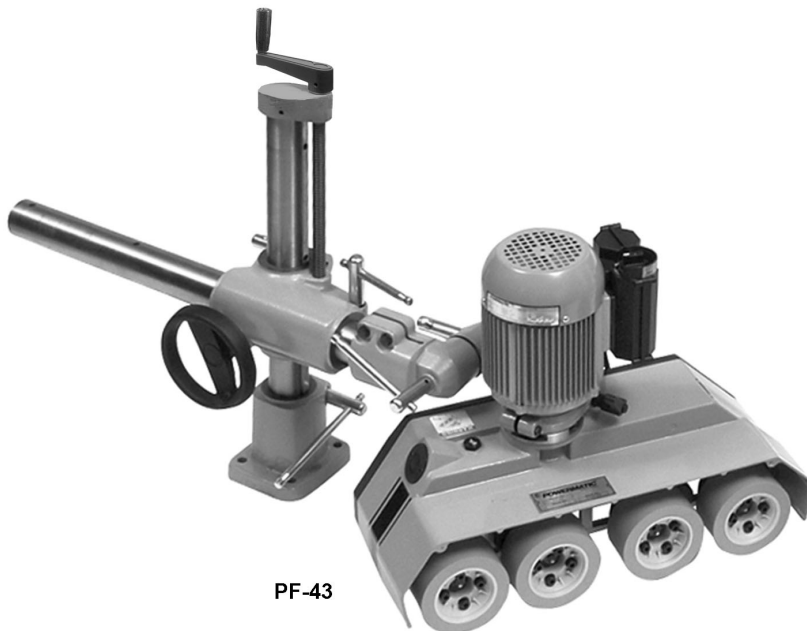


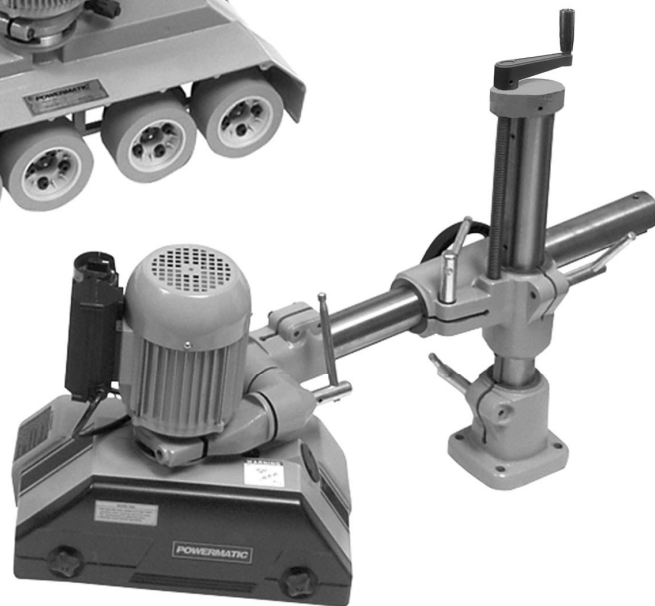
# **POWERMATIC®**

## **Operating Instructions and Parts Manual 4-Speed Stock Feeders**

**Models PF-31, PF-33, PF-41, PF-43**



PF-43



PF-33

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**Part No. M-1790800**  
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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. Powermatic woodworking machinery is designed to be used with Wood. Use of these machines in the processing of metal, plastics, or other materials outside recommended guidelines may void the warranty. The exceptions are acrylics and other natural items that are made specifically for wood turning.

## 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 stock feeder 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 stock feeder, do not use until proper training and knowledge have been obtained.
5. Do not use this stock feeder 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 stock feeder. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
7. Before operating this stock feeder, 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 supply.
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 upon completion of maintenance.
15. Make sure the stock feeder is firmly secured to an auxiliary machine 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 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 tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.

26. Disconnect from power both the stock feeder and the auxiliary 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. Never leave the feeder or auxiliary machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
29. Remove loose items and unnecessary work pieces from the area before starting the machine.

**⚠ WARNING:** This product can expose you to chemicals including lead and cadmium which are known to the State of California to cause cancer and birth defects or other reproductive harm, and mercury which is known to the State of California to cause birth defects or other reproductive harm. For more information go to <http://www.p65warnings.ca.gov>.

**⚠ WARNING:** Drilling, sawing, sanding or machining wood products generates wood dust and other substances known to the State of California to cause cancer. Avoid inhaling dust generated from wood products or use a dust mask or other safeguards for personal protection.

Wood products emit chemicals known to the State of California to cause birth defects or other reproductive harm. For more information go to <http://www.p65warnings.ca.gov/wood>.

**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.

**- - SAVE THESE INSTRUCTIONS - -**

## Introduction

This manual is provided by Powermatic covering the safe operation and maintenance procedures for the Model PF-31 (single phase), PF-33 (three phase), PF-41 (single phase) and PF-43 (three phase) Stock Feeders. 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 either your local supplier or Powermatic. Powermatic can also be reached at our web site: [www.powermatic.com](http://www.powermatic.com).

## Description

The PF-series Stock Feeders have a continuous-duty motor and lubricated gearbox that transmit power to the roller chain and sprockets to feed rollers, providing superior positive feeding for all types of materials. The support column is fully adjustable with universal joints, and heavy locking mechanisms secure the feeder in horizontal, vertical or angled positions.

## Specifications

Model Number.....	PF-31, PF-33.....	PF-41, PF-43.....
Stock Number (1Ph, 115V).....	1790807K.....	1790812K.....
Stock Number (3PH, 230V).....	1790800K.....	1790811K.....
Stock Number (3Ph, 460V).....	1790810K.....	na.....
Height with handle (in.).....	29-1/2.....	29-1/2.....
Width (in.).....	18.....	23-1/2.....
Length – with handle and arm fully extended (in.).....	43-1/4.....	43-1/4.....
Column Diameter (in.).....	2-1/4.....	2-1/4.....
Feed Rollers (Dia. x W) (in.).....	4-3/4 x 2-3/8 (Qty. 3).....	4-3/4 x 2-3/8 (Qty. 4).....
Rotation.....	Forward/Reverse.....	Forward/Reverse.....
Number of Speeds.....	4.....	4.....
Range of Speeds (FPM).....	13, 26, 33, 66 (PF-33).....	13, 26, 33, 66 (PF-43).....
	13, 36, 43, 108 (PF-31).....	13, 36, 43, 108 (PF-41).....
Distance Between Wheels –Center to Center (in.).....	5.07 – 5.90.....	5.23 - 5.93 - 5.....
Swing (deg.).....	360.....	360.....
Vertical Movement (in.).....	9-3/4.....	9-3/4.....
Horizontal Movement (in.).....	18.07.....	18.07.....
Maximum Height of Rollers Parallel to Tabletop (in.).....	8-1/2.....	8-1/2.....
Rollers Vertical Suspension Travel, Approx. (in.).....	9/16.....	9/16.....
Motor.....	TEFC, 1HP, 60Hz.....	TEFC, 1HP, 60Hz.....
Approximate Net Weight (lbs.).....	134.....	150.....
Approximate Shipping Weight (lbs.).....	143.....	158.....

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.

# Features and Terminology

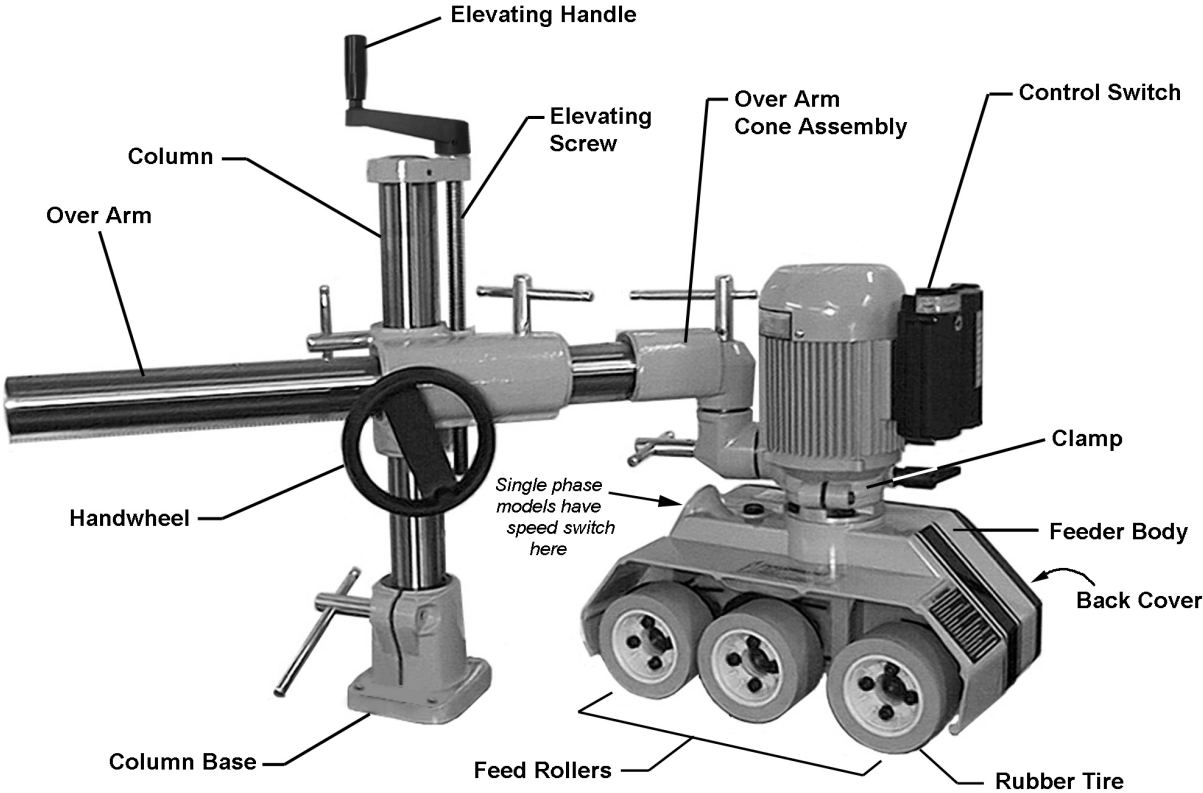


Figure 1

## Unpacking

Open both cartons and check for shipping damage. Report any damage immediately to your distributor and shipping agent. Do not discard any shipping material until the Stock Feeder is assembled and running properly.

