26" 5 HP Drum Sander
MODEL SB1102

****Keep for Future Reference****

OWNER'S MANUAL

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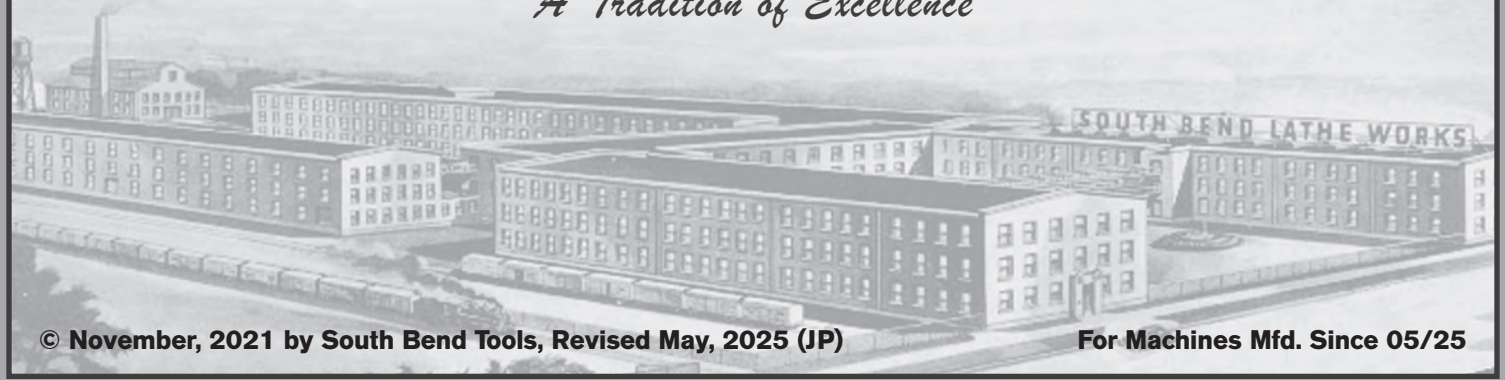
A Tradition of Excellence



For Machines Mfd. Since 05/25

Scope of Manual

This manual helps the reader understand the machine, how to prepare it for operation, how to control it during operation, and how to keep it in good working condition. We assume the reader has a basic understanding of how to operate this type of machine, but that the reader is not familiar with the controls and adjustments of this specific model. As with all machinery of this nature, learning the nuances of operation is a process that happens through training and experience. If you are not an experienced operator of this type of machinery, read through this entire manual, then learn more from an experienced operator, schooling, or research before attempting operations. Following this advice will help you avoid serious personal injury and get the best results from your work.

Manual Feedback

We've made every effort to be accurate when documenting this machine. However, errors sometimes happen or the machine design changes after the documentation process—so the manual may not exactly match your machine. If a difference between the manual and machine leaves you in doubt, contact our customer service for clarification.

We highly value customer feedback on our manuals. If you have a moment, please share your experience using this manual. What did you like about it? Is there anything you would change to make it better? Did it meet your expectations for clarity, professionalism, and ease-of-use?

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Updates

For your convenience, any updates to this manual will be available to download free of charge through our website at:

www.southbendtools.com

Customer Service

We stand behind our machines. If you have any service questions, parts requests or general questions about your purchase, feel free to contact us.

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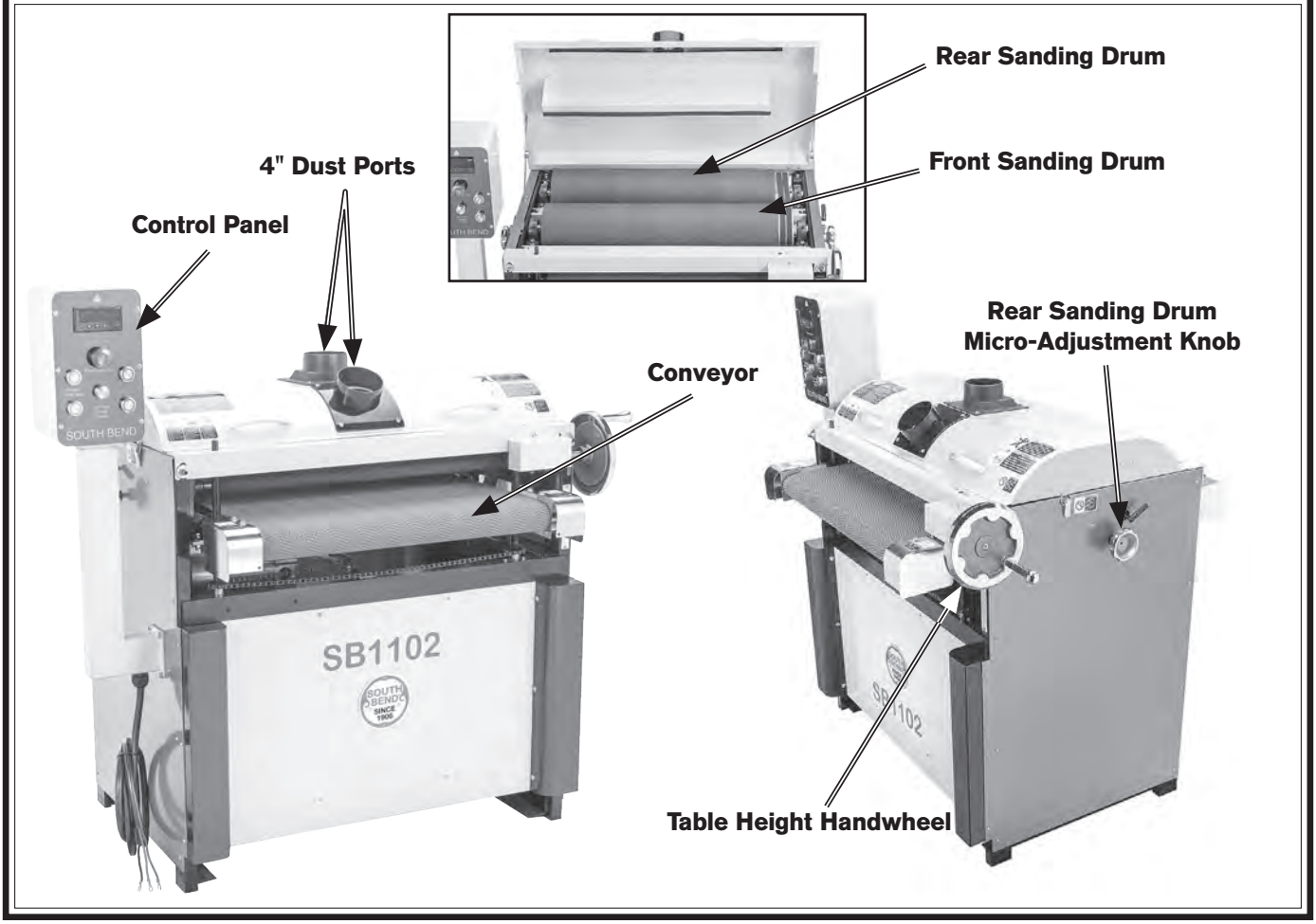
Identification



⚠WARNING

Serious personal injury could occur if you connect the machine to power before completing the setup process. DO NOT connect power until instructed to do so later in this manual.

⚠WARNING

Untrained users have an increased risk of seriously injuring themselves with this machine. Do not operate this machine until you have understood this entire manual and received proper training.

Description of Controls & Components

Refer to **Figures 1–3** and the following descriptions to become familiar with the basic controls and components used to operate this machine. Understanding these items and how they work will help you understand the rest of the manual and stay safe when operating this machine.

Control Panel

Figure 1. Control Panel.

A. Sanding Load Display: Displays current amp draw of sanding motor. Buttons on display have no function for this machine.

B. Emergency Stop Button: Stops motors when pressed and disables ON buttons.

C. Conveyor Speed Control Dial: Rotates to adjust conveyor belt speed between 0–20 FPM.

D. Sanding Drum Motor ON Button: Turns sanding motor ***ON***. Illuminates when pressed.

E. Sanding Drum Motor OFF Button: Turns sanding motor ***OFF***. Illuminates when pressed.

F. Conveyor Motor ON Button: Turns conveyor motor ***ON***. Illuminates when pressed.

G. Conveyor Motor OFF Button: Turns conveyor motor ***OFF***. Illuminates when pressed.

Sanding Controls

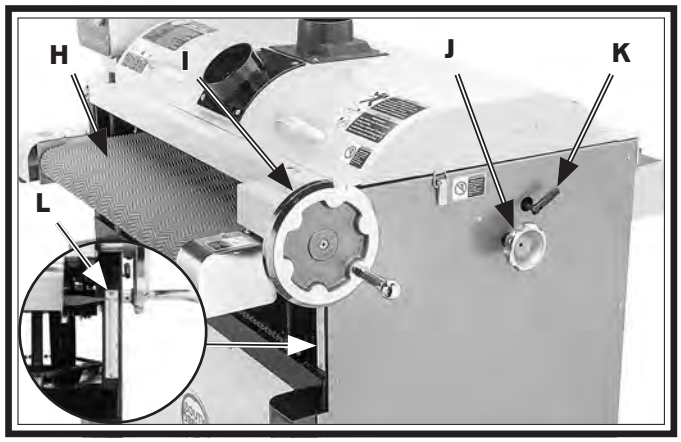


Figure 2. Sanding Controls.

H. Conveyor Table w/Belt: Adjusts up and down and has conveyor belt that feeds workpieces under sanding drums.

I. Table Height Handwheel: Rotates to raise or lower conveyor table according to workpiece thickness.

J. Rear Sanding Drum Micro-Adjustment Knob: Rotates to make fine adjustments to rear sanding drum.

K. Micro-Adjustment Lock Lever: Locks rear sanding drum micro-adjustment knob in place.

L. Depth-of-Cut Scale: Indicates distance between conveyor table and sanding drums.

Sanding Drums

Figure 3. Sanding drums.

M. Sanding Drums: Rotate against incoming workpiece to achieve flat, smooth surface.

Product Specifications

P.O. Box 2027, Bellingham, WA 98227 U.S.A.
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Model SB1102
26" 5 HP Drum Sander

Product Dimensions

Weight	518 lbs.
Width (side-to-side) x Depth (front-to-back) x Height	50-1/2 x 36-1/2 x 50-1/2 in.
Footprint (Length x Width)	23-1/2 x 37 in.

Shipping Dimensions

Type	Wood Crate
Content	Machine
Weight	639 lbs.
Length x Width x Height	52 x 41 x 47 in.
Must Ship Upright	Yes

Electrical

Power Requirement	220V, Single-Phase, 60 Hz
Full-Load Current Rating	27A
Minimum Circuit Size	30A
Connection Type	Cord & Plug
Power Cord Included	Yes
Power Cord Length	72 in.
Power Cord Gauge	10 AWG
Plug Included	No
Recommended Plug Type	L6-30
Switch Type	Control Panel w/Magnetic Switch Protection

Motors

Main

Horsepower	5 HP
Phase	Single-Phase
Amps	25A
Speed	3450 RPM
Type	TEFC Capacitor-Start Induction
Power Transfer	Belt
Bearings	Sealed & Permanently Lubricated
Centrifugal Switch/Contacts Type	External

Conveyor

Horsepower	1/3 HP
Phase	Single-Phase
Amps	2A
Speed	60 RPM
Type	Universal
Power Transfer	Chain
Bearings	Sealed & Permanently Lubricated

Main Specifications

Operation Information

Number of Sanding Heads	2
Maximum Board Width	26 in.
Minimum Board Width	2 in.
Maximum Board Thickness	3-3/4 in.
Minimum Board Thickness	1/8 in.
Minimum Board Length	9 in.
Sandpaper Speed	2300 FPM
Conveyor Feed Rate	0 - 20 FPM
Sandpaper Length	195 in.
Sandpaper Width	3 in.

Drum Information

Infeed Sanding Drum Type	Aluminum
Infeed Sanding Drum Size	6 in.
Outfeed Sanding Drum Type	Aluminum
Outfeed Sanding Drum Size	6 in.

Construction

Conveyor Belt	Rubber
Body	Steel
Paint Type/Finish	Powder Coated

Other Related Information

Floor To Table Height	28-1/8 - 32-1/8 in.
Sanding Belt Tension	Hook & Loop
Number of Pressure Rollers	3
Pressure Roller Type	Rubber
Pressure Roller Size	1-5/8 in.
Conveyor Belt Length	74 in.
Conveyor Belt Width	26 in.
Belt Roller Size	1-7/8 in.
Number of Dust Ports	2
Dust Port Size	4 in.

Other

Country of Origin	Taiwan
Warranty	2 Years
Approximate Assembly & Setup Time	30 Minutes
Serial Number Location	ID Label
ISO 9001 Factory	Yes

Features

Hook & Loop Sanding Belt Tension/Sandpaper
Industrial-Duty Rubber Conveyor Belt
Two 4" Dust Ports
Variable-Speed Conveyor
Dual 6" Aluminum Sanding Drums
Four Leadscrew Table Lift System
Easy Access Control Panel with Amp Load Meter
External Micro-Adjustment on Outfeed Drum

Understanding Risks of Machinery

Operating all machinery and machining equipment can be dangerous or relatively safe depending on how it is installed and maintained, and the operator's experience, common sense, risk awareness, working conditions, and use of personal protective equipment (safety glasses, respirators, etc.).

The owner of this machinery or equipment is ultimately responsible for its safe use. This responsibility includes proper installation in a safe environment, personnel training and usage authorization, regular inspection and maintenance, manual availability and comprehension, application of safety devices, integrity of cutting tools or accessories, and the usage of approved personal protective equipment by all operators and bystanders.

The manufacturer of this machinery or equipment will not be held liable for injury or property damage from negligence, improper training, machine modifications, or misuse. Failure to read, understand, and follow the manual and safety labels may result in serious personal injury, including amputation, broken bones, electrocution, or death.

The signals used in this manual to identify hazard levels are as follows:

DANGER	***Death or catastrophic harm WILL occur.***	**CAUTION**	***Moderate injury or fire MAY occur.***
WARNING	***Death or catastrophic harm COULD occur.***	***NOTICE***	***Machine or property damage may occur.***

Basic Machine Safety

Owner's Manual: All machinery and machining equipment presents serious injury hazards to untrained users. To reduce the risk of injury, anyone who uses THIS item MUST read and understand this entire manual before starting.

Personal Protective Equipment: Operating or servicing this item may expose the user to flying debris, dust, smoke, dangerous chemicals, or loud noises. These hazards can result in eye injury, blindness, long-term respiratory damage, poisoning, cancer, reproductive harm or hearing loss. Reduce your risks from these hazards by wearing approved eye protection, respirator, gloves, or hearing protection.

Trained/Supervised Operators Only: Untrained users can seriously injure themselves or bystanders. Only allow trained and properly supervised personnel to operate this item. Make sure safe operation instructions are clearly understood. If electrically powered, use padlocks and master switches, and remove start switch keys to prevent unauthorized use or accidental starting.

Guards/Covers: Accidental contact with moving parts during operation may cause severe entanglement, impact, cutting, or crushing injuries. Reduce this risk by keeping any included guards/covers/doors installed, fully functional, and positioned for maximum protection.

Entanglement: Loose clothing, gloves, neckties, jewelry or long hair may get caught in moving parts, causing entanglement, amputation, crushing, or strangulation. Reduce this risk by removing/securing these items so they cannot contact moving parts.

Mental Alertness: Operating this item with reduced mental alertness increases the risk of accidental injury. Do not let a temporary influence or distraction lead to a permanent disability! Never operate when under the influence of drugs/alcohol, when tired, or otherwise distracted.

Safe Environment: Operating electrically powered equipment in a wet environment may result in electrocution; operating near highly flammable materials may result in a fire or explosion. Only operate this item in a dry location that is free from flammable materials.

Electrical Connection: With electically powered equipment, improper connections to the power source may result in electrocution or fire. Always adhere to all electrical requirements and applicable codes when connecting to the power source. Have all work inspected by a qualified electrician to minimize risk.

Disconnect Power: Adjusting or servicing electrically powered equipment while it is connected to the power source greatly increases the risk of injury from accidental startup. Always disconnect power BEFORE any service or adjustments, including changing blades or other tooling.

Secure Workpiece/Tooling: Loose workpieces, cutting tools, or rotating spindles can become dangerous projectiles if not secured or if they hit another object during operation. Reduce the risk of this hazard by verifying that all fastening devices are properly secured and items attached to spindles have enough clearance to safely rotate.

Chuck Keys or Adjusting Tools: Tools used to adjust spindles, chucks, or any moving/rotating parts will become dangerous projectiles if left in place when the machine is started. Reduce this risk by developing the habit of always removing these tools immediately after using them.

Work Area: Clutter and dark shadows increase the risks of accidental injury. Only operate this item in a clean, non-glaring, and well-lighted work area.

Properly Functioning Equipment: Poorly maintained, damaged, or malfunctioning equipment has higher risks of causing serious personal injury compared to those that are properly maintained. To reduce this risk, always maintain this item to the highest standards and promptly repair/service a damaged or malfunctioning component. Always follow the maintenance instructions included in this documentation.

Unattended Operation: Electrically powered equipment that is left unattended while running cannot be controlled and is dangerous to bystanders. Always turn the power ***OFF*** before walking away.

Health Hazards: Certain cutting fluids and lubricants, or dust/smoke created when cutting, may contain chemicals known to the State of California to cause cancer, respiratory problems, birth defects, or other reproductive harm. Minimize exposure to these chemicals by wearing approved personal protective equipment and operating in a well ventilated area.

Difficult Operations: Attempting difficult operations with which you are unfamiliar increases the risk of injury. If you experience difficulties performing the intended operation, STOP! Seek an alternative method to accomplish the same task, ask a qualified expert how the operation should be performed, or contact our Technical Support for assistance.

Additional Drum Sander Safety

⚠WARNING

Serious injury or death can occur from getting hands trapped between workpiece and conveyor table and being pulled into machine, or becoming entangled in rotating parts inside machine. Workpieces thrown by sander can strike nearby operator or bystanders with significant force. Long-term respiratory damage can occur from using sander without proper use of a respirator. To reduce the risk of these hazards, operator and bystanders MUST completely heed the hazards and warnings below.

Feeding Workpiece: Placing fingers between workpiece and conveyor can result in pinching injuries, or possibly getting trapped and pulled into sanding area of machine. DO NOT place fingers under bottom of workpiece while feeding it into sander.

Sanding Dust: Sanding creates large amounts of fine airborne dust that can lead to eye injury or serious respiratory illness. Reduce your risk by always wearing approved eye and respiratory protection when sanding. Never operate without adequate dust collection system in place and running. However, dust collection is not a substitute for using a respirator.

Power Disconnect: An accidental startup while changing sanding belts or performing adjustments or maintenance can result in serious entanglement or abrasion injuries. Make sure machine is turned OFF, disconnected from power and air, and all moving parts are completely stopped before changing belts, doing adjustments, or performing maintenance.

Sandpaper Contact: Rotating sandpaper can remove a large amount of flesh quickly. Keep hands away from rotating sanding drum(s) during operation. Never touch moving sandpaper.

Avoiding Entanglement: Tie back long hair, remove jewelry, and do not wear loose clothing or gloves. These can easily get caught in moving parts. Never reach inside machine or try to clear jammed workpiece while machine is operating. Keep all guards in place and secure.

Workpiece Material: This sander is designed to sand only natural wood products or man-made products made from natural wood fiber. DO NOT sand any metal products.

Workpiece Inspection: Nails, staples, knots, or other imperfections in workpiece can be dislodged and thrown from sander at high rate of speed into operator or bystanders, or cause damage to sandpaper or sander. Never try to sand stock that has embedded foreign objects or questionable imperfections.

Kickback: Occurs when a workpiece is ejected out the front of sander at a high rate of speed toward operator or bystanders. To reduce risk of kickback-related injuries, always stay out of workpiece path, only feed one board at a time, and always make sure pressure rollers are properly adjusted below sanding roller. Never sand workpieces below minimum specifications listed in **Machine Data Sheet**.

⚠CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so may result in serious personal injury or property damage.

Preparation Overview

The purpose of the preparation section is to help you prepare your machine for operation. The list below outlines the basic process. Specific steps for each of these points will be covered in detail later in this section.

The typical preparation process is as follows:

1. Unpack the machine and inventory the contents of the box/crate.
2. Clean the machine and its components.
3. Identify an acceptable location for the machine and move it to that location.
4. Level the machine and either bolt it to the floor or place it on mounts.
5. Assemble the loose components and make any necessary adjustments or inspections to ensure the machine is ready for operation.
6. Connect the machine to the power source.
7. Test run the machine to make sure it functions properly and is ready for operation.

⚠WARNING

Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to decrease the risk of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

Required for Setup

The following items are needed, but not included for the setup/assembly of this machine.

For Lifting

- Forklift (Min. 800 lb. rating)

For Power Connection

- A power supply that meets the minimum circuit requirements for this machine. (Refer to the **Power Supply Requirements** section for details.)
- L6-30 Plug

For Assembly

- Additional Person for Moving
- Safety Glasses (for each person)
- Phillips Screwdriver #2
- Wrench or Socket 7/16"
- Hex Wrench 5mm
- Open-Ended Wrench 12mm
- Double-Sided Tape 1/16"
- Dust-Collection System
- 4" Dust Hoses (length as needed)
- 4" Hose Clamps
- 4" Y Adapter

Power Supply Requirements

Availability

Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed.

To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by an electrician or qualified service personnel in accordance with applicable electrical codes and safety standards.

⚠WARNING

Electrocution or fire may occur if machine is not correctly grounded and attached to the power supply. Use a qualified electrician to ensure a safe power connection.

Full-Load Current Rating

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

Full-Load Rating at 220V ..... 27 Amps

The full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating.

If the machine is overloaded for a sufficient length of time, damage, overheating, or fire may result—especially if connected to an undersized circuit. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the requirements in the following section.

⚠WARNING

Serious injury could occur if you connect machine to power before completing setup process. DO NOT connect to power until instructed later in this manual.

