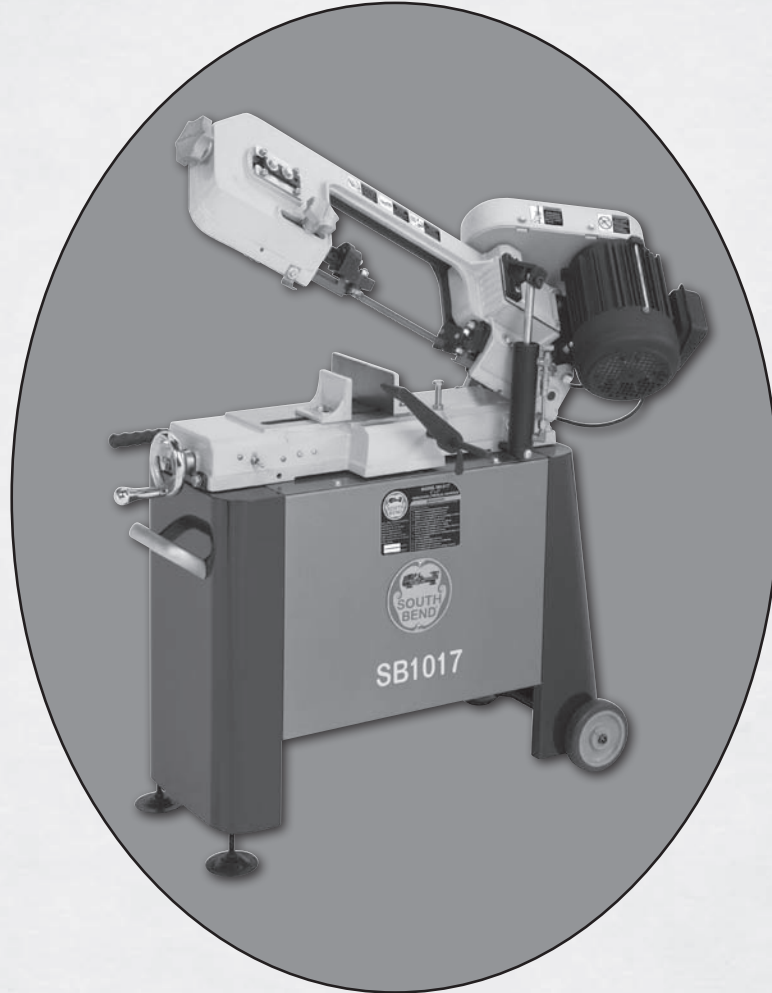




# 5" x 6" HORIZONTAL/VERTICAL BANDSAW

MODEL SB1017



**OWNER'S MANUAL**

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# South Bend Lathe Co.<sup>TM</sup>

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*Hundreds of Thousands of Lathes Sold With a Tradition of Quality Since 1906!*



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For Machines Mfg. Since 8/09

# 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?

**South Bend Lathe, Inc.**  
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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.southbendlathe.com](http://www.southbendlathe.com)**

# Customer Service

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

**South Bend Lathe Co.**  
**P.O. Box 2027**  
**Bellingham, WA 98227**  
**Phone: (360) 734-1540**  
**Parts Department: (417) 886-2954**  
**Fax: (360) 676-1075 (International)**  
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# About This Machine

## Capabilities

This metal cutting bandsaw uses a gravity-fed blade to make straight cuts through workpieces that are clamped in a vise. Since the workpiece is secured and remains stationary while the blade feeds automatically, accuracy and operator safety are maximized.

The vise on the Model SB1017 is capable of holding rectangular stock up to 5" x 6" and round stock up to 5".

After a cut is complete, the OFF switch is triggered and the motor automatically turns off.

## Features

In addition to its capabilities, the Model SB1017 has several features to increase versatility and efficiency.

The vise can be rotated to perform angled cuts up to 45° while three blade speeds ensure that the proper cutting rate is available for a variety of workpiece sizes and materials.

Both the downfeed rate and pressure are adjustable for fine-tuning each cutting operation and an adjustable auto-OFF power switch maximizes safety and minimizes energy use by turning the machine off at the end of every cut.

A storage compartment in the cabinet base provides a convenient location for keeping spare blades or other accessories and the transport handle makes moving the machine easy.

Finally, the cast-aluminum knobs and belt cover proudly bear the legendary South Bend name.

# Identification

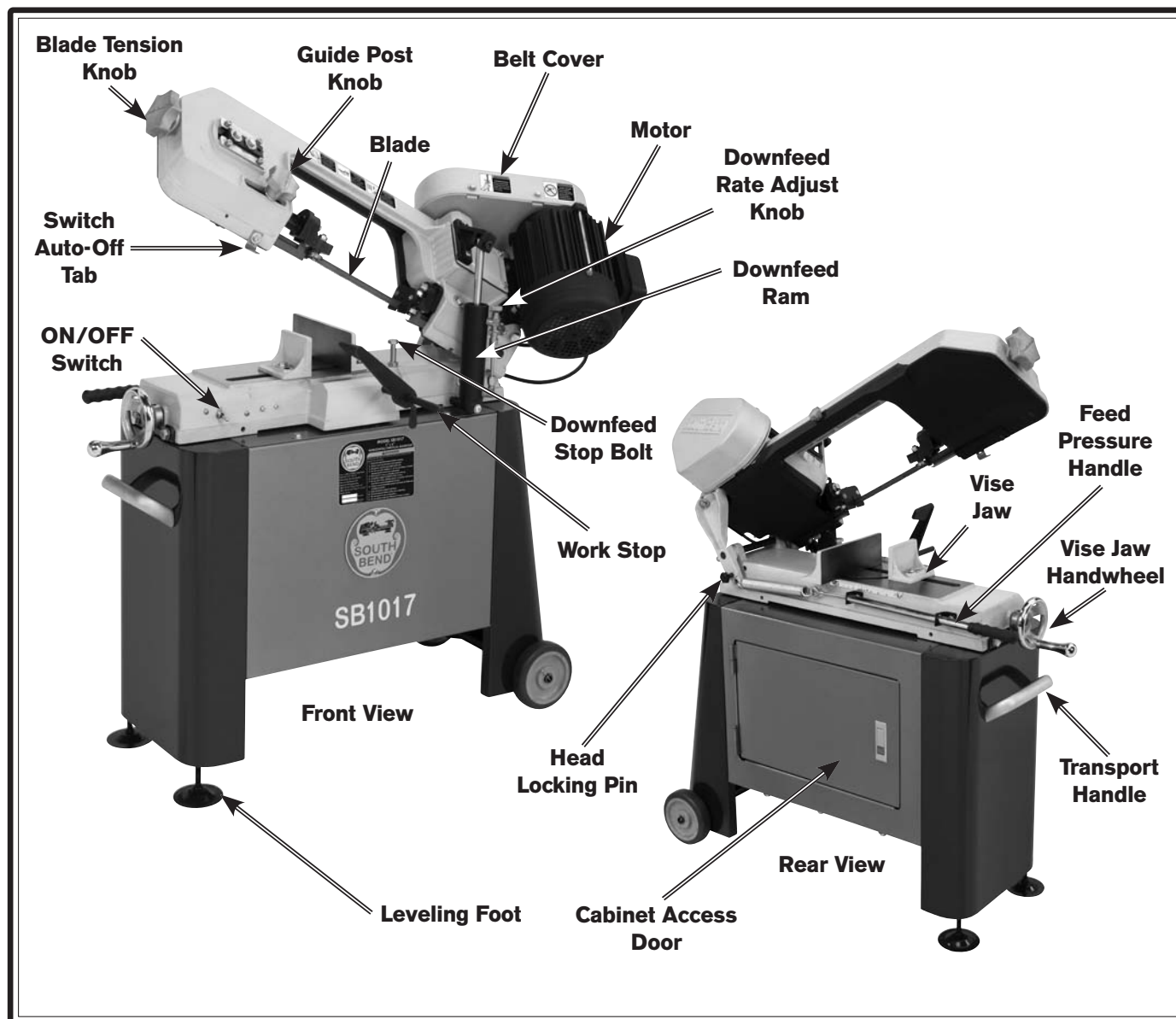


Figure 1. Identification.

## ⚠ WARNING

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

## ⚠ WARNING

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



# Machine Specifications

P.O. Box 2027, Bellingham, WA 98227 U.S.A.  
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[www.southbendlathe.com](http://www.southbendlathe.com)



## Model SB1017

### 5" x 6" Horizontal/Vertical Bandsaw

**Product Dimensions:**

Weight ..... 166 lbs.  
 Length/Width/Height ..... 38¾" x 17¾" x 39½"  
 Foot Print (Length/Width) ..... 38¾" x 17¾"  
 Space Required for Full Range of Movement (Length/Width/Height)..... 80" x 55" x 78"

**Shipping Dimensions:**

**Machine**

Type ..... Carton  
 Weight..... 170 lbs.  
 Length/Width/Height..... 42" x 17" x 16"

**Stand**

Type ..... Carton  
 Weight..... 47 lbs.  
 Length/Width/Height..... 17" x 13" x 23"

**Electrical:**

Required Power Source ..... 110V/220V, Single-Phase, 60 Hz  
 Switch..... Toggle ON/OFF Switch  
 Switch Voltage..... 110V  
 Cord Length..... 6 ft.  
 Cord Gauge ..... 18 gauge  
 Recommended Circuit Size ..... 15 Amp  
 Plug Included..... Yes

**Motors:**

**Main**

Type ..... TEFC Capacitor Start Induction  
 Horsepower..... ½ HP  
 Voltage..... 110V/220V  
 Phase ..... Single-Phase  
 Amps ..... 8.6/4.3A  
 Speed..... 1725 RPM  
 Cycle ..... 60 Hz  
 Number Of Speeds..... 1  
 Pre-Wired ..... 110V  
 Power Transfer..... V-Belt & Gear  
 Bearings..... Shielded and Permanently Sealed

**Main Specifications:****Operation Information**

Head Swivel.....	45 deg.
Blade Speeds .....	80, 120, 200 FPM
Std. Blade Length .....	64½"
Blade Size Range .....	½"

**Cutting Capacities**

Angle Cuts .....	45 deg.
Vise Jaw Depth .....	6 <sup>5</sup> / <sub>8</sub> "
Vise Jaw Height .....	2 <sup>5</sup> / <sub>8</sub> "
Max. Capacity Rect. Height At 90D .....	5"
Max. Capacity Rect. Width At 90D .....	6"
Max. Capacity Rnd. At 90D .....	5"
Max. Capacity Rect. Height At 45D .....	3"
Max. Capacity Rect. Width At 45D .....	4½"
Max. Capacity Rnd. At 45D .....	3"

**Construction**

Wheel Construction Upper .....	Cast Iron
Wheel Construction Lower .....	Cast Iron
Body Construction .....	Cast Iron
Base Construction .....	Cast Iron
Stand Construction .....	Steel
Tire Material .....	Rubber and Steel

**Other**

Wheel Size .....	5"
Blade Guides Upper .....	Yes
Blade Guides Lower .....	Yes

**Table Info**

Floor to Cutting Area Height .....	25½"
------------------------------------	------

**Other Specifications:**

ISO Factory .....	ISO 9001
Country Of Origin .....	Taiwan
Warranty .....	1 Year
Serial Number Location .....	ID Label on Body Frame
Customer Setup and Cleaning Time .....	Approximately 1 Hour

**Features:**

Heavy-Duty One-Piece Steel Stand  
 Conveniently Located ON/OFF Toggle Switch  
 Adjustable Hydraulic Down Feed  
 Cast Iron Handwheel with Chromed Handle  
 Die Cast South Bend Star Knobs  
 Die Cast South Bend Belt Guard  
 Built-In Storage Cabinet  
 Leveling Feet and Wheels to Ease Mobility  
 Work Stop for Horizontal Cuts  
 Satin Chromed Handle Bar

# 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 defined as follows:



*Death or catastrophic harm WILL occur.*



*Moderate injury or fire MAY occur.*



*Death or catastrophic harm COULD occur.*



*Machine or property damage may occur.*

## Basic Machine Safety

- 1. 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.
- 2. 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.
- 3. 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.
- 4. 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.



5. **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.
6. **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.
7. **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.
8. **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.
9. **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.
10. **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.
11. **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.
12. **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.
13. **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.
14. **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.
15. **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.
16. **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 Metal Bandsaw Safety

- 1. Blade Condition.** A dull or damaged blade can break apart during operation, increasing the risk of operator injury. Do not operate with a dull, cracked or badly worn blade. Inspect the blade for cracks or missing teeth before each use.
- 2. Hand Placement.** Hands could be cut by the blade or crushed when lowering the headstock. Never position fingers or thumbs in line with the cut or under the headstock while it is moving.
- 3. Blade Guard.** Hands and fingers can easily be cut by the bandsaw blade. To reduce the risk of laceration injuries, do not operate this bandsaw without the blade guard in place.
- 4. Starting Position.** To reduce the likelihood of blade breakage and possible entanglement, never turn the saw **ON** with the blade resting on the workpiece.
- 5. Blade Replacement.** The blade can only make a safe and efficient cut if the teeth are facing the workpiece. When replacing blades, make sure the teeth face toward the workpiece. Wear gloves to protect hands and safety glasses to protect eyes.
- 6. Workpiece Handling.** A shifting workpiece can result in impact or laceration injuries. To reduce the risk of injury, always securely clamp the workpiece in the vise and use additional support fixtures if needed. Never hold the workpiece with your hands during a cut. Flag long pieces to reduce the risk of tripping over them.
- 7. Power Interruption.** Unplug the machine and turn the power switch **OFF** after a power interruption. If left plugged in and turned **ON**, this machine will start up when power is restored, resulting in possible entanglement, laceration, or amputation hazards.
- 8. Hot Surfaces/Sharp Edges.** Due to the cutting process, a freshly cut workpiece, chips, and some machine components can be hot enough to burn you and sharp enough to cut you. Allow components to cool and use safe handling methods to reduce the risk of these injuries.
- 9. Moving Blade.** A moving bandsaw blade presents a serious risk for laceration or amputation injuries. Always allow the blade to come to a complete stop before mounting or repositioning a workpiece in the vise. Never touch a moving blade.

## Preparation Overview

The purpose of the preparation section is to help you prepare your machine for operation. The list below outlines the basic process to follow to prepare your machine for operation. 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 carton.
2. Clean the machine and its components.
3. Make any necessary adjustments or inspections to ensure the machine is ready for operation.
4. Connect the machine to the power source.
5. 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 Power Connection

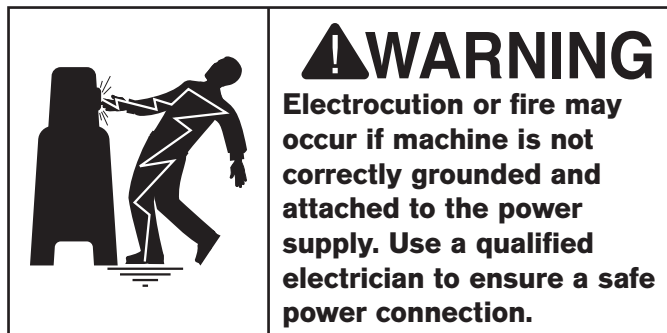
- A power source that meets the minimum circuit requirements for this machine. (Refer to the **Power Supply Requirements** section for details.)
- A qualified electrician to ensure a safe and code-compliant connection to the power source.

## 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 a qualified electrician in accordance with all applicable codes and standards.



### 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 110V ..... 8.6 Amps**  
**Full-Load Rating at 220V ..... 4.3 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.

### Circuit Information

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.

**⚠ CAUTION**

**For your own safety and protection of property, consult a qualified electrician if you are unsure about wiring practices or electrical codes in your area.**

**Note:** The circuit requirements listed in this manual apply to 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 that the circuit is properly sized for safe operation.

### Circuit Requirements for 110V

This machine is prewired to operate on a 110V power supply circuit that has a verified ground and meets the following requirements:

- Nominal Voltage ..... 110V/120V
- Cycle .....60 Hz
- Phase .....Single-Phase
- Circuit Rating..... 15 Amps
- Plug/Receptacle (included) .....NEMA 5-15

### Circuit Requirements for 220V

This machine can be converted to operate on a 220V power supply. To do this, follow the **Voltage Conversion** instructions included in this manual. The intended 220V circuit must have a verified ground and meet the following requirements:

- Nominal Voltage ..... 220V/240V
- Cycle .....60 Hz
- Phase .....Single-Phase
- Circuit Rating..... 15 Amps
- Plug/Receptacle .....NEMA 6-15

### Grounding Requirements

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.

#### For 110V Connection (Prewired)

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.

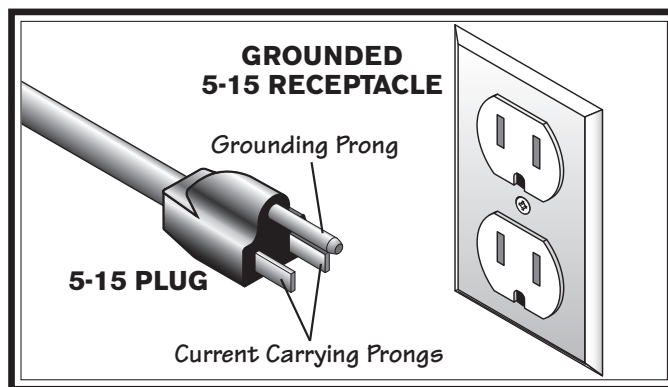


Figure 2. NEMA 5-15 plug and receptacle.

#### For 220V Connection

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

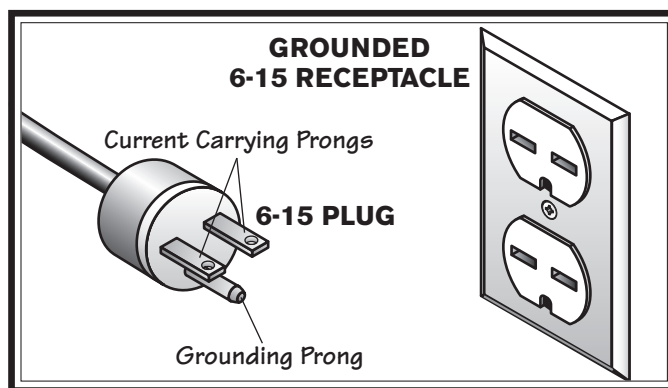


Figure 3. NEMA 6-15 plug and receptacle.

 **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.**

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 a qualified electrician or 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.....16 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

Description (Figure 4)	Qty
A. Handle .....	1
B. Axle .....	1
C. Wheels .....	2
D. Leveling Feet.....	2
E. Handwheel .....	1
F. Handwheel Handle .....	1
G. Pulley Cover .....	1
H. V-Belt.....	1

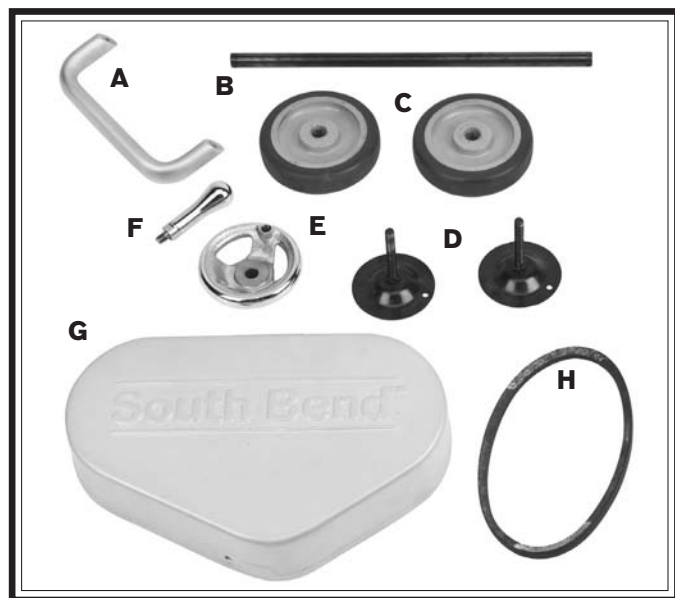


Figure 4. Small components.

