



MODEL W1878 9" BENCHTOP BANDSAW



OWNER'S MANUAL

(FOR MODELS MANUFACTURED SINCE 4/21)

Phone: (360) 734-3482 • Online Technical Support: techsupport@woodstockint.com

COPYRIGHT © MAY, 2021 BY WOODSTOCK INTERNATIONAL, INC.
WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE OR FORM WITHOUT
THE WRITTEN APPROVAL OF WOODSTOCK INTERNATIONAL, INC.

#21815MN Printed in China



WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Contents

INTRODUCTION	2	ACCESSORIES	39
Woodstock Technical Support	2	Bandsaw Accessories.....	39
Machine Specifications	3	MAINTENANCE	41
Identification	5	General	41
Controls & Components	6	Cleaning & Lubricating	41
SAFETY	8	Redressing Rubber Tires.....	41
Standard Machinery Safety Instructions	8	SERVICE	42
Additional Safety for Bandsaws	10	General	42
ELECTRICAL	11	Checking/Adjusting Belt Tension	42
Circuit Requirements	11	Replacing Belt	43
Grounding Requirements.....	12	Wheel Alignment	44
Extension Cords	12	Blade Lead	47
SETUP	13	Troubleshooting.....	48
Unpacking	13	Electrical Safety Instructions.....	51
Items Needed for Setup.....	13	Wiring Diagram	52
Inventory	13	PARTS	53
Hardware Recognition Chart	14	Main	53
Machine Placement	15	Labels & Cosmetics	56
Bench Mounting.....	15	WARRANTY	57
Assembly.....	16		
Adjustment Overview.....	19		
Blade Tracking	19		
Dust Collection	22		
Test Run.....	23		
Tensioning Blade	24		
Adjusting Blade Support Bearings	26		
Adjusting Blade Guide Bearings.....	27		
Calibrating Miter Slot with Blade	28		
Calibrating Fence with Miter Slot	29		
OPERATIONS	30		
General	30		
Workpiece Inspection.....	31		
Disabling Switch	32		
Setting Upper Blade Guide Height	32		
Tilting Table.....	33		
Choosing Blades	33		
Changing Blade	35		
Ripping.....	36		
Crosscutting.....	37		
Resawing.....	37		
Cutting Curves	38		
Stacked Cuts	38		



INTRODUCTION

Woodstock Technical Support

This machine has been specially designed to provide many years of trouble-free service. Close attention to detail, ruggedly built parts and a rigid quality control program assure safe and reliable operation.

Woodstock International, Inc. is committed to customer satisfaction. Our intent with this manual is to include the basic information for safety, setup, operation, maintenance, and service of this product.

We stand behind our machines! In the event that questions arise about your machine, please contact Woodstock International Technical Support at (360) 734-3482 Ext. 2 or send e-mail to: techsupport@woodstockint.com. Our knowledgeable staff will help you troubleshoot problems and process warranty claims.

If you need the latest edition, you can download it from <http://www.woodstockint.com/manuals>. If you have comments about this manual, please contact us at:

Woodstock International, Inc.
Attn: Technical Documentation Manager
P.O. Box 2309
Bellingham, WA 98227
Email: manuals@woodstockint.com



!WARNING
READ and understand this entire manual before using this machine. Serious personal injury may occur if safety and operational information is not understood and followed. **DO NOT** risk your safety by not reading!

!WARNING
USE this and other machinery with caution and respect. Always consider safety first, as it applies to your individual working conditions. No list of safety guidelines can be complete—every shop environment is different. Failure to follow guidelines could result in serious personal injury, damage to equipment or poor work results.



MACHINE SPECIFICATIONS



© Woodstock International, Inc. • Phone: (800) 840-8420 • Web: www.shopfox.biz

MODEL W1878 9" BENCHTOP BANDSAW

Product Dimensions

Weight..... 42 lbs.
 Width (side-to-side) x Depth (front-to-back) x Height..... 21 x 17 x 29-1/2 in.
 Footprint (Length x Width)..... 15-1/2 x 8-1/2 in.

Shipping Dimensions

Type..... Cardboard Box
 Content..... Machine
 Weight..... 49 lbs.
 Length x Width x Height..... 32 x 18 x 14 in.
 Must Ship Upright..... No

Electrical

Power Requirement..... 120V, Single-Phase, 60 Hz
 Full-Load Current Rating..... 2.8A
 Minimum Circuit Size..... 15A
 Connection Type..... Cord & Plug
 Power Cord Included..... Yes
 Power Cord Length..... 72 in.
 Power Cord Gauge..... 18 AWG
 Plug Included..... Yes
 Included Plug Type..... 5-15
 Switch Type..... Paddle Safety Switch w/Removable Key

Motors

Main

Horsepower..... 1/3 HP
 Phase..... Single-Phase
 Amps..... 2.8A
 Speed..... 1720 RPM
 Type..... TEFC Capacitor-Start Induction
 Power Transfer Belt
 Bearings..... Shielded & Permanently Lubricated
 Centrifugal Switch/Contacts Type..... Internal

Main Specifications

Main Specifications

Bandsaw Size..... 9 in.
 Max Cutting Width (Left of Blade)..... 8-7/8 in.
 Max Cutting Width (Left of Blade) w/Fence..... 5 in.
 Max Cutting Height (Resaw Height)..... 3-5/8 in.
 Blade Speeds..... 2460 FPM



Blade Information

Standard Blade Length.....	62 in.
Blade Length Range.....	61-13/16 - 62-3/16 in.
Blade Width Range.....	1/8 - 3/8 in.
Type of Blade Guides.....	Ball Bearing
Guide Post Adjustment Type.....	Rack & Pinion
Has Quick-Release.....	No

Table Information

Table Length.....	12 in.
Table Width.....	12 in.
Table Thickness.....	5/8 in.
Table Tilt.....	0 - 45 deg.
Table Tilt Adjustment Type.....	Rack & Pinion
Floor-to-Table Height.....	13 in.
Fence Locking Position.....	Front
Fence is Adjustable for Blade Lead.....	No
Resaw Fence Attachment Included.....	No
Miter Gauge Included.....	Yes

Construction Materials

Table.....	Cast Aluminum
Trunnion.....	Cast Aluminum
Fence.....	Extruded Aluminum
Base/Stand.....	Pre-Formed Steel
Frame/Body.....	Pre-Formed Steel
Wheels.....	Balanced Aluminum
Tire.....	Rubber
Wheel Cover	Steel
Paint Type/Finish.....	Urethane

Other Related Information

Wheel Diameter.....	9-5/16 in.
Wheel Width.....	5/8 in.
Number of Dust Ports.....	1
Dust Port Size.....	2 in.

Other

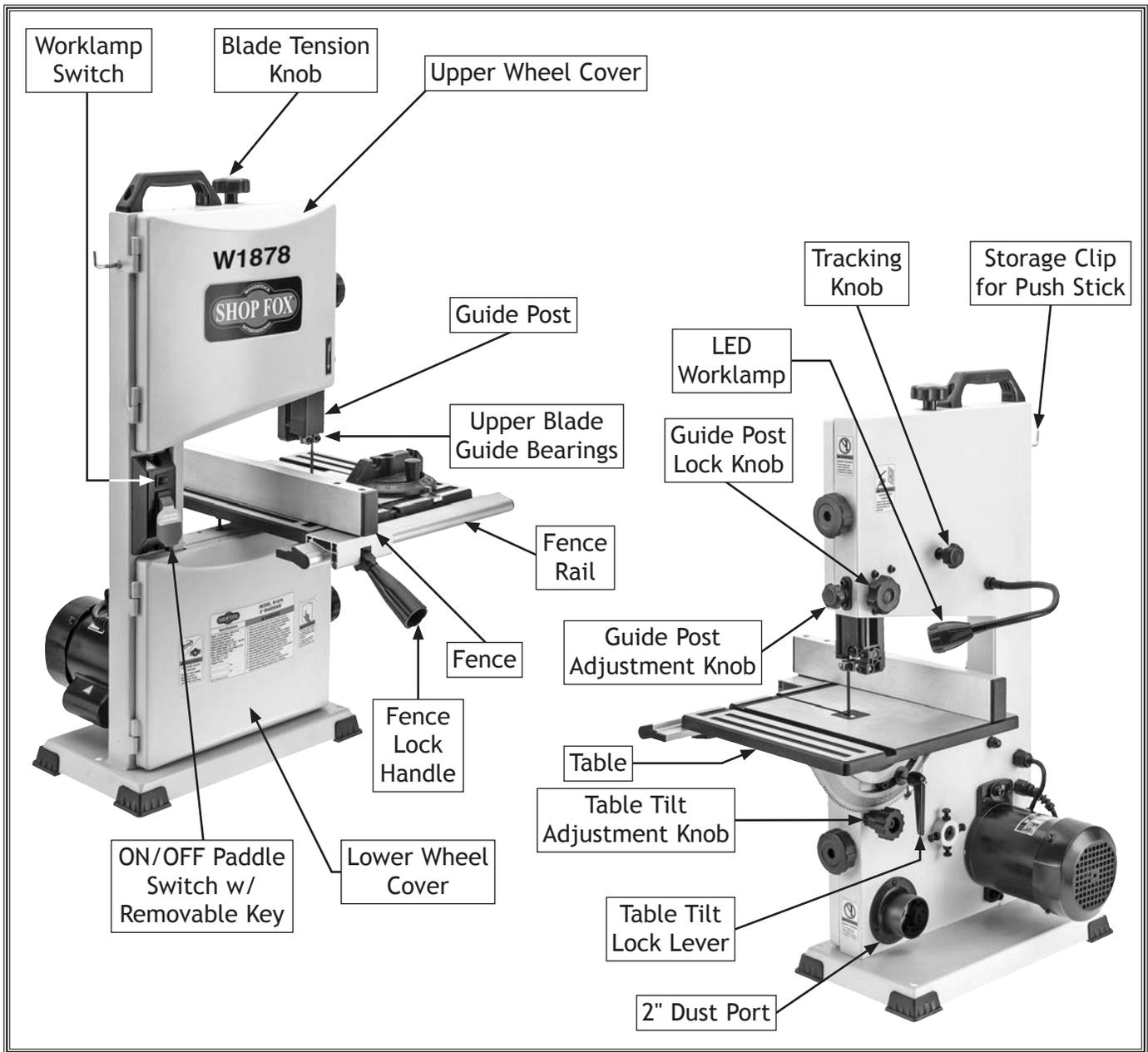
Country of Origin	China
Warranty	2 Years
Approximate Assembly & Setup Time	30 Minutes
Serial Number Location	ID Label
ISO 9001 Factory	Yes

Features

- Adjustable Wheels for Alignment/Coplanarity
- Rack & Pinion Table Tilt
- Ball-Bearing Blade Guides
- Extruded Aluminum Rip Fence with Camlock Handle
- 2" Dust Port
- Lower Wheel Brush to Prevent Build-Up of Dust/Pitch on Wheel
- LED Work Light
- Made in an ISO 9001 Factory
- Carrying Handle for Easy Portability

Identification

Become familiar with the names and locations of the controls and features shown below to better understand the instructions in this manual.



CAUTION

For Your Own Safety, Read Instruction Manual Before Operating Saw.

- a) Wear eye protection.
- b) Do not remove jammed cutoff pieces until blade has stopped.
- c) Maintain proper adjustment of blade tension, blade guides, and thrust bearings.
- d) Adjust upper blade guide to just clear workpiece.
- e) Hold workpiece firmly against table.

Controls & Components

Refer to **Figures 1-4** and the following descriptions to become familiar with the basic controls and components of this machine. Understanding these items and how they work will help you understand the rest of the manual and stay safe when operating this machine.

- A. **ON/OFF Paddle Switch w/Removable Key:** Turns machine *ON* and *OFF*. Remove key to prevent motor from being started.
- B. **LED Worklamp ON/OFF Button:** Turns worklamp *ON* and *OFF*.
- C. **Fence:** Used for ripping, resawing, or cutting tenons. Distance from blade determines width of cut.
- D. **Miter Gauge:** Used for cross cuts. Can be adjusted at any angle 60° left or right.
- E. **Miter Gauge Lock Knob:** Secures angle position of miter gauge.
- F. **Fence Lock Handle:** Secures fence position.
- G. **Guide Post Adjustment Knob:** Rotate to adjust height of blade guides above workpiece.
- H. **Guide Post Lock Knob:** Secures height of blade guides.
- I. **Upper Blade Guide:** Supports blade above workpiece during operations.

! WARNING



To reduce your risk of serious injury or damage to the machine, read this entire manual **BEFORE** using machine.

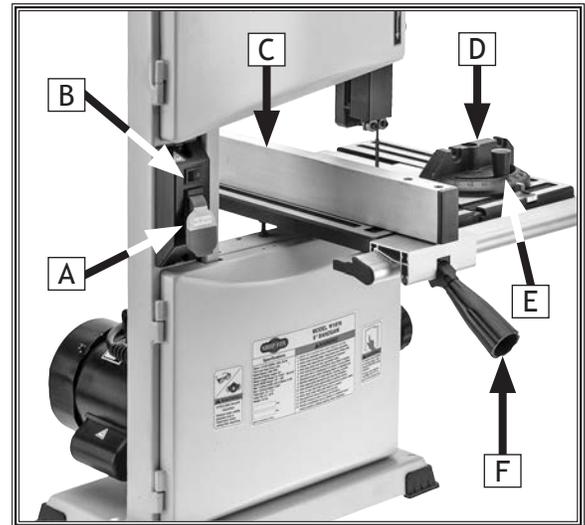


Figure 1. Fence, power, and miter gauge controls.

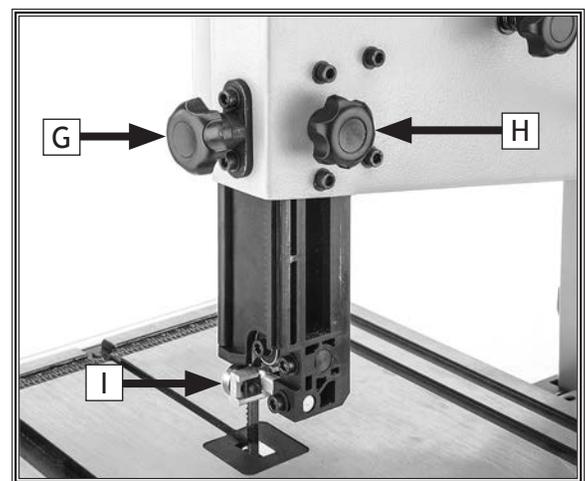


Figure 2. Guide post controls.

- J. **Blade Tension Adjustment Knob:** Rotate to adjust blade tension (refer to Page 24 for more information).
- K. **Tracking Knob:** Rotate to adjust blade tracking (refer to Page 19 for more information).

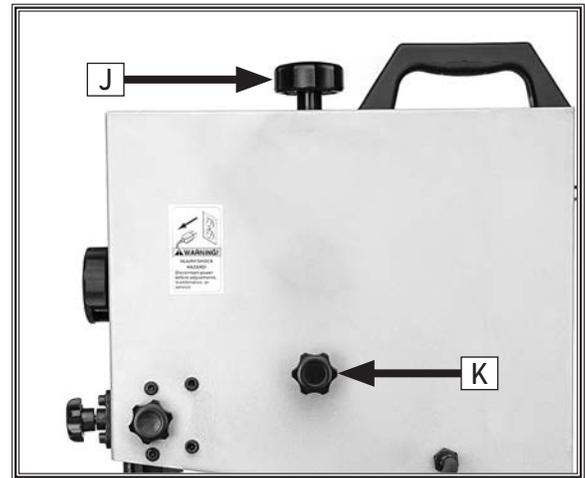


Figure 3. Blade tension and tracking controls.

- L. **Trunnion w/Table Tilt Scale:** Functions as a tilting base for table. Graduated in degrees from 0°-45° for setting bevel angle.
- M. **Table Tilt Adjustment Knob:** Rotate to adjust angle of table tilt.
- N. **Table Tilt Indicator:** Shows angle of table tilt.
- O. **Table Tilt Lock Lever:** Secures table tilt angle setting.

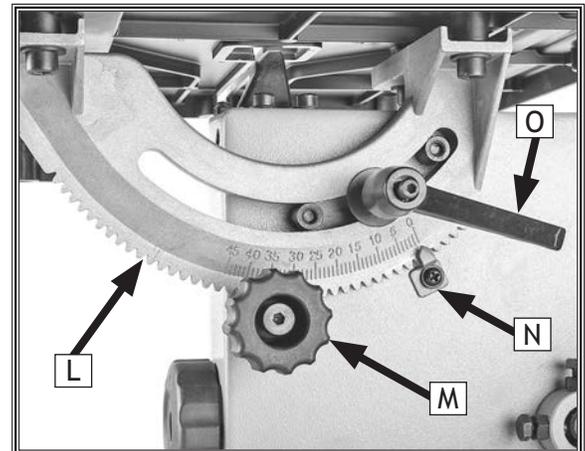


Figure 4. Table tilt controls.

SAFETY

For Your Own Safety, Read Manual Before Operating Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures—this responsibility is ultimately up to the operator!



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.

NOTICE

This symbol is used to alert the user to useful information about proper operation of the equipment or a situation that may cause damage to the machinery.

Standard Machinery Safety Instructions

OWNER'S MANUAL. Read and understand this owner's manual **BEFORE** using machine.

TRAINED OPERATORS ONLY. Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make workshop kid proof!

DANGEROUS ENVIRONMENTS. Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

ELECTRICAL EQUIPMENT INJURY RISKS. You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow an electrician or qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

DISCONNECT POWER FIRST. Always disconnect machine from power supply **BEFORE** making adjustments, changing tooling, or servicing machine. This eliminates the risk of injury from unintended startup or contact with live electrical components.

EYE PROTECTION. Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are not approved safety glasses.

WEARING PROPER APPAREL. Do not wear clothing, apparel, or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips, which could cause loss of workpiece control.

HAZARDOUS DUST. Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear a NIOSH-approved respirator to reduce your risk.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

INTENDED USAGE. Only use machine for its intended purpose—never make modifications without prior approval from Woodstock International. Modifying machine or using it differently than intended will void the warranty and may result in malfunction or mechanical failure that leads to serious personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris—make sure they are properly installed, undamaged, and working correctly.

FORCING MACHINERY. Do not force machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.

USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase risk of serious injury.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn machine **OFF** and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

CHECK DAMAGED PARTS. Regularly inspect machine for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating machine.

MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside, resulting in a short. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine! Contact Technical Support at (360) 734-3482.

Additional Safety for Bandsaws

Serious cuts, amputation, or death can occur from contact with the moving saw blade during operation or if blade breakage occurs. To reduce this risk, anyone operating this machine **MUST** completely heed the hazards and warnings below.

SAFETY

HAND PLACEMENT. Placing hands or fingers in line with blade during operation may result in serious injury if hands slip or workpiece moves unexpectedly. Do not position fingers or hands in line with blade, and never reach under table while blade is moving.

SMALL/NARROW WORKPIECES. If hands slip during a cut while holding small workpieces with fingers, serious personal injury could occur. Always support/feed small or narrow workpieces with push sticks, push blocks, jig, vise, or some type of clamping fixture.