Circuit Requirements

This machine is prewired to operate on a power supply circuit that has a verified ground and meets the following requirements:

Nominal Voltage 208V, 220V, 230V, 240V
Cycle ..... 60 Hz
Phase ..... Single-Phase
Circuit Rating ..... 30 Amps
Plug/Receptacle ..... NEMA L6-30

A power supply circuit includes all electrical equipment between the main breaker box or fuse panel in your building and the incoming power connections inside the machine. This circuit must be safely sized to handle the full-load current that may be drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

⚠CAUTION

For your own safety and protection of property, consult an electrician if you are unsure about wiring practices or applicable electrical codes.

Note: *The circuit requirements in this manual are for a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult a qualified electrician to ensure the circuit is properly sized.*

Grounding Requirements

This machine must be grounded! In the event of certain types of malfunctions or breakdowns, grounding provides a path of least resistance for electric current in order to reduce the risk of electric shock.

Use the plug type listed in the **Circuit Requirements** for this voltage. The listed plug (similar to the figure below) has an equipment-grounding wire to safely ground the machine. The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances.

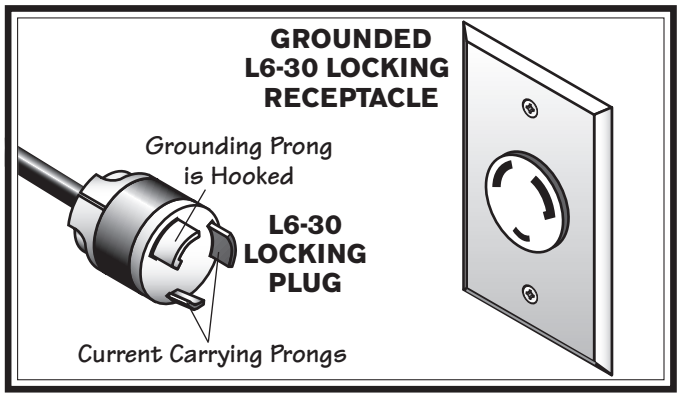
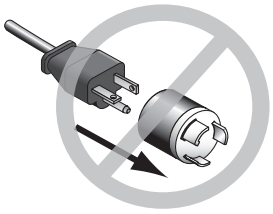


Figure 4. NEMA L6-30 plug and receptacle.

⚠CAUTION



No adapter should be used with plug. If plug does not fit available receptacle, or if machine must be reconnected for use on a different type of circuit, reconnection must be performed by an electrician or qualified service personnel, and it must comply with all local codes and ordinances.

Improper connection of the equipment-grounding wire can result in a risk of electric shock. The wire with green insulation (with or without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with an electrician or qualified service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded.

If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

Extension Cords

We do not recommend using an extension cord with this machine. If you must use one, only use it if absolutely necessary and only on a temporary basis.

Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle listed in the **Circuit Requirements** for the applicable voltage, and meet the following requirements:

Minimum Gauge Size ..... 10 AWG
Maximum Length (Shorter is Better) ..... 50 ft.

Unpacking

This item was carefully packaged to prevent damage during transport. If you discover any damage, please immediately call Customer Service at (360) 734-1540 for advice. You may need to file a freight claim, so save the containers and all packing materials for possible inspection by the carrier or its agent.

Inventory

The following is a list of items shipped with your machine. Before beginning setup, lay these items out and inventory them.

If any non-proprietary parts are missing (e.g. a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.

Box 1 (Figures 5–6)		Qty
A.	Drum Sander	1
B.	Handwheel	1
C.	4" Dust Port (Flat)	1
D.	4" Dust Port (Concave)	1
E.	Handwheel Handle	1
F.	Hex Bolts ¼"-20 x ½"	3
G.	Flat Washers ¼"	3
H.	Tap Screws #8 x ½"	8
I.	Flat Washers #8	8
J.	Hex Wrench 3, 5mm	1 Ea.
K.	Tension Tool	1

NOTICE

If you cannot find an item on this list, carefully check around/inside the machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.

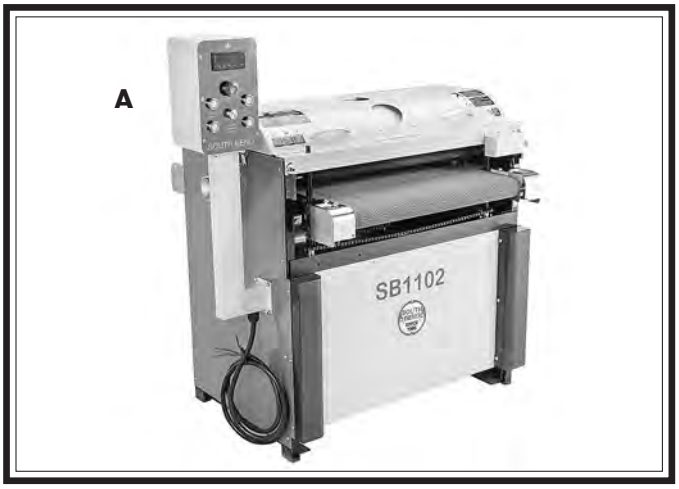


Figure 5. Drum sander.

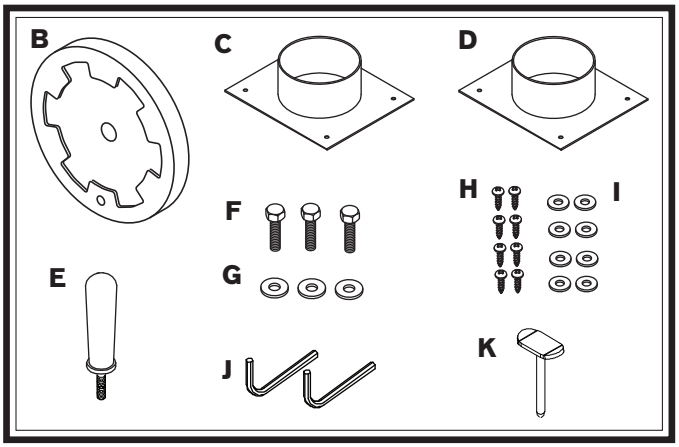


Figure 6. Loose inventory.

Location

Physical Environment

The physical environment where your machine is operated is important for safe operation and longevity of parts. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous or flammable chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature is outside the range of 41°–104°F; the relative humidity is outside the range of 20–95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave access to a means of disconnecting the power source or engaging a lockout/tagout device.

Lighting

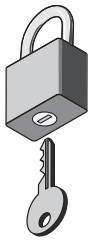
Lighting around the machine must be adequate enough to perform operations safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

Weight Load

Refer to the **Machine Specifications** for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

Space Allocation

Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual.



⚠CAUTION

Children or untrained people may be seriously injured by this machine. Only install in an access restricted location.

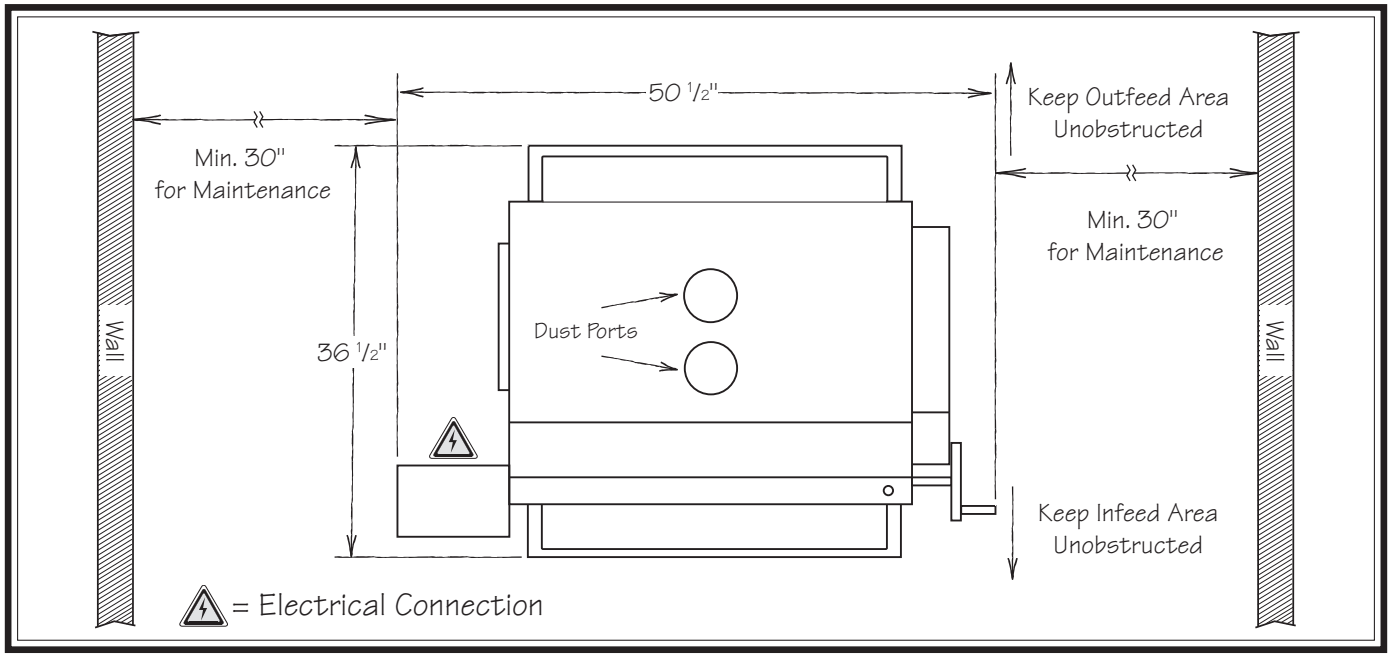


Figure 7. Minimum working clearances.

Lifting & Placing

⚠WARNING

HEAVY LIFT!

This machine and its parts are heavy! Serious personal injury may occur if safe moving methods are not used. To reduce the risk of a lifting or dropping injury, ask others for help and use power equipment.

DO NOT attempt to lift or move machine without using a forklift or necessary assistance from other people.

Review the **Power Supply** section **(Page 10)** and **Location** section **(Page 13)**, then prepare a permanent location for the machine.

IMPORTANT: *Make sure prepared location is clean and level.*

To lift and place machine:

1. Move machine near its prepared location while still inside shipping crate.

2. Remove top and sides of shipping crate, then place small items aside in safe location.

3. Unbolt machine from pallet.

4. Carefully lift machine off pallet and move it to prepared location, then lower machine into position.

Assembly

This machine must be fully assembled before it can be operated. Before beginning the assembly process, refer to **Required for Setup** and gather all listed items. To ensure the assembly process goes smoothly, first clean any parts that are covered or coated in heavy-duty rust preventative (if applicable).

To assemble machine:

1. Loosen pre-installed hex bolt, and remove cardboard protection from base of control panel pedestal.

2. Carefully rotate control panel to upright position and attach pedestal to side of machine with (3) ¼"-20 x ½" hex bolts and (3) ¼" flat washers, plus the hex bolt and flat washer that was loosened in **Step 1**, as shown in **Figure 8**.

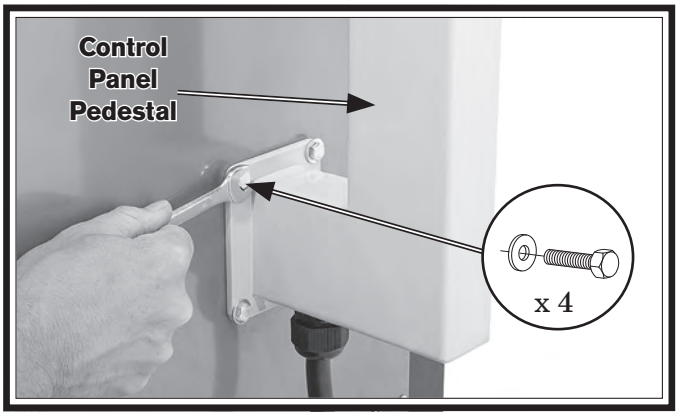


Figure 8. Attaching control panel to machine base.

3. Attach handwheel to spindle and tighten pre-installed set screw, then attach handwheel handle (see **Figure 9**).

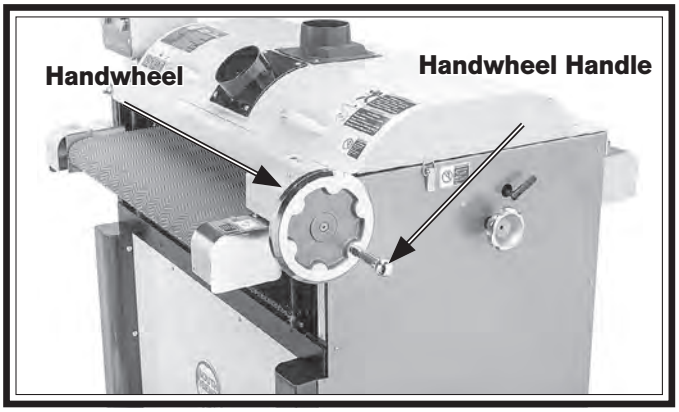


Figure 9. Handwheel and handle attached.

4. Apply 1/16" double sided tape to bottom perimeter of each dust port, then attach to dust hood as shown in **Figure 10**.

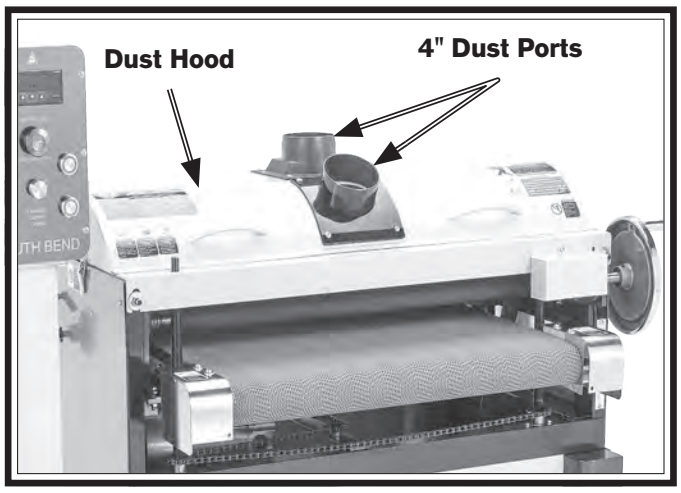


Figure 10. Dust ports attached to dust hood.

5. Secure dust ports to dust hood with (8) #8 x ½" tap screws and (8) #8 flat washers.

Power Connection

Before the machine can be connected to the power source, there must be an electrical circuit that meets the **Circuit Requirements** on **Page 10**, and the correct plug must be installed according to instructions and wiring diagrams provided by the manufacturer.

If the plug manufacturer did not include instructions, the wiring of a generic NEMA L6-30 plug is illustrated in the **Wiring Diagram** on **Page 46**.

To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring MUST be done by an electrician or qualified service personnel.

Dust Collection

⚠CAUTION

This machine creates a lot of wood chips/ dust during operation. Breathing airborne dust on a regular basis can result in permanent respiratory illness. Reduce your risk by wearing a respirator and capturing the dust with a dust-collection system.

Minimum CFM at each Dust Port: 400 CFM
Do not confuse this CFM recommendation with the rating of the dust collector. To determine the CFM at the dust port, you must consider these variables: (1) CFM rating of the dust collector, (2) hose type and length between the dust collector and the machine, (3) number of branches or wyes, and (4) amount of other open lines throughout the system. Explaining how to calculate these variables is beyond the scope of this manual. Consult an expert or purchase a good dust collection "how-to" book.

To connect machine to dust collect system:

1. Fit (2) 4" dust hoses over dust ports as shown in **Figure 11** and secure in place with (2) hose clamps.

Figure 11. Dust hoses attached.

2. Tug hoses to make sure they do not come off.

Note: *A tight fit is necessary for proper performance.*

Test Run

After all preparation steps have been completed, the machine and its safety features must be tested to ensure correct operation. If you discover a problem with the operation of the machine or its safety components, do not operate it further until you have resolved the problem.

Note: *Refer to* ***Troubleshooting*** *on* ***Page 41*** *for solutions to common problems that occur with all drum sanders. If you need additional help, contact our Tech Support at (360) 734-1540.*

The test run consists of verifying the following:

- Motors power up and run correctly.
- Emergency Stop button works correctly.

⚠WARNING

Serious injury or death can result from using this machine BEFORE understanding its controls and related safety information. DO NOT operate, or allow others to operate, machine until the information is understood.

⚠WARNING

DO NOT start machine until all preceding setup instructions have been performed. Operating an improperly set up machine may result in malfunction or unexpected results that can lead to serious injury, death, or machine/property damage.

Refer to **Figure 12** during **Test Run**. Each control has an alphabetical callout for identification.

Figure 12. Control panel.

To test run machine:

1. Clear all setup tools away from machine.
2. Press Emergency Stop button **(B)** in.
3. Turn Conveyor Speed Control dial **(C)** to "0".
4. Connect machine to power source. Digital readout **(A)** should illuminate.

   — If digital readout *does not* illuminate, check power source.

5. Twist Emergency Stop **(B)** button clockwise until it pops out to reset switch (see **Figure 13**).

— Both motor OFF buttons **(E** and **G)** will illuminate after Emergency Stop button is reset.

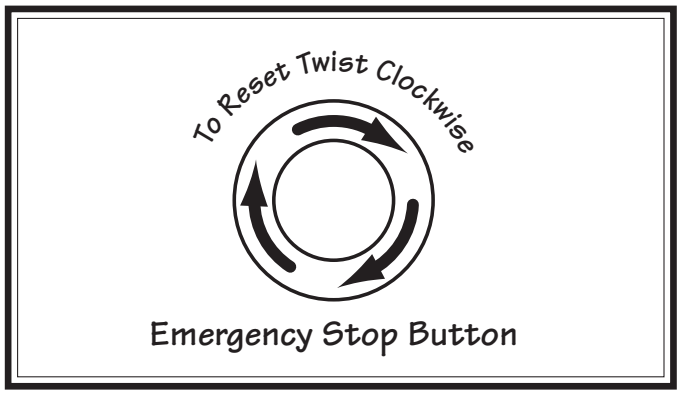


Figure 13. Emergency Stop button.

6. Press Sanding Drum Motor ON button **(D)** to start drum motor (see **Figure 12** on **Page 16**). ON button will illuminate and sanding drums will start. Sanding drums should run smoothly with little to no vibration or rubbing noises.

— If sanding drums *are* operating smoothly, proceed to **Step 7**.

— If sanding drums *are not* operating smoothly, turn machine ***OFF*** and correct the problem before continuing. Refer to **Troubleshooting** on **Page 41** or call Tech Support for help.

7. Press Conveyor Motor ON button **(F)** to start conveyor motor (see **Figure 12** on **Page 16**). ON button will illuminate. Turn the Conveyor Speed Control dial **(C)** clockwise to increase speed. Conveyor should move smoothly with little to no vibration or rubbing noises.

— If conveyor belt *is* running smoothly, proceed to **Step 8**.

— If conveyor *is not* operating smoothly, turn machine ***OFF*** and correct the problem before continuing. Refer to **Troubleshooting** on **Page 41** or call Tech Support for help.

8. Push Emergency Stop button **(B)** to turn machine ***OFF***.

9. WITHOUT resetting Emergency Stop button, press Sanding Drum ON button **(D)** and Conveyor Motor ON button **(F)**. Motors should not start.

— If both motors *do not* start, the Emergency Stop safety feature is working correctly. Congratulations, the Test Run is complete!

— If either motor *does* start (with Emergency Stop button depressed), immediately disconnect machine from power and DO NOT USE. The Emergency Stop safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

Inspections & Adjustments

The following list of adjustments were performed at the factory before your machine was shipped:

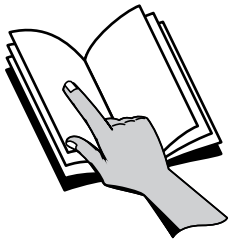
Be aware that machine components can shift during the shipping process. Pay careful attention to these adjustments as you test run your machine. If you find that the adjustments are not set according to the procedures in this manual or your personal preferences, re-adjust them.

Note: *New V-belts often stretch and loosen up during the first 16 hours of use. After this period, they should be inspected and re-tensioned if necessary.*

Operation Overview

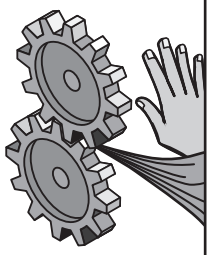
The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so they can more easily understand the controls discussed later in this manual.

Note: Due to the generic nature of this overview, it is not intended to be an instructional guide for performing actual machine operations. To learn more about specific operations and machining techniques, seek training from people experienced with this type of machine, and do additional research outside of this manual by reading "how-to" books, trade magazines, or websites.



⚠WARNING

To reduce the risk of serious injury when using this machine, read and understand this entire manual before beginning any operations.



⚠WARNING

Loose hair, clothing, or jewelry could get caught in machinery and cause serious personal injury. Keep these items away from moving parts at all times to reduce this risk.

⚠WARNING

To reduce risk of eye injury from flying chips or lung damage from breathing dust, always wear safety glasses and a respirator when operating this machine.

To complete a typical sanding operation, the operator does the following:

1. Examines workpiece to verify it is suitable for sanding and determines which sandpaper grit size to use.

2. Verifies workpiece has necessary outfeed clearance and support. If workpiece is overly long and difficult to handle, operator uses a roller support stand or an assistant to assist with feeding.

3. Adjusts table height to approximate workpiece thickness.

   Note: *During initial pass with a new workpiece, operator adjusts table height as necessary so workpiece only makes light contact with sanding drums and does not overload sander.*

4. Puts on safety glasses, respirator, and any other required protective equipment.

5. Starts dust collection system and then drum sander. Waits for sanding drums to reach full speed and then sets conveyor speed for the specific type and finish of workpiece.

6. Feeds workpiece into sander by placing front end on infeed side of conveyor table and supporting back end until workpiece engages with pressure rollers. Adjusts conveyor speed as needed to maintain safe amperage level.

7. Receives workpiece from outfeed side of conveyor table.

8. Raises height of conveyor table a small amount (typically ¼ rotation of handwheel), then repeats the feeding process of workpiece through sander.

