

POWERMATIC®

Operating Instructions and Parts Manual 6-inch Woodworking Jointer Models 54A and 54HH



For model 54A with serial no. 190354A2255 and higher
For model 54HH with serial no. 190254HH5017 and higher

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Warranty and Service

Powermatic warrants every product it sells against manufacturers' defects. If one of our tools needs service or repair, please contact Technical Service by calling 1-800-274-6846, 8AM to 5PM CST, Monday through Friday.

Warranty Period

The general warranty lasts for the time period specified in the literature included with your product or on the official Powermatic branded website.

- Powermatic products carry a limited warranty which varies in duration based upon the product. (See chart below)
- Accessories carry a limited warranty of one year from the date of receipt.
- Consumable items are defined as expendable parts or accessories expected to become inoperable within a reasonable amount of use and are covered by a 90 day limited warranty against manufacturer's defects.

Who is Covered

This warranty covers only the initial purchaser of the product from the date of delivery.

What is Covered

This warranty covers any defects in workmanship or materials subject to the limitations stated below. This warranty does not cover failures due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair, alterations or lack of maintenance.

Warranty Limitations

Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

How to Get Technical Support

Please contact Technical Service by calling 1-800-274-6846. **Please note that you will be asked to provide proof of initial purchase when calling.** If a product requires further inspection, the Technical Service representative will explain and assist with any additional action needed. Powermatic has Authorized Service Centers located throughout the United States. For the name of an Authorized Service Center in your area call 1-800-274-6846 or use the Service Center Locator on the Powermatic website.

More Information

Powermatic is constantly adding new products. For complete, up-to-date product information, check with your local distributor or visit the Powermatic website.

How State Law Applies

This warranty gives you specific legal rights, subject to applicable state law.

Limitations on This Warranty

POWERMATIC LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

POWERMATIC SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Powermatic sells through distributors only. The specifications listed in Powermatic printed materials and on the official Powermatic website are given as general information and are not binding. Powermatic 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.

Product Listing with Warranty Period

90 Days – Parts; Consumable items
1 Year – Motors, Machine Accessories
2 Year – Woodworking Machinery used for industrial or commercial purposes
5 Year – Woodworking Machinery

NOTE: Powermatic is a division of JPW Industries, Inc. References in this document to Powermatic also apply to JPW Industries, Inc., or any of its successors in interest to the Powermatic brand.

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Warnings

1. Read and understand the entire owner's manual before attempting assembly or operation.
2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace the warning labels if they become obscured or removed.
4. This woodworking Jointer is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a jointer, do not use until proper training and knowledge have been obtained.
5. Do not use this machine for other than its intended use. If used for other purposes, Powermatic disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear approved safety glasses/face shields while using this jointer. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
7. Before operating this machine, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Remove all loose clothing and confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do **not** wear gloves.
8. Wear ear protectors (plugs or muffs) during extended periods of operation.
9. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
10. Make certain the switch is in the **OFF** position before connecting the machine to the power source.
11. Make certain the machine is properly grounded.
12. Make all machine adjustments or maintenance with the machine unplugged from the power source.
13. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
14. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately after maintenance is complete.
15. Make sure the jointer is firmly secured to the stand or a bench before use.
16. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
17. Provide for adequate space surrounding work area and non-glare, overhead lighting.
18. Keep the floor around the machine clean and free of scrap material, oil and grease.
19. Keep visitors a safe distance from the work area. **Keep children away.**
20. Make your workshop child proof with padlocks, master switches or by removing starter keys.
21. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
22. Maintain a balanced stance at all times so that you do not fall or lean against the cutterhead or other moving parts. Do not overreach or use excessive force to perform any machine operation.
23. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and safer.
24. Use recommended accessories; improper accessories may be hazardous.
25. Maintain tools with care. Keep knives sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.

26. Turn off the machine before cleaning. Use a brush or compressed air to remove chips or debris — do not use your hands.
27. Do not stand on the machine. Serious injury could occur if the machine tips over.
28. Before turning on machine, remove all extra equipment such as keys, wrenches, scrap, stock, and cleaning rags away from the machine.
29. Never leave the machine running unattended. Turn the power off and do not leave the machine until the cutterhead comes to a complete stop.
30. Always use a hold-down or push block when surfacing stock less than 12" inches long, or 3 inches wide, or 3 inches thick.
31. Do not perform jointing operations on material shorter than 8", narrower than 3/4" or less than 1/4" thick.
32. The hands must never be closer than 3 inches to the cutterhead (see Figure at right).
33. Never apply pressure to stock directly over the cutterhead. This may result in the stock tipping into the cutterhead along with the operator's fingers. Position hands away from extreme ends of stock, and push through with a smooth, even motion. Never back workpiece toward the infeed table.
34. Do not make cuts deeper than 1/2" when rabbeting. On other cuts such as edging, surfacing, etc., depth of cut should not be over 1/8" to avoid overloading the machine and to minimize chance of kickback.
35. To avoid kickback, the grain must run in the same direction you are cutting. Before attempting to joint, or plane, each work piece must be carefully examined for stock condition and grain orientation.
36. When working with a swirl grain wood or burls, making it necessary to plane against the grain, use a lesser depth of cut and a slow rate of feed.
37. Move the hands in an alternate motion from front to back as the work continues through the cut. Never pass the hands directly over the cutter knives. As one hand approaches the knives remove it from the stock in an arc motion and place it back on the stock in a position beyond the cutter knives.
38. At all times hold the stock firmly.



Familiarize yourself with the following safety notices used in this manual:

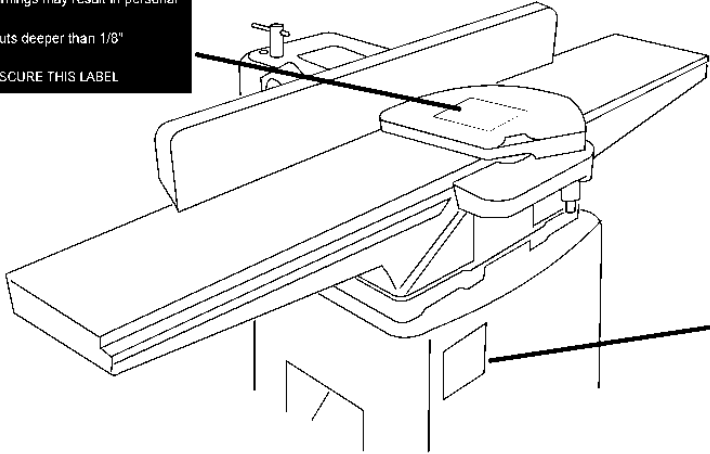
CAUTION This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.

WARNING This means that if precautions are not heeded, it may result in serious injury or possibly even death.

⚠ WARNING

1. Keep guard in place and in operating condition at all times.
2. Do not place objects on this guard.
3. Never move guard with your hand while machine is running.
4. Failure to comply with these warnings may result in personal injury or death.
5. Never make jointing or planer cuts deeper than 1/8"

DO NOT REMOVE OR OBSCURE THIS LABEL



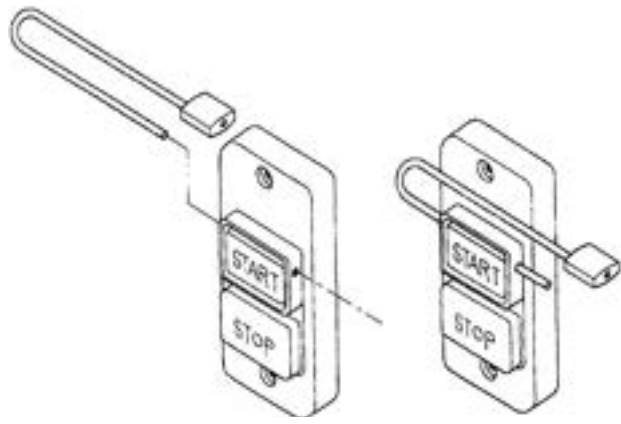
⚠ WARNING

1. For your own safety, read instruction manual before operating jointer.
2. Do not expose to rain or use in damp locations. Ne pas exposer à la pluie et ne pas utiliser dans les emplacements humides.
3. Always keep cutterhead and drive guards in place and in proper operating condition.
4. Never make jointing or planing cuts deeper than 1/8".
5. Always use hold-downs/push blocks for jointing material narrower than 3" or planing material thinner than 3".
6. Never perform jointing or planing cuts on pieces shorter than 8" in length.
7. Remove or fasten loose articles of clothing such as neckties, etc. Contain long hair and remove all jewelry.
8. Use approved safety glasses and/or face shields to protect eyes.
9. Disconnect machine from power source before performing any maintenance, adjustments or cleaning.
10. Never operate this machine while under the influence of drugs or alcohol.
11. Failure to comply with these warnings may result in serious personal injury.

DO NOT REMOVE OR OBSCURE THIS LABEL

On-Off Switch Padlock

The jointer is equipped with a push-button switch that will accept a safety padlock (not included). To safeguard your machine from unauthorized operation and accidental starting by young children, the use of a padlock is highly recommended – see figure at right.



On-Off Switch Padlock

Introduction

This manual is provided by Powermatic covering the safe operation and maintenance procedures for the Powermatic Model 54A and 54HH Jointers. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. This machine has been designed and constructed to provide consistent, long-term operation if used in accordance with instructions set forth in this manual. If there are any questions or comments, please contact your local supplier or Powermatic, or visit our web site: www.powermatic.com.

Specifications

Model.....	54A.....	54HH.....
Stock Number:		
Jointer and Stand	1791279DXK.....	1791317K.....
Jointer only	2365013DX.....	1791317.....
Table Size (in.)	7-1/4 x 66.....	7-1/4 x 66.....
Table support.....	dove-tailed ways.....	dove-tailed ways.....
Cutterhead Style.....	straight w/ quick-set knives.....	helical.....
Knives.....	3 double-edged.....	40 four-sided inserts.....
Number of cutterhead rows	--.....	6.....
Cutterhead Speed (RPM).....	6000.....	6000.....
Cuts per Minute	18,000.....	not applicable.....
Cutting capacity (in.).....	1/8" x 6".....	1/8" x 6".....
Rabbeting capacity (in.)**	1/2".....	na.....
Blade Size (in.)	6-1/16" x 3/4 x 5/64.....	2.5 x 15 x 15 mm.....
Switch.....	push button.....	push button.....
Fence size overall (in.)	4-3/4 x 38.....	4-3/4 x 38.....
Fence tilt (degrees).....	+/- 45.....	+/- 45.....
Stops	- 45, 45, and 90 degrees.....	- 45, 45, and 90 degrees.....
Table Surface Height (in.).....	31-1/2.....	31-1/2.....
Motor	TEFC, 1 HP, 1 PH, 115/230V*, 60Hz.....	TEFC, 1 HP, 1 PH, 115/230V*, 60Hz.....
Overall Dimensions (LxWxH)(in.)	66 x 24 x 37-1/2.....	66 x 24 x 37-1/2.....
Jointer Bed Weight (lbs.)	254.....	254.....
Stand Weight (lbs.)	80.....	80.....

* (pre-wired 115V)

** See *Rabbit Cuts*, page 26 for proper rabbeting operation.

The above specifications were current at the time this manual was published, but because of our policy of continuous improvement, Powermatic reserves the right to change specifications at any time and without prior notice, without incurring obligations.

Unpacking

Upon delivery, open shipping containers and check that all parts are in good condition. Any damage should be reported to your distributor and shipping agent immediately. Before proceeding further, read your manual and familiarize yourself thoroughly with assembly, maintenance and safety procedures.

Compare the contents of your container with the following parts list to make sure all parts are intact. Missing parts, if any, should be reported to your distributor. Read the instruction manual thoroughly for assembly, maintenance and safety instructions.

Shipping Contents

Note: This unit is shipped in two cartons.

Stand Carton

- 1 Jointer Stand
- 1 Door with Mounting Hardware
- 1 Dust Chute with Mounting Hardware

Main Unit Carton

- 1 Jointer Assembly
- 1 Fence Assembly
- 1 Pulley Cover
- 1 Belt
- 1 Cutterhead Guard
- 2 Push Blocks
- 1 Fence Handle
- 1 Hardware Package

Hardware Package (all models):

(p/n PM54A-HP, see Figure 1)

- 4 1/4-20 x 1/2" Pan Head Screws (A)
- 3 3/8" x 5/8" Spring Washers (B)
- 4 1/4-20 x 1/2" Flat Washers (C)
- 3 Lock Bolts (D)

Hardware Package - model 54A only

(p/n PM54A-HP2)

- 1 8/10mm Open End Wrench
- 1 12/14mm Open End Wrench
- 1 3mm Hex Wrench
- 1 4mm T-Hex Wrench
- 1 8mm Hex Wrench
- 1 Cross Point Screwdriver

Hardware Package - model 54HH only

(p/n PM54HH-HP, see Figure 2)

- 1 8/10mm Open End Wrench
- 1 12/14mm Open End Wrench
- 1 3mm Hex Wrench
- 2 Star Point Screwdrivers (E)
- 5 Knife Inserts (F)
- 10 Knife Insert Screws (G)
- 1 Cross Point Screwdriver

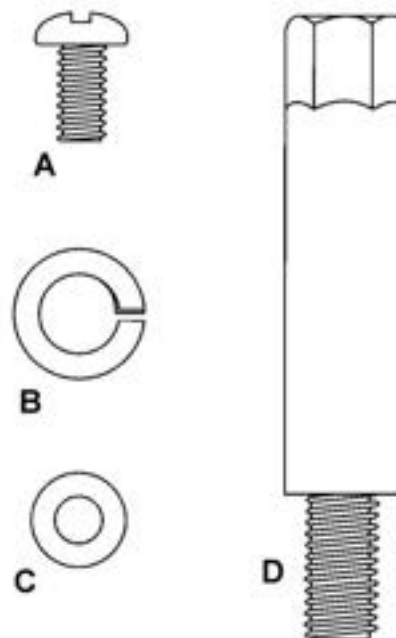


Figure 1
PM54A-HP Hardware Package contents
(all models)

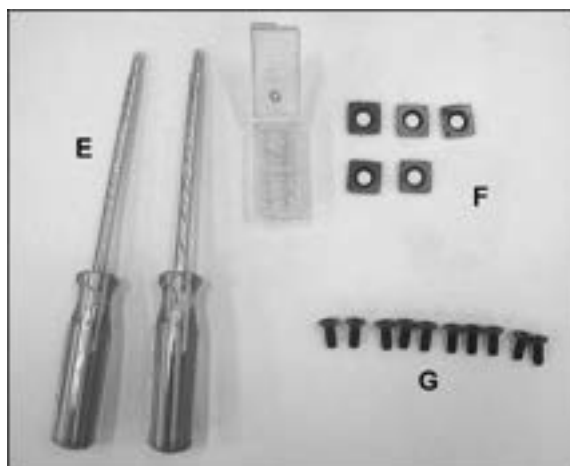


Figure 2
PM54HH-HP Hardware Package partial contents
(54HH only)

Tools Required

open end wrenches (8, 10, 12, 14, & 19mm)
hex wrenches (3 & 6mm)

Assembly

Unpacking and Cleanup

Locate the jointer in an area that is level and provides a solid foundation. Make sure that any potential kickback is not in line with aisles, doorways, wash stations or other work areas.