Description (Figure 5)	Qty
I. Rear Panel.....	1
J. Right Side Panel .....	1
K. Front Panel.....	1
L. Left Side Panel.....	1

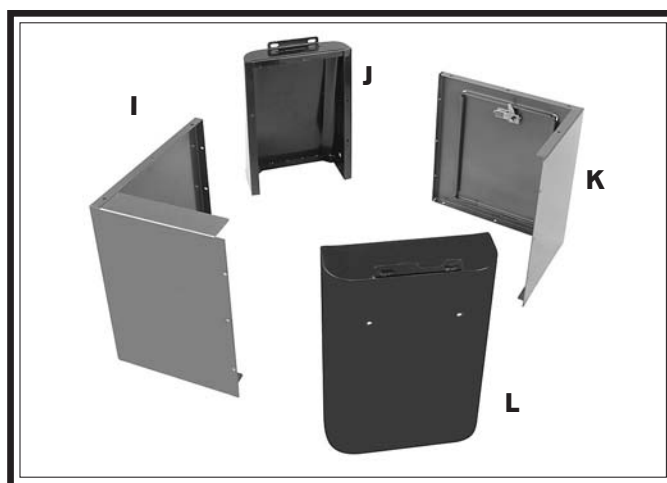


Figure 5. Stand components.

Hardware (Not Shown)	Qty
• Hex Nut 1/4"-20 (Vertical Operation) .....	1
• Flat Head Screw 1/4"-20 x 1/2" (Vertical Operation) .....	1
• Hex Wrench 4mm .....	1
• Hex Bolt M8-1.25 x 15 .....	21
• Hex Nut M8-1.25.....	19
• Flat Washer 8mm .....	40
• Hex Bolt M12-1.75 x 25 .....	4
• Flat Washer 12mm .....	5
• Knob M6-1 x 15 .....	1
• Cotter Pins .....	2

The items listed below are optional components and are not required for bandsaw operations. Their installation and use is covered in **Operation**, beginning on **Page 19**. Parts A and D are required for Vertical Cutting (**Page 30**).

Description	Qty
M. Table (Vertical Operation).....	1
N. Work Stop.....	1
O. Work Stop Rod .....	1
P. Table Support (Vertical Operation) .....	1

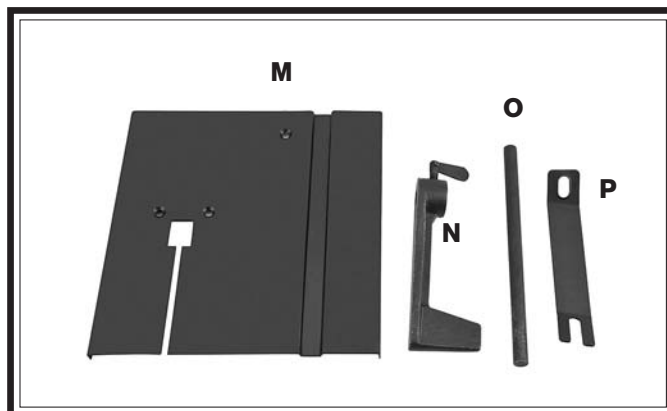
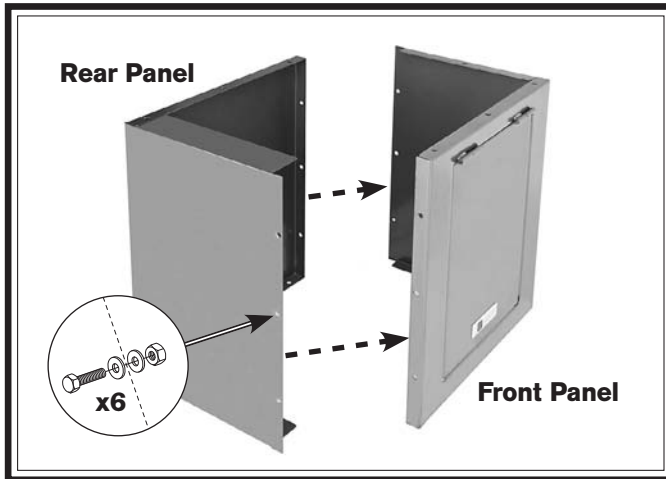


Figure 6. Optional components.

# Assembly

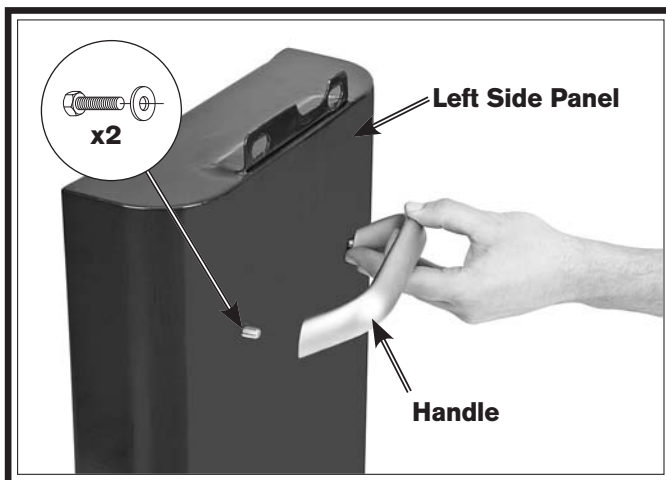
## To assemble the bandsaw:

1. Attach the front and rear panels of the stand together as shown in **Figure 7** with (6) M8-1.25 x 15 hex bolts, (6) M8-1.25 hex nuts hex nuts, and (12) 8mm flat washers.



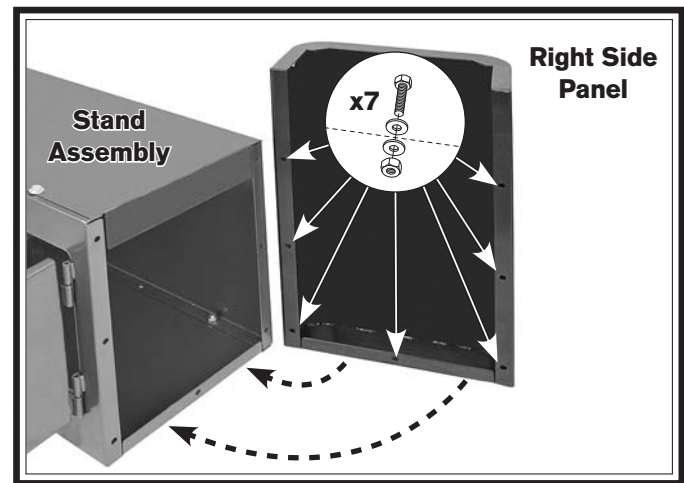
**Figure 7. Front and rear panel assembly.**

2. Place the assembly upside down on wood blocks to avoid scratching it or damaging the mounting tabs.
3. Attach the handle to the left side panel as shown in **Figure 8** with two M8-1.25 x 15 hex bolts and 8mm flat washers.



**Figure 8. Handle installation.**

4. Attach the right side panel (the side without the handle) to the stand assembly as shown in **Figure 9** with (7) M8-1.25 x 15 hex bolts, (7) M8-1.25 hex nuts, and (14) 8mm flat washers.



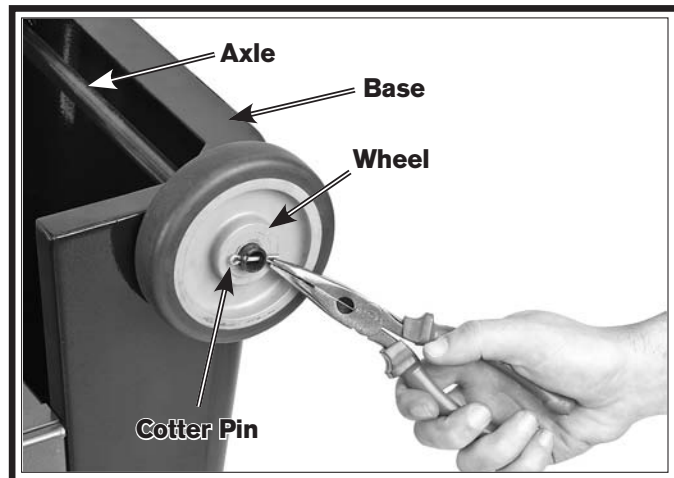
**Figure 9. Left side panel assembly.**

5. Repeat the above step for the right side panel using (6) M8-1.25 x 15 hex bolts, (6) M8-1.25 hex nuts, and (12) 8mm flat washers (see **Figure 10** for assembled view).



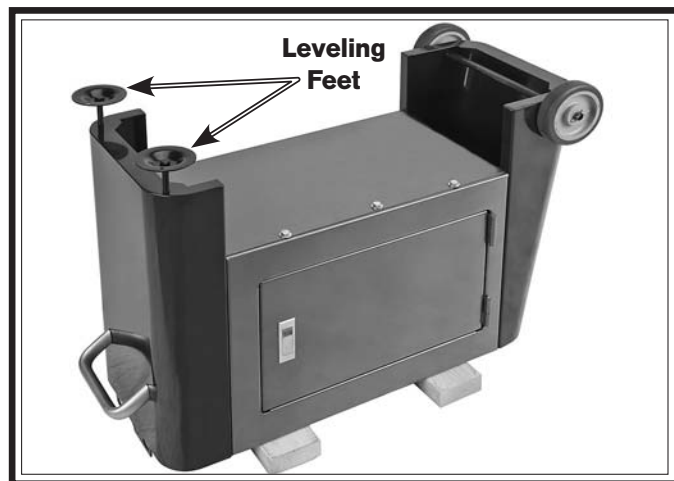
**Figure 10. Stand assembly.**

6. Insert the axle through the holes in the base assembly, then slide the wheels over the axle and secure each with a cotter pin, as shown in **Figure 11**.



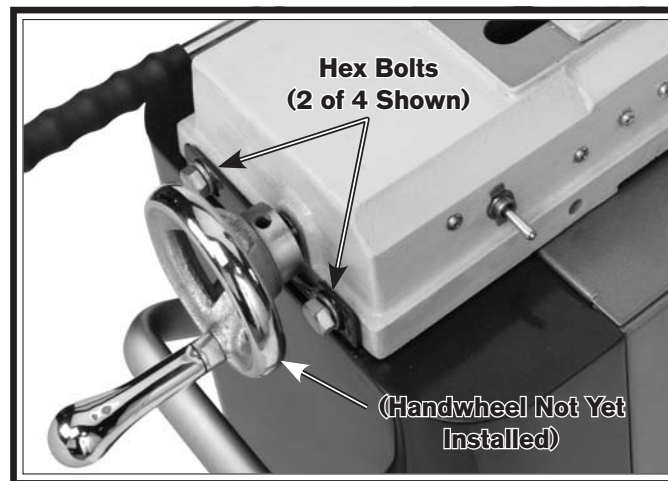
**Figure 11. Wheel assembly.**

7. Thread the leveling feet into the stand assembly, as shown in **Figure 12**. You can adjust these later as needed to level the bandsaw.



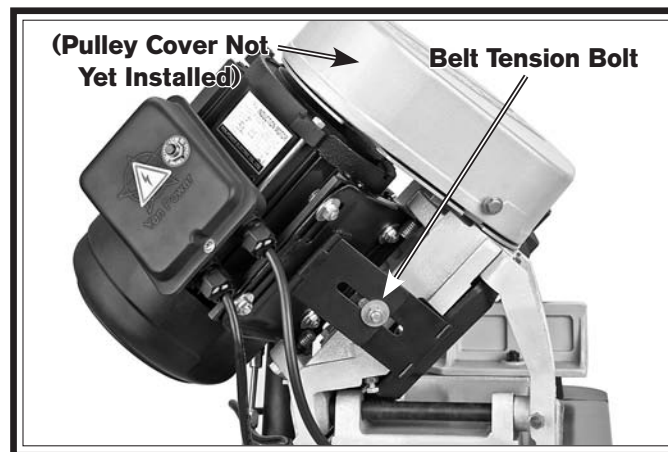
**Figure 12. Leveling feet.**

8. With the help of another person, flip the stand assembly right-side up, then lift the bandsaw assembly and place it onto the stand assembly.
9. Secure the bandsaw to the stand with four M12-1.75 x 25 hex bolts and 12mm flat washers, as shown in **Figure 13**.



**Figure 13. Mounting bandsaw to stand.**

10. Loosen the belt tension bolt shown in **Figure 14**.



**Figure 14. Belt tension bolt location.**



11. Pivot the motor assembly upward, then place the belt over the gearbox and motor pulleys, as shown in **Figure 15**.

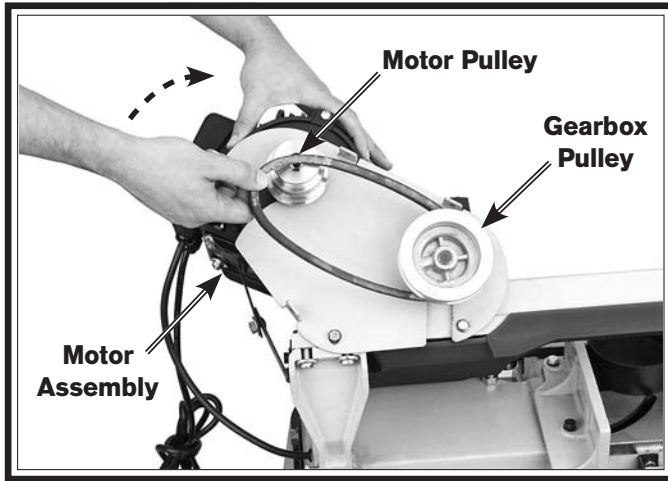


Figure 15. Installing belt.

12. Install the pulley cover (**Figure 16**) with two M6-1 x 12 hex bolts, three 6mm flat washers, and the South Bend cast aluminum knob (see **Figure 17**).

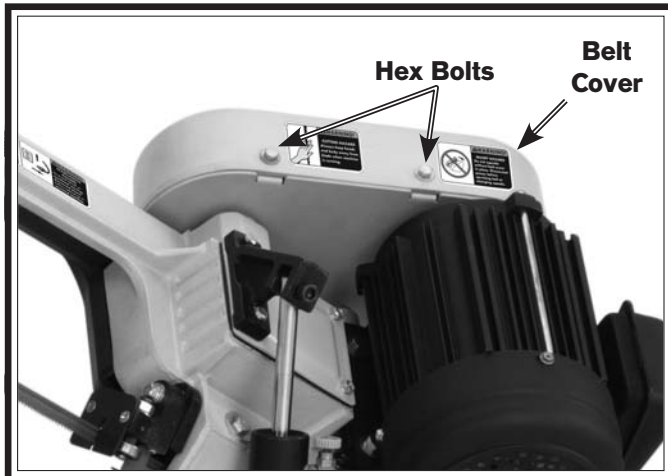


Figure 16. Pulley cover.



Figure 17. Pulley cover knob.

13. Slide the vise handwheel onto the leadscrew and tighten the set screw shown in **Figure 18**. Thread the handle into the handwheel and tighten it.

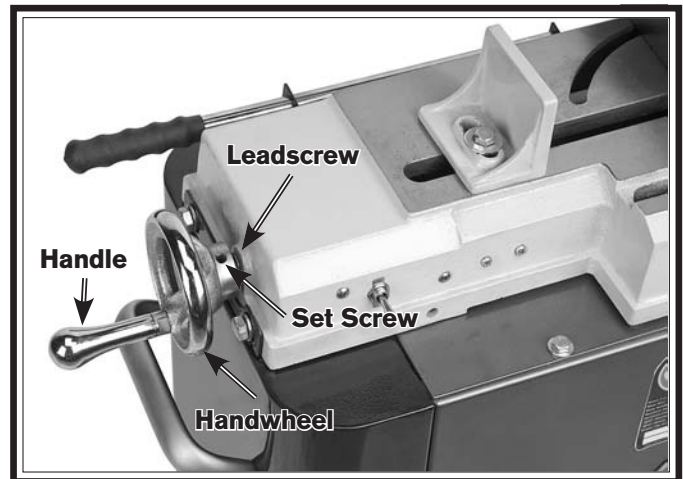


Figure 18. Vise handwheel.

## 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, we have cleaned thousands of machines and found the following process to be the best balance between efficiency and minimized exposure to toxic fumes or chemicals.

### 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 area 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.

## 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 that operations can be performed 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.

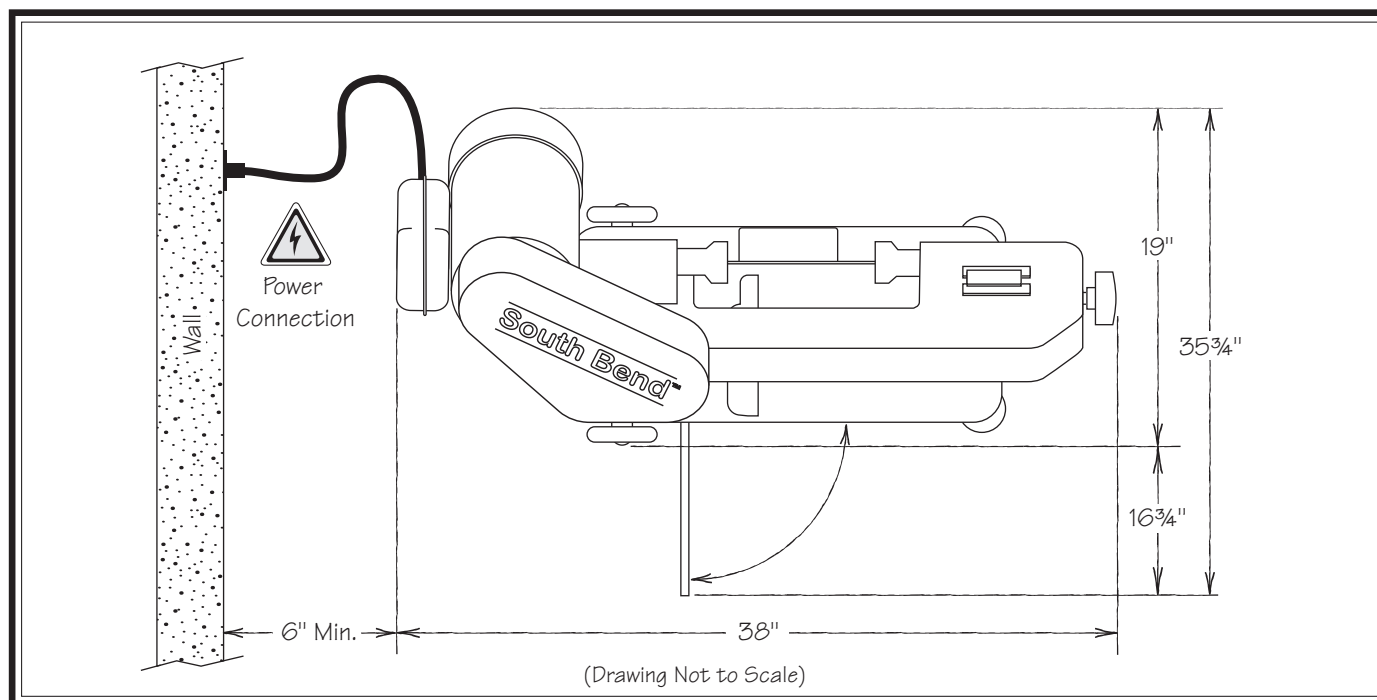
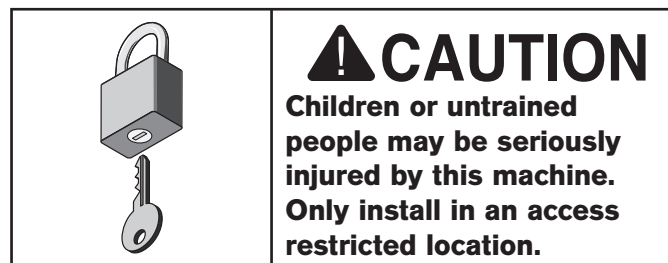
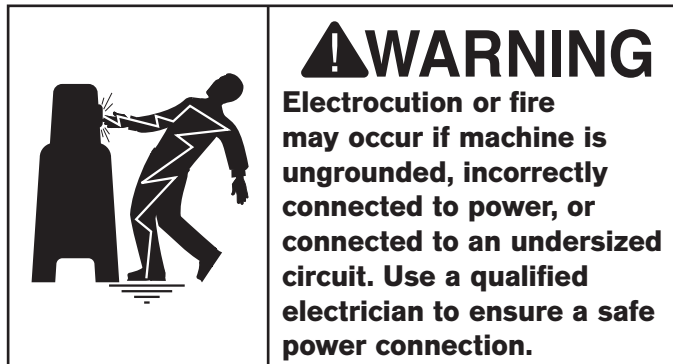


Figure 19. Clearances.

## Power Connection



### ⚠️ WARNING

Electrocution or fire may occur if machine is ungrounded, incorrectly connected to power, or connected to an undersized circuit. Use a qualified electrician to ensure a safe power connection.

Once your machine is set up and assembled as previously described in this manual, it is ready to be connected to the power source.