BLADE SPEED. Cutting workpiece before blade is at full speed could cause blade to grab workpiece and pull hands into blade. Allow blade to reach full speed before starting cut. **DO NOT** start machine with workpiece contacting blade.

FEED RATE. To avoid risk of workpiece slipping and causing operator injury, always feed stock evenly and smoothly.

BLADE CONDITION. Dull blades require more effort to perform cut, increasing risk of accidents. Do not operate with dirty, dull, cracked or badly worn blades. Inspect blades for cracks and missing teeth before each use. Always maintain proper blade tension and tracking while operating.

CLEARING JAMS AND CUTOFFS. Always stop bandsaw and disconnect power before clearing scrap pieces that get stuck between blade and table insert. Use brush or push stick, not hands, to clean chips/cutoff scraps from table.

BLADE CONTROL. To avoid risk of injury due to blade contact, always allow blade to stop on its own. **DO NOT** try to stop or slow blade with your hand or the workpiece.

GUARDS/COVERS. Blade guards and covers protect operator from the moving bandsaw blade. The wheel covers protect operator from getting entangled with rotating wheels or other moving parts. **ONLY** operate this bandsaw with blade guard/guides not more than 1/4" above workpiece and wheel covers completely closed.

BLADE REPLACEMENT. To avoid mishaps that could result in operator injury, make sure blade teeth face down toward table and blade is properly tensioned and tracked before operating.

UPPER BLADE GUIDE SUPPORT. To reduce exposure of operator to blade and provide maximum blade support while cutting, keep upper blade guides adjusted to just clear workpiece (not more than 1/4" above workpiece).

CUTTING TECHNIQUES. To avoid blade getting pulled off wheels or accidentally breaking and striking operator, always turn bandsaw **OFF** and wait for blade to come to a complete stop before backing workpiece out of blade. **DO NOT** back workpiece away from blade while bandsaw is running. **DO NOT** force or twist blade while cutting, especially when sawing small curves. This could result in blade damage or breakage.

WORKPIECE SUPPORT. To maintain maximum control and reduce risk of blade contact/breakage, always ensure adequate support of long/large workpieces. Always keep workpiece flat and firm against table/fence when cutting to avoid loss of control. If necessary, use a jig or other work-holding device.

WORKPIECE MATERIAL. This machine is intended for cutting natural and man-made wood products, and laminate covered wood products. This machine is **NOT** designed to cut metal, glass, stone, tile, etc.

ELECTRICAL

Circuit Requirements

This machine must be connected to the correct size and type of power supply circuit, or fire or electrical damage may occur. Read through this section to determine if an adequate power supply circuit is available. If a correct circuit is not available, a qualified electrician **MUST** install one before you can connect the machine to power.

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

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 Current Rating at 120V 2.8 Amps

Circuit Requirements for 120V

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

- Circuit Type 110V/120V, 60 Hz, Single-Phase
- Circuit Size 15 Amps
- Plug/Receptacle NEMA 5-15

⚠ WARNING

The machine must be properly set up before it is safe to operate. **DO NOT** connect this machine to the power source until instructed to do so later in this manual.

⚠ WARNING



Incorrectly wiring or grounding this machine can cause electrocution, fire, or machine damage. To reduce this risk, only an electrician or qualified service personnel should do any required electrical work on this machine.

NOTICE

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 with an electrician to ensure that the circuit is properly sized for safe operation.

ELECTRICAL

Grounding Requirements

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

Improper connection of the equipment-grounding wire will increase the risk of electric shock. The wire with green insulation (with/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.

For 120V Connection

This machine is equipped with a power cord with an equipment-grounding wire and NEMA 5-15 grounding plug (see figure). The plug must only be inserted into a matching receptacle that is properly installed and grounded in accordance with local codes and ordinances.

Extension Cords

We do not recommend using an extension cord with this machine. Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases with longer extension cords and smaller gauge sizes (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle, and meet the following requirements:

- Minimum Gauge Size at 120V 16 AWG**
- Maximum Length (Shorter is Better) 50 ft.**

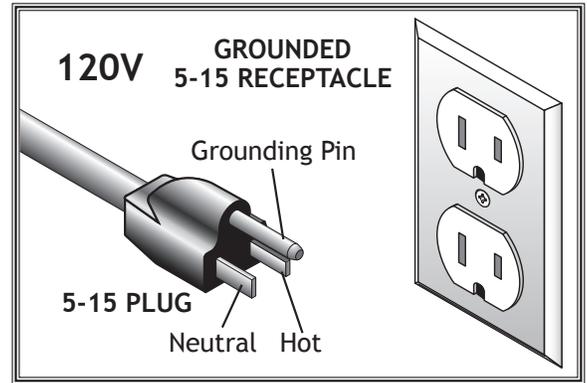
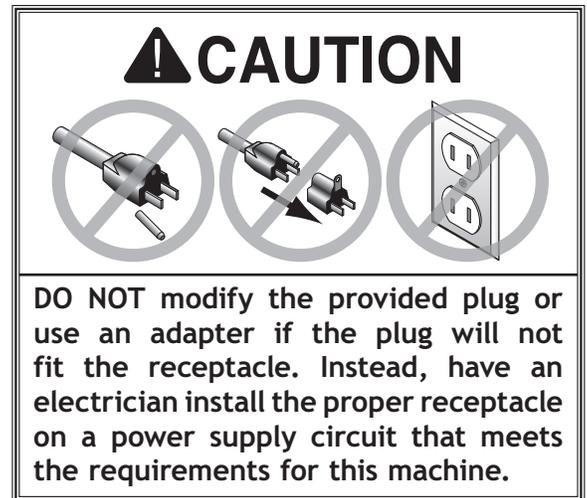


Figure 5. NEMA 5-15 plug & receptacle.



ELECTRICAL

SETUP

Unpacking

This machine has been carefully packaged for safe transportation. If you notice the machine has been damaged during shipping, please contact your authorized Shop Fox dealer immediately.

Items Needed for Setup

The following items are needed, but not included, to set up your machine.

Description	Qty
• Hex Wrenches 3, 4mm.....	1 Ea
• Machinist's Square	1
• Safety Glasses.....	1
• Dust Collection System	1
• Dust Hose 2"	1
• Hose Clamps 2"	2
• Optional Mounting Hardware (Page 15) ...	As Needed

! WARNING
This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!

! WARNING
Wear safety glasses during entire setup process!

Inventory

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

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

Inventory (Figure 6)	Qty
A. Bandsaw Body (not shown)	1
B. Table/Trunnion Assembly.....	1
C. Miter Gauge Assembly	1
D. Push Stick.....	1
E. Fence	1
F. Fence Rail Knobs M6-1 x 16.....	2
G. Fence Rail Knob M6-1 x 24.....	1
H. "D" Nut M6-1	1
I. Fence Rail	1
J. Open-Ends Wrench 8/10mm	1
K. Hex Wrench 6mm.....	1
L. Hex Wrench 4mm.....	1
M. Storage Hook w/Hex Nut.....	1
N. Rubber Feet	4

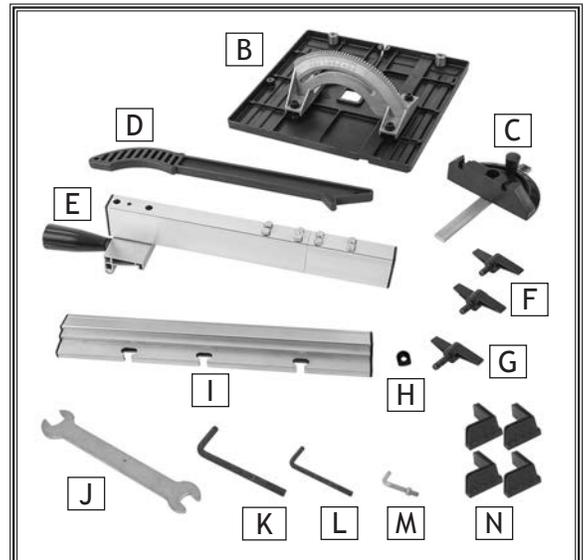


Figure 6. Loose item inventory.

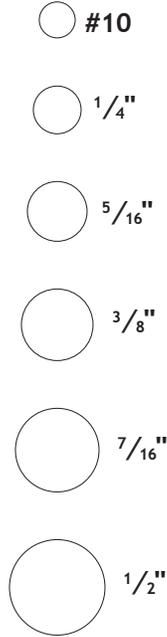
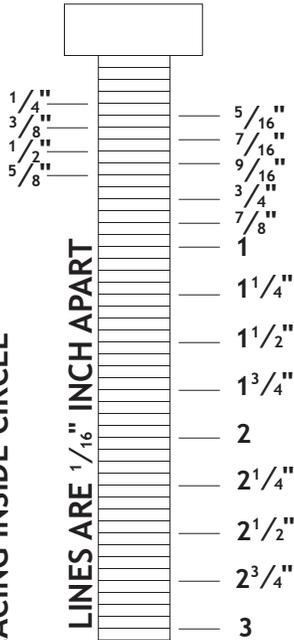
SETUP

Hardware Recognition Chart

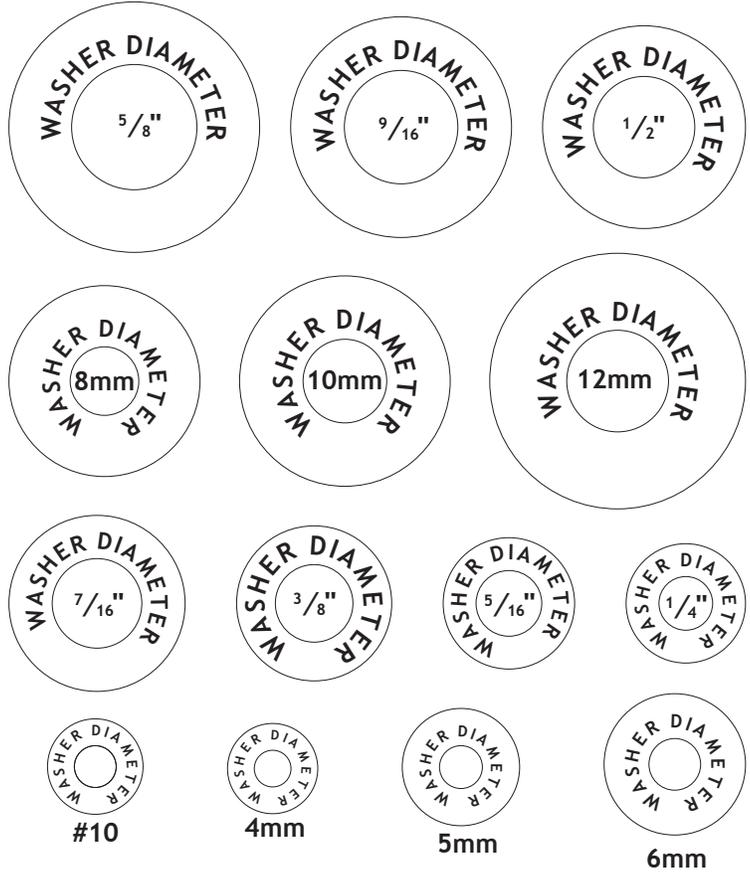
USE THIS CHART TO IDENTIFY HARDWARE DURING THE INVENTORY/ASSEMBLY PROCESS.

SETUP

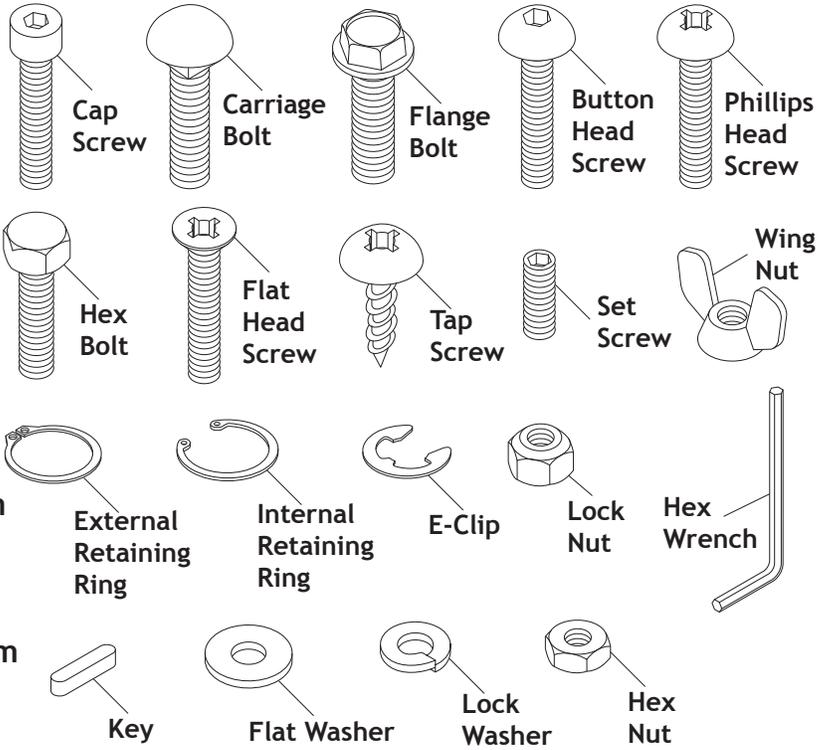
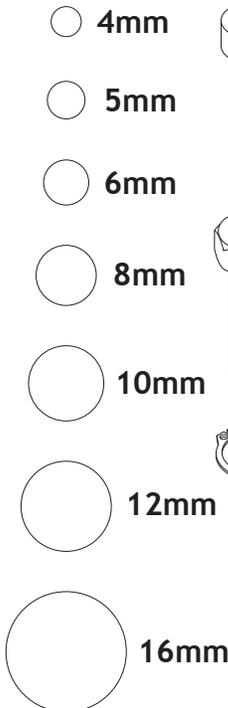
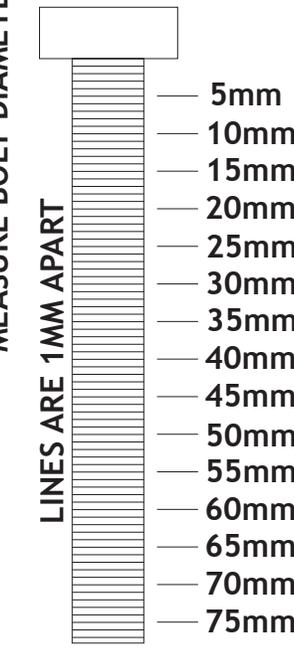
MEASURE BOLT DIAMETER BY PLACING INSIDE CIRCLE
LINES ARE 1MM APART



WASHERS ARE MEASURED BY THE INSIDE DIAMETER



MEASURE BOLT DIAMETER BY PLACING INSIDE CIRCLE
LINES ARE 1MM APART



Machine Placement

Workbench Load

Refer to the **Machine Specifications** for the weight and footprint specifications of your machine. Some workbenches may require additional reinforcement to support the weight of the machine and workpiece materials.

Placement Location

Consider anticipated workpiece sizes and additional space needed for auxiliary stands, work tables, or other machinery when establishing a location for this machine in the shop. Below is the minimum amount of space needed for the machine.

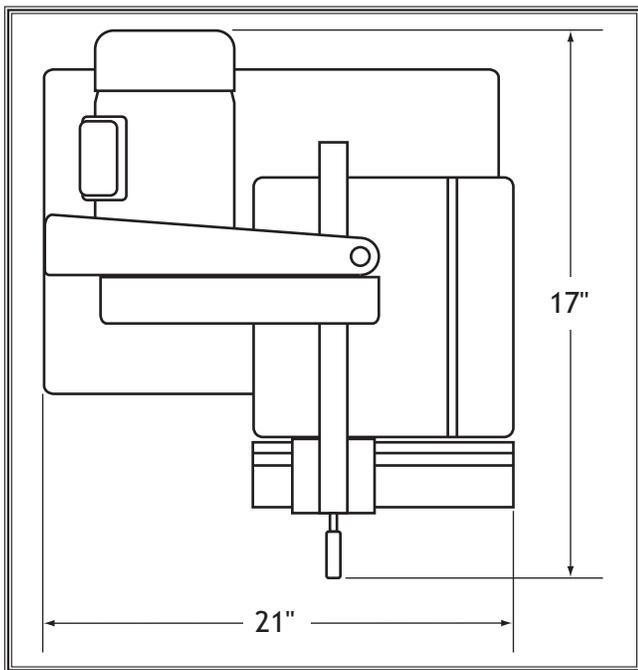


Figure 7. Minimum working clearances.

⚠ CAUTION
INJURY HAZARD! Untrained users can injure themselves with this machine. Restrict access to machine when you are away, especially if it is installed where children are present.

Bench Mounting

Number of Mounting Holes..... 4
 Diameter of Mounting Hardware Needed...³/₈"

The base of this machine has mounting holes that allow it to be fastened to a workbench or other mounting surface to prevent it from moving during operation and causing accidental injury or damage.

The strongest mounting option is a "Through Mount" (see example) where holes are drilled all the way through the workbench—and hex bolts, washers, and hex nuts are used to secure the machine in place.

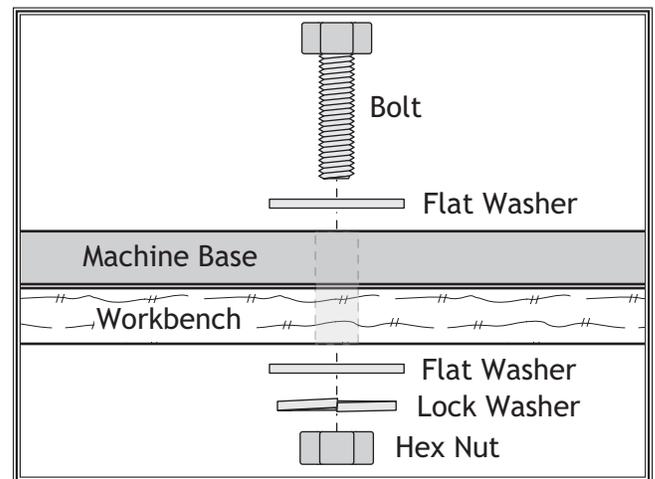


Figure 8. Typical "Through Mount" setup.

Another option is a "Direct Mount" (see example) where the machine is secured directly to the workbench with lag screws and washers.

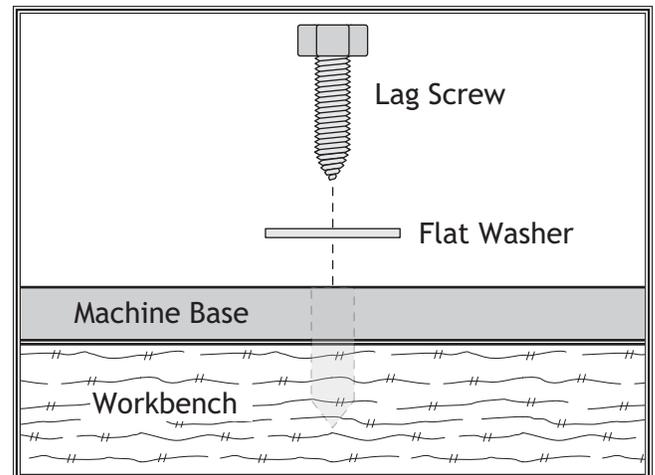


Figure 9. Typical "Direct Mount" setup.