1. Carefully finish removing all contents from both shipping cartons. Compare contents of the shipping cartons with the list of contents on page 8. Place parts on a protected surface.
2. Set packing material and shipping cartons to the side. Do not discard until machine has been set up and is running properly.

⚠WARNING Cutterhead knives are dangerously sharp; use extreme caution when cleaning. Failure to comply may cause serious injury!

3. Moisten a soft cloth with kerosene and remove the protective coating from all machined surfaces of the jointer. Do NOT use an abrasive pad. Do not use gasoline, acetone or lacquer thinner, as these may damage painted surfaces.
4. Apply a thin layer of paste wax to the exposed surfaces of the fence and tables to prevent rust. Alternatively, white talcum powder rubbed in vigorously once a week with a blackboard eraser will fill any casting pores and form a moisture barrier. Talcum powder will not stain wood or mar finishes.



Figure 3

Installing Bed to Stand

1. Position the jointer on the stand so that the pulley attached to the cutterhead on the jointer is directly above and on the same side as the motor pulley.
2. Use three lock bolts and spring washers (Figure 3) to firmly fasten the jointer to the stand. The bolts are threaded up through the holes in the stand into the base of the jointer (Figure 4).
3. Use a 14mm wrench to tighten the lock bolts.



Figure 4

Installing Fence to Bed

Referring to Figure 5:

1. Before moving the fence assembly, secure the tilt lock handle (K).

CAUTION Secure the tilt lock handle to avoid personal injury from moving parts.

2. Place the *key* (F) into the machined slot of the *fence support* (G) as shown. The *spring pin* (E) should go into the hole in the slot. The *key* (F) should be firmly seated in the slot.
3. Lightly coat the mating surfaces of the *fence support* (G) and *fence slide base* (B) with oil.
4. Place the *fence slide base* (B) on the *fence support* (G), aligning the *machined slot* (D) in the fence slide base with the *key* (F).
5. Attach the *flat washer* (H) and two *hex nuts* (J) on to the *locking screw* (A) but do not tighten.
6. Orient the *lock handle* (C) in the position as shown; then tighten the hex nuts (J) with a 19mm wrench.

This is the locked position for the fence assembly. Rotating the lock handle (C) clockwise loosens the fence assembly, permitting you to slide the assembly back and forth. The hex nuts may need to be readjusted to allow the fence to slide back and forth (handle clockwise position) and still sufficiently secure the fence (lock handle positioned as shown in C).

When the locking screw (A) is tightened, the fence should be secure.

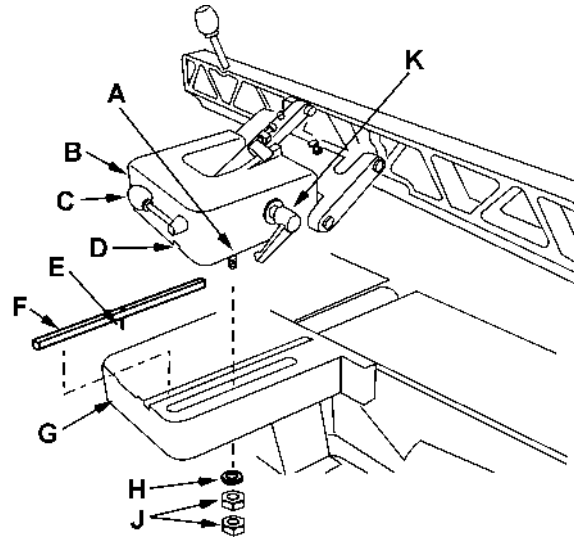


Figure 5

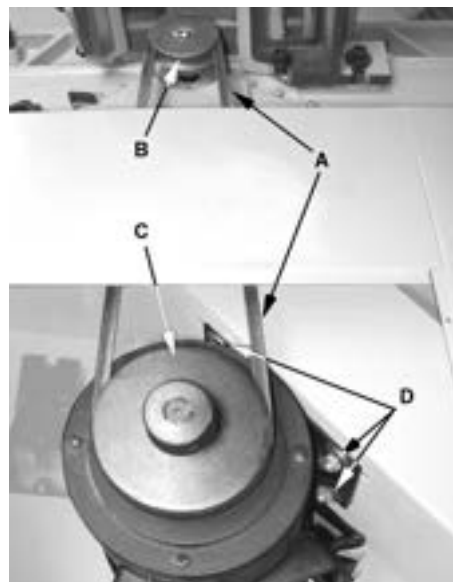


Figure 6

Installing the Drive Belt

Referring to Figure 6:

1. Place V-belt (A) onto *cutterhead pulley* (B) and through opening in stand.
2. Pull V-belt down and place onto the *motor pulley* (C).

If the belt is difficult to roll on the pulley, loosen the *motor mounting screws* (D). Then raise the motor as high as possible and mount the belt on to both pulleys. Allow the motor to drop and create tension on the belt.

3. Check to make sure that motor pulley and cutterhead pulley are vertically aligned and the V-belt does not contact the sides of the opening in the base. If the pulleys are not aligned, remove belt, and adjust the motor pulley in or out on the motor shaft and then re-attach the belt.

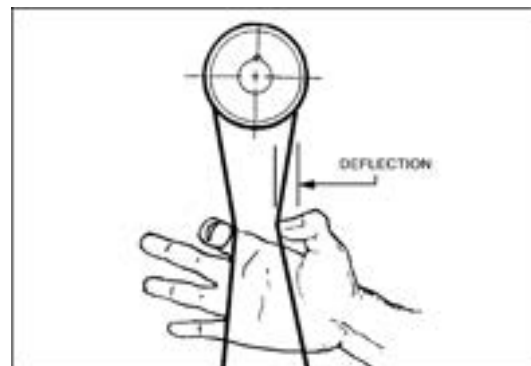


Figure 7

- Pull down on the motor to achieve the desired belt tension.

The V-belt is properly tensioned when finger pressure on the belt halfway between the two pulleys causes 1/2" deflection (Figure 7).

- Tighten the mounting bolts.

After two hours of operation, check belt tension again. Readjust the tension if necessary.

Installing the Pulley Cover

Referring to Figure 8:

- Place the *pulley cover* (A) over the opening in the stand.
- Line up the holes in the stand with the holes in the guard.
- Attach the *pulley cover* to the *stand* using four 1/4-20 x 1/2" *pan head screws* and 1/4" *flat washers* (B).

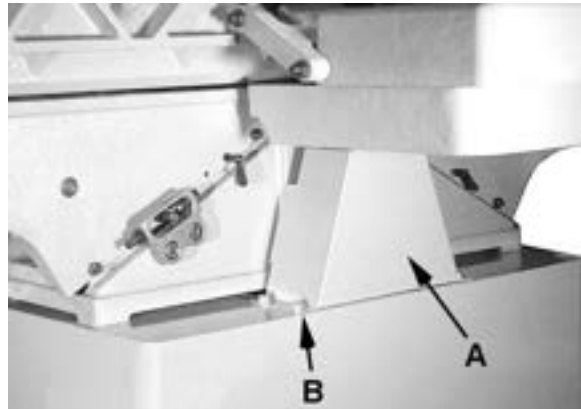


Figure 8

Installing Cutterhead Guard

- Remove the *screw* from the *guard post*.

Referring to Figure 9:

- Turn spring knob (B) approximately one-half revolution counterclockwise (as viewed from the top) and hold.
- Insert the guard post into hole in table. Make sure that the spring inside the spring knob (B) engages the slot in guard post. If needed, slightly turn the knob until the guard seats itself.
- Thread the *screw* (C) back into the *guard post*.
- Check for proper operation. The *cutterhead guard* (A) must return fully to the fence when released. If guard does not return fully, pull guard, apply more tension to the *spring knob* (B) by turning it another half turn counterclockwise, and re-insert guard. If guard closes too quickly and strikes fence too hard, reverse the process.
- Insert *screw* (C) back into the guard post.

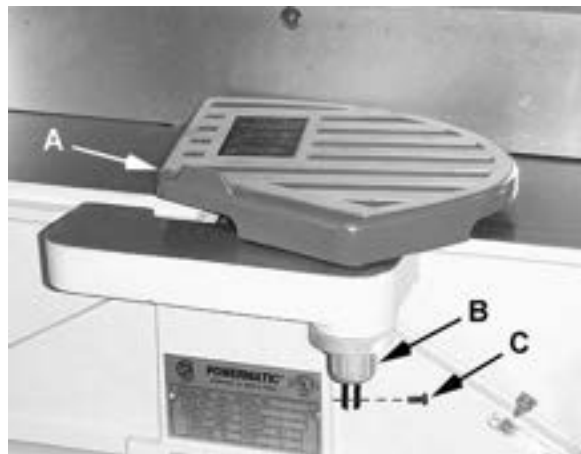


Figure 9

Installing Access Door and Dust Chute

Referring to Figure 10:

Install *access door* (C) by placing bottom of panel in the stand and fastening with four 1/8 x 3/8 *pan head screws* (A) and four 1/8" *flat washers* (B).

Attach the *dust chute* (D) to the base with four 1/4" x 1/2" *machine screws* and four 1/4" *flat washers* (D).

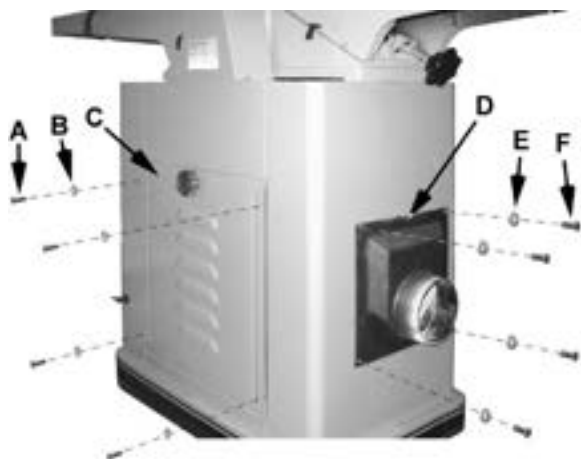


Figure 10

Electrical

Grounding Instructions

CAUTION This jointer must be grounded while in use to protect the operator from electric shock.

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be inserted into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician. Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor, with insulation having an outer surface that is green with or without yellow stripes, is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded. Use only three wire extension cords that have three-prong grounding plugs and three-pole receptacles that accept the tool's plug.

Repair or replace a damaged or worn cord immediately.

115 Volt Operation

Referring to Figure 11:

As received from the factory, your Woodworking Jointer is ready to run at 115-volt operation. This Jointer, when wired for 115-volt, is intended for use on a circuit that has an outlet and a plug that looks like the one illustrated in (A). A temporary adapter, which looks like the adapter shown in (B), may be used to connect this plug to a two-pole receptacle if a properly grounded outlet is not available.

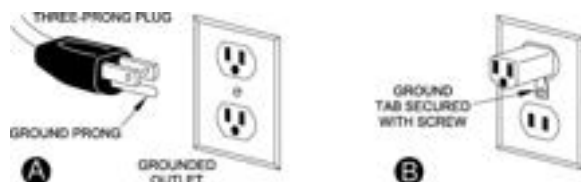


Figure 11

The temporary adapter should only be used until a properly grounded outlet can be installed by a qualified electrician. This adapter is not applicable in Canada. The green colored rigid ear, lug, or tab, extending from the adapter, must be connected to a permanent ground such as a properly grounded outlet box.

230 Volt Operation

Referring to Figure 12:

If 230V, single-phase operation is desired, the following instructions must be followed:

1. Disconnect the machine from the power source.
2. The Jointer motor has four numbered leads that are factory connected for 115V operation, as shown in (A). For 230V operation reconnect the leads as shown in (B). This is also shown in the diagrams on pages 39 and 40.
3. The 115V attachment plug (C) supplied with the Woodworking Jointer must be replaced with a UL/CSA listed plug suitable for 230V operation (D). Contact your local Authorized Powermatic Service Center or qualified electrician for proper procedures to install the plug. The Woodworking Jointer must comply with all local and national codes after the 230-volt plug is installed.
4. The Jointer with a 230-volt plug should only be connected to an outlet having the same configuration as shown in (D). No adapter is available nor should be used with the 230-volt plug.

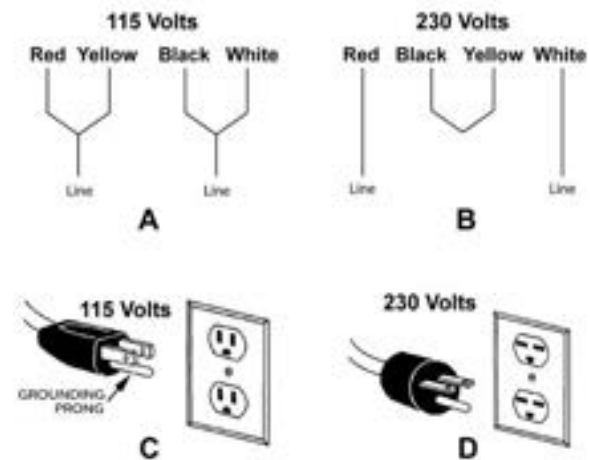


Figure 12

Extension Cords

The use of extension cords is discouraged. Try to position equipment within reach of the power source. If an extension cord becomes necessary, make sure it is in good condition, and heavy enough to carry the current your machine will draw. An undersized cord will cause a drop in the line voltage resulting in power loss and overheating. Table 1 shows the correct size to use depending on the cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. Remember, the smaller the gauge number, the heavier the cord.