Compare the contents of the cartons 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.

## Contents of the Shipping Container

### Carton #1:

- 1 Stock Feeder
- 1 Grease Gun (grease not included – follow instructions on its packaging to fill)
- 1 Boring Template
- 1 Owner's Manual (not shown)
- 1 Warranty Card (not shown)

### Carton #2:

- 1 Feeder Mounting Assembly
- 1 Handle
- 1 Over Arm
- 1 Over Arm Cone Assembly
- 4 Hex Cap Screws, M12x50 (not shown)
- 4 Spring Washers, M12 (not shown)

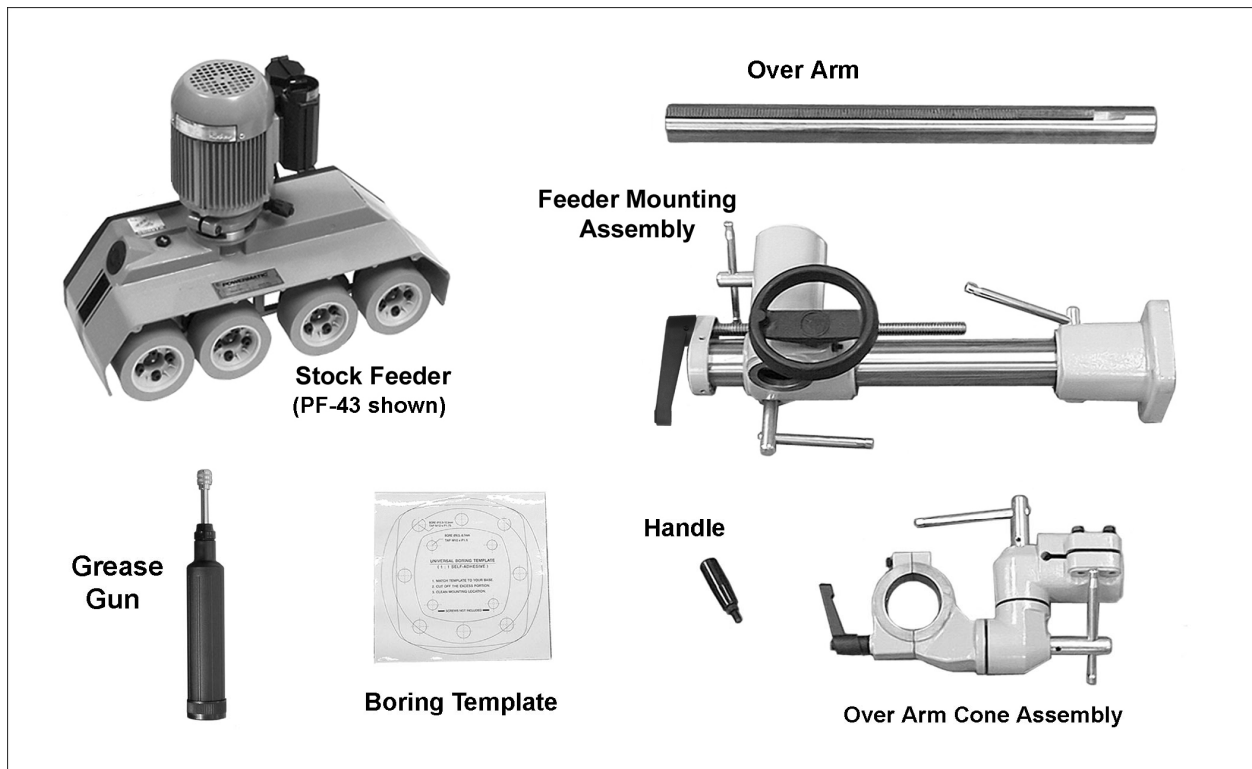


Figure 2

## **⚠️WARNING**

Read and understand the entire contents of this manual before attempting set-up or operation! Failure to comply may cause serious injury.



# Assembly

## Tools needed for assembly (not provided):

Electric drill  
center punch and hammer  
10.5mm drill bit  
M12 x P1.75 tap  
12mm, 14mm and 19mm wrenches  
5mm hex wrench

## Hardware needed for assembly:

4 M12 spring washers  
4 M12 x P1.75 hex cap screws (length will depend upon thickness of table)

Exposed metal areas of the stock feeder have been factory coated with a protectant. This should be removed with a soft cloth and a cleaner/degreaser. Do not use gasoline, acetone, lacquer thinner or other highly flammable substances for this purpose. Avoid getting solvents near plastic or rubber parts, and do not use an abrasive pad because it may scratch metal surfaces.

The stock feeder should be mounted securely to an auxiliary machine in a well-lighted area. Leave enough space around the work area for loading and off-loading stock and general maintenance.

**⚠WARNING** The stock feeder and the auxiliary machine to which you are mounting it should both be disconnected from power during installation.

Refer to pages 14 through 16 for help in placing the stock feeder on a shaper, table saw or jointer.

1. Rest the feeder mounting assembly on the table of the auxiliary machine to determine the mounting location. (Figure 3 shows it being mounted to a table saw). Keep in mind the length of the over arm, so that after it is connected to the feeder mounting assembly it will have enough adjustment for positioning the stock feeder where needed. Mark the table if needed to identify the position.

**IMPORTANT:** Locate the feeder mounting assembly so that you will not drill through ribs or supports beneath the table surface.

2. Remove the feeder mounting assembly from the table. Find the boring template that was provided with your stock feeder, and identify the centerline spacing for the holes in the column base for your particular model.

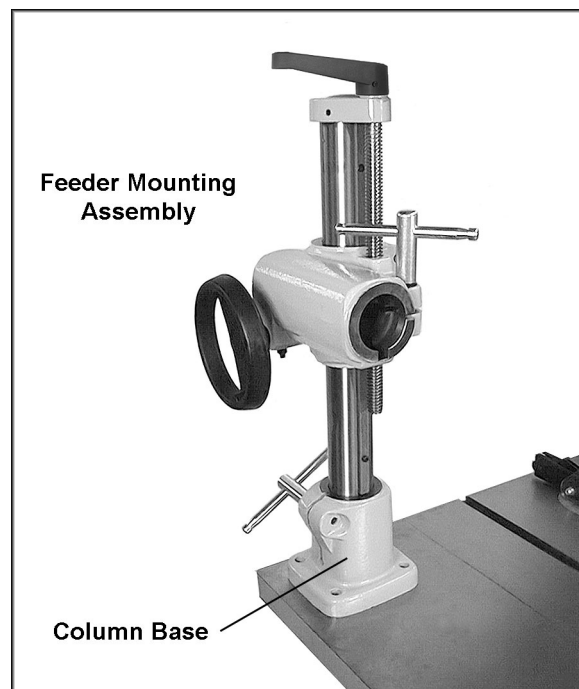


Figure 3

3. Clean the table surface, then peel away the backing from the boring template in increments, as you carefully apply the boring template onto the table.
4. Center punch and drill four 10.5mm diameter holes in the table surface, then tap the holes with M12 x P1.75 threads.
5. Peel off the boring template and discard.
6. Place the column base in position (Figure 4), and align the four holes in the column base with the holes in the table. Position the column base so that its locking handle will be in a convenient position.
7. Insert four M12x50 hex cap screws with four M12 spring washers through the holes in the stand. See Figure 4.
8. Tighten the four screws firmly with a wrench.
9. Install the small handle into the hole in the elevating handle (Figure 5). Screw the small handle into the hole, then tighten the hex nut down against the elevating handle using a 14mm wrench.
10. The small handle should still be able to rotate freely. If it does not, loosen the hex nut, back off the socket head cap screw with a 5mm hex wrench as shown, then re-tighten the hex nut.
11. Remove the screw from below the bracket, then remove the handwheel (Figure 6).
12. Slide the end of the over arm that has the rack extending all the way to the edge, into the bracket (Figure 7). NOTE: The rack will slide through the slot inside the bracket.
13. Re-install handwheel, then reinstall screw (Figure 6). Make sure the rack of the overarm meshes properly with the pinion on the handwheel shaft. The over arm can now be moved simply by rotating the handwheel.
14. Place the sleeve of the over arm cone assembly onto the over arm as shown in Figure 8. Loosen further the two hex cap screws if needed. Push the cone assembly onto the over arm as far as it will go.
15. Tighten the two hex cap screws (Figure 8) with a 14mm wrench.