SETUP

Assembly

Before beginning the assembly process, refer to **Items Needed for Setup** and gather everything you need. Ensure all parts have been properly cleaned of any heavy-duty rust-preventative applied at the factory (if applicable). Be sure to complete all steps in the assembly procedure prior to performing the **Test Run** or connecting the machine to power.



CAUTION

INJURY HAZARD! Untrained users can injure themselves with this machine. Restrict access to machine when you are away, especially if it is installed where children are present.

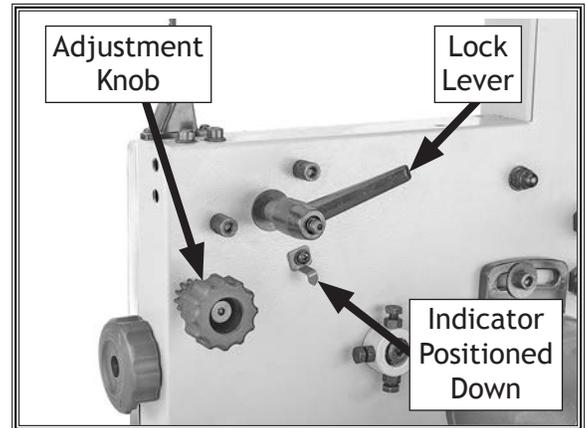


Figure 10. Location of table controls that must be removed or adjusted.

SETUP

To assemble machine, do these steps:

1. Remove table tilt lock lever and adjustment knob, then loosen indicator and position it down, out of the way (see **Figure 10**).
2. Slide gap in table around blade, and mount table/trunnion assembly to main saw body, as shown in **Figure 11**.
3. Re-install adjustment knob and lock lever. Do not fully tighten yet.
4. Completely raise upper blade guide assembly, then place a 90° square flat on table, against side of blade.
5. Use adjustment knob to tilt table until square is flat against side of blade, as illustrated in **Figure 12**.

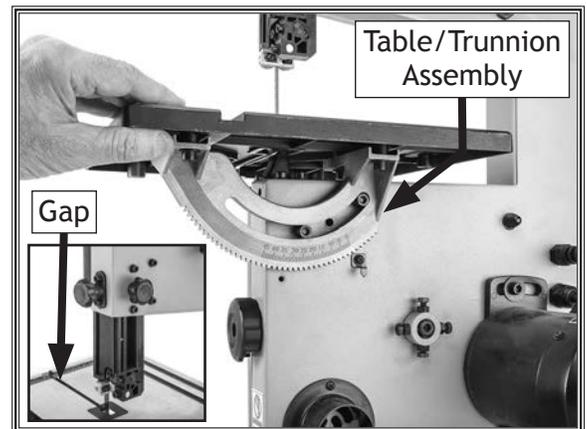


Figure 11. Table/trunnion positioned on saw.

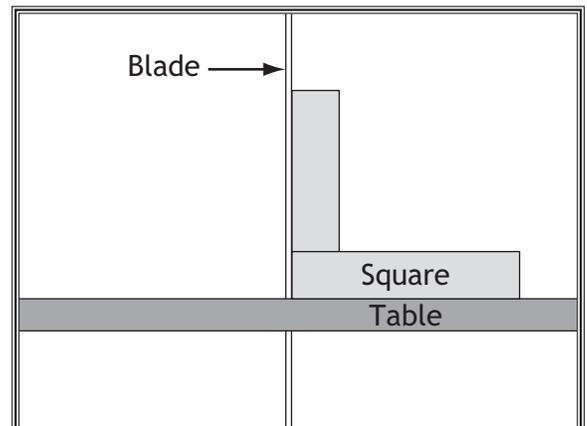


Figure 12. Using a square to adjust table perpendicular to the side of blade.

6. Use lock lever to secure table perpendicular to blade, then aim indicator to "0" on table tilt scale and tighten screw (see **Figure 13**).

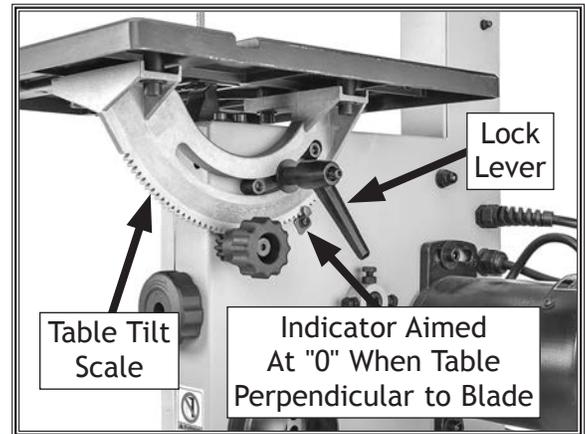


Figure 13. Table tilt controls re-installed.

7. Thread (2) M6-1 x 16 fence rail knobs into table just enough so they will not fall out. Do not tighten yet (see **Figure 14**).



Figure 14. M6-1 x 16 fence rail knobs installed.

8. Slide fence rail notches over knob threads (see **Figure 15**), then tighten knobs to secure fence rail snug against edge of table.

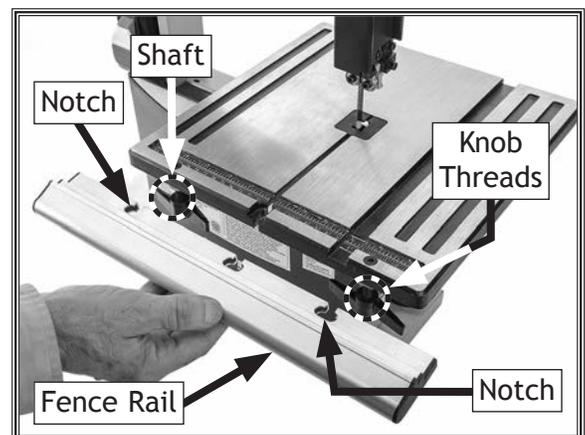


Figure 15. Installing fence rail.

SETUP

9. Insert "D" nut into slot shown in **Figure 16**.
10. Thread M6-1 x 24 fence rail knob up through middle notch of fence rail, into "D" nut (see **Figure 16**), and tighten.
11. Pull fence lock lever up and place fence assembly onto fence rail, making sure it snaps into place, then push lock lever down to secure fence (see **Figure 16**).

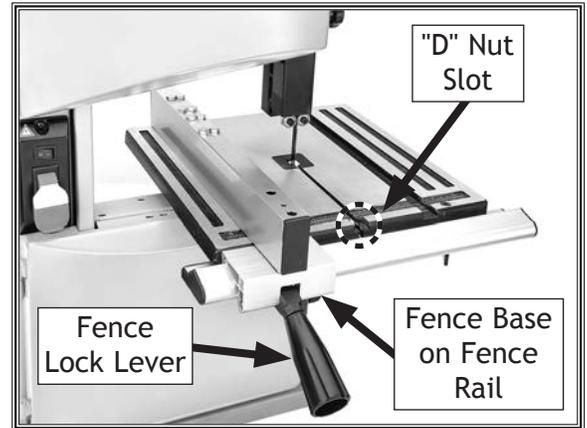


Figure 16. Fence installed on fence rail.

12. Thread storage hook (see **Figure 17**) into frame, and secure position by tightening hex.

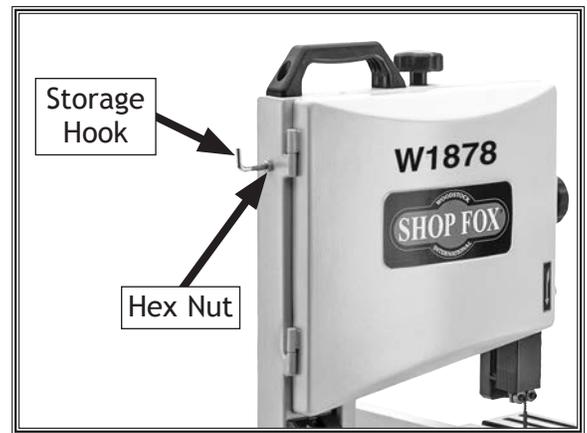


Figure 17. Storage hook installed.

13. Install (4) rubber feet (see **Figure 18**) at corners of base.

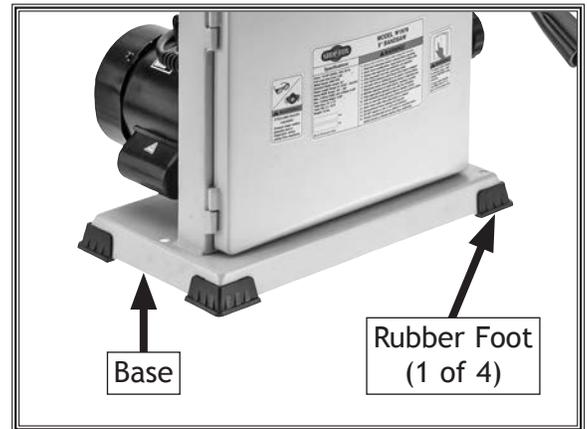


Figure 18. Rubber feet installed.

SETUP

Adjustment Overview

The bandsaw is one of the most versatile woodworking machines. However, it has multiple components that must be properly adjusted for the best cutting results.

For practical and safety reasons, some adjustments and test operations must be performed before performing other necessary adjustments. Below is an overview of all the adjustments and the order in which they should be performed:

1. Blade Tracking
2. Dust Collection
3. Test Run
4. Tension Blade
5. Adjusting Blade Support Bearings
6. Adjusting Blade Guide Bearings
7. Table Tilt Calibration
8. Aligning Table
9. Aligning Fence

WARNING

Serious personal injury can occur if the machine starts while your hand is touching the bandsaw wheel during tracking adjustments. Disconnect power from the bandsaw before performing blade tracking adjustments.

Blade Tracking

"Tracking" refers to how the blade rides on the bandsaw wheels. Proper tracking is important for maintaining bandsaw adjustments, achieving correct blade tension, and cutting accurately. Improper tracking reduces cutting accuracy, causes excess vibrations, and places stress on the blade and other bandsaw components. The shape of the wheels and the orientation of the wheels in relation to each other determine how the blade tracks.

Bandsaw wheels are either flat or crowned and both shapes track differently. The W1878 has crowned wheels. As the wheels spin, a properly tracking blade naturally tracks at the center of the wheel (see **Figure 19**).

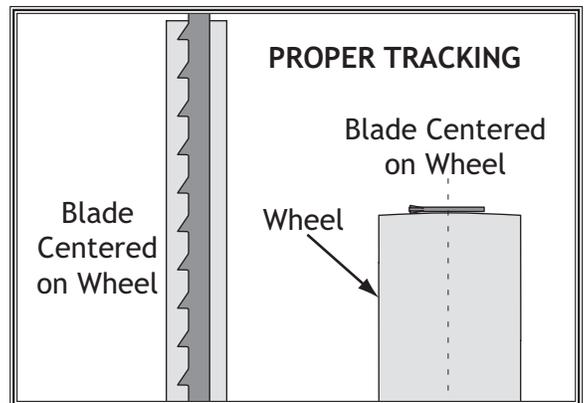


Figure 19. Blade centered on crown of wheel.

SETUP

The bandsaw wheels must be aligned for optimal machine performance. Properly aligned wheels are parallel and coplanar (see **Figure 20**).

Improper blade tension and cutting practices can negatively affect blade tracking. Familiarizing yourself with the ideas and conditions described in **Figure 20** will help you recognize when your wheel alignment may need to be adjusted (refer to **Wheel Alignment** on **Page 44** for detailed instructions).

The wheels on the W1878 were aligned at the factory, so center tracking is the only adjustment that needs to be performed when the saw is new. This adjustment is necessary before turning the saw on or performing other adjustments.

SETUP

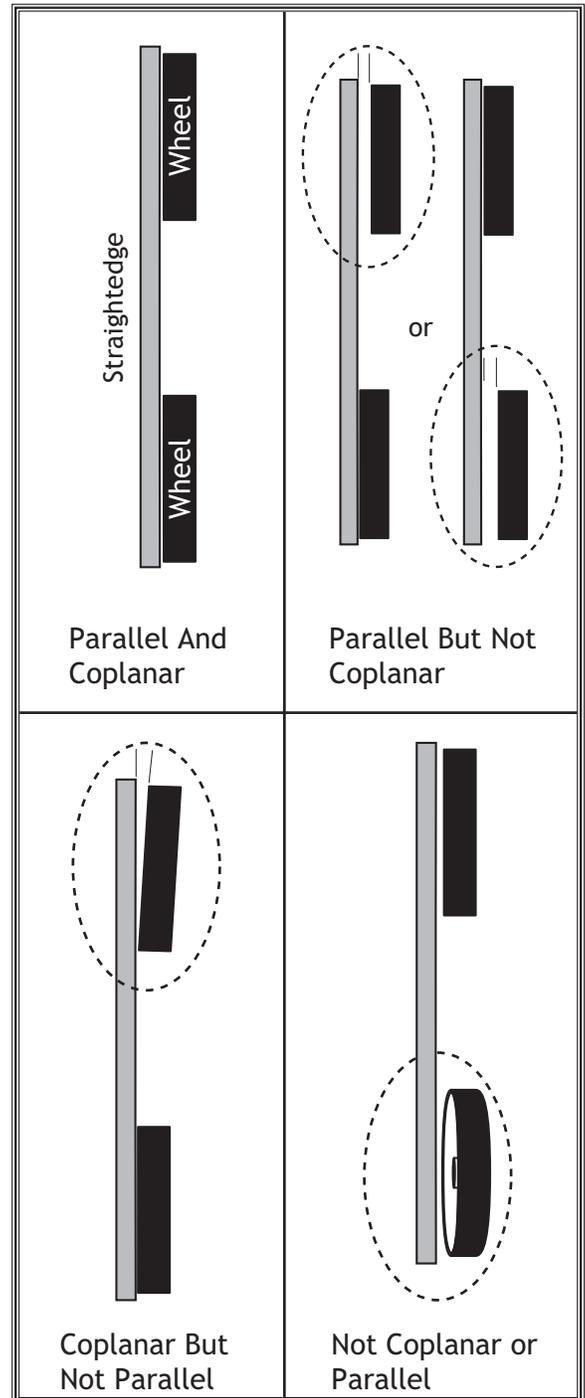


Figure 20. Wheel alignment and misalignment examples.

To adjust blade tracking, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Adjust upper and lower blade guides away from blade and raise upper guides all the way up (refer to **Adjusting Blade Guide Bearings** on **Page 27** for detailed instructions).

Note: *When adjusting the blade tracking for the test run in this procedure, the blade must have approximately the same amount of tension as when under operating conditions. After the test run is successfully completed, you will be instructed on how to more accurately tension the blade for optimum results.*

3. Open upper wheel cover.
4. Rotate tension adjustment knob clockwise until there is approximately 1/4" deflection in blade when pushed with moderate pressure.
5. Rotate upper wheel by hand several times and watch how blade rides on wheel (see **Figure 19** on **Page 19** for an illustration of this concept).
 - If the blade rides in the center of the upper wheel, it is properly tracking and you are done with this procedure—proceed to **Dust Collection** on **Page 22**.
 - If the blade does *not* ride in the center of the upper wheel, it is not properly tracking; continue with the next step to adjust it.
6. Spin upper wheel with one hand and slowly adjust tracking knob (see **Figure 21**) with other hand until blade consistently tracks in center of wheel.
7. Close and secure upper wheel cover before operating bandsaw.

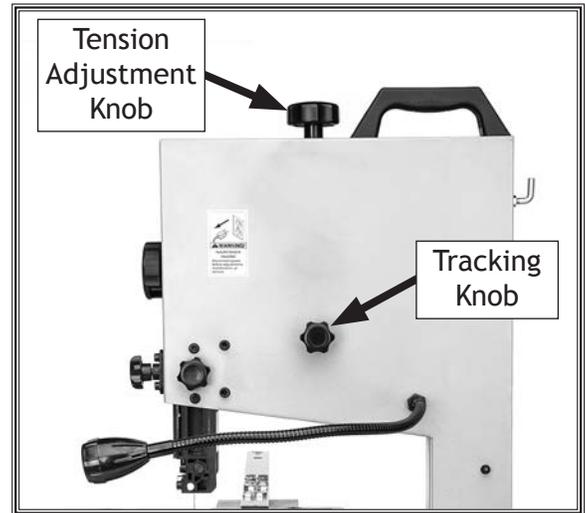


Figure 21. Blade tension and tracking controls.

SETUP

Dust Collection

Recommended CFM at Dust Port: 100 CFM

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

CAUTION

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

SETUP

Tools Needed	Qty
Dust Collection System	1
Dust Hose 2"	1
Hose Clamps 2"	2

To connect a dust collection hose, do these steps:

1. Fit a 2" dust hose over the dust port, as shown in **Figure 22**, and secure it in place with a hose clamp.
2. Tug the hose to make sure it does not come off.

Note: A tight fit is necessary for proper performance.



Figure 22. 2" dust host attached to dust port.

Test Run

Once assembly is complete, test run the machine to ensure it is properly connected to power and safety components are functioning properly.

If you find an unusual problem during the test run, immediately stop the machine, disconnect it from power, and fix the problem BEFORE operating the machine again. The **Troubleshooting** table in the **SERVICE** section of this manual can help.

The Test Run consists of verifying the following: 1) The motor powers up and runs correctly, and 2) the switch disabling key disables the switch properly.

To test run the machine, do these steps:

1. Clear all setup tools away from machine.
2. Connect machine to power supply.
3. Turn machine **ON**, verify motor operation, then turn machine **OFF**.

The motor should run smoothly and without unusual noises.

4. Remove switch disabling key (see **Figure 23**).
5. Try to start machine with paddle switch. The machine should not start.
 - If machine *does not* start, the switch disabling feature is working as designed.
 - If machine *does* start, immediately stop the machine. The switch disabling feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

⚠ WARNING

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

⚠ WARNING

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

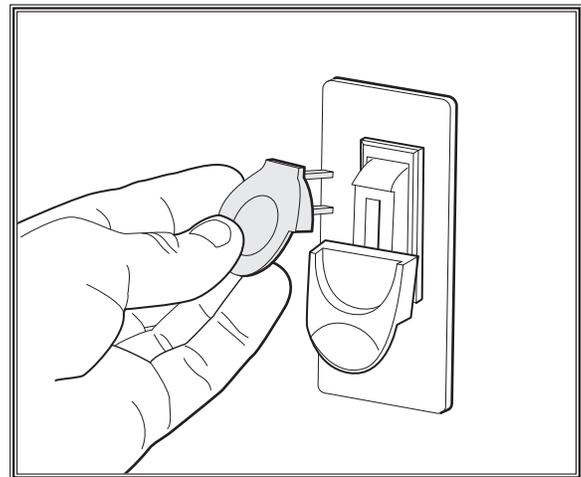


Figure 23. Removing switch key from paddle switch.

