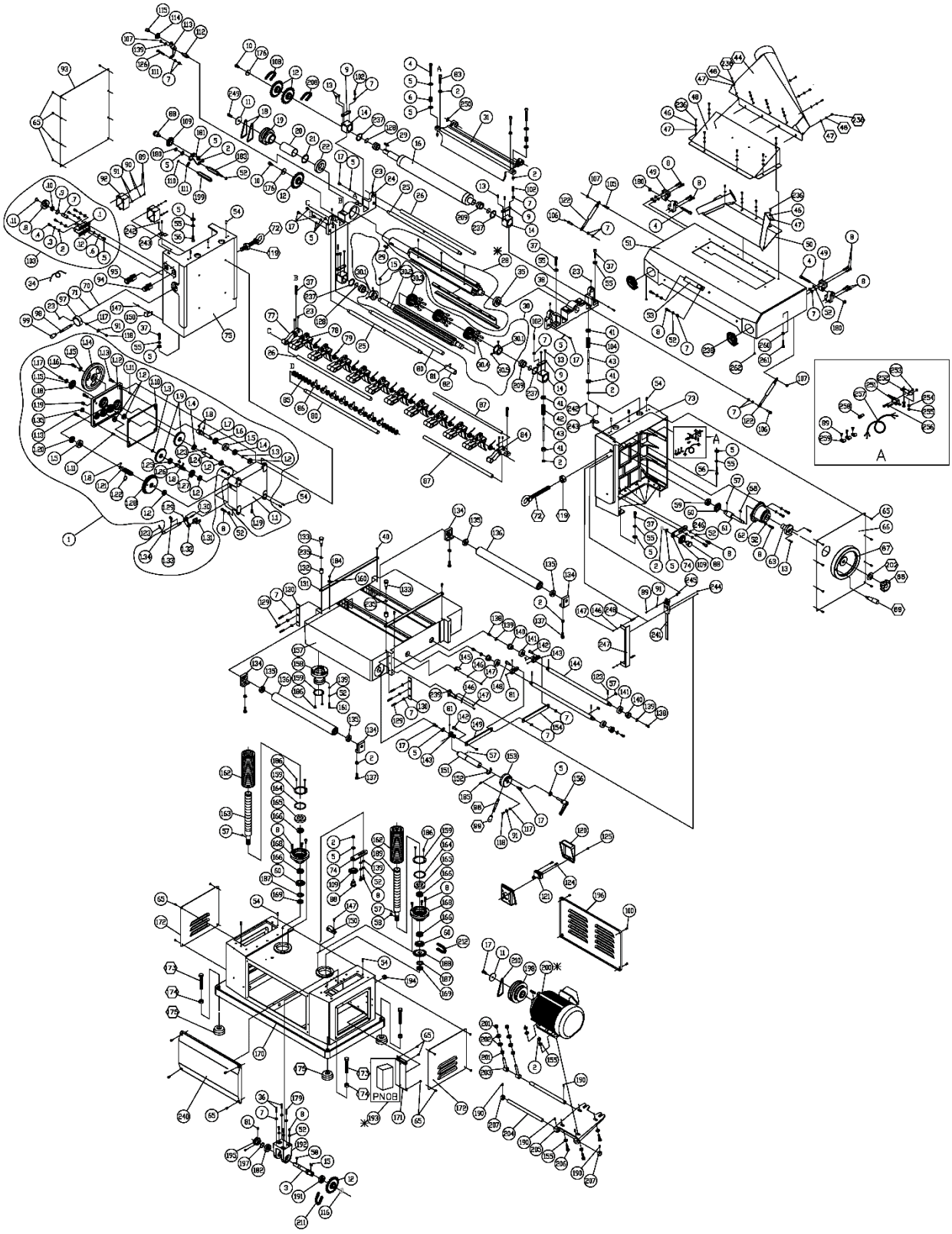
Stock# 4455.103 & 4455.103B



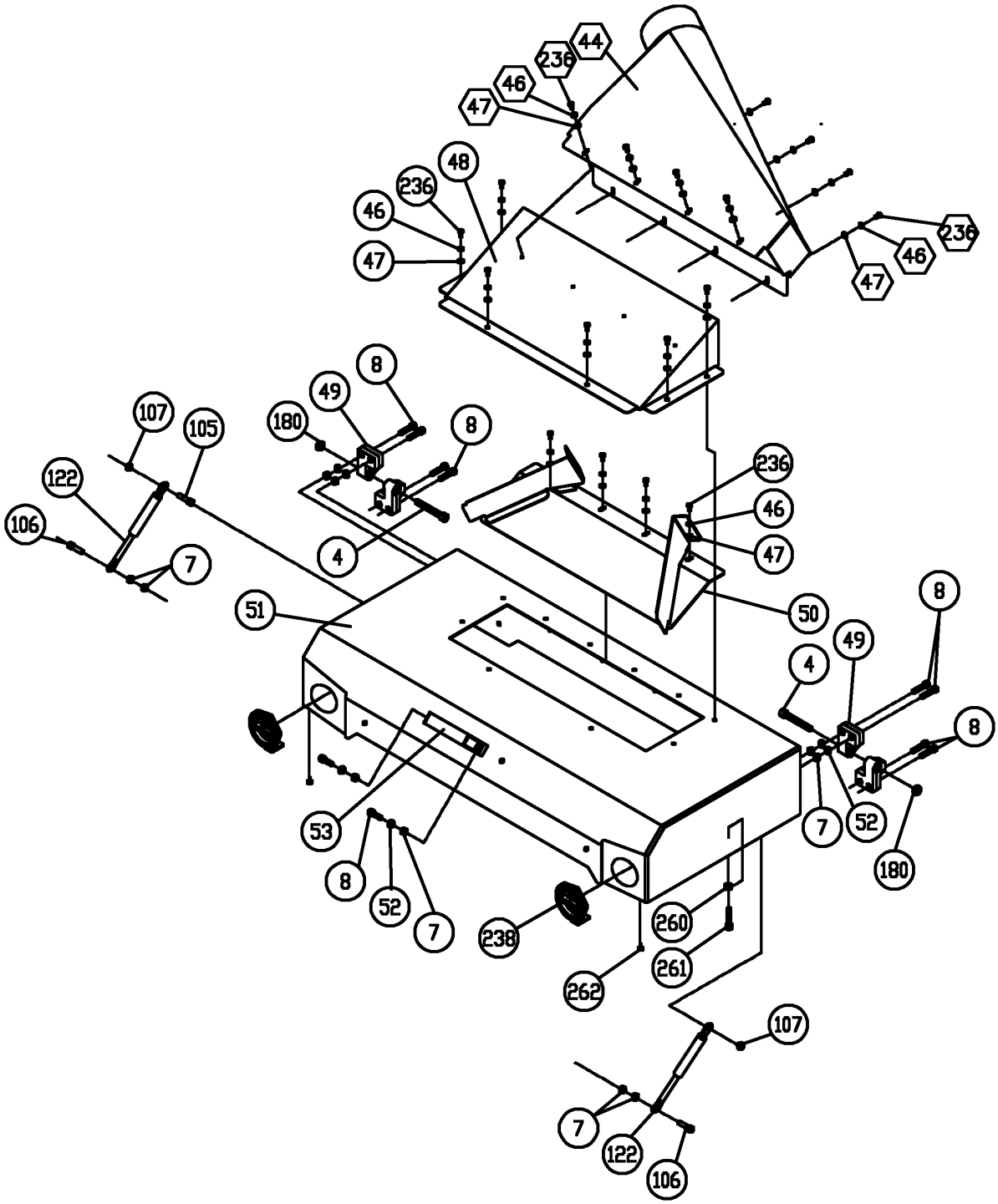

LIMIT SWITCH
BLACK
WHITE
2C
4C
RED
GREEN
BLACK
WHITE
OFF
ON
21
22
13
14
WHITE
BLACK
GREEN
SEE NOTES BELOW
GROUND
WIRE CONNECTOR
TB
NOTE 1:
FOR 10HP * 230V * 60HZ * 3PH * 2P
USE THERMAL RELAY RA-30
THRESHOLD - 26A
NOTE 2:
FOR 10HP * 460V * 60HZ * 3PH * 2P
USE THERMAL RELAY RA-20
THRESHOLD - 13A
230V
460V
Rotation (CCW)
LIMIT SWITCH WIRE
(USE MG20A-10B STRAIN RELIEF)
021334-000
POWER SWITCH WIRE
(USE MG20A-10B STRAIN RELIEF)
021334-000
POWER WIRE
(USE MG25A-10B STRAIN RELIEF)
HP043200
MOTOR WIRE
USE MG25A-10B STRAIN RELIEF)
HP043200

