

PERFORMAX[®]

OWNER'S MANUAL 22-44 Plus Drum Sander



(shown with optional accessories)

WMH TOOL GROUP

Consumer/Light Industrial Products Division
P.O. BOX 1349
Auburn, WA 98071-1349
Ph: 1-800-274-6848 • Fax: 1-800-274-6840
E-mail: jet@wmhtoolgroup.com
www.wmhtoolgroup.com

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This manual has been prepared for the owner and operators of a 22-44 Plus Drum Sander. Its purpose, aside from machine operation, is to promote safety through the use of accepted correct operating and maintenance procedures. Completely read the safety and maintenance instructions before operating or servicing the machine. To obtain maximum life and efficiency from your Performax Sander, and to aid in using the machine safely, read this manual thoroughly and follow instructions carefully.

Warranty & Service

The WMH Tool Group warrants every product it sells. If one of our tools needs service or repair, one of our Authorized Repair Stations located throughout the United States can give you quick service.

In most cases, any one of these WMH Tool Group Repair Stations can authorize warranty repair, assist you in obtaining parts, or perform routine maintenance and major repair on your JET, Performax, Wilton, or Powermatic tools.

For the name of an Authorized Repair Station in your area, please call 1-800-274-6848, or visit www.wmhtoolgroup.com

More Information

Remember, the 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 www.wmhtoolgroup.com

WMH Tool Group Warranty

The WMH Tool Group (including Performax, Wilton and Powermatic brands) makes every effort to assure that its products meet high quality and durability standards and warrants to the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship as follow: **1 YEAR LIMITED WARRANTY ON ALL PRODUCTS UNLESS SPECIFIED OTHERWISE.** This Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, repair or alterations outside our facilities, or to a lack of maintenance.

THE WMH TOOL GROUP LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD SPECIFIED ABOVE, FROM THE DATE THE PRODUCT WAS PURCHASED AT RETAIL. 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. THE 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.

To take advantage of this warranty, the product or part must be returned for examination, postage prepaid, to an Authorized Repair Station designated by our office. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, we will either repair or replace the product, or refund the purchase price if we cannot readily and quickly provide a repair or replacement, if you are willing to accept a refund. We will return repaired product or replacement at JET'S expense, but if it is determined there is no defect, or that the defect resulted from causes not within the scope of JET'S warranty, then the user must bear the cost of storing and returning the product. This warranty gives you specific legal rights; you may also have other rights which vary from state to state.

The WMH Tool Group sells through distributors only. Members of the WMH Tool Group reserve 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.

⚠ **WARNING**

Wear eye protection.

Always keep guards in place and in proper operating condition. Do not operate the machine without the guards for any reason.

This sander is intended to be used with wood and wood products only. Use of this sander and a dust collector with metal products is a potential fire hazard.

Support the workpiece adequately at all times during operation; maintain control of the work at all times.

This drum 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 drum sander, do not use until proper training and knowledge has been obtained.

- **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.
- **KEEP THE WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- **DON'T USE IN A DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
- **KEEP CHILDREN AWAY.** All visitors should be kept a safe distance from the work area.
- **MAKE THE WORKSHOP KID PROOF** with padlocks, master switches, or by removing starter keys.
- **DON'T FORCE THE MACHINE.** It will do the job better and safer at the rate for which it was designed.
- **USE THE RIGHT TOOL.** Don't force a machine or attachment to do a job for which it was not designed.
- **USE THE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your machine will draw. An undersized cord will cause a drop in the line voltage resulting in power loss and overheating. The table following shows the correct size to use depending on the cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. Remember, the smaller the gauge number, the heavier the cord.

Volts	Total Length of Cord in Feet			150
	25	50	100	
120V				
		AWG		
12-18 Amps	12	Not Recommended		

- **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
- **ALWAYS USE SAFETY GLASSES.** Also use face or dust masks if the cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
- **DON'T OVERREACH.** Keep proper footing and balance at all times.
- **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

- **ALWAYS DISCONNECT THE MACHINE FROM THE POWER SOURCE BEFORE SERVICING.**
- **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure the switch is in the off position before plugging in.
- **USE RECOMMENDED ACCESSORIES.** The use of accessories and attachments not recommended by JET may cause hazards or risk of injury to persons.
- **NEVER STAND ON A MACHINE.** Serious injury could occur if the machine is tipped.
- **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.
- **NEVER LEAVE THE MACHINE RUNNING UNATTENDED. TURN POWER OFF.** Don't leave the machine until it comes to a complete stop.
- **SOME DUST CREATED** by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead based paint
 - crystalline silica from bricks and cement and other masonry products, and
 - arsenic and chromium from chemically-treated lumber.
- **YOUR RISK** from those exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specifically designed to filter out microscopic particles
- **DO NOT** operate tool while under the influence of drugs, alcohol or any medication.
- **DO NOT** sand pieces of material that are too small to be safely supported.
- **WHEN** sanding a large workpiece, provide additional support at table height.
- **ADDITIONAL INFORMATION** regarding the safe and proper operation of this product is available from the National Safety Council, 1121 Spring Lake Drive, Itasca, IL 60143-3201, in the Accident Prevention Manual for Industrial Operations and also in the safety Data Sheets provided by the NSC. Please also refer to the American National Standards Institute ANSI 01.1 Safety Requirements for Woodworking Machinery and the U.S. Department of Labor OSHA 1910.213 Regulations.
- **ALWAYS** feed stock against the rotation of the drum.
- **ALWAYS** connect and use a dust collector to the drum sander while operating.
- **SAVE THESE INSTRUCTIONS** refer to them often and use them to instruct others.

Grounding Instructions

Caution: This tool must be grounded while in use to protect the operator from electric shock.

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

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

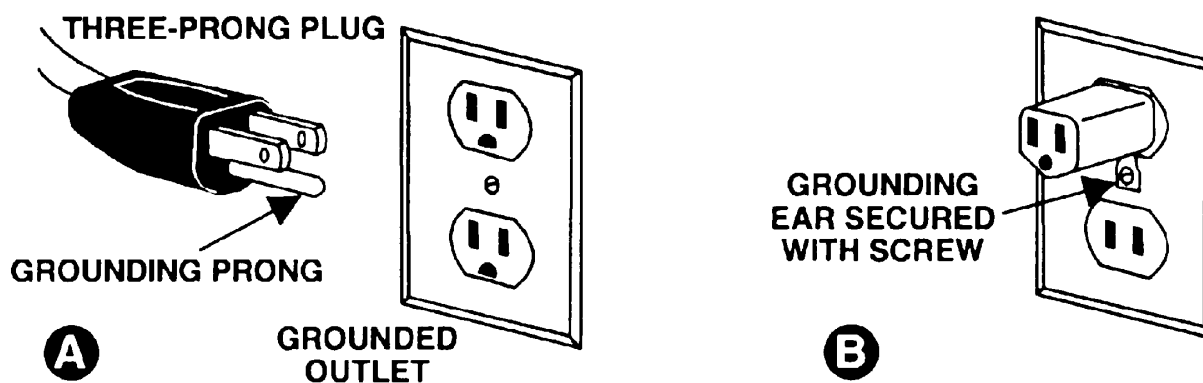
Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor, with insulation having an outer surface that is green with or without yellow stripes, is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary,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

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

Repair or replace a damaged or worn cord immediately.