Recommended Extension Cord Gauges

Amps	Extension Cord Length in Feet *					
	25	50	75	100	150	200
< 5	16	16	16	14	12	12
5 to 8	16	16	14	12	10	NR
8 to 12	14	14	12	10	NR	NR
12 to 15	12	12	10	10	NR	NR
15 to 20	10	10	10	NR	NR	NR
21 to 30	10	NR	NR	NR	NR	NR

*based on limiting the line voltage drop to 5V at 150% of the rated amperes.

NR: Not Recommended.

Table 1

Adjustments

Fence Movement

The fence can be moved forward or backward across the width of the table. It also tilts up to 45 degrees forward and has a positive stop at 90 degrees.

The fence assembly should periodically be moved to different positions when edge jointing to distribute wear on the cutterhead knives.

Referring to Figure 13:

To slide the fence forward or backward:

1. Loosen the *lock handle* (A).
2. Push the entire fence assembly to the desired position and tighten the locking handle.

To tilt fence forward:

The fence can be tilted forward to any angle down to 45 degrees.

1. Loosen the *lock handle* (B).
2. Adjust the fence to the desired level down to 45 degrees. Or you can place your reference piece on the table and against the fence and adjust the fence until the angle of the fence matches the bevel of your gauge piece.
3. Tighten *lock handle* (B).

To tilt fence backward:

The fence can be tilted backward up to 45° (that is, for a total included angle of 135° from table surface).

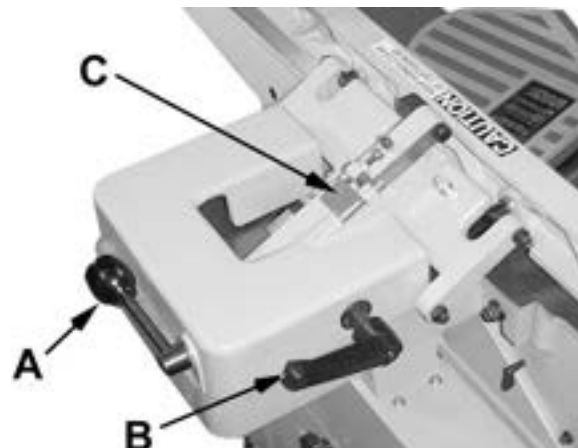


Figure 13

1. Loosen *lock handle* (B).
2. Flip the 90° *stop block* (C) out of the way.
3. Adjust the fence to the desired angle up to 135 degrees. Or you can place your beveled reference piece on the table and against the fence, adjusting the fence until the angle of the fence matches the bevel of your reference piece.
5. Tighten *lock handle* (B).

Important: When the tilted operation is finished and the fence is returned to 90°, do not forget to flip the 90° *stop block* (C) back to its original position.

Fence Stop Adjustments

Periodically check the 90° and 45° backward (135°) tilt accuracy of the fence with an angle measuring device, such as an adjustable square or machinist's protractor.

90° Stop Adjustment

Referring to Figure 14:

The 90° stop is controlled by the *stop bolt* (F) and the *stop block* (C).

1. Set the infeed table to approximately the same height as the outfeed table.
2. Move the fence by releasing *lock handle* (A) and pushing the fence assembly until it overlaps the tables.
3. Tighten *lock handle* (A).
4. Adjust the fence to a 90° angle by releasing *lock handle* (B), pulling up on the *fence handle* (E), and tightening the *lock handle* (B).

Note: The *stop bolt* (F) should be resting against the *stop block* (C).

5. Place an angle measuring device on the table and against the fence to confirm a 90° setting (A, Fig. 15).
6. If the fence is not square to the table, release the *lock handle* (B), loosen the *lock nut* (D) that secures the *stop bolt* (F), and turn the stop bolt until the fence is square to the table.
7. Tighten the *lock nut* (D) to secure the *stop bolt* (F) which retains the setting.
8. Tighten the *lock handle* (B).

45° Forward Stop Adjustment

Position the fence tilt lever (E, Fig. 14) toward the operator.

The 45-degree forward stop is controlled by the *cap screw* (G, Fig. 14). The adjustment is done the same way as for the 90-degree stop adjustment except that a 45 degree protractor is used.

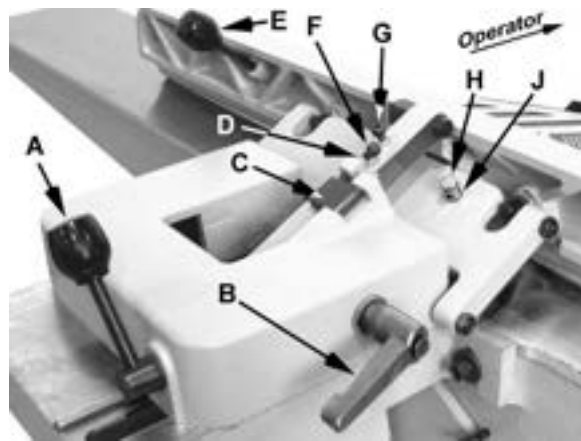


Figure 14

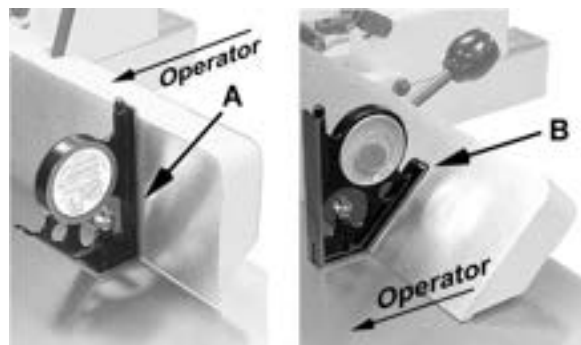


Figure 15

45° Fence Backward Stop Adjustment

Referring to Figure 14:

The 45° fence backward stop is controlled by the *stop bolt* (H).

1. Loosen the lock handle (B).
2. Move the stop block (C) out of the way and position the fence at the 135° angle; fence tilt lever (E) is positioned away from the operator as shown. Make sure the fence sits against the *stop bolt* (H).
3. Tighten the lock handle (B).
4. Place an angle measuring device on the table and against the fence to confirm a 135° setting (B, Fig. 15).
5. To adjust, loosen the *lock nut* (J) securing the *stop bolt* (H) and turn the stop bolt until a 135° angle of the fence is obtained.
6. Tighten the *lock nut* (J).

Infeed Table Height Adjustment

Refer to Figures 16 – 18.

Initial (Coarse) Adjustment:

1. Loosen the rear *thumb screw* (D) and the *lock knob* (B).
2. **Raise or lower** the *height adjustment handle* (C) until the *scale* (A, Fig. 16 and Figure 17) reads approximately the desired depth of cut.

If you can't adjust to zero or 1/8", see the *Helpful Hint* below.

Fine Adjustment:

3. Turn the locking handle (B) until it is snug.
4. **Rotate** the *height adjustment handle* (C) until the scale reads exact. Clockwise raises the table, counterclockwise lowers the table.

Note: The height adjustment handle (C) has a fine adjustment of 1/16" travel per rotation.

5. When set, retighten the *thumb screw* (D).

Important: For normal operations, the depth of cut should *never exceed 1/8"*, except for rabbeting operations (see Rabbeting, page 26).

Helpful Hint: Occasionally you will find that you cannot set the coarse adjustment all the way up to zero or all the way down to 1/2" on the *Depth of Cut* scale (Figure 17) when raising or lowering the handle (C, Fig. 16). When this happens:

With the *lock knob* (B, Fig. 16) unlocked, *rotate* the *height adjustment handle* (C, Fig. 16) a few times, then raise or lower it. Once you are able to reach the zero or 1/2" setting (Figure 17), you will again be able to swing the handle (C) through the full range.

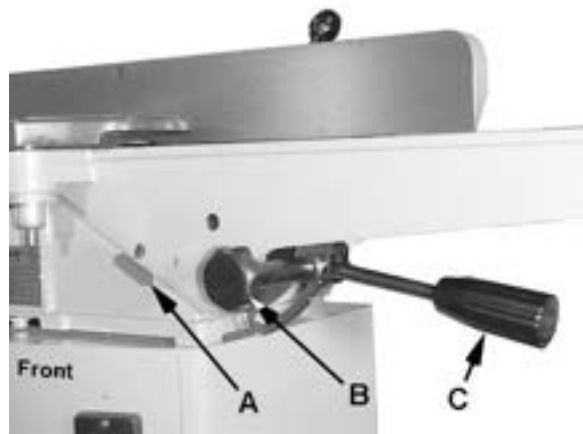


Figure 16

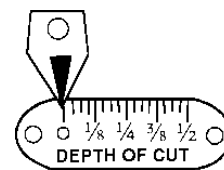


Figure 17

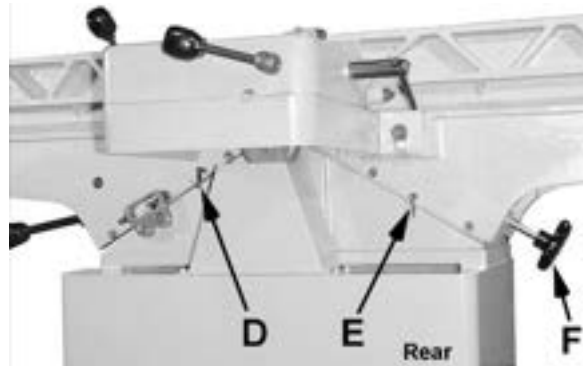


Figure 18

Infeed Table Travel Limiter

Referring to Figure 19:

The *infeed table travel limiter* located on the back of the table sets the upper and lower range for the infeed table height adjustment and should not require any adjustments. For *infeed table height adjustment* refer to the preceding section.

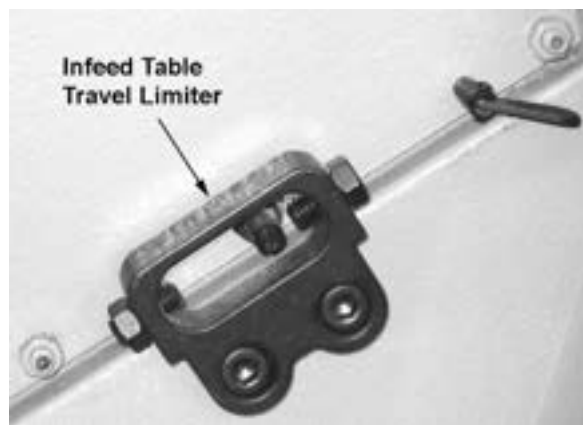


Figure 19

Table Gib Adjustment

The *infeed* and *outfeed* table gibs on your machine are factory adjusted and initially should not require re-adjustment. After a period of use, the gibs may become loose, introducing play and causing the tables to sag. This requires adjustment.

To adjust (refer to Figure 20):

1. With a 10mm wrench, loosen the *jam nuts* that secure the *gib set screws* (A or B).
2. Have another person support the end of the table, slightly raising it while you make adjustments.
3. With a 3mm hex wrench, tighten each setscrew 1/4 turn starting with the lower one, then the upper one. If a 1/4 turn does not remove the table play, take another 1/4 turn. Repeat a 1/4 turn at a time for both set screws until play is removed.

Note: If the gibs are too tight the *adjustment handles* (C) will be difficult to turn.

4. When adjustment is complete, hold the set screws in position with the 3mm hex wrench to maintain the setting while tightening the jam nuts with the 10mm wrench.

Outfeed Table Height Adjustment

When you receive the jointer, the knives have been pre-set at the factory. However, the height and parallelism of the knives with the outfeed table should be checked and any needed adjustments made before putting the jointer into operation.

Adjust the height of the outfeed table as follows:

1. Disconnect jointer from power source.
2. Carefully number each blade (model 54A only) with a marker to make them easier to differentiate.
3. Place a straightedge upon the outfeed table and extend it over the cutterhead (Figures 21 and 23).

WARNING Planer knives and knife inserts are dangerously sharp. Do not grab the cutterhead itself to rotate it!

4. Rotate the *cutterhead*, using the drive belt or pulley, until *knife number one* (or a knife insert on the 54HH model) is at its highest point. The apex of the knife should just barely come in contact with the straightedge.

If the apex of the *knife number one* just makes contact with the straightedge, no adjustment is required for the outfeed table. Proceed to the *Setting Cutterhead Knives* section.

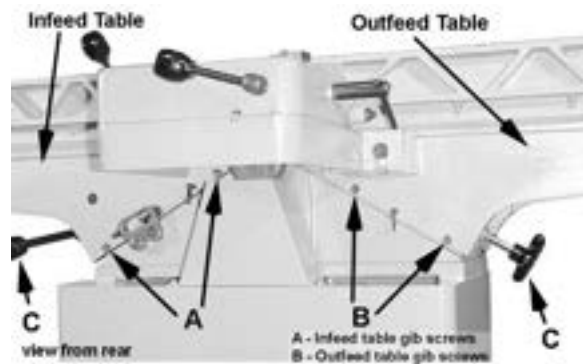


Figure 20

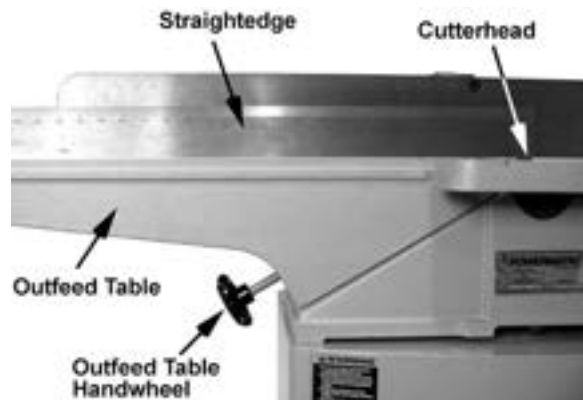


Figure 21

If the apex of the *knife number one* comes below the straightedge (a gap exists) or pushes the straightedge up, proceed with the following steps:

5. Loosen both *gib lock screws* (Figure 22).
6. With the *outfeed table handwheel* (Figure 21) raise or lower the *outfeed table* until the *straight edge* contacts the *knife tip*, as shown in Figure 23. Using the drive belt or pulley, rock the cutterhead slightly to make sure the apex of the knife is just barely contacting the *straight edge*.

When adjustment is complete:

7. Lock the *outfeed table* to this height setting by tightening the *gib lock screw* (Figure 22). The outfeed table adjustment is complete.