Parts List

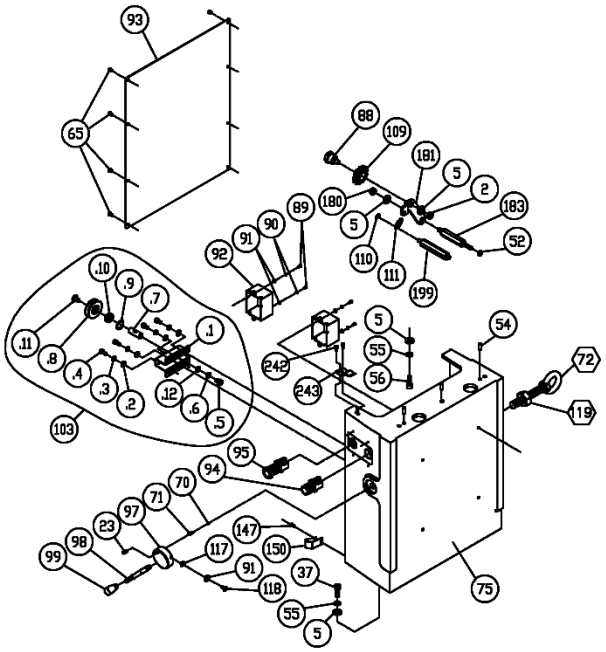
Overview

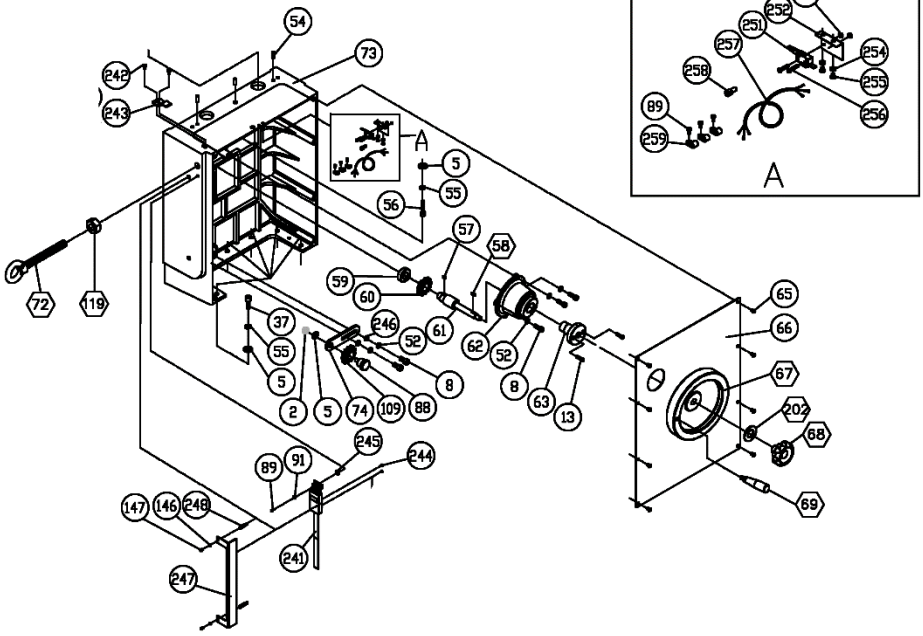


Top Cover Assembly