9. Changes sandpaper to a finer grit, as needed.

10. Repeats **Steps 6–9** as needed, turns sander ***OFF,*** then disconnects it from power.

Stock Inspection & Requirements

Some workpieces are not safe to sand, or they may require further preparation before they can be safely sanded without increasing risk of injury to the operator or damaging the sanding belt or the sander.

Before sanding, inspect all workpieces for the following:

- **Material Type:** This machine is intended for sanding natural and man-made wood products, and laminate-covered wood products. This machine is NOT designed to sand glass, stone, tile, plastics, drywall, cementious backer board, metal, etc.

  Sanding metal objects can increase the risk of fire. Sanding improper materials increases the risk of respiratory harm to the operator and bystanders due to the especially fine dust inherently created by all types of sanding operations—even if a dust collector is used. Additionally, the life of the machine and sanding belts may be greatly reduced (or immediately damaged) from sanding improper materials.

- **Foreign Objects:** Tramp metal, nails, staples, dirt, rocks and other foreign objects are often embedded in wood. While sanding, these objects can become dislodged and tear the sanding belt. Always visually inspect your workpiece for these items. If they can't be removed, DO NOT sand the workpiece.

- **Wet or "Green" Stock:** Sanding wood with a moisture content over 20% causes unnecessary clogging and wear on the sanding belt, increases the risk of kickback, and yields poor results.

- **Excessive Warping:** Workpieces with excessive cupping, bowing, or twisting are dangerous to sand because they are unstable and often unpredictable when being sanded. DO NOT use workpieces with these characteristics!

- **Excessive Glue or Finish:** Sanding workpieces with excess glue or finish will load up the abrasive, reducing its usefulness and lifespan.

- **Minimum Stock Dimensions:** DO NOT sand boards less than 9" long, 2" wide, and ⅛" thick to prevent damage to the workpiece and to reduce the risk of your hands contacting the abrasive belt (see **Figure 14**).

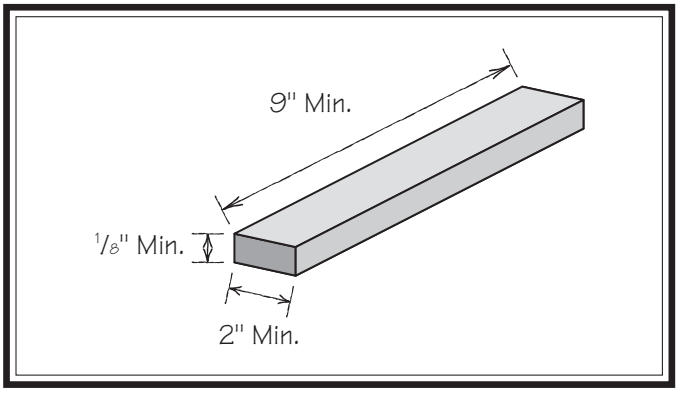


Figure 14. Minimum dimensions for sanding.

Choosing Sandpaper

There are many types of sandpaper rolls to choose from. We recommend Aluminum Oxide for general workshop environments. Below is a chart that groups abrasives into different classes, and shows which grits fall into each class.

This machine comes from the factory with 80 grit installed on the front drum and 120 grit on the rear.

Grit	Class	Usage
36	Extra Coarse	Rough sawn boards, thickness sanding, and glue removal.
60	Coarse	Thickness sanding and glue removal.
80–100	Medium	Removing planer marks and initial finish sanding.
120–180	Fine	Finish sanding.

The Model SB1102 allows you to place a different grit sandpaper on each drum. The front drum should have a coarser grit than the rear. Usually this translates into combinations of successive group types. A common selection for stock that is planed before being sanded is a 80-100/120-150 grit combination.

The general rule of thumb is to sand a workpiece with progressively higher grit numbers, with no one grit increase of more than 50 from one drum to another. Avoid skipping grits; the larger the grit increase, the harder it will be to remove the scratches from the previous grit.

Ultimately, the type of wood you use and your stage of finish will determine the best grit types to install on your sander.

Take light passes. Overloading the motor or pushing the sander to failure weakens the electrical system. Repeatedly doing so is abuse to the machine that will cause motor, capacitor, or circuit breaker damage, which is not covered under warranty.

Sanding Tips

- Replace the sandpaper with a higher grit to achieve a finer finish.
- Raise the table with a maximum of ¼ turn of the height handwheel after each pass until the workpiece is the desired thickness.
- Reduce snipe when sanding more than one board of the same thickness by feeding them into the sander with the front end of the second board touching the back end of the first board.
- Feed boards into the sander at different points on the conveyor to maximize sandpaper life and prevent uneven conveyor belt wear.
- DO NOT sand boards less than 9" long, 2" wide, and ⅛" thick to prevent damage to the workpiece and the drum sander.
- Extend sandpaper life by regularly using a PRO-STICK® sanding pad (see **Page 26**).
- When sanding workpieces with irregular surfaces, such as cabinet doors, take very light sanding passes to prevent gouges. When the drum moves from sanding a wide surface to sanding a narrow surface, the load on the motor will be reduced, and the drum will speed up, causing a gouge.
- DO NOT edge sand boards. This can cause boards to kickback, causing serious personal injury. Edge sanding boards also can cause damage to the conveyor belt and sandpaper.
- When sanding workpieces with a bow or crown, place the high point up (prevents the workpiece from rocking) and take very light passes.
- Feed the workpiece at an angle to maximize stock removal and sandpaper effectiveness, but feed the workpiece straight to reduce sandpaper grit scratches for the finish passes.
- When removing glue, always use a coarse grit sand paper and take light passes. This will reduce the risk of overheating which can plug the sandpaper and potentially damage the machine.

⚠WARNING

Untrained users have an increased risk of seriously injuring themselves with this machine. Do not operate this machine until you have understood this entire manual and received proper training.

Sanding

⚠WARNING

DO NOT sand more than one board at a time. Minor variations in thickness can cause one board to be propelled by the rapidly spinning sanding drum and ejected from the machine. NEVER stand directly in front of the outfeed area of the machine. Failure to do so could result in severe personal injury.

To sand a workpiece:

1. Adjust table height (refer to **Setting Depth of Cut**).

2. Make sure dust-collection hoses and collection system are secured and turned ON before starting sander.

3. Turn machine ***ON*** and feed workpiece through sander. To reduce likelihood of injury, retrieve workpiece by standing to side of machine—not directly behind outfeed end.

4. Run wide stock through two or three times without adjusting table height. Turn stock 180° between passes to ensure an evenly sanded surface.

   Tip: *For best sanding results, always sand with the grain during finish passes.*

5. Turn machine ***OFF***.

Setting Depth of Cut

The optimum depth of cut will vary based on the type of wood, feed rate, and sandpaper grit. Under most sanding conditions, the depth should not exceed 1/64" (approx. 3/4 turn of the handwheel). Each full turn of the table height handwheel raises the conveyor table approximately 0.020". Attempts to remove too much material can cause jamming, wood burning, rapid paper wear or tearing, poor finish, and belt slippage.

To set depth of cut:

1. Using table height handwheel (see **Figure 15**), adjust conveyor table until there is a small gap between workpiece and sanding drum.

   Note: *When adjusting the table to sand a workpiece, lower and then raise the table to remove backlash from the adjustment mechanism.*

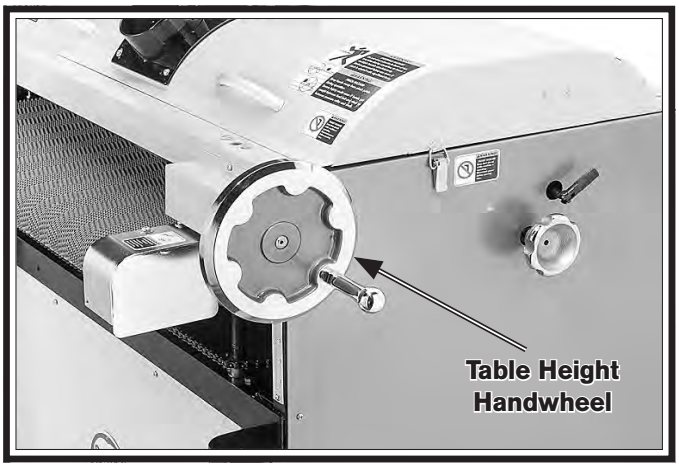


Figure 15. Location of table height handwheel.

2. Start sanding drums then conveyor and slowly feed workpiece into sander. SLOWLY raise conveyor table until workpiece makes light contact with sanding drums. This is the correct height to begin sanding the workpiece.

Setting Conveyor Speed

The Conveyor Speed Control dial (see **Figure 16**) allows you to set the conveyor speed from 0–10 (0–20 FPM). The correct speed to use depends on the type of stock you are using (hardwood vs. softwood) and the stage of finish you are at with that workpiece.

As a general rule, a slower speed will sand the surface smoother, but runs the risk of burning the wood; a faster speed will remove material faster, but runs the risk of overloading the motor. Use trial-and-error to determine the best settings for your specific applications.

To set conveyor speed:

1. Turn Conveyor Speed Control dial (see **Figure 16**) to "0," and then turn conveyor motor ***ON***.

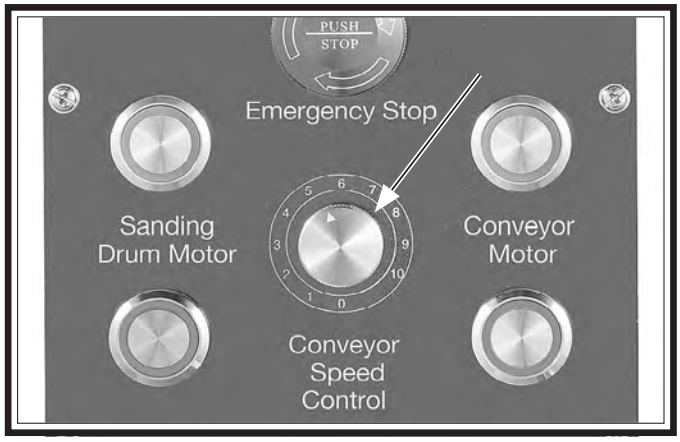


Figure 16. Location of Conveyor Speed Control dial.

2. Turn Conveyor Speed Control dial clockwise to increase conveyor speed.

   — If conveyor speed is too high, turn dial counterclockwise to decrease conveyor speed.

Monitoring Sanding Load

The sanding load meter, shown in **Figure 17**, displays the amperage draw of the sanding drum motor. The number shown increases when you increase the load on the sanding drums and decreases when you decrease the load. Use this meter to avoid overloading your machine with too heavy of a cut.

Figure 17. Location of load meter.

IMPORTANT: *NEVER exceed 25 amps—this is the maximum that your machine can safely handle!*

Since various types of stock will react differently with various loads, use trial-and-error to determine the best settings for your applications. Always start with a small load and work your way up. We recommend that you do not push your machine to its maximum load; instead, make multiple passes or install a coarser grit paper.

NOTICE

Overloading the motor or pushing the sander to failure weakens the electrical system. Repeatedly doing so is abuse to the machine that will cause motor, capacitor, or circuit breaker damage, which is not covered under warranty.

Installing/Replacing Sandpaper

The Model SB1102 is designed for 3" hook-and-loop sandpaper rolls. This model also uses a spring clip on both ends of the drum to secure the ends of the sandpaper. In addition to using tension to keep the sandpaper tight, the drums are wrapped with hook-and-loop material that is used to secure the felt-backed sandpaper.

See **Figure 18** to become familiar with the tension wheel components.

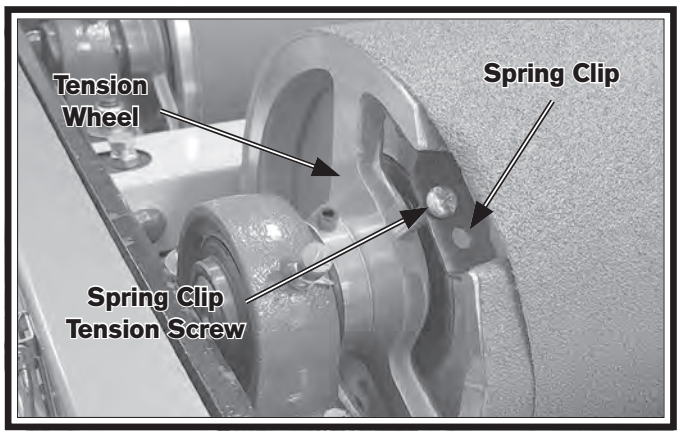


Figure 18. Tension wheel spring clip components.

Items Needed	Qty
Phillips Screwdriver #2	2
Tension Tool	1
Hex Wrench 5mm	1
Straightedge 24"	1
Razor Knife	1
Sandpaper (for each drum)	3 " x 195"

Refer to **Accessories** on **Page 26** for sandpaper roll part numbers and ordering information.

To install/replace sandpaper:

1. DISCONNECT MACHINE FROM POWER!

2. Open dust hood to expose drums.

3. Starting with right side of drum, turn spring clip tension screw counterclockwise 2–3 turns to release spring clip tension, as shown in **Figure 19**.

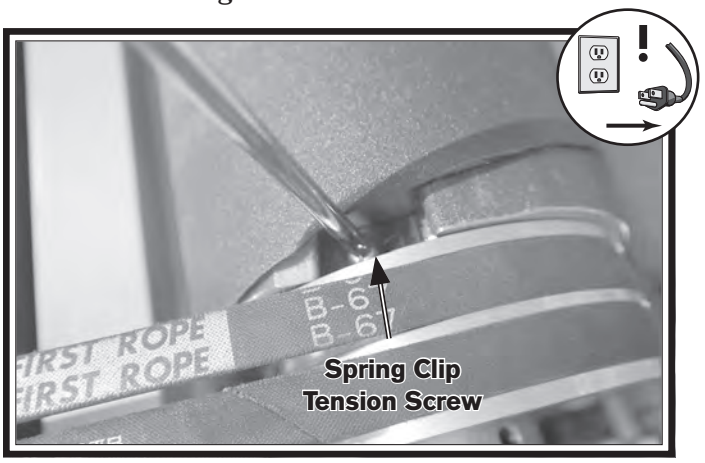


Figure 19. Loosening spring clip tension screw.

4. Insert screwdriver in prying hole in spring clip, as shown in **Figure 20**, and press downward to slightly open spring clip and release end of sandpaper.

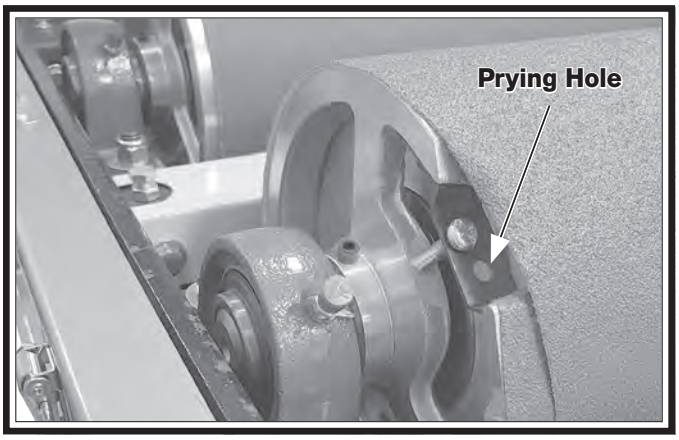


Figure 20. Location of prying hole in spring clip.

5. Observing direction sandpaper is wrapped around drum, unwind old sandpaper from drum.

6. Use method outlined in **Steps 3–4** to release sandpaper from left side of drum, and remove sandpaper completely.

7. Use old sandpaper as a pattern to cut new sandpaper, or measure and cut sandpaper taper yourself (see **Figure 21**). Cut 1" off each tapered end.

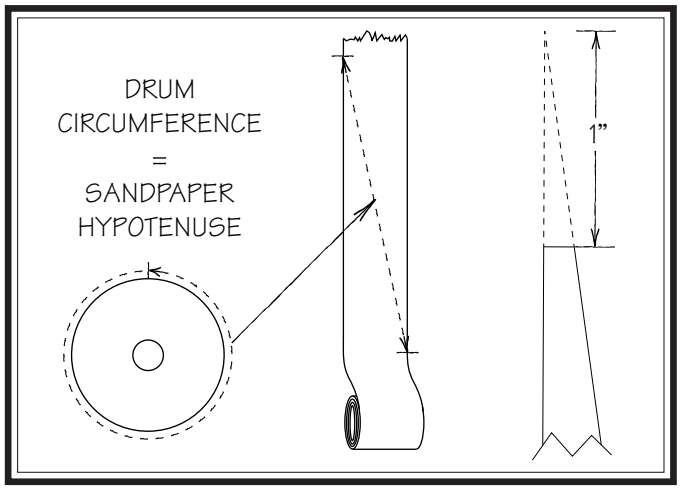


Figure 21. Finding sandpaper taper angle.

8. Insert screwdriver into rear hole in pulley, as shown in **Figure 22**.

IMPORTANT: *To avoid damage to grease fitting, position hole in pulley so that screwdriver is inserted between grease fitting and machine frame.*

9. Turn tension wheel clockwise as far as tension spring will allow (about 20mm), then fully insert tension tool in front hole (see **Figure 22**), release tension wheel, then remove screwdriver.

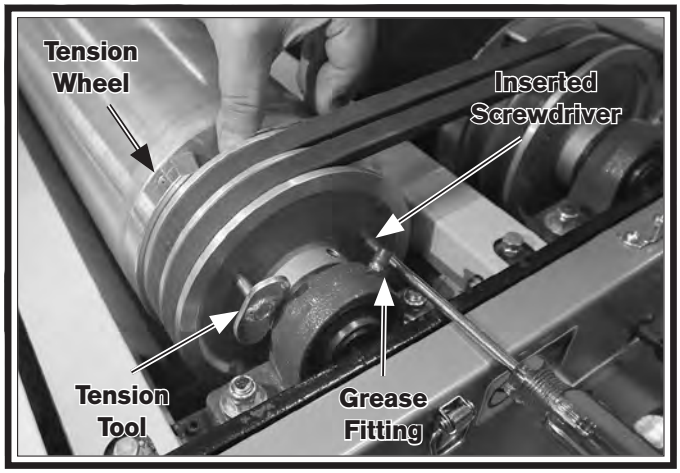


Figure 22. Example of pre-tensioning sandpaper tension wheel.

10. On left side of drum, use Phillips screwdriver to pry spring clip slightly open and fold about 1" of leading end of sandpaper over tensioning wheel and under spring clip, as shown in **Figure 23**.

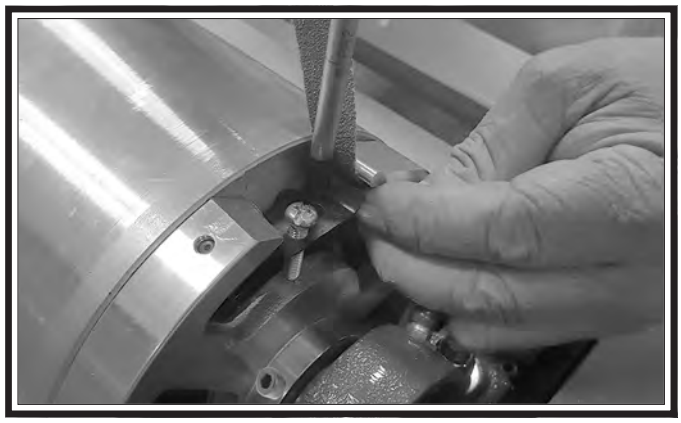


Figure 23. Example of inserting leading end of sandpaper under spring clip.

11. Turn spring clip tension screw clockwise 2–3 turns to add tension to spring clip.

Note: *Spring clip tension screw only needs to be snug. DO NOT overtighten.*

12. Carefully wrap sandpaper around drum from left to right, keeping edges tight and without any overlap or bubbles in sandpaper.

13. When you have reached the trailing end of the sandpaper, insert screwdriver back into rear hole in pulley (see **Figure 24**).

Figure 24. Screwdriver inserted into pulley.

14. Follow procedure in **Steps 10–11** to insert trailing end of sandpaper into right side spring clip.

— If sandpaper does not line up correctly with spring clip at trailing end, loosen (2) ¼"-20 x ½" cap screws and rotate left tension wheel as necessary (see **Figure 25**); tighten cap screws, then secure end of sandpaper.

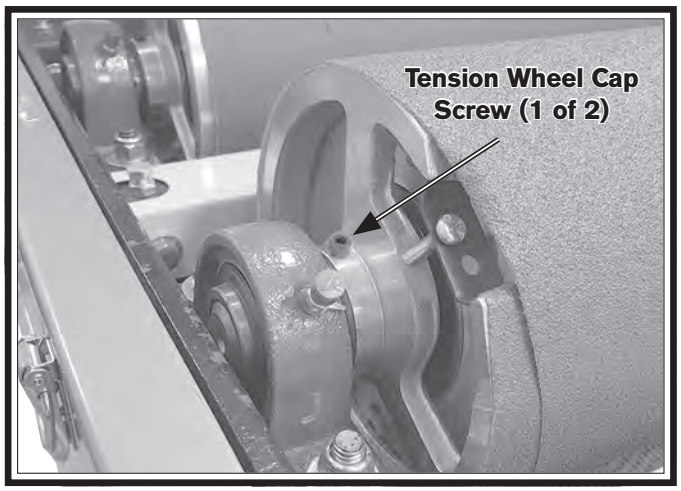


Figure 25. Location of tension wheel cap screw.

15. Remove tension tool from pulley.

16. Repeat **Steps 3–15** for second drum.

Cleaning Sandpaper

When sandpaper becomes clogged with gum and sawdust, it loses its effectiveness and begins to create more heat and will eventually fail. Regularly cleaning your sandpaper will help keep your machine running efficiently and reduce the amount of build up.

Refer to **Accessories** on **Page 26** for cleaning pad part number and ordering information.

To clean sandpaper:

1. Set table to thickness of cleaning pad.

2. Run pad through sander two or three times in different locations across the width of drums, as shown in **Figure 26**. DO NOT take too deep of a cut—the sandpaper should barely touch cleaning pad!

Figure 26. Example of using D3003 PRO-STIK® cleaning pad to clean sandpaper.

Accessories

This section includes the most common accessories available for your machine through our exclusive dealer, Grizzly Industrial, Inc., at **grizzly.com**.