The outfeed table adjustment is only made against one knife or knife insert (blade number one was arbitrarily selected here). After the outfeed table has been set at the correct height, do not change it except for special operations or after replacing knives.

After this adjustment is completed on the model 54A, it is necessary to proceed to the *Setting Cutterhead Knives* section to verify that all three knives are at the correct height and parallel to the outfeed table. For the model 54HH, proceed to *Replacing or Rotating Knife Inserts* on page 20.

Setting Cutterhead Knives (Model 54A only)

Note: Before setting knives for the 54A Jointer, the *Outfeed Table Height Adjustment* should be done to ensure the proper knife height in relation to the outfeed table.

Knives for the 54A cutterhead are adjusted by means of a cam. It is important to note that the entire adjustment is accomplished within one complete rotation (360 degrees) of the cam. A full rotation of the cam will cause the knife blade to move a total of .015" from one extreme to the other. Turning the cam more than one full rotation will not further adjust the knife setting but will simply begin the adjustment all over again. The knife adjustment procedure is outlined below.

⚠WARNING Cutterhead knives are dangerously sharp! Use extreme caution when inspecting, removing, sharpening or replacing knives into the cutterhead. Failure to comply may cause serious injury!

To adjust (refer to Figures 24 & 25):

1. Disconnect jointer from power source.

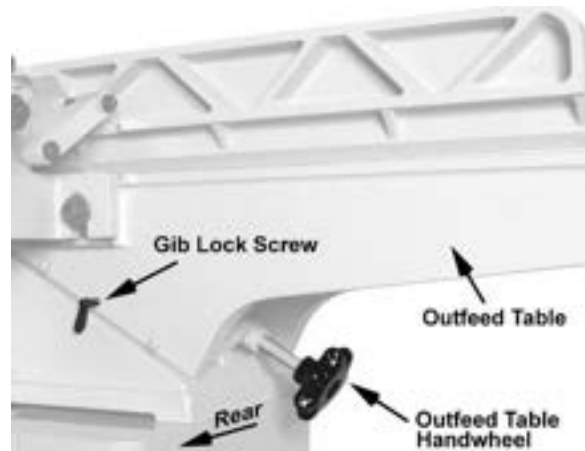


Figure 22

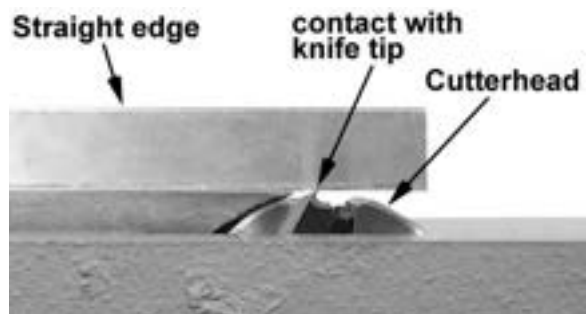


Figure 23

2. Carefully number each blade with a marker to make them easier to differentiate.
3. Place a straightedge across the outfeed table extending it over the cutterhead *towards one end of the knife*.

WARNING Cutterhead knives are dangerously sharp. Do not grab the cutterhead itself to rotate it! Failure to comply may cause serious injury.

4. Rotate the cutterhead *back and forth* using the drive belt or pulley, until *knife number one* is at its highest point. The apex of the knife should just barely come in contact with the straightedge.
5. Move the straightedge *towards the other end of the knife* and repeat step 4.

The apex of the knife *at both ends of the knife* must *just make contact* with the straightedge. If the apex of the knife comes below the straightedge (a gap exists) or pushes the straightedge up, proceed to the next step.

6. Using a 4mm hex wrench, slightly loosen the four gib screws.
7. Using a 3mm hex wrench, loosen the cam locking screws to permit adjustment of the cam (described in the next step).

Important: Always keep the cam locking screws snug enough so that the cam can't rotate freely. This is especially important for when the cam is rotated counterclockwise since this action will cause the cam locking screw to loosen further.

8. Using an 8mm hex wrench, adjust the cam (see Figure 25). This is a very sensitive adjustment. Start by rotating the cam in a clockwise direction just a few degrees.
9. Next, keep the cutterhead steady by firmly holding on to the pulley, place a piece of wood pressed against the knife's edge and press to properly seat the blade.
10. Check your progress by repeating steps 4 and 5. If the knife becomes more out of adjustment, turn the cam in the other direction.
11. The adjustment is almost complete when the requirements described in Steps 4 and 5 are met.
12. Next, while pressing the knife firmly against the cam, snug the two inside gib screws that hold the gib and knife in place. Verify that the knife is still in adjustment (steps 4 and 5).
13. Tighten the two outside gib screws, then the two inside gib screws.

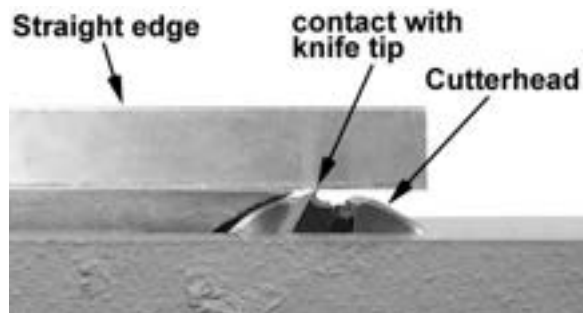


Figure 24

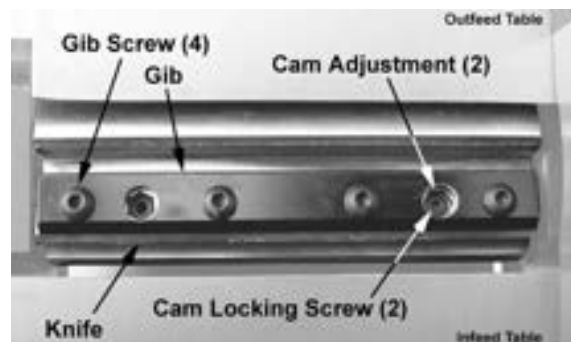


Figure 25

14. Verify that the knife is still in adjustment (steps 4 and 5).
15. Tighten the gib lock screws.
16. Repeat this entire procedure for the remaining two knives

Replacing Knives (*Model 54A only*)

⚠WARNING Jointer knives are dangerously sharp. Use extreme caution when inspecting, removing, sharpening, or replacing knives. Failure to comply may cause serious injury.

To remove and replace a knife (Refer to Figure 26):

1. Remove four *gib screws* (A) with a 4mm hex wrench.
2. Remove the *gib* (B) and *knife* (C).

If the knife is being re-used (knives are double-edged), clean the knife, gib and cutterhead of all pitch and debris.
3. Lay the new knife or unused edge of the old knife back onto the *cutterhead* (D).
4. Replace the *gib* (B) and *screws* (A). Fingertighten only at this time.
5. Press against the cutting edge of the knife at the center of the blade with a piece of wood. **DO NOT USE FINGERS!** This is to ensure that the cam is making proper contact with the knife.
6. Snug the inside two screws, then the outside two screws.
7. Release the piece of wood pressing against the knife and tighten the gib screws.
8. Replace the remaining two blades by repeating steps 1 – 7.
9. Determine if knives need to be set.

Follow the *Outfeed Table Height Adjustment* section steps 3 and 4 only, to determine if knives need to be set. **Do not complete the entire outfeed table adjustment.** If knives need to be set, proceed to the *Setting Cutterhead Knives* section.

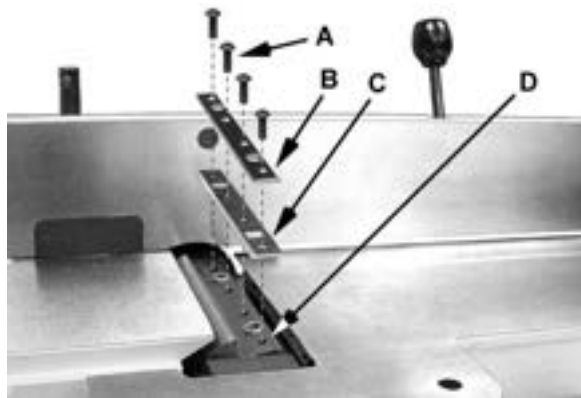


Figure 26

Setting Knives for Rabbeting and Nicks (Model 54A only)

NOTE: Rabbeting is not applicable on helical cutterhead models.

To position the knives for rabbet cuts, take a shop scale with 1/32" graduations and place it against the end of the cutterhead. Slide the knife out until it is at the 1/32" mark on the scale; that is, the knife will now be 1/32" beyond the edge of the cutterhead. The gib should remain in normal position, even with the edge of the cutterhead. (Figure 27). This adjustment will ensure that the knife clears the end of the gib and cutterhead and has good contact with the workpiece. (See the *Rabbet Cuts* section for further information.)

Note: This will also correct for small nicks without requiring replacement of blades.

Replacing or Rotating Knife Inserts (Model 54HH only)

The knife inserts on the model 54HH Jointer are four-sided. When dull, simply remove each insert, rotate it 90° for a fresh edge, and re-install it.

Use the two provided star point screwdrivers to remove the knife insert screw. See Figure 28. Use one of the screwdrivers to help hold the cutterhead in position, and the other to remove the screw. It is advisable to rotate all inserts at the same time to maintain consistent cutting. However, if one or more knife inserts develops a nick, rotate only those inserts that are affected.

Each knife insert has an etched reference mark so that you can keep track of the rotations.

IMPORTANT: When removing or rotating inserts, clean saw dust from the screw, the insert, and the cutterhead platform. Dust accumulation between these elements can prevent the insert from seating properly, and may affect the quality of the cut.

Before installing each screw, lightly coat the screw threads with machine oil and wipe off any excess.

Securely tighten each screw which holds the knife inserts before operating the planer!

⚠WARNING Make sure all knife insert screws are tightened securely. Loose inserts can be propelled at high speed from a rotating cutterhead, causing injury.

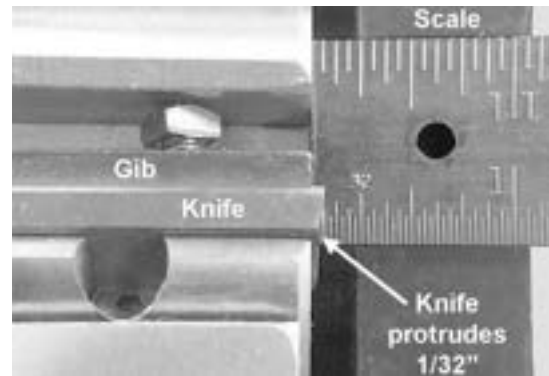


Figure 27

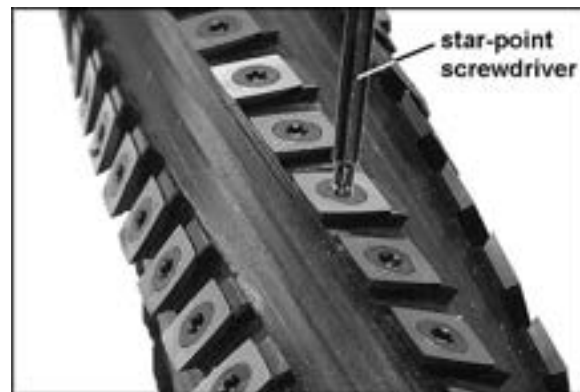


Figure 28

Determining Correct Table Height

The *Outfeed Table Height Adjustment* section tells you how to set the correct table height with respect to the cutterhead knives or knife inserts. This section explains how to determine if the outfeed table needs adjustment based upon the cuts being produced.

When you receive the jointer, the knives have been pre-set at the factory. However, the height and parallelism of the knives with the outfeed table should be checked and any needed adjustments made before putting the jointer into operation.

The *outfeed table* and *cutterhead knives* (Model 54A only) are correctly adjusted when all three blades are parallel to the outfeed table and all three blades are set at the same height in the cutterhead.

Outfeed table too high – If the outfeed table is too high, a curved finished surface results (Figure 29).

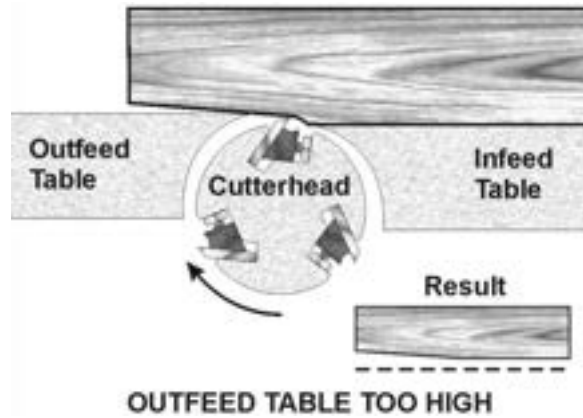


Figure 29

Outfeed table too low – If the outfeed table is too low, the work will have a gouge, or snipe, at the end of the cut (Figure 30).

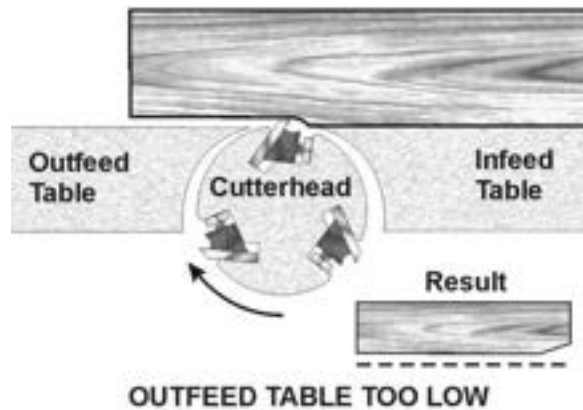


Figure 30

Outfeed table at correct setting – Figure 31 illustrates the correct setting of outfeed table level with the knives. The workpiece will rest firmly on both tables with no open space under the finished cut.