115 Volt Operation

As received from the factory, your sander is ready to run at 115 volt operation. This sander, when wired for 115 volts, is intended for use on a circuit that has an outlet and a plug that looks the one illustrated in Figure A. A temporary adapter, which looks like the adapter as illustrated in Figure B, may be used to connect this plug to a two-pole receptacle, as shown in Figure B 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 B.



Specifications

22-44 Plus Drum Sander

Stock Number.....	649003K
Max. Width (in)	44 (two passes)
Min. Length (in).....	2-1/4
Max. Thickness (in).....	4
Min. Thickness (in).....	1/32
Drum (in)	5x22 Extrusion, Aluminum
Drum Speed (RPM)	1700
Dust Chute (in)	4
Conveyor Motor	43 inch-lb torque, direct drive D.C. motor
Conveyor Variable Feed Rate (FPM)	0-10 (SandSmart)
Motor (TEFC).....	1-3/4 HP, 1Ph, 115V Only
Net Weight (lbs).....	231
Shipping Weight (lbs).....	254

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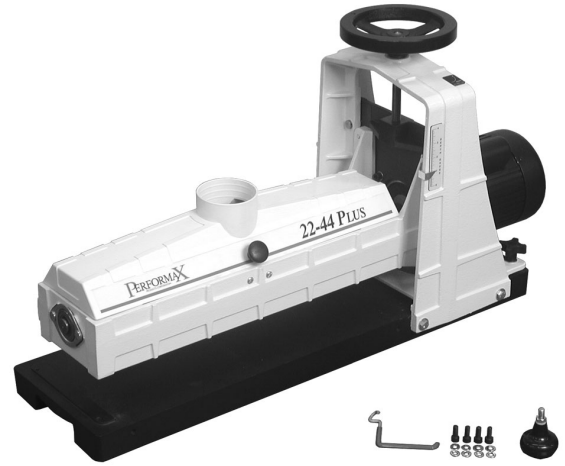
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The specifications in this manual are given as general information and are not binding. The WMH Tool Group reserves the right to effect, at any time and without prior notice, changes or alterations to parts, fittings, and accessory equipment deemed necessary for any reason whatsoever.

Contents of the Shipping Cartons

22-44 Plus Sander (Box 1)

1. Sander Assembly
1. Plastic Knob
1. TUF Tool
1. Abrasive Strip (wrapped on drum)
1. Owner's Manual
1. Warranty Card
1. Hardware Bag
 4. 5/16"-18x3/4" Socket Head Cap Screws
 4. 5/16" Lock Washers
 4. 5/16" Flat Washers
 4. 3/8"-16x1" Hex Cap Screws
 4. 3/8" Flat Washers
 1. 1/8" Allen Wrench
 1. 6MM Allen Wrench



22-44 Plus Conveyor (Box 2)

1. Conveyor Assembly



Tools Required for Assembly & Adjustments

1. Flat Head Screwdriver
1. Set of Open End Wrenches
1. Set of Allen Wrenches
1. Adjustable Wrench

⚠ WARNING

Read and understand the entire contents of this manual before attempting assembly or operation of the drum sander!

Failure to comply may cause serious injury!

Unpacking

1. Remove all contents from the shipping carton(s).
2. Report any damage to your distributor.
3. Do not discard any shipping material until the sander has been assembled and is running properly.

Performax 22-44 PLUS Accessories & Supplies	
Stock #	Description
609004	Open Stand with Shelf
609005	Closed Stand with Shelf & Casters
98-2202	Infeed/Outfeed Tables
98-0130	Caster Set (4) for Open Stand
60-0505	Abrasive cleaning stick
60-0322-P	Conveyor belt

Assembly and Setup

If you purchased the optional Performax 22-44 Plus Stand refer its assembly instructions before proceeding with the drum and conveyor assembly.

1. Attach the knob (A, Fig. 1) to the handwheel and tighten with a 9/16" wrench.
2. Place the conveyor upside down on a table surface.
3. Raise the drum by turning handwheel (B, Fig. 2) clockwise.
4. Align four holes in the conveyor with the four holes in the base of drum assembly.
5. Secure conveyor in place with four 5/16"-18 x 3/4" socket head cap screws (C, Fig. 2), four 5/16" lock washers and four 5/16" flat washers.
6. Plug motor cord into the control box receptacle.

Drum Height Control

Drum height is controlled by the height adjustment handle (B, Fig. 2). Turning handwheel in a counter-clockwise direction lowers the drum.

Turning height adjustment handwheel one revolution lowers the drum approximately 1/16".

Conveyor Belt Tension

Conveyor belt tension adjustment may be necessary during break in period to compensate for belt stretching.

If conveyor belt can be stopped by hand pressure applied directly to the top of conveyor bed, the belt is too loose. Insufficient belt tension will cause slippage of conveyor belt on the drive roller during sanding operation.

Excessive belt tension can result in bent rollers, bent take-up brackets and premature conveyor belt wear.

After the PowerFeed unit has been installed adjust the hex nuts (D, Fig. 2) on both sides of the conveyor to obtain a tight, and equally tensioned conveyor belt. Use the attached wrench (E, Fig. 2) to adjust the hex nuts.

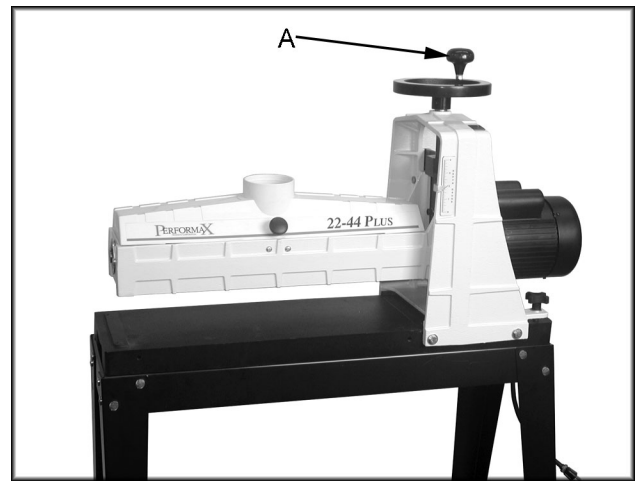


Fig. 1

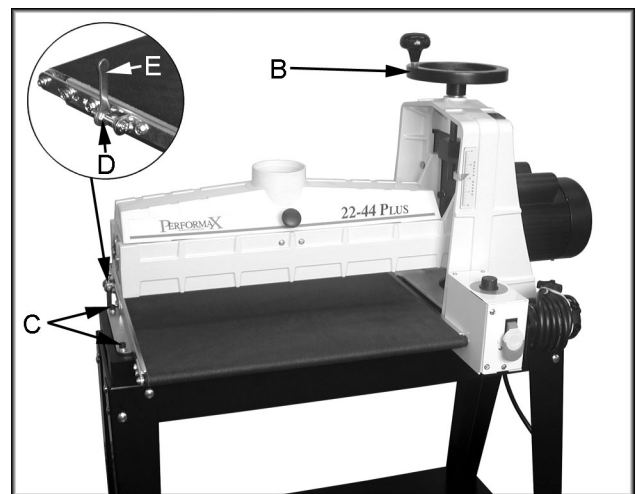


Fig. 2

Conveyor Belt Tracking

Belt tracking adjustment may be necessary during break-in period to compensate for belt stretching.

Abrasive belt tension must be properly adjusted before adjusting the tracking. Adjust the belt tracking while conveyor belt is running at its fastest speed.