⚠WARNING

Installing unapproved accessories may cause machine to malfunction, resulting in serious personal injury or machine damage. To reduce this risk, only install accessories recommended by South Bend or Grizzly.

NOTICE

Refer to Grizzly's website or latest catalog for additional recommended accessories.

Aluminum Oxide Sanding Rolls 3" x 50'
H4422—60-Grit: Use for thickness sanding and glue removal.
H4779—80-Grit: Use for removing planer marks and initial finish sanding.
H4423—100-Grit: Use for removing planer marks and initial finish sanding.
H4780—120-Grit: Use for finish sanding.
H4424—150-Grit: Use for finish sanding.
T21255—180-Grit: Use for finish sanding.
T21256—220-Grit: Use for finish sanding.

Figure 27. Aluminum oxide sanding roll.

T28000—"Bear Crawl" Mobile Base
With its 1200 lb. capacity, steel and rubber heavy-duty ball bearing wheels, and toe flip-stops, the Grizzly "Bear Crawl" mobile base will be a staple under your machine for many years to come. Adjusts from 19" x 21" to 29½" x 29½"!

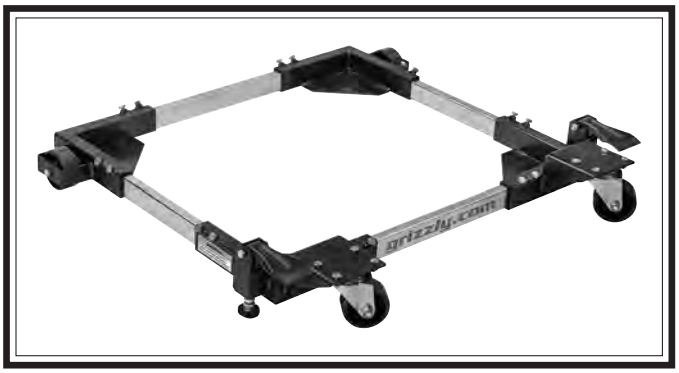


Figure 28. T28000 Bear Crawl Mobile Base.

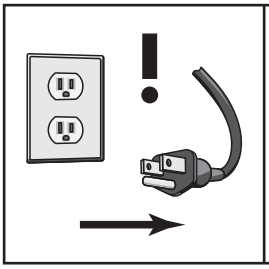
D3003–PRO-STIK® 15" x 20" Cleaning Pad
The perfect accessory for wide-belt sanders, just set your table and feed this cleaning pad through for longer lasting abrasive belts. Pad measures 15" x 20" x ¾" high.

Figure 29. D3003 PRO-STIK® Cleaning Pad.

T26685—ISO 32 Moly-D Machine Oil, 1 Gal.
T26419—Syn-O-Gen Synthetic Grease

Figure 30. Lubrication products.

Maintenance Schedule



⚠WARNING

Always disconnect machine from power before performing maintenance or serious personal injury may result.

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

To minimize your risk of injury and maintain proper machine operation, shut down the machine immediately if you ever observe any of the items below, and fix the problem before continuing operations:

Note: *This maintenance schedule is based on average daily usage. Adjust the maintenance schedule to match your usage, to keep your drum sander running smoothly, and to protect your investment.*

Ongoing

- Worn or damaged sandpaper rolls.
- Loose mounting bolts.
- Any other unsafe condition.

Daily

- Lubricate conveyor roller bushings **(Page 28)**.

Weekly

- Clean/vacuum dust buildup from underneath dust hood.
- Clean/vacuum dust buildup from inside cabinet and off motor.
- Lubricate pillow bearings **(Page 28)**.

Monthly

- Lubricate worm gear and table height leadscrews **(Page 29)**.
- Check tension and adjust/replace V-belts **(Page 37)**.

Machine Storage

All machinery will develop serious rust problems and corrosion damage if it is not properly prepared for storage. If decommissioning this machine, use the steps in this section to ensure that it remains in good condition.

To prepare your machine for storage or decommission it from service:

1. Disconnect all power sources to the machine.

2. Thoroughly clean all unpainted, bare metal surfaces, then coat them with a light weight grease or rust preventative. Take care to ensure these surfaces are completely covered but that the grease or rust preventative is kept off of painted surfaces.

   Note: *If the machine will be out of service for only a short period of time, use way oil or a good grade of medium-weight machine oil (not auto engine oil) in place of the grease or rust preventative.*

3. Loosen or remove belts so they do not become stretched while the machine is not in use.

4. Completely cover the machine with a tarp or plastic sheet that will keep out dust and resist liquid or moisture. If machine will be stored in/near direct sunlight, use a cover that will block the sun's rays.

Cleaning & Protecting

Cleaning the Model SB1102 is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin dissolving cleaner to remove it.

Lubrication

An essential part of lubrication is cleaning the components before lubricating them. This step is critical because dust builds up on lubricated components, which makes them hard to move. Simply adding more grease to built-up grime will not result in smooth moving parts. Clean the components in this section with and oil/grease solvent cleaner or mineral spirits before applying lubrication.

IMPORTANT: Avoid using excess lubrication. Too much lubricant attracts sawdust and will clog the components.

The following are the main components that need to be lubricated:

- Conveyor Roller Bushings
- Pillow Bearings
- Worm Gear
- Table Elevation Leadscrews, Chain, and Sprockets

Conveyor Roller Bushings

Lubricant Type.....T26685 or ISO 32 Equivalent
Lubricant Amount ..... As Needed
Check/Add Frequency..... Daily

Items Needed: .....Qty
Oil Can.....1
Shop Rags ..... As Needed

To lubricate the conveyor roller bushings, place a couple drops of lubricant into hole in each bushing (see **Figure 31**).

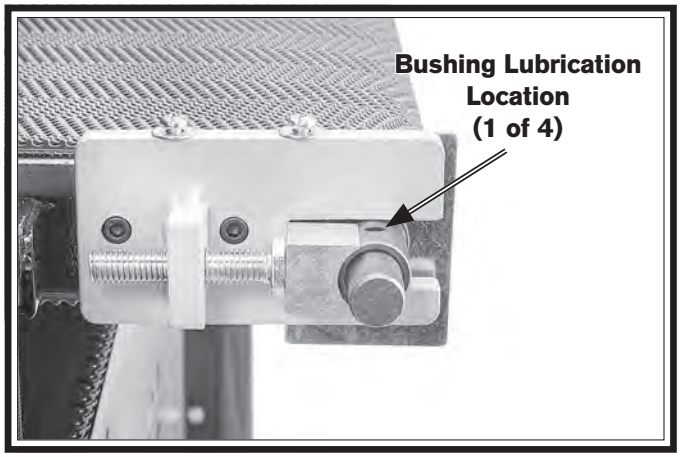


Figure 31. Conveyor bushing lubrication location.

Pillow Bearings

Grease Type .....T26419 or NLGI#2 Equivalent
Grease Amount..... 1–2 Pumps
Grease Frequency.....20 Hours of use

Items Needed:	Qty
Grease Gun	1
Mineral Spirits	As Needed
Shop Rags	1

The pillow block bearings require a small amount of grease every 20 hours of operation to ensure smooth sanding drum rotation. The four pillow bearings are lubricated by grease fittings (see **Figure 32**). To lubricate the pillow bearings, remove the grease fitting cap, use a grease gun to pump a small amount of grease into the fitting, then re-attach the cap.

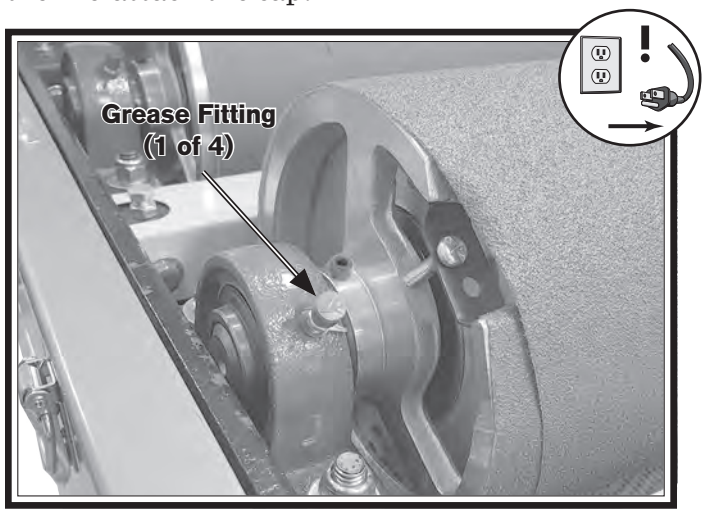


Figure 32. Location of grease fittings.

NOTICE

Lubricate the bearings sparingly after about two months of sander operation. The bearings require very little grease, so avoid the temptation to over-lubricate.

Worm Gear

Grease Type ..... T26419 or NLGI#2 Equivalent
Grease Amount ..... Dab
Grease Frequency ..... Monthly

Items Needed:	Qty
Brass Wire Brush	1
Shop Rags	As Needed
Mineral Spirits	As Needed
Grease Gun	1
Phillips Screwdriver #2	1

The worm gear may acquire some dust buildup over time. Brush the gear with a soft wire brush, then apply a dab of grease. Rotate the handwheel to spread the grease.

To access worm gear:

1. DISCONNECT MACHINE FROM POWER!

2. Remove (2) Phillips head screws securing worm gear cover (see **Figures 33–34**).

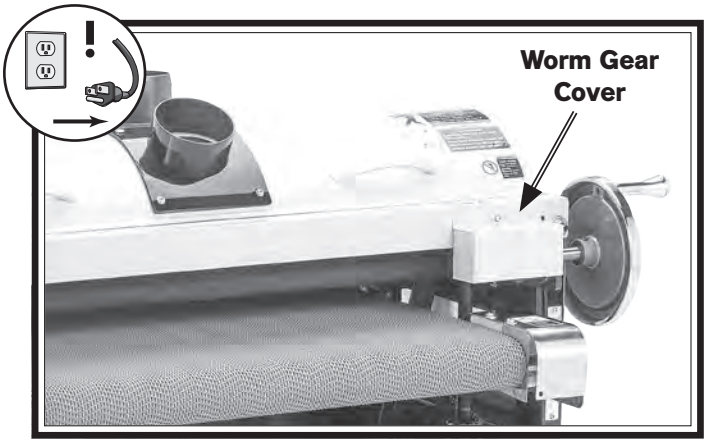


Figure 33. Location of worm gear cover.

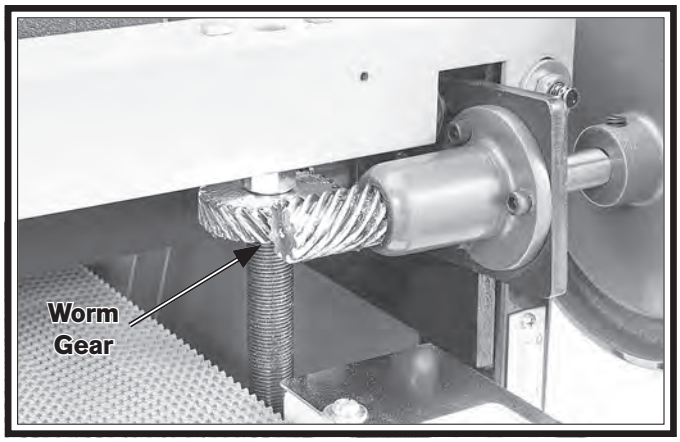


Figure 34. Location of worm gear.

3. Install cover with screw removed in **Step 2**.

Leadscrews, Chain & Sprockets

Oil Type ..... ISO 68 or Equivalent Light Oil
Oil Amount ..... As Needed
Oil Frequency ..... Monthly

Items Needed:	Qty
Brass Wire Brush	1
Shop Rags	As Needed
Mineral Spirits	As Needed
Small Brush	1
Phillips Screwdriver #2	1

The leadscrews and chain will acquire some dust buildup over time. To keep these clean and your table adjustments moving freely, brush them with a soft wire brush, then apply a small amount of light oil. Rotate the gears to distribute the oil.

To access leadscrews, chain, and sprockets:

1. DISCONNECT MACHINE FROM POWER!

2. Raise table as far as it will go, as shown in **Figure 35**).

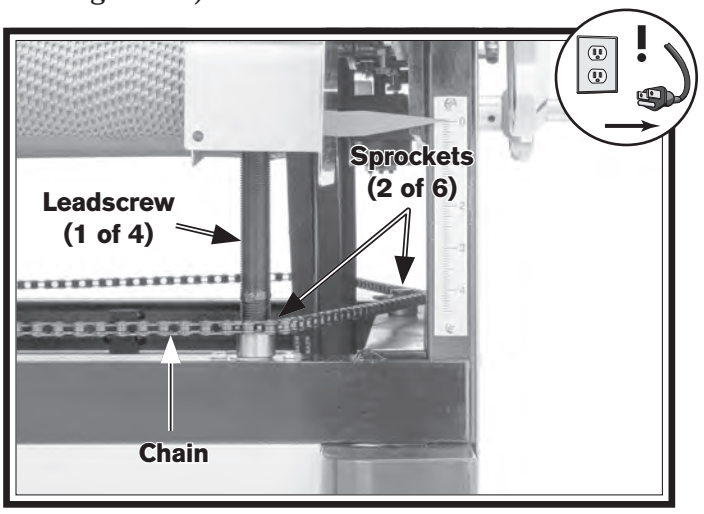


Figure 35. Location of leadscrew, chain, and sprockets.

Aligning Drums

For the Model SB1102 Drum Sander to function properly, the sanding drums must be aligned in two directions: 1) perpendicular to feed direction (see **Figure 36)** and 2) parallel to the conveyor belt (see **Figure 37).**

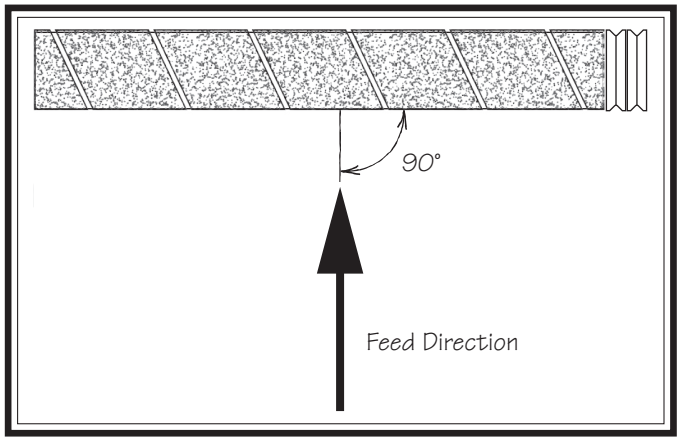


Figure 36. Feed direction perpendicular to sanding drum (viewed from top of machine).

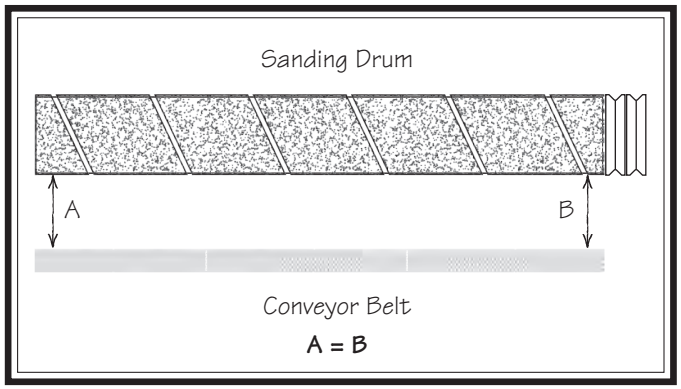


Figure 37. Sanding drum parallel to conveyor belt (viewed from front of machine).

⚠CAUTION

Improper drum alignment could cause an uncontrolled exit of material from the machine—which could result in damage to property, premature wear and failure of sandpaper, or personal injury.

Adjusting Sanding Drums Perpendicular to Feed Direction

Items Needed	Qty
Tape Measure	1
Open-End or Socket Wrench 9/16"	1
Small Hammer	1
1" Wooden Dowel (or similar)	1

To adjust drums perpendicular to feed direction:

1. DISCONNECT MACHINE FROM POWER!

2. Measure distances between closest point of outside of front sanding drum and inside of front brace on both ends of drum, as shown in **Figure 38.**

   — If distances *are* within 1/8" of one another, no adjustment is necessary. Proceed to **Step 3.**

   — If distances *are not* within 1/8" of one another, infeed sanding drum needs to be aligned. Proceed to **Step 3.**

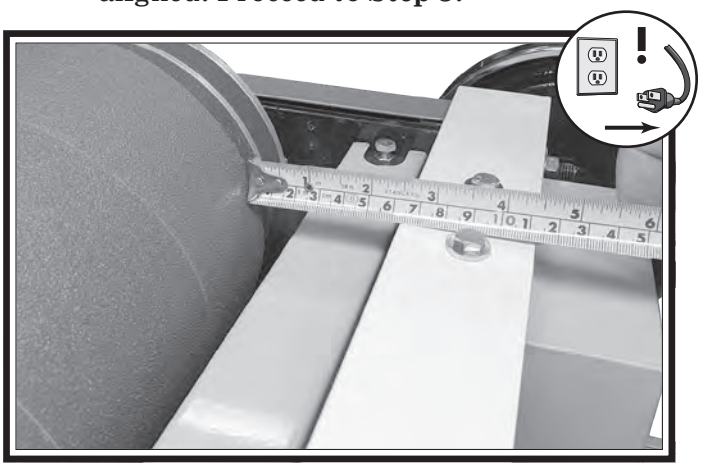


Figure 38. Example of measuring front drum to brace.

3. Repeat **Step 2** on rear sanding drum.

   — If distances *are* within 1/8" of one another, no adjustment is necessary.

   — If distances *are not* within 1/8" of one another, outfeed sanding drum needs to be aligned. Proceed to **Step 4.**

Note: *If sanding drums are not perpendicular to feed direction, sandpaper will creep toward one end of drum during operation and tear.*

Note: *If possible, make adjustments from the side of drum WITHOUT the drive belts to avoid unnecessary adjustments to the belt tension. If you need to make adjustments to the side with the drive belts, the belt tension will need to first be loosened and re-tensioned after making bearing block adjustments. For information about belt tensioning, see* ***V-Belt Tension*** *on* **Page 37**.

4. Loosen lock nuts on bearing blocks (see **Figure 39**).

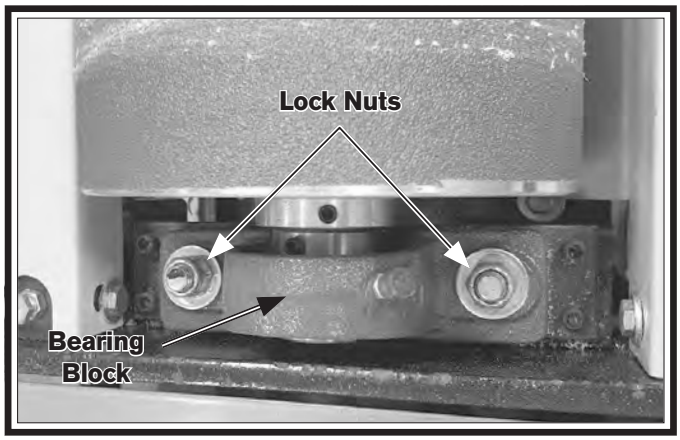


Figure 39. Bearing block lock nut location.

5. With a wooden dowel and hammer, gently tap bearing block in the direction it needs to move (see **Figure 40**).

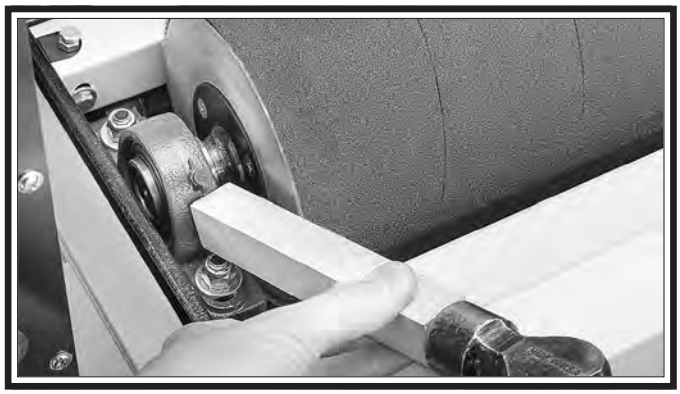


Figure 40. Example of tapping bearing block.

6. Measure distances again and repeat as needed until drums are ⅛" or less of being parallel with the brace.

7. Tighten lock nuts and recheck alignment.

Note: *DO NOT over tighten lock nuts. Bearing blocks will break if over tightened.*

Adjusting Sanding Drums Parallel to Conveyor Belt

Items Needed	Qty
Gauge Blocks (2" x 4" x 20")	2
Open-End or Socket Wrench 9/16"	1
Hex Wrench 5/32"	1

Note: *When making the gauge blocks, use a good quality, square, flat piece of material. Store them in a safe place so they can be used for future adjustments.*

To adjust sanding drums parallel to feed belt:

1. DISCONNECT MACHINE FROM POWER!

2. Remove sandpaper (refer to **Installing/ Replacing Sandpaper** on **Page 23**).

3. Lower table so gauge blocks slide easily under pressure bars. Slide gauge blocks to either side of table with front edges lined up with front of table. Be sure gauges are only under front sanding drum.

4. Raise table so gauge block touches infeed pressure roller, and then raise table one full turn of handwheel (see **Figure 41**).

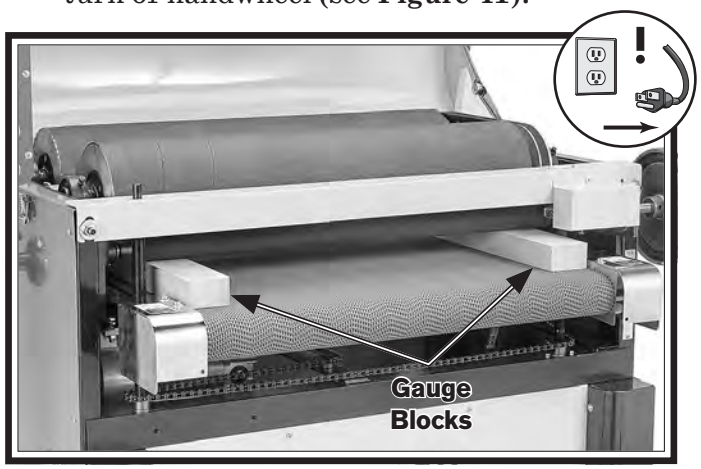


Figure 41. Example of gauge block placement.