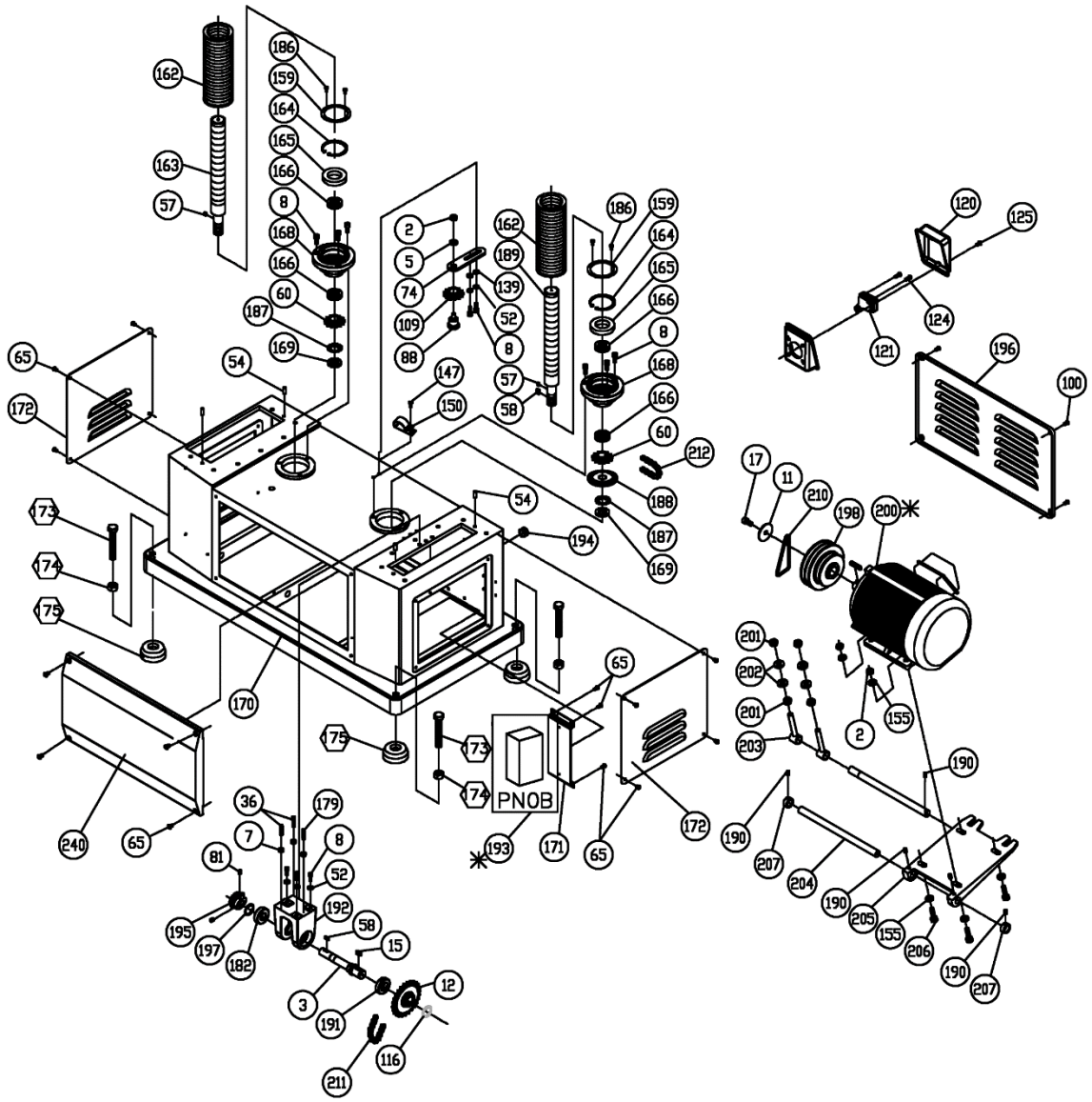


Columns Assembly

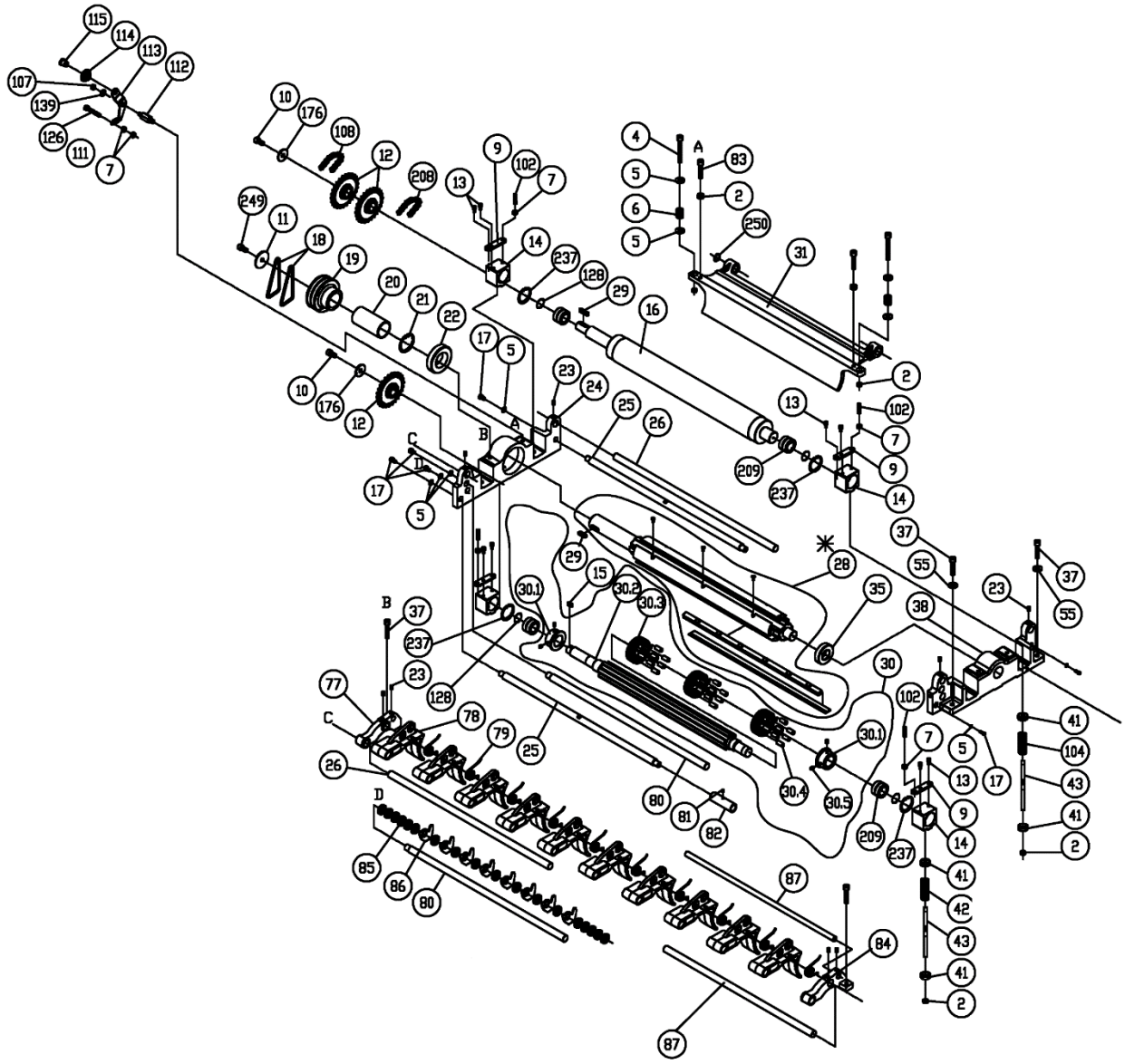




Base Assembly