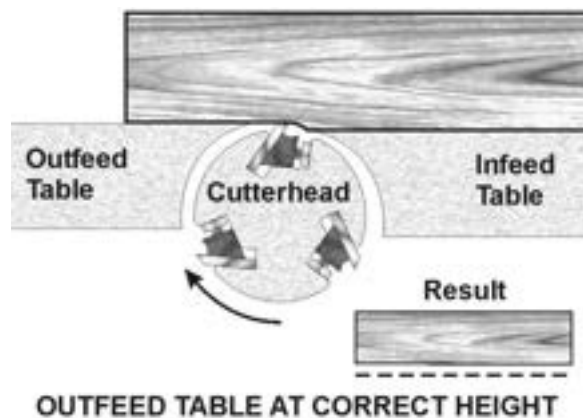
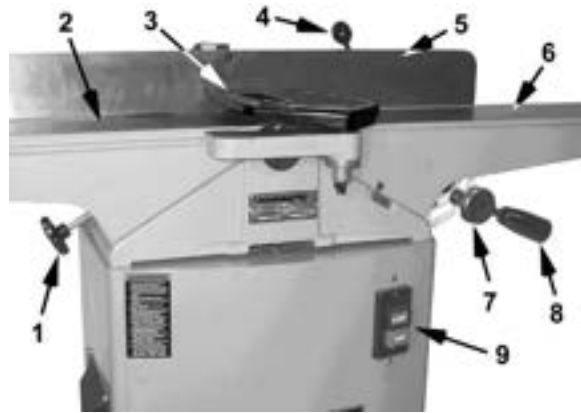


Figure 31

Operating Controls

1. Outfeed Table Height Adjust Hand Wheel
2. Outfeed Table
3. Cutter Guard
4. Fence Adjustment Handle
5. Fence
6. Infeed Table
7. Infeed Table Lock Knob
8. Infeed Table Height Fine/Coarse Adjustment
9. On/Off Switch
10. Infeed Table Lock
11. Fence Travel Lock Handle
12. Fence Tilt Lock Handle
13. Outfeed Table Lock
14. Infeed Table Travel Limiter



Controls - Front View
Figure 32

Operation

IMPORTANT: Make sure all knives or knife inserts are tight before operating machine. On the helical head model, verify tightness of each insert (re-torque) before using the machine for the first time.

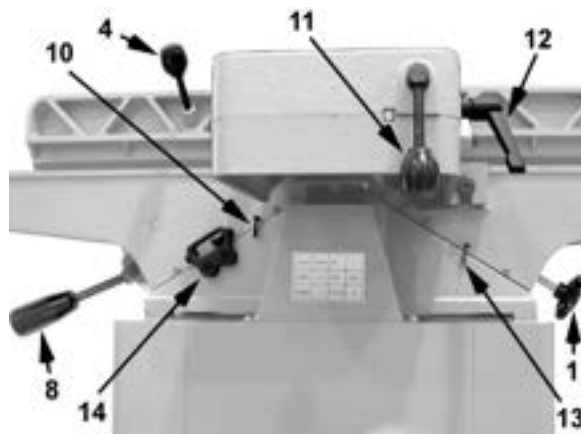
If you are inexperienced at jointing, use scrap pieces of lumber to check settings and get the feel of operations before attempting regular work.

Stabilize long workpieces by using an assistant, or roller stands set level with the outfeed or infeed table surface.

The fence should be adjusted to create minimum exposure to the cutterhead during the jointing operation.

Check the following before operating the jointer:

- ❑ Outfeed table must be set level with the high point of the knives. This is a one-time calibration and described in *Outfeed Table Height Adjustment* on page 16.
- ❑ Fence adjusted for minimum exposure of cutterhead, and locked at desired angle.
- ❑ The cutterhead guard must be in place and operating properly (except when rabbeting).
- ❑ Infeed table set for desired depth of cut. Refer to *Infeed Table Height Adjustment* on page 15.
- ❑ Stand away from the cutterhead and turn the machine on for a few moments. Listen for any odd noises, rubbings, vibrations, etc. Correct such problems before attempting operations on the jointer.
- ❑ Carefully check your workpiece for knots, holes, staples or any foreign material that might damage knives or pose a risk of kickback. Also check the workpiece for grain orientation.



Controls - Rear View
Figure 33

Basic Operations

Before making any cuts on the stock, make a few practice cuts by raising the infeed table to "0" and with the power disconnected. In this manner you will acquaint yourself with the feel of jointer operations.

Hand Placement

⚠WARNING Never pass hands directly over the cutterhead.

At the start of the cut, the left hand holds the workpiece firmly against the infeed table and fence while the right hand pushes the workpiece in a smooth, even motion toward the cutterhead (Figure 34). After the cut is under way, the new surface rests firmly on the outfeed table. The left hand is transferred to the outfeed side and presses down on this part of the workpiece, at the same time maintaining flat contact with the fence. The right hand presses the workpiece forward and before the right hand reaches the cutterhead it should be moved to the work on the outfeed table.



Figure 34

Direction of Grain

Avoid feeding work into the jointer against the grain. This may result in chipped and splintered edges. See Figure 35. Feed *with* the grain to obtain a smooth surface, as shown in Figure 36.

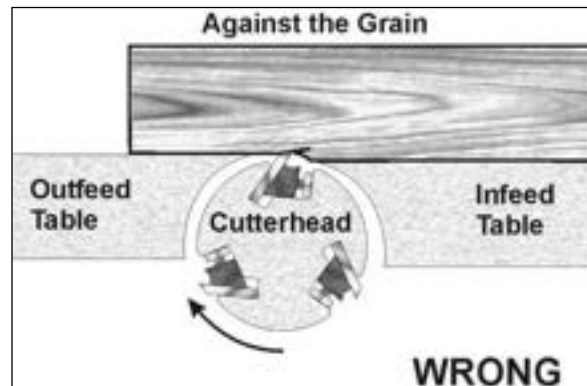


Figure 35

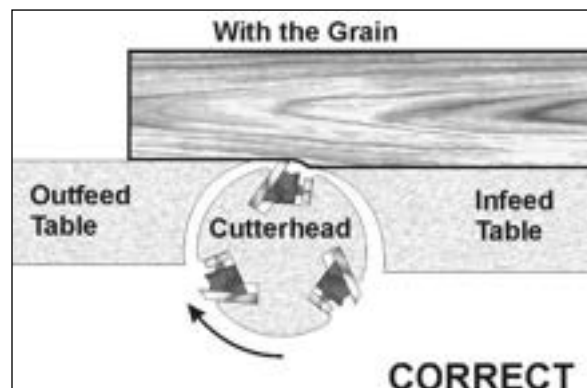


Figure 36

Surfacing

The purpose of planing on a jointer is to produce one flat surface. The other side can then be milled to precise, final dimensions on a thickness planer resulting in a board that is smooth and flat on both sides and each side parallel to the other. Cuts of 1/16" or less is recommended.

- ❑ If the wood to be jointed is cupped or bowed, place the concave side down, and take light cuts until the surface is flat.
- ❑ Use push blocks to help insure against hands coming in contact with cutterhead in the event of a kickback.
- ❑ Never surface pieces shorter than 12 inches or thinner than 3/8 inch without the use of a special work holding fixture.
- ❑ Never surface pieces thinner than 3 inches without the use of a push block.
- ❑ On stock longer than 12 inches use two push blocks (Figure 37).

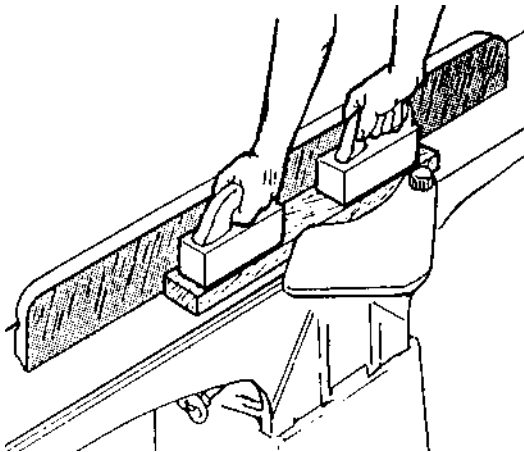


Figure 37

- ❑ With narrow stock use the type push block shown in Figure 38.

CAUTION When the stock is longer than twice the length of the infeed and outfeed tables, another helper or support table must be used to support the stock.

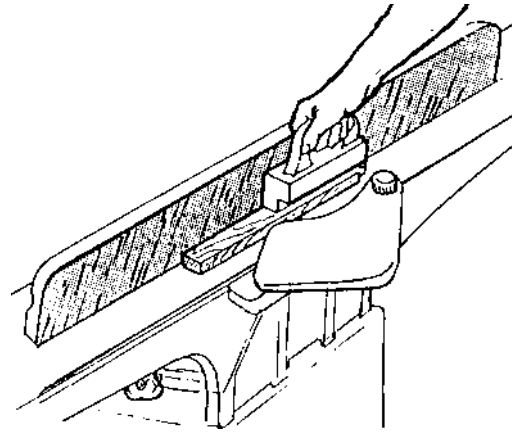


Figure 38

Jointing

Jointing (or edging) is the process of creating a finished, flat *edge surface* that is suitable for joinery or finishing. It is also a necessary step prior to ripping stock to width on a table saw. Cuts of 1/8" or less is recommended.

- ❑ Never edge a board that is less than 3 inches wide, less than 1/4 inch thick, or 12 inches long, without using a push block.
- ❑ When edging wood wider than 3 inches, lap the fingers over the top of the wood, extending them back over the fence such that they will act as a stop for the hands in the event of a kickback.
- ❑ Position the fence (move forward) to expose only the amount of cutterhead required.

CAUTION When workpiece is twice the length of the jointer infeed or outfeed table use an infeed or outfeed support.

To edge:

1. Make sure the fence is set to 90°. Double check it with a square.
2. Inspect stock for soundness and grain direction (Refer to *Direction of Grain* on page 23).
3. If the board is bowed (curved), place the *concave edge down* on the infeed table.
4. Set the infeed table for a cut of approximately 1/8 inch.
5. Hold the stock firmly against the fence and table, feed the stock slowly and evenly over the cutterhead.

Beveling

Beveling an edge is the same operation as edge jointing, except that the fence is tilted to a specified angle.

- Make certain that the material being beveled is over 12 inches long, more than 1/4 inch thick and 1 inch wide.
- Although the fence may be tilted in or out, it is recommended that the fence be tilted *in* toward the operator (as shown in Figure 39) for safety reasons.

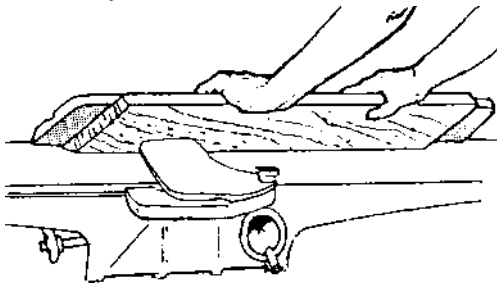


Figure 39

To bevel:

1. Use a bevel gauge to determine the desired angle. Then set the fence to the same angle.
2. Inspect stock for soundness and grain direction (Refer to *Direction of Grain* on page 23).
3. Set the infeed table for a cut of approximately 1/16.
4. If the board is bowed (curved), place the *concave edge down* on the infeed table.
5. Feed the stock through the cutterhead, making sure the face of the stock is completely flat against the fence and the edge is making solid contact on the infeed and outfeed tables (Figure 39).

For wood wider than 3 inches – hold with fingers close together near the top of the stock, lapping over the board and extending over the fence.

For wood less than 3 inches wide – use beveled push blocks and apply pressure toward the fence. Keep fingers near top of push block (Figure 40).

Several passes may be required to achieve the full bevel.

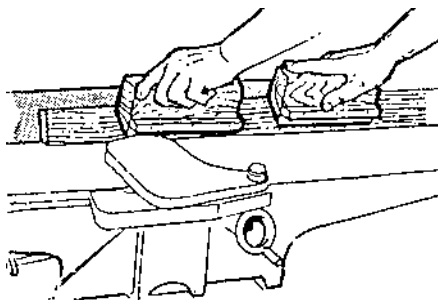


Figure 40

When beveling short material use one bevel hold down and apply pressure toward the fence. Keep thumb above the ledge on hold down block (Figure 41).

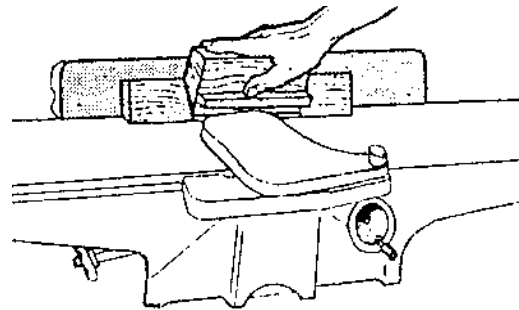


Figure 41

Skewing (Shear Cutting)

When edging or facing burl or birds-eye maple, it is not unusual to deface or mar the surface being finished. This is caused by the cutterhead blades at times cutting against the grain. In order to prevent the defacing or marring of this type wood, it is necessary to skew, or angle finish, the material being worked (see Figure 42).

1. Release the fence locking handle and remove the two hex nuts and flat washer holding the fence to the fence support (see Figure 3 on page 10). Remove the fence.
2. Remove the key from the fence slide base.
3. Replace the fence assembly at the desired angle across the cutterhead. Secure the fence to the support with the two hex nuts and flat washer, then tighten the fence locking handle.



Figure 42

Rabbeting

WARNING Rabbeting requires the removal of the cutterhead guard. Use extreme caution and keep hands clear of the cutterhead. Replace the guard immediately after rabbeting is completed! Failure to comply may cause serious injury!

Refer to Figure 43.

Note: Rabbet cuts are not applicable with the Model 54HH Jointer with helical head.

A rabbet is a groove cut along the edge of a board. Never rabbet a piece of wood less than 12" long. Use push blocks to rabbet cut whenever possible.

- Disconnect machine from power source.
- Set fence for the desired width of the rabbet.
- Check the width of the rabbet by measuring the distance from the end of a knife in the cutterhead to the fence. (See figure 27 to set knives for rabbeting.)
- Re-connect power. It is easier and safer to take a series of shallow cuts. Lower infeed table 1/32" at a time and make successive cuts until the desired depth of rabbet has been obtained.

When *rabbeting* long pieces, follow the same procedure as for *surfacing* long pieces (refer to previous "Surfacing" section.)



Figure 43

Push Blocks

Push blocks are simple yet necessary tools to assist the operator, especially when jointing thin or short stock. Illustrated in Figure 44 are three types of push blocks commonly used in jointing. Push blocks may be obtained commercially or easily constructed.

Note: The 54A Jointer is supplied with two push blocks for feeding stock.