- If you plan to use the machine at 110V, simply plug it into a receptacle on a 110V circuit that meets the requirements listed on **Page 10**.
- If you plan to use the machine at 220V, you will have to convert the machine for 220V. Refer to **Electrical**, beginning on **Page 41**.

## 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 38** for solutions to common problems that occur with metal-cutting bandsaws. If you need additional help, contact our Tech Support at (360) 734-1540.

### To test run your machine:

1. Read and follow the safety instructions at the beginning of the manual, take required safety precautions, and make sure the machine is set up and adjusted properly
2. Clear away all tools and objects used during assembly and preparation.
3. Open the downfeed valve and allow the saw to travel all the way down. If the blade contacts the machine base or the auto-OFF tab rests on the toggle switch, adjust the downfeed stop bolt as described in **Downfeed Stop Bolt**, on **Page 35**.
4. Connect the machine to the power source.
5. Put on safety glasses and secure loose clothing or long hair.
6. Lift the bandsaw by the handle. Close the downfeed valve to prevent it from lowering.
7. Start the bandsaw while keeping your finger near the ON/OFF toggle switch at all times during the test run. The bandsaw should run smoothly with little or no vibration.
  - If you suspect any problems, immediately turn the bandsaw OFF, disconnect it from power, and correct the problem before continuing.
  - If you need any help with your bandsaw call our Tech Support at (360) 734-1540.
8. Open the downfeed valve to lower the saw through its full range of motion. When it reaches the bottom of its travel, it should turn **OFF**. If it does not, manually turn it **OFF**, disconnect it from power, then proceed immediately to **Auto-Off Tab**, on **Page 37**.

## Inspections & Adjustments

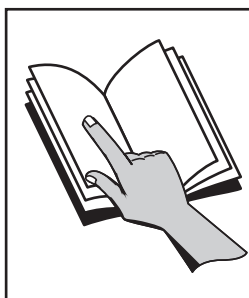
The following list of adjustments were performed at the factory before your machine was shipped. If you find that the adjustments are not set according to the procedures in this manual or your personal preferences, re-adjust them.

- Blade Tracking .....**Page 35**.
- Squaring the Blade .....**Page 37**.
- Blade Guide Bearings .....**Page 36**.

## Operation Overview

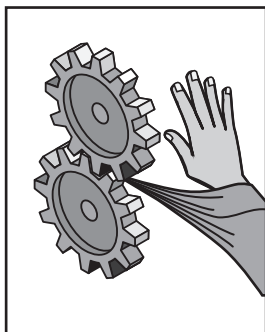
The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so they can more easily understand the controls discussed later in this manual.

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



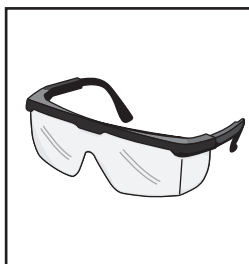
### **!WARNING**

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



### **!WARNING**

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



### **!WARNING**

During operation, small metal chips may become airborne, leading to serious eye injury. Wear safety glasses to reduce this risk.

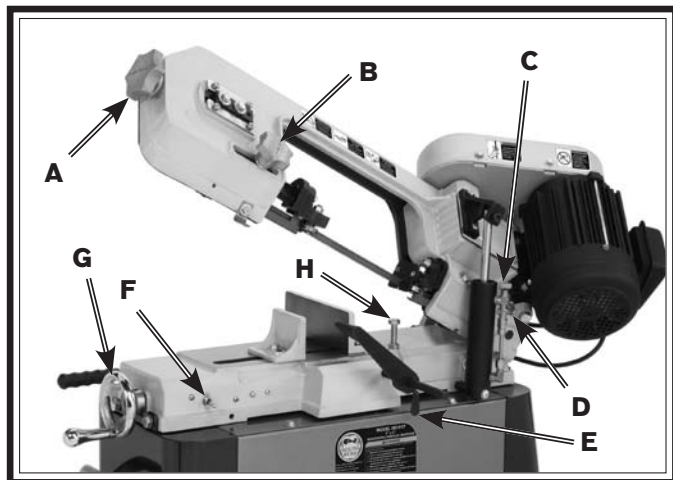
To complete a typical operation, the operator does the following:

1. Examines the workpiece to make sure it is suitable for cutting.
2. Checks/adjusts the V-belt position on the pulleys to ensure the correct cutting speed for the workpiece.
3. Raises the head, then closes the downfeed valve.
4. Adjusts the vise angle for the operation, then securely clamps the workpiece in the vise.
5. Lowers the saw bow close to the workpiece, then adjusts the guide post to within 1" of the workpiece, and verifies that the blade is properly tensioned.
6. Adjusts the guide post so the opening between the two blade guides is approximately  $\frac{1}{4}$ " larger than the width of the workpiece.
7. Makes sure the workpiece and bandsaw are stable and that there are no obstructions in the way of the cut.
8. Puts on safety glasses.
9. Starts the bandsaw and waits for the blade to reach full speed.
10. Opens the downfeed valve to lower the head and blade into the workpiece, then allows the bandsaw to complete the cut.
11. Once the bandsaw has stopped, raises the head, and removes the workpieces.

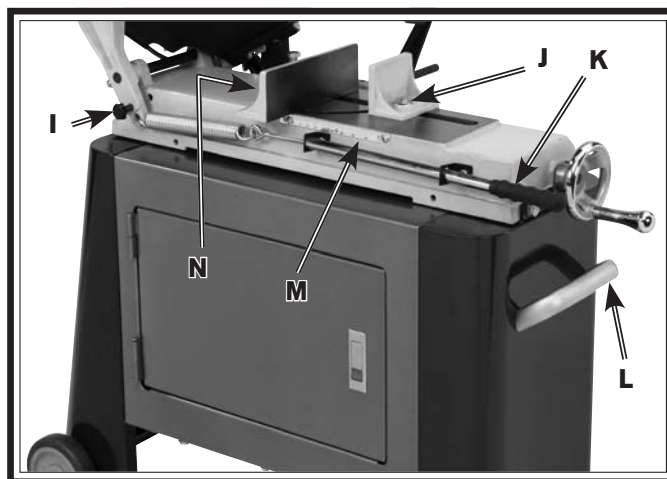
## Controls

Refer to **Figures 20–21** and the following descriptions to become familiar with the basic controls of this machine.

- A. Blade Tension Knob:** Adjusts the position of the upper blade wheel to apply or release blade tension.
- B. Guide Post Knob:** Locks the guide post in the position set by the operator.
- C. Downfeed Rate Adjust Knob:** Controls the speed at which the blade lowers into the workpiece.
- D. Downfeed Valve:** Controls the starting and stopping of the headstock downfeed.
- E. Work Stop Lock Knob:** Locks the work stop in the position set by the operator.
- F. ON/OFF Toggle Switch:** Turns the saw motor *ON* or *OFF*.
- G. Vise Jaw Handwheel:** Controls the vise jaw movement.
- H. Downfeed Stop Bolt:** Adjusts to determine the absolute bottom limit of blade travel.
- I. Head Locking Pin:** Can be inserted into one of three holes to lock the head in the down, up, or vertical positions.
- J. Vise Jaw Lock Bolt:** Locks the vise jaw at the angle set by the operator.
- K. Feed Pressure Handle:** Controls the feed pressure by increasing or decreasing preload on the feed pressure spring.
- L. Transport Handle:** Provides a solid control point for moving the machine.
- M. Fence Scale:** Indicates the angle of the vise fence.
- N. Vise Fence Bolts (behind fence):** Lock the fence at the angle set by the operator.



**Figure 20. Front Identification.**



**Figure 21. Rear Identification.**

## Blade Selection

Selecting the right blade for the cut requires a knowledge of various blade characteristics. This section breaks down blade characteristics to help the reader make an informed decision about what blade to use for a given operation.

### Blade Terminology

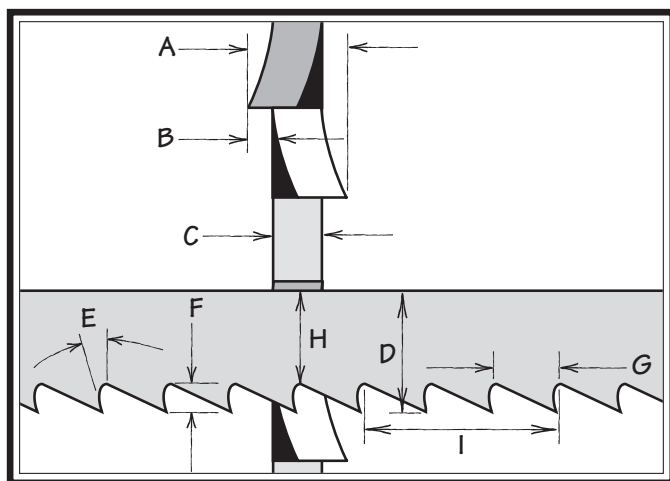


Figure 22. Bandsaw blade terminology.

- A. Kerf:** The width of the cut made during operation.
- B. Tooth Set:** The distance each tooth is bent left or right from the blade.
- C. Gauge:** The thickness of the blade.
- D. Blade Width:** The widest point of the blade measured from the tip of the tooth to the back edge of the blade.

- E. Tooth Rake:** The angle of the tooth face from a line perpendicular to the length of the blade.
- F. Gullet Depth:** The distance from the tooth tip to the bottom of the curved area (gullet).
- G. Tooth Pitch:** The distance between tooth tips.
- H. Blade Back:** The distance between the bottom of the gullet and the back edge of the blade.
- I. Blade Pitch or TPI:** The number of teeth per inch measured from gullet to gullet.

### Blade Length

Measured by the blade circumference, blade lengths are usually unique to the brand of your bandsaw and the distance between the wheels.

Model	Blade Length
SB1017.....	64½"

### Blade Width

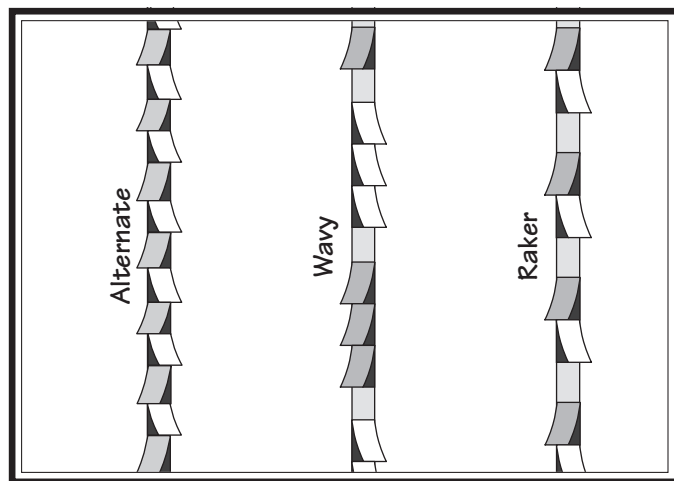
Measured from the back of the blade to the tip of the blade tooth (the widest point), blade width is often the first consideration given to blade selection. Blade width dictates the largest and smallest curve that can be cut, as well as how accurately it can cut a straight line—generally the wider the blade, the straighter it will cut.

Model	Blade Width
SB1017.....	½"

**Curve Cutting:** Curve cutting can only be performed while the machine is in the vertical position. See **Vertical Operation** on **Page 30** for more information on vertical cutting. The smallest radius curve that can accurately be cut with a ½" blade width is approximately 2½".

## Tooth Set

Three common tooth sets are alternate, wavy, and raker (see **Figure 23**). Each removes material in a different manner when cutting the workpiece.



**Figure 23. Bandsaw blade tooth sets.**

**Alternate:** An all-purpose arrangement of bending the teeth evenly left and right of the blade. Generally used for milder metals.

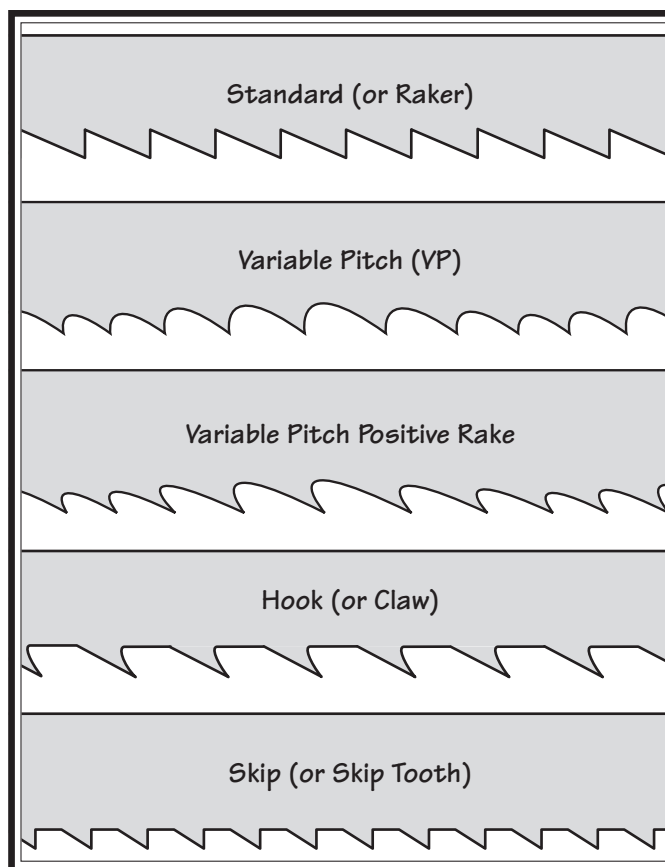
**Wavy:** Generally three or more teeth in a group that are bent one way, followed by a non-set tooth, and then a group bent the other way. Recommended for straight cuts in thin metals or thin-wall tubing.

**Raker:** Three teeth in a recurring group—one bent left, next one bent right, and then a non-set tooth. The raker set is ideal for most contour cuts.

## Tooth Type

The most common tooth types are described below and illustrated in **Figure 24**.

**Standard or Raker:** Equally spaced teeth set at a "0" rake angle. Recommended for all purpose use.



**Figure 24. Bandsaw blade tooth types.**

**Variable Pitch (VP):** Varying gullet depth and tooth spacing, a "0" rake angle, excellent chip removing capacity, and smooth cutting.

**Variable Pitch with Positive Rake:** Varying gullet depth and tooth spacing, a positive rake angle, better chip formation, and aggressive cutting.

**Hook or Claw:** Wide gullets (round or flat), equally spaced teeth, positive rake angle, and fast cut with good surface finish.

**Skip or Skip Tooth:** Wide, flat gullets, a "0" rake angle, equally spaced teeth, and recommended for non-ferrous materials.



## Blade Pitch (TPI)

The chart below is a basic starting point for choosing teeth per inch (TPI) for variable pitch blades and standard raker set bi-metal blades/HSS blades. However, for exact specifications of bandsaw blades that are correct for your operation, contact the blade manufacturer.

### To select the correct blade pitch:

1. Measure the material thickness. This measurement is the distance from where each tooth enters the workpiece to where it exits the workpiece.

2. Refer to the "Material Width/Diameter" row of the blade selection chart in **Figure 25**, and read across to find the workpiece thickness you need to cut.
3. Refer to the "Material Shapes" row and find the shape of the material to be cut.
4. In the applicable row, read across to the right and find the box where the row and column intersect. Listed in the box is the minimum TPI recommended for the variable tooth pitch blades.

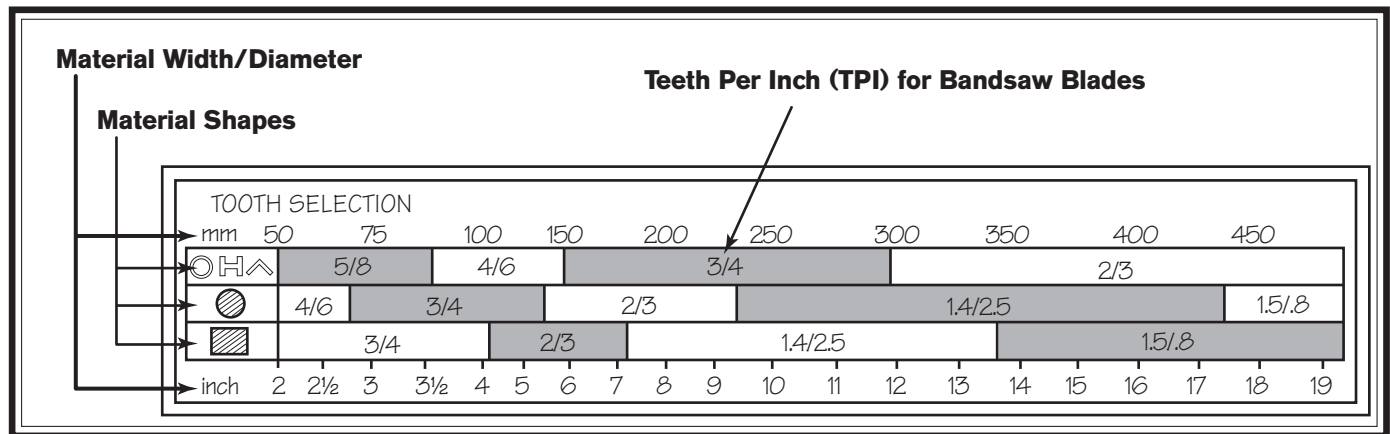


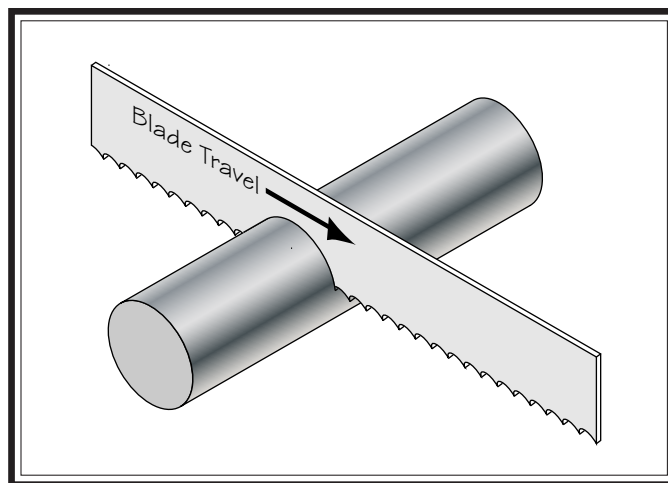
Figure 25. General guidelines for blade selection and speed chart.

## Blade Changes

Change blades when they become dull, damaged, or if the operation requires a different type of blade.

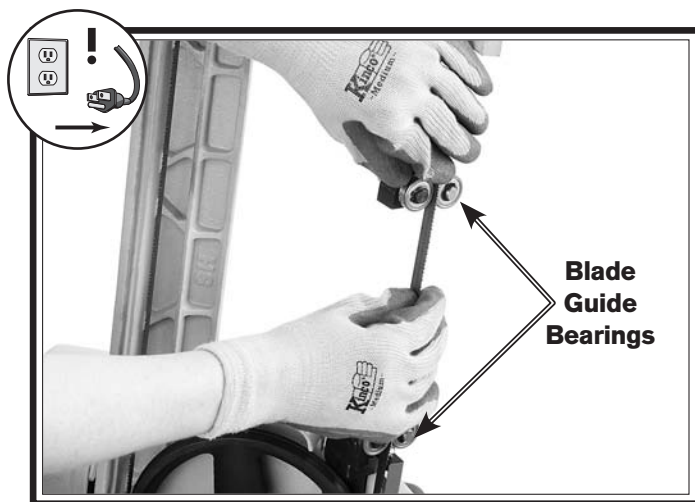
### To change the blade on the bandsaw:

1. DISCONNECT BANDSAW FROM POWER!
2. Raise the head of the bandsaw to the vertical position, use the head locking pin to hold it in place, then remove the wheel access cover.
3. Loosen the tension knob and slip the blade off of the wheels.
4. Install the new blade through both blade guide bearings, as shown in **Figure 26**, and around the bottom wheel.

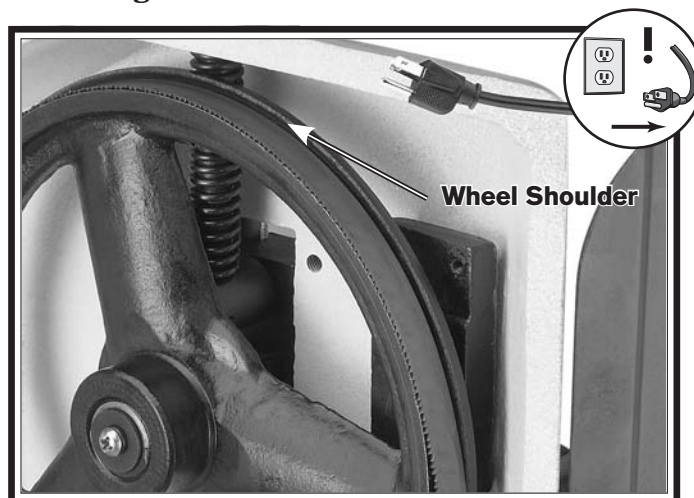


**Figure 27. Blade cutting direction.**

6. When the blade is around both wheels, adjust the position so the back of the blade is against the shoulder of the wheels as shown in **Figure 28**.



