



# Operating Instructions and Parts Manual Drum Sander

Model 22-44 Pro



Deluxe model shown (with casters and infeed/outfeed tables)

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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 Centers 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 JET® 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 [jettools.com](http://jettools.com).

## WARRANTY

JET products carry a limited warranty which varies in duration based upon the product (MW = Metalworking, WW = Woodworking).

90 DAY WARRANTY	1 YEAR WARRANTY	2 YEAR WARRANTY	5 YEAR WARRANTY	LIFE LIFETIME WARRANTY
Lathe Accessories Machine Accessories Mobile Bases Safety Equipment Specialty Items Vise Accessories	Air Tools- Contractor Air Tools-Industrial Air Tools-Light Industrial Lubrication	Body Repair Kits Bottle Jacks Cable Pullers Cold Saws Hoists-Air Hoists-Electric Metalforming Mill/Drills Milling Machines	MW Bandsaws MW Drill Presses MW Finishing Equipment MW Lathes MW Precision Vises Pallet Trucks Rigging Equip. Service Jacks	Stacking Surface Grinders Tapping Trolleys-Air Trolleys-Electric Web Slings Winches-Electric
			Beam Clamps Chain Hoist- Manual Lever Hoists Pullers-JCH Models Scissor Lift Tables Screw Jacks Trolleys-Geared	Trolleys-Plain Winches-Manual WW Air Filtration WW Bandsaws WW Buffers WW Drill Presses WW Dust Collectors WW Dust Filters
			WW Dust Fittings WW Jointers WW Lathes WW Planers WW Sanders WW Shapers WW Tablesaws	Fastening Tools Mechanics Hand Tools Striking Tools Vises (non-precision) Clamps

## 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 JET warranty lasts for the time period specified in the product literature of each product.

## WHAT IS NOT COVERED?

Five Year Warranties do not cover woodworking (WW) products used for commercial, industrial or educational purposes. Woodworking products with Five Year Warranties 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 shipping and handling 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.

## LIMITATIONS ON THIS WARRANTY

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.

WMH TOOL GROUP 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.

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# Warnings

1. Read and understand this entire 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 sander 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 sander, do not use until proper training and knowledge have been obtained.
5. Do not use this sander for other than its intended use. If used for other purposes, WMH Tool Group 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 sander. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
7. Before operating this sander, 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. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contain 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, cement and other masonry products.
  - Arsenic and chromium from chemically treated lumber.Your risk of exposure 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 face or dust masks that are specifically designed to filter out microscopic particles.
10. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
11. Make certain the switch is in the **OFF** position before connecting the machine to the power supply.
12. Make certain the machine is properly grounded.
13. Make all machine adjustments or maintenance with the machine unplugged from the power source.
14. 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.
15. 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.
16. Make sure the sander is firmly secured to the stand or work table before use.
17. 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.
18. Provide for adequate space surrounding work area and non-glare, overhead lighting.
19. Keep the floor around the machine clean and free of scrap material, oil and grease.
20. Keep visitors a safe distance from the work area. **Keep children away.**

# Warnings

21. Make your workshop child proof with padlocks, master switches or by removing starter keys.
22. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.
23. 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.
24. Stand to one side of the conveyor and make sure no one else is standing in line with the conveyor while feeding into the machine. Should a part slip while being fed, it may exit the machine at a high rate of speed and can cause injuries to anyone standing directly in front of the infeed.
25. 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.
26. Use recommended accessories; improper accessories may be hazardous.
27. Maintain tools with care. Keep abrasives clean for the best and safest performance. Follow instructions for lubricating the machine and changing accessories.
28. Always feed stock against the rotation of the drum.
29. Keep your hands clear when feeding parts onto the conveyor. The part will be forced down as it begins to feed, causing a pinching action between the part and the conveyor bed. Never reach into a running machine. Turn off sander and disconnect from power before attempting to retrieve parts from beneath the drum.
30. Turn off the machine and disconnect from power before cleaning. Use a brush or compressed air to remove chips or debris — do not use your hands.
31. Do not stand on the machine. Serious injury could occur if the machine tips over.
32. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
33. Remove loose items and unnecessary work pieces from the area before starting the machine.

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 WMH Tool Group covering the safe operation and maintenance procedures for a JET Model 22-44 Pro Drum Sander. 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 years of trouble free 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 WMH Tool Group. WMH Tool Group can also be reached at our web site: [www.wmhtoolgroup.com](http://www.wmhtoolgroup.com).

# Specifications

Model Number .....	22-44 Pro
Stock Number .....	638003
Maximum Sanding Width (in.) .....	44 (2 passes)
Minimum Sanding Length (in.) .....	2-1/4
Maximum Sanding Thickness (in.) .....	4
Minimum Sanding Thickness (in.) .....	1/32
Overall Dimensions (H x W x D)(in.) .....	52 x 41 x 41
Drum Dimensions (diam. x L)(in.) .....	5 x 22
Drum Speed (RPM) .....	1600
Drum Bearing Diameter (in.) .....	1
Dust Port Diameter (in.) .....	4
Minimum Dust Collection Capacity (CFM) .....	600
Conveyor Motor .....	43 in.-lbs. Torque, 1/30 HP Direct Drive DC
Conveyor Variable Feed Rate (FPM) .....	0 to 10
Motor .....	TEFC, 1-3/4HP, 1Ph, 110V only
Net Weight (lbs.) .....	350

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

# Features and Terminology

The illustration below shows the major components and features of the 22-44 Pro Sander. These are referenced throughout the manual and will help to familiarize you with the operation and functions of the machine.

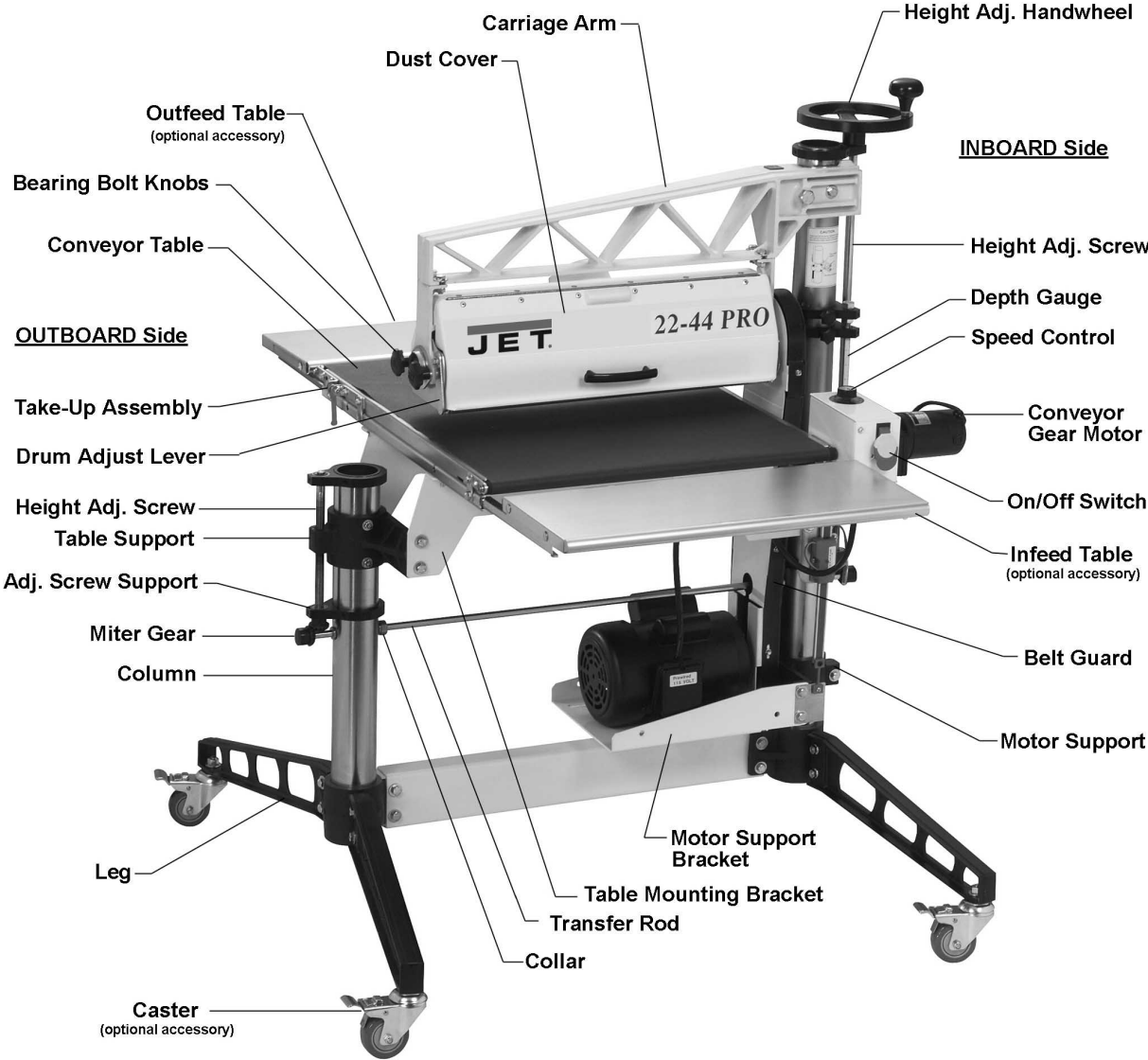


Figure 1

# Unpacking

Open shipping container and check for shipping damage. Report any damage immediately to your distributor and shipping agent. Do not discard any shipping material until the Drum Sander is assembled and running properly.

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

## Contents of the Shipping Container

- 1 Drum Sander with stand – A
- 1 Conveyor Bed Assembly – B
- 2 Assembly Fixtures – C

- 1 Handwheel – D
- 1 Handwheel Knob – E
- 4 Legs – F
- 4 Leg Glides – G
- 8 Hex Head Bolts, 3/8"x1-1/2" – H
- 4 Hex Head Bolts, 3/8"x1" – J
- 12 Flanged Lock Nuts, 3/8" – K
- 20 Flat Washers, 3/8" – L
- 8 Hex Nuts, 3/8" – M
- 2 Drum Alignment Templates – N
- 2 Open-end Wrenches, 9/16"-1/2" – O
- 2 Hex Wrenches, 4mm and 1/8" – P
- 1 TufTool – R
- 1 Owner's Manual (not shown)
- 1 Warranty Card (not shown)

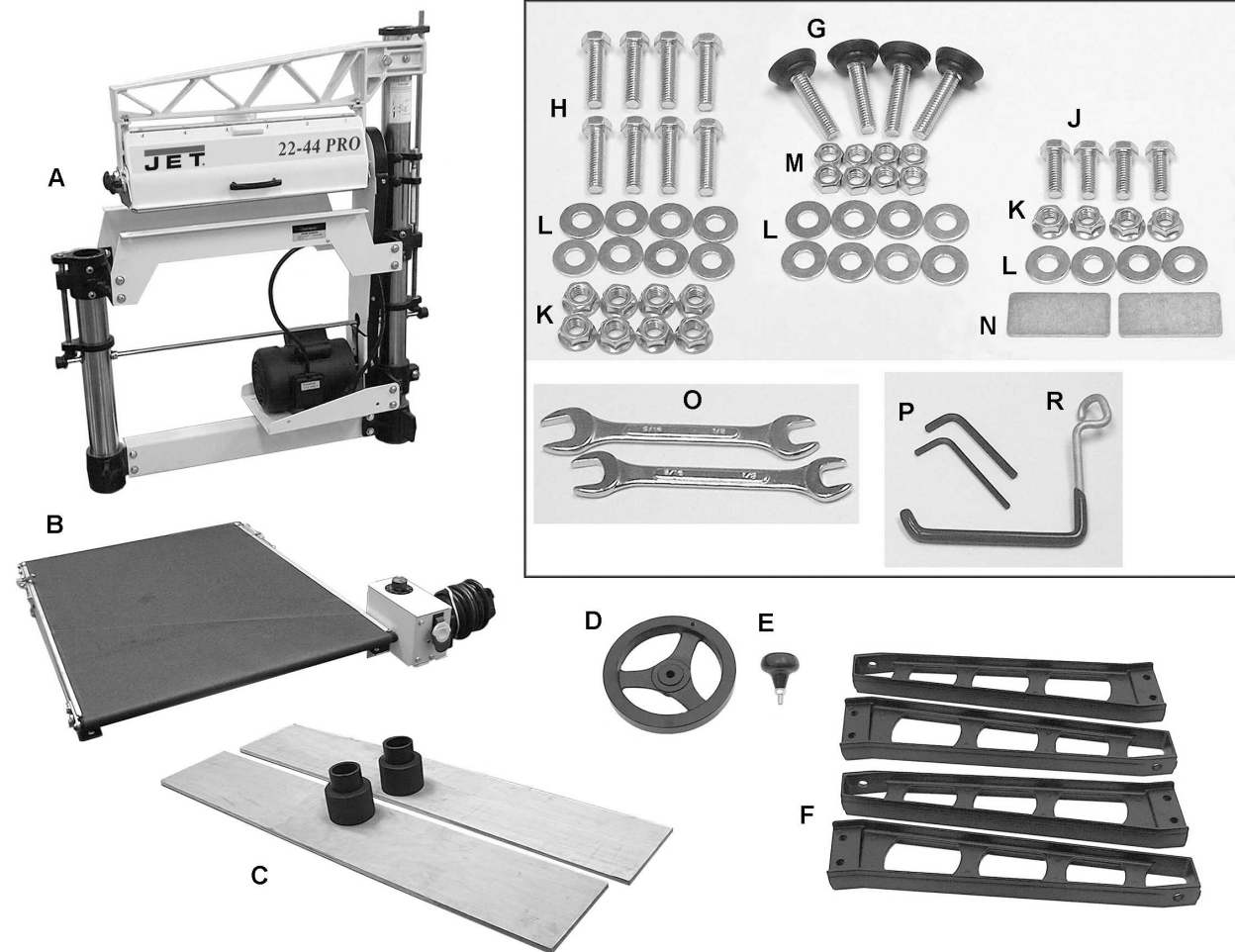


Figure 2

### **⚠ 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 required for assembly:

Hoist, forklift, or one or more assistants  
Wrenches – 9/32", 1/2", 9/16"  
Hex wrenches – 4mm, 1/8"

## Install Stand Legs

**⚠WARNING** The sander is heavy; use caution when lifting.

1. Raise the sander from the floor using a forklift, hoist or an assistant. (Place hoist straps through the carriage arm or below the table mounting brackets. If using a forklift, fork below the table mounting brackets. See Figure 1, page 7.)
2. Position the assembly fixtures below the columns so that the wider part of the plywood faces outward (Figure 3). Lower the sander columns into the assembly fixtures.
3. Mount the four legs to the columns, using 3/8x1-1/2 hex head bolts, 3/8 flat washers and 3/8 flanged lock nuts, using a 9/16" wrench. See Figure 3. Tighten the flanged lock nuts securely, making sure the legs remain in contact with the plywood.
4. Lift the sander and remove the assembly fixtures.
5. With the sander raised, install the four leg glides, (or optional casters, not provided). See Figure 4. If using the casters, first lock the caster by pressing the large tab, in order to remove the hex nut and flat washer.