Note: *The sanding drum should touch the gauge blocks and still be able to rotate with moderate force. The drum should touch each gauge with equal resistance on both gauges.*

— If drum *is* aligned equally on both gauges, no adjustment is necessary. Proceed to **Step 8**.

— If drum *is not* aligned equally on both gauges. Proceed to **Step 5**.

5. Adjust height of right side of sanding drum so it just touches gauge block and is able to rotate back and forth with moderate resistance. Refer to **Adjusting Drum Height**, the procedure that follows this one.

6. Mark location of handwheel with a felt pen or pice of tape. In same manner, mark height of table in relation to body of sander. Both marks indicate exact table position, referred to as *Reference Height #1* (see **Figure 42**).

Note: *Having Reference Height #1 marked is crucial to all subsequent steps.*

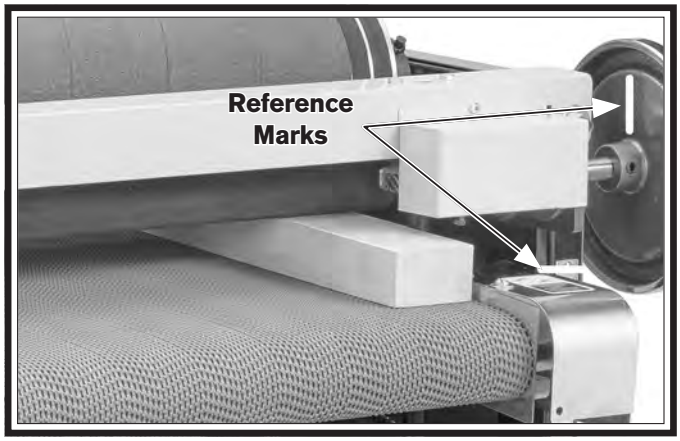


Figure 42. Reference Height #1.

7. Lower table two full turns of handwheel. Remove gauge block and re-insert it on left side of table. Take care to line it up with front of table just as it was done on previous side.

8. Raise table two full turns of handwheel to bring it back up to *Reference Height #1*.

9. Set height of front sanding drum to gauge block.

10. Rotate front sanding drum back and forth. It should feel and sound as it did in **Step 5**. If not, adjust drum height again. Continue this process, going back and forth, until both sides of drum feel and sound the same.

11. Using table depth scale, lower table $\frac{1}{8}$ turn from *Reference Height #1* and mark location of handwheel and table in relation to the body of sander. Both these marks indicate exact table position (referred to as *Reference Height #2*).

12. Lower table two full turns.

13. Insert gauge blocks under rear drum, with edge of block even with rear of table.

14. Raise table to *Reference Height #2*.

15. Loosen micro-adjustment lock levers, then use micro-adjustment knobs to adjust rear drum to gauge blocks until rear drum feels and sounds similar to front drum.

Note: *The rear drum should always be slightly lower than the front drum. The actual difference will vary depending on wood type, feed rate, sandpaper grits, etc. Once familiar with the adjustment process, experiment to determine the best settings for your specific application.*

Adjusting Sanding Drum Height

Items Needed	Qty
2x4 Gauge Blocks (2" x 4" x 20")	2
Open-End or Socket Wrench 9/16"	1
Hex Wrench 5/32"	1

To adjust sanding drum height:

1. DISCONNECT MACHINE FROM POWER!

2. Loosen lock nuts (see **Figure 41**) on bearing block on side of drum requiring adjustment.

3. Raise or lower bearing block by rotating set screws (see **Figure 43**). Turn very gradually—1/8 turn or less.

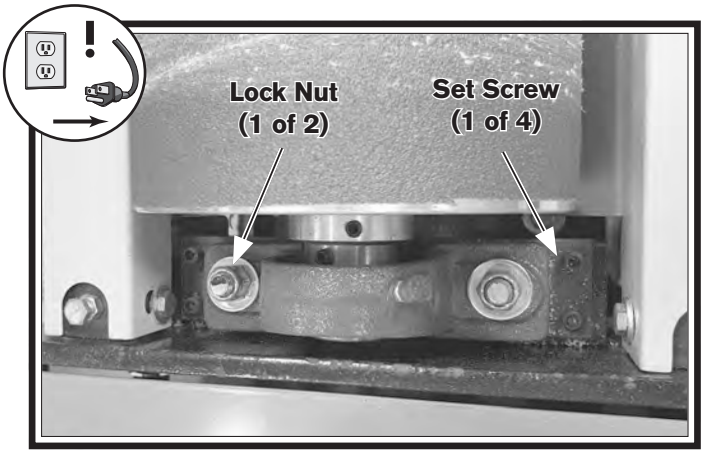


Figure 43. Bearing block components.

4. Tighten lock nuts and re-check alignment using gauge block.

   Note: *Tightening lock nuts pulls sanding drum slightly downward. Re-adjust set screws as necessary to compensate for this movement. DO NOT overtighten lock nuts. Bearing blocks will break if overtightened. Also, DO NOT change table height until the lock nuts are tight.*

5. Repeat **Steps 2–4** on other side of drum.

   Note: *Model SB1102 has micro-adjustment controls on sides of machine for rear sanding drum adjustments (see **Figure 44**)*

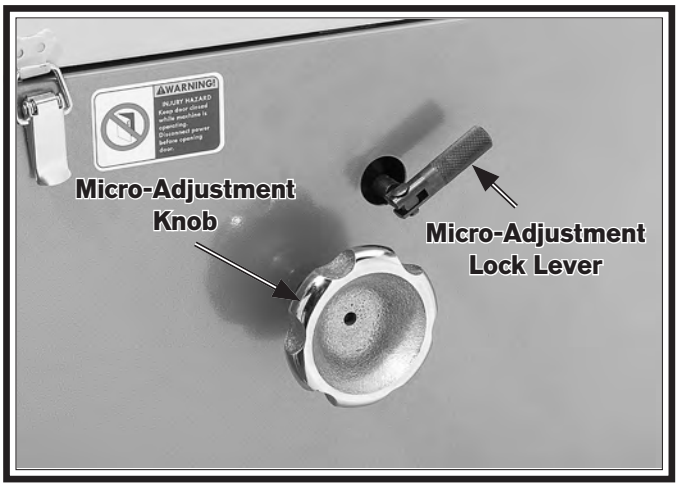


Figure 44. Rear drum micro-adjustment controls.

Adjusting Pressure Rollers

Proper pressure on the workpiece helps avoid kickback and keeps the workpiece from slipping. However, as pressure increases on the workpiece, snipe also increases (snipe is normal with all brands of drum sanders).

If snipe becomes a problem, you can minimize it by a combination of reducing pressure and/or adjusting pressure roller height. However, you can only minimize it so much before the workpiece will slip or kick out, causing a hazard to the operator. If this happens, you have raised the pressure rollers too high or decreased pressure too much for them to function as intended—the pressure rollers MUST properly adjusted to prevent injury.

Before adjusting pressure roller height, first make sure that the drums are correctly adjusted. Refer to **Aligning Drums** on **Page 31**.

Adjusting Pressure Roller Height

Items Needed:	Qty
2x4 Gauge Blocks (2" x 4" x 20")	2
Open-End Wrench 10mm	1

1. DISCONNECT MACHINE FROM POWER!

2. With gauge blocks in place at front of conveyor, position blocks so they are under front and center pressure rollers as shown in **Figure 45**.

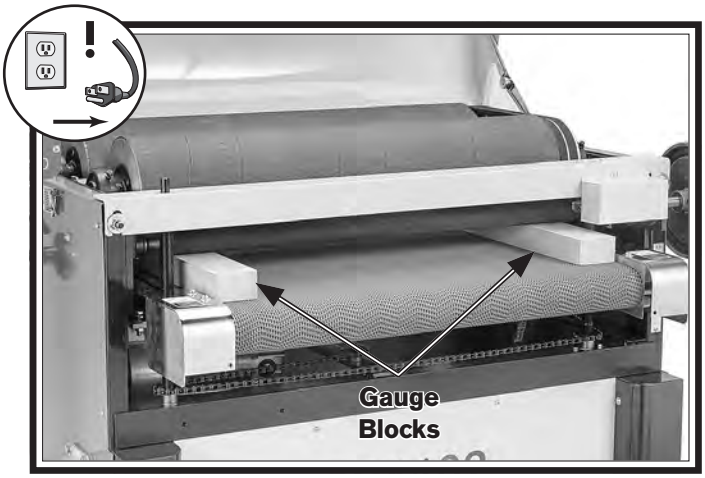


Figure 45. Gauge block positioning.

3. Raise table until gauge blocks just touch front sanding drum, then lower table 1 full turn of handwheel.

4. Beginning with front pressure roller, loosen jam nuts on pressure roller height adjustment bolts (see **Figure 46**).

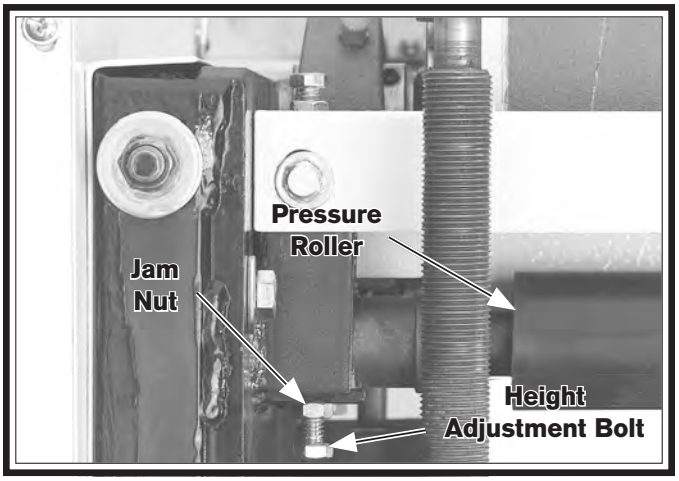


Figure 46. Location of pressure roller height bolts and jam nuts.

5. Rotate pressure roller height adjustment bolts (clockwise to raise pressure roller, counterclockwise to lower), until pressure roller touches the gauge blocks on both sides.

6. Hold height bolt in position and tighten jam nut on both sides of pressure roller.

7. Repeat **Steps 4–6** for middle pressure roller.

8. Lower table 1–2 turns, then move gauge blocks toward rear of conveyor and under rear sanding drum.

9. Raise table until gauge blocks just touch rear sanding drum, then lower table one full turn of handwheel.

10. Repeat **Steps 4–6** on rear pressure roller.

Note: *Adjusting pressure roller height will affect the pressure roller tension. Verify that pressure rollers are properly tensioned after adjusting pressure roller height. Refer to **Adjusting Pressure Roller Tension** on **Next Page**.*

Adjusting Pressure Roller Tension

Items Needed: **Qty**
Open-End Wrench 10mm 1

1. DISCONNECT MACHINE FROM POWER!

2. Open dust hood.

3. Starting with the front pressure roller, loosen jam nuts on both sides, and rotate tension bolts counterclockwise until they no longer touch tension springs (see **Figure 47**).

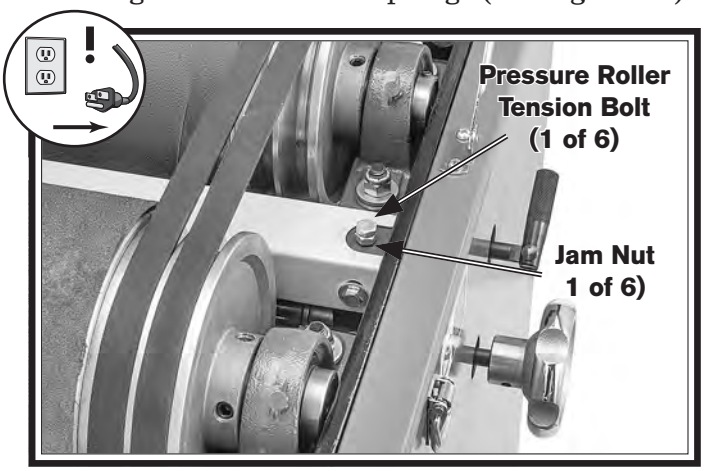


Figure 47. Location of pressure roller tension bolts.

4. Turn one tension bolt clockwise until it just makes contact with the spring and has resistance.

5. Turn bolt one additional turn to adjust the spring to a basic spring tension value.

6. Repeat **Steps 3–4** on other side of pressure roller.

7. Hold the tension bolts in position and tighten the tension jam nuts.

8. Repeat **Steps 3–5** for middle and rear pressure rollers..

Note: *These adjustments should be used as a starting point. Once you are familiar with the adjustment process, you should experiment to determine the best settings for your specific application.*

Adjusting Dust Scoop

The Model SB1102 features a dust scoop for each drum. Dust scoops reduce the amount of dust that accumulates on the workpiece as it travels through the sander. Dust scoops are adjustable and should be set approximately 1/32'' above the bottom of the drum for optimum effectiveness.

Items Needed: **Qty**
Open-End Wrench 10mm 1
Gauge Blocks (2" x 4" x 20") 1

To adjust dust scoop:

1. DISCONNECT MACHINE FROM POWER!

2. Place (2) gauge blocks of equal height under rear sanding drum and dust scoop. Raise table until gauge blocks just touch sanding drum.

3. Loosen dust scoop mounting bolts located at each end of scoop (see **Figure 48**).

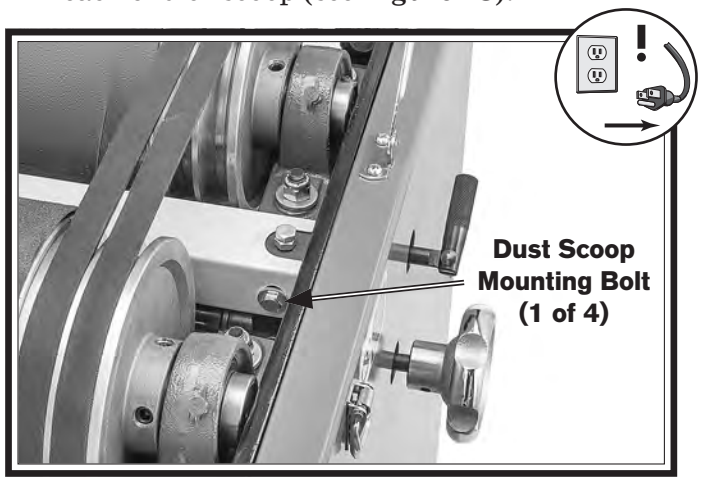


Figure 48. Location of dust scoop mounting bolts.

4. Move scoop up or down until it is approximately 1/32'' above gauge blocks. Some flexing of sheet metal assembly may be needed to get the proper clearance. Retighten the mounting bolts and remove gauge blocks.

Adjusting Conveyor Belt Tension & Tracking

The conveyor belt tension and tracking adjustments are controlled by the adjustment bolts located at each end of the front and rear conveyor rollers. If the conveyor belt is too loose or tracks off to one side, it must be adjusted.

Items Needed:	Qty
Open-End Wrench 19mm	1
Phillips Screwdriver #2	1

To adjust conveyor belt tension and tracking:

1. Turn machine *ON* and observe conveyor belt tension and tracking. Be patient, belt tracks slowly.

2. DISCONNECT MACHINE FROM POWER!

3. Remove roller bracket guards.

⚠WARNING

Always make conveyor belt adjustments at infeed end to avoid re-adjusting conveyor drive chain. Conveyor belt tracking adjustments must be made while the conveyor belt is running. Use extreme care to ensure that clothing, hair or jewelry is kept safely away from moving parts.

4. To make conveyor belt tension and tracking adjustments, do the following:

   — If belt slips on rollers, rotate both roller adjustment bolts evenly (see **Figure 49**) counterclockwise to increase belt tension.

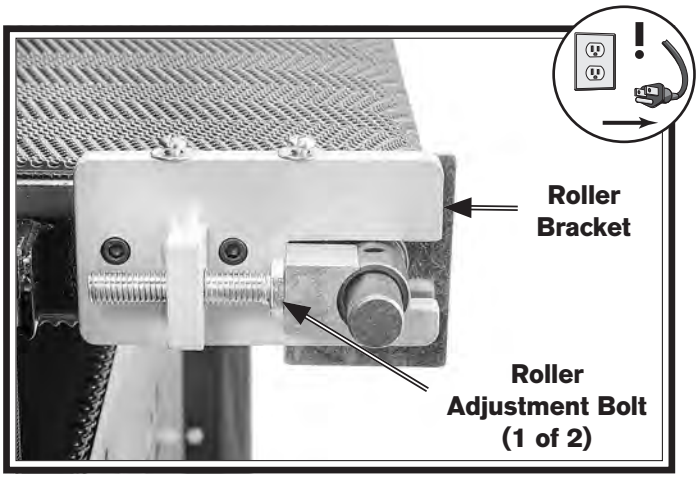


Figure 49. Location of conveyor roller adjustment bolts.

   — If belt tracks toward right, rotate right-side roller adjustment bolt counterclockwise to move belt left.

   — If belt tracks toward left, rotate right-side roller adjustment bolt clockwise to move belt right.

5. After adjustments are made, run machine for approximately 15 minutes to watch the tension or tracking adjustments you made. Be patient, belt tracks slowly.

6. Re-install roller bracket guards.

Adjusting/Replacing V-Belts

Items Needed:

- Open-End or Socket Wrench 17mm
- Straightedge (at least 24")
- Tape Measure
- Phillips Screwdriver #2
- Hex Wrench 5mm
- Hex Wrench 3mm

V-Belt Tension

New V-belts often stretch and loosen up during the first 16 hours of use. After this period, they should be inspected and re-tensioned if necessary. Replace V-belts if you notice fraying, cracking, glazing, or any other damage. A worn/damaged belt will not provide optimum power transfer from the motor to the drums.

The sanding drums are driven by two V-belts. The belts must have proper tension for optimum power transfer. However, too much tension may cause premature bearing failure. Proper tension is achieved when the belts deflect about ¾" with moderate finger pressure at the midpoint between the drum pulley and the motor pulleys (see **Figure 50**).

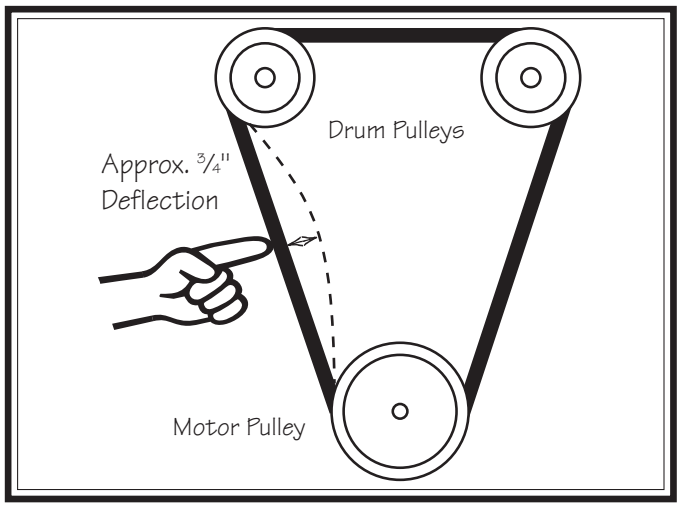


Figure 50. Proper V-belt deflection.

⚠CAUTION

Belts and pulleys will be hot after operation. Allow them to cool before handling.

⚠CAUTION

Always inspect V-belts for damage or deterioration when adjusting tension. Should you find evidence of fraying, cracking, or other damage, replace the belt immediately. Belt breakage could lead to mechanical damage or operator injury.

To adjust V-belt tension:

1. DISCONNECT MACHINE FROM POWER!

2. Remove (8) #8 x ⅜" tap screws, as shown in **Figure 51**, then remove rear panel.

Figure 51. Front panel machine screws.

3. Loosen (4) motor mount hex bolts as shown in **Figure 52**. DO NOT remove bolts!

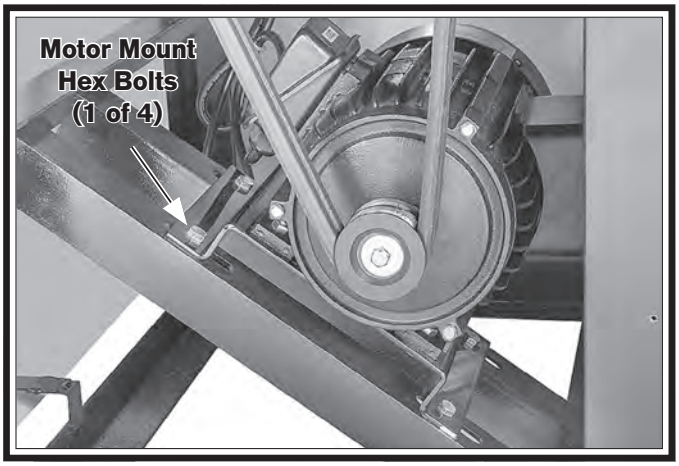


Figure 52. Locations of motor mount bolts. (shown from side for clarity).

4. Press down on motor to add tension to the belt, then tighten motor mount hex bolts.

5. Check V-belt tension (see **Figure 50** on **Page 37**). If necessary, repeat **Steps 3–4** until belts are properly tensioned, then tighten hex bolts.

6. Install rear panel.

V-Belt Removal/Replacement

Replace the V-belts if you notice fraying, cracking, glazing, or any other damage. A worn/damaged V-belt will not provide optimum power transmission from the motor to the drums.

V-belt removal and replacement is simply a matter of raising the motor and loosening the V-belts until you can roll them off the pulleys, replacing them with a MATCHED set, then re-tensioning them. Always replace both belts at the same time with a new matched set.

Note: *A matched set means both the V-belts are the same size and also have the same belt type number.*

Pulley Alignment

Pulley alignment is another important factor in power transmission and belt life. The pulleys should be parallel to each other and in the same plane (coplaner) for optimum performance.

