

# **POWERMATIC<sup>®</sup>**

## **WMH TOOL GROUP**

### **Operating Instructions and Parts Manual**

### **16-inch Jointer**

**Model PJ1696**



#### **WMH TOOL GROUP**

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**Part No. M-0460269**

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## WARRANTY AND SERVICE





WMH Tool Group, Inc., warrants every product it sells. If one of our tools needs service or repair, one of our Authorized Service Center located throughout the United States can give you quick service. In most cases, any of these WMH Tool Group Authorized Service Centers can authorize warranty repair, assist you in obtaining parts, or perform routine maintenance and major repair on your POWERMATIC® tools. For the name of an Authorized Service Center in your area call 1-800-274-6848.

### MORE INFORMATION

WMH Tool Group is consistently adding new products to the line. For complete, up-to-date product information, check with your local WMH Tool Group distributor, or visit [powermatic.com](http://powermatic.com).

### WARRANTY

POWERMATIC products carry a limited warranty which varies in duration based upon the product.

<b>Industrial Products</b> Bandsaws Dust Collectors Jointers Boring Machines Dovetail Machines Planers Sanders Shapers Rip Saws Cut-off Saws Tablesaws Scoring Saws Panel Saws Accessories & Abrasives	 <b>One Year Standard,</b>  <b>option available on select POWERMATIC machines</b> Brush Sanders Dovetail Machines Drill Presses Drum Sanders Panel Saws Power Feeders Commercial use of Non-Industrial Products	 <b>Industrial Products</b> <b>Two Year Option Available</b> on select industrial machines with distributor installation. See your POWERMATIC Industrial Distributor for details.	 <b>Non-Industrial Products</b> Visit our distributors or our website for more information. <i>Warranty reverts to 1 Year if above products are used for commercial, industrial or educational purposes</i>
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### WHAT IS COVERED?

This warranty covers any defects in workmanship or materials subject to the exceptions stated below. Cutting tools, abrasives and other consumables are excluded from warranty coverage.

### WHO IS COVERED?

This warranty covers only the initial purchaser of the product.

### WHAT IS THE PERIOD OF COVERAGE?

The general POWERMATIC warranty lasts for the time period specified in the product literature of each product.

### WHAT IS NOT COVERED?

The Five Year Warranty does not cover products used for commercial, industrial or educational purposes. Products with a Five Year Warranty that are used for commercial, industrial or education purposes revert to a One Year Warranty. This warranty does not cover defects due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair or alterations, or lack of maintenance.

### HOW TO GET SERVICE

The product or part must be returned for examination, postage prepaid, to a location designated by us. For the name of the location nearest you, please call 1-800-274-6848.

You must provide proof of initial purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, we will repair or replace the product, or refund the purchase price, at our option.

We will return the repaired product or replacement at our expense unless it is determined by us that there is no defect, or that the defect resulted from causes not within the scope of our warranty in which case we will, at your direction, dispose of or return the product. In the event you choose to have the product returned, you will be responsible for the handling and shipping costs of the return.

### HOW STATE LAW APPLIES

This warranty gives you specific legal rights; you may also have other rights which vary from state to state.

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

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## SAFETY RULES

As with all machines, there is a certain amount of hazard involved with the use of this jointer. Use the machine with the respect and caution demanded where safety precautions are concerned. When normal safety precautions are overlooked or ignored, personal injury to the operator can result.

**Read the manual.** Read, understand, and follow the safety instructions found in this manual. Know the limitations and hazards in using the model PJ1696 Jointer. Decals are placed on each machine as reminders of good safety practice.

**Installation.** If mounting machine to the floor, use high quality anchor bolts through the mounting holes on the base. If using a mobile base, be sure to lock the wheels.

**Location.** Use extra care in the location of the jointer in the shop. Place the machine so that potential kickback area is not in line with aisles, doorways, wash stations, or other work areas.

**Electrical grounding.** Make certain that the machine frame is electrically grounded and that a ground lead is included in the incoming electrical service. If a cord and plug are used, make certain the grounding lug connects to a suitable ground. Follow the grounding procedure indicated in the National Electric Code.

**Eye safety.** Always wear approved safety goggles, glasses, or a face shield when operating this machine. (Note: common eyeglasses are only impact-resistant, they are **not** safety glasses.)

**Personal protection.** Before operating the machine, remove tie, rings, watch and other jewelry and roll up sleeves above the elbows. Remove all loose clothing and confine long hair. Protective type footwear should be used. Where the noise exceeds the level of exposure allowed in Section 1910.95 of the OSHA Regulations, use hearing protective devices. Do not wear gloves.

**Guards.** Be sure machine guards are in place and in good working order. Use them at all times on operations where they can be used. If a guard must be removed for any operation, make sure it is replaced immediately following completion of that operation.

**Work area.** Keep the floor around the machine clean and free of scrap material, saw dust, oil and other liquids to minimize the danger of tripping or slipping. Be sure the table is free of all scrap, foreign material and tools before starting to cut. Make certain the work area is well lighted and that a proper exhaust system is used to minimize dust. Powermatic recommends the use of anti-skid floor strips on the floor area where the operator normally stands and that each machine's work area be marked off. Provide adequate work space around the machine.

**Disconnect machine** before performing any service or maintenance. A machine under repair should be RED TAGGED to show it should not be used until the maintenance is complete.

**Housekeeping.** Before turning on machine, remove all extra equipment such as keys, wrenches, scrap, stock, and cleaning rags away from the machine.

**Power on.** On machines equipped with a manual starter make sure the starter is in "OFF" position before connecting power to machine.

**Three inch rule.** When working a piece of wood on the jointer, follow the 3 inch radius rule. The hands must never be closer than 3 inches to the cutterhead. See Figure 1.

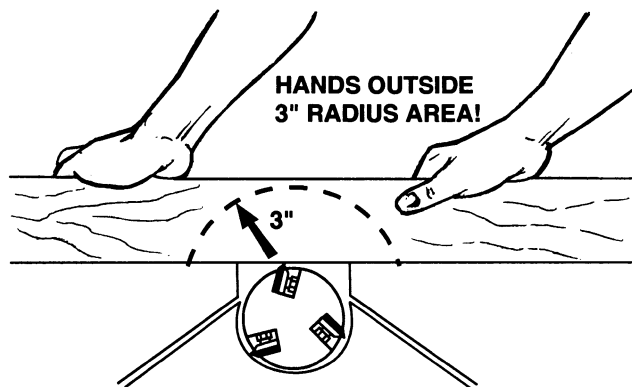


FIGURE 1

**Always use** a hold-down or push block when surfacing stock less than 12" inches long, or 3 inches wide, or 3 inches thick.

**Do not perform** jointing operations on material shorter than 8", narrower than 3/4" or less than 1/4" thick.

**Depth of cut.** Do not make cuts deeper than 3/4" when rabbeting. On other cuts such as edging, surfacing, etc., depth of cut should not be over 1/16" to avoid overloading the machine and to minimize chance of kickback.

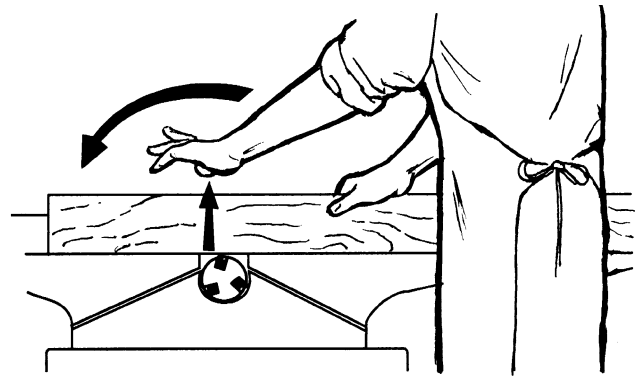
**Avoid tip-in.** Never apply pressure to stock directly over the cutterhead. This may result in the stock tipping into the cutterhead along with the operator's fingers. Follow the 3 inch rule. Position hands away from extreme ends of stock, and push through with a smooth, even motion. Never back workpiece toward the infeed table.

**Avoid Kickback.** "Pull-out" and the danger of kicked back stock can occur when the work piece has knots, holes, or foreign materials such as nails. It can also occur when the stock is fed against the grain on the jointer. 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.

NOTE: At certain times it may be necessary to plane against the grain when working with a swirl grain wood or burls. With this type work the operator must use a lesser depth of cut and a slow rate of feed.

**Hand safety.** It is good practice to move the hands in an alternate motion from back to front as the work continues through the cut. Never pass the hands directly over the cutter knife. 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 knife (Figure 2).

NOTE: At all times hold the stock firmly.



**FIGURE 2**

**Misuse.** Do not use this jointer for other than its intended use. If used for other purposes, Powermatic disclaims any real or implied warranty and holds itself harmless for any injury or damage which may result from that use. Do not equip or use this jointer with a motor larger than 7-1/2 Horsepower at 5,200 R.P.M. Use of a larger horsepower motor or higher cutterhead speed voids the warranty and Powermatic holds itself harmless for any injury which may result.

**If you are not** thoroughly familiar with the operation of jointers, obtain advice from your supervisor, instructor or other qualified person.

**Drugs, alcohol, medication.** Do not operate tool while under the influence of drugs, alcohol, or any medication.

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

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

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

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 or moderate injury, and/or possible machine damage)



**WARNING:** (This means that if precautions are not heeded, it could result in serious injury or possibly even death).



## SAFETY

Familiarize yourself with the location and content of this decal on your machine.

FIGURE 3

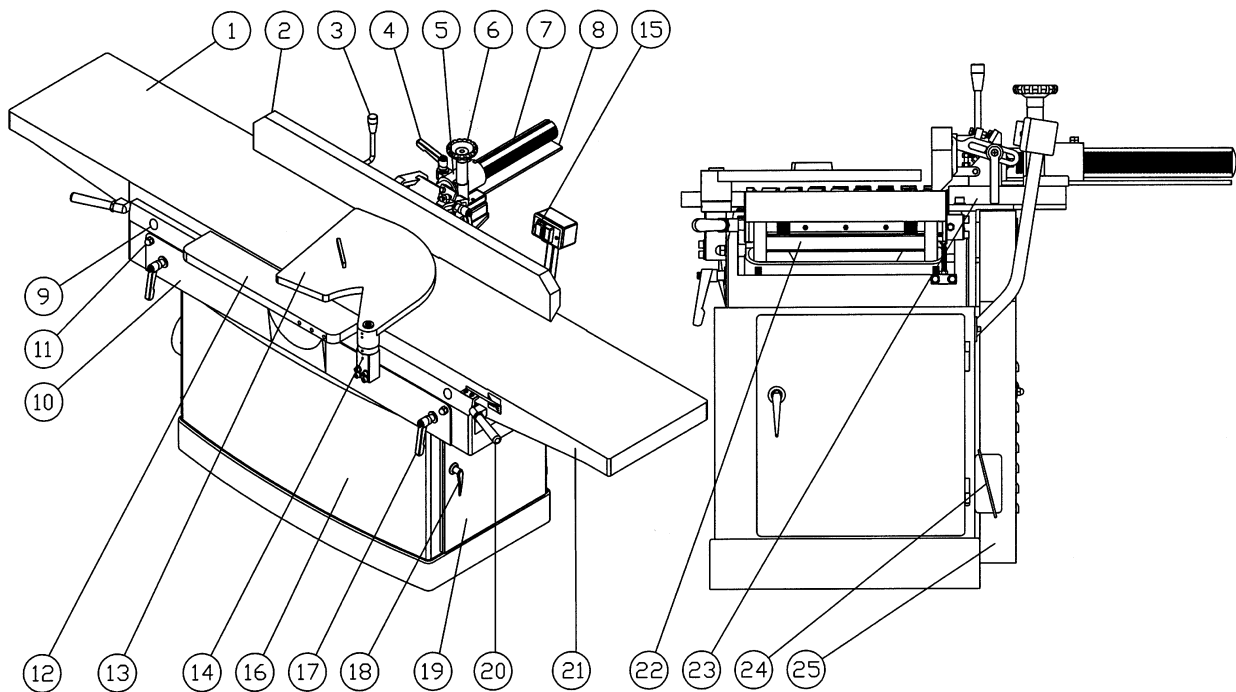
 **WARNING**

1. For your own safety, read instruction manual before operating jointer.
2. Do not expose to rain or use in damp locations.
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.