**CAUTION** The stock feeder is heavy. The use of an assistant may be necessary.

16. Place the stock feeder on the table surface, and lower the over arm so that the clamp is positioned to accept the stock feeder. (see “Basic Feeder Movements”, page 12, for instructions on positioning the over arm.)

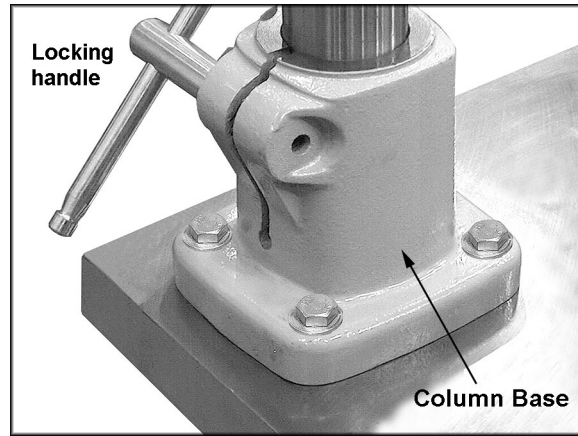


Figure 4

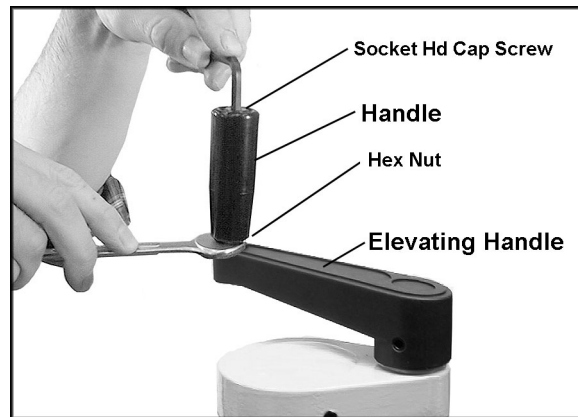


Figure 5

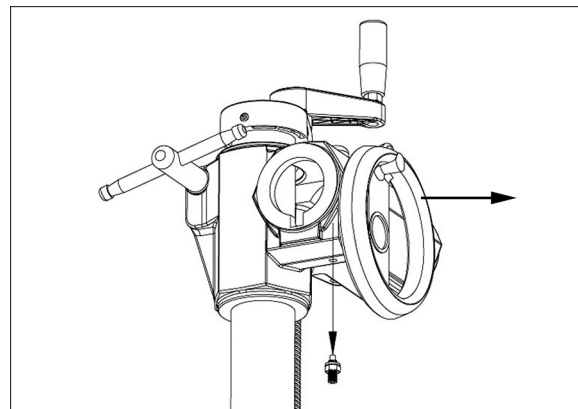


Figure 6

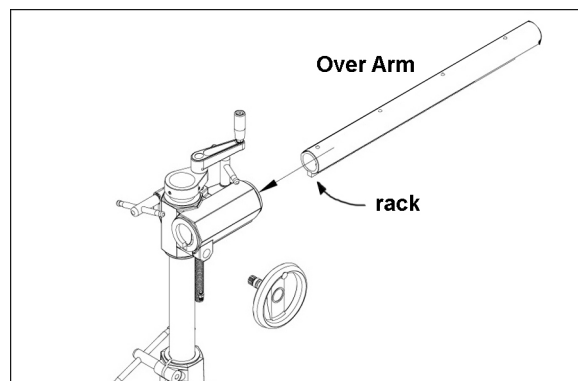


Figure 7

17. Mounting the feeder body may be easier if you loosen the two hex cap screws (shown in Figure 8) and rotate the over arm cone assembly so that the clamp is toward the bottom, as shown in Figure 9. Loosen the handles and rotate the cones as needed to get the clamp in position. Re-tighten the screws and handles before mounting the feeder body.

18. Unscrew the bolt and the handle (Figure 9) from the clamp, and remove the outer half of the clamp.

19. Position the neck of the stock feeder into the inner half of the clamp, then attach the outer half of the clamp. Re-install the bolt and handle and tighten both of them gradually and in turns, until the clamp is evenly tight over the stock feeder neck. NOTE: The seam between the two halves of the clamp will not close entirely.

The handle (Figure 9) is adjustable. To tighten it, rotate the handle clockwise, then lift out on the handle, rotate it counterclockwise on the pin and release it, making sure it re-seats itself on the pin. Continue this procedure until tight. (This adjustable feature allows the handle to be re-positioned at any time while remaining tight.)

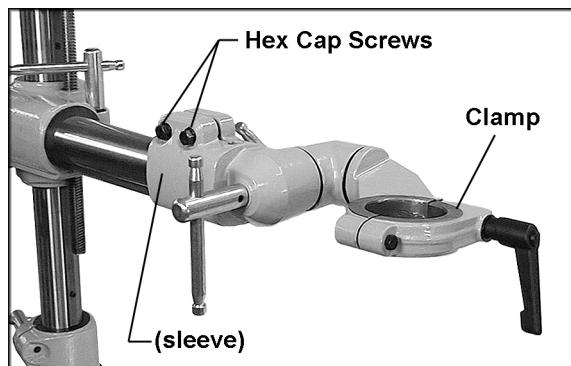


Figure 8

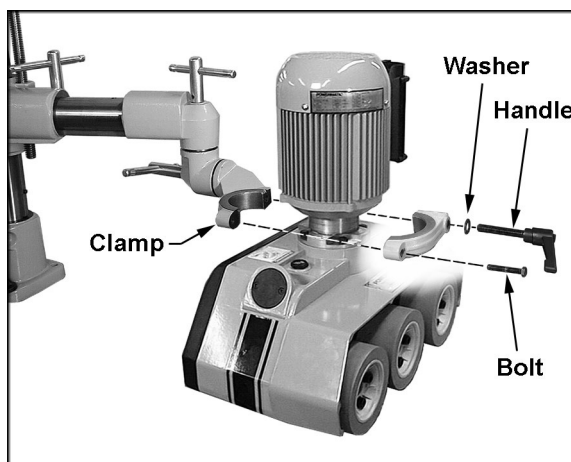


Figure 9

## Grounding Instructions

**⚠WARNING** Electrical connections must be made by a qualified electrician in compliance with all relevant codes. This machine must be properly grounded to help prevent electrical shock and possible fatal injury.

The PF-series Feeders are available in voltages ranging from 115 to 460, depending on the model you purchased. Make sure the voltage of your power supply matches the specifications on the motor plate of the stock feeder.

The Stock Feeder is not supplied with an electrical plug. You may either connect an appropriate UL/CSA listed plug, or “hard-wire” the machine directly to a service panel.

If the stock feeder is to be hard-wired to a panel, make sure a disconnect is available for the operator. Also make sure the fuses have been removed or the breakers have been tripped in the circuit to which the stock feeder will be connected. Place a warning placard on the fuse holder or circuit breaker to prevent it being turned on while the machine is being wired.

The stock feeder must comply with all local and national codes after being wired.

This machine must be grounded. 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 to the operator. 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.

## Extension Cords

If an extension cord is necessary, make sure the cord rating is suitable for the amperage listed on the machine's motor plate. An undersize cord will cause a drop in line voltage resulting in loss of power and overheating.

The chart in Figure 10 shows the correct size cord to use based on cord length and motor plate amp rating. If in doubt, use the next heavier gauge. The smaller the gauge number the heavier the cord.

**Recommended Gauges (AWG) of Extension Cords**

Amps	Extension Cord Length *					
	25 feet	50 feet	75 feet	100 feet	150 feet	200 feet
< 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.

## Adjustments

### Basic Feeder Movements

Refer to Figure 11.

To raise or lower the over arm, loosen handle (A) and rotate elevating handle (B). When adjustment is complete, re-tighten handle (A).

To move the over arm forward or back, loosen handle (C) and rotate handwheel (D). When adjustment is complete, re-tighten handle (C).

To swing the over arm across the table, loosen handle (E) and swing the over arm to desired position. Re-tighten handle (E) before operating the stock feeder.

To rotate the cones to help position the feeder, loosen handles (F). Tighten handles when adjustment is complete.

To rotate the stock feeder on its vertical axis, loosen handle (G) just enough that the stock feeder will freely rotate. Re-tighten handle (G) before operating the stock feeder.

Figure 10

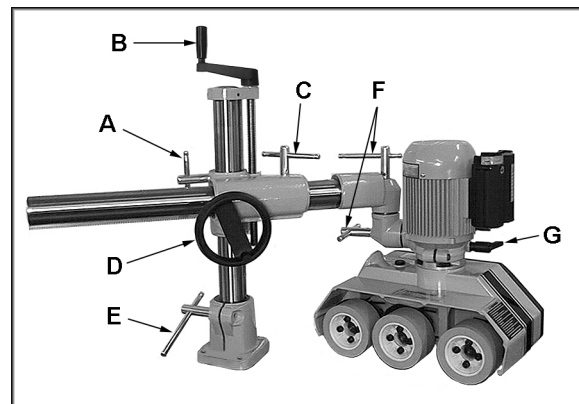


Figure 11



Figure 12

### Edgewise Stock Feeder Position

The stock feeder can be turned "edgewise" so that the feed is along the side of the workpiece. This is useful when edging stock on a shaper or jointer. The position is achieved using a combination of cone rotations, as shown in Figure 12.