Tighten hex nut (A, Fig. 3) on the side the belt is drifting towards, and loosen hex nut on the opposite side. Use the attached wrench (B, Fig. 3) to adjust the hex nuts. **Note:** Adjustment should be made in 1/4 turns of the hex nut. Allow time for the belt to react to the adjustment. Do not over adjust.

Dust Cover

To open dust cover push in on the knob (C, Fig 3) and lift.

Checking Drum Alignment

The sanding drum comes preset from the factory. If a problem with drum alignment occurs follow the below listed instructions.

1. Push in and lift knob (C, Fig. 3) to open cover and remove abrasive strip. If you are unsure how to do this see the "Wrapping Abrasive Strips" section page 10.
2. Use a metal straight edge, or ruler as a thickness gauge (D, Fig. 4). Insert the gauge between the drum and conveyor bed on outer end of drum.
3. Open dust cover and lower sanding drum while slowly rotating drum by hand until the drum lightly contacts the thickness gauge.
4. Remove thickness gauge and place under the drum at opposite end. If drum does not contact the thickness gauge to the same degree as the other end of the drum, alignment is necessary.

Aligning the Drum

1. Loosen the four hex cap bolts (E, Fig. 5) two in front and two in back.
2. Lay the thickness gauge under the drum lengthwise.
3. Adjust the knob, (F, Fig. 5) until drum contacts the gauge equally along its surface. Turn the adjusting knob clockwise to raise

outboard end of drum, and counter-clockwise to lower outboard end of drum.

4. When drum is parallel to the conveyor tighten the four hex cap bolts.

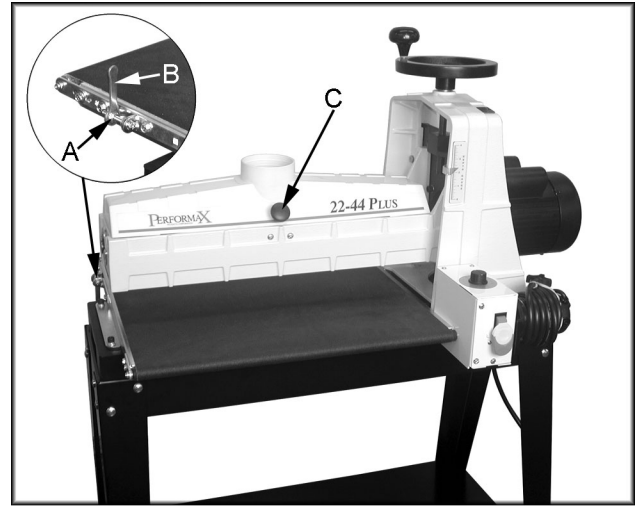


Fig. 3

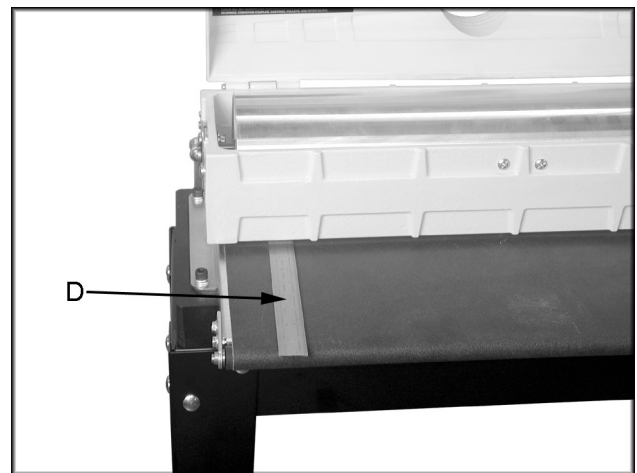


Fig. 4

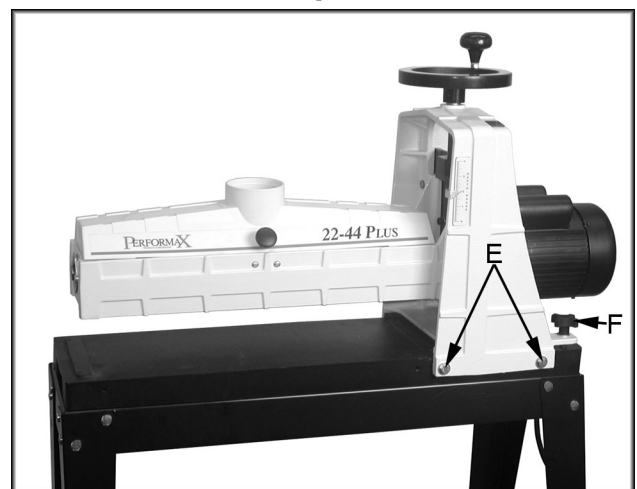


Fig. 5

Fine Tuning Drum Alignment

When sanding boards wider than the drum, drum alignment is critical and must be adjusted exactly level to slightly high on the outboard end. This should prevent any ridges from developing in the stock. Always test on scrap wood before sanding workpiece.

Run a piece of scrap wood approximately 6" wide by 30" - 40" through the sander sideways so that the end of board extends past the end of drum.

Turn board 180 degrees and sand the same side of the workpiece without changing the sanding height.

If a ridge is visible due to drum overlap loosen the four hex cap bolts (A, Fig. 6) and turn the adjusting knob (B, Fig. 6) slightly. Turn the adjusting knob clockwise to raise the outboard end of the drum. Tighten the four hex cap bolts. Repeat process until ridge is gone and the entire workpiece is sanded.

Wrapping Abrasive Strips

Note: When using Performax "Ready to Wrap" and "Ready to Cut" abrasives, not all of the steps below are necessary. You can use the original abrasive belt that comes with the sander as a template for cutting your own strips.

1. Mark and cut a taper at one end of the roll, see Figure 7.
2. Square off the end of taper, see Figure 7.
3. Raise fastener lever (C, Fig. 8) on the outboard end of drum, and insert the tapered end of the abrasive (D, Fig. 8) so that it uses most of the width of the slot. Then release the clip lever to securely hold the strip end to the fastener.
4. The square edge of the abrasive strip should follow the edge of the drum, see Figure 8.