3408256

## FEATURES: PJ1696 Jointer



**FIGURE 4**

- |                                      |                                   |
|--------------------------------------|-----------------------------------|
| 1. Outfeed table                     | 14. Guard Bracket Block           |
| 2. Fence                             | 15. Pushbutton Switch             |
| 3. Fence Handle                      | 16. Cabinet                       |
| 4. Lock Lever                        | 17. Table Lock                    |
| 5. Cast Housing                      | 18. Door Latch                    |
| 6. Control Handle - Forward/Backward | 19. Cabinet Door                  |
| 7. Rack Column                       | 20. Table Raising/Lowering Handle |
| 8. Cutterhead Guard Plate            | 21. Infeed Table                  |
| 9. Eccentric Shaft                   | 22. Eccentric Shaft               |
| 10. Base                             | 23. Fence Base                    |
| 11. Eccentric Shaft                  | 24. Junction Box                  |
| 12. Rabbeting Ledge                  | 25. Drive Belt Cover              |
| 13. Cutter Guard                     |                                   |

## SPECIFICATIONS: PJ1696 Jointer

Stock No. ....	1791283
Motor .....	7-1/2HP, 3Ph, 230/460V, 60Hz
Maximum width cutting capacity.....	16" (406 mm)
Maximum depth cutting capacity .....	3/4" (19 mm)
Cuts per minute.....	20,800
Table size .....	16" W x 96" L (406mm x 2438 mm)
Table height from floor.....	37-1/2" (800 mm)
Fence size .....	47-1/4" L x 5-1/4" H (1200 x 133 mm)
Fence tilt .....	45 degrees forward, 45 degrees backward
Positive stops.....	45 deg., 90 deg., 135 deg.
Cutterhead speed.....	5200 RPM
Number of knife inserts .....	56 standard, 2 rabbet
Cutterhead diameter .....	4" (98 mm)
Rabbeting capacity.....	3/4" (19 mm)
Dust connection diameter.....	6" (152 mm)
Overall dimension .....	46" L x 96" W x 43" H (1168 x 2438 x 1092 mm)
Packing dimension .....	39" L x 102" W x 29-1/2" H (991 x 2591 x 749 mm)
Net weight.....	1280 lbs. (582 kgs.)
Gross weight .....	1400 lbs. (636 kgs.)

NOTE: 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 without notice and without incurring obligations.



## RECEIVING THE JOINTER

Carefully unpack the jointer and all loose items from the wood crate and inspect for damage. Any damage should be reported to your distributor and shipping agent immediately. Before proceeding further, read your manual thoroughly to familiarize yourself with proper assembly, set-up, maintenance, safety and operating procedures.

Exposed metal parts such as the table and fence have been given a protective coating at the factory. This should be removed with a soft cloth moistened with a solvent (such as kerosene). Do not use acetone, gasoline or lacquer thinner for this purpose. Do not use an abrasive pad. After cleaning, it is recommended that you cover all unpainted surfaces with a good quality paste wax.

### Crate contents:

- 1 jointer
- 1 dust chute
- 1 fence assembly
- 4 hex wrenches (3, 5, 8 and 10mm)
- 3 open-end wrenches (10-12mm, 12-14mm, 17-19mm)
- 2 push pads
- 1 helical cutter head tool package:
  - 2 rabbet knives
  - 8 two-sided standard knives
  - 7 gibs
  - 7 gib nuts
  - 7 gib screws
  - 1 hex wrench 5mm (L type)
  - 3 hex wrenches 5mm (T type)
- 1 manual
- 1 warranty card

## INSTALLATION AND ASSEMBLY

### Tools required

10mm hex wrench (provided)  
Phillips screwdriver

The supplied tools are shipped inside the bottom of the stand, and can be removed through the dust outlet (A-Figure 5) on the left side of the machine.

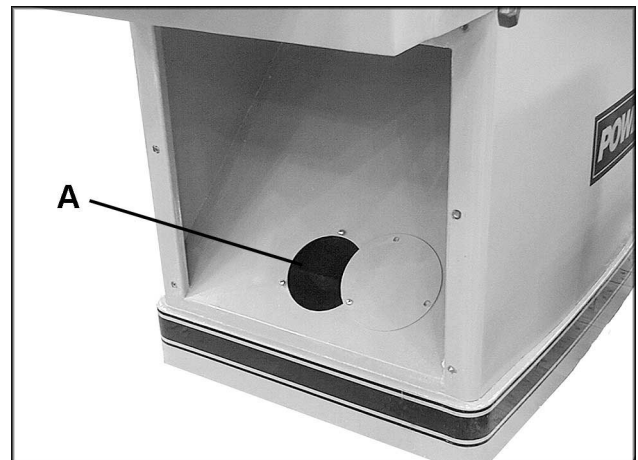


FIGURE 5

Remove the bolts holding the jointer to the skid, and lift the machine from the skid using a hoist. The strap should be suitable to lift 1320 pounds of weight, and should be placed under the base casting as shown in Figure 6. DO NOT place strap under the tables.

The jointer should be mounted to a solid, level foundation, preferably a concrete floor. The machine area should be clean, dry, well ventilated and well lighted, with sufficient space around the machine for operation and maintenance work.

This machine is equipped with noise-reducing table lips. The work site should, however, be one which minimizes reverberant sound from walls, ceilings and other equipment.

## FENCE INSTALLATION

Mount the fence (A-Fig. 7) to the holes on the jointer table with the two socket head cap screws (B-Fig. 7), using a 10mm hex wrench. Tighten the screws (B-Fig. 7) securely.

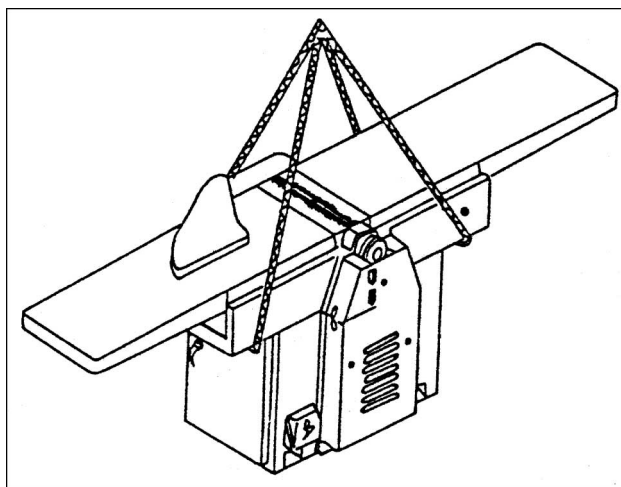


FIGURE 6

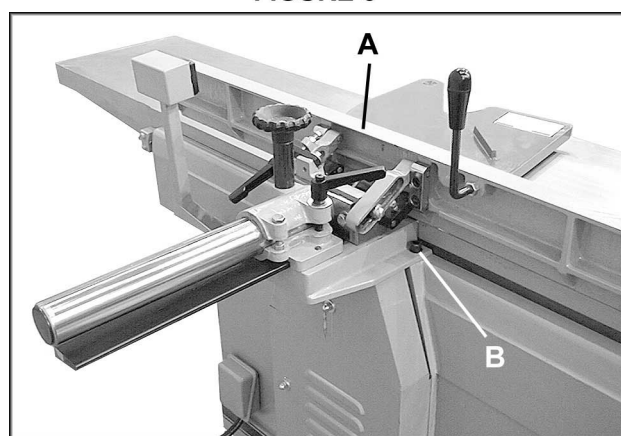


FIGURE 7

## DUST HOOD

Mount the dust hood (C-Fig. 8), to the left side of the jointer using the seven 1/4-20 x 1/2 screws (D-Fig. 8) provided on the machine. Before mounting the dust hood, make sure the hole in the base is covered by the dust chute cover (shown in Fig. 5). It is recommended a dust collection system of appropriate size (at least 800 CFM) be connected to the dust outlet via a 6" diameter hose.



FIGURE 8

## START / STOP SWITCH

The arm (E-Fig. 9) on which the pushbutton switch is located is shipped in the down position. The screws (F-Fig. 9) should be loosened with a 10mm hex wrench and the arm pivoted to upright position. Re-tighten screws.

## ELECTRICAL CONNECTION

**IMPORTANT:** Make sure the electrical characteristics are the same between the motor nameplate and the power source, and make sure the circuit on which the jointer will be used is properly fused and that the wire size is correct.

**⚠ WARNING: Electrical connections must be made by a qualified electrician. The machine must be properly grounded to help avoid electric shock and possible death.**

1. Connect wires both to junction box and power source (see electrical schematic, page 34). The green wire (ground) must be properly grounded.
2. After wiring is complete, turn motor on momentarily to check for proper direction of rotation (cutterhead should rotate toward infeed table). If rotation is in the wrong direction, disconnect machine and switch any two of the hot leads. Reconnect power and confirm proper rotation.
3. Run the machine without cutting for a short time to check that all powered functions are operating properly.

## ADJUSTMENTS

### Tools required

17mm & 19mm spanner

## DRIVE BELT

Remove the three crown nuts and washers (A-Fig. 10) on the belt cover with a 17mm spanner, and remove the cover. Use a 19mm spanner to adjust the nuts in the motor support (B-Fig. 11).

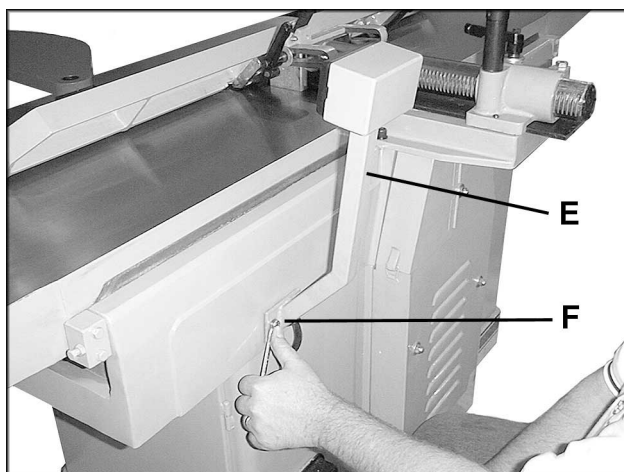


FIGURE 9

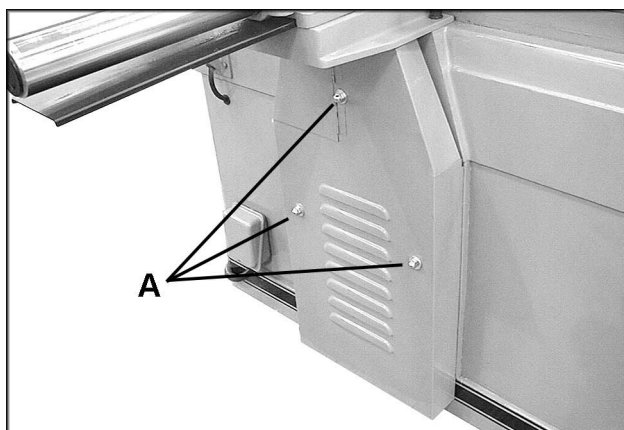


FIGURE 10

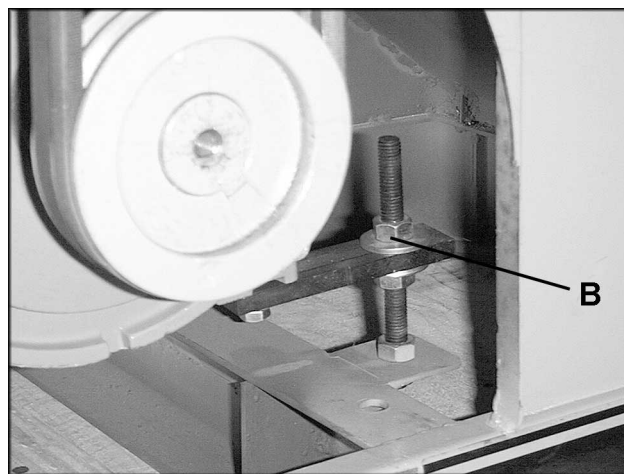


FIGURE 11

Raise or lower motor support to obtain proper tension, then re-tighten nuts.

NOTE: Proper tension will be achieved when there is a small amount of deflection in the belt when using moderate finger pressure. See Figure 12.

## REPLACING KNIFE INSERTS

The cutterhead on the PJ1696 is a solid steel helical insert design with 56 two-sided standard knives, and two rabbet knives on the outboard end of the cutterhead. Replacing knives is a simple process, and they will seat themselves properly without having to be set with a knife gauge.