### Speed Selection

The stock feeder has four speeds, or feed rates: 13, 26, 33 and 66 FPM for the 3-Phase models; and 13, 36, 43 and 108 FPM for the 1-Phase models. These speeds are achieved by a combination of gear position and the setting of the control switch.

**⚠WARNING** Disconnect stock feeder from power source before opening the back cover or switching gears.

To change the position of the gears:

1. Disconnect machine from power source.
2. Unscrew the two knobs and pull off the back cover to expose the gear system, shown in Figure 13.
3. Remove hex nuts and flat washers (A, Figure 13) with a 14mm wrench.
4. Figure 14 shows the relationship of gear position to create each of the four speeds. A similar chart is affixed to the inside of the back cover on the Stock Feeder.
5. Install new gear configuration, making sure the notch in each gear slides into the keyway of the shaft. Push the gears as far as they will go onto the shafts.
6. Install flat washer and hex nut (A, Figure 13) on each shaft, and tighten.
7. Re-install back cover and tighten knobs.

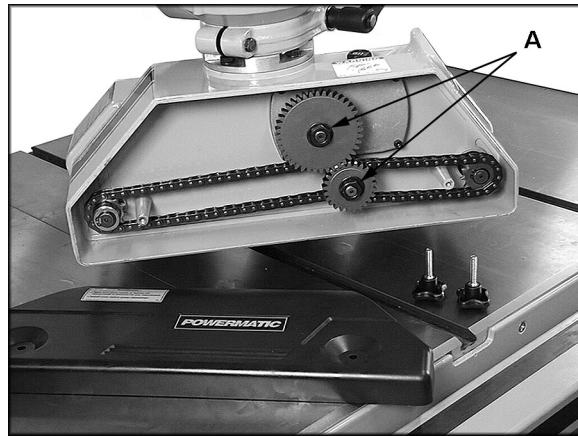


Figure 13

Switch Position	Speed		Gear Position
	1-Phase Feeders	3-Phase Feeders	
Low	36 fpm 11 mpm	33 fpm 10 mpm	
High	108 fpm 33 mpm	66 fpm 20 mpm	
Low	13 fpm 4 mpm	13 fpm 4 mpm	
High	43 fpm 13 mpm	26 fpm 8 mpm	

fpm=feet per minute  
mpm = meters per minute

Figure 14

## Operating Controls

The control switch for 3-phase units is shown in Figure 15; the control switches for 1-phase units are shown in Figure 16. Speeds are indicated by the universal symbols of hare (high speed) and tortoise (low speed). The switch can be turned for either forward or reverse direction.

**⚠WARNING** If a jam should occur while feeding a workpiece, DO NOT turn the stock feeder to reverse while the auxiliary machine is still running in forward direction.

If a workpiece becomes jammed, turn off the stock feeder, and then turn off the auxiliary machine. Raise the stock feeder in order to clear the workpiece. Then re-set the feeder height, turn on auxiliary machine and stock feeder, and begin the feed over again.



Figure 15  
(3-Phase only)

## Operation

**IMPORTANT:** Before operating the stock feeder, you should be thoroughly familiar with the safety and operating instructions that accompanied the auxiliary machine.

**⚠WARNING** Keep hands away from rollers and cutting tool during operation. Failure to comply may cause injury.

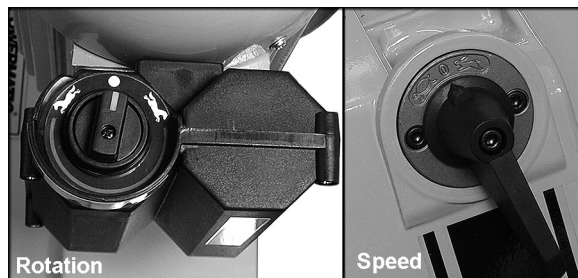


Figure 16  
(1-phase only)

## General Operating Instructions

1. Make sure all handles on the stock feeder and the feeder mounting assembly are tight before operating.
2. The stock feeder should be used in conjunction with a fence on your auxiliary machine. The fence should be securely fixed.
3. The rollers must grip the offcut, as well as the part of the workpiece still being fed. Also, the rollers should be set parallel to the table or fence for proper feed.
4. On some machines, such as a shaper or jointer, the stock feeder can be mounted so that the rollers exert pressure from the top, or mounted edgewise so that the rollers exert pressure from the side, or mounted at an intermediate angle for beveled workpieces.
5. The feed rollers have a spring suspension which will exert the necessary pressure against the workpiece. This pressure increases automatically with feed resistance, so that a workpiece of varying thickness can be fed through the stock feeder without adjustments.
6. When used in horizontal position, the stock feeder should be adjusted for height so that the distance between the table and the feed rollers is approximately 1/8" (3mm) less than the thickness of the workpiece. See Figure 17.
7. Shaping hardwood with the stock feeder may increase the friction between workpiece and table. Keep the work table rust-free and smooth, by using paste wax or other necessary means.
8. Various configurations are possible with your Stock Feeder, depending upon your auxiliary machine and the type of work being done. What is important is that the feeder is positioned in the **most effective** and **safest manner** for the work being done.

**⚠WARNING** Although the stock feeder when properly used will greatly reduce the chance of workpiece kickback, there is still a potential for kickback. Never stand directly in the path of the workpiece as it passes under the stock feeder rollers.

### When Used with a Shaper

1. The gap between the fences for the cutter should be as small as possible.

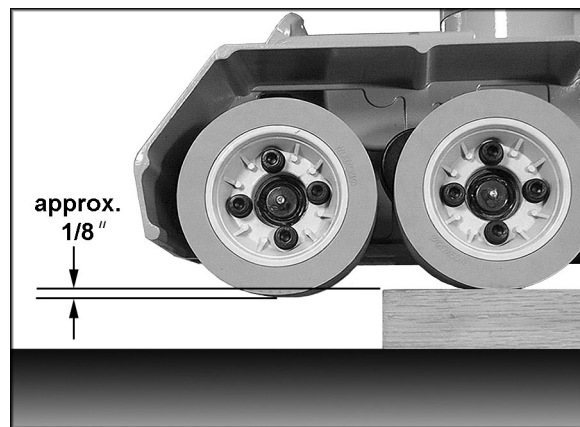


Figure 17

- To ensure that the workpiece is held firmly against the fence, set the stock feeder at a slight angle toward the fence in the direction of feed. In other words, the outfeed roller should be approximately  $3/16"$  (5mm) closer to the fence than the infeed roller. See Figure 18.
- When the Stock Feeder is in edgewise position, it must be inclined slightly towards the work table in the direction of feed, to ensure the workpiece remains forced down against the table. In other words, the outfeed roller should be approximately  $3/16"$  closer to the work table than the infeed roller. See Figure 19.
- When the Stock Feeder is in the edgewise position, or angled for a beveled workpiece, the axis of the cutter should be between the infeed roller and the center roller (between the two center rollers on the 4-roller model). See Figure 19. The center roller should NOT be directed toward the opening between the fences, but should act directly against the fence.
- When mounting the Stock Feeder in edgewise position, keep in mind the spring tension of the rollers. The distance between the shaper fence and the feed rollers should be approximately  $1/8"$  (3mm) less than the thickness of the workpiece (refer to Figure 17).

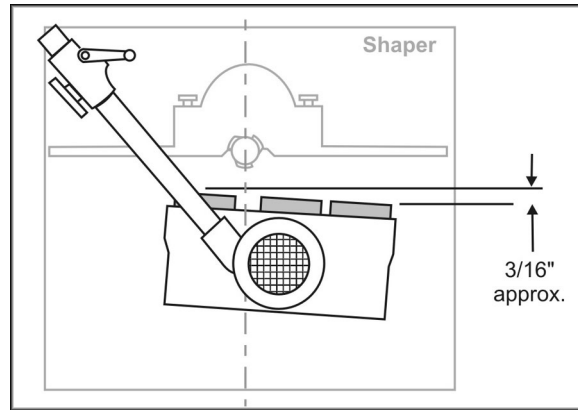


Figure 18

(Stock Feeder in horizontal position)

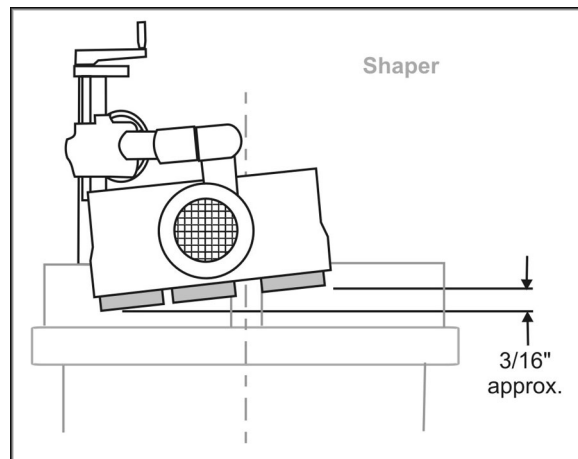


Figure 19

(Stock Feeder in edgewise position)

### When Used with a Table Saw

- Position the 3-roller stock feeder so that the axis of the saw blade lines up between the center roller and outfeed roller. (See Figure 20.) Position the 4-roller stock feeder so that the axis of the saw blade lines up between the center wheels. These positions will allow the Stock Feeder to grip the offcut of the workpiece as it leaves the blade.
- Rotate the Stock Feeder so that the direction of feed is angled slightly toward the fence by approximately  $3/16"$  (5mm); that is, the outfeed roller should be slightly closer to the fence than the infeed roller. See Figure 20.

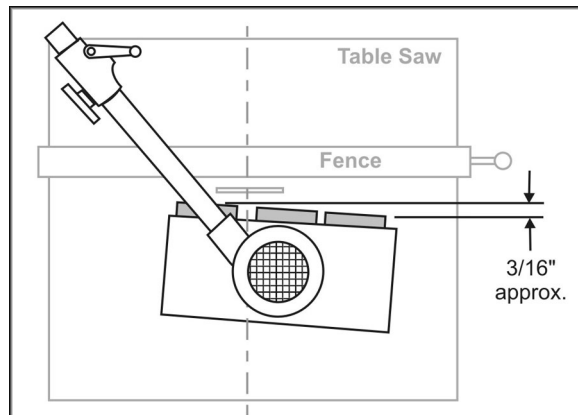


Figure 20

### When Used with a Jointer

- Mount the 3-roller stock feeder on a jointer so that the cutterhead is between the outfeed roller and the center roller (Figure 21). The 4-roller stock feeder can be positioned so that the cutterhead is between the center rollers.

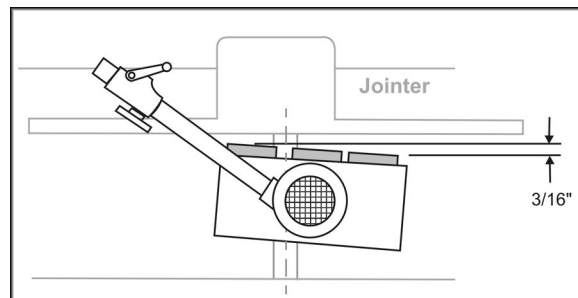


Figure 21

2. Some woodworkers prefer to place the feeder so that all rollers are over the outfeed table, as shown in Figure 22. The infeed roller should be approximately 3/16" away from the lip of the outfeed table at the cutterhead area.
3. Rotate the Stock Feeder so that the direction of feed is angled slightly toward the fence by approximately 3/16" (5mm); that is, the outfeed roller should be slightly closer to the fence than the infeed roller. See Figures 21 and 22.

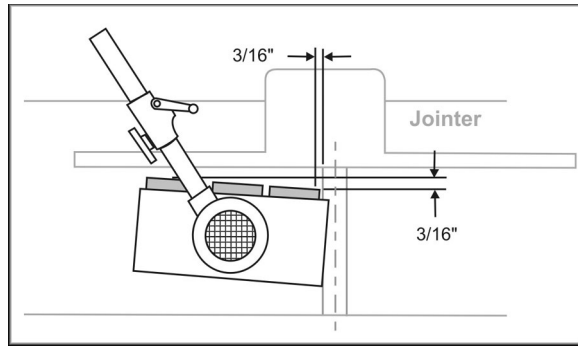


Figure 22

## Roller Removal/Replacement

If a feed roller becomes worn or damaged it is easily replaced. Also, if more clearance is needed between rollers, the center roller can be removed.

1. To remove a roller, lower the stock feeder until it contacts the table of the auxiliary machine – this will give you purchase for loosening the screws with a 5mm hex wrench. When the screws are loose, raise the feeder off the table to continue removing the roller(s).

There are four screws in each roller: the two *short* screws unite the halves of the roller hub; the two *long* screws secure the roller assembly to the feeder. You only need to remove the two *long* screws to remove the roller assembly. NOTE: Replacement roller assemblies may have a one-piece hub, and thus the two short screws will no longer be needed.) See Figure 23.

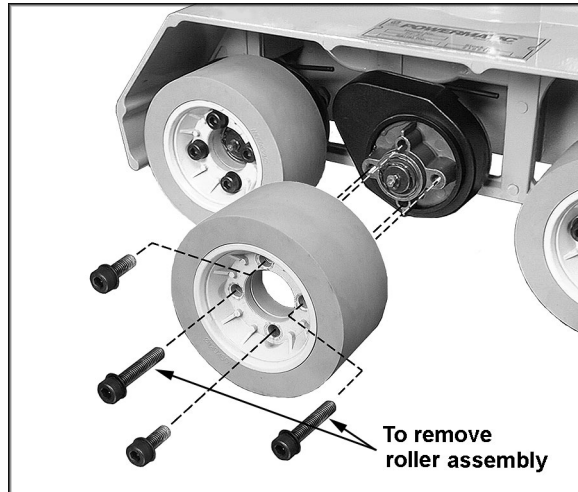


Figure 23

2. When a roller assembly is re-mounted to the stock feeder, make sure all screws are tight.

## Maintenance

**⚠WARNING** Before any intervention on the machine, disconnect it from the electrical supply by pulling out the plug or switching off the main switch. Failure to comply may cause serious injury.

If the power cord is worn, cut, or damaged in any way, have it replaced immediately.

The rubber tires on the rollers should be kept clean of grease, sawdust and other debris. Use a soft cloth with soap and water to wipe down the tires. DO NOT use a solvent on the rubber tires.

The mating parts of the cones should be kept clean. See Figure 24. When disassembling any of the cones, wipe off both mating parts with a clean rag before re-assembling.

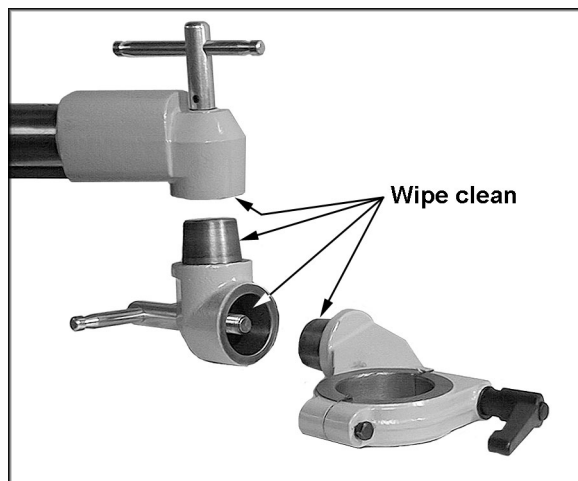


Figure 24



NOTE: These cones are subject to high torque and it may be necessary to periodically re-tighten the handle until the cone surfaces become securely seated.

Exposed metal areas, such as the column and the over arm, should be kept clean and free of rust.

## Lubrication

### Oil Reservoir

Open the oil cap (shown in Figure 25). The oil level should be approximately 1-1/2" deep; that is, about 1" from the rim of the hole. Periodically check the oil level and top off as needed with 90 weight gear oil.

Completely drain and refill the oil every 1,000 working hours, or every 6 months.

To change the oil:

1. Remove the feeder body from the clamp.
2. Unscrew and remove the oil cap (shown in Figure 25) and turn the feeder body upside down to completely drain the oil. (NOTE: Always dispose of used oil properly.)
3. Turn feeder body right side up, and pour new oil into the fill hole, until it is about 1" from the rim.
4. Re-install the oil cap (Figure 25).

### Rollers

NOTE: Grease is not provided with the grease gun. To fill the grease gun, follow the instructions on its package.

Each of the rollers has a grease fitting located in the hub center, as shown in Figure 26. Use the provided grease gun to insert a good quality, all-purpose grease into these fittings every 200 working hours, or every 30 days.

Also insert grease into the fitting on each tip of the sprocket shafts, which are located inside the housing cover as shown in Figure 27.

### Chains

Lubricate the drive chains (shown in Figure 13) with good quality all-purpose grease every 3 months, or more frequently if needed.

### Elevating Screw

Occasionally apply a light coat of grease to the elevating screw of the vertical column (identified in Figure 1 on page 7).



Figure 25



Figure 26

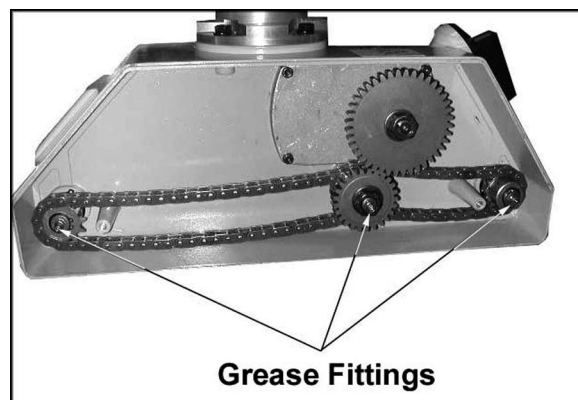


Figure 27

## Troubleshooting

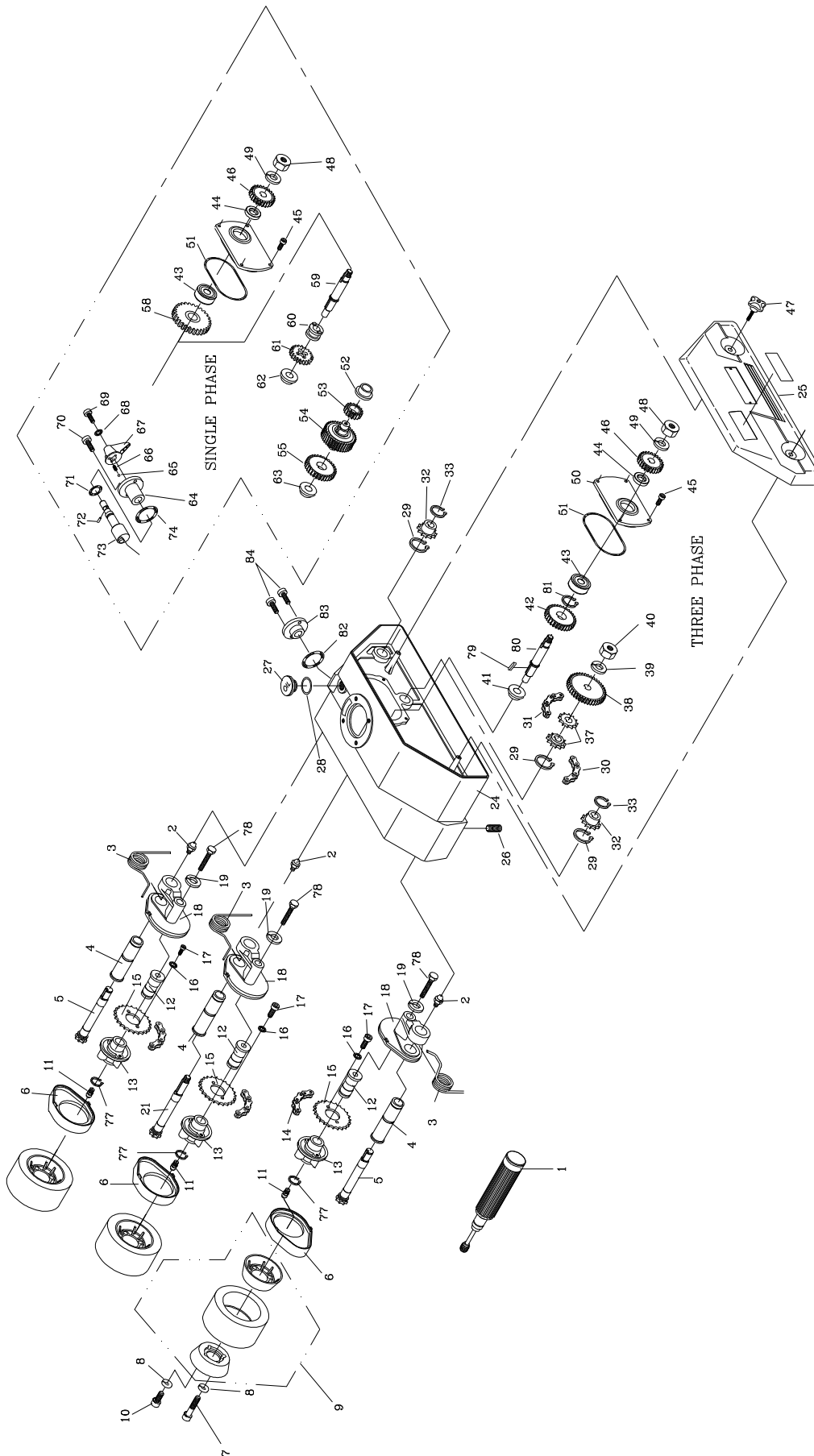
Trouble	Probable Cause	Remedy
Feeder will not start.	Not connected to power source.	Check power connections.
	Fuse blown, or circuit breaker tripped.	Replace fuse, or reset circuit breaker.
	Cord damaged.	Replace cord.
	Starting capacitor is malfunctioning.	Replace starting capacitor.
Feed rate is not sufficient; machine has low power.	Gears installed incorrectly for the desired feed rate.	Install gears in proper position. See Figure 14.
	Extension cord too light or too long.	Replace with adequate size and length cord. See Figure 10.
	Low current from electrical supply.	Contact a qualified electrician.
Workpiece jams or moves sluggishly while passing beneath rollers.	Rollers too low.	Raise feeder.
Workpiece slips while passing under rollers.	Rollers too high, no traction.	Lower feeder.
	Grease or debris on rubber tires.	Clean tires.

## 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.

Non-proprietary parts, such as fasteners, can be found at local hardware stores, or may be ordered from Powermatic. Some parts are shown for reference only, and may not be available individually.

# PF-31/33 Feeder Body

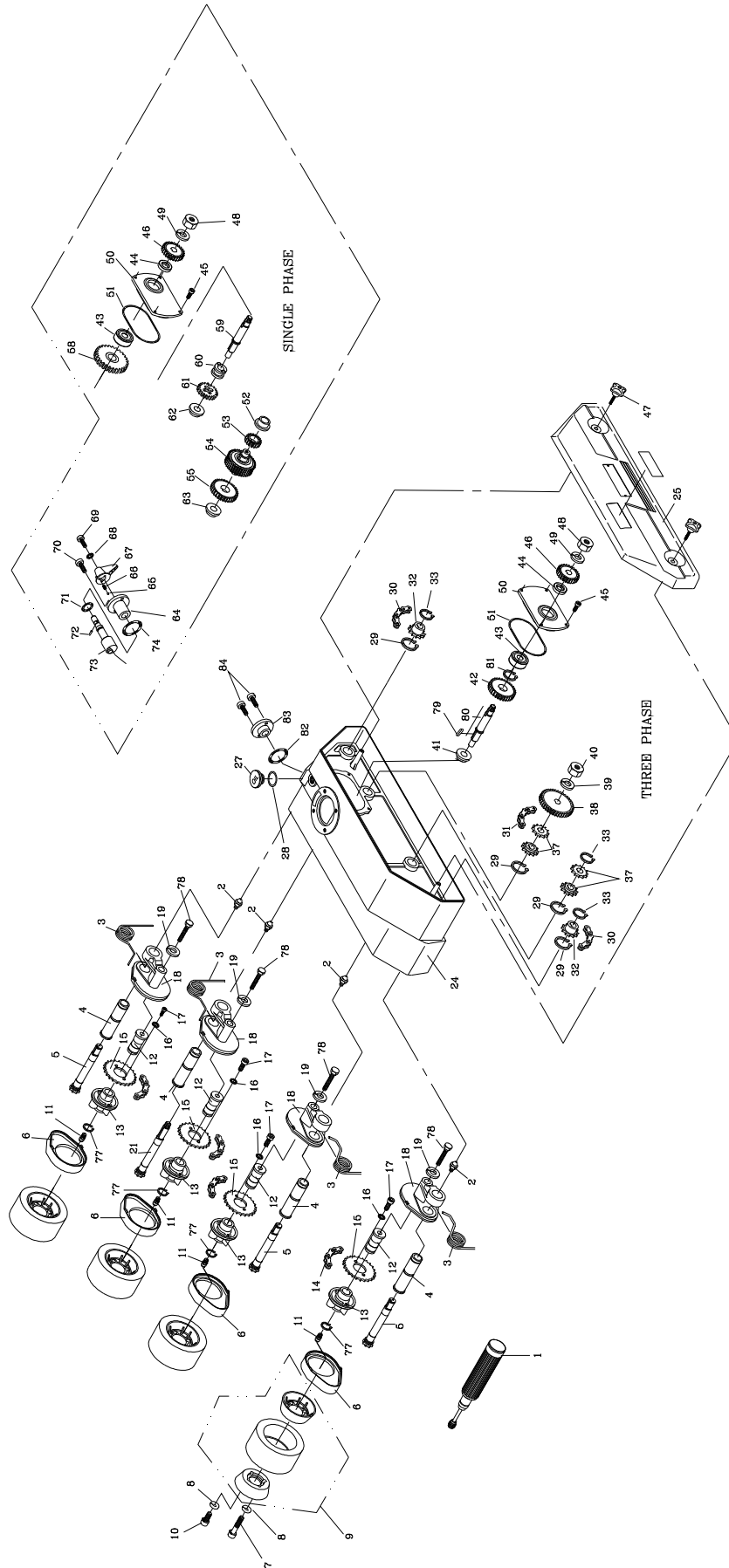


## Parts List: PF-31/33 Feeder Body

Index No.	Part No.	Description	Size	Qty
	2192188	PF-31 Feeder Body (1Ph, 115V, 4 speed)		
	2192187	PF-33 Feeder Body (3Ph, 230V, 4 speed)		
	2192189	PF-33 Feeder Body (3PH, 460V, 4 speed)		
1	6289074	Grease Gun		1
2	6289211	Grease Fitting		3
3	6289212	Roller Hub Spring		3
4	6288938A	Tube		3
5	6289125A	Sprocket Shaft		2
6	JPF3-041A	Case Cover		3
7	6288750	Socket Head Cap Screw	M8 x 1.25P x 40Lg	6
8	6288764	Star Washer	M8	12
9	6289116	Rollers – set of 3 only	Ø120 x 60mm	1
	6288959	Roller (individual)	Ø120 x 60mm	3
10	6288749	Socket Head Cap Screw	M8 x 20 Lg	6
11	6289129	Grease Nipple		3
12	6289130	Shaft		3
13	6289121	Roller Supporter		3
14	6288949	Chain Kit	26S	3
15	6288944	Sprocket		3
16	6289122	Star Washer	M6	6
17	6289123	Cap Screw	M6 x 1.0P x 16 Lg	6
18	6288751A	Sprocket Case (PF-31/33)		3
19	6289131	Lock Washer	M12	3
21	6289126A	Sprocket Shaft		1
24	6289228	Frame	4SP 1Ph	1
	6289229	Frame	4SP 3Ph	1
25	6289139	Back Cover		1
26	6289136	Set Screw	M6 x 1.0P x 10Lg	3
27	6288980	Oil Cap		1
28	6288979	"O" Ring		1
29	6288955	Snap Ring	Ø26mm	3
30	6288954	Chain	40S	2
31	6288975	Chain	62S	1
32	6289092	Sprocket w/Key		2
33	6288958	Snap Ring	Ø15mm	2
37	6289093	Sprocket w/Key		2
38	6289097	Gear	40T	1
39	6289127	Lock Washer	M12	1
40	6289128	Nut	M12 x 1.75	1
41	6289201	Bushing		1
42	6289197	Gear		1
43	6288965	Bearing	#6203	1
44	6288969	Oil Seal		1
45	6289146	Cap Screw	M5 x 0.8P x 16Lg	4
46	6289096	Gear w/Key	25T	1
47	6289140	Knob Assembly		2
48	6289198	Nut	M12 x 1.75	1
49	33-6004-00-2	Spring Washer	M12	1
50	6289145	Cover		1
51	6289144	"O" Ring		1
52	6289205	Bushing		1
53	6289204	Gear	17T	1
54	6289202	Gear	38T	1
55	6289203	Gear	31T	1
58	6289061	Gear	34T	1
59	6289142	Shaft		1
60	6289058	Clutch		1

Index No.	Part No.	Description	Size	Qty
61	6289057	Gear	20T	1
62	6289056	Bushing	20D x 17D x (10+2)	1
63	6289135	Bushing	29D x 23D x (9+3)	1
64	6289153	Gear Lever Shaft		1
65	6289070	Ball		1
66	6289071	Spring		1
67	6289149	Transmission Lever		1
68	6289150	Star Washer		1
69	6288763	Cap Screw	M5 x 0.8P x 12Lg	1
70	6289154	Cap Screw	M5 x 0.8P x 10Lg	2
71	6289067	"O" Ring		1
72	6289148	Lock Pin	Ø4 x 20mm	1
73	6289147	Gear Lever		1
74	6289152	"O" Ring		1
77	6288755	Snap Ring	20mm	3
78	6288756	Hex Screw	M12 x 1.75P x 75Lg	3
79	6288757	Key	6 x 6 x 18 mm	1
80	6288758	Worm Gear Shaft		1
81	6288759	Snap Ring	Ø22mm	1
82	6288760	"O" Ring		1
83	6288761	Cap		1
84	6288762	Cap Screw	M5 x 0.8P x 12Lg	2

# PF-41/43 Feeder Body



## Parts List: PF-41/43 Feeder Body

Index No.	Part No.	Description	Size	Qty
	2192190	PF-43 Feeder Body (3Ph, 230V, 4 speed)		
	2192191	PF-41 Feeder Body (1Ph, 230V, 4 speed)		
1	6289074	Grease Gun		1
2	6289211	Grease Fitting		4
3	6289212	Roller Hub Spring		4
4	6288938A	Tube		4
5	6289125A	Sprocket Shaft		3
6	JPF3-041A	Case Cover		4
7	6288750	Socket Head Cap Screw	M8 x 1.25P x 40Lg	8
8	6288764	Star Washer	M8	16
9	6289118	Rollers – set of 4 only	Ø120 x 60mm	1
	6288959	Roller (individual)	Ø120 x 60mm	4
10	6288749	Socket Head Cap Screw	M8 x 20	8
11	6289129	Grease Nipple		4
12	6289130	Shaft		4
13	6289121	Roller Supporter		4
14	6288949	Chain Kit	26S	4
15	6288944	Sprocket		4
16	6289122	Star Washer	M6	8
17	6289123	Cap Screw	M6 x 1.0P x 16Lg	8
18	6288751A	Sprocket Case (PF-31/33/41/43)		4
19	6289131	Lock Washer	M12	4
21	6289126A	Sprocket Shaft		1
24	6289133	Frame	4SP 1Ph	1
	6289134	Frame	4SP 3Ph	1
25	6289109	Back Cover		1
26	6289136	Set Screw	M6 x 1.0P x 10Lg	4
27	6288980	Oil Cap		1
28	6288979	"O" Ring		1
29	6288955	Snap Ring	Ø26mm	4
30	6288954	Chain	40S	2
31	6288975	Chain	62S	1
32	6289092	Sprocket w/Key		2
33	6288958	Snap Ring	Ø15mm	4
37	6289093	Sprocket w/Key		2
38	6289097	Gear	40T	1
39	6289127	Lock Washer	M12	1
40	6289128	Nut	M12 x 1.75	1
41	6289201	Bushing		1
42	6289197	Gear		1
43	6288965	Bearing	#6203	1
44	6288969	Oil Seal		1
45	6289146	Cap Screw	M5 x 0.8P x 16Lg	4
46	6289096	Gear	25T	1
47	6289140	Knob Assembly		2
48	6289198	Nut	M12	1
49	33-6004-00-2	Spring Washer	M12	1
50	6289145	Cover		1
51	6289144	"O" Ring		1
52	6289205	Bushing		1
53	6289204	Gear	17T	1
54	6289202	Gear	38T	1
55	6289203	Gear	31T	1
58	6289061	Gear	34T	1
59	6289142	Shaft		1
60	6289058	Clutch		1
61	6289057	Gear	20T	1

Index No.	Part No.	Description	Size	Qty
62	6289056	Bushing	20D x 17D x (10+2)	1
63	6289135	Bushing	29D x 23D x (9+3)	1
64	6289153	Gear Lever Shaft		1
65	6289070	Ball		1
66	6289071	Spring		1
67	6289149	Transmission Lever		1
68	6289150	Star Washer		1
69	6288763	Cap Screw	M5 x 0.8P x 12Lg	1
70	6289154	Cap Screw	M5 x 0.8P x 10Lg	2
71	6289067	"O" Ring		1
72	6289148	Lock Pin	Ø4 x 20mm	1
73	6289147	Gear Lever		1
74	6289152	"O" Ring		1
77	6288755	Snap Ring	Ø20mm	4
78	6288756	Hex Screw	M12 x 1.75P x 75Lg	4
79	6288757	Key	6 x 6 x 18 mm	1
80	6288758	Worm Gear Shaft		1
81	6288759	Snap Ring	Ø22mm	1
82	6288760	"O" Ring		1
83	6288761	Cap		1
84	6288762	Cap Screw	M5 x 0.8P x 12Lg	2



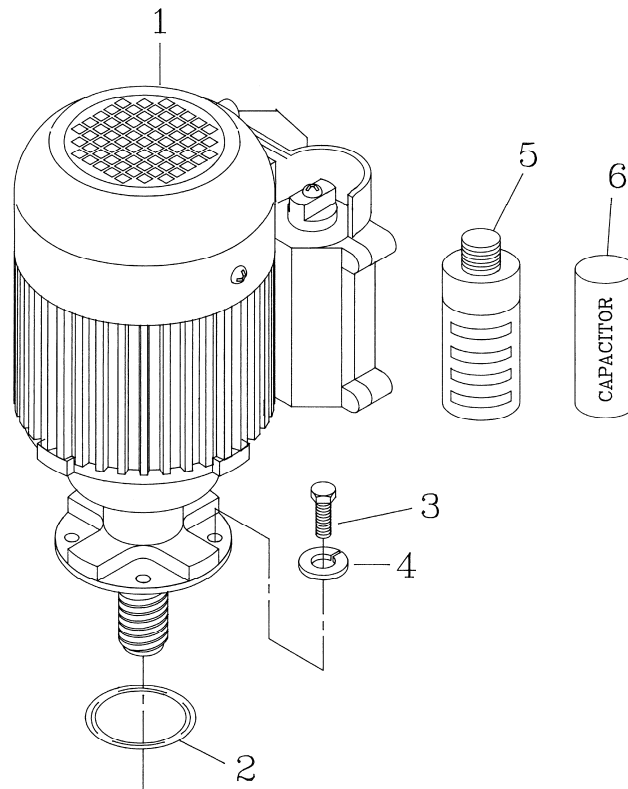
## Parts List: Motor Assembly for PF-31/33 and PF-41/43

### SINGLE PHASE

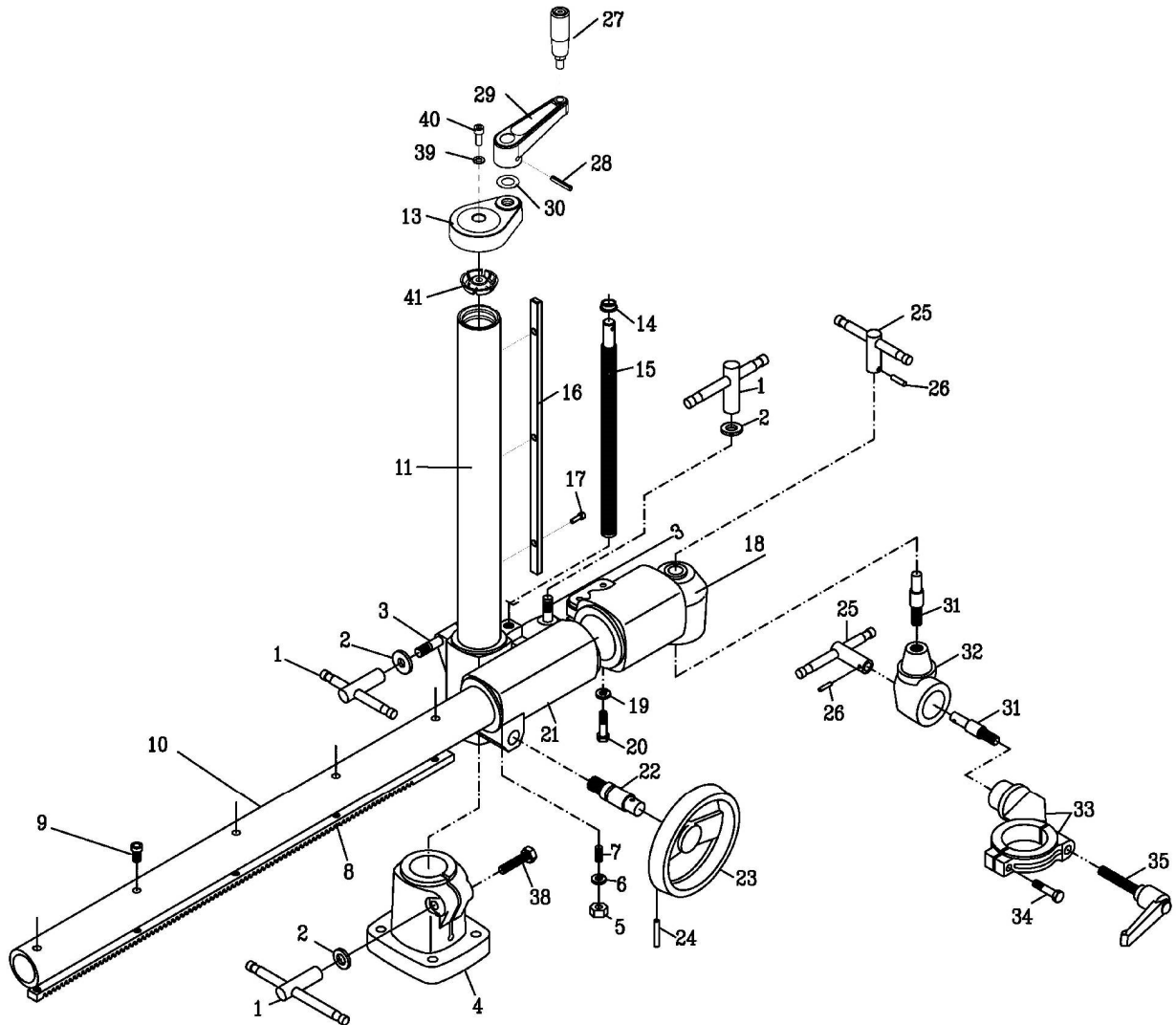
Index No.	Part No.	Description	Size	Qty
1	6289098	Motor	1HP, 1Ph, 115V, 60Hz	1
2	6289207	"O" Ring		1
3	6289086	Screw	M8 x 1.25P x 20Lg	4
4	6289085	Lock Washer		4
5	6289115	Control Switch		1
6	6289087	Capacitors (set of 2)		1
		Start Capacitor	200MFD 125VAC	1
		Run Capacitor	25 $\mu$ F 250VAC	1

### THREE PHASE

Index No.	Part No.	Description	Size	Qty
1	6289099	Motor	1HP, 3Ph, 460V, 60Hz	1
	6288988	Motor	1HP, 3Ph, 230V, 60Hz	1
2	6289207	"O" Ring		1
3	6289086	Screw	M8 x 1.25P x 20Lg	4
4	6289085	Lock Washer		4
5	6289003	Control Switch		1



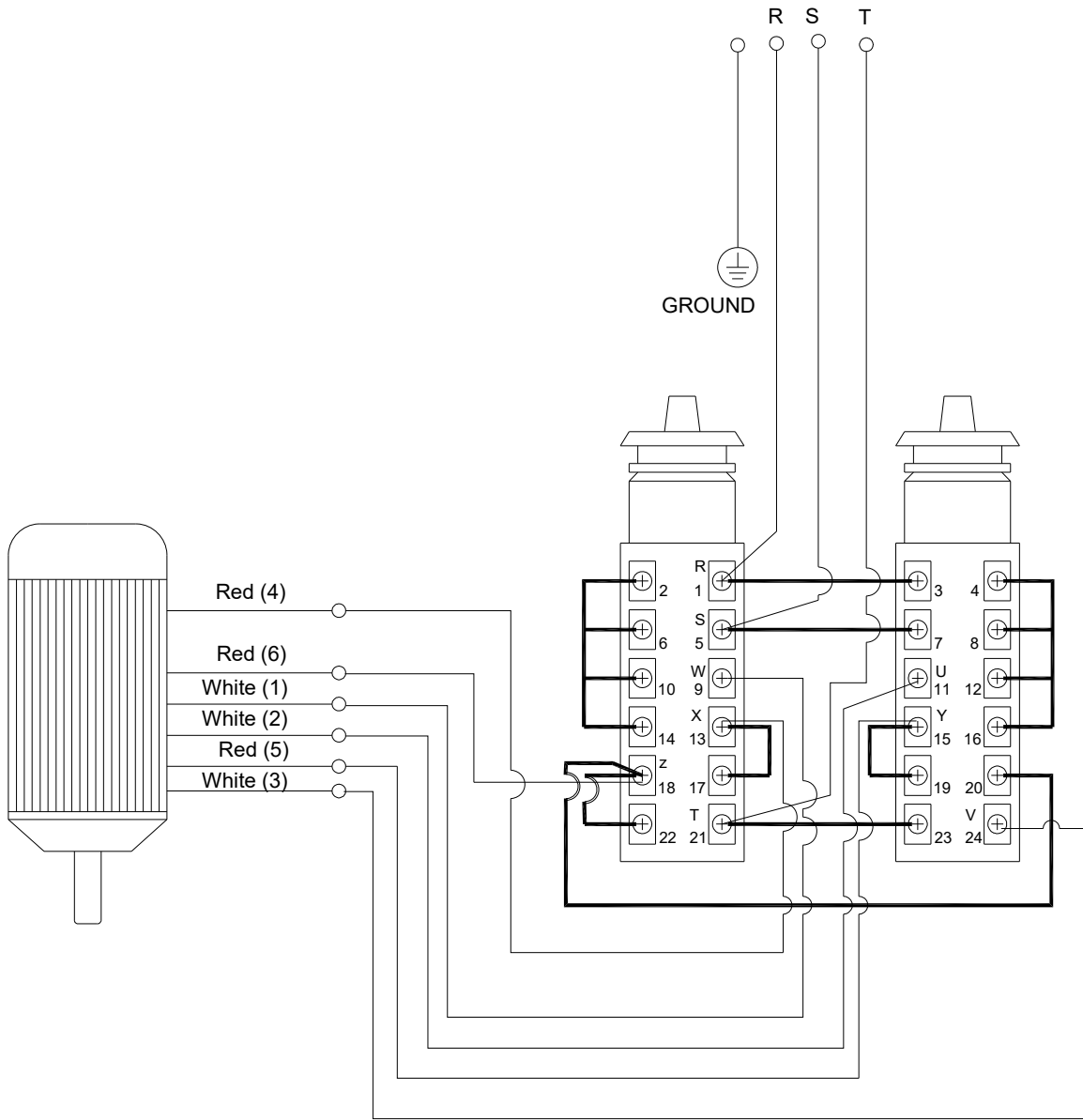
# Feeder Mounting Assembly for PF-31/33 and PF-41/43



## Parts List: Feeder Mounting Assembly for PF-31/33 and PF-41/43

Index No.	Part No.	Description	Size	Qty
	6289113	Complete Mounting Base Assembly		
1	6289179	Handle Assembly	M12 x 1.75	3
2	6288903	Flat Washer	1/2 x 25	3
4	6289177	Column Base		1
5	6289210	Nut	M8 x 1.25	1
6	6289200	Spring Washer	M8	1
7	6289188	Set Screw	M8 x 1.25P x 20Lg	1
8	6289163	Rack		1
9	6289164	Cap Screw	M5 x 0.8P x 10Lg	4
10	6288923	Over Arm	720mm	1
11	6289219A	Vertical Column	560mm	1
13	6289173A	Column Cap		1
14	6289222	Thrust Washer		2
15	6289220	Elevating Screw		1
16	6289161	Elevating Key		1
17	6289162	Cap Screw	M5 x 0.8P x 16Lg	1
18	6289181	Over Arm Cone		1
19	6288930	Spring Washer	M10	2
20	6289183	Bolt	M10 x 1.5P x 50Lg	2
21	6289180	Elevating Bracket		1
22	6288912	Pinion	M8 x 1.25P x 12Lg	3
23	6288913	Handwheel		1
24	6289166	Lock Pin	6 x 36	1
25	6288926	Handle Assembly		2
26	6288927	Lock Pin	6 x 22	2
27	6289176	Wheel Handle	M10 x 1.5	1
28	6289221	Pin	6 x 36	1
29	6289175A	Elevating Handle		1
30	6289222	Thrust Washer		1
31	6289182	Lock Stud	M16 x 1.5	2
32	6289168	Swivel Cone		1
33	6289169	Motor Clamp		1
34	6289170	Bolt	M8 x 1.25P x 50Lg	1
35	6288887	Locking Handle		1
36	TS-1492051	Hex Cap Screw (not shown)	M12 x 50	4
37	TS-2361121	Spring Washer (not shown)	M12	4
38	TS-2211751	Hex Cap Screw	M12-1.75x75	1
39	TS-0680031	Flat Washer	5/16" x 16	1
40	TS-1504051	Socket Head Cap Screw	M8 x 1.25P x 25Lg	1
41	PF31-141	Fastener		1

# Electrical Connections – 3 Phase only



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