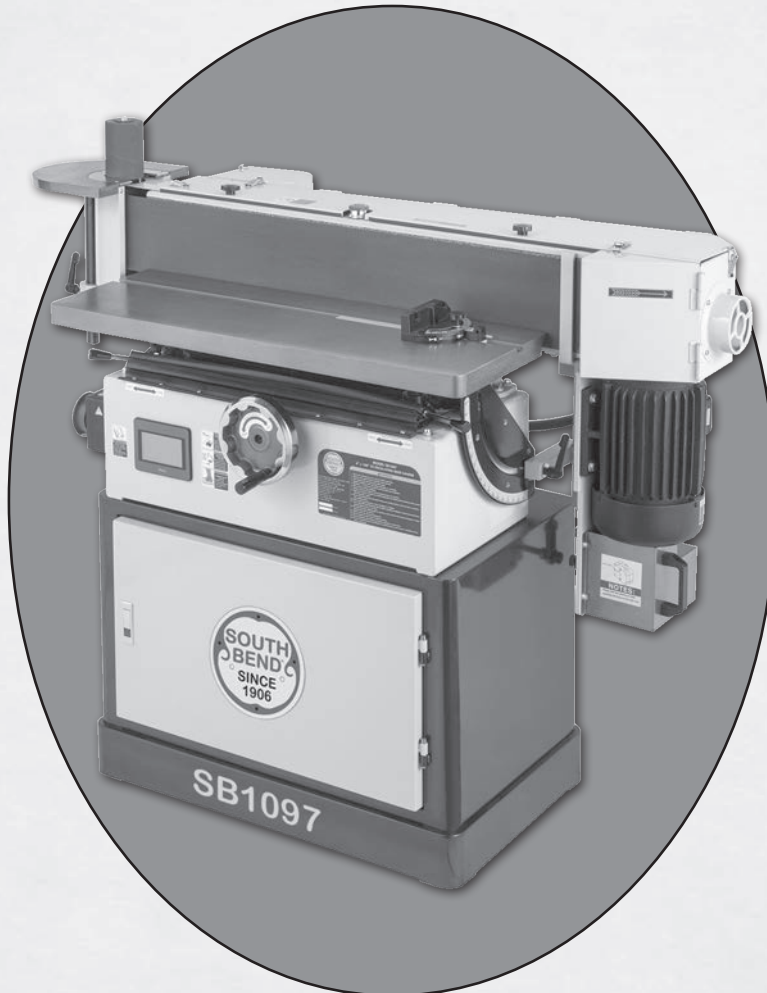


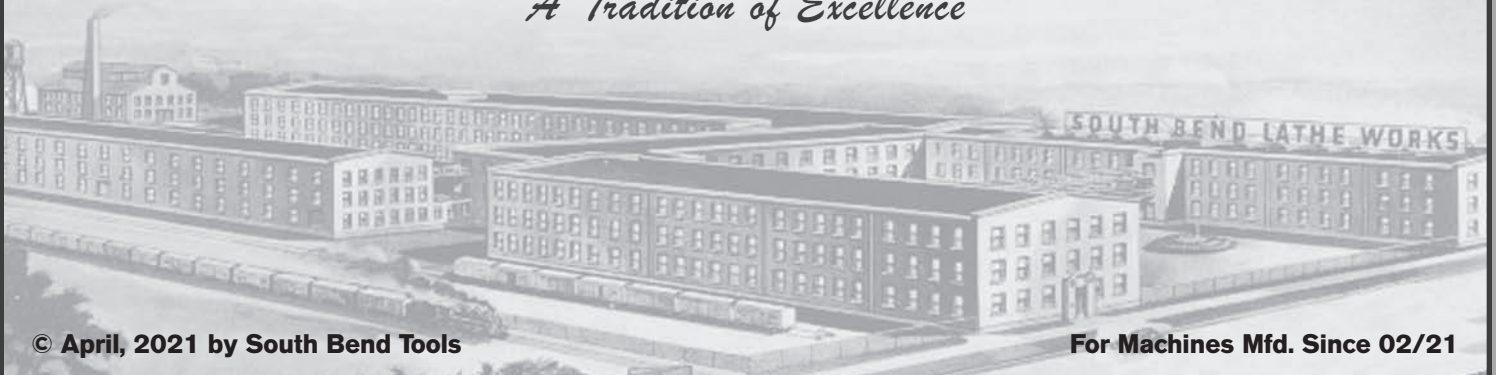
6" X 108" VARIABLE-SPEED OSCILLATING EDGE SANDER MODEL SB1097



OWNER'S MANUAL

South Bend Tools®

A Tradition of Excellence



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

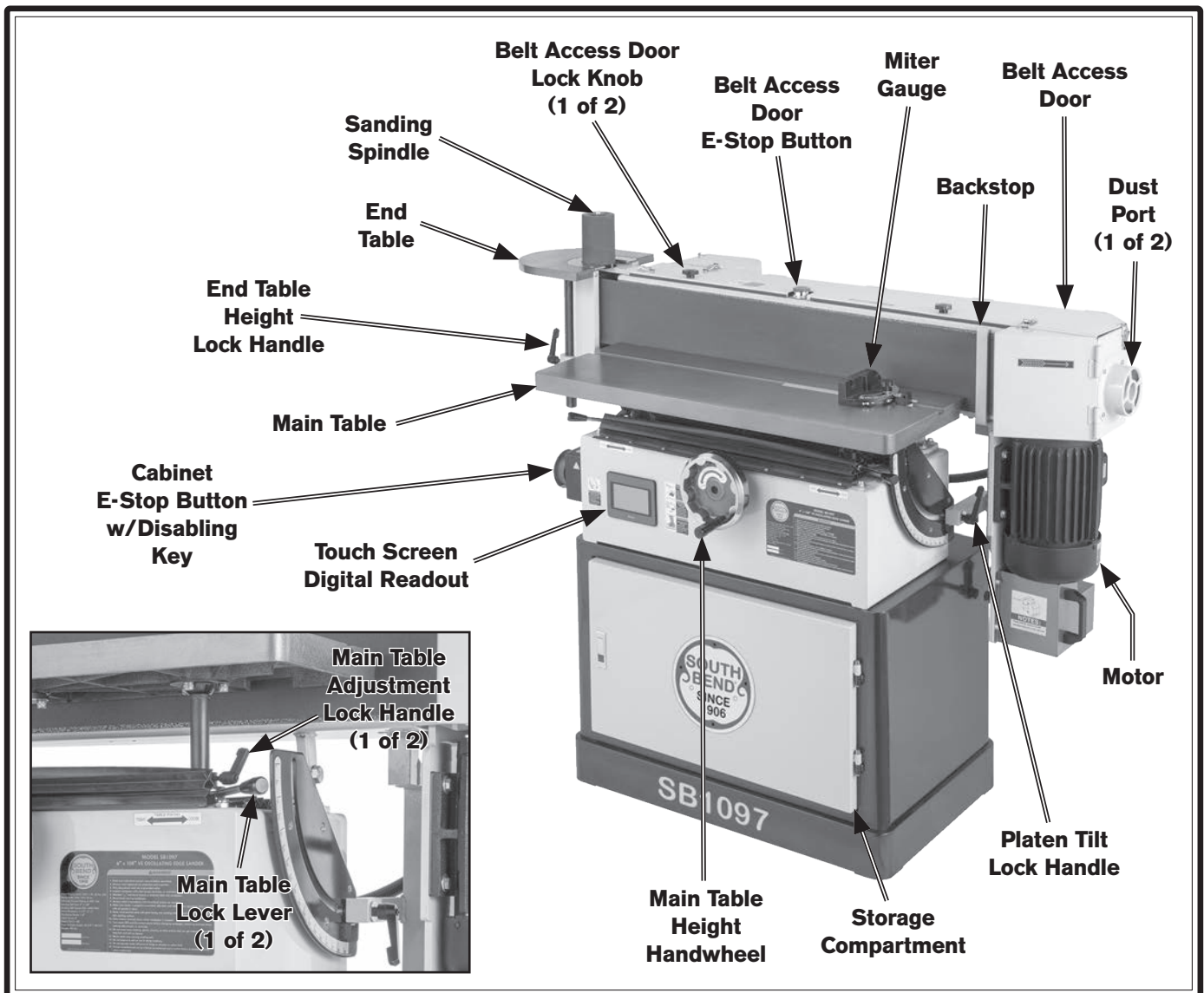
We stand behind our machines. If you have any service questions, parts requests or general questions about your purchase, feel free to contact us.

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Identification



⚠️ WARNING

For Your Own Safety, Read Instruction Manual Before Operating Sander

- a) **Wear eye protection.**
- b) **Support workpiece with miter gauge, backstop, or worktable.**
- c) **Maintain $\frac{1}{16}$ " maximum clearance between table and sanding belt.**
- d) **Avoid kickback by sanding in accordance with the directional arrows.**

Description of Controls & Components

⚠ 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.

Refer to **Figures 1–7** and the following descriptions to become familiar with the basic controls and components used to operate this machine.

- A. Cabinet E-Stop Button w/Disabling Key:** Turns machine *OFF* when pressed. Twist clockwise to reset. When key is removed, button is disabled and machine cannot start.
- B. Touch Screen Digital Readout:** Turns machine *ON*, displays speed setting, and adjusts sanding belt speed.

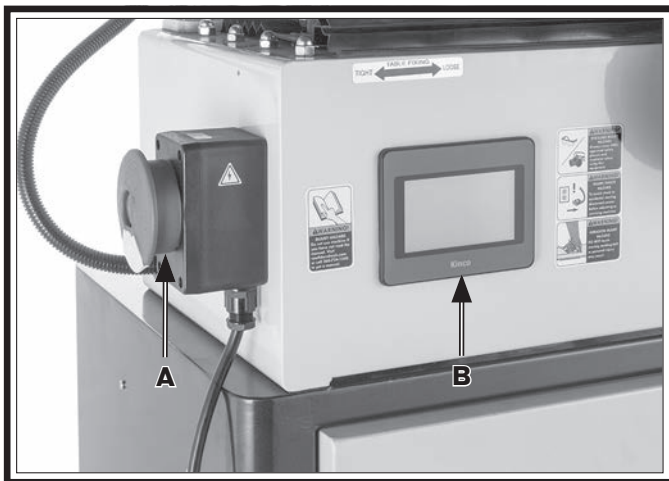


Figure 1. Main electrical controls.

- C. Pre-Set Speed Buttons:** Change speed setting to 500, 1100, 2200, or 3300 RPM when pressed.
- D. Speed Setting:** Displays current RPM.
- E. Adjustment Arrows:** Adjust speed setting up or down in 50 RPM intervals.
- F. OFF Button:** Turns machine *OFF*.
- G. ON Button:** Turns machine *ON*.

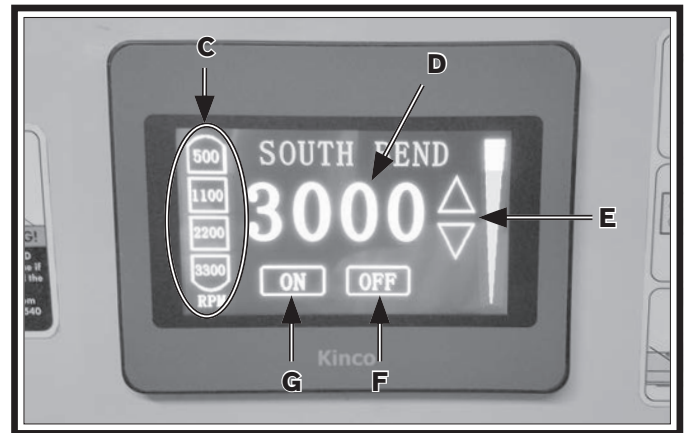


Figure 2. Touch screen controls.

- H. Belt Access Door E-Stop Button:** Turns machine *OFF* when pressed. Twist clockwise to reset.

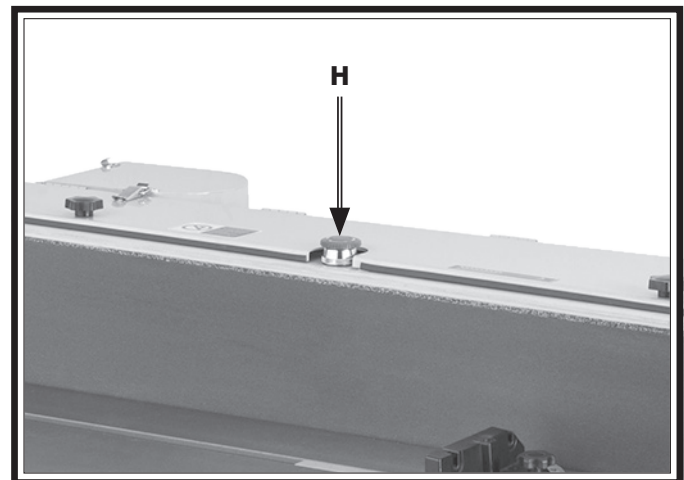


Figure 3. Belt access door E-Stop button location.

- I. Main Table Height Handwheel:** Adjusts main table height.
- J. Main Table Height Lock Handles:** Tighten to lock main table height and loosen to adjust height.
- K. Main Table Lock Levers:** Tighten to lock main table position in relation to platen and loosen to adjust clearance between them.
- L. Platen Tilt Lock Handle:** Tightens to lock platen tilt and loosens to adjust tilt.

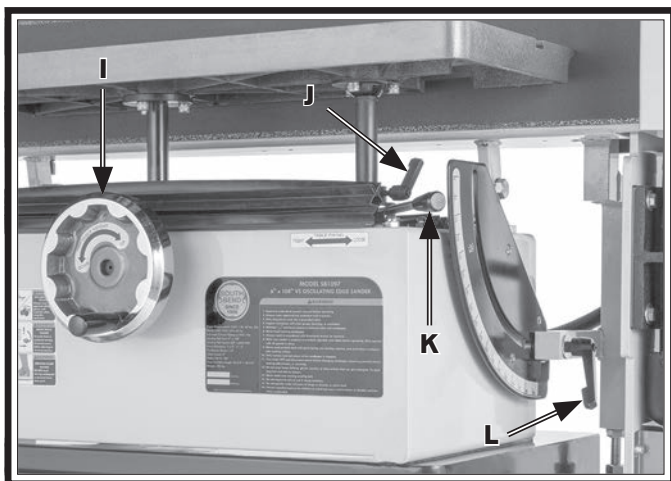


Figure 4. Main table and platen adjustment controls.

- M. Sanding Spindle:** Provides curved sanding surface for contour sanding.
- N. End Table:** Supports workpiece during contour sanding operations.
- O. End Table Height Lock Handle:** Tightens to lock end table height and loosens to adjust end table height.

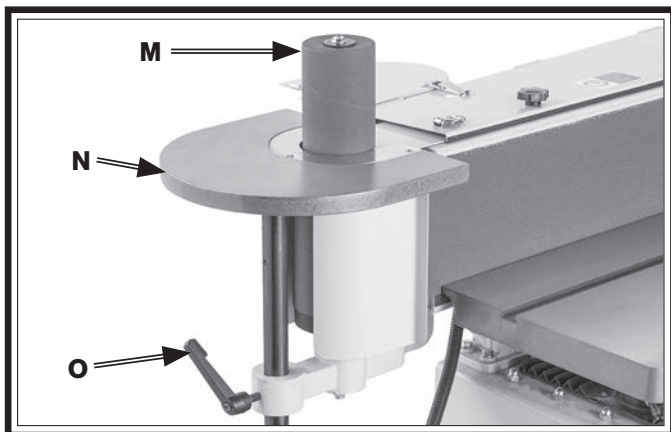


Figure 5. Sanding spindle controls and components.

- P. Fence:** Supports workpiece when platen is in horizontal position.

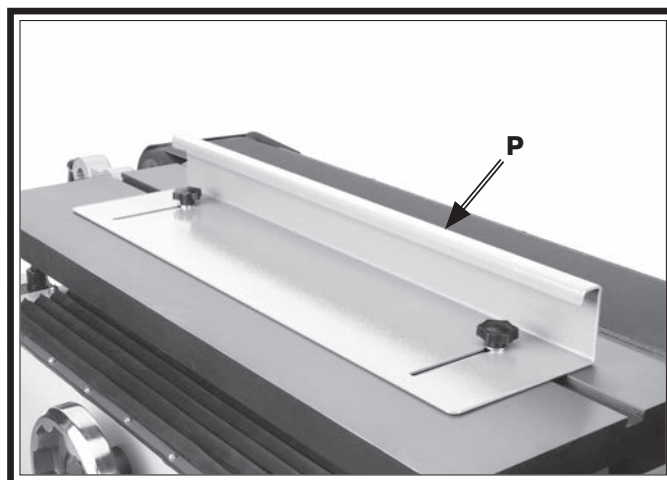


Figure 6. Horizontal sanding fence.

- Q. Belt Access Door Lock Knobs:** Tighten to lock belt access door and loosen to open belt access door.
- R. Belt Access Door:** Opens and closes to allow for belt replacement and maintenance.
- S. Miter Gauge:** Adjusts from 0–60 degrees to support workpiece against sanding belt and table when platen is in vertical position.
- T. Backstop:** Supports workpiece against sanding belt with platen at any angle.

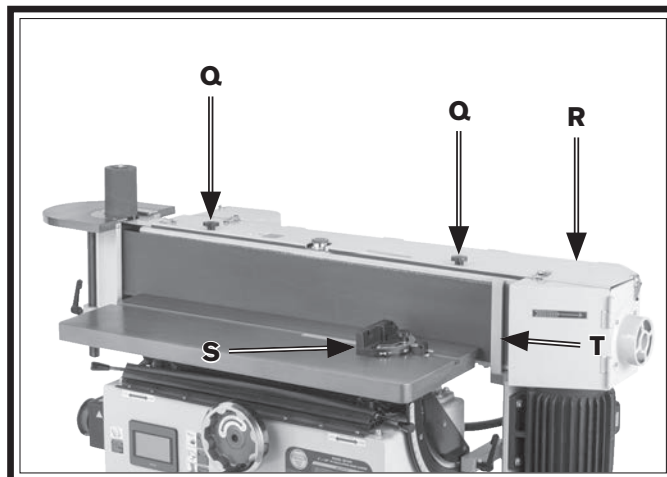


Figure 7. Additional sanding components.



Model SB1097 6" x 108" VS Oscillating Edge Sander

Product Dimensions

Weight..... 495 lbs.
 Width (side-to-side) x Depth (front-to-back) x Height..... 60 x 28 x 43 in.
 Footprint (Length x Width)..... 32 x 19-1/2 in.

Shipping Dimensions

Type..... Wood Crate
 Content..... Machine
 Weight..... 597 lbs.
 Length x Width x Height..... 58 x 30 x 44 in.
 Must Ship Upright..... Yes

Electrical

Power Requirement..... 220V, Single-Phase, 60 Hz
 Full-Load Current Rating..... 19A
 Minimum Circuit Size..... 30A
 Connection Type..... Cord & Plug
 Power Cord Included..... Yes
 Power Cord Length..... 68 in.
 Power Cord Gauge..... 14 AWG
 Plug Included..... Yes
 Included Plug Type..... L6-30
 Switch Type..... Magnetic Switch w/Overload Protection
 Inverter (VFD) Type..... Kinco CV100-2S-0022G
 Inverter (VFD) Size..... 3 HP

Motors

Main

Horsepower..... 3 HP
 Phase..... 3-Phase
 Amps..... 9.5A
 Speed..... 1725 RPM
 Type..... TEFC Induction
 Power Transfer Direct
 Bearings..... Shielded & Permanently Lubricated

Main Specifications

Operation Information

Sanding Belt Speed..... 600 - 6000 FPM
 Sanding Belt Oscillations..... 1/4 in.
 Sanding Belt Length..... 108 in.
 Sanding Belt Width..... 6 in.
 Sanding Belt Tilt..... 0 - 90 deg.

Table Information

Table Length.....	35-1/2 in.
Table Width.....	12 in.
Table Thickness.....	1-1/2 in.
Table Travel.....	4 in.
Floor To Table Height.....	35-3/4 - 39-3/4 in.
End Table Length.....	11-1/2 in.
End Table Width.....	10 in.
End Table Thickness.....	3/4 in.
End Table Travel.....	10 in.

Platen Information

Platen Type.....	Graphite Coated
Platen Length.....	39-3/4 in.
Platen Width.....	6-3/4 in.

Construction

Table.....	Precision-Ground Cast Iron
Frame.....	Steel
Base.....	Steel
Drive Roller.....	Aluminum
Idler Roller.....	Rubber
Miter Block.....	Aluminum
Paint Type/Finish.....	Powder Coated

Other Related Information

Number of Dust Ports.....	2
Dust Port Size.....	4 in.
Belt Release.....	Quick Release
Drive Roller Size.....	7 in.
Idler Roller Size.....	3-7/8 in.

Other

Country of Origin	Taiwan
Warranty	2 Years
Approximate Assembly & Setup Time	15 Minutes
Serial Number Location	ID Label
Sound Rating	90 - 92 dB

Features

- Sanding Surfaces Tilt Vertical and Horizontal
- T-Slot Table and Miter Gauge
- Quick-Release Belt Lever
- Graphite-Coated Platen
- Oscillating Sanding Surfaces
- Sanding Belt Oscillates at 52 Cycles per Minute
- Includes 3 Sanding Drums: 1-1/2" x 4-1/2", 2" x 4-1/2", and 3" x 4-1/2"
- Platen Tilts 0 to 90 Degrees
- Variable-Speed Motor with Touch Screen Controls




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	<i>Death or catastrophic harm WILL occur.</i>	 CAUTION	<i>Moderate injury or fire MAY occur.</i>
 WARNING	<i>Death or catastrophic harm COULD occur.</i>	NOTICE	<i>Machine or property damage may occur.</i>

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 electrically 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 Oscillating Edge Sander Safety

⚠️ WARNING

Serious injury or death can occur if fingers, clothing, jewelry, or hair get entangled in moving components. Impact injuries can occur from kickback if workpiece is improperly fed into moving sandpaper. Serious pinch injuries can occur from touching in-running nip point between table and sanding surface. 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.

Avoiding Entanglement. Becoming entangled in moving parts of this machine can cause pinching and crushing injuries. To avoid these hazards, DO NOT wear loose clothing, gloves, or jewelry, and tie back long hair. Keep all guards in place and secure.

In-Running Nip Points. The gap between moving sandpaper and fixed table/support creates a pinch point for fingers or workpieces; the larger this gap is, the greater risk of fingers or workpieces getting caught in it. Minimize this risk by adjusting table no more than $\frac{1}{16}$ " away from sandpaper.

Sandpaper Direction. Feeding workpiece incorrectly can cause it to be thrown from machine, striking operator or bystanders, or causing your hands to slip into the moving sandpaper. To reduce these risks, only sand against direction of sandpaper travel, ensure workpiece is properly supported, and avoid introducing sharp edges into moving sandpaper on leading side of workpiece.

Workpiece Support & Hand Placement. Rotating sandpaper can remove a large amount of skin quickly, and kickback can occur with violent force if workpiece is not properly supported during operation. Always sand with workpiece firmly against table or another support device. Never touch moving sandpaper on purpose.