**Figure 26. Installing blade.**



**Figure 28. Installing blade around wheel.**

5. Hold the blade around the bottom wheel with one hand and slip it around the top wheel with the other hand, keeping the blade between the blade guide bearings.

**Note:** It is sometimes possible to flip the blade inside out, in which case the blade will be installed in the wrong direction. Check to make sure the blade teeth are facing toward the workpiece, as shown in **Figure 27**, after mounting to the bandsaw. Some blades will have a directional arrow as a guide.

7. Tighten the tension knob so the blade will not slip on the wheels upon startup.
8. Connect the bandsaw to the power source.
9. Briefly turn the bandsaw **ON** then **OFF** to position the blade and resume the previous tracking.

— If the tracking needs to be adjusted, see **Blade Tracking on Page 35**.

— If the tracking is fine, proceed to **Blade Tension on Page 25**.

## Blade Tension

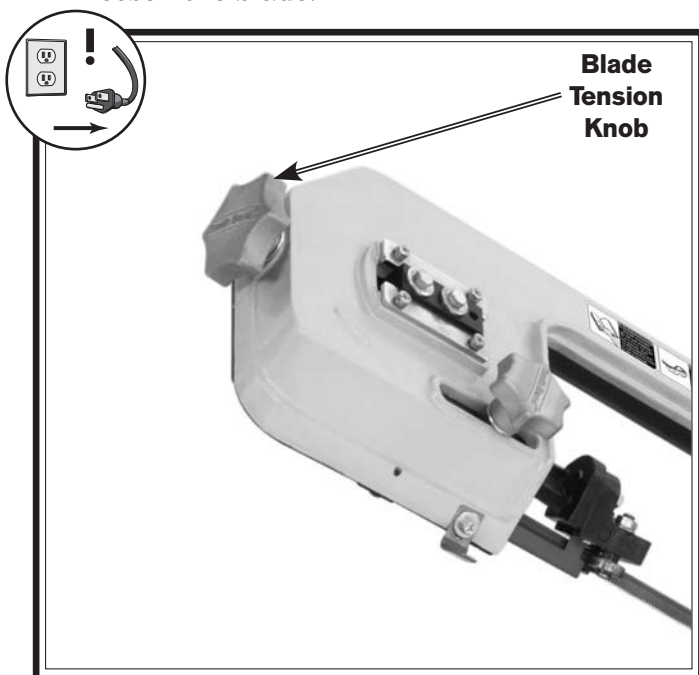
Proper tension is essential to avoid vibration, twist, or slippage on the wheels. A correctly tensioned blade provides long life, straight cuts, and efficient cutting times.

The three major signs of incorrect tension are:

1) The blade stalls in the cut and slips on the wheels, 2) the blade frequently breaks, and 3) the cuts are not straight.

### To tension the blade on the bandsaw:

1. Make sure the blade is tracking properly (refer to **Blade Tracking** on **Page 35**).
2. DISCONNECT BANDSAW FROM POWER!
3. Loosen and slide the blade guide as far out as it will go, then tighten it down again.
4. Turn the tension knob in **Figure 29** clockwise to tighten the blade or clockwise to loosen the blade.



**Figure 29. Adjusting blade tension.**

5. Using moderate finger pressure, push against the side of the blade. If the blade flexes more than  $\frac{1}{8}$ ", tighten the blade tension knob further, then repeat this step.

## Blade Breakage

Many conditions may cause a bandsaw blade to break. Some of these conditions are unavoidable and are the natural result of the stresses to which bandsaw blades are subjected. Other causes of blade breakage are avoidable.

### The most common causes of avoidable blade breakage are:

- Faulty alignment or adjustment of the blade guides.
- Forcing or twisting a wide blade around a tight radius.
- Feeding the workpiece too fast.
- Dull or damaged teeth.
- Over-tensioned blade.
- Top blade guide assembly set too high above the workpiece. Adjust the top blade guide assembly so that there is approximately  $\frac{1}{4}$ " between the bottom of the assembly and the workpiece. Understand that with smaller workpieces, this may not be possible. In these cases, simply adjust the blade guide as far down as possible.
- Using a blade with a lumpy or improperly finished braze or weld.
- Continuously running the bandsaw when not in use.
- Leaving the blade tensioned when not in use.
- Using the wrong blade pitch (TPI) for the workpiece thickness. The general rule of thumb is to have no fewer than three teeth in contact with the workpiece when cutting.

# Blade Care & Break-In Blade Speed

## Blade Care

To prolong blade life, always use a blade with the proper width, set, type, and pitch for each application. Maintain the appropriate feed rate, feed pressure, and blade speed. Keep your blades clean, since dirty or gummed up blades pass through the cutting material with much more resistance than clean blades, causing unnecessary heat.

## Blade Break-In

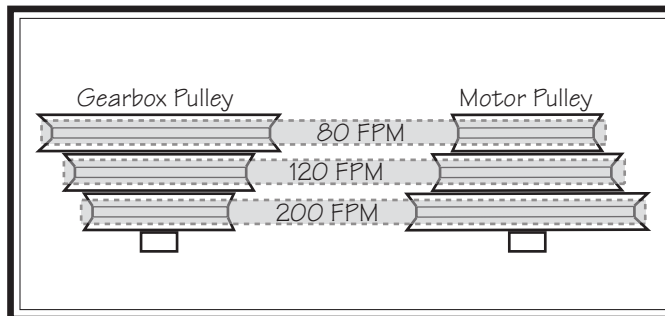
The tips and edges of a new blade are extremely sharp. Cutting at too fast of a feed rate or too slow of a blade speed can fracture these tips and edges, causing the blade to quickly become dull. Properly breaking-in a blade allows these sharp edges to wear without fracturing, thus keeping the blade sharp longer.

Use the **Chip Inspection Chart** on **Page 27** to ensure that the optimal blade speed and feed rate are being used.

### To properly break-in a new blade:

1. Choose the correct speed for the blade and material of the operation.
2. Reduce the feed pressure by half for the first 50–100 in<sup>2</sup> of material cut.
3. To avoid twisting the blade when cutting, wait until the total width of the blade is in the cut before adjusting the feed pressure.

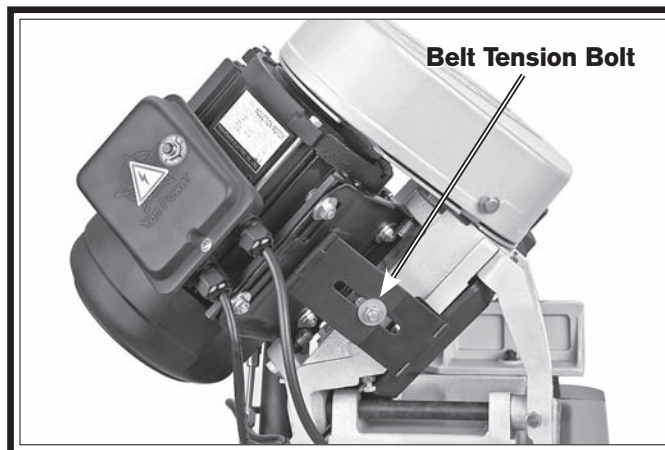
The bandsaw is capable of operating at 80, 120, or 200 FPM (Feet Per Minute). The speed can easily be adjusted by changing the V-belt placement. **Figure 30** shows the pulley positions required for each speed. The charts on the following page provide guidelines for determining which speed to use for a cutting operation



**Figure 30. Pulley & V-belt configuration.**

### To change the blade speeds:

1. DISCONNECT BANDSAW FROM POWER!
2. Open the belt cover, then loosen the belt tension bolt shown in **Figure 31** to allow the motor to pivot.



**Figure 31. Motor tension bolt.**

3. Lift the motor to relieve the belt tension and position the belt in the desired pulley alignment.
4. Release the motor and let its weight tension the belt.
5. Re-tighten the belt tension bolt and close the belt cover.

## Blade Speed Chart

The blade speed chart in **Figure 32** offers guidelines for various metals, given in feet per minute (FPM). Choose the closest available machine blade speed to the number shown in the chart. Refer to the **Chip Inspection Chart** that follows for recommendations on adjusting your operation based on the appearance of the chips produced

Material	Speed FPM (M/Min)	Material	Speed FPM (M/Min)	Material	Speed FPM (M/Min)	Material	Speed FPM (M/Min)
Carbon Steel	196~354 (60) (108)	Tool Steel	203 (62)	Alloy Steel	111~321 (34) (98)	Free Machining Stainless Steel	150~203 (46) (62)
Angle Steel	180~220 (54) (67)	High-Speed Tool Steel	75~118 (25) (36)	Mold Steel	246 (75)	Gray Cast Iron	108~225 (33) (75)
Thin Tube	180~220 (54) (67)	Cold-Work Tool Steel	95~213 (29) (65)	Water Hardened Tool Steel	242 (75)	Ductile Austenitic Cast Iron	65~85 (20) (26)
Aluminum Alloy	220~534 (67) (163)	Hot-Work Tool Steel	203 (62)	Stainless Steel	85 (26)	Malleable Cast Iron	321 (98)
Copper Alloy	229~482 (70) (147)	Oil-Hardened Tool Steel	203~213 (62) (65)	CR Stainless Steel	85-203 (26) (62)	Plastics	220 (67)

**Figure 32. Dry cutting blade speed chart.**

## Chip Inspection Chart

The best method for choosing the cutting speed and feed rate for a cutting operation is to inspect the chips created by the cut. These chips will be indicators of what is commonly referred to as the "chip load". Refer to the chip inspection chart below to evaluate chip characteristics and determine whether to adjust feed rate/pressure, blade speed, or both.

Chip Appearance	Chip Description	Chip Color	Blade Speed	Feed Rate/ Pressure	Other Actions
	Thin & Curled	Silver	Good	Good	
	Hard, Thick & Short	Brown or Blue	Increase	Decrease	
	Hard, Strong & Thick	Brown or Blue	Increase	Decrease	
	Hard, Strong, Curled & Thick	Silver or Light Brown	Good	Decrease Slightly	Check Blade Pitch
	Hard, Coiled & Thin	Silver	Increase	Decrease	Check Blade Pitch
	Straight & Thin	Silver	Good	Increase	
	Powdery	Silver	Decrease	Increase	
	Coiled, Tight & Thin	Silver	Good	Decrease	Check Blade Pitch

**Figure 33. Chip inspection chart.**

## Downfeed Pressure

The downfeed pressure is controlled by the spring and handle shown in **Figure 34**.

To decrease downfeed pressure, twist the handle clockwise to increase spring tension.

To increase downfeed pressure, twist the handle counterclockwise to release spring tension.

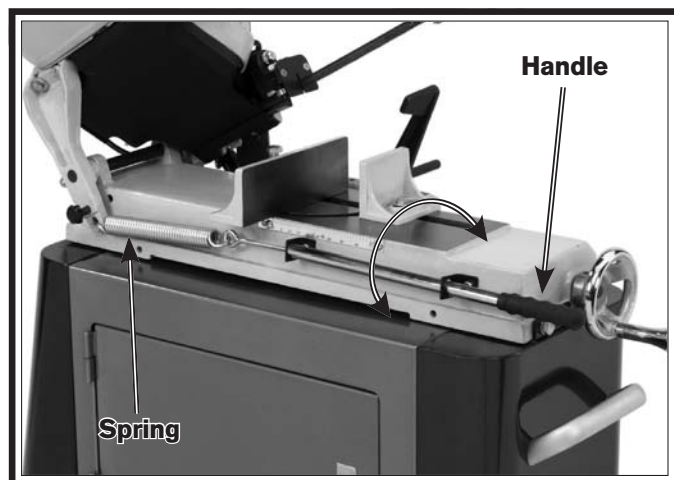


Figure 34. Downfeed rate controls.

## Downfeed Rate

The downfeed valve starts and stops headstock downfeed.

The downfeed rate is adjusted by turning the downfeed rate adjust knob (**Figure 35**). Turning the knob clockwise decreases the downfeed rate and turning the knob counterclockwise increases the downfeed rate.

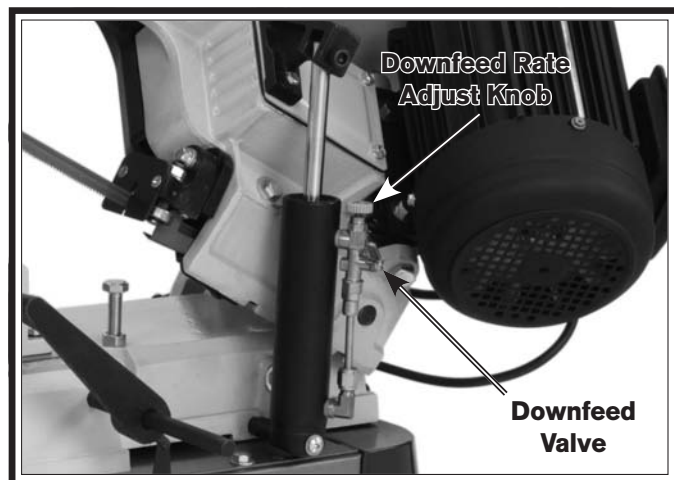


Figure 35. Downfeed pressure.

## Work Stop

The work stop can be used to make uniform-length cuts on multiple workpieces.

**To install and use the work stop:**

1. Insert the work stop rod into the machine base (as shown in **Figure 36**), then tighten the set screw to secure it.

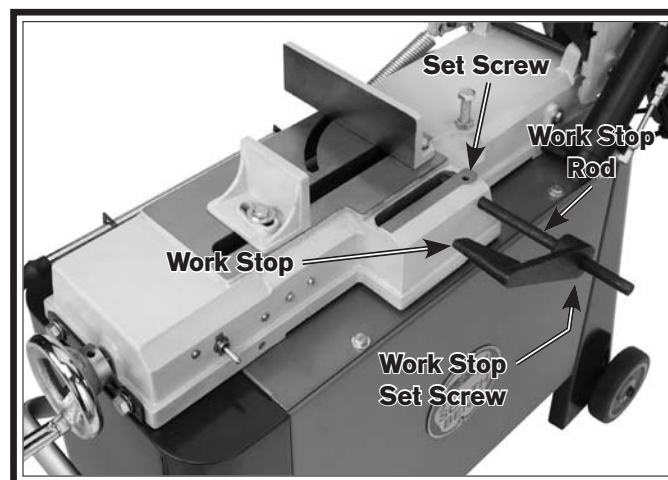


Figure 36. Downfeed rate controls.

2. Slide the work stop onto the work stop rod, adjust it as needed to provide a stop for the workpiece, then tighten the work stop set screw.

# Vise

## **CAUTION**

Always turn the saw OFF and allow the blade to come to a complete stop before using the vise! Failure to follow this caution may lead to injury.

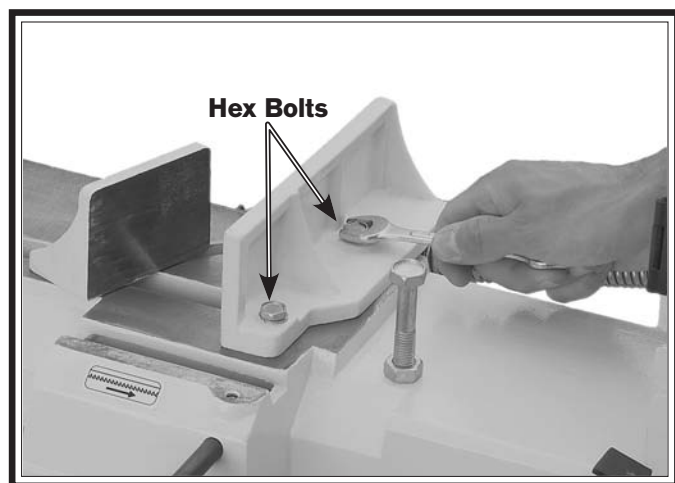
The vise can hold material up to six inches wide and be set to cut angles from 0° to 45°.

### Tools Needed

Wrench or Socket 12mm.....	<b>Qty</b>
Machinist Square.....	1
	1

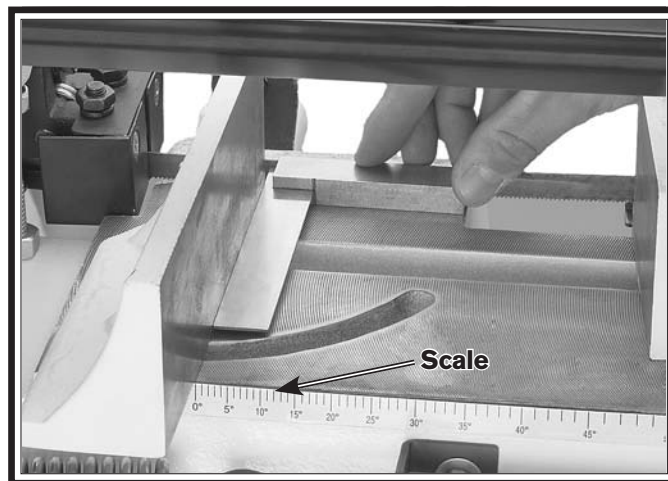
### To use the vise:

1. Loosen the two hex bolts shown in **Figure 37**.



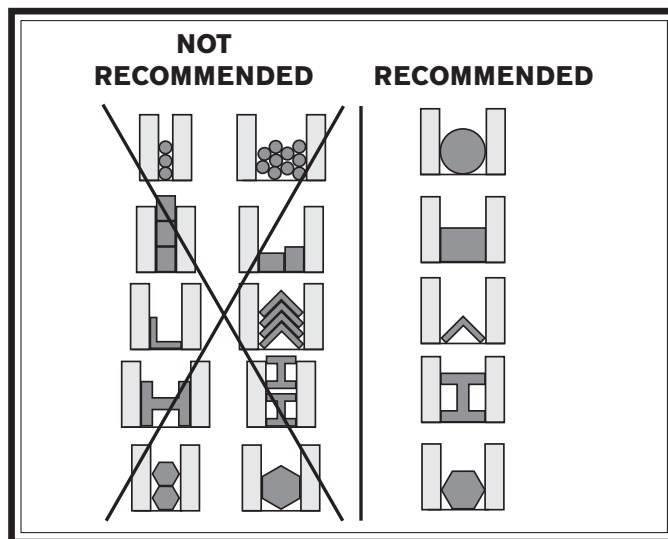
**Figure 37. Vise hex bolts.**

2. Use the scale as a guide to set your angle or use a machinist square to set the angle of the vise fence, as shown in **Figure 38**.



**Figure 38. Squaring vise to blade.**

3. Tighten the hex bolts.
4. Loosen the hex bolt on the vise jaw so the jaw can float, then match the angle of the workpiece and re-tighten the hex bolt.
5. Tighten the vise against the workpiece. **Figure 39** shows the correct methods for holding different workpiece shapes.



**Figure 39. Workholding options by material shape.**

## Blade Guide

The upper blade guide should be positioned as close to the workpiece as possible for all cutting operations. The support provided by keeping the blade guides close ensures straight cuts by keeping the blade from twisting and drifting off the cut line.

### To adjust the blade guide:

1. DISCONNECT BANDSAW FROM POWER!
2. Loosen the knob shown in **Figure 40** and slide the blade guide to within  $\frac{1}{4}$ " of the workpiece, then re-tighten the knob.

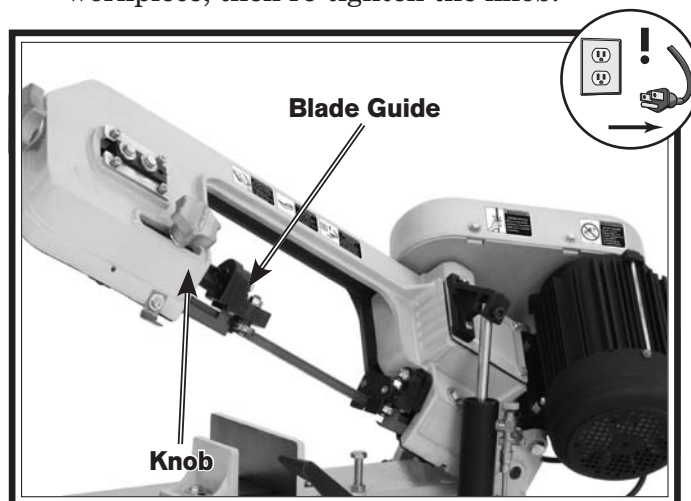


Figure 40. Blade guides.