Cutterhead Assembly



Gearbox Assembly

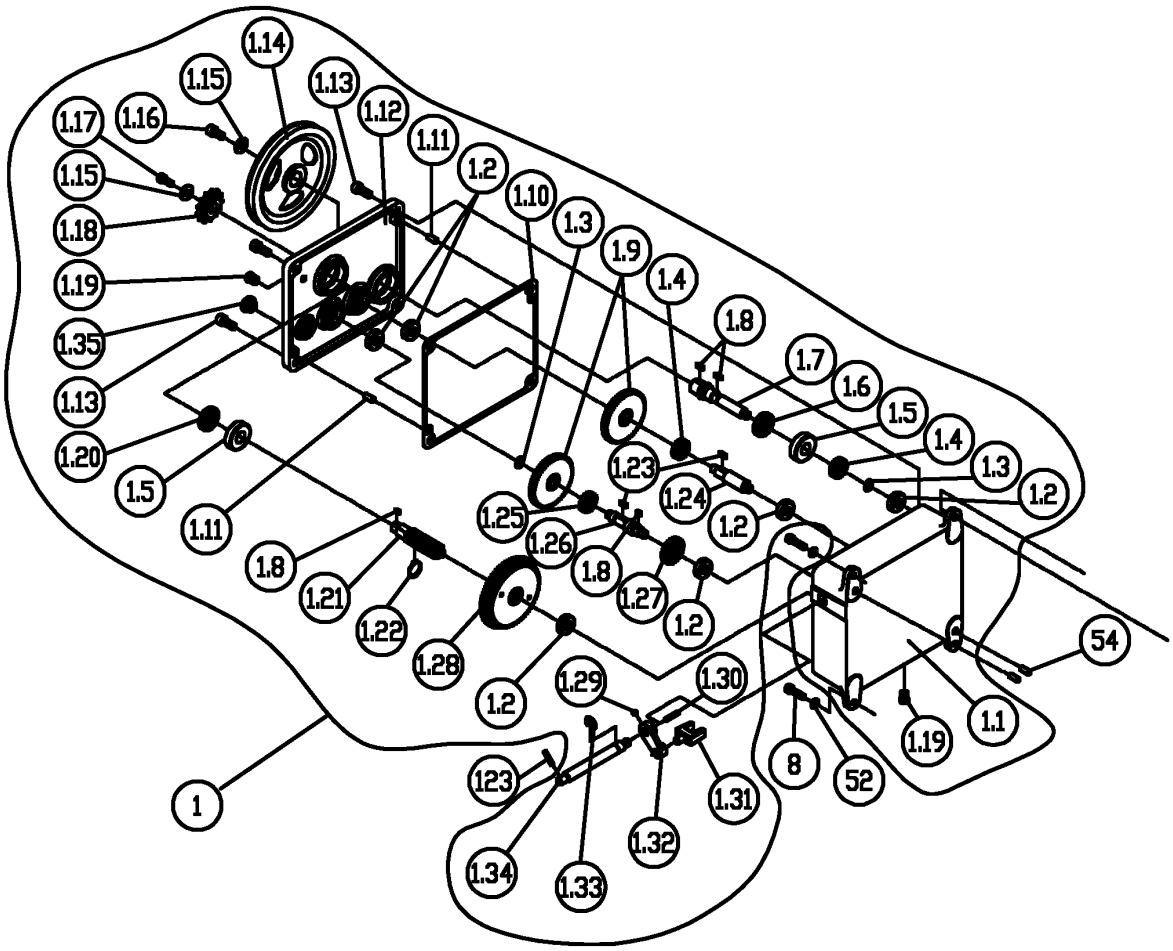
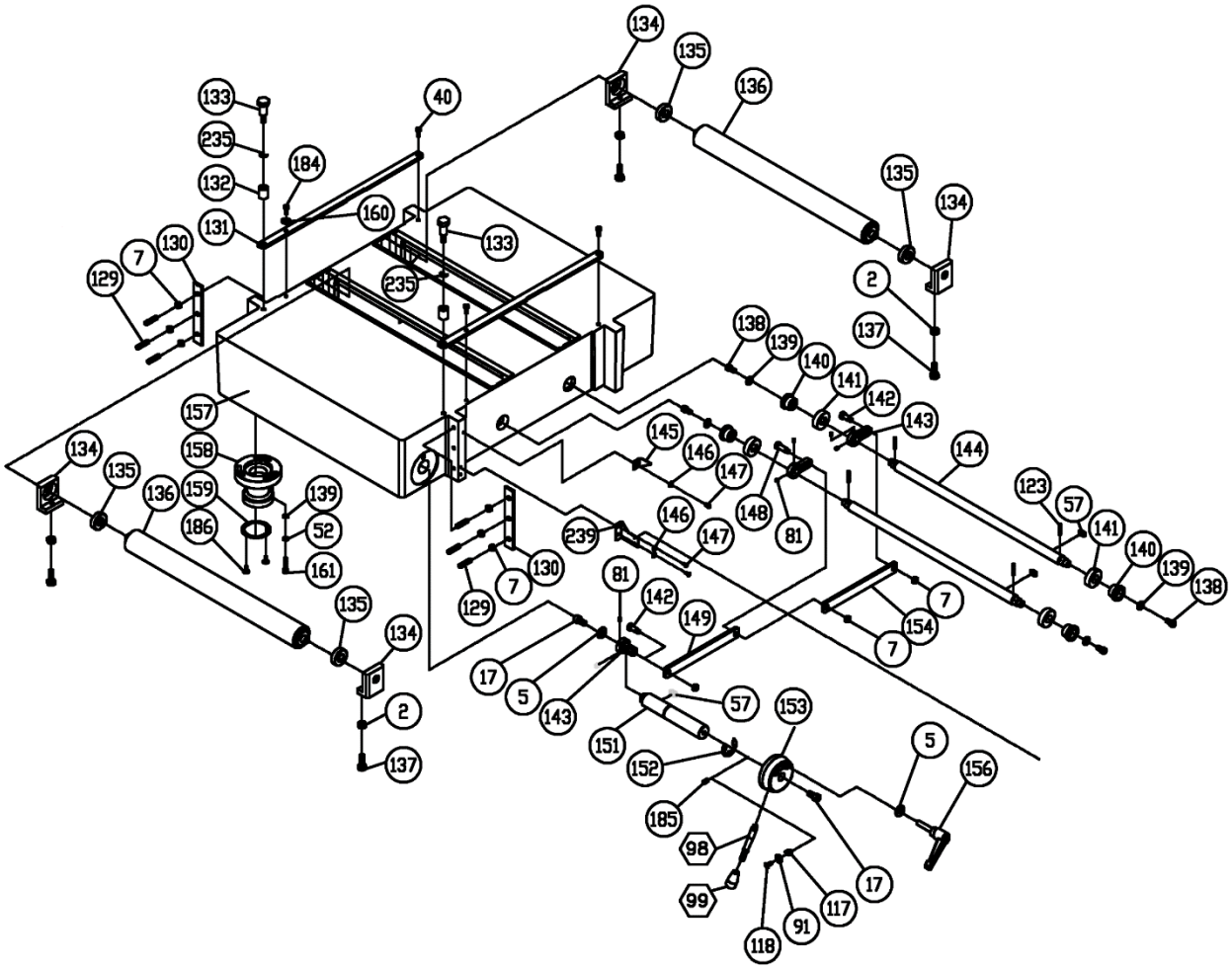