After a period of use, dull knives should be flipped over, replaced or re-ground. To change a knife:

1. Loosen the gib screw (C-Fig. 13) and remove the knife (D-Fig. 13) from the slot.
2. Flip the knife 180 degrees and re-insert it, then tighten the gib screw (C-Fig. 13). To ensure optimal cutting, all knives in the cutterhead should be flipped at the same time.



**WARNING: Tighten gib screws firmly. Loose gib screws can result in knives being thrown out of the cutterhead, causing severe damage to the machine and possible serious or fatal injury to the operator or bystanders.**

## SETTING OUTFEED TABLE

For accurate work in most jointing operations, the outfeed table must be exactly level with the knives at their highest point of revolution.

1. Raise the outfeed table to its highest point, and place a straight edge across it.
2. Turn the cutterhead until one row of knives is at its highest point.

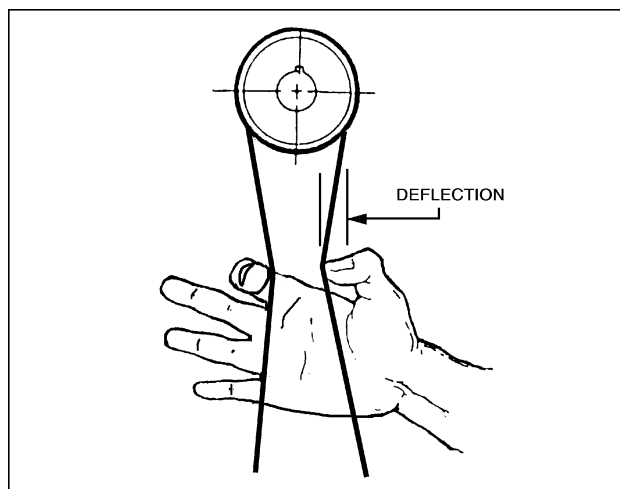


FIGURE 12

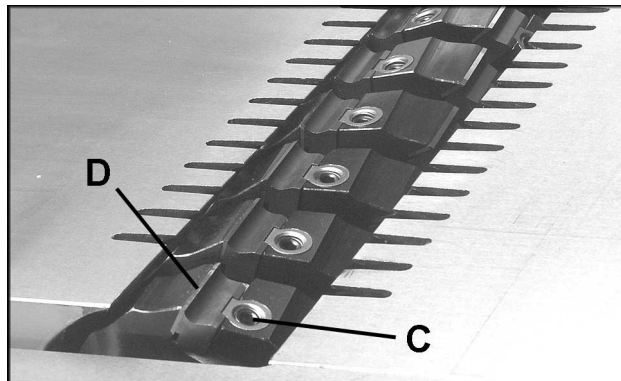


FIGURE 13

3. Lower the outfeed table until the straight edge contacts a knife. Rock the cutterhead slightly to make sure the apex of the knife is contacting the straight edge. Lock the outfeed table at that setting.

After the outfeed table has been set at the correct height, it should not be changed except for special operations or after replacing knives.

#### Examples of incorrect settings:

If the outfeed table is too high, the finished surface of the workpiece will be curved, shown in Figure 14.

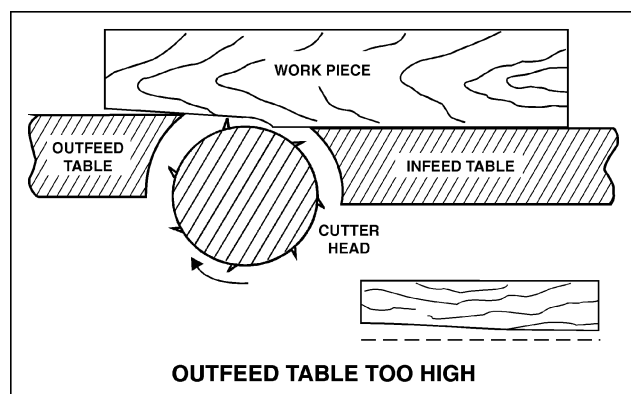


FIGURE 14

If the outfeed table is too low, the work will be gouged at the end of the cut, shown in Figure 15.

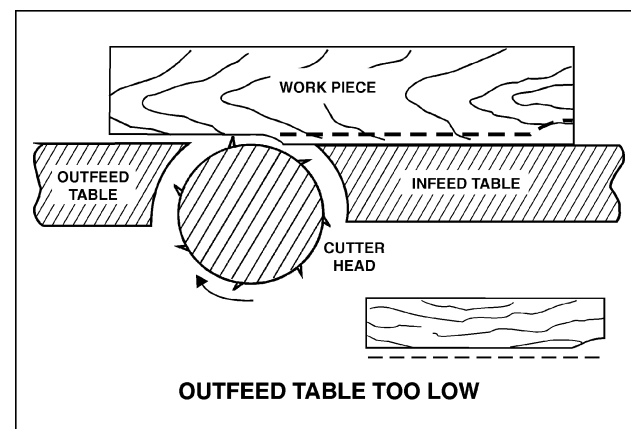


FIGURE 15

As a final check of the outfeed table adjustment, run a piece of wood slowly over the knives for 6 to 8 inches; it should rest firmly on both tables, as shown in Figure 16, with no open space under the finished cut.

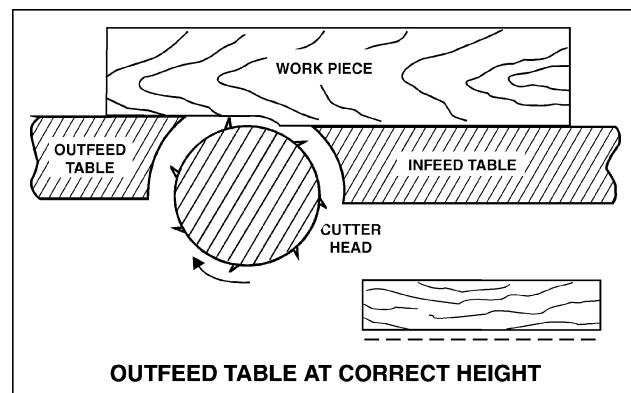


FIGURE 16

## TABLE RAISING LIMIT BLOCKS

A limit block, shown in Figure 17, is mounted to the rear of each table. It sets the maximum height the tables can be raised, and is pre-set at the factory. If adjustment is ever needed, loosen the hex nut (E-Fig. 17) and turn the screw (F-Fig. 17) as needed. Retighten hex nut (E-Fig. 17).

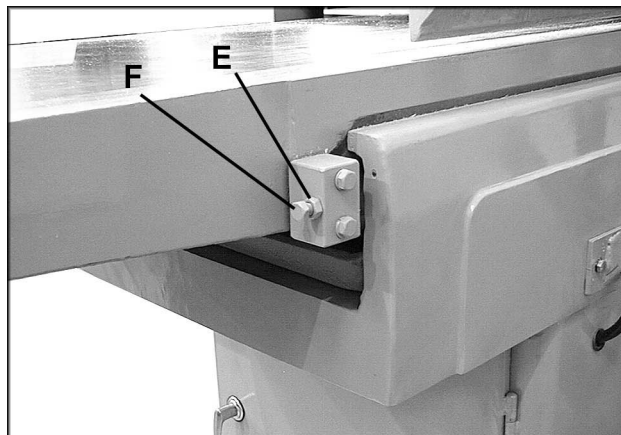


FIGURE 17

## INFEED TABLE ADJUSTMENT

Loosen lock lever (A-Fig. 18) and move table adjustment arm (B-Fig. 18) to raise or lower infeed table. Gauge (C-Fig. 18) shows the distance of travel. Re-tighten lock lever (A-Fig. 18).

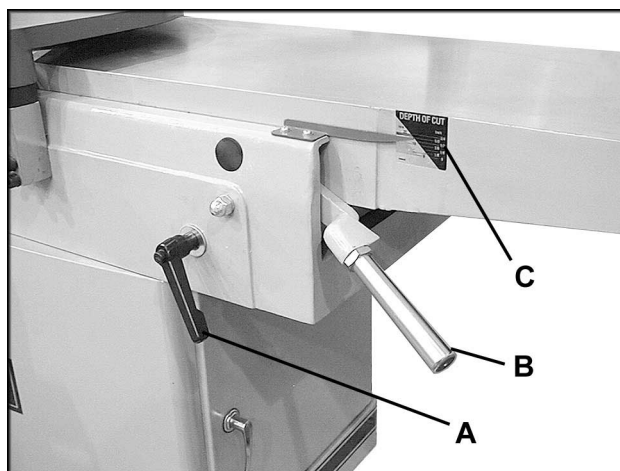


FIGURE 18

## FENCE ADJUSTMENTS

The fence (A-Fig. 19) tilts backward and forward 45 degrees. It contains a 90-degree stop (B-Fig. 19) and a 45-degree stop (C-Fig. 19). The stops should be checked for accuracy with a square or protractor against the fence, and adjusted if necessary.

To tilt the fence forward, loosen the lock lever (D-Fig. 19) and tilt the fence using the handle (E-Fig. 19). Re-tighten lock lever (D-Fig. 19).

To tilt the fence backward, loosen the lock screw (D-Fig. 19), pivot the stop block (F-Fig. 19) out of the way, and tilt the fence using the handle (E-Fig. 19). Re-tighten lock screw (D-Fig. 19).

To move the fence forward or backward across the table, loosen lock screw (G-Fig. 19), then turn knob (H-Fig. 19). When desired position is reached, re-tighten lock screw (G-Fig. 19) securely.

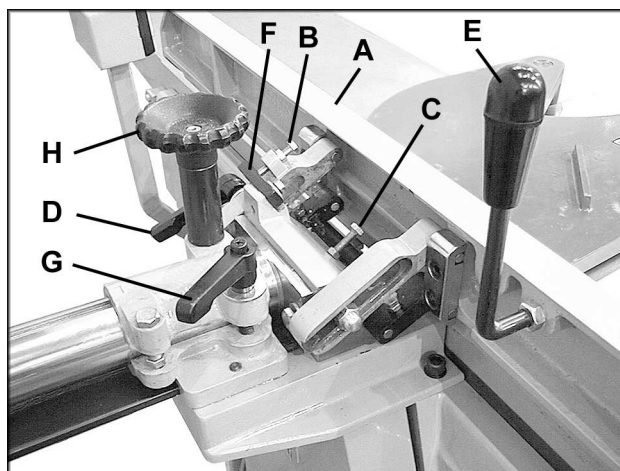


FIGURE 19

## OPERATING INSTRUCTION

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

 **WARNING:** Always use guard and keep hands away from cutterhead.

## HAND PLACEMENT

At the start of the cut, the left hand holds the work firmly against the infeed table and fence while the right hand pushes the work toward the knives. After the cut is under way, the new surface rests firmly on the outfeed table. The left hand should press down on this part, at the same time maintaining flat contact with the fence. The right hand presses the work forward and before the right hand reaches the cutterhead it should be moved to the work on the outfeed table. FOLLOW THE 3 INCH RULE. NEVER PASS HANDS DIRECTLY OVER THE CUTTERHEAD.

## EDGE JOINTING

This is the most common operation for the jointer. Set guide fence square with the table. Depth of cut should be the minimum required to obtain a straight edge. Do not make cuts deeper than 1/8" in a single pass. Hold the best face of the piece firmly against the fence throughout the feed. See Figure 20.

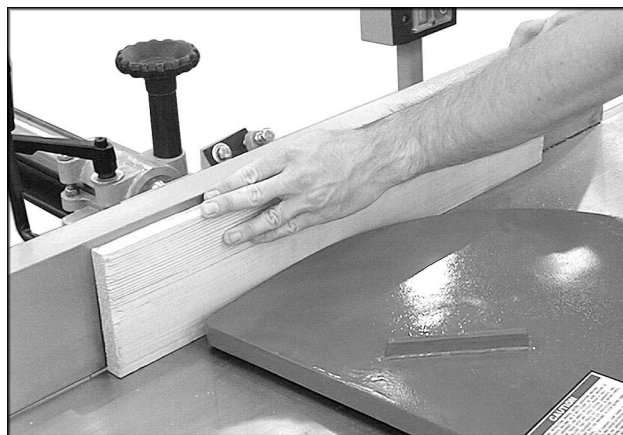


FIGURE 20

## SURFACING

Jointing the face of stock, or surfacing, is shown in Figure 21. Adjust the infeed table for depth of cut. Cuts of approximately 1/16" at a time are recommended, as this allows better control over the material being surfaced. More passes can then be made to reach the desired depth.