## Vertical Cutting

The Model SB1017 can easily be set up for vertical cutting operations.

### To convert the saw for vertical cutting:

1. DISCONNECT BANDSAW FROM POWER!
2. Open the downfeed valve and allow the saw to lower fully.
3. Unthread and remove the downfeed ram cap screw shown in **Figure 41**, then pivot the saw bow up into the vertical position. Push the head locking pin (**Figure 1**) inward to lock the saw in the upright position.

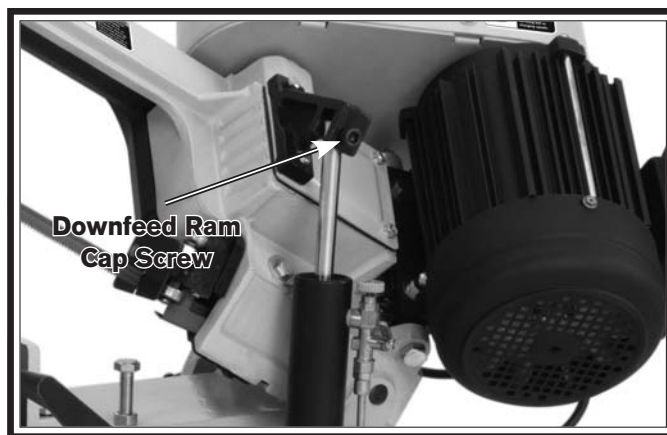


Figure 41. Downfeed ram cap screw location.

4. Remove the two flat head screws and the blade guide cover shown in **Figure 42**.

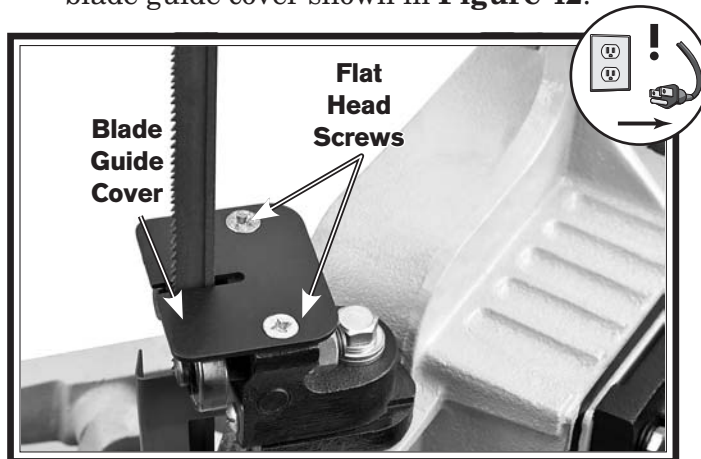


Figure 42. Blade guide cover.

5. Install the table with the two screws removed in **Step 2**.
6. Install the table bracket with the pre-installed hex bolt, the M6-1 x 12 flat head screw, and the M6-1 hex nut, as shown in **Figure 43**.

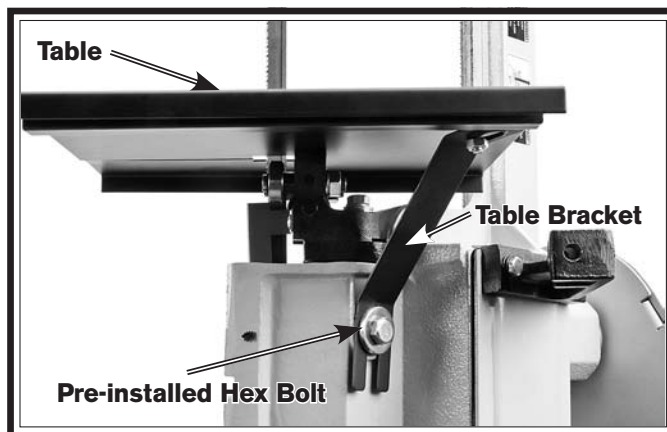
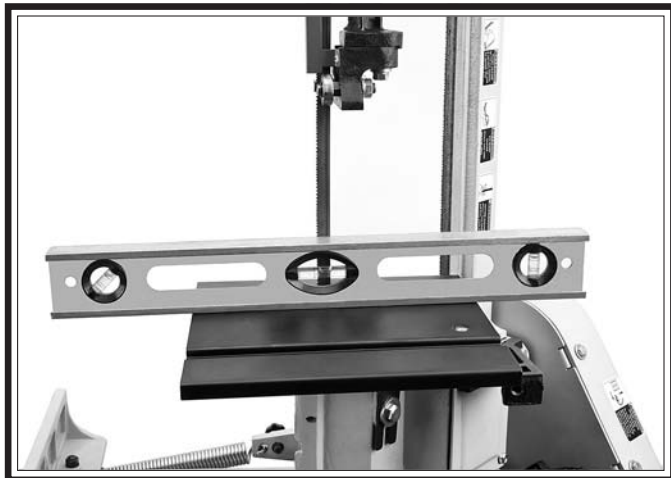


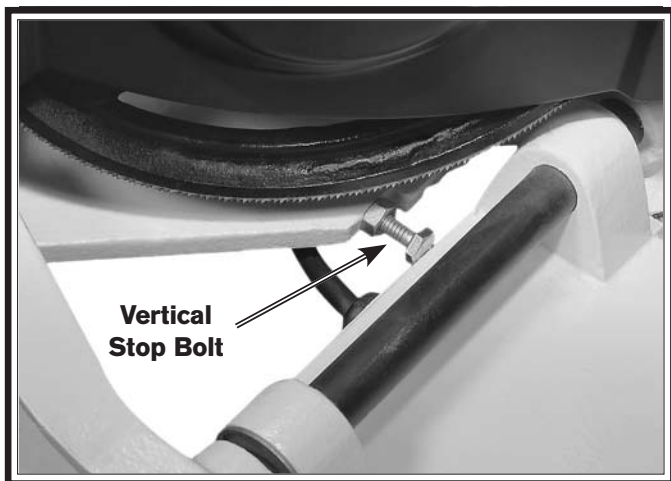
Figure 43. Table installed.



7. Place a level on the table, as shown in **Figure 44**, then use the vertical stop bolt shown in **Figure 45** along with the slotted table mount bracket to level the table.



**Figure 44. Leveling vertical setup.**



**Figure 45. Vertical stop bolt (blade cover removed for clarity).**

## Operation Tips

The following tips will help you safely and effectively operate your bandsaw and help you get the maximum life out of your saw blades.

### Horizontal Cutting

- Use the work stop to quickly and accurately cut multiple pieces of stock to the same length.
- Clamp the material firmly in the vise jaws to ensure a straight cut through the material.
- Let the blade reach full speed before engaging the workpiece. Never start a cut with the blade in contact with the workpiece.
- Pay attention to the chips produced by the cutting operation and use their appearance to fine-tune the blade speed, feed speed, and pressure (refer to the **Chip Inspection Chart** on **Page 27**).
- Wait until the blade has completely stopped before removing the workpiece from the vise, and avoid touching the cut end—it could be very hot!

### Vertical Cutting

- Do not cut workpieces that cannot be properly supported or stabilized without a vise in the vertical position. Examples are chains, cables, round or oblong-shaped workpieces, workpieces with internal or built-in moving or rotating parts, etc.
- Make sure that the vertical table assembly is securely fastened to the bandsaw frame so it will adequately support the workpiece.
- Adjusts the guide post so the opening between the two blade guides is approximately  $\frac{1}{4}$ " larger than the width of the workpiece.

## NOTICE

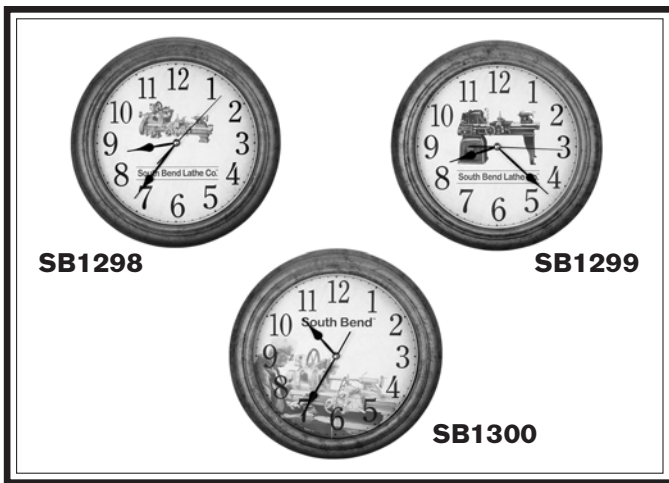
**Release blade tension at the end of each use to prolong blade life.**

# Accessories

This South Bend merchandise may be available through your local South Bend Lathe Co. dealer. If you do not have a dealer in your area, please call us at (360) 734-1540 or email us at [cs@southbendlathe.com](mailto:cs@southbendlathe.com).

- SB1298—SBL Bench Lathe Shop Clock**
- SB1299—SBL Toolroom Lathe Shop Clock**
- SB1300—SBL Lathe with Man**

These fine traditional shop clocks are constructed with a metal antique-finished frame. They are easy to read from a distance and measure 14" in diameter. Pictures just don't do them justice. They are very nice quality clocks and perfect for the South Bend Lathe aficionado.



**Figure 46. Antique-finished South Bend shop clocks.**

- SBL Gearhead T-Shirt**
- SBL One Good Turn T-Shirt**

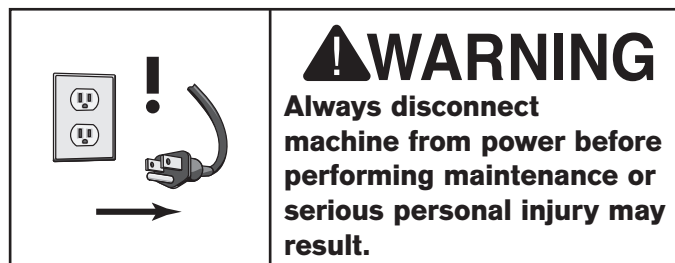
100% Cotton, preshrunk T-shirts, available in sizes S, M, L, XL, 2XL, 3XL.



**Figure 47. Official South Bend Lathe T-Shirts.**

# Maintenance Schedule Lubrication

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



## Daily

- Check/correct loose mounting bolts.
- Check/correct damaged or dull saw blade.
- Check/correct worn or damaged wires.
- Clean/protect table.
- Clean metal chips from upper and lower wheel areas.
- Correct any other unsafe condition.

## Monthly

- Check for V-belt tension, damage, or wear.
- Lubricate tension leadscrew, guide post, and vise leadscrew.

## Yearly

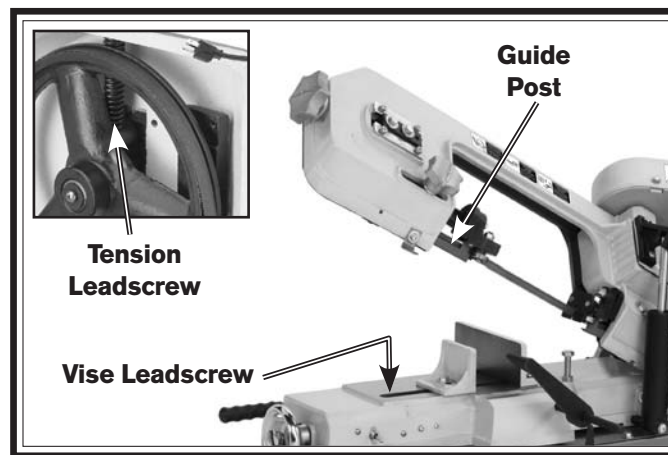
- Lubricate gearbox.

## Cleaning

Use a brush and a shop vacuum to remove chips and other debris from the machine. Keep the non-painted surfaces rust-free with regular applications of a high-quality rust preventative.

Periodically, remove the blade and thoroughly clean all metal chips or built-up grease from the wheel surfaces and blade housing.

Before applying lubricant, wipe the area clean for best results. Lubricate the components shown in **Figure 48** with multi-purpose gear grease.



**Figure 48. Lubrication locations.**

## Gearbox

At least once a year, drain and replace the gearbox oil.

Items Needed	Qty
Wrench 4mm .....	1
Mobil Spartan EP220 or ISO 220 EP Equivalent Gear Oil .....	Approximately 1 Pint
Handheld Oil Pump .....	1
Shop Rags .....	As needed
Wooden Blocks .....	As needed

### To change the gearbox oil:

1. DISCONNECT BANDSAW FROM POWER!
2. Loosen the four hex bolts that secure the machine to the cabinet.
3. With the help of another person, carefully remove the saw from the stand and place it on a workbench. Use wooden blocks to support the machine so that the gearbox cover is horizontal, as shown in **Figure 49**. This will prevent spilling of oil in the following steps. Make sure the machine is sufficiently supported and stable so that it will not shift during this procedure.

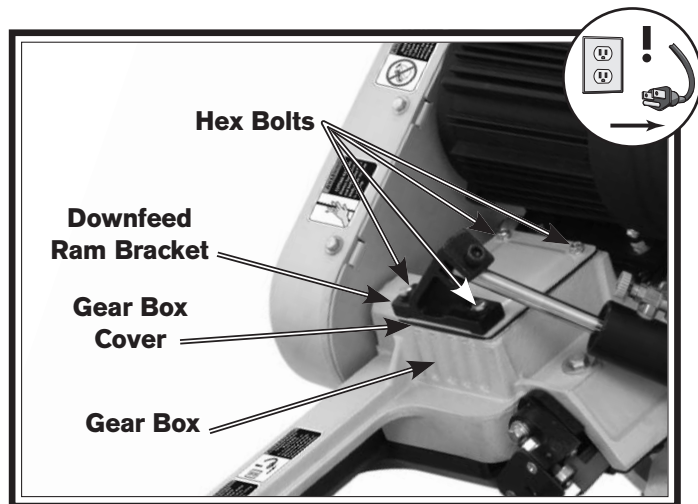


Figure 49. Gear box location.

4. Remove the four hex bolts that secure the gearbox cover, then remove the gearbox cover and downfeed ram bracket.
5. Use a handheld oil pump to draw the oil out of the gearbox, then use a rag to remove any remaining oil and sediment.
6. Add oil to the gearbox until it is approximately half full, then replace the gearbox cover.

## V-Belt Replacement

If the V-belt shows signs of excessive wear, such as cracking or fraying, it must be replaced.

### To replace the V-belt

1. DISCONNECT BANDSAW FROM POWER!
2. Open the belt cover, then loosen the belt tension bolt shown in **Figure 50** to allow the motor to pivot.

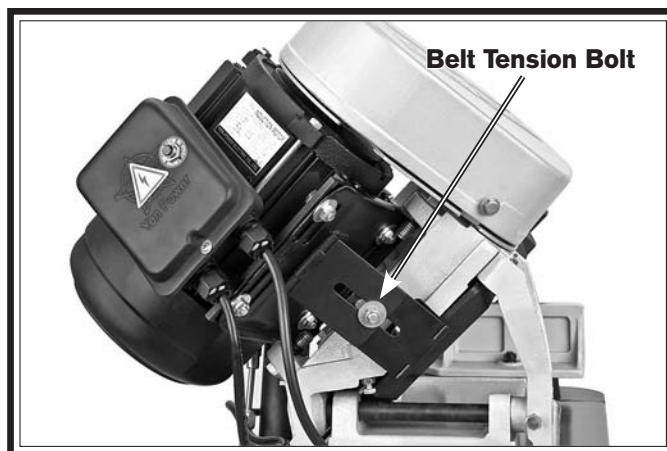


Figure 50. Motor tension bolt.

3. Lift the motor to relieve the belt tension, then remove the belt.
4. Install a new belt, then release the motor and let its weight tension the belt.
5. Re-tighten the belt tension bolt and close the belt cover.

## Machine Storage

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

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

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

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

3. Loosen or remove the belt so it does not become stretched during storage.

4. Fill the gearbox with the recommended gear oil so components above the normal oil level do not develop rust. (Make sure to put a tag on the controls as a reminder for the re-commissioning process to adjust the gear oil level before starting the machine.)

If the machine will be out of service for only a short period of time, start the machine once a week and run all gear-driven components for a few minutes. This will put a fresh coat of gear oil on the gearing components inside the gearbox.

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

## Downfeed Stop Bolt

The downfeed stop bolt serves to stop downfeed movement. Proper placement of the downfeed stop bolt prevents the blade from contacting the machine base and the auto-OFF tab from resting on the ON/OFF toggle switch, while still allowing the blade to move lower than the table surface to complete the cut.

To adjust the downfeed stop bolt, loosen the lock nut, turn the stop bolt as needed to position it as described above, then re-tighten the lock nut.

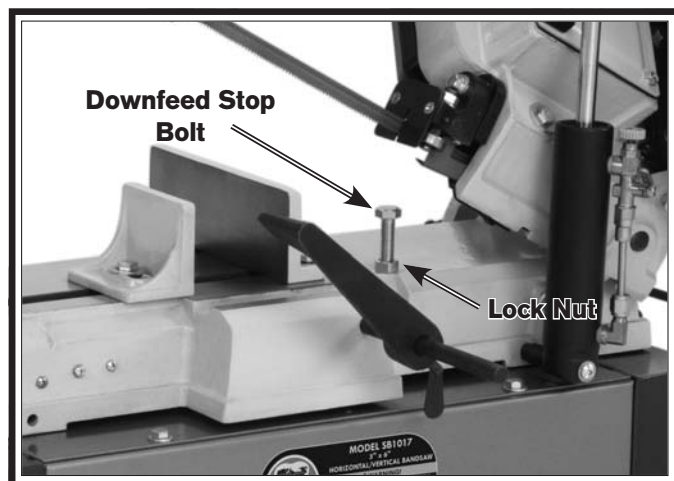


Figure 51. Downfeed stop bolt.

## Blade Tracking

The tracking will only need to be adjusted if the blade rubs against the wheel shoulder or moves more than  $\frac{1}{16}$ " away from the shoulder.

### Tools Needed

Wrench or Socket 14mm..... 1

Qty

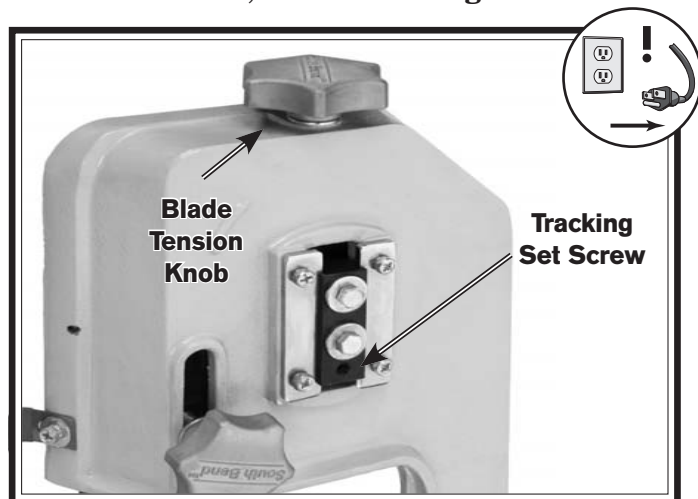
### To adjust the blade tracking on the bandsaw:

1. DISCONNECT BANDSAW FROM POWER!
2. Position the bandsaw in the vertical position.
3. Open the wheel access cover.
4. Loosen, but do not remove the lower hex bolt in the blade wheel tilting mechanism shown in Figure 52.



Figure 52. Blade tracking adjustments.

5. Use the blade tension knob to release the blade tension, as shown in **Figure 53**.



**Figure 53. Adjusting tracking hex bolt.**

6. Adjust the tracking set screw, as shown in **Figure 53**, then tighten the lower hex bolt loosened in **Step 4**.

- Tightening the tracking set screw will move the blade closer to the shoulder of the wheel.
- Loosening the tracking set screw will move the blade away from the shoulder.