## Table Support Screws

The set screws on the table supports (Figure 5) have been tightened at the factory to eliminate free-play between the table supports and the columns during shipment. **All four set screws must be loosened and re-adjusted before operating either the height adjustment mechanism or the conveyor drive.** Proceed as follows:

**⚠CAUTION** Failure to follow the below procedure may result in misalignment of the drum and/or conveyor bed, or may damage the miter gears.

1. Loosen each hex nut with an open-end wrench, then loosen the set screw with a hex wrench.

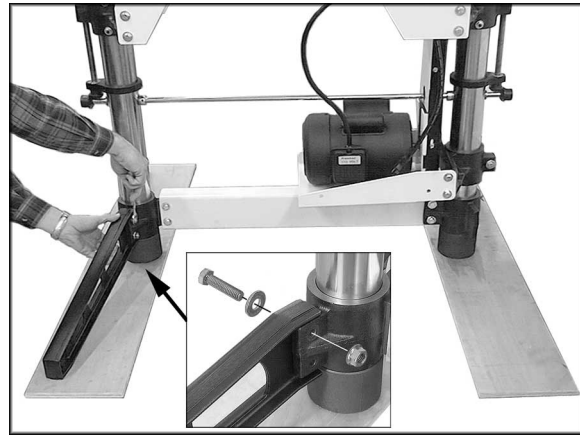


Figure 3

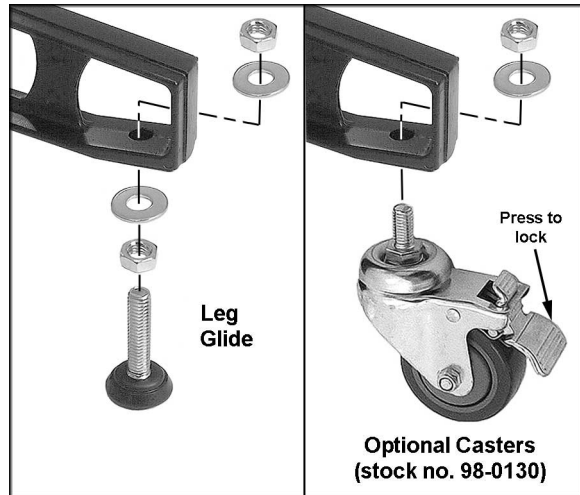


Figure 4

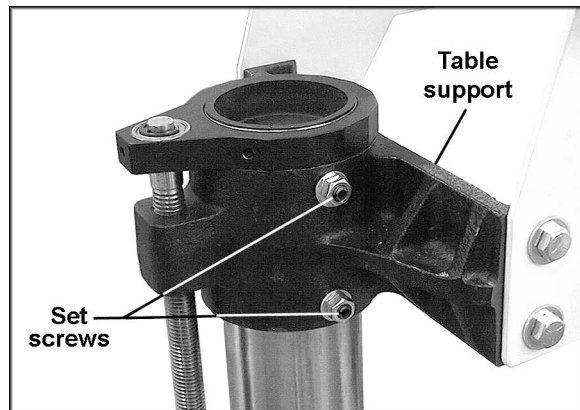


Figure 5

2. Re-tighten the set screw *with your fingers* until it only lightly touches the column tube.
3. Hold the set screw in position with the hex wrench, and re-tighten the hex nut.

### Install Handwheel

Mount the handwheel to the top of the height adjustment screw (Figure 6). Align one of the set screws with the flat on the height adjustment screw, and tighten both set screws.

Install the knob to the threaded hole in the handwheel, and tighten the hex nut against the handwheel.

### Install Conveyor Table

1. Lower the table mounting brackets by rotating the handwheel.
2. Remove conveyor table from packaging, and place it on the mounting brackets of the stand. The gear motor should be on the right, or inboard side of the sander as shown in Figure 7.
3. Secure the conveyor bed with four 3/8"x1" hex head bolts, 3/8" flat washers and 3/8" flanged lock nuts.
4. Plug the motor cord into the control box receptacle (Figure 8).

**IMPORTANT:** The conveyor belt has been overtightened for shipping purposes. It must be tensioned properly before operating the sander! See page 19.

### Infeed and Outfeed Tables *(Optional Accessory)*

See Figure 9.

1. Remove the lower hex cap screw (A) and square nut (B) from the rail on the infeed side of the sander.
2. Slide a left hand mounting bracket (C) into the end of the rail.
3. Align holes and re-install the hex cap screw (A) and square nut (B). Install a 3/8"x1" hex head bolt (D), 5/16" flat washer (E) and flanged lock nut (F).
4. Tighten the hex cap screw (A) first to align the bracket, then tighten the flanged hex nut (F) on the 3/8" screw.
5. Install a right hand mounting bracket (G) in the same manner. NOTE: You will have to open the control box to remove the screw from the rail – remove the front lower screw and base panel (# 16 on page 38) of the control box.

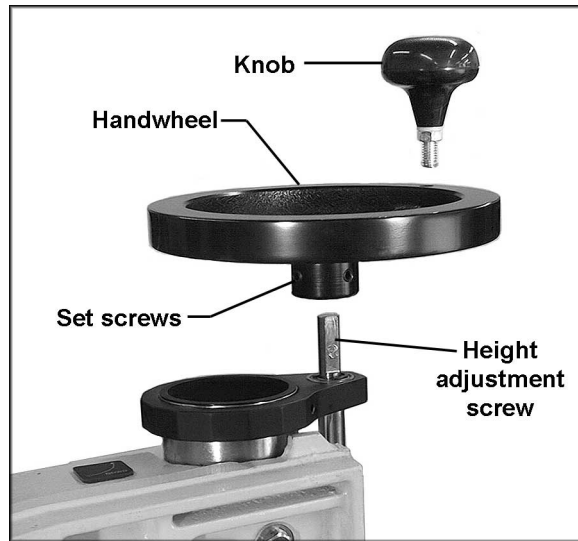


Figure 6

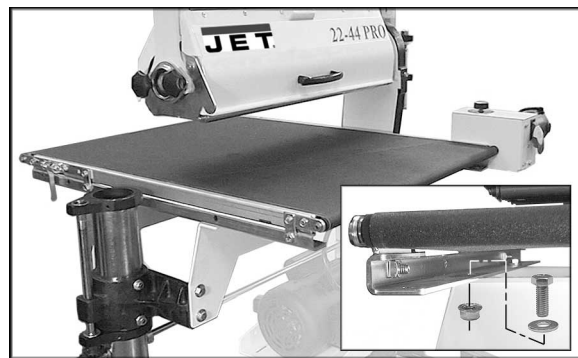


Figure 7

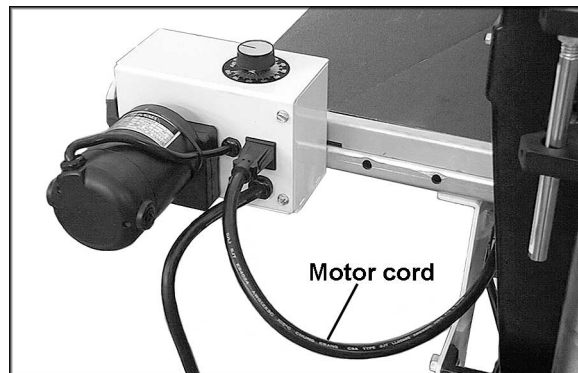


Figure 8

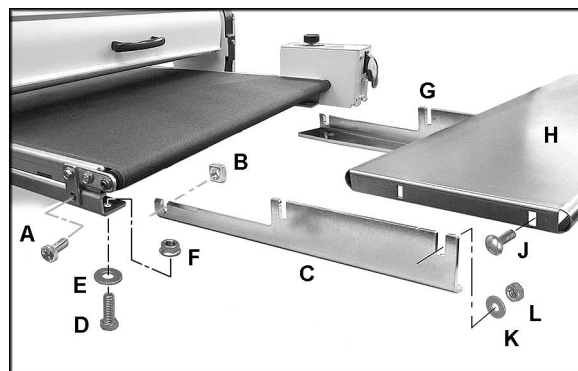


Figure 9

6. Position the table (H, Figure 9) over the brackets, and install four 1/4"x3/4" square neck bolts (J), 1/4" flat washers (K), and 1/4" hex nuts (L). *Do not fully tighten yet.*
7. The table should be positioned even with or slightly below the conveyor belt surface. To check position, place a level or straight edge near the left side of the conveyor and extending out over the table, as shown in Figure 10. Raise the conveyor table until the drum holds the straight edge in place, and adjust the infeed table until it is even with or slightly below the conveyor belt surface.
8. Place the straight edge near the the right side of the conveyor table and repeat. Tighten all hex nuts on the infeed table.
9. Mount the outfeed table in the same manner as described above. (Removal of existing screws on the rails will not be necessary for the outfeed side.)

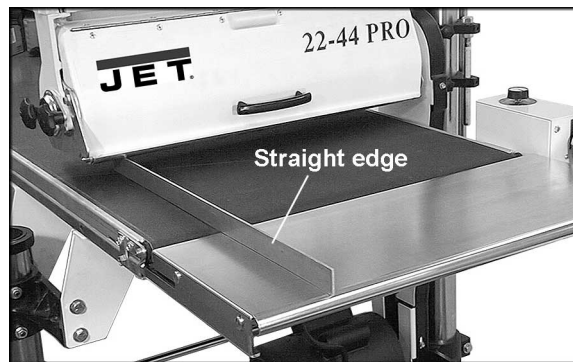


Figure 10

## Leveling the Sander

Proper leveling is important for getting the maximum performance from your sander. Before making fine adjustments, place the unit where it will be used in the shop. Then adjust the four leg glides (see Figure 4) using a carpenter's level placed on the conveyor bed in both X- and Y-axis positions. Make sure the hex nuts on the leg glides are tightened securely against the sander legs.

If you are using the optional casters, level the sander after positioning the machine where it will be used most often. Place washers on the casters as needed to shim up the legs. Mark the position of the legs on the floor with tape so the sander can be returned to the same position.

## Dust Collection

Dust collection is mandatory for a safe work environment and extended abrasive life. The sander is equipped with a 4" dust collection port at the back of the dust cover. It is designed to be used with standard 4" dust collection hose connected to a high volume dust collector with a minimum capacity of 600 CFM.

Using a shop vacuum is not recommended for this machine, but if used it should be a 16 gallon or larger canister type shop vacuum. This requires converting the dust port down to 2-1/2". An adapter is available from your dealer (stock no. 80-2910) for converting to the 2-1/2" hose. Do not reduce hose size smaller than 2-1/2". For best results, follow recommendations of the dust collector manufacturer.

## Installing Abrasives

An 80-grit abrasive strip is already installed on the drum of your sander. Page 28 offers information on the types of abrasive and their recommended uses.

Proper attachment of the abrasive strip to the drum is critical to achieving top performance from your drum sander. Abrasive strips do not have to be pre-measured. The end of the roll is first tapered and attached to the left (outboard) side of the drum. Then the strip is wrapped around the drum, and the second taper is made for attachment to the right (inboard) side of the drum.

NOTE: When using JET Ready-To-Wrap™ abrasives, not all of the steps below are necessary. You can use the original abrasive strip mounted to the drum as a template for cutting your own strips.

1. Mark and cut a taper at one end of the roll as shown in Figure 11. Because the tapered end should use all of the left (outboard) slot width, its end must be trimmed back three inches as shown.
2. Squeeze the fastener lever (Figure 12) on the outboard end of drum, and insert the tapered end of the abrasive so that it uses most of the width of the slot. Release the fastener lever to securely hold the strip end to the fastener.
3. Begin wrapping the strip around the drum. The tapered edge of the strip end should follow the edge of the drum.
4. Continue to wrap the abrasive in a spiral fashion by rotating the drum with one hand and guiding the strip with the other (Figure 13). Successive windings of the strip should be flush with previous windings *without any overlap*.
5. Mark the trailing end of the strip where it crosses the right (inboard) end of the drum (Figure 14).
6. Remove the abrasive strip from the drum, and cut a taper as was done with the starting edge (see Figure 11). **Note:** The taper on the remaining roll can be used as the taper for the starting edge of the next strip to be cut.
7. Rewrap the drum beginning at the left, as described in steps 2-4 .

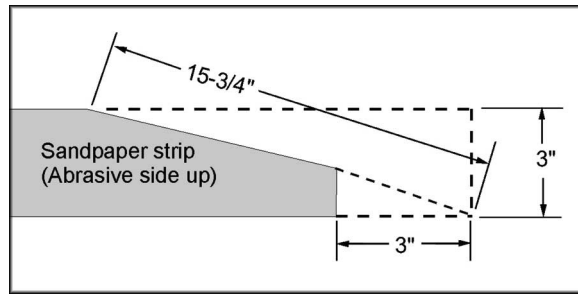


Figure 11

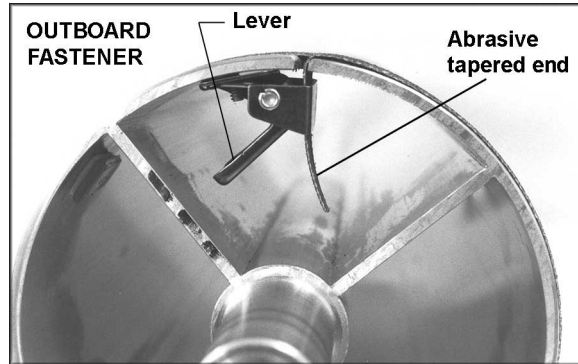


Figure 12

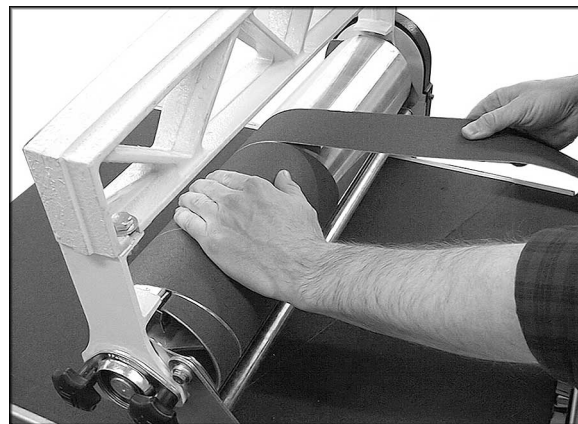


Figure 13

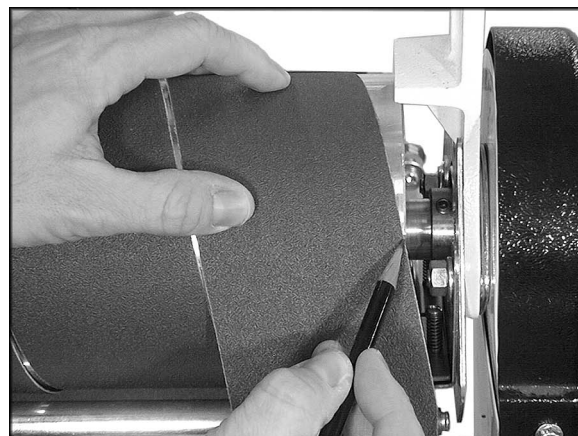


Figure 14

8. You can use your fingers to work the infeed take-up fastener, but it will be more convenient to use the TUFTool supplied with your sander. Hold the TUFTool with the red end pointing away from you (Figure 15) and insert its hook into the outside hole of the fastener lever (see Figure 17).
9. Lift the lever with the TUFTool, pulling the lever up until it touches the inside of the drum.
10. Turn the TUFTool counterclockwise and lower it onto the abrasive strip, making sure it is holding the paper tight (Figure 16).
11. Insert the tapered end of the abrasive strip into the slot and fastener. It may be necessary to trim the tapered end of the abrasive strip so that it does not “bottom out” against the inside of the drum.