Table Assembly



Key	Part Number	Descriptions	Specifications	QTY
1	920314-001	CHANGE GEARBOX ASSEMBLY		1
1.01	050322-008	GEARBOX		1
1.02	030205-002	BALL BEARING	6201	6
1.03	010007-000	S RING	STW-16	2
1.04	320208-000	GEAR		2
1.05	030208-002	BALL BEARING	6204	2
1.06	043605-000	OIL SEAL	TC24*40*7	1
1.07	360430-000	SHAFT		1
1.08	012003-002	KEY	5*5*10	4
1.09	320209-000	GEAR		2
1.10	340029-000	PACKING	235*216*2t	1
1.11	360413-901	PIN		2
1.12	050323-008	GEARBOX COVER		1
1.13	000105-102	CAP SCREW	M10*1.5P*25	4
1.14	050324-902	PULLEY		1
1.15	006001-071	WASHER	10*25*3.0t	2
1.16	000105-101	CAP SCREW	M10*1.5P*20	1
1.17	001301-101	CAP SCREW-LEFT	M8*1.25P*20	1
1.18	320310-902	SPROCKET		1
1.19	043401-000	PLUG	PT1/4"-19	2
1.20	043603-000	OIL SEAL	TC20*40*7	1
1.21	360431-000	SHAFT		1
1.22	010011-000	S RING	STW-25	1
1.23	012003-005	KEY	5*5*16	2
1.24	360432-000	GEAR SHAFT		1
1.25	320210-000	GEAR		1
1.26	360433-000	GEAR SHAFT		1
1.27	320211-000	GEAR		1
1.28	320051-000	GEAR		1
1.29	000202-101	SET SCREW	M5*0.8P*5	1
1.30	011002-106	SPRING PIN	4*25	1
1.31	070018-000	JAM		1
1.32	050216-000	ARM		1
1.33	010208-000	E RING	ETW-12	1
1.34	360434-902	SHAFT		1
1.35	043001-000	OIL VIEW	29	1