**WARNING:** Always use a hold down or push block when surfacing short stock or stock less than 3 inches thick.



FIGURE 21

## RABBETING

**WARNING:** A rabbet cut requires removal of the cutter guard. Use extreme caution and keep hands clear of cutterhead. Always replace guard immediately after rabbeting operation is completed.

A rabbet is a groove cut along the edge of a board. See Figure 21A. The width and thickness of the wood to be rabbeted depends upon the width and length of the rabbet. However, never rabbet a piece of wood less than 12" long.

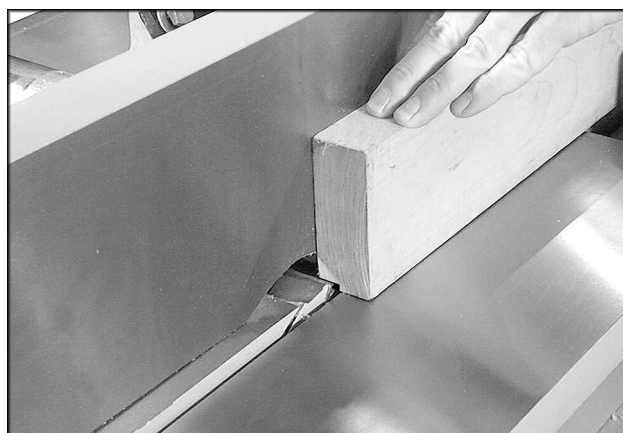


FIGURE 21a

Use push blocks to rabbet cut whenever possible. The rabbeting capacity is 3/4".

1. Disconnect machine from power source.
2. Set fence for desired width of rabbet.
3. Check width of the rabbet by measuring the distance from end of knife in the cutterhead to the fence.
4. Reconnect power. Lower infeed table 1/32" at a time and make successive cuts until the desired depth of rabbet has been obtained. See Fig. 21A. NOTE: It is easier and safer to take a series of shallow cuts.

## JOINTING WARPED SURFACES

If the wood to be jointed is dished or warped, take light cuts until the surface is flat. Avoid forcing such material down against the table; excessive pressure will spring it while passing the knives, and it will spring back and remain curved after the cut is completed.

## JOINTING SHORT OR THIN WORK

When jointing short or thin pieces, use a push block to eliminate all danger to the hands. Two push blocks are shipped with your jointer. You can also make your own easily from scrap material. Two types are shown in Figure 22.

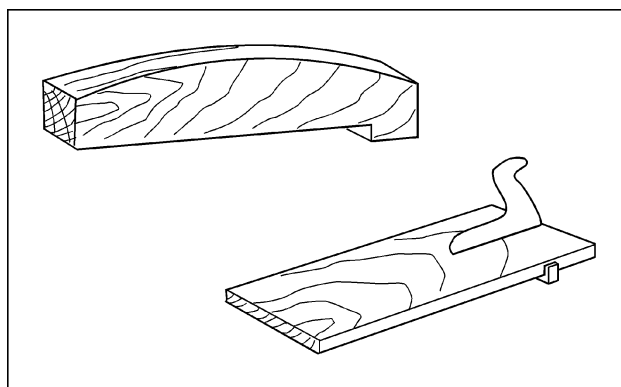


FIGURE 22

## DIRECTION OF GRAIN

Avoid feeding work into the jointer against the grain. This will result in chipped and splintered edges. See Figure 23. Feed *with* the grain to obtain a smooth surface, as shown in Figure 24.

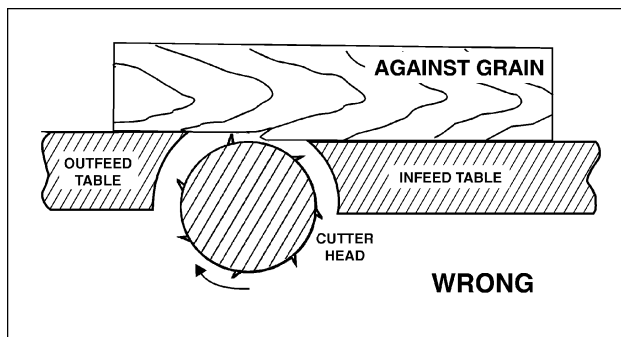


FIGURE 23

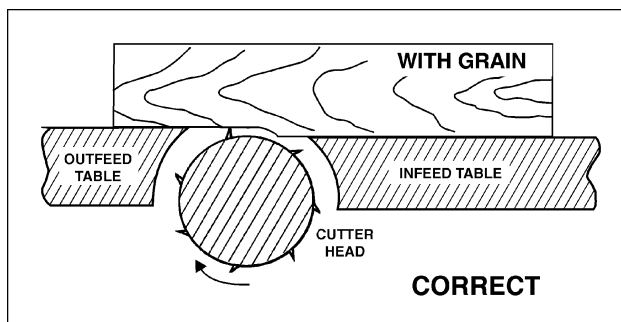


FIGURE 24

## BEVELING

To cut a bevel, lock the fence at the required angle and run the work across the knives while keeping it firmly against the fence and tables. Several passes may be necessary to achieve the desired result.



## TAPER CUTS

One of the most useful jointer operations is cutting an edge to a taper. The method can be used on a wide variety of work. Tapered legs of furniture are a common example. Instead of laying the piece on the infeed table, lower the forward end of the work onto the outfeed table.

Do this very carefully, as the piece will span the knives, and they will take a "bite" from the work with a tendency to kick back unless the piece is firmly held. Now push the work forward as in ordinary jointing.

The effect is to plane off all the stock in front of the knives to increase depth, leaving a tapered surface. The ridge left by the knives when starting the taper may be removed by taking a very light cut according to the regular method for jointing, with the infeed table raised to its usual position.

Practice is required in taper operations, and the beginner is advised to make trial cuts on waste material. Taper cuts over part of the length and a number of other special operations can easily be done as the operator gains experience.

## MAINTENANCE



**WARNING: Disconnect machine from power source before performing maintenance.**

Check all screws and fasteners occasionally and keep them tightened securely.

The table and fence surfaces must be kept clean and free of rust for best results. Some users prefer a paste wax coating. Another option is talcum powder applied with a blackboard eraser rubbed in vigorously once a week; this will fill casting pores and form a moisture barrier. This method provides a table top that is slick and allows rust rings to be easily wiped from the surface. Important also is the fact that talcum powder will not stain wood or mar finishes as wax pickup does.

## LUBRICATION

Use a high grade light grease on the steel adjusting screws for the raising and lowering mechanisms of the infeed and outfeed work tables.

The cutterhead runs in two single-row sealed and shielded ball bearings, which are pre-lubricated for life - no maintenance is necessary.

## CUTTERHEAD REPAIRS

The entire cutterhead assembly may be removed for bearing replacement or other cutterhead maintenance procedures.

To remove the cutterhead:

1. Disconnect machine from power source.
2. Lower infeed and outfeed tables.
3. Remove rabbeting ledge and fence.
4. Remove belts.
5. Loosen the two bolts that hold the cutterhead to the bed – these are accessed from the underside of the bearing blocks as shown in Figure 25.
6. Slide the cutterhead out the rabbeting side.



**CAUTION:** Before removing cutterhead, wrap it with cloths to prevent personal injury.

7. Loosen lock screw (A-Fig. 26) and remove pulley (B-Fig. 26) and key (C-Fig. 26).
8. Take down screws (D-Fig. 26) on both sides and remove bearing cap plates (E-Fig. 26).

**IMPORTANT:** If the bearings (G-Fig. 26) need replacement, Powermatic strongly recommends this be done by qualified service personnel. The bearings are press fitted and must be removed with an arbor press.

9. To re-install the cutterhead, reverse the above procedure. **NOTE:** Before reinstalling, make sure the machine's curved seats of the base casting are free of dirt, dust or grease, to help ensure a tight fit.

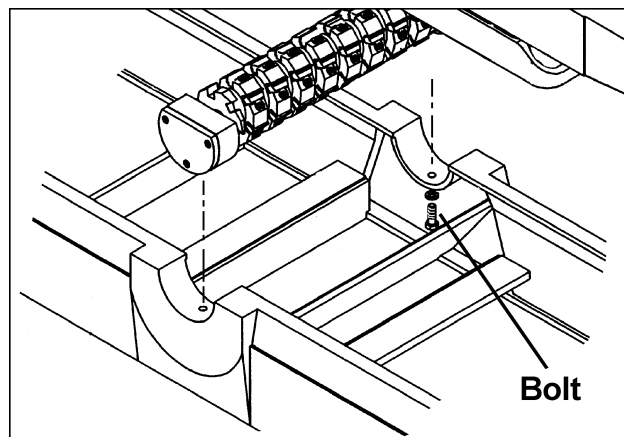


FIGURE 25

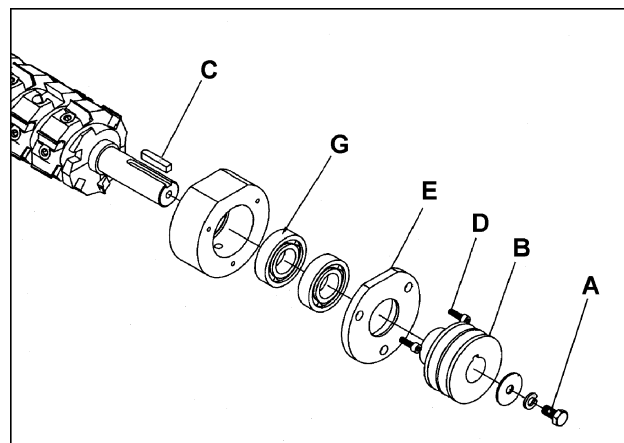


FIGURE 26

## BLADE INSERTS

When blade inserts become dull enough so that it is noticeable when cutting, they should be turned over or replaced entirely. A sharp blade works easier and results in longer blade life. The penalty paid for a dull blade is less blade life and greater wear and tear on all parts of the machine.

An advantage of the helical style cutterhead is that if knife inserts develop nicks, these inserts can be individually flipped or replaced without the need to disturb the other inserts.

If the jointer is used often, keeping a spare set of blade inserts on hand is recommended.

Gum and Pitch which collect on the inserts cause excessive friction as the work continues, resulting in overheating of the inserts, less efficient cutting, and consequent loss of blade life. Use "Gum and Pitch Remover" or oven cleaner, to wipe off the inserts.

## TROUBLE-SHOOTING (PJ1696 Jointer)

PROBLEM	POSSIBLE CAUSE	SOLUTION [with page #]
Finished stock is concave on the end.	Knife tip is higher than outfeed table.	Raise outfeed table until it is on the same level with tip of knife. [11]
Back end of stock is thicker than front side.	Knife tip not leveled with outfeed table.	Adjust outfeed table to align with knife tip. [11]
Finished stock is concave in the middle.	Both tables have too much end fall.	Raise table ends by adjusting the screws at the four corners under the tables. See Figure 27 below.
Two tables are not in line.		Adjust using the screws shown in Figure 28. (Remove protective caps to access screw).
Ends of finished stock are cut more than the middle.	Table ends are raised higher than the middle.	Lower both table ends with the adjustment screws. See Figure 27.