7. Tension the blade.

8. Reconnect the power and turn the bandsaw **ON**.

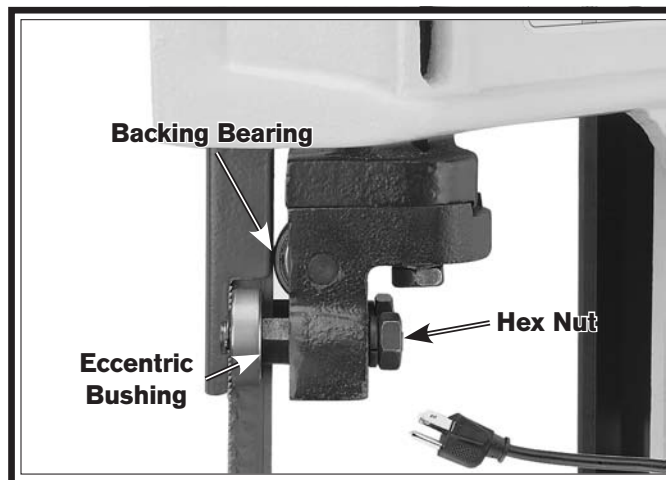
- If the blade tracks along the shoulder of the wheel (without rubbing), the blade is tracking properly and this adjustment is completed.

- If the blade walks away from the shoulder of the wheel or hits the shoulder, turn the bandsaw **OFF**, disconnect it from power, then repeat **Steps 4–8**.

9. Turn the bandsaw **OFF**, disconnect it from power, then replace the blade guard and wheel access cover.

## Blade Guide Bearings

The blade guide bearings must be properly adjusted to make square cuts. One bearing on each assembly has an eccentric bushing that allows it to be adjusted to properly support the blade. The bearings are secured in place by a hex nut and lock washer, as shown in **Figure 54**.



**Figure 54. Blade guide adjustments.**

### To adjust the blade guide bearings:

1. **DISCONNECT BANDSAW FROM POWER!**
2. Position the saw in the vertical position (see **Vertical Operation** on **Page 30** for more information).
3. Loosen the hex nuts that secure the eccentric bushings attached to the guide bearings.
4. Adjust the eccentric bushing as necessary so that it pushes against the blade just enough to hold the blade flat between the bearings.

**Note:** Since the bearings twist the blade into position, it is acceptable if there is 0.001"–0.002" gap between the blade and the front or back of the bearing. Just make sure not to squeeze the blade too tightly with the bearings. After the guide bearings are set, you should be able to rotate the guide bearings (although they will be stiff) with your fingers.

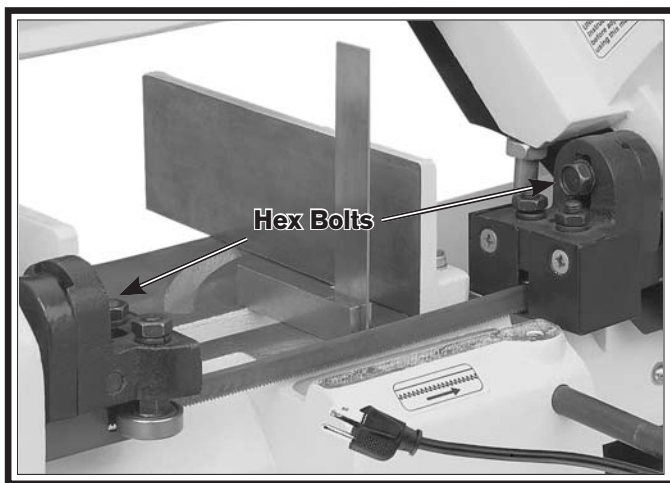
5. Adjust the backing bearing in the same manner, but leave a gap between 0.002–0.003" from the back of the blade.

## Squaring Blade

The blade can be adjusted square to the vise table. A blade that is square will improve your cutting results and extend the life of your blade.

### To square the blade to the table:

1. DISCONNECT BANDSAW FROM POWER!
2. Separate the blade guides as far as possible, then lower the bandsaw all the way until it contacts the downfeed stop bolt.
3. Place a square on the table bed and against the edge of the blade, as shown in **Figure 55**, then check different points along the length of the table between the blade guides.



**Figure 55. Squaring the blade.**

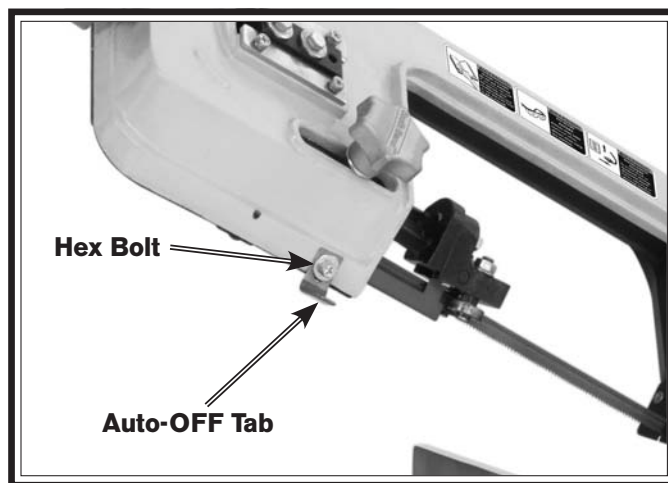
4. If the blade is not square to the table, loosen the hex bolts shown in **Figure 55** and rotate the blade guide bearing assemblies as necessary until the blade is perpendicular to the bed, then re-tighten the hex bolts.

## Auto-OFF Tab

The auto-OFF tab may require adjustment over time if the machine fails to turn itself OFF at the end of a cut.

### To adjust the auto-OFF tab:

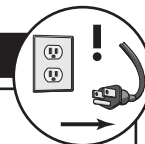
1. DISCONNECT BANDSAW FROM POWER!
2. Loosen the hex bolt shown in **Figure 56**.



**Figure 56. Auto-OFF tab.**

3. Move the toggle switch to the ON position (keep the machine disconnected from power—the motor does not need to be running for this adjustment).
4. Open the downfeed valve to allow the saw to move downward. Wait for it to come to a stop.
5. Push the auto-OFF tab downward into the toggle switch until the switch moves to the OFF position. Then, without moving the auto-OFF tab from this position, tighten the hex bolt to secure the auto-OFF tab.
6. Lift the saw, move the toggle switch to the ON position, then allow the saw to move downward again. Watch to see if the auto-OFF tab moves the toggle switch to the OFF position. If it doesn't, loosen the hex bolt, then repeat **Step 5**, fine-tuning the position of the auto-OFF tab as necessary.

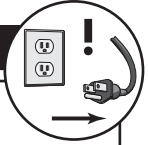
If you need replacement parts, or if you are unsure how to do any of the solutions given here, feel free to call us at (360) 734-1540.

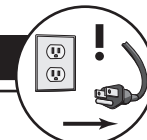


Symptom	Possible Cause	Possible Solution
Machine does not start.	<ol style="list-style-type: none"> <li>1. Power supply switched off/has incorrect voltage.</li> <li>2. Blown fuse/tripped circuit breaker at main panel.</li> <li>3. Plug or receptacle is corroded or mis-wired.</li> <li>4. Break or short in wiring; or loose connections.</li> <li>5. Motor connection wired incorrectly.</li> <li>6. Motor ON/OFF switch at fault.</li> <li>7. Start capacitor blown or at fault.</li> <li>8. Centrifugal switch at fault.</li> <li>9. Motor at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Switch power supply on/verify voltage.</li> <li>2. Correct the cause of overload, then reset/replace fuse or breaker.</li> <li>3. Clean/retighten contacts; correct the wiring.</li> <li>4. Trace/replace broken or corroded wires; fix loose connections.</li> <li>5. Wire motor correctly (refer to inside junction box cover or manual).</li> <li>6. Replace switch.</li> <li>7. Replace start capacitor.</li> <li>8. Adjust/replace centrifugal switch.</li> <li>9. Test for shorted windings, bad bearings and repair or replace.</li> </ol>
Motor chatters during startup or during operation.	<ol style="list-style-type: none"> <li>1. Extension cord (if used) is causing voltage drop.</li> <li>2. Power supply has incorrect voltage on one or more legs.</li> </ol>	<ol style="list-style-type: none"> <li>1. Move machine closer to the power source or use a larger gauge or shorter extension cord.</li> <li>2. Contact your power company to fix the power supply.</li> </ol>
Machine has excessive vibration or noise.	<ol style="list-style-type: none"> <li>1. Blade is missing teeth.</li> <li>2. Motor fan rubbing on fan cover.</li> <li>3. Motor or table is loose.</li> <li>4. V-belt loose.</li> <li>5. Guide post lock lever is loose.</li> <li>6. Machine incorrectly mounted on floor.</li> <li>7. V-belt worn or damaged.</li> <li>8. Pulley loose or not in alignment; shaft bent.</li> <li>9. Centrifugal switch out of adjustment; at fault.</li> <li>10. Motor bearings worn or damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace blade.</li> <li>2. Fix/replace fan cover; replace loose or damaged fan.</li> <li>3. Tighten any loose fasteners.</li> <li>4. Tighten V-belt.</li> <li>5. Tighten the lock lever.</li> <li>6. Level/shim base; tighten/adjust mounting hardware or feet.</li> <li>7. Replace V-belt. Use a link belt if possible.</li> <li>8. Replace worn pulley, key, and shaft, and realign.</li> <li>9. Adjust/replace centrifugal switch.</li> <li>10. Replace motor bearings or replace motor.</li> </ol>



Symptom	Possible Cause	Possible Solution
Machine stalls or slows when operating.	<ol style="list-style-type: none"> <li>1. Too much pressure when feeding workpiece.</li> <li>2. Workpiece is warped and binding blade.</li> <li>3. Blade is not correct for material being cut.</li> <li>4. Belt slipping.</li> <li>5. Motor overheated.</li> <li>6. Motor connection wired incorrectly.</li> <li>7. Motor at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce pressure when feeding workpiece.</li> <li>2. Fabricate a jig for better workpiece control.</li> <li>3. Use the correct blade for the operation. Refer to <b>Blade Selection</b> section beginning on <b>Page 25</b>.</li> <li>4. Tension/replace belt; ensure pulleys are aligned.</li> <li>5. Let cool, clean motor, and reduce workload.</li> <li>6. Review wiring diagram on motor cover; correct wire connections.</li> <li>7. Test for shorted windings, bad bearings and repair or replace.</li> </ol>
Workpiece angle incorrect or out of square.	<ol style="list-style-type: none"> <li>1. Scale not calibrated or loose vise.</li> <li>2. Table guide post is loose or out of alignment.</li> </ol>	<ol style="list-style-type: none"> <li>1. Zero fence to blade and realign scale. Tighten any loose fasteners.</li> <li>2. Tighten any loose hardware or lock levers. Align the guide post (see <b>Page 37</b>).</li> </ol>
Machine or blade bogs down in the cut.	<ol style="list-style-type: none"> <li>1. Excessive load on the blade.</li> <li>2. Blade is dull, wanders, and gets pinched in the cut.</li> <li>3. Blade is dull.</li> <li>4. The blade TPI is too coarse for the thin workpiece.</li> <li>5. Blade is loose.</li> <li>6. V-belt loose; belt squeals at times.</li> <li>7. Blade is loading up.</li> <li>8. V-belt worn and slips.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce feed rate or increase blade speed</li> <li>2. Replace blade, adjust guides and tracking.</li> <li>3. Replace blade.</li> <li>4. Use a blade with at least 3 teeth contacting the material at all times.</li> <li>5. Clean wheels and increase blade tension.</li> <li>6. Tighten V-belt.</li> <li>7. Install a blade with more suitable TPI or different style of teeth.</li> <li>8. Replace V-belt.</li> </ol>
Blade tracks incorrectly, or comes off wheels.	<ol style="list-style-type: none"> <li>1. Feed rate is too fast.</li> <li>2. Blade guides need adjustment.</li> <li>3. Blade is not tracking correctly.</li> <li>4. Blade is bell-mouthed.</li> <li>5. Blade is dull, wanders, and gets pinched in the cut.</li> <li>6. Rubber tire on wheel is damaged, glazed, or worn.</li> <li>7. Blade tension is too loose.</li> <li>8. Incorrect blade for bandsaw.</li> <li>9. The blade has insufficient support.</li> <li>10. Wheel tires are loaded with metal shavings.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce feed rate, or decrease blade TPI.</li> <li>2. Adjust blade guides.</li> <li>3. Adjust blade tracking.</li> <li>4. Install new blade, and regularly remove tension from blade when not in use.</li> <li>5. Replace blade, re-secure the workpiece from shifting.</li> <li>6. Replace rubber tires.</li> <li>7. Increase blade tension.</li> <li>8. Install correct blade for machine.</li> <li>9. Tighten the blade guide as close to the workpiece as possible without touching it.</li> <li>10. Clean wheel tires.</li> </ol>





Symptom	Possible Cause	Possible Solution
The cut is crooked, the blade wanders, slow cuts, or shows overheating on one side of the cut or the blade.	<ol style="list-style-type: none"> <li>1. The feed pressure is too high.</li> <li>2. Too much side pressure when feeding workpiece in vertical mode.</li> <li>3. Blade is loading up.</li> <li>4. Blade tension is too loose.</li> <li>5. Blade installed backwards.</li> <li>6. Dull blade; missing teeth.</li> <li>7. Blade too wide for size of radius being cut.</li> <li>8. The blade speed is wrong.</li> <li>9. The blade tracking is wrong.</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease the feed rate.</li> <li>2. Feed workpiece straight into the blade (vertical mode only).</li> <li>3. Install a blade with more suitable TPI or different style of teeth.</li> <li>4. Increase blade tension.</li> <li>5. Check blade rotation as described in "test run" and reverse blade if necessary.</li> <li>6. Replace blade.</li> <li>7. Install a smaller width blade, or increase blade tension.</li> <li>8. Adjust feed rate and cutting speed as required.</li> <li>9. Adjust the blade tracking back to normal.</li> </ol>
Blade dulls prematurely, or metal sticking to the blade.	<ol style="list-style-type: none"> <li>1. Blade is improperly broken in.</li> <li>2. The blade gullets are loading up with chips.</li> <li>3. The blade TPI is too fine for the thick workpiece, and the teeth load up and overheat.</li> <li>4. The workpiece has hard spots, welds, or scale.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace blade, and complete blade break-in procedure.</li> <li>2. Use a blade that has larger gullets to carry out material.</li> <li>3. Use a coarser-tooth blade, adjust feed rate, adjust blade speed, make sure the brush is working.</li> <li>4. Replace the blade with a special blade for cutting hardened materials.</li> </ol>
Repetitious noise coming from machine.	<ol style="list-style-type: none"> <li>1. Pulley set screws or keys are missing or loose.</li> <li>2. Blade is missing teeth.</li> <li>3. Motor fan is hitting the cover.</li> <li>4. V-belt is defective.</li> <li>5. Blade weld contacting blade guides.</li> <li>6. Blade weld may be failing.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect keys and set screws. Replace or tighten if necessary.</li> <li>2. Replace blade.</li> <li>3. Adjust fan cover mounting position, tighten fan, or shim fan cover.</li> <li>4. Replace V-belt.</li> <li>5. Grind blade weld down smaller.</li> <li>6. Cut and reweld the blade, or replace the blade.</li> </ol>
Blade wears on one side or shows overheating.	<ol style="list-style-type: none"> <li>1. The blade guides are worn or mis-adjusted.</li> <li>2. The blade support is inadequate.</li> <li>3. Dull or incorrect blade.</li> <li>4. Blade is bell-mouthed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Re-adjust or replace the blade guides.</li> <li>2. Tighten the blade guide as close to the workpiece as possible without touching it.</li> <li>3. Replace blade.</li> <li>4. Install new blade.</li> </ol>
Vibration when operating or cutting.	<ol style="list-style-type: none"> <li>1. Loose or damaged blade.</li> <li>2. Worn wheel bearing.</li> <li>3. Wheel tires worn or incorrectly installed.</li> <li>4. Bent or dull blade.</li> <li>5. Wheels out of balance.</li> <li>6. Loose machine component.</li> <li>7. V-belt has a high spot.</li> <li>8. Bandsaw blade wheel is bent or out of balance.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten or replace blade.</li> <li>2. Check/replace wheel bearing.</li> <li>3. Replace or dress rubber tires.</li> <li>4. Replace blade.</li> <li>5. Replace wheels.</li> <li>6. Tighten loose component.</li> <li>7. Replace/adjust the V-belt.</li> <li>8. Check and replace for bad wheel or bearing.</li> </ol>

# 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.southbendlathe.com](http://www.southbendlathe.com).

# 220V Conversion

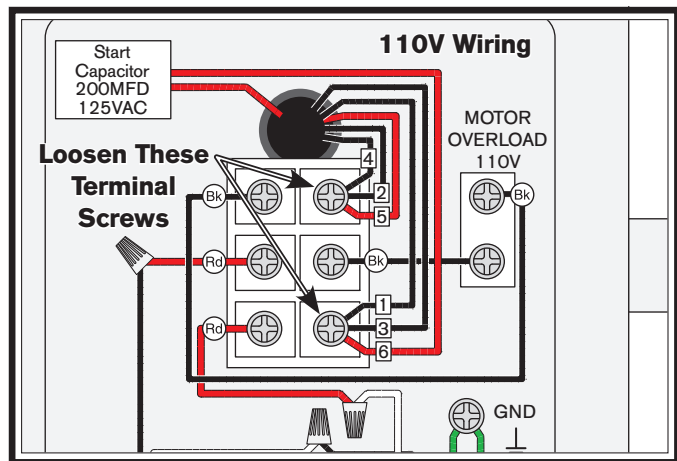
Wiring diagrams are provided in this section showing the Model SB1017 wired for both 110V and 220V. Refer to these diagrams if needed when following this procedure. Additionally, you must purchase a 220V toggle switch (Part No. PSB1017204) in order to complete the conversion.

### Items Needed

	Qty.
5A Motor Overload Breaker (Part No. PSB1017085-7) .....	1
NEMA 6-15 Plug .....	1
Phillips Screwdriver #2 .....	1
Wire nut (sized for three 14 Ga. wires).....	1
Electrical Tape .....	As needed
Wire stripper .....	As needed

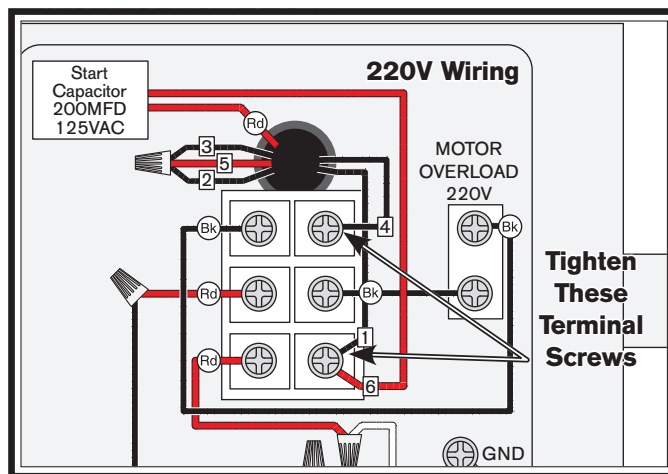
### To convert the Model SB1017 to 220V:

1. DISCONNECT BANDSAW FROM POWER!
2. Open the motor junction box, then loosen the wire terminals indicated in **Figure 57**. Remove the wires connected to those terminals.



**Figure 57. Wiring terminal locations.**

3. Use a wire nut to connect wires #2, #3, and #5, then wrap them with electrical tape.
4. Connect wires #1 and #6 to the lower right terminal and wire #4 to the lower right terminal shown in **Figure 58**. Tighten the terminal screws to secure the wires.



**Figure 58. Rewired for 220V.**

5. Remove the existing motor overload breaker from the junction box cover by disconnecting both wires, then un-threading the nut on the front of the button. Pay close attention to the wires as you remove them to ensure you re-install them correction in the next step.
6. Install the 5A motor overload breaker (part No. PSB1017085-7) in place of the one breaker you removed in **Step 5**.
7. Close the motor junction box.
8. Connect a NEMA 6-15 plug in the place of the standard plug on the power cord.
9. Insert the plug into a receptacle on a 220V circuit that meets the requirements listed on **Page 10**.