Workpiece Integrity. Only sand solid workpieces that can withstand power sanding forces. Make sure shape of workpiece is properly supported on table; avoid sanding workpieces without flat bottom surfaces unless some type of jig is used to maintain support and control when sanding force is applied.

Feeding Workpiece. Forcefully jamming workpiece into sanding surface could cause workpiece to be aggressively grabbed and pull your hands into sanding surface. Firmly grasp workpiece in both hands and ease it into sandpaper using light pressure.

Small Workpieces. Small workpieces are difficult to control and require close support near sanding surface. Always use a jig or other holding device when sanding small workpieces, and keep hands and fingers at least 2" away from sanding surface.

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.

Sandpaper Condition. Worn or damaged sandpaper not only produces poor sanding results, but could fly apart, aggressively grab workpiece, and throw debris at the operator. Always inspect sandpaper before operation and replace if worn or damaged.

Sanding Dust & Dust Collection. Sanding creates large amounts of dust and flying particles that can lead to eye injury or respiratory illness. Reduce risk by wearing approved eye and respiratory protection when using sander. Never operate without adequate dust-collection system in place and running. Proper dust collection reduces dust in work area, decreasing risk of long-term respiratory damage, but it is not a substitute for using a respirator.

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.

Required for Setup

The items listed below are required to successfully set up and prepare this machine for operation.

For Lifting

- A forklift or other power lifting device rated for the weight of the machine.
- Lifting Straps (rated for at least 750 lbs.)

For Power Connection

- A power source that meets the minimum circuit requirements for this machine. (Refer to the **Power Supply Requirements** section for details.)
- A qualified electrician to ensure a safe and code-compliant connection to the power source.

For Assembly


- Disposable Rags
- Cleaner/Degreaser
- Disposable Gloves
- Safety Glasses
- Phillips Head Screwdriver #2
- Floor Mounting Hardware (As Needed)
- Wrench or Socket ½"
- Rubber Mallet
- Dust Hoses 4" (2)
- Hose Clamps 4" (2)
- Dust Collection System
- Open-End Wrench 22mm

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.

	<p>! 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.</p>
--	---

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 19 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 the machine to power before completing the 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 (included) 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.

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug (similar to the figure below). 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.

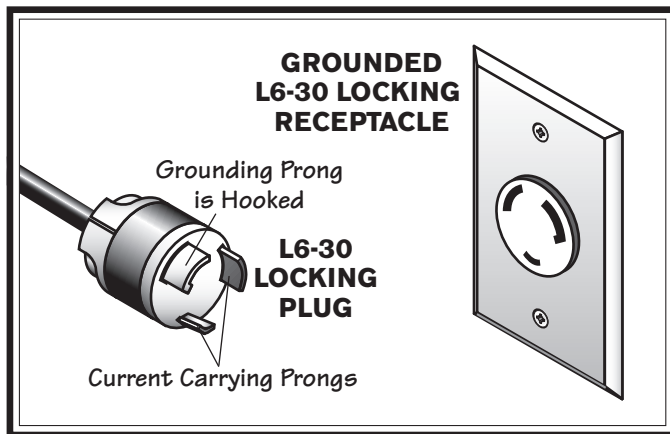
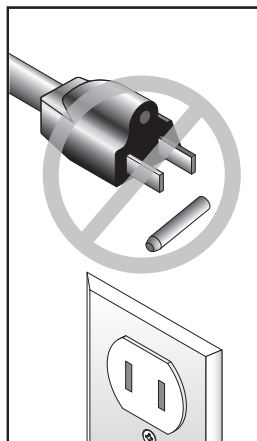


Figure 8. NEMA L6-30 plug and receptacle.



⚠ CAUTION
DO NOT modify the included plug or use an adapter if it will not fit your receptacle. Instead, have a qualified electrician install the proper receptacle on a power supply circuit that is grounded and meets the requirements for this machine.

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.....12 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

Main Inventory (Figure 9)		Qty
A.	Sander (Not Shown).....	1
B.	Fence.....	1
C.	Sanding Belt 6" x 108" 100-Grit.....	1
D.	Auxiliary Dust Hood.....	1
E.	End Table Assembly.....	1
F.	Main Dust Hood.....	1
G.	Backstop.....	1
H.	Dust Port.....	1
I.	Drive Roller Puller Plate.....	1
J.	Miter Gauge.....	1

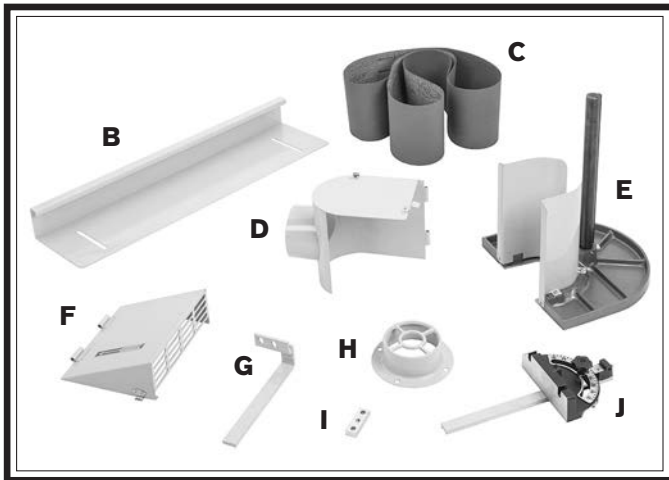


Figure 9. Main inventory.

Spindle Components (Figure 10)		Qty
K.	Sanding Drum Spindle.....	1
L.	Sanding Drums 1½", 2", 3".....	1 Ea.
M.	Table Inserts 1½", 2", 3".....	1 Ea.
N.	Spindle Rod.....	1

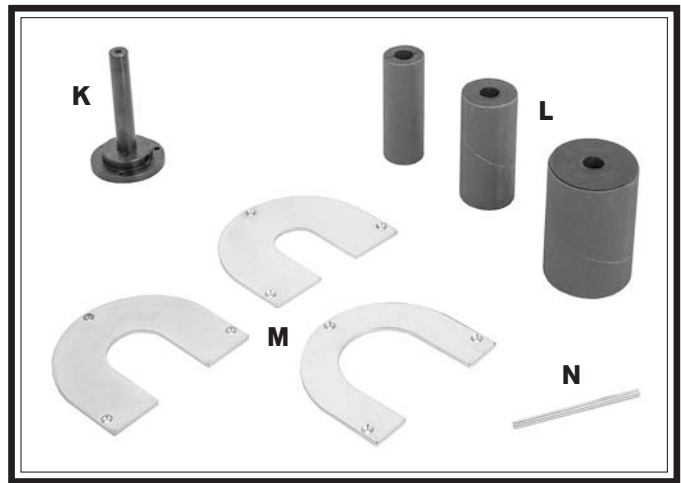


Figure 10. Sanding spindle components.

Hardware & Tools (Not Shown)		Qty
O.	Knob Bolts 5/16"-18 x 1".....	2
P.	Fender Washers 5/16".....	4
Q.	Phillips Head Screws 1/4"-20 x 1/4".....	4
R.	Flat Washers 1/4".....	4
S.	Dust Port Hinge Pins.....	4
T.	Cap Screw 5/16"-18 x 1 1/4".....	1
U.	Shoulder Screws 1/4" x 3/4", 1/4"-20 x 1 3/4".....	2
V.	Open-End Wrench 10/12mm.....	1
W.	Hex Wrenches 5, 6mm.....	1 Ea.
X.	Hex Bolts 5/16"-18 x 1".....	2
Y.	Flat Washer 5/16".....	1
Z.	Flange Bolt 5/16"-18 x 1/2".....	1
AA.	Handle 3/8"- 16 x 1".....	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.

Cleaning & Protecting

The unpainted surfaces are coated at the factory with a heavy-duty rust preventative that prevents corrosion during shipment and storage. The benefit of this rust preventative is that it works very well. The downside is that it can be time-consuming to thoroughly remove.

Be patient and do a careful job when cleaning and removing the rust preventative. The time you spend doing this will reward you with smooth-sliding parts and a better appreciation for the proper care of the unpainted surfaces.

Although there are many ways to successfully remove the rust preventative, the following process works well in most situations.

Before cleaning, gather the following:

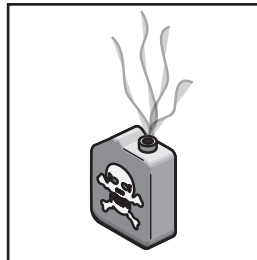
- Disposable rags
- Cleaner/degreaser (certain citrus-based degreasers work extremely well and they have non-toxic fumes)
- Safety glasses & disposable gloves

Note: Automotive degreasers, mineral spirits, or WD•40 can be used to remove rust preventative. Before using these products, though, test them on an inconspicuous area of a painted surface to make sure they will not damage it.



⚠ WARNING

Gasoline and petroleum products have low flash points and can explode or cause fire if used for cleaning. Avoid using these products to remove rust preventative.



⚠ CAUTION

Many cleaning solvents are toxic if inhaled. Minimize your risk by only using these products in a well ventilated area.

NOTICE

Avoid chlorine-based solvents, such as acetone or brake parts cleaner that may damage painted surfaces. Always follow the manufacturer's instructions when using any type of cleaning product.

Basic steps for removing rust preventative:

1. Put on safety glasses and disposable gloves.
2. Coat all surfaces that have rust preventative with a liberal amount of your cleaner or degreaser and let them soak for a few minutes.
3. Wipe off the surfaces. If your cleaner or degreaser is effective, the rust preventative will wipe off easily.

Note: To clean off thick coats of rust preventative on flat surfaces, such as beds or tables, use a PLASTIC paint scraper to scrape off the majority of the coating before wiping it off with your rag. (Do not use a metal scraper or it may scratch the surface.)
4. Repeat Steps 2–3 as necessary until clean, then coat all unpainted surfaces with a quality metal protectant or light oil to prevent rust.

T23692—Orange Power Degreaser

A great product for removing the waxy shipping grease from the *non-painted* parts of the machine during clean up.



Figure 11. T23692 Orange Power Degreaser.

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

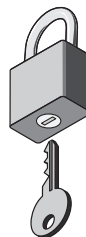
Lighting around the machine must be adequate enough to perform operations safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

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.

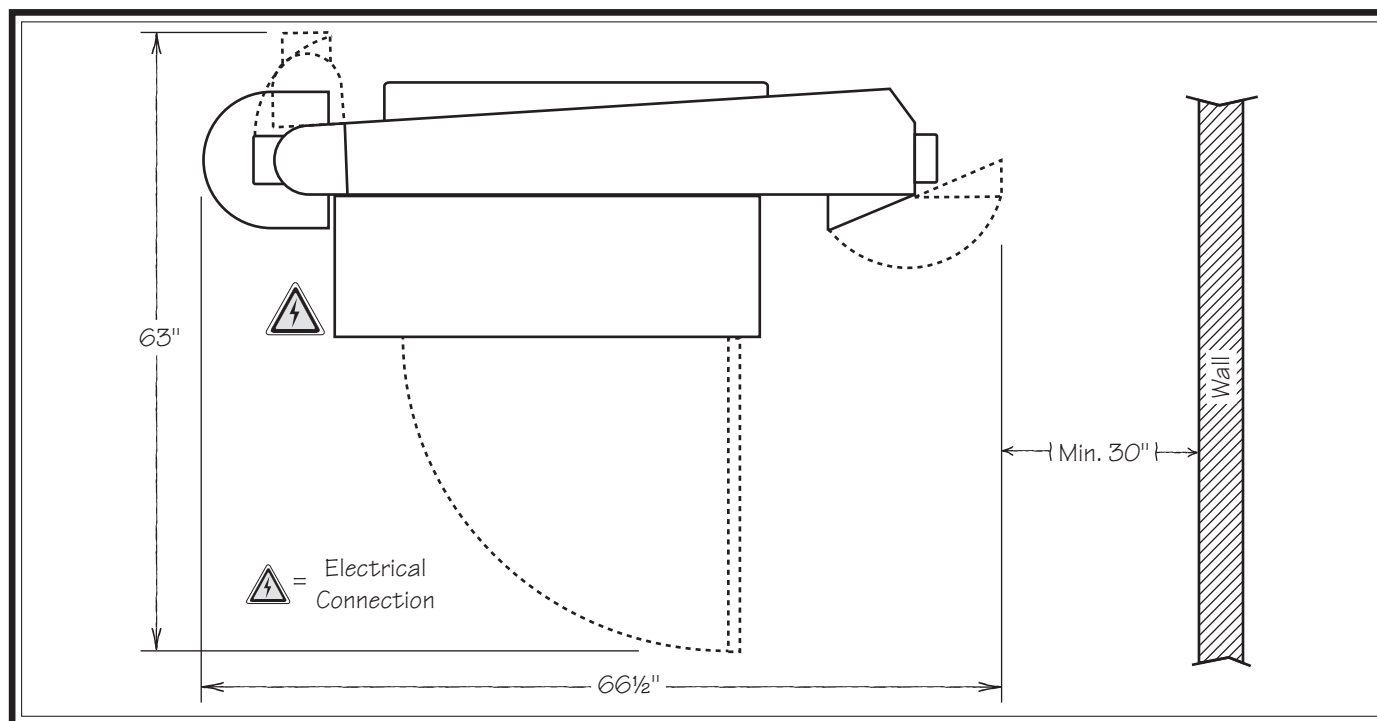
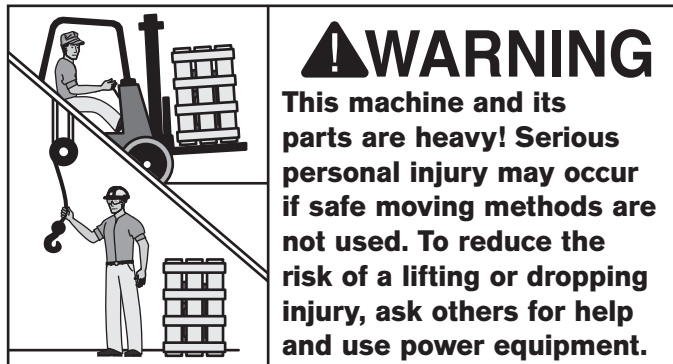


Figure 12. Minimum working clearances.

Lifting & Moving



Do not attempt to lift this machine without using the proper lifting equipment (such as forklift or crane) rated for at least 750 lbs. to support the dynamic loads that may be applied while lifting.

To lift and move machine:

1. Loosen platen tilt lock handle and tilt platen until tilt pointer points to 90° (see **Figure 13**).

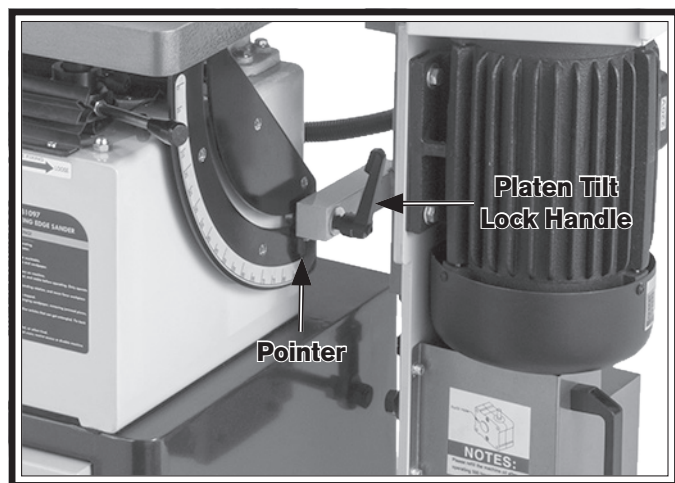


Figure 13. Platen tilt lock handle location.

2. Open cabinet door and remove loose parts.

3. Remove Phillips head screws and washers shown in **Figure 14** to remove fence.

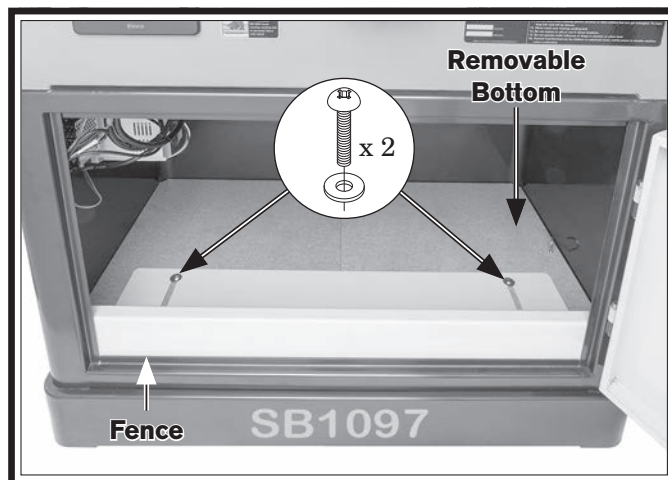


Figure 14. Fence secured inside cabinet for shipping.

4. Close cabinet door.
5. Use lifting straps to lift machine off pallet at lifting locations shown in **Figure 15**.

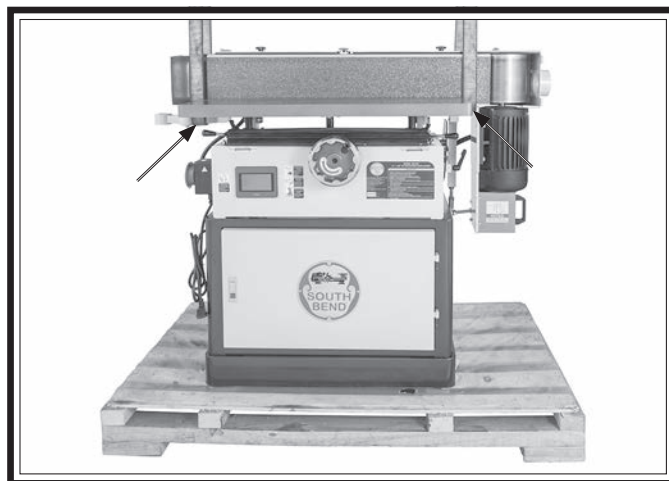


Figure 15. Lifting locations.

6. Move machine to desired location.
7. For anchoring to floor or placing on machine mounts (not included), refer to **Page 17**.

Note: Remove the cabinet bottom shown in **Figure 14** to access machine mounting holes.

Bolting to Concrete Floors

Lag screws and anchors, or anchor studs (**below**), are two popular methods for securing machinery to a concrete floor. We suggest you research the many options and methods for securing your machine and choose the best one for your specific application.

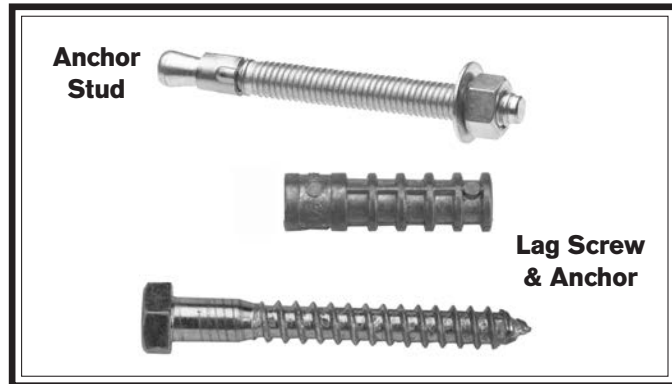


Figure 16. Common types of fasteners for bolting machinery to concrete floors.

Machine Mounts

Machine mounts are rubber pads mounted to a threaded stud, which can be fastened to the bottom of the machine.

Machine mounts offer certain advantages such as ease of installation, vibration dampening, and easy leveling. They also make it easier to relocate the machine later on.

The disadvantage of machine mounts is that the machine can shift or move over time. For this reason, electrical codes may limit their use if the machine is hardwired to the power source. Also, mounts may reduce the total surface area of machine-to-floor contact, depending on the design of the machine.



Figure 17. Typical machine mount.

Assembly

The machine must be fully assembled before it can be operated. Before beginning the assembly process, refer to **Required for Setup on Page 10** 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. Unlatch belt door latch shown in **Figure 18**.
2. Open belt access door by loosening (2) belt door lock knobs (see **Figure 18**).

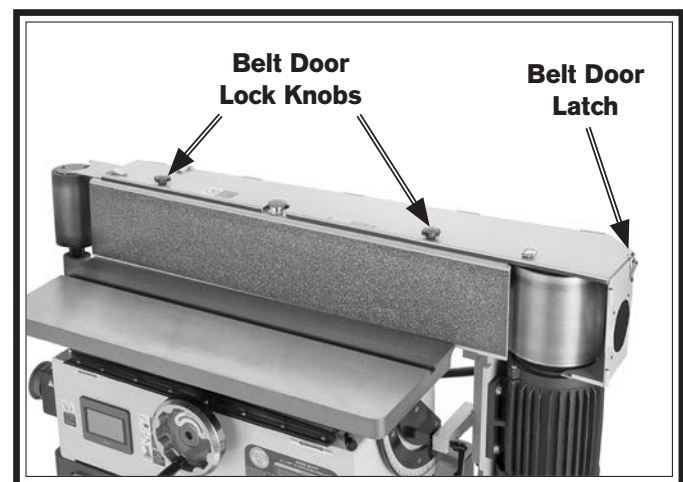


Figure 18. Location of belt door latch and lock knobs.

3. Move belt tension lever up and toward the idler roller (see **Figure 19**).

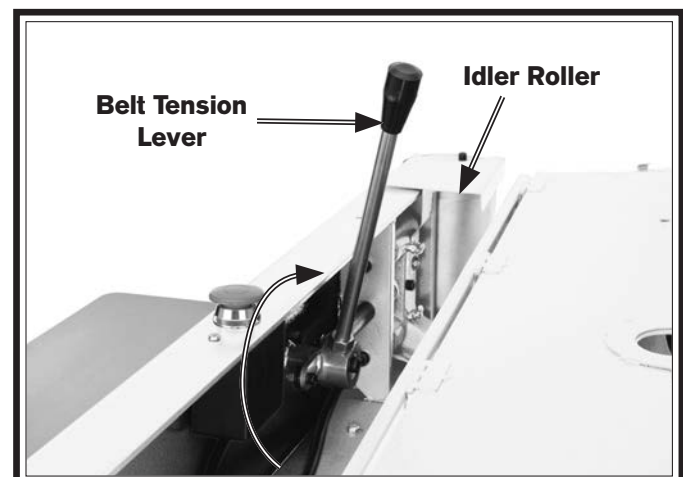


Figure 19. Belt tension lever in un-tensioned position.

- Install and center sanding belt around sanding drums, being sure arrows on belt match arrows of belt rotation on machine (see **Figure 20**).