Each pulley can be adjusted by loosening the set screw that secures the pulley to the shaft, sliding the pulley in/out, and retightening the set screw to lock the pulley in place.

⚠CAUTION

Belts and pulleys will be hot after operation. Allow them to cool before handling.

To align pulleys:

1. DISCONNECT MACHINE FROM POWER!

2. Perform **Steps 1–3** of **V-Belt Tension** on **Page 37**, then remove V-belts.

3. Place straightedge across face of motor pulley and front drum pulley to check alignment. The straightedge should sit evenly on top and bottom part of both pulleys.

4. Repeat **Step 3** with straightedge placed against motor pulley and rear drum pulley.

5. Loosen pulleys and adjust them as necessary until they are all coplanar with each other, and then tighten set screws.

6. Install and properly tension V-belts, tighten motor mount fasteners.

7. Install rear panel.

Replacing Bearings

The Model SB1102 is designed for many years of reliable service. But after long periods of heavy use, it may be necessary to replace the pillow block bearings. Always replace both bearings on the same drum at the same time.

Items Needed:	Qty
Cartridge Bearing (PSB1102081)	2 Per Drum
T26419 or NLGI#2 Equivalent	As Needed
Wrench or Socket 9/16"	1
Hex Wrench 3mm	1
Shop Rags	As Needed

To replace bearings:

1. DISCONNECT MACHINE FROM POWER!

2. Perform **Steps 1–3** of **V-Belt Tension** on **Page 37**, then remove V-belts.

3. Remove lock nut and flat washer from bearing block assembly on each side of drum (see **Figure 53**).

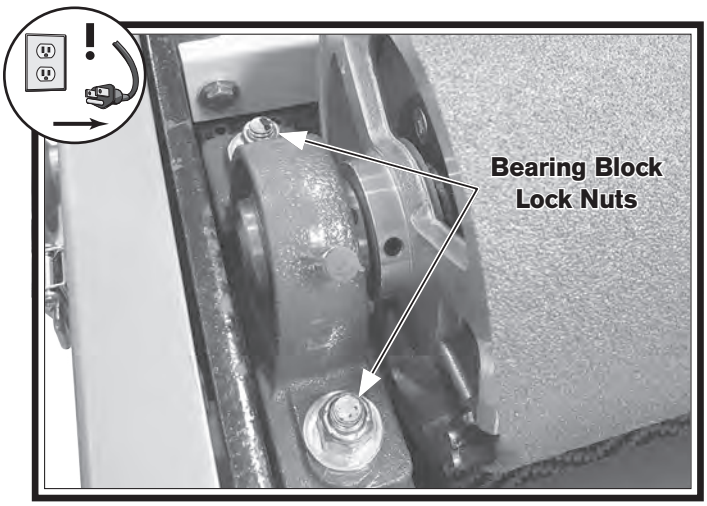


Figure 53. Bearing block lock nut locations.

4. Carefully lift drum up and out of the machine and place on flat, stable surface.

5. Loosen (2) bearing set screws, as shown in **Figure 54**, then remove bearing and bearing block from drum spindle.

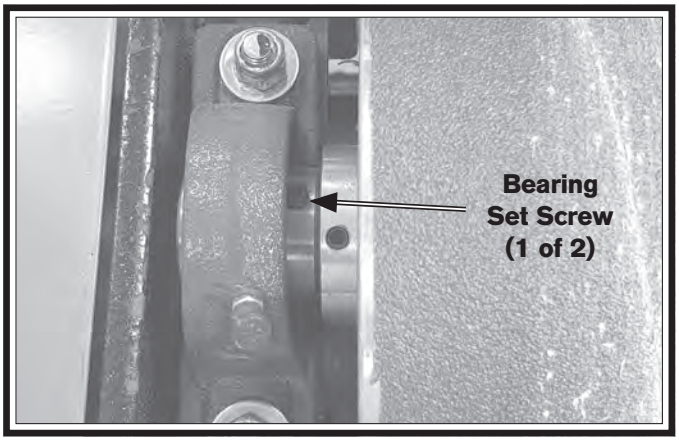


Figure 54. Location of bearing set screw.

6. Clean and inspect drum spindle for damage or unusual wear.

7. Slide new bearing and bearing block into place on the drum shaft. Do not tighten set screws until next step.

NOTICE

DO NOT hammer on the bearing or housing as you WILL damage these precision parts.

8. Install drum to mounting blocks, then tighten bearing set screws.

9. Follow steps for **Aligning Drums** shown on **Page 30**.

10. Install belts and follow steps for **V-Belt Tension** on **Page 37**).

11. Install rear panel.

Replacing Conveyor Motor Brushes

After long periods of heavy use, the conveyor motor brushes may wear out and need to be replaced. Always replace both motor brushes at the same time.

Items Needed	Qty
Phillips Screwdriver #2	1
Flat Head Screwdriver	2
Motor Brushes (Part# PSB1102039V3-1)	1 Set

To replace motor brushes:

1. DISCONNECT MACHINE FROM POWER!

2. Turn table height handwheel clockwise to raise table to highest position.

3. Remove (8) #8 x ⅜" tap screws, as shown in **Figure 55**, then remove rear panel.

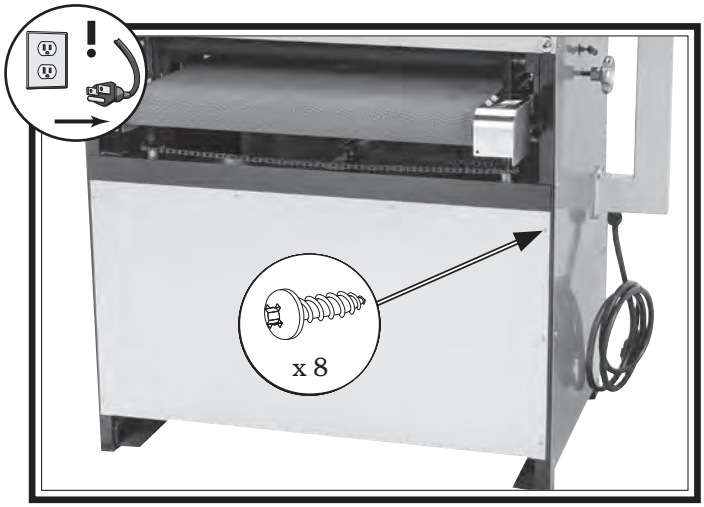


Figure 55. Location of rear panel screws.

4. Remove motor brush cover, then remove spring and carbon brush, (see **Figure 56**).

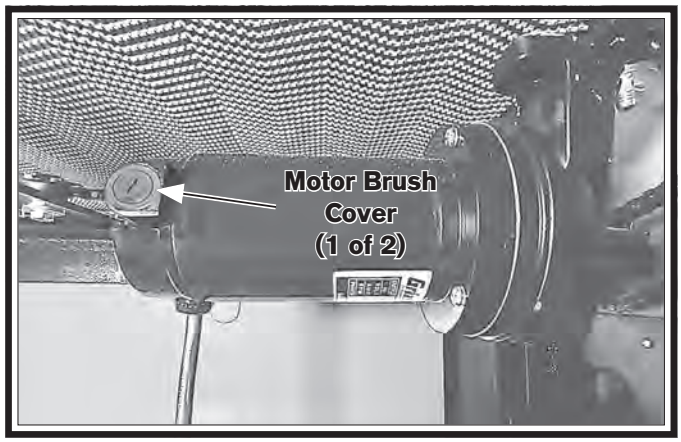


Figure 56. Location of motor brush cover (1 of 2).

5. Carefully insert new carbon brush and spring (see **Figure 57**), then install brush cover.

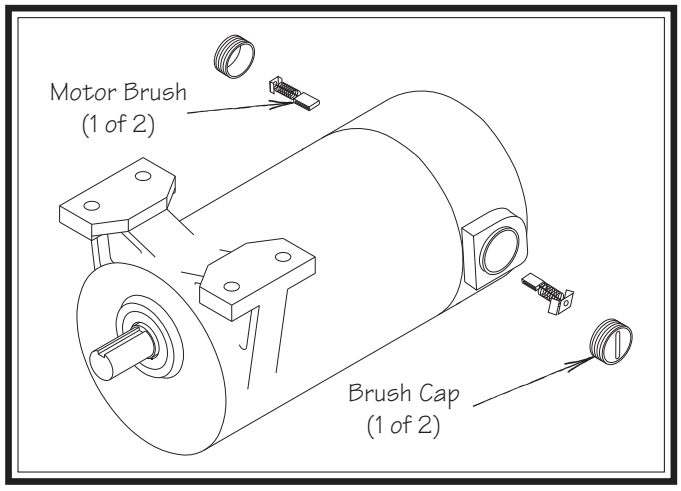


Figure 57. Conveyor motor brush.

6. Repeat **Steps 4–5** for other side.

7. Install rear panel.

If you need replacement parts, or if you are unsure how to do any of the solutions given here, feel free to call us at (360) 734-1540.

Symptom	Possible Cause	Possible Solution
Machine does not start or power supply breaker immediately trips after start-up.	1. Emergency Stop button depressed/at fault.	1. Rotate Emergency Stop button to reset. Replace if at fault.
	2. Blown machine fuse.	2. Replace fuse/ensure no shorts.
	3. Incorrect power supply voltage or circuit size.	3. Ensure correct power supply voltage and circuit size.
	4. Plug/receptacle at fault/wired incorrectly.	4. Test for good contacts; correct the wiring.
	5. Power supply circuit breaker tripped or fuse blown.	5. Ensure circuit is free of shorts. Reset circuit breaker or replace fuse.
	6. Motor wires connected incorrectly.	6. Correct motor wiring connections.
	7. Thermal overload relay has tripped/at fault.	7. Reset. Adjust or replace if at fault.
	8. Start capacitor at fault.	8. Test/replace if at fault.
	9. Centrifugal switch/contact points at fault.	9. Adjust centrifugal switch/clean contact points. Replace either if at fault.
	10. Contactor not energized/at fault.	10. Test all legs for power; replace if necessary.
	11. Wiring broken, disconnected, or corroded.	11. Fix broken wires or disconnected/corroded connections.
	12. Conveyor motor brushes worn out.	12. Replace brushes **(Page 40)**.
	13. Start button at fault.	13. Inspect/replace if at fault.
	14. Potentiometer at fault.	14. Inspect/replace if at fault.
	15. Circuit board at fault.	15. Inspect/replace if at fault.
	16. Motor or bearings at fault.	16. Replace motor.
Machine stalls or is underpowered.	1. Workpiece material not suitable for machine.	1. Only sand wood/ensure moisture is below 20% **(Page 19)**.
	2. Feed rate too fast.	2. Decrease feed rate **(Page 22)**.
	3. Excessive depth of cut.	3. Reduce depth of cut **(Page 21)**.
	4. Potentiometer at fault	4. Test/replace if at fault.
	5. Circuit board at fault.	5. Inspect/replace if at fault.
	6. V-Belts slipping/pulleys misaligned.	6. Tension/replace V-belts **(Page 37)**; ensure pulleys are aligned.
	7. Motor wired incorrectly.	7. Wire motor correctly.
	8. Conveyor motor brushes worn out.	8. Replace brushes **(Page 40)**.
	9. Plug/receptacle at fault.	9. Test for good contacts; correct wiring.
	10. Pulley slipping on shaft.	10. Tighten/replace loose pulley/shaft.
	11. Motor overheated.	11. Clean motor, let cool, and reduce workload.
	12. Run capacitor at fault.	12. Test/repair/replace.
	13. Extension cord too long.	13. Move machine closer to power supply; use shorter extension cord.
	14. Contactor not energized/at fault.	14. Test all legs for power; repair/replace if at fault.
	15. Centrifugal switch/contact points at fault.	15. Adjust centrifugal switch/clean contact points. Replace either if at fault.
	16. Motor or bearings at fault.	16. Replace motor.

Symptom	Possible Cause	Possible Solution
Machine has vibration or noisy operation.	**1.** Sandpaper is loose. **2.** Motor or component loose. **3.** Machine not stable on floor. **4.** V-Belts worn or loose. **5.** Pulley loose. **6.** Motor fan rubbing on fan cover. **7.** Drum bearings at fault. **8.** Centrifugal switch/contact points at fault. **9.** Motor bearings at fault.	**1.** Inspect and reinstall sandpaper **(Page 23)**. **2.** Replace damaged or missing bolts/nuts or tighten if loose. **3.** Relocate/shim machine; adjust machine mounts; tighten mounting bolts. **4.** Inspect/replace V-belts with new matched set **(Page 37)**; realign pulleys if necessary **(Page 38)**. **5.** Secure pulley on shaft. **6.** Fix/replace fan cover; fix/replace loose/damaged fan. **7.** Replace drum bearings **(Page 39)**. **8.** Adjust centrifugal switch/clean contact points. Replace either if at fault. **9.** Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.
Machine slows when sanding, making squealing noise, especially on start-up.	**1.** Belts loose or worn.	**1.** Tension/replace belts **(Page 37)**.
Grinding, screeching, or rubbing noise when sanding drums are powered up.	**1.** Drum bearings insufficiently lubricated. **2.** Drum bearings need replacement.	**1.** Lubricate drum bearings **(Page 28)**. **2.** Replace drum bearings **(Page 39)**.
Machine lacks power; drums stop turning under load.	**1.** Too much pressure on sanding drum. **2.** Belts loose or worn.	**1.** Reduce depth of cut **(Page 21)**. **2.** Tension/replace belts **(Page 37)**.
Short V-belt lifespan.	**1.** Belts improperly tensioned. **2.** Pulleys not aligned correctly.	**1.** Properly tension belts **(Page 37)**. **2.** Align pulleys **(Page 38)**.
Conveyor belt slips or does not track correctly.	**1.** Conveyor belt loose or worn. **2.** Workpiece too heavy. **3.** Belt tracking not properly adjusted **(Page 36)**. **4.** Belt tension not properly adjusted **(Page 36)**. **5.** Too much pressure from pressure rollers.	**1.** Properly tension/replace conveyor belt **(Page 36)**. **2.** Use lighter workpiece. **3.** Properly adjust belt tracking **(Page 36)**. **4.** Properly adjust belt tension **(Page 36)**. **5.** Reduce pressure roller pressure **(Page 34)**.
Workpiece pulls to one side during sanding operation.	**1.** Sanding drum(s) not perpendicular to feed direction. **2.** Sanding drum(s) not parallel with table.	**1.** Adjust sanding drum(s) perpendicular to feed direction **(Page 30)**. **2.** Adjust sanding drum(s) parallel to table **(Page 31)**.
Workpiece slips on conveyor or kicks out.	**1.** Pressure rollers not properly adjusted. **2.** Sanding depth of cut or feed rate too high.	**1.** Properly adjust pressure roller height **(Page 34)**. **2.** Reduce depth of cut or reduce feed rate **(Page 21)**.

Symptom	Possible Cause	Possible Solution
Excessive snipe.	1. Workpiece too long to be supported without additional help.	1. Use an assistant or roller stands/table on infeed and outfeed ends of conveyor to keep workpiece from bending.
	2. Improper pressure roller tension.	2. Adjust pressure rollers **(Page 34)**.
Sanding grains easily rub off roll.	1. Sandpaper stored in improper environment.	1. Replace damaged sandpaper **(Page 23)**; store sandpaper in cool, dry place.
	2. Sandpaper has been damaged or folded.	2. Replace damaged sandpaper **(Page 23)**; do not bend or fold sandpaper.
Sandpaper comes off drum or is loose.	1. Sandpaper not properly wrapped around drum.	1. Re-install sandpaper **(Page 23)**.
	2. Sandpaper not cut to correct dimensions.	2. Cut sandpaper to correct dimensions; re-install **(Page 23)**.
	3. Torn or damaged sandpaper.	3. Replace sandpaper **(Page 23)**.
	4. Sandpaper not tightened or fastened correctly.	4. Re-install sandpaper **(Page 23)**.
	5. Sanding drum not parallel with table.	5. Adjust sanding drum parallel with table **(Page 31)**.
	6. Foreign object in workpiece.	6. Sand only clean workpieces **(Page 19)**.
Glazed workpiece surface after sanding.	1. Sanding wet stock.	1. Only sand dry stock with moisture content below 20% **(Page 19)**.
	2. Sanding stock with high amount of applied finishes.	2. Use different stock, or accept characteristics of stock and plan to clean/replace sandpaper frequently; remove applied finishes before sanding.
	3. Sandpaper loaded with sawdust and gum.	3. Clean sandpaper **(Page 25)**.
	4. Sandpaper worn or damaged.	4. Replace sandpaper **(Page 23)**.
Burn marks on workpiece.	1. Using too fine of sandpaper grit for depth of cut/feed rate too slow.	1. Use coarser grit sandpaper, reduce depth of cut, and/or increase feed rate **(Page 19)**.
	2. Sandpaper loaded with sawdust and gum.	2. Clean sandpaper **(Page 25)**.
	3. Sandpaper not properly wrapped around drum.	3. Re-install sandpaper **(Page 23)**.
	4. Sandpaper worn or damaged.	4. Replace sandpaper **(Page 23)**.
Sandpaper clogs quickly.	1. Sanding depth of cut too much or feed rate too slow.	1. Reduce depth of cut or increase feed rate **(Page 21)**.
	2. Workpiece has high moisture content or sap.	2. Use different stock, or accept characteristics of stock and plan on cleaning/replacing sandpaper frequently; remove applied finishes before sanding.
	3. Incorrect sandpaper grit.	3. Use correct sandpaper grit for operation **(Page 19)**.
	4. Poor dust collection.	4. Unclog ducts; close gates to improve suction; re-design dust collection system.
	5. Sandpaper loaded with sawdust and gum.	5. Clean/replace sandpaper **(Page 25)**.
	6. Worn sandpaper.	6. Replace sandpaper **(Page 23)**.

Symptom	Possible Cause	Possible Solution
Sandpaper tears off drum.	**1.** Sanding drum not parallel with table. **2.** Sandpaper overlapping. **3.** Depth of cut too much.	**1.** Adjust sanding drum parallel to table **(Page 31)**. **2.** Re-install sandpaper **(Page 23)**. **3.** Reduce depth of cut **(Page 21)**.
Uneven workpiece thickness from side to side.	**1.** Elevation lock knob not tight and sanding drum deflects up. **2.** Conveyor belt not parallel to sanding drum. **3.** Conveyor belt worn.	**1.** Fully tighten elevation lock knob after setting elevation. **2.** Align conveyor belt with sanding drum **(Page 31)**. **3.** Replace conveyor belt.
Table elevation controls stiff and hard to adjust.	**1.** Table leadscrews dirty or loaded with sawdust. **2.** Elevation handle worm gear is dirty or loaded with sawdust. **3.** Lock nuts on idler roller sprocket tightened against roller.	**1.** Clean and regrease table leadscrews **(Page 29)**. **2.** Remove worm gear box, clean worm gear, and regrease it **(Page 29)**. **3.** Adjust lock nuts on idler roller sprocket so roller can spin freely.
Ripples or lines in workpiece.	**1.** Uneven feed rate. **2.** Sanding drum deflecting from workpiece. **3.** Conveyor belt flexing or vibrating.	**1.** Maintain even feed rate through entire sanding operation. **2.** Make sure elevation lock knob is tight. **3.** Reduce depth of cut or reduce feed rate. Tighten loose fasteners.
Poor dust collection.	**1.** Dust collection lines incorrectly sized for machine. **2.** Dust collector underpowered or too far from machine.	**1.** Use at least an 8" main line with two 6" branch lines that each Y into 4" dust ports at machine. **2.** Upgrade dust collector or decrease distance from dust collector to machine.

Electrical Safety Instructions

These pages are accurate at the time of printing. In the constant effort to improve, however, we may make changes to the electrical systems of future machines. Study this section carefully. If you see differences between your machine and what is shown in this section, call Technical Support at (360) 734-1540 for assistance BEFORE making any changes to the wiring on your machine.

Shock Hazard: It is extremely dangerous to perform electrical or wiring tasks while the machine is connected to the power source. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. For your own safety, disconnect machine from the power source before servicing electrical components or performing any wiring tasks!

Wire Connections: All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.

Modifications: Using aftermarket parts or modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire.

Motor Wiring: The motor wiring shown in these diagrams is current at the time of printing, but it may not match your machine. Always use the wiring diagram inside the motor junction box.

Circuit Requirements: Connecting the machine to an improperly sized circuit will greatly increase the risk of fire. To minimize this risk, only connect the machine to a power circuit that meets the minimum requirements given in this manual.

Capacitors/Inverters: Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

Wire/Component Damage: Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components before completing the task.