# Wiring Diagram

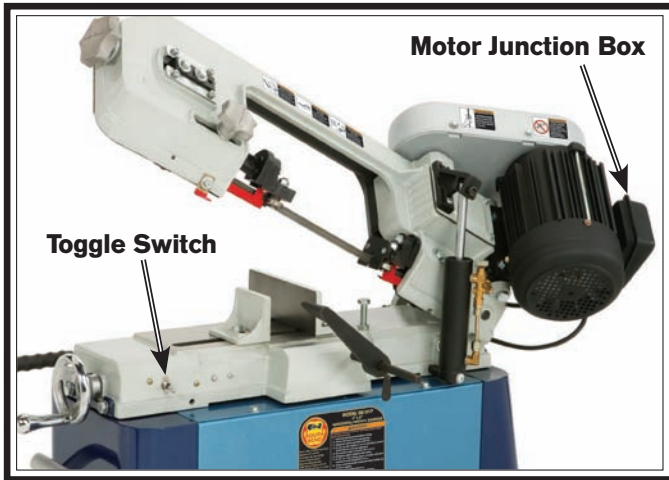
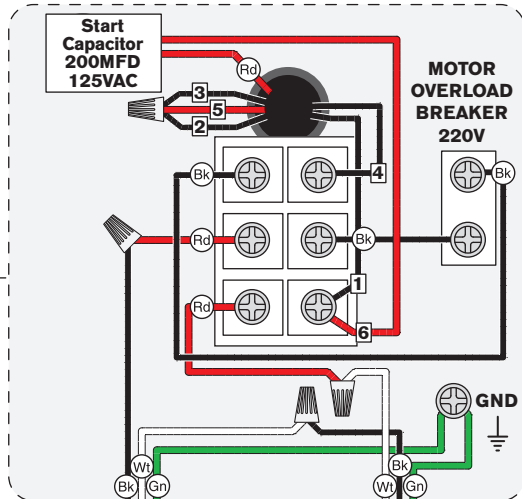


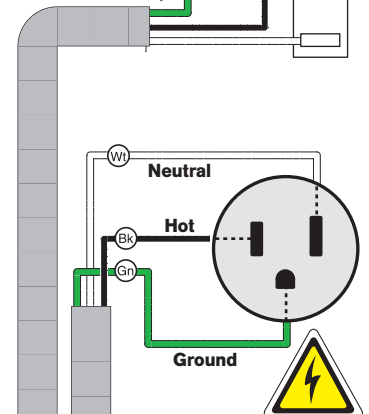
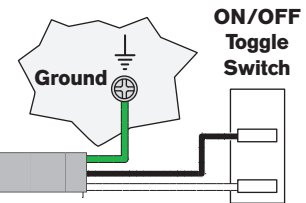
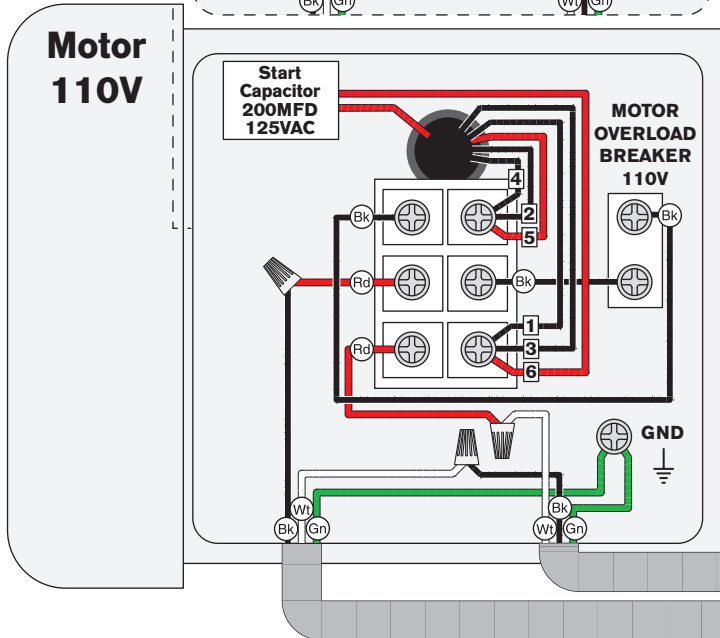
Figure 59. Wiring component locations.



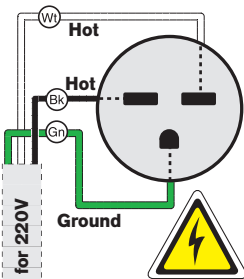
**Motor  
(Rewired  
for  
220V)**



**Motor  
110V**



**110 VAC  
5-15 Plug  
(As Recommended)**



**220 VAC  
6-15 Plug  
(As Recommended)**



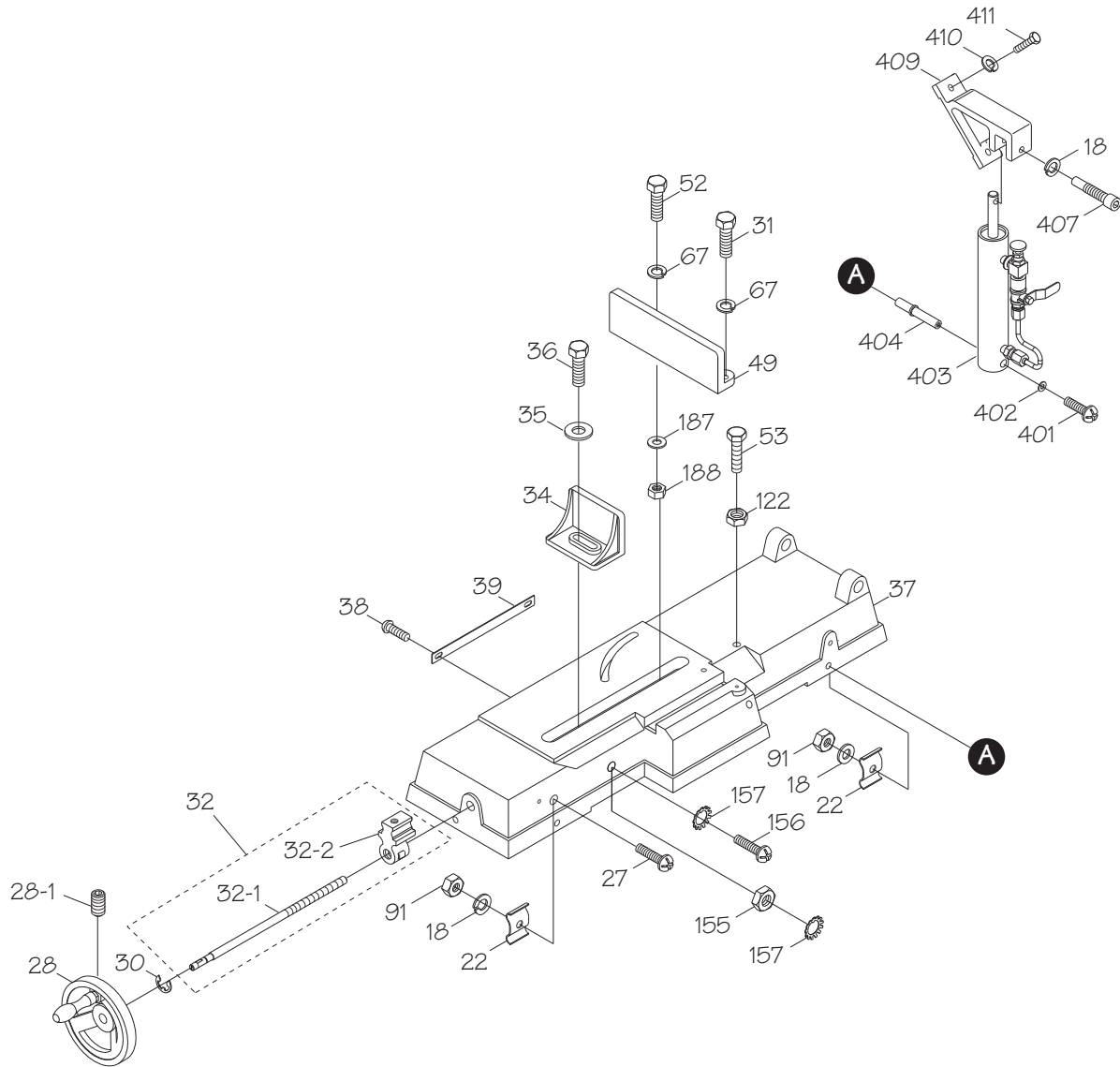
**READ PAGE 41 BEFORE  
DOING ANY WIRING!**



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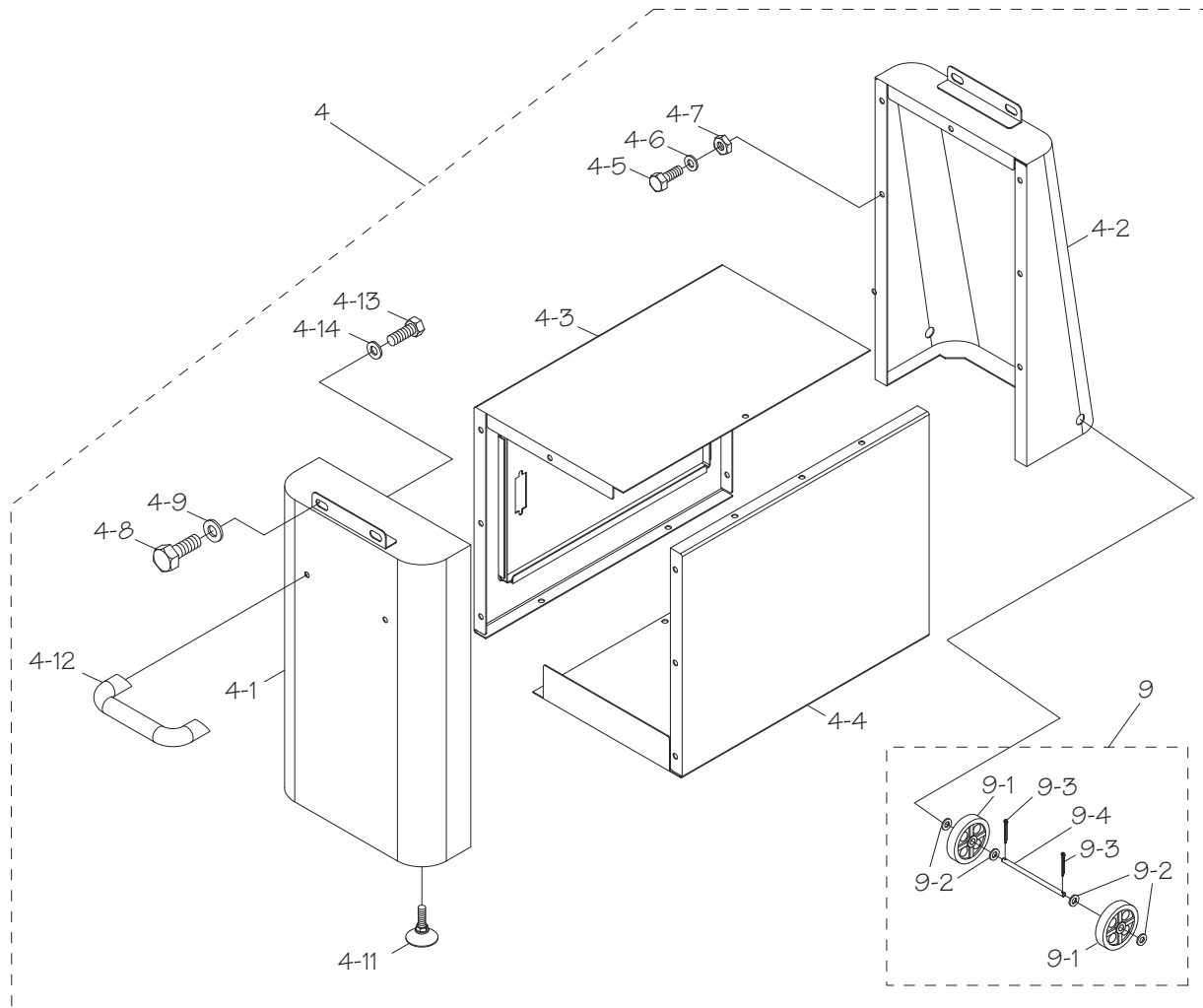
# Table



REF	PART #	DESCRIPTION
18	PLW04	LOCK WASHER 3/8
22	PSB1017022	WIRE CLIP
27	PS52	PHLP HD SCR 3/8-16 X 1
28	PSB1017028	VISE HANDWHEEL ASSEMBLY
28-1	PSS08	SET SCREW 5/16-18 X 1/2
30	PECO3M	E-CLIP 10MM
31	PB03	HEX BOLT 5/16-18 X 1
32	PSB1017032	VISE LEADSCREW W/NUT
32-1	PSB1017032-1	VISE LEADSCREW
32-2	PSB1017032-2	VISE LEADSCREW NUT
34	PSB1017034	SMALL VISE JAW
35	PW02	FLAT WASHER 3/8
36	PB24	HEX BOLT 3/8-16 X 1-1/4
37	PSB1017037	MACHINE BASE
38	PS06	PHLP HD SCR 10-24 X 3/8
39	PSB1017039	VISE SCALE
49	PSB1017049	LARGE VISE JAW

REF	PART #	DESCRIPTION
53	PB38	HEX BOLT 7/16-14 X 2
67	PLW01	LOCK WASHER 5/16
91	PN08	HEX NUT 3/8-16
122	PN19	HEX NUT 7/16-14
155	PN07	HEX NUT 10-24
156	PS06	PHLP HD SCR 10-24 X 3/8
157	PTLW01	EXT TOOTH WASHER #10
187	PW07	FLAT WASHER 5/16
188	PN02	HEX NUT 5/16-18
401	PS06	PHLP HD SCR 10-24 X 3/8
402	PW03	FLAT WASHER #10
403	PSB1017403	HYDRAULIC CYLINDER ASSEMBLY
404	PSB1017404	CYLINDER PIVOT ROD
407	PSB1017407	CYLINDER BRACKET CAP SCREW
409	PSB1017409	CYLINDER BRACKET
410	PLW02	LOCK WASHER 1/4
411	PB31	HEX BOLT 1/4-20 X 1

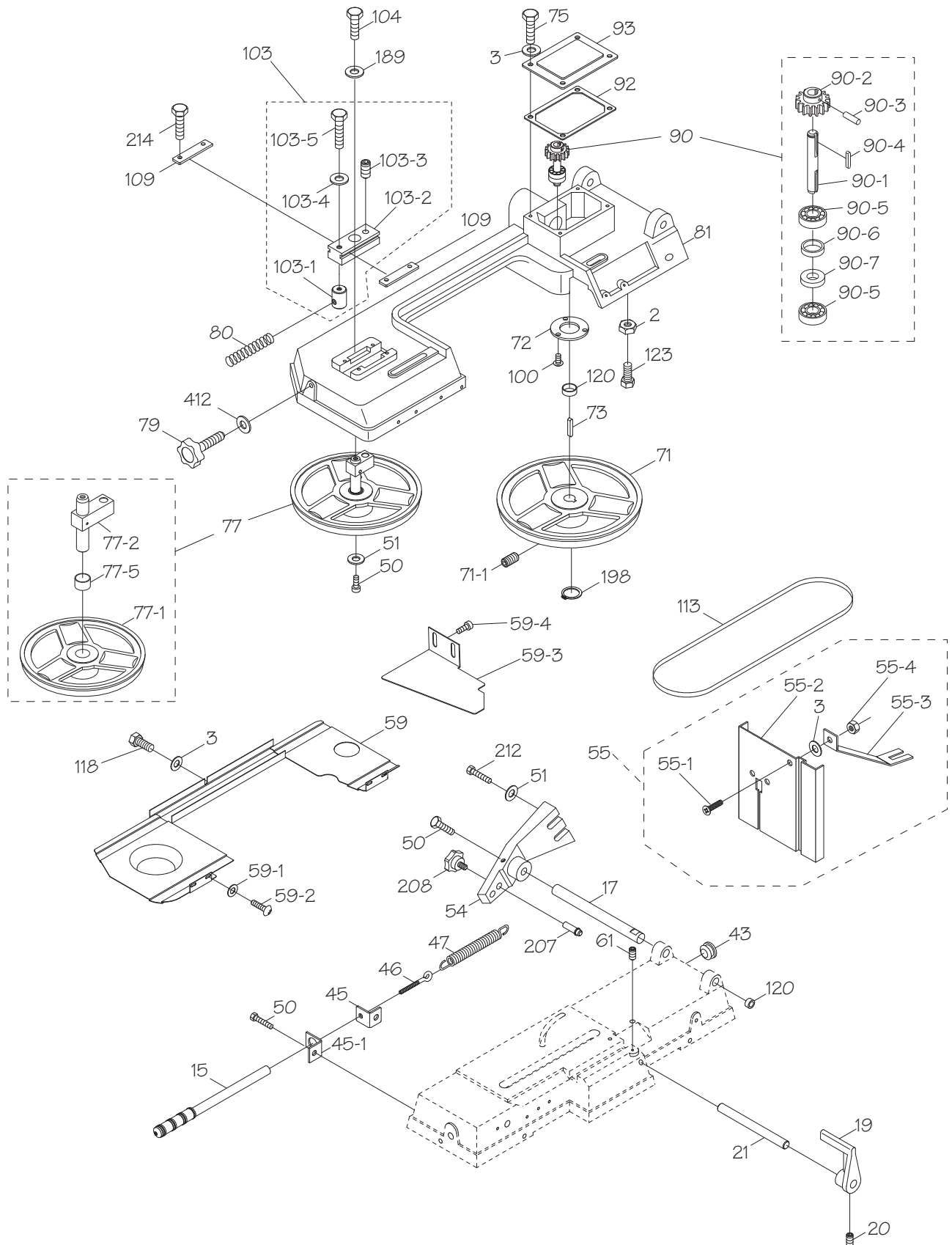
# Cabinet Stand



REF	PART #	DESCRIPTION
4	PSB1017004	CABINET STAND ASSEMBLY
4-1	PSB1017004-1	LEFT PANEL
4-2	PSB1017004-2	RIGHT PANEL
4-3	PSB1017004-3	REAR/TOP PANEL ASSEMBLY W/DOOR
4-4	PSB1017004-4	FRONT PANEL
4-5	PB87M	HEX BOLT M8-1.25 X 15
4-6	PW01M	FLAT WASHER 8MM
4-7	PNO3M	HEX NUT M8-1.25
4-8	PBO1M	HEX BOLT M10-1.5 X 30
4-9	PW04M	FLAT WASHER 10MM

REF	PART #	DESCRIPTION
4-11	PSB1017004-11	FOOT PAD ASSEMBLY
4-12	PSB1017004-12	LIFTING HANDLE
4-13	PB87M	HEX BOLT M8-1.25 X 15
4-14	PW01M	FLAT WASHER 8MM
9	PSB1017009	WHEEL ASSEMBLY
9-1	PSB1017009-1	WHEEL
9-2	PW14	FLAT WASHER 5/8
9-3	PSB1017009-3	COTTER PIN 1/8 X 1"
9-4	PSB1017009-4	WHEEL AXLE

