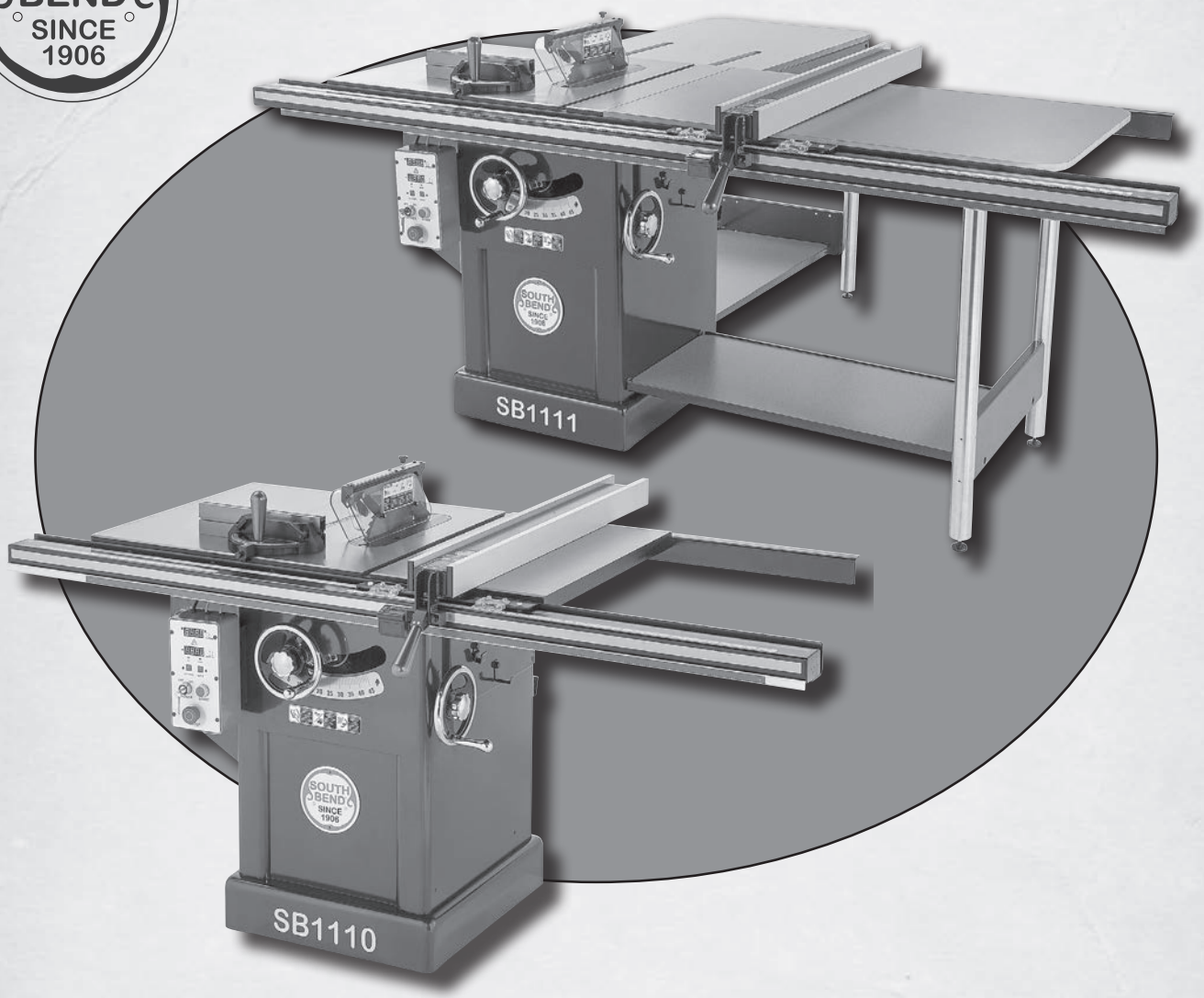
10" 3HP 220V TABLE SAW

MODEL SB1110/SB1111



OWNER'S MANUAL

South Bend Tools®

A Tradition of Excellence

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175370

For Machines Mfd. Since 08/21 (V2.08.21)

Scope of Manual

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

Manual Feedback

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

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

South Bend Tools
c/o Technical Documentation Manager
P.O. Box 2027
Bellingham, WA 98227
Email: manuals@southbendtools.com

Updates

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

www.southbendtools.com

Customer Service

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

South Bend Tools
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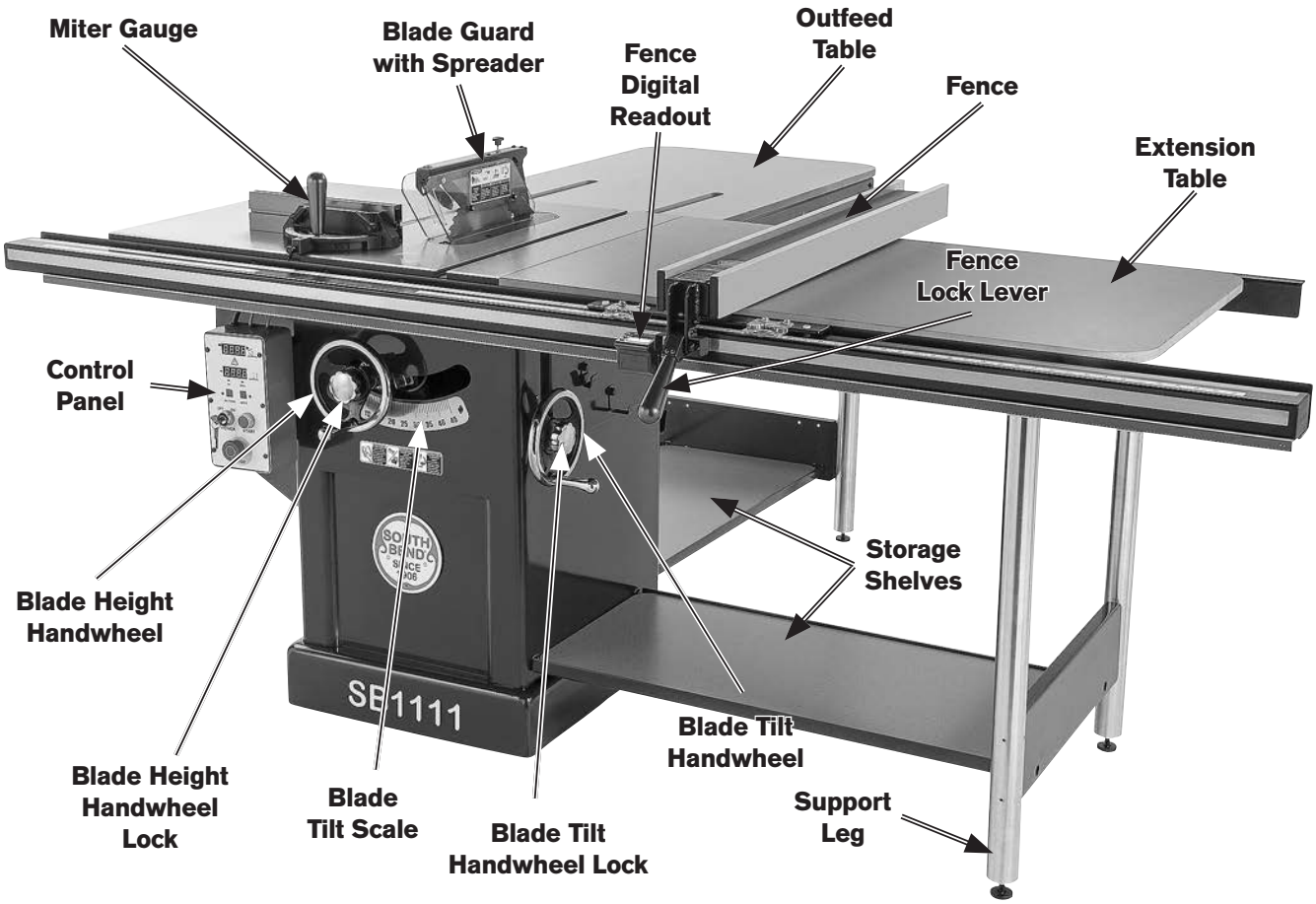
Identification



⚠WARNING

For Your Own Safety Read Instruction Manual Before Operating Saw

a) Wear eye protection.
b) Use saw-blade guard and spreader for every operation for which it can be used, including all through sawing.
c) Keep hands out of the line of saw blade.
d) Use a push-stick when required.
e) Pay particular attention to instructions on reducing risk of kickback.
f) Do not perform any operation freehand.
g) Never reach around or over saw blade.

Description of Controls & Components

Refer to **Figures 1–4** and the following descriptions to become familiar with the basic controls and components used to operate this machine.

Control Panel

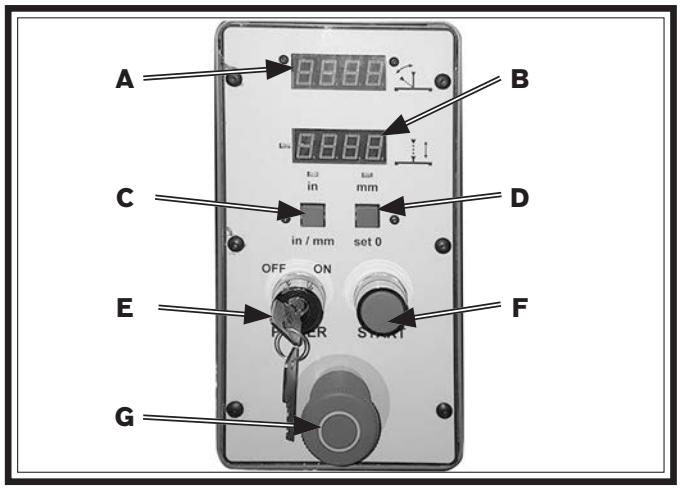


Figure 1. Control panel.

A. Blade Tilt Adjustment Readout: Displays current blade tilt setting.

B. Blade Height Adjustment Readout: Displays cut depth setting.

C. Readout in/mm Button: Sets readout to display in millimeters or inches.

D. Readout set 0 Button: Press and hold button for 3–5 seconds to reset tilt readout to 0°.

E. Keyed Power Switch: Turns power to control panel ***ON/OFF***.

F. Start Button: Turns power to motor ***ON***.

G. Emergency Stop Button: Stops motor when pressed. Turn button clockwise to reset.

Fence Digital Readout

Figure 2. Fence digital readout.

H. MM/IN Toggle: Switches display between millimeters and inches.

I. ABS/INC Toggle: Switches readout between absolute and incremental modes.

J. ON/OFF/CAL Toggle: Press and release for ON/OFF, long press (2–3 seconds) to enter calibration mode.

Adjustment Controls

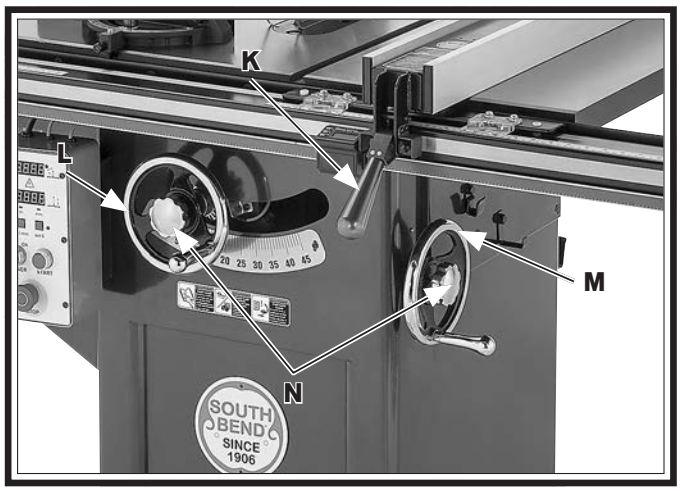


Figure 3. Adjustment controls.

K. Fence Lock Lever: Locks fence in place to prevent movement during cutting operations.

L. Blade Height Handwheel: Raises and lowers blade from 0"– 3⅛".

M. Blade Tilt Handwheel: Adjusts blade tilt from 0° – 45°.

N. Handwheel Lock Knobs: Lock blade adjustment handwheels in place.

Table Components

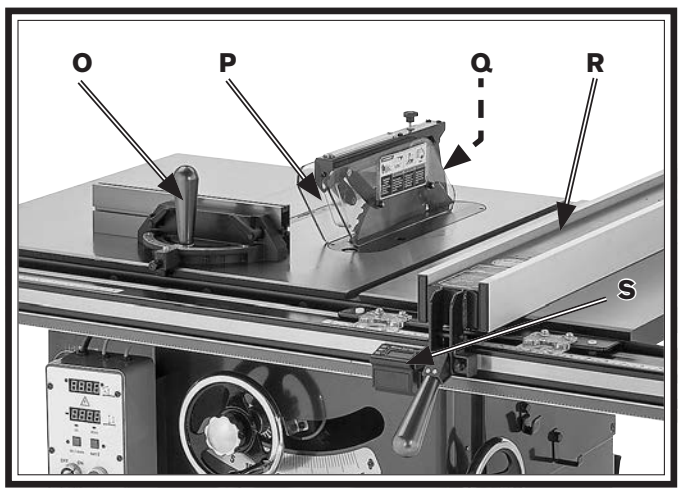


Figure 4. Table components.

O. Miter Gauge: Supports workpiece during crosscut or angle cutting operations.

P. Blade Guard: Covers blade to reduce risk of operator contact with blade.

Q. Spreader: Keeps cut portion of workpiece from pinching blade to reduce risk of binding or kickback.

R. Fence: Guides workpiece as it moves into blade.

S. Fence Digital Readout: Displays current position of fence in relation to blade or pre-set position.

Product Specifications

P.O. Box 2027, Bellingham, WA 98227 U.S.A.
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www.southbendtools.com

Model SB1110
10" 3 HP 220V Table Saw

Product Dimensions

Weight..... 479 lbs.
Width (side-to-side) x Depth (front-to-back) x Height..... 75 x 47 x 43-1/2 in.
Footprint (Length x Width)..... 23-1/2 x 21-1/2 in.

Shipping Dimensions

Carton #1

Type..... Wood Crate
Content..... Machine
Weight..... 497 lbs.
Length x Width x Height..... 38 x 30 x 46 in.
Must Ship Upright..... Yes

Carton #2

Type..... Cardboard Box / Wood Crate
Content..... Rails
Weight..... 86 lbs.
Length x Width x Height..... 80 x 8 x 9 in.
Must Ship Upright..... Yes

Carton #3

Type..... Cardboard Box
Content..... Fence
Weight..... 24 lbs.
Length x Width x Height..... 44 x 18 x 8-1/2 in.

Electrical

Power Requirement..... 220V, Single-Phase, 60 Hz
Full-Load Current Rating..... 13A
Minimum Circuit Size..... 20A
Connection Type..... Cord & Plug
Power Cord Included..... Yes
Power Cord Length..... 120 in.
Power Cord Gauge..... 12 AWG
Plug Included..... Yes
Included Plug Type..... 6-20
Switch Type..... Magnetic Switch w/Overload Protection

Motors

Main

Horsepower	3 HP
Phase	Single-Phase
Amps	13A
Speed	3450 RPM
Type	TEFC Capacitor-Start Induction
Power Transfer	Belt
Bearings	Sealed & Permanently Lubricated
Centrifugal Switch/Contacts Type	External

Main Specifications

Main Information

Table Saw Type	Cabinet
Maximum Blade Diameter	10 in.
Arbor Size	5/8 in.
Arbor Speed	4000 RPM
Maximum Width of Dado	3/4 in.
Blade Tilt Direction	Left
Max Blade Tilt	45 deg.
Maximum Depth of Cut At 90 Degrees	3-1/8 in.
Maximum Depth of Cut At 45 Degrees	2-1/8 in.
Max Rip Right of Blade w/Included Fence & Rails	36 in.
Max Rip Left of Blade w/Included Fence & Rails	18 in.

Additional Blade Information

Included Blade Information	10" x 40T
Riving Knife/Spreader Thickness	0.098 in. (2.5mm)
Required Blade Body Thickness	0.091 in. (2.3mm)
Required Blade Kerf Thickness	Minimum 0.106 in. (2.7mm)
Rim Speed at Max Blade Diameter	10,500 FPM

Table Information

Floor to Table Height	35-3/4 in.
Table Size with Extension Wings Width	45-1/4 in.
Table Size with Extension Wings Depth	27 in.
Distance Front of Table to Center of Blade	14-7/8 in.
Distance Front of Table to Blade At Maximum Cut	10-5/16 in.
Main Table Size Thickness	1-1/2 in.

Fence Information

Fence Type	Camlock T-Shape w/Aluminum Face
Fence Size Length	40-1/4 in.
Fence Size Width	4-1/4 in.
Fence Size Height	2-5/8 in.
Fence Rail Type	Square Steel Tubing/Angle Iron
Fence Rail Length	75 in.
Fence Rail Width	3 in.
Fence Rail Height	2 in.

Miter Gauge Information

Miter Gauge Slot Type	T-Slot
Miter Gauge Slot Size Width	3/4 in.
Miter Gauge Slot Size Height	3/8 in.

Construction

Table	Precision-Ground Cast Iron
Wings	Precision-Ground Cast Iron
Cabinet	Pre-Formed Steel
Trunnions	Cast Iron
Fence Assembly	Steel w/Aluminum Face
Rails	Steel
Miter Gauge Construction	Aluminum w/Steel Rail
Guard	Steel and Clear Polycarbonate
Body/Cabinet Paint Type/Finish	Powder Coated
Arbor Bearings	Sealed & Permanently Lubricated

Other Related Information

Number of Dust Ports	1
Dust Port Size	4 in.
Compatible Mobile Base	T28000

Other

Country of Origin	Taiwan
Warranty	2 Years
Approximate Assembly & Setup Time	2 Hours
Serial Number Location	ID Label
Sound Rating	84 - 86 dB
ISO 9001 Factory	Yes
Certified by a Nationally Recognized Testing Laboratory (NRTL)	Yes

Features

Quick-Release Blade Guard and Spreader
Hinged Motor Cover
4" Dust Port
Large Cast-Iron Handwheels
Smooth and Quiet Poly-V Belt Drive
Precision-Ground Cast Iron Table with Beveled Edge
One-Piece Steel Cabinet
Magnetic Safety Switch Protects Motor and Operator
Angled Dust Chute in Cabinet for Efficient Dust Collection and Cleaning
Two Miter Slots in Table
Two Digital Readouts on Control Panel Show Blade Height and Tilt
Digital Readout on Fence Provides Precise Distance from Blade
Anodized Handles on Miter Gauge and Rip Fence

SOUTH BEND SINCE 1906

Product Specifications

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SOUTH BEND SINCE 1906

Model SB1111
10" 3HP 220V Table Saw With Extension Rails

Product Dimensions

Weight..... 611 lbs.
Width (side-to-side) x Depth (front-to-back) x Height..... 91-1/2 x 73 x 43-1/2 in.
Footprint (Length x Width)..... 24 x 22 in.

Shipping Dimensions

Carton #1

Type..... Wood Crate
Content..... Machine & Extension Tables
Weight..... 675 lbs.
Length x Width x Height..... 50 x 30 x 52 in.

Carton #2

Type..... Cardboard Box / Wood Crate
Content..... Rails
Weight..... 93 lbs.
Length x Width x Height..... 96 x 8 x 9 in.

Carton #3

Type..... Cardboard Box
Content..... Fence
Weight..... 24 lbs.
Length x Width x Height..... 44 x 18 x 9 in.

Electrical

Power Requirement..... 220V, Single-Phase, 60 Hz
Full-Load Current Rating..... 13A
Minimum Circuit Size..... 20A
Connection Type..... Cord & Plug
Power Cord Included..... Yes
Power Cord Length..... 120 in.
Power Cord Gauge..... 12 AWG
Plug Included..... Yes
Included Plug Type..... 6-20
Switch Type..... Magnetic Switch w/Overload Protection

Motors

Main

Horsepower..... 3 HP
Phase..... Single-Phase
Amps..... 13A
Speed..... 3450 RPM
Type..... TEFC Capacitor Start-Induction
Power Transfer ..... Belt
Bearings..... Sealed & Permanently Lubricated
Centrifugal Switch/Contacts Type..... External

Main Specifications

Main Information

Table Saw Type	Cabinet
Maximum Blade Diameter	10 in.
Arbor Size	5/8 in.
Arbor Speed	4000 RPM
Maximum Width of Dado	3/4 in.
Blade Tilt Direction	Left
Max Blade Tilt	45 deg.
Maximum Depth of Cut At 90 Degrees	3-1/8 in.
Maximum Depth of Cut At 45 Degrees	2-1/8 in.
Max Rip Right of Blade w/Included Fence & Rails	52 in.
Max Rip Left of Blade w/Included Fence & Rails	18 in.

Additional Blade Information

Included Blade Information	10" x 40T
Riving Knife/Spreader Thickness	0.098 in. (2.5mm)
Required Blade Body Thickness	0.091 in. (2.3mm)
Required Blade Kerf Thickness	Minimum 0.106 in. (2.7mm)
Rim Speed at Max Blade Diameter	10,500 FPM

Table Information

Floor to Table Height	35-3/4 in.
Table Size with Extension Wings Width	76 in.
Table Size with Extension Wings Depth	27 in.
Distance Front of Table to Center of Blade	14-7/8 in.
Distance Front of Table to Blade At Maximum Cut	10-5/16 in.
Main Table Size Thickness	1-1/2 in.

Fence Information

Fence Type	Camlock T-Shape w/Aluminum Face
Fence Size Length	40-1/4 in.
Fence Size Width	4-1/4 in.
Fence Size Height	2-5/8 in.
Fence Rail Type	Square Steel Tubing/Angle Iron
Fence Rail Length	91-1/2 in.
Fence Rail Width	3 in.
Fence Rail Height	2 in.

Miter Gauge Information

Miter Gauge Slot Type	T-Slot
Miter Gauge Slot Size Width	3/4 in.
Miter Gauge Slot Size Height	3/8 in.

Construction

Table	Precision-Ground Cast Iron
Wings	Precision-Ground Cast Iron
Cabinet	Pre-Formed Steel
Trunnions	Cast Iron
Fence Assembly	Steel w/Aluminum Face
Rails	Steel
Miter Gauge Construction	Aluminum w/Steel Rail
Guard	Steel and Clear Polycarbonate
Body/Cabinet Paint Type/Finish	Powder Coated
Arbor Bearings	Sealed & Permanently Lubricated

Other Related Information

Number of Dust Ports..... 1
Dust Port Size..... 4 in.

Other

Country of Origin ..... Taiwan
Warranty ..... 2 Years
Approximate Assembly & Setup Time ..... 2 Hours
Serial Number Location ..... ID Label
Sound Rating ..... 84 - 86 dB
ISO 9001 Factory ..... Yes
Certified by a Nationally Recognized Testing Laboratory (NRTL) ..... Yes

Features

Outfeed and Extension Tables with Storage Shelves
Quick-Release Blade Guard and Spreader
Hinged Motor Cover
4" Dust Port
Large Cast-Iron Handwheels
Smooth and Quiet Poly-V Belt Drive
Precision-Ground Cast Iron Table with Beveled Edge
One-Piece Steel Cabinet
Magnetic Safety Switch Protects Motor and Operator
Angled Dust Chute in Cabinet for Efficient Dust Collection and Cleaning
Two Miter Slots in Table
Two Digital Readouts on Control Panel Show Blade Height and Tilt
Digital Readout on Fence Provides Precise Distance from Blade
Anodized Handles on Miter Gauge and Rip Fence

Glossary of Terms

The following is a list of common definitions, terms and phrases used throughout this manual as they relate to this table saw and woodworking in general. Become familiar with these terms for assembling, adjusting or operating this machine.

Arbor: A metal shaft extending from the drive mechanism which the blade is attached to.

Bevel Edge Cut: A cut made with the blade tilted to an angle between 0° and 45° to cut a beveled edge onto a workpiece. Refer to **Page 48** for more details.

Blade Guard Assembly: Metal or plastic safety device that mounts over the saw blade. Its function is to prevent the operator from coming into contact with the saw blade. Refer to **Page 39** for more details.

Crosscut: Cutting operation in which the cut is made perpendicular to the grain of wood. Refer to **Page 47** for more details.

Dado Blade: Blade or set of blades that are used to cut grooves and rabbets. This saw and arbor are not intended to safely use a dado blade larger than ¾" wide as specified on **Page 6.**

Dado Cut: Cutting operation that uses a dado blade to cut a flat bottomed groove into the face of the workpiece. Refer to **Page 48** for more details.

Featherboard: Safety device used to keep the workpiece against the rip fence and against the table surface. Refer to **Page 56** for more details.

Kerf: The resulting cut or gap in the workpiece after the saw blade passes through during a cutting operation.

Kickback: An event in which the workpiece is propelled back towards the operator, usually at a very high rate of speed.

Non-Through Cut: A cut in which the blade does not cut through the top of the workpiece. Refer to **Page 35** for more details.

Parallel: Being an equal distance apart at every point along two given lines or planes (i.e. the rip fence face is parallel to the face of the saw blade).

Perpendicular: Lines or planes that intersect and form right angles (i.e. the blade is perpendicular to the table surface).

Push Stick: Safety device used to push the workpiece through a cutting operation. Used most often when rip cutting thin workpieces. Refer to **Page 59** for more details.

Rabbet: Cutting operation that creates an L-shaped channel along the edge of the workpiece. Refer to **Page 51** for more details.

Rip Cut: Cutting operation in which the cut is made parallel to the grain of the wood. Refer to **Page 46** for more details.

Riving Knife: Similar to the spreader however, the top of the riving knife is slightly lower than the top of the blade which allows non-through cuts.

Spreader/Splitter: Metal plate located behind the blade that keeps the cut workpiece from pinching the blade to reduce the possibility of kickback. Spreaders will typically have anti-kickback pawls attached.

Straightedge: A tool used to check the flatness, parallelism, or consistency of a surface.

Thin Kerf Blade: A blade with a kerf or thickness that is thinner than a standard blade. Thin kerf blades cannot be used on this saw without using a thin-kerf riving knife.

Through Cut: A cut in which the blade cuts completely through the workpiece. Refer to **Page 35** for more details.

Understanding Risks of Machinery

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

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

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

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

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

Basic Machine Safety

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Additional Table Saw Safety

⚠WARNING

Serious cuts, amputation, or death can occur from contact with rotating saw blade during operation. Workpieces, broken blades, or flying particles thrown by blade can blind or strike operators or bystanders with deadly force. To reduce the risk of these hazards, operator and bystanders MUST completely heed the hazards and warnings below.

Hand & Body Positioning: Keep hands away from saw blade and out of blade path during operation, so they cannot accidentally slip into blade. Only operate at front of machine and always stand to side of blade path. Never reach behind or over blade, or under blade guard when blade is spinning.

Blade Guard: The blade guard protects operator from rotating saw blade. Make sure blade guard is installed, adjusted correctly, and used for all possible "through cuts." Promptly repair or replace if damaged. Re-install immediately after operations that require its removal.

Riving Knife: Use riving knife for all "non-through cuts." Make sure it is aligned and positioned correctly. Promptly repair or replace it if damaged.

Kickback: Kickback occurs when saw blade ejects workpiece back toward operator. Know how to reduce risk of kickback, and learn how to protect yourself if it does occur.

Feeding Workpiece: Feeding workpiece incorrectly increases risk of kickback. Always allow blade to reach full speed before cutting, feed workpiece from front of saw, making sure workpiece is flat against table and a fence, miter gauge, or other guide is used to feed workpiece in a straight line. Feed cuts through to completion. Never start saw with workpiece touching blade or pull workpiece from behind blade. Never back workpiece out of cut, move it sideways, or perform a "freehand" operation. Never plunge cut.

Push Sticks/Push Blocks: To reduce risk of accidental blade contact, use push sticks/push blocks whenever possible. In event of an accident, these will often take damage that would have occurred to hands/fingers.

Changing Blades: Accidental startup while changing saw blade can result in serious injury. To reduce risk of accidental blade contact, always disconnect power before changing blades.

Fence: To reduce risk of kickback, make sure fence remains properly adjusted and parallel with blade. Always lock fence before using. Do not use fence while using miter gauge. Make sure fence is not touching blade when saw is started.

Cut-Off Pieces: To avoid risk of injury due to blade contact, turn saw ***OFF*** and allow blade to completely stop before removing cut-off pieces near blade or trapped between blade and table insert. Only use push sticks to move cut-off pieces away from blade while saw is running. Never use your hands.

Blade Adjustments: Adjusting blade height or tilt during operation increases risk of crashing blade and sending metal fragments flying with deadly force at operator or bystanders. Only adjust blade height and tilt when blade is completely stopped and saw is ***OFF***. Make sure blade is not touching guard, spreader, or workpiece when saw is started.

Damaged Saw Blades: Damaged saw blade teeth can become deadly projectiles. Never use blades that have been dropped or damaged.

Dado And Rabbet Operations: Dado and rabbeting operations are "non-through" cuts and require special attention since they must be performed with blade guard removed, which increases risk of blade contact. DO NOT attempt dado or rabbeting operations without first reading these sections in this manual.

Cutting Correct Material: Cutting metal, glass, stone, tile, etc., increases risk of operator injury due to kickback or flying particles. Only cut natural and man-made wood products, laminate-covered wood products, and some plastics. Never cut materials not intended for this saw.

Preventing Kickback

Here are several ways to avoid the most common causes of kickback:

- Only cut workpieces with at least one smooth and straight edge. DO NOT cut warped, cupped or twisted wood.
- Never attempt freehand cuts. If the workpiece is not fed parallel with the blade, kickback will likely occur. Always use the rip fence or miter gauge to guide the workpiece.
- Make sure the spreader or riving knife is aligned with the blade and secured tightly. A misaligned spreader or riving knife can cause the workpiece to catch or bind, increasing the chance of kickback.
- Take the time to check and adjust the rip fence parallel with the blade; otherwise, the chances of kickback are extreme.
- The spreader or riving knife maintains the kerf in the workpiece, reducing the chance of kickback. Always use the riving knife for all non-through operations, unless a dado blade is installed. Always use the spreader with the blade guard for all through cuts.
- Feed cuts through to completion. Anytime you stop feeding a workpiece in the middle of a cut, the chance of kickback is greatly increased.
- Keep the blade guard installed and in good working order. Only remove it when performing non-through cuts and immediately re-install the blade guard when finished. Remember, always use the riving knife for all non-through operations, unless a dado blade is installed.
- Make multiple, shallow passes when performing a non-through cut. Making a deep non-through cut will greatly increase the chance of kickback.
- Never move the workpiece backwards or try to back it out of a cut while the blade is moving. If you cannot complete a cut for some reason, stop the saw motor and allow the blade to completely stop before backing the workpiece out. Promptly fix the condition that prevented you from completing the cut before starting the saw again.

Protecting Yourself From Kickback

Even if you know how to prevent kickback, it may still happen. Here are some ways to protect yourself if kickback DOES occur:

- Stand to the side of the blade during every cut. If kickback does occur, the thrown workpiece usually travels directly in front of the blade.
- Wear safety glasses or a face shield. In the event of kickback, your eyes and face are the most vulnerable part of your body.
- Never, for any reason, place your hand behind the blade or under blade guard. Should kickback occur, your hand could be pulled into the blade, which could cause amputation.
- Use a push stick to keep your hands farther away from the moving blade. If kickback occurs, the push stick will most likely take the damage your hand would have received.
- Use featherboards or anti-kickback devices to assist with feeding and prevent or slow down kickback.

⚠CAUTION

Statistics show that most common accidents among table saw users can be linked to kickback. Kickback is typically defined as the high-speed expulsion of stock from the table saw toward its operator. In addition to the danger of the operator or others in the area being struck by the flying stock, it is often the case that the operator's hands are pulled into the blade during kickback.

Preparation Overview

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

The typical preparation process is as follows:

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

⚠WARNING

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

Required for Setup

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

For Lifting

- A forklift or other power lifting device rated for the weight of the machine.

For Power Connection

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

For Assembly

- Additional Person For Lifting
- Safety Glasses For Each Person
- Cotton Rags
- Mineral Spirits
- Oil Can With Any General Machine Oil
- Arbor Wrenches x2 (Included)
- Hex Wrenches (Included)
- Screwdriver (Included)
- Open-End Wrenches (Included)
- Disposable gloves
- Precision Level 12"
- Straightedge 6'
- Masking Tape
- Razor Blade
- Adjustable Square
- Felt Tipped Marker
- Metal Shim Stock
- Dust Hose 4"
- Hose Clamps 4" (2)
- Dust Collection System
- Hex Wrench 2.5mm
- Scrap Wood 2" x 4" x 27"
- Clamps
- AAA Batteries (2)

Power Supply Requirements

Availability

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

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

⚠WARNING

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

Full-Load Current Rating

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

Full-Load Rating at 220V ..... 13 Amps

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

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

⚠WARNING

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

Circuit Requirements

This machine is prewired to operate on a 220V power supply circuit that has a verified ground and meets the following requirements:

Nominal Voltage 220V, 230V, 240V
Cycle ..... 60 Hz
Phase ..... Single-Phase
Circuit Rating..... 20 Amps
Plug/Receptacle (included) ..... NEMA 6-20

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

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

Grounding Requirements

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

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug (similar to the figure below). The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances.

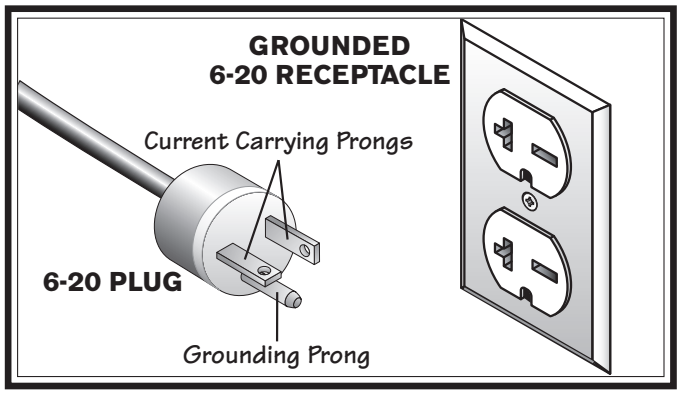
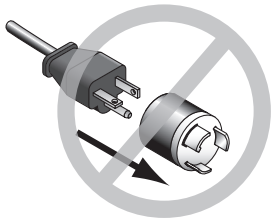


Figure 5. NEMA 6-20 plug and receptacle.

⚠CAUTION



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

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

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

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

Extension Cords

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

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

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

Minimum Gauge Size.....12 AWG
Maximum Length (Shorter is Better) ....50 ft.

Unpacking

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

Inventory

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

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

Common Inventory (Figures 6–8)	**Qty**
A. Table Saw Unit (Not Shown)	1
B. Miter Gauge	1
C. Blade Guard Assembly	1
D. Fence Storage Brackets	2
E. Keys	2
F. Push Stick	1
G. Hex Wrench Set 3–6mm	1
H. Riving Knife	1
I. Handwheel Handles	2
J. Arbor Wrenches	2
K. Open-End Wrenches	
8/10mm	1
11/13mm	1
14/17mm	1
L. Phillips Head Screwdriver #2	1
M. Zero Clearance Standard Insert	1
N. Zero Clearance Dado Insert	1
O. Saw Blade 10" x 40T	1
P. Fence	1
Q. Fence Lock Lever	1
R. Fence Digital Readout	1

NOTICE

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

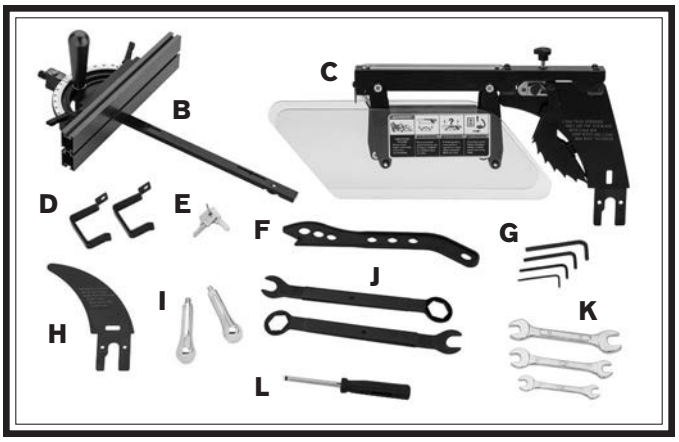


Figure 6. Tools and accessories.

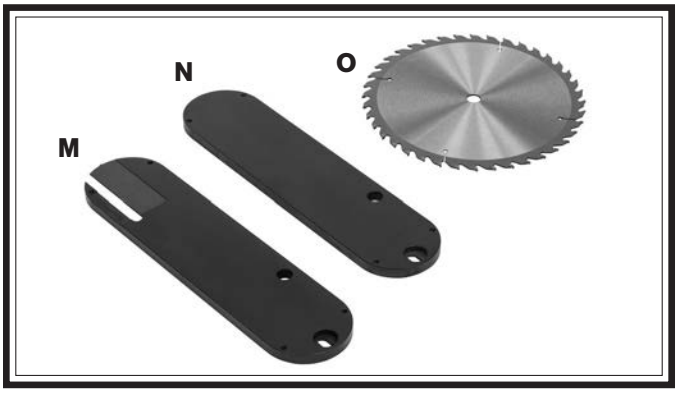


Figure 7. Blade and inserts.

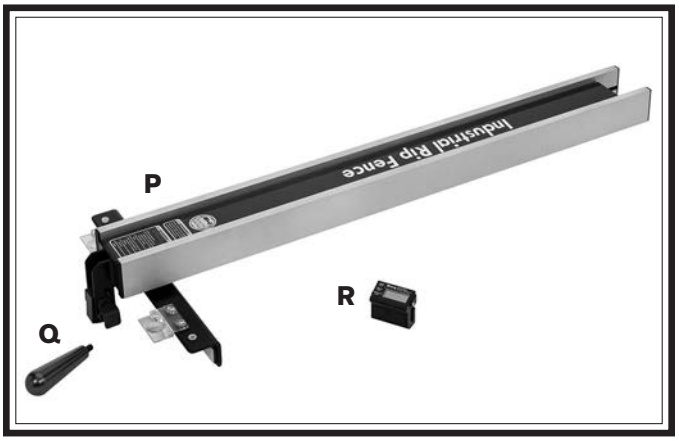


Figure 8. Fence components.

Common Hardware (Not Shown)	**Qty**
Flat Head Cap Screws M8-1.25 x 25 (Front Fence Rail)	6
Hex Nuts M8-1.25 (Front & Rear Fence Rail)	4
Cap Screws M8-1.25 x 25 (Rear Fence Rail)	6
Lock Washers 8mm (Front & Rear Fence Rail)	10
Flat Washers 8mm (Rear Fence Rail)	6
Flange Bolts M8-1.25 x 12 (Fence Storage Bracket)	2

Additional Inventory

SB1110 Extension Wing & Fence Rails (Figures 9–10) **Qty**

- **A.** Extension Wing 1
- **B.** Fence Tube 75" 1
- **C.** Front Rail 75" 1
- **D.** Rear Rail 62½" 1

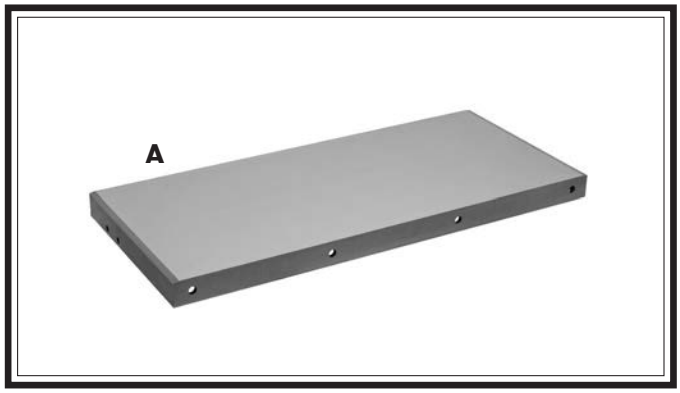


Figure 9. Extension Table.

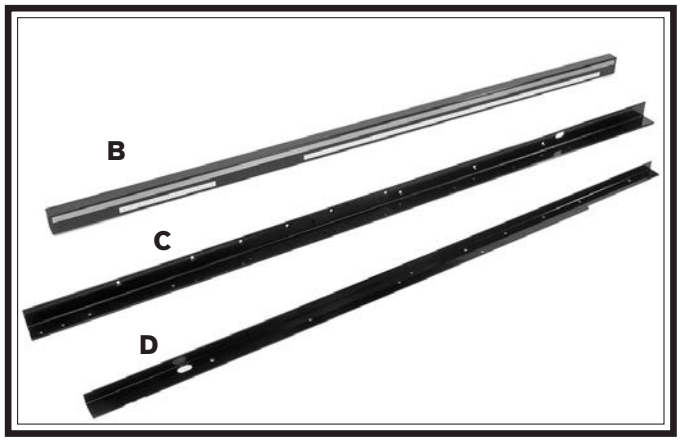


Figure 10. SB1110 Fence rail components.

SB1110 Hardware (Not Shown) **Qty**

- Hex Bolts M8-1.25 X 25 (Extension Wing) 4
- Lock Washers 8mm (Extension Wing) 4
- Flange Bolts M8-1.25 x 12 (Fence Tube to Fence Rail) 7

SB1111 Fence Rails (Figure 11) **Qty**

- **A.** Fence Tube 91⅛" 1
- **B.** Front Rail 91⅜" 1
- **C.** Rear Rail 79" 1

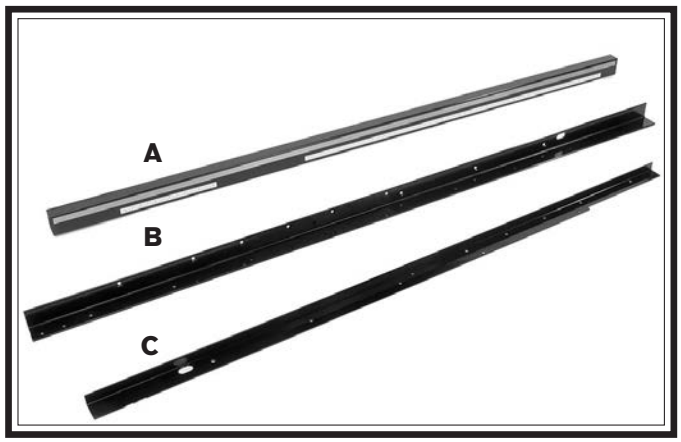


Figure 11. SB1111 Fence rail components.