Key	Part Number	Descriptions	Specifications	QTY
2	008007-100	NUT	M10*1.5P(17B*8H)	23
3	360424-000	FIXING SHAFT		1
4	000105-109	CAP SCREW	M10*1.5P*75	4
5	006001-071	WASHER	10*25*3.0t	32
6	280056-901	PRESS SPRING		2
7	008006-100	NUT	M8*1.25P(13B*6.5H)	28
8	000104-108	CAP SCREW	M8*1.25P*25	30
9	173879-902	ADJUST BLOCK		4
10	001302-101	CAP SCREW-LEFT	M10*1.5P*20	2
11	006001-084	WASHER	11*53*3.0t	2
12	070017-902	SPROCKET		4
13	000103-106	CAP SCREW	M6*1.0P*16	12
14	051267-902	#N/A		4
15	012005-001	KEY	8*7*18	2
16	360411-000	OUTFEED ROLLER		1
17	000105-101	CAP SCREW	M10*1.5P*20	8
18	014111-000	BELT	A80	2
19	050565-902	MACHINE PULLEY		1
20	190024-902	FIXING BUSHING		1
21	010111-000	R RING	RTW-85	1
22	030218-002	BALL BEARING	6209	1
23	000204-102	SET SCREW	M8*1.25P*10	9
24	050304-000	CUTTERHEAD BRACKET -L		1
25	360409-902	CUTTERHEAD FIXING SHAFT		2
26	360418-902	FIXING SHAFT		2
28	923740-001	BYRD HELICAL CUTTERHEAD ASSEMBLY (STOCK# 4455.103b/4455.104B ONLY)	5 Slots	1
.1	923741-001	BYRD HELICAL CUTTERHEAD		1
.2	922735-001	INSERT	10 PCS/ BOX	1
.3	040704-000	SLEEVE SCREWDRIVER		1
.4	040705-000	TROX SCREW SLEEVE		1
28	A-4455 STCH	STRAIGHT KNIFE CUTTER HEAD ASSEMBLY (STOCK# 4455.103b/4455.104B ONLY)		1
29	012005-002	KEY	8*7*30	2
30	920371-001	INFEED ROLLER ASSEMBLY		1
.1	130157-903	SPACER		2
.2	360621-000	INFEED ROLLER SHAFT		1
.3	130052-903	INFEED ROLLER		22
.4	250352-615	BUSHING		132
.5	000204-102	SET SCREW	M8*1.25P*10	4

Key	Part Number	Descriptions	Specifications	QTY
31	050308-000	PRESSURE PLATE		1
35	030202-002	BALL BEARING	6007	1
36	000204-105	SET SCREW	M8*1.25P*20	2
37	000105-104	CAP SCREW	M10*1.5P*35	20
38	050303-000	CUTTERHEAD BRACKET -R		1
40	000003-102	HEX NUT	M8*1.25P*16	2
41	170512-901	FIXING PLATE		8
42	280055-901	PRESS SPRING		2
43	360408-902	FIXING SHAFT		4
44	170510-000	DUST HOOD		1
46	006303-100	SPRING WASHER	6.5*10.5	26
47	006001-032	WASHER	6.6*13*1.0t	18
48	170508-000	DUST EXHAUSTER		1
49	050320-000	UPPER COVER SEAT		4
50	920316-001	DUST CHUTE ASSEMBLY		1
51	170876-000	UPPER COVER		1
52	006305-100	SPRING WASHER	8.2*13.7	27
53	250123-615	HANDLE		1
54	360413-901	PIN		10
55	006307-100	SPRING WASHER	10.2*18.5	20
56	000105-105	CAP SCREW	M10*1.5P*40	2
57	012003-002	KEY	5*5*10	7
58	012003-005	KEY	5*5*16	2
59	030103-002	BALL BEARING	6004	1
60	380259-000	SPROCKET		3
61	360425-901	HANDWHEEL SHAFT		1
62	050311-902	HANDWHEEL BRACKET		1
63	050174-000	HANDWHEEL BASE		1
64	040401-000	SCREWDRIVER		1
65	000801-101	ROUND HEAD SCREW	M6*1.0P*10	28
66	170502-000	SIDE COVER RIGHT		1
67	240032-008	HANDWHEEL		1
68	230026-000	KNOB		1
69	230114-906	HANDLE		1

Key	Part Number	Descriptions	Specifications	QTY
70	017002-000	BALL	6	1
71	280018-000	PRESS SPRING		1
72	000601-103	HANGING SCREW	M20*2.5P*50	2
73	050015-000	COLUMN RIGHT		1
74	170413-901	BRACKET		2
75	050352-000	COLUMN LEFT		1
77	050307-000	PRESS BASE LEFT		1
78	050305-000	PRESS BASE FRONT		10
79	280053-000	TWIN SPRING		10
80	360410-902	FIXING SHAFT		2
81	000202-101	SET SCREW	M5*0.8P*5	9
82	190025-902	LIMITED SHAFT		1
83	000105-107	CAP SCREW	M10*1.5P*50	2
84	050306-000	PRESS BASE RIGHT		1
85	250160-615	SPACER		72
86	172281-905	ANTI-KICK BACK PLATE		62
87	360416-902	PRESS BASE FIXING SHAFT		2
88	290040-901	IDLE FIXING SHAFT		3
89	000302-103	ROUND HEAD SCREW	M4*0.7P*10	8
90	006301-100	SPRING WASHER	4.1*7.7	4
91	006001-001	WASHER	4.3*10*1.0t	6
92	250168-615	SWITCH BOX		2
93	170503-000	SIDE COVER LEFT		1
97	380151-910	COVER		1
98	360414-910	SHAFT		2
99	250054-615	KNOB		2
100	000403-204	PAN HEAD SCREW	M6*1.0P*20	4
102	000203-109	SET SCREW (used with 008005-100 6M nut)	M6*1.	4
103	921346-001	IDLE BELT ASSEMBLY		1
.1	171789-901	PULLEY BRACKET		1
.2	006001-053	WASHER	8.5*19*2.0t	4
.3	006305-100	SPRING WASHER	8.2*13.7	4
.4	000104-104	CAP SCREW	M8*1.25P*16	4
.5	000105-101	CAP SCREW	M10*1.5P*20	1
.6	006307-100	SPRING WASHER	10.2*18.5	1
.7	360678-901	FIXING SHAFT		1
.8	380458-902	IDLER		1
.9	010101-000	R RING	RTW-30	1
.10	030105-002	BALL BEARING	6200	1
.11	000803-103	ROUND HEAD SCREW	M10*1.5P*20	1
.12	006001-078	WASHER	10.5*19*1.5t	1