**IMPORTANT:** Leave a gap – at least 1/8” – between the tapered strip and the closed end of the slot (Figure 16) to allow strip to be pulled into the fastener as needed. If necessary, trim the outside edge of the abrasive strip.

12. Hold the abrasive in place with your left hand, lift up the TUFTool and turn it clockwise while maintaining upward pressure. Slowly move the TUFTool away from you slightly, then down, while easing it out of the hole. This releases the lever in its proper position (Figure 17).

All abrasive strips will stretch in use and may stretch enough to allow the take-up lever to reach its lowest position so that it can not maintain tension on the strip. If this occurs, follow the above procedures to re-set the take-up lever.

Always remove TUFTool from machine before operating.



Figure 15

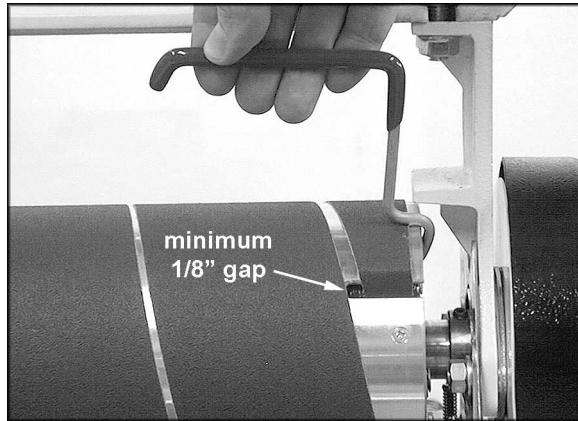


Figure 16

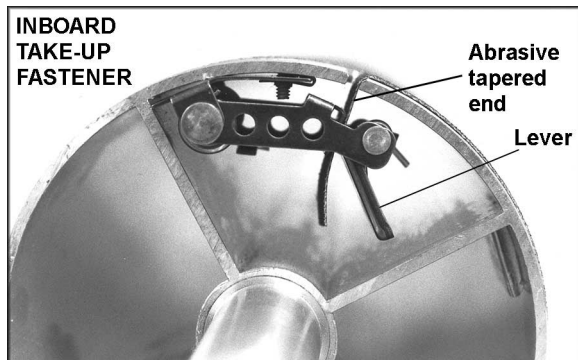


Figure 17

# 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.

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

Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor, with insulation having an outer surface that is green with or without yellow stripes, is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

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

Repair or replace a damaged or worn cord immediately.

As received from the factory, your drum sander is intended for use on a 20 amp, 110V dedicated circuit, which has an outlet and a plug that look like the ones illustrated in Figure 18. The sander **cannot** be rewired to voltages other than factory settings.

A temporary adapter, which looks like the adapter illustrated in Figure 19, may be used to connect this plug to a two-pole receptacle, as shown in Figure 19, if a properly grounded outlet is not available. The temporary adapter should only be used until a properly grounded outlet can be installed by a qualified electrician. **This adapter is not applicable in Canada.** The green colored rigid ear, lug, or tab, extending from the adapter, must be connected to a permanent ground such as a properly grounded outlet box, as shown in Figure 19.

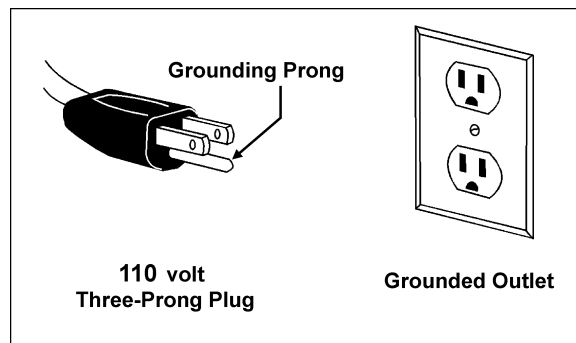


Figure 18

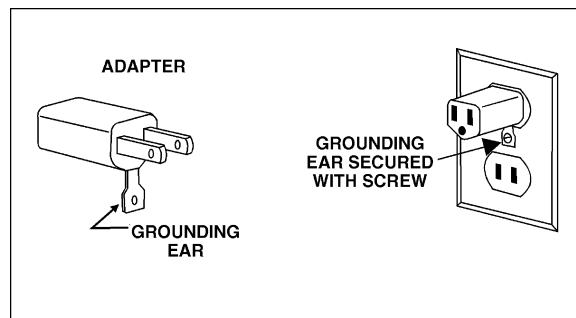


Figure 19

## 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 20 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.

## Adjustments

### Switch Lockout

Unauthorized use of the sander can be prevented by pulling out the key (Figure 21). Press switch to OFF position before removing the key. When the key is removed, the drum can not be started. (Note, however, that the conveyor belt can still run when the key is removed).

To replace the key, slide it back into the switch until it snaps.

### Dust Cover

To access the drum, lift the front of the dust cover using the handle and push back the front cover all the way to secure it in open position. The dust port should be on the back or outfeed side of the sander.

When removing the dust cover for initial drum alignment or other reasons, lift the front cover half-way and pull the dust cover out from the outfeed side of sander. The edges will pop out when the dust cover is pulled from the carriage leg brackets. Reverse this procedure to re-install the dust cover.

The dust cover should not require removal for fine tuning alignments or for changing or cleaning the abrasives.

### Table Height Control

**NOTE:** Read "Table Support Screws", page 9, before operating the handwheel.

The table height and depth of cut are controlled by the height adjustment handwheel (see Figure 6). Rotating the handwheel raises or lowers both sides of the table simultaneously by transferring the handwheel rotation through the miter gear and transfer rod assembly.

Check the operation of the height adjustment mechanism. If it does not operate smoothly or easily, check the following:

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.

Figure 20

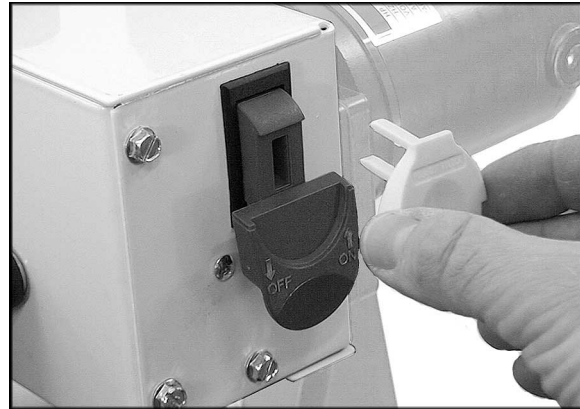


Figure 21

- The set screws in the table supports have been loosened and readjusted (see page 9).
- The sander has been leveled (page 11).
- Moving parts of the height adjustment mechanism are well lubricated, including miter gears, columns, and threaded adjusting screws.

If the table height mechanism still does not operate smoothly, try the following:

1. Further loosen the set screws on the front of the table supports (see Figure 5).
2. Lubricate thoroughly by applying penetrating lubricant to the table supports where they contact the columns, and to all contact points of adjusting screws and transfer rod (see Figure 1). Also apply grease to the miter gears.
3. If the height adjustment still feels stiff, check for misalignment of adjusting screw supports and table supports which could cause binding on the adjusting screws. The adjusting screw supports can be adjusted by loosening the set screws which secure them to the columns, and rotating the supports to proper position.
4. Check the miter gear alignment. The miter gears can be adjusted on their shafts by prying off their protective caps with a flat blade screwdriver, and loosening the set screws on the gears. Check that the gear mesh is not too tight or too loose, and that the gear teeth align with the opposing gear. Note that the collars located on the transfer rod (see Figure 1, page 7) should be positioned to control the lateral movement of the transfer rod to maintain accurate miter gear alignment and mesh.

The mesh of the miter gears should be smooth and even. If it is not, adjust the gears for good mesh. Test for smooth operation.

5. Next, check the position of the height adjustment screws: First raise the conveyor table. Then check the retaining ring at the top of the height adjustment screw on the outboard side (Figure 24), and the retaining ring under the height adjustment handle on the inboard side of the machine. Both retaining rings should be snug on their respective bearings.

If there is a space between the retaining ring and the bearing, tighten one set screw in each of the table supports before performing the following adjustment:

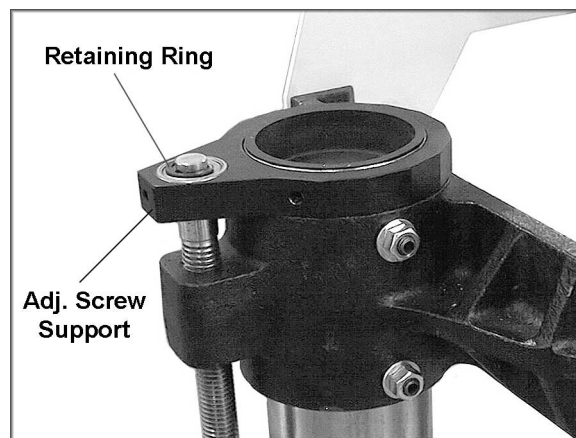


Figure 24



- If one height adjustment screw is loose, remove the miter gear from the transfer rod on that side. Turn down the threaded height adjustment screw rod until it is snug. Make sure both sides are snug on top and retaining rings under the adjustment screw supports are in place. Re-install the miter gear. Loosen the set screws in the table supports and test for smooth operation.

### Depth Gauge Calibration

The depth gauge (A, Figure 25) measures the distance between the conveyor table and the sanding drum for thickness dimensioning of boards. To calibrate the depth gauge:

- Loosen the locking knob (B) of the lower depth gauge support (C) and lower it so that it rests on top of the table support (E).
- Raise the conveyor table until it touches the sanding drum. Then loosen the locking knob (D) of the upper depth gauge support and position the "0" mark of the scale even with the top of the lower depth gauge support.
- Tighten the upper depth gauge support in position.

Once calibrated, the locking knob (B, Figure 15) of the lower depth gauge support can be loosened, allowing the lower depth gauge support to ride on top of the table support. The depth can then be read where the scale enters the lower depth gauge support.

The depth gauge can also be used as a stop gauge as follows: Position the lower depth gauge support (C, Figure 25) along the scale to a desired finish thickness. Then tighten the lower depth gauge support with the locking knob to prevent the conveyor table from being raised above that point.

### Drum Alignment

The sanding drum must be aligned parallel to the conveyor table for proper machine operation. The sanding drum has been pre-aligned at the factory and should not require immediate adjustment, although it is recommended that you confirm the alignment before operating the sander. Proceed as follows:

First inspect the alignment with a gauge of some kind. The following procedure uses a steel straight edge as a gauge. See Figure 26.

- Unplug sander from power source.
- Remove the dust cover and remove the abrasive strip from the drum.

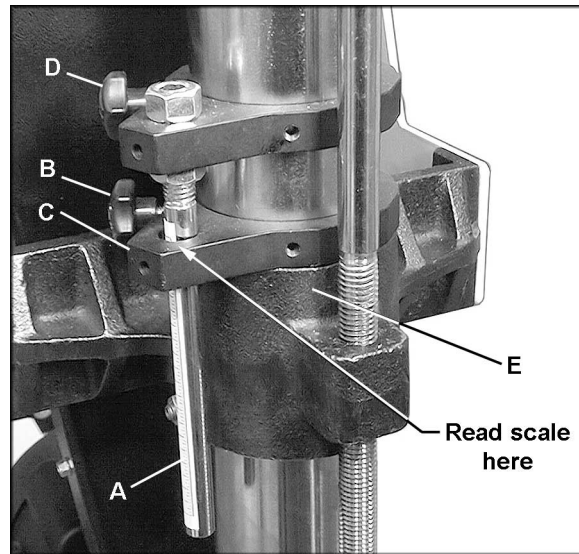


Figure 25

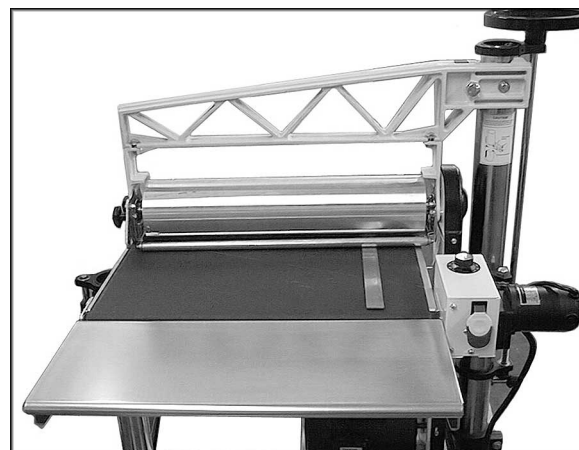


Figure 26

3. Insert the gauge between the drum and conveyor bed at one end of the drum (Figure 26). Raise the conveyor bed while slowly rotating drum by hand until the drum lightly contacts the thickness gauge.
4. Move thickness gauge to the opposite end of the drum. If the drum does not contact the thickness gauge equally at both ends of the drum, alignment is necessary. See below.

### Initial Drum Alignment

1. Release v-belt tension from motor by loosening pinch bolt of motor support (Figure 27).
2. Loosen two lower #10-32 screws in belt guard (Figure 27 shows one of the screws). Slide motor support up the column and re-tighten pinch bolt.
3. Because the tension roller suspension assembly (Figure 28) mounts to the drum bearing bolts which are used to adjust the drum, it is necessary to align the sanding drum and tension rollers at the same time. Loosen outboard bearing bolt knobs (Figure 28) and the inboard bearing bolts.
4. With all four bearing bolts loosened, note that the drum will adjust about 1/2" on each end. Position drum alignment templates (Figure 28) on the conveyor and below the drum with one template at each end of the drum.
5. Raise the conveyor bed so that the drum is resting on both templates but leaving the drum within its range of adjustment. To check this, you should be able to lift either end of the drum off the templates and, with light hand pressure on the drum, attempt to slide templates with a screw driver to make sure drum is actually resting on the template and not just in its lowest position.
6. In this position, the drum should be resting on the templates and both tension rollers resting on the conveyor surface. Re-tighten bearing bolts and restore v-belt tension. Tighten pinch bolt in motor support and tighten two lower screws in belt guard (Figure 27).