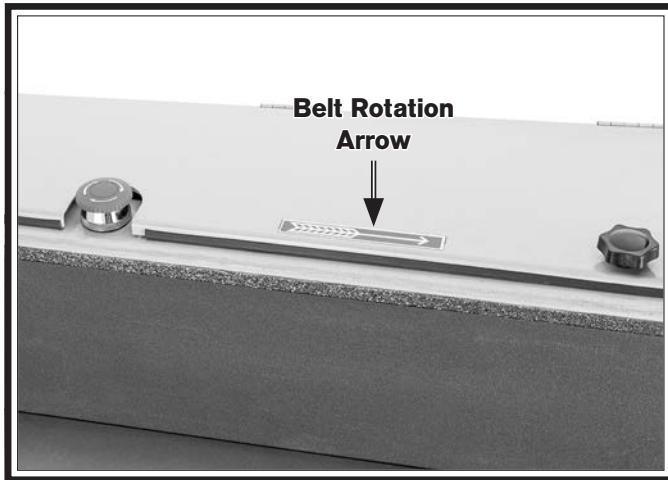


Figure 20. Sanding belt rotation arrow.

- Move belt tension lever down, toward drive roller, to tension sanding belt (see **Figure 21**).

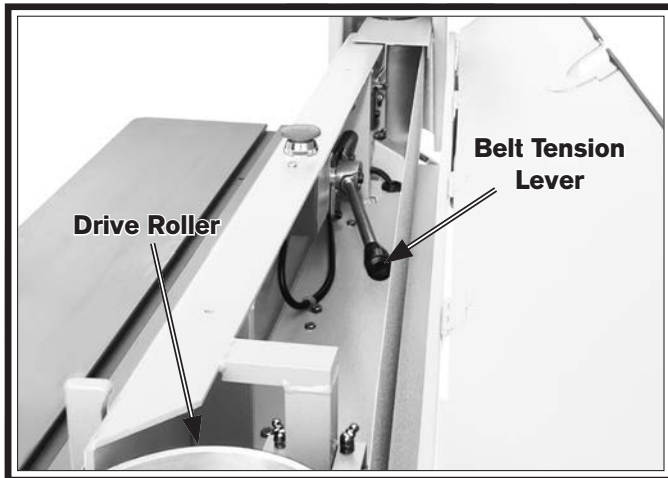


Figure 21. Sanding belt installed and tensioned.

- Close belt access door and secure with lock knobs loosened in **Step 2**.

- Attach backstop to sander with (2) $\frac{5}{16}$ "-18 x 1" hex bolts and $\frac{5}{16}$ " flat washers (see **Figure 22**).

Note: There should be $\frac{1}{8}$ " clearance between backstop and belt.

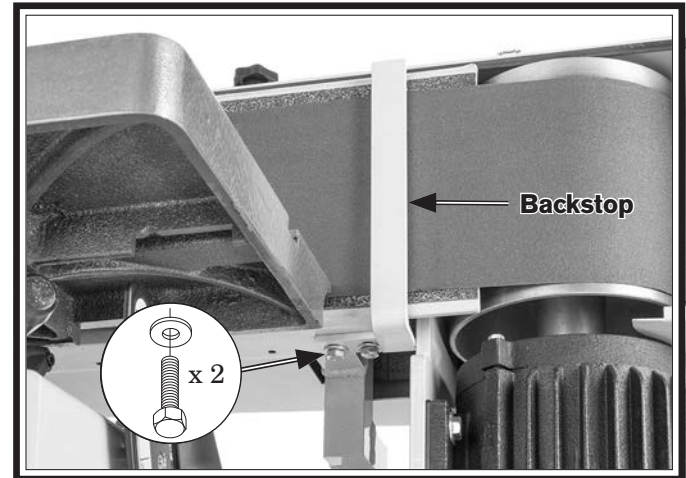


Figure 22. Backstop installed.

- Align main dust hood hinges with sander hinges shown in **Figure 23**.
- Secure dust hood in place by inserting (2) hinge pins through aligned hinges (see **Figure 23**) and tapping pins with rubber mallet until fully seated.

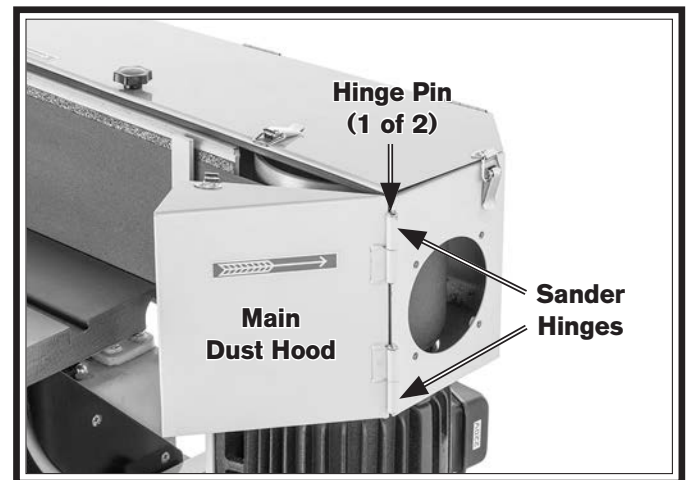


Figure 23. Main dust hood installed.

- 10.** Attach dust port to end of sander with (4) $\frac{1}{4}$ "-20 x $\frac{1}{4}$ " Phillips head screws and $\frac{1}{4}$ " flat washers (see **Figure 24**).

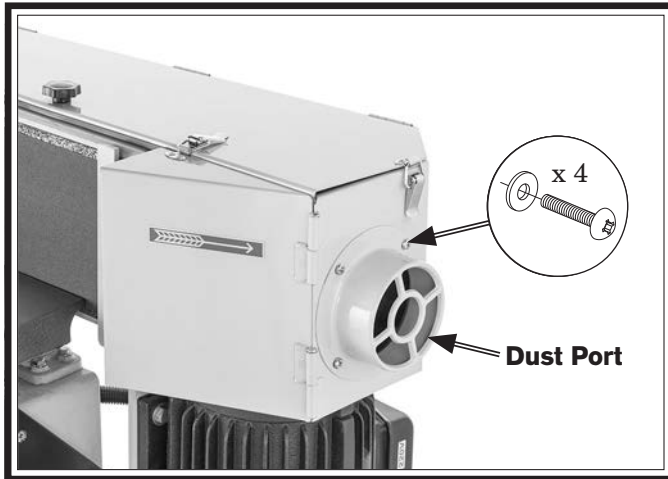


Figure 24. Main dust port installed.

- 11.** Fully insert end table shaft into machine arm mount and secure with $\frac{3}{8}$ "-16 x 1" handle (see **Figure 25**).

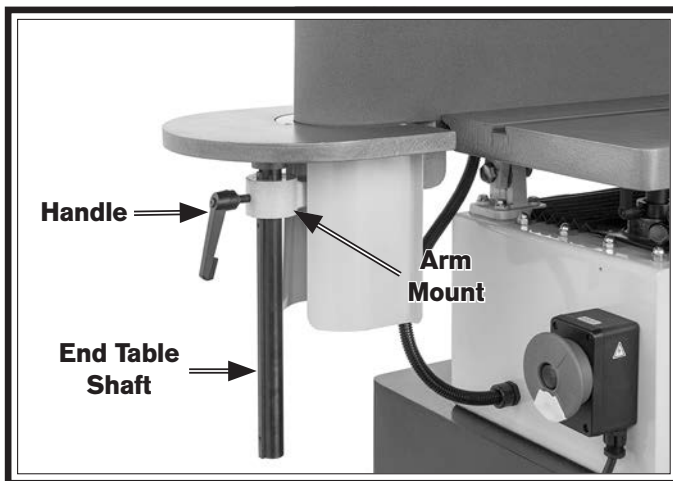


Figure 25. End table installed.

- 12.** Align auxiliary dust hood hinges with sander hinges shown in **Figure 26** and secure with remaining (2) hinge pins by tapping pins with rubber mallet until fully seated.

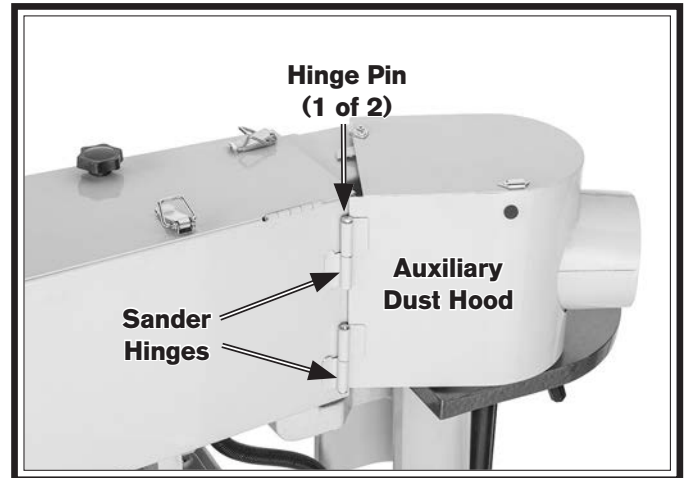


Figure 26. Auxiliary dust hood installed.

- 13.** Latch belt door latch shown in **Figure 27**.

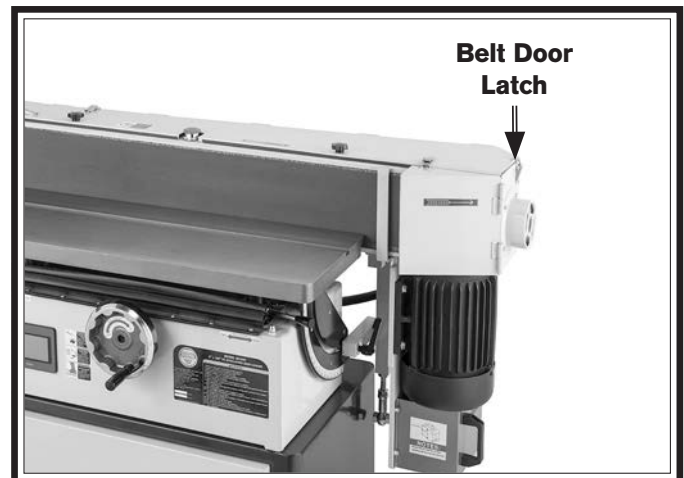


Figure 27. Belt access door latched closed.

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.

Recommended CFM: 400 CFM at Each Port

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 collector:

1. Fit (2) 4" dust hoses connected to dust collector over dust ports and secure in place with hose clamps (see **Figure 28**).

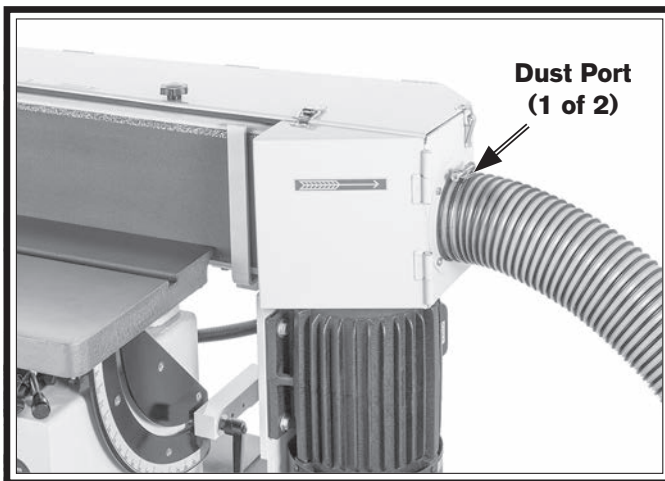


Figure 28. Dust hose connected to dust port.

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

Note: *A tight fit is necessary and ensures proper performance during operation.*

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 45** for solutions to common problems that may occur. If you need additional help, contact our Tech Support at (360) 734-1540.*

The test run consists of verifying the following:

- Belt tracks properly and will not come off the rollers during initial startup.
- Motor powers up and runs correctly.
- E-Stop buttons work 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.

To test run machine:

1. Clear away all tools and objects used during preparation and assembly.
2. Press both E-Stop buttons in (see **Figures 29–30**).

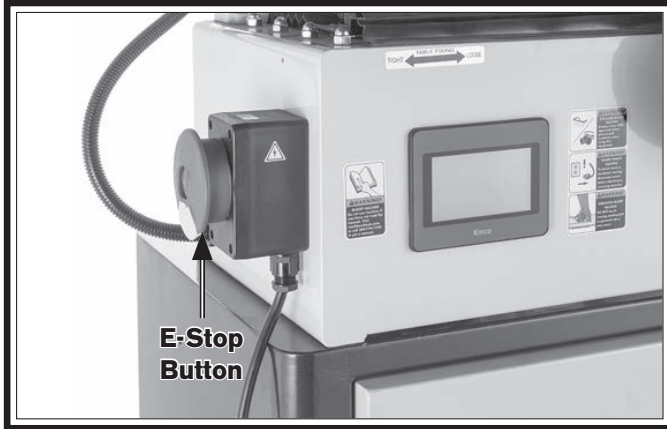


Figure 29. Location of cabinet E-Stop button.

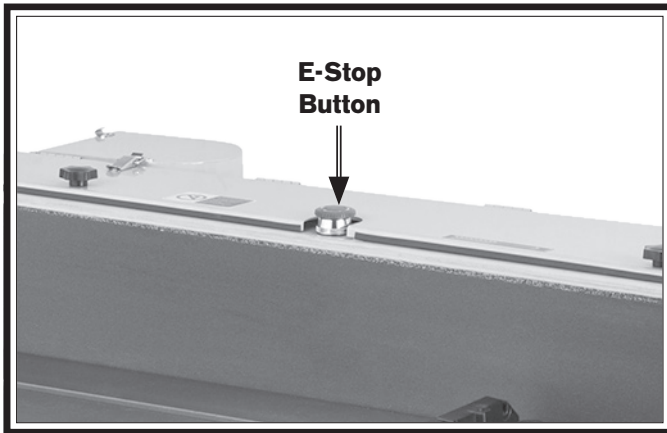


Figure 30. Location of belt access door E-Stop button.

3. Swing both dust hoods open.

Note: The auxiliary dust hood can be latched open as shown in **Figure 31**.

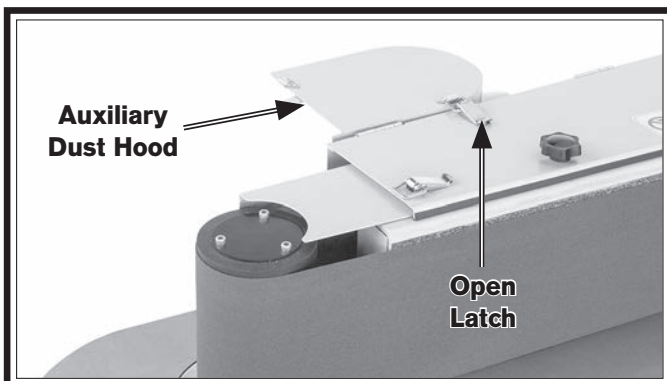


Figure 31. Auxiliary dust hood latched open.

4. Loosen (2) hex bolts shown in **Figure 32** enough to allow backstop adjustment.

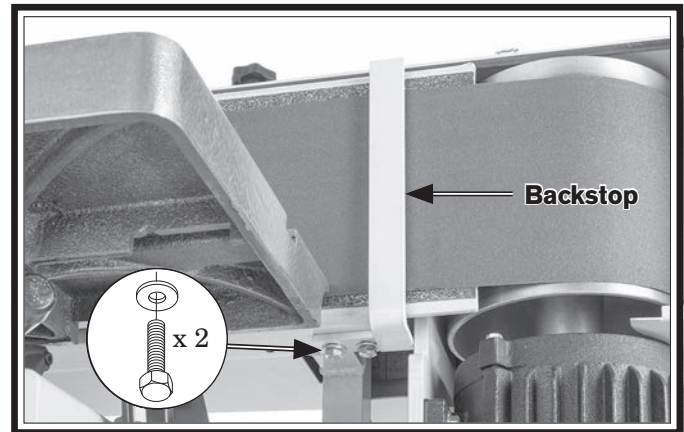


Figure 32. Location of backstop hex bolts.

5. Follow **Steps 2–5** as described in **Pre-Tracking Belt** on **Page 27** to pre-track sanding belt.
6. Connect machine to power source.
7. Twist E-Stop buttons clockwise until they spring out. This resets switches so machine can start.
8. Use ON and OFF buttons on touch screen digital readout (see **Figure 33**) to start and immediately stop machine, while watching how belt tracks on drums. Belt "tracking" refers to belt positioning on drums when belt rotates. When tracking properly, belt remains centered on drums as they rotate.

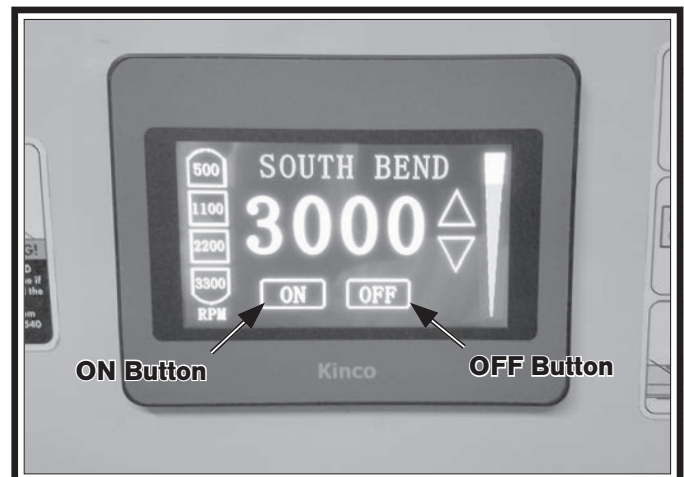


Figure 33. Touch screen power controls.

— If belt tracks centered on drums, proceed to **Step 9**.

— If belt *does not* track centered on drums, you must adjust belt tracking before proceeding to next step so belt is not damaged. Refer to **Checking/Adjusting Belt Tracking** on **Page 28** and follow **Steps 3–8** before continuing.

- 9.** Start machine and allow it to run while ensuring belt tracks properly.

The motor should run smoothly and without unusual problems or noises and belt **MUST** rotate in same direction as arrows of belt rotation on machine.

— If motor runs smoothly and belt rotates in correct direction, proceed to **Step 10**.

— If motor *does not* run smoothly, or belt *does not* rotate in correct direction, turn machine **OFF** and disconnect power. Contact Technical Service before proceeding.

- 10.** Press cabinet E-Stop button to turn machine **OFF**.

- 11.** WITHOUT resetting cabinet E-Stop button, try to start machine by using the touch screen. Machine should not start.

— If machine *does not* start, depression safety feature of this E-Stop button is working correctly. Proceed to **Step 12**.

— If machine *does* start, immediately turn machine **OFF** and disconnect power. Depression safety feature of this E-Stop button is NOT working properly and must be replaced before further using machine.

- 12.** Remove disabling key from cabinet E-Stop button.

- 13.** Try to reset cabinet E-Stop button and start machine. Button should not reset and machine should not start.

— If button *does not* reset, disabling key safety feature of this E-Stop button is working correctly. Proceed to **Step 14**.

— If button *does* reset and machine starts, immediately turn machine **OFF** and disconnect power. Disabling key safety feature of this E-Stop button is NOT working properly and must be replaced before further using machine.

- 14.** Replace cabinet E-Stop button disabling key and start machine.

- 15.** Press belt access door E-Stop button to turn machine **OFF**.

- 16.** WITHOUT resetting belt access door E-Stop button, try to start machine by using the touch screen. Machine should not start.

— If machine *does not* start, safety feature of this E-Stop button is working correctly. Proceed to **Step 17**.

— If machine *does* start, immediately turn machine **OFF** and disconnect power. Safety feature of this E-Stop button is NOT working properly and must be replaced before further using machine. Contact Tech Support.

- 17.** Tighten (2) hex bolts from **Step 4** to secure backstop.

Note: *There should be 1/8" clearance between backstop and belt.*

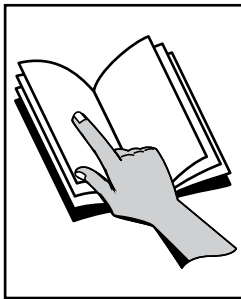
- 18.** Close and secure dust hoods with latches.

Congratulations! Test run is complete.

Operation Overview

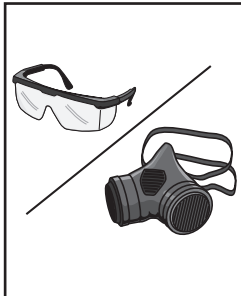
The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so they can more easily understand the controls discussed later in this manual.

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.



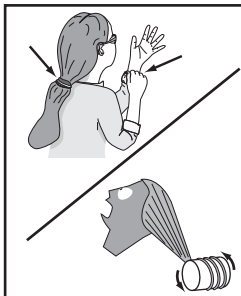
!WARNING

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



!WARNING

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.



!WARNING

Keep hair, clothing, and jewelry away from moving parts at all times. Entanglement can result in death, amputation, or severe crushing injuries!

NOTICE

If you are not experienced with this type of machine, **WE STRONGLY RECOMMEND** that you seek additional training outside of this manual. Read books/magazines or get formal training before beginning any projects. Regardless of the content in this section, **South Bend Tools will not be held liable for accidents caused by lack of training.**

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

1. Examines the workpiece to make sure it is suitable for sanding. No extreme bows, knots, or cracks should exist.
2. Prepares and trims workpiece as necessary.
3. Inspects and installs sanding belt with appropriate grit for operation.
4. Adjusts platen tilt as desired, then adjusts table to allow maximum $\frac{1}{16}$ " clearance between table and sandpaper.
5. Ties back loose hair and clothing, and puts on safety glasses and respirator. Takes all other required safety precautions.
6. Starts sander and dust collector system.
7. While holding workpiece with both hands, holds workpiece firmly and flatly against miter gauge, backstop, table, or fence, and gradually eases workpiece into sanding belt.
8. Stops machine.

Stock Inspection & Requirements

Some workpieces are not safe to sand or may require modification before they are safe to sand.

Before sanding, inspect all workpieces for the following:

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

Sanding improper materials increases risk of respiratory harm to operator and bystanders due to especially fine dust inherently created by all types of sanding operations—even if a dust collector is used. Additionally, life of machine and sanding belts will be greatly reduced (or immediately damaged) from sanding improper materials or from exposure to fine dust created when doing so.
- **Foreign Objects:** Nails, staples, dirt, rocks and other foreign objects are often embedded in wood. While sanding, these objects can become dislodged and tear sanding belt. Always visually inspect your workpiece for these items. If they cannot 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.

Sanding Tips

- Avoid sanding a workpiece more than is necessary, since doing so will unnecessarily decrease belt life and cost you more money over time.
- Extend the life of sanding belts by regularly using a PRO-STIK® abrasive surface cleaner (see **Accessories** beginning on **Page 35**).
- As a rule-of-thumb, sand with progressively higher grit numbers in increments of 50 or less.
- Replace sandpaper with a higher grit to achieve a finer finish (refer to **Installing/ Changing Sanding Belts** on **Page 25**).
- Hold the workpiece securely with both hands. Use the tables, miter gauge, fence, or backstop whenever possible to support workpieces. Do not force the workpiece against the belt.
- When sanding workpieces with a bow or crown, place the high point up on the table to prevent the workpiece from rocking, then take very light passes.
- Use the full width of the sanding belt by adjusting the table height or workpiece position so sanding is not always done in just one area.
- Make sure belt access door is closed and secured during operation.
- Belts clog and wear. Change belts whenever you notice a difference in sanding quality/performance.