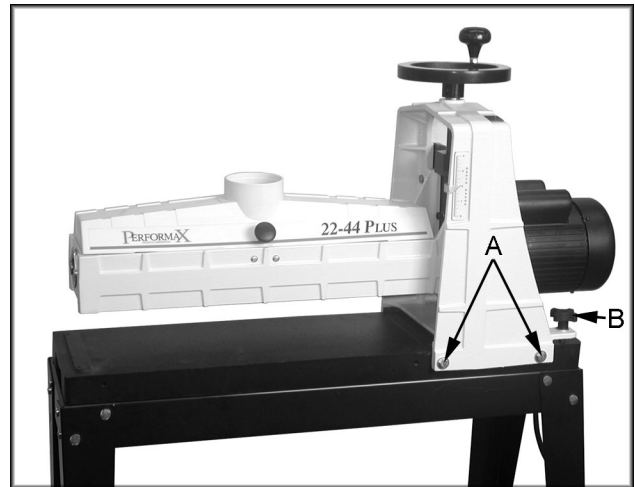


Fig. 6

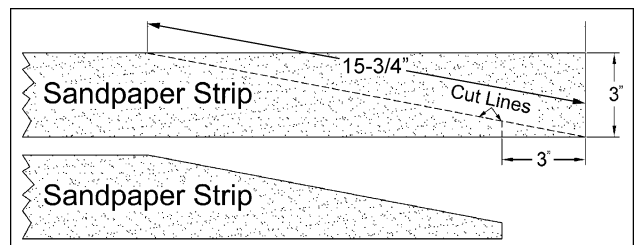


Fig. 7

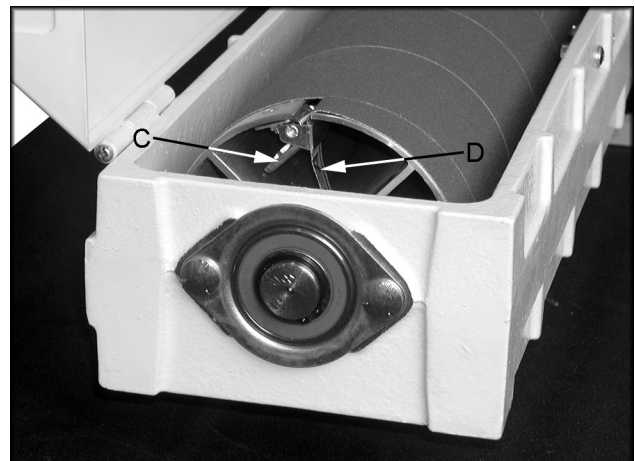


Fig. 8

5. Wrap abrasive strip around the drum, being careful not to overlap the windings, see Figure 9.
6. Mark trailing end of strip where it crosses the inboard end of drum (A, Fig. 10).
7. Remove the abrasive strip and cut a taper as was done with the starting edge, see Figure 7. **Note:** The taper on the remaining roll can be used as the taper for the starting edge of the next strip to be cut.
8. Rewrap the drum starting at the left side as described in steps 3-5 on the previous page.
9. Raise fastener lever completely on the inboard end of drum, and insert the tapered end of abrasive strip through the slot into the take-up fastener.

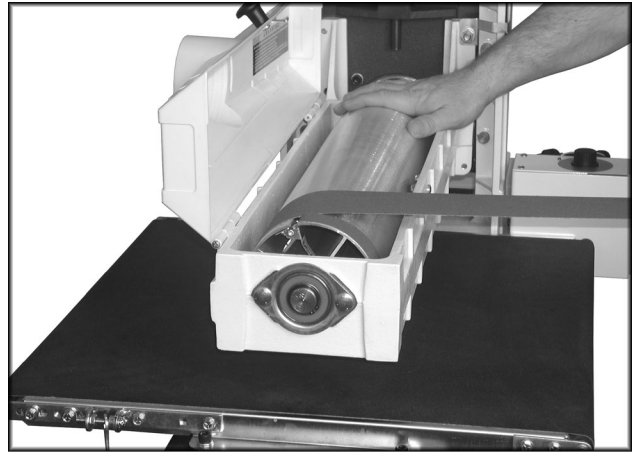


Fig. 9

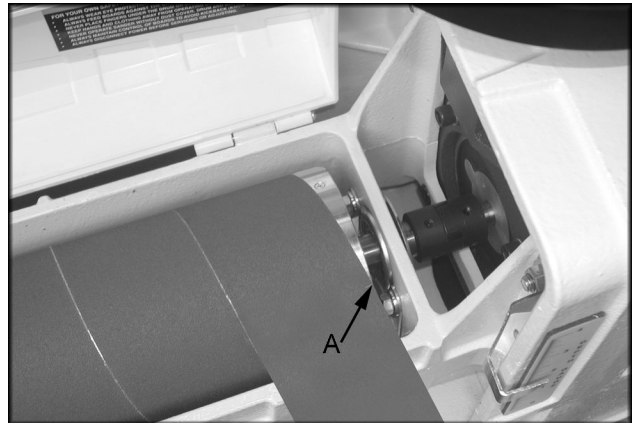


Fig. 10

Important: Position the abrasive strip with sufficient room between the inside of slot and the tapered end of strip to allow it to be pulled into the drum as needed, see Figure 11.

The abrasive strip may stretch enough in use to allow the take-up fastener to reach its lowest position so it no longer is able to maintain tension of the strip. If this occurs, it will be necessary to reset the take-up lever by raising it, pushing the strip end into the slot, and then releasing the clip lever.

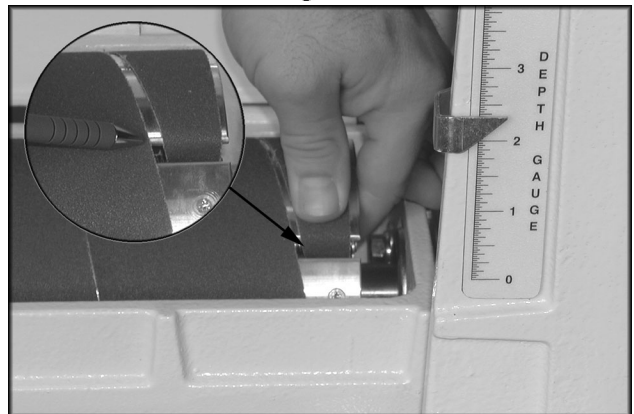


Fig. 11

The Tuf Tool (B, Fig. 12) can also be used to hold the take-up fastener in place while you feed the sandpaper through the slot. Hold the Tuf Tool at an angle to insert the end into the hole in take-up fastener. Pull the tool up and rotate 90° to clamp onto the drum, see Figure 12.

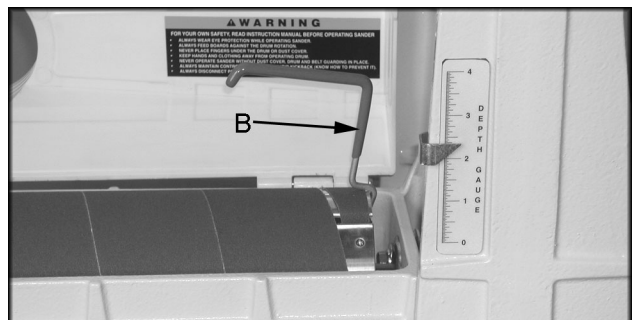


Fig. 12

Connecting Sander to a Dust Collector

Dust collection is necessary for all drum sanders. The Performax 22-44 Plus is equipped with a 4" dust collection port at the top of the dust cover, and is designed to be used with a standard dust collector, see Figure 13.

JET offers a variety of Dust Collectors and Air Filtration Units that will work nicely with your new sander. Contact your local distributor for more information.

Depth Gauge

The depth gauge indicates the distance from the bottom of the drum to the top of the conveyor.

1. Lower the drum, with sandpaper installed, until it touches the conveyor.
2. Loosen hex nut (A, Fig. 14).
3. Adjust the pointer (B, Fig. 14) to read zero and tighten bolt.

Note: depending on the desired accuracy you may need to repeat this process when installing different sandpaper grits.

Setting the Depth of Cut

Adjusting the Performax 22-44 for proper contact between the abrasive and the stock is the most important set-up procedure before operating the sander. It may take some experimentation to determine the proper depth of cut, given the variables of abrasive grit and type of wood. For best results, use scrap wood to practice sanding and to develop skill and familiarity with the machine before doing finish work.

A good rule of thumb when sanding with grits finer than 80 is lower the drum so that it contacts with work piece but still can be rotated by hand. When using grits coarser than 80 grit, you can lower the drum slightly more. However, a combination of several variables will determine the proper depth of cut to use, including the following:

- Abrasive type and grit size.
- Width of the piece being processed.
- Hardness of the piece.
- Feed rate of stock.