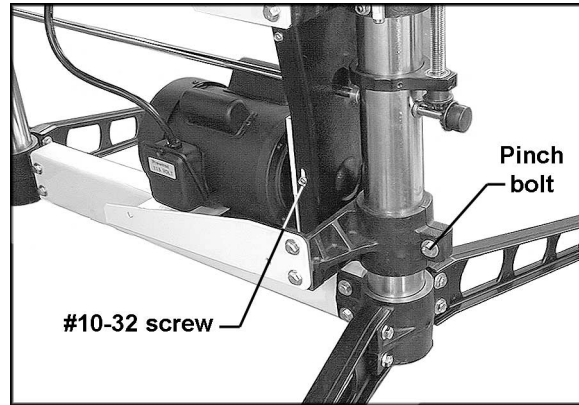


Figure 27

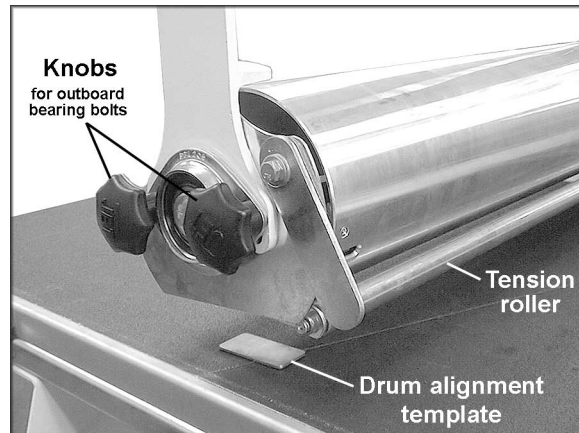


Figure 28

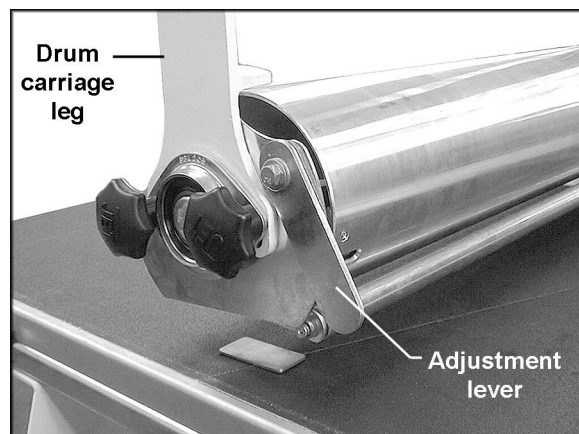


Figure 29

### Fine-Tuning Drum Alignment

The 22-44 Pro is equipped with a drum adjuster mechanism that allows easy fine tuning or changing of drum alignment without repeating the initial drum alignment procedure.

1. Raise drum adjustment lever (Figure 29) so that it just engages the side of drum carriage leg.

2. Slightly loosen bearing bolt knobs. (An internal tooth lock washer is placed under the head of each bearing bolt to prevent tension rollers from dropping out of position if knobs are loosened slightly. If tension rollers do drop, simply raise to a position equal to that of the inboard end of the drum and slightly tighten knobs.)
3. With the bearing bolt knobs slightly loosened, raise drum adjustment lever to raise the outboard end of drum, or lower drum adjustment lever to lower the outboard end of drum.
4. After adjustment is made, re-tighten bearing bolt knobs and check drum alignment.

The drum adjustment lever is useful when sanding boards wider than the drum (see Figure 30). Here the drum alignment is critical and must be adjusted to exactly level to slightly high on the outboard end. Test alignment with scrap wood approximately 6" wide by 24" to 40" long. Run board through sander sideways so that end of board extends beyond end of drum. Rotate board 180° and sand the other end. If a ridge is visible due to the drum overlap, then raise outboard end of drum and test again until ridge is eliminated.

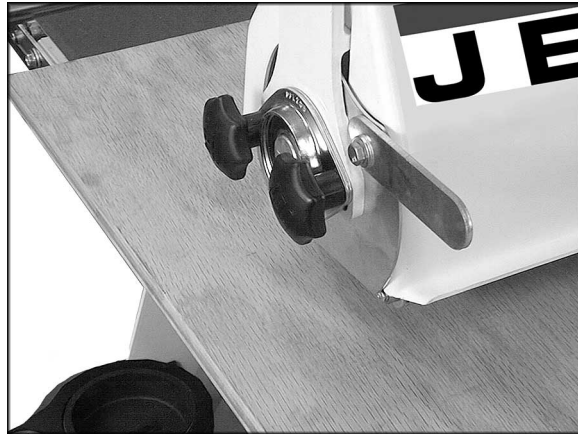


Figure 30

### Conveyor Belt Tension and Tracking

Tension and tracking adjustments may occasionally be necessary during break-in and normal operation to compensate for belt stretching.

**Tension.** To adjust the tension of the conveyor belt, first adjust the take-up screw nut (Figure 31) using the attached wrench. Do this on both sides of the conveyor to obtain approximately equal tension on both sides of the belt when taut. Insufficient belt tension will cause slippage of conveyor belt on the drive roller during sanding operation; the conveyor belt is too loose if it can be stopped by hand pressure applied directly to the top of the conveyor belt. Excessive belt tension can result in bent rollers, bent brackets, and/or premature wearing of the bushings or belt.

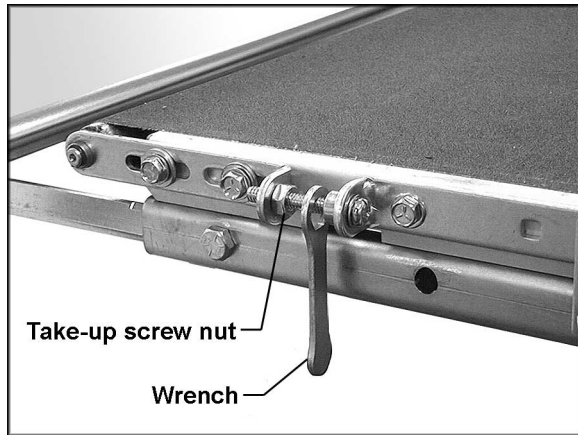


Figure 31

**Tracking.** Belt tracking adjustments are made while the conveyor belt is running. After the proper belt tension is obtained (see above), turn the conveyor on and set it at the fastest speed setting. Watch for a tendency of the conveyor belt to drift to one side of the conveyor. To adjust tracking, tighten the take-up screw nut on the side toward which the belt is drifting, and loosen the take-up screw nut on the opposite side an equal amount.

Adjusting the take-up screw nuts on either side of the conveyor allows belt tracking adjustments to be made without affecting belt tension.

NOTE: Adjust take-up screw nuts only 1/4 turn at a time. Then allow time for the belt to react to the adjustments before proceeding further. Try to avoid over adjustments.

## Trackers

The sander comes equipped with “Trackers”, ceramic guides that reduce the amount of adjustments needed to keep the conveyor belt tracked (centered) on the conveyor bed. See Figure 32. These guides have a magnetic backing to keep them in place. If a Tracker wears through, it can be reversed by turning it over. Page 27 contains more information about re-setting trackers.

## Conveyor Belt Replacement

1. To replace a worn conveyor belt, lower conveyor table to its lowest position using the height adjustment handle. Unplug the machine from the wall receptacle, and unplug the motor cord from the control box receptacle.
2. Loosen the conveyor take-up screw nuts (see Figure 31) to relieve belt tension, and slide the driven roller fully inward.
3. Remove the four bolts that attach the conveyor table to the table mounting brackets. Lift up the conveyor table and remove it from machine. Avoid tearing the belt on any edges underneath the conveyor bed.
4. Install new belt, and re-install conveyor table. Take care not to damage the Trackers. Tension and track new belt.

NOTE: If the conveyor belt continually tracks to one side of the machine, reversing the belt on the conveyor bed may remedy the problem. To make sure the conveyor bed is not twisted, place a level on the conveyor bed. If it is twisted, see page 11 for instructions on leveling the machine. If there is still a problem, proceed with the steps below:

**Step 1:** Check the conveyor drive roller and the driven roller to make sure they are parallel to the surface of the conveyor bed. To do this, first center the conveyor belt on the bed. Then lay a straight-edge on the exposed edge of the conveyor bed on the left (outboard) side, extending it over the roller. See Figure 33. Note the distance between the roller and the straightedge.

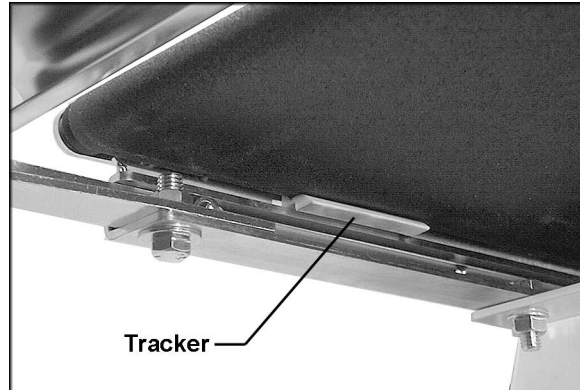


Figure 32

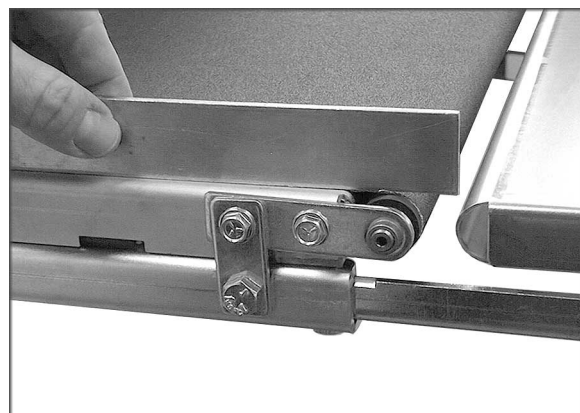


Figure 33

**Step 2:** Now repeat Step 1 on the right (inboard) side of conveyor. Compare the measurements from side to side. If they are not equal, loosen one of the brackets that hold the roller in place. Tip this brackets until the distance between the roller and the straight-edge are equal from side to side, then tighten the bracket.

## Tension Roller Adjustment

Snipe marks result from too much tension roller pressure and are identified as a visible line running across the width of the board approximately 2-1/4" from the end of the board. If a snipe mark occurs on the leading edge of the board, adjust the outfeed tension roller. If a snipe mark occurs on the trailing end of the board, adjust the infeed tension roller.

Tension roller pressure can be decreased in one of two ways:

**Method 1:** Loosen spring retaining screws (Figure 34). Do not disengage screws entirely.

**Method 2:** Raise height of tension rollers as follows. Repeat "Initial Drum Alignment" procedure (page 18), using the drum alignment templates under the drum, except place a few sheets of paper under the tension roller(s) needing adjustment. Do NOT place the paper under the drum or alignment templates. Tighten bolts. Repeat this procedure until the snipe is eliminated.

**⚠WARNING** Improperly adjusted tension rollers (i.e. those set too high, rendering them non-functional) could allow kickback or slippage of pieces being sanded.

## Adjusting Table Supports

1. If the conveyor table does not rise and lower easily, measure the distance between the top of the base column support and the bottom of the table support on both the inboard and the outboard side of the machine. See Figures 35 and 36.
2. Compare these measurements; they should be within 1/16". If they are not, disengage the miter gear on the inboard side of the transfer rod (Figure 35) by prying off the protective cap with a screwdriver and loosening the set screw in the gear's collar.
3. Adjust the conveyor table height using the height adjustment handle to get the same measurement on both sides. Then re-engage the miter gear on the transfer rod, tighten the set screw, and replace the protective cap.

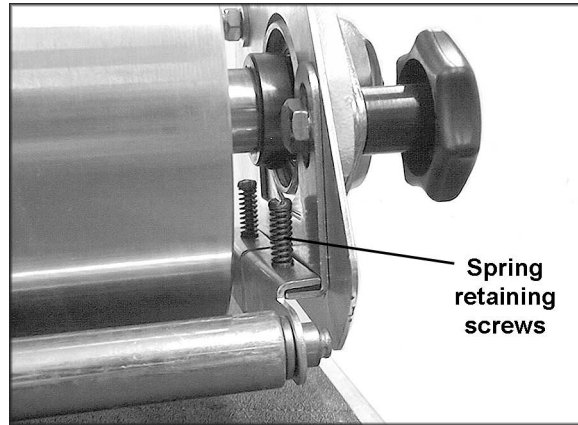


Figure 34

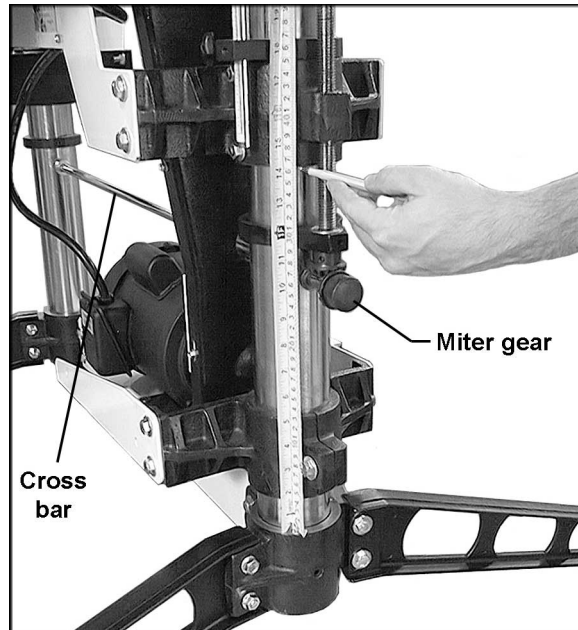


Figure 35

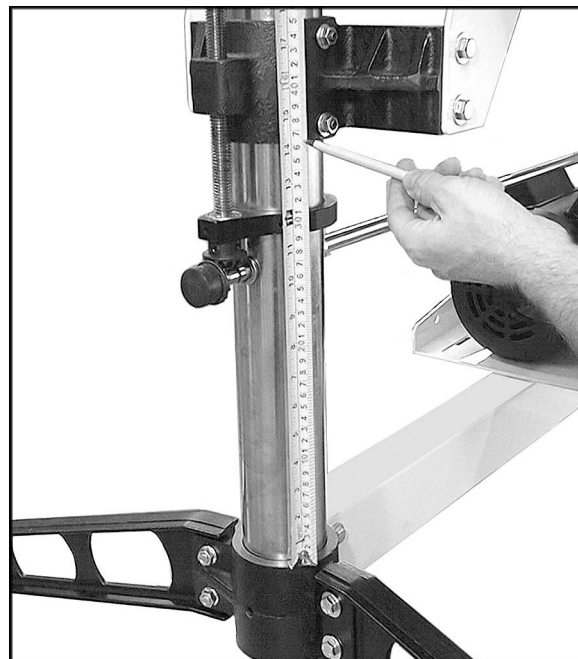


Figure 36

If the conveyor table is still difficult to raise or lower, the table supports may need to be re-centered on the columns. To do this, loosen the four 3/8"x1" hex head bolts in each table support that connects it to the table mounting brackets, adjust and tighten the set screws (see Figure 5) to hold the table support in position. Then tighten the hex head bolts and re-loosen the set screws. Re-align drum (see page 17).