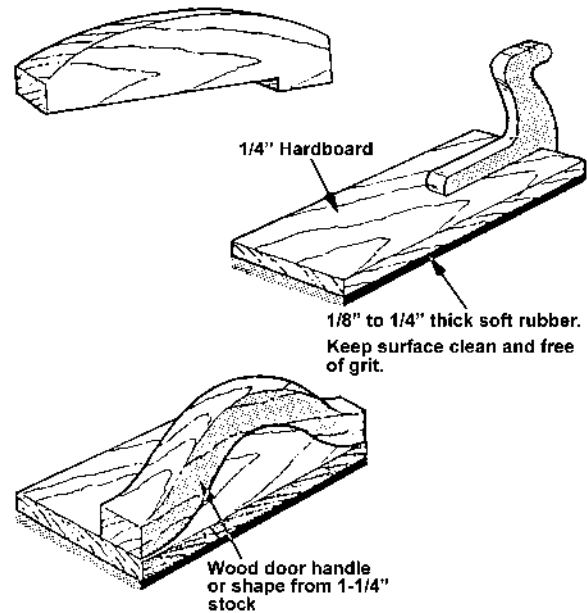


Figure 44

Maintenance

Blade Care

Blades are extremely sharp! Use caution when cleaning or changing. Failure to comply may cause serious injury!

When gum and pitch collect on the blades, carefully remove with a strong solvent. Failure to remove gum and pitch build up may result in excessive friction, blade wear and overheating.

When blades become dull, turn them to the new edge, or replace them.

Lubrication

- Use a good grade of light grease on the steel adjusting screws located in the raising and lowering mechanisms of the work tables.
- Occasionally, apply a few drops of light machine oil to the infeed/outfeed gibs. This permits the tables to slide freely.

The cutterhead ball bearings are lifetime lubricated and need no further care.

Cutterhead Removal

The entire cutterhead assembly may be removed for cleaning or for bearing and blade replacement. Some woodworkers keep a spare cutterhead with replacement blades should the original cutterhead have to be repaired.

WARNING Blades in the cutterhead are sharp! Use extreme caution when handling the removal of the cutterhead. Failure to comply may cause serious injury!

To remove the cutterhead (including bearings, studs, and housing) from the base casting:

Referring to Figure 45:

1. Disconnect the machine from the power source.
2. Remove the front *blade guard* (A) and *screw* (B).

CAUTION Lock the *fence tilt lock handle* (D) to avoid injury from moving parts when moving this assembly.

3. Remove the two *lock nuts* (G) and *washer* (F) securing the *fence assembly* (C) to the *fence base casting* (E).
4. Lift the *fence assembly* (C) from the table and set aside.
5. From the left side of the stand, remove the *dust chute*. From the back of the machine remove the *cabinet access door*.

Referring to Figure 46:

6. Using an 8mm hex wrench, loosen two hex cap screws underneath *fence base casting* (E) that secure the casting to the *table* (F). Remove the *fence base casting* and set aside.
7. Remove four *screws* and *washers* (A) securing the *belt guard* (B). Remove the *belt guard*.

4. Using a 14mm wrench, remove two *screws* (A, Fig. 47) and *lock washers* that secure the cutterhead bearing housings to the base.

Note: These screws and lock washers are more easily accessible through the dust chute.

5. Using a 3mm hex wrench, loosen two set screws that secure the cutterhead pulley (D) to the cutterhead shaft. Do not attempt to remove pulley with belt at this time.

6. Slide the pulley from the shaft of the cutterhead along with the V-belt. Set the pulley, shaft key and V-belt aside.

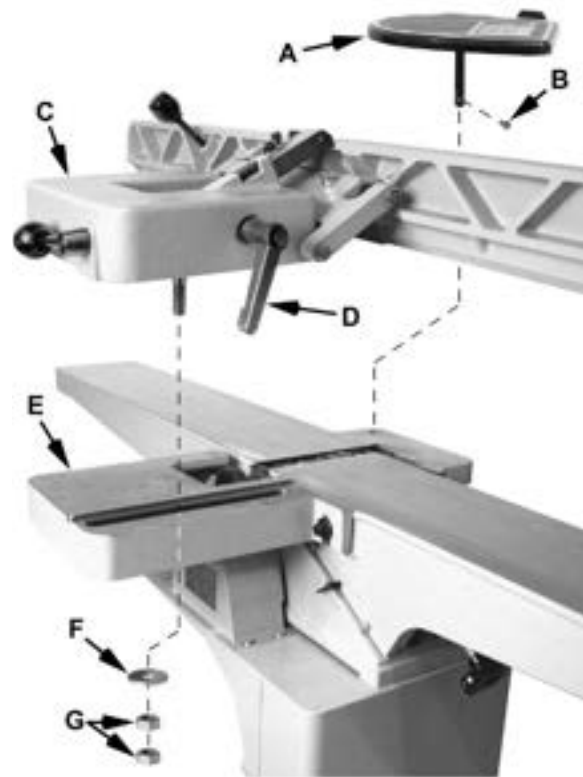


Figure 45

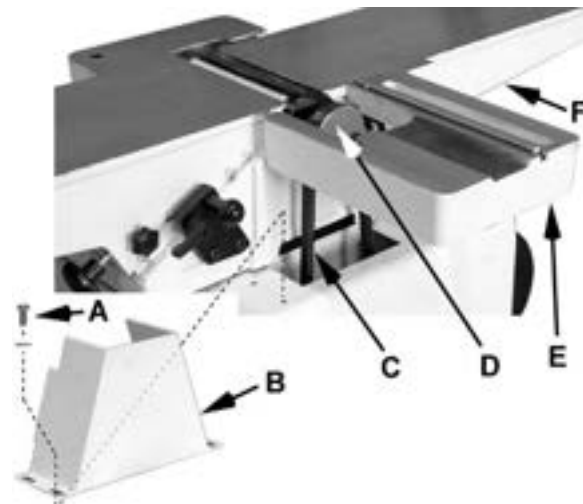


Figure 46

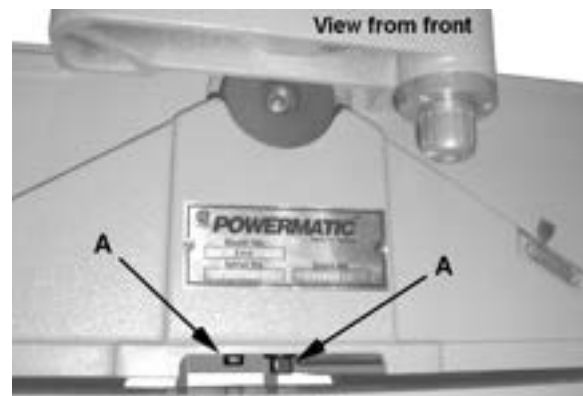


Figure 47

7. Carefully remove the cutterhead (A, Fig. 48).
8. Before placing the new cutterhead back into the casting, thoroughly clean the "saddle" and the bearing housings of saw dust and grease so that they seat properly.
9. To re-install the cutterhead, reverse the above steps.

Note: When securing the *fence base casting*, make sure it is level with the *outfeed table*.

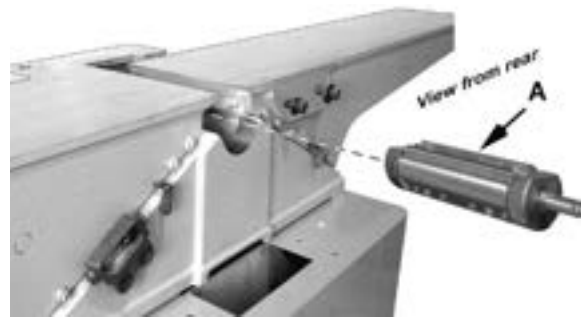


Figure 48

Troubleshooting Operating Problems

Trouble	Probable Cause	Remedy
Finished stock is concave on back end.	Knife is higher than outfeed table.	Raise outfeed table until it aligns with tip of knife. See <i>Outfeed Table Height Adjustment</i> .
Finished stock is concave on front end.	Outfeed table is higher than knife.	Lower outfeed table until it aligns with tip of knife. See <i>Outfeed Table Height Adjustment</i> .
Chip out.	Cutting against the grain.	Cut with the grain whenever possible.
	Dull knives.	Sharpen or replace knives.
	Feeding workpiece too fast.	Use slower rate of feed.
	Cutting too deeply.	Make shallower cuts.
	Knots, imperfections in wood.	Inspect wood closely for imperfections; use different stock if necessary.
Fuzzy grain.	Wood has high moisture content.	Allow wood to dry or use different stock.
	Dull knives.	Sharpen or replace knives/inserts.
Cutterhead slows while operating.	Feeding workpiece too quickly, or applying too much pressure to workpiece.	Feed more slowly, or apply less pressure to workpiece.
"Chatter" marks on workpiece.	Knives incorrectly set.	Set knives properly as described in the <i>Setting Cutterhead Knives</i> section. Check that knife slots are clean and free of dust or debris.
	Feeding workpiece too fast.	Feed workpiece slowly and consistently.
Uneven knife marks on workpiece.	Knives are nicked, or out of alignment.	Align knives per the <i>Setting Cutterhead Knives</i> section. Replace nicked knives or correct for small nicks – see <i>Setting Knives for Rabbeting and Nicks</i> .

Troubleshooting Mechanical and Electrical Problems

Trouble	Probable Cause	Remedy
Machine will not start/restart or repeatedly trips circuit breaker or blows fuses.	No incoming power.	Verify unit is connected to power, on-button is pushed in completely, and stop-button is disengaged.
	Building circuit breaker trips or fuse blows.	Verify that jointer is on a circuit of correct size. If circuit size is correct, there is probably a loose electrical lead. Check amp setting on motor starter.
	Switch or motor failure (how to distinguish).	If you have access to a voltmeter, you can separate a switch failure from a motor failure by first, verifying incoming voltage at 110/220+/-10% and second, checking the voltage between switch and motor at 110/220+/-10%. If incoming voltage is incorrect, you have a power supply problem. If voltage between switch and motor is incorrect, you have a switch problem. If voltage between switch and motor is correct, you have a motor problem.
	Motor overheated.	Clean motor of dust or debris to allow proper air circulation. Allow motor to cool down before restarting.
	Motor failure.	If electric motor is suspect, you have two options: Have a qualified electrician test the motor for function or remove the motor and take it to a qualified electric motor repair shop and have it tested.
	Unit incorrectly wired.	Double check to confirm all electrical connections are correct. Refer to the <i>Wiring Diagram</i> section to make any needed corrections.
	On/off switch failure.	If the on/off switch is suspect, you have two options: Have a qualified electrician test the switch for function, or purchase a new on/off switch and establish if that was the problem on change out.

Optional Accessories

2004017..... Dust Collector Adaptor
 2042374..... Mobile Base
 708801DX..... Knives (set of 3)
 1791212..... Knife Inserts (set of 10)
 6285991..... Tool Kit

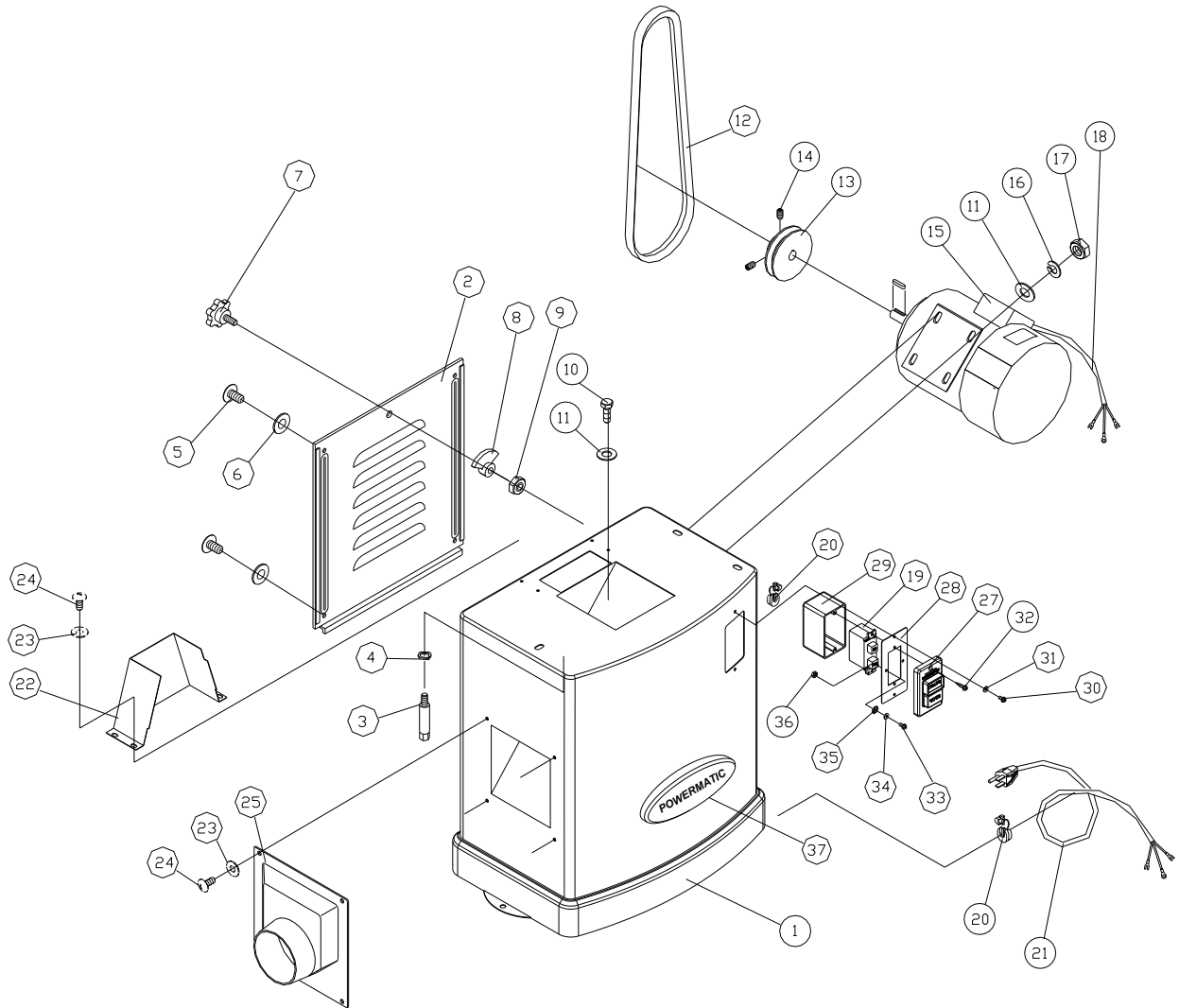
Replacement Parts

Replacement parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 Monday through Friday, 8:00 a.m. to 5:00 p.m. CST. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Stand – Parts List (All Models)