Tensioning Blade

A properly tensioned blade is essential for making accurate cuts, maximizing the blade life, and making other bandsaw adjustments. However, a properly tensioned blade will not compensate for cutting problems caused by excessive feed rate, hardness variations between workpieces, and improper blade selection.

Optimal cutting results for any type of workpiece are achieved through a combination of correct blade selection, proper blade tension, properly adjusted blade guides and other bandsaw components, and using an appropriate feed rate.

Improper blade tension is unsafe, produces inaccurate and inconsistent results, and introduces unnecessary wear on bandsaw components. Over-tensioning the blade increases the chance of the blade breaking or wheel misalignment. Under-tensioned blades wander excessively while cutting and will not track properly during operation.

The method used to tension the blade is often a matter of preference. This manual describes two methods: the flutter method and the deflection method. Either method will help you properly tension the blade. Experience and personal preference will help you decide which method you prefer.

Note: *Tensioning the blade before the Test Run was an approximate tension. The following procedures fine-tune the blade tension.*

The Flutter Method

Using the flutter method, you intentionally loosen the blade until it just passes the point of being too loose (when it begins to flutter). Then you gradually tighten the blade until proper tension is reached.

To tension bandsaw blade using flutter method, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Make sure blade is properly tracking as instructed in **Blade Tracking** subsection on **Page 19**.
3. Raise guide post all the way, and move upper and lower guide bearings away from blade.
4. Connect bandsaw to power, then turn it **ON**.
5. Using blade tension adjustment knob, slowly decrease blade tension until you see blade start to flutter.
6. Slowly increase tension until blade stops fluttering, then tighten blade tension adjustment knob an additional $\frac{1}{8}$ to $\frac{1}{4}$ of a turn.
7. DISCONNECT MACHINE FROM POWER!
8. Adjust blade guides as described in **Adjusting Blade Support Bearings** and **Adjusting Blade Guide Bearings** on **Pages 26-27**.

The Deflection Method

The deflection method is much more subjective than the flutter method. Each blade will deflect differently and every user will determine what "moderate pressure" means. The following are general guidelines for tensioning the blade with this method.

To tension bandsaw blade using deflection method, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Make sure blade is properly tracking as instructed in **Blade Tracking** subsection on **Page 19**.
3. Raise guide post all the way and move upper and lower guide bearings away from blade.
4. Using moderate pressure, push center of blade sideways.
 - If blade deflects approximately $\frac{1}{4}$ ", it is properly tensioned. Proceed to **Step 5**.
 - If blade deflects less than $\frac{1}{4}$ ", it is over-tensioned. Turn blade tensioning knob counterclockwise two full turns and repeat **Step 4**.
 - If blade deflects $\frac{1}{4}$ " or more, blade is not properly tensioned. Apply tension to blade incrementally and repeat **Step 4** until properly tensioned.
5. Adjust blade guides as described in **Adjusting Blade Support Bearings** and **Adjusting Blade Guide Bearings** on **Pages 26-27**.

Adjusting Blade Support Bearings

The support bearings are positioned behind the blade near the blade guides and prevent the blade from pushing backward during cutting operations. Proper adjustment of the support bearings helps you make accurate cuts and prevents the blade teeth from coming in contact with the blade guides while cutting. If this happens the blade "tooth set" can be ruined, which will greatly reduce the blade's ability to make good cuts.

There are support bearings on the upper and lower blade guide assemblies. Both adjust in the same manner. The following instructions refer to the upper support bearings. To access the lower support bearing, you must open the lower wheel cover (see Page 5 for reference).

IMPORTANT: To ensure best results while cutting, make sure the blade is tracking and tensioned correctly before performing this procedure.

Tools Needed	Qty
Hex Wrench 4mm	1
Feeler Gauge 0.016" (or Dollar Bill)	1

To adjust support bearings, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Open blade cover and loosen support bearing adjustment screw (see Figure 24).
3. Position support bearing approximately 0.016" away from the back of the blade, as illustrated in Figure 25. This can be measured with a feeler gauge or a dollar bill.

Tip: To quickly measure this setting, fold a crisp dollar bill in half twice (when folded tightly, four thicknesses of a dollar bill is approximately 0.016"). Place the folded dollar bill between the support bearing and the blade, as shown in Figure 26.

4. Tighten adjustment cap screw to lock support bearing in place.

Note: When securing adjustment of lower support bearing, make sure it is parallel to blade.

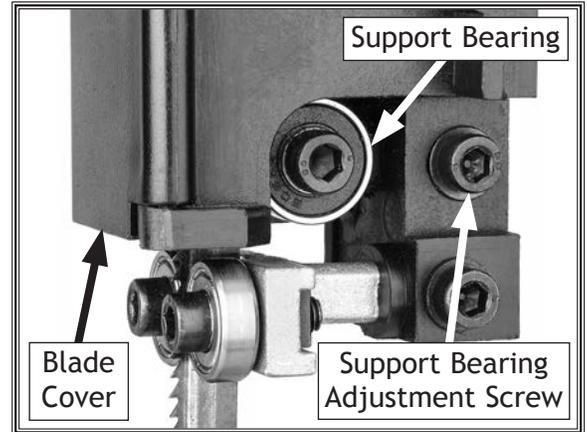


Figure 24. Upper support bearing assembly and controls.

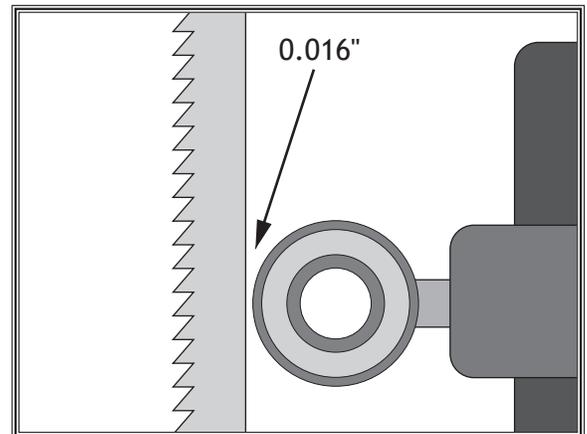


Figure 25. Bearing positioned 0.016" away from back of blade.



Figure 26. Dollar bill folded twice to make a quick 0.016" gauge.

Adjusting Blade Guide Bearings

Properly adjusting the blade guides provides side-to-side support to help keep the blade straight while cutting.

There are blade guide bearings on the upper and lower blade guide assemblies. Both adjust in the same manner. The following instructions refer to the upper guide bearings. To access the lower guide bearings, you must open the lower wheel guard (see **Page 5** for reference).

IMPORTANT: Make sure the blade is tracking and tensioned correctly before performing this procedure (see **Tensioning Blade** on **Page 24**).

Tool Needed	Qty
Hex Wrench 4mm	1

To adjust blade guides, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen guide block cap screw shown in **Figure 27**, then laterally position guide bearings just behind blade gullets, as illustrated in **Figure 28**, then re-tighten cap screw to secure setting.

Note: With wider blades, it may not be possible to bring the guide bearings just behind the blade gullets. Position them as far forward as possible without allowing the guide bearing housing to touch the back of the blade.

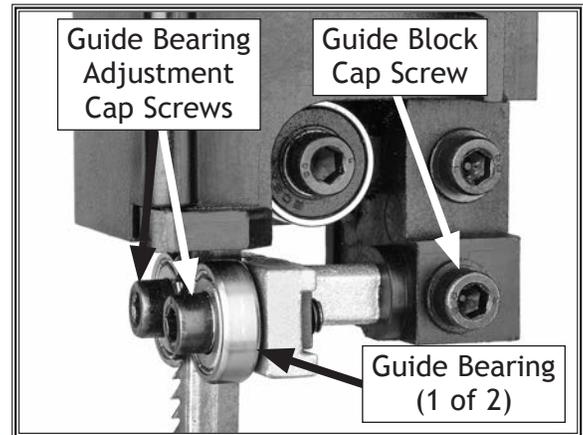


Figure 27. Upper guide bearing components.

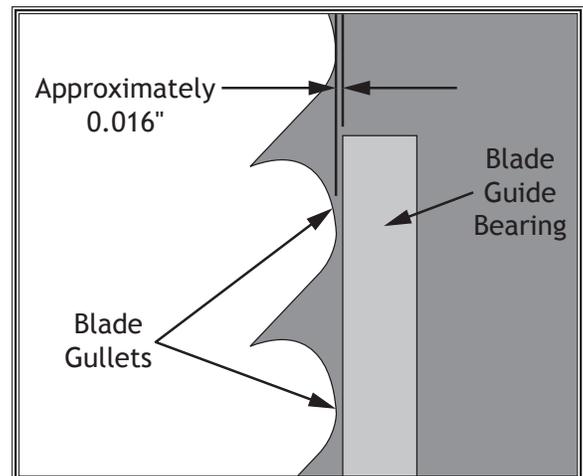


Figure 28. Blade guide bearing positioned just behind blade gullets.

NOTICE

Blade teeth are angled out slightly, protruding wider than the blade thickness; this is known as blade "tooth set" (see **Figure 29**). If teeth contact guide bearings during operation, damage may occur. Therefore, the support bearing must be set to prevent teeth from contacting guide bearings during operation (refer to **Page 26** for details).

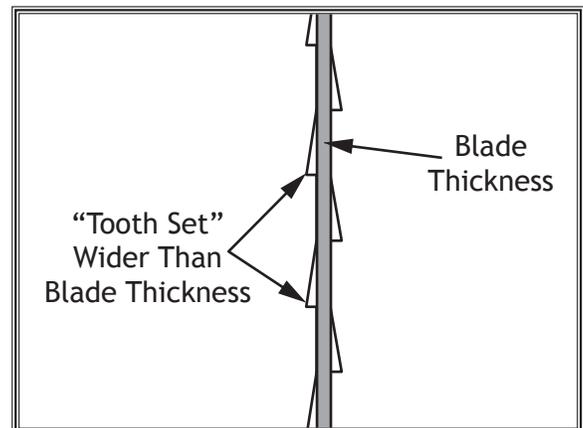


Figure 29. Illustration of blade "tooth set".

SETUP

- Loosen both guide bearing adjustment cap screws (see Figure 27), then position guide bearings so they evenly and lightly touch sides of blade (see Figure 30) without deflecting it one way or the other.

Note: When the blade guide bearings are properly adjusted against the blade, they should lightly rotate as the blade moves.

- Re-tighten cap screws to secure settings. Re-check the setting after tightening.

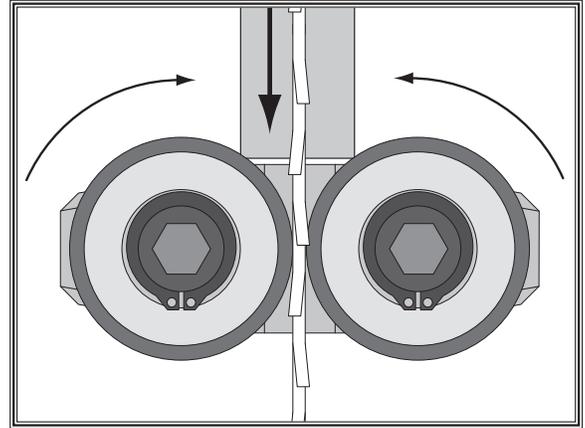


Figure 30. Blade guide bearings evenly and lightly touching the sides of the blade.

NOTICE

Whenever changing blade or adjusting blade tension or tracking, the support and guide bearings must be re-adjusted before resuming operation to ensure proper blade support.

Calibrating Miter Slot with Blade

To ensure cutting accuracy, the table must be carefully positioned so the miter slot is parallel with the blade.

Before beginning this procedure, make sure blade is correctly tensioned as described in the **Tensioning Blade** subsection earlier in this manual.

Tip: This procedure is easier if done with the widest possible blade installed.

Tools Needed	Qty
Straightedge or Carpenter's Square	1
Fine Ruler	1
Hex Wrench 6mm	1

To align table miter slot parallel to blade, do these steps:

- DISCONNECT MACHINE FROM POWER!
- Make sure table is perpendicular to side of blade and is locked in place.
- Place an accurate straightedge along blade. The straightedge should lightly touch both front and back of blade (see Figure 31).

Note: Make sure straightedge does not go across a tooth while performing this step.

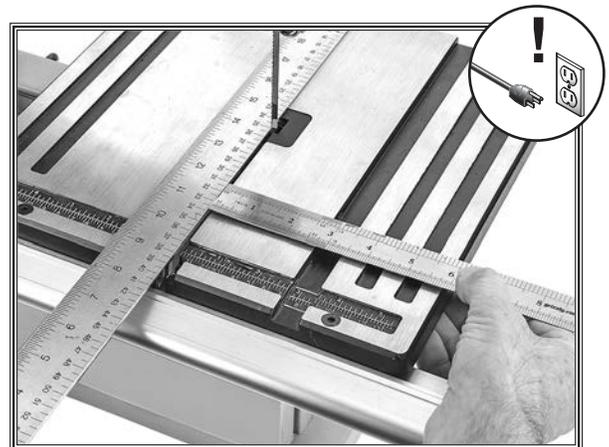


Figure 31. Placing a straightedge along the blade and measuring to the miter slot.

SETUP

4. Use fine ruler to measure distance between straightedge and miter slot at front and back of table (see **Figure 31** on **Page 28**).
 - If the distances are the same, no further adjustments are required.
 - If the distances are different, continue with **Step 6**.
5. Loosen the four cap screws securing table to trunnion brackets (see **Figure 32**).
6. Position table so distances are equal between straightedge and miter slot at front and back of table.
7. Taking care not to move table, re-tighten cap screws.
8. Verify setting and, if necessary, repeat this procedure until you are satisfied with adjustment.



Figure 32. Location of trunnion bracket flange bolts.

Calibrating Fence with Miter Slot

To ensure accurate cutting when using the fence, the face of the fence must be parallel with the table miter slot and, thus, to the side of the blade.

Before beginning this procedure, make sure miter slot is parallel with blade, as instructed in previous **Aligning Table** procedure.

Tools Needed	Qty
Hex Wrench 4mm	1

To align fence parallel with miter slot, do these steps:

1. **DISCONNECT MACHINE FROM POWER!**
2. Install fence on right side of blade, even with edge of miter slot, then lock it in place.
 - If the fence *is* parallel with the miter slot, no additional adjustment is necessary.
 - If the fence *is not* parallel with the miter slot, proceed to **Step 4**.
3. Loosen two fence adjustment cap screws shown in **Figure 33**, adjust fence parallel with miter slot, then re-tighten cap screws to secure setting.



Figure 33. Location of the fence adjustment cap screws.

OPERATIONS

General

This machine will perform many types of operations that are beyond the scope of this manual. Many of these operations can be dangerous or deadly if performed incorrectly.

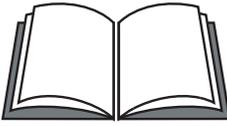
The instructions in this section are written with the understanding that the operator has the necessary knowledge and skills to operate this machine. If at any time you are experiencing difficulties performing any operation, stop using the machine!

The overview below provides the novice machine operator with a basic understanding of how the machine is used during operation, so the machine controls/components discussed later in this manual are easier to understand. Due to its generic nature, this overview is **NOT** intended to be an instructional guide.

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

1. Examines the workpiece to make sure it is suitable for cutting.
2. Adjusts the table tilt, if necessary, to the correct angle of the desired cut.
3. If using the fence, adjusts it for the width of the cut and then locks it in place. If using the miter gauge, adjusts the angle and locks it in place.
4. Loosens the guide post lock knob, adjusts the upper blade guide height to just clear the workpiece (no more than 1/4"), then re-tightens the guide post lock knob.
5. Checks to make sure the workpiece can safely pass all the way through the blade without interference from other objects.
6. Puts on safety glasses and a respirator.
7. Starts the dust collector and bandsaw.

! WARNING



To reduce your risk of serious injury or damage to the machine, read this entire manual **BEFORE** using machine.

! WARNING

To reduce the risk of eye injury and long-term respiratory damage, always wear safety glasses and a respirator while operating this machine.

NOTICE

If you are an inexperienced operator, we strongly recommend that you read books or trade articles, or seek training from an experienced operator of this type of machinery before performing unfamiliar operations. Above all, safety must come first!

8. Holds the workpiece firmly and flatly against both the table and fence (or miter gauge), and then pushes the workpiece into the blade at a steady and controlled rate until the cut is complete.

The operator is very careful to keep fingers away from the blade and uses a push stick to feed narrow workpieces.

9. Stops the bandsaw.

A properly adjusted bandsaw can be safer to operate than most other saws and performs many types of cuts with ease and accuracy. It is capable of performing the following types of cuts:

Straight Cuts

- Mitters
- Angles
- Compound Angles
- Resawing
- Ripping
- Crosscutting

Irregular Cuts

- Simple and Complex Curves
- Duplicate Parts
- Circles
- Beveled Curves

Basic Cutting Tips

Here are some basic tips to follow when operating the bandsaw:

- Replace, sharpen, and clean blades often for best performance. Check guides, tension, and alignment settings periodically and adjust when necessary to keep the saw running in top condition.
- Use light and even pressure while cutting. Light feeding pressure makes it easier to cut straight and prevents undue friction or strain on the bandsaw components and the blade.
- Avoid twisting the blade when cutting around tight corners. Allow the blade to saw its way around the corners. Always use relief cuts when possible.
- Misusing the saw or using incorrect techniques (e.g. twisting the blade with the workpiece, incorrect feed rate, etc.) is unsafe and results in poor cuts.

Workpiece Inspection

Some workpieces are not safe to cut or may require modification before they are safe to cut. **Before cutting, inspect all workpieces for the following:**

- **Material Type:** This machine is intended for cutting natural and man-made wood products, laminate covered wood products, and some plastics. Cutting drywall or cementitious backer board creates extremely fine dust and may reduce the life of the bearings. This machine is NOT designed to cut metal, glass, stone, tile, etc.; cutting these materials with a band saw may lead to injury.
- **Foreign Objects:** Nails, staples, dirt, rocks and other foreign objects are often embedded in wood. While cutting, these objects can become dislodged and hit the operator, cause kickback, or break the blade, which might then fly apart. Always visually inspect your workpiece for these items. If they can't be removed, DO NOT cut the workpiece.
- **Large/Loose Knots:** Loose knots can become dislodged during the cutting operation. Large knots can cause kickback and machine damage. Choose workpieces that do not have large/loose knots or plan ahead to avoid cutting through them.
- **Wet or "Green" Stock:** Cutting wood with a moisture content over 20% causes unnecessary wear on the blade, increases the risk of kickback, and yields poor results.
- **Excessive Warping:** Workpieces with excessive cupping, bowing, or twisting are dangerous to cut because they are unstable and often unpredictable when being cut. DO NOT use workpieces with these characteristics!
- **Minor Warping:** Workpieces with slight cupping can be safely supported if the cupped side is facing the table or the fence. On the contrary, a workpiece supported on the bowed side will rock during a cut and could cause kickback or severe injury.