Key	Part Number	Descriptions	Specifications	QTY
104	280054-901	PRESS SPRING		2
105	290024-901	SHOULDER SCREW		2
106	290025-901	SHOULDER SCREW		2
107	008306-100	LOCK NUT	M8*1.25P(13B*9H)	3
108	016007-000	CHAIN	#40*72P	1
109	150001-000	IDLER		3
110	010204-000	E RING	ETW-7	1
111	280069-000	SPRING		2
112	380141-902	IDLER FIXING SHAFT		1
113	170183-901	IDLER FIXING BRACKET		1
114	360729-000	CHAIN TENSIONER		1
115	360349-901	CHAIN TENSIONER SHAFT		1
116	010011-000	S RING	STW-25	1
117	170014-156	POINTER		2
118	000302-102	ROUND HEAD SCREW	M4*0.7P*8	2
119	008012-100	HEX. NUT	M20*2.5P(30B*16H)	2
120	920317-001	WIRE BOX		1
121	920318-001	TERMINALS SEAT ASSEMBLY		1
122	660017-000	BUFFER		2
123	011003-104	SPRING PIN	5*25	5
124	000303-207	ROUND HEAD SCREW	M5*0.8P*20	2
125	003303-102	ROUND HEAD SCREW	3/16"-24NC*1/4"	1
126	000104-114	CAP SCREW	M8*1.25P*50	1
128	010501-000	ISTW RING	ISTW-30	4
129	000204-108	SET SCREW	M8*1.25P*35	6
130	170498-901	PLATE		2
131	170511-902	PLATE		2
132	190002-905	FIXING POINT		2
133	290009-902	SHOULDER SCREW		2
134	130049-903	ROLLER FIXING BASE		4
135	030108-002	BALL BEARING	6203	4
136	920319-001	ROLLER ASSEMBLY		2
137	000004-103	HEX NUT	M10*1.5P*30	4
138	000104-104	CAP SCREW	M8*1.25P*16	4
139	006001-053	WASHER	8.5*19*2.0t	13
140	360419-901	CAM FIXING SHAFT		4
141	130050-000	CAM		4

Key	Part Number	Descriptions	Specifications	QTY
142	290016-901	SHOULDER SCREW		2
143	130048-903	BLOCK		3
144	360421-901	TRANSMISSION LINK		2
145	170509-156	POINTER		1
146	006001-012	WASHER	5.3*12*1.0t	1
147	000303-103	ROUND HEAD SCREW	M5*0.8P*10	8
148	290015-901	SHOULDER SCREW		1
149	170500-901	FIXING PLATE		1
150	021103-000	WIRE HOLDER	ACC-3	8
151	360420-902	FIXING SHAFT		1
152	010211-000	E RING	ETW-24	1
153	050313-902	SHAFT BASE		1
154	170499-901	FIXING PLATE		1
155	006001-075	WASHER	10.3*22*2.0t	8
156	230122-000	HANDEL	市購品	1
157	050315-000	MIDDLE TABLE		1
158	050318-902	FIXING SHAFT		2
159	170481-901	COLLAR		4
160	006001-027	WASHER	6.5*16*0.8t	2
161	000104-112	CAP SCREW	M8*1.25P*40	6
162	250173-615	DUST SLEEVE		2
163	360423-000	WORM SHAFT		1
164	010110-000	R RING	RTW-68	2
165	030203-002	BALL BEARING	6008	2
166	031003-001	BALL BEARING	51105	4
168	050319-902	BUSHING BASE		2
169	008201-100	NUT	M25*1.5P	2
170	170877-000	BASE		1
172	170505-000	BASE SIDE COVER		2
173	000006-101	HEX SCREW	M16*2.0P*100	4
174	008011-100	HEX. NUT	M16*2.0P(24B*13H)	4
175	050314-008	FOOT		4
176	006001-083	FLAT WASHER	11*37*3.0t	2
179	000204-107	SET SCREW	M8*1.25P*30	1
180	008308-100	LOCK NUT	M10*1.5P(17B*12H)	3
181	170501-904	IDLER FIXING BRACKET		1
182	030109-002	BALL BEARING	6204	1
183	380137-902	IDLER FIXING SHAFT		1
184	000002-103	HEX. NUT	M6*1.0P*16	2
185	000203-104	SET SCREW	M6*1.0P*12	1

Key	Part Number	Descriptions	Specifications	QTY
186	001601-101	ROUND HEAD SCREW W/WASHER	M4*0.7P*8/4*10*0.8t	8
187	006802-100	STAR WASHER	25	2
188	320206-000	BEVEL GEAR		1
189	360634-000	LEAD SCREW		1
190	000204-103	SET SCREW	M8*1.25P*12	7
191	030104-002	BALL BEARING	6005	1
192	050312-902	BEVEL GEAR FIXING BASE		1
193	937084-001	MAGNETIC SWITCH ASSEMBLY	10HP*230V/460V*3PH	1
193	937886-001	MAGNETIC SWITCH ASSEMBLY	7.5HP*220V-240V*1PH	1
194	021503-000	WIRE RELIEF	15.5*19*5.5	1
195	320207-000	BEVEL GEAR		1
196	170479-000	COVER		1
197	010010-000	S RING	STW-20	1
198	050309-902	MOTOR PULLEY		1
199	380138-902	SPRING FIXING SHAFT		1
200	900219-001	MOTOR ASSEMBLY	10HP*230/460V*60HZ*3 PH	1
200	900220-001	MOTOR ASSEMBLY	7.5HP*230V*60HZ*1PH	1
201	008009-100	HEX. NUT	M12*1.75P(19B*10H)	4
202	006002-091	FLAT WASHER	13*28*3.0t	8
203	380249-901	ADJUST ROD ASSEMBLY		2
204	360394-000	SUPPORT SHAFT		2
205	050321-008	MOTOR PLATE		1
206	000004-105	HEX. SCREW	M10*1.5P*40	4
207	190074-901	SPACER		2
208	016008-000	CHAIN	#40*60P	1
209	032101-002	NAIL BEARING	NA-6906	4
210	014105-000	BELT	A56	1
211	016013-000	CHAIN	#40*107P	1
212	016003-000	CHAIN	#40*80P	1
235	010205-000	E RING	ETW-8	2
236	002501-101	ROUND HEAD SCREW	M6*1.0P*10L	18
237	010107-000	R RING	RTW-47	4
238	920664-001	LOCKER ASSEMBLY		2
239	170879-904	SLIDING BRACKET		1