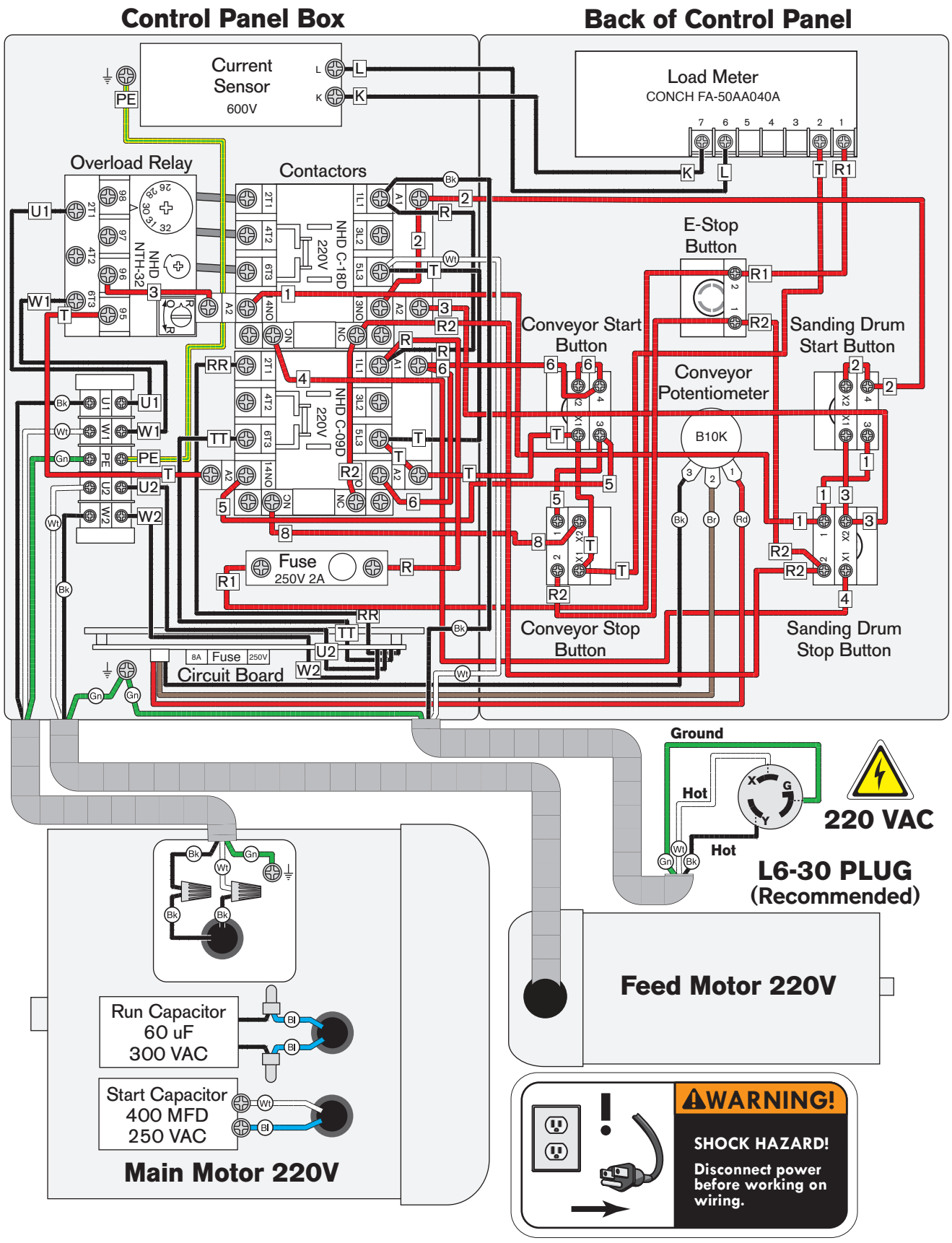
Experiencing Difficulties: If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (360) 734-1540.

WIRING DIAGRAM COLOR KEY

BLACK (Bk)	BLUE WHITE (Bw)	RED (Rd)	PINK (Pk)	WHITE (Wt)
BLUE (Bl)	GREEN (Gn)	LIGHT BLUE (Lb)	PURPLE (Pu)	YELLOW GREEN (Yg)
BROWN (Br)	GRAY (Gy)	ORANGE (Or)	TURQUIOSE (Tu)	YELLOW (Yl)

NOTICE: **The photos and diagrams included in this section are best viewed in color. You can see them in color at www.southbendtools.com.**

Wiring Diagram



Electrical Component Photos

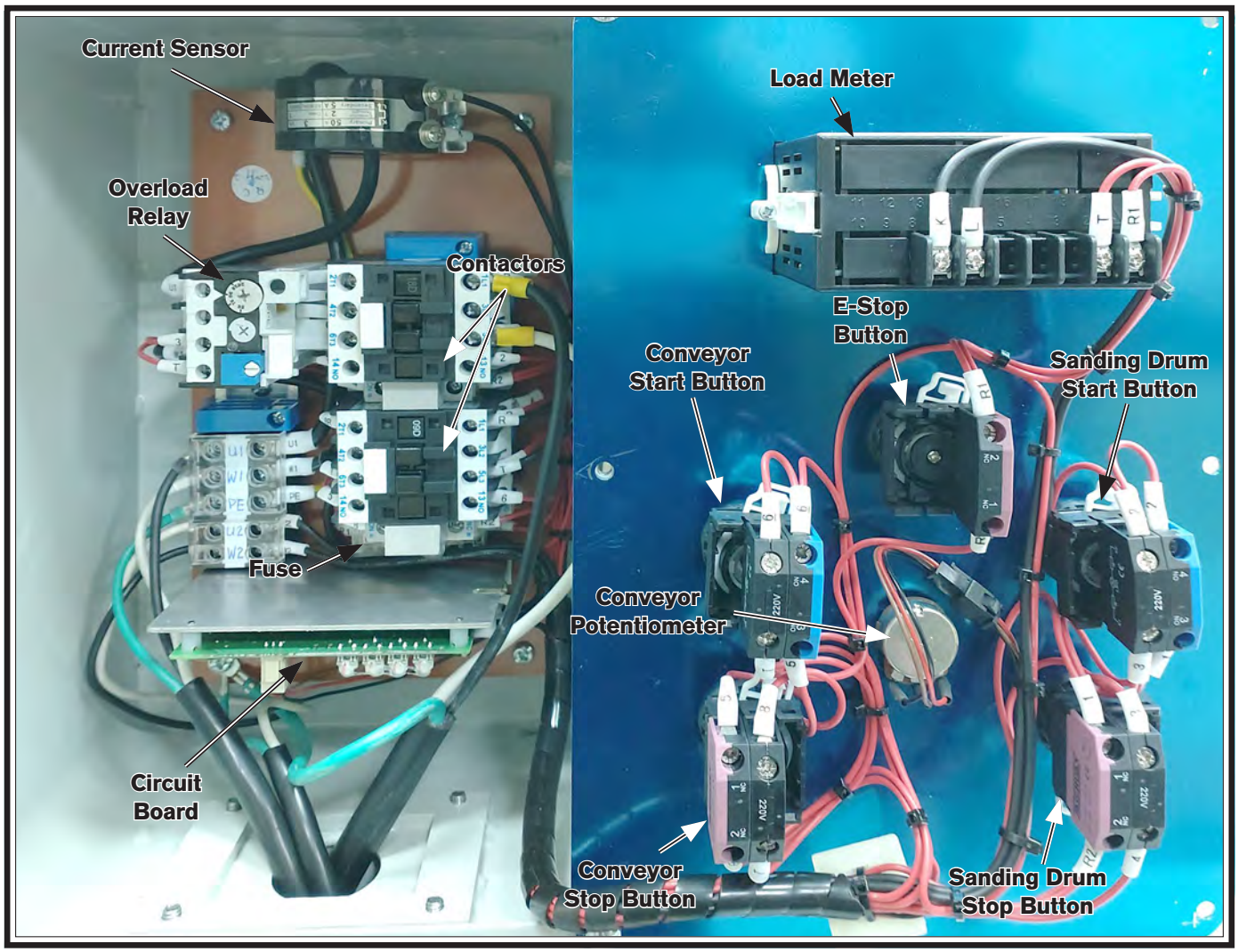
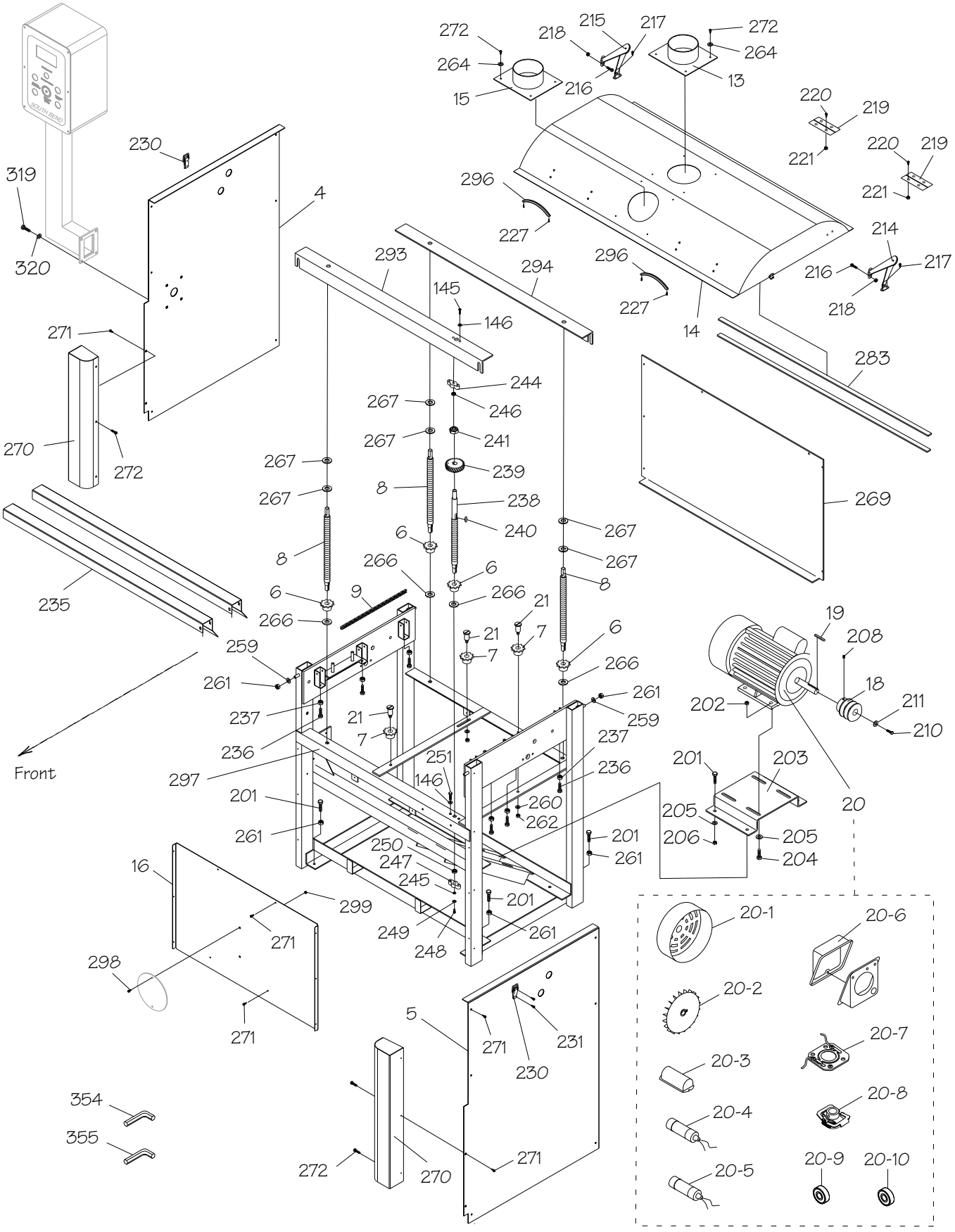


Figure 58. Control panel.

Figure 59. Main motor junction box.

Figure 60. Capacitors.

Stand & Motor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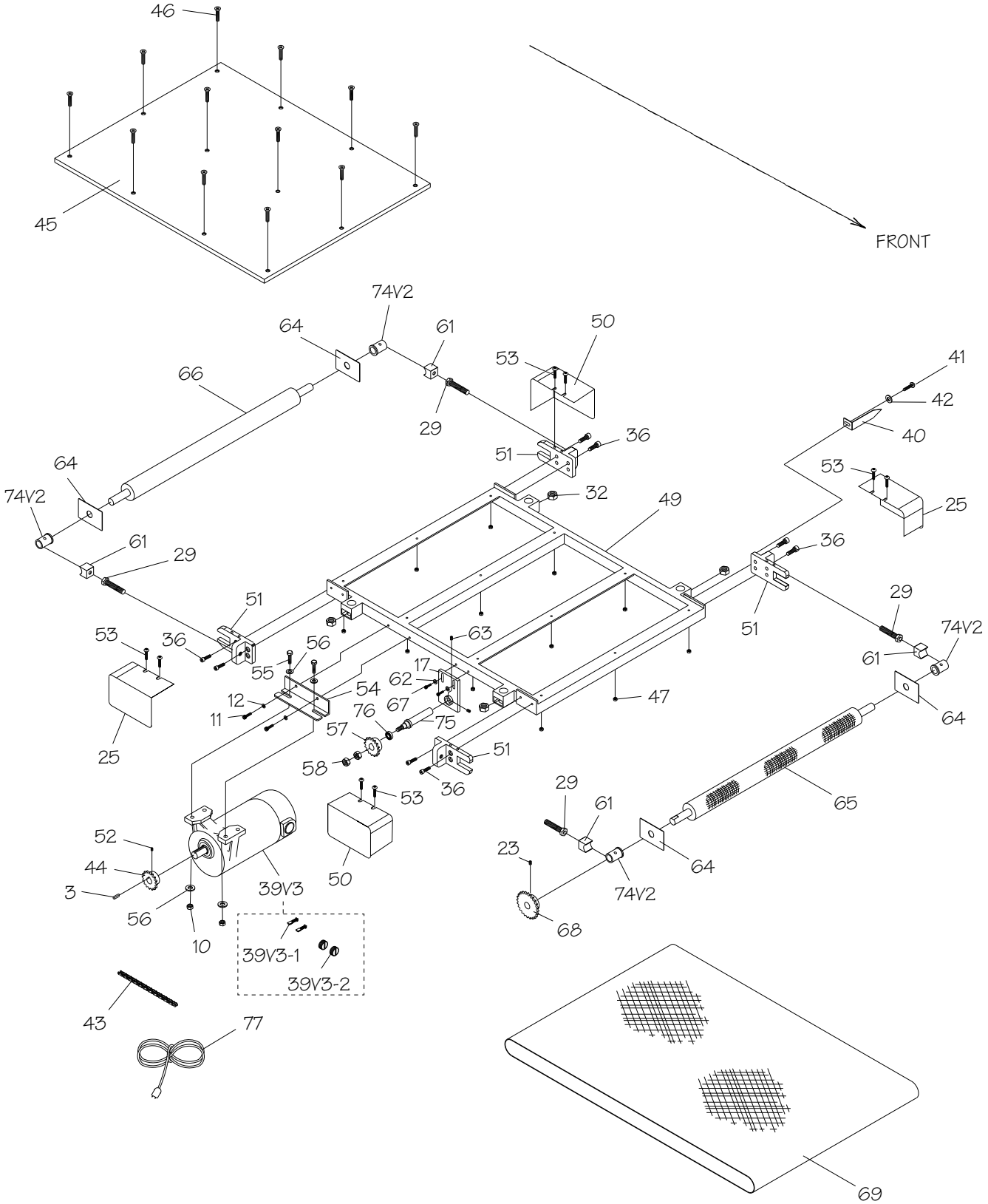
Stand & Motor Parts List

REF	PART #	DESCRIPTION
4	PSB1102004	SIDE PANEL LEFT
5	PSB1102005	SIDE PANEL RIGHT
6	PSB1102006	DRIVE SPROCKET 10T
7	PSB1102007	IDLER SPROCKET 10T
8	PSB1102008	TABLE LEADSCREW 3/4-16
9	PSB1102009	ELEVATION CHAIN
13	PSB1102013	DUST PORT 4" FLAT BASE
14	PSB1102014	DUST HOOD
15	PSB1102015	DUST PORT 4" CURVED BASE
16	PSB1102016	FRONT PANEL
18	PSB1102018	MOTOR PULLEY
19	PSB1102019	KEY 5 X 5 X 25 RE
20	PSB1102020	MOTOR 5HP 220V 1-PH
20-1	PSB1102020-1	FAN COVER
20-2	PSB1102020-2	MOTOR FAN
20-3	PSB1102020-3	CAPACITOR COVER
20-4	PSB1102020-4	S CAPACITOR 400M 250V 1-3/4 X 3-1/2
20-5	PSB1102020-5	R CAPACITOR 60M 300V 1-3/4 X 3-1/2
20-6	PSB1102020-6	MOTOR JUNCTION BOX
20-7	PSB1102020-7	CONTACT TYPE-1, 27 X 70, CPT 7MM
20-8	PSB1102020-8	CENTRIFUGAL SWITCH
20-9	PSB1102020-9	BALL BEARING 6205ZZ FRONT
20-10	PSB1102020-10	BALL BEARING 6203ZZ REAR
21	PSB1102021	IDLER SPROCKET SHAFT
145	PSB1102145	HEX BOLT 1/4-20 X 3/4
146	PSB1102146	FLAT WASHER 1/4
201	PSB1102201	HEX BOLT 3/8-16 X 1
202	PSB1102202	HEX NUT 3/8-16
203	PSB1102203	MOTOR BRACKET
204	PSB1102204	HEX BOLT 3/8-16 X 1
205	PSB1102205	FLAT WASHER 3/8
206	PSB1102206	HEX NUT 3/8-16
208	PSB1102208	SET SCREW 1/4-20 X 1/2
210	PSB1102210	HEX BOLT M8-1.25 X 24
211	PSB1102211	FENDER WASHER 3/8
214	PSB1102214	HOOD SUPPORT ARM RIGHT
215	PSB1102215	HOOD SUPPORT ARM LEFT
216	PSB1102216	PHLP HD SCR M4-.7 X 6
217	PSB1102217	TAP SCREW #8 X 3/8
218	PSB1102218	HEX NUT M4-.7
219	PSB1102219	HINGE
220	PSB1102220	PHLP HD SCR M4-.7 X 10

REF	PART #	DESCRIPTION
221	PSB1102221	LOCK NUT M4-.7
227	PSB1102227	FLANGE SCREW 8-32 X 1/4
230	PSB1102230	LATCH
231	PSB1102231	TAP SCREW #8 X 3/8
235	PSB1102235	DUST SCOOP
236	PSB1102236	HEX BOLT 1/4-20 X 3/4
237	PSB1102237	HEX NUT 1/4-20
238	PSB1102238	PRIMARY TABLE LEADSCREW 3/4-16
239	PSB1102239	GEAR 25T
240	PSB1102240	KEY 5 X 5 X 10
241	PSB1102241	LOCK NUT 1/2-13
244	PSB1102244	BEARING SEAT UPPER
245	PSB1102245	LOCK WASHER 5MM
246	PSB1102246	NEEDLE BEARING TLA-810
247	PSB1102247	BEARING SEAT LOWER
248	PSB1102248	PHLP HD SCR 10-24 X 1/2
249	PSB1102249	FLAT WASHER #10
250	PSB1102250	BALL BEARING 698ZZ
251	PSB1102251	HEX BOLT 1/4-20 X 3/4
259	PSB1102259	FLAT WASHER 3/8
260	PSB1102260	FLAT WASHER 5/16
261	PSB1102261	HEX NUT 3/8-16
262	PSB1102262	HEX NUT 5/16-18
264	PSB1102264	FLAT WASHER #8
266	PSB1102266	FLAT WASHER 1/2 X 1 X 1/32
267	PSB1102267	FLAT WASHER 1/2 X 13/16 X 3/32
269	PSB1102269	REAR PANEL
270	PSB1102270	SIDE BRACKET
271	PSB1102271	TAP SCREW #8 X 3/8
272	PSB1102272	TAP SCREW #8 X 1/2
283	PSB1102283	ADHESIVE FOAM STRIP
293	PSB1102293	BRACE FRONT
294	PSB1102294	BRACE REAR
296	PSB1102296	HANDLE
297	PSB1102297	FRAME
298	PSB1102298	PHLP HD SCR M6-1 X 8
299	PSB1102299	HEX NUT M6-1
319	PSB1102319	HEX BOLT 1/4-20 X 1/2
320	PSB1102320	FLAT WASHER 1/4
354	PSB1102354	HEX WRENCH 3MM
355	PSB1102355	HEX WRENCH 5MM

Conveyor Table

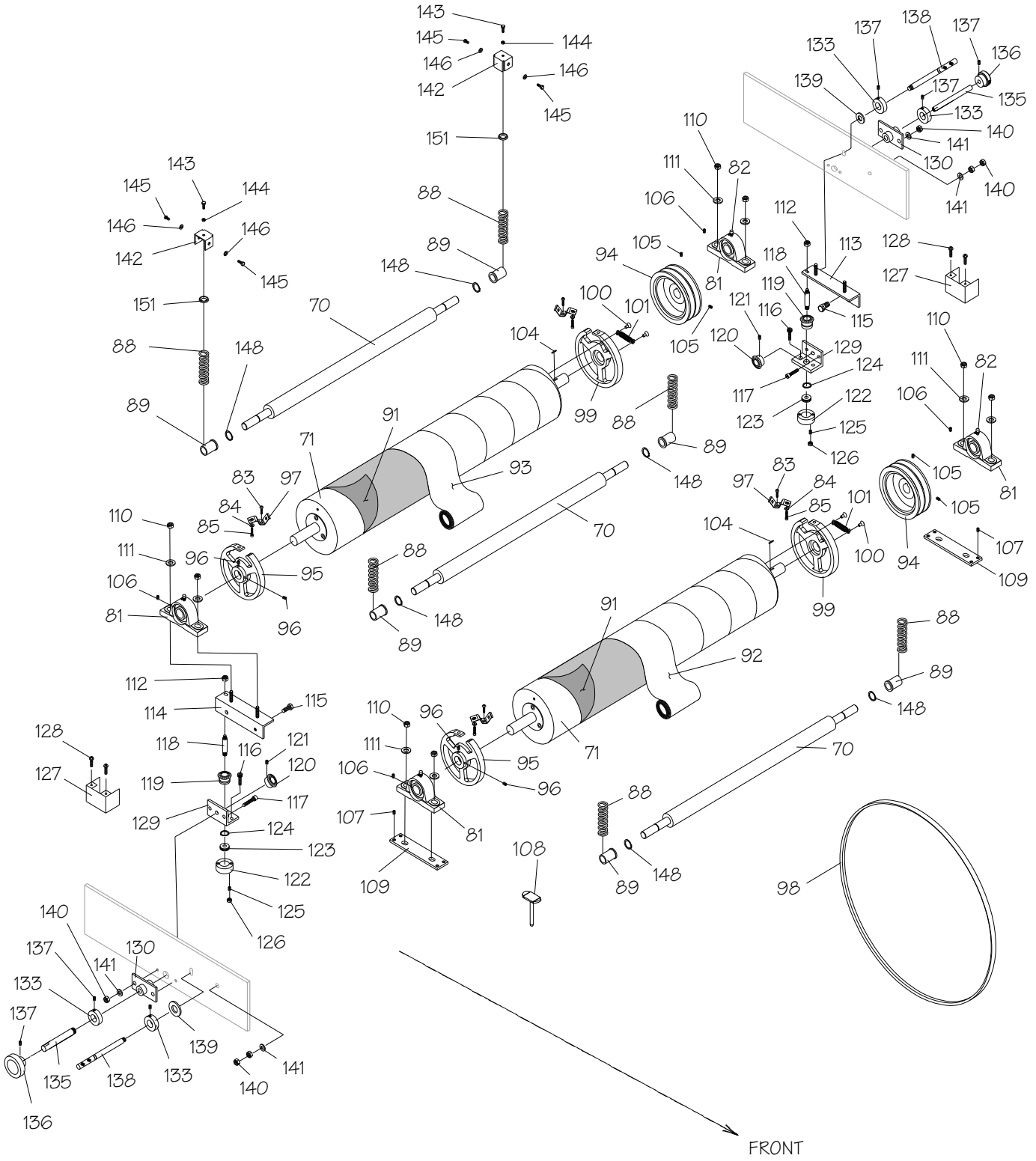


Conveyor Table Parts List

REF	PART #	DESCRIPTION
3	PSB1102003	KEY 5 X 5 X 20
10	PSB1102010	HEX NUT 5/16-18
11	PSB1102011	CAP SCREW 1/4-20 X 3/4
12	PSB1102012	FLAT WASHER 1/4
17	PSB1102017	ADJUSTMENT PLATE
23	PSB1102023	SET SCREW 5/16-18 X 1/2
25	PSB1102025	ROLLER END GUARD RIGHT FRONT/LEFT REAR
29	PSB1102029	TENSIONING BOLT 1/2-13 X 2-3/8
32	PSB1102032	HEX NUT 3/4-16
36	PSB1102036	CAP SCREW 1/4-20 X 3/4
39V3	PSB1102039V3	CONVEYOR MOTOR 1/3HP 220V 1-PH V3.05.25
39V3-1	PSB1102039V3-1	MOTOR BRUSH 2-PC SET
39V3-2	PSB1102039V3-2	MOTOR BRUSH CAP
40	PSB1102040	POINTER
41	PSB1102041	PHLP HD SCR 1/4-20 X 3/8
42	PSB1102042	FLAT WASHER 1/4
43	PSB1102043	DRIVE CHAIN
44	PSB1102044	SPROCKET 16T
45	PSB1102045	TABLE
46	PSB1102046	FLAT HD SCR 1/4-20 X 1
47	PSB1102047	LOCK NUT 1/4-20
49	PSB1102049	TABLE FRAME