Disabling Switch

⚠️ WARNING

Children or untrained people can be killed or seriously injured by this machine. This risk increases with unsupervised operation. To help prevent unsupervised operation, disable and lock the switch before leaving machine unattended! Place key in a well-hidden or secure location.

The switch can be disabled by removing the key, as shown below. Disabling the switch in this manner can prevent unauthorized operation of the machine, which is important if it is not kept inside an access-restricted building or in a location where children may be present.

IMPORTANT: Disabling the switch only restricts its function. It is not a substitute for disconnecting machine from power when adjusting or servicing.

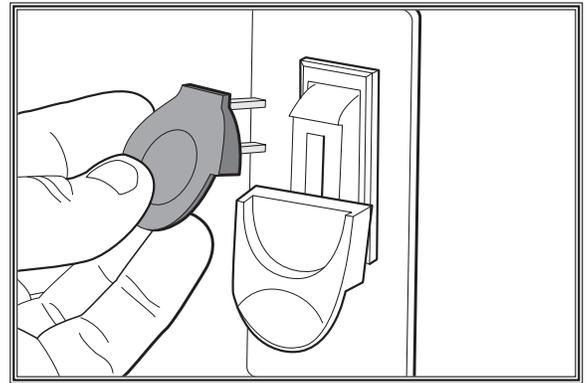


Figure 34. Switch disabled by padlock.

Setting Upper Blade Guide Height

When cutting, the blade guides must always be positioned so they just clear (no more than $\frac{1}{4}$ ") the workpiece. The guide post, shown in Figure 35, allows the upper blade guide assembly to be quickly adjusted for height.

To adjust height of upper blade guides, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen guide post lock knob.
3. Using guide post control knob, adjust height of the guide post so that blade guide assembly just clears (no more than $\frac{1}{4}$ ") workpiece.
4. Re-tighten lock knob to secure setting.

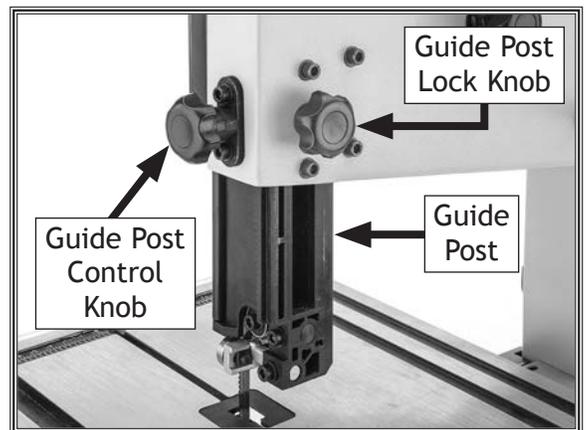


Figure 35. Guide post, lock, and control knobs.

Tilting Table

The table can be tilted to make angled or beveled cuts. A simple tilt scale is provided on the trunnion for a quick gauge (see **Figure 36**). For more accurate results use a protractor.

To tilt table, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen table lock lever shown in **Figure 36**.
3. Rotate tilt adjustment knob until table reaches desired angle, then re-tighten lock lever.

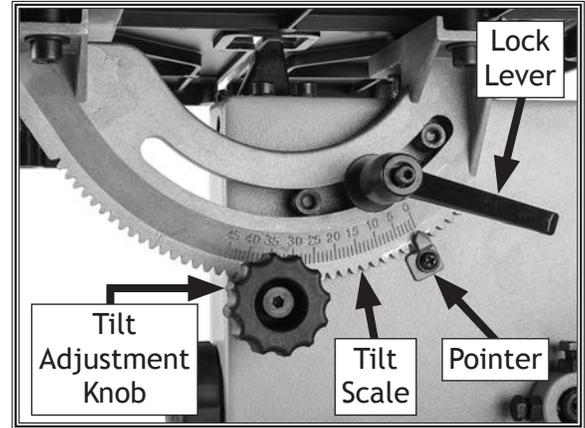


Figure 36. Table tilt controls.

Choosing Blades

Blade Dimensions

Length Range 62"
 Width Range 1/8"-3/8"

Selecting the right blade requires a knowledge of the various blade characteristics to match the blade with the particular cutting operation.

Blade Length

Measured by the circumference, blade lengths are usually unique to the brand of your bandsaw and the distance between wheels. Blades will vary slightly even in the same length because of how they are welded. Refer to the **Accessories** section later in this manual for blade replacements from Woodstock.

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.

Always pick the size of blade that best suits your application.

- **Curve Cutting:** Use the chart in **Figure 37** to determine the correct blade for curve cutting. Determine the smallest radius curve that will be cut on your workpiece and use the corresponding blade width.
- **Straight Cutting:** Use the largest width blade that you own. Large blades excel at cutting straight lines and are less prone to wander.

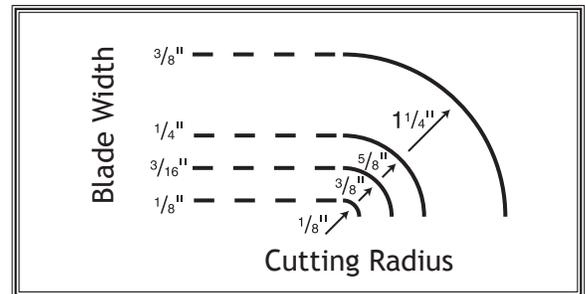


Figure 37. Recommended cutting radius per blade width.

Tooth Style

Figure 38 illustrates the three main blade tooth styles:

- **Raker:** Considered to be the standard because the tooth size and shape are the same as the tooth gullet. The teeth on raker blades usually are very numerous, have no angle, and produce cuts by scraping the material. As a result, smooth cuts can be achieved without cutting fast or generating more heat than other tooth types.
- **Skip:** Similar to a raker blade that is missing every other tooth. Because of the design, skip toothed blades have a much larger gullet than raker blades, and therefore, cut faster and generate less heat. However, these blades also leave a rougher cut than raker blades.
- **Hook:** The teeth have a positive angle (downward) which makes them dig into the material, and the gullets are usually rounded for easier waste removal. These blades are excellent for the tough demands of resawing and ripping thick material.

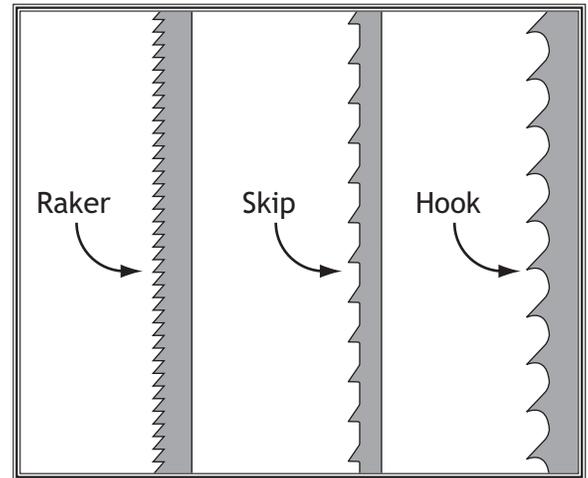


Figure 38. Main blade tooth styles.

Blade Breakage

Many conditions may cause a bandsaw blade to break. Blade breakage is unavoidable, in some cases, since it is the natural result of the peculiar stresses that bandsaw blades are subjected to. Blade breakage is also due to avoidable circumstances. Avoidable breakage is most often the result of poor care or judgement on the part of the operator when mounting or adjusting the blade or blade guides.

The most common causes of blade breakage are:

- Faulty alignment/adjustment of the guides.
- Forcing/twisting a wide blade around a short radius.
- Feeding the workpiece too fast.
- Dull teeth or damaged tooth set.
- Over-tensioned blade.
- Upper blade guide assembly set too high above the workpiece.
- Using a blade with a lumpy or improperly finished braze or weld.
- Continuously running the bandsaw when not in use.
- Leaving blade tensioned when not in use.
- Using the wrong TPI for the workpiece thickness. (The general rule of thumb is three teeth in the workpiece at all times.)

Tooth Pitch

Measured as TPI (teeth per inch), tooth pitch determines the number of teeth. More teeth per inch (fine pitch) will cut slower, but smoother; while fewer teeth per inch (coarse pitch) will cut rougher, but faster. As a general rule, choose blades that will have at least three teeth in the material at all times. Use fine-pitched blades on harder woods and coarse-pitched blades on softer woods.

Blade Care

A bandsaw blade is a thin piece of steel that is subjected to tremendous stresses when cutting. You can obtain longer use from a bandsaw blade if you give it fair treatment and always use the appropriate feed rate for your operation. Be sure to select blades with the proper width, style, and pitch for each application. The wrong choice of blades will often produce unnecessary heat which will shorten the life of your blade.

A clean blade will perform much better than a dirty blade. Dirty or gummed up blades pass through the cutting material with much more resistance than clean blades. This extra resistance also causes unnecessary heat. Resin/pitch cleaners are excellent for cleaning dirty blades.

Changing Blade

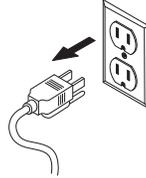
Blade changes entail removing the existing blade, installing the new blade, then properly adjusting the blade tension, tracking, and guides.

To change blade, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Rotate blade tension knob counterclockwise to release blade tension.
3. Adjust upper blade guide assembly all the way up, and move blade guides completely away from blade.
4. Remove miter gauge, fence, and fence rail from table (see **Page 17** for details).
5. Open upper and lower wheel covers.
6. Put on heavy leather gloves.
7. Slip blade off of wheels, slide it through table slot (see **Figure 39**), and remove it from machine.
8. Position new blade so teeth are facing you and pointing down in your right hand, then slide it through table slot.

Note: *If the teeth will not point downward in any orientation, the blade is inside out. Remove the blade and twist it right-side out.*

9. Slip blade over wheels while making sure it is properly positioned between blade guards and guides.
10. Tension blade (see **Tensioning Blade on Page 24** for details).
11. Adjust blade tracking (see **Blade Tracking on Page 19**).
12. Adjust upper/lower support bearings and blade guides (see **Adjusting Blade Support Bearings on Page 26**).
13. Close wheel covers, then re-install fence rail and fence (see **Pages 17-18**).
14. Make sure fence is parallel to miter slot and, if necessary, adjust alignment (see **Page 29**).



! WARNING
Disconnect bandsaw from power **BEFORE** changing blade. Serious personal injury could occur if machine is started during this procedure.



! CAUTION
LACERATION HAZARD
Bandsaw blades are sharp and difficult to handle. Wear heavy leather gloves while handling to reduce the risk of being cut.

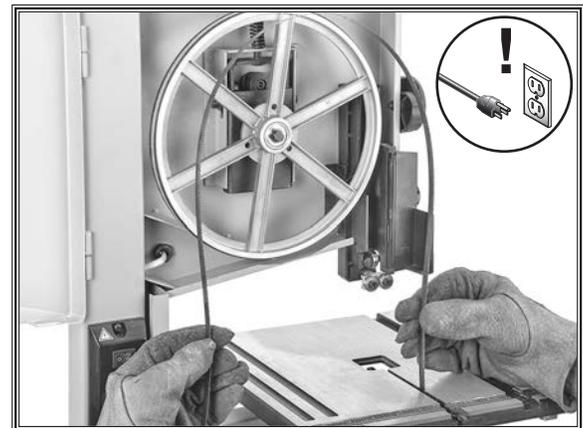


Figure 39. Removing blade.

Ripping

"Ripping" means cutting with the grain of the wood stock. For plywood and other processed wood, ripping simply means cutting down the length of the workpiece. Beveled rip cuts may be performed by tilting the table.

To make a rip cut, do these steps:

1. Adjust fence to match width of cut on your workpiece, then lock fence in place.
2. Adjust blade guide assembly to proper height above workpiece (not more than 1/4" above workpiece).
3. After all safety precautions have been met, turn bandsaw *ON* and wait for it to come to full speed. Slowly feed workpiece into blade until blade is completely through workpiece. **Figure 40** shows an example of a ripping operation.

⚠ WARNING

ALWAYS use a push stick when ripping narrow pieces. Failure to follow these warnings may result in amputation or laceration injuries!

⚠ WARNING

NEVER place fingers or hands in the line of cut. If you slip, your hands or fingers may go into the blade and may be cut.

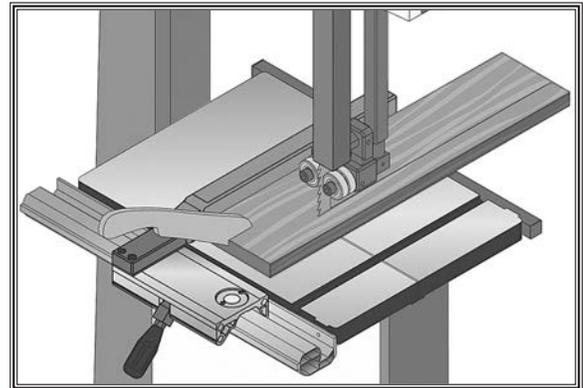


Figure 40. Example of a ripping operation.

Crosscutting

Crosscutting is the process of cutting across the grain of wood. For plywood and other processed wood, crosscutting simply means cutting across the width of the material. Crosscuts can be 90° or angled using the miter gauge. Compound crosscuts are those where the miter is angled and the table tilted.

To make a crosscut, do these steps:

1. Mark workpiece on edge where you will begin cut.
2. Adjust upper blade guide assembly to the correct height (not more than 1/4" above workpiece).
3. Adjust miter gauge to correct angle needed for cut.
4. Move fence out of the way. Place workpiece evenly against miter gauge, then line up mark with blade.
5. After all safety precautions have been met, turn bandsaw **ON** and wait for it to come to full speed. Slowly feed workpiece into blade until blade is all the way through workpiece. **Figure 41** shows an example of a crosscutting operation.

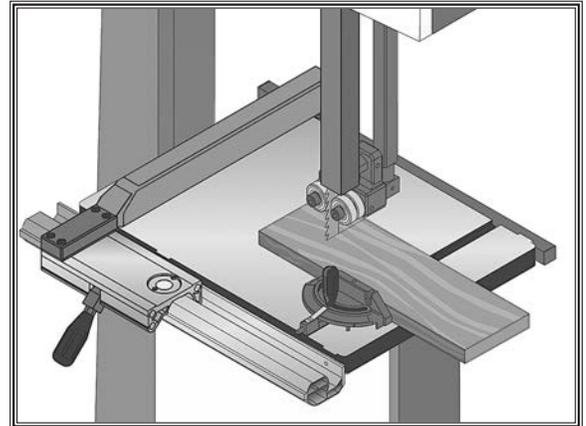


Figure 41. Example of a crosscutting operation with the miter gauge.

Resawing

"Resawing" means cutting the thickness of a board into two or more thinner boards (see **Figure 42** for an example). The maximum height of a board that can be resawn is limited by the maximum cutting height of the bandsaw.

One of the most important considerations for resawing is blade selection—a wide blade cuts straighter and is less prone to blade lead (see the **Blade Lead** subsection later in this manual for more information).

For most applications, use a blade with a hook or a skip tooth style. Choose blades with fewer teeth-per-inch (from 3 to 6 TPI), because they offer larger gullet capacities for clearing sawdust, which reduces heat buildup and strain on the motor.

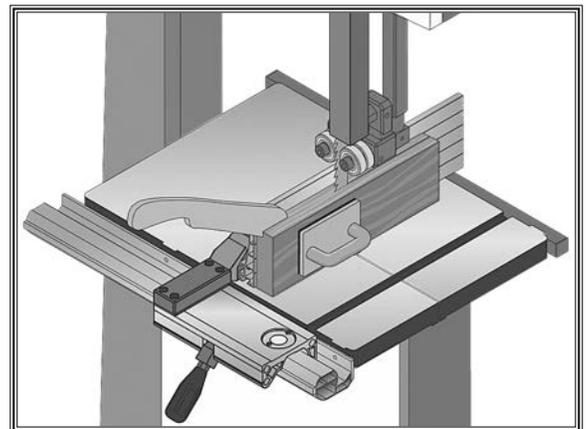


Figure 42. Example of a resawing operation.

WARNING

When resawing thin pieces, a wandering blade (blade lead) can tear through the side of the workpiece, exposing your hands to the blade teeth. Always use push blocks when resawing and keep your hands clear of the blade.

Cutting Curves

When cutting curves, simultaneously feed and turn the stock carefully so the blade follows the layout line without twisting. If curves are sharp or tight, use a narrower blade with more TPI (teeth per inch) and make relief cuts to avoid having to back the workpiece away from the blade.

Always make short cuts first, then proceed to the longer cuts. Relief cuts reduce the chance of the blade being pinched or twisted. Relief cuts are cuts made through the waste portion of the workpiece and are stopped at the layout line, so when you're cutting along the layout line, waste wood is released from the workpiece, alleviating any pressure on the back of the blade. Relief cuts also make it easier to back the workpiece out once the saw blade has come to a stop, if needed.

NOTICE

The list below displays blade widths and the corresponding minimum radii for those blade widths.

Width	Min. Radius
1/8"	1/8"
3/16"	3/8"
1/4"	5/8"
3/8"	1 1/4"

Stacked Cuts

One of the benefits of a bandsaw is its ability to cut multiple copies of a particular shape by stacking a number of workpieces together. However, before making stacked cuts, ensure that the table is perpendicular (90°) to the blade—otherwise, any error in this setting will be compounded in the workpieces.

To complete a stacked cut, do these steps:

1. Align workpieces from top to bottom.
2. Secure all pieces together in a manner that will not interfere with cutting. Hot glue on the edges works well, as do brad nails through the waste portion. (Be careful not to cut into the brads or you may break the blade!)
3. Lay out shape you intend to cut on face of top piece.
4. Adjust upper blade guides not more than 1/4" above top workpiece surface.
5. Make relief cuts perpendicular to outline of your intended shape in areas where changes in blade direction could strain woodgrain or cause blade to bind.
6. Cut stack of pieces as though you were cutting a single piece. Follow your layout line with blade kerf on the waste side of your line (see **Figure 43** for an example of a stacked cut setup).

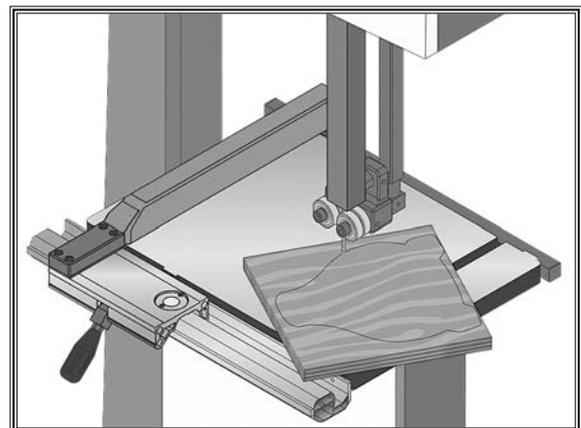


Figure 43. Example of a stacked cut setup.

OPERATIONS

ACCESSORIES

Bandsaw Accessories

The following bandsaw accessories may be available through your local Woodstock International Inc. Dealer. If you do not have a dealer in your area, these products are also available through online dealers. Please call or e-mail Woodstock International Inc. Customer Service to get a current listing of dealers at: 1-800-840-8420 or at sales@woodstockint.com.