SB1111 Extension Table Assembly (Figure 12) **Qty**

- **A.** Lower Shelf Brackets 2
- **B.** Support Legs 2
- **C.** Extension Table 1
- **D.** Lower Shelf 1
- **E.** Shelf End Plate 1

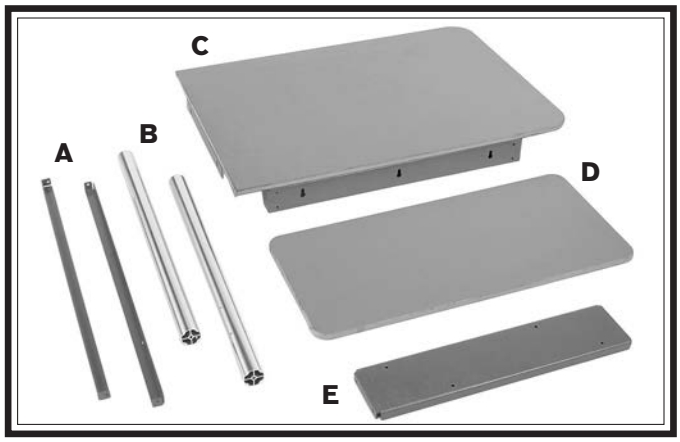


Figure 12. Extension table components.

Hardware (Not Shown): **Qty**

- Cap Screws M8-1.25 x 25 (Rear Rail/Cabinet/Ext. Table) 8
- Flat Head Cap Screws M8-1.25 x 25 (Front Rail/Table/Ext. Table/Mounting Plates) 10
- Flat Washers 8mm (Front Rail/Ext. Table/Rear Rail) 14
- Hex Nuts M8-1.25 (Front Rail/Ext. Table/Rear Rail) 8
- Lock Washers 8mm (Front Rail/Ext. Table/Rear Rail) 10
- Hex Bolts M8-1.25 x 12 (Mounting Plates) 2
- Fender Washers 8mm (Mounting Plates) 2
- Mounting Plates 2
- Hex Bolts M6-1 x 12 (Shelf Brackets) 2
- Hex Nuts M6-1 (Shelf Brackets) 2
- Feet ⅜"-16 x 2 (Legs) 2
- Hex Nuts ⅜"-16 (Legs) 2
- Phillip Head Screws M6-1 x 12 (Legs/End Plate) 14
- Flat Washers 6mm (Legs/Shelf Brackets) 16
- Flange Bolts M8-1.25 x 12 (Tube/Front Rail) 9

SB1111 Outfeed Table Assembly (Figure 13) **Qty**

- **A.** Outfeed Table Front Bracket 1
- **B.** Lower Shelf Brackets 2
- **C.** Support Legs 2
- **D.** Outfeed Table 1
- **E.** Lower Shelf 1
- **F.** Shelf End Plate 1

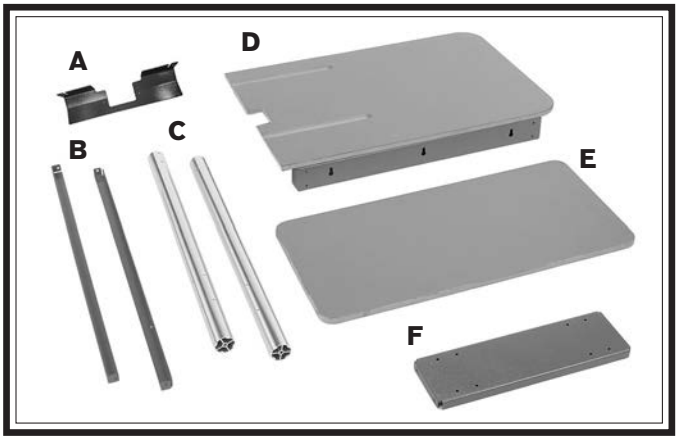


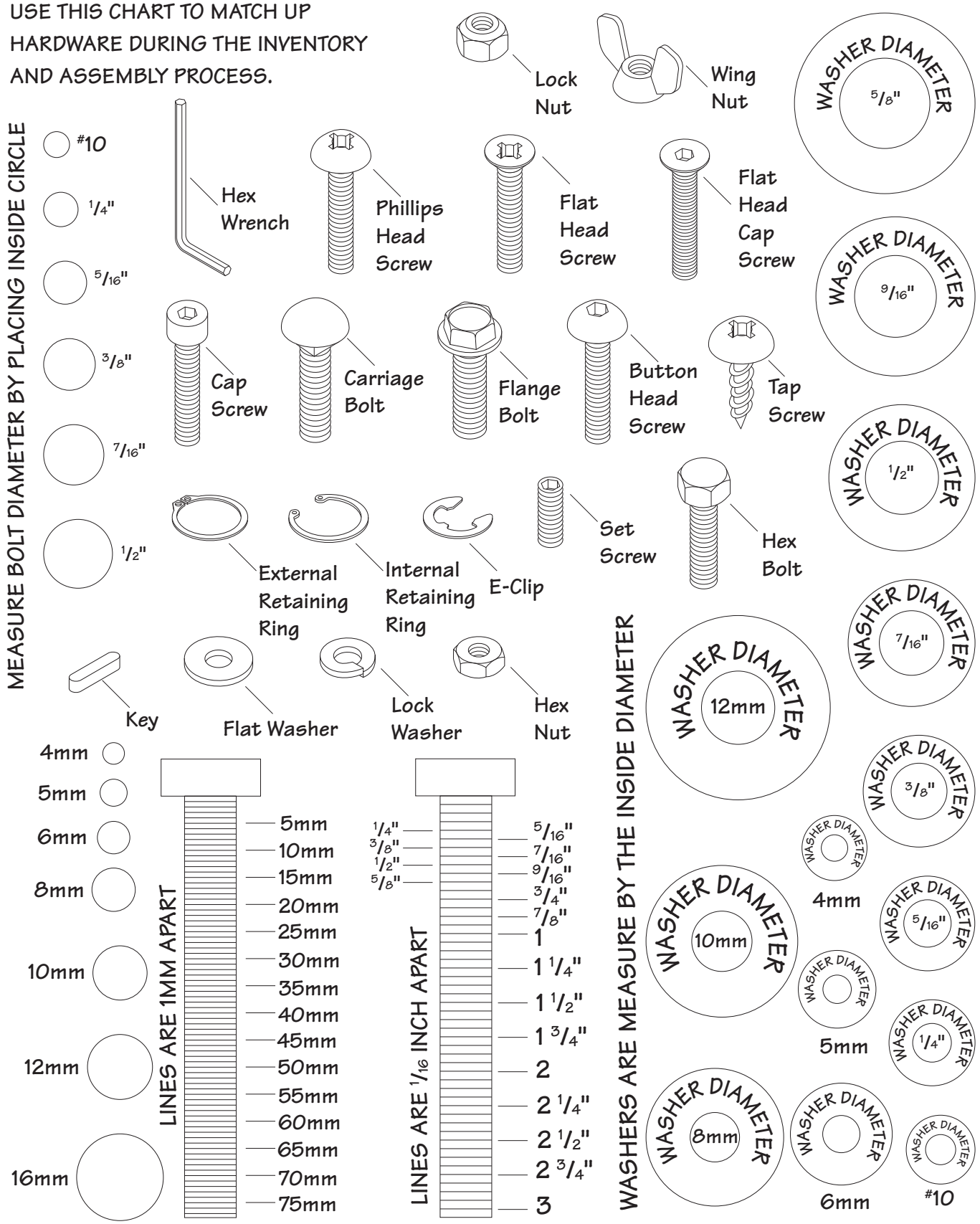
Figure 13. Outfeed table components.

Hardware (Not Shown): **Qty**

- Flange Bolts M8-1.25 x 16 (Rear Rail/Outfeed Table) 2
- Hex Nuts M8-1.25 (Rear Rail/Outfeed Table) 2
- Hex Bolts M6-1 x 12 (Shelf Brackets) 2
- Hex Nuts M6-1 (Bracket/End Plate) 2
- Flat Washers 6mm (Outfeed Table/Legs/Shelf Brackets) 16
- Phillips Head Screws M6-1 x 12 (Outfeed Table/Legs/Shelf Brackets) 14
- Feet ⅜"-16 x 2 (Legs) 2
- Hex Nuts ⅜"-16 (Legs) 2
- Tap Screws M4 x 16 (Outfeed Table Front Bracket) 8

Hardware Recognition Chart

USE THIS CHART TO MATCH UP HARDWARE DURING THE INVENTORY AND ASSEMBLY PROCESS.



Cleaning & Protecting

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

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

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

Before cleaning, gather the following:

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

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

⚠WARNING

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

⚠CAUTION

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

NOTICE

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

Basic steps for removing rust preventative:

1. Put on safety glasses and disposable gloves.

2. Coat all surfaces that have rust preventative with a liberal amount of your cleaner or degreaser and let them soak for a few minutes.

3. Wipe off the surfaces. If your cleaner or degreaser is effective, the rust preventative will wipe off easily.

   Note: *To clean off thick coats of rust preventative on flat surfaces, such as beds or tables, use a PLASTIC paint scraper to scrape off the majority of the coating before wiping it off with your rag. (Do not use a metal scraper or it may scratch the surface.)*

4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant or light oil to prevent rust.

T23692—Orange Power Degreaser

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

Figure 14. T23692 Orange Power Degreaser.

Location

Physical Environment

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

Electrical Installation

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

Lighting

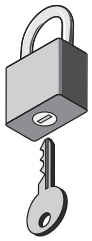
Lighting around the machine must be adequate enough to perform operations safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

Weight Load

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

Space Allocation

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



⚠CAUTION

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

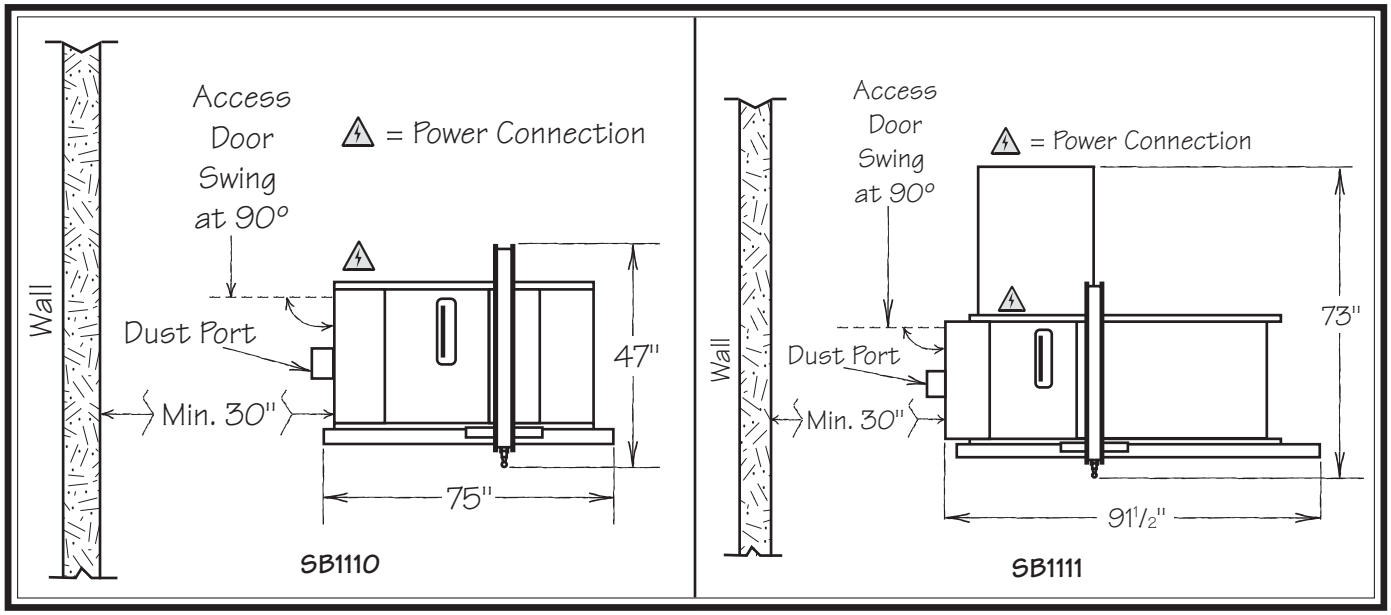


Figure 15. Minimum working clearances.

Assembly

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

Assembly steps are the same for both models except where noted. Assembly consists of installing the front and rear rails, attaching the right side extension wing (SB1110) or extension table and outfeed table (SB1111), then installing minor components.

Fence Rails

1. Fasten front rail onto main table with (4) M8-1.25 x 25 flat head cap screws as shown in **Figure 16**.

2. Secure left side of front rail to pre-installed extension wing with (1) M8-1.25 x 25 flat head cap screw, (1) 8mm lock washer, and (1) M8-1.25 hex nut (see **Figure 16**).

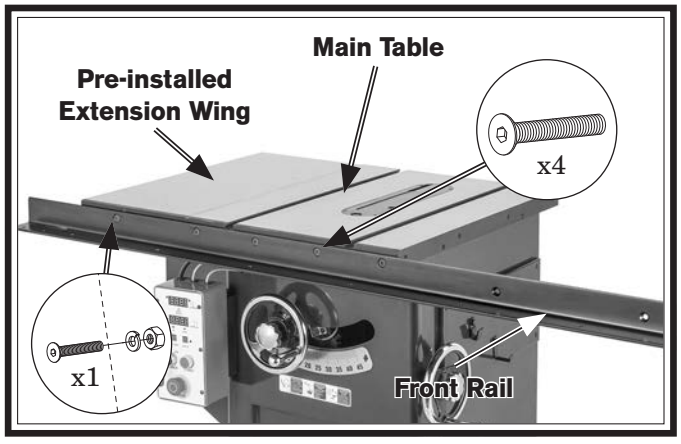


Figure 16. Front rail installed.

3. Fasten rear rail onto main table with (4) M8-1.25 x 25 cap screws, (4) 8mm flat washers, and (4) 8mm lock washers as shown in **Figure 17**.

4. Fasten rear rail onto extension table shown in **Figure 17** with (1) M8-1.25 x 25 cap screw, (2) 8mm lock washer, (1) 8mm flat washers, and (1) M8-1.25 hex nut.

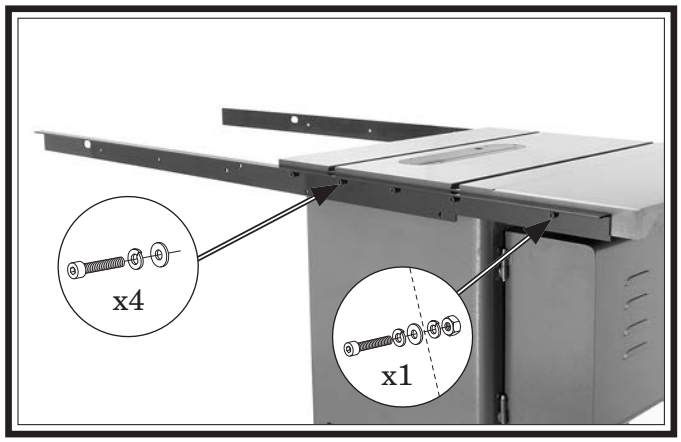


Figure 17. Rear rail installed.

— If you are assembling the SB1110, continue to **SB1110 Extension Wing** below.

— If you are assembling the SB1111, follow the instructions for installing the extension table on **Page 27** and outfeed table on **Page 29**.

SB1110 Extension Wing

1. Inspect extension wing and main table mating surfaces for burrs or foreign materials that may inhibit assembly.

Note: *For a correct fit, mating edges of table and extension wing must be clean, smooth, and flat. If necessary, use a wire brush or file to remove any flashing, dings, or high spots.*

2. While an assistant holds wing in place, attach extension wing to right side of main table with (4) M8-1.25 x 25 hex bolts and (4) 8mm lock washers (see **Figure 18**).

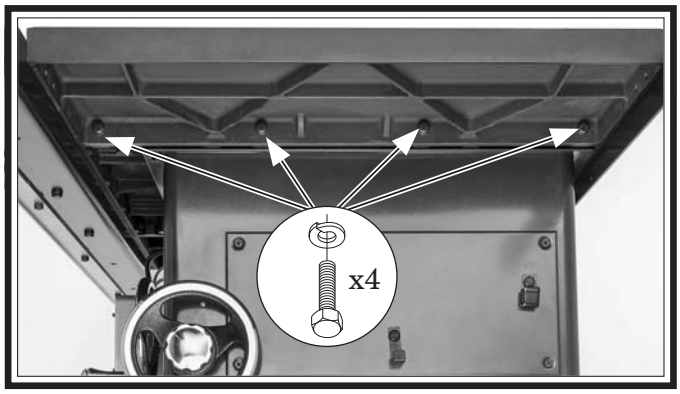


Figure 18. Extension wing mounting locations.

3. Place straightedge across extension wing and main table to make sure that combined table surface is flat.

— If combined table surface is flat, continue to **Step 4**.

— If outside end of extension wing tilts down, place a strip of masking tape along bottom edge of main table to shim end of extension wing up (see **Figure 19**).

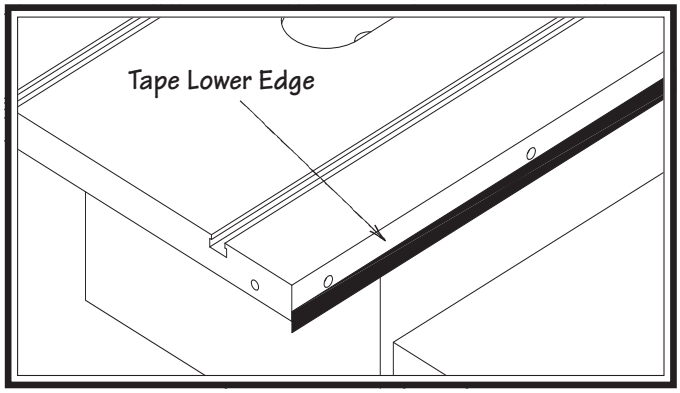


Figure 19. Masking tape location for tilting extension wing up.

— If outside end of extension wing tilts up, place strip of masking tape along top edge of main table to shim end of extension wing down (see **Figure 20**).

Note: *After re-installing wing, remove all excess masking tape with a razor blade.*

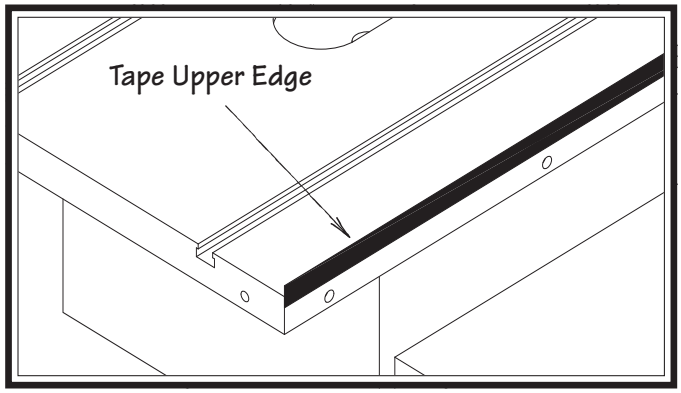


Figure 20. Masking tape location for adjusting the extension wing down.

4. Fasten rear rail onto extension table with (1) M8-1.25 x 25 cap screw, (2) 8mm lock washer, (1) 8mm flat washers, and (1) M8-1.25 hex nut.

5. Fasten front rail onto extension table as shown in **Figure 21** with (1) M8-1.25 x 25 flat head cap screw, (1) 8mm lock washer, and (1) M8-1.25 hex nut.

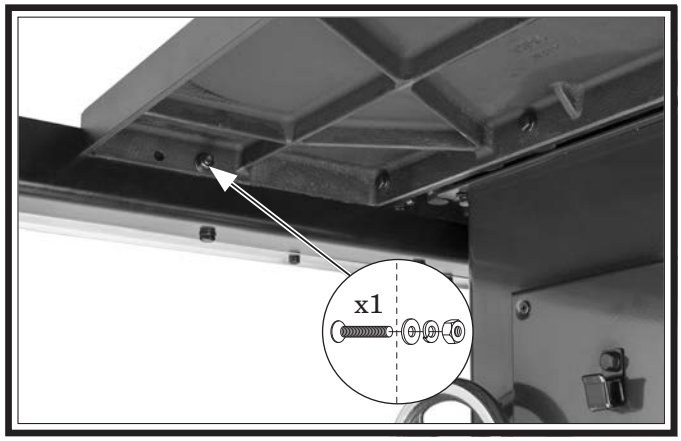


Figure 21. Front rail to extension wing attachment location.

6. Place fence tube over front rail and secure with (7) M8-1.25 x 12 flange bolts, as shown in **Figure 22**, then install handwheel handles.

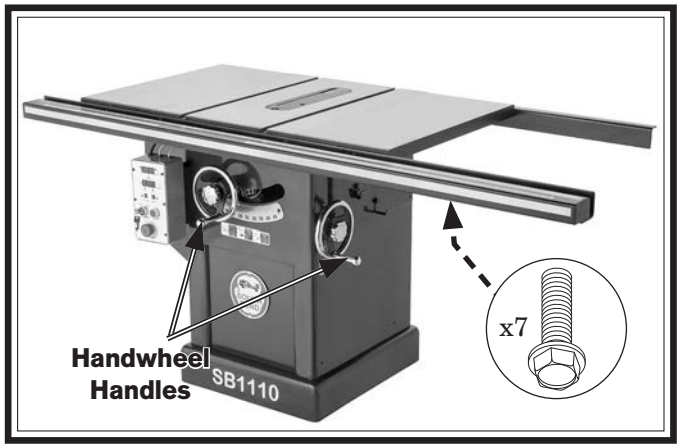


Figure 22. SB1110 fence tube mounted to front rail.

SB1111 Extension Table

1. Install (2) extension table mounting clips onto right side of main table using (2) M8-1.25 x 25 flat head cap screws, then thread (2) M8-1.25 x 12 hex bolts with (2) 8mm fender washers into lower holes in mounting clips as shown in **Figure 23**. Do not fully tighten hex bolts.

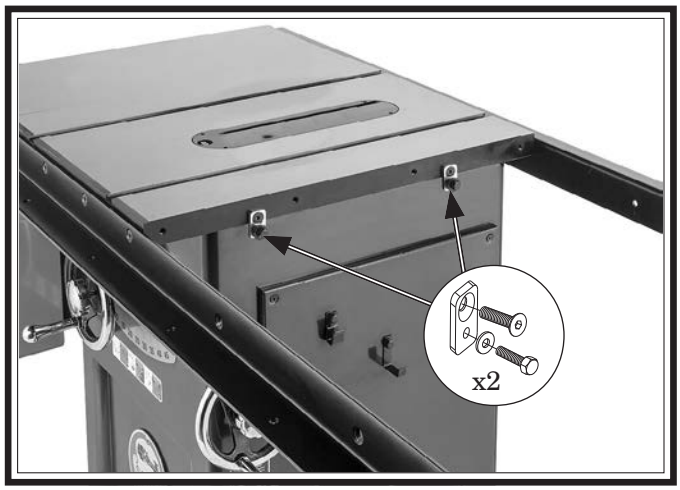


Figure 23. Extension table mounting clips installed.

2. With help from assistant, place extension table between rails and slide table slots over bolts installed in **Step 1**.

3. While assistant holds extension table, fasten front rail to extension table with (3) M8-1.25 x 25 flat cap head screws, (3) 8mm lock washers, and (3) M8-1.25 hex nuts (see **Figure 24**). Do not fully tighten hex nuts.

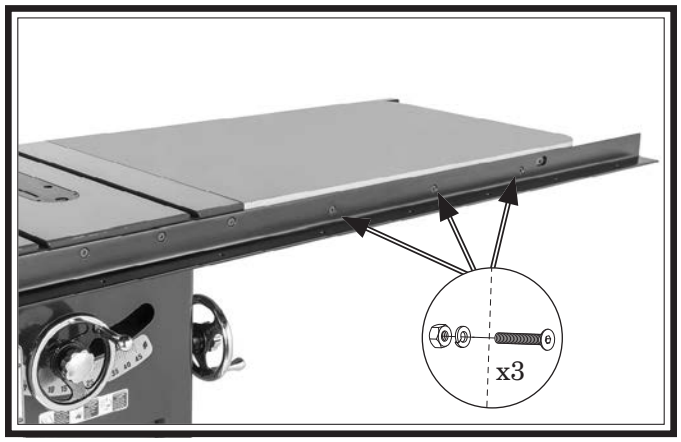


Figure 24. Front rail fastener locations.

4. Fasten rear rail to extension table with (3) M8-1.25 x 25 cap screws, (6) 8mm lock washers, (3) 8mm flat washers, and (3) M8-1.25 hex nuts as shown in **Figure 25**. Do not fully tighten hex nuts.

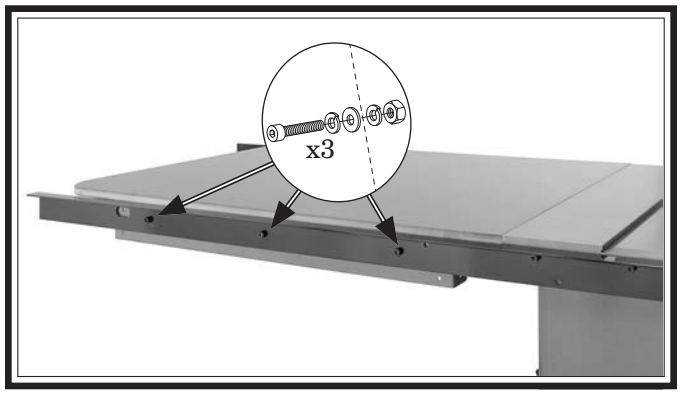


Figure 25. Rear rail fastener locations.

5. Align main table and extension table with straightedge, as shown in **Figure 26**, then tighten all mounting fasteners installed in **Steps 1–4**.

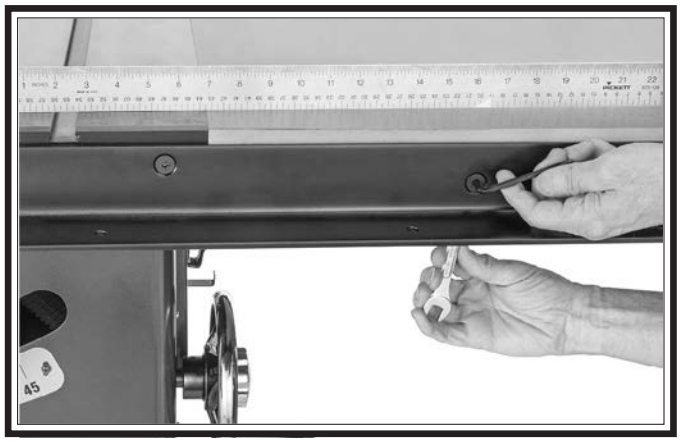


Figure 26. Aligning extension table.

6. Thread ⅜"-16 hex nut onto each foot, then thread one foot into bottom of each support leg as shown in **Figure 27**.

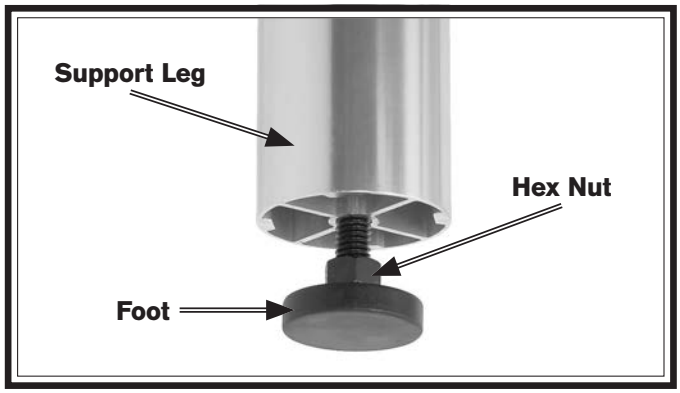


Figure 27. Foot installed on support leg.

7. Fasten (2) support legs to extension table with (8) M6-1 x 12 Phillips head screws and (8) 6mm flat washers as shown in **Figure 28**.

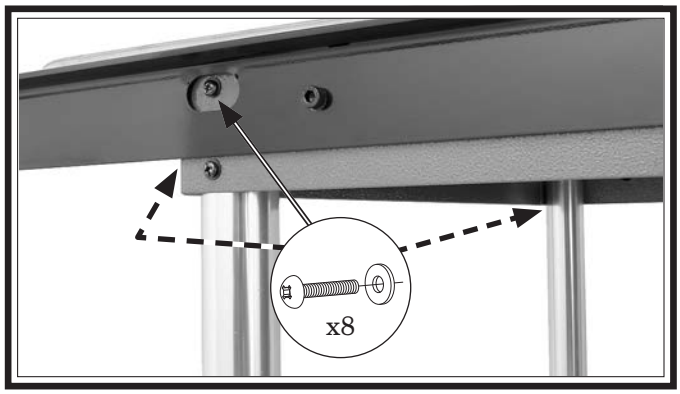


Figure 28. Support legs fastened to extension table.

8. Rotate both feet until they are tight against the floor, then tighten hex nuts against support legs.

9. Fasten shelf end plate to legs with (4) M6-1 x 12 Phillips head screws and (4) 6mm flat washers as shown in **Figure 29**.

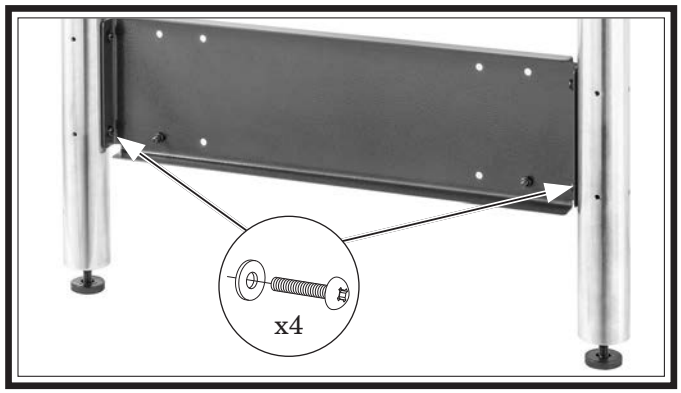


Figure 29. Shelf end plate attached to legs.

10. Place (2) shelf brackets between cabinet and support legs, and fasten with (2) M6-1 x 12 hex bolts, (2) M6-1 x 12 Phillips head screws, (4) 6mm flat washers, and (2) M6-1 hex nuts as shown in **Figure 30**.

Note: *The flange on the shelf bracket must point up to ensure proper installation.*

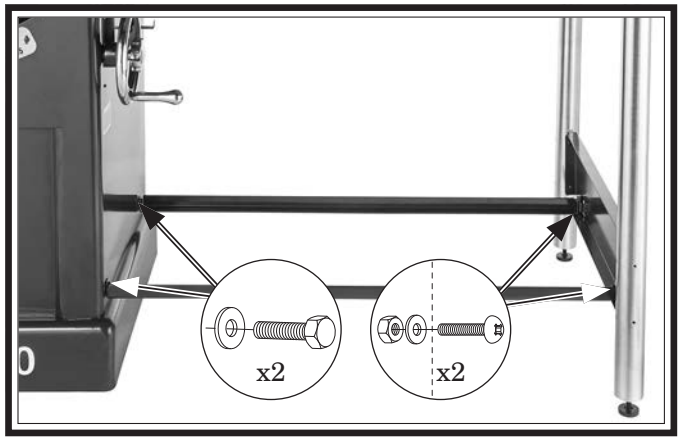


Figure 30. Shelf brackets installed.

11. Place shelf on brackets.

12. Place fence tube over front rail and secure with (9) M8-1.25 x 12 flange bolts, as shown in **Figure 31**, then install handwheel handles.

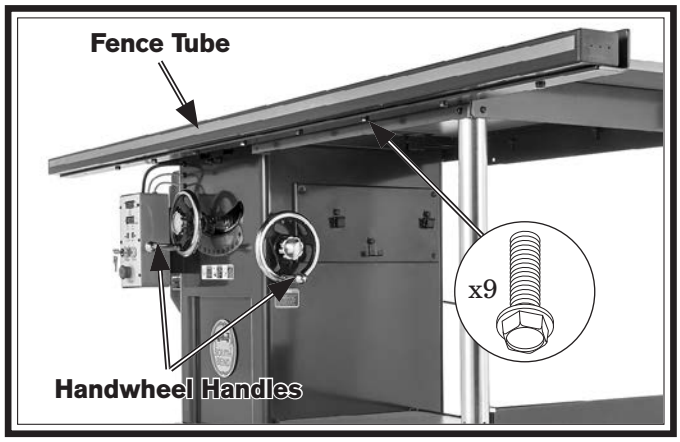


Figure 31. Fence tube mounted to front rail.

SB1111 Outfeed Table

1. Turn outfeed table upside down and place on level, protected surface.

2. Fasten (2) support legs to outfeed table with (8) M6-1 x 12 Phillips head screws and (8) 6mm flat washers as shown in **Figure 32**.

3. Attach outfeed table front bracket to outfeed table with (8) M4 x 16 tap screws (see **Figure 32**).

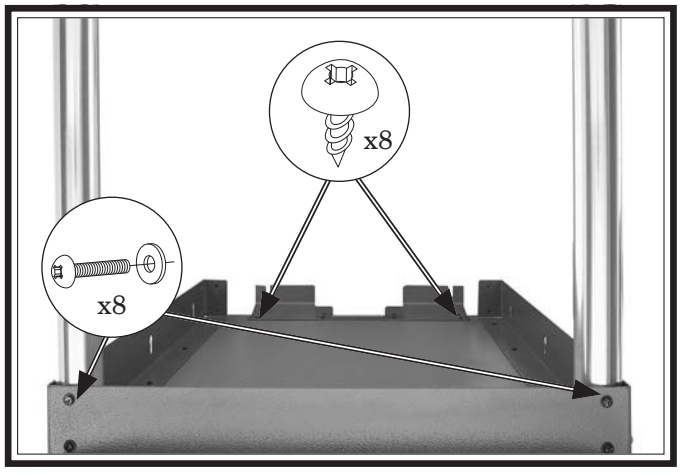


Figure 32. Legs and table bracket attached.

4. Fasten shelf end plate to legs with (4) M6-1 x 12 Phillips head screws and (4) 6mm flat washers as shown in **Figure 33**.

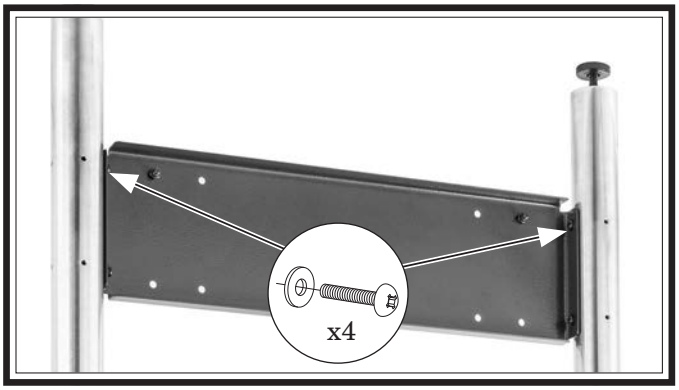


Figure 33. End plate attached.

5. Thread ⅜"-16 hex nut onto each foot, then thread feet into bottom of each support leg.

6. Place outfeed table assembly upright with feet on floor, align slots in outfeed table bracket with rear rail mounting holes, then fasten table to rail with (2) M8-1.25 flange bolts and (2) M8-1.25 hex nuts, as shown in **Figure 34**.

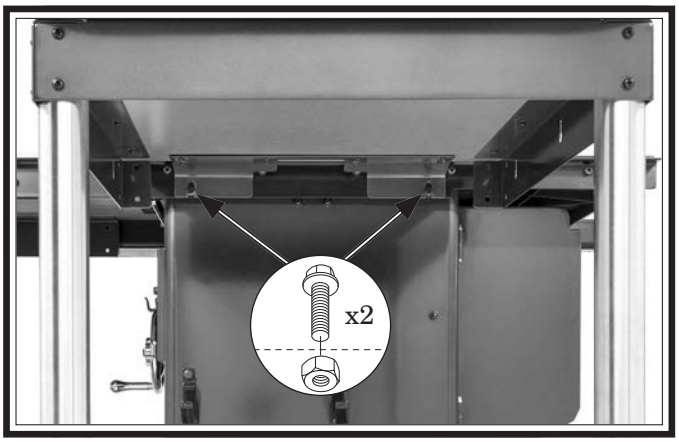


Figure 34. Outfeed table fastened to rear rail.

7. Place (2) shelf brackets between cabinet and support legs, and fasten with (2) M6-1 x 12 hex bolts, (2) M6-1 x 12 Phillips head screws, (4) 6mm flat washers, and (2) M6-1 hex nuts.

Note: *The flange on the shelf bracket must point up to ensure proper installation.*

8. Place lower shelf on brackets.

Blade & Fence

1. Turn insert lock bolt so it is parallel to inner slot, as shown in **Figure 35**, then remove insert.

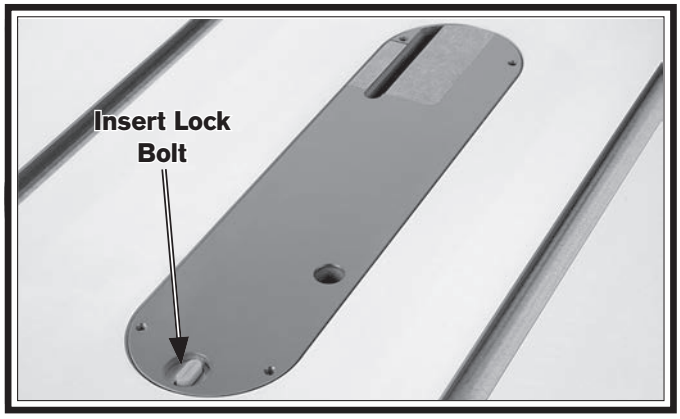


Figure 35. Insert knob unlocked.

2. Raise arbor all the way up and set blade tilt to 0°.

3. Remove arbor nut and washer.

4. Slide blade over arbor with teeth facing front of saw (see **Figure 36**).

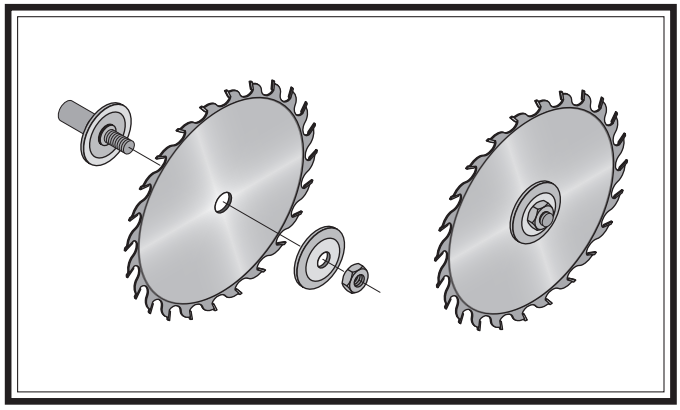


Figure 36. Example of correct blade direction and blade components installation order.

5. Install arbor flange and nut and tighten against blade. DO NOT OVERTIGHTEN!

Note: *For more detailed instructions for installing blade, see* ***Blade Installation*** *on* ***Page 38****.*

6. Lower blade all the way down.

7. Install fence lock lever as shown in **Figure 37**, then place fence on rail on right hand side of blade.

Note: *Make sure cam foot contacts cam on fence lock lever as you place fence on rail; otherwise, fence will not lock onto rail tube (see* ***Figure 37****).*

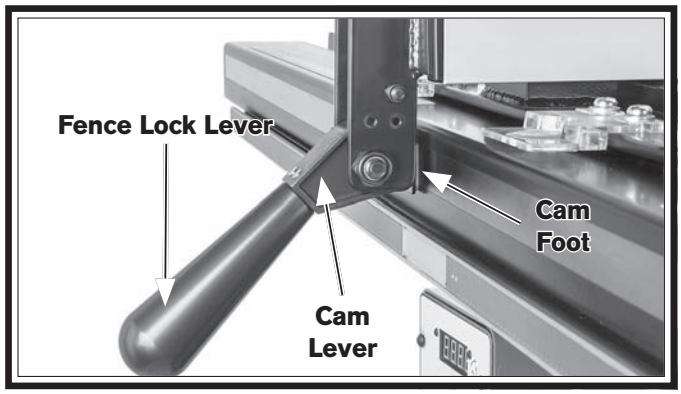


Figure 37. Fence installed on rails.

8. Slide fence digital readout over from right end of rail and connect to fence with magnet.

9. Slide fence to where it is just touching the blade, lock in place, then check the fence indicator to verify that indicator line is directly over "0" mark.

— If you need to correct position of indicator line, loosen Phillips head screws on pointer window, adjust pointer window so line is over "0" mark on tape (see **Figure 38**), then tighten screws.

10. Remove battery cover from front of fence digital readout and install (2) AAA batteries, then reinstall cover (see **Figure 38**).

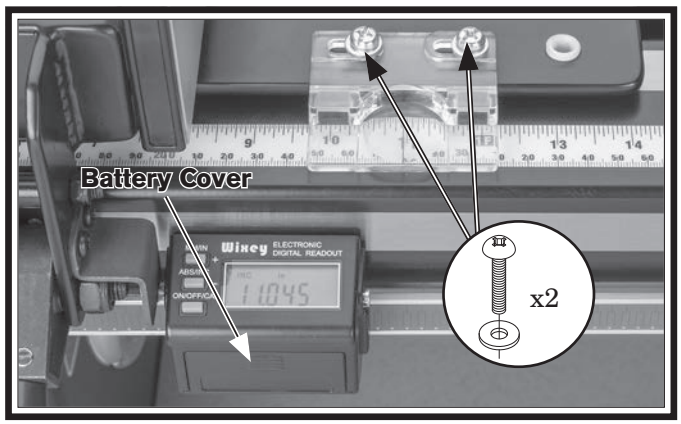


Figure 38. Rail tape aligned with scale pointer.

11. Install (2) fence storage brackets as shown in **Figure 39** onto back of cabinet with (2) M8-1.25 x 12 flange bolts.

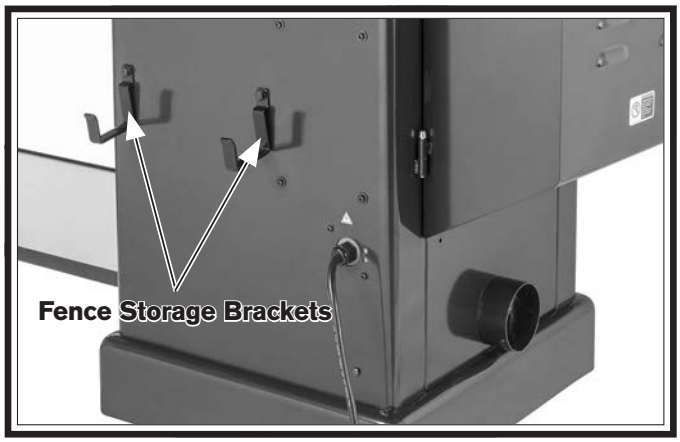


Figure 39. Fence storage brackets installed.