Establishing the Proper Drum Height

To establish the proper drum height, place the board to be sanded under the drum and lower the drum to the board thickness. **Note:** Sanding drum should still rotate by hand. Without changing drum height, finish feeding the stock under the sander. Start sanding drum and sand the board at that same position.



Fig. 13

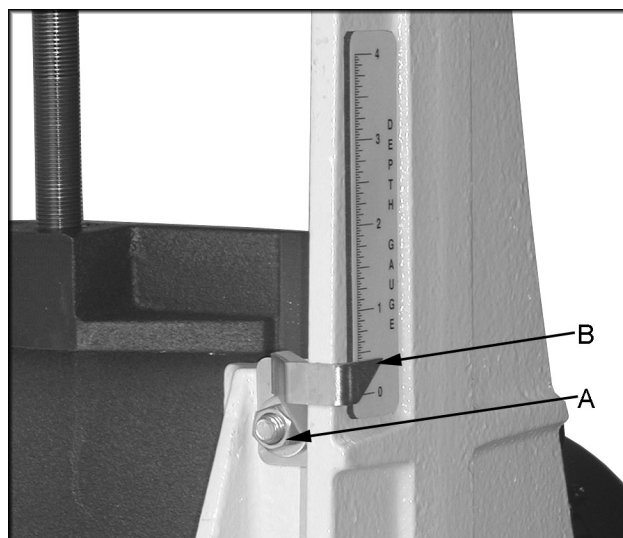


Fig. 14

Selecting SANDSMART™ Feed Rates

Begin experimenting with the feed rate set at about 40%-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 feed directly in-line with the conveyor bed or at an angle. If a “ripple effect” or inconsistent finish is observed, slow down the feed rate. If the finish is smooth and consistent and the sander is not overworking, experiment using a faster feed rate.

The SandSmart control (A, Fig. 15) continuously monitors the load on the drum motor, and automatically regulates the speed of the conveyor motor to maintain the highest feed rate without overload. If the load on the drum motor increases, the SandSmart control will decrease the conveyor feed rate and will stop the conveyor under extreme conditions. If the load on the drum decreases, the SandSmart control will increase the feed rate but will not increase it faster than the manual setting on the switch dial.

The best and most consistent finish will be achieved if the conveyor does not change speed during operation. When the “red” indicator light (B, Fig. 15) comes on, the SandSmart control has detected too great a depth of cut and/or too fast a feed rate. This change in conveyor speed may affect the finish surface. If the finish is affected, make another sanding pass without changing any settings. If the finish is still affected, make adjustments by slowing the conveyor and/or decreasing the depth of cut and run the stock through again.

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. For the best sanding results, Performax offers premium abrasives that have been tested and certified for lowest overall cost and maximum performance. Genuine Performax abrasives are available in pre-cut “Ready- to-Wrap” lengths or in the convenient pre-marked “Ready-to-Cut” box.

Selecting Drum Abrasives

It is important to select the proper grit of abrasives for the type of sanding being performed to achieve maximum sanding results. As with any sanding operation, first begin sanding with coarser grit, depending on the roughness of the stock, or the amount of stock

to be removed. Then progressively work toward finer grits. The chart below shows the general uses for the various grits. Performax offers strip rolls in the eight different abrasive grits shown.

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

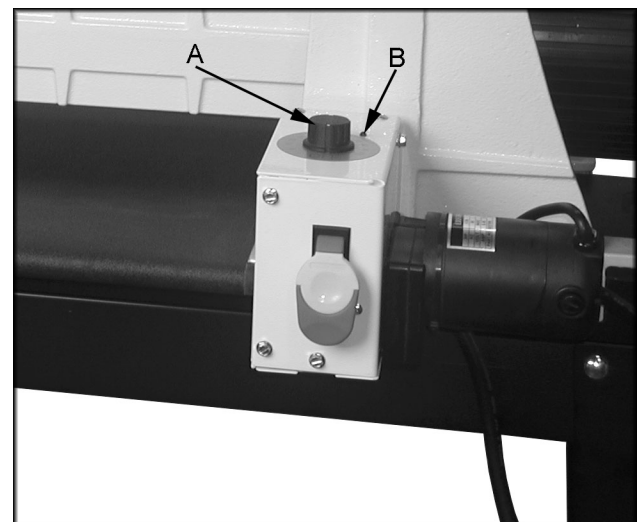


Figure 15

Selecting Abrasive Grits

The amount of stock to be removed is a major consideration when choosing the grit grade to start with. Grits of 24, 36, 50, 60 and 80 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 such as genuine Performax 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 that will not accept stains evenly. This will vary by type of wood. Oak, for example, is susceptible to burnishing because of its open pores.

Stock Feeding Angle

The optimum stock feeding angle, when sanding, is at a 60 degree angle (Fig. 13). However, even a slight stock feeding angle will provide more effective stock removal, less loading of abrasives, longer abrasive life, potentially faster feed rates and reduced motor loads.

When finish sanding the workpiece should be fed through in line with the grain on the final one or two passes for the optimum finish.

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 sand all the pieces at the same time. This way you will be able to determine the thickness of the thinnest piece and process all pieces to that same thickness. Be aware that the sander will remove cups and crowns in the work piece; consider this when measuring the processing stock to the same thickness.

Edge Sanding

When edge sanding, the Performax 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.

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 sander 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 problem, 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.

Monthly Maintenance

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

- Lubricate conveyor bushings and check for wear.
- Lubricate all moving parts, such as threaded rods, washers, and bushings.
- Clean sawdust from the conveyor belt and sandpaper.
- Blow dust from motors and switches. Blow dust from the inside of sanding drum to prevent vibration. Be careful not to disturb the drum balancing weights.
- Check all setscrews for tightness on parts such as bearings, conveyor and couplings.

Cleaning Abrasive Strips

A sandpaper cleaning stick may be used to remove deposits and help extend sandpaper life. To use, operate the sanding drum with the dust cover open.

Caution: For your own safety, always wear eye protection while performing sandpaper cleaning, and take all precautions to avoid any contact of hands, or clothing with uncovered drums. Hold the cleaning stick against the rotating drum and move it along the drum surface. It is good idea to use a shop brush or air nozzle to remove any cleaning stick crumbs from the drums before resuming sanding operations.

Cloth-backed abrasives can be cleaned by soaking in paint thinner, or mineral spirits for 20 minutes to one hour. Then use a nylon brush to remove any buildup.

Stretching Abrasive Life

Abrasive life can also be increased 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 drum.

Performax 22-44 Abrasives

“Ready-to-Wrap” 24 – 220 Grit, contains 3 pre-cut wraps.

Ready-to-Wrap			
60-2024	24 Grit	60-2120	120 Grit
60-2036	36 Grit	60-2150	150 Grit
60-2060	60 Grit	60-2180	180 Grit
60-2080	80 Grit	60-2220	220 Grit
60-2100	100 Grit		

“Ready-to-Cut” 50 – 220 Grit, contains 14 wraps.
24 & 36 Grit contains 10 wraps.

Ready-to-Cut (Aluminum oxide)			
60-9036	36 Grit	60-9120	120 Grit
60-9060	60 Grit	60-9150	150 Grit
60-9080	80 Grit	60-9180	180 Grit
60-9100	100 Grit	60-9220	220 Grit

Ready-to-Cut “Blue” (longer life)			
60-8024	24 Grit	60-8080	80 Grit
60-8036	36 Grit	60-8100	100 Grit
60-8050	50 Grit	60-8120	120 Grit
60-8060	60 Grit		

Conveyor Belt Replacement

To replace the conveyor belt:

1. **Disconnect the machine from the power source.** Unplug motor cord from control box.
2. Raise drum to highest position using the handwheel (A, Fig. 16).
3. Remove the belt tension by loosening the take-up nuts (B, Fig. 16).
4. Unscrew the four socket head cap screws (C, Fig. 16) that attach the conveyor and remove the conveyor from the bed.
5. Slide the conveyor belt off of the conveyor and replace with a new belt.