The **D2675 Safety Glasses** feature a metal band across the top of these glasses is not only stylish, but it adds strength. This band is linked to the metal ear pieces through a tough hinge. These glasses have a wide field of view and side shields for added protection. Exceeds ANSI Z87.1-1989 standards for impact resistance.



The **D3304 Compact Super Heavy-Duty Workbench Leg System** features square-column steel legs with adjustable foot pads and rectangular steel cross braces for unparalleled strength and stability. Assembly is fast and simple with bolt-together construction. Braces are recessed for adding a 3/4" plywood shelf. Evenly distributed, each leg can bear a 1000lb load. Overall size without top is 32" H x 26" W x 26" D (table top and shelf not included).



The **D4091 7-Pc. Woodworking Kit** includes a 9" graduated steel square, 10 1/2" sliding bevel gauge, rectangular protractor, 10" divider with pencil holder and pencil, 12" double ended steel ruler, and double-ended scriber.

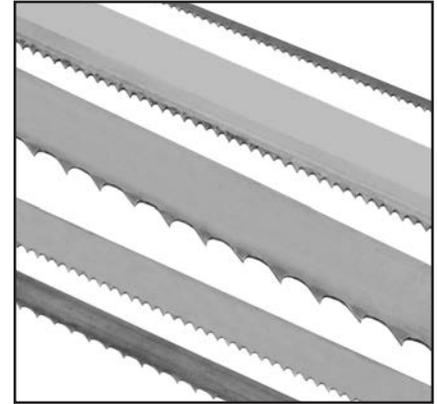


The **W1844 Wall-Mount Dust Collector with Canister Filter** combines the efficiency of a large surface area and a pleated filter with internal paddle brushes. Whenever efficiency is being diminished due to dust cake, just a couple of turns of the handle rotates the paddle brushes against the inside of the filter to drop the fine dust cake into the plastic collection bag. It's as easy as that!



62" Replacement Blades

Model	Width	TPI	Type	Gauge
D4949	1/4"	4	Claw	0.025
D4950	1/4"	6	Claw	0.025
D4951	1/14"	10	Raker	0.025
D4952	3/8"	4	Raker	0.025
D4953	3/8"	10	Raker	0.025
D4954	1/4"	6	Hook	0.025
D4955	3/8"	4	Hook	0.025



The **D4105 8" Digital Caliper** features stainless steel construction and an extra-large LCD readout. Accuracy: $\pm 0.001"$ / 0.02mm. Resolution: 0.0005" / 0.01mm. Includes SAE and metric with digital display and automatic shutoff.



The **W1876 6" Benchtop Jointer With Spiral-Style Cutterhead** is a lot of jointer in a small-package. It features a spiral-style cutterhead with carbide indexable inserts, knob-adjustable infeed table with lock for ultra-precision cutting depth adjustments, an inch and metric cut depth indicator, and an easy-to-adjust extruded-aluminum fence. You won't find a more feature-packed 6 in. benchtop jointer anywhere else.



MAINTENANCE

General

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

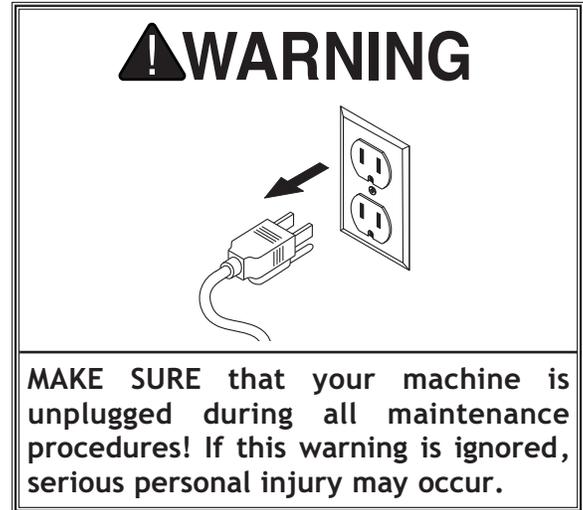
Ongoing

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

- Loose mounting bolts.
- Damaged saw blade.
- Worn or damaged wires.
- Any other unsafe condition.

Monthly Check

- V-belt tension, damage, or wear.
- Remove blade and thoroughly clean all built-up sawdust from the rubber tires on the wheels.
- Clean/vacuum dust buildup inside cabinet and off motor.



Cleaning & Lubricating

Cleaning the Model W1878 is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin dissolving cleaner to remove it. Once a month, remove the blade and thoroughly clean all built-up sawdust from the rubber tires on the wheels. If the table becomes difficult to tilt, lubricate the trunnion gear and the slide in the trunnion base.

Redressing Rubber Tires

As the bandsaw ages, the rubber tires on the wheels may need to be redressed if they harden or glaze over. Redressing the rubber tires improves blade tracking and reduces vibration/blade lead.

If the rubber tires become too worn, then blade tracking will become extremely difficult because wheel crown will lose their proper shape. At that point, redressing will no longer be effective and the rubber tires must be replaced.

To redress rubber tires, do these steps:

1. DISCONNECT MACHINE FROM POWER!

2. Put on heavy leather gloves.
3. Remove blade.
4. Clean any built-up sawdust from rubber tires.
5. Hold 100-grit sandpaper against the rubber tire and rotate wheel by hand. Only redress rubber enough to expose a fresh rubber surface.

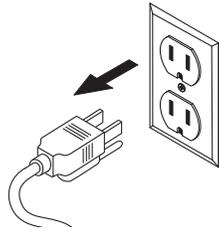
SERVICE

General

This section covers the most common service adjustments or procedures that may need to be made during the life of your machine.

If you require additional machine service not included in this section, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: techsupport@woodstockint.com.

! WARNING



MAKE SURE that your machine is unplugged during all service procedures! If this warning is ignored, serious personal injury may occur.

Checking/Adjusting Belt Tension

To ensure optimum power transmission from the motor to the blade, the belt must be in good condition and operate under proper tension.

Belt tension should be checked at least every month—more often if the bandsaw is used daily. If the belt shows signs of cracks, fraying, and excessive wear, replace it as instructed in **Replacing Belt** on **Page 43**.

Checking Belt Tension

1. DISCONNECT MACHINE FROM POWER!
2. Open lower wheel cover.
3. Check belt condition and deflection. The belt is properly tensioned if there is approximately 1/4" deflection. Deflection is checked by pushing belt with moderate pressure, as shown in **Figure 44**, and noting how much it moves.

– If the belt is not properly tensioned, perform the **Tensioning Belt** procedure.

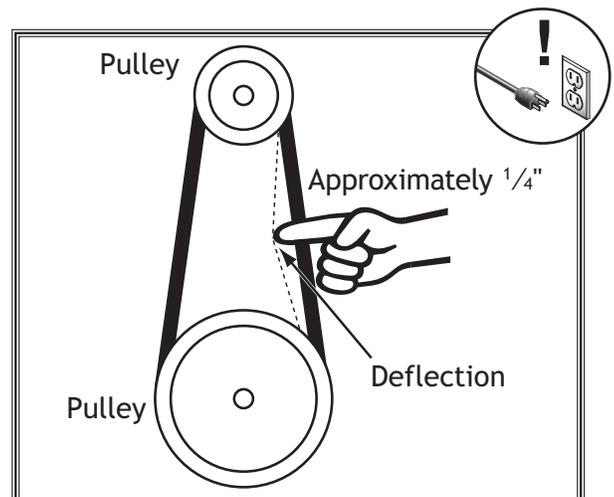


Figure 44. Checking belt tension.

Tensioning Belt

Tool Needed	Qty
Hex Wrench 6mm	1

To properly tension belt, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen motor mount cap screws shown in **Figure 45**.
3. Push motor to the right (as viewed from back of machine) until you feel moderate tension, then re-tighten both cap screws.
4. Check belt tension. If necessary, repeat **Steps 2-3** until there is approximately 1/4" deflection in the belt.
5. Close wheel cover.

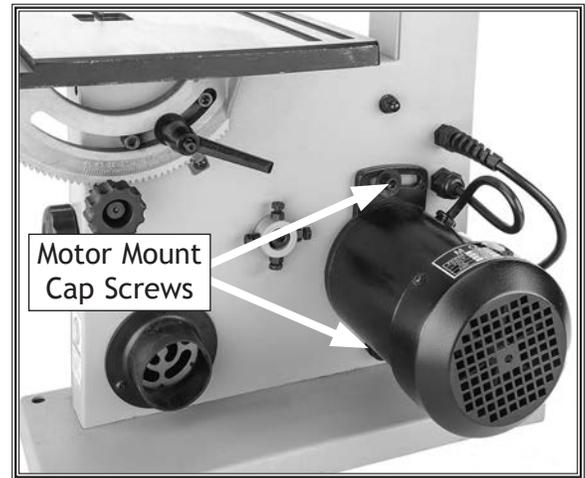


Figure 45. Location of motor mount cap screws used for adjusting belt tension.

Replacing Belt

To ensure optimum power transmission from the motor to the blade, the belt must be in good condition and be properly tensioned.

Replace the belt if it shows signs of cracking, fraying, and excessive wear.

Tools Needed	Qty
Hex Wrench 6mm	1
Retaining Ring Pliers	1
Replacement Belt (Part No. X1878048)	1

To replace belt, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Put on heavy leather gloves and remove blade from machine (refer to **Changing Blade** on **Page 35**).
3. Loosen motor mount cap screws (see **Figure 45** on **Page 42**).
4. Pivot motor to the left (as viewed from back of bandsaw) to release belt tension.
5. Open lower wheel cover and remove belt from motor pulley.
6. Remove external retaining ring from lower wheel shaft (see **Figure 46**) and remove lower wheel.

7. Install new belt on both pulleys, then re-install wheel and retaining ring.
8. Properly tension belt, as instructed in **Belt Tension** on **Page 42**.
9. Replace blade, properly track and tension it (see **Pages 19** and **24**), then adjust guide and support bearings.

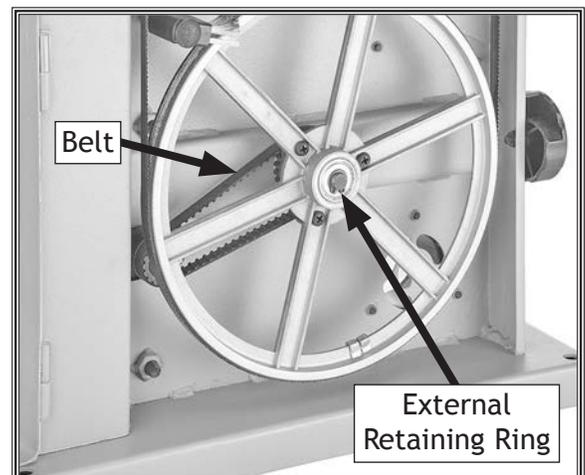


Figure 46. Belt change components inside lower wheel cover.

Wheel Alignment

Wheel alignment is important for optimal performance from your bandsaw. Wheels are properly aligned when they are parallel with each other and in the same plane or “coplanar” (see the illustration in the figure to the right).

When wheels are coplanar, the bandsaw is more likely to cut straight without wandering; and vibration, heat, and blade wear are considerably decreased because the blade is automatically balanced on the wheel.

Bringing the wheel into alignment may require a combination of shimming a wheel and adjusting the position of the lower wheel shaft.

Tools Needed	Qty
Straightedge 2'	1
Fine Ruler	1
Wrench Open-End 10mm.....	1

Checking Wheel Alignment

1. DISCONNECT MACHINE FROM POWER!
2. Remove table.

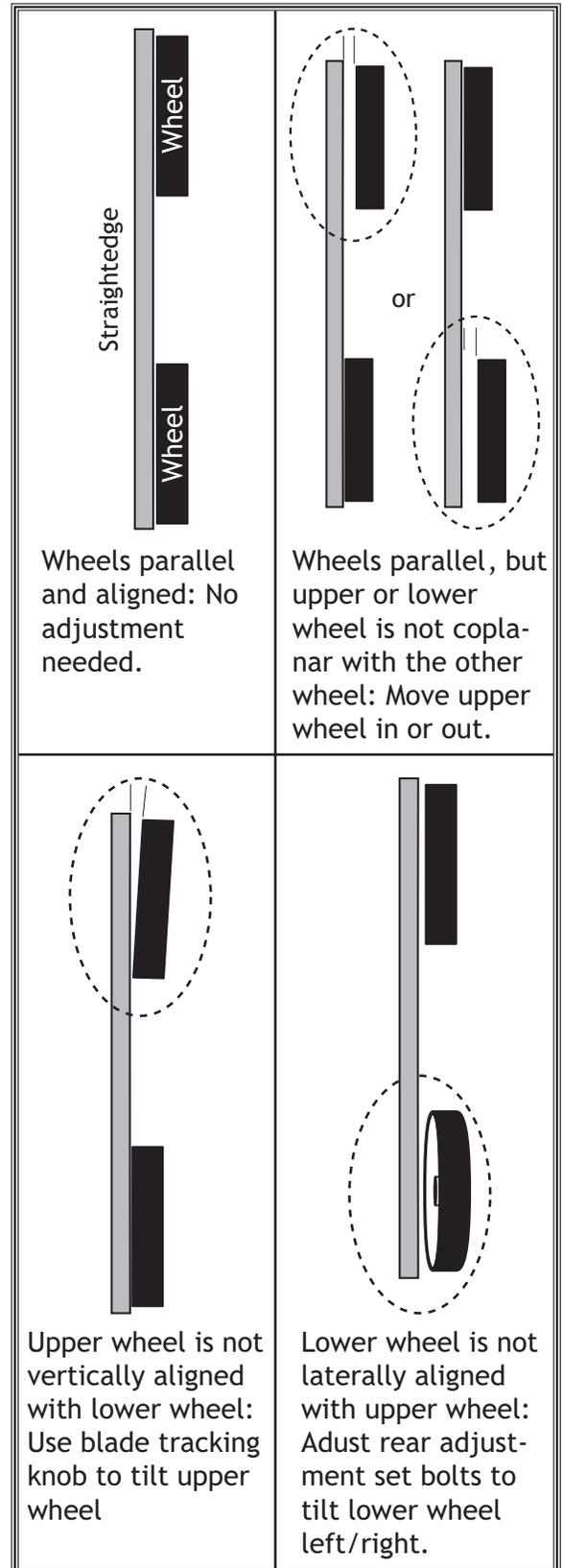


Figure 47. Wheel alignment illustration.

3. With blade on and properly tensioned, hold a straightedge close to center of both wheels. Make sure straightedge fully extends across the rims of both wheels, as shown in **Figure 48**.
4. Check wheel alignment, and adjust tracking knob to bring both wheels into alignment as much as possible. If wheels cannot be adjusted coplanar, use **Figure 47** to determine how to proceed with alignment adjustments.

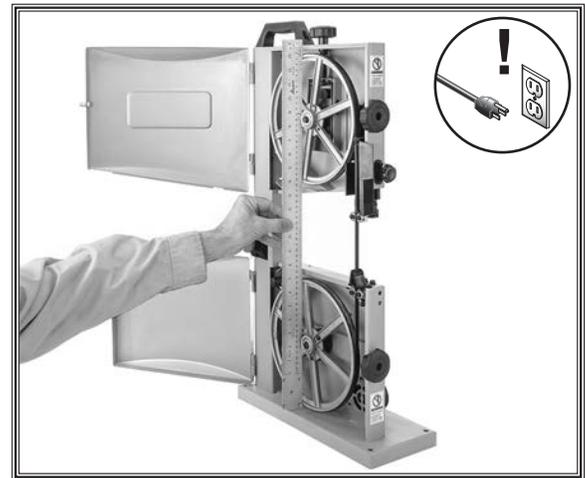


Figure 48. Example of checking if the wheels are coplanar.

Shimming a Wheel

A wheel that is parallel with the other wheel, but is not coplanar, must be shimmed by the distance that it is not in the same plane with the other wheel.

Tip: *Standard washers work well for shimming the wheel because they can easily be stacked to get the desired height.*

To shim a wheel, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Adjust upper wheel tracking so that it is parallel with lower wheel.
3. With straightedge touching both rims of wheel that does not need to be adjusted, measure the distance away from the other wheel with a fine ruler, as shown in **Figure 49**. The distance measured with the ruler is the distance this wheel must be shimmed.
4. Remove blade.
5. Remove wheel to be shimmed. Place as many shims as necessary to correct gap measured in **Step 3** onto wheel shaft.
6. Re-install wheel and secure it in place.
7. Re-install blade and properly tension it.

8. Perform previous **Checking Wheel Alignment** procedure. If necessary to make the wheels parallel, repeat this procedure.
9. The first time you get the wheels coplanar, place a mark on each wheel where you held the straightedge, then use this position again in the future if you need to repeat the procedure. This assures repeated accuracy every time you adjust the wheels.
10. Close wheel covers.

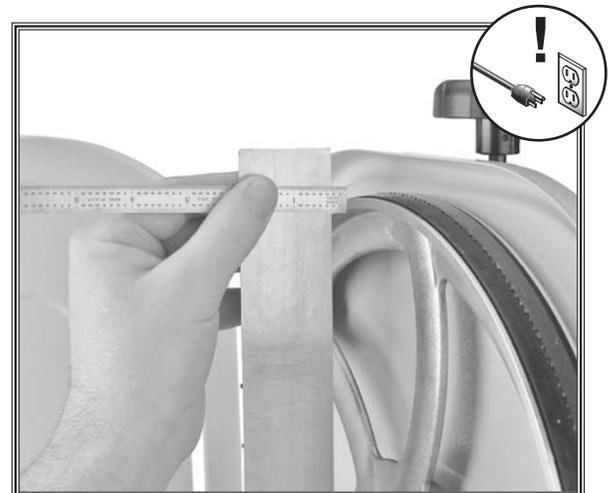


Figure 49. Example of measuring the distance to shim the wheel to be coplanar.

Adjusting Lower Wheel Shaft Position

If the lower wheel is tilted laterally (side to side), perform the following procedure to make it coplanar with the upper wheel.

There are four adjustment bolts with hex nuts in the lower wheel bracket, shown in **Figure 50**, that adjust the wheel tilt from side-to-side and up-and-down.

Note: *If you make a mistake during the following procedure, it can be very difficult to correct. Therefore, it is important to double check wheel alignment (see **Page 44**), and troubleshoot all other possible solutions (see **Troubleshooting on Page 48**) prior to adjusting the lower wheel shaft position.*

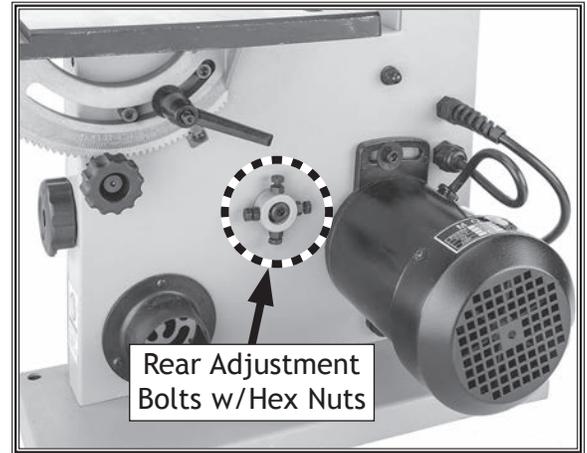


Figure 50. Location of rear lateral adjustment components.