Index No.	Part No.	Description	Size	Qty.
.....	6296131	Stand Assembly		1
1.....	6296121	Stand		1
2.....	6285974	Door		1
3.....	6285822	Lock Bolt		3
4.....	6285852	Spring Washer	3/8 x 5/8	3
5.....	6296122	Screw	1/8-40 x 3/8	4
6.....	6296123	Flat Washer	1/8 x 3/8 x 1/32	4
7.....	6285975	Screw Knob		1
8.....	6285976	Door Lock		1
9.....	6285977	Hex Nut	3/8-16	1
10.....	6285980	Hex Screw	5/16-18 x 3/4	4
11.....	6285805	Flat Washer	5/16 x 3/4 x 1/16	8
12.....	6296124	V-Belt		1
13.....	6296125	Motor Pulley		1
14.....	6285865	Set Screw	1/4-20 x 1/4	2
15.....	6296126	Motor	1 HP, 1PH, 115V	1
16.....	6285988	Spring Washer	5/16 x 5/8	4
17.....	6285966	Hex Nut	5/16-18	1
18.....	6296127	Motor Cord		1
19.....	6296128	Switch		1
20.....	6285963	Strain Relief	SB7R-1	1
21.....	6285962	Power Cord		1
22.....	6296129	Belt Guard		1
23.....	6285909	Flat Washer	1/4-20 UNC x 1/2	8
24.....	6285910	Handle Screw	1/4-20 x 1/2	8
25.....	2004017	Dust Chute		1
26.....	6285978	Key	5 x 5 x 30	1
27.....	6296133	Switch Pushbutton		1
28.....	6296134	Switch Cover		1
29.....	6296135	Switch Box		1
30.....	6296136	Pan Head Screw	#10-24 x 1/2	2
31.....	6296137	Washer	3/16 x 1/2 x 1/32	2
32.....	6296138	Machine Screw	M4 x 1.59P x 38mm	2
33.....	6296139	Pan Head Screw	#8-32 x 5/8	2
34.....	6296140	Flat Washer	5/32 x 3/8 x 1/32	2
35.....	6296141	Star Washer	BW-4 (5/32 x 3/8)	2
36.....	6296142	Nut	#8-32	1
37.....	3520B-140	Powermatic Nameplate		1
38.....	6296150	Warning Label		1
39.....	PM2700-440	Wide Stripe (not shown)		per ft.
40.....	PM2700-441	Narrow Stripe (not shown)		per ft.

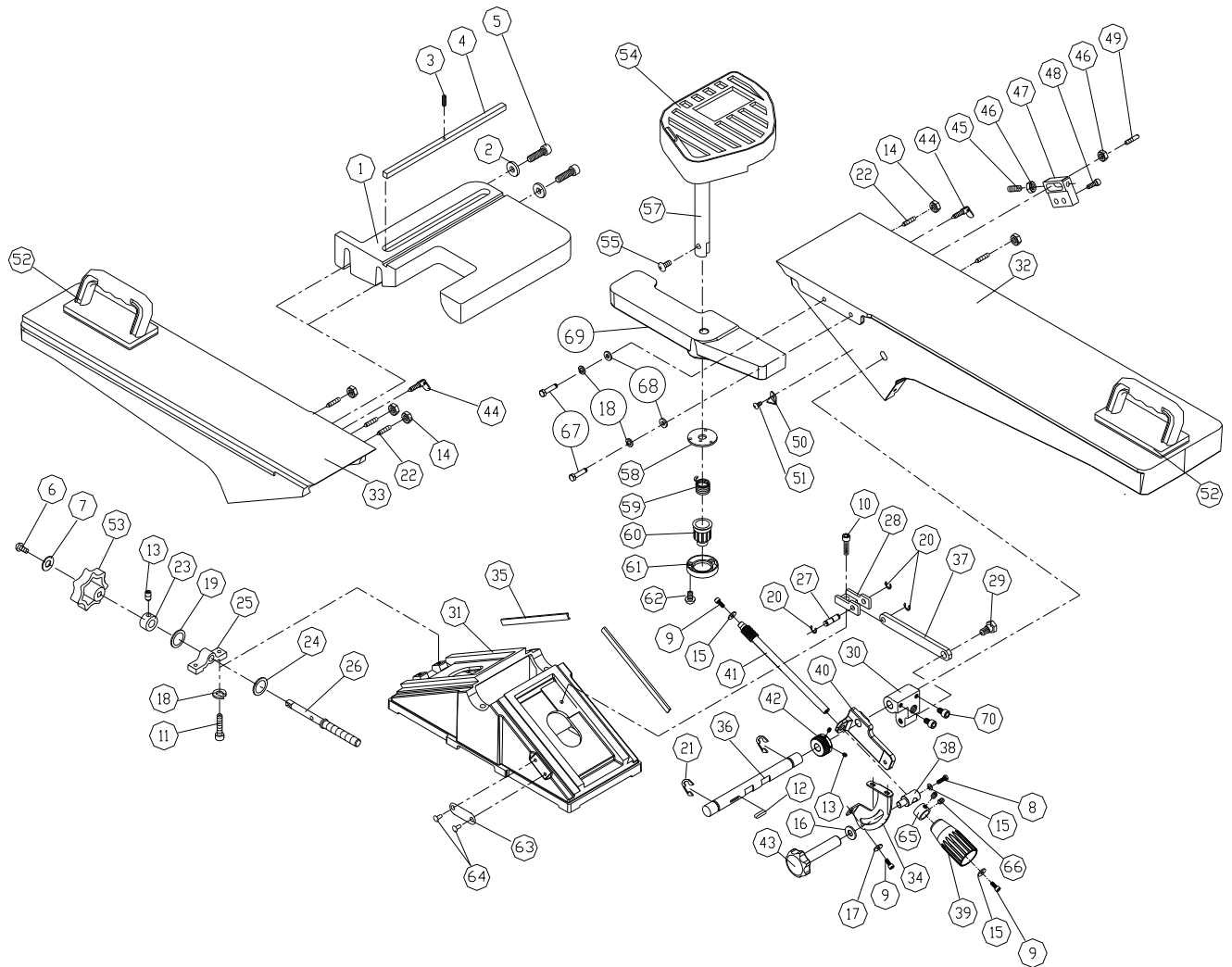
Stand – Assembly (All Models)



Bed – Parts List (All Models)

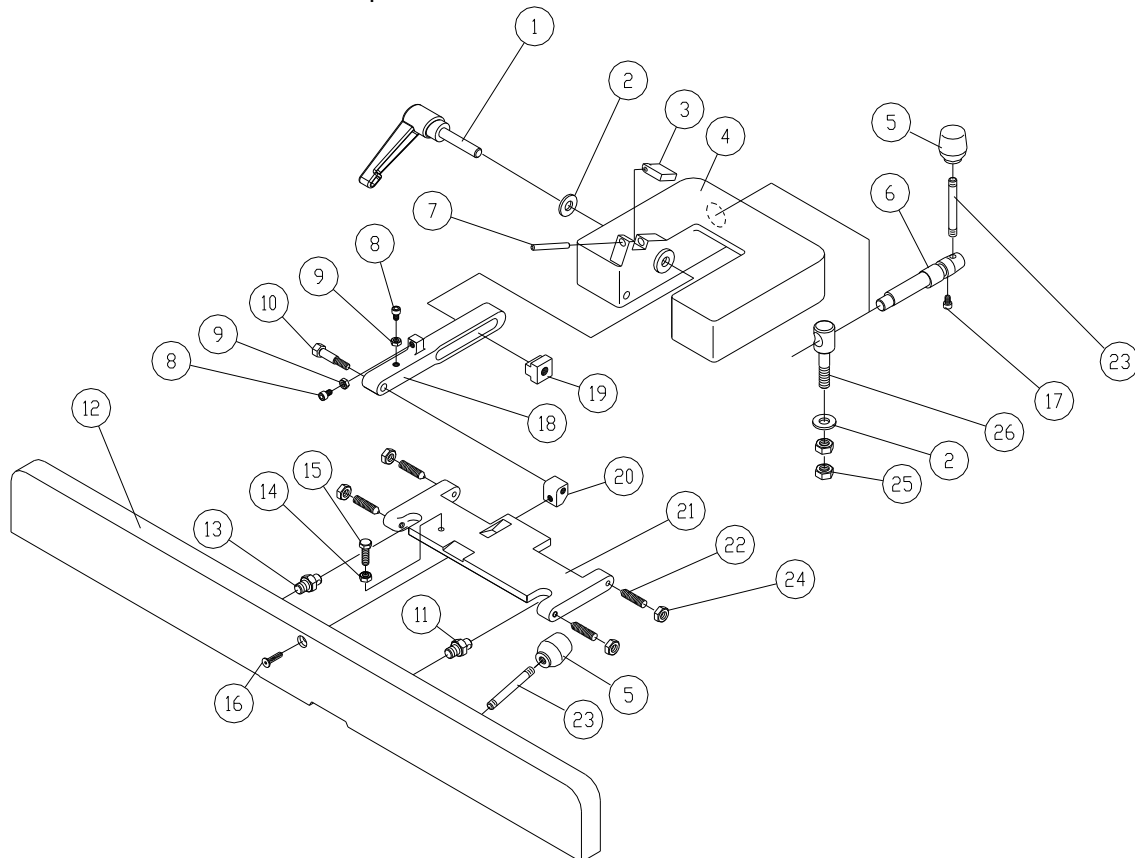
Index No.	Part No.	Description	Size	Qty.
1	6296086	Base Slide		1
2	6296087	Washer	3/8 x 1 x 5/32	2
3	6296088	Spring Pin	4mm dia. x 14mm Lg	1
4	6296089	Key	9.5mm x 273 mm	1
5	6285931	Cap Screw	3/8-16 x 1-1/2	2
6	6285910	Handle Screw	1/4-20 x 1/2	1
7	TS-0680021	Washer	1/4	2
8	6296091	Hex Screw	1/4-20 x 3/4	1
9	6296092	Socket Head Cap Screw	1/4-20 x 1/2	5
10	TS-0208041	Socket Head Cap Screw	5/16-18 x 3/4	1
11	TS-0208101	Socket Head Cap Screw	5/16-18 x 2	2
12	6296094	Key	5mm x 5mm x 20mm	1
13	6285907	Set Screw	1/4-20 x 3/8	4
14	6285902	Hex Nut	1/4-20	5
15	6296144	Flat Washer	1/4 x 1/2 x 1/32	3
16	6296066	Flat Washer	13mm x 28mm x 3mm	1
17	6296095	Spring Washer	6.5mm x 12.8mm	3
18	6285911	Spring Washer	8.2mm x 13.7mm	4
19	6296096	Wavy Washer	12.6mm x 16.8mm	1
20	6296015	Retaining Ring	ETW-6	3
21	6296022	Retaining Ring	ETW-12	2
22	6285901	Set Screw	1/4-20 NC x 1	5
23	6285906	Collar		1
24	6285904	Washer		1
25	6285905	Bracket		1
26	6285903	Adjusting Screw		1
27	6296097	Shaft		1
28	6296098	Lock Bracket		1
29	6296099	Bolt		1
30	6296100	Bracket		1
31	6296101	Base		1
32	6296102N	Front Table *		1
<i>*(s/n 190354A2255 and higher for 54A; 190254HH5017 and higher for 54HH)</i>				
33	6296103	Rear Table		1
34	6296104	Plate		1
35	6296105	Gib		2
36	6296106	Shaft		1
37	6296107	Plate		1
38	6296108	Lock Plate		1
39	6296109	Handle		1
40	6296110	Adjusting Base		1
41	6296111	Worm Shaft		1
42	6296112	Worm		1
43	6296113	Nut		1
44	6285900	Screw		2
45	6296060	Set Screw	5/16-18 x 3/4	2
46	6285966	Hex Nut	5/16-18	3
47	6296114	Set Block		1
48	6296014	Cap Screw	5/16-18 x 3/4	2
49	6296115	Stud		1
50	6296116	Pointer		1
51	6296117	Pan Head Screw	5/32-32 x 1/4	1
52	6285917	Push Block		2
53	6285908	Wheel Handle		1
54	6296145	Cutterhead Guard		1
55	TS-1533032	Phillips Pan Head Machine Screw	M5 x 10mm	1

Index No.	Part No.	Description	Size	Qty.
57	6285892	Guard Post		1
58	6285893	Washer		1
59	6285894	Spring		1
60	6285895	Knob		1
61	6285896	Retainer		1
62	6285897	Screw	5/32-32 x 5/8	3
63	6296147	Depth Scale		1
64	6296148	Rivet		2
65	6296151	Collar		1
66	6296152	Set Screw	1/4-20 UNC x 1/4	2
67	TS-1490061	Hex Cap Screw	M8-1.25P x 35mm	2
68	54A-268	Flat Washer	8.5 x 19 x 3mm	2
69	54A-269	Rabbeting Ledge *		1
* (s/n 190354A2255 and higher for 54A; 190254HH5017 and higher for 54HH)				
70	TS-0207041	Socket Head Cap Screw	1/4-20 x 3/4	2