2. Thoroughly lubricate the mating surfaces and height adjustment screw.

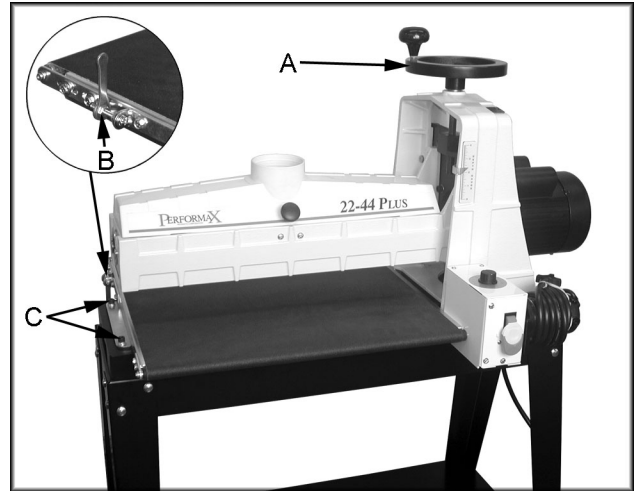


Fig. 16

Tension Roller Alignment

1. Remove abrasive strip (D, Fig. 17) from drum.
2. Loosen all four bearing hex nuts (E, Fig. 17).
3. This will allow the tension rollers to drop to the lowest position.
4. Lower the sanding drum so it just touches the conveyor bed.
5. Turn the drum height handle one complete revolution to raise the drum.
6. Retighten bearing hex nuts.

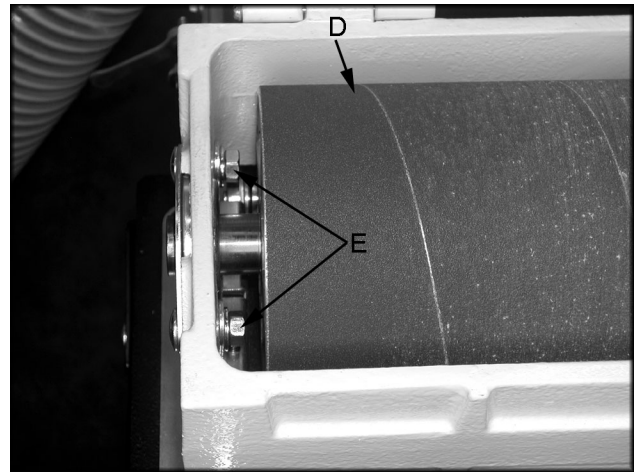


Fig. 17

Tension Roller Pressure Adjustment

You can also adjust the spring loaded screws, found on the pressure roller brackets, to increase or decrease roller pressure. If you are having snipe marks at the leading end of the board adjust the outfeed roller pressure. If the snipe mark occurs on the trailing end of the board adjust infeed roller pressure.

Drum Height Control Adjustment

If the height control mechanism does not operate easily or smoothly, or there is excessive vertical movement or deflection of the drum carriage, perform the following adjustments.

1. Tighten all four lock nuts (F, Fig. 18) and then loosen 1/8 to 1/4 turn.

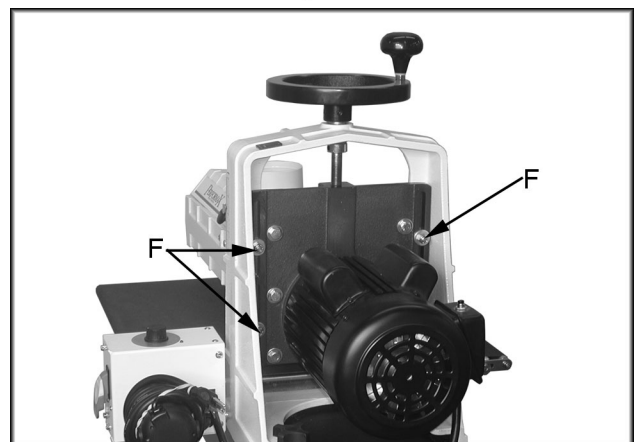
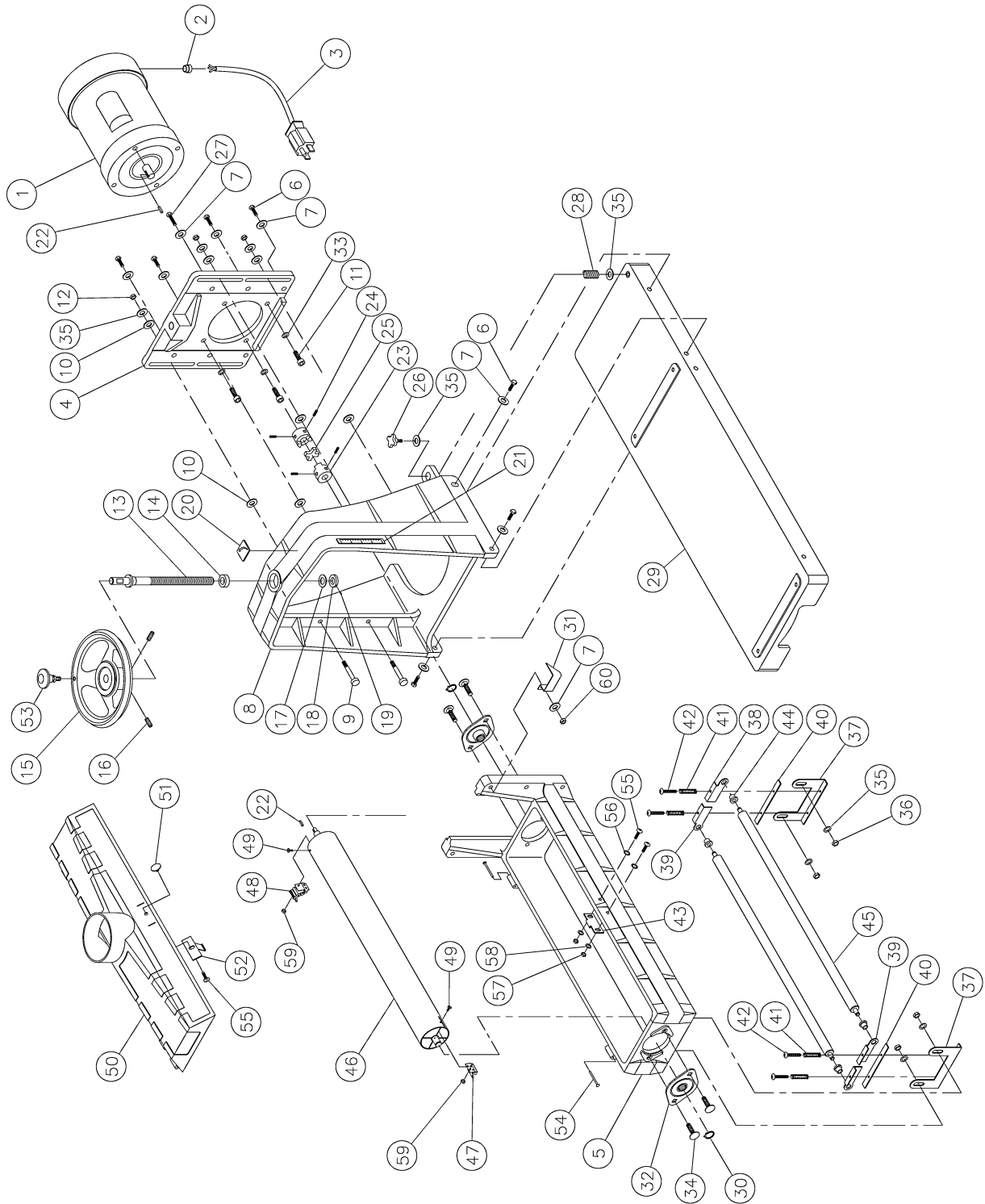