Dust Collection

⚠CAUTION

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

Minimum CFM at Dust Port:
- **SB1110: 400 CFM**
- **SB1111: 400 CFM**

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

Components Needed	**Qty**
Dust Hose 4"	Length As Needed
Hose Clamps 4"	2
Dust Collection System	1

To connect dust collection system:

1. Fit 4" dust hose over dust port, as shown in **Figure 40**, and tightly secure in place with a hose clamp.

Figure 40. Dust hose attached to port.

2. Tug hose to make sure it does not come off.

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

Test Run

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

Note: *Refer to* ***Troubleshooting*** *on* ***Page 82*** *for solutions to common problems that may occur. If you need additional help, contact our Tech Support at (360) 734-1540.*

The test run consists of verifying the following:

- Motor powers up and runs correctly.
- Emergency Stop button works correctly.

⚠WARNING

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

⚠WARNING

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

To test run machine:

1. Read and follow the safety instructions at the beginning of the manual, take required safety precautions, and make sure the machine is set up and adjusted properly.

2. Clear away all tools and objects used during assembly and preparation.

3. Slide fence away from blade and lower blade all the way down.

4. Press **Emergency Stop** button in.

5. Connect machine to power source.

6. Turn power key to ***ON***.

7. Twist **Emergency Stop** button clockwise until it pops out (see **Figure 41**). This resets switch and machine can now start.

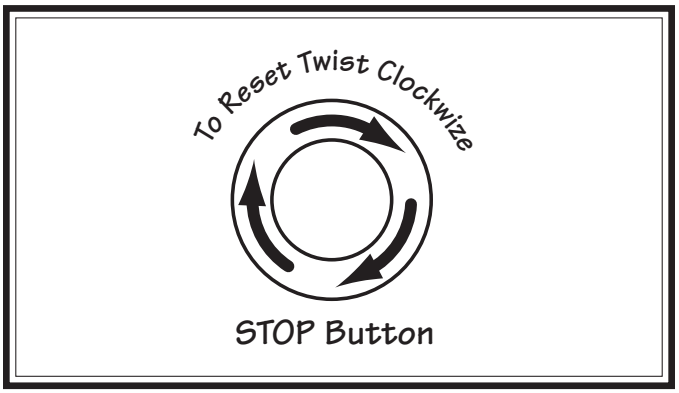


Figure 41. Resetting Emergency Stop button.

8. Press **Start** button to turn saw ***ON***.

9. Verify machine is operating correctly and free from vibrations or unusual noises.

   — When operating correctly, machine runs smoothly with little or no vibration or rubbing noises.

   — If the machine *is not* running smoothly, DISCONNECT POWER and correct the problem before continuing. See **Troubleshooting** section on **Page 82** for help.

10. Press **Emergency Stop** button to turn saw ***OFF***.

11. Without resetting Emergency Stop button, press START button.

    — If machine *DOES NOT* start, the Emergency Stop button safety feature is working correctly and the Test Run is complete. You may proceed to **Final Setup**.

    — If machine *DOES* start, DISCONNECT POWER immediately and call Technical Support for help at (360) 734-1540.

Final Setup

The remaining tasks required for assembling the saw include installing the table insert and cutting a slot for the blade, checking fence parallelism, installing the blade guard assembly, and calibrating the blade angle readout.

To complete remaining assembly steps:

1. DISCONNECT MACHINE FROM POWER!

2. Install and cut the table insert as instructed in **Cutting a Zero Clearance Insert** on **Page 44**, then proceed to next step.

3. Verify fence is parallel to blade/miter slot and that this setting did not change during shipping (refer to **Fence Adjustments** on **Page 75**).

4. Install blade guard assembly as instructed on **Page 39**.

5. Calibrate fence digital readout as instructed on **Page 77**.

6. Calibrate blade digital readout as instructed on **Page 79** before operating saw.

   Note: *The blade digital readout will need to be calibrated each time the saw is disconnected from power source.*

Inspections & Adjustments

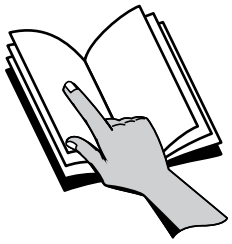
The following list of adjustments were performed at the factory before your machine was shipped:

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

Operation Overview

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

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

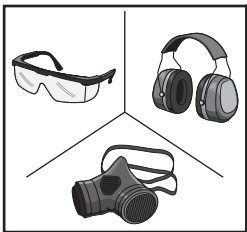


⚠WARNING

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

NOTICE

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



⚠WARNING

To reduce risk of short and long term injury, wear eye, ear, and lung protection when using this machine.

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

1. Examines the workpiece to make sure it is suitable for cutting.
2. Adjusts blade tilt, if necessary, to correct angle for desired cut.
3. Adjusts blade height no more than ¼" higher than thickness of workpiece.
4. Adjusts fence to desired width of cut, then locks it in place.
5. Checks outfeed side of machine for proper support and to make sure workpiece can safely pass all the way through blade without interference.
6. Puts on safety glasses, respirator, and hearing protection, and locates push sticks/ blocks if needed.
7. Starts dust collection system, then starts saw.
8. Feeds workpiece all the way through blade while maintaining firm pressure on workpiece against table and fence, and keeping hands and fingers out of blade path and away from blade.
9. Stops machine immediately after cut is complete.

Safety precautions and instructions for each type of cut are located on the following pages:

Workpiece Selection

Some workpieces are not safe to cut on this machine or may need to be modified before they can be safely 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 motor bearings. This machine is NOT designed to cut metal, glass, stone, tile, etc.; cutting these materials with a table saw greatly increases the risk of injury and damage to the saw or blade.

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 may move unpredictably when being cut.

Minor Warping: Slightly cupped workpieces can be safely supported with cupped side facing the table or fence; however, workpieces supported on the bowed side will rock during the cut, which could cause kickback.

Non-Through & Through Cuts

Non-Through Cuts

A non-through cut is a sawing operation where the blade does not protrude above the top face of the wood stock, as shown in **Figure 42** below.

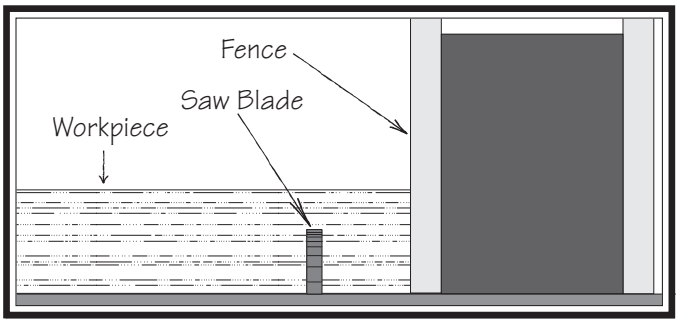


Figure 42. Example of a non-through cut.

Examples of non-through cuts include dadoes and rabbets. Non-through cuts have a higher risk of injury from kickback because the blade guard must be removed. However, the riving knife MUST be installed because it still provides some protection.

Through Cuts

A through cut is a sawing operation in which the workpiece is completely sawn through, as shown in **Figure 43** below. Examples of through cuts are rip cuts, cross cuts, miter cuts, and beveled cuts. The blade guard assembly MUST be used when performing through cuts.

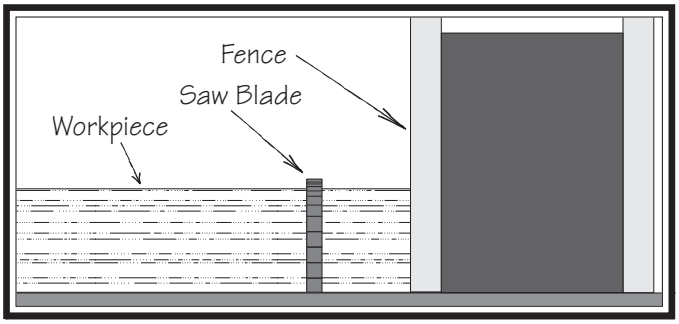


Figure 43. Example of a through cut.

Blade Requirements

The spreader/riving knife included with this machine is 0.098" (2.5mm) thick and is only designed for 10" diameter blades.

When choosing a main blade, make sure the blade size meets the requirements listed below. The thickness of the blade body and teeth can be measured with calipers or any precision measuring device.

Blade Size Requirements:
- Body Thickness: 0.091" (2.3mm) Max.
- Kerf (Tooth) Thickness: 0.106" (2.7mm) Min.

Blade Selection

This section is in no way comprehensive. Always follow the saw blade manufacturer's recommendations to ensure safe and efficient operation of your table saw.

Thin Kerf Blade: A blade with thinner kerf than a standard blade. Since the spreader/riving knife included with this table saw is sized for standard blades, thin kerf blades cannot be used on this saw unless they meet the **Blade Requirements** specified in this manual, or unless a thin-kerf riving knife is installed in place of a standard riving knife; otherwise, they will increase the risk of kickback.

Ripping Blade Features:
- Best for cutting with the grain
- 20-40 teeth
- Flat-top ground tooth profile
- Large gullets for large chip removal

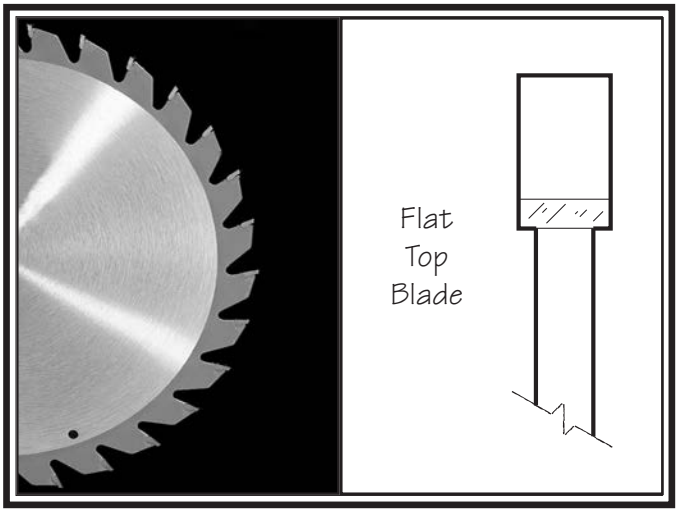


Figure 44. Ripping blade.

Crosscut Blade Features:
- Best for cutting across the grain
- 60-80 teeth
- Alternate top bevel tooth profile
- Small hook angle and a shallow gullet

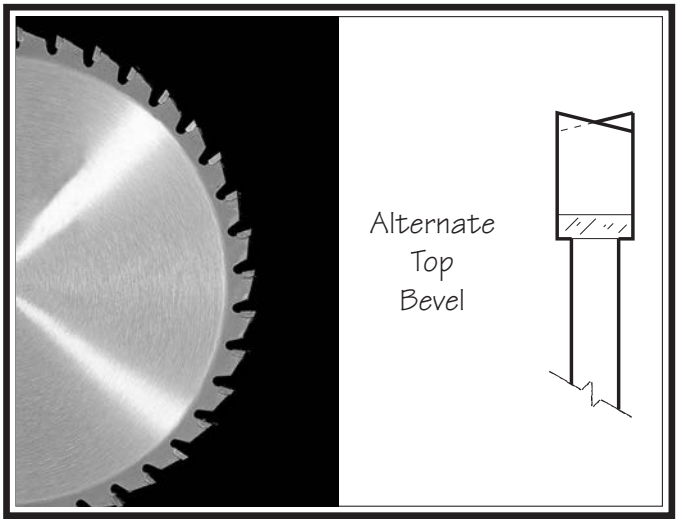


Figure 45. Crosscut blade.

Combination Blade Features:

- Designed to cut both with and across grain
- 40-50 teeth
- Alternate top bevel and flat, or alternate top bevel and raker tooth profile
- Teeth are arranged in groups
- Gullets are small and shallow (similar to a cross-cut blade), then large and deep (similar to a ripping blade

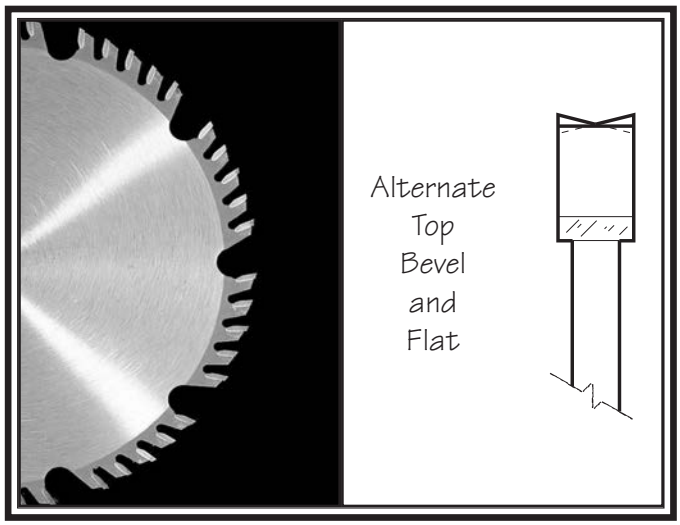


Figure 46. Combination blade.

Laminate Blade Features:

- Best for cutting plywood or veneer
- 40-80 teeth
- Triple chip tooth profile
- Very shallow gullet

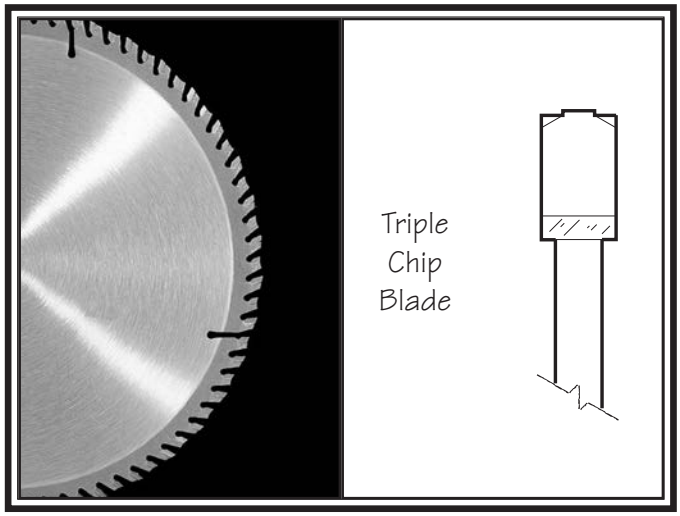


Figure 47. Triple chip blade.

Dado Blades

A dado set or dado blade is used to cut dadoes or grooves in a workpiece. There are two common kinds of dado blades: wobble blade and stacked dado set.

Wobble Dado Blade: A single blade mounted at a slight angle on an arbor hub. The blade angle is adjustable on the hub, and the width of the dado cut is controlled by the angle setting of the blade (see **Figure 48**).

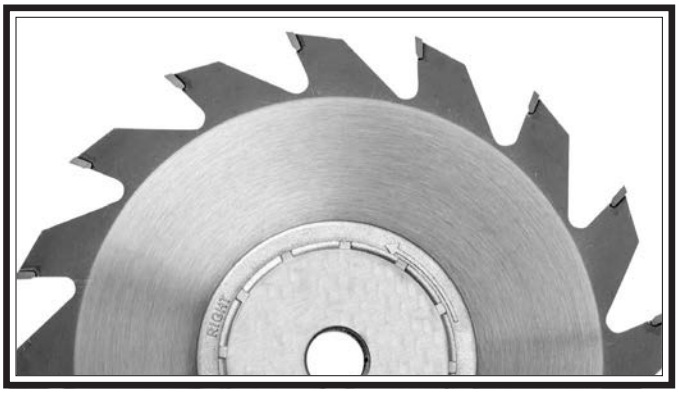


Figure 48. Wobble dado blade.

Stacked Dado Set: Multiple blades are stacked together to control the cutting width. Stacked dado blades are more expensive than wobble blades, but typically produce higher quality results (see **Figure 49**).

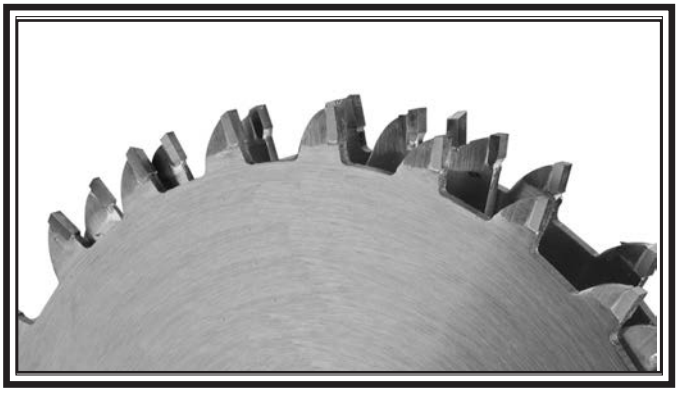
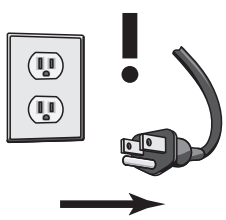


Figure 49. Stacked dado blade.

Blade Installation



⚠WARNING

To reduce risk of shock or accidental startup, always disconnect machine from power source before performing adjustments, maintenance, or service.

To install blade:

1. DISCONNECT MACHINE FROM POWER!

⚠CAUTION

Before proceeding with the next step, wear gloves to protect your hands while handling and installing the blade.

2. Remove table insert, blade guard, and spreader or riving knife (see **Page 39**).

3. Raise arbor all the way up and set tilt to 90°.

4. Using arbor wrenches, loosen and remove arbor nut, flange and blade (if installed) as shown in **Figure 50**.

   Note: *Arbor has left-hand threads. Turn clockwise to loosen.*

Figure 50. Loosening flange nut.

5. Slide blade over arbor with teeth facing front of saw (see **Figure 51**).

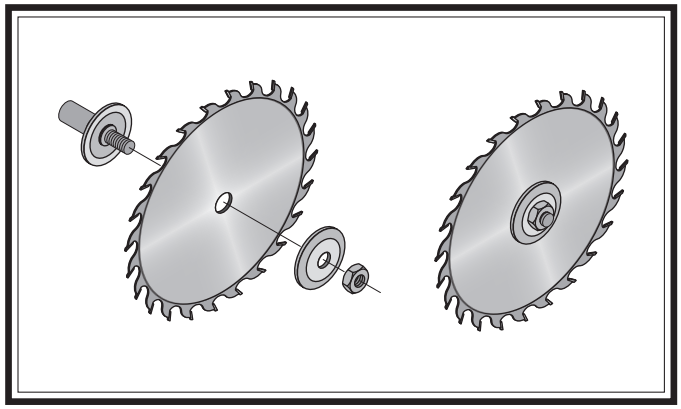


Figure 51. Example of correct blade direction and blade components installation order.

6. Install arbor flange and nut and tighten against blade as shown in **Figure 52**. DO NOT OVERTIGHTEN!

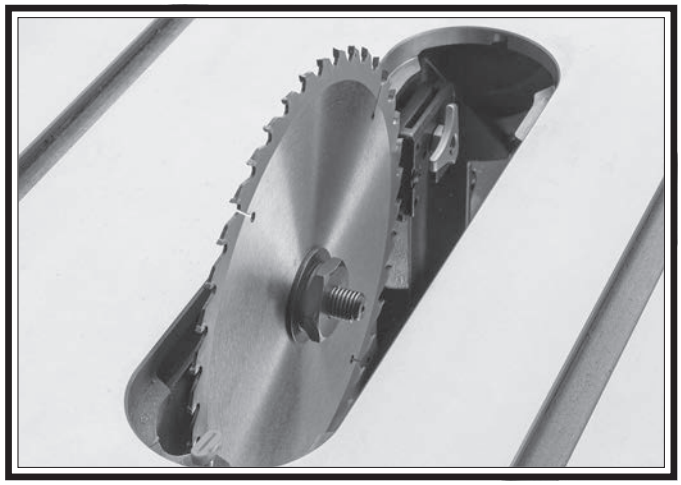


Figure 52. Blade properly installed.

7. Re-install blade guard assembly or riving knife and table insert (see **Page 39**).

Blade Guard Assembly

The term "blade guard" refers to the assembly that consists of the clear polycarbonate shield and dust enclosure, the spreader, and the anti-kickback pawls on each side of the blade guard (see **Figure 53**). Each of these components have important safety functions during the operation of the saw.

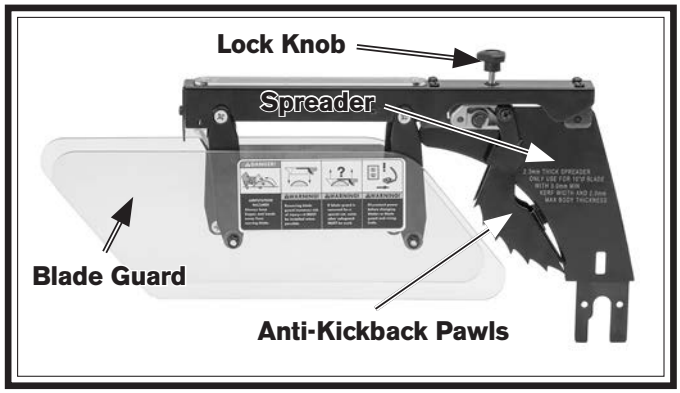


Figure 53. Blade guard assembly.

Blade Guard

The clear polycarbonate guard allows the operator to see the blade cut the workpiece during operation. This guard is designed to lift as the workpiece is pushed into the blade and remain in contact with the workpiece throughout the entire cut.

The guard reduces injury risk by providing a barrier around the blade that prevents accidental contact and contains flying wood chips.

To ensure that the guard does its job effectively, the guard must always be in the downward position against the table during idle operation, and the hinge mechanism must be maintained in good working condition so the guard can freely pivot up and down to accommodate the height of the workpiece and return to the table surface.

⚠CAUTION

In order to work properly, the spreader or riving knife cannot be bent or misaligned with the blade. If the spreader/riving knife gets accidentally bent, take the time to straighten it or replace it. Using a bent or misaligned spreader/riving knife will increase the risk of kickback! Refer to Page 74 to check or adjust alignment if necessary.

Spreader

The spreader/riving knife is a metal plate that prevents the newly cut kerf of the workpiece from pinching the backside of the blade and causing kickback.

The spreader also acts as a barrier behind the blade to shield hands from being pulled into the blade if a kickback occurs.

Installing Blade Guard & Spreader

1. DISCONNECT MACHINE FROM POWER!
2. Remove table insert and raise blade all the way up.
3. Loosen clamping plate by turning clamping plate knob counter-clockwise (see **Figure 54**).
4. Slide mounting end of blade guard/spreader assembly between block and clamping plate until all the way down (see **Figure 54**).

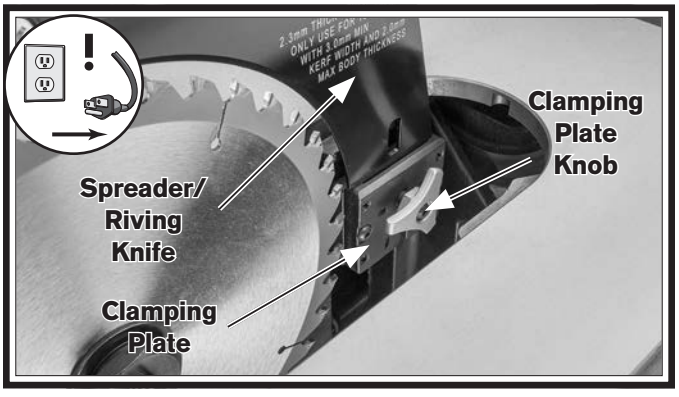


Figure 54. Spreader/Riving knife clamping plate.

5. Turn knob clockwise to tighten. Tug blade guard assembly to verify it is locked in place.

6. Lift blade guard and anti-kickback pawls just enough to slide table insert into table slot over blade, then secure insert with knob bolt in front of insert (see **Figure 55**).

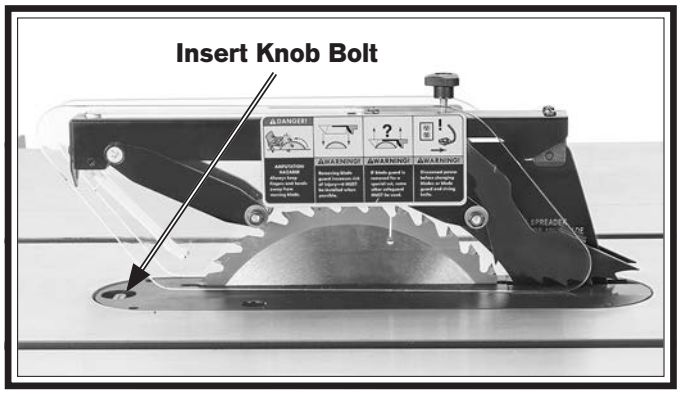


Figure 55. Blade guard/spreader assembly installed.

IMPORTANT: *The blade guard, when properly installed, should look like the example in* ***Figure 55*** *and should pivot freely so it touches the table surface in the down position. It should also swing up high enough to accommodate the workpiece.*

7. Check to make sure blade is 90° to table, then swing right side of guard up and out of the way.

8. While lifting up on right side spreader, place a straightedge against blade and spreader.

IMPORTANT: *When properly aligned, the spreader/riving knife will be in the "Alignment Zone", as illustrated in* ***Figure 56****, and will be parallel with the blade.*

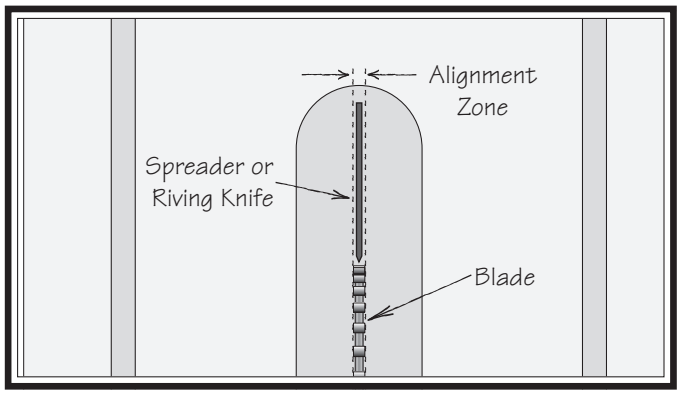


Figure 56. Spreader/riving knife alignment zone.

— If the spreader/riving knife is not inside the alignment zone and not parallel with the blade, then it needs to be adjusted. Proceed to **Spreader/Riving Knife Alignment** on **Page 73**.

— If the spreader/riving knife is not parallel with the blade, it may be bent. Proceed to checking alignment on **Page 74** to determine if the spreader/riving knife is bent.

Anti-Kickback Pawls

The anti-kickback pawls allow the workpiece to travel in only one direction. If the workpiece moves backwards, such as during a kickback, the pawls will dig into the workpiece to slow or stop it.

To work properly, the pawls must return to their resting position after pivoting, as shown in **Figure 57**.

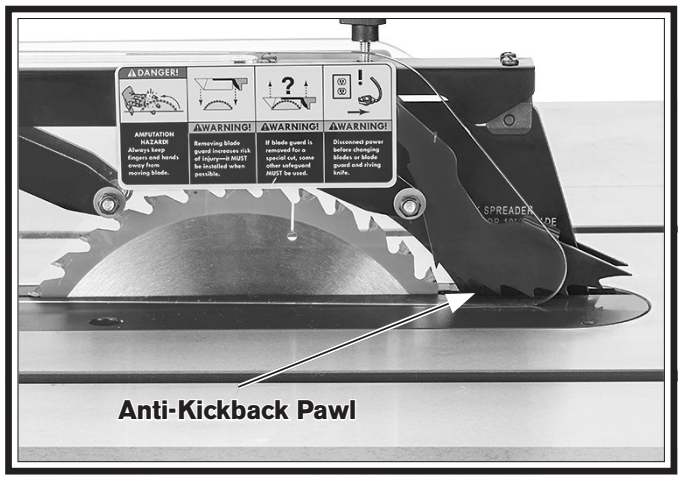


Figure 57. Anti-kickback pawl in resting position.

If the pawls fail to return to the resting position, the pivot area may need to be cleaned or the spring may have been dislodged or broken and will need to be fixed/replaced.

Note: *The right side pawl is designed to tilt slightly away from the blade guard assembly to prevent the pawl from catching in the table insert.*

Removing Anti-Kickback Pawls

If you are concerned about the pawls scratching a delicate workpiece, or if you believe that they will obstruct a narrow workpiece and cause feeding difficulty or loss of control, you may remove the pawls. Use your best judgment before removing the pawls, as they are provided for your safety.

⚠WARNING

We do not recommend removing the pawls during normal operations unless absolutely necessary. In most situations, removing the pawls will increase your risk of serious personal injury in the event of kickback.

To remove anti-kickback pawls:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen knob on top of blade guard and remove blade guard from spreader.
3. Press and hold release button on pawl assembly (see **Figure 58**).
4. Pivot pawl assembly up from the back and lift away from spreader (see **Figure 58**).

Figure 58. Pawl release button.

5. Reinstall blade guard and tighten lock knob.

To install anti-kickback pawls:

1. DISCONNECT MACHINE FROM POWER!
2. Place front of pawl mounting bracket down into and to back of slot in top of spreader (see **Figure 59**).
3. While pressing release button, pivot pawl mounting bracket down into place, then release button (see **Figure 59**).

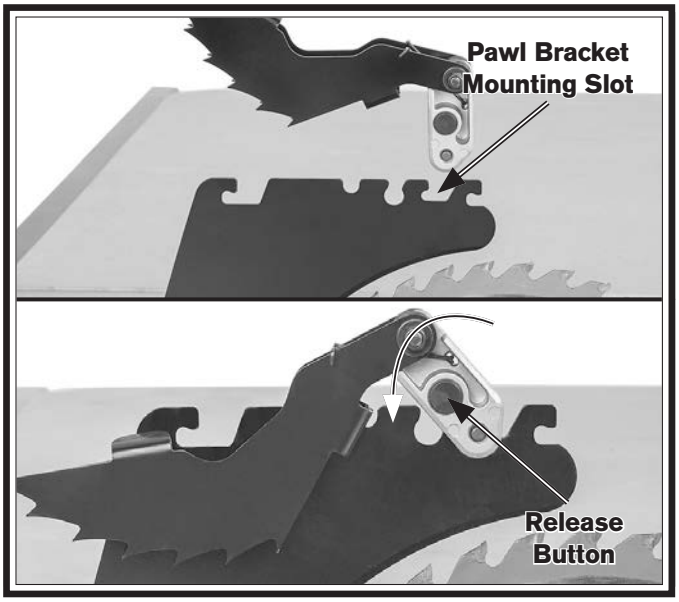


Figure 59. Anti-kickback pawls.

4. Pull up on pawl mounting bracket to ensure it is fully engaged.

To Install Blade Guard:

1. DISCONNECT MACHINE FROM POWER!

2. Place back of blade guard into back slot of spreader (see **Figure 60**).

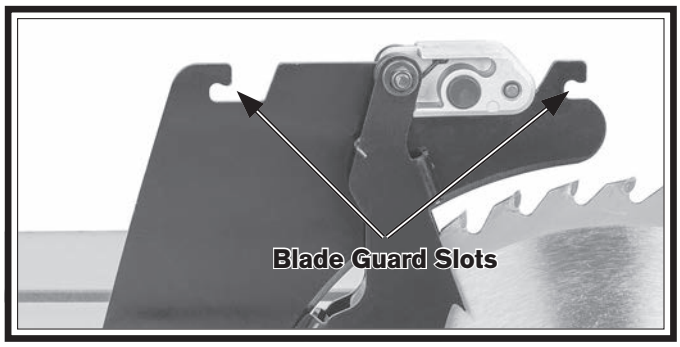


Figure 60. Blade guard slots.

3. Pivot blade guard down onto the front slot then slide it back (see **Figure 61**).

Figure 61. Installing blade guard.

4. Tighten lock knob by turning clockwise.

When to Use the Blade Guard

The blade guard assembly MUST always be installed on the saw for all normal through-cut operations (those where the blade cuts all the way through the thickness of the workpiece).

When Not to Use the Blade Guard

The blade guard cannot be used for and non-through cuts (those in which the blade does not cut all the way through the thickness of the workpiece).

Sometimes the blade guard or its components can get in the way then cutting very narrow workpieces or other specialized cuts. Because the blade guard is provided to decrease your risk of injury, it should not be used if it gets in the way of making a safe cut. Use good judgement!

IMPORTANT: *Whenever the blade guard cannot be used, the riving knife must be installed.*

Riving Knife

The riving knife works in the same manner as the spreader on the blade guard assembly. It is a metal plate that prevents the newly cut workpiece from pinching the backside of the blade and causing kickback.

The key difference between the spreader and the riving knife is that the riving knife mounts below the blade's highest point of rotation, as shown in **Figure 62**.

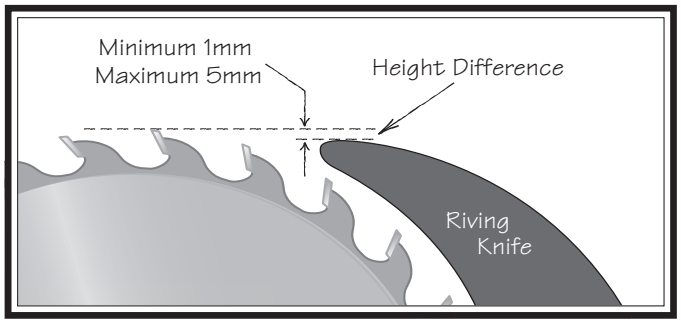


Figure 62. Height difference between riving knife and blade.

The height difference between the riving knife and the blade allows the workpiece to pass over the blade during non-through cuts (those in which the blade does not cut all the way through the thickness of the workpiece).

The riving knife acts as a barrier behind the blade to reduce the risk of hands being pulled into the blade if a kickback occurs.

The riving knife must be kept within the range shown in **Figure 63**. For that reason, we only recommend using a 10" blade for operations that require use of the riving knife.

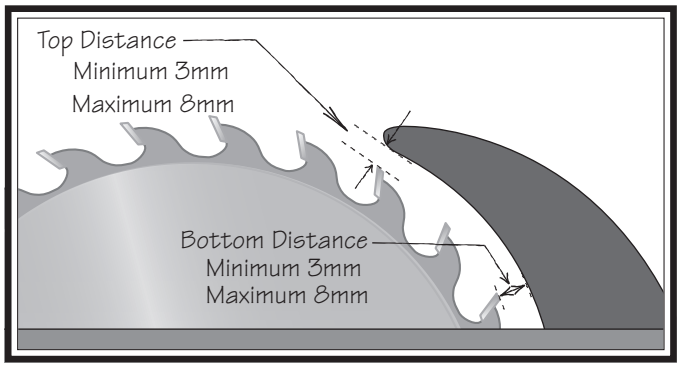


Figure 63. Allowable riving knife clearance.

How to Install the Riving Knife

The riving knife is installed in the same manner as the spreader. Refer to **Blade Guard Assembly** on **Page 39** for installation instructions.

When to Use the Riving Knife

Use the riving knife for all non-through cuts made with a standard table saw blade (i.e., dadoes or rabbet cuts, and when using a tenoning jig), or when using a 10" diameter dado blade.

Also, use the riving knife for those special operations where the blade guard or its components get in the way of safe operation, such as with very narrow cuts.

When Not to Use the Riving Knife

DO NOT use the riving knife with a dado blade that has a diameter smaller than 10" in diameter. Otherwise, the riving knife height will exceed the blade height and the workpiece will hit the riving knife during the cut, forcing the operator into a dangerous situation of trying to turn the saw off with the workpiece stuck halfway through the cut.

In addition, although it is possible to use the riving knife for through cutting operations, the blade guard assembly offers far more injury protection and risk reduction than the riving knife. Therefore, we **strongly recommend** that you use the blade guard assembly with spreader instead of the riving knife for through cuts.

⚠CAUTION

To ensure that riving knife works safely, it MUST be aligned with and correctly adjusted to blade. Refer to Page 73 to check and adjust riving knife alignment.

Cutting a Zero Clearance Insert

A zero clearance insert is provided with the table saw to reduce workpiece tear out and increase user safety. The insert can be customized to fit a specific blade height or blade angle for the applicable cutting operation.

Items Needed:	**Qty**
2" Thick Board x 27"	1
Clamps	2
Hex Wrench 2.5mm	1

To cut a zero clearance insert:

1. DISCONNECT MACHINE FROM POWER!

2. Check to make sure blade is properly installed (refer to the instructions in **Blade Installation** on **Page 38**).

3. Install table insert, as shown in **Figure 64**.

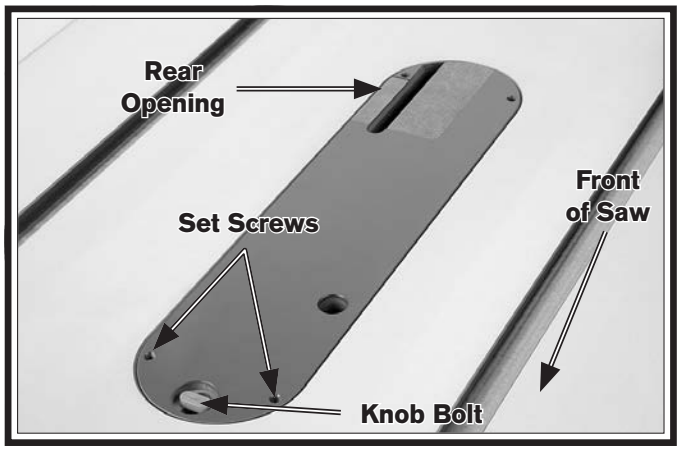


Figure 64. Insert knob in lock position.

4. Adjust table insert set screws with a 2.5mm hex wrench to make sure insert is flush with table (use a straightedge as a guide), then turn knob bolt to secure insert.

5. Center a board at least 2" thick and equal to length of table over rear opening of insert, then secure it with clamps at both ends as shown in **Figure 65**. This will provide extra support for insert and reduce tear out when cutting.

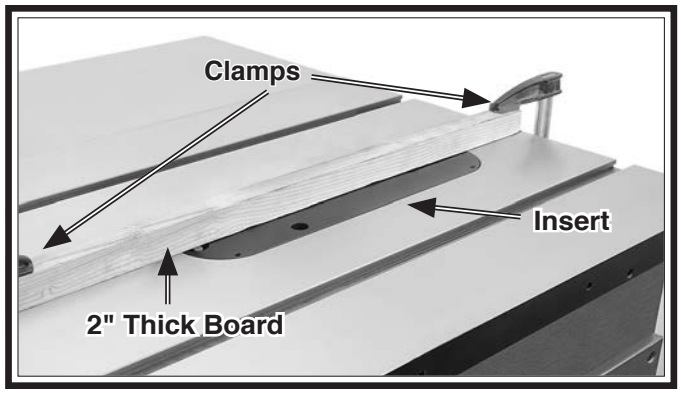


Figure 65. Securing insert with board and clamps.

6. Set blade angle to 0°.

   Suggestion: *To retain the zero clearance ability of the insert included with this saw, we recommend only raising the blade into the insert at 90° during the following step.*

   — If you need a zero clearance insert for compound cuts, install optional phenolic zero clearance table insert, Model T21879 (refer to **Page 65**) for each angled cut, then proceed to **Step 7**.

   — If you plan to use a dado blade to cut rabbets or dadoes, install optional dado table insert, Model T21878 (see **Page 65**).

   — If you do not require your insert to have a zero clearance fit, especially if you need to make a range of compound cuts, you can modify the insert included with this saw. Continue with **Step 7**, then route underside of the blade-cut slot to same width as rear opening (see **Figure 64**).

7. Connect saw to power. Keep hands off table top, do not stand directly behind blade path, and wear eye protection.

8. Turn the saw ***ON***, then slowly raise blade to maximum height that will be used during normal operations.

9. Turn saw ***OFF***, lower blade completely, then remove board and clamps.

10. Install blade guard (refer to **Blade Guard Assembly** on **Page 39**).

Fence Digital Readout

The fence digital readout has two modes of use:

Absolute Mode (ABS): Readout is displayed with the respect of absolute zero. Absolute zero is typically determined by being calibrated with the saw blade being 'zero'.

Incremental Mode (INC): Readout is displayed with respect to the position at the beginning of the move. This can be useful when repeating several cuts of the same distance.

Fence Digital Readout Functions

Figure 66. Fence digital readout.

A. MM/IN Toggle: Switches display between millimeters and inches.

B. ABS/INC Toggle: Switches readout between absolute and incremental modes.

C. ON/OFF/CAL Toggle: Press and release for ON/OFF, long press (2–3 seconds) to enter calibration mode.

To use in absolute mode:

1. Ensure fence digital readout is properly calibrated. See **Fence Digital Readout Adjustments** section on **Page 77** for calibration instructions.

2. Short press ABS/INC (**B**) button until 'ABS' shows on display.

   Note: *Measurement shown on display is now measured from saw blade.*

To use in incremental mode:

1. Move fence to desired starting point and lock in place.

2. Short press ABS/INC (**B**) button until 'INC' shows on display.

3. Press and hold ON/OFF/CAL (**C**) until '0.000' is shown on display.

   Note: *Measurement shown on display is now measured from point where it was set at '0'.*

Rip Cutting

Rip cutting or "ripping" means cutting with the grain of a natural wood workpiece. In man-made materials such as MDF or plywood, ripping means cutting lengthwise.

⚠CAUTION

Serious injury can be caused by kickback. Kickback is a high-speed ejection of stock from the table saw toward the operator. The operator or bystanders may be struck by flying stock, or operators hands can be pulled into blade during kickback.

To make a rip cut:

1. Review **Preventing Kickback** on **Page 15** and take necessary precautions to reduce likelihood of kickback.
2. If using natural wood, joint one long edge of workpiece on a jointer.
3. DISCONNECT MACHINE FROM POWER!
4. Ensure that blade guard/spreader is installed.
5. Set fence to desired width of cut on scale.
6. Adjust blade height so highest saw tooth protrudes no more than ¼" above workpiece.
7. Set up safety devices such as featherboards or other anti-kickback devices, making sure no safety devices are contacting blade.
8. Turn saw ***ON*** and allow blade to reach full speed.

   Note: *Jointed edge of workpiece must slide against fence during cutting operation.*

9. Use push stick to feed workpiece through saw blade, as shown in **Figure 67**, until workpiece is completely beyond saw blade.