# Head



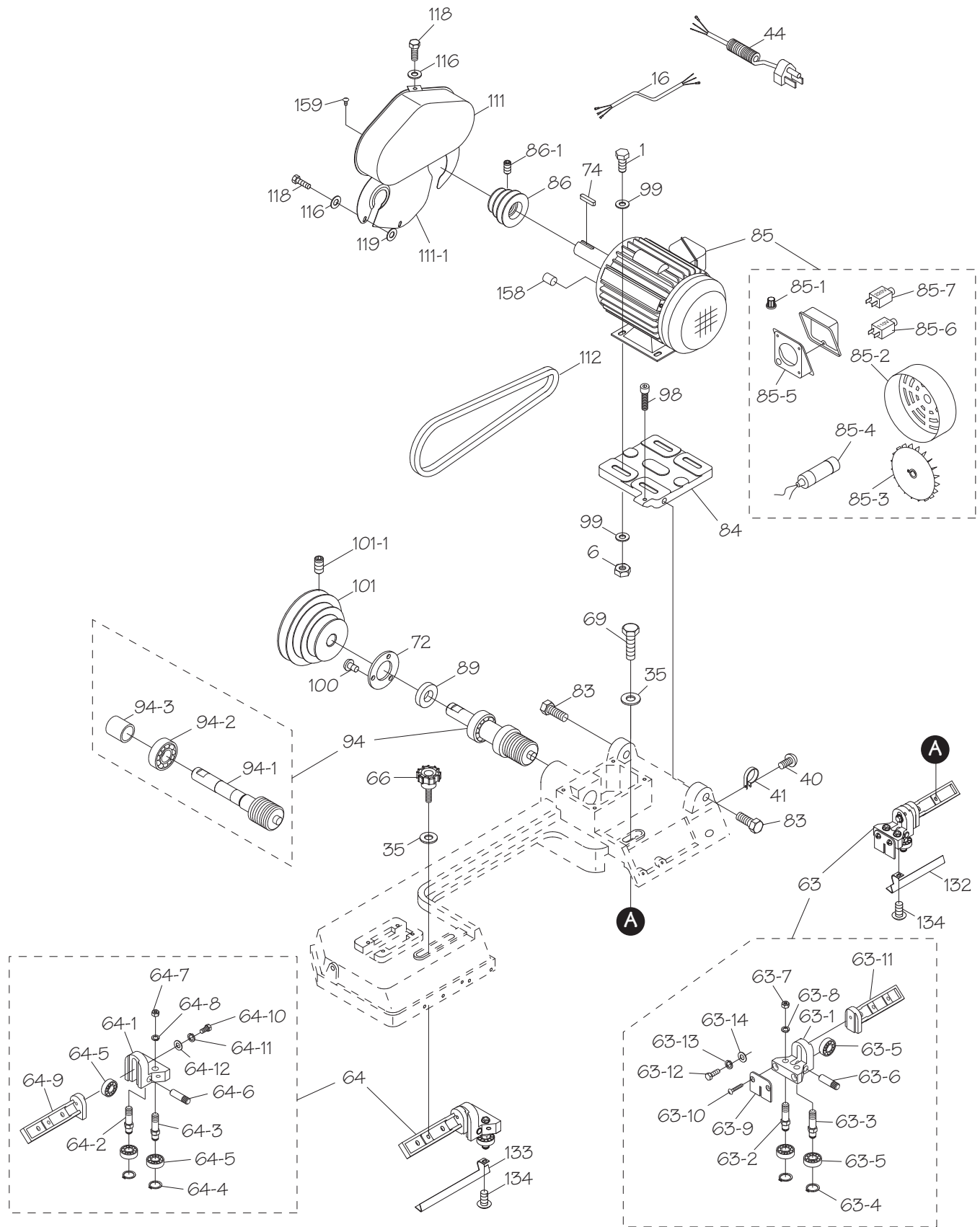


# Head Parts List

REF	PART #	DESCRIPTION
2	PN05	HEX NUT 1/4-20
3	PW06	FLAT WASHER 1/4
15	PSB1017015	TENSION ROD ASSEMBLY
17	PSB1017017	HEAD PIVOT ROD
19	PSB1017019	WORK STOP BRACKET
20	PSS17	SET SCREW 5/16-18 X 5/16
21	PSB1017021	WORK STOP ROD
43	PSB1017043	CORD STRAIN RELIEF
45	PSB1017045	RIGHT TENSION ROD BRACKET
45-1	PSB1017045-1	LEFT TENSION ROD BRACKET
46	PSB1017046	SPRING HOOK SCREW
47	PSB1017047	TENSION SPRING
50	PB07	HEX BOLT 5/16-18 X 3/4
51	PW07	FLAT WASHER 5/16
54	PSB1017054	PIVOT BRACKET
55	PSB1017055	TABLE ASSEMBLY
55-1	PSB1017055-1	FLAT HD SCR 1/4-20 X 1-2
55-2	PSB1017055-2	TABLE
55-3	PSB1017055-3	TABLE BRACKET
55-4	PN05	HEX NUT 1/4-20
59	PSB1017059	REAR SAFETY COVER
59-1	PW06	FLAT WASHER 1/4
59-2	PS07	PHLP HD SCR 1/4-20 X 3/8
59-3	PSB1017059-3	FRONT SAFETY COVER
59-4	PCAP50M	CAP SCREW M5-.8 X 10
61	PSS38	SET SCREW 5/16-18 X 5/8
71	PSB1017071	REAR BLADE WHEEL
71-1	PSS17	SET SCREW 5/16-18 X 5/16
72	PSB1017072	BEARING COVER
73	PK23M	KEY 5 X 5 X 25
75	PB02	HEX BOLT 1/4-20 X 5/8
77	PSB1017077	FRONT BLADE WHEEL ASSEMBLY
77-1	PSB1017077-1	FRONT BLADE WHEEL
77-2	PSB1017077-2	FRONT BLADE WHEEL AXLE ASSEMBLY

REF	PART #	DESCRIPTION
77-5	PSB1017077-5	BUSHING
79	PSB1017079	BLADE TENSION KNOB BOLT 3/8-16 X 94
80	PSB1017080	COMPRESSION SPRING
81	PSB1017081	HEAD CASTING
90	PSB1017090	TRANSMISSION GEAR ASSEMBLY
90-1	PSB1017090-1	REAR BLADE WHEEL AXLE
90-2	PSB1017090-2	TRANSMISSION GEAR
90-3	PRP20M	ROLL PIN 4 X 22
90-4	PK23M	KEY 5 X 5 X 25
90-5	P6202ZZ	BALL BEARING 6202ZZ
90-6	PSB1017090-6	BUSHING
90-7	PSB1017090-7	OIL SEAL
92	PSB1017092	GEARBOX GASKET
93	PSB1017093	GEARBOX COVER
100	PFH37	FLAT HD SCR 8-32 X 3/8
103	PSB1017103	BLADE TENSION SLIDE ASSEMBLY
103-1	PSB1017103-1	SHAFT BLOCK
103-2	PSB1017103-2	BLADE TENSION SLIDE PLATE
103-3	PSS38	SET SCREW 5/16-18 X 5/8
103-4	PW07	FLAT WASHER 5/16
103-5	PB12	HEX BOLT 5/16-18 X 1-1/4
104	PB03	HEX BOLT 5/16-18 X 1
109	PSB1017109	BLADE TENSION SLIDE GUIDE
113	PSB1017113	BLADE 14TPI 1/2 X 64-1/2"
118	PB19	HEX BOLT 1/4-20 X 1/2
120	PSB1017120	BUSHING 19 X 17 X 7
123	PB31	HEX BOLT 1/4-20 X 1
189	PW07	FLAT WASHER 5/16
198	PRO5M	EXT RETAINING RING 15MM
207	PSB1017207	LOCK PIN
208	PSB1017208	LOCK PIN ASSEMBLY
212	PB03	HEX BOLT 5/16-18 X 1
214	PB02	HEX BOLT 1/4-20 X 5/8
412	PW02	FLAT WASHER 3/8

# Motor & Blade Guides

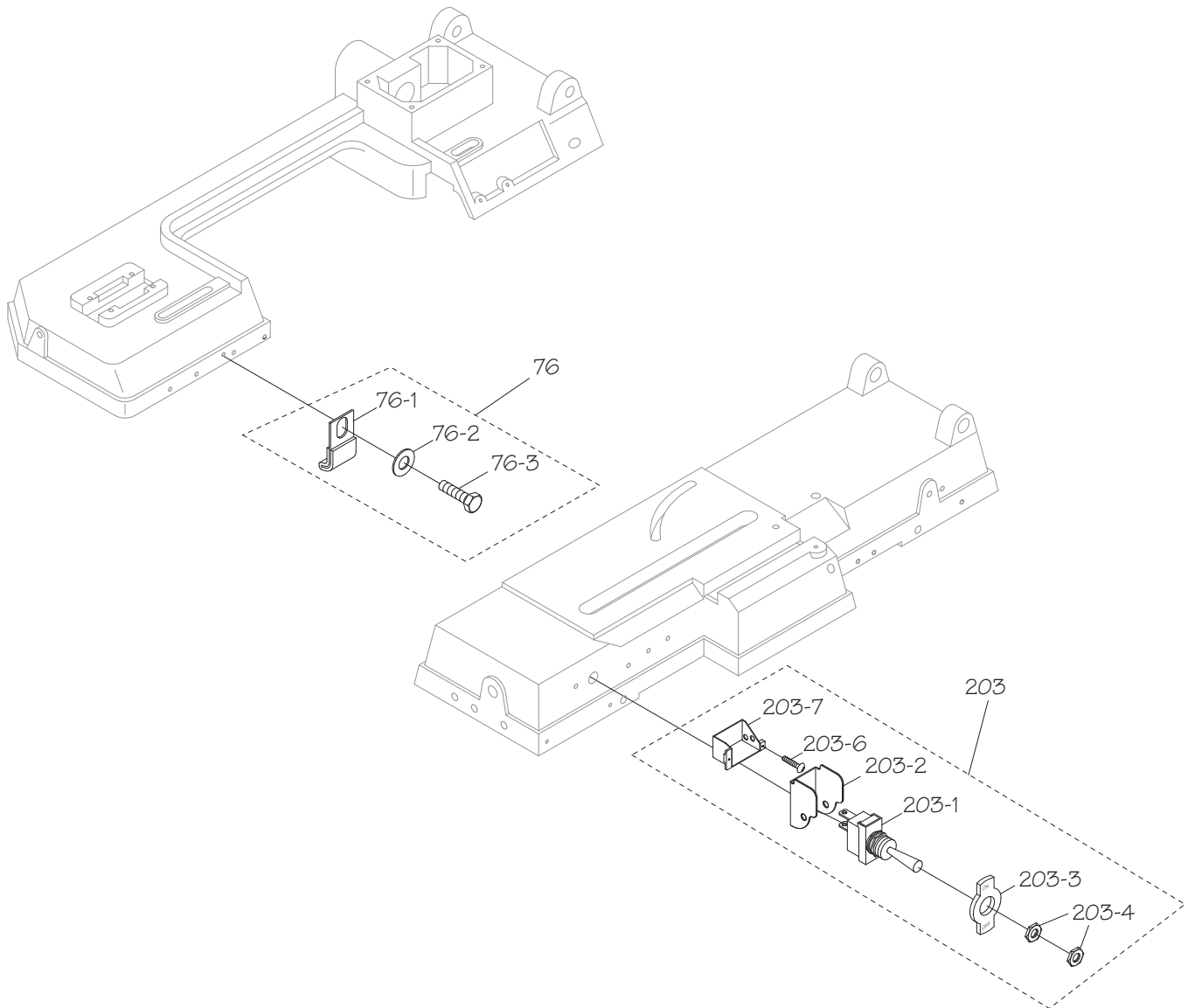


# Motor & Blade Guides Parts List

REF	PART #	DESCRIPTION
1	PB07	HEX BOLT 5/16-18 X 3/4
6	PN02	HEX NUT 5/16-18
16	PSB1017016	MOTOR CORD 18G 3W
35	PW02	FLAT WASHER 3/8
40	PS06	PHLP HD SCR 10-24 X 3/8
41	PSB1017041	WIRE CLIP
44	PSB1017044	POWER CORD 18G 3W 5-15 PLUG
63	PSB1017063	REAR BLADE GUIDE ASSEMBLY
63-1	PSB1017063-1	REAR BLADE GUIDE BRACKET
63-2	PSB1017063-2	LEFT GUIDE SHAFT
63-3	PSB1017063-3	RIGHT GUIDE SHAFT
63-4	PSB1017063-4	GUIDE EXT RETAINING RING
63-5	P6000ZZ	BALL BEARING 6000ZZ
63-6	PSB1017063-6	BEARING PIN 10 X 36
63-7	PN11	HEX NUT 3/8-24
63-8	PLW04	LOCK WASHER 3/8
63-9	PSB1017063-9	DEFLECTOR PLATE
63-10	PFH19	FLAT HD SCR 1/4-20 X 3/8
63-11	PSB1017063-11	REAR BLADE GUIDE ARM
63-12	PB12	HEX BOLT 5/16-18 X 1-1/4
63-13	PLW01	LOCK WASHER 5/16
63-14	PW07	FLAT WASHER 5/16
64	PSB1017064	FRONT BLADE GUIDE ASSEMBLY
64-1	PSB1017064-1	FRONT BLADE GUIDE BRACKET
64-2	PSB1017064-2	LEFT GUIDE SHAFT
64-3	PSB1017064-3	RIGHT GUIDE SHAFT
64-4	PSB1017064-4	GUIDE EXT RETAINING RING
64-5	P6000ZZ	BALL BEARING 6000ZZ
64-6	PSB1017064-6	BEARING PIN 10 X 36
64-7	PN11	HEX NUT 3/8-24
64-8	PLW04	LOCK WASHER 3/8
64-9	PSB1017064-9	FRONT BLADE GUIDE ARM
64-10	PB12	HEX BOLT 5/16-18 X 1-1/4
64-11	PLW01	LOCK WASHER 5/16
64-12	PW07	FLAT WASHER 5/16
66	PSB1017066	BLADE GUIDE KNOB BOLT 3/8-16 X 1-1/4

REF	PART #	DESCRIPTION
69	PB24	HEX BOLT 3/8-16 X 1-1/4
72	PSB1017072	BEARING COVER
74	PK12M	KEY 5 X 5 X 30
83	PB78	HEX BOLT 1/2-13 X 1-1/4
84	PSB1017084	MOTOR MOUNT PLATE
85	PSB1017085	MOTOR 1/2HP 110/220V 1PH
85-1	PSB1017085-1	CORD STRAIN RELIEF
85-2	PSB1017085-2	MOTOR FAN COVER
85-3	PSB1017085-3	MOTOR FAN
85-4	PC200G	5 CAPACITOR 200M 125V 1-3/8 X 3
85-5	PSB1017085-5	MOTOR JUNCTION BOX
85-6	PSB1017085-6	MOTOR OVERLOAD 110V
85-7	PSB1017085-7	MOTOR OVERLOAD 220V 5A
86	PSB1017086	MOTOR PULLEY
86-1	PSS17	SET SCREW 5/16-18 X 5/16
89	PSB1017089	OIL SEAL TC 15 X 35 X 7
94	PSB1017094	WORM GEAR SHAFT ASSEMBLY
94-1	PSB1017094-1	WORM GEAR SHAFT
94-2	P6202ZZ	BALL BEARING 6202ZZ
94-3	PSB1017094-3	SPACER
98	PCAP25	CAP SCREW 5/16-18 X 1-3/4
99	PW07	FLAT WASHER 5/16
100	PFH37	FLAT HD SCR 8-32 X 3/8
101	PSB1017101	WORM GEAR PULLEY
101-1	PSS18	SET SCREW 5/16-18 X 3/4
111	PSB1017111	BELT COVER
111-1	PSB1017111-1	BELT COVER PANEL
112	PVA22	V-BELT A22
116	PW06	FLAT WASHER 1/4
118	PB19	HEX BOLT 1/4-20 X 1/2
119	PSB1017119	PLASTIC WASHER
132	PSB1017132	REAR BLADE GUIDE SAFETY COVER
133	PSB1017133	FRONT BLADE GUIDE SAFETY COVER
134	PS23	PHLP HD SCR 8-32 X 1/4
158	PSB1017158	PLASTIC CUP
159	PS18	PHLP HD SCR 10-24 X 1/4

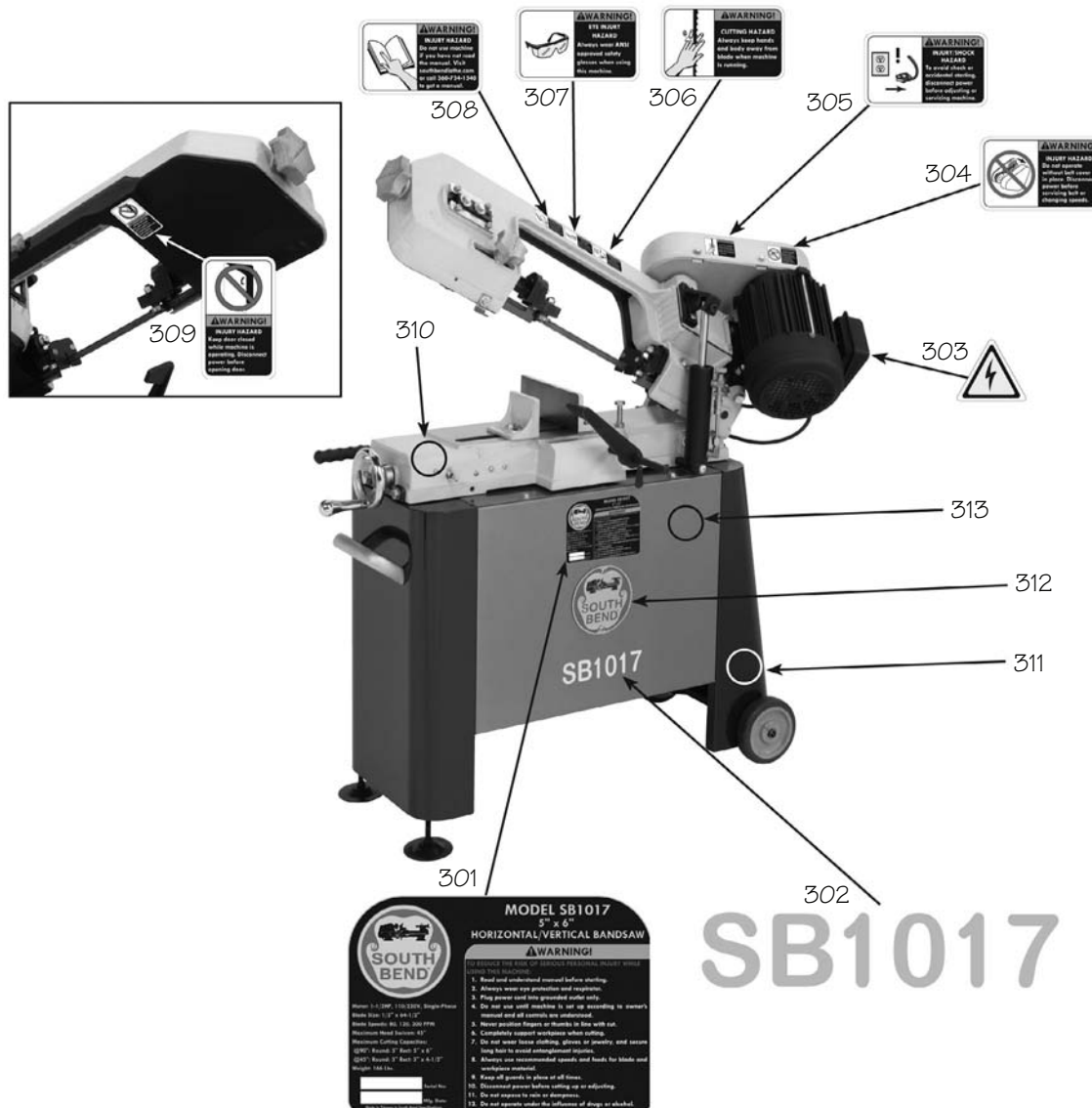
# Switch



REF	PART #	DESCRIPTION
76	PSB1017076	SWITCH SHUT-OFF ASSEMBLY
76-1	PSB1017076-1	SWITCH SHUT-OFF PLATE
76-2	PW06	FLAT WASHER 1/4
76-3	PB02	HEX BOLT 1/4-20 X 5/8
203	PSB1017203	TOGGLE SWITCH ASSEMBLY
203-1	PSB1017203-1	TOGGLE SWITCH

REF	PART #	DESCRIPTION
203-2	PSB1017203-2	SWITCH COVER
203-3	PSB1017203-3	SWITCH INDICATOR PLATE
203-4	PSB1017203-4	SWITCH HEX NUT
203-6	PS08	PHLP HD SCR 10-24 X 3/4
203-7	PSB1017203-7	CORD RETAINER

# Machine Labels



REF	PART #	DESCRIPTION
301	PSB1017301	MACHINE ID LABEL
302	PSB1017302	MODEL NUMBER LABEL
303	PSBLABEL15S	ELECTRICITY LABEL
304	PSB1017304	BELT COVER WARNING LABEL
305	PSBLABEL02HS	DISCONNECT WARNING LABEL
306	PSB1017306	CUTTING HAZARD WARNING LABEL
307	PSBLABEL04HS	EYE INJURY WARNING LABEL

REF	PART #	DESCRIPTION
308	PSBLABEL01HS	READ MANUAL LABEL
309	PSBLABEL13VS	DOOR CLOSED WARNING LABEL
310	PSBPAINTO1	SB LT GRAY TOUCH-UP PAINT
311	PSBPAINTO3	SB DK BLUE TOUCH-UP PAINT
312	SB1320	SOUTH BEND NAMEPLATE 125MM
313	PSBPAINTO2	SB LT BLUE TOUCH-UP PAINT

**⚠ 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 Lathe Co. at (360) 734-1540 or [www.southbendlathe.com](http://www.southbendlathe.com) to order new labels.



This quality product is warranted by South Bend Lathe Company to the original buyer for one year 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 Lathe Company 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. To take advantage of this warranty, contact us by mail or phone to give us the details of the problem you are having.

Thank you for your business and continued support.



**South Bend Lathe Co.  
P.O. Box 2027  
Bellingham, WA 98227**

**PHONE: (360) 734-1540 (Administrative Offices)**

**FAX: (360) 676-1075 (International)**

**FAX: (360) 734-1639 (USA only)**

**[southbendlathe.com](http://southbendlathe.com)**



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