Tools Needed	Qty
Wrench or Socket 10mm.....	1

To adjust lower wheel laterally, do these steps:

1. DISCONNECT MACHINE FROM POWER!
2. Remove fence and table from machine.
3. Use a straightedge to check wheels at A and B locations (see **Figure 51**). The wheels should align.
 - If the wheels do not align, they require lateral adjustment (see **Figure 52**); proceed to **Step 4**.

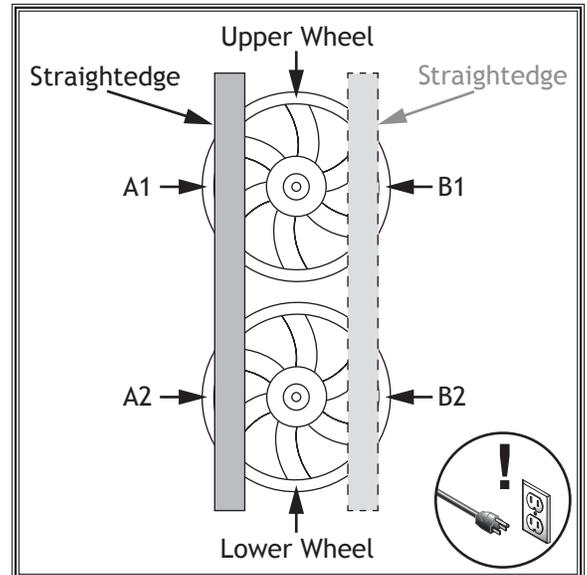


Figure 51. Example of using a straightedge to check lateral wheel alignment.

4. Mark upper and lower wheels with a pencil or marker to indicate measuring locations (see **Figure 51**).

Note: *Marking the wheels ensures more accurate results in case there are irregularities in the wheels.*

5. Using 10mm wrench, loosen hex nuts on rear left and right adjustment bolts (see **Figure 50** on **Page 46**).
6. Rotate left and right adjustment bolts until lower wheel is coplanar with upper wheel, see **Figure 52**.
7. Re-tighten hex nuts loosened in **Step 6**.

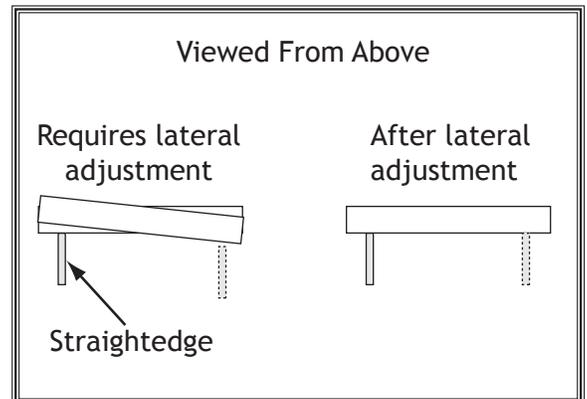


Figure 52. Before and after lateral wheel alignment (viewed from above).

Blade Lead

Bandsaw blades may wander off the cut line when sawing, as shown in **Figure 53**. This is called blade lead.

Blade lead is usually caused by too fast of a feed rate, a dull or abused blade, or improper blade tension. If your blade is sharp/undamaged, properly tensioned, and you still have blade lead, perform the following procedures.

Tools Needed	Qty
Hex Wrench 4mm	1
Clamps	2
Scrap Wood 17" x 3" x 3/4"	1

To correct blade lead, do these steps:

1. Make sure blade is properly tensioned and blade guides are adjusted correctly.
2. Use less pressure when feeding workpiece through cut.
3. Make sure miter slot and fence are parallel to blade line (see **Aligning Table** and **Aligning Fence** procedures for detailed information).
4. Perform test cut with bandsaw.
 - If there is still blade lead present, compensate for this condition by skewing the fence or shifting the table, as instructed in the following procedures.

To skew your fence, do these steps:

1. Cut a piece of scrap wood approximately 17" long x 3" wide x 3/4" thick. On wide face of board, draw a straight line parallel to long edge.
2. Slide bandsaw fence out of way and cut along the line halfway through the board. Turn bandsaw **OFF** and wait for blade to stop. Do not move board.
3. Clamp board to bandsaw table, then slide fence over to board so it barely touches one end of board.
4. Use a 4mm hex wrench to loosen two fence adjustment cap screws, skew fence so that it is parallel with scrap piece, then re-tighten cap screws.
5. Make a few cuts using fence.
 - If blade lead is still present, repeat **Steps 1-4** until blade and fence are parallel with each other.

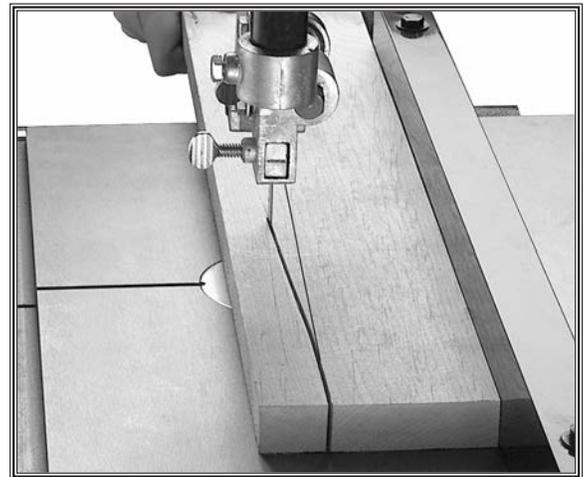


Figure 53. Example of blade lead.

Troubleshooting

The following troubleshooting tables cover common problems that may occur with this machine. If you need replacement parts or additional troubleshooting help, contact our Technical Support.

Note: Before contacting Tech Support, find the machine serial number and manufacture date, and if available, your original purchase receipt. This information is required to properly assist you.



Motor and Electrical

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Machine does not start, or power supply breaker trips immediately after startup.	<ol style="list-style-type: none"> 1. Switch disabling key removed. 2. Incorrect power supply voltage or circuit size. 3. Power supply circuit breaker tripped or fuse blown. 4. Motor wires connected incorrectly. 5. Centrifugal switch adjustment/contact points at fault. 6. Wiring broken, disconnected, or corroded. 7. ON/OFF switch at fault. 8. Motor or motor bearings at fault. 	<ol style="list-style-type: none"> 1. Install switch disabling key. 2. Ensure correct power supply voltage and circuit size (Page 11). 3. Ensure circuit is free of shorts. Reset circuit breaker or replace fuse. 4. Correct motor wiring connections (Page 52). 5. Adjust centrifugal switch/clean contact points. Replace either if at fault. 6. Fix broken wires or disconnected/corroded connections. 7. Replace switch. 8. Replace motor.
Machine stalls or is underpowered.	<ol style="list-style-type: none"> 1. Dull blade. 2. Workpiece material not suitable for machine. 3. Feed rate/cutting speed too fast. 4. Workpiece crooked; fence loose or misadjusted. 5. Machine undersized for task. 6. Blade slipping on wheels or not properly tensioned. 7. Belt slipping/pulleys misaligned. 8. Motor wired incorrectly. 9. Pulley slipping on shaft. 10. Motor overheated. 11. Run capacitor at fault. 12. Extension cord too long. 13. Centrifugal switch/contact points at fault. 14. Motor or motor bearings at fault. 	<ol style="list-style-type: none"> 1. Sharpen/replace blade (Page 35). 2. Only cut wood/ensure moisture is below 20%. 3. Decrease feed rate/cutting speed. 4. Straighten or replace workpiece/adjust fence. 5. Use correct blade/reduce feed rate or depth of cut. 6. Adjust blade tracking and tension (Page 24). 7. Clean/tension/replace belt (Pages 42-43); ensure pulleys are aligned. 8. Wire motor correctly (Page 52). 9. Tighten/replace loose pulley/shaft. 10. Clean motor, let cool, and reduce workload. 11. Test/repair/replace. 12. Move machine closer to power supply; use shorter extension cord. 13. Adjust centrifugal switch/clean contact points. Replace either if at fault. 14. Replace motor.
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> 1. Motor or component loose. 2. Blade weld at fault/teeth broken. 3. Belt worn, loose, or pulleys misaligned. 4. Pulley loose. 5. Incorrectly mounted to workbench. 6. Motor mount loose/broken. 7. Motor fan rubbing on fan cover. 8. Centrifugal switch. 9. Motor bearings at fault. 	<ol style="list-style-type: none"> 1. Replace damaged or missing bolts/nuts; tighten if loose. 2. Replace blade (Page 35). 3. Inspect/replace belt (Page 43); realign pulleys if necessary. 4. Secure pulley on shaft. 5. Adjust feet, shim, or tighten mounting hardware. 6. Tighten/replace. 7. Fix/replace fan cover; replace loose/damaged fan. 8. Replace. 9. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.

Operations

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Blade or teeth break/crack.	<ol style="list-style-type: none"> 1. Blade tension incorrect. 2. Blade incorrect for application. 3. Excessive feed rate/pressure. 4. Cutting corners too sharply. 5. Blade dull. 6. Blade tracking wrong. 7. Blade guides adjusted too far forward. 8. Blade guide height in wrong position. 9. Blade weld at fault. 10. Wheel tires worn or incorrectly installed. 11. Fence or miter slot out of alignment with blade. 12. Bad bearings on wheels or guide bearings. 	<ol style="list-style-type: none"> 1. Adjust blade tension (Page 24). 2. Use correct blade for application. 3. Reduce feed rate/pressure. 4. Use a wider arc on outside cuts, or use relief cuts to make tight inside cuts. 5. Replace blade (Page 35). 6. Adjust blade tracking (Page 19). 7. Adjust blade guides for correct blade support (Pages 26-27). 8. Adjust upper blade guide so blade is as close to workpiece as possible (Pages 26-27). 9. Replace blade (Page 35). 10. Replace or re-install tire. 11. Align table and fence with blade (Page 28). 12. Replace wheels and/or guide bearings.
Blade slows, smokes, shows overheating or wears on one side.	<ol style="list-style-type: none"> 1. Too much side pressure when feeding workpiece. 2. Blade contacting table insert. 3. Blade guides worn or misadjusted. 4. Blade has insufficient support. 5. Blade installed backwards or inside out. 6. Wheels out of alignment. 7. Dull or incorrect blade. 8. Blade is bell-mouthed. 9. Fence not parallel with blade. 	<ol style="list-style-type: none"> 1. Feed workpiece straight into blade. 2. Adjust blade guide bearings to eliminate excess side pressure (Pages 26-27). 3. Adjust blade guide bracket. 4. Adjust blade guides as close to workpiece as possible (Pages 26-27). 5. Check blade installation; make sure teeth face front of machine and point down in table throat. Re-install blade if necessary (Page 35). 6. Adjust wheels so they are coplanar (Page 44). 7. Replace blade (Page 35). 8. Replace blade (Page 35). 9. Adjust fence/miters slot with blade (Page 28).
Finished workpieces are rough or show scoring.	<ol style="list-style-type: none"> 1. Blade overloaded and twists while cutting. 2. Blade TPI too coarse. 3. Blade loose and fluttering. 4. Blade tracking incorrect. 5. Blade has missing or bent teeth. 6. Blade has a faulty weld. 	<ol style="list-style-type: none"> 1. Decrease feed rate. 2. Use correct blade for material and type of cut. 3. Increase blade tension as required (Page 24). 4. Adjust blade tracking (Page 19). 5. Replace blade (Page 35). 6. Replace blade (Page 35).
Table is hard to tilt.	<ol style="list-style-type: none"> 1. Table tilt lock lever tightened. 2. Sawdust or pitch trapped between trunnion and base. 3. Metal burrs on trunnion. 	<ol style="list-style-type: none"> 1. Loosen table tilt lock lever. 2. Remove sawdust or pitch. 3. Remove burrs.
Miter bar binds in miter slot.	<ol style="list-style-type: none"> 1. Miter slot dirty or gummed up. 2. Miter bar bent. 	<ol style="list-style-type: none"> 1. Carefully clean miter slot. 2. Replace.
Blade tracks incorrectly, or comes off wheels.	<ol style="list-style-type: none"> 1. Tracking is not adjusted properly. 2. Wheels are not coplanar. 3. Blade tension too loose. 4. Blade guides too tight against blade. 5. Feeding workpiece too fast. 6. Incorrect blade for bandsaw. 7. Blade is bell-mouthed, worn, or dull. 8. Wheel tire damaged or worn. 	<ol style="list-style-type: none"> 1. Adjust tracking (Page 19). 2. Adjust wheel coplanarity (Page 44). 3. Increase blade tension (Page 24). 4. Adjust blade guides (Pages 26-27). 5. Feed workpiece slower. 6. Install correct blade. 7. Install new blade (Page 35) and remove tension from blade when not in use. 8. Redress or replace wheel tires (Page 41).

Operations (Cont.)

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Cut is crooked or blade wanders (blade lead).	<ol style="list-style-type: none"> 1. Feeding pressure too high or cutting too fast. 2. Blade tension too loose. 3. Blade dull or damaged. 4. Inadequate blade support. 5. Blade too narrow for cut type. 6. Blade tracking incorrect. 7. Table loose. 8. Fence or miter slot out of alignment with blade. 9. Blade guides or support bearing incorrectly adjusted. 10. Tooth set uneven or teeth sharper on one side than the other. 11. Wrong blade TPI. 12. Blade is following grain of wood. 	<ol style="list-style-type: none"> 1. Adjust feed rate and cutting speed as required. 2. Increase blade tension (Page 24). 3. Replace blade (Page 35). 4. Adjust upper blade guide as close to workpiece as possible (Pages 26-27). 5. Use wider blade. 6. Adjust blade tracking (Page 19). 7. Tighten table trunnion mounting bolts or tilt lock lever. 8. Align table and fence with blade (Page 28). 9. Adjust blade guide bearings and support bearing for correct blade support (Pages 26-27). 10. Replace blade (Page 35). 11. Use a blade with fewer TPI (Page 33). 12. Increase blade tension (Page 24).
Blade dulls prematurely.	<ol style="list-style-type: none"> 1. Wrong blade TPI. 2. Improper feed pressure. 3. Blade is twisted. 4. Blade is slipping on wheel. 5. Guides hitting teeth. 	<ol style="list-style-type: none"> 1. Use blade with correct TPI (Page 33). 2. Use correct feed pressure. 3. Replace blade (Page 35). 4. Increase blade tension (Page 33). Clean wheel tire. 5. Adjust blade guide bearings and support bearing (Pages 26-27).
Backside of blade deformation/cracking.	<ol style="list-style-type: none"> 1. Feed pressure too high. 2. Blade tension too high. 3. Incorrect blade guide alignment. 4. Guides are worn. 5. Blade tracking too far back and hitting lip of wheels. 	<ol style="list-style-type: none"> 1. Reduce feed pressure. 2. Adjust blade tension (Page 24). 3. Correct blade guide alignment (Pages 26-27). 4. Replace guides. 5. Adjust tracking (Page 19).
Sawdust buildup inside cabinet.	<ol style="list-style-type: none"> 1. Clogged dust port. 	<ol style="list-style-type: none"> 1. Clean dust port.

Electrical Safety Instructions

These pages are current at the time of printing. However, in the spirit of improvement, we may make changes to the electrical systems of future machines. Compare the manufacture date of your machine to the one stated in this manual, and study this section carefully.

If there are differences between your machine and what is shown in this section, call Technical Support at (360) 734-3482 for assistance BEFORE making any changes to the wiring on your machine. An updated wiring diagram may be available. **Note:** Please gather the serial number and manufacture date of your machine before calling. This information can be found on the main machine label.

⚠ WARNING

SHOCK HAZARD. Working on wiring that is connected to a power source is extremely dangerous. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Disconnect the power from the machine before servicing electrical components!

QUALIFIED ELECTRICIAN. Due to the inherent hazards of electricity, only a qualified electrician should perform wiring tasks on this machine. If you are not a qualified electrician, get help from one before attempting any kind of wiring job.

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.

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.

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.

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.

CIRCUIT REQUIREMENTS. You MUST follow the requirements at the beginning of this manual when connecting your machine to a power source.

EXPERIENCING DIFFICULTIES. If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (360) 734-3482.

NOTICE

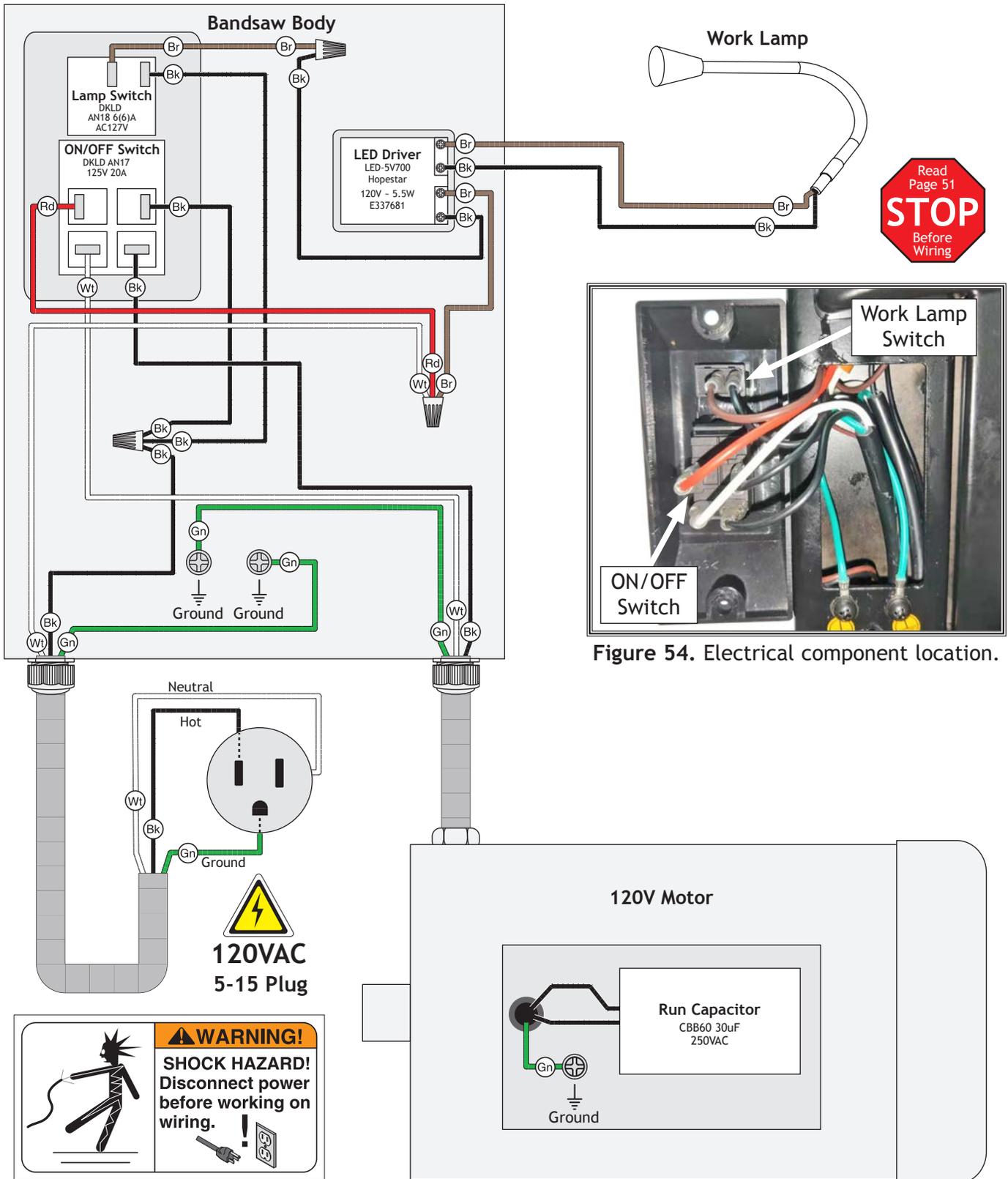
The photos and diagrams included in this section are best viewed in color. You can view these pages in color at www.shopfox.biz.