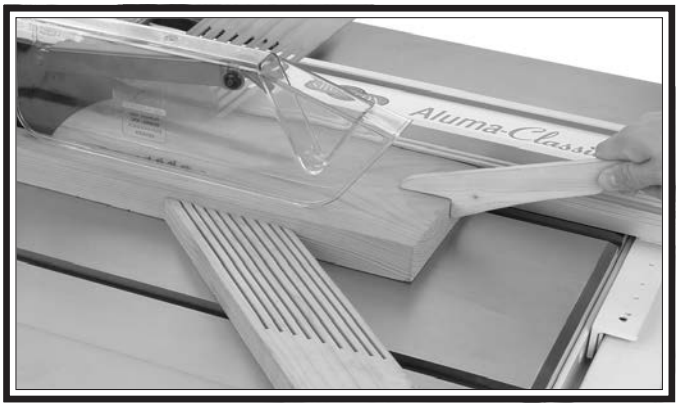
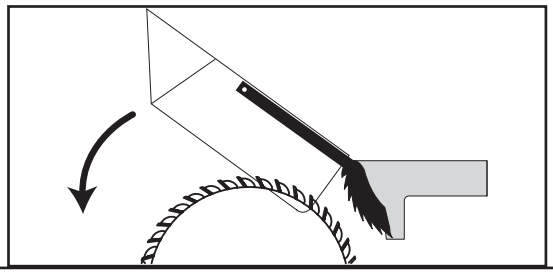


Figure 67. Typical ripping operation.

⚠WARNING

Turn saw OFF and allow blade to come to a complete stop before removing cutoff piece. Failure to follow this warning could result in severe lacerations or amputation.

⚠CAUTION



Keep the blade guard installed and in the down position. Failure to do this could result in serious personal injury or death.

Crosscutting

"Crosscutting" means cutting across the grain of a natural wood workpiece, usually with a miter gauge. In other man-made materials, such as MDF or plywood, crosscutting means cutting across the width of the workpiece.

To make a crosscut using miter gauge:

1. DISCONNECT MACHINE FROM POWER!
2. Ensure that blade guard/spreader is installed.
3. To avoid kickback, move rip fence aside and position miter gauge, adjusted to 90°, in a miter slot.
4. Adjust blade height so teeth protrude no more than ¼" above workpiece.
5. Slide miter gauge near blade and adjust workpiece so blade will cut on waste side of line.
6. Turn saw ***ON*** and allow blade to reach full speed.
7. Hold workpiece firmly against face of miter gauge (as shown in **Figure 68**), and ease it through blade until workpiece is completely past saw blade.

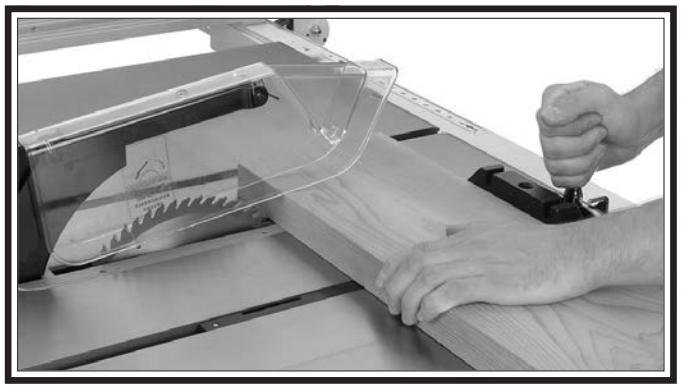


Figure 68. Typical crosscutting operation.

⚠WARNING

Turn saw OFF and allow blade to come to a complete stop before removing cutoff piece. Failure to follow this warning could result in severe lacerations or amputation.

Miter Cuts

A miter cut refers to an angled cut on the face of the workpiece, typically made at 45° (to make a 90° corner), although a miter cut can be made at any angle. Each miter cut should equal ½ of the entire angle of the corner being made.

To perform a miter cut:

1. DISCONNECT MACHINE FROM POWER!
2. Ensure that blade guard/spreader is installed.
3. Determine angle of cut. If angle needs to be very precise, use a protractor to set miter gauge to blade.
4. Place face of miter gauge against edge of workpiece and place bar across face of workpiece. Use bar as a guide to mark your cut, as shown in **Figure 69**.

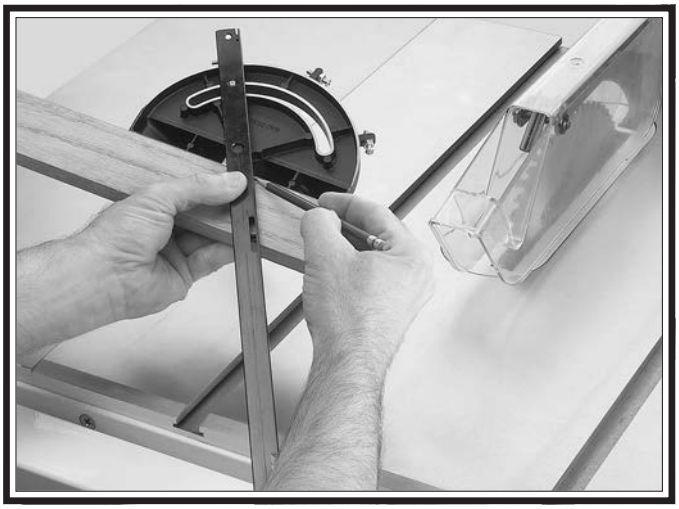


Figure 69. Example of marking miter line.

5. Place miter gauge back into slot and hold workpiece firmly against miter gauge body. Slide miter gauge near blade and adjust workpiece so blade will cut on waste side of line.
6. Proceed to make cut in same manner as described in **Crosscutting** instructions.

IMPORTANT: *DO NOT use the fence while using the miter gauge!*

Blade Tilt/Bevel Cuts

When the blade tilt collar bolts are properly adjusted (as described starting on **Page 69**), the blade tilt handwheel allows the operator to tilt the blade to the left, between 0° and 45°. This is used most often when cutting bevels, compound miters, or chamfers. **Figure 70** shows an example of the blade when tilted to 45°.

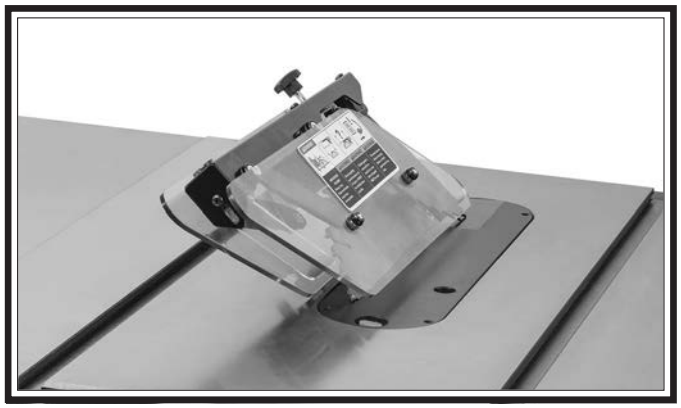


Figure 70. Example of blade tilted to 45° for bevel cutting.

Dado Cutting

Commonly used in furniture joinery, a dado is a straight channel cut in the face of the workpiece. Dadoes are "non-through" cuts that can be made with a dado blade or a standard saw blade. **Figure 71** shows a cutaway view of a dado cut being made with a dado blade.

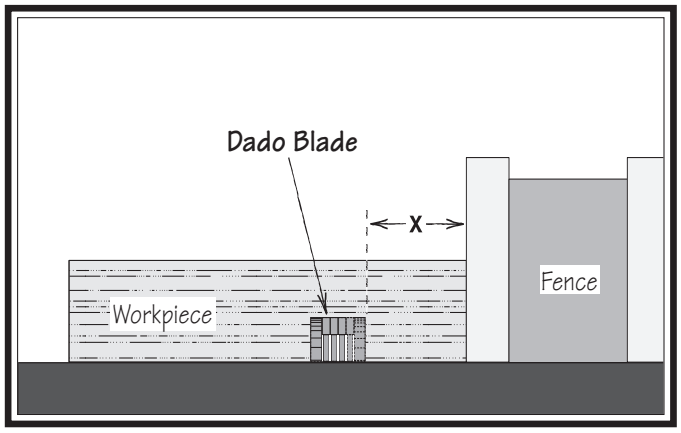


Figure 71. Dado cut.

This machine can accommodate dado blades up to 10" in diameter. However, you MUST install the included riving knife while using a 10" diameter dado blade, as it provides a barrier behind the blade and reduces the risk of hands being pulled into the blade if kickback occurs.

DO NOT use the riving knife if you install a dado blade smaller than 10" in diameter. Otherwise, the riving knife height will exceed the blade height and the workpiece will hit the riving knife during the cut, forcing the operator into a dangerous situation and trying to turn the saw off with the workpiece stuck halfway through the cut.

To install a dado blade:

1. DISCONNECT MACHINE FROM POWER!
2. Remove table insert, blade guard assembly or riving knife, arbor nut, flange, and saw blade.
3. Attach and adjust dado blade system according to dado blade manufacturer's instructions, and secure with included dado blade flange and arbor nut.
4. Install dado table insert.

⚠WARNING

DO NOT make through cuts with a dado blade. The extra width of a dado blade will increase the risk of kickback during a through cut. Dado blades are only intended for non-through cuts. Failure to heed this warning could result in serious injury.

⚠WARNING

Never try to cut a warped board by holding it down against the table. If kickback occurs, your hand could be pulled into the blade, resulting in accidental contact with the rotating blade, causing severe lacerations or amputation.

Cutting Dadoes with a Dado Blade

Because dado blades are much wider than standard blades, they place a greater amount of force against the workpiece when cutting. This additional force increases the risk of kickback, requiring the operator to take additional steps when cutting to keep their injury risk at an acceptable level.

Figure 72 demonstrates the sequential process of making multiple, light cuts that get progressively deeper. The actual number of cuts used should be determined by workpiece hardness, total dado depth, and feed rate. In general, if you hear the motor slow down during the cut, you are cutting too deep or feeding too fast. Slow down!

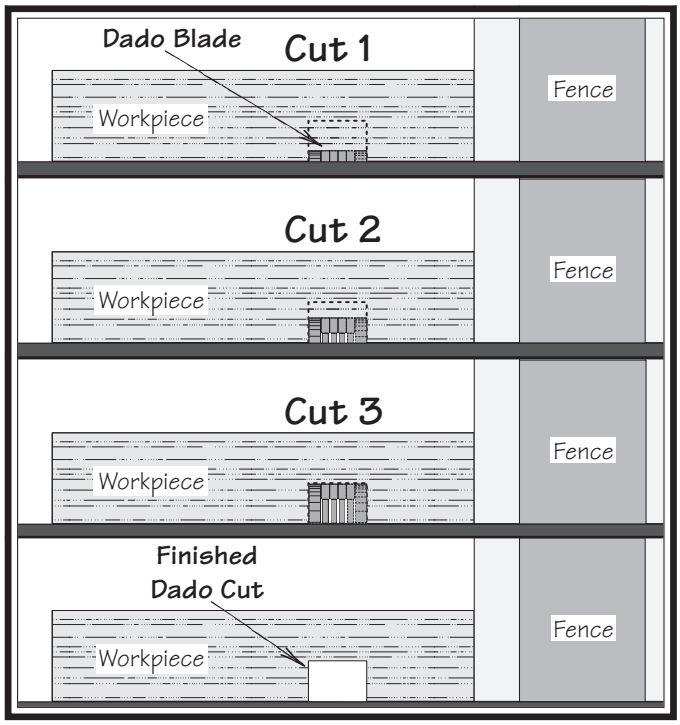


Figure 72. Dado cut sequence.

IMPORTANT: *When making non-through cuts with a dado blade, do not attempt to cut the full depth in one pass. Instead, take multiple light passes to reduce the load on the blade.*

A dado blade smaller than 10" will require removal of the riving knife, because the riving knife will be higher than the blade.

To cut a dado with a dado blade:

1. DISCONNECT MACHINE FROM POWER!
2. Adjust dado blade to desired depth of cut.
3. Adjust distance between fence and inside edge of blade, as shown in **Figure 71** on **Page 48**, to dado length of a workpiece.

   — If dadoing across workpiece, use miter gauge and carefully line up desired cut with dado blade. To reduce kickback, DO NOT use fence in combination with miter gauge.
4. Reconnect saw to power source.
5. Turn saw ***ON***. Blade should run smoothly, with no vibrations.
6. When blade has reached full speed, perform test cut with scrap piece of wood.
7. If cut is satisfactory, repeat cut with actual workpiece.

⚠WARNING

Dado blades have a higher risk of kickback than normal blades because their larger size applies stronger forces to the workpiece. This risk increases relative to the depth and width of the cut. To minimze your risk of serious personal injury, ensure that stock is flat and straight, and make multiple light cuts (rather than one deep cut) to achieve the desired cutting depth.

Cutting Dadoes with a Standard Blade

A ripping blade (described on **Page 36**) is typically the best blade to use when cutting dadoes with a standard blade because it removes sawdust very efficiently.

To cut a dado with a standard blade:

1. DISCONNECT MACHINE FROM POWER!

2. Mark width of dado cut on workpiece. Include marks on edge of workpiece so cut path can be aligned when workpiece is lying on table.

3. Raise blade up to desired depth of cut (depth of dado channel desired).

4. Set saw up for type of cut you need to make, depending on whether it is a rip cut (see **Page 46**) or crosscut (see **Page 47**).

5. Align blade to cut one side of dado, as shown in **Figure 73**.

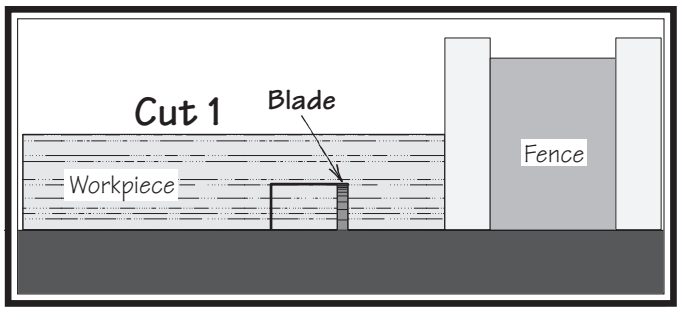


Figure 73. First cut for a single-blade dado.

6. Reconnect saw to power source and turn saw ***ON***. Allow blade to reach full speed, then perform cutting operation.

7. Repeat cutting operation on other side of dado, as shown in **Figure 74**.

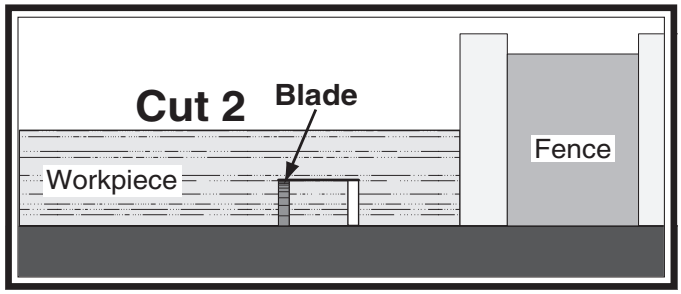


Figure 74. Second cut for a single-blade dado.

8. Make additional cuts (see **Figure 75**) in center of dado to clear out necessary material. Dado is complete when channel is completely cleared out.

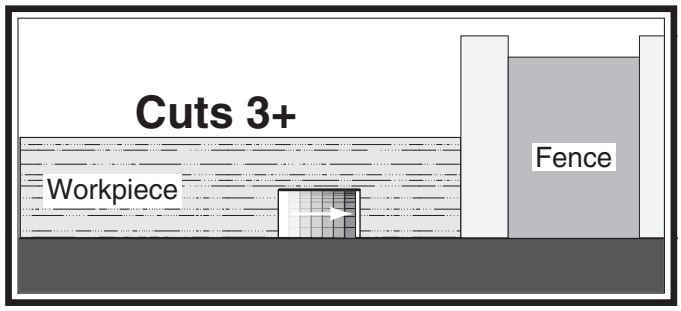


Figure 75. Additional single-blade dado cuts.

Rabbet Cutting

Commonly used in furniture joinery, a rabbet is an L-shaped groove cut in the edge of the workpiece. Rabbets can be cut with either a dado blade or a standard saw blade.

Rabbet cutting on the edge of the workpiece with a dado blade requires a sacrificial fence (see **Figure 76**). Make the sacrificial fence the same length as the fence and ¾" thick. Attach it to the fence with screws or clamps, making sure they are all secure and tight. Raise the blade into the sacrificial fence to the height needed.

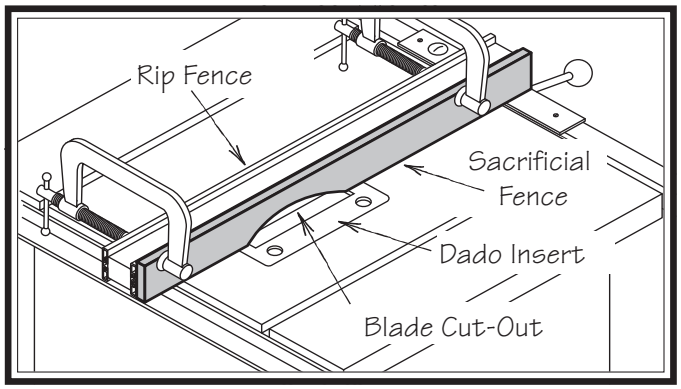


Figure 76. Example of sacrificial fence.

Note: *When using a dado blade, the dado table insert must be installed and used during rabbeting operations.*

⚠WARNING

Dado blades have a higher risk of kickback than normal blades because their larger size applies stronger forces to the workpiece. This risk increases relative to the depth and width of the cut. To minimze your risk of serious personal injury, ensure that stock is flat and straight, and make multiple light cuts (rather than one deep cut) to achieve the desired cutting depth.

⚠CAUTION

Always use push sticks, featherboards, push paddles and other safety accessories whenever possible to increase safety and control during operations which require that blade guard be removed from saw. ALWAYS replace blade guard after dadoing is complete.

Cutting Rabbets With A Dado Blade

1. DISCONNECT MACHINE FROM POWER!

2. Adjust dado blade to height needed for rabbeting operation. When cutting deep rabbets, take more than one pass to reduce risk of kickback.

3. Adjust fence and align workpiece to perform cutting operation, as shown in **Figure 77**.

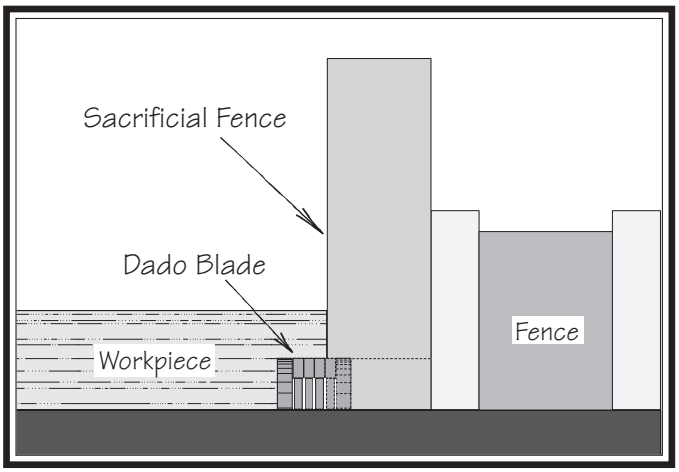


Figure 77. Rabbet cutting.

4. Reconnect saw to power source and turn saw ***ON***. When blade has reached full speed, perform a test cut with a scrap piece of wood.

   — If cut is satisfactory, repeat cut with workpiece.

Cutting Rabbets with a Standard Blade

A ripping blade is typically the best blade to use for cutting rabbets when using a standard blade because it removes sawdust very efficiently. (See **Page 36** for blade details.) Also, a sacrificial fence is not required when cutting rabbets with a standard blade.

To cut rabbets with a standard blade:

1. DISCONNECT MACHINE FROM POWER!
2. Ensure that riving knife and standard table insert are installed.
3. Mark width of rabbet cut on edge of workpiece, so you can clearly identify intended cut while it is laying flat on saw table.
4. Raise blade up to desired depth of cut (depth of rabbet channel desired).
5. Stand workpiece on edge, as shown in **Figure 78**, then adjust fence so blade is aligned with inside of your rabbet channel.

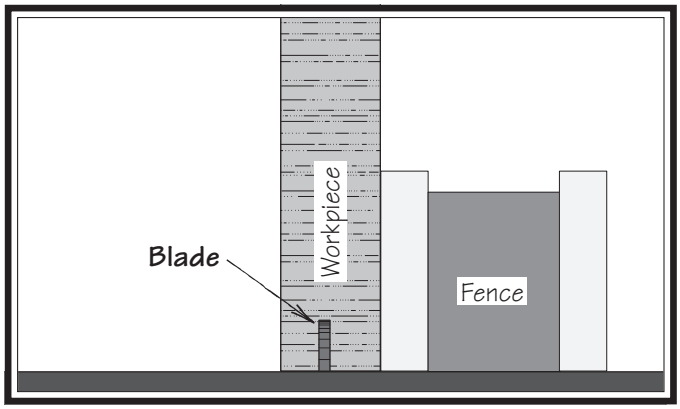
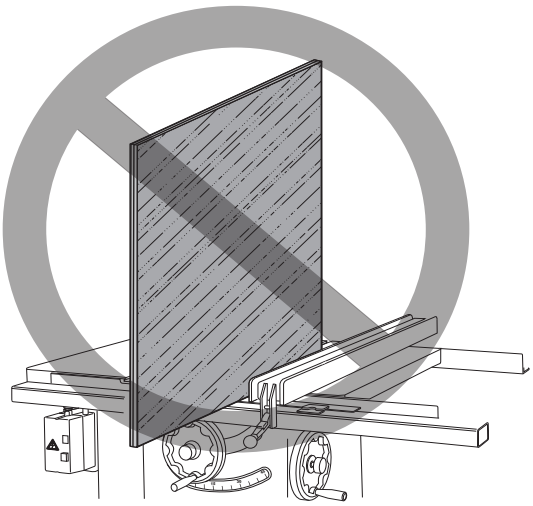


Figure 78. Example of rabbet cutting with a standard blade.

— If workpiece is very tall, or is unstable when placed against fence, lay it flat on table and use a dado blade to perform rabbet cut.

⚠WARNING



DO NOT place a tall board on edge to perform a rabbet cut with a standard blade. Workpieces that are too tall to properly support with fence can easily shift during operation and cause kickback. Instead, place stock flat on saw and perform rabbet cut with a dado blade, as instructed on Page 48.

6. Reconnect saw to power source, then perform cut.
7. Lay workpiece flat on table, as shown in **Figure 79**, adjust saw blade height to intersect with first cut, then perform second cut to complete rabbet.

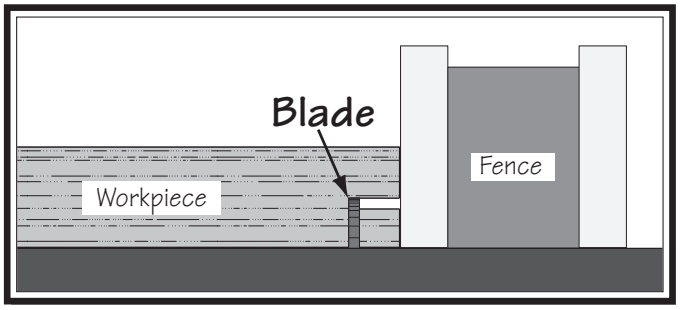


Figure 79. Example of second cut to create a rabbet.

Resawing

⚠CAUTION

Resawing operations require following proper procedures to avoid serious injury. Extra care must be taken to prevent kickback when resawing. Any tilting movement of the workpiece away from the fence will cause kickback. Be certain that stock is flat and straight. Failure to follow these warnings could result in serious personal injury.

Resawing is the process of cutting a thick piece of stock into one or more thinner pieces. Although resawing can be done with a table saw, we strongly recommend that you use a bandsaw instead.

A bandsaw is the ideal machine for resawing, and resawing with one is fairly easy and safe. A table saw is not intended for resawing, and resawing with one is difficult and dangerous due to the increased risk of kickback from binding and deep cuts, and the increased risk of injury from having to remove the guard.

If you insist on resawing with a table saw, DO NOT do so without using a resaw barrier and wearing a full face shield. The following instructions describe how to build a resaw barrier and add an auxiliary fence to your standard fence, to reduce the risk injury from resawing on a table saw.

Note: *To determine the maximum resawing height for this table saw, find the maximum blade height, then double it and subtract 1/8".*

Making Resaw Barrier

When resawing, the resaw barrier acts in tandem with the rip fence to provide tall support for the workpiece. This reduces the probability of it binding against the blade and causing kickback.

Tools Needed:	**Qty**
Table Saw	1
Jointer and Planer (Recommended)	1
Clamps	2
Drill	1
Drill Bits 1/8", 9/64"	1 Each
Countersink Bit	1

Components Needed for Resaw Barrier

Wood 3/4" x 5 1/2" x Length of Fence	1
Wood 3/4" x 3" x Length of Fence	1
Wood Screws #8 x 2"	4
Wood Glue	As Needed

Note: *Only use furniture-grade plywood, kiln-dried hardwood, or HDPE plastic to prevent warping.*

To build a resaw barrier:

1. Cut your wood pieces to size specified above. If you are using hardwood, cut pieces oversize, then joint and plane them to correct size to make sure they are square and flat.

2. Pre-drill and countersink four holes approximately 3/8" from bottom of 5 1/2" tall wood piece.

3. Glue end of 3" board, clamp boards at a 90° angle with larger board in vertical position, as shown in **Figure 80**, then fasten together with wood screws.

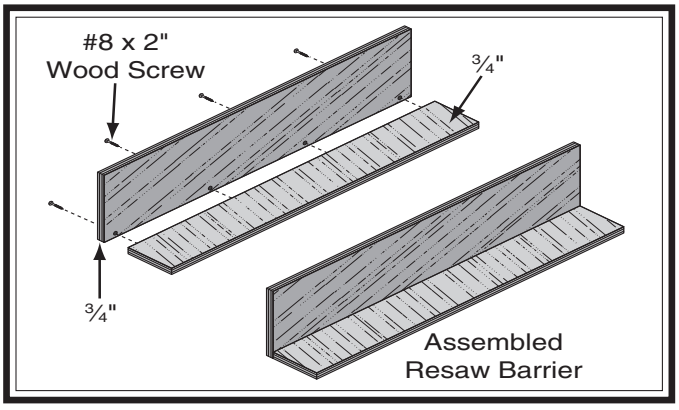


Figure 80. Example of resaw barrier.

Auxiliary Fence

The auxiliary fence is necessary if you are resawing wood that is more than 3" tall. It should be no less than ½" shorter than the board to be resawn.

Tools Needed for the Resaw Barrier	Qty
Table Saw	1
Jointer and Planer (Recommended)	1
Clamps	2
Drill	1
Drill Bits ⅛", 9/64"	1 Each
Countersink Bit	1

Components Needed for Auxiliary Fence	
Wood ¾" x (Height) x Length of Fence	1
Flat Head Screws ¼-20" x 1"	4
Hex Nuts ¼-20"	4

Note: *Only use furniture grade plywood, kiln dried hardwood or HDPE plastic to prevent warping.*

To build the auxiliary fence:

1. Cut auxiliary fence board to size as specified above. If you are using hardwood, cut the board oversize, then joint and plane board to correct size to make sure it is square and flat.

2. Pull one end cap off of standard fence, then, from bottom side of fence, remove four hex nuts, flat washers, t-bolts and fence face from fence body.

3. Place auxiliary fence next to open side of fence, clamp it in place, then flip assembly over.

4. Reach through access holes and use a center punch or nail to mark four mounting hole locations onto auxiliary fence.

5. Remove auxiliary fence, then pre-drill and countersink four mounting holes into it.

6. Thread flat head screws through auxiliary fence and into hex nuts and flat washers inside fence body, then tighten securely, as illustrated in **Figure 81**.

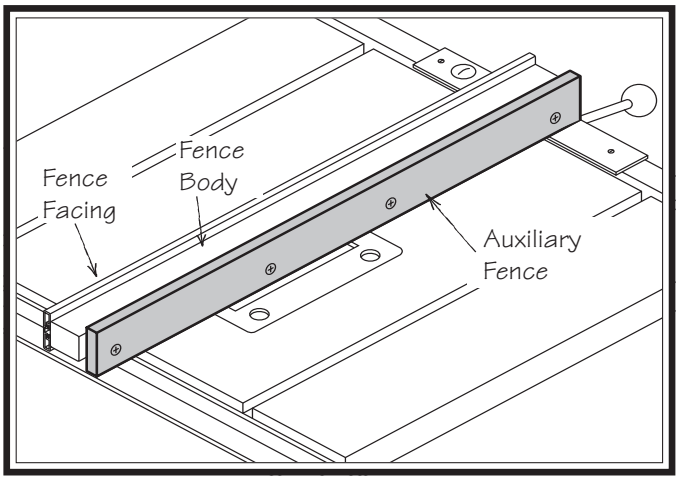


Figure 81. Auxiliary fence.

Resawing Operations

The table saw motor is pushed to its limits when resawing. If the motor starts to bog down, slow down your feed rate. Motor overloading and blade wear can be reduced by using a ripping blade. Ripping blades have between 8 and 30 teeth to clear the sawdust quickly.

Components Needed for Resawing	Qty
Zero Clearance Insert	1
Ripping Blade 10"	1
Clamps	2
Shop Made Auxiliary Fence	1
Shop Made Resaw Barrier	1

⚠WARNING

You may experience kickback during this procedure. Stand to the side of the blade and wear a full face shield to prevent injury when resawing.

To perform resawing operations:

1. DISCONNECT MACHINE FROM POWER!

2. Remove standard table insert and blade guard/spreader assembly. Install a ripping blade and a zero clearance insert. Then lower blade below table surface.

3. Attach auxiliary fence to standard fence and set it to desired width.

   Note: *Account for blade kerf, the rough cut made by the blade, and the inaccuracy of the fence scale when the auxiliary fence is installed when figuring out the correct width.*

4. Place workpiece against fence and slide resaw barrier against workpiece. Now clamp resaw barrier to top of table saw (see **Figure 82**).

5. Slide workpiece over blade to make sure it moves smoothly.

6. Raise blade approximately an inch, or close to half the height of the workpiece (see **Figure 82**), whichever is less.

⚠WARNING

The danger of kickback increases relative to the depth of cut. Reduce the risk of kickback by making multiple passes to achieve desired depth of cut. Failure to follow these warnings could result in serious personal injury.

⚠WARNING

Always use push sticks or push paddles to increase safety and control during operations which require the blade guard and spreader must be removed from the saw. ALWAYS replace the blade guard after resawing is complete.

7. Reconnect saw to power source, turn it ***ON***, and use a push stick to feed workpiece through blade using a slow, steady feedrate.

8. Flip workpiece end for end, keeping same side against fence, and run workpiece through blade.

9. Repeat **Steps 6–8** until the blade is close to half of the height of the board to be resawn. The ideal completed resaw cut will leave a ⅛" connection when resawing is complete as illustrated in **Figure 82**. Leaving a ⅛" connection will reduce risk of kickback.

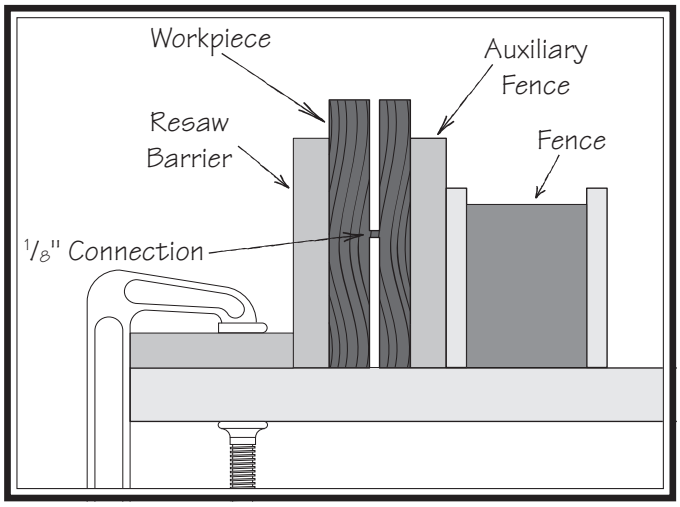


Figure 82. Ideal completed resaw cut.

10. Turn ***OFF*** table saw, then separate workpiece and hand plane remaining ridge.

11. When finished resawing, remove resaw barrier and re-install blade guard/spreader assembly.

Shop Made Safety Accessories

There are designs for hundreds of specialty jigs and accessories that can be found in books, trade magazines, and on the internet. These types of jigs can greatly improve the safety and consistency of cuts. They are particularly useful during production runs when dozens or hundreds of the same type of cut need to be made.

Featherboards

Easily made from scrap stock, featherboards provide an added degree of protection against kickback, especially when used together with push sticks. They also maintain pressure on the workpiece to keep it against the fence or table while cutting, which makes the operation easier and safer because the cut can be completed without the operator's hands getting near the blade. The angled ends and flexibility of the fingers allow the workpiece to move in only one direction.

Making a Featherboard

This sub-section covers the two basic types of featherboards: 1) Those secured by clamps, or 2) those secured with the miter slot.

Material Needed for Featherboard

Hardwood ¾" x 3" x 10"	1
Hardwood ¾" x 6" x 28"	1

Additional Material Needed for Mounting Featherboard in Miter Slot

Hardwood ⅜" x (Miter Slot Width) x 5"L	1
Wing Nut ¼"-20	1
Flat Head Screw ¼"-20 x 2"	1
Flat Washer ¼"-20	1

NOTICE

Only Steps 1–3 are required to make a clamp-mounted featherboard. Refer to Page 58 for instructions on clamping.

To make a clamped featherboard:

1. Cut a hardwood board approximately ¾" thick to size. The length and width of the board can vary according to your design. Most featherboards are 10"–28" long and 3"–6" wide. Make sure the wood grain runs parallel with the length of the featherboard, so the fingers you will create in **Step 3** will bend without breaking.

2. Cut a 30º angle at one end of the board.

⚠ CAUTION

We recommend using a bandsaw for making fingers in the next step because it tends to be safer. A table saw can be used, but it will over-cut the underside of the ends, produce a thicker kerf, and require you to stop the blade half-way through the cut, which can be dangerous.

3. Make a series of end cuts with the grain ⅜"–¼" apart and 2"–3" long, as shown in **Figure 83** (A). Alternatively, start cuts at 2"-3" deep, then make them progressively deeper, as shown in **Figure 83** (B).

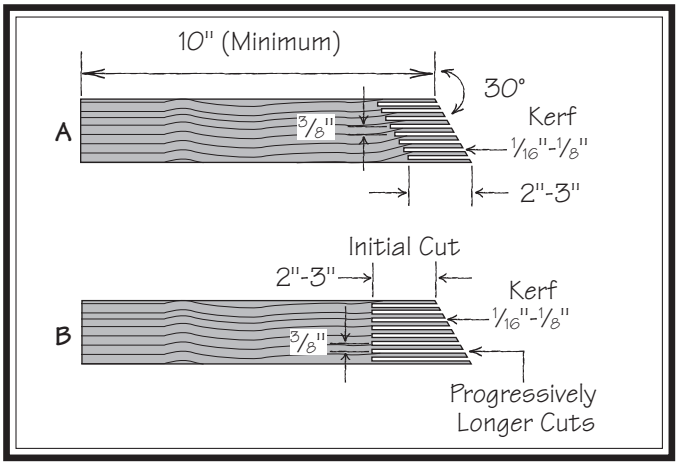


Figure 83. Featherboard (top view)

IMPORTANT: *Cuts made across the grain result in weak fingers that easily break when flexed. When made correctly, the fingers should withstand flexing from moderate pressure. To test the finger flexibility, push firmly on the ends with your thumb. If the fingers do not flex, they are likely too thick (the cuts are too far apart).*

4. Rout a ¼"–⅜" wide slot 4"–5" long in workpiece and 1"–2" from short end of featherboard (see **Figure 84**).

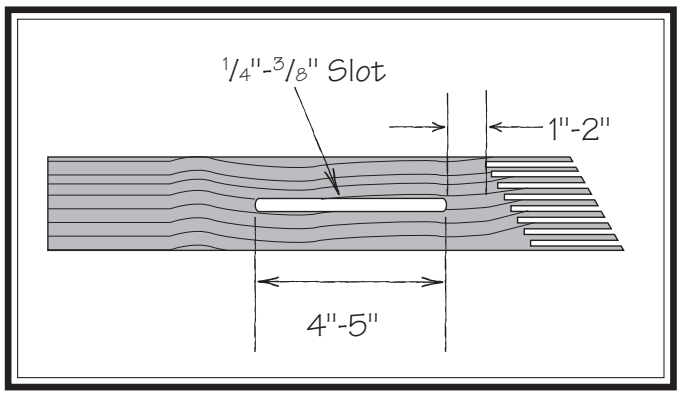


Figure 84. Slot routed in featherboard.

5. Cut a miter bar approximately 5" long that will fit in table miter slot, as shown in **Figure 85**.

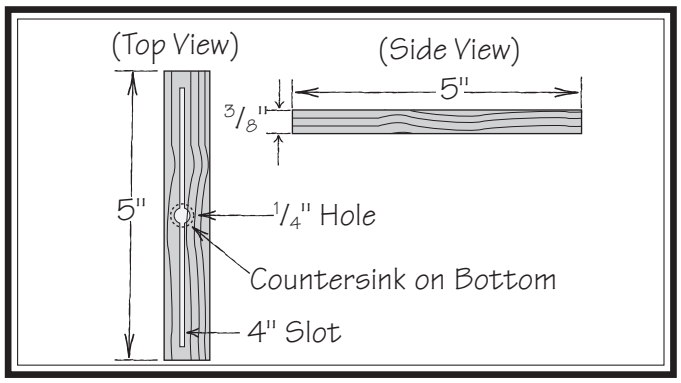


Figure 85. Miter bar pattern.

Tip: *Consider making miter bar longer for larger featherboards—approximately half the length of total featherboard—to support force applied to the featherboard during use.*

6. Drill a ¼" hole in center of bar, then countersink bottom to fit a ¼"-20 flat head screw.

7. Mark a 4" line through center of countersunk hole in center, then use a jig saw with a narrow blade to cut it out.

8. Assemble miter bar and featherboard with a ¼"-20 x flat head screw, flat washer, and a wing nut or a star knob (see **Figure 86**). Congratulations! Your featherboard is complete.

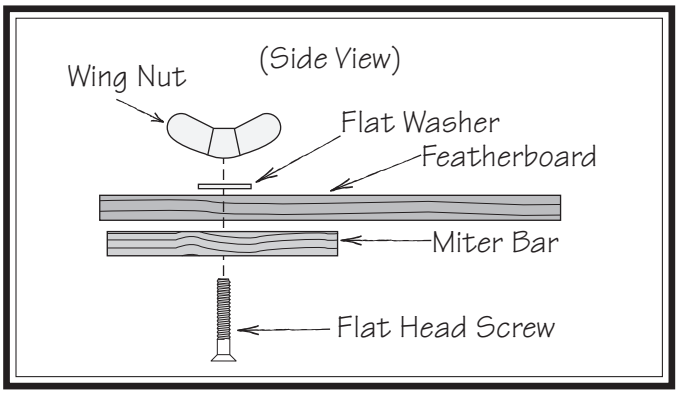


Figure 86. Assembling miter slot featherboard components.

Note: *The routed slot, countersink hole, and flat head screw are essential for miter bar to clamp into miter slot. When wing nut is tightened, it will draw flat head screw upward into countersunk hole. This will spread sides of miter bar and force them into walls of miter slot, locking featherboard in place.*

Tip: *The length of the flat head screw depends on thickness of featherboard—though 1½" to 2" lengths usually work.*

Now, proceed to **Mounting Featherboard in Miter Slot** on **Page 58**.

Mounting Featherboards w/ Clamps

1. Lower saw blade, then adjust fence to desired width and secure it.

2. Place workpiece against fence, making sure it is 1" in front of the blade.

3. Place a featherboard on table away from blade so all fingers point forward and contact workpiece (see **Figure 87**).

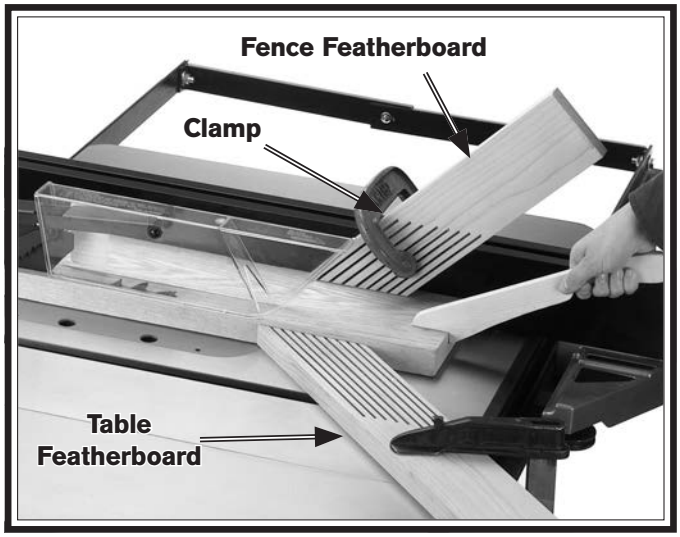


Figure 87. Example of featherboards secured with clamps.

4. Secure featherboard to table with a clamp.

5. Check featherboard by pushing it with your thumb to ensure it is secure.

   — If featherboard moves, tighten clamp more.

6. Optional: If cutting long workpieces, it may be beneficial to use a second featherboard attached to fence to keep board firmly against table while feeding.

Mounting Featherboard in Miter Slot

1. Lower saw blade, then adjust fence to desired width and secure it.

2. Place workpiece evenly against fence, making sure it is 1" in front of blade.

3. Slide featherboard miter bar into miter slot, making sure fingers slant toward blade, as shown in **Figure 88.**

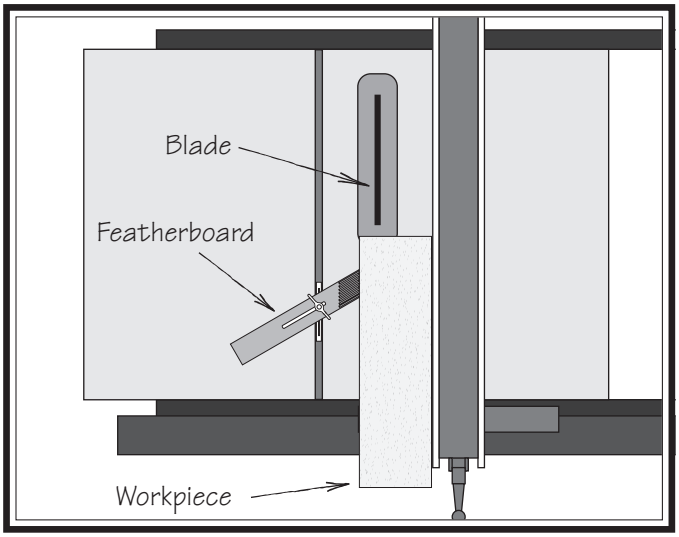


Figure 88. Featherboard installed in miter slot and supporting workpiece for ripping cut.