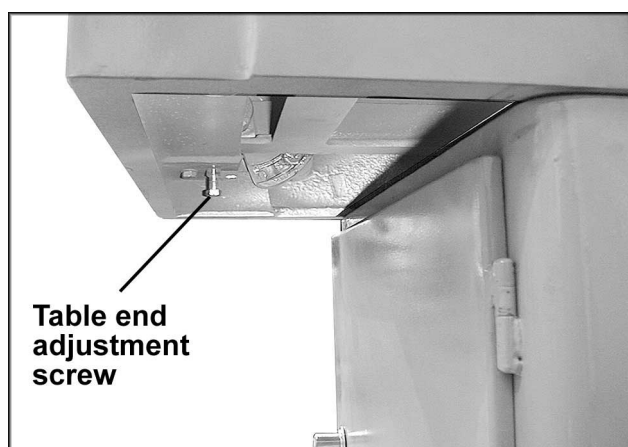


FIGURE 27

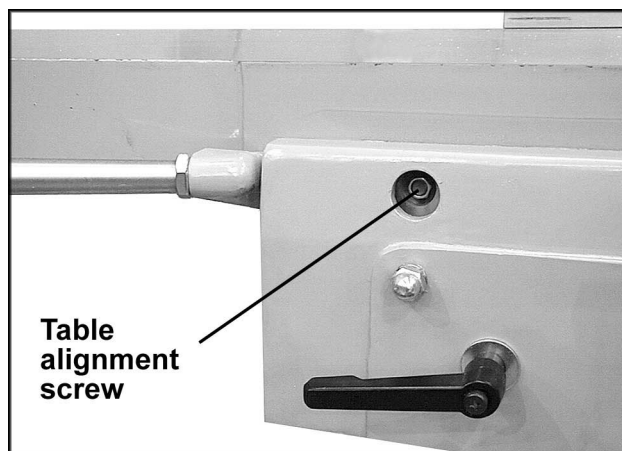
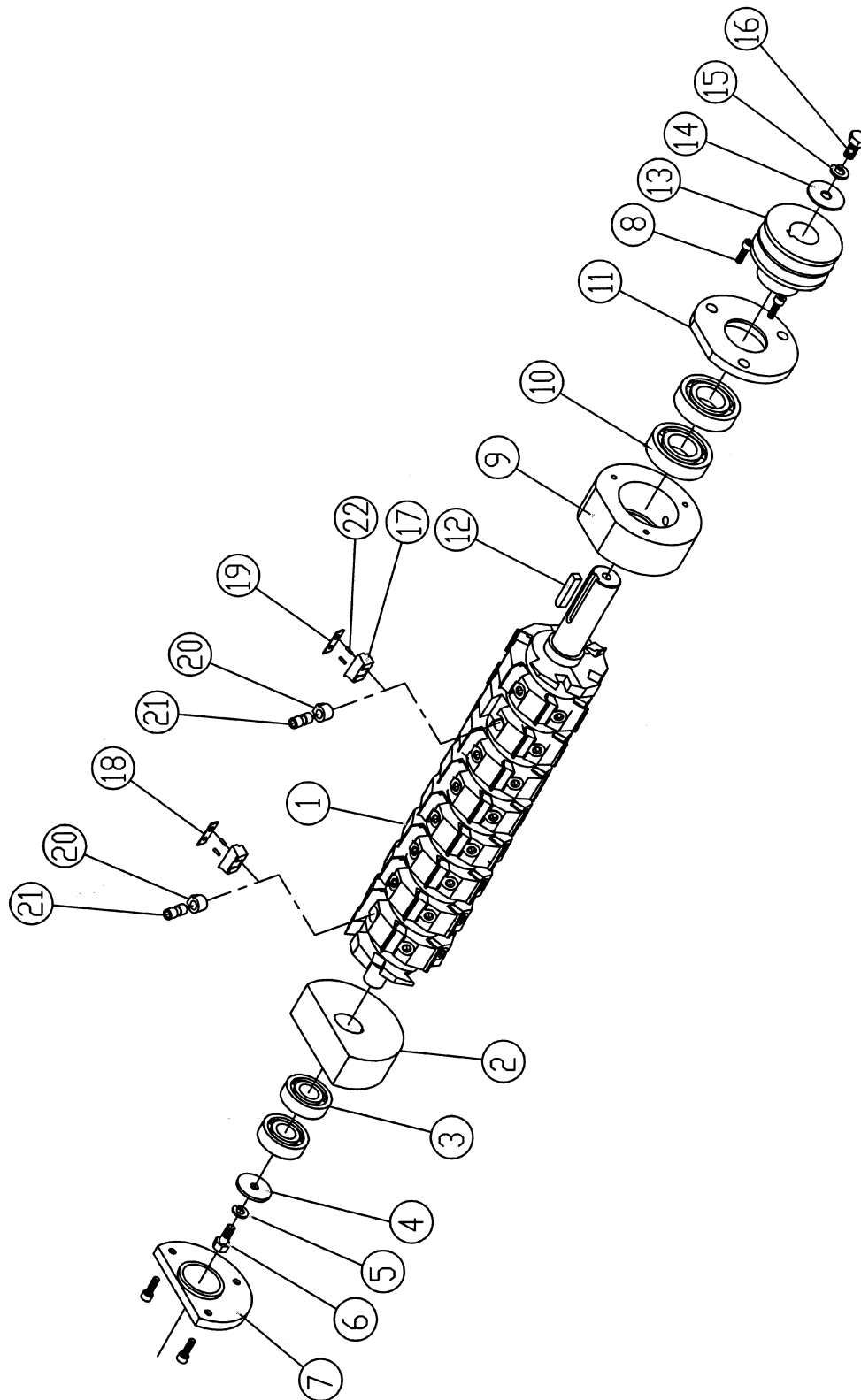


FIGURE 28

## PARTS LIST: Cutterhead Assembly (PJ1696 Jointer)

Index No.	Part No.	Description	Size	Qty.
	PJ1696-001	Cutterhead Assembly (Items 2 thru 12 & 17 thru 21)		1
1	PJ1696-014	Cutterhead		1
2	PJ1696-002	Left Bearing Housing		1
3	BB-6204ZZ	Ball Bearing		2
4	PJ1696-003	Bearing Washer		1
5	TS-2361081	Lock Washer	M8	1
6	TS-1490031	Hex Cap Screw	M8 x 20	1
7	PJ1696-004	Left Bearing Cap Plate		1
8	TS-1503051	Socket Head Cap Screw	M6 x 20	6
9	PJ1696-005	Right Bearing Housing		1
10	BB-6206ZZ	Bearing		2
11	PJ1696-006	Right Bearing Cap Plate		1
12	PJ1696-007	Key	8 x 8 x 40L	1
13	PJ1696-008	Cutterhead Sheave		1
14	PJ1696-009	Retainer Washer		1
15	TS-2361101	Lock Washer	M10	1
16	TS-1491021	Hex Cap Screw	M10 x 20	1
17	PJ1696-010	Gib		58
18	PJ1696-011	Carbide Insert Knife-Rabbet (Sold in pkg of 2)		2
19	6400013	Carbide Insert Knife (Sold in pkg of 10)		56
20	PJ1696-012	Gib Nut		58
21	PJ1696-013	Gib Screw		58
22	PJ1696-015	Gib Pin		116

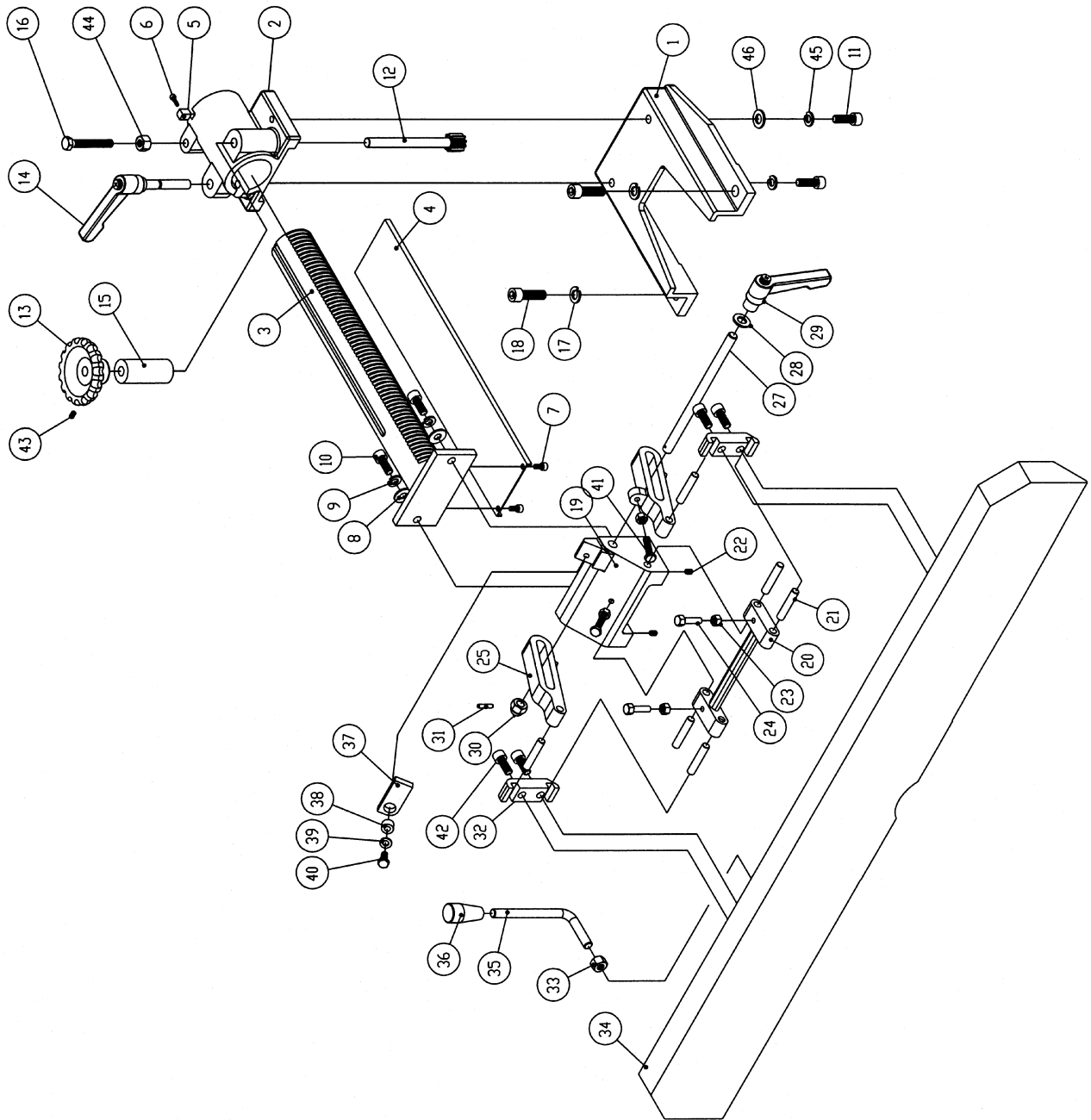
## Cutterhead Assembly (PJ1696 Jointer)



## PARTS LIST: Fence Assembly (PJ1696 Jointer)

Index No.	Part No.	Description	Size	Qty.
	PJ1696-100	Fence Assembly (Items 19 thru 41)		
1	PJ1696-101	Fence Support		1
2	PJ1696-102	Bracket		1
3	PJ1696-103	Gear Column		1
4	PJ1696-104	Cutterhead Guard		1
5	PJ1696-105	Block		1
6	TS-1501051	Socket Head Cap Screw	M4 x 16	1
7	TS-1503031	Socket Head Cap Screw	M6 x 12	2
8	TS-1550071	Flat Washer	M10	3
9	TS-2361101	Lock Washer	M10	4
10	TS-1491031	Hex Cap Screw	M10 x 25	6
11	TS-1505051	Socket Head Cap Screw	M10 x 35	2
12	PJ1696-106	Pinion Gear		1
13	PJ1696-107	Handwheel		1
14	PJ1696-108	Handle		1
15	PJ1696-109	Collar		1
16	TS-1491121	Hex Cap Screw	M10 x 70	1
17	TS-2361121	Lock Washer	M12	2
18	TS-1506051	Socket Head Cap Screw	M12 x 40	2
19	PJ1696-110	Fence Bracket		1
20	PJ1696-111	Fence Hinge		1
21	PJ1696-112	Fence Hinge Shaft		6
22	TS-1523031	Socket Set Screw	M6 x 10	3
23	TS-2311081	Hex Nut (Full)	M8	4
24	TS-1490051	Hex Cap Screw	M8 x 30	2
25	PJ1696-113	Left Tilt Bracket		1
26	PJ1696-114	Right Tilt Bracket		1
27	PJ1696-115	Support Shaft		1
28	TS-2360121	Flat Washer	M12	3
29	PJ1696-116	Locking Handle		1
30	TS-2331121	Cap Nut	M12	1
31	PJ1696-117	Pin	Ø5x20L	1
32	PJ1696-118	Fence Hinge Base		2
33	TS-1540081	Hex Nut (Full)	M12	1
34	PJ1696-119	Fence Body		1
35	PJ1696-120	Handle Rod		1
36	PJ1696-121	Handle		1
37	PJ1696-122	Stop Plate, -90 Degree		1
38	PJ1696-123	Collar		1
39	TS-2361081	Lock Washer	M8	1
40	TS-1490031	Hex Cap Screw	M8 x 20	1
41	TS-1490061	Hex Cap Screw	M8 x 35	2
42	TS-1505021	Socket Head Cap Screw	M10 x 20	4
43	TS-1523041	Socket Set Screw	M6 x 12	1
44	TS-2311101	Hex Nut (Full)	M10	1
45	TS-2361101	Lock Washer	M10	2
46	TS-1550071	Flat Washer	M10	2