WIRING DIAGRAM COLOR KEY

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

SERVICE

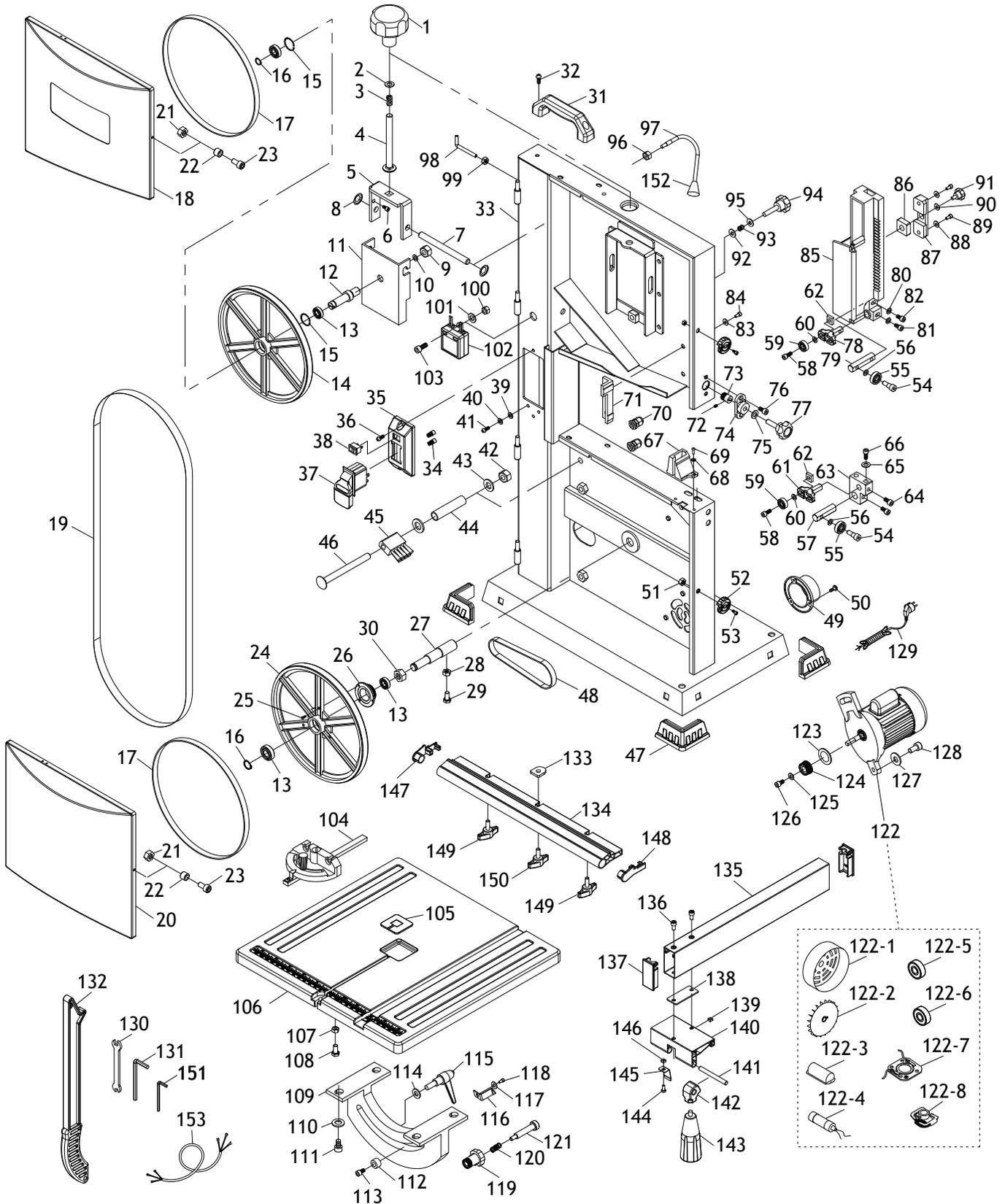
Wiring Diagram



SERVICE

PARTS

Main



Main Parts List

REF PART # DESCRIPTION

1	X1878001	KNOB M8-1.25 X 25, DIA 50, 5-LOBE
2	X1878002	FLAT WASHER 8MM
3	X1878003	COMPRESSION SPRING 2.5 X 14 X 64
4	X1878004	CARRIAGE BOLT M8-1.25 X 80
5	X1878005	WHEEL ADJUSTMENT BRACKET
6	X1878006	CAP SCREW M5-.8 X 8
7	X1878007	PIVOT SHAFT 8 X 90
8	X1878008	EXT RETAINING RING 8MM SELF-LOCKING
9	X1878009	HEX NUT M10-1.5
10	X1878010	LOCK WASHER 10MM
11	X1878011	WHEEL MOUNT PLATE
12	X1878012	WHEEL SHAFT (UPPER)
13	X1878013	BALL BEARING 6000ZZ
14	X1878014	WHEEL 9"
15	X1878015	INT RETAINING RING 26MM
16	X1878016	EXT RETAINING RING 10MM
17	X1878017	TIRE 9"
18	X1878018	WHEEL COVER (UPPER)
19	X1878019	BLADE 62" X 3/8" X 0.025" 10 TPI RAKER
20	X1878020	WHEEL COVER (LOWER)
21	X1878021	LOCK NUT M6-1
22	X1878022	BUSHING
23	X1878023	CAP SCREW M6-1 X 16
24	X1878024	LOWER WHEEL
25	X1878025	TAP SCREW M5 X 14
26	X1878026	WHEEL PULLEY
27	X1878027	WHEEL SHAFT (LOWER)
28	X1878028	HEX NUT M6-1
29	X1878029	HEX BOLT M6-1 X 16
30	X1878030	LOCK NUT M12-1.75
31	X1878031	LIFTING HANDLE
32	X1878032	PHLP HD SCR M6-1 X 10
33	X1878033	FRAME
34	X1878034	WIRE CONNECTOR
35	X1878035	SWITCH MOUNTING PLATE
36	X1878036	PHLP HD SCR M5-.8 X 10
37	X1878037	PADDLE SWITCH W/KEY DKLD AN17 20A 125V
38	X1878038	ROCKER SWITCH DKLD AN-18 AC127V 6A
39	X1878039	LOCK WASHER 5MM
40	X1878040	EXT TOOTH WASHER 5MM
41	X1878041	PHLP HD SCR M5-.8 X 10
42	X1878042	HEX NUT M8-1.25
43	X1878043	FLAT WASHER 8MM
44	X1878044	SPACER
45	X1878045	WHEEL BRUSH
46	X1878046	CARRIAGE BOLT M8-1.25 X 65
47	X1878047	RUBBER FOOT
48	X1878048	TIMING BELT 130XL
49	X1878049	DUST PORT 2"
50	X1878050	PHLP HD SCR M5-.8 X 8

REF PART # DESCRIPTION

51	X1878051	LOCK NUT M6-1
52	X1878052	DOOR LOCK CAM KNOB
53	X1878053	CAP SCREW M6-1 X 16
54	X1878054	BEARING RETAINER SCREW M5-.8 X 15
55	X1878055	BALL BEARING 606ZZ
56	X1878056	FLAT WASHER 5MM
57	X1878057	LOWER GUIDE ROD
58	X1878058	CAP SCREW M5-.8 X 14
59	X1878059	BALL BEARING 605ZZ
60	X1878060	FLAT WASHER 5MM
61	X1878061	LOWER GUIDE
62	X1878062	SQUARE NUT M5-.8
63	X1878063	LOWER GUIDE BLOCK
64	X1878064	CAP SCREW M5-.8 X 12
65	X1878065	FLAT WASHER 6MM
66	X1878066	CAP SCREW M6-1 X 10
67	X1878067	LOWER BLADE COVER
68	X1878068	FLAT WASHER 4MM
69	X1878069	PHLP HD SCR M4-.7 X 10
70	X1878070	STRAIN RELIEF M16-2 TYPE-3
71	X1878071	GUIDE PLATE
72	X1878072	SET SCREW M4-.7 X 6
73	X1878073	PINION
74	X1878074	ADJUSTMENT KNOB SEAT
75	X1878075	FLAT WASHER 6MM
76	X1878076	CAP SCREW M5-.8 X 10
77	X1878077	KNOB W/SHAFT 6 X 22, DIA 32, 6-LOBE
78	X1878078	UPPER GUIDE
79	X1878079	UPPER GUIDE ROD
80	X1878080	FLAT WASHER 5MM
81	X1878081	CAP SCREW M5-.8 X 12
82	X1878082	CAP SCREW M5-.8 X 16
83	X1878083	FLAT WASHER 5MM
84	X1878084	CAP SCREW M5-.8 X 10
85	X1878085	UPPER BLADE COVER ASSEMBLY
86	X1878086	SQUARE NUT M8-1.25
87	X1878087	UPPER GUIDE BLOCK
88	X1878088	FLAT WASHER 5MM
89	X1878089	CAP SCREW M5-.8 X 10
90	X1878090	FLAT WASHER 8MM
91	X1878091	KNOB BOLT M8-1.25 X 14, DIA 32, 6-LOBE
92	X1878092	FLAT WASHER 8MM
93	X1878093	COMPRESSION SPRING 1 X 13 X 18
94	X1878094	KNOB BOLT M8-1.25 X 35, DIA 32, 6-LOBE
95	X1878095	FLAT WASHER 8MM
96	X1878096	HEX NUT M10-1.5
97	X1878097	WORK LAMP ASSEMBLY
98	X1878098	STORAGE HOOK M6-1
99	X1878099	HEX NUT M6-1
100	X1878100	HEX NUT M4-.7

Main Parts List (Cont.)

REF	PART #	DESCRIPTION
101	X1878101	FLAT WASHER 4MM
102	X1878102	LED DRIVER HOPESTAR LED-5V700 120V 5.5W
103	X1878103	CAP SCREW M4-.7 X 12
104	X1878104	MITER GAUGE ASSEMBLY
105	X1878105	TABLE INSERT
106	X1878106	TABLE
107	X1878107	HEX NUT M6-1
108	X1878108	HEX BOLT M6-1 X 22
109	X1878109	TRUNNION
110	X1878110	FLAT WASHER 8MM
111	X1878111	CAP SCREW M8-1.25 X 14
112	X1878112	GUIDE BUSHING
113	X1878113	CAP SCREW M6-1 X 12
114	X1878114	FLAT WASHER 8MM
115	X1878115	ADJUSTABLE HANDLE M8-1.25 X 25
116	X1878116	TABLE TILT INDICATOR
117	X1878117	FLAT WASHER 5MM
118	X1878118	PHLP HD SCR M5-.8 X 10
119	X1878119	GEARED KNOB 12T, 12L X 40D
120	X1878120	COMPRESSION SPRING 0.7 X 9.8 X 25
121	X1878121	SHOULDER SCREW M5-.8 X 10, 8 X 39
122	X1878122	MOTOR 1/3 HP 120V 1-PH
122-1	X1878122-1	MOTOR FAN COVER
122-2	X1878122-2	MOTOR FAN
122-3	X1878122-3	CAPACITOR COVER
122-4	X1878122-4	R CAPACITOR 30M 250V 1-1/2 X 2
122-5	X1878122-5	BALL BEARING 6201ZZ (REAR)
122-6	X1878122-6	BALL BEARING 6202ZZ (FRONT)
122-7	X1878122-7	CONTACT PLATE
122-8	X1878122-8	CENTRIFUGAL SWITCH
123	X1878123	GASKET

REF	PART #	DESCRIPTION
124	X1878124	MOTOR PULLEY
125	X1878125	FENDER WASHER 5MM
126	X1878126	CAP SCREW M5-.8 X 12
127	X1878127	FLAT WASHER 8MM
128	X1878128	CAP SCREW M8-1.25 X 25
129	X1878129	POWER CORD 18G 3W 72" 5-15P
130	X1878130	WRENCH 8 X 10MM OPEN-ENDS
131	X1878131	HEX WRENCH 6MM
132	X1878132	PUSH STICK
133	X1878133	"D" NUT M6-1
134	X1878134	GUIDE RAIL
135	X1878135	FENCE BODY
136	X1878136	CAP SCREW M5-.8 X 8
137	X1878137	END CAP 25 X 52
138	X1878138	SPACER PLATE
139	X1878139	SQUARE NUT M5-.8
140	X1878140	FENCE BASE
141	X1878141	SHAFT 8 X 77
142	X1878142	FENCE HANDLE LOCKING CAM
143	X1878143	FENCE HANDLE M6-1 X 10
144	X1878144	PHLP HD SCR M5-.8 X 6
145	X1878145	SPRING PLATE
146	X1878146	SQUARE NUT M5-.8
147	X1878147	GUIDE RAIL CAP (LEFT)
148	X1878148	GUIDE RAIL CAP (RIGHT)
149	X1878149	FENCE RAIL KNOB M6-1 X 16
150	X1878150	FENCE RAIL KNOB M6-1 X 24
151	X1878151	HEX WRENCH 4MM
152	X1878152	BULB LED 5.5W 2V PUSH-IN
153	X1878153	MOTOR CORD 18G 3W 12"

Labels & Cosmetics



202
W1878



207

**MODEL W1878
9" BENCHTOP BANDSAW**

Specifications

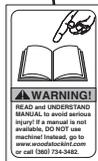
Model: 18 BP, 120V, 60 Hz
Full-Load Current Rating: 2.8A
Blade Speed: 2460 FPM
Standard Blade Length: 62"
Blade Length Range: 61-131 1/2" - 63-3 1/2"
Blade Width Range: 1 1/2" - 3 1/8"
Max. Cutting Width Left of Blade: 8-7/8"
Max. Cutting Height: 3-5/8"
Table Size: 12" x 12"
Table Tilt: 0°, 45°
Weight: 42 lbs.

WARNING!

To reduce risk of serious injury when using this machine:

1. Read and understand owner's manual before operating.
2. Never touch moving blade—keep hands out of blade path.
3. Always wear approved eye protection and respirator.
4. Only plug power cord into a grounded outlet.
5. Only remove cutoff pieces when blade is stopped.
6. Use push stick or holding jig to cut small or narrow pieces.
7. Disconnect power before changing blades or adjusting saw.
8. Maintain adjustment of blade tension, tracking, & guides.
9. Keep upper guide adjusted to just clear the workpiece.
10. Hold workpiece firmly against table to maintain control.
11. Only run saw with wheel covers closed and all guards in place.
12. Never reach under table while blade is in motion.
13. Securely remove loose clothing and long hair.
14. DO NOT expose to rain or use in wet locations.
15. Prevent unauthorized use by children or untrained users; restrict access or disable machine when unattended.

READ AND UNDERSTAND MANUAL to avoid serious injury. If manual is not available, DO NOT use machine. Instead, go to www.woodstockint.com or call (360) 734-3482.



209



REF	PART #	DESCRIPTION
201	X1878201	SHOP FOX LOGO LABEL
202	X1878202	MODEL NUMBER LABEL
203	X1878203	DISCONNECT POWER LABEL
204	X1878204	ELECTRICITY LABEL
205	X1878205	DO NOT OPEN DOOR LABEL

REF	PART #	DESCRIPTION
206	X1878206	READ MANUAL LABEL
207	X1878207	MACHINE ID LABEL
208	X1878208	GLASSES/RESPIRATOR LABEL
209	X1878209	TOUCH-UP PAINT, SHOP FOX WHITE

!WARNING

Safety labels warn about machine hazards and how to prevent serious personal injury. The owner of this machine **MUST** maintain the original location and readability of all labels on this machine. If any label is removed or becomes unreadable, **REPLACE** that label before allowing machine to be operated again. Contact us at (360) 734-3482 or www.woodstockint.com to order new labels.

WARRANTY

Woodstock International, Inc. warrants all Shop Fox machinery to be free of defects from workmanship and materials for a period of two years from the date of original purchase by the original owner. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, lack of maintenance, or reimbursement of third party expenses incurred.

Woodstock International, Inc. will repair, replace, or arrange for a dealer refund, at its expense and option, the Shop Fox machine or machine part proven to be defective for its designed and intended use, provided that the original owner returns the product prepaid to an authorized warranty or repair facility as designated by our Bellingham, Washington office with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

This is Woodstock International, Inc.'s sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant that Shop Fox machinery complies with the provisions of any law, acts or electrical codes. We do not reimburse for third party repairs. In no event shall Woodstock International, Inc.'s liability under this limited warranty exceed the purchase price paid for the product, and any legal actions brought against Woodstock International, Inc. shall be tried in the State of Washington, County of Whatcom. We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of our products.

Every effort has been made to ensure that all Shop Fox machinery meets high quality and durability standards. We are committed to continuously improving the quality of our products, and reserve the right to change specifications at any time.

To register the warranty, go to <https://www.woodstockint.com/warranty>, or scan the QR code below. You will be directed to the Warranty Registration page on www.woodstockint.com. Enter all applicable production information.





High Quality Machines and Tools

Woodstock International, Inc. carries thousands of products designed to meet the needs of today's woodworkers and metalworkers.

Ask your dealer about these fine products:

BROSMAN
PRECISION STOP BLOCK

JOINTER PAL[®]

Rotacator[®]

STEELEX[®]
FINE TOOLS

PLANER PAL[®]

THE REBEL[®]

PRO-STIK[®]
ABRASIVE BELT & DISC CLEANER

BOARD BUDDIES[®]

WOODSTOCK
SHOP FOX[®]
INTERNATIONAL

STEELEX[®]
PLUS

SLICKPLANE[®]

Aluma-Classic[®]

ACCU-SHARP[®]

ROMAN
CARBIDE[®]

PARROT VISE[®]

WHOLESALE ONLY

WOODSTOCK INTERNATIONAL, INC.

Phone: (360) 734-3482 • Fax: (360) 671-3053 • Toll Free Fax: (800) 647-8801

P.O.Box 2309 • Bellingham, WA 98227

SHOPFOX.BIZ