WARNING

Moving belt can cause serious personal injury if it comes in contact with fingers, hands, or other body parts. Always support workpiece against table, miter gauge, fence, or backstop when sanding. Use extreme care to provide a safe distance between belt and any body part.

Choosing Sanding Belts

The Model SB1097 uses a 6" x 108" sanding belt.

We recommend using aluminum-oxide sanding belts for best results. The grit you choose will depend on the condition and species of wood, and the level of finish you wish to achieve.

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 marks and initial finish sanding.
120–180	Fine	Finish sanding.

The general rule of thumb is to sand a workpiece with progressively higher grit numbers—in increments of 50 or less. Avoid skipping grits; the larger the grit increase at one time, 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.

Note: Sandpaper finer than 180-grit will easily load up or burn workpieces.

Installing/Changing Sanding Belts

The sanding belt should be replaced whenever there is a noticeable change in sanding quality/performance. You may also need to change grit sizes of sanding belt for quick material removal or finer finishes.

Required Sanding Belt Size 6" x 108"

To change the sanding belt on the Model SB1097, the sanding spindle must be removed. Refer to **Installing Sanding Drum** instructions on **Page 32** before proceeding.

Items Needed	Qty
Wrench or Socket 12mm.....	1
Sanding Belt.....	1

To install/change sanding belt:

1. DISCONNECT MACHINE FROM POWER!
2. Unlatch dust hood latches shown in **Figure 34**.
3. Loosen (2) belt door lock knobs, unlatch belt door latch, and open belt access door (see **Figure 34**).

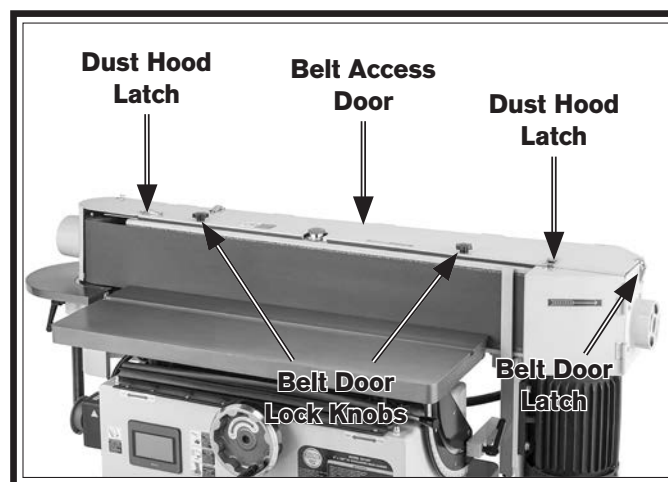


Figure 34. Location of latches and door lock knobs.

4. Swing both dust hoods open.

Note: *The auxiliary dust hood can be latched open as shown in **Figure 35**.*

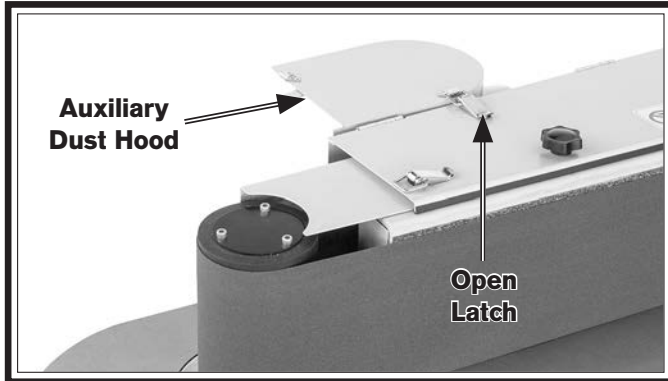


Figure 35. Auxiliary dust hood latched open.

5. Loosen (2) hex bolts shown in **Figure 36** enough to allow backstop adjustment.

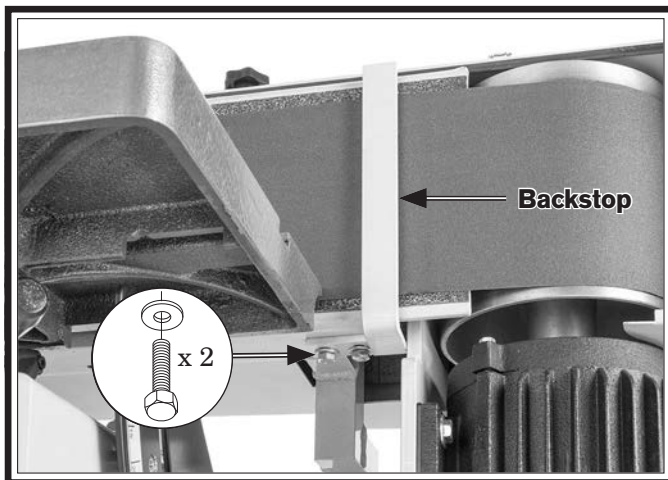


Figure 36. Location of backstop hex bolts.

6. Move belt tension lever up and toward idler roller as shown in **Figure 37**.

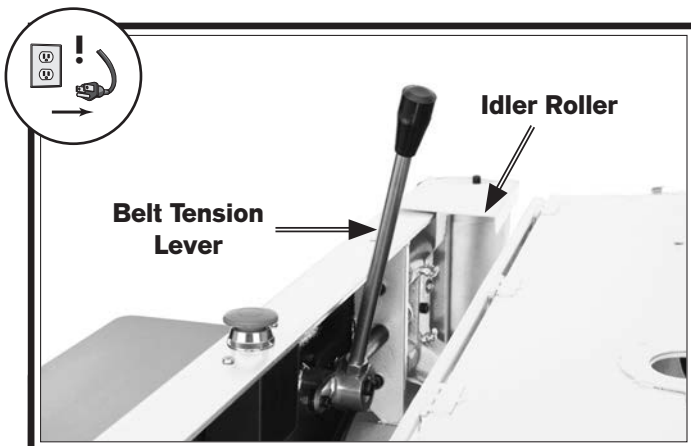


Figure 37. Belt tension lever in un-tensioned position.

7. Remove old sanding belt and replace with new one, being sure arrows on belt match arrows of belt rotation on machine (see **Figure 38**).

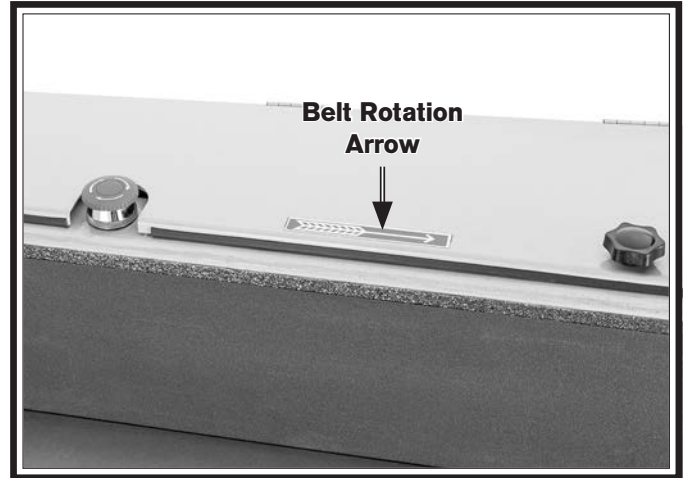


Figure 38. Sanding belt rotation arrow.

8. Move belt tension lever down, toward drive roller, to tension sanding belt (see **Figure 39**).

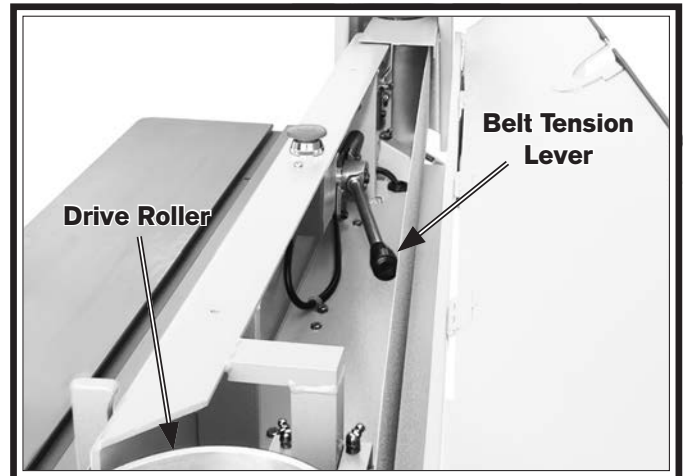


Figure 39. Sanding belt installed and tensioned.

9. Close belt access door and secure with lock knobs and belt door latch from **Step 3**.
10. Belt **MUST** be pre-tracked before connecting machine to power. Proceed to **Pre-Tracking Belt** on **Page 27**.

Pre-Tracking Belt

You must perform the following procedure after installing a sanding belt to ensure that the belt does not come off or get jammed against the sanding belt frame.

Items Needed	Qty
Protective Gloves.....	1 Pair

To pre-track belt:

1. Install desired sanding belt as described in **Installing/Changing Sanding Belts** on **Page 25**.

⚠ CAUTION

Fingers or other body parts can be quickly injured if they touch moving sanding surfaces. To reduce this risk, wear gloves in next step.

2. Standing in front of sander, push sanding belt multiple times along platen, so that it moves in direction of operation (clockwise on rollers), then watch how belt tracks on rollers.
3. Loosen jam nut shown in **Figure 40**.
4. Turn tracking adjustment nut in 1-turn increments to adjust tracking until sanding belt tracks centered on drive wheel when rotated by hand (see **Figures 40–41**).



Figure 41. Example of sanding belt centered on drive roller.

Note: *Adjust nut clockwise to adjust tracking upward or counterclockwise to adjust tracking downward.*

5. Once belt tracks centered on drive wheel, tighten jam nut from **Step 3** to secure setting.
6. Proceed to **Checking/Adjusting Belt Tracking** on **Page 28** to complete belt tracking.

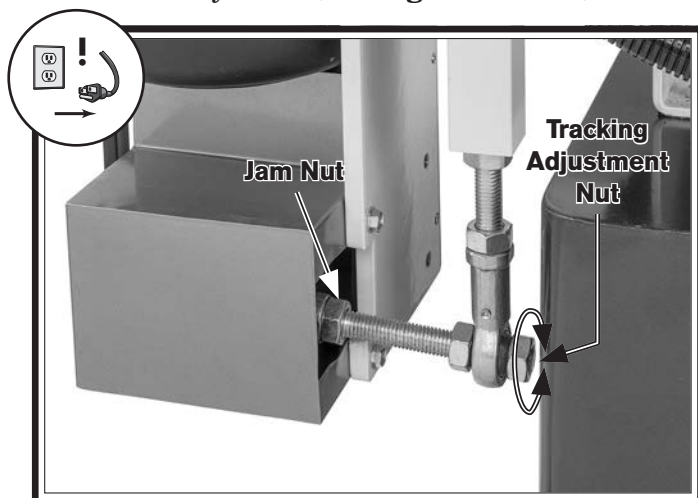


Figure 40. Belt tracking components.

Checking/Adjusting Belt Tracking

The purpose of belt tracking is to make sure the belt stays centered on the rollers and platen during sanding operations. The tracking needs to be checked any time you change or replace the belt.

If sanding belt tracking is not adjusted properly, the belt can be damaged and present a serious safety hazard if it moves off center of the rollers and throws material when it contacts the belt guard and other components.

⚠ WARNING

It is necessary to connect machine to power to visually track the sanding belt tracking. DO NOT attempt to perform any adjustments to sanding belt while machine is connected to power. Failure to unplug machine before making adjustments could result in serious personal injury.

Tools Needed	Qty
Open-End Wrench 22mm	1
Wrench or Socket 12mm.....	1

To check/adjust belt tracking:

1. Install desired sanding belt as described in **Installing/Changing Sanding Belts** on **Page 25**.
2. Pre-track sanding belt as described in **Pre-Tracking Belt** on **Page 27**.
3. Connect machine to power and use ON and OFF buttons to immediately start and stop sander. Sander should run just long enough to observe belt tracking across rollers and platen.
 - If belt tracks centered on rollers, no adjustment is necessary.
 - If belt does not track centered on rollers, proceed to **Step 4**.

4. DISCONNECT MACHINE FROM POWER!

5. Loosen jam nut shown in **Figure 42**.
6. Turn tracking adjustment nut counterclockwise to adjust tracking downward or clockwise to adjust tracking upward (see **Figure 42**).

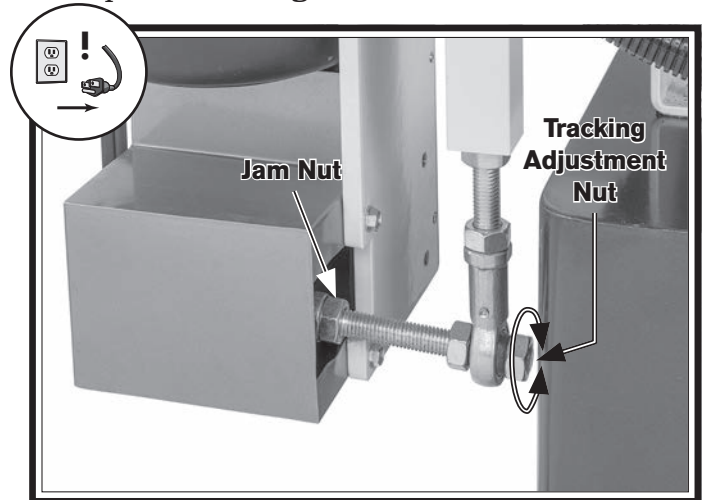


Figure 42. Belt tracking components.

Note: Adjust tracking adjustment nut in about 1-turn increments.

7. Repeat **Steps 3–6**, fine-tuning tracking until belt tracks in center of rollers.
8. Tighten jam nut from **Step 5** to secure setting.
9. Tighten (2) hex bolts shown in **Figure 43** to secure backstop.

Note: There should be 1/8" clearance between backstop and belt.

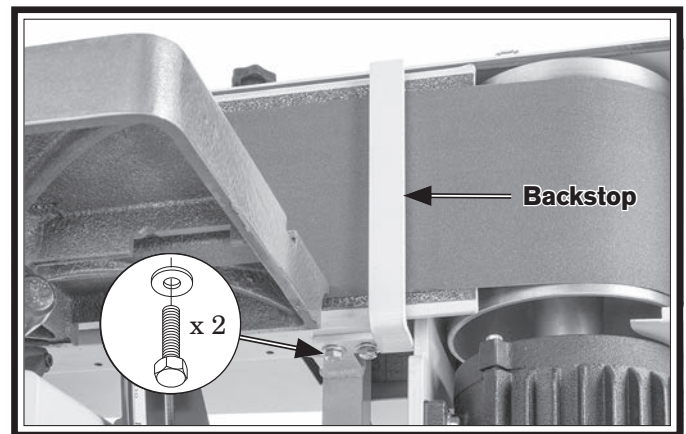


Figure 43. Location of backstop hex bolts.

10. Close and secure dust hoods with latches.

Adjusting Main Table

The table on the oscillating edge sander moves both vertically and horizontally to accommodate various workpiece shapes and thicknesses. Adjust the table height periodically to reduce spot wear of the sanding belt. Adjust the table clearance whenever the table height or platen tilt has been adjusted to maintain a safe distance between the platen and table.

Adjusting Main Table Height

1. Loosen (2) main table height lock handles (see **Figure 44**).
2. Turn main table height handwheel clockwise to raise table or counterclockwise to lower table (see **Figure 44**).

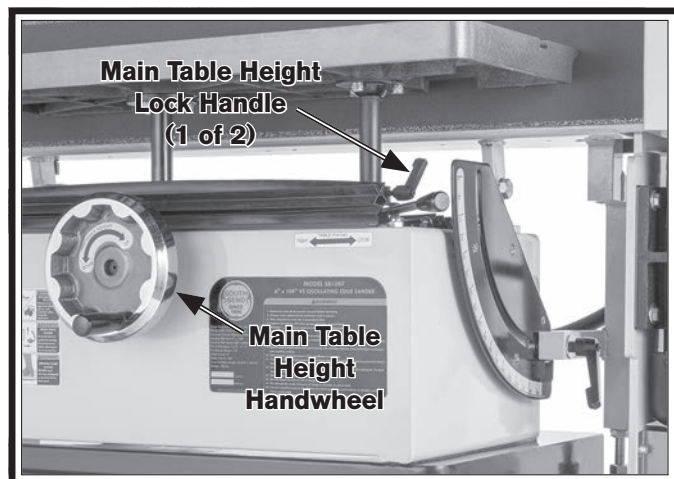


Figure 44. Main table height adjustment controls.

3. Tighten main table height lock handles to secure setting.

Adjusting Main Table Clearance

1. Move (2) main table lock levers (see **Figure 45**) to loose position as illustrated by labels on machine.

2. Push or pull main table until there is a gap of no more than $\frac{1}{16}$ " from sanding belt (see **Figure 45**).

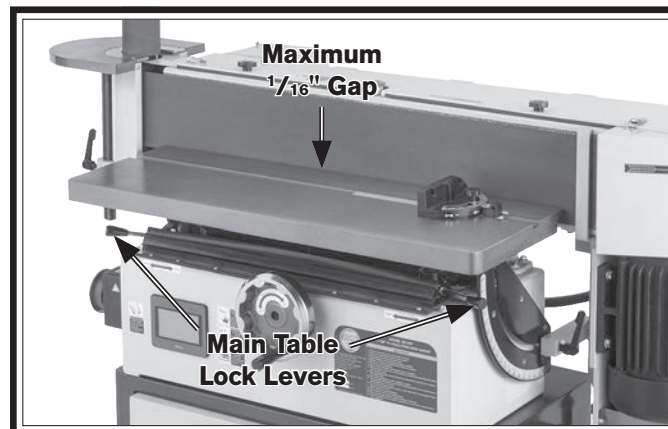


Figure 45. Main table clearance adjustment controls.

3. Lock table lock levers to secure table position.

Adjusting Miter Gauge

The miter gauge needs to be adjusted perpendicular to the face of the belt when it is mounted in the table slot.

To adjust miter gauge:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen lock knob shown in **Figure 46**.
3. Rotate miter gauge until pointer on scale indicates desired angle (see **Figure 46**).

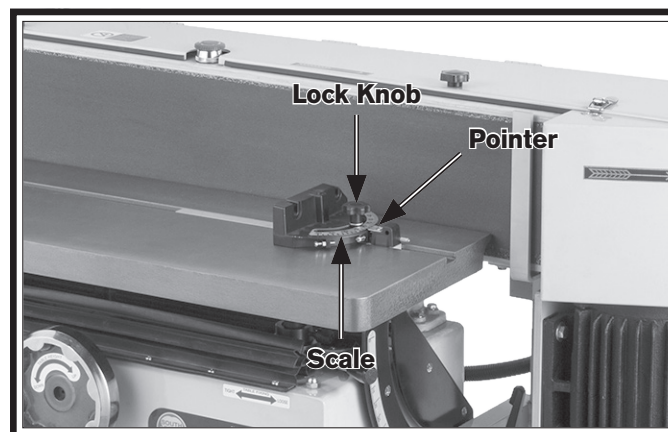


Figure 46. Miter gauge adjustment components.

4. Tighten lock knob from **Step 2** to secure.

Edge & End Sanding

Proper use of the oscillating edge sander will yield excellent sanding results due to the oscillating movement. Always use the miter gauge or the backstop to support the workpiece whenever possible. Edge and end sanding operations are performed on the main table against the platen.

To edge or end sand:

1. Connect machine to power, turn it **ON**, and allow it to reach full speed.
2. Support workpiece against miter gauge or backstop and slowly feed workpiece into moving belt with light, even pressure. Maintain control of workpiece, as shown in **Figures 47–48**. **DO NOT** force workpiece against belt.

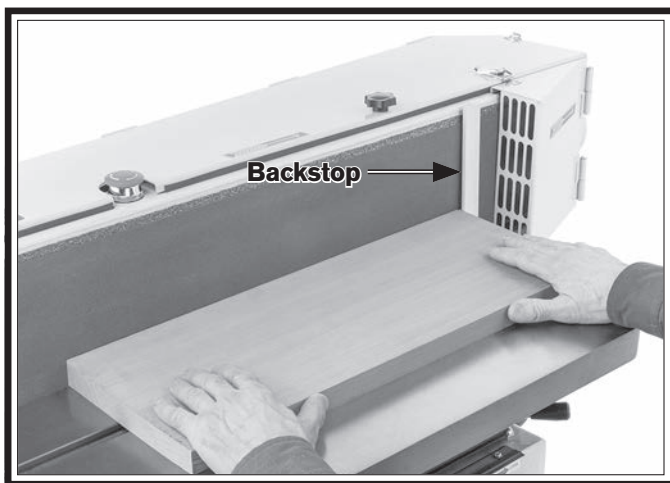


Figure 47. Typical edge-sanding operation.



Figure 48. Typical end-sanding operation.

⚠ WARNING

Moving sanding belt can cause serious personal injury if it comes in contact with fingers, hands, or other body parts. Make sure workpiece is always supported against table. Use extreme care to provide a safe distance between belt and any part of your body.

⚠ CAUTION

If you must feed workpiece into sanding belt corner first, feed trailing corner first. Feeding leading corner first could cause belt to grab workpiece and jerk it out of your hands.

Adjusting Platen Tilt

The platen can be adjusted from 0–90°, making it perfect for angled workpieces and allowing for both horizontal and vertical sanding.

To adjust platen tilt:

1. Loosen platen tilt lock handle (see **Figure 49**).
2. Tilt sander until pointer is aligned with desired angle on scale (see **Figure 49**).

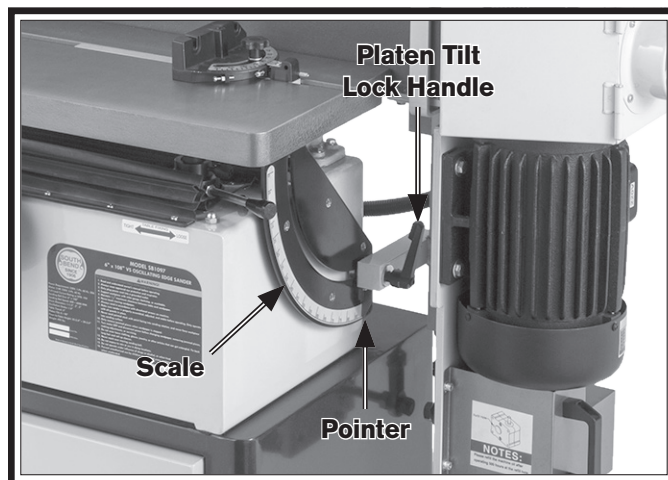


Figure 49. Platen tilt adjustment controls.

3. Tighten platen tilt lock handle to secure setting.

Bevel Sanding

Adjust the platen tilt to match the angle you wish to sand on a workpiece. For additional control over the workpiece, use the miter gauge or backstop to support workpieces during bevel-sanding operations. Always keep the workpiece against the table and use two hands to control it.