Fig. 18

Troubleshooting Guide

Problem	Possible Cause	Solution
Conveyor belt does not move.	Shaft coupler not attached.	Attach shaft coupler.
Conveyor rollers run intermittently.	Shaft coupling loose.	Align shaft flats of gear motor and drive roller and tighten shaft coupling set screws.
Abrasive Strip Comes off Drum.	<ol style="list-style-type: none"> Slack in abrasive strip on drum. Abrasive improperly wrapped. 	<ol style="list-style-type: none"> Remove slack in strip. Read section on wrapping abrasive strips.
Abrasive Strip Loose.	<ol style="list-style-type: none"> Strip caught on inside edge of slot, or on inboard side of drum. Strip not cut properly. 	<ol style="list-style-type: none"> Re-adjust strip end in slot and/or trim abrasive edge. Recut and install abrasive strip.
Abrasive Loads up Prematurely.	<ol style="list-style-type: none"> Excessive depth of cut. Excessive feed rate. Inadequate dust collection. Inadequate abrasive. 	<ol style="list-style-type: none"> Reduce depth of cut. Use slower feed rate. Increase airflow at dust ports. Use open-coat abrasive.
Line or Groove in Stock.	<ol style="list-style-type: none"> Inconsistent feed rate. 	<ol style="list-style-type: none"> Do not stop or change feed rate.
Wood Burns.	<ol style="list-style-type: none"> Abrasive strip overlapped. Excessive depth of cut. Depth of cut excessive for fine grit. Feed rate too slow. Abrasive loaded. Worn abrasives. 	<ol style="list-style-type: none"> Re-wrap abrasive strip. Reduce depth of cut. Use coarser grit or reduce depth of cut. Increase feed rate. Clean abrasives. Replace abrasives.
Board slips on conveyor belt.	<ol style="list-style-type: none"> Tension rollers too high. Excessive feed rate. Dirty or worn conveyor belt. 	<ol style="list-style-type: none"> Lower tension rollers. Reduce feed rate. Replace conveyor belt.
Sander motors slow or stall	<ol style="list-style-type: none"> Improper conveyor belt tension. Excessive depth of cut. Excessive feed rate. 	<ol style="list-style-type: none"> Adjust belt tension. Reduce depth of cut. Reduce feed rate.
Rippled sanded surface A. Non uniformly spaced ripples. B. Uniformly spaced ripples.	<ol style="list-style-type: none"> Uneven feed rate. Conveyor bed flexing or vibration. 	<ol style="list-style-type: none"> Conveyor belt slipping, see above. Board slips on conveyor, see above. Power feed gear motor stalls, see above. <ol style="list-style-type: none"> Reduce depth of cut. Reduce feed rate. Check for loose bolts, shaft coupling set screws or out of balance drum.
Gouging of wood.	<ol style="list-style-type: none"> Inconsistent feed rate. Stock slipping on conveyor. Workpiece not properly supported. 	<ol style="list-style-type: none"> Maintain constant feed rate (by hand). Excessive depth of cut (PowerFeed) or inadequate hold down pressure. Add work supports for long workpieces.
Snipe	<ol style="list-style-type: none"> Improper tension rollers setting 	<ol style="list-style-type: none"> See tension roller adjustment.
Motor overload protector trips or shop wiring breaker trips.	<ol style="list-style-type: none"> Excessive load on sanding drum and motor. Too many tools on circuit. Excessive length or inadequate size extension cord. 	<ol style="list-style-type: none"> Allow motor to cool and reset overload button. Have a certified electrician correct the shop wiring problem. Use a shorter heavier gauge extension cord.