REF	PART #	DESCRIPTION
50	PSB1102050	ROLLER END GUARD LEFT FRONT/RIGHT REAR
51	PSB1102051	ROLLER BRACKET
52	PSB1102052	SET SCREW 1/4-20 X 1/4
53	PSB1102053	PHLP HD SCR 1/4-20 X 5/16
54	PSB1102054	MOTOR BRACKET
55	PSB1102055	HEX BOLT 5/16-18 X 1-1/4
56	PSB1102056	FLAT WASHER 5/16
57	PSB1102057	SPROCKET 16T
58	PSB1102058	HEX NUT 3/4-16
61	PSB1102061	BUSHING SUPPORT
62	PSB1102062	FLAT WASHER 1/4
63	PSB1102063	SET SCREW 5/16-18 X 1/4
64	PSB1102064	PLATE
65	PSB1102065	DRIVE ROLLER
66	PSB1102066	IDLER ROLLER
67	PSB1102067	HEX BOLT 1/4-20 X 3/4
68	PSB1102068	SPROCKET 24T
69	PSB1102069	CONVEYOR BELT
74V2	PSB1102074V2	BUSHING V2.06.24
75	PSB1102075	SPROCKET SHAFT
76	PSB1102076	BALL BEARING 6201W
77	PSB1102077	CONVEYOR MOTOR CORD 14G 3W 60"

Drums & Rollers

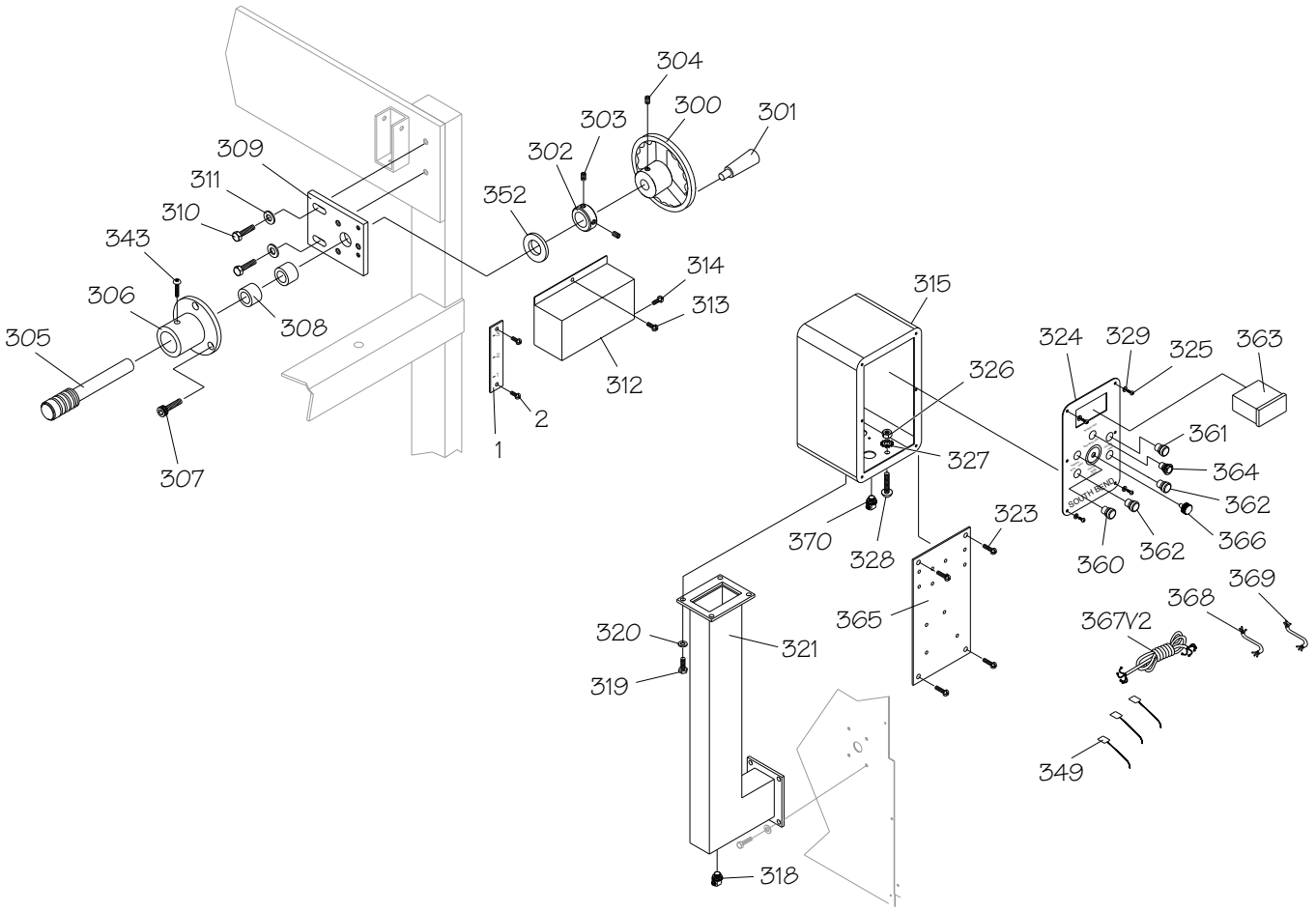


Drums & Rollers Parts List

REF	PART #	DESCRIPTION
70	PSB1102070	PRESSURE ROLLER
71	PSB1102071	SANDING DRUM
81	PSB1102081	PILLOW BEARING
82	PSB1102082	GREASE FITTING M6-1 X 5
83	PSB1102083	PHLP HD SCR M5-.8 X 25
84	PSB1102084	FLAT WASHER 5MM
85	PSB1102085	CAP SCREW M5-.8 X 10
88	PSB1102088	COMPRESSION SPRING 2 X 24 X 63
89	PSB1102089	BUSHING
91	PSB1102091	HOOK-AND-LOOP DRUM COVER
92	PSB1102092	SANDPAPER H&L 3 X 600 80 GRIT
93	PSB1102093	SANDPAPER H&L 3 X 600 120 GRIT
94	PSB1102094	DRUM PULLEY
95	PSB1102095	TENSION WHEEL LEFT
96	PSB1102096	CAP SCREW 1/4-20 X 1/2
97	PSB1102097	SANDPAPER CLIP
98	PSB1102098	V-BELT B67
99	PSB1102099	TENSION WHEEL RIGHT
100	PSB1102100	FLAT HD CAP SCR 1/4-20 X 1/2
101	PSB1102101	EXTENSION SPRING 1.8 X 10.5 X 60
104	PSB1102104	KEY 1/4 X 1/4 X 1-1/4 RE
105	PSB1102105	SET SCREW 3/8-16 X 1/2
106	PSB1102106	SET SCREW M6-1 X 6
107	PSB1102107	SET SCREW 5/16-24 X 1/2
108	PSB1102108	TENSION TOOL
109	PSB1102109	ADJUSTMENT PLATE
110	PSB1102110	LOCK NUT 3/8-16
111	PSB1102111	FLAT WASHER 3/8
112	PSB1102112	LOCK NUT 1/4-20
113	PSB1102113	RIGHT FLANGE
114	PSB1102114	LEFT FLANGE

REF	PART #	DESCRIPTION
115	PSB1102115	SHOULDER BOLT 5/16-18 X 1, 3/8 X 1/8
116	PSB1102116	CAP SCREW 1/4-20 X 5/8
117	PSB1102117	CAP SCREW 5/16-18 X 1-1/4
118	PSB1102118	AXLE
119	PSB1102119	BEVEL GEAR
120	PSB1102120	BEVEL GEAR
121	PSB1102121	SET SCREW 10-24 X 1/4
122	PSB1102122	THRUST BEARING SEAT
123	PSB1102123	THRUST BEARING 51101
124	PSB1102124	EXT RETAINING RING 20MM
125	PSB1102125	SET SCREW 10-24 X 1/2
126	PSB1102126	HEX NUT 10-24
127	PSB1102127	DUST COVER
128	PSB1102128	TAP SCREW #10 X 1/4
129	PSB1102129	GEAR MOUNTING BRACKET
130	PSB1102130	DRIVE SHAFT BRACKET
133	PSB1102133	LOCK COLLAR
135	PSB1102135	DRIVE SHAFT
136	PSB1102136	MICRO-ADJUST KNOB
137	PSB1102137	SET SCREW 1/4-20 X 5/16
138	PSB1102138	LOCK LEVER 5/16-18
139	PSB1102139	FLAT WASHER 5/16
140	PSB1102140	HEX NUT 5/16-18
141	PSB1102141	FLAT WASHER 5/16
142	PSB1102142	BRACKET
143	PSB1102143	HEX BOLT 1/4-20 X 3/4
144	PSB1102144	HEX NUT 1/4-20
145	PSB1102145	HEX BOLT 1/4-20 X 3/4
146	PSB1102146	FLAT WASHER 1/4
148	PSB1102148	EXT RETAINING RING 19MM
151	PSB1102151	SPRING GUIDE

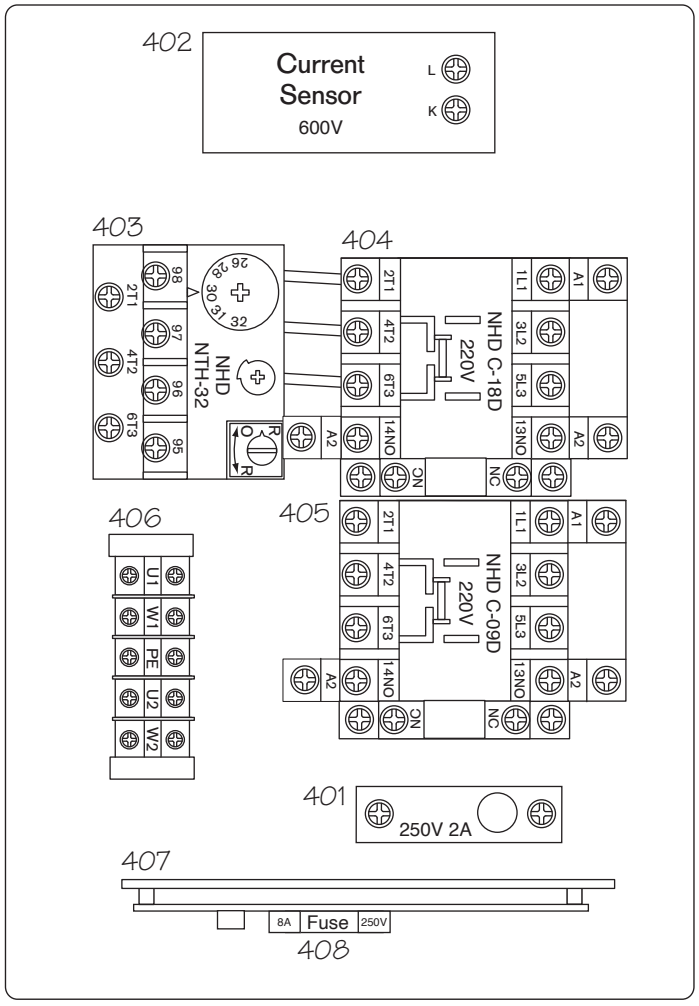
Control Panel & Handwheel



REF	PART #	DESCRIPTION
1	PSB1102001	SCALE
2	PSB1102002	TAP SCREW #8 X 3/8
300	PSB1102300	HANDWHEEL TYPE-11 185D X 34B X M10-1.5
301	PSB1102301	REVOLVING HANDLE 24 X 113, 3/8-16 X 14
302	PSB1102302	COLLAR
303	PSB1102303	SET SCREW 1/4-20 X 1/4
304	PSB1102304	SET SCREW 3/8-16 X 3/8
305	PSB1102305	WORM GEAR 10T
306	PSB1102306	SHAFT MOUNT
307	PSB1102307	CAP SCREW 1/4-20 X 5/8
308	PSB1102308	BUSHING
309	PSB1102309	ADJUSTMENT PLATE
310	PSB1102310	HEX BOLT 3/8-16 X 1
311	PSB1102311	FLAT WASHER 3/8
312	PSB1102312	DUST COVER
313	PSB1102313	TAP SCREW #8 X 3/8
314	PSB1102314	PHLP HD SCR 1/4-20 X 5/16
315	PSB1102315	CONTROL BOX
318	PSB1102318	STRAIN RELIEF 25MM
319	PSB1102319	HEX BOLT 1/4-20 X 5/8
320	PSB1102320	FLAT WASHER 1/4
321	PSB1102321	PEDESTAL

REF	PART #	DESCRIPTION
323	PSB1102323	PHLP HD SCR M6-1 X 6
324	PSB1102324	CONTROL PANEL
325	PSB1102325	PHLP HD SCR M5-.8 X 10
326	PSB1102326	HEX NUT 10-24
327	PSB1102327	EXT TOOTH WASHER #10
328	PSB1102328	PHLP HD SCR 10-24 X 1/2
329	PSB1102329	FLAT WASHER 5MM
343	PSB1102343	PHLP HD SCR 1/4-20 X 1/4
349	PSB1102349	NYLON CABLE TIE
352	PSB1102352	FLAT WASHER 16.5 X 30 X 1.2MM, BRASS
360	PSB1102360	CONVEYOR START BUTTON 1A 220V 22MM
361	PSB1102361	DRUM START BUTTON 1A 220V 22MM
362	PSB1102362	OFF BUTTON TAICHUAN TBL22-F01R-I
363	PSB1102363	AMP METER DIGITAL D040A FA-50V
364	PSB1102364	E-STOP BUTTON TAICHUAN TPB22-S01R
365	PSB1102365	WIRING PANEL 5 X 275 X 155
366	PSB1102366	CONVEYOR SPEED DIAL
367V2	PSB1102367V2	POWER CORD 10G 3W 72" V2.01.24
368	PSB1102368	MOTOR CORD 12G 3W 70"
369	PSB1102369	CONVEYOR MOTOR CORD 16G 3W 67"
370	PSB1102370	STRAIN RELIEF 21MM

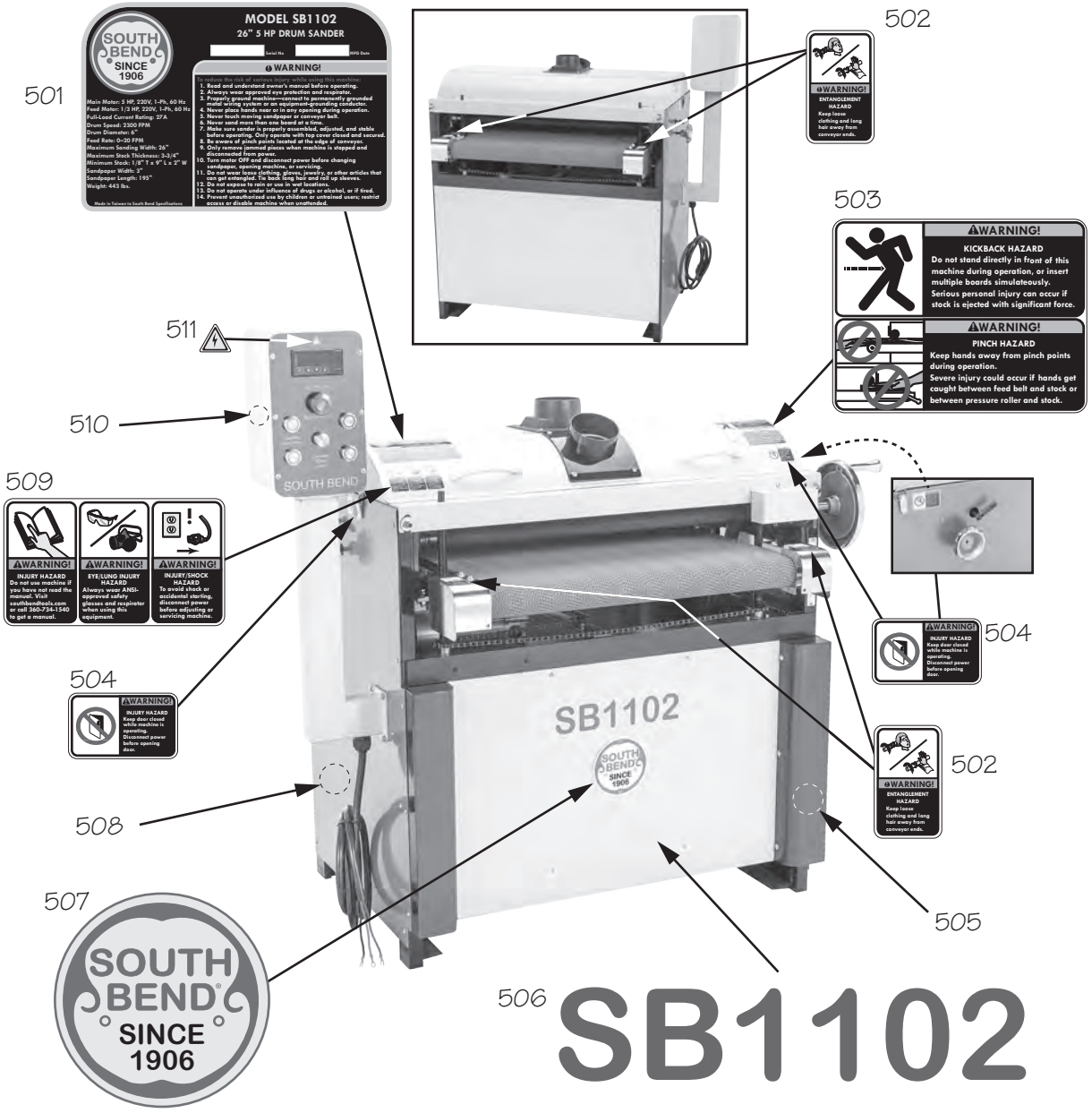
Electrical Components



REF	PART #	DESCRIPTION
401	PSB1102401	FUSE 250V 2A
402	PSB1102402	CURRENT SENSOR
403	PSB1102403	OVERLOAD RELAY NHD NTH-32
404	PSB1102404	CONTACTOR NHD C-18D 220V

REF	PART #	DESCRIPTION
405	PSB1102405	CONTACTOR NHD C-09D 220V
406	PSB1102406	TERMINAL BLOCK NHT-3.5
407	PSB1102407	CIRCUIT BOARD
408	PSB1102408	FUSE 250V 8A

Machine Labels



REF	PART #	DESCRIPTION
501	PSB1102501	MACHINE ID LABEL
502	PSB1102502	ENTANGLEMENT LABEL
503	PSB1102503	KICKBACK HAZARD-PINCH LABEL
504	PSB1102504	KEEP DOOR CLOSED LABEL
505	PSB1102505	TOUCH-UP PAINT SB DARK BLUE
506	PSB1102506	MODEL NUMBER LABEL

REF	PART #	DESCRIPTION
507	PSB1102507	SOUTH BEND NAME PLATE 152MM
508	PSB1102508	TOUCH-UP PAINT SB LIGHT BLUE
509	PSB1102509	COMBO WARNING LABEL
510	PSB1102510	TOUCH-UP PAINT SB GRAY
511	PSB1102511	ELECTRICITY LABEL

Warranty

This quality product is warranted by South Bend Tools to the original buyer for **2 years** from the date of purchase. This warranty does not apply to consumable parts, or defects due to any kind of misuse, abuse, negligence, accidents, repairs, alterations or lack of maintenance. We do not reimburse for third party repairs. In no event shall we be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our products.

We do not warrant or represent that this machine complies with the provisions of any law, act, code, regulation, or standard of any domestic or foreign government, industry, or authority. In no event shall South Bend's liability under this warranty exceed the original purchase price paid for this machine. Any legal actions brought against South Bend Tools shall be tried in the State of Washington, County of Whatcom.

This is the sole written warranty for this machine. Any and all warranties that may be implied by law, including any merchantability or fitness, for any purpose, are hereby limited to the duration of this warranty.

Thank you for your business and continued support.

To take advantage of this warranty, register at **https://www.grizzly.com/forms/warranty**, or you can scan the QR code below to be automatically directed to our warranty registration page. Enter all applicable information for the product.

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