To bevel sand:

1. Set platen tilt to match angle of bevel on workpiece, and set main table height to match workpiece thickness (refer to **Adjusting Platen Tilt** on **Page 30** and **Adjusting Main Table** on **Page 29**).
2. Connect machine to power, turn it **ON**, and allow it to reach full speed.
3. Support workpiece against miter gauge or backstop and slowly feed workpiece into moving belt with light, even pressure. Maintain control of workpiece, as shown in **Figure 50**. **DO NOT** force workpiece against belt.

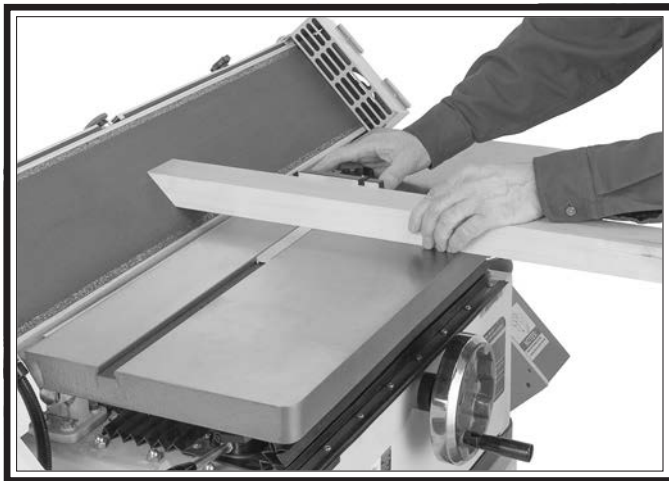


Figure 50. Typical bevel sanding operation.

Installing Fence

The Model SB1097 comes with a removable fence to assist sanding operations when the platen is in the horizontal position.

Items Needed	Qty
Knob Bolts $\frac{5}{16}$ "-18 x 1"	2
Fender Washers $\frac{5}{16}$ "	2

To install fence:

1. **DISCONNECT MACHINE FROM POWER!**
2. Set fence on main table and align slots with threaded holes in table (see **Figure 51**).
3. Secure fence to table with (2) $\frac{5}{16}$ "-18 x 1" knob bolts and $\frac{5}{16}$ " fender washers (see **Figure 51**).

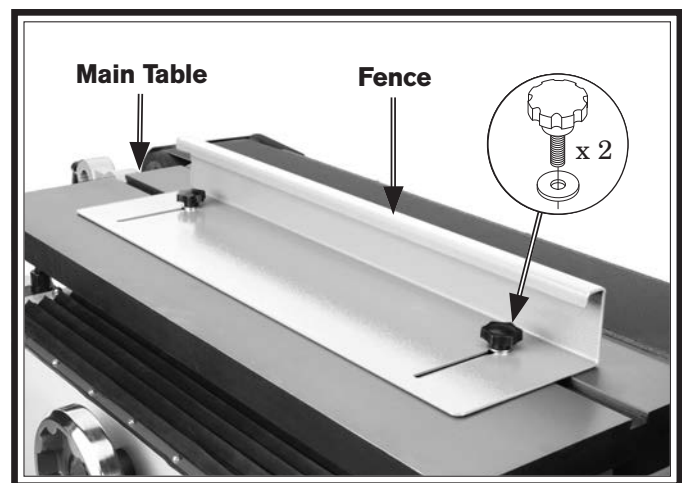


Figure 51. Fence installed on main table.

Face Sanding

Adjust the platen to the horizontal position for face sanding, and always use the miter gauge, fence, or backstop to support the workpiece whenever possible. Face sanding operations are performed right on the sanding belt against the platen.

To face sand:

1. Connect machine to power, turn it **ON**, and allow it to reach full speed.
2. Support workpiece against miter gauge, fence, or backstop and slowly feed workpiece into moving belt with light, even pressure. Maintain control of workpiece, as shown in **Figure 52**. **DO NOT** force workpiece against belt.

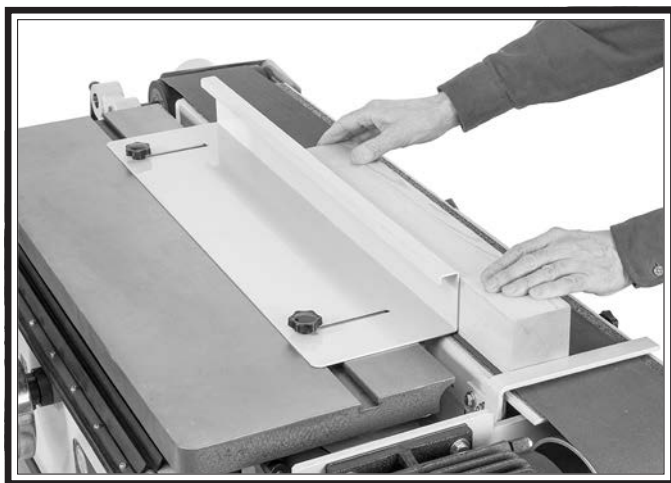


Figure 52. Typical face sanding operation.

⚠️ WARNING

Moving sanding belt can cause serious personal injury if it comes in contact with fingers, hands, or other body parts. Make sure workpiece is always supported. Use extreme care to provide a safe distance between belt and any part of your body.

Installing Sanding Drum

The Model SB1097 comes with a spindle sanding attachment for sanding curved surfaces. The included sanding drums measure 1½", 2", and 3" in diameter. Be sure to periodically adjust the end table height to minimize spot wear on the drum and sleeve.

Items Needed

	Qty
Hex Wrench 4mm	1
Sanding Drum Spindle	1
Phillips Head Screwdriver #2.....	1
Sanding Drum (dia. of choice)	1
Spindle Rod	1
Wrench or Socket ½"	1
Table Insert (dia. of choice)	1

To install sanding drum:

1. **DISCONNECT MACHINE FROM POWER!**
2. Release auxiliary dust hood and latch it open (see **Figure 53**).

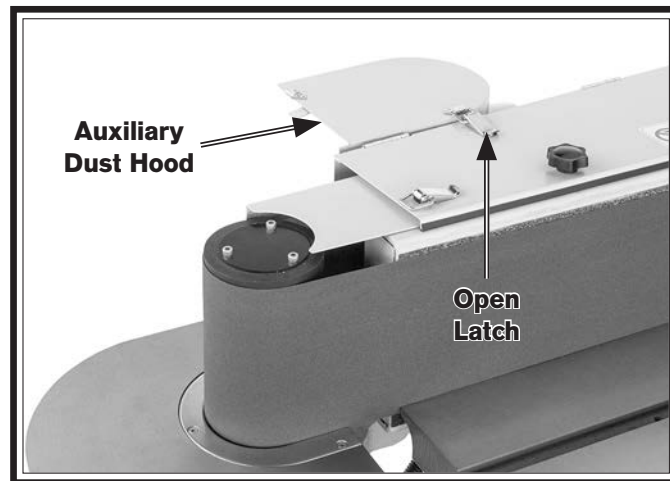


Figure 53. Auxiliary dust hood latched open.

3. Remove (3) cap screws and roller cover from roller (see **Figure 54**).

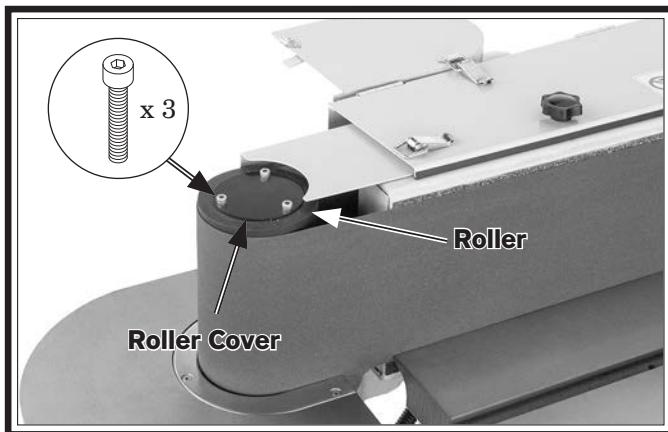


Figure 54. Location of roller cover and cap screws.

4. Attach spindle to roller using screws removed in **Step 3** (see **Figure 55**).

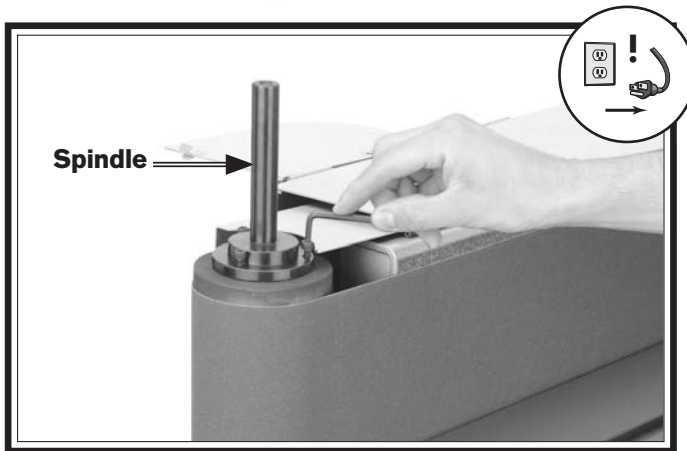


Figure 55. Attaching spindle to roller.

5. Remove 4" table insert on end table by removing (3) flat head screws shown in **Figure 56**.

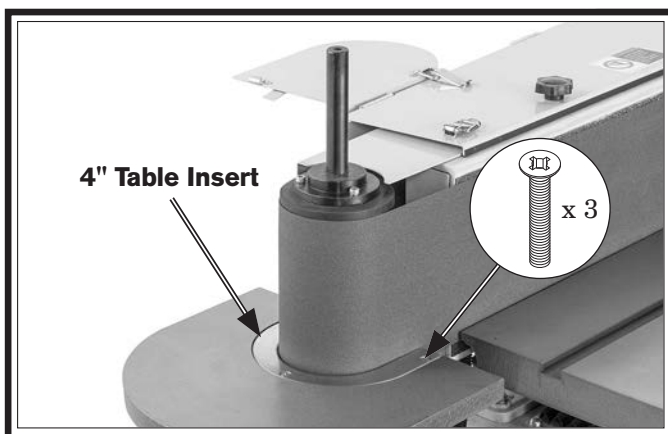


Figure 56. Location of table insert and flat head screws.

6. Slide desired sanding drum onto spindle and secure with (1) $\frac{5}{16}$ "-18 x $\frac{1}{2}$ " flange bolt and $\frac{5}{16}$ " flat washer (see **Figure 57**).
7. Insert spindle rod into hole in base of spindle to anchor it and tighten flange bolt from **Step 6** (see **Figure 57**).

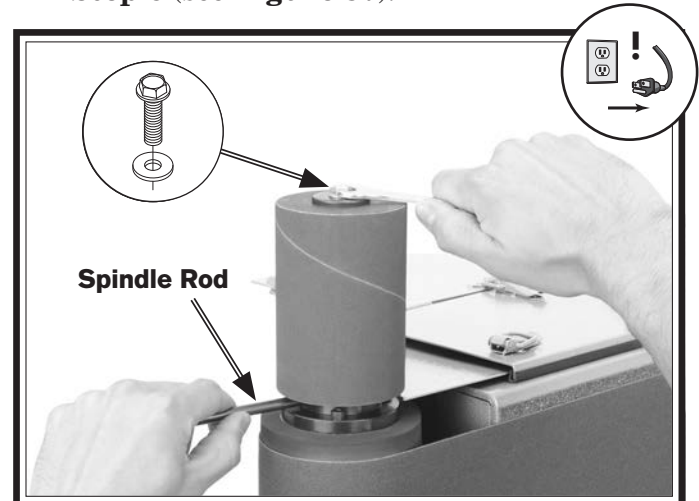


Figure 57. Anchoring spindle to tighten flange bolt.

8. Install smallest table insert that will fit around sanding drum with screws removed in **Step 5** (see **Figure 58**).

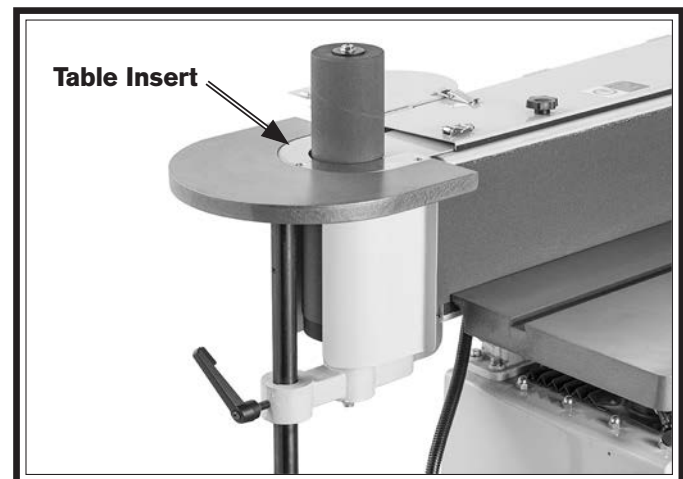


Figure 58. Table insert, sanding drum, and spindle installed.

Adjusting End Table

The end table has 10" of travel that can accommodate various sanding operations and decrease spot wear on the sanding drums.

To adjust end table:

1. Loosen end table height lock handle (see **Figure 59**).
2. Tilt end table to desired height (see **Figure 59**).

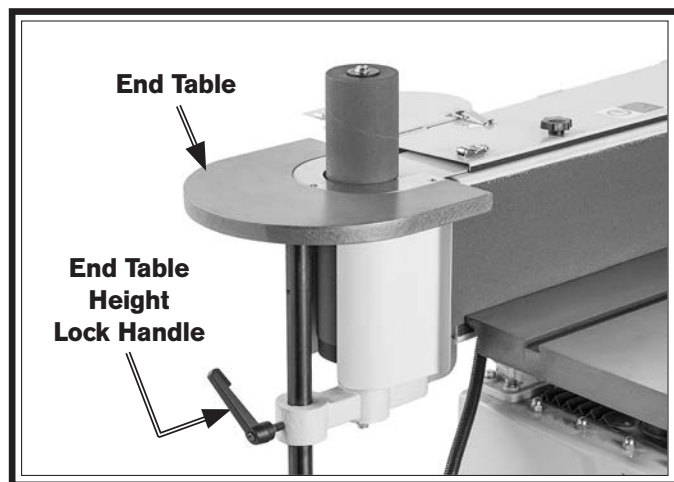


Figure 59. End table height components.

3. Tighten end table height lock handle to secure.
4. Install smallest table insert that fits around sanding drum or roller to keep clearance gap equal to or less than $\frac{1}{16}$ " (see **Figure 60** and **Installing Sanding Drum** on **Page 32** for more information).

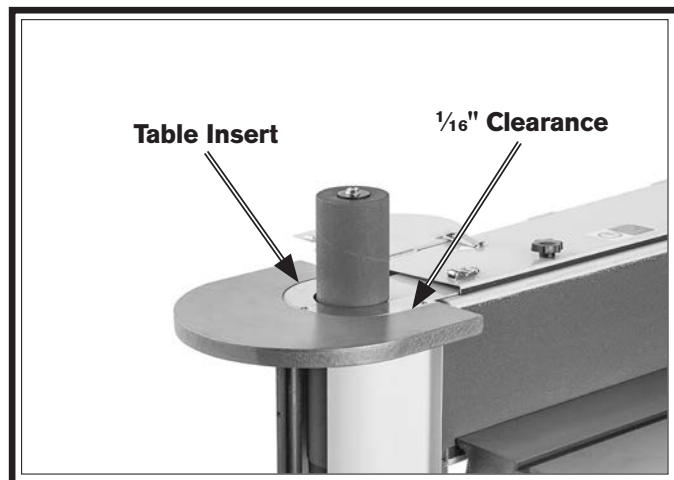


Figure 60. Table insert with less than $\frac{1}{16}$ " clearance.

Contour Sanding

Contour sanding operations produce a high-quality sanding finish on inside contours and are performed on the end table with the workpiece pressing against one of the sanding drums or against the roller. Always use two hands to maintain the best control.

To contour sand:

1. **DISCONNECT MACHINE FROM POWER!**
2. Open auxiliary dust hood to access sanding roller (or refer to **Installing Sanding Drum** on **Page 32** to install sanding drum).
3. Adjust end table height as desired (see **Adjusting End Table**).
4. Connect machine to power, turn it **ON**, and allow it to reach full speed.
5. While securely holding workpiece, slowly press workpiece against drum or roller with light, even pressure. Maintain control of workpiece, as shown in **Figure 61**, while maintaining consistent pressure against end table. Use extra caution when sanding end grain.

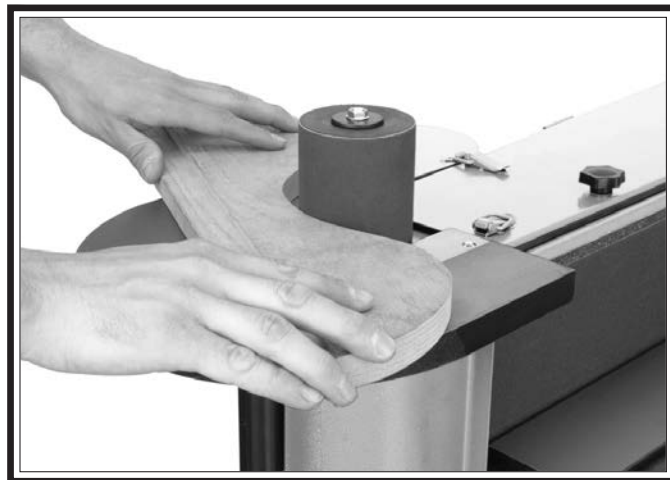


Figure 61. Typical contour sanding operation.

⚠ WARNING

Do not contour sand without end table properly installed or serious personal injury could result.

Accessories

This section includes the most common accessories available for your machine, which are available 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.

Sanding Sleeves 1½" x 4½", 3-Pk.

H5445-60-Grit
H5446-80-Grit
H5447-100-Grit
H5448-120-Grit
H5449-150-Grit

Keep extra aluminum oxide sanding sleeves on hand for your Model SB1097 1½" sanding drum attachment.

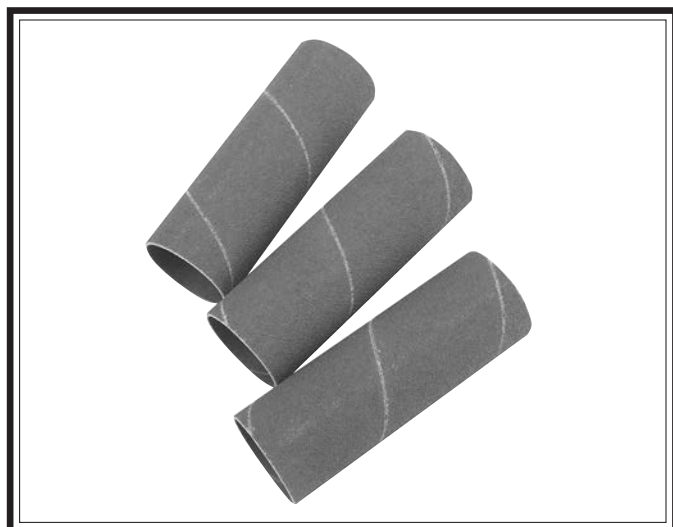


Figure 62. Model H5445 60-Grit Sanding Sleeves.

Sanding Sleeves 2" x 4½", 3-Pk.

H5450-60-Grit
H5451-80-Grit
H5452-100-Grit
H5453-120-Grit
H5454-150-Grit

Keep extra aluminum oxide sanding sleeves on hand for your Model SB1097 2" sanding drum attachment.

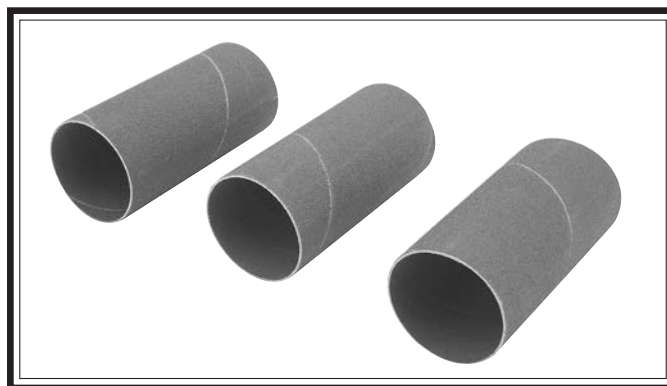


Figure 63. Model H5451 80-Grit Sanding Sleeves.

Sanding Sleeves 3" x 4½", 3-Pk.

H5455-60-Grit
H5456-80-Grit
H5457-100-Grit
H5458-120-Grit
H5459-150-Grit

Keep extra aluminum oxide sanding sleeves on hand for your Model SB1097 3" sanding drum attachment.

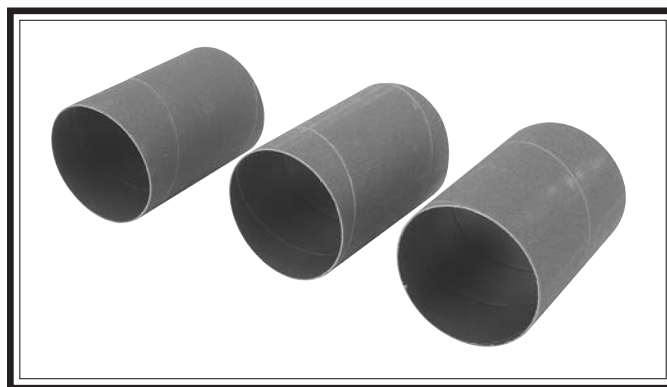


Figure 64. Model H5459 150-Grit Sanding Sleeves.

order online at www.grizzly.com or call 1-800-523-4777

A/O Sanding Belts 6" x 108"

H3757–60-Grit

H3758–80-Grit

H3759–100-Grit

H3760–120-Grit

H3761–150-Grit

These belts feature tough aluminum oxide grain and are sized for the Model SB1097.

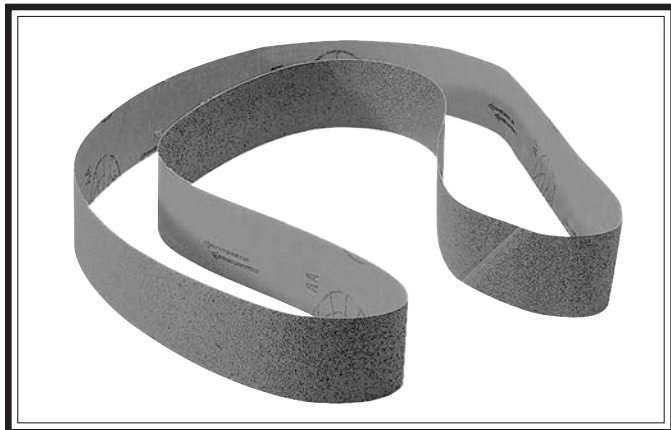


Figure 65. Model H3760 120-Grit Sanding Belt.

SB1092–2 HP Cyclone Dust Collector

The Model SB1092 features a 2 HP motor, a whopping 1700 CFM of airflow capacity, and a 28-gallon collection capacity. It's packed with features like a built-in sound muffler, an automatic filter paddle brush for easy cleaning, a remote-controlled magnetic switch, and a quick-release lift handle for easy sawdust disposal.