## Replacing V-Belt

1. Unplug machine from power source.
2. Remove the outer half of belt guard by removing the six #10-32 screws with a 5/16" wrench. Slide the belt guard away from the v-belt. See Figure 37.
3. Use a flat blade screwdriver to pry off the protective cap over the inboard miter gear, and loosen the set screw in the gear's collar. Remove the miter gear and loosen outboard collar (Figure 38). Slide cross bar toward outboard side as shown.
4. Loosen v-belt tension by loosening pinch bolt in motor support (Figure 38) and raise motor. Remove v-belt from pulleys.
5. Install new v-belt and tension the belt by using the weight of the motor only. Make sure the pulleys are aligned. Replace transfer rod and miter gear; tighten set screw on miter gear and replace protective cap. Tighten collar on transfer rod.
6. Install the outer half of the belt guard and tighten the six screws.

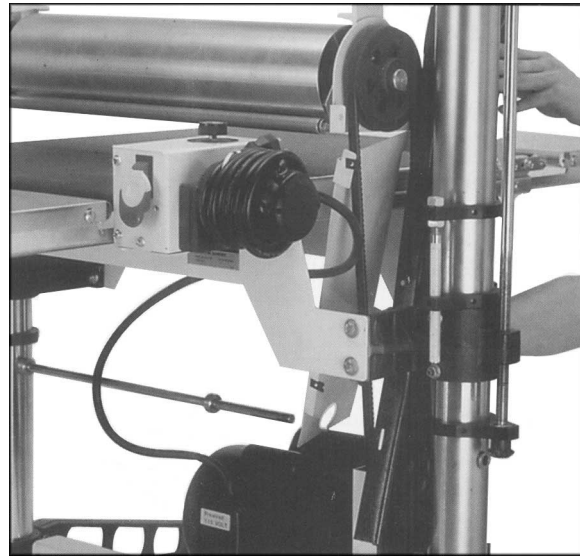


Figure 37

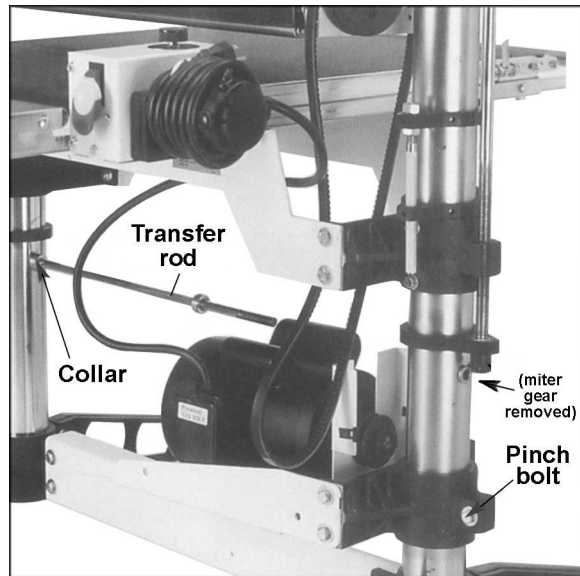


Figure 38

## Rotating Drum Bearings

Bearings should be replaced when they allow excessive play of the drum, make excessive noise or otherwise indicate failure.

If clicking noises in the bearings are a problem, rotating may be a solution instead of replacement, as follows:

1. Unplug sander from power source.
2. Loosen the set screws in the bearing collar (Figure 39). Leave the set screw wrench in one of the set screws. Then rotate the drum within the bearing and tighten the set screws.
3. If the clicking persists, or if the drum shaft is tight in the bearing and cannot rotate, then loosen the bearing bolts. Repeat step 2. After the drum is rotated within the bearing, tighten the bearing bolts first and then the set screws.

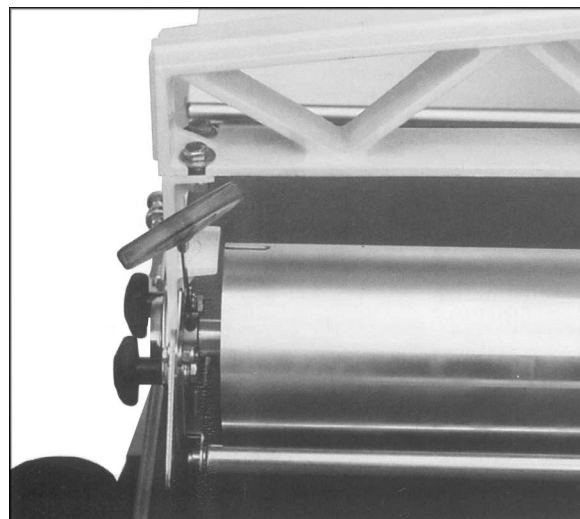


Figure 39

4. After the machine has run for about 30 minutes, stop to check that the set screws and bearing bolts are still tight.

NOTE: It may be necessary to re-align the tension rollers after rotating the drum bearings. See page 18.

## Replacing Drum Bearings

If the bearings are squealing or are loose, they may need replacing.

1. Unplug sander from power source and remove dust cover.
2. Raise conveyor table until the sanding drum rests on the conveyor.
3. *Outboard:* Remove the two knobs and washers that are holding the bearing in place. Loosen the two set screws in the bearing collar and slide the bearing off the end of the drum (Figure 41).
4. Install a new bearing on the shaft of the drum and tighten the bolts. Tighten the set screws in the bearing collar. Make sure the bolts go through the drum shield and tension roller support brackets (see exploded view, page 36).
5. *Inboard:* Remove outer half of belt guard by removing the six #10-32 screws in the guard. Slide the belt guard away from the v-belt.
6. Release v-belt tension by loosening pinch bolt in motor support and raising motor.
7. Loosen the set screw in the driven pulley and remove the pulley from the shaft.
8. Remove the bolts holding the inboard (right) bearing in place. See Figure 40. Slide the inner half of the upper belt guard off the end of the shaft along with the bearing.
9. Install the new bearing on the shaft and install the inner half of the upper belt guard in the same manner as it was removed. Make sure the bolts go through the tension roller brackets and drum shield. Install the new inboard bearing.
10. Center the drum between the carriage legs before tightening bolts. Tighten the bolts in the bearing and the set screws in the bearing collar.
11. Install the driven pulley (shown in Figure 40) making sure it aligns with the drive pulley on the motor. Tighten the set screw.
12. Install the outer half of the belt guard cover and tighten the six #10-32 screws.

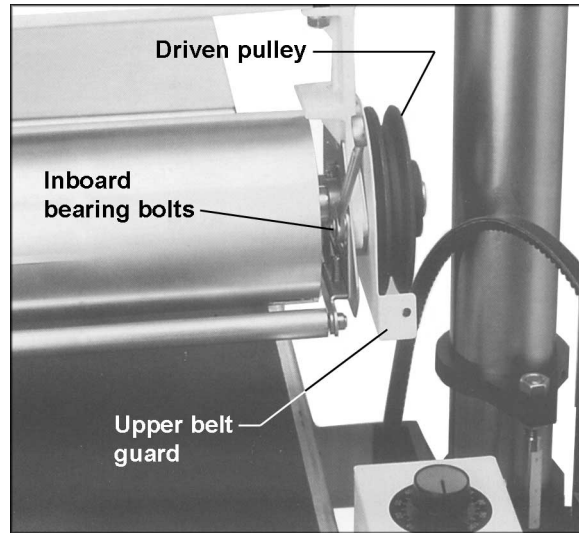


Figure 40

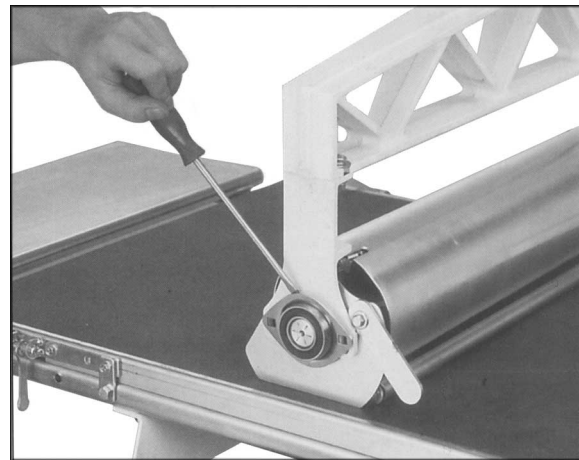


Figure 41

13. Align the drum and tension v-belt according to instructions in this manual.
14. Check all bolts and set screws for tightness, and check them again after sanding for 30 minutes.

## Operation

Before using your drum sander, review the previous pages in this manual on initial set-up and adjustment. In this section, you will learn how to operate the machine. Make sure an abrasive strip is mounted and a dust collection system is connected.

### Basic Operating Procedure

1. Set depth of cut.
2. Start dust collection system.
3. Start drum.
4. Start conveyor and select feed rate.
5. Feed stock through machine.

To feed stock through the 22-44 Pro, rest and hold the board to be sanded on the conveyor belt, allowing the conveyor belt to carry the board into the drum. Once the stock is halfway through, reposition yourself to the outfeed side of the machine to receive and control the board as it exits.

### Setting Depth of Cut

Adjusting the drum sander for the proper contact between the abrasive and the stock determines the mechanical depth of cut.

It may take some experimentation to determine the proper depth of cut, given the variables of abrasive grit, type of wood, and feed rate. For best results, use scrap wood to practice sanding and to develop skill and familiarity with the machine before doing finish work.

A combination of several variables will determine the proper depth of cut to use, including the following:

1. Abrasive type and grit size.
2. Width of the piece being processed.
3. Hardness of the piece.
4. Feed rate of the conveyor belt.

### Establishing Proper Drum Height

The depth of cut is controlled by the table height adjustment handle which raises or lowers the conveyor table under the drum.

A good rule of thumb when sanding with grits finer than 80 is to place the stock to be sanded under the drum and raise conveyor table until the drum contacts the stock. Drum should still rotate by hand. **Without changing drum height**, finish feeding the stock under the sander.

Start sanding drum and sand the stock at that same position.

**⚠WARNING** Do not start drum while in contact with stock!

For sanding with grits coarser than 80, you can raise the conveyor table slightly.

Always maintain control of stock. Through practice you will learn the proper depth of cut considering the variables above.

### Selecting Feed Rates

Selecting proper feed rate is an essential step after first adjusting for depth of cut. The variable feed rate controller of the conveyor belt adjusts the load on the machine; it can be infinitely adjusted within its specified range for maximum operating performance. A faster feed rate allows faster sanding but fewer revolutions of the drum per inch of sanding. A slower feed rate provides more revolutions of the drum per inch of sanding to allow a greater depth of cut and smooth sanding.

Begin experimenting with the feed rate set at about 40% to 50% of maximum. The best feed rate will depend on a number of factors, including type of stock, grit and depth of cut used, and whether the stock is fed directly in line with the conveyor bed or at an angle. If the drum motor is lugging down, if the conveyor belt is slipping, or if you observe a ripple effect on the stock, slow down the feed rate. If the finish is smooth and the machine is not overworking, you can experiment with using a faster feed rate.

Also try a faster feed rate or less depth of cut if the stock you are working begins to show burn marks. With cherry, hard maple or other hardwoods, using a shallower depth of cut and a faster feed rate will help minimize burn marks. Slightly angling the stock as it is fed into the machine will also help prevent burning the stock.

Because of the wide range of variables, it is important to experiment with your specific conditions and make adjustments to achieve the optimum feed rate. If problems occur, first check and adjust the feed rate, referring to the "Troubleshooting" sections in this manual.

### Tips for Maximum Performance

The versatility designed into the 22-44 Pro drum sander allows it to be used for a wide variety of tasks that will boost the return on your investment. For example, its capabilities range from taking the place of a planer to thickness rough stock, to speeding up fine sanding work often done with slower, dust-generating hand sanders.



Learning how to use its adjustments and controls will allow you to fine-tune the machine for maximum results. The best results come from experimenting with different abrasive grits and machine adjustments to fit the job at hand. Following is a list of useful tips which can help you improve performance of your sander.

### **Dust Collection**

When connecting dust collectors, remember that straight pipe will not restrict airflow as much as flexible tubing. Y's and elbows will restrict airflow less than T's. Also, a hose smaller than 2-1/2" diameter should not be used.

### **Multiple-Piece Sanding Runs**

When abrasive planing (or thickness sanding) a run of similar pieces that you want to have the same thickness, it is best to determine the thickness of the thinnest piece and process all pieces to that same thickness in one session. Be aware that the sander will remove cups and crowns in the workpiece; consider this when measuring and processing stock to the same thickness.

### **Sanding Multiple Pieces At Once**

When sanding multiple pieces simultaneously, make sure to stagger (step) the pieces across the width of the conveyor belt. This provides better contact with the tension rollers. Try to process only multiple pieces of similar thickness. If there is a significant thickness difference, the thinner pieces can slip on the conveyor belt if they do not contact the tension rollers. Also note that pieces thicker than 3/4" should be longer than the minimum normally recommended to prevent tipping of the stock.

### **Edge Sanding**

When edge sanding, the sander will mimic the opposite edge of the stock which is lying on the conveyor belt. Because of this, it is important for the stock edge to have been ripped at the proper angle to the face before the sanding process. When edge sanding stock that is less than 3/4" wide or more than 2" high, it is good procedure to stack and clamp several pieces together to prevent them from slipping or tipping on the conveyor belt.

### **Sanding Imperfect Stock**

When sanding stock with a cup or crown, place the crown up. This will stabilize the stock to help prevent tipping or rocking during sanding. After the crown has been removed and the top is flat, turn the stock over and sand the opposite side. To avoid personal injury, take special care when sanding stock that is twisted, bowed, or otherwise varies in thickness from end to end. If possible, support such stock as it is being sanded to keep it from slipping or tipping. Use

extra roller stands, help from another person, or hand pressure on the stock, to minimize potentially hazardous situations.

### **Face Frames and Raised Panel Doors**

It is very important to have the proper abrasive contact when doing this type of sanding. If the machine is set to take an excessive depth of cut, the result can be a gouge or dip as the drum goes from sanding the rails at full width to sanding just a few inches of width on the stiles. To prevent this, make sure that when using abrasives finer than 80 grit the drum is in contact with the wood but can still be spun by hand. If there is room, angling the stock on the conveyor belt can also help. Slowing the conveyor feed when coming to a rail in the stock can help prevent a dip or gouge. This allows the abrasive to work the wider width with less effort, and to achieve better consistency of the finished surface.