4. Position fingered edge of featherboard against edge of workpiece, so that all fingers contact workpiece. Slide featherboard toward blade until first finger is nearly even with end of workpiece, which should be 1" away from blade.

5. Double-check workpiece and featherboard to ensure they are properly positioned, as described in **Step 4**. Then secure featherboard to table. Check featherboard by hand to make sure it is tight.

   Note: *The featherboard should be placed firmly enough against workpiece to keep it against fence but not so tight that it is difficult to feed workpiece.*

Push Sticks

When used correctly, push sticks reduce the risk of injury by keeping hands away from the blade while cutting. In the event of an accident, a push stick can also absorb damage that would have otherwise happened to hands or fingers.

Using a Push Stick

Use push sticks whenever your hands will get within 12" of the blade. To maintain control when cutting large workpieces, start the cut by feeding with your hands then use push sticks to finish the cut, so your hands are not on the end of the workpiece as it passes through the blade.

Feeding: Place the notched end of the push stick against the end of the workpiece (see **Figure 90** below), and move the workpiece into the blade with steady downward and forward pressure.

Supporting: A second push stick can be used to keep the workpiece firmly against the fence while cutting. When using a push stick in this manner, only apply pressure before the blade; otherwise, pushing the workpiece against or behind the blade will increase the risk of kickback (see **Push Stick Prohibition Zone** in **Figure 89**).

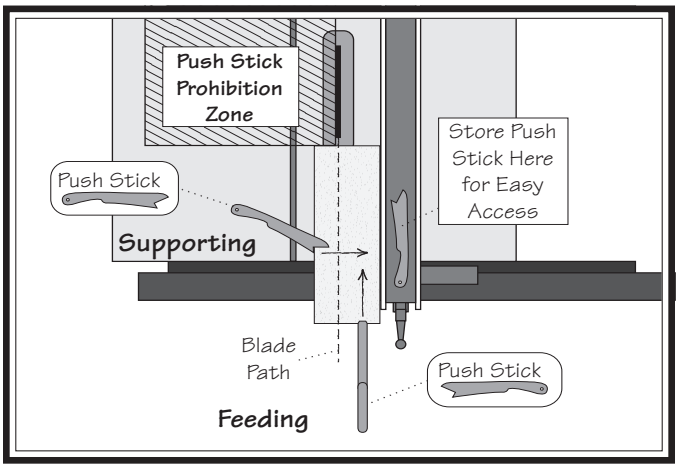


Figure 89. Using push sticks to rip narrow stock.

Figure 90. Side view of a push stick in-use.

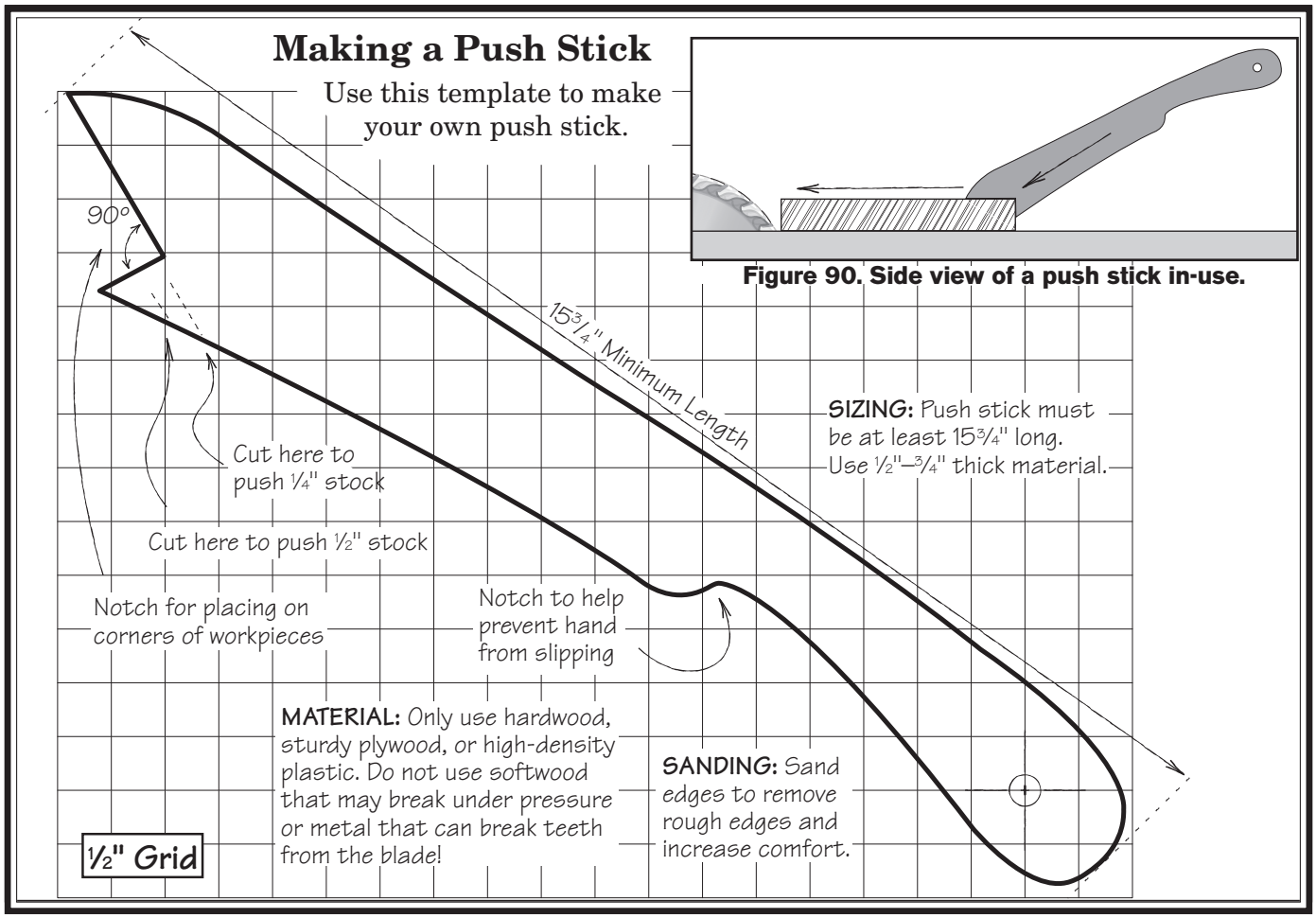


Figure 91. Template for a basic shop-made push stick (not to scale).

Push Blocks

When used correctly, a push block reduces the risk of injury by keeping hands away from the blade while cutting. In the event of an accident, a push block often takes the damage that would have otherwise happened to hands or fingers.

Using a Push Block

A push block can be used in place of or in addition to a push stick for feeding workpieces into the blade. Due to their design, push blocks allow the operator to apply firm downward pressure on the workpiece that could not otherwise be achieved with a push stick.

The push block design on this page can be used in two different ways (see **Figure 92**). Typically, the bottom of the push block is used until the end of the workpiece reaches the blade.

The notched end of the push block is then used to push the workpiece the rest of the way through the cut, keeping the operator's hands at a safe distance from the blade. A push stick is often used at the same time in the other hand to support the workpiece during the cut (see **Using a Push Stick** on previous page).

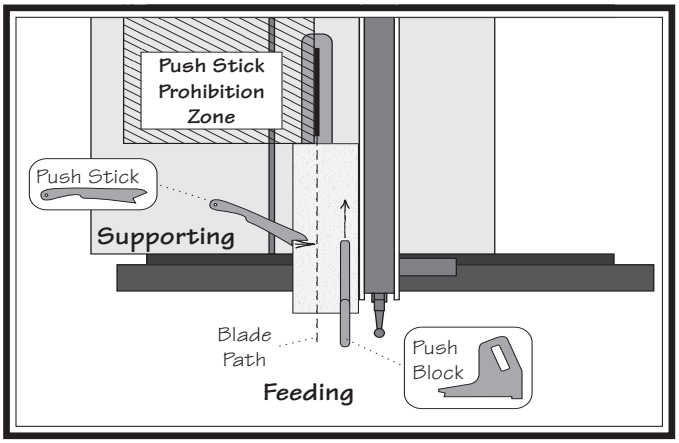


Figure 93. Using a push block and push stick to make a rip cut.

Figure 92. Side view of a push block in use.

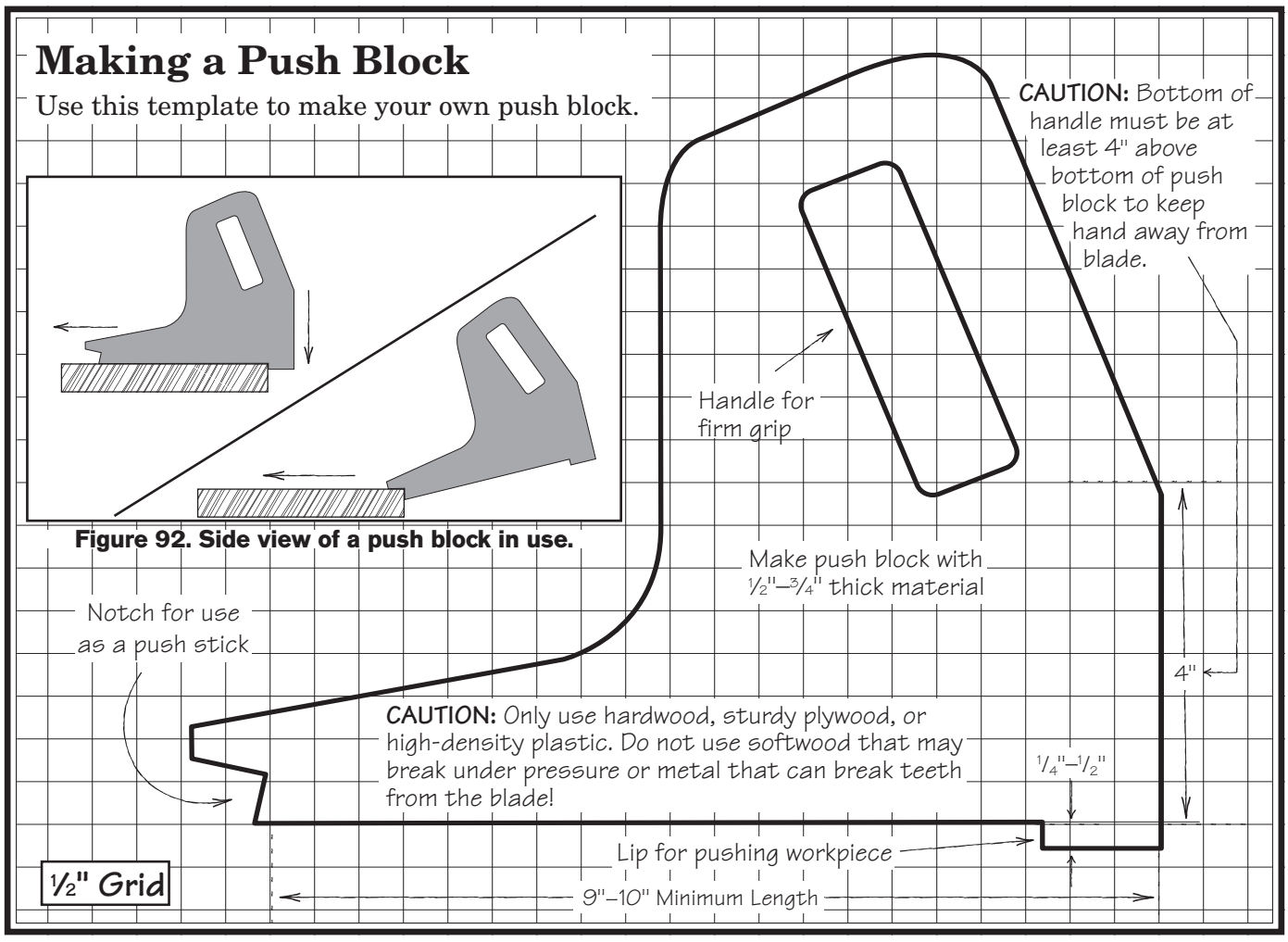


Figure 94. Template for a shop-made push block (not to scale).

Narrow-Rip Auxiliary Fence & Push Block

The narrow-rip auxiliary fence and push block system shown in this section is an example of a specialty jig that can be made to increase the safety of very narrow rip cuts.

Material Needed for Narrow Rip Auxiliary Fence & Push Block

Hardwood ¾" x 3" x Length of Fence 1
Plywood ¾" x 5¼" x Length of Fence 1
Wood Screws #8 x 1½" 8

Material Needed for Push Block

Hardwood or Plywood ¾" x 15" x 5⅝" 1
Hardwood or Plywood ¾" x 10" x 5"–9" 1
Cyanoacrylate Wood Glue ..... Varies
Wood Screws #8 x 1½" ..... As Needed

Making a Narrow-Rip Push Block for an Auxiliary Fence

1. Cut a piece of ¾" thick plywood 5¼" wide and as long as your table saw fence; cut a piece of ¾" thick hardwood 3" wide and as long as your table saw fence, as shown in **Figure 95**.

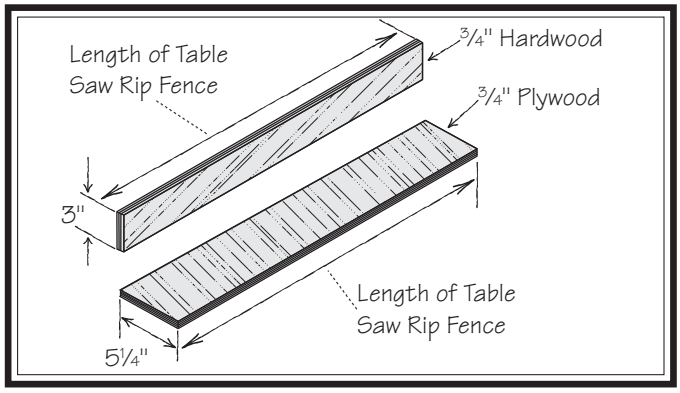


Figure 95. Auxiliary fence dimensions.

Note: *We recommend cutting hardwood board oversize, then jointing and planing it to correct size to make sure board is square and flat. Only use furniture-grade plywood or kiln-dried hardwood to prevent warping.*

2. Pre-drill and countersink eight pilot holes ⅜" from bottom of 3" wide board, then secure boards together with eight #8 x 1½" wood screws, as shown in **Figure 96**.

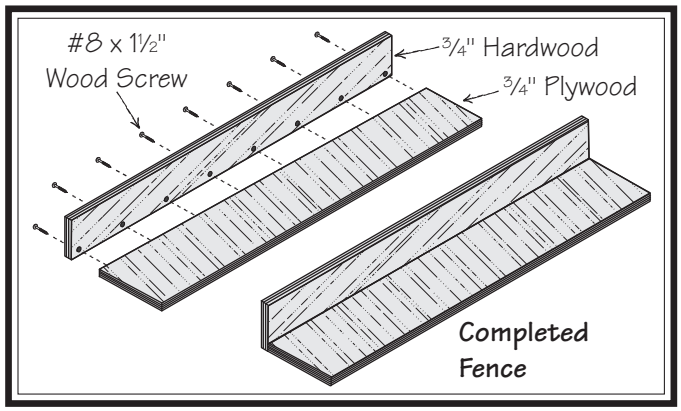


Figure 96. Location of pilot holes.

3. Using ¾" material you used in previous steps, cut out pieces for push block per dimensions shown in **Figure 97**; for handle, cut a piece 10" long by 5"–9" high and shape it as desired to fit your hand.

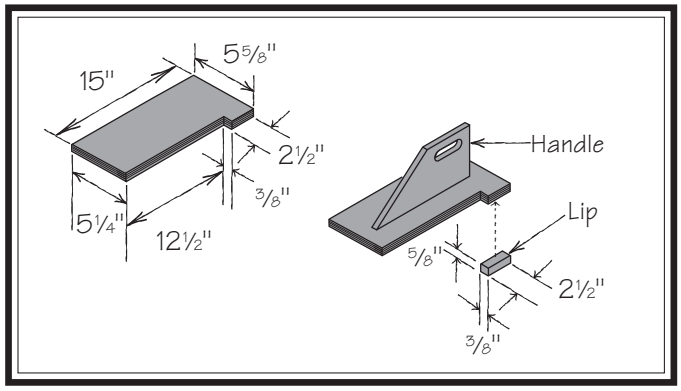


Figure 97. Push block dimensions and construction.

4. Attach handle to base with #8 x 1½" wood screws, and attach lip to base with cyanoacrylate-type wood glue.

Using Auxiliary Fence & Push Block

1. Place auxiliary fence on table and clamp it to fence at both ends, then adjust distance between auxiliary fence and blade—this determines how wide workpiece will be ripped (see **Figure 98**).

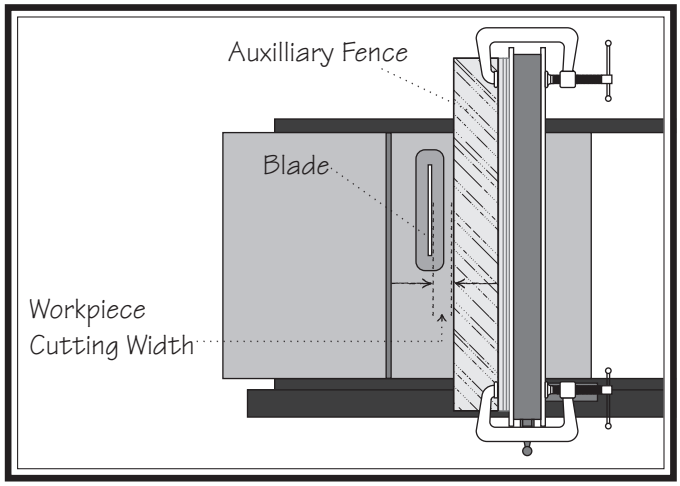
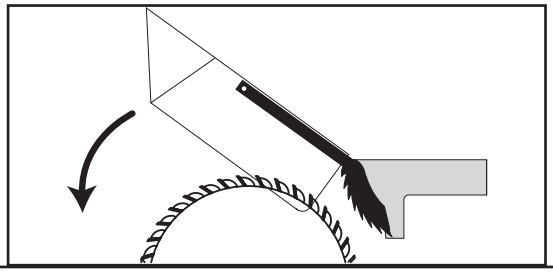


Figure 98. Adjusting ripping distance between blade and auxiliary fence.

2. Install blade guard with spreader pawls removed, as shown on **Page 41**, so they do not interfere with push block lip.

⚠CAUTION



Keep the blade guard installed and in the down position. Failure to do this could result in serious personal injury or death.

3. Place workpiece 1" behind blade and evenly against table and auxiliary fence as illustrated in **Figure 99**.

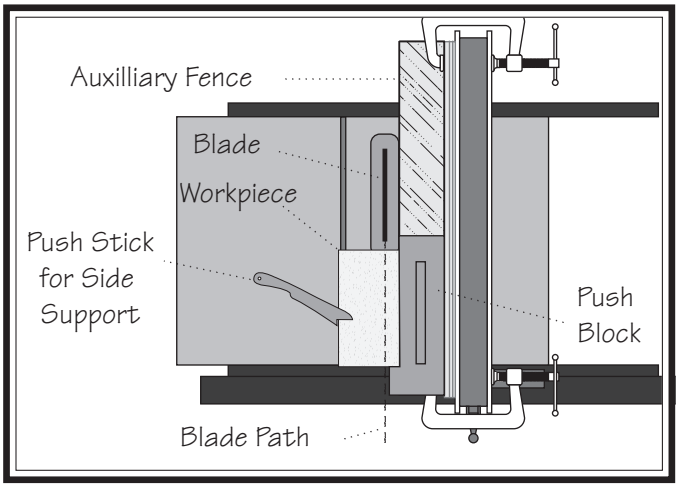


Figure 99. Push block in position to push workpiece through blade.

4. Turn saw ***ON***, then begin ripping workpiece using a push stick for side support.

5. As workpiece nears end of cut, place push block on auxiliary fence with lip directly behind workpiece, then release push stick just before blade.

6. Guide workpiece rest of way through cut with push block, as shown in **Figure 100**.

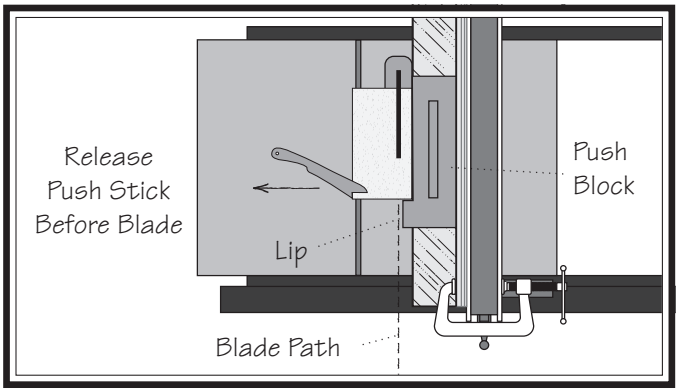


Figure 100. Ripping with push block.

⚠WARNING

Turn OFF the saw and allow blade to come to a complete stop before removing cut-off piece. Failure to follow this warning could result in serious personal injury.

Outfeed & Support Tables

One of the best accessories for improving the safety and ease of using a table saw is simply placing a large table (outfeed table) behind the saw to catch the workpiece (see **Figure 101**). Additionally, another table to the left of the saw (support table) can also help support large workpieces so they can be cut safely and accurately.

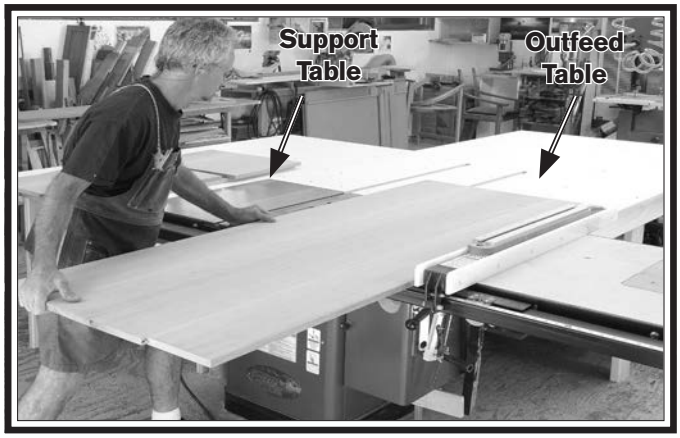


Figure 101. Example of outfeed & support tables.

Crosscut Sled

A crosscut sled (see **Figure 102**) is a fantastic way to improve the safety and accuracy of crosscutting on the table saw. Most expert table saw operators use a crosscut sled when they have to crosscut a large volume of work, because the sled offers substantial protection against kickback when crosscutting.

Figure 102. Example of crosscut sled.

Accessories

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

⚠WARNING

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

NOTICE

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

G5562—SLIPIT® 1 Qt. Gel
G5563—SLIPIT® 12 Oz. Spray
G2871—Boeshield® T-9 12 Oz. Spray
G2870—Boeshield® T-9 4 Oz. Spray
H3788—G96® Gun Treatment 12 Oz. Spray
H3789—G96® Gun Treatment 4.5 Oz. Spray

Figure 103. Recommended products for protecting unpainted cast iron/steel part on machinery.

T20456—DAKURA Safety Glass, Black/Clear
Safety glasses can be functional as well as fashionable with EDGE™ Eyewear from Wolfpeak. All of these models meet the requirements of ANSI Z87.1-2003 and provide 99.9% protection from harmful UVA/UVB/UVC rays.

Figure 104. Model T20456 Safety Glasses.

T26493—3M Peltor X3 Slim Design Earmuffs
Lightweight, with ear cushion foam technology for effective acoustic seal and reliable protection; in addition the cushions and inserts are replaceable to keep them clean. The X3 has an NRR of 28dB (with hardhat 25 dB) and high attenuation.

Figure 105. Model T26493 Earmuffs.

T21879 - Zero Clearance Table Insert
T21878 - Zero Clearance Dado Insert
Special phenolic composition outlasts and outperforms wood, foam, and plastic. Supports work right up to the blade.

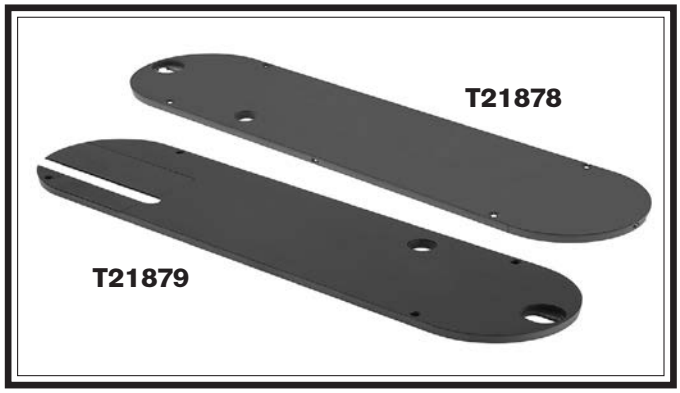


Figure 106. Zero clearance table inserts.

T24436–Diablo 10" 40T General Purpose Blade
For a highly versatile blade that makes clean cuts in a broad variety of wood types. Ideal for a wide variety of applications, this blade reduces the need to change blades between tasks. For strong, long-lasting resistance, the blade features a tough steel plate and high-density carbide tips.

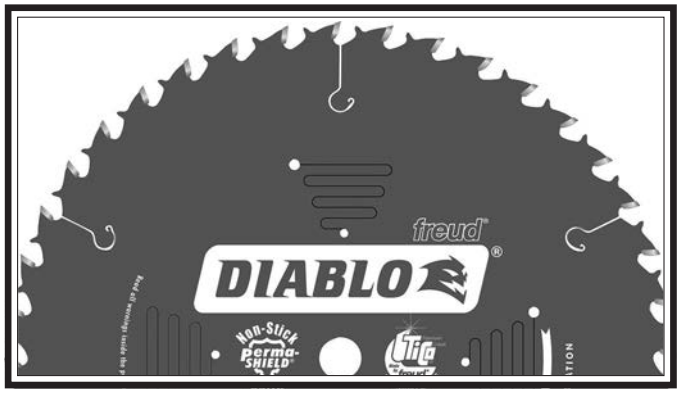


Figure 107. Model 24436 40T Saw Blade.

T26699–Grizzly 10" 80T Cut-Off Blade
This general purpose blade sports an ATB grind on micro-grain carbide tips to ensure consistent performance over a long cutting life. Arbor bore size is ⅝" and kerf is 0.120". This 80-tooth blade is for clean, quick cuts.

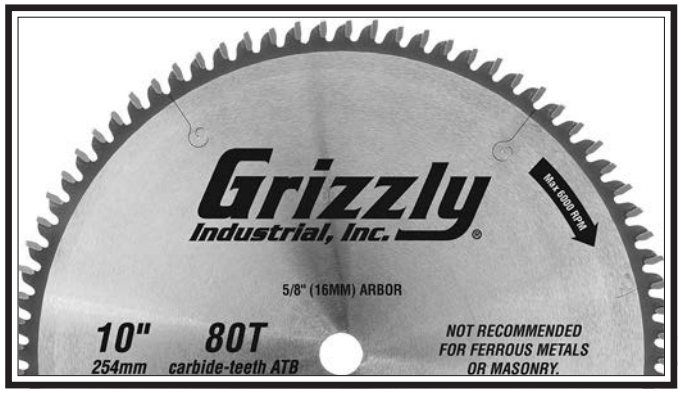


Figure 108. Model T26699 80T Saw Blade.

T26696–Grizzly 8" 24T Stacked Dado Set
This T26696 Extreme Series Dado Set features micro-grain carbide teeth that cuts square sides and flat bottom dadoes from 7⁄32"–29⁄32" wide.

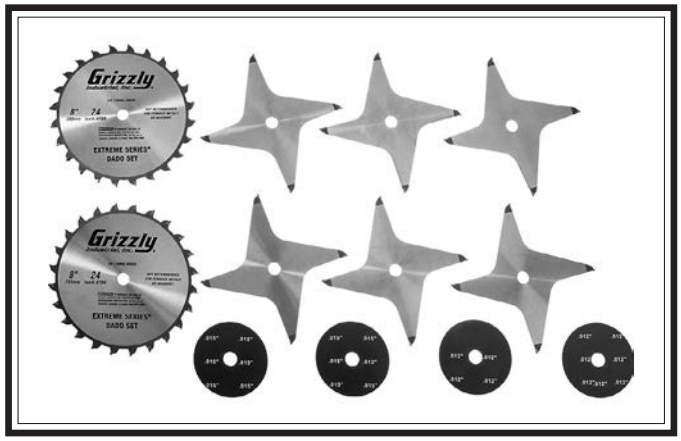


Figure 109. Model T26696 Stacked Dado Set.

T28000—Bear Crawl Heavy Duty Mobile Base
The Grizzly Bear Crawl Mobile Base, with a 1200 lb. capacity, steel and polyurethane heavy-duty ball bearing wheels, and toe flip-stops, will make this mobile base a staple under your machines for years to come.
Adjusts from: 19" x 21" to 29½" x 29½"

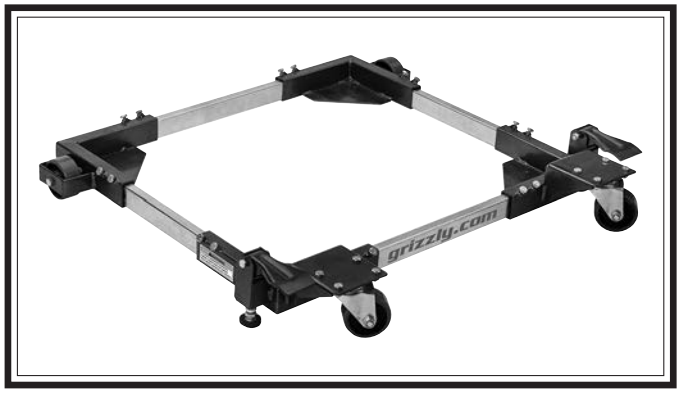


Figure 110. Model T28000 Bear Crawl Mobile Base.

T28347—Extension Kit for Bear Crawl Mobile Base
An extension kit to fit the Bear Crawl Heavy-Duty Mobile Bases. This kit is for use with longer table saws and adds 18"-44" of length to your Bear Crawl Mobile Bases.

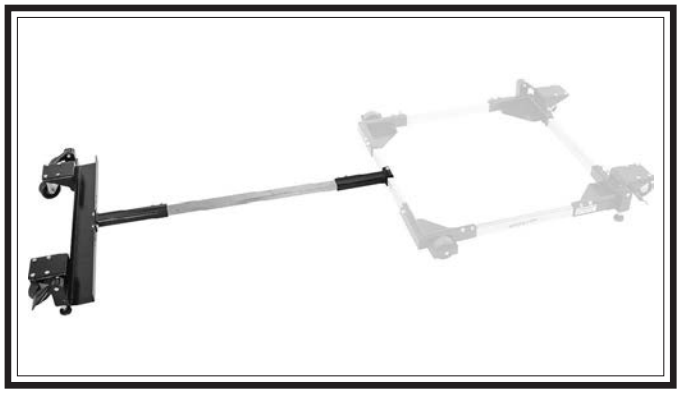


Figure 111. Model T28347 Extension Kit.

T30491—Grizzly Tenoning Jig
A tenoning jig is designed to work with your table saw to make a tenon which will be part of a mortise and tenon joint. This fully adjustable tenoning jig fits left and right tilting table saws with ⅜" x ¾" miter gauge slots while handling a stock up to 3¼" thick.

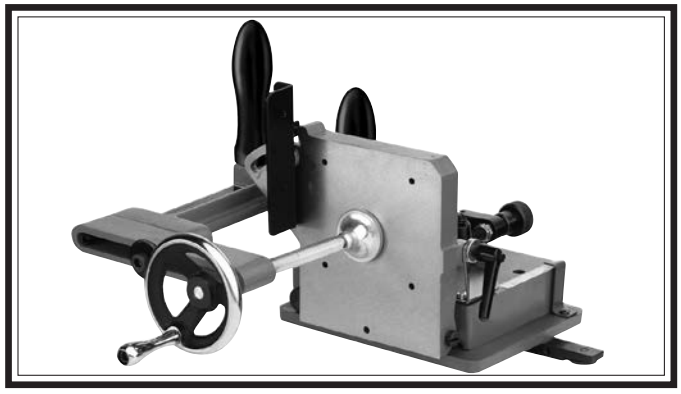


Figure 112. Model T30491 Tenoning Jig.

G4173—Baby Power Feeder 110V
G4176—¼ HP Power Feeder 110V
G4179—½ HP Power Feeder 220V
G4181—1 HP Power Feeder 220V
Installing a power feeder on your table saw will make repetitive cuts much easier and safer. Can be installed on nearly any table saw. Easy to adjust wherever needed, including out of the way when not needed! A must for any production shop.

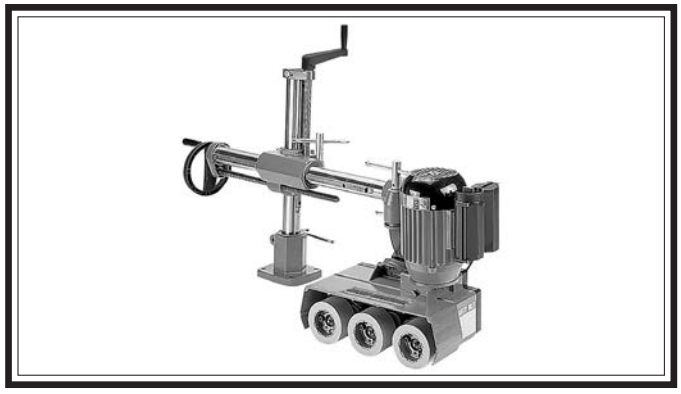
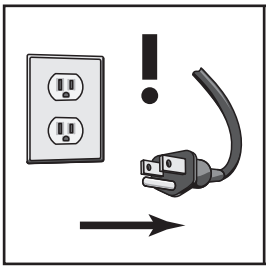


Figure 113. Model G4179 Power Feeder.

Maintenance Schedule



⚠WARNING

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

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/arbor nut.
- Damaged saw blade.
- Worn or damaged wires.
- Any other unsafe condition.

Weekly Maintenance:

- Clean table surface and miter slot grooves.
- Clean and protect cast-iron table.
- Clean rip fence.

Monthly Maintenance:

- Clean/vacuum dust buildup from inside cabinet and off motors.
- Check/replace belt for proper tension, damage or wear (**Page 80**).

Every 6–12 Months:

- Lubricate trunnion slides, front and rear columns, worm gear, mounting plate teeth, and elevation leadscrew (**Page 68**).

Cleaning and Protecting

Cleaning the Model SB1110/SB1111 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.

Protect the unpainted cast-iron table by wiping it clean after every use—this ensures moisture from wood dust does not remain on the bare metal surface. Keep the table rust-free with regular applications of products like G96® Gun Treatment, SLIPIT®, or Boeshield® T-9.

Occasionally it will become necessary to clean the internal parts with more than a vacuum. To do this, remove the table top and clean the internal parts with resin/pitch dissolver or mineral spirits and a stiff wire brush or steel wool. DO NOT USE WATER—WATER WILL CAUSE CAST IRON TO RUST.

Make sure the internal workings are dry before using the saw again, so that wood dust will not accumulate. If any essential lubrication is removed during cleaning, re-lubricate those areas.

Lubrication

It is essential to clean components before lubricating them because dust and chips build up on lubricated components and make them hard to move. Simply adding more grease to them will not yield smooth moving components.

Clean the components in this section with an oil/grease solvent cleaner and shop rags.

If you thoroughly clean the components in this section before lubricating them, the result will be silky smooth movement when turning the handwheels, which will result in much higher enjoyment on your part!

Trunnion Slides

Lubrication Type.. T26419 or NLGI#2 Equivalent
Amount ..... 1-2 Dabs
Lubrication Frequency..... 6–12 Months

Clean out front and rear trunnion slides with mineral spirits and a rag, then apply grease into each groove. Move blade tilt back-and-forth to spread grease (see **Figure 114**).

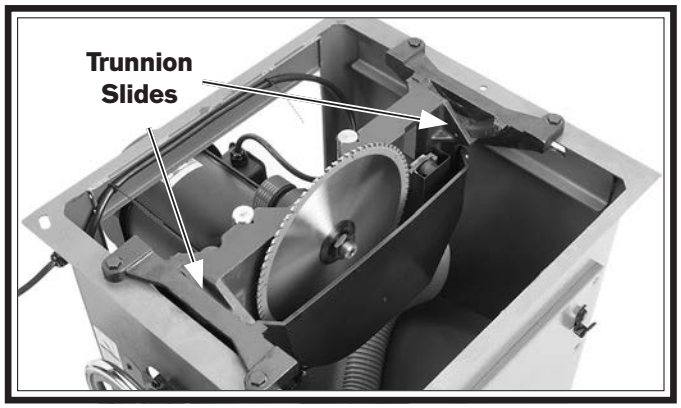


Figure 114. Trunnion slide locations (top removed for clarity).

Worm Gear, Bevel Gear & Mounting Plate Teeth

Lubrication Type.. T26419 or NLGI#2 Equivalent
Amount ..... Dab
Lubrication Frequency..... Every Month

Clean away any built up grime and debris from worm gear, bevel gear, and mounting plate teeth (see **Figure 115**) with a wire brush, rags, and mineral spirits. Allow components to dry, then apply a thin coat of grease to them.

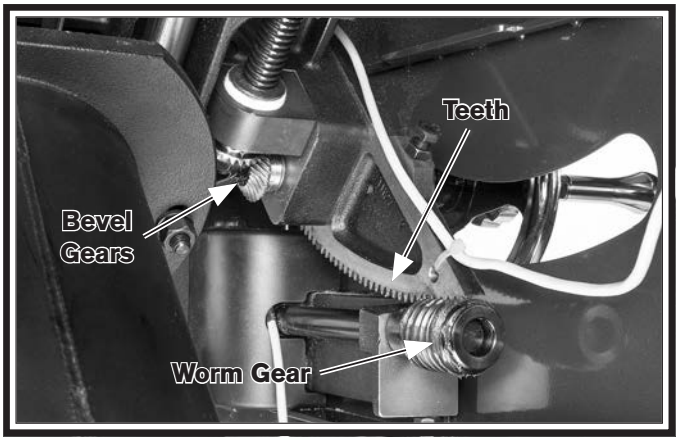


Figure 115. Worm and bevel gear location.

Elevation Leadscrew and Rails

Check every month. Clean away any built up grime and debris with a wire brush and mineral spirits from the elevation rails and elevation leadscrew (see **Figure 116**).

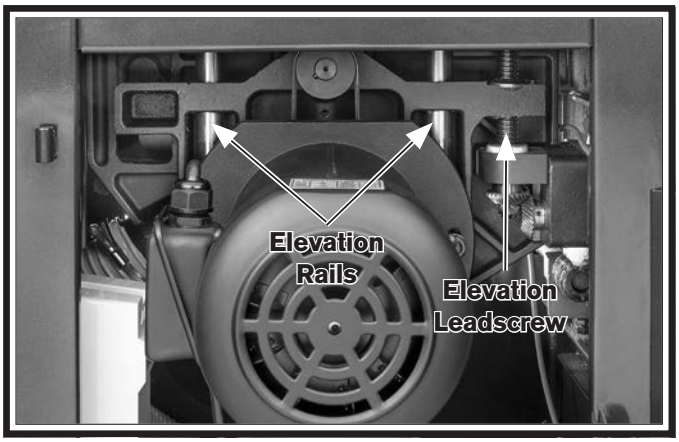


Figure 116. Elevation leadscrew and slides.

Blade Tilt Stops

The table saw features stop bolts that stop the blade exactly at 45° and 90° during blade adjustments. The stops have been set at the factory and should require no adjustments, unless you notice that your cuts are not accurate.

Note: *The tilt scale reads "0" when the blade is 90° to the table.*

Tools Needed	**Qty**
90° Square	1
45° Square	1
Open-End Wrench 13mm	1

Setting 90° Stop Bolt

1. DISCONNECT MACHINE FROM POWER!

2. Raise blade as high as it will go, then tilt toward 0° until it stops and cannot be tilted any further.

3. Place a 90° square against table and blade so it contacts blade evenly from bottom to top, as illustrated in **Figure 117**. Make sure a blade tooth does not obstruct placement of square.

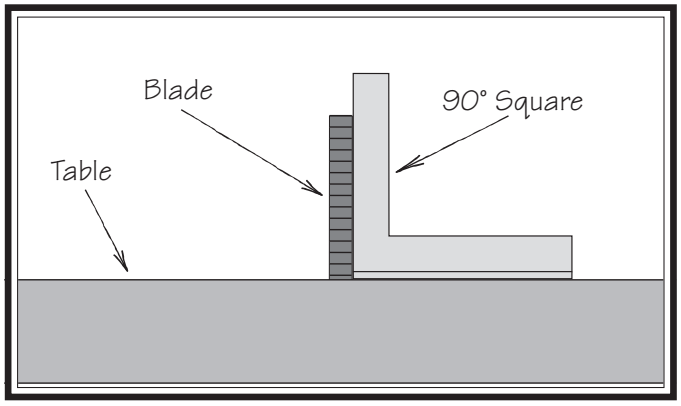


Figure 117. Checking blade at 90°.

— If blade *is* 90° to table, then adjustments do not need to be made. Make sure tilt indicator shown in **Figure 118** points to 0° mark on scale. Adjust position by loosening button head screw, moving indicator with your fingers, then tightening screw.

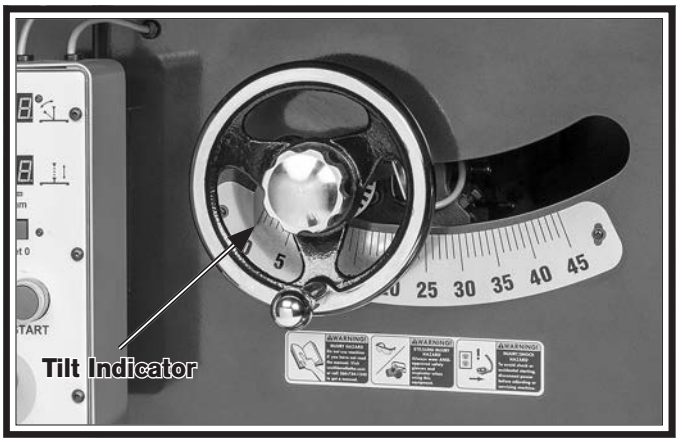


Figure 118. Tilt indicator location.

— If blade *is not* 90° to table, you will need to adjust 90° stop bolt. Proceed to next step.

4. Tilt blade away from 0° by about 20°, so there is room for 90° stop bolt to move.

5. Open motor access cover, loosen jam nut shown in **Figure 119**, adjust stop bolt up or down according to how far off blade was from 90°, then repeat **Step 3** until blade stops at 90°.

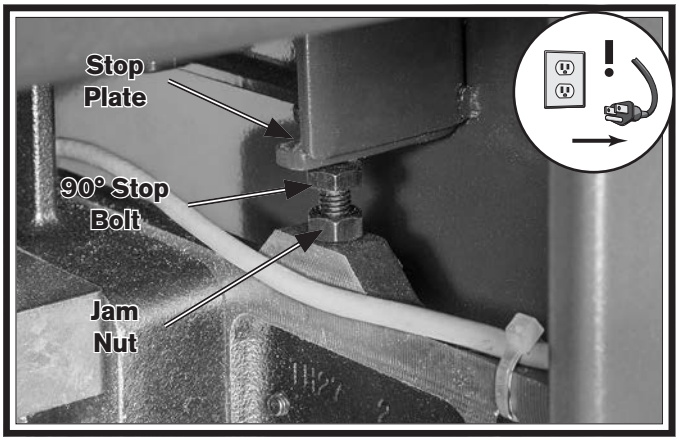


Figure 119. 90° Stop bolt location.

6. Tighten jam nut, then close motor cover.

Setting 45° Stop Bolt

1. DISCONNECT MACHINE FROM POWER!

2. Raise blade as high as it will go, then tilt towards 45° until it stops and cannot be tilted any further.

3. Place a 45° square against table and blade and verify it contacts blade evenly from bottom to top, as illustrated in **Figure 120**. Make sure a blade tooth does not obstruct the placement of square.

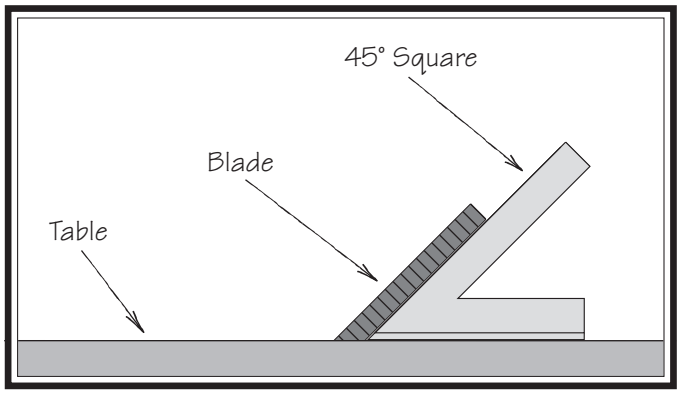


Figure 120. Checking blade at 45°.

— If blade *is* 45° to table, then adjustments do not need to be made.

— If blade *is not* 45° to table, you will need to adjust the 45° stop screw. Proceed to **Step 4**.

4. Tilt blade to 20° to provide access for bolt adjustments.

5. Loosen jam nut on 45° stop bolt (see **Figure 121**), adjust stop bolt up or down according to how far off blade was from 45°.

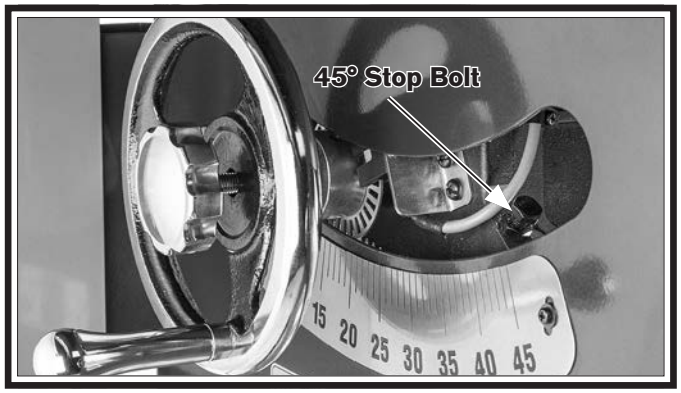


Figure 121. 45° stop bolt location.

6. Continue adjusting stop bolt until it contacts the cabinet when blade is at 45°, then tighten jam nut.

7. Follow steps for **Blade Tilt Digital Readout Calibration** on **Page 79**.

Tilt Handwheel Backlash

The table tilt handwheel should move with very little backlash when the saw is new. Over time the tilt gears may wear, increasing backlash. You can eliminate excessive backlash by adjusting the handwheel gear.

Tools Needed	**Qty**
Wrench 13mm	1

To adjust tilt handwheel backlash:

1. DISCONNECT MACHINE FROM POWER!

2. Turn tilt handwheel in each direction to feel backlash.

3. Open motor cover and locate tilt gear adjustment bolt inside cabinet as shown in **Figure 122**.

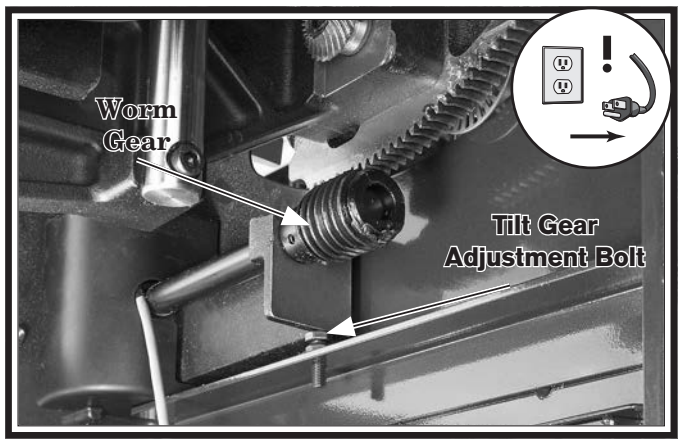


Figure 122. Tilt gear backlash adjustment bolt.

4. Loosen jam nut, then turn hex bolt counter-clockwise no more than ¼ turn at a time until you no longer feel any wobble or looseness when handwheel is turned. Do not overtighten or gears will bind.

5. Tighten jam nut then close motor cover.

Miter Slot to Blade Parallelism

Your table saw will give the best results if the miter slot is parallel to the blade. If these components are not exactly parallel, your cuts and your finished work will be lower in quality, but more importantly, the risk of kickback will be increased.

Tools Needed	Qty
Adjustable Square	1
Felt-Tipped Marker	1
Metal Shim Stock	As Needed
Hex Wrench 6mm	1

To adjust blade parallel to miter slot:

1. DISCONNECT MACHINE FROM POWER!

2. Tilt blade to 0°, then use an adjustable square to measure distance from miter slot to a blade tooth, as shown in **Figure 123**. Make sure that face of adjustable square is even along miter slot.

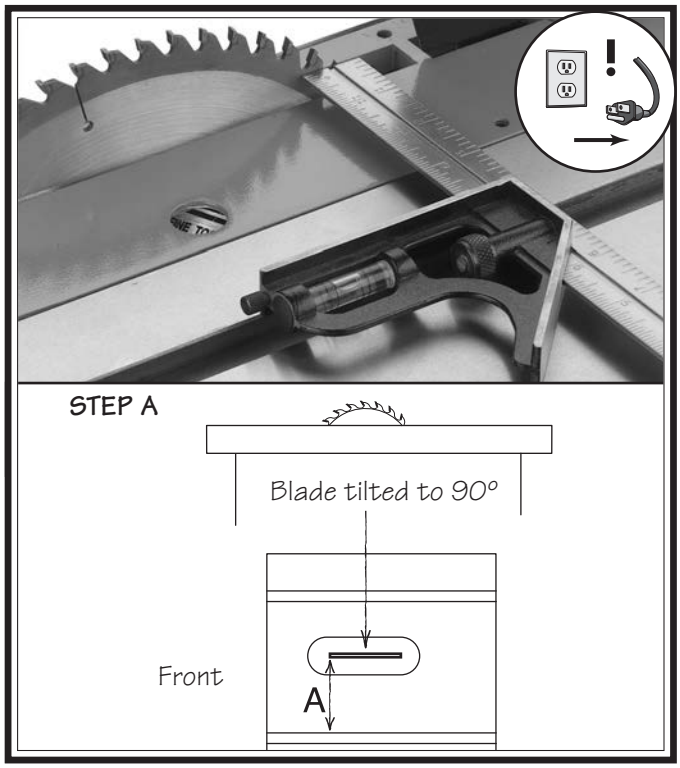


Figure 123. Example of adjusting blade to miter slot.

3. With end of adjustable square just touching tip, lock square in place. Mark blade tooth with a marker where you made this measurement.

⚠CAUTION

The saw blade is sharp. Use extra care or wear gloves when handling the blade or working near it.

4. Rotate marked blade tooth to other end of table insert.

5. Slide adjustable square down to other end of table insert and compare distance from marked blade tooth to end of adjustable square, as shown in **Figure 124**.

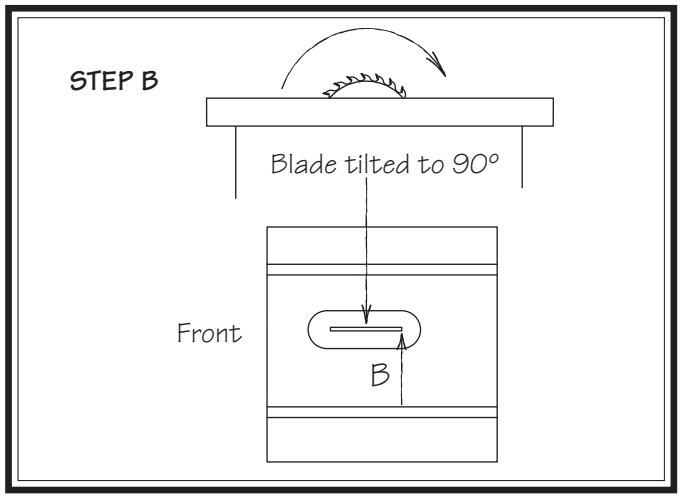


Figure 124. Measuring distance from miter slot to carbide tip on opposite side of table insert.

— If blade tip measurement is *same* on both sides, go to **Step 8**.

— If blade tip *does not* touch end of adjustable square similar to first measurement, table will need to be adjusted. Proceed to **Step 6**.

6. Loosen (3) table mounting bolts securing table top to base (see **Figure 125**), and lightly tap table in direction needed to square table to blade.

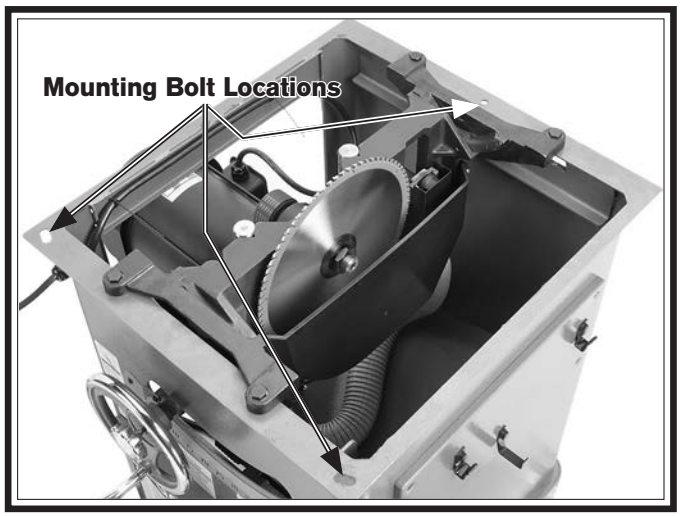


Figure 125. Location of table mounting bolts (table removed for clarity).

7. Repeat **Steps 2–6** until blade and miter slot are parallel, then retighten table mounting bolts.

8. Tilt blade to 45° and recheck miter slot-to-blade parallelism.

— If blade is still parallel with miter slot, no additional adjustments need to be made.

— If blade is parallel with miter slot at 0° but not at 45°, one end of table will need to be shimmed higher with metal shim stock. Continue to **Step 9**.

9. Loosen table mounting bolts from **Step 6**.

10. Refer to **Figures 126–127** for shim placement. If distance A is shorter than B, shim(s) will need to be placed under corners #1 and #2. If distance of B is shorter than A, shim(s) will need to be placed under corners #3 and #4. Very thin shim stock works well.

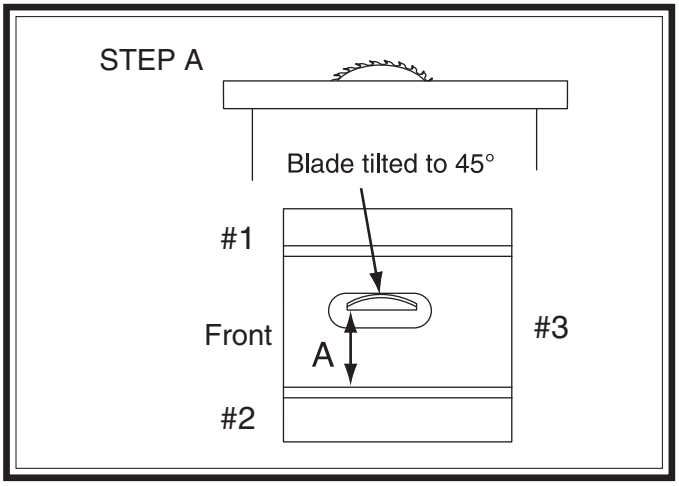


Figure 126. Shim procedure diagram A.

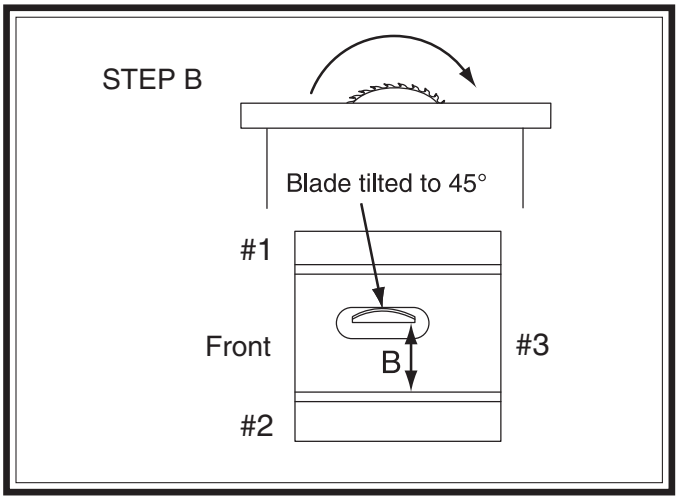


Figure 127. Shim procedure diagram B.

11. Tighten one table mounting bolt a small amount and then repeat with others, tightening each down the same amount. Continue this process with all bolts, tightening them a little each time until they are all secure.

12. Now recheck blade to miter slot at 0° and 45° by repeating **Steps 2-5**.

— If distance of A and B *are* equal, continue to **Step 13**.

— If distances *are not* equal, repeat **Steps 9–12**.

13. Once miter slot is adjusted to blade, recheck all measurements and be sure table mounting bolts are secure.

Note: *If you remove the table in the future, note the shim placement and reassemble them exactly how they came apart.*

Spreader/Riving Knife Alignment

The blade guard spreader and riving knife must be aligned with the blade when installed. If the spreader/riving knife is not aligned with the blade, then the workpiece will before forced sideways during the cut, which will increase the risk of kickback.

Tools Needed **Qty**
Straightedge 24"..... 1

To check spreader/riving knife alignment:

1. DISCONNECT MACHINE FROM POWER!

2. Raise saw blade to maximum height so you have easy working access.

3. Place straightedge against side of blade and spreader/riving knife at top and bottom, as shown in **Figure 128**. Spreader/riving knife should be parallel with blade along its length at both positions, and in "Alignment Zone," as shown in **Figure 129**.

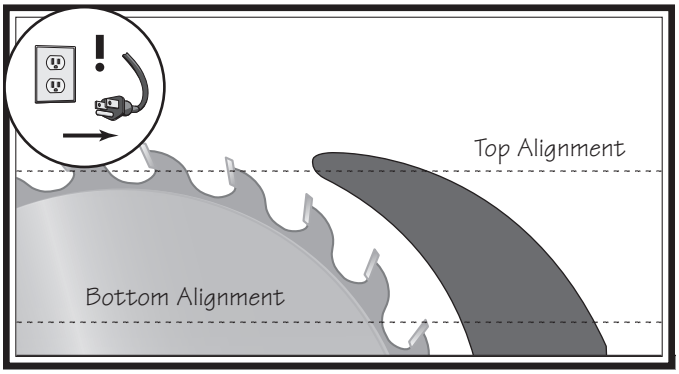


Figure 128. Checking top and bottom riving knife parallelism with blade.

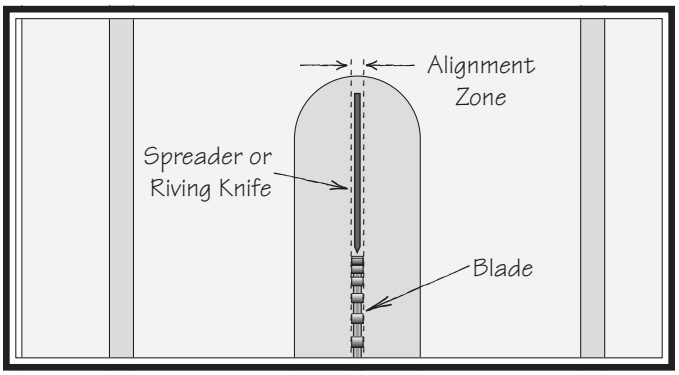


Figure 129. Spreader/riving knife alignment zone.

— If spreader/riving knife is not parallel with blade and inside alignment zone, then it needs to be adjusted. Proceed to **Adjusting Alignment** instructions.

— If spreader/riving knife is not parallel with the blade at either the top or bottom, it may be bent.

4. Remove spreader/riving knife and place it on flat surface and check to see if spreader/riving knife lays evenly along its length.

— If spreader/riving knife does not lay evenly, proceed to **Adjusting Bent Spreader/Riving Knife** on **Page 74**.

Adjusting Alignment

The spreader/riving knife mounting position can be adjusted into alignment with the blade using the set screws on the spreader/riving knife mounting block.

Tools Needed	Qty
Hex Wrench 2.5mm	1
Hex Wrench 3mm	1

To adjust spreader/riving knife position:

1. DISCONNECT MACHINE FROM POWER!

2. Remove table insert.

3. Loosen (2) button head cap screws on mounting block, then adjust either top or bottom control set screws or side control set screws (see **Figure 130**) to move block in needed direction.

   Note: *Set screws are accessible through clamping plate. Clamping plate does not need to be removed to make adjustment.*

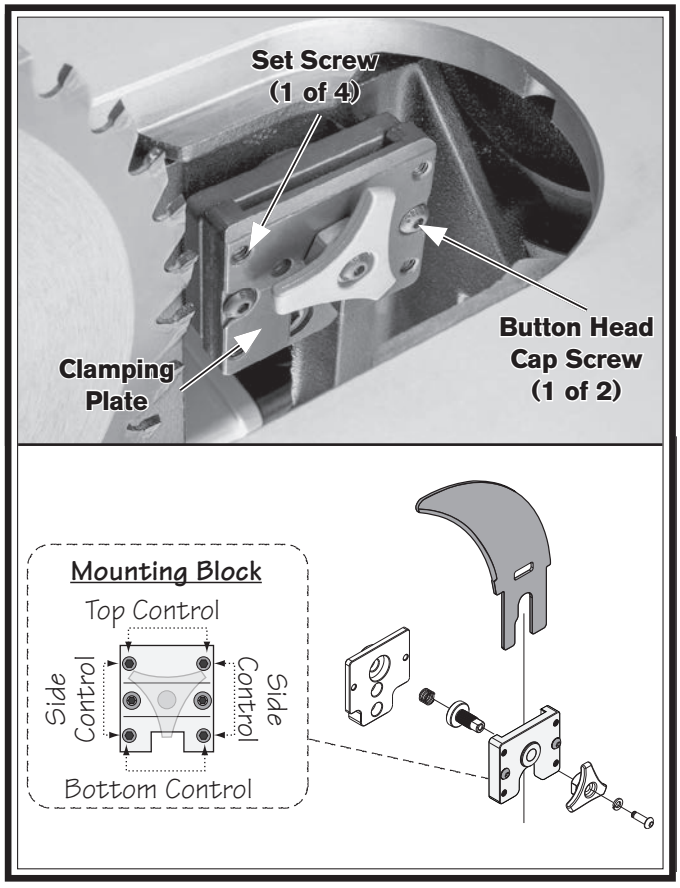


Figure 130. Set screws for adjusting spreader/riving knife position.

Top and Bottom Control: To move the top of the spreader/riving knife right or left (and the bottom of the spreader/riving knife in the opposite direction), adjust the top and bottom pair of set screws on the mounting block an equal amount in the opposite direction.

Side Control: To move the front of the spreader/riving knife left or right (and the rear of the spreader/riving knife in the opposite direction), adjust each pair of side control set screws an equal amount in the opposite direction.

Note: *To adjust how tightly the mounting block holds the spreader/riving knife, adjust the center screw.*

4. Follow **To check spreader/riving knife alignment Steps 1–3** on **Page 73**.

   — If spreader/riving knife is in alignment zone, no additional steps are necessary.

   — If spreader/riving knife is still not in alignment zone, continue adjusting set screws on mounting block as necessary to correctly position spreader/riving knife.

5. Tighten (2) button head cap screws on mounting block to secure spreader/riving knife adjustment.

Adjusting Bent Spreader/Riving Knife

To adjust bent spreader/riving knife:

1. DISCONNECT MACHINE FROM POWER!

2. Bend spreader or riving knife by hand while installed, then follow **Steps 1–3** in **To check spreader/riving knife alignment** on **Page 73** to determine if it is parallel with blade and inside "Alignment Zone" (refer to **Figure 128** on **Page 73**).

   — If this doesn't work, remove it to straighten.

   — If you cannot straighten it properly, replace it.

Fence Adjustments

There are four main adjustments for the fence: squareness, height, parallelism, and clamping pressure. Keep in mind that these adjustments are interconnected and some trial-and-error may be needed to achieve satisfactory results.

Tools Needed	Qty
Hex Wrench 4mm	1
Hex Wrench 6mm	1
Machinist's Square	1
Felt-Tipped Marker	1

Squareness and Height

The fence face must be square to the table in order to produce square cuts. Also, the fence should be adjusted high enough off the table that it does not drag across the surface.

To check/adjust the fence height and squareness to the table:

1. DISCONNECT MACHINE FROM POWER!

2. Place a square on table against face of fence (**Figure 131**) to check if fence is square to table.

   — If the fence *is not* square to the table, proceed to **Step 3**.

   — If the fence *is* square to the table, skip ahead to **Step 4**.

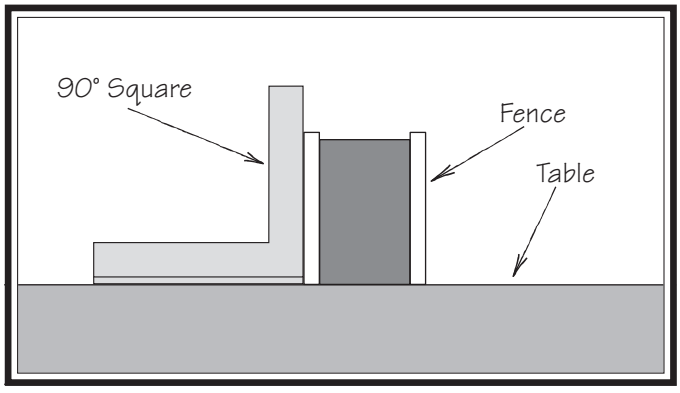


Figure 131. Checking if fence is square to table.

3. Adjust top set screws (**Figure 132**) on fence bracket to ensure fence face is 90° to table.

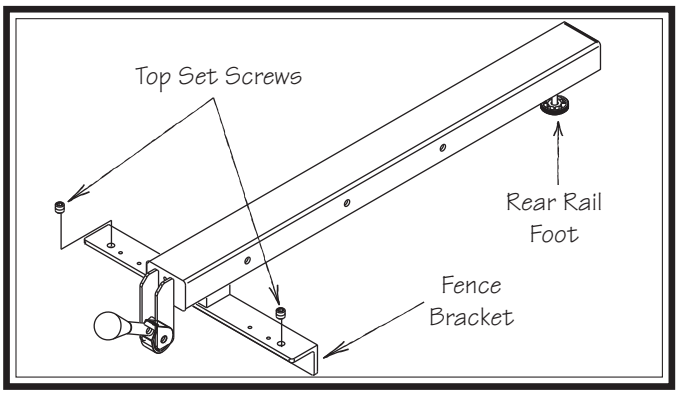


Figure 132. Fence components used to adjust fence height and squareness to table.

4. Examine gap between fence and table top.

   — If the gap is approximately 1/16" and even from the front of the table to the back (see **Figure 133**), then no additional adjustments are necessary. Proceed to **Clamping Pressure and Parallelism**.

   — If the gap is uneven, if the fence height is more than 1/8", or if the fence touches the table, then continue with **Step 5**.

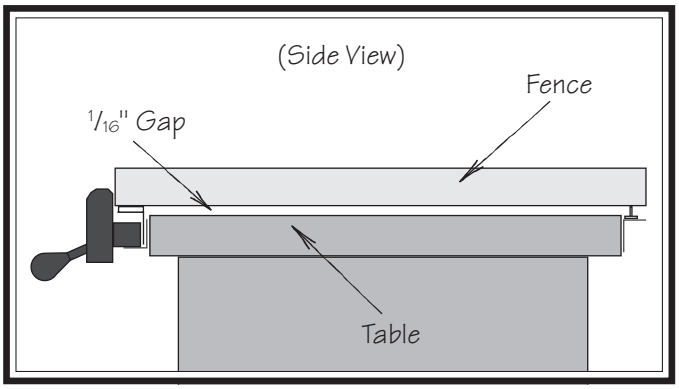


Figure 133. Gap between fence and table approximately 1/16" from front to back.

5. Adjust fence height with rear rail foot until gap between table and fence is approximately 1/16" and even from front to back of table.

Clamping Pressure & Parallelism

The fence clamping mechanism adjusts the clamping pressure to hold the fence securely and to position the fence parallel with the blade.

To verify fence parallelism:

1. DISCONNECT MACHINE FROM POWER!

2. Slide fence up against right side edge of miter slot, lock it in place, then raise blade fully. Examine how fence lines up with miter slot and blade, as illustrated in **Figure 134**.

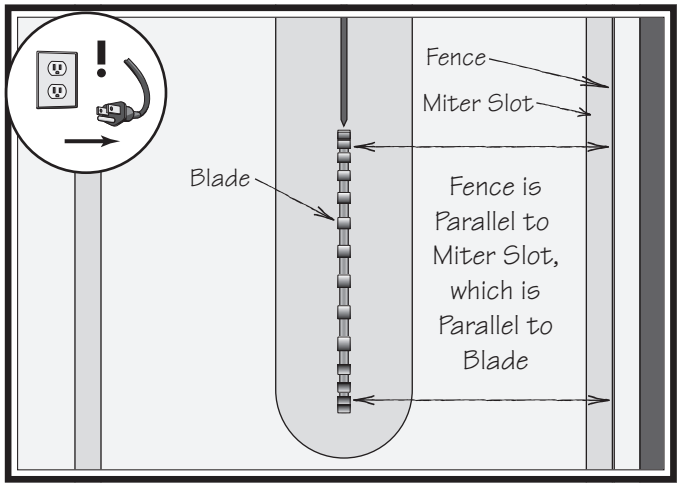


Figure 134. Checking fence parallelism with blade.

— If the fence slot *is* parallel with the blade, as shown in **Figure 134**, no further adjustments need to be made.

— If the fence *is not* parallel with the blade/miter slot, proceed to **To adjust the fence clamping pressure and parallelism to the blade** so that it is parallel with the blade.

To adjust the fence clamping pressure and parallelism to the blade:

1. DISCONNECT MACHINE FROM POWER!

2. Remove fence and equally adjust rear set screws illustrated in **Figure 135** as necessary, then re-install fence and check clamping pressure. Readjust as necessary until fence will not move as pressure is applied against it when it is locked.

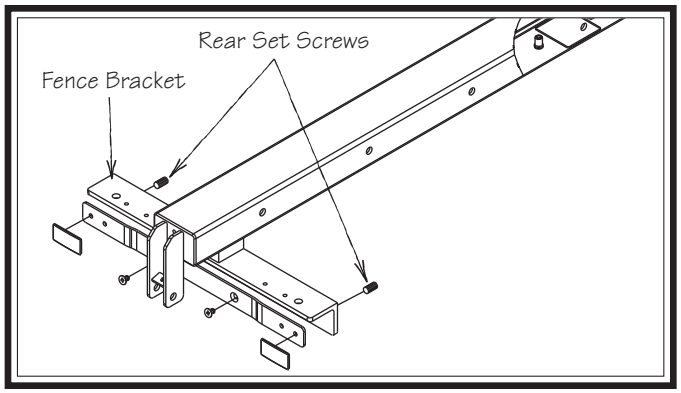


Figure 135. Location of set screws used to adjust fence parallelism and clamping pressure.

3. Re-mount fence on rail approximately 4" away from blade and lock it in place.

4. Measure distance between fence and front of blade, then mark blade tooth that you measured from with a felt-tipped marker.

5. Rotate blade 180° and recheck distance between fence and blade tooth that you marked in **Step 4** to ensure they are parallel (see **Figure 134**).

6. Use trial-and-error to adjust set screws so fence is parallel with blade and clamping pressure is sufficient.

Optional Offset Fence Adjustment

Some woodworkers prefer to offset the rear of the fence 1/64" from the blade, as illustrated in **Figure 136**, to help prevent the workpiece from binding and burning.

This offset adjustment can reduce the chance of kickback by alleviating binding that may occur between blade and fence. The trade-off can be slightly less accurate cuts.

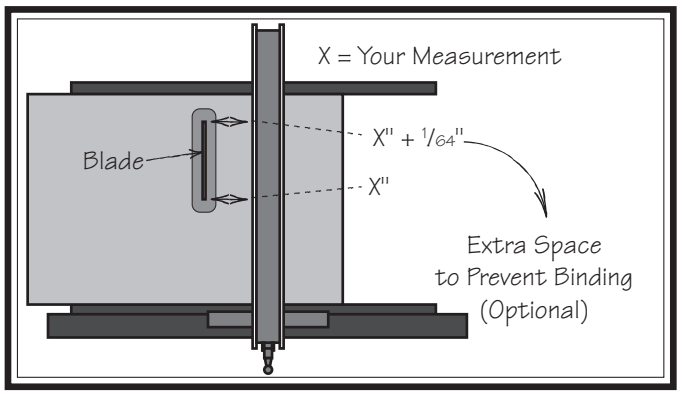


Figure 136. Adjusting fence with a 1/64" offset.

Fence Scale Calibration

The fence scale indicator window, shown in **Figure 137**, can be calibrated with the fence scale if you notice that your cuts do not accurately match what is shown on the fence scale.

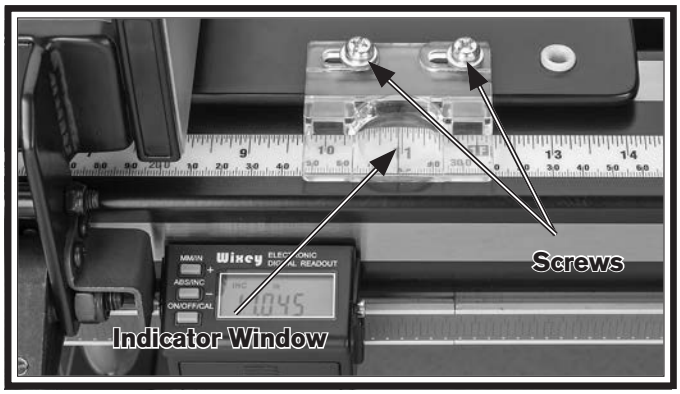


Figure 137. Fence indicator components.

The indicator adjusts by loosening two mounting screws and sliding it in the desired direction.

Tools Needed	Qty
Phillips Screwdriver #2	1
Scrap Piece of Wood	1
Tape Measure	1

To calibrate fence scale indicator windows:

1. Position and lock fence at 13", as indicated by scale, then cut your scrap piece of wood.

2. Reposition and lock fence at 12", as indicated by scale.

3. Flip your scrap piece of wood over, placing side that was cut in **Step 2** against fence, and cut your scrap piece of wood.

4. Measure width of freshly cut workpiece with tape measure. Workpiece width should be exactly 12". If it is not, then adjust indicator window to match width of workpiece.

Fence Digital Readout Calibration

The fence digital readout may need to be calibrated from time to time, especially after installing a new or different type of blade and after replacing the batteries. See **Figure 138** below and follow these instructions to calibrate to digital readout to absolute zero.

Figure 138. Fence digital readout.

To calibrate fence digital readout:

1. DISCONNECT THE SAW FROM POWER!

2. Slide fence to the point where it barely touches the blade. You should be able to easily rotate the blade and just hear the teeth chatter against the fence.

3. Tap ABS/INC (**B**) button until 'ABS' is on display.

4. Press and hold (2–3 seconds) ON/OFF/CAL (**C**) button until the display reads '0.000'.

Miter Gauge Adjustments

The miter gauge is equipped with stop screws that allow you to easily adjust the miter gauge from 45° to the left, 90°, and 45° to the right (see **Figure 139**). The stop screws contact the shaft, which moves in or out of the way for adjustments.

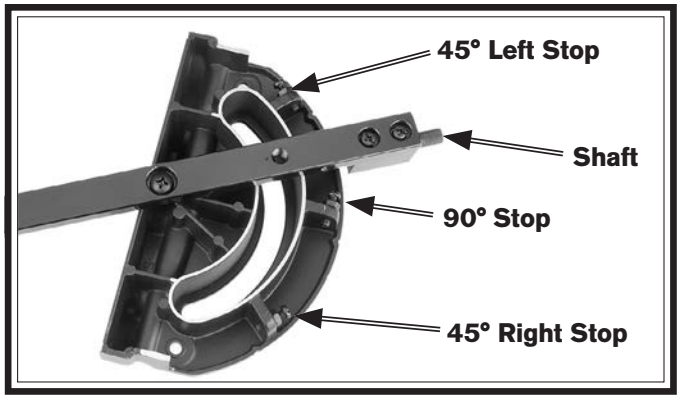


Figure 139. Miter gauge adjustment components.

Tools Needed	Qty
Hex Wrench 2.5mm	1
Phillips Screwdriver	1
Square 90° and 45°	1 Each
Wrench 8mm	1

Checking/Setting 90° Stops

1. DISCONNECT MACHINE FROM POWER!

2. Slide miter gauge into T-slot on table, then adjust miter gauge so 90° stop screw rests against sliding shaft.

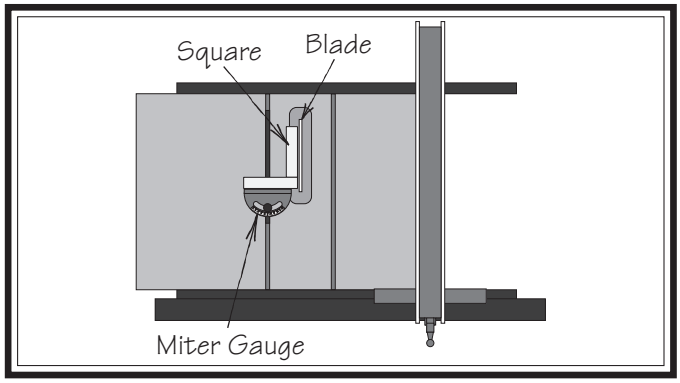


Figure 140. Checking 90° stop on miter gauge.

3. Place 90° square evenly against face of miter gauge and blade, as shown in **Figure 140**.

   — If the square touches the miter body and the body of the blade (not the teeth) evenly at the same time, then it is square to the blade and the 90° stop is set correctly. No further adjustments are necessary.

   — If the square does not touch the miter body and blade body evenly at the same time, then proceed to **Step 4**.

4. Loosen hex nut (jam nut) that secures 90° stop screw and adjust stop screw until it is seated against shaft while square is evenly touching miter body and blade body, then tighten hex nut.

5. Loosen screw on front of miter bar, adjust pointer to 0°, then tighten screw.

Checking/Setting 45° Stops

Follow the same process with the 45° stops that you followed with the 90°, except using a 45° square or adjustable square to verify that the miter body is 45° to the blade, as shown in **Figure 141**.

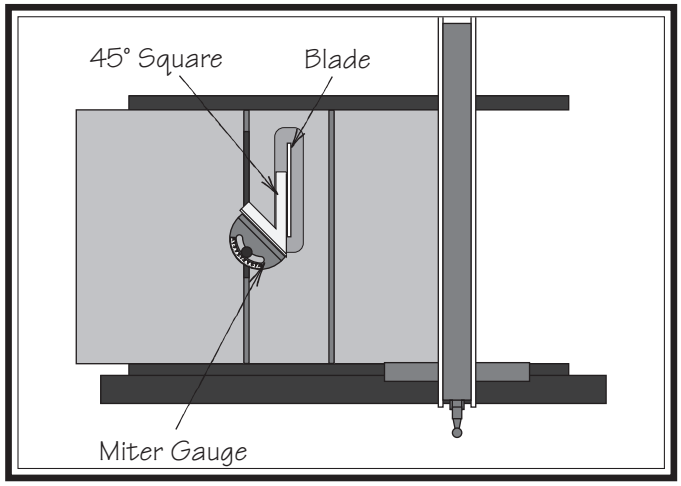


Figure 141. Checking 45° stop on miter gauge.

Blade Tilt Digital Readout Calibration

The blade tilt digital readout displays the current blade height and tilt. Only calibrate the readout after verifying that the 90° and 45° stops are correctly positioned.

To calibrate blade tilt digital readout:

1. Make sure power is connected and 45° and 90° stop bolts are set correctly (see **Blade Tilt Stops** on **Page 69**).

2. Set blade angle to 90° and press 'set 0' button for several seconds until the readout displays '0' (see **Figure 142)**.

3. Set blade angle to 45° and press 'in/mm' and 'set 0' buttons at the same time for several seconds until the readout displays '45'.

   Note: *The blade height does not calibrate.*

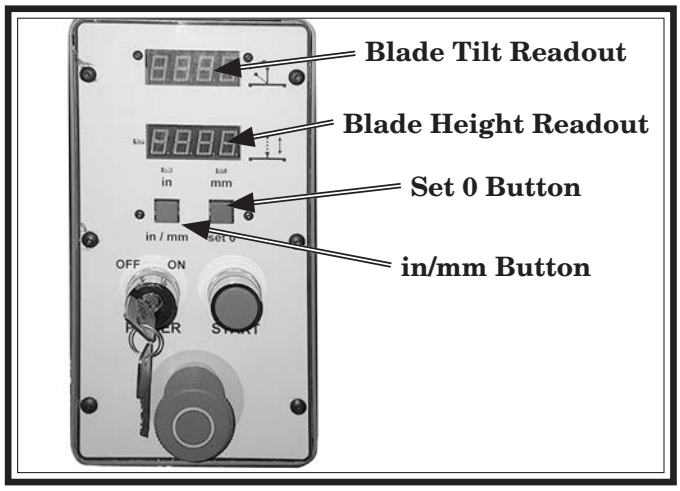


Figure 142. Blade adjustment digital readout.

Table/Dado Insert Adjustment

The table/dado insert must sit perfectly flush with the table to provide a smooth, continuous surface for the workpiece to slide over. The insert is held in place by a magnet and sits on top of four adjustment screws.

The insert should be checked and adjusted any time it is removed and replaced, after prolonged use, or any time you notice the workpiece or fence does not slide smoothly over the insert.

Tools Needed	Qty
Hex Wrench 3mm	1
Straightedge	1

To check and adjust table/dado insert:

1. DISCONNECT MACHINE FROM POWER!

2. Place straightedge across insert and check to make sure insert is flush with table at front and back of throat.

   — If insert *is* flush with table, no adjustments are necessary.

   — If insert *is not* flush with table, proceed to **Step 3**.

3. Turn adjustment screws in table insert (clockwise to raise, counterclockwise to lower) until insert is flush with table (see **Figure 143**).

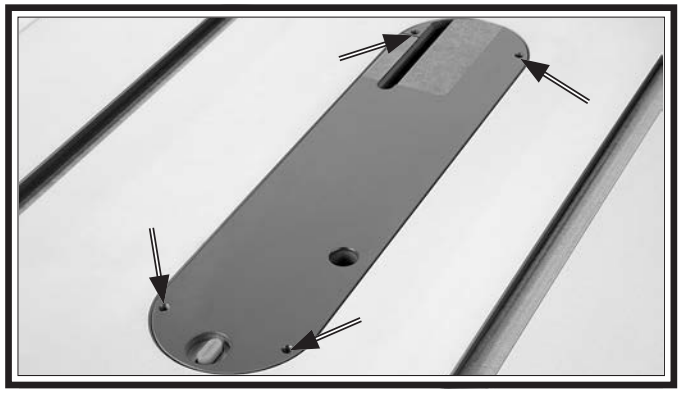


Figure 143. Location of table/dado adjustment screws.

4. Repeat **Steps 2–3** until insert is flush.

Belt Tension & Replacement

The drive belt stretches slightly as the saw is used. Most of the belt stretching will happen during the first 16 hours of use, but it may stretch through continued use. To keep your saw running efficiently, inspect the belt each month. If the belt is cracked, frayed, or shows other signs of excessive wear, it will need to be replaced. If you notice that the belt is slipping, it will need to be tensioned.

Tools Needed	Qty
Arbor Wrenches	2
Wood Block 10" 4x4	1
Wrench or Socket 17mm	1
Wood Block 8" 2x6	1

Tensioning Belt

1. DISCONNECT MACHINE FROM POWER!

2. Use handwheels to lower motor all the way down, set blade tilt to 0, then open motor access cover.

3. Loosen (3) motor mount hex nuts shown in **Figure 144** two turns, then place 4x4 wood block on top of motor, as shown in **Figure 145**.

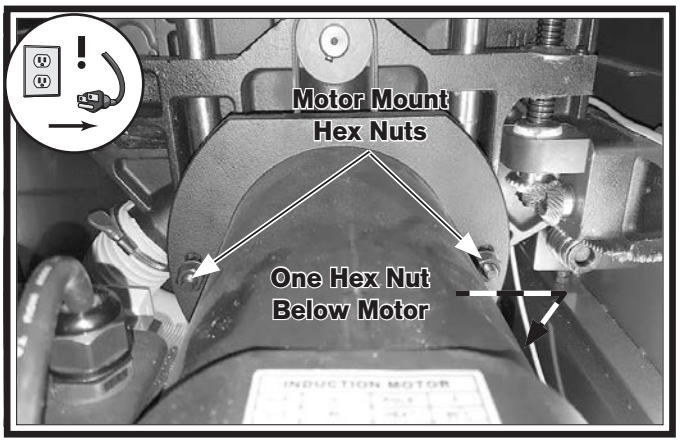


Figure 144. Motor mount hex nuts.

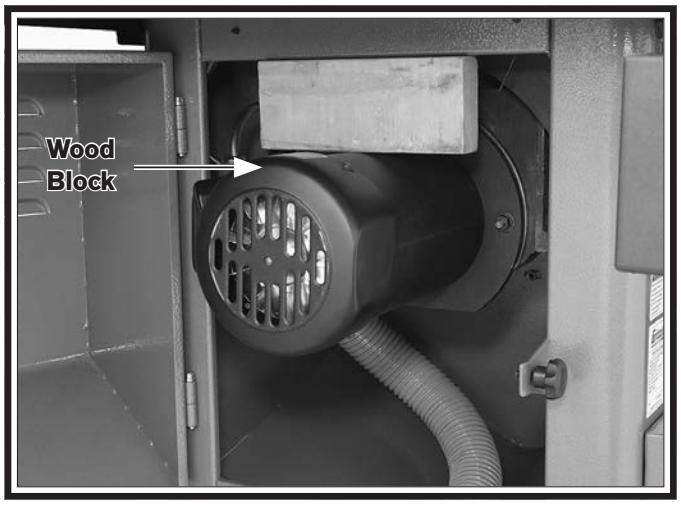


Figure 145. Example of using wood block to tension belt.

4. Use blade height handwheel to carefully tension belt by moving blade up. Do this slowly and take care not to apply too much pressure to belt.

   Note: *Be careful not to damage the motor, and do not force it up farther when it becomes difficult to move the handwheel.*

5. Press center of belt to check tension. Belt is correctly tensioned when there is approximately ¼" deflection when it is pushed with moderate pressure, as shown in **Figure 146**.

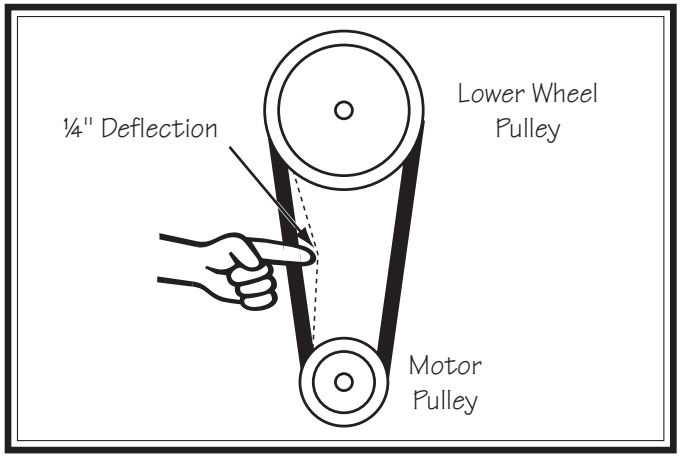


Figure 146. Checking belt tension.

6. Tighten motor mount hex nuts, then close and secure motor access cover.

Replacing Belt

1. DISCONNECT MACHINE FROM POWER!

2. Use handwheels to raise motor all the way up, set blade tilt to 0, then open motor cover.

3. Loosen (3) motor mount hex nuts shown in **Figure 144**, two turns and place a 2x6 block between cabinet and bottom of motor, as shown in **Figure 147**.

4. Lower arbor assembly until motor rests on wood block, as shown in **Figure 147**, then turn handwheel an additional turn in same direction to reduce tension on belt.

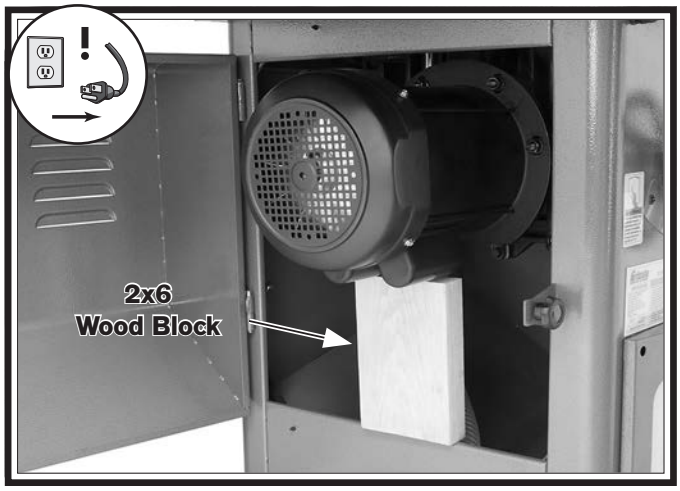


Figure 147. Motor resting on wood block.

Note: *Be careful not to lower the motor too far or the board may damage the capacitor covers. Also, do not force the arbor down farther when it becomes difficult to move the handwheel.*

5. Tighten motor mounting nuts to hold motor in place.

6. Raise motor all the way up and remove wood block.

7. Roll belt off of upper and lower pulleys, as shown in **Figure 148**. Be careful not to pinch your fingers.

Note: *To make belt removal easier, turn the belt sideways and slide it down and past the back of the motor pulley.*

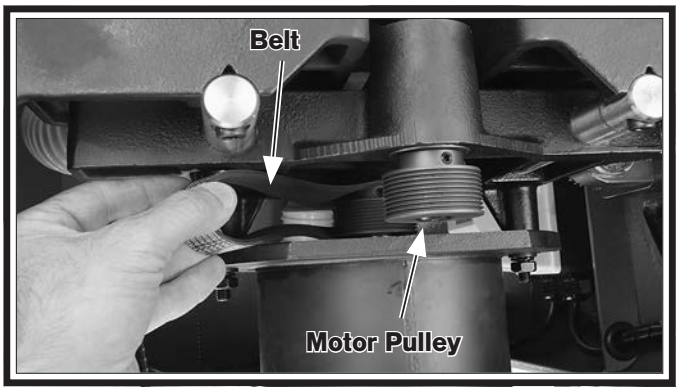


Figure 148. Removing belt (table removed for clarity).

8. Turn new belt sideways and slip it over motor pulley, as shown in **Figure 149**, so it engages one or two grooves.

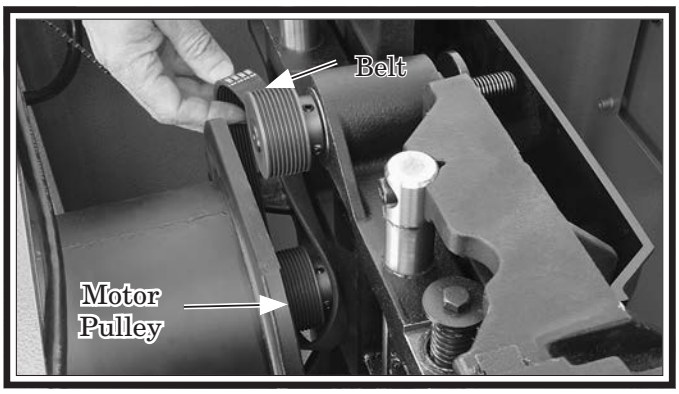


Figure 149. Installing belt.

9. Push belt inward and roll it onto top pulley. Continue pushing belt and rotating it up and down until it is centered on both pulleys, as shown in **Figure 150**.

Figure 150. Belt installed.

10. Follow instructions for **Tensioning Belt** on **Page 80**.

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

Symptom	Possible Cause	Possible Solution
Machine does not start or power supply fuse/breaker trips immediately after startup.	1. Master power switch disabling key removed or in OFF position.	1. Install master power switch disabling key and turn to ON position.
	2. E-Stop button depressed/at fault.	2. Rotate E-Stop button head to reset. Replace if at fault.
	3. Incorrect power supply voltage or circuit size.	3. Ensure correct power supply voltage and circuit size.
	4. Power supply circuit breaker tripped or fuse blown.	4. Ensure circuit is free of shorts. Reset/replace fuse or breaker.
	5. Motor wires connected incorrectly.	5. Correct motor wiring connections.
	6. Thermal overload relay has tripped or at fault.	6. Allow relay/motor to cool. If necessary, press reset button inside switch.
	7. Start capacitor at fault.	7. Test/replace start capacitor.
	8. Centrifugal switch adjustment/ contact points at fault.	8. Adjust centrifugal switch/clean contact points. Replace either if at fault.
	9. Contactor not energized/at fault.	9. Test all legs for power; replace if necessary.
	10. Wiring broken, disconnected, or corroded.	10. Fix broken wires or disconnected/corroded connections.
	11. ON button at fault.	11. Replace ON button.
	12. Computer board at fault.	12. Inspect/replace if at fault.
	13. Motor or motor bearings at fault.	13. Replace motor.
Machine stalls or is underpowered.	1. Workpiece material unsuitable for machine.	1. Only cut wood/ensure moisture is below 20%.
	2. Feed rate too aggressive for motor blade.	2. Reduce feed pressure and speed.
	3. Workpiece crooked; fence not parallel with blade.	3. Use jointer to straighten edge of workpiece that slides up against fence; adjust fence parallel with blade.
	4. Machine undersized for task.	4. Use correct blade/reduce feed rate or depth of cut.
	5. Blade dull or wrong blade for task.	5. Use correct blade for type of cut. Use sharp blade (**Page 36**).
	6. Circuit board at fault.	6. Inspect and replace if at fault.
	7. Belt(s) slipping/pulleys misaligned.	7. Clean/tension/replace belt(s); ensure pulleys are aligned (**Page 80**).
	8. Motor overheated, tripping machine circuit breaker.	8. Clean motor, let cool, and reduce workload. Reset breaker.
	9. Run capacitor at fault.	9. Test/repair/replace.
	10. Extension cord too long.	10. Move machine closer to power supply; use shorter extension cord.
	11. Contactor not energized/at fault.	11. Test all legs for power; repair/replace if at fault.
	12. Centrifugal switch/contact points at fault.	12. Adjust centrifugal switch/clean contact points. Replace either if at fault.
	13. Motor or motor bearings at fault.	13. Replace motor.

Symptom	Possible Cause	Possible Solution
Machine has vibration or noisy operation.	1. Motor or component loose.	1. Replace damaged or missing bolts/nuts or tighten if loose.
	2. Mobile base lock knobs loose or stand feet not adjusted properly.	2. Tighten mobile base lock knobs or adjust stand feet to stabilize machine.
	3. Blade damaged or at fault.	3. Replace warped/bent blade; resharpen dull blade.
	4. Belt worn, loose, pulleys misaligned or belt slapping cover.	4. Inspect/replace belt. Realign pulleys if necessary (**Page 80**).
	5. Pulley loose.	5. Secure pulley on shaft.
	6. Motor mount loose/broken.	6. Tighten/replace.
	7. Arbor pulley loose.	7. Retighten/replace arbor pulley with shaft and thread locking liquid.
	8. Motor fan rubbing on fan cover.	8. Fix/replace fan cover; replace loose/damaged fan.
	9. Arbor bearings at fault.	9. Replace arbor housing bearings; replace arbor.
	10. Centrifugal switch.	10. Replace.
	11. Motor bearings at fault.	11. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.
Handwheel binds or is difficult to move.	1. Lock knob is engaged.	1. Loosen handwheel lock knob.
	2. Sawdust/debris stuck in trunnion slides.	2. Clean sawdust/debris out of trunnion slides.
	3. Tilt/height adjustment gears are dirty or lacks proper lubrication.	3. Clean and lubricate the adjustment gears (**Page 68**).
	4. Tilt gear out of adjustment.	4. Adjust tilt gear to reduce backlash (**Page 70**).
Blade does not stop at 90°/45°.	1. Scale or readout not calibrated correctly.	1. Calibrate scale/readout to 90°/45° (**Page 79**).
	2. 90°/45° stop bolt is out of adjustment.	2. Adjust 90°/45° stop bolt (**Page 69**).
	3. Sawdust built up on gears or trunnion.	3. Inspect, clean, and lubricate gears and trunnion (**Page 68**).
Blade too close to insert.	1. Blade position on arbor is incorrect.	1. Verify that blade and arbor washers are correct and in the right position (**Page 38**).
	2. Table mounting position is not correct.	2. Adjust table position (**Page 71)**.

Fence does not move smoothly.	**1.** Fence not mounted/adjusted correctly.	**1.** Remount fence and adjust correctly (**Page 75**).
	2. Rails dirty or sticky.	**2.** Clean and lubricate/wax rails.
Material moves away from fence when ripping.	**1.** Improper feeding technique.	**1.** Learn/use proper feeding technique (**Page 46**).
	2. Fence not parallel with blade.	**2.** Adjust fence parallel with blade (**Page 76**).
	3. Workpiece crooked or bowed.	**3.** Use jointer to straighten edge of workpiece that slides against fence.
Blade not parallel with miter slot.	**1.** Blade is damaged or warped.	**1.** Replace blade (**Page 38**).
	2. Table misadjusted.	**2.** Adjust miter slot parallel with blade (**Page 71**).
Blade hits table insert when tilting to 45°.	**1.** Sawdust/debris stuck in trunnion slides.	**1.** Clean sawdust/debris out of trunnion slides.
	2. Miter slot not parallel with blade.	**2.** Adjust miter slot parallel with blade (**Page 71**).
	3. Blade incorrectly installed.	**3.** Correctly install blade (**Page 38**).
Blade too close to insert.	**1.** Blade position on arbor is incorrect.	**1.** Verify that blade and arbor washer is correct and in the required position (**Page 38**).
	2. Table/trunnion assembly mounting position not correct.	**2.** Adjust the table mounting position (**Page 71**).
Board binds or burns when feeding through saw.	**1.** Board warped.	**1.** Always cut bowed workpiece with cupped side against table; use a different board or use jointer to straighten edge of workpiece that slides against fence.
	2. Feed rate too slow or inconsistent.	**2.** Increase feed rate and apply consistent pressure throughout entire cut.
	3. Blade is warped/damaged dull.	**3.** Replace blade (**Page 38**).
	4. Too many teeth on blade for cutting type.	**4.** Change blade to one with fewer teeth (**Page 36**).
	5. Fence not parallel with blade.	**5.** Adjust fence parallel with blade (**Page 76**).
	6. Miter slot not parallel with blade.	**6.** Adjust miter slot parallel with blade (**Page 71**).
	7. Spreader/riving knife not correctly aligned with blade.	**7.** Adjust spreader/riving knife into alignment with blade (**Page 73**).
Too much sawdust being blown back toward operator.	**1.** Dust collector not turned on or connected.	**1.** Connect and turn on dust collector.
	2. Blade guard removed.	**2.** Re-install blade guard for maximum safety and dust control (**Page 39**).
	3. Too many air leaks in cabinet for proper dust collection.	**3.** Seal leaks in cabinet and around dust chute.
	4. Dust collection system clogged or lacks required CFM at machine.	**4.** Remove clog; revise ducting layout for improved suction; use a stronger dust collector (**Page 31**).
Tooth marks on cut edge.	**1.** Blade is warped/damaged/dull.	**1.** Replace blade (**Page 38**).
	2. Fence not parallel with blade.	**2.** Adjust fence parallel with blade (**Page 76**).
	3. Miter slot not parallel with blade.	**3.** Adjust miter slot parallel with blade (**Page 71**).

Finished board is narrower than expected.	**1.** Fence scale pointer not adjusted correctly or fence scale misapplied.	**1.** Adjust fence scale pointer (**Page 77**) or re-apply fence scale label in correct position.
Kickback occurs.	**1.** Fence not parallel with blade.	**1.** Adjust fence parallel with blade (**Page 76**).
	2. Feeding board freehand without fence or miter gauge.	**2.** Always use fence or miter gauge as a guide when feeding workpiece.
	3. Spreader/riving knife not correctly aligned with blade.	**3.** Adjust spreader/riving knife into alignment with blade (**Page 73**).
	4. Blade guard not installed/not working correctly.	**4.** Install blade guard (**Page 39**). Replace blade guard before using saw if damaged.
	5. Blade warped/damaged/dull.	**5.** Replace blade (**Page 38**).
	6. Letting go of board before it is past blade.	**6.** Move board completely past blade before releasing.
	7. Board not held firmly against table and fence.	**7.** Hold board firmly against table and fence; use push stick(s) whenever possible to keep fingers away from blade.
	8. Using miter gauge and fence at the same time.	**8.** Never use miter gauge and fence together. Always use one or the other.
	9. Board is warped or edge that slides against fence is bowed/curved.	**9.** Always cut bowed workpiece with cupped side against table; use a jointer to straighten edge of board that slides against fence (**Page 15**).
	10. Taking too deep of cut.	**10.** Always take multiple shallow passes for non-through cuts.
Miter gauge does not move smoothly.	**1.** Bent miter gauge bar; burrs on bar/slot; dirty miter slot.	**1.** Straighten/replace bar; deburr bar or slot; clean debris from miter slot.
Will not make accurate cuts.	**1.** Pointer calibrated incorrectly to scale.	**1.** Adjust blade 90° to table using square, then calibrate fence pointer to scale (**Page 77**).
	2. 90°/45° stop bolt is out of adjustment.	**2.** Adjust 90°/45° stop bolt (**Page 69**).
	3. Miter slot not parallel with blade.	**3.** Adjust miter slot parallel with blade (**Page 71**).
	4. Fence not parallel with blade.	**4.** Adjust fence parallel with blade (**Page 76**).
Workpiece catches on table insert during cutting operation.	**1.** Table insert not adjusted properly.	**1.** Adjust table insert so it is perfectly flush with table (**Page 79**).
Fence contacts extension wing/table when it slides over.	**1.** Fence height set too low.	**1.** Adjust fence height (**Page 75**).
	2. Extension wing/table not flush with main table.	**2.** Reinstall extension wing (**Page 26**) or extension table (**Page 28**) flush with main saw table.

Electrical Safety Instructions

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

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

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

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

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

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

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

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

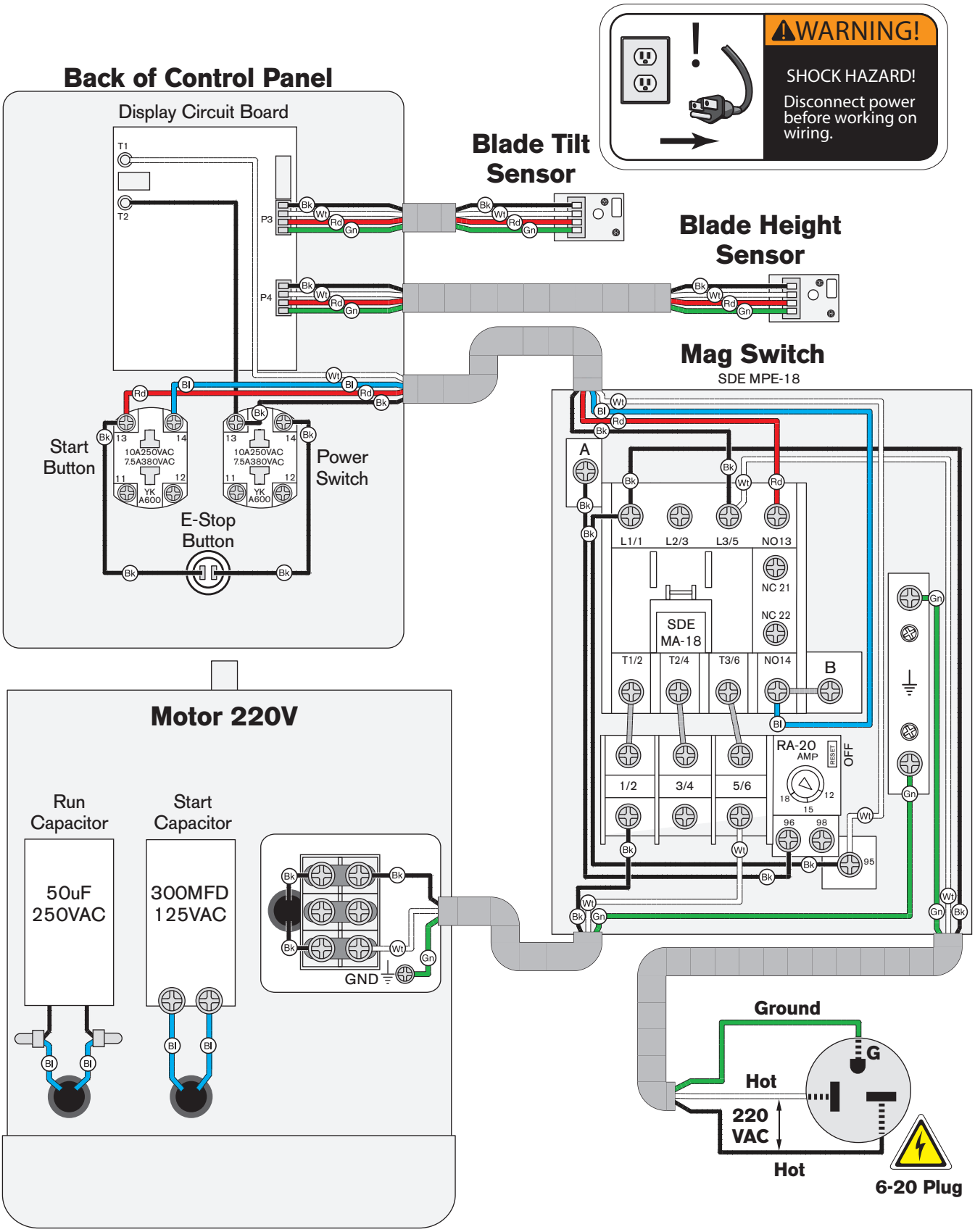
Experiencing Difficulties: If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (360) 734-1540.

WIRING DIAGRAM COLOR KEY

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

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

Wiring Diagram



Electrical Component Photos

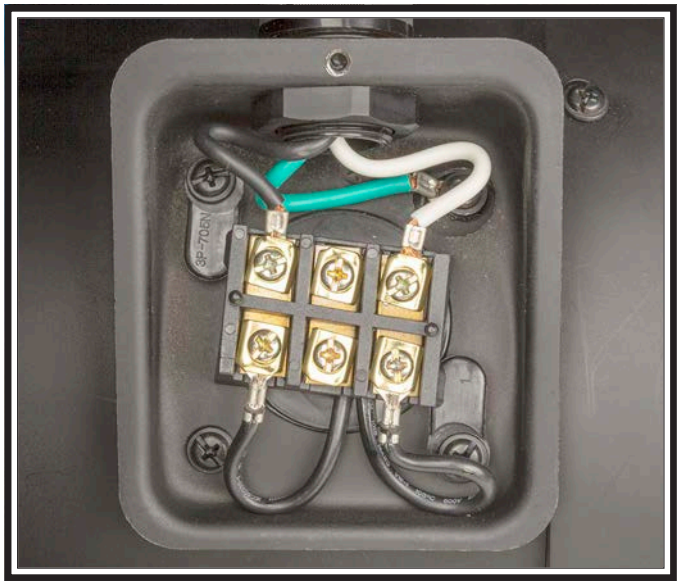


Figure 151. Motor junction box.

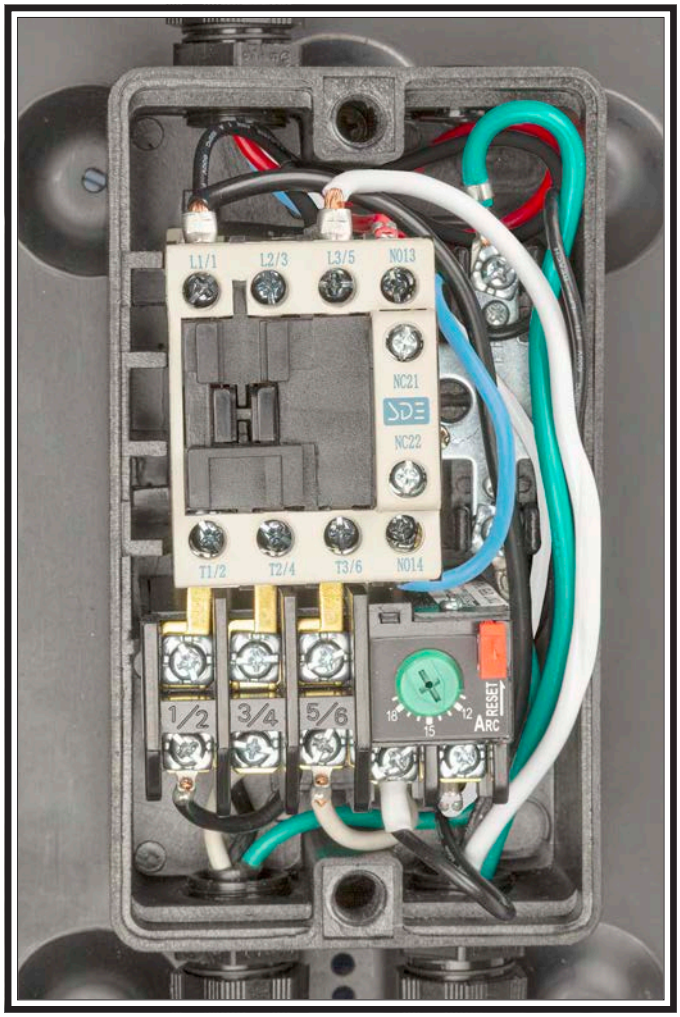


Figure 152. Mag switch.

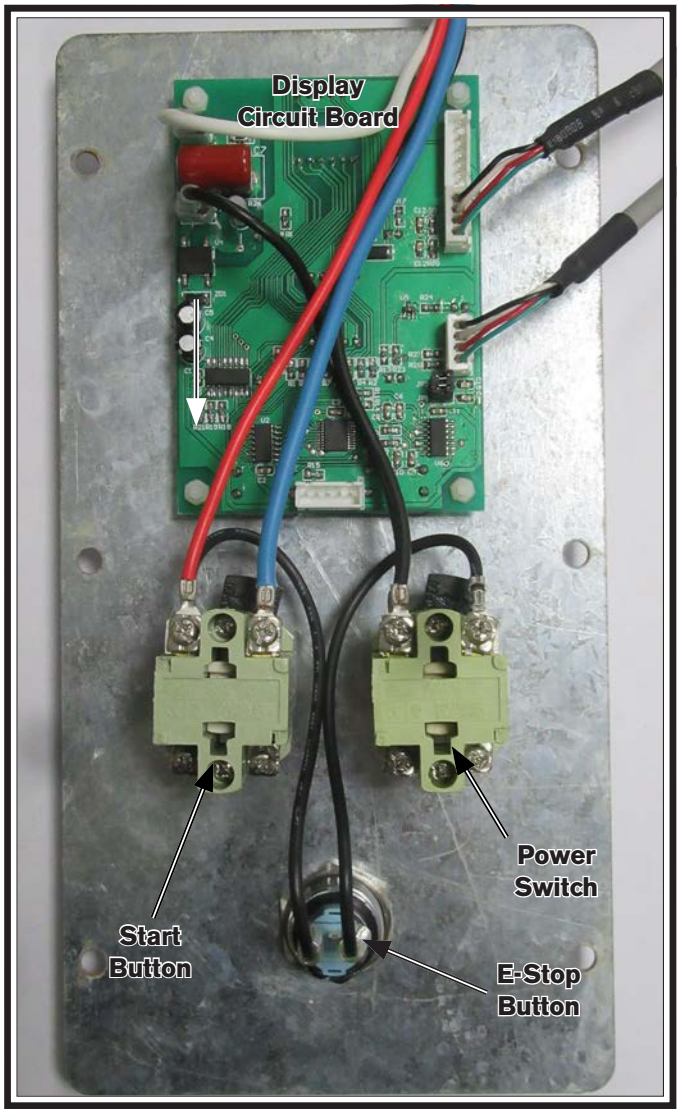


Figure 153. Back of control panel.

Figure 154. Capacitors.

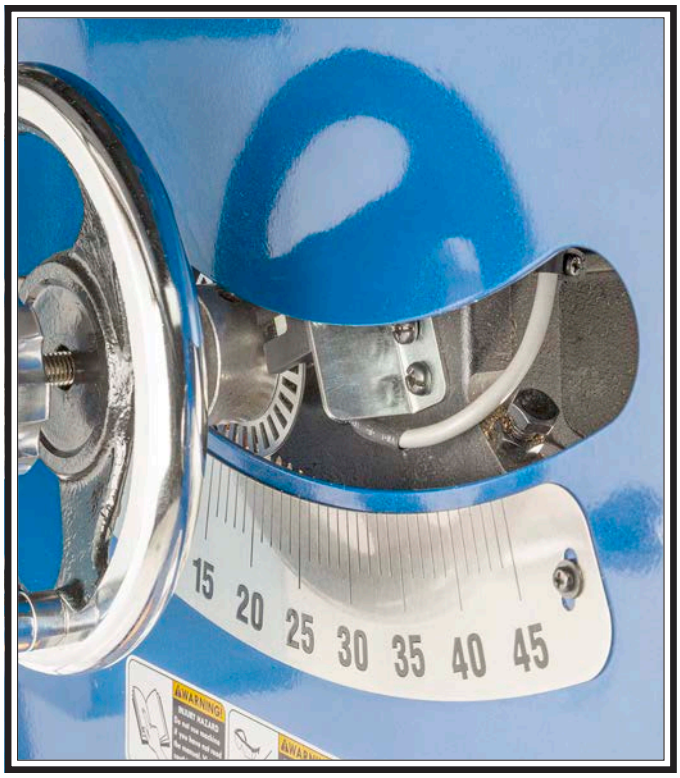


Figure 155. Blade height sensor.

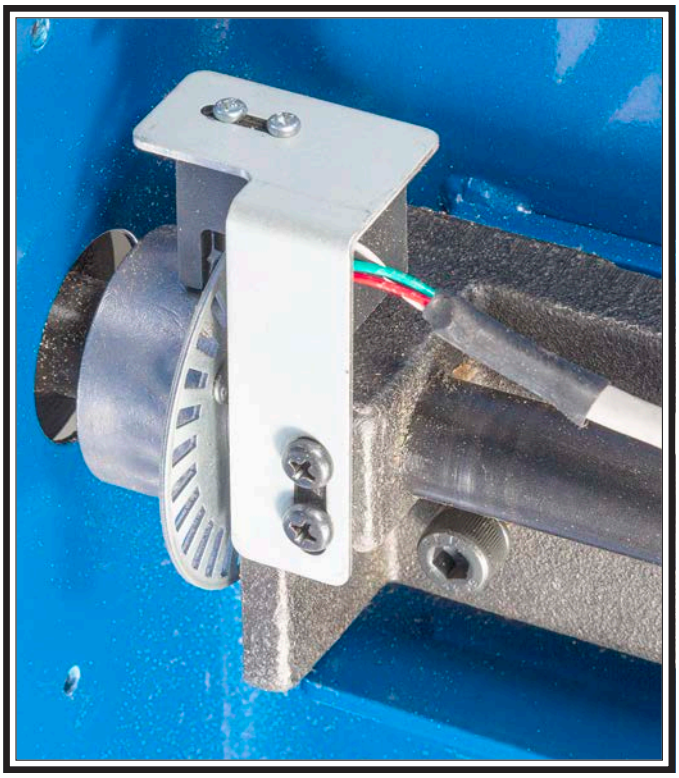
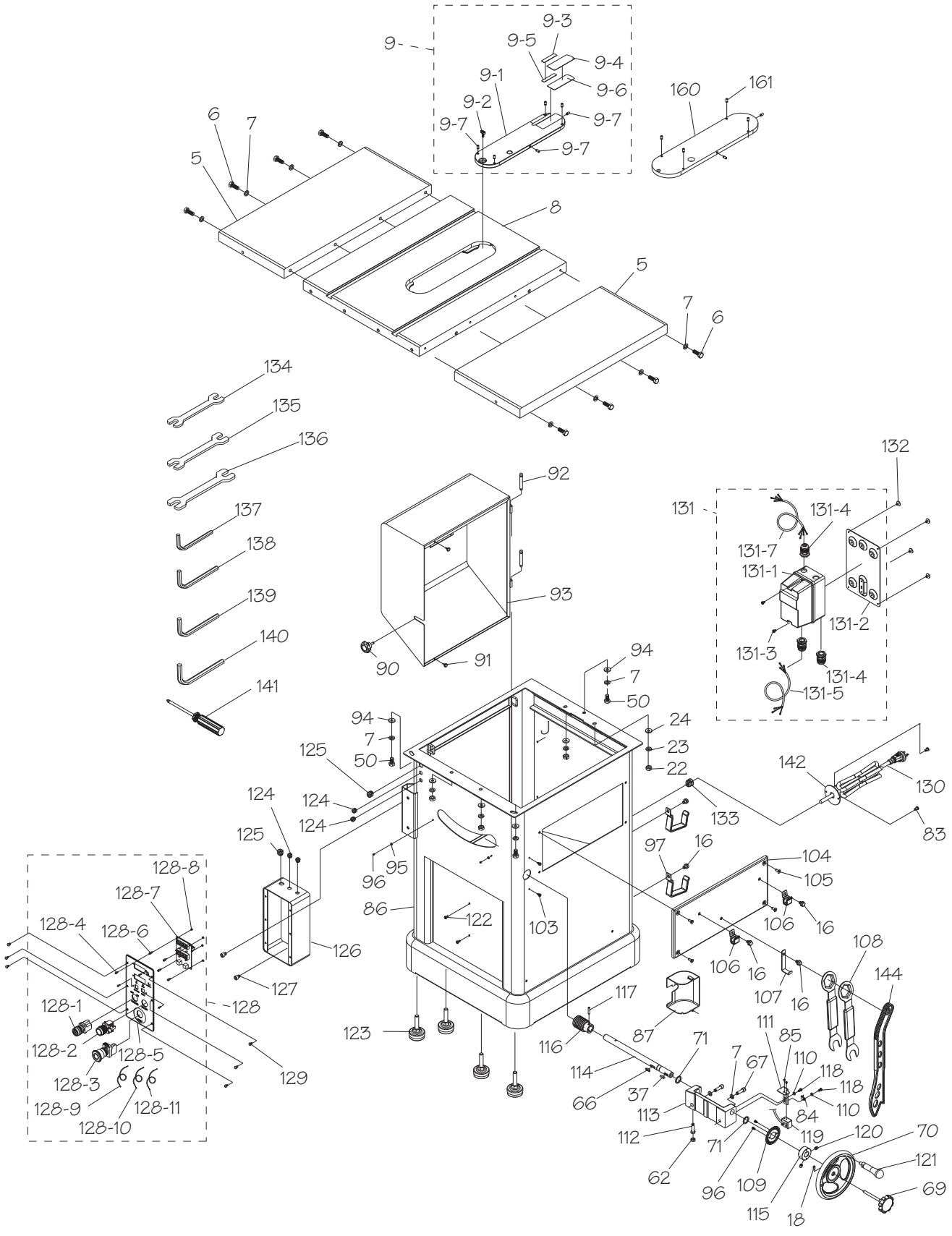


Figure 156. Blade tilt sensor.

Body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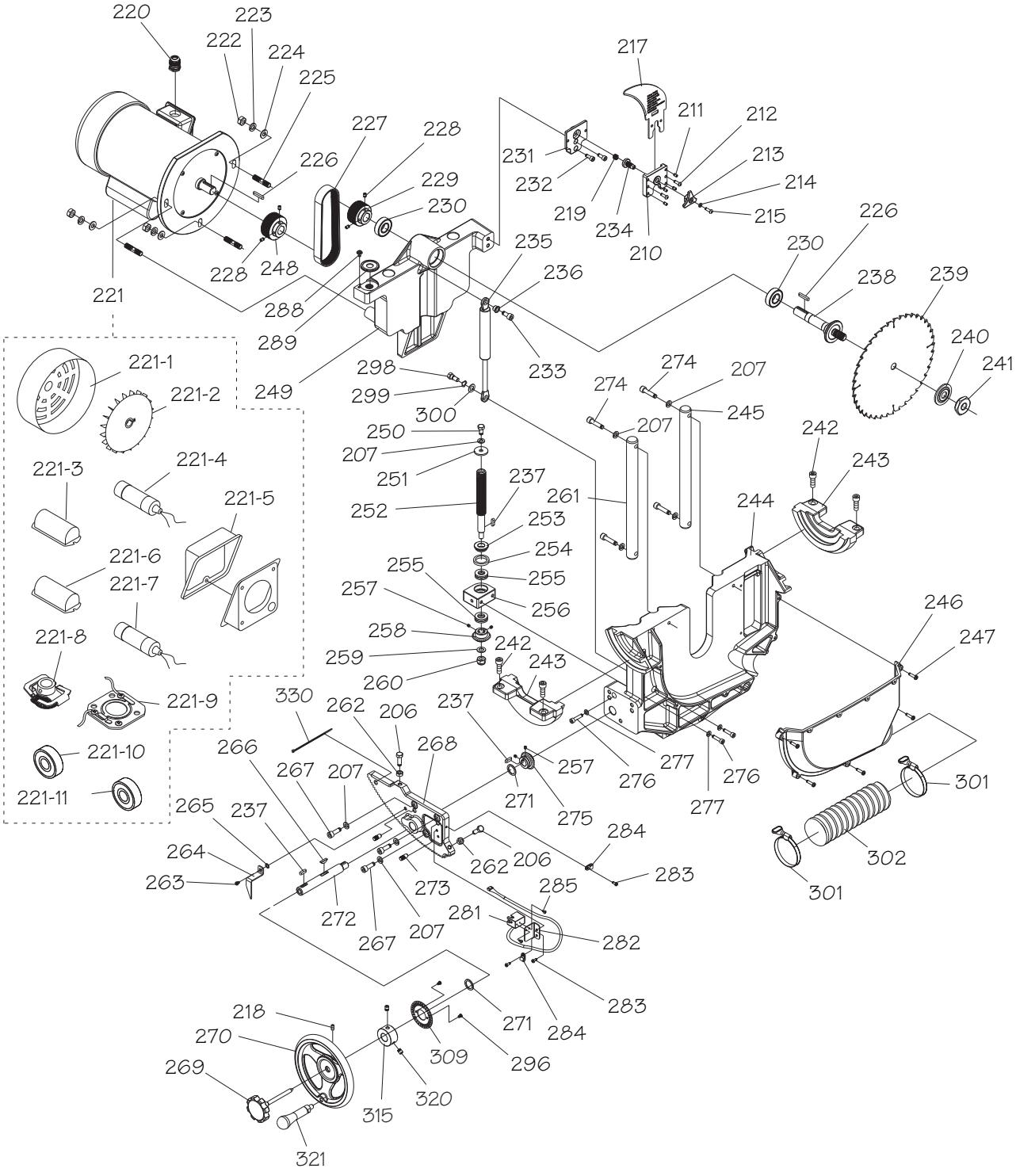
Body Parts List

REF	PART #	DESCRIPTION
5	PSB1110005	EXTENSION TABLE
6	PSB1110006	HEX BOLT M8-1.25 X 25
7	PSB1110007	LOCK WASHER 8MM
8	PSB1110008	TABLE
9	PSB1110009	TABLE INSERT ASSEMBLY
9-1	PSB1110009-1	TABLE INSERT
9-2	PSB1110009-2	KNOB BOLT M5-.8 X 13, D18, OVAL
9-3	PSB1110009-3	PLATE (LEFT)
9-4	PSB1110009-4	PLATE (RIGHT)
9-5	PSB1110009-5	TAPE 14MM (LEFT)
9-6	PSB1110009-6	TAPE 35MM (RIGHT)
9-7	PSB1110009-7	SET SCREW M6-1 X 12
16	PSB1110016	FLANGE BOLT M8-1.25 X 12
18	PSB1110018	SET SCREW M6-1 X 10
22	PSB1110022	HEX NUT M10-1.5
23	PSB1110023	LOCK WASHER 10MM
24	PSB1110024	FLAT WASHER 10MM
37	PSB1110037	KEY 5 X 5 X 18
50	PSB1110050	HEX BOLT M8-1.25 X 16
62	PSB1110062	HEX NUT M8-1.25
66	PSB1110066	WOODRUFF KEY 5 X 19MM
67	PSB1110067	CAP SCREW M8-1.25 X 25
69	PSB1110069	SHOULDER KNOB BOLT 8 X 70, M10-1.5 X 24
70	PSB1110070	HANDWHEEL TYPE-3 174D X 13B-K X 3/8-16
71	PSB1110071	FLAT WASHER 3/4 X 1 X 1/16
83	PSB1110083	PHLP HD SCR M6-1 X 10
84	PSB1110084	WIRE CLIP
85	PSB1110085	TAP SCREW M3 X 6
86	PSB1110086	CABINET
87	PSB1110087	DUST COLLECTION CASE
90	PSB1110090	KNOB BOLT M6-1 X 25, 6-LOBE, D40
91	PSB1110091	DOOR STOP
92	PSB1110092	HINGE PIN
93	PSB1110093	CABINET DOOR
94	PSB1110094	FLAT WASHER 8MM
95	PSB1110095	FENDER WASHER 4MM
96	PSB1110096	PHLP HD SCR M4-.7 X 6
97	PSB1110097	FENCE STORAGE BRACKET
103	PSB1110103	TAP SCREW M4 X 12
104	PSB1110104	CABINET PANEL
105	PSB1110105	FLAT HD SCR M6-1 X 20
106	PSB1110106	STORAGE BRACKET
107	PSB1110107	TOOL STORAGE BRACKET
108	PSB1110108	ARBOR WRENCH 15/16"
109	PSB1110109	SENSOR PLATE
110	PSB1110110	FLAT WASHER 5MM
111	PSB1110111	TILT SENSOR BRACKET
112	PSB1110112	HEX BOLT M8-1.25 X 30
113	PSB1110113	BLADE TILT SHAFT BRACKET

REF	PART #	DESCRIPTION
114	PSB1110114	BLADE TILT SHAFT
115	PSB1110115	LOCK COLLAR
116	PSB1110116	WORM GEAR
117	PSB1110117	ROLL PIN 5 X 28
118	PSB1110118	PHLP HD SCR M5-.8 X 8
119	PSB1110119	BLADE TILT SENSOR ASSEMBLY
120	PSB1110120	SET SCREW M8-1.25 X 10
121	PSB1110121	REVOLVING HANDLE 30 X 90, 3/8-16 X 1/2
122	PSB1110122	PHLP HD SCR M5-.8 X 10
123	PSB1110123	CABINET FOOT M10-1.25 X 52
124	PSB1110124	STRAIN RELIEF TYPE-1 1/2
125	PSB1110125	STRAIN RELIEF TYPE-1 5/8
126	PSB1110126	SWITCH BOX
127	PSB1110127	CAP SCREW M8-1.25 X 10
128	PSB1110128	CONTROL PANEL ASSEMBLY
128-1	PSB1110128-1	KEY SWITCH YK A600 10A 250V
128-2	PSB1110128-2	START BUTTON YK A600 10A 250V
128-3	PSB1110128-3	E-STOP BUTTON NHD NPB22-H
128-4	PSB1110128-4	BUTTON HD CAP SCR M3-.5 X 8
128-5	PSB1110128-5	CONTROL PANEL
128-6	PSB1110128-6	STANDOFF-HEX MF M3-.5 X 6, M3-.5
128-7	PSB1110128-7	DIGITAL DISPLAY CIRCUIT BOARD 220-460V
128-8	PSB1110128-8	HEX NUT M3-.5 PLASTIC
128-9	PSB1110128-9	CIRCUIT BOARD CORD 18G 1W 6"
128-10	PSB1110128-10	HEIGHT SENSOR CORD 18G 4W 8"
128-11	PSB1110128-11	TILT SENSOR CORD 18G 4W 8"
129	PSB1110129	BUTTON HD CAP SCR M5-.8 X 8
130	PSB1110130	POWER CORD 12G 3W 120" 6-20P
131	PSB1110131	MAG SWITCH ASSEMBLY
131-1	PSB1110131-1	MAG SWITCH SDE MPE-18 3HP 220-240V 1-PH
131-2	PSB1110131-2	SWITCH PLATE
131-3	PSB1110131-3	PHLP HD SCR M5-.8 X 12
131-4	PSB1110131-4	STRAIN RELIEF TYPE-3 PG13.5
131-5	PSB1110131-5	MOTOR CORD 14G 3W 39"
131-7	PSB1110131-7	CONTROL PANEL CORD 18G 4W 59"
132	PSB1110132	FLANGE SCREW M5-.8 X 10
133	PSB1110133	STRAIN RELIEF TYPE-1 3/4
134	PSB1110134	WRENCH 8 X 10MM OPEN-ENDS
135	PSB1110135	WRENCH 11 X 13MM OPEN-ENDS
136	PSB1110136	WRENCH 14 X 17MM OPEN-ENDS
137	PSB1110137	HEX WRENCH 3MM
138	PSB1110138	HEX WRENCH 4MM
139	PSB1110139	HEX WRENCH 5MM
140	PSB1110140	HEX WRENCH 6MM
141	PSB1110141	SCREWDRIVER COMBO #2
144	PSB1110144	PUSH STICK
142	PSB1110142	CORD BACKING BOARD
160	PSB1110160	DADO INSERT
161	PSB1110161	SET SCREW M6-1 X 12

Trunnion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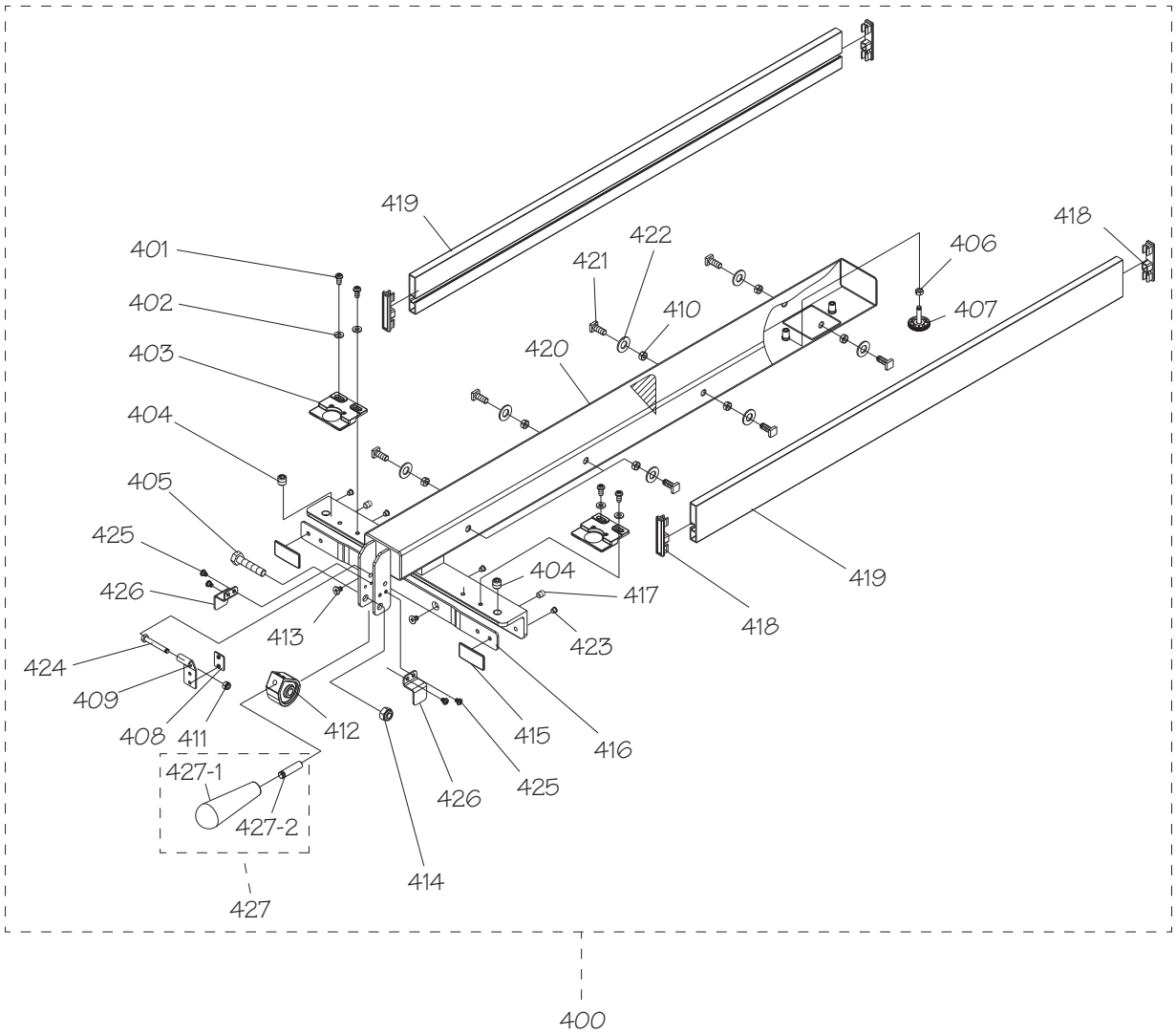
Trunnion Parts List

REF	PART #	DESCRIPTION
206	PSB1110206	HEX BOLT M8-1.25 X 25
207	PSB1110207	LOCK WASHER 8MM
210	PSB1110210	MOUNTING BRACKET PLATE
211	PSB1110211	SET SCREW M6-1 X 8
212	PSB1110212	BUTTON HD CAP SCR M5-.8 X 16
213	PSB1110213	KNOB M5-.8, 3-LOBE, D45
214	PSB1110214	LOCK WASHER 5MM
215	PSB1110215	BUTTON HD CAP SCR M5-.8 X 12
217	PSB1110217	RIVING KNIFE
218	PSB1110218	SET SCREW M6-1 X 10
219	PSB1110219	COMPRESSION SPRING 1 X 9.5 X 16
220	PSB1110220	STRAIN RELIEF TYPE-3 PG16
221	PSB1110221	MOTOR 3HP 220V 1-PH
221-1	PSB1110221-1	MOTOR FAN COVER
221-2	PSB1110221-2	MOTOR FAN
221-3	PSB1110221-3	S CAPACITOR COVER
221-4	PSB1110221-4	S CAPACITOR 300M 125V 1-1/2 X 3-1/2
221-5	PSB1110221-5	MOTOR JUNCTION BOX
221-6	PSB1110221-6	R CAPACITOR COVER
221-7	PSB1110221-7	R CAPACITOR 50M 250V 1-1/2 X 2-1/2
221-8	PSB1110221-8	CENTRIFUGAL SWITCH 5/8" 3450 RPM
221-9	PSB1110221-9	CONTACT PLATE 22 X 94MM
221-10	PSB1110221-10	BALL BEARING 6205ZZ (FRONT)
221-11	PSB1110221-11	BALL BEARING 6203ZZ (REAR)
222	PSB1110222	HEX NUT M10-1.5
223	PSB1110223	LOCK WASHER 10MM
224	PSB1110224	FLAT WASHER 10MM
225	PSB1110225	MOTOR STUD-DE M10-1.5
226	PSB1110226	KEY 5 X 5 X 30 RE
227	PSB1110227	V-BELT 180J-9
228	PSB1110228	SET SCREW M6-1 X 8
229	PSB1110229	BLADE PULLEY
230	PSB1110230	BALL BEARING 6004-2NSE
231	PSB1110231	MOUNTING BRACKET BASE
232	PSB1110232	CAP SCREW M8-1.25 X 16
233	PSB1110233	CAP SCREW M8-1.25 X 20
234	PSB1110234	LOCKING BOLT
235	PSB1110235	GAS STRUT
236	PSB1110236	BUSHING
237	PSB1110237	KEY 5 X 5 X 18 RE
238	PSB1110238	ARBOR SHAFT
239	PSB1110239	SAW BLADE 10" X 40T
240	PSB1110240	ARBOR FLANGE
241	PSB1110241	HEX NUT 5/8-11
242	PSB1110242	CAP SCREW M10-1.5 X 30
243	PSB1110243	TRUNNION (FRONT/REAR)
244	PSB1110244	MAIN TRUNNION
245	PSB1110245	COLUMN (REAR)
246	PSB1110246	BLADE COVER

REF	PART #	DESCRIPTION
247	PSB1110247	PHLP HD SCR M5-.8 X 20
248	PSB1110248	MOTOR PULLEY
249	PSB1110249	LEVEL BRACKET
250	PSB1110250	HEX BOLT M8-1.25 X 16
251	PSB1110251	FENDER WASHER 8 X 30 X 3MM
252	PSB1110252	LEADSCREW
253	PSB1110253	BUSHING
254	PSB1110254	GASKET
255	PSB1110255	THRUST BEARING 51102
256	PSB1110256	PIVOT BEARING HOUSING
257	PSB1110257	SET SCREW M5-.8 X 5
258	PSB1110258	VERTICAL BEVEL GEAR
259	PSB1110259	FLAT WASHER 10MM
260	PSB1110260	LOCK NUT M10-1.25
261	PSB1110261	COLUMN (FRONT)
262	PSB1110262	HEX NUT M8-1.25
263	PSB1110263	PHLP HD SCR M6-1 X 12
264	PSB1110264	ANGLE POINTER
265	PSB1110265	EXT TOOTH WASHER 6MM
266	PSB1110266	WOODRUFF KEY 5 X 19MM
267	PSB1110267	CAP SCREW M8-1.25 X 25
268	PSB1110268	TILT GEAR BLOCK
269	PSB1110269	SHOULDER KNOB BOLT 8 X 70, M10-1.5 X 24
270	PSB1110270	HANDWHEEL TYPE-3 174D X 13B-K X 3/8-16
271	PSB1110271	FLAT WASHER 3/4 X 1 X 1/16
272	PSB1110272	BLADE HEIGHT HANDWHEEL SHAFT
273	PSB1110273	GEAR BLOCK PIN
274	PSB1110274	CAP SCREW M8-1.25 X 35
275	PSB1110275	HORIZONTAL BEVEL GEAR
276	PSB1110276	CAP SCREW M6-1 X 25
277	PSB1110277	LOCK WASHER 6MM
281	PSB1110281	BLADE HEIGHT SENSOR ASSEMBLY
282	PSB1110282	HEIGHT SENSOR BRACKET
283	PSB1110283	PHLP HD SCR M6-1 X 10
284	PSB1110284	CORD CLIP
285	PSB1110285	TAP SCREW M3 X 6
288	PSB1110288	FLANGE SCREW M5-.8 X 10
289	PSB1110289	BLADE BRUSH
296	PSB1110296	PHLP HD SCR M4-.7 X 6
298	PSB1110298	SHOULDER BOLT M8-1.25 X 13, 9.5 X 7
299	PSB1110299	WAVY WASHER 10MM
300	PSB1110300	FLAT WASHER 10MM
301	PSB1110301	HOSE CLAMP 2-1/2"
302	PSB1110302	DUST HOSE 2-1/2" X 39-3/8"
309	PSB1110309	SENSOR PLATE
315	PSB1110315	LOCK COLLAR
320	PSB1110320	SET SCREW M8-1.25 X 10
321	PSB1110321	REVOLVING HANDLE 30 X 90, 3/8-16 X 1/2
330	PSB1110330	CORD CLIP

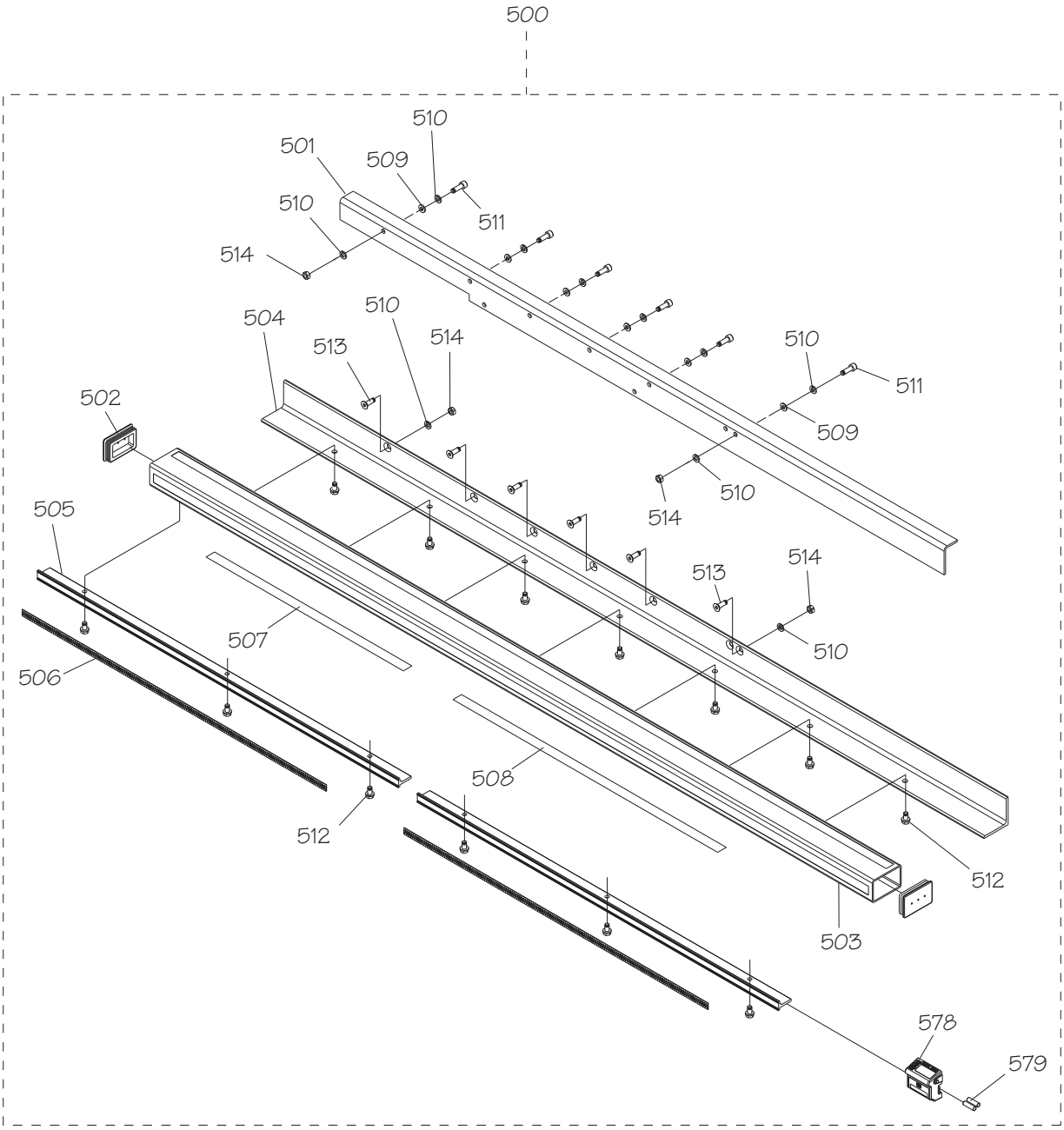
Fence



REF	PART #	DESCRIPTION
400	PSB1110400	FENCE ASSEMBLY
401	PSB1110401	PHLP HD SCR M6-1 X 12
402	PSB1110402	FLAT WASHER 6MM
403	PSB1110403	INDICATOR PLATE
404	PSB1110404	SET SCREW M12-1.75 X 13 PLASTIC
405	PSB1110405	HEX BOLT M10-1.5 X 50
406	PSB1110406	HEX NUT M6-1
407	PSB1110407	RAIL FOOT (REAR)
408	PSB1110408	PLATE (FRONT)
409	PSB1110409	CLAMPING BRACKET
410	PSB1110410	HEX NUT M8-1.25
411	PSB1110411	LOCK NUT M6-1
412	PSB1110412	FENCE HANDLE CAM
413	PSB1110413	FLAT HD SCR M6-1 X 8
414	PSB1110414	LOCK NUT M10-1.5

REF	PART #	DESCRIPTION
415	PSB1110415	PLASTIC PAD
416	PSB1110416	RAIL CLAMPING BRACKET
417	PSB1110417	SET SCREW M8-1.25 X 8
418	PSB1110418	FENCE CAP
419	PSB1110419	FENCE FACE
420	PSB1110420	FENCE BODY
421	PSB1110421	T-BOLT M8-1.25 X 20
422	PSB1110422	FLAT WASHER 8MM
423	PSB1110423	PLASTIC BUMPER
424	PSB1110424	HEX BOLT M6-1 X 45
425	PSB1110425	PHLP HD SCR M5-.8 X 6
426	PSB1110426	CAM PLATE
427	PSB1110427	FENCE HANDLE
427-1	PSB1110427-1	HANDLE 21 X 115, M10-1.5 RED ANODIZED
427-2	PSB1110427-2	SET SCREW M10-1.5 X 30

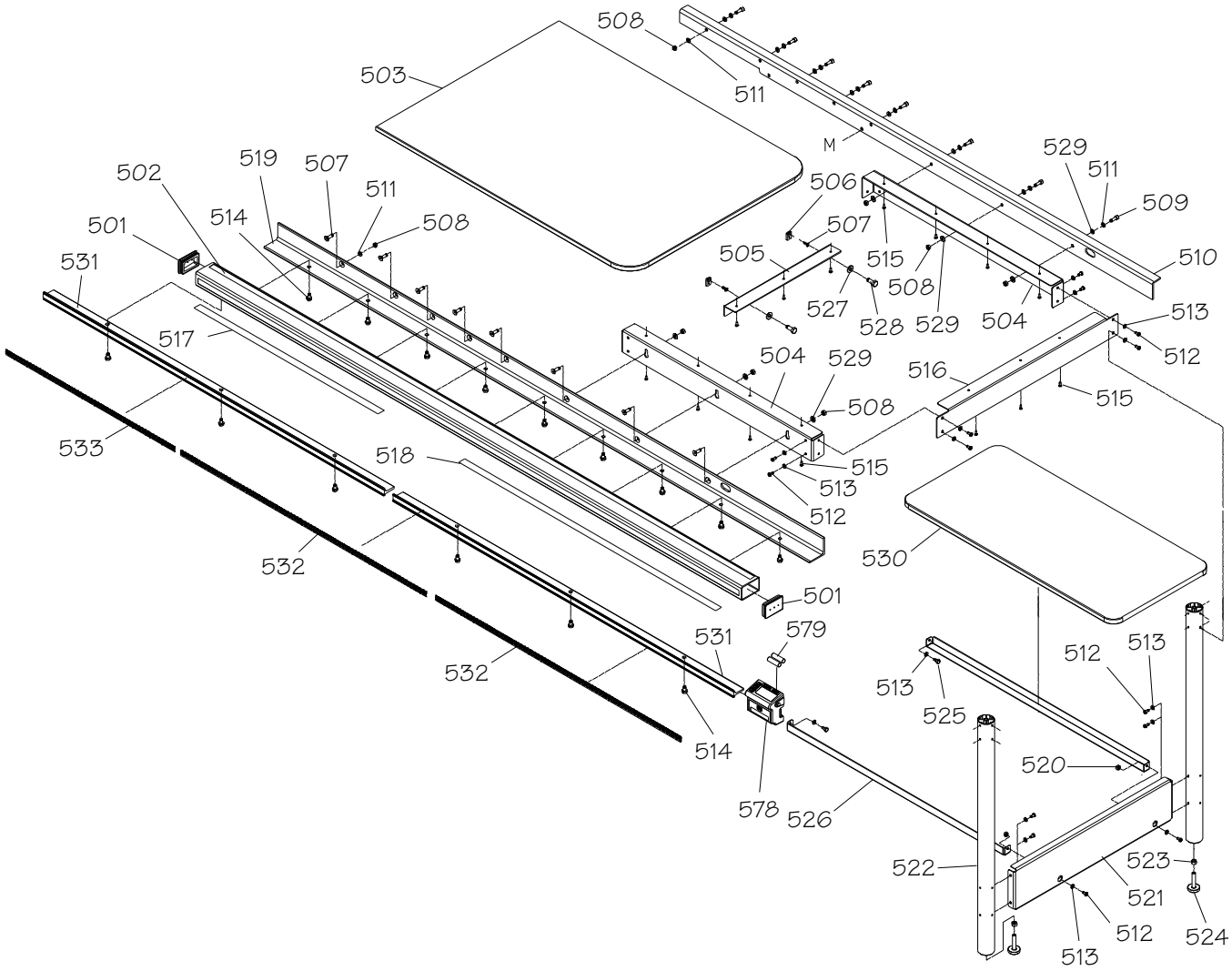
SB1110 Rails



REF	PART #	DESCRIPTION
500	PSB1110500	RAIL ASSEMBLY
501	PSB1110501	RAIL (REAR)
502	PSB1110502	END CAP
503	PSB1110503	FENCE TUBE
504	PSB1110504	RAIL (FRONT)
505	PSB1110505	SENSOR BASE
506	PSB1110506	SENSOR STRIP WIXEY WR7003 800MM
507	PSB1110507	SCALE 18" (LEFT)
508	PSB1110508	SCALE 36" (RIGHT)

REF	PART #	DESCRIPTION
509	PSB1110509	FLAT WASHER 8MM
510	PSB1110510	LOCK WASHER 8MM
511	PSB1110511	CAP SCREW M8-1.25 X 25
512	PSB1110512	FLANGE BOLT M8-1.25 X 12
513	PSB1110513	FLAT HD CAP SCR M8-1.25 X 25
514	PSB1110514	HEX NUT M8-1.25
578	PSB1110578	LCD DIGITAL READOUT WIXEY WR7001
579	PSB1110579	BATTERY AAA (2 PCS)

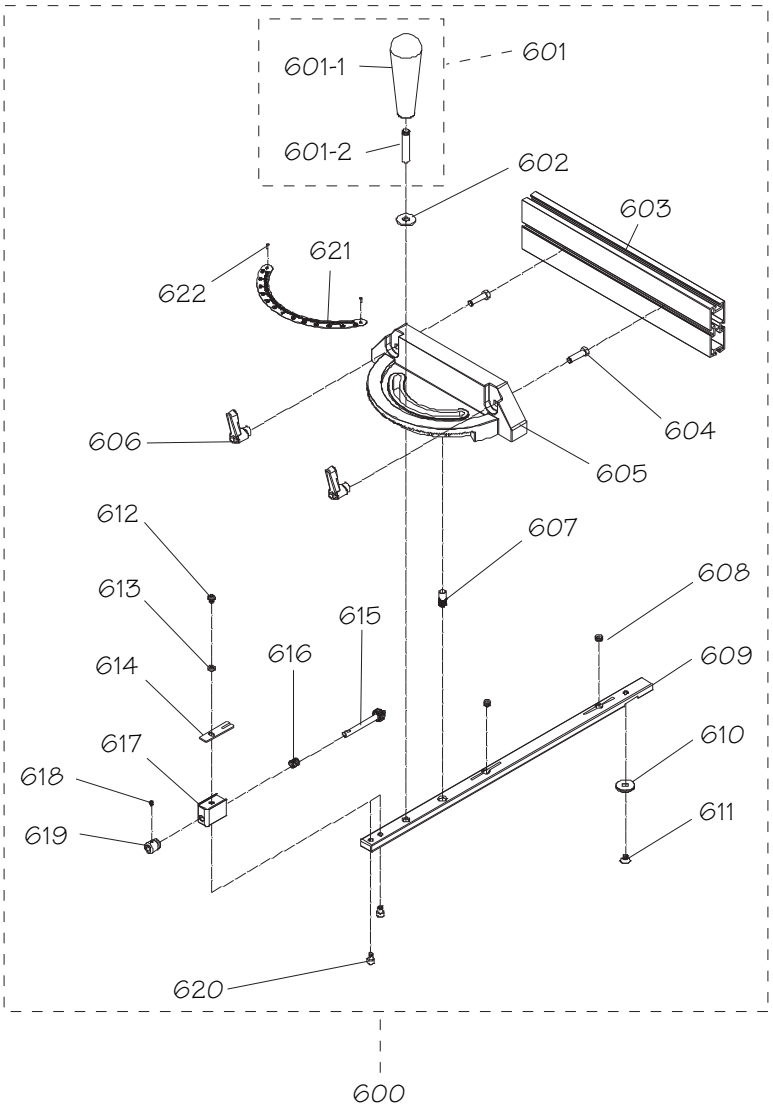
SB1111 Rails & Extension Table



REF	PART #	DESCRIPTION
501	PSB1111501	END CAP
502	PSB1111502	FENCE TUBE
503	PSB1111503	EXTENSION TABLE PLATE
504	PSB1111504	EXTENSION TABLE SUPPORT
505	PSB1111505	EXTENSION BRACKET (LEFT)
506	PSB1111506	MOUNTING PLATE
507	PSB1111507	FLAT HD SCR M8-1.25 X 25
508	PSB1111508	HEX NUT M8-1.25
509	PSB1111509	CAP SCREW M8-1.25 X 25
510	PSB1111510	RAIL (REAR)
511	PSB1111511	LOCK WASHER 8MM
512	PSB1111512	PHLP HD SCR M6-1 X 12
513	PSB1111513	FLAT WASHER 6MM
514	PSB1111514	FLANGE BOLT M8-1.25 X 12
515	PSB1111515	TAP SCREW M4.5 X 16
516	PSB1111516	EXTENSION BRACKET (RIGHT)
517	PSB1111517	SCALE 18" (LEFT)
518	PSB1111518	SCALE 52" (RIGHT)

REF	PART #	DESCRIPTION
519	PSB1111519	RAIL (FRONT)
520	PSB1111520	HEX NUT M6-1
521	PSB1111521	SHELF END PLATE
522	PSB1111522	SUPPORT LEG
523	PSB1111523	HEX NUT 3/8-16
524	PSB1111524	FOOT 3/8-16 X 2
525	PSB1111525	HEX BOLT M6-1 X 12
526	PSB1111526	LOWER SHELF BRACKET
527	PSB1111527	FENDER WASHER 8MM
528	PSB1111528	HEX BOLT M8-1.25 X 12
529	PSB1111529	FLAT WASHER 8MM
530	PSB1111530	LOWER SHELF
531	PSB1111531	SENSOR BASE
532	PSB1111532	SENSOR STRIP WIXEY WR7003 800MM
533	PSB1111533	SENSOR STRIP WIXEY WR7003 550MM
578	PSB1111578	LCD DIGITAL READOUT WIXEY WR7001
579	PSB1111579	BATTERY AAA (2 PCS)

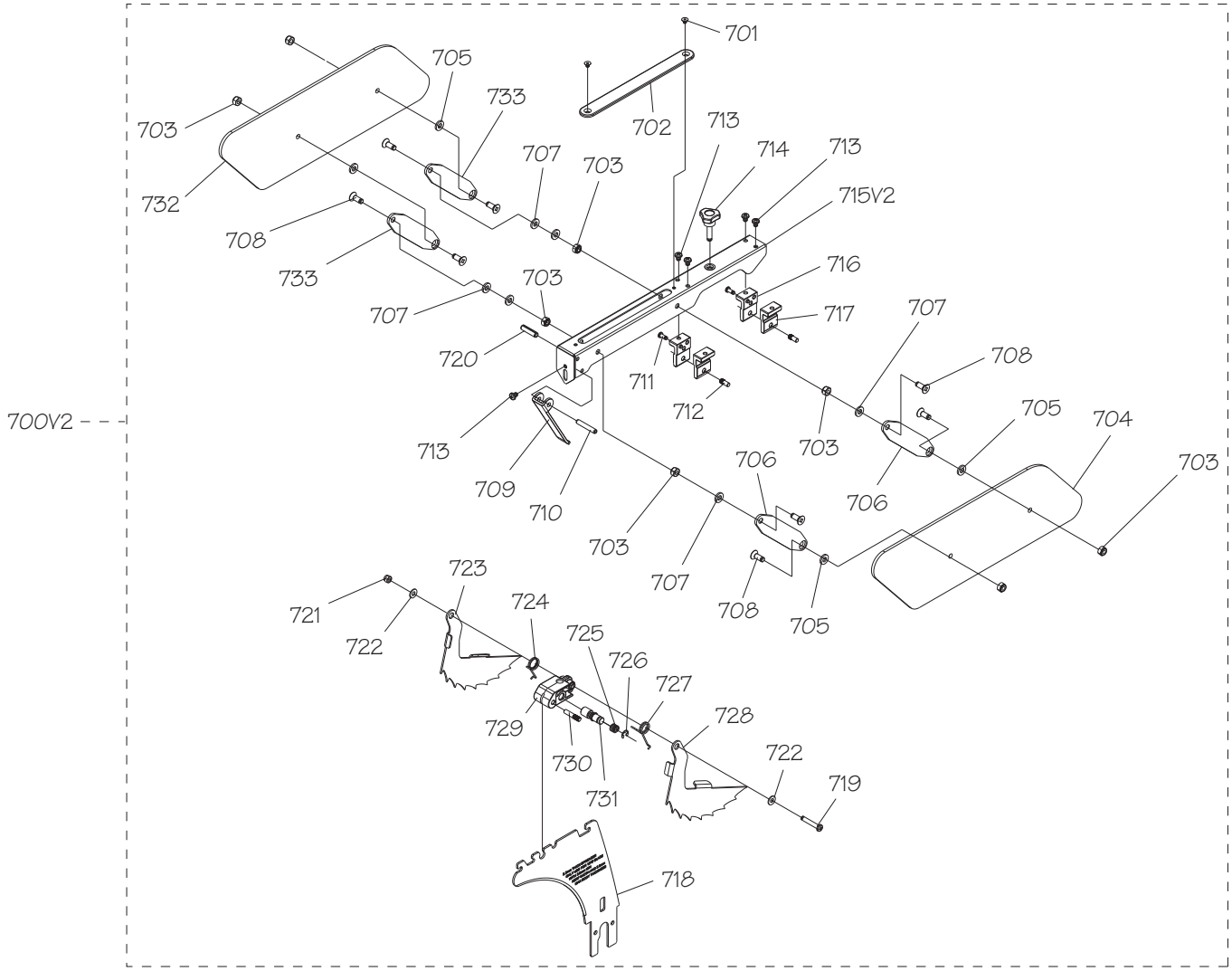
Miter Gauge



REF	PART #	DESCRIPTION
600	PSB1110600	MITER GAUGE ASSEMBLY
601	PSB1110601	MITER GAUGE HANDLE
601-1	PSB1110601-1	HANDLE 21 X 115, M8-1.25 RED ANODIZED
601-2	PSB1110601-2	SET SCREW M8-1.25 X 45
602	PSB1110602	FENDER WASHER 8MM
603	PSB1110603	MITER GAUGE FENCE
604	PSB1110604	HEX BOLT 1/4-20 X 1
605	PSB1110605	MITER GAUGE BODY
606	PSB1110606	ADJUSTABLE HANDLE 1/4-20, 1-7/8L
607	PSB1110607	MITER HINGE PIN
608	PSB1110608	SET SCREW M8-1.25 X 6
609	PSB1110609	MITER BAR
610	PSB1110610	MITER BAR SLOT WASHER

REF	PART #	DESCRIPTION
611	PSB1110611	FLAT HD SCR M6-1 X 8
612	PSB1110612	PHLP HD SCR M5-.8 X 8
613	PSB1110613	FLAT WASHER 5MM
614	PSB1110614	POINTER
615	PSB1110615	SHAFT
616	PSB1110616	COMPRESSION SPRING 6.5 X 8.6 X 10.2
617	PSB1110617	BLOCK
618	PSB1110618	SET SCREW M4-.7 X 4
619	PSB1110619	POINTER KNOB
620	PSB1110620	CAP SCREW M5-.8 X 8
621	PSB1110621	SCALE
622	PSB1110622	RIVET 2 X 5MM NAMEPLATE

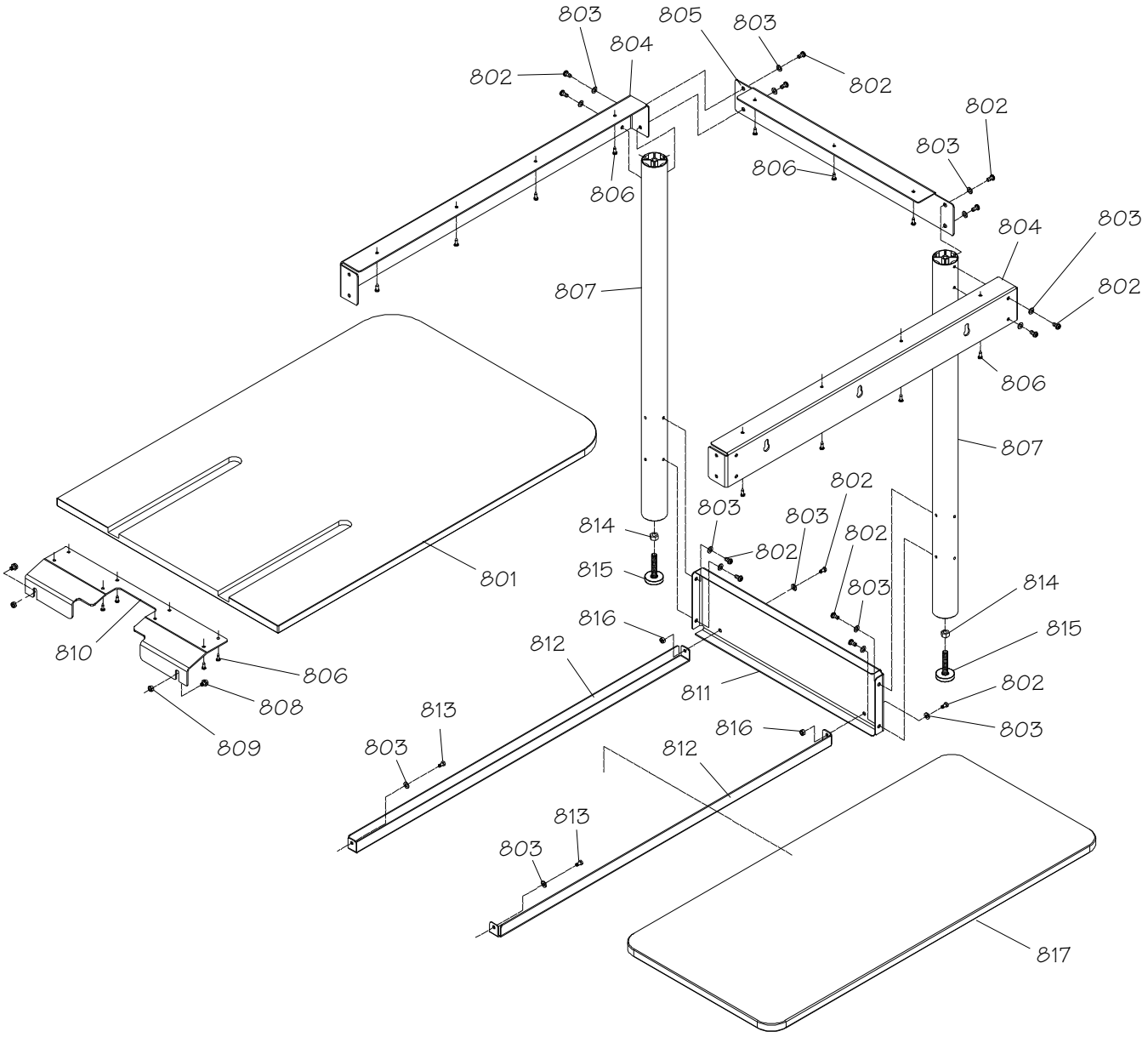
Blade Guard



REF	PART #	DESCRIPTION
700V2	PSB1110700V2	BLADE GUARD ASSEMBLY V2.08.21
701	PSB1110701	FLAT HD SCR M4-.7 X 8
702	PSB1110702	UPPER COVER
703	PSB1110703	LOCK NUT M6-1
704	PSB1110704	BLADE GUARD COVER (RIGHT)
705	PSB1110705	FLAT WASHER 6MM
706	PSB1110706	CONNECTING PLATE (RIGHT)
707	PSB1110707	FLAT WASHER 6MM
708	PSB1110708	FLAT HD SCR M6-1 X 16
709	PSB1110709	COVER (FRONT)
710	PSB1110710	ROLL PIN 5 X 32
711	PSB1110711	PHLP HD SCR M4-.7 X 10
712	PSB1110712	MOUNTING PIN
713	PSB1110713	PHLP HD SCR M5-.8 X 6
714	PSB1110714	KNOB BOLT M6-1 X 35, 3-LOBE, D26
715V2	PSB1110715V2	BLADE GUARD BODY V2.08.21
716	PSB1110716	MOUNTING BLOCK (LEFT)

REF	PART #	DESCRIPTION
717	PSB1110717	MOUNTING BLOCK (RIGHT)
718	PSB1110718	SPREADER
719	PSB1110719	PHLP HD SCR M5-.8 X 30
720	PSB1110720	ROLL PIN 5 X 40
721	PSB1110721	LOCK NUT M5-.8
722	PSB1110722	FLAT WASHER 5MM
723	PSB1110723	ANTI-KICKBACK PAWL (LEFT)
724	PSB1110724	TORSION SPRING (RIGHT)
725	PSB1110725	COMPRESSION SPRING 0.7 X 10.6 X 11
726	PSB1110726	E-CLIP 7MM
727	PSB1110727	TORSION SPRING (LEFT)
728	PSB1110728	ANTI-KICKBACK PAWL (RIGHT)
729	PSB1110729	PAWL MOUNTING BRACKET
730	PSB1110730	PIN
731	PSB1110731	SHAFT
732	PSB1110732	BLADE GUARD COVER (LEFT)
733	PSB1110733	CONNECTING PLATE (LEFT)

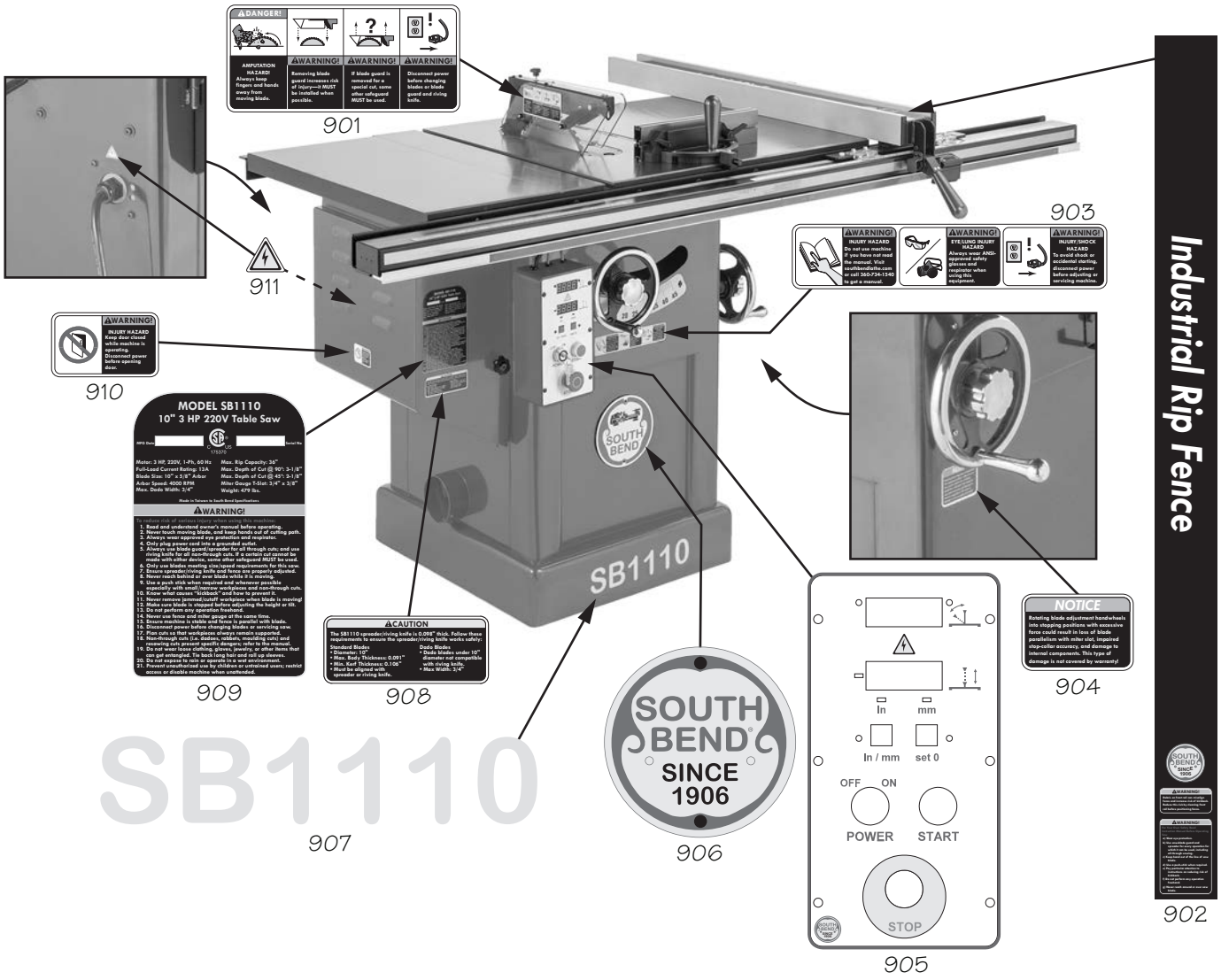
SB1111 Outfeed Table



REF	PART #	DESCRIPTION
801	PSB1111801	OUTFEED TABLE PLATE
802	PSB1111802	PHLP HD SCR M6-1 X 12
803	PSB1111803	FLAT WASHER 6MM
804	PSB1111804	OUTFEED TABLE SUPPORT
805	PSB1111805	OUTFEED TABLE BRACKET (REAR)
806	PSB1111806	TAP SCREW M4.5 X 16
807	PSB1111807	SUPPORT LEG
808	PSB1111808	FLANGE BOLT M8-1.25 X 16
809	PSB1111809	HEX NUT M8-1.25

REF	PART #	DESCRIPTION
810	PSB1111810	OUTFEED TABLE BRACKET (FRONT