Figure 66. Model SB1092 2 HP Cyclone Dust Collector.

T20501–Face Shield Crown Protector 4"

T20502–Face Shield Crown Protector 7"

T20503–Face Shield Window

T20451–“Kirova” Clear Safety Glasses

T20452–“Kirova” Anti-Reflective S. Glasses

T20456–DAKURA Safety Glasses



Figure 67. Assortment of basic eye protection.

H2499–Small Half-Mask Respirator

H3631–Medium Half-Mask Respirator

H3632–Large Half-Mask Respirator

H3635–Cartridge Filter Pair P100

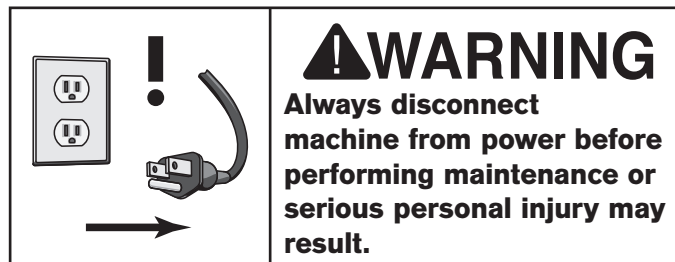
Wood dust has been linked to nasal cancer and severe respiratory illnesses. If you work around dust everyday, a half-mask respirator can be a lifesaver. Also compatible with safety glasses!



Figure 68. Half-mask respirator and disposable cartridge filters.

order online at www.grizzly.com or call 1-800-523-4777

Maintenance Schedule Cleaning & Protecting



For optimum performance from this machine, this maintenance schedule must be strictly followed.

Ongoing

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:

- Check/correct loose mounting bolts.
- Check/clean/replace damaged sanding belt.
- Check/replace worn E-Stop buttons.
- Check/replace worn or damaged wires.
- Clean/protect table.
- Correct any other unsafe condition.

Weekly

- Check/adjust lubrication level in gearbox.

Monthly

- V-belt tension, damage, or wear.
- Clean/vacuum dust buildup from inside cabinet and belt guard and off motor.

Bare metal surfaces can quickly develop surface rust if not coated. Machinery stored near windows in direct sunlight or where paints, thinners, or certain gasses are open to the air can experience bleaching, discoloring of paint or yellowing of clear plastic guards.

Cleaning the SB1097 is relatively easy. Vacuum excess 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.

Protect the unpainted cast iron tables by wiping them clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces. Keep the tables rust-free with regular applications of products like G96® Gun Treatment, SLIPIT®, or Boeshield® T-9 (see **Figure 69**).

Recommended Metal Protectants

G5562–SLIPIT® 1 Qt. Gel

G5563–SLIPIT® 12 Oz. Spray

G2870–Boeshield® T-9 4 Oz. Spray

G2871–Boeshield® T-9 12 Oz. Spray

H3788–G96® Gun Treatment 12 Oz. Spray

H3789–G96® Gun Treatment 4.5 Oz. Spray



Figure 69. Recommended products for protecting unpainted cast iron/steel parts on machinery.

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 an oil/ grease solvent cleaner or mineral spirits before applying lubrication.

All the bearings are sealed and permanently lubricated. Leave them alone until they need to be replaced.

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

- Rack & Pinion Gear
- Oil Ports & Grease Fittings
- Gearbox

T26419—Syn-O-Gen Synthetic Grease

Formulated with 100% pure synthesized hydrocarbon basestocks that are compounded with special thickeners and additives to make Syn-O-Gen non-melt, tacky, and water-resistant. Extremely low pour point, extremely high temperature oxidation, and thermal stability produce a grease that is unmatched in performance.



Figure 70. T26419 Syn-O-Gen Synthetic Grease.

T26685—ISO 32 Moly-D Way Oil, 1 Gal.

T23963—ISO 32 Moly-D Way Oil, 5 Gal.

Moly-D oils are some of the best we have found for maintaining the critical components of machinery because they tend to resist run-off and maintain their lubricity under a variety of conditions—as well as reduce chatter or slip. Buy in bulk and save with 5-gallon quantities.



Figure 71. ISO 32 Multi-Function Machine Oil.

T28042—Primrose Moly-D ISO 320 Gear Oil

Armor Plate with Moly-D Industrial XHP 514M is an industrial gear oil from Primrose that has been developed specifically for the significantly higher temperatures and pressures typical of modern industrial applications. 1 gallon size.



Figure 72. Model T28042 ISO 320 Gear Oil.

Rack & Pinion Gears

Lubrication Type.....T26419 or NLGI#2 Equiv.
 Amount Thin Coat
 Frequency As Needed

Tools Needed

Qty

Rag1
 Mineral Spirits..... As Needed
 Wire Brushes.....2

Lower table fully to expose the rack and pinion gears (see **Figure 73**). Clean the gears with a wire brush, rag, and mineral spirits. Brush new lubricant on the gears with a clean wire brush and move the table up and down a few times to evenly distribute the lubricant.

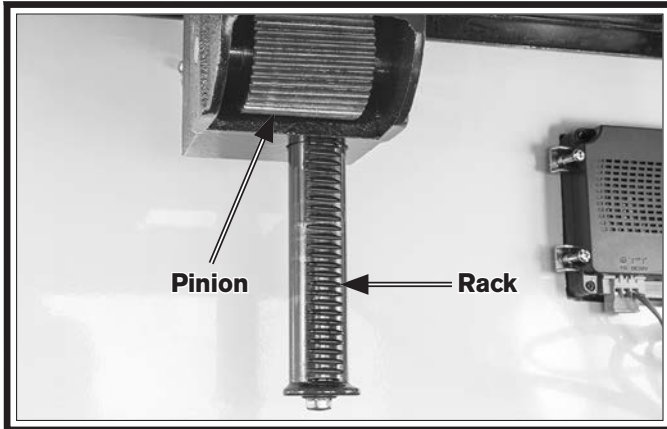


Figure 73. Location of rack and pinion gears.

Oil Ports

Lubrication Type.....T23963 or ISO 32 Equiv.
 Amount 1-2 Pumps from Oil Can
 Frequency Every 50 Hours of Use

Items Needed

Qty

Rag1
 Grease Gun.....1

Wipe the two oil ports clean with a rag (see **Figure 74**). Add one or two pumps of lubrication to each.

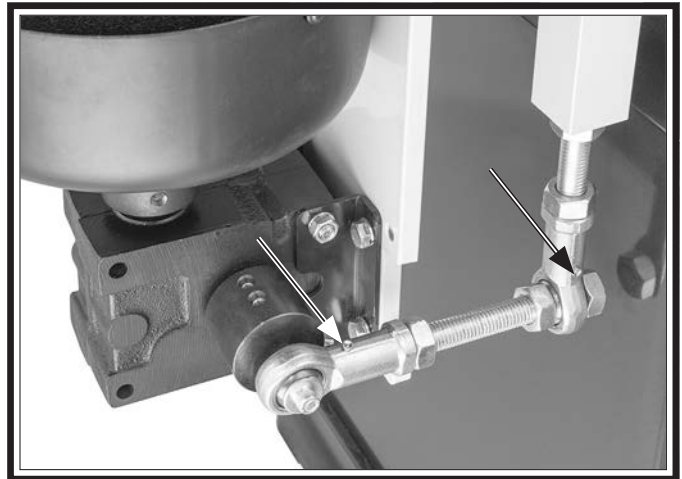


Figure 74. Location of oil ports on oscillating assembly.

Grease Fittings

Lubrication Type.....T26419 or NLGI#2 Equiv.
 Amount 1-2 Pumps from Grease Gun
 Frequency Every 50 Hours of Use

Items Needed

Qty

Rag1
 Grease Gun.....1

Wipe the four grease fittings clean with a rag (see **Figure 75**). Add one or two pumps of lubrication to each.



Figure 75. Location of grease fittings inside sanding body.

Gearbox

Lubrication Type... T28042 or ISO-VG 320 Equiv.
 Amount As Needed
 Frequency Every 500 Hours of Use

Items Needed

Qty

Hex Wrenches 4, 5mm 1 Ea.
 Wrench or Socket 10mm 1
 Thread-Locking Tape As Needed

To check/refill gearbox oil:

1. DISCONNECT MACHINE FROM POWER!
2. Tilt platen to horizontal position (refer to **Adjusting Platen Tilt** on **Page 30**).
3. Remove (2) cap screws and flat washers shown in **Figure 76**.
4. Remove (2) flange bolts shown in **Figure 76** to remove gearbox cover.

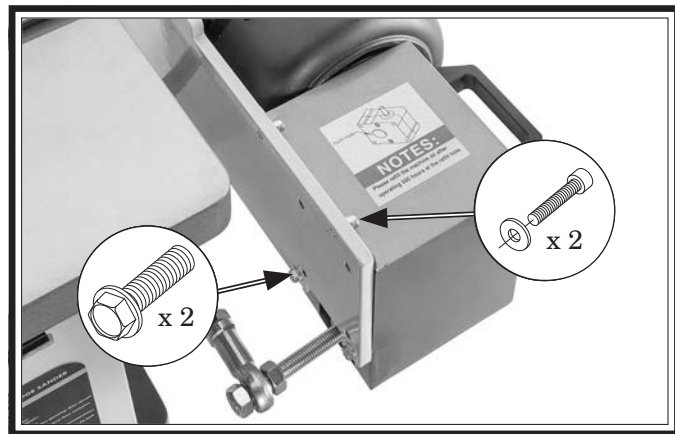


Figure 76. Location of gearbox cap screws and flange bolts.

5. Remove oil fill plug on top of gearbox (see **Figure 77**) and dip clean hex wrench about 1" into hole.
 - If hex wrench reaches oil, no additional gear oil is needed.
 - If hex wrench does not reach oil, add gear oil until dipping hex wrench reaches oil level.

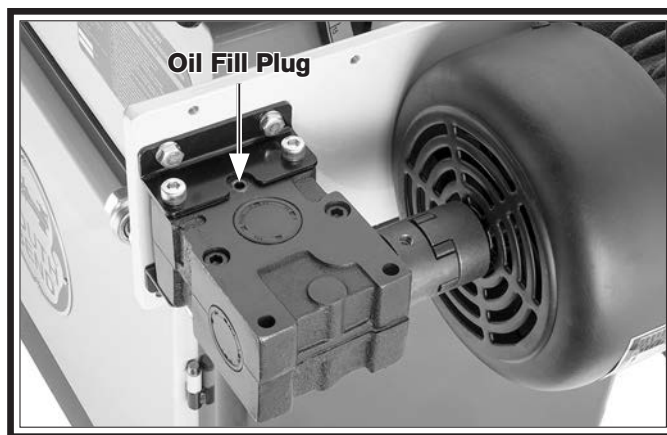


Figure 77. Gearbox oil fill plug location.

6. Clean any existing tape off of oil fill plug threads and wrap with new thread-locking tape before re-installing.
7. Check set screws on eccentric gear and tighten if loose (see **Figure 78**).

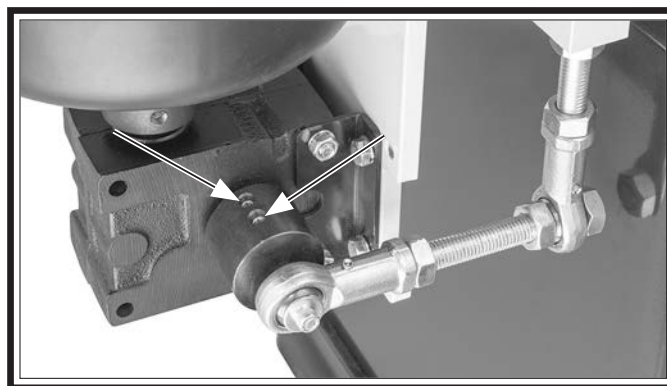


Figure 78. Location of eccentric gear set screws.

8. Check spindle connector set screws shown in **Figure 79** and tighten if loose.

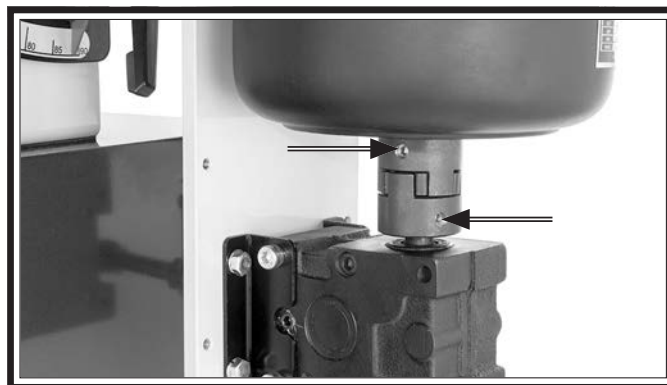


Figure 79. Location of spindle connector set screws.

9. Install gearbox cover and fasteners removed in **Steps 3–4**.

Cleaning Sanding Belt Machine Storage

As sanding belts are used, they will quickly become "loaded" with sawdust. If not removed, this sawdust will harden on the abrasive surface, rendering the belts useless. Routinely clean the sanding belts with a rubber gum abrasive cleaner as shown in **Figure 80**.

Pro-Stik® Abrasive Surface Cleaners

W1306—1½" x 1½" x 8½"

W1307—2" x 2" x 12"

Extend the life of your sanding belts! Choose the Pro-Stik® with a handle for greater control or without a handle for more usable area.

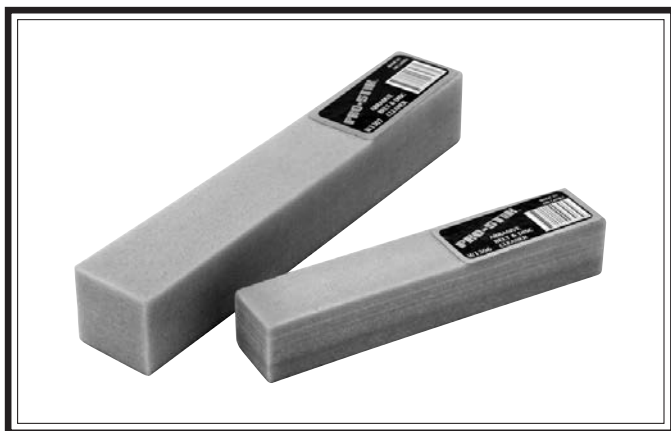


Figure 80. Pro-Stik® abrasive surface cleaners.

Always discard worn sanding belts. As abrasive belts begin to wear, grit will begin to fall off causing deep gouges in the workpiece. Glue used to hold the grit to the belt will rub off onto the workpiece, causing burns and interference with final finishing.

NOTICE

Contrary to some beliefs, worn abrasive belts are not equivalent to next finer grit abrasive. Discard worn sanding belts and avoid temptation to use them beyond their usable life.

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 machine for storage:

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

Note: *If machine will be out of service for only short period of time, substitute way oil or good grade of medium-weight machine oil (not auto engine oil).*
3. Completely cover machine with tarp or plastic sheet that will keep out dust and resist liquid or moisture. If machine will be stored in/near direct sunlight, use cover that will block sunlight.

Calibrating Platen Tilt

For best sanding results, ensure the platen angle is calibrated correctly. If calibrated correctly, the scale should read 90° when perpendicular to the sanding belt.

Tools Needed	Qty
90° Square	1
Phillips Head Screwdriver #2.....	1

To calibrate platen tilt:

1. DISCONNECT MACHINE FROM POWER!
2. Remove sanding belt.
3. Set one edge of 90° square on main table surface, as shown in **Figure 81**.
4. Adjust platen angle until perpendicular to face of platen (see **Figure 81**).

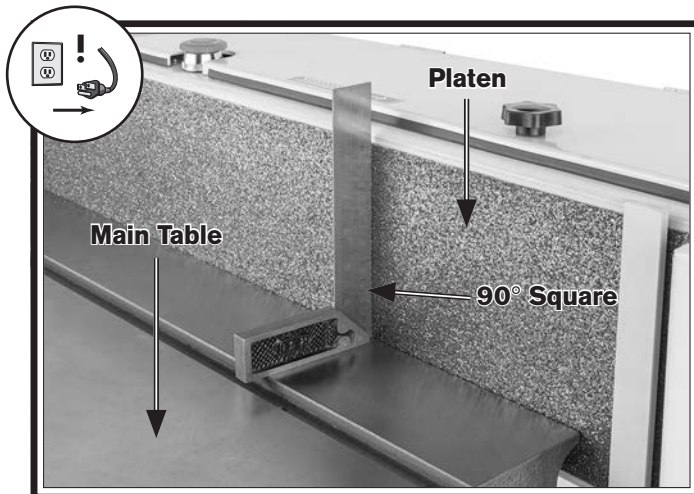


Figure 81. Square positioned to check platen angle.

- If tilt scale reads 90° when platen is perpendicular to table, no calibration is required.
- If tilt scale *does not* read 90° when platen is perpendicular to table, proceed to **Step 5**.

5. Loosen Phillips head screw (see **Figure 82**), adjust pointer to 90°, then tighten screw.

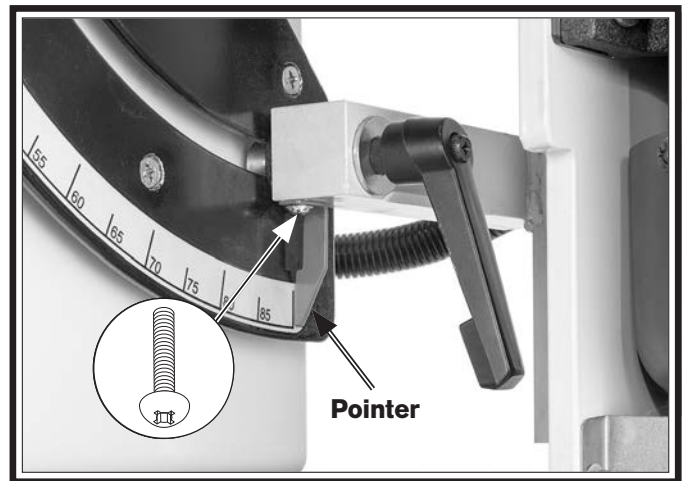


Figure 82. Tilt scale pointer components.

6. Check accuracy with 90° square before installing sanding belt.

Calibrating Miter Gauge

This procedure ensures the miter gauge angle is accurate.

Tools Needed

	Qty
90° Square	1
Phillips Head Screwdriver #2.....	1

To calibrate miter gauge:

1. DISCONNECT MACHINE FROM POWER!
2. Remove sanding belt.
3. Mount miter gauge in main table T-slot and adjust platen tilt to 0°.
4. Set one edge of 90° square against face of platen as shown in **Figure 83**.
5. Adjust miter angle until perpendicular to face of platen (see **Figure 83**).

— If miter scale reads 0° when miter stop is perpendicular to platen, no calibration is required.

— If miter scale *does not* read 0° when miter stop is perpendicular to platen, proceed to **Step 5**.

6. Loosen pointer Phillips head screw (see **Figure 84**), adjust pointer to 0°, then tighten screw.

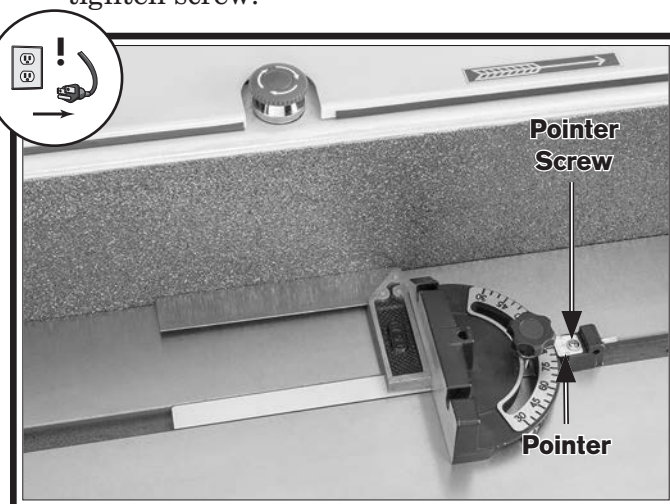


Figure 84. Miter scale pointer components.

7. Check accuracy with 90° square before installing sanding belt.

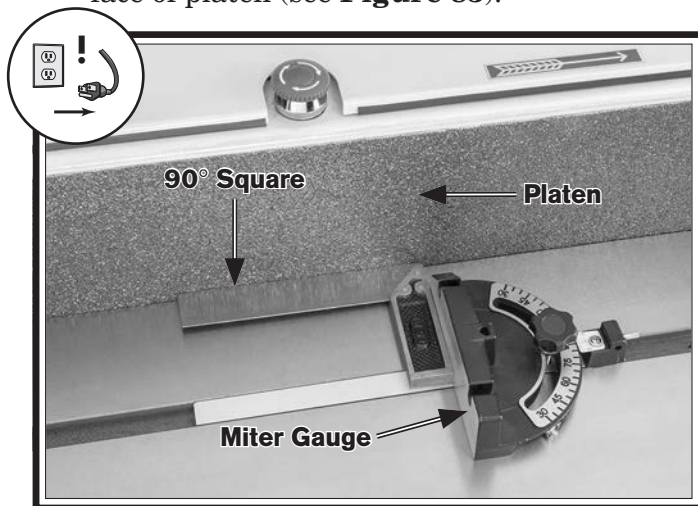


Figure 83. Square positioned to check miter angle.

Removing Drive Roller

To keep your sanding belts tracking correctly, the roller surfaces must be flat and even. If too much sawdust builds up on a wheel, this will affect the tracking and wear belts unevenly, or faster than necessary.

The Model SB1097 comes equipped with a puller plate to remove the drive roller should it become necessary to do so for cleaning or replacement.

Tools Needed

	Qty
Shoulder Screws $\frac{1}{4}$ " x $\frac{3}{4}$ ", $\frac{1}{4}$ "-20 x $1\frac{3}{4}$ "	2
Cap Screw $\frac{5}{16}$ "-18 x $1\frac{1}{4}$ "	1
Drive Roller Puller Plate	1
Socket $\frac{5}{16}$ "	1
Ratchet w/6" Extension.....	1
Hex Wrenches 4, 5mm	1 Ea.

To remove drive roller:

1. DISCONNECT MACHINE FROM POWER!
2. Remove hex nut and lock washer shown in **Figure 85**.

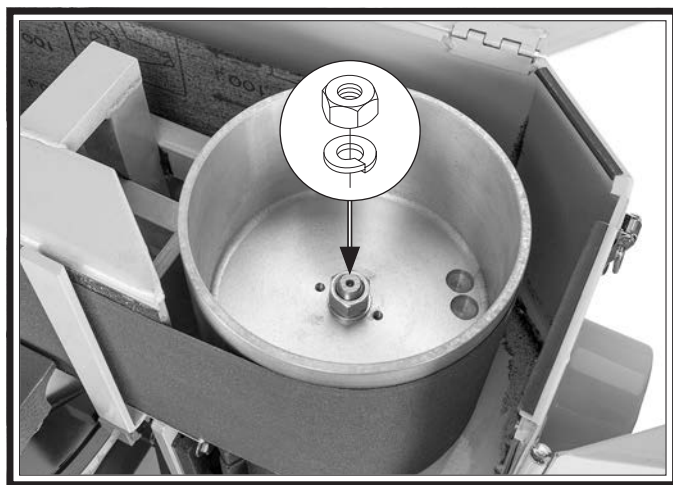


Figure 85. Location of drive roller and securing fasteners.