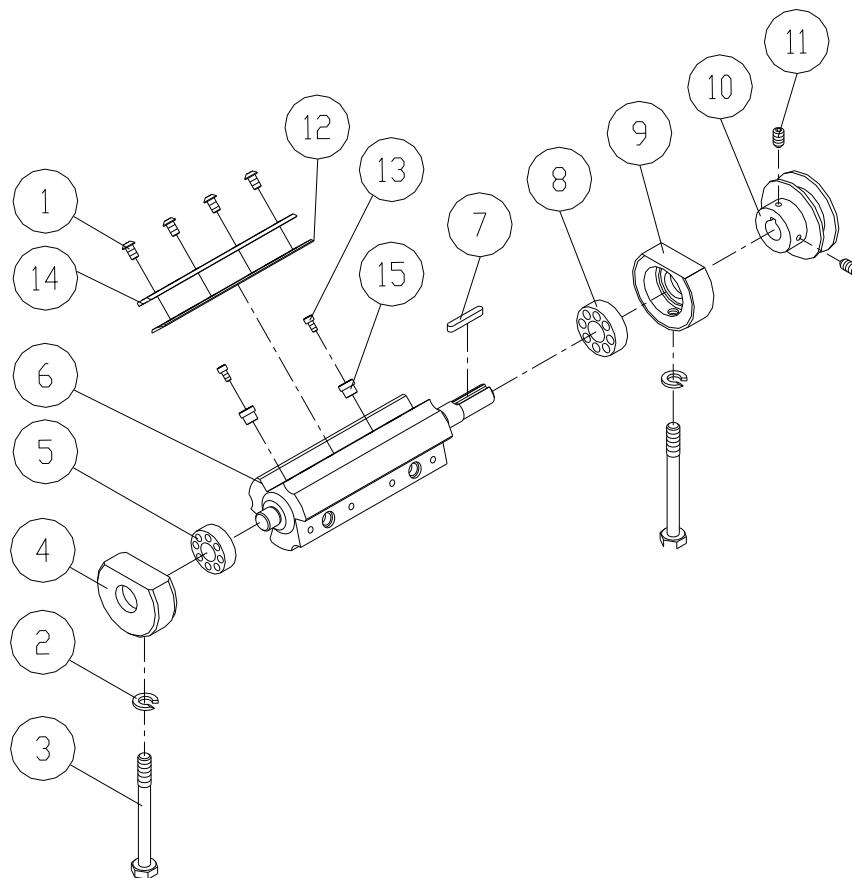
Fence – Parts List and Assembly (All Models)

Index No.	Part No.	Description	Size	Qty.
.....	6296130A	Fence Assembly		1
1.....	6296143	Locking Bolt		1
2.....	6296066	Flat Washer	13mm x 28mm x 3mm	2
3.....	6296067	Stop Block		1
4.....	6296068	Fence Bracket		1
5.....	6285945	Knob		2
6.....	6296069	Locking Shaft		1
7.....	6296070	Pin	Ø5mm x 50mm	1
8.....	6296071	Cap Screw	1/4-20 x 1-1/4	2
9.....	6296072	Hex Nut	1/4-20	2
10.....	6296073	Screw		1
11.....	TS-0561052	Hex Nut	1/2-20UNF	2
12.....	6296075A	Fence Body		1
13.....	6285940	Pivot Stud		2
14.....	6285966	Hex Nut	5/16-18	1
15.....	6296077	Hex Screw	5/16-18 x 1-1/4	1
16.....	6296078	Hex Screw	5/16-18 x 1-1/2	1
18.....	6296080	Locking Link		1
19.....	6296081	Nut		1
20.....	6285947	Fixed Block		1
21.....	6296082	Fence Link		1
22.....	6285942	Cone Point Screw		4
23.....	6285944	Handle Stud		2
24.....	6285943	Hex Nut	3/8-16	4
25.....	6296083	Hex Nut	1/2-12NC	2
26.....	6296084	Bolt		1
27.....	6296085	Cap Screw	1/4-20 x 1/2	1



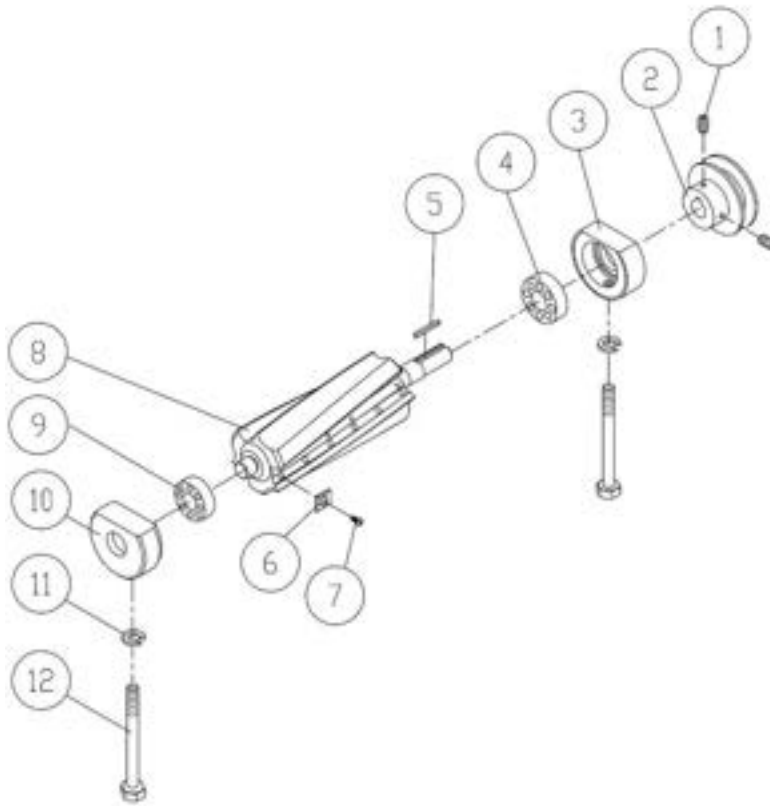
Cutterhead – Parts and Assembly (model 54A only)

Index No.	Part No.	Description	Size	Qty.
.....	JJ6CSDX-CA.....	Cutterhead Assembly (Index #s 1-15).....		1
1.....	JJ6CSDX-101.....	Special Button Head Socket Screw.....		12
2.....	TS-0720091.....	Lock Washer.....	3/8"	2
3.....	JEA-B01.....	Bolt.....		2
4.....	3H-C02.....	Bearing Housing.....		1
5.....	BB-6202ZZ.....	Ball Bearing.....	6202ZZ	1
6.....	JJ6CSDX-106.....	Cutterhead.....		1
7.....	5F-G108.....	Key.....	5 x 5 x 25	1
8.....	BB-6203ZZ.....	Ball Bearing.....	6203ZZ	1
9.....	JH-C04.....	Bearing Housing.....		1
10.....	JH-C07.....	Cutterhead Pulley.....		1
11.....	TS-0267041.....	Socket Set Screw.....	1/4"-20 x 3/8"	2
12.....	708801DX.....	Knife (set of 3).....		1
13.....	TS-1501021.....	Socket Head Cap Screw.....	M4 x 8	6
14.....	JJ6CSDX-114.....	Knife Lock Bar.....		3
15.....	JJ6CSDX-115.....	Adjustment Nut.....		6



Cutterhead – Parts and Assembly (model 54HH only)

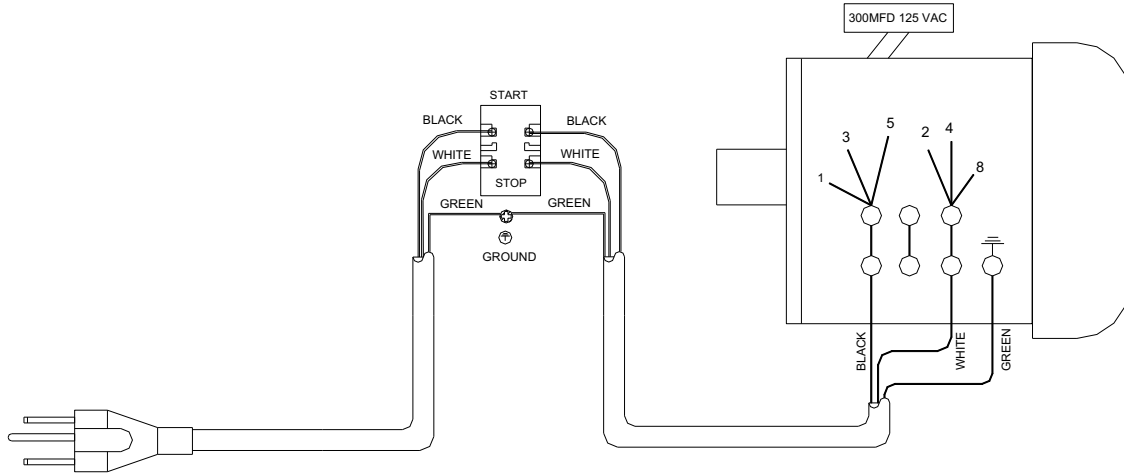
Index No.	Part No.	Description	Size	Qty.
	PM54HH-CA	Cutterhead Assembly (Index # 1-12)		1
1	TS-0267041	Socket Set Screw	1/4"-20 x 3/8	2
2	JH-C07	Cutterhead Pulley		1
3	JH-C04	Bearing Housing		1
4	BB-6203VV	Ball Bearing	6203VV	1
5	5F-G108	Key	5 x 5 x 25	1
	1791221-6	Helical Cutterhead Unit (Index # 6 thru 8)		1
6	1791212	Knife Insert (set of 10)		total 40
7	JWP208HH-111	Knife Insert Screw	#10-32 x 1/2	40
8	PM54HH-108	Helical Cutterhead		1
9	BB-6202VV	Ball Bearing	6202VV	1
10	3H-C02	Bearing Housing		1
11	TS-0720091	Lock Washer	3/8"	2
12	JEA-B01	Hex Cap Bolt	3/8"-24 x 3-1/2"	2
13	JJ6HH-113	Star Point Screwdriver (not shown)		2



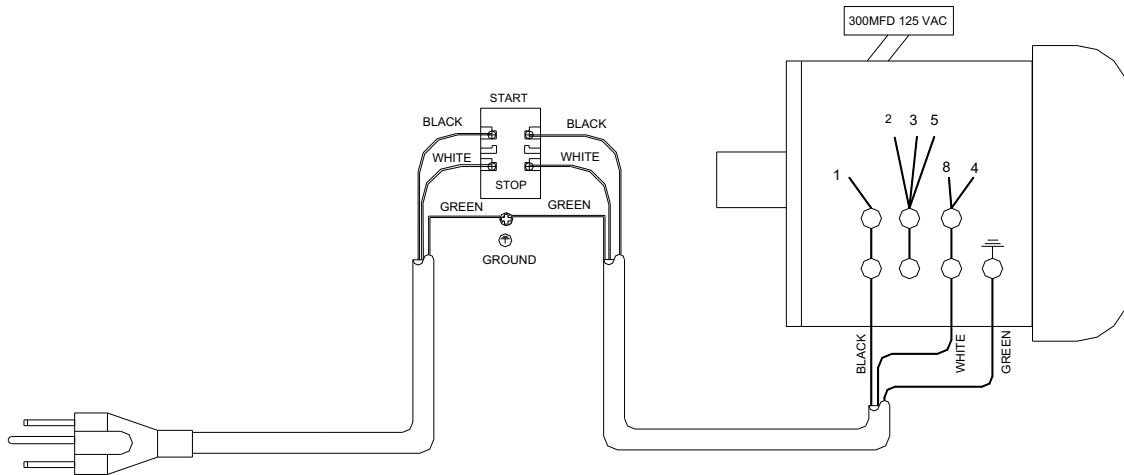
Wiring Diagrams

Wiring Diagram – Serial # 05060540312 and lower

ELECTRICAL SCHEMATIC - 115V



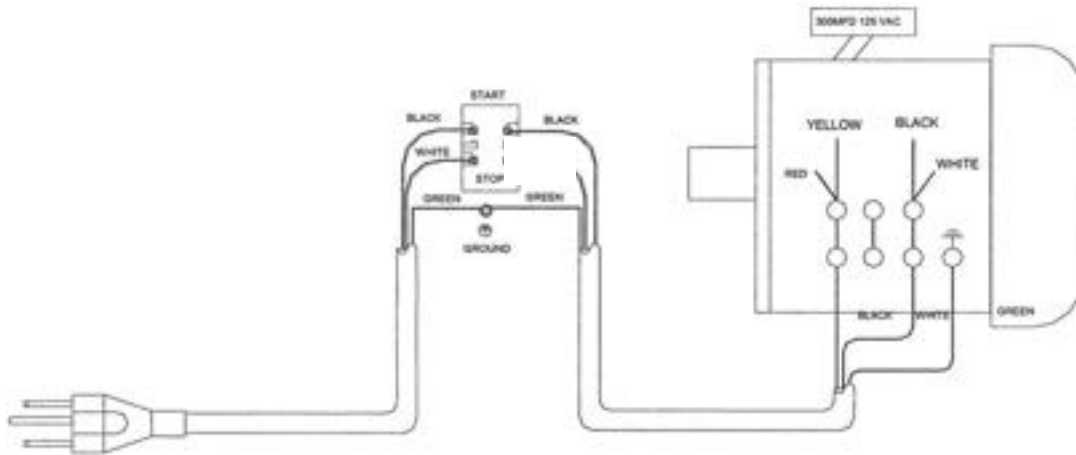
ELECTRICAL SCHEMATIC - 230V



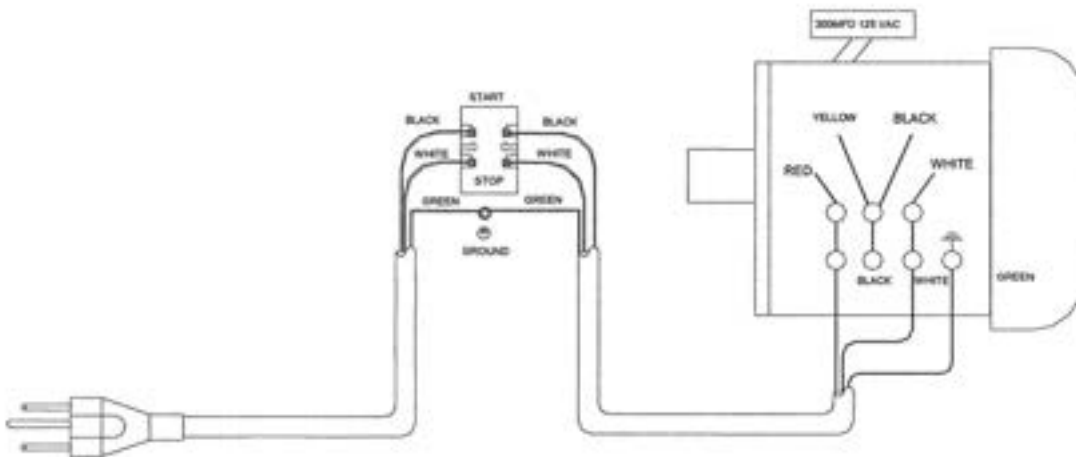
Serial # 05060540312 and lower

Wiring Diagram – Serial # 05060540313 and higher

ELECTRICAL SCHEMATIC - 115V



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