### **Stock Feeding Angle**

Some pieces, because of their dimensions, will need to be fed into the machine at a 90° angle (perpendicular to the drum). However, even a slight offset angle of the stock will provide for more effective stock removal. The optimum feeding angle for stock removal is about 60° (see Figure 42).



*Figure 42*

Angling the workpiece for stock removal provides other advantages, such as less loading of certain areas of the drums due to glue lines or mineral streaks in the stock, more even wear of abrasive strips, potentially faster feed rates, and lighter loads on the motor. Note that to get the best final finish, however, the stock should be fed through the machine so it will be sanded in line with the grain of the wood on the final one or two passes.

## Maintenance

**⚠WARNING** Before doing maintenance 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.

### Keeping the Machine Clean

For best results, make cleaning the machine a regular shop procedure. Allowing excess build-up of dust and debris can adversely affect performance through the loading of the abrasives, slippage on the conveyor table, and/or the accumulation of material inside the drums which can throw off the center of balance. Leave the dust collector on when cleaning dust from the drums. Also brush the conveyor belt after cleaning operations. If not cleaned, the conveyor belt could allow stock to slip during sanding operations.

For best results, perform the following recommended procedures on a **monthly** basis:

- Lubricate conveyor bushings and check for wear.
- Lubricate all moving parts, such as threaded rods, washers, and column tubes. (Bearings are pre-sealed and require no lubrication.)
- Clean sawdust from the abrasive strip and brush dust from the conveyor belt.
- Blow dust from motors and switches. Blow dust from inside of sanding drum, which may cause vibration or offset the center of balance.
- Check all set screws for tightness on parts such as table supports, bearings, conveyor coupler, castings, pulleys and miter gears.

## Tracker Kit (98-0080)

Trackers dramatically reduce tracking adjustments of conveyor belts. They are already installed on your sander. The following information is for re-setting or replacing your trackers, should that become necessary. Refer to Figure 43.

1. Disconnect power to sander, and disconnect motor cord from control box receptacle.
2. Lower conveyor table as far as it will go.
3. Loosen the conveyor take-up screw nuts to relieve conveyor belt tension and slide driven roller fully inward. Slide conveyor belt to one side of bed.
4. Remove the four bolts holding the conveyor table to the sander base.
5. Lift conveyor table and slide it out of the sander. Turn conveyor table upside down. Be careful not to damage the conveyor belt.
6. On the underside of the conveyor bed, there are U-channels welded to the bed. The Tracker is positioned on the inside of the first U-channel on the infeed side of sander (the U-channel closest to the rubber covered drive roller and gear motor). The back of the Tracker is magnetized and will stick to the side wall of the conveyor bed. Do not install Tracker if the edge of the conveyor belt is damaged or torn.
7. With the first Tracker installed, slide the conveyor belt into the bottom slot of the Tracker. **Note:** When installed properly, only the bottom lip of the Tracker will be visible. The top slot is to be used if the bottom slot wears out.
8. Install second Tracker opposite the first. Use both Trackers unless the second one does not fit in conveyor or if conveyor belt is damaged.
9. Turn conveyor table right-side up and reposition it onto the sander. Re-attach the four mounting bolts and tighten. **Caution:** Be careful not to knock Tracker(s) out of conveyor bed when turning conveyor over.
10. Make sure all switches are off. Connect power to sander and plug in motor.
11. Tension the conveyor belt using take-up screw nuts. If both Trackers are installed, it is very important to have equal tension on both sides of the conveyor belt. Tighten both sides of take-up screw nuts until equal tension is obtained.
12. To check tension, turn on conveyor full speed and place both hands on conveyor. If conveyor belt can be stopped, continue tensioning until conveyor belt cannot be stopped by both hands on the belt while the conveyor is operating at full speed.
13. Make sure conveyor belt runs smoothly inside Tracker slot and that the magnet is holding the Tracker in position.
14. Continue to watch tracking of conveyor and adjust only if necessary, making sure to keep equal tension on conveyor belt at all times and not allowing conveyor belt to buckle under conveyor bed.

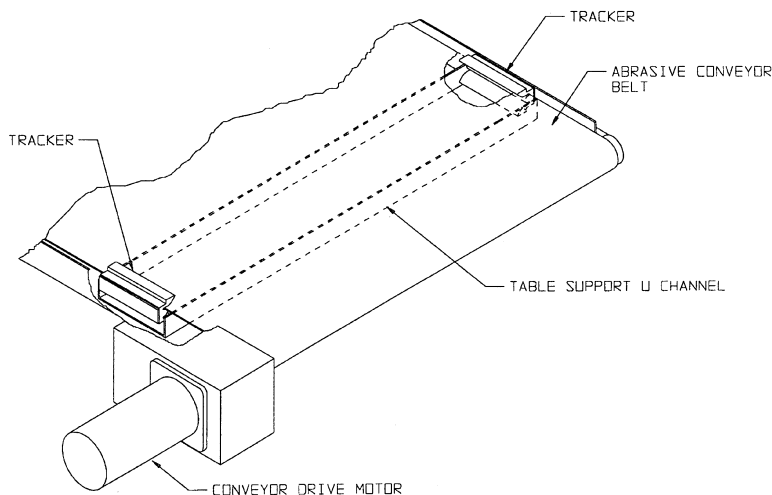


Figure 43 (underside of conveyor shown)

## Abrasives

The abrasive material you choose will have a substantial effect on the performance of your sander. Variations in paper type, weight, coating and durability all contribute to achieving your desired finish.

JET Abrasives are available in Ready-To-Wrap™ pre-cut lengths or in the convenient Ready-To-Cut pre-marked box. Your JET dealer can recommend the best choice for your application.

### Selecting Drum Abrasives

It is important to select the proper grit of abrasive for the type of sanding being performed to achieve maximum results. As with any sanding operation, first begin sanding with a coarser grit, depending upon the roughness of the stock or the amount of stock to be removed. Then progressively work toward finer grits. The chart (Figure 44) shows the general uses for the various grits. JET offers abrasives in the ten different grits shown – consult the stock numbers on page 32 to order.

The amount of stock to be removed is a major consideration when choosing the grit grade with which to begin. Grits 24, 36, 50 and 60 are primarily designed for stock removal. Grits 24 and 36 will remove the most material in one pass, whether you are doing abrasive planing, cleaning up glued panels, or flattening stock. Grits from 100 through 220 are primarily finishing grits designed to remove the scratch pattern from the previous grit used. For best results, never skip more than one grit grade when progressing through a sanding sequence.

For fine work, such as furniture, try not to skip any grit grades during the sanding process.

In general, premium quality abrasives will produce a better finish with a less noticeable scratch pattern.

**NOTE:** Grits that are too fine can sometimes burnish the wood and leave a glossy surface which will not accept stains evenly. This will vary by type of wood. Oak, for example, is susceptible to burnishing because of its open pores.

### Cleaning Abrasive Strips

Regularly clean the abrasive strips on the drums with commercially available cleaning sticks, following the manufacturer's directions. When cleaning, also brush the stick crumbs from the drum while it is still rotating.

In some cases, build-ups resulting from burns can also be removed with Plexiglas held on edge over the rotating drum.

**CAUTION** Always wear eye protection while performing sandpaper cleaning, and take all precautions to avoid any contact of hands or clothing with the rotating drum.

Cloth-backed abrasives can be cleaned by soaking in paint thinner or mineral spirits for 20 minutes to 1 hour, then using a brush to remove any build-up. Dry the abrasive strips completely before using. Any used solvents should be discarded in compliance with environmental regulations.

### Increasing Abrasive Life

Abrasive life can be increased not only by cleaning, but by removing the abrasive strip from the drum and reversing it. To do this, remove the strip and use what was the trailing end as the starting end on the left (outboard) side of the drum. Reversing the strip will provide a fresh set of cutting edges on the abrasive.

Abrasive Selection Guide	
Grit	Common Application
24.....	Abrasive planing, surfacing rough-sawn boards, maximum stock removal, glue removal.
36.....	Abrasive planing, surfacing rough-sawn boards, maximum stock removal, glue removal.
50.....	Surfacing and dimensioning boards, trueing warped boards
60.....	Surfacing and dimensioning boards, trueing warped boards.
80.....	Light dimensioning, removal of planer ripples.
100.....	Light surfacing, removal of planer ripples.
120.....	Light surfacing, minimal stock removal.
150.....	Finish sanding, minimal stock removal.
180.....	Finish sanding only, not for stock removal.
220 .....	Finish sanding only, not for stock removal.

Figure 44

## Troubleshooting: Motor and Electrical Problems

Trouble	Probable Cause	Remedy
Sander will not start.	No incoming power.	Check plug connections. Connect main cord to power source, and motor cord into control box receptacle.
	Circuit fuse blown or breaker tripped.	Replace fuse or re-set breaker.
	Switch is malfunctioning.	Replace switch.
Drum motor overloads.	Inadequate circuit.	Check electrical requirements.
	Feed rate too fast or depth of cut too large.	Reduce feed rate and/or depth of cut.
Conveyor motor oscillates.	Motor not properly aligned.	Loosen housing bolts, run motor, re-tighten bolts.
	Transfer rod collar is worn.	Replace transfer rod collar.
	Drive roller bent.	Replace drive roller.
Drum motor or conveyor motor stalls.	Excessive depth of cut.	Reduce depth of cut; use coarser grit; reduce feed rate.
	Improper conveyor belt tension.	Adjust tension (see page 19).
Motor overload protector trips or shop wiring breaker trips.	Excessive load on sanding drum and motor.	Allow motor to cool and re-set overload button.
	Too many tools on circuit.	Connect sander to a dedicated circuit. Have a certified electrician correct any shop wiring problem.
	Excessive length or inadequate size extension cord.	Use a shorter or heavier gauge extension cord (see Figure 20).

## Troubleshooting: Mechanical Problems

Trouble	Probable Cause	Remedy
Conveyor belt does not move, or runs intermittently.	Shaft coupling (#11, page 38) is loose or unattached.	Align the shaft flats of the gear motor and the drive roller and tighten the shaft-coupling setscrews.
Conveyor belt slips on drive roller.	Improper conveyor belt tension.	Adjust belt tension.
	Excessive depth of cut or feed rate.	Reduce depth of cut; reduce feed rate.
Board slips on conveyor belt.	Tension rollers too high.	Lower tension rollers (see page 18).
	Excessive feed rate.	Reduce feed rate.
	Dirty or worn conveyor belt.	Replace conveyor belt.
	Abrasive improperly wrapped.	Read "Installing Abrasives" on pages 12 and 13.

<b>Trouble</b>	<b>Probable Cause</b>	<b>Remedy</b>
Conveyor belt tracks to one side, or oscillates from side to side.	Conveyor belt out of adjustment.	Readjust conveyor belt; see page 19.
	Drive or driven roller needs adjusting.	Readjust; see page 20.
	Conveyor belt worn or defective.	Replace conveyor belt; see page 20.
	Drive roller worn, bent, or varies in diameter side to side.	Replace drive roller.
	Roller bushings elongated due to excessive wear.	Replace bushings.
Abrasive strip is loose.	Strip caught on inside edge of slot, or on inboard side of drum.	Re-adjust the strip end in the slot and/or trim the abrasive edge.
	Strip not cut properly.	Re-cut and re-install abrasive strip. See pages 12 and 13.
Abrasive loads up prematurely.	Excessive depth of cut.	Reduce depth of cut.
	Excessive feed rate.	Reduce feed rate.
	Inadequate dust collection.	Increase airflow at dust port.
	Inadequate abrasive.	Use an open-coat abrasive.
	Stock fed at 90° angle to drum.	Angle stock 60° if possible to avoid resin line buildup.
Table height adjustment works improperly.	Improper adjustment of height control.	Readjust height control. See pages 15 and 16.
Drum drive v-belt slips.	Improper v-belt tension.	Increase tension.
Knocking sound while running.	Bearing(s) out of alignment.	Re-align bearings; see page 22.
	V-belt worn.	Replace v-belt; see page 22.
	Dust in drum.	Remove material inside drum.
	Pulley wobbling or out of round.	Replace pulley.
	Set screws loose in pulley or bearing.	Re-tighten set screws.
	Abrasive fastener on drum loose (without abrasive strip in place).	Insert abrasive strip, or replace fastener.
	Drum bearing(s) worn.	Replace drum bearing(s); see page 23.

## Troubleshooting: Operational Problems

Trouble	Probable Cause	Remedy
Ripples in sanded surface. (Non-uniformly spaced ripples).	Uneven feed rate.	Check for these conditions and refer to previous Troubleshooting sections: Conveyor belt slips on drive roller. Board slips on conveyor belt. Conveyor gear motor stalls. Excessive v-belt tension. Set screw loose on shaft coupler between gear motor and conveyor. Conveyor bushings worn – replace. Conveyor bushings dry – lubricate.
Ripples in sanded surface. (Uniformly spaced ripples).	Excessive feed rate.	Reduce depth of cut and/or feed rate.
	Excessive depth of cut.	Reduce depth of cut and/or feed rate.
	Sander vibration.	Check for these conditions: Loose bolts, or loose bearing and pulley set screws – re-tighten. Dirty drum – clean inside. Excessive v-belt tension – reduce tension. Worn v-belt – replace. Warped drive pulley – replace. Drum out of balance – contact your dealer or WMH authorized service center.
Sniping of wood (gouging near end of board).	Tension rollers set too low.	Re-set tension rollers; see page 21.
	Stock not supported properly during infeed or outfeed.	Support stock with roller stand, tables or benches.
	Conveyor drive roller or driven roller higher than conveyor belt surface.	Re-adjust roller(s).
Burning of wood.	Feed rate too slow.	Increase feed rate.
	Excessive depth of cut for grit used.	Reduce depth of cut or increase grit coarseness.
	Excess build-up on abrasive strips.	Reduce depth of cut; clean strips or replace; angle stock when feeding.
	Abrasive is too fine.	Replace with abrasive of coarser grit.
	Abrasive strips are overlapped.	Rewrap strip without overlap. See pages 12 and 13.
	Drum out of alignment.	Re-align drum. See pages 17-19.

<b>Trouble</b>	<b>Probable Cause</b>	<b>Remedy</b>
Gouging of wood.	Conveyor belt is loose.	Adjust conveyor belt tension. See page 19.
	Excessive depth of cut.	Reduce depth of cut.
	Wood slipping on conveyor due to lack of contact.	Use alternate feeding procedure.
	Abrasive is too fine.	Replace with coarser grit.
Line or groove in stock.	Inconsistent feed rate.	Do not stop or change the feed rate while feeding stock.
Unsanded ridge along length of piece (sandpaper appears clean).	Grit has been removed from backing.	Avoid this area of drum, or replace abrasive strip.