## Fence Assembly (PJ1696 Jointer)

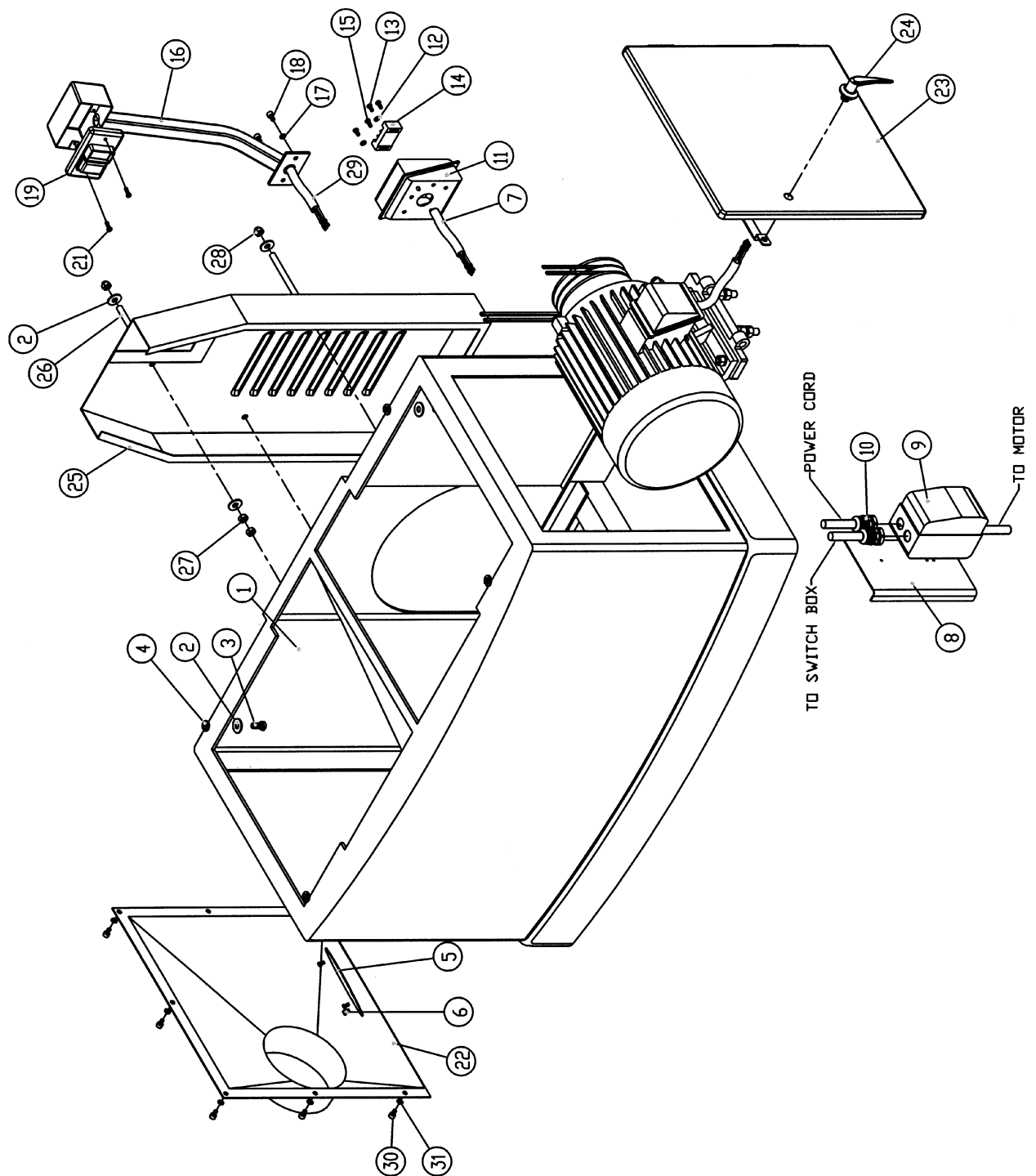


## PARTS LIST: **Stand Assembly** (PJ1696 Joints)

Index No.	Part No.	Description	Size	Qty.
1	PJ1696-201	Stand		1
2	TS-0680042	Flat Washer	3/8	10
3	TS-0060031	Hex Cap Screw	3/8-16 x 3/4	4
4	TS-0720091	Lock Washer	3/8	4
5	PJ1696-202	Safety Plate		1
6	TS-1533032	Pan Head Machine Screw	M5 x 8	3
7	PJ1696-203	Control Cord		1
8	PJ1696-204	Plate		1
9	PJ1696-205	Contactor Box		1
	PJ1696-232	Fuse (shown on page 36)		1
	PJ1696-233	Transformer (shown on page 36)		1
	PJ1696-234	Contactor (shown on page 36)		1
	PJ1696-235	Overload Relay (shown on page 36)		1
10	PJ1696-206	Cord Clamp	BG-19	2
11	PJ1696-207	Junction Box		1
12	TS-1550031	Flat Washer	M5	2
13	TS-1533032	Pan Head Machine Screw	M5 x 10	2
14	PJ1696-208	Terminal Strip	30A	1
15	PJ1696-209	Pan Head Machine Screw	M5 x 25	2
16	PJ1696-210	Switch Arm		1
17	TS-2361061	Lock Washer	M6	9
18	TS-1503021	Socket Head Cap Screw	M6 x 10	9
19	PJ1696-211	Switch		1
21	PJ1696-212	Pan Head Machine Screw	M5 x 16	2
22	PJ1696-213	Dust Chute		1
23	PJ1696-214	Right Side Door		1
24	PJ1696-215	Latch		1
25	PJ1696-216	Motor Cover		1
26	PJ1696-217	Stud	3/8-16 x 4	3
27	TS-0570031	Hex Nut	3/8-16	6
28	TS-059303	Cap Nut	3/8-16	3
29	PJ1696-218	Switch Cord		1
30	TS-0207021	Socket Head Cap Screw	1/4-20 x 1/2	7
31	TS-0720071	Lock Washer	1/4	7



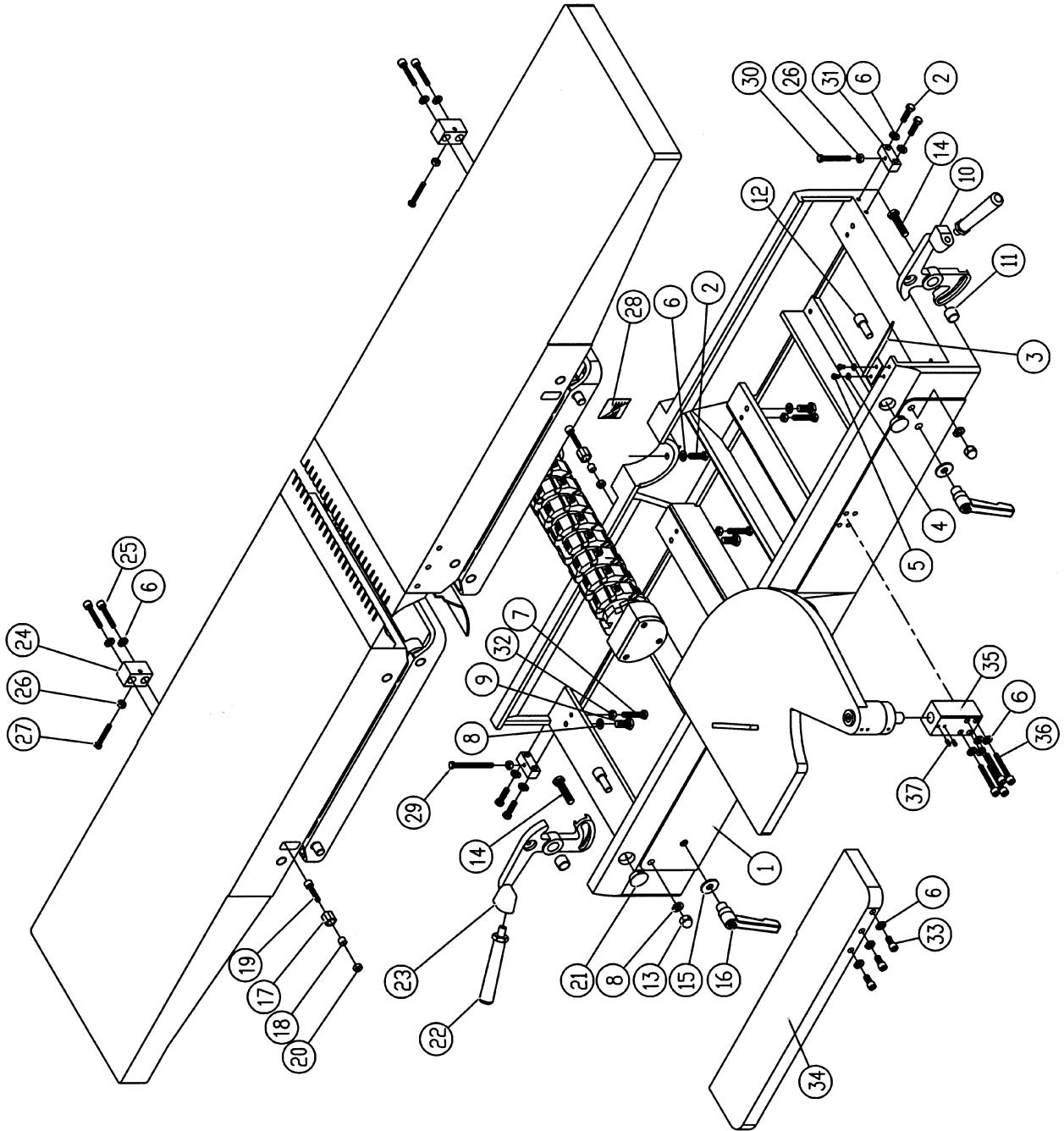
## Stand Assembly (PJ1696 Jointer)



## PARTS LIST: **Bed Assembly** (PJ1696 Jointer)

Index No.	Part No.	Description	Size	Qty.
1	PJ1696-301	Table Base		1
2	TS-0090061	Hex Cap Screw	3/8-16 x 1-1/4	6
3	PJ1696-302	Pointer		1
4	TS-2361061	Lock Washer	M6	2
5	TS-1534032	Pan Head Machine Screw	M6 x 10	2
6	TS-0720091	Lock Washer	3/8	17
7	TS-0060051	Hex Cap Screw	3/8-16 x 1	8
8	TS-0720111	Lock Washer	1/2	10
9	TS-0070011	Hex Cap Screw	1/2-13 x 1	8
10	PJ1696-303	Table Lifting Handle		1
11	PJ1696-304	Bushing		2
12	PJ1696-305	Pivot Shaft		2
13	PJ1696-319	Cap Nut	1/2-13	2
14	PJ1696-306	Hex Cap Screw	1/2-13 x 2 3/4	2
15	TS-0680061	Flat Washer	1/2	2
16	PJ1696-307	Lock Handle		2
17	PJ1696-308	Stroke Fixed Block		2
18	PJ1696-309	Ring		2
19	TS-0209071	Socket Head Cap Screw	3/8-16 x 1-1/2	2
20	PJ1696-310	Flanged Hex Head Nut	3/8-16	2
21	PJ1696-311	Protector Cover		2
22	PJ1696-312	Knob Handle		2
23	PJ1696-313	Table Lifting Handle		1
24	PJ1696-314	Table Up Adjustment Plate		2
25	TS-0209091	Socket Head Cap Screw	3/8-16 x 2	4
26	TS-0561021	Hex Nut	5/16-18	4
27	TS-0051091	Hex Cap Screw	5/16-18 x 2	2
28	PJ1696-315	Depth Label		1
29	TS-0051151	Hex Cap Screw	5/16-18 x 3-1/2	1
30	TS-0051111	Hex Cap Screw	5/16-18 x 2-1/2	1
31	PJ1696-316	Adjustment Plate		2
32	TS-0561031	Hex Nut	3/8-16	8
33	TS-0209031	Socket Head Cap Screw	3/8-16 x 3/4	3
34	PJ1696-401	Rabbeting Table		1
35	PJ1696-318	Bracket Block		1
36	TS-0209111	Socket Head Cap Screw	3/8-16 x 2-1/2	4
37	TS-0267051	Socket Set Screw	1/4-20 x 1/2	2