3. Insert (2) $\frac{1}{4}$ " x $\frac{3}{4}$ ", $\frac{1}{4}$ "-20 x $1\frac{3}{4}$ " shoulder screws completely into puller plate and thread screws four turns into threaded holes in drive roller (see **Figure 85**).
4. Thread $\frac{5}{16}$ "-18 x $1\frac{1}{4}$ " cap screw into center of puller plate and turn clockwise until drive roller is pulled (see **Figure 85**).

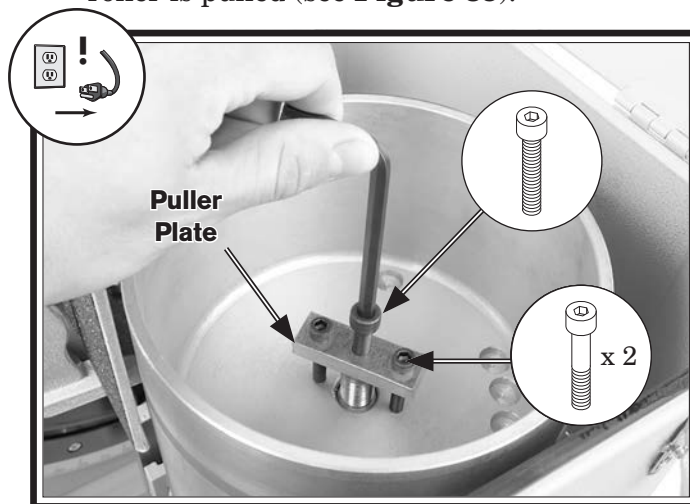


Figure 86. Example of puller plate installed to pull roller.

5. To install roller, place drive roller on shaft and secure with lock washer and hex nut removed in **Step 2**.

Note: DO NOT hammer drive roller onto shaft or you will cause damage to shaft.

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 trips immediately after startup.	<ol style="list-style-type: none"> 1. E-Stop button depressed/at fault or disabling key removed. 2. Incorrect power supply voltage or circuit size. 3. Power supply circuit breaker tripped or fuse blown. 4. Motor wires connected incorrectly. 5. Wiring broken, disconnected, or corroded. 6. Touch screen controller at fault. 7. VFD at fault. 8. Converter at fault. 9. Motor or motor bearings at fault. 	<ol style="list-style-type: none"> 1. Rotate E-Stop button head to reset or re-install disabling key. Replace if at fault. 2. Ensure correct power supply voltage and circuit size. 3. Ensure circuit is free of shorts. Reset circuit breaker or replace fuse. 4. Correct motor wiring connections (Page 48). 5. Fix broken wires or disconnected/corroded connections. 6. Replace touch screen controller. 7. Inspect VFD; replace if at fault. 8. Inspect converter; replace if at fault. 9. Replace motor.
Machine stalls or is underpowered.	<ol style="list-style-type: none"> 1. Workpiece material unsuitable for machine. 2. Gearbox gear broken or gear teeth stripped. 3. Motor wires connected incorrectly. 4. Machine undersized for task. 5. Motor overheated. 6. Extension cord too long. 7. Motor or motor bearings at fault. 	<ol style="list-style-type: none"> 1. Only sand wood/ensure moisture is below 20% (Page 24). 2. Replace broken or stripped gears. 3. Correct motor wiring connections (Page 48). 4. Clean (Page 41)/replace sandpaper (Page 25); reduce feed rate/sanding depth. 5. Clean motor, let cool, and reduce workload. 6. Move machine closer to power supply; use shorter extension cord. 7. Replace motor.
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> 1. Motor or component loose. 2. Drive roller hex nut missing or loose. 3. Machine incorrectly mounted/resting on floor. 4. Motor fan rubbing on fan cover. 5. Motor bearings at fault. 	<ol style="list-style-type: none"> 1. Replace damaged or missing bolts/nuts or tighten if loose. 2. Replace or tighten if necessary (Page 44). 3. Tighten mounting hardware; relocate/shim machine. 4. Fix/replace fan cover; replace loose/damaged fan. 5. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.
Sanding belt slaps or vibrates excessively.	<ol style="list-style-type: none"> 1. Incorrect sanding belt tension. 2. Belt tracking needs adjustment. 3. Broken/defective sanding belt. 4. Idler or drive roller is loose. 5. Weak or broken tension spring. 	<ol style="list-style-type: none"> 1. Make sure tension lever is engaged (Page 25). 2. Adjust sanding belt tracking (Page 28). 3. Replace sanding belt (Page 25). 4. Tighten idler roller or adjust drive roller (Page 44). 5. Replace spring.
Sanded surface not square when platen tilt is set to 90° and miter gauge is set to 0°.	<ol style="list-style-type: none"> 1. Platen not perpendicular to main table. 2. Miter gauge not perpendicular to platen/belt. 	<ol style="list-style-type: none"> 1. Calibrate tilt scale (Page 42). 2. Calibrate miter gauge scale (Page 43).

Symptom	Possible Cause	Possible Solution
Belt does not track correctly.	<ol style="list-style-type: none"> 1. Belt tracking needs adjustment. 2. Incorrect sanding belt tension. 3. Belt damaged, worn, or misshapen. 	<ol style="list-style-type: none"> 1. Adjust sanding belt tracking (Page 28). 2. Make sure tension lever is engaged (Page 25). 3. Replace sanding belt (Page 25).
Deep sanding grooves or scores in workpiece.	<ol style="list-style-type: none"> 1. Excessive sanding speed. 2. Using too coarse of sanding grit. 3. Workpiece sanded across grain. 4. Too much pressure against belt. 5. Workpiece held still for too long. 6. Graphite pad on platen damaged. 	<ol style="list-style-type: none"> 1. Decrease sanding speed. 2. Use finer grit sanding belt (Page 25). 3. Sand with workpiece grain. 4. Reduce pressure on workpiece while sanding. 5. Do not keep workpiece in one place for too long. 6. Replace graphite pad.
Abrasive grit rubs off the belt easily.	<ol style="list-style-type: none"> 1. Sanding belt has been stored in an incorrect environment. 2. Sanding belt has been folded or crushed. 	<ol style="list-style-type: none"> 1. Replace sanding belt (Page 25). Store sanding belt in a cool, dry area. 2. Replace sanding belt (Page 25). Store sanding belt flat, not folded or bent.
Sanding belt surfaces clog quickly or burn.	<ol style="list-style-type: none"> 1. Excessive sanding speed. 2. Worn sanding belt. 3. Too much pressure against belt. 4. Sanding softwood. 5. Workpiece has high moisture content or sap. 6. Using too fine of sanding grit. 7. Poor dust collection. 	<ol style="list-style-type: none"> 1. Decrease sanding speed. 2. Replace sanding belt (Page 25). 3. Reduce pressure on workpiece while sanding. 4. Use different stock or accept characteristics of workpiece and plan on cleaning (Page 41)/replacing belt frequently (Page 25). 5. Use different stock or accept characteristics of workpiece and plan on cleaning (Page 41)/replacing belt frequently (Page 25). 6. Use coarser grit sanding belt (Page 25). 7. Unclog ducts; close gates to improve suction; re-design dust collection system.
Burn marks on workpiece.	<ol style="list-style-type: none"> 1. Excessive sanding speed. 2. Using too fine of sanding grit. 3. Too much pressure against belt. 4. Workpiece held still for too long. 5. Sanding belt loaded with sawdust, resin, and/or pitch. 	<ol style="list-style-type: none"> 1. Decrease sanding speed. 2. Use coarser grit sanding belt (Page 25). 3. Reduce pressure on workpiece while sanding. 4. Do not keep workpiece in one place for too long. 5. Clean (Page 41) or replace belt (Page 25).
Glazed sanding surfaces.	<ol style="list-style-type: none"> 1. Sanding wet stock. 2. Sanding stock with high pitch/residue. 3. Belt worn or filled with pitch/residue. 	<ol style="list-style-type: none"> 1. Dry stock properly before sanding (Page 24). 2. Use different stock or accept characteristics of workpiece and plan on cleaning (Page 41)/replacing belt frequently (Page 25). 3. Replace belt (Page 25) or clean pitch/residue from belt (Page 41).
Workpiece frequently gets pulled out of your hand.	<ol style="list-style-type: none"> 1. Not supporting workpiece properly. 2. Starting workpiece on a leading corner. 	<ol style="list-style-type: none"> 1. Use backstop/miter gauge to support workpiece. 2. Start workpiece on a trailing corner.
Snake-shaped marks on workpiece.	<ol style="list-style-type: none"> 1. Sanding belt loaded with sawdust, resin, and/or pitch. 2. Sanding belt damaged. 	<ol style="list-style-type: none"> 1. Clean (Page 41) or replace belt (Page 25). 2. Replace sanding belt (Page 25).

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.

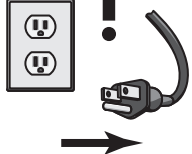
Experiencing Difficulties: If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (360) 734-1540.

WIRING DIAGRAM COLOR KEY

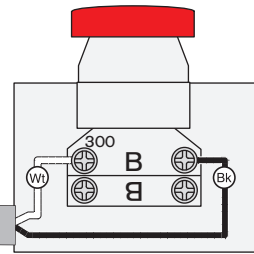
BLACK — Bk	BLUE WHITE — Bw	RED — Rd	PINK — Pk	WHITE — Wt
BLUE — Bl	GREEN — Gn	LIGHT BLUE — Lb	PURPLE — Pu	YELLOW GREEN — Yg
BROWN — Br	GRAY — Gy	ORANGE — Or	TUR-QUIOSE — Tu	YELLOW — Yl

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

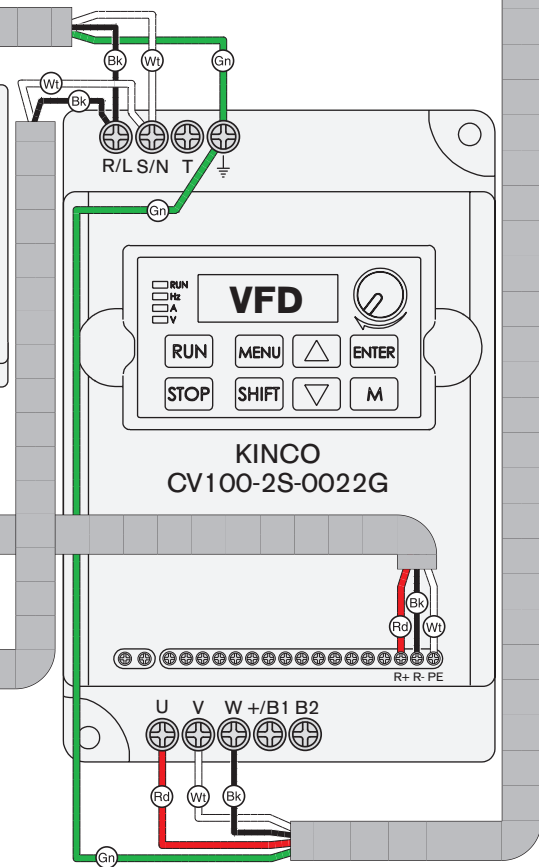
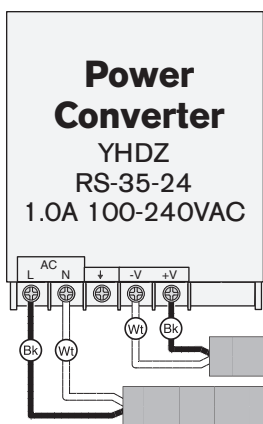
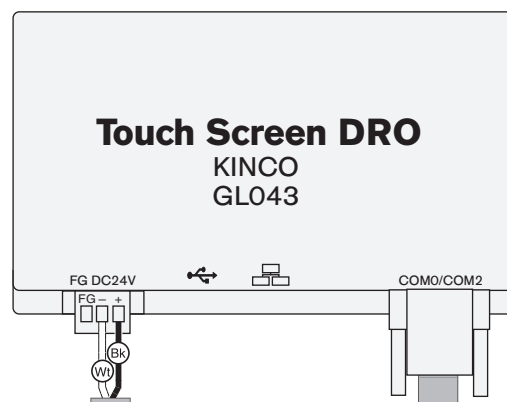
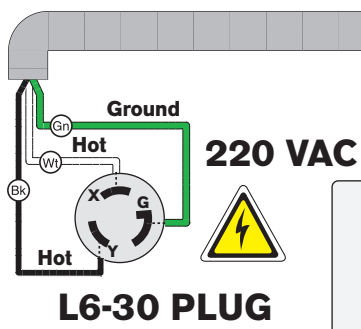
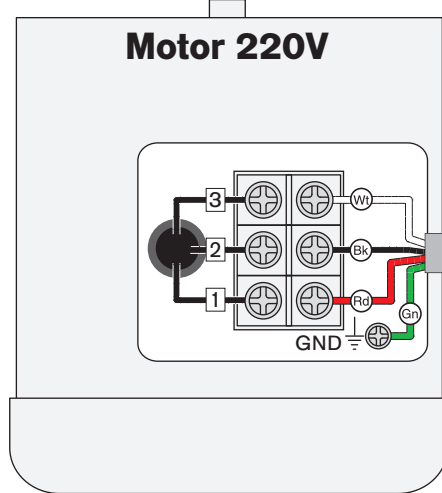
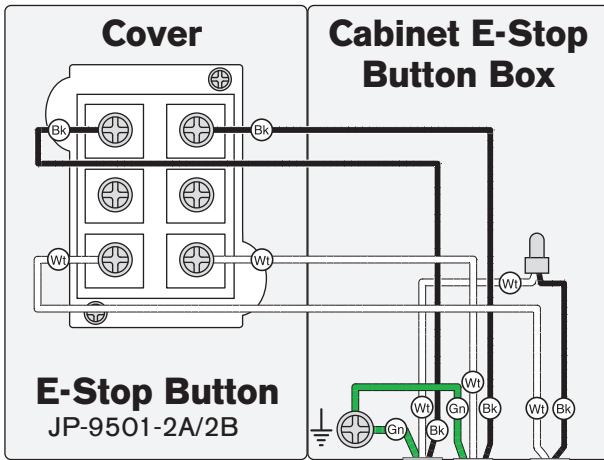
Wiring Diagram



⚠ WARNING!
SHOCK HAZARD!
 Disconnect power before working on wiring.



Belt Access Door E-Stop Button
 AUSPICIOUS BLEPB30-10/C



Electrical Component Photos

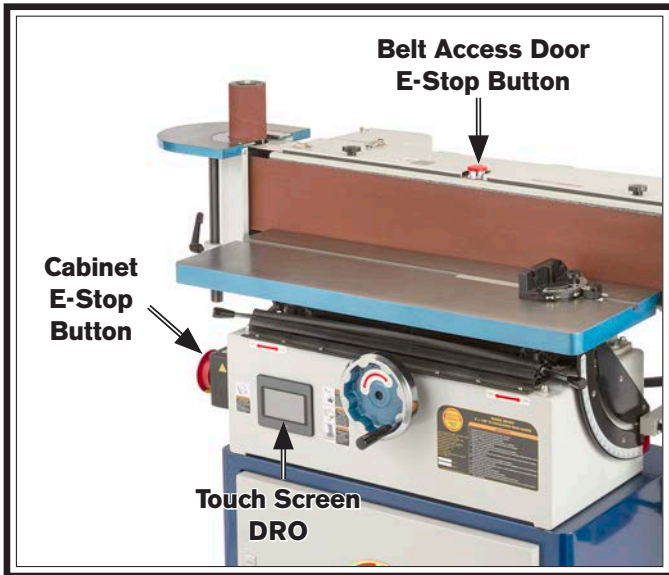


Figure 87. E-Stop and display components.



Figure 89. Back of touch screen DRO.

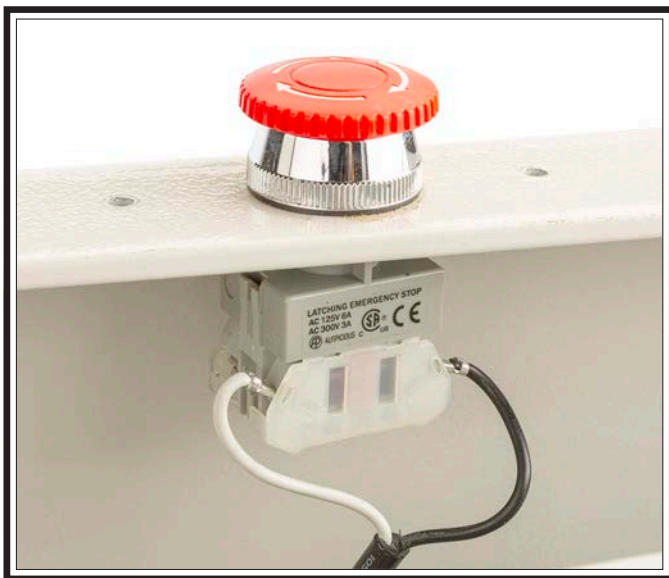


Figure 88. Belt access door E-Stop button.

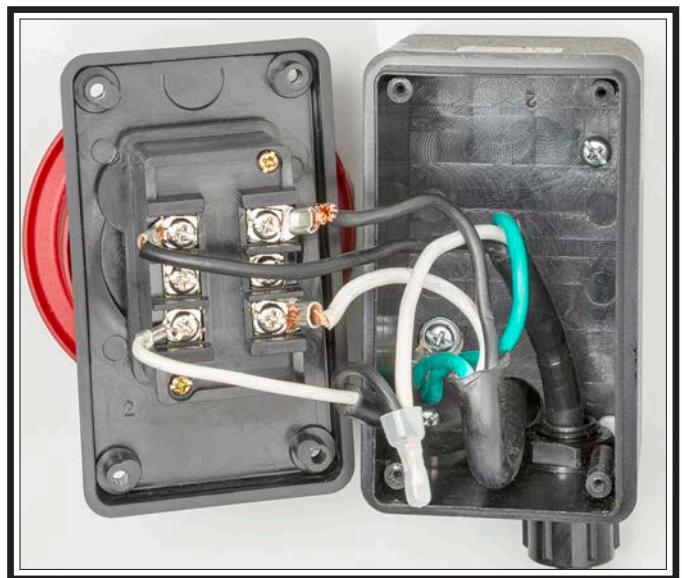


Figure 90. Cabinet E-Stop button.

Electrical Component Photos (Cont.)



Figure 91. Electrical components inside cabinet.

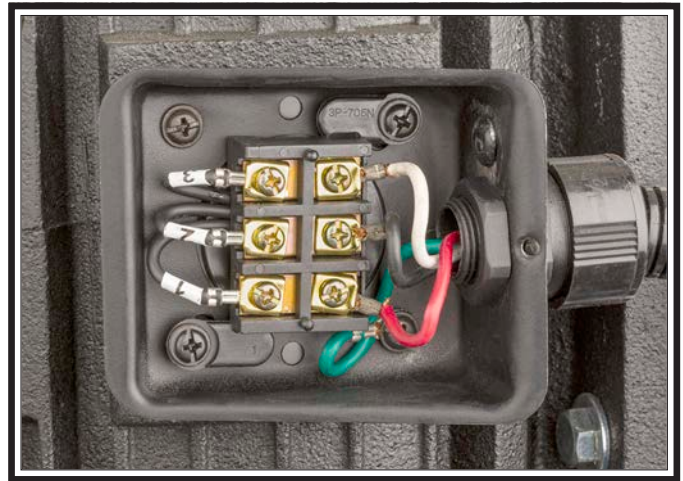
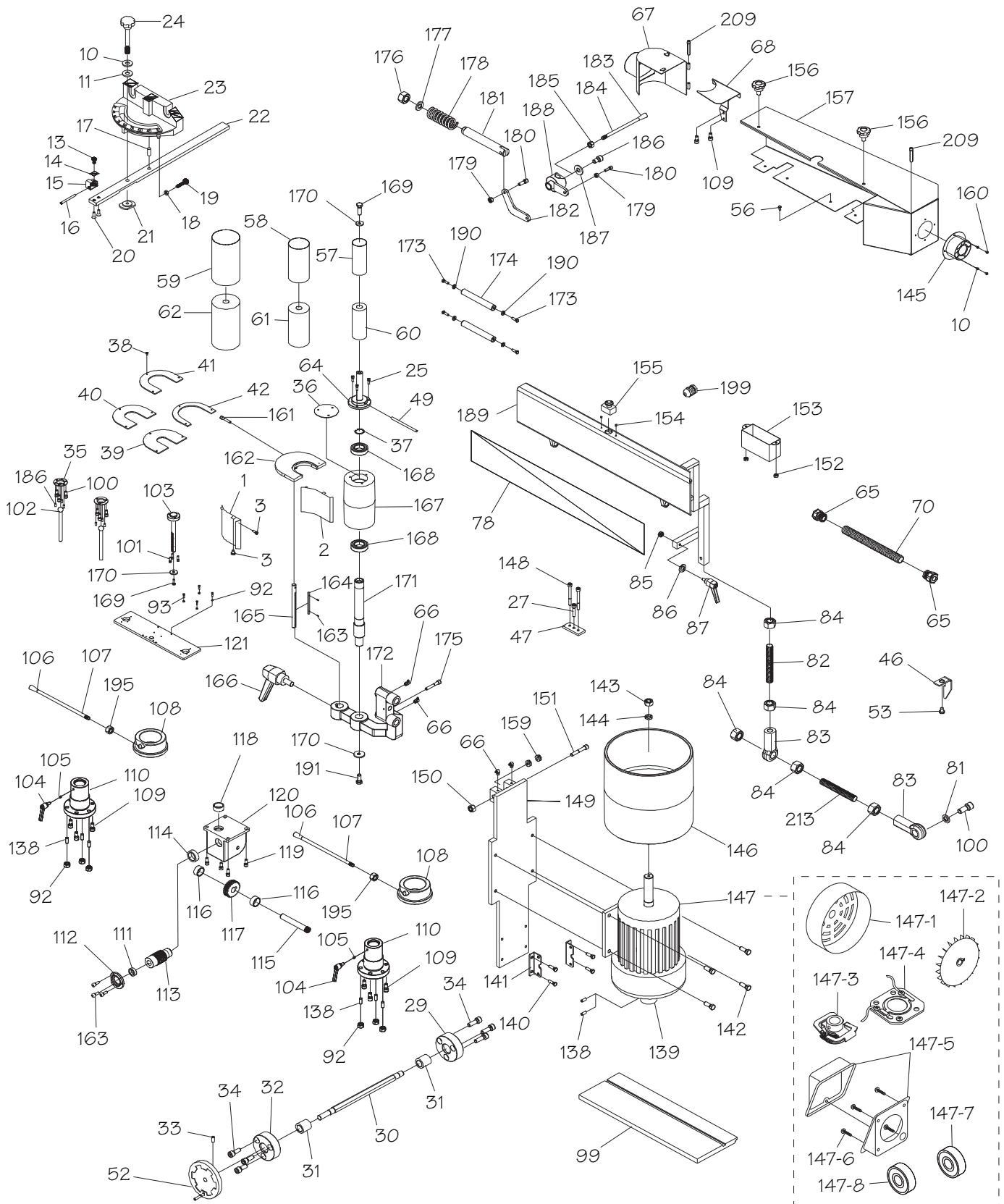


Figure 92. Motor junction box.