Key	Part Number	Descriptions	Specifications	QTY
240	170878-000	FRONT COVER		1
241	660019-000	DIGITAL READER	9 inch	1
243	270025-902	SPRING PLATE		2
244	000404-101	PAN HEAD SCREW	M3*0.5P*6	2
245	006001-003	FLAT WASHER	4.3*12*1.0t	1
246	006001-049	FLAT WASHER	8.5*16*2.0t	2
247	170881-000	DIGITAL READER COVER		1
248	230274-000	HEX. BOLT		2
249	002604-101	CAP LOCK SCREW	M10*1.5P*20	2
250	006712-100	WAVY WASHER	BWW-6001	1
251	490018-000	LIMITED SWITCH	125V*20.5AMP	1
252	170680-000	SWITCH SHAFT		1
253	008001-100	HEX. NUT	M3*0.5P(5.5B*2.5H)	2
254	006302-100	SPRING WASHER	5.1*9.3	2
255	000303-102	ROUND HEAD SCREW	M5*0.8P*8	2
256	000301-204	ROUND HEAD SCREW	M3*0.5P*15	2
258	022002-000	PIN	TM-3	1
259	021102-000	CORD FIXING BUCKLE	ACC-2.5	3
260	008004-100	HEX. NUT	M5*0.8P(8B*4H)	1
261	000102-112	CAP SCREW	M5*0.8P*25	1
262	340007-615	PAD		2
265	002602-102	CAP LOCK SCREW	M6*1.0P*20	8
267	006001-023	FLAT WASHER	6.3*13*2.0t	8
269	044302-301	OIL CUP	3/16"	4

Spare Parts

Part Number	Descriptions	Specifications	QTY
922735-001	Byrd Cutter Insert (SOLD IN BOX OF 10)		10

Tools for Assembly

Part Number	Descriptions	Specifications	QTY
040204-000	OPEN WRENCH	12*14	1
040007-000	WRENCH	8mm	1
040006-000	WRENCH	6mm	1
040004-000	WRENCH	4mm	1
040201-000	OPEN WRENCH	8*10	1
040207-000	OPEN WRENCH	22*24	1
040003-000	WRENCH	3mm	1
040206-000	OPEN WRENCH	17*19	1
P-4455 KSG Complete Set	KNIFE SETTINGS GAUGE ASSEM. (#4455.103/104 ONLY.)		1

Maintenance Record

Date	Task	Operator

Notes

Warranty and Service

Oliver Machinery makes every effort to assure that its equipment meets the highest possible standards of quality and durability. All products sold by Oliver Machinery are warranted to the original purchaser to be free from defects for a period of two (2) years on all parts excluding electronics and motors which are warranted for one (1) year from the date of shipment. Oliver Machinery's obligation under this warranty shall be exclusively limited to repairing or replacing products or parts or components, at its sole option, determined by Oliver Machinery to be defective. Oliver Machinery shall not be required to provide other form of indemnity or compensation including but not limited to compensatory damages.

This warranty is non-transferable and is only extended to the original purchaser from an authorized distributor.

This warranty does not apply to defects due to direct or indirect misuse, abuse, negligence, accidents, unauthorized repairs, alternation outside our facilities, lack of maintenance, acts of nature, or items that would normally be consumed or require replacement due to normal wear and tear.

OTHER TERMS

To obtain and exercise the warranty right, please call 800-559-5065 or fill out warranty request form online at www.olivermachinery.net.
Warranty parts are shipped via Parcel or Ground. Additional charges will occur and charge to customers if express shipping is required.

DISCLAIMER

Under no circumstances shall Oliver Machinery be liable for death, personal or property injury, or damages arising from the use of its products.

Oliver Machinery reserves the right to make changes without prior notice to its products to improve function or performance or design.

FOR MORE INFORMATION

If you need assistance or have questions beyond what is covered in the scope of this warranty information, please call 800-559-5065 or email us at info@olivermachinery.net.

Appendix

US Standard – Metric Conversion Chart

Fractions	Decimal In.	Millimeters
1/64	.0156	.396
1/32	.0312	.793
3/64	.0469	1.190
1/16	.0625	1.587
5/64	.0781	1.984
3/32	.0937	2.381
7/64	.1094	2.778
1/8	.125	3.175
9/64	.1406	3.571
5/32	.1562	3.968
11/64	.1719	4.365
3/16	.1875	4.762
13/64	.2031	5.159
7/32	.2187	5.556
15/64	.2344	5.953
1/4	.25	6.350
17/64	.2656	6.746
9/32	.2812	7.143
19/64	.2969	7.540
5/16	.3125	7.937
21/64	.3281	8.334
11/32	.3437	8.731
23/64	.3594	9.128
3/8	.375	9.525
25/64	.3906	9.921
13/32	.4062	10.318
27/64	.4219	10.715
7/16	.4375	11.112
29/64	.4531	11.509
15/32	.4687	11.906
31/64	.4844	12.303
1/2	.5	12.700

Fractions	Decimals In.	Millimeters
33/64	.5156	13.096
17/32	.5312	13.493
35/64	.5469	13.890
9/16	.5625	14.287
37/64	.5781	14.684
19/32	.5937	15.081
39/64	.6094	15.478
5/8	.625	15.875
41/64	.6406	16.271
21/32	.6562	16.668
43/64	.6719	17.065
11/16	.6875	17.462
45/64	.7031	17.859
23/32	.7187	18.256
47/64	.7344	18.653
3/4	.75	19.050
49/64	.7656	19.446
25/32	.7812	19.843
51/64	.7969	20.240
13/16	.8125	20.637
53/64	.8281	21.034
27/32	.8437	21.431
55/64	.8594	21.828
7/8	.875	22.225
57/64	.8906	22.621
29/32	.9062	23.018
59/64	.9219	23.415
15/16	.9375	23.812
61/64	.9531	24.209
31/32	.9687	24.606
63/64	.9844	25.003
1.0	1.	25.400

Oliver Machinery is always adding new Industrial Woodworking products to the line.

For complete, up-to-date product information, visit us online at:

WWW.OLIVERMACHINERY.NET

or call toll free 1-800-559-5065

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