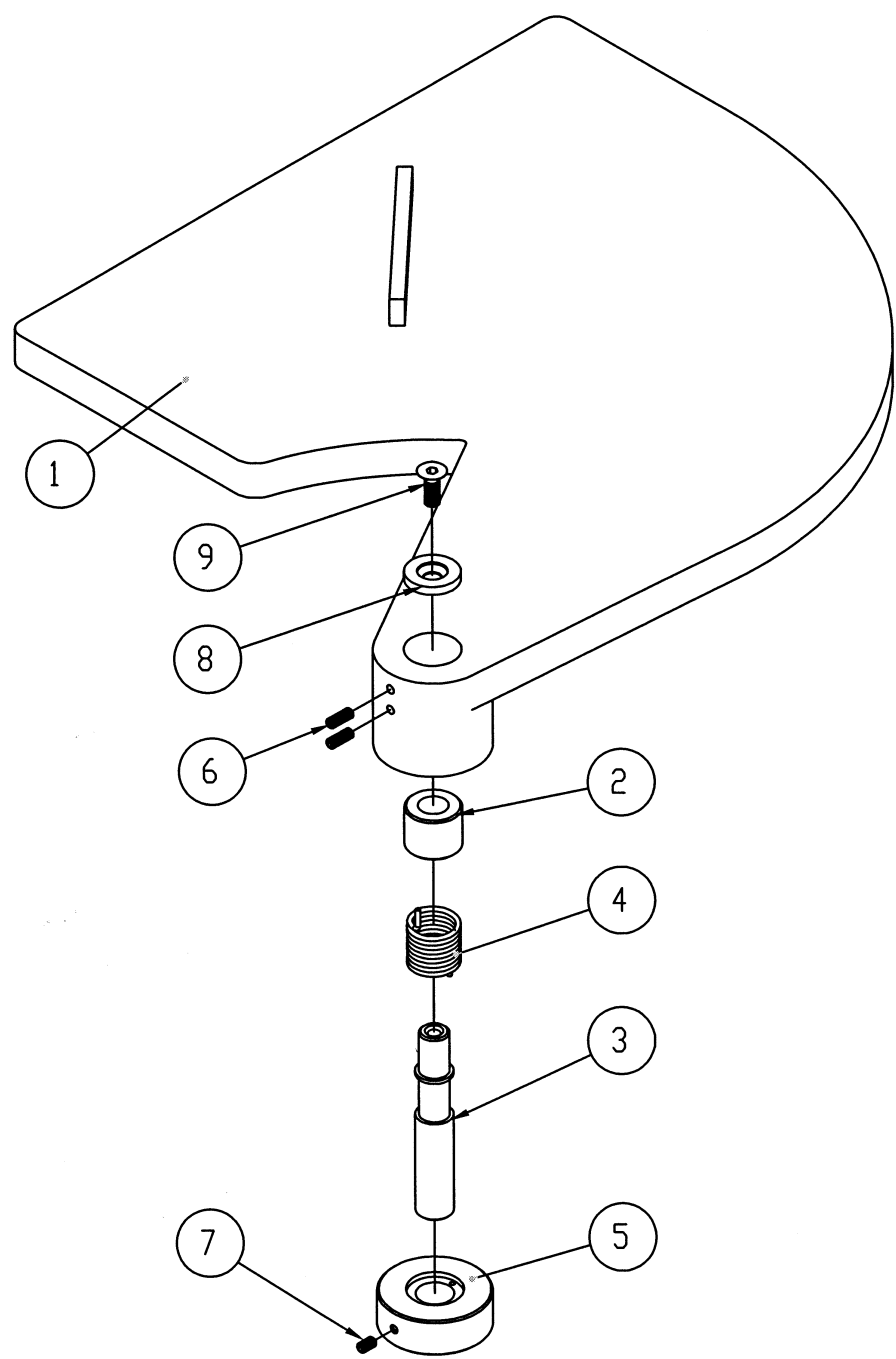
## Bed Assembly (PJ1696 Jointer)



## PARTS LIST: **Cutterhead Guard Assembly** (PJ1696 Jointer)

<b>Index No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Size</b>	<b>Qty.</b>
1 .....	PJ1696-402 .....	Cutter Guard.....		1
2 .....	PJ1696-407 .....	Collar.....		1
3 .....	PJ1696-403 .....	Guard Post .....		1
4 .....	PJ1696-404 .....	Spring.....		1
5 .....	PJ1696-405 .....	Collar.....		1
6 .....	TS-1523051 .....	Socket Set Screw .....	M6 x 16 .....	2
7 .....	TS-1523031 .....	Socket Set Screw .....	M6 x 10 .....	1
8 .....	PJ1696-408 .....	Special Washer .....		1
9 .....	PJ1696-409 .....	Flat Head Machine Screw .....	M8 x 16 .....	1

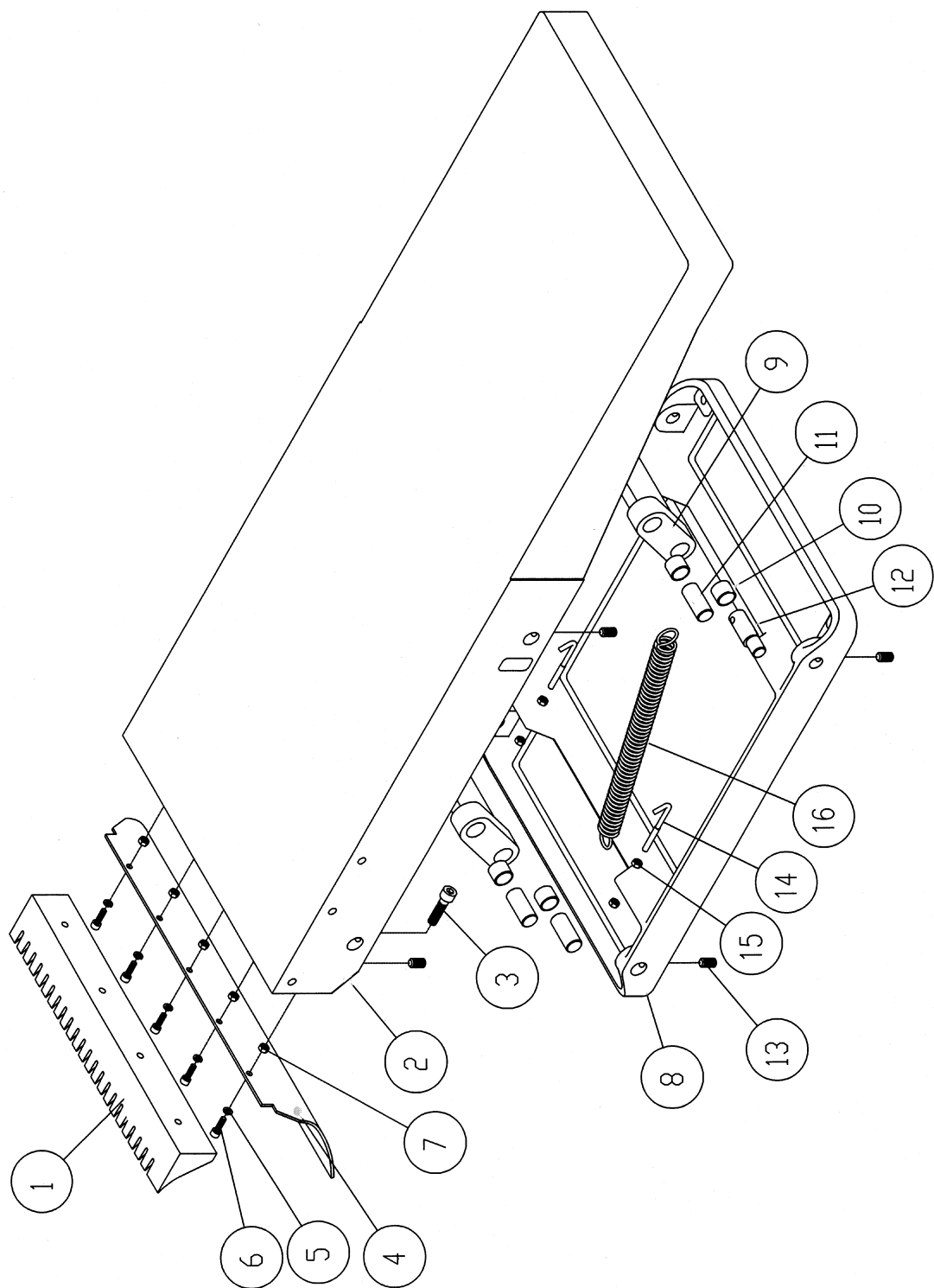
**Cutterhead Guard Assembly (PJ1696 Jointer)**



## PARTS LIST: Infeed Table Assembly (PJ1696 Jointer)

Index No.	Part No.	Description	Size	Qty.
1 .....	PJ1696-501 .....	Infeed Table Lip.....		1
2 .....	PJ1696-502 .....	Infeed Table .....		1
3 .....	TS-1505061 .....	Socket Head Cap Screw .....	M10 x 40 .....	4
4 .....	PJ1696-503 .....	Dust Deflector.....		1
5 .....	TS-2361051 .....	Lock Washer .....	M5.....	5
6 .....	TS-1502051 .....	Socket Head Cap Screw .....	M5 x 20 .....	5
7 .....	TS-1540031 .....	Hex Nut .....	M5.....	5
8 .....	PJ1696-504 .....	Table Lifting Support Base.....		1
9 .....	PJ1696-505 .....	Table Raising Link Bar.....		2
10 .....	PJ1696-506 .....	Bushing .....		8
11 .....	PJ1696-507 .....	Pivot Shaft.....		6
12 .....	PJ1696-508 .....	Adjustment Shaft .....		2
13 .....	TS-1525031 .....	Socket Set Screw .....	M10 x 16 .....	8
14 .....	PJ1696-509 .....	Special Bolt, for Spring .....	1/4-20 x 3.....	2
15 .....	TS-0570011 .....	Hex Nut .....	1/4-20.....	4
16 .....	PJ1696-510 .....	Table Lifting Spring.....		2