Sanding Head & Table



Sanding Head & Table Parts List

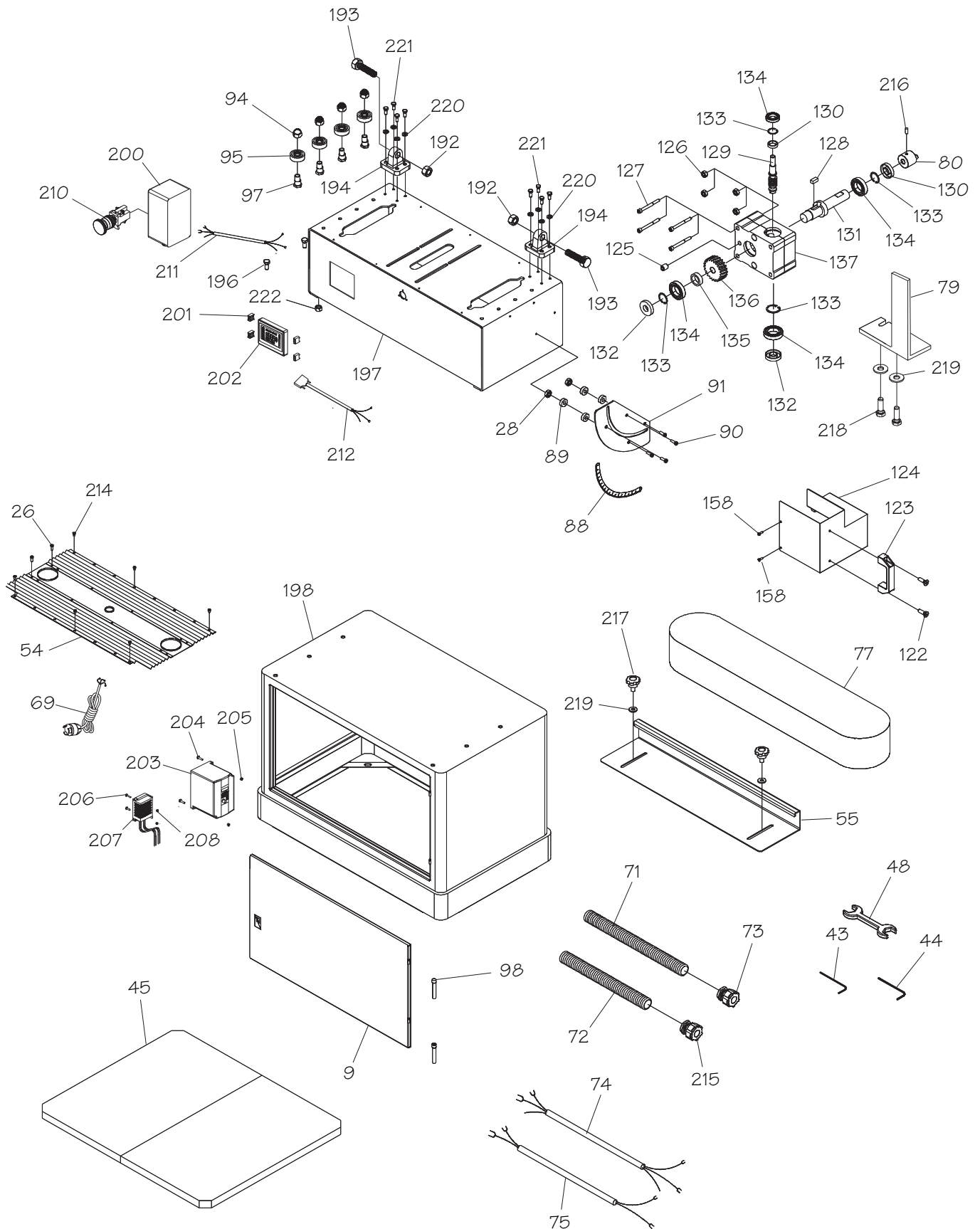
REF	PART #	DESCRIPTION
1	PSB1097001	SHIELD (RIGHT)
2	PSB1097002	SHIELD (LEFT)
3	PSB1097003	FLANGE BOLT 10-24 X 3/8
10	PSB1097010	FLAT WASHER 1/4
11	PSB1097011	FLAT WASHER 1/4 PLASTIC
13	PSB1097013	PHLP HD SCR 10-24 X 1/4
14	PSB1097014	POINTER PLATE
15	PSB1097015	POINTER BODY
16	PSB1097016	STOP SHAFT
17	PSB1097017	PIVOT PIN
18	PSB1097018	HEX NUT 10-24
19	PSB1097019	PHLP HD SCR 10-24 X 3/4
20	PSB1097020	WOOD SCREW M4 X 8
21	PSB1097021	T-SLOT NUT M6-1, 30 X 4.8
22	PSB1097022	MITER BAR
23	PSB1097023	MITER GAUGE BODY
24	PSB1097024	KNOB BOLT M6-1 X 28, 6-LOBE, D34
25	PSB1097025	CAP SCREW M5-.8 X 16
27	PSB1097027	CAP SCREW 5/16-18 X 1-1/4
29	PSB1097029	HEX SPINDLE BACK COVER
30	PSB1097030	HEX SPINDLE
31	PSB1097031	SLEEVE
32	PSB1097032	HEX SPINDLE FRONT COVER
33	PSB1097033	SET SCREW 5/16-18 X 1/2
34	PSB1097034	CAP SCREW M6-1 X 16
35	PSB1097035	TABLE MOUNTING BRACKET
36	PSB1097036	IDLER ROLLER COVER
37	PSB1097037	EXT RETAINING RING 25MM
38	PSB1097038	FLAT HD SCR 10-24 X 3/8
39	PSB1097039	TABLE INSERT 1-1/2"
40	PSB1097040	TABLE INSERT 2"
41	PSB1097041	TABLE INSERT 3"
42	PSB1097042	TABLE INSERT 4"
46	PSB1097046	POINTER
47	PSB1097047	ROLLER PULLER PLATE 70 X 31.7 X 5/16
49	PSB1097049	SPINDLE ROD
52	PSB1097052	HANDWHEEL TYPE-31 162D X 17B-S X 23
53	PSB1097053	PHLP HD SCR 10-24 X 3/8
56	PSB1097056	HEX BOLT 1/4-20 X 1/4
57	PSB1097057	SANDING SLEEVE 1-1/2" X 4-1/2" 100-GRIT
58	PSB1097058	SANDING SLEEVE 2 X 4-1/2" 100-GRIT
59	PSB1097059	SANDING SLEEVE 3 X 4-1/2" 100-GRIT
60	PSB1097060	RUBBER DRUM 1-1/2"
61	PSB1097061	RUBBER DRUM 2"
62	PSB1097062	RUBBER DRUM 3"
64	PSB1097064	SANDING DRUM SPINDLE
65	PSB1097065	CONDUIT CONNECTOR 3/8"
66	PSB1097066	GREASE FITTING 1/8 30-DEG
67	PSB1097067	AUXILIARY DUST HOOD
68	PSB1097068	GUARD
70	PSB1097070	PLASTIC CONDUIT 3/8 X 18"

REF	PART #	DESCRIPTION
78	PSB1097078	GRAPHITE PAD 6-3/4 X 40-1/2"
81	PSB1097081	FLAT WASHER 5/16
82	PSB1097082	STUD-FT 1-14 X 3-3/4
83	PSB1097083	FEMALE BALL JOINT ROD END M14-2
84	PSB1097084	HEX NUT 1-14
85	PSB1097085	T-SLOT NUT 3/8-16, 20 X 11.8
86	PSB1097086	FLAT WASHER 3/8
87	PSB1097087	ADJUSTABLE HANDLE 3/8-16 X 2, 80MM
92	PSB1097092	LOCK NUT 5/16-18
93	PSB1097093	CARRIAGE BOLT 5/16-18 X 1-1/4
99	PSB1097099	TABLE
100	PSB1097100	CAP SCREW 5/16-18 X 3/4
101	PSB1097101	HEX BOLT 5/16-18 X 1
102	PSB1097102	SPINDLE
103	PSB1097103	RACK GEAR
104	PSB1097104	ADJUSTABLE HANDLE 1/4-20 X 1/2, 80MM
105	PSB1097105	STANDOFF-HEX MF 8-32 X 1/2, 1/4-20 CP
106	PSB1097106	KNOB 3/8-16, D13/16, TAPERED
107	PSB1097107	STUD-DE 3/8-16 X 5-3/8, 1/2
108	PSB1097108	LOCK COLLAR
109	PSB1097109	CAP SCREW 1/4-20 X 1/2
110	PSB1097110	SPINDLE SPACER
111	PSB1097111	NEEDLE BEARING 38 X 42 X 20T
112	PSB1097112	PINION COVER
113	PSB1097113	PINION ROD
114	PSB1097114	SPACER 30 X 34 X 12 COPPER
115	PSB1097115	PINION SPINDLE
116	PSB1097116	SPACER 12 X 16 X 11
117	PSB1097117	PINION GEAR
118	PSB1097118	SPACER 25 X 30 X 8 COPPER
119	PSB1097119	CAP SCREW 5/16-18 X 3/4
120	PSB1097120	RACK & PINION BOX
121	PSB1097121	ADJUSTING PLATE
138	PSB1097138	SET SCREW 5/16-18 X 1/2
139	PSB1097139	SPINDLE CONNECTOR
140	PSB1097140	HEX BOLT 5/16-18 X 1/2
141	PSB1097141	GEARBOX FIXING PLATE
142	PSB1097142	HEX BOLT 3/8-16 X 1
143	PSB1097143	HEX NUT 5/8-18
144	PSB1097144	LOCK WASHER 5/8
145	PSB1097145	DUST PORT 4"
146	PSB1097146	DRIVE ROLLER
147	PSB1097147	MOTOR 3HP 220V 1-PH
147-1	PSB1097147-1	FAN COVER
147-2	PSB1097147-2	FAN
147-3	PSB1097147-3	CENTRIFUGAL SWITCH 1" 1725 RPM
147-4	PSB1097147-4	CONTACT PLATE 42 X 70MM
147-5	PSB1097147-5	MOTOR JUNCTION BOX
147-6	PSB1097147-6	FLANGE SCREW M5-.8 X 8
147-7	PSB1097147-7	BALL BEARING 6205ZZ (FRONT)
147-8	PSB1097147-8	BALL BEARING 6204ZZ (REAR)

Sanding Head & Table Parts List (Cont.)

REF	PART #	DESCRIPTION	REF	PART #	DESCRIPTION
148	PSB1097148	SHOULDER SCREW 1/4 X 3/4, 1/4-20 X 1-3/4	173	PSB1097173	HEX BOLT 5/16-18 X 1
149	PSB1097149	MOTOR BRACKET	174	PSB1097174	SHAFT
150	PSB1097150	LOCK NUT M12-1.75	175	PSB1097175	CAP SCREW 1/4-20 X 1-1/4
151	PSB1097151	HEX BOLT M12-1.75 X 75	176	PSB1097176	HEX NUT 5/8-11
152	PSB1097152	HEX NUT 10-24	177	PSB1097177	FLAT WASHER 5/8
153	PSB1097153	SWITCH COVER	178	PSB1097178	COMPRESSION SPRING 4.5 X 30 X 99
154	PSB1097154	PHLP HD SCR 10-24 X 3/4	179	PSB1097179	LOCK NUT 1/4-20
155	PSB1097155	E-STOP BUTTON AUSPICIOUS BLEPB30-10/C	180	PSB1097180	CAP SCREW 1/4-20 X 3/4
156	PSB1097156	KNOB BOLT 5/16-18 X 1, 6-LOBE, D1-5/16	181	PSB1097181	SPINDLE
157	PSB1097157	PLATEN COVER W/MAIN DUST HOOD	182	PSB1097182	SPINDLE BRACKET
159	PSB1097159	THRUST BALL BEARING 5101	183	PSB1097183	KNOB 1/2-13, D1, TAPERED
160	PSB1097160	PHLP HD SCR 1/4-20 X 1/4	184	PSB1097184	STUD DE-1/2-13 X 9-7/8, 1/2
161	PSB1097161	CAP SCREW 3/8-16 X 3/4	185	PSB1097185	HEX NUT 1/2-12
162	PSB1097162-1	CAST IRON TABLE U-TYPE	186	PSB1097186	CAP SCREW 5/16-18 X 1/2
163	PSB1097163	CAP SCREW M4-.7 X 10	187	PSB1097187	FLAT WASHER 5/16
164	PSB1097164	KEY 8 X 8 X 3/16	188	PSB1097188	TENSIONING LINK ARM
165	PSB1097165	TABLE SPINDLE	189	PSB1097189	PLATEN
166	PSB1097166	ADJUSTABLE HANDLE 3/8-16 X 1, 80MM	190	PSB1097190	LOCK WASHER 5/16
167	PSB1097167	IDLER ROLLER	191	PSB1097191	HEX BOLT 5/16-18 X 1/2
168	PSB1097168	BALL BEARING 6205ZZ	195	PSB1097195	HEX NUT 3/8-16
169	PSB1097169	HEX BOLT 5/16-18 X 1/2	199	PSB1097199	STRAIN RELIEF TYPE-3 M16-1.5
170	PSB1097170	ADJUSTING PLATE WASHER 5/16	209	PSB1097209	HINGE PIN 8 X 45MM
171	PSB1097171	IDLER ROLLER SPINDLE	213	PSB1097213	STUD-FT 1-14 X 5-1/8
172	PSB1097172	IDLER ROLLER BRACKET			

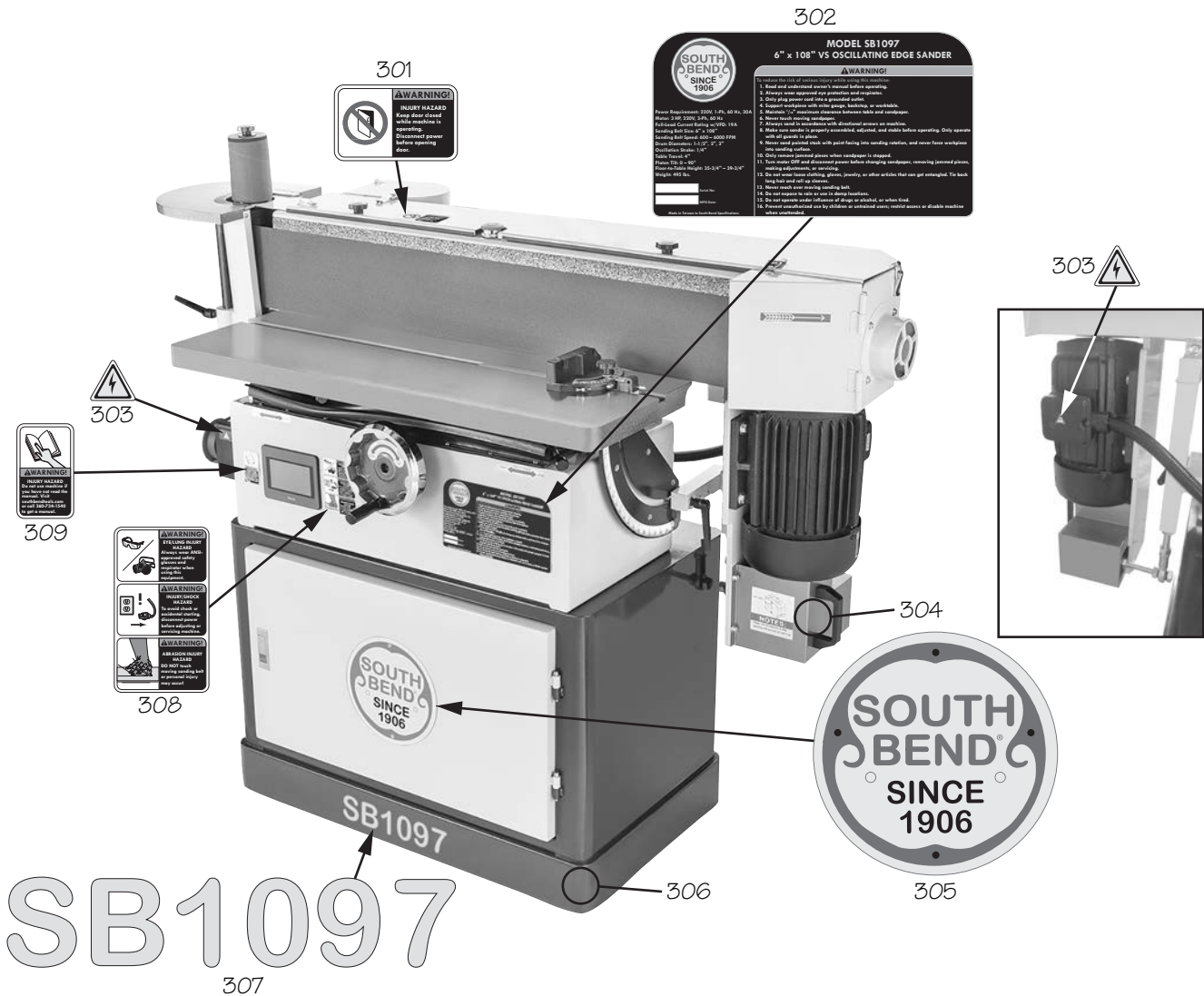
Base & Gearbox



Base & Gearbox Parts List

REF PART #	DESCRIPTION	REF PART #	DESCRIPTION		
9	PSB1097009	DOOR W/LATCH	131	PSB1097131	DRIVE SHAFT
26	PSB1097026	PHLP HD SCR 10-24 X 3/4	132	PSB1097132	OIL SEAL W/O HOLE
28	PSB1097028	HEX NUT 1/4-20	133	PSB1097133	INT RETAINING RING 35MM
43	PSB1097043	HEX WRENCH 5MM	134	PSB1097134	BALL BEARING 6202ZZ
44	PSB1097044	HEX WRENCH 6MM	135	PSB1097135	SPACER 17 X 25 X 6 ALUMINUM
45	PSB1097045	WOOD BOARD 25 X 395 X 457	136	PSB1097136	WORM GEAR
48	PSB1097048	WRENCH 10 X 12MM OPEN-ENDS	137	PSB1097137	GEARBOX
54	PSB1097054	EXTENDABLE COVER	158	PSB1097158	CAP SCREW 1/4-20 X 1/2
55	PSB1097055	FENCE	192	PSB1097192	LOCK NUT 3/4-10
69	PSB1097069	POWER CORD 14G 3W 68" L6-30P	193	PSB1097193	HEX BOLT 1/2-12 X 4-1/2
71	PSB1097071	PLASTIC CONDUIT 3/8 X 12"	194	PSB1097194	SWIVEL BRACKET
72	PSB1097072	PLASTIC CONDUIT 3/8 X 11"	196	PSB1097196	HEX BOLT 3/8-16 X 3/4
73	PSB1097073	CONDUIT CONNECTOR 3/8"	197	PSB1097197	BODY
74	PSB1097074	MOTOR CORD 14G 4W 79"	198	PSB1097198	BASE
75	PSB1097075	BELT DOOR E-STOP CORD 18G 2W 79"	200	PSB1097200	E-STOP BUTTON SWITCH BOX
77	PSB1097077	SANDING BELT 6" X 108" 100-GRIT	201	PSB1097201	TOUCH SCREEN FIXTURE
79	PSB1097079	BACKSTOP	202	PSB1097202	TOUCH SCREEN CONTROLLER KINKO GLO43
80	PSB1097080	ECCENTRIC BUSHING	203	PSB1097203	INVERTER/VFD KINCO CV100-25-0022G
88	PSB1097088	ANGLE GAUGE LABEL	204	PSB1097204	PHLP HD SCR M5-.8 X 20
89	PSB1097089	SPACER 6.5 X 19 X 12.5	205	PSB1097205	HEX NUT M5-.8
90	PSB1097090	FLAT HD SCR 1/4-20 X 3/4	206	PSB1097206	PHLP HD SCR M4-.7 X 15
91	PSB1097091	SCALE PLATE	207	PSB1097207	POWER CONVERTER YHDZ RS-35-24
94	PSB1097094	ACORN NUT 3/8-16	208	PSB1097208	HEX NUT M4-.7
95	PSB1097095	BALL BEARING 6001ZZ	210	PSB1097210	E-STOP SWITCH JP-9501-2A/2B
97	PSB1097097	ECCENTRIC BOLT	211	PSB1097211	CABINET E-STOP CORD 14G 3W 24"
98	PSB1097098	HINGE PIN 8 X 45MM	212	PSB1097212	TOUCH SCREEN POWER CORD 14G 3W 24" COM
122	PSB1097122	PHLP HD SCR 1/4-20 X 5/8	214	PSB1097214	PHLP HD SCR 10-24 X 3/8
123	PSB1097123	GEARBOX COVER HANDLE	215	PSB1097215	CONDUIT CONNECTOR 3/8"
124	PSB1097124	GEARBOX COVER	216	PSB1097216	SET SCREW 5/16-18 X 1/2
125	PSB1097125	SET SCREW 1/8" NPT	217	PSB1097217	KNOB BOLT 5/16-18 X 1, 6-LOBE, D1-5/16
126	PSB1097126	HEX NUT M8-1.25	218	PSB1097218	HEX BOLT 5/16-18 X 1
127	PSB1097127	CAP SCREW M8-1.25 X 75	219	PSB1097219	FLAT WASHER 5/16
128	PSB1097128	KEY 7 X 7 X 16	220	PSB1097220	LOCK WASHER 5/16
129	PSB1097129	WORM SHAFT	221	PSB1097221	HEX BOLT 5/16-18 X 1/2
130	PSB1097130	OIL SEAL TC15 X 35 X 7	222	PSB1097222	HEX NUT 3/8-16

Machine Labels



REF PART #	DESCRIPTION
301	PSB1097301 KEEP DOOR CLOSED LABEL
302	PSB1097302 MACHINE ID LABEL
303	PSB1097303 ELECTRICITY LABEL
304	PSB1097304 TOUCH-UP PAINT, SB LIGHT BLUE
305	PSB1097305 SOUTH BEND NAMEPLATE 203MM

REF PART #	DESCRIPTION
306	PSB1097306 TOUCH-UP PAINT, SB DARK BLUE
307	PSB1097307 MODEL NUMBER LABEL
308	PSB1097308 COMBO WARNING LABEL
309	PSB1097309 READ MANUAL LABEL

⚠ WARNING

The safety labels provided with your machine are used to make the operator aware of the machine hazards and ways to prevent injury. The owner of this machine **MUST** maintain the original location and readability of these safety labels. If any label is removed or becomes unreadable, **REPLACE** that label before using the machine again. Contact South Bend Tools at (360) 734-1540 or www.southbendtools.com to order new labels.

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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