Drum Head Assembly

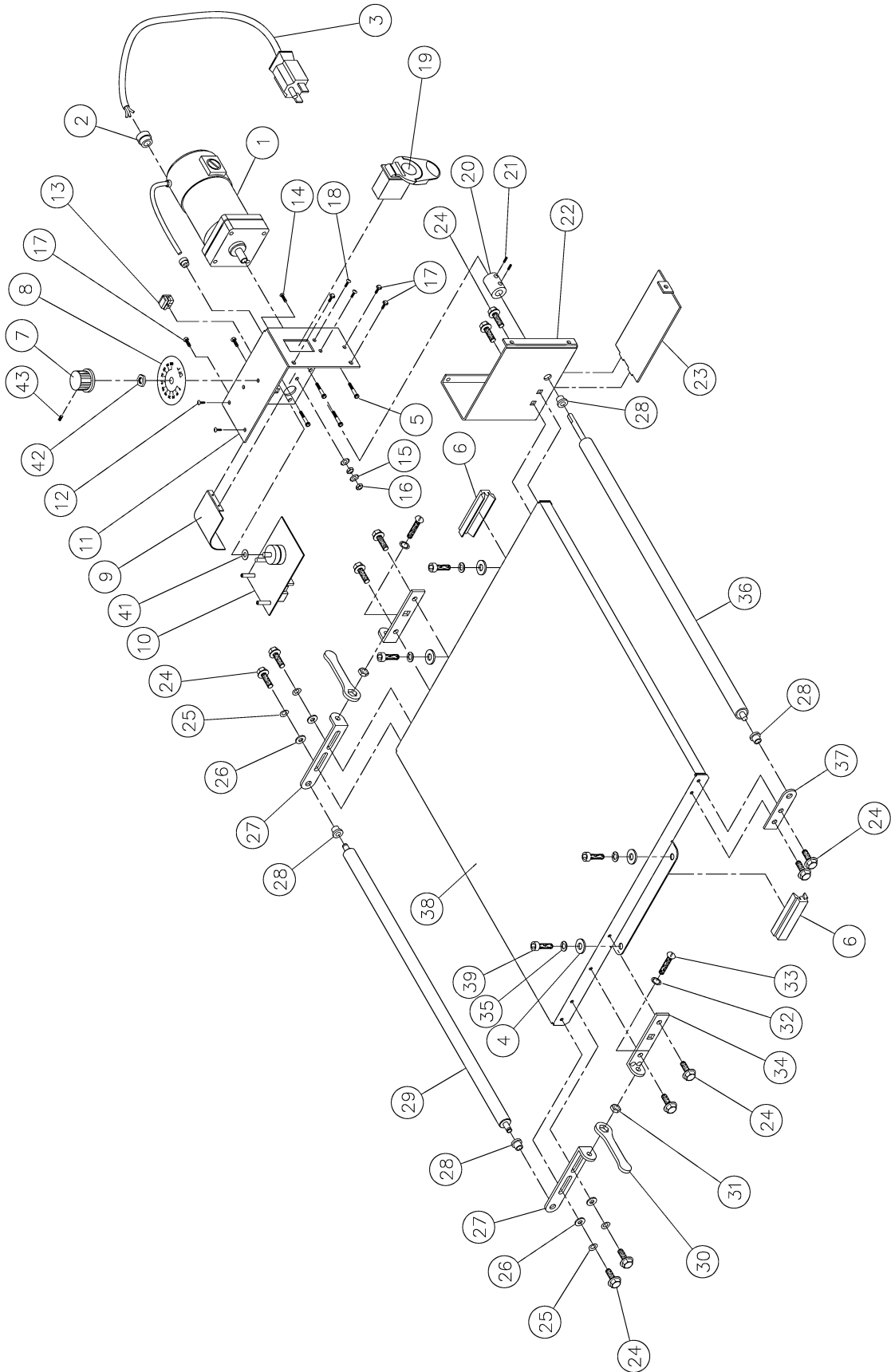


Drum Head Assembly

Index No.	Part No.	Description	Size	Qty.
1	70-4102	Motor, 1-3/4 HP, 110-120 Volt w/Cord		1
2	72-6104	Strain Relief		1
3	72-5345	Cord, Motor To Control Box		1
4	30-9025	Slide, Motor Mount		1
5	30-9024	Carriage, Drum		1
6	TS-0060061	Screw, Hex Head Cap	3/8-16x1 1/4"	9
7	TS-0680041	Washer, Flat	3/8"	11
8	30-9023	Shroud		1
9	30-9026	Stud	5/16-24x1 3/4"	4
10	50-3090-01	Washer, Oilite 5/16" I.D.		8
11	TS-0209061	Screw, Socket Head Cap	3/8-16x1 1/4"	4
12	12-2003-05	Nut, Hex, Lock Nylon Insert	5/16-24	4
13	30-9027	Screw, Height Adjustment	5/8-18UNC	1
14	50-9000	Bearing, Thrust	51103	1
15	30-9028	Handle-Wheel, Height adjustment		1
16	TS-0270051	Set Screw	5/16-18x1/2"	2
17	80-2324	Washer, Flat-Nylon	5/8" I.D.	1
18	20-1180-02	Collar, Locking Shaft		1
19	10-4020-04	Screw, Set Socket Head (Collar)	5/16-18x1/4"	2
20	94-1668	Label, Height-Direction		1
21	94-2270	Label, Depth Gauge	4"	1
22	20-0762-02	Key	3/16 SQ x3/4"	2
23	50-2207	Coupling		2
24	10-4010-04	Set Screw	1/4-20x1/4"	4
25	50-2209	Spider, Coupling		1
26	80-3138	Knob, Fine Tune Adjustment		1
27	TS-0060081	Hex Head Cap Screw	3/8-16x1 3/4"	1
28	20-3216	Spring		1
29	30-9022	Base, Conveyor Mounting		1
30	20-0778	Retaining Ring	STW25	2
31	40-3169	Pointer, Depth Gauge		1
32	50-3089	Bearing, Drum	NTN 6205	2
33	TS-0720091	Washer, Lock	3/8"	4
34	10-1205	Bolt Carriage Head	5/16-18x1"	4
35	11-0206	Washer, Lock	5/16"	9
36	12-2000-05	Hex Nut	5/16-18	5
37	40-0304	Bracket, Tension Roller		2
38	40-0308-01	Bracket, Right-Tension Roller		2
39	40-0308-02	Bracket, Left-Tension Roller		2
40	80-1060	Pad, Bracket-Tension Roller		2
41	20-3211	Spring, Tension Roller		4
42	10-4008-16	Screw, Fillister Head-Phillips	#8-32x1"	4
43	40-3166	Catch, Dust Cover		1
44	50-3105	Bushing, Oilite 5/16" I.D.		4
45	30-3051-06	Roller, Tension		2
46	30-3002	Drum, Sanding		1
47	21-1173	Fastener, Abrasive-Outboard		1
48	21-1172	Fastener, Abrasive-Inboard		1
49	10-3003	Screw, Flat Head-Phillips	6-32x3/8"	2
50	80-2003	Cover, Dust		1
51	80-3137	Knob, Dust Cover		1
52	40-3168	Latch, Dust Cover		1
53	80-3131	Knob		1
54	2244PLUS-254	Pin, Hinge	#3x80	2
55	2244PLUS-255	Pan Head Machine Screw	1/4-20x3/4"	3
56	11-1000-04	Washer, Lock-Int. Tooth	1/4"	2

57	12-2000-04	Hex Nut	1/4-20	2
58	11-1002-04	Flat Washer	1/4	2
59	12-9001	Hex Nut, Nylon Insert Lock	#6-32	2
60	2244PLUS-260	Hex Nut	3/8-16	1

Conveyor And Motor Assembly



Conveyor And Motor Assembly

Index No.	Part No.	Description	Size	Qty.
1	323759	Gear Motor	90 Volt DC	1
2	72-6014	Strain Relief		1
3	72-5336	Cord Set	110-120V-75"	1
4	TS-0680031	Flat Washer	5/16	4
5	10-4010-08	Socket Head Cap Screw	#10-32x1/2"	4
6	98-0080	Tracker Kit		2
7	72-2250-01	Knob		1
8	72-2250-02	Label, Speed Adjusting		1
9	40-4018	Guard, wiring		1
10	72-2250	SandSmart Controller		1
11	40-4904	Bracket, Housing- Controller		1
12	20-0777	Screw, Pan Head Self-Tapping	5/32x1/2"	2
13	72-2120	Receptacle, 110-120Volt		1
14	TS-081D022	Pan Head Machine Screw	#10-32x1/2"	1
15	TS-073203	Washer, Lock. Int.-Tooth Washer	#10	2
16	TS-0560081	Hex Nut	#10-32	2
17	10-9002	Screw, Hex Head-Slotted	#10-32x1/2"	5
18	10-3103	Screw, Phil Pan Head	#6-32x1/2	2
19	72-2004	Switch, ON/OFF-Drum		1
20	30-0122	Coupler, Shaft		1
21	10-4010-04	Set Screw	1/4-20x1/4"	2
22	40-4903	Bracket, Base- Controller		1
23	40-4022W	Cover, Base-Control Housing		1
24	10-4004-12	Bolt, Hex Washer Head	1/4-20x3/4"	12
25	20-1161-01	Washer, Wave	1/4"	4
26	11-1002-04	Flat Washer	1/4"	4
27	40-0003	Bracket, Take Up-Slide		2
28	50-3105	Bushing, Oilite 5/16" I.D.		4
29	30-3010-01	Roller, Driven		1
30	40-0260	Wrench		2
31	12-2000-04	Hex Nut	1/4-20	2
32	11-1000-04	Washer, Lock-Int Tooth	1/4"	2
33	10-4007-24	Screw, Round Head- Slotted	1/4-20x1 3/4"	2
34	40-4004	Bracket, Take Up-Base		2
35	TS-0720081	Lock Washer	5/16	4
36	30-3050-01	Roller, Driven-Rubber Covered		1
37	40-0005	Bracket, Support-Drive Roller		1
38	40-4010	Bed, Conveyor		1
39	TS-0208041	Socket Head Cap Screw	5/16-18x3/4"	4
40	60-0316	Belt Conveyor (Not Shown)		1
41	72-2250-03	Washer, Flat	5/16	1
42	72-2250-04	Nut, Hex	5/16-24	1
43	72-2250-05	Set Screw-Slotted	#8-36UNFx5/16"	1

Wiring Diagram