**Infeed Table Assembly (PJ1696 Jointer)**

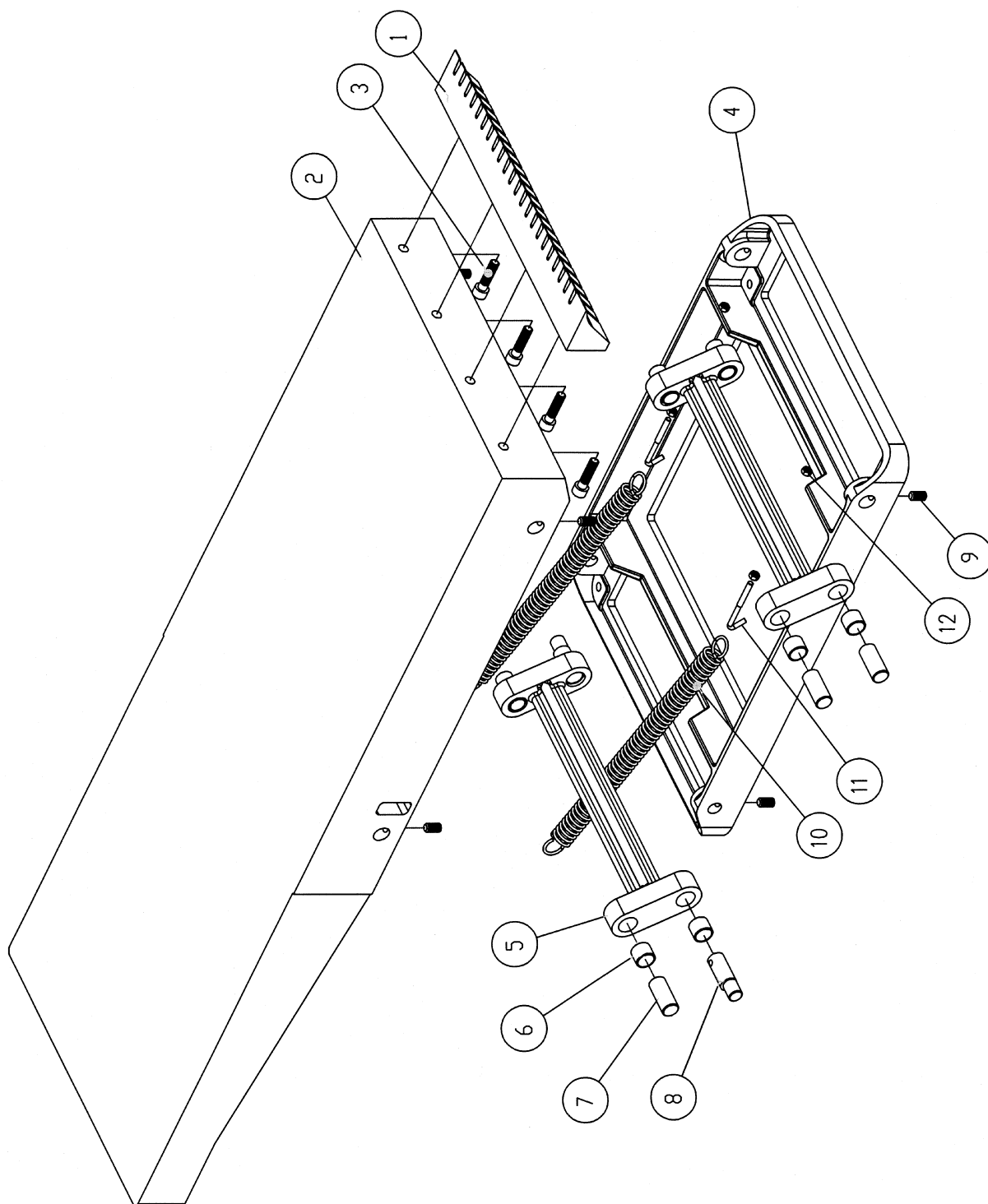


## PARTS LIST: **Outfeed Table Assembly** (PJ1696 Jointer)

<b>Index No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Size</b>	<b>Qty.</b>
1 .....	PJ1696-601 .....	Outfeed Table Lip .....		1
2 .....	PJ1696-602 .....	Outfeed Table.....		1
3 .....	TS-1505061 .....	Socket Head Cap Screw .....	M10 x 40 .....	4
4 .....	PJ1696-603 .....	Table Lifting Support Base.....		1
5 .....	PJ1696-604 .....	Table Raising Link Bar.....		2
6 .....	PJ1696-605 .....	Bushing .....		8
7 .....	PJ1696-606 .....	Pivot Shaft.....		6
8 .....	PJ1696-607 .....	Adjustment Shaft .....		2
9 .....	TS-1525031 .....	Socket Set Screw .....	M10 x 16 .....	8
10 .....	PJ1696-608 .....	Table Lifting Spring.....		2
11 .....	PJ1696-609 .....	Hanger.....		2
12 .....	TS-0570011 .....	Hex Nut .....	1/4-20.....	4



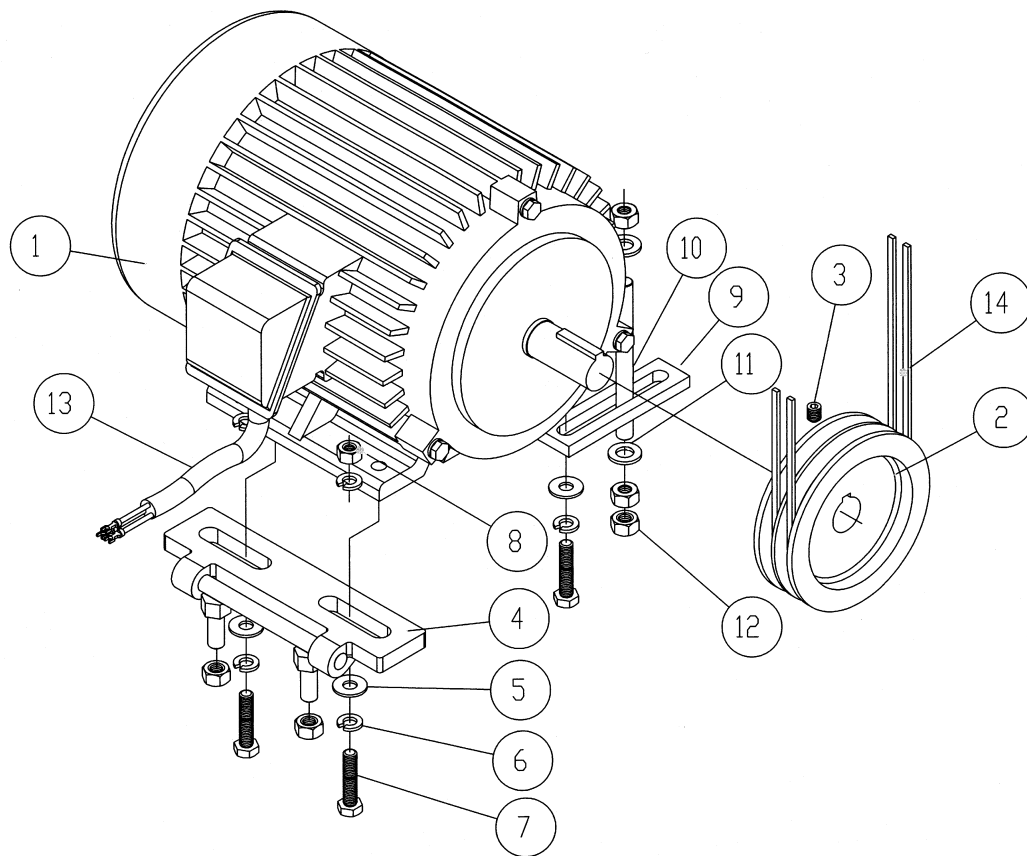
## Outfeed Table Assembly (PJ1696 Jointer)



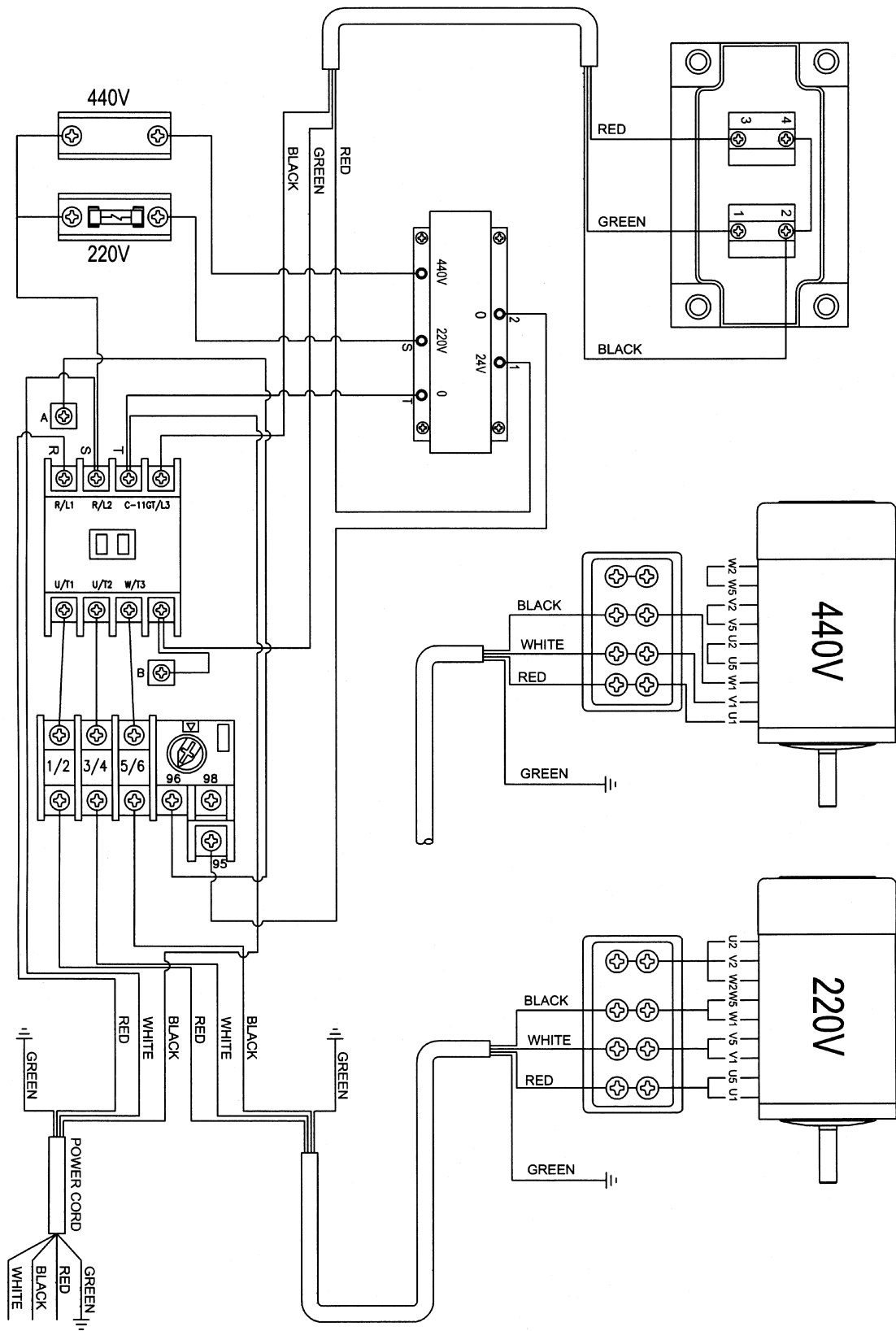
## PARTS LIST: **Motor Assembly** (PJ1696 Jointer)

Index No.	Part No.	Description	Size	Qty.
1 .....	PJ1696-701 .....	Motor.....	7-1/2HP, 3Ph 230/460V, 60Hz .....	1
2 .....	PJ1696-702 .....	Motor Sheave .....	.....	1
3 .....	TS-1525011 .....	Socket Set Screw .....	M10 x 10 .....	2
4 .....	PJ1696-703 .....	Motor Bracket .....	.....	1
5 .....	TS-1550071 .....	Flat Washer .....	M10 .....	3
6 .....	TS-2361101 .....	Lock Washer .....	M10 .....	6
7 .....	TS-2210451 .....	Hex Cap Screw.....	M10 x 45 .....	3
8 .....	TS-2311101 .....	Hex Nut (Full) .....	M10 .....	3
9 .....	PJ1696-704 .....	Support.....	.....	1
10 .....	PJ1696-705 .....	Rod.....	M12 x 150 .....	1
11 .....	TS-2360121 .....	Flat Washer .....	M12 .....	2
12 .....	TS-2311121 .....	Hex Nut (Full) .....	M12 .....	5
13 .....	PJ1696-706 .....	Motor Cord .....	.....	1
14 .....	PJ1696-707 .....	V-Belt .....	.....	2

## Motor Assembly (PJ1696 Jointer)



ELECTRICAL SCHEMATIC (PJ1696 Jointer)



## **Preventive Maintenance**

### Checklist for Model PJ1696 Jointer

Monthly:

- [ ] Inspect entire machine for loose bolts, nuts, screws. Tighten and replace as necessary.
- [ ] Clean table and cutterhead area, removing sawdust and chips with a soft bristle brush. Remove gum and pitch with oven cleaner.
- [ ] Lubricate adjusting screws beneath infeed and outfeed tables with a good grade non-hardening grease.
- [ ] Clean table surface. If rusted, use paste mixture of household ammonia, a good commercial detergent and 000 steel wool. Wash table down with hot, soapy water, rinse and dry thoroughly. Coat surface with talcum powder, rubbing briskly into surface with a clean blackboard eraser.
- [ ] Check belt condition. Replace as needed. Dress with parafin. Check belt tension.
- [ ] Check motor for loose wiring and sawdust congestion, pulleys tight and in line.
- [ ] Check bearings. Replace any bad or suspect bearings immediately.
- [ ] Check fence accuracy.
- [ ] Check and re-set fence stops at 45 and 90 degree positions.
- [ ] Check electrical controls function. Clean dust from internal parts of magnetic control boxes.

## **Replacement Parts**

To order parts or reach our service department, call 1-800-274-6848 between 7:30 a.m. and 6:00 p.m. (CST), Monday through Friday. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.



***POWERMATIC***<sup>®</sup>

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