## Optional Accessories

98-2201	Infeed/Outfeed Tables
98-0130	Casters (set of 4)
80-2910	Dust Hose Adaptor, 4" reduce to 2-1/2"
60-2000	Ready-To-Wrap™ Assortment Package (one each of 30, 80, and 120 grit)
60-2024	Ready-To-Wrap™ Abrasive Strip, 24 Grit, (4 wraps in a box)
60-2036	Ready-To-Wrap™ Abrasive Strip, 36 Grit, (4 wraps in a box)
60-2060	Ready-To-Wrap™ Abrasive Strip, 60 Grit, (4 wraps in a box)
60-2080	Ready-To-Wrap™ Abrasive Strip, 80 Grit, (4 wraps in a box)
60-2100	Ready-To-Wrap™ Abrasive Strip, 100 Grit, (4 wraps in a box)
60-2120	Ready-To-Wrap™ Abrasive Strip, 120 Grit, (4 wraps in a box)
60-2150	Ready-To-Wrap™ Abrasive Strip, 150 Grit, (4 wraps in a box)
60-2180	Ready-To-Wrap™ Abrasive Strip, 180 Grit, (4 wraps in a box)
60-2220	Ready-To-Wrap™ Abrasive Strip, 220 Grit, (4 wraps in a box)
60-8024	Klingspore Blue Ready-To-Cut™ Abrasive Strip, 24 Grit
60-8036	Klingspore Blue Ready-To-Cut™ Abrasive Strip, 36 Grit
60-8050	Klingspore Blue Ready-To-Cut™ Abrasive Strip, 50 Grit
60-8060	Klingspore Blue Ready-To-Cut™ Abrasive Strip, 60 Grit
60-8080	Klingspore Blue Ready-To-Cut™ Abrasive Strip, 80 Grit
60-8120	Klingspore Blue Ready-To-Cut™ Abrasive Strip, 120 Grit
60-9036	Premium Ready-To-Cut™ Abrasive Strip, 36 Grit
60-9060	Premium Ready-To-Cut™ Abrasive Strip, 60 Grit
60-9080	Premium Ready-To-Cut™ Abrasive Strip, 80 Grit
60-9100	Premium Ready-To-Cut™ Abrasive Strip, 100 Grit
60-9120	Premium Ready-To-Cut™ Abrasive Strip, 120 Grit
60-9150	Premium Ready-To-Cut™ Abrasive Strip, 150 Grit
60-9180	Premium Ready-To-Cut™ Abrasive Strip, 180 Grit
60-9220	Premium Ready-To-Cut™ Abrasive Strip, 220 Grit

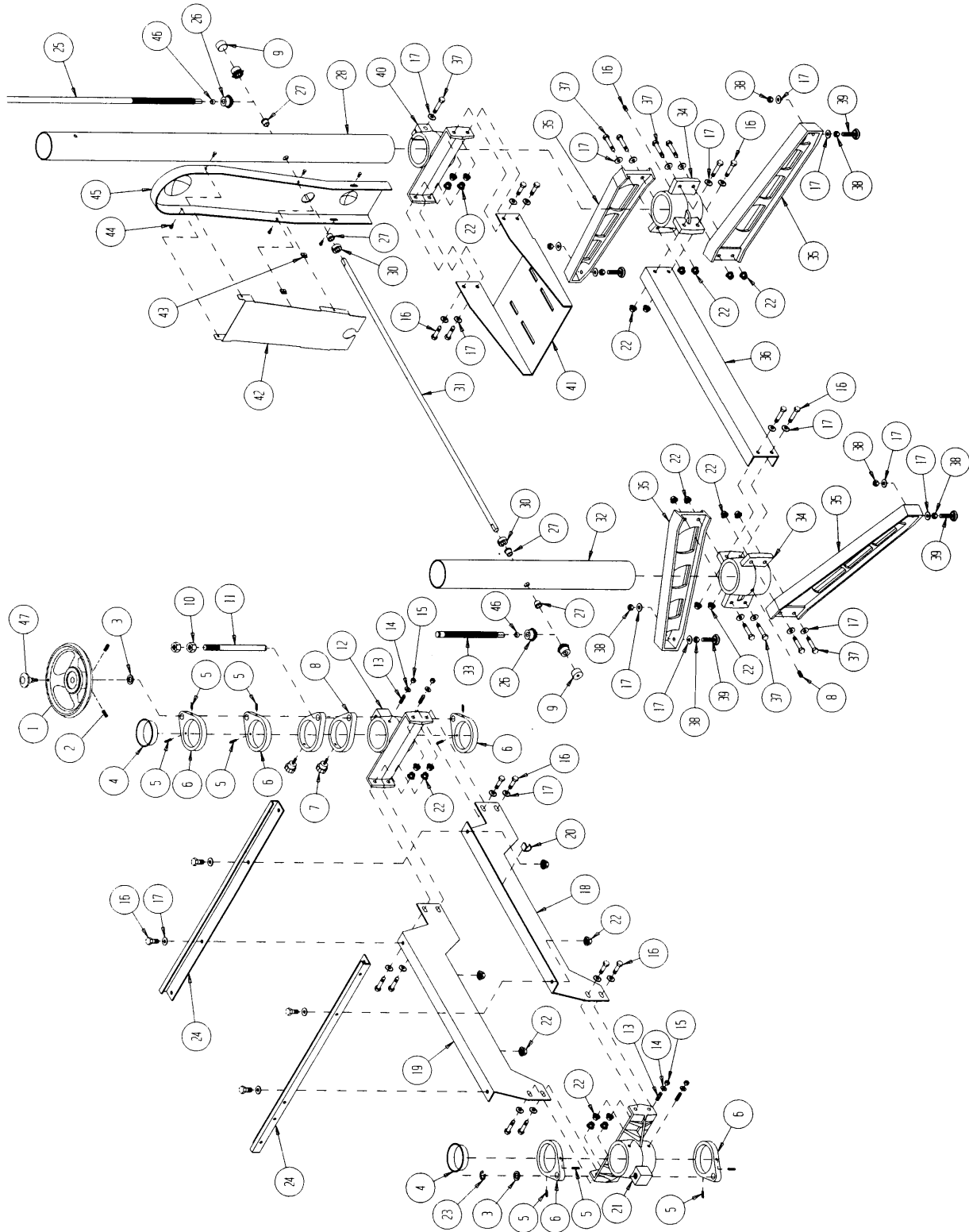
NOTE: Abrasive strips are 3" wide, cloth backed, aluminum oxide, resin bond, open coat.

Ready-To-Cut 36 grit covers drum 10 times; Ready-To-Cut 60 grit and finer covers drum 14 times.

## Replacement Parts

Replacement parts are listed on the following pages. 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.

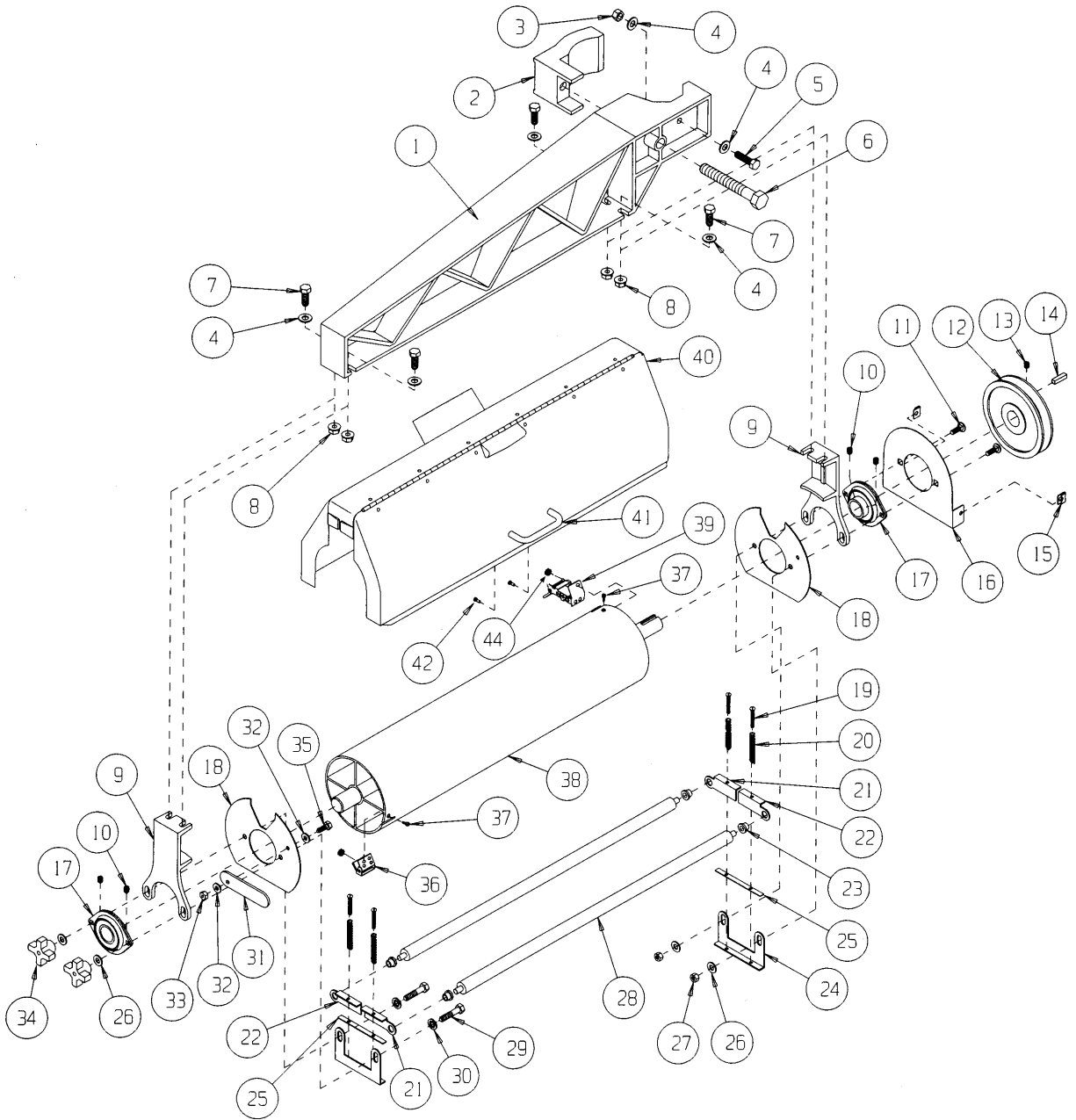
# Stand Assembly



## Parts List: Stand Assembly

Index No.	Part No.	Description	Size	Qty
1	31-0027	Handwheel Assembly	8"O.D., 1/2" I.D.	1
2	10-8903	Socket Set Screw	5/16"x3/8"	2
3	BB-R8ZZ	Bearing		4
4	80-4015	Plastic Cap	3"	2
5	10-2804	Socket Set Screw	1/4"-20x1/2"	10
6	30-1110	Adjusting Screw Support, Extrusion (Bearing)		4
7	81-3132	Depth Gauge Knob		2
8	30-1112	Adjusting Screw Support		2
9	80-4013	Plastic Cap	1"	2
10	12-0011	Hex Nut	9/16"-12	2
11	30-1260	Depth Gauge		1
12	30-5104	Inboard Table Support		1
13	10-9906	Brass Tip Socket Head Set Screw	5/16"-18x3/4"	4
14	6861205	Flat Washer	5/16"	4
15	6515001	Hex Nut	5/16"-18	4
16	10-9205	Hex Head Bolt	3/8"-16x1"	16
17	6861201	Flat Washer	3/8"	37
18	40-3043W	Front Table Mount Bracket		1
19	40-3042W	Rear Table Mount Bracket		1
20	72-6208	Frame Clip		1
21	30-5105	Outboard Table Support		1
22	12-0209	Flanged Lock Nut	3/8"-16	28
23	20-0755	Retaining Ring	10mm ID, 20mm OD, 1mm H	2
23A	20-0757	Retaining Ring (not shown)	12mm ID, 23mm OD, 1mm H	2
24	40-0122	Table Rail		2
25	30-3250	Lead Screw (RH)		1
26	20-1101	Miter Gear		4
27	50-3107	Oilite Bushing	I.D. 1/2"	4
28	30-3044	Inboard Column Tube		1
30	20-1103	Shaft Collar	I.D. 1/2"	2
31	30-3033-01	Transfer Rod		1
32	30-3036	Outboard Column Tube		1
33	30-3215	Follow Screw (LH)		1
34	30-1101	Column Base		2
35	30-1102-01	Leg		4
36	40-3041W	Base Support Bracket		1
37	10-9207	Hex Head Bolt	3/8"-16x1-1/2"	9
38	12-0005	Hex Nut	3/8"-16	8
39	20-0655	Leg Glide		4
40	30-5107	Motor Support		1
41	40-0106W	Motor Support Bracket		1
42	40-3051W	Middle Inner Belt Guard		1
43	20-1155	Retaining Nut	#10-24	2
44	10-3803	Slotted Hex Head Screw	#10-24x3/8"	6
45	80-1030	Upper Belt Guard Cover		1
47	80-3131	Knob		1

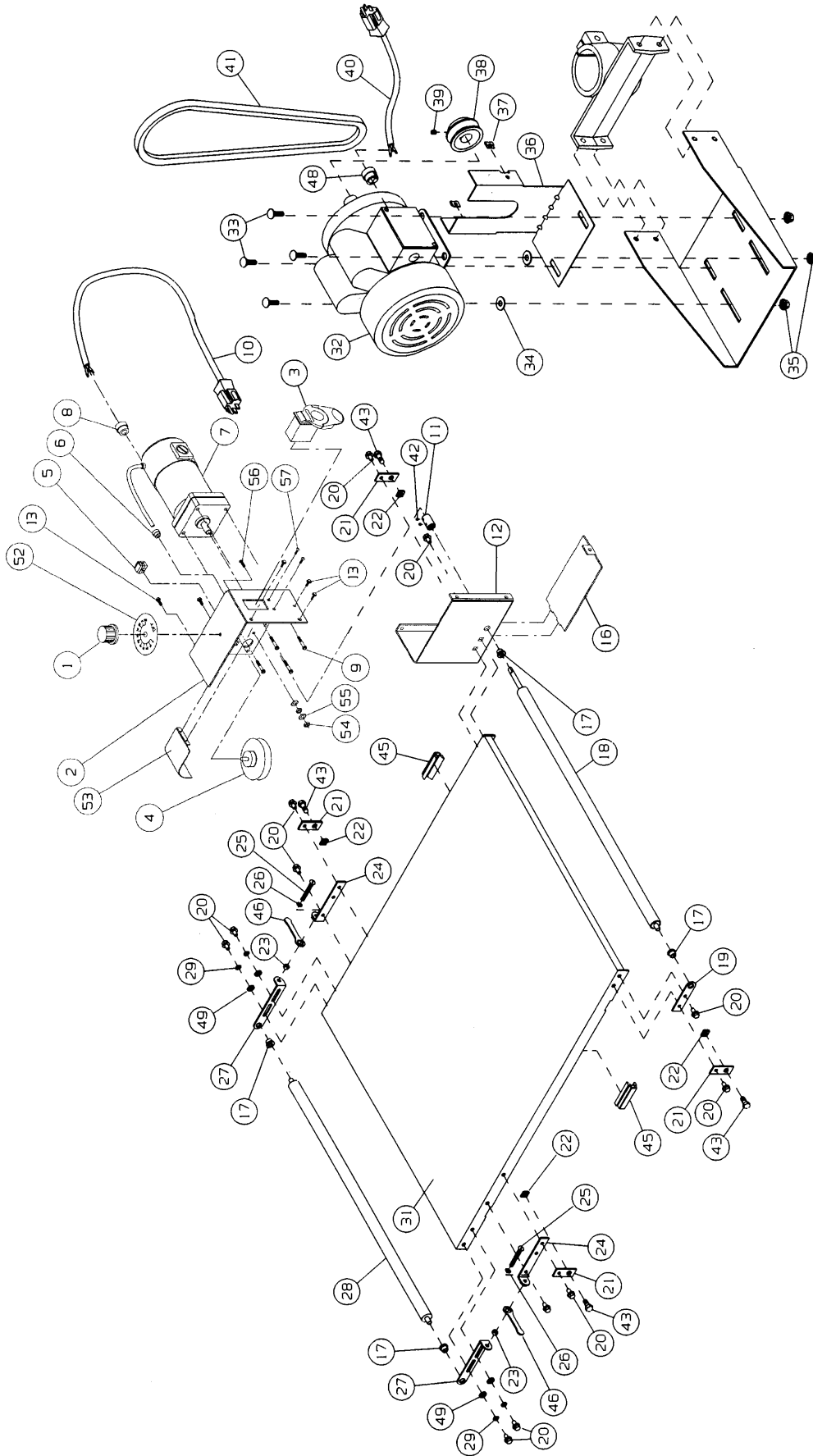
# Drum Head Assembly



## Parts List: Drum Head Assembly

Index No.	Part No.	Description	Size	Qty
1	30-0002W	Drum Carriage Arm		1
2	30-0015W	Clamp Jaw		1
3	12-0005	Hex Nut	3/8"-16	1
4	6861201	Wrought Washer	5/16"	6
5	10-9206	Hex Head Bolt	3/8"-16x1-1/4"	1
6	30-0059	Clamp Bolt		1
7	10-9205	Hex Head Bolt	3/8"-16x1"	4
8	12-0209	Flanged Lock Nut	3/8"-16	4
9	30-0010W	Carriage Leg		2
10	10-8602	Nyloc Socket Head Set Screw	1/4"-28x1/4"	4
11	10-1205	Carriage Head Bolt	5/16"-18x1"	2
12	50-2501	Driven Pulley	5"	1
13	10-2903	Nyloc Socket Head Set Screw	5/16"-18x1/4"	2
14	20-0762	Keystock	1/4"x1/4"x1"	1
15	20-1155	Retaining Nut	#10-24	2
16	40-3050W	Upper Inner Belt Guard		1
17	50-3067	Drum Bearing		2
18	40-0050W	Drum Shield		2
19	10-3108	Phillips Fillister Head Screw	#8-32x1"	4
20	20-3211	Tension Roller Spring		4
21	40-0303	Left Tension Roller Support Bracket		2
22	40-0302	Right Tension Roller Support Bracket		2
23	50-3105	Oilite Bushing	I.D. 5/16"	4
24	40-0304	Tension Roller Bracket		2
25	80-1060	Tension Roller Bracket Pad		2
26	6861205	Flat Washer	5/16"	2
27	6515001	Hex Nut	5/16"-18	2
28	30-3051-02	Tension Roller		2
29	10-9106	Hex Head Bolt	5/16"-18x1-1/4"	2
30	11-0505	Internal Tooth Lock Washer	5/16"	2
31	40-0015	Drum Adjustment Lever		1
32	6861107	Flat Washer	1/4"	2
33	4000380	Nylon Lock Nut	1/4"-20	1
34	80-3133	Drum Adjustment Knob		2
35	6714269	Hex Head Bolt	1/4"-20x3/4"	1
36	21-1173	Outboard Abrasive Fastener		1
37	10-3003	Phillips Flat Head Screw	#6-32x3/8"	2
38	2148004	Sanding Drum		1
39	21-1172	Inboard Take-Up Abrasive Fastener		1
40	81-2122W	Dust Cover Assembly		1
41	80-2343	Dust Cover Handle		1
42	10-3904	Self Tap Screw	#8x1/2"	2
43	40-0305	Drum Alignment Template (not shown)		2
44	12-9001	Nylon Insert Lock Nut	#6-32	2
	98-0060	TufTool (not shown)		1

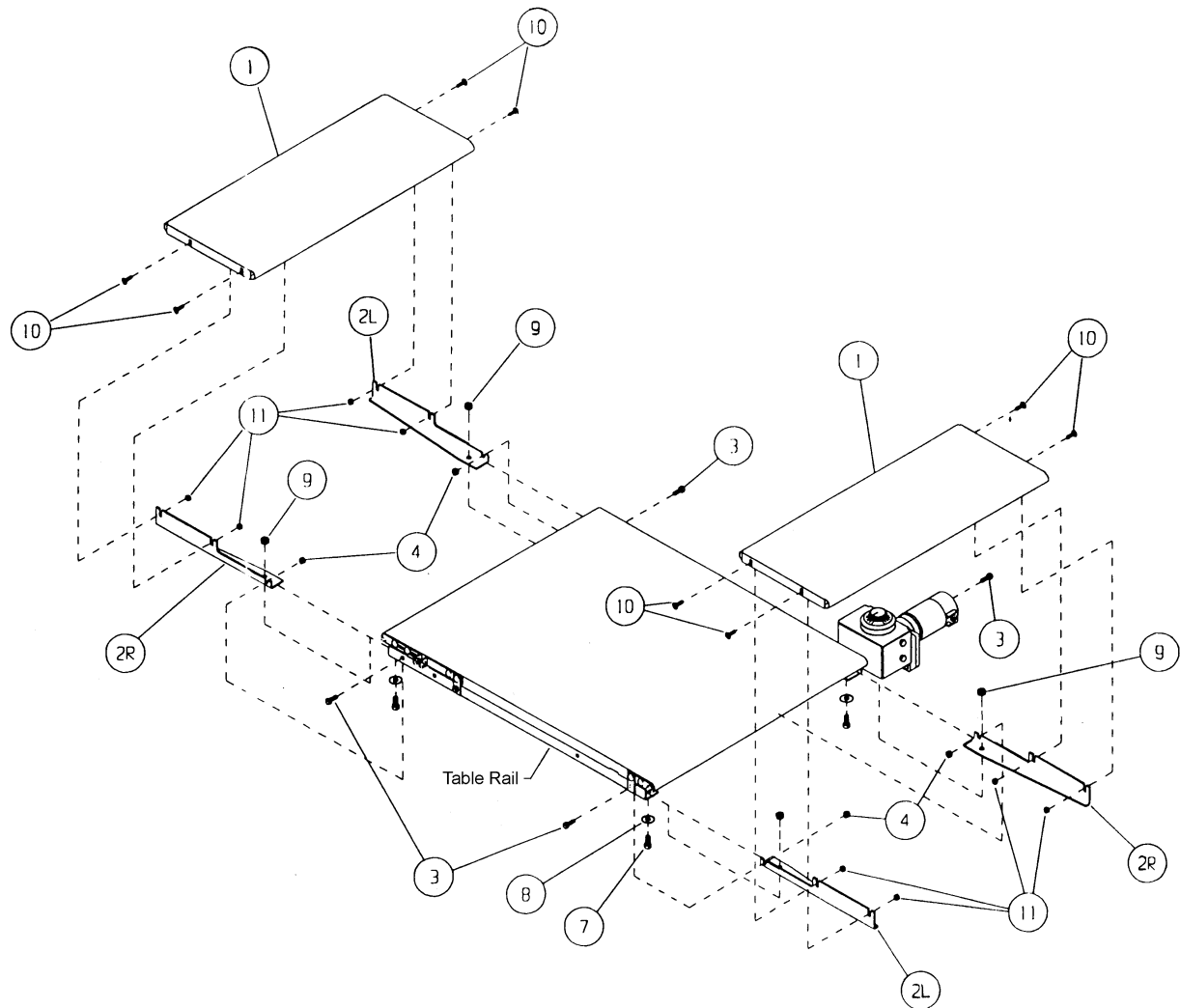
# Conveyor and Motor Assembly



## Parts List: Conveyor and Motor Assembly

Index No.	Part No.	Description	Size	Qty
1	72-2250-01	Knob		1
2	40-4017W	Control Housing Bracket		1
3	JSG96-135	On/Off Drum Switch		1
4	73-1255	Variable Speed Conveyor Controller (includes #1 and 52)		1
5	72-2120	Receptacle	115 Volt	1
6	72-6101	Small Strain Relief		1
7	3237359	Gear Motor Assembly	90V DC	1
8	72-6105	Large Strain Relief		2
9	6760031	Socket Head Cap Screw	#10-32x1/2"	4
10	72-5336	Cord Set	115V, 75"	1
11	30-0122	Shaft Coupling		1
12	40-4003W	Controller Base Bracket		1
13	10-9002	Slotted Hex Head Screw	#10-32x1/2"	5
16	40-4022W	Control Housing Base Cover		1
17	50-3105	Oilite Bushing	I.D. 5/16"	4
18	30-3050-02	Rubber Covered Drive Roller		1
19	41-0005	Drive Roller Support Bracket (includes #17)		1
20	10-9010	Hex Head Bolt	1/4"-20x1/2"	12
21	40-0006	Conveyor Mounting Bracket		4
22	12-0152	Square Nut	5/16"-18	4
23	6514001	Hex Nut	1/4"-20	2
24	41-0004	Take-Up Stationary Bracket (includes #23, 25,26,46)		2
25	10-3213	Slotted Round Head Screw	1/4"-20x1-3/4"	2
26	11-0504	Lock Washer, Internal Tooth	1/4"	2
27	41-0003	Take-Up Slide Bracket (includes #17)		2
28	30-3010-02	Driven Roller		1
29	20-1161	Wave Washer	1/4"	2
30	4000380	Nylon Lock Nut	1/4"-20	4
31	40-0002	Conveyor Bed		1
32	6474003	Motor, TEFC	1-3/4HP, 110V	1
33	6086013	Carriage Bolt	5/16"-18x3/4"	4
34	11-0104	Hardened Flat Washer	3/8"	2
35	12-0207	Flanged Lock Nut	5/16"-18	4
36	40-0997W	Lower Inner Belt Guard		1
37	20-1157	Retaining Nut	#10-24	2
38	50-0251	Drive Pulley		1
39	10-8902	Nyloc Socket Head Set Screw, Cup Pt	5/16"-18x1/4"	2
40	72-5338	Cord Set	42"	1
41	50-2009	V-Belt		1
42	10-2702	Socket Head Set Screw	#10-32x1/4"	2
43	10-9103	Hex Head Bolt	5/16"-18x3/4"	2
44	60-0321-P	Conveyor Belt (not shown)		1
45	98-0080	Tracker		2
46	40-0260	Wrench		2
48	72-6104	Strain Relief		1
49	6861107	Flat Washer	1/4"	4
50	3735140	Washer (not shown)	5/16"	1
51	3735141	Spacer (not shown)		1
52	72-2250-02	Speed Adjustment Label		1
53	40-4018	Wiring Guard		1
54	TS-0560081	Hex Nut	#10-32	2
55	TS-073203	Lock Washer, Internal Tooth	#10	2
56	TS-081D022	Phillips Pan Head Machine Screw	#10-32x3/8	1
57	10-3103	Phillips Pan Head Screw	#6-32x1/2	2
	60-0321-P	Conveyor Belt (not shown)	22"	1
	61-1002	Poly Conveyor Belt (not shown)	22"	1

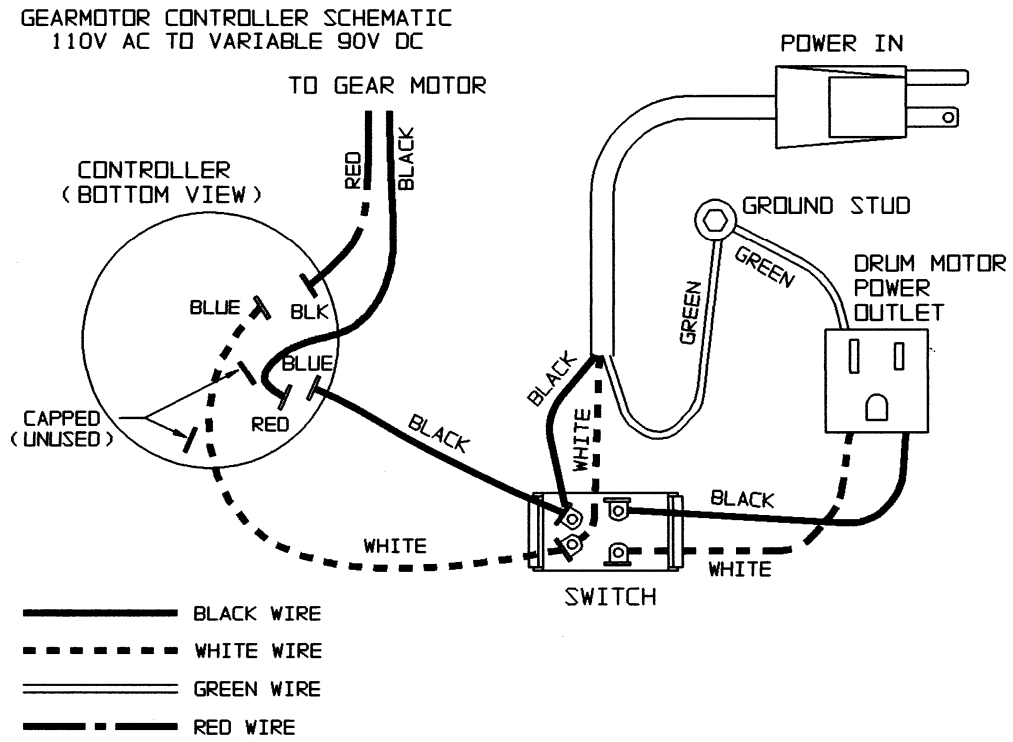
## Infeed and Outfeed Tables (98-2201) – *Optional Accessory*



Index No.	Part No.	Description	Size	Qty
1	40-0329	Infeed/Outfeed Table		2
2L	40-0327	Mounting Bracket (LH)		2
2R	40-0328	Mounting Bracket (RH)		2
3	10-9103	Hex Head Bolt	5/16"-18x3/4"	2
4	12-0152	Square Nut	5/16"-18	2
7	10-9205	Hex Head Bolt	3/8"-16x1"	4
8	11-9103	Hardened Flat Washer	3/8"	4
9	12-0209	Flanged Lock Nut	3/8"-16	4
10	6714264	Round Head Square Neck Bolt	1/4"-20x3/4"	8
11	6514001	Hex Nut	1/4"-20	8
12	6861107	Flat Washer	1/4"	16



# Electrical Connections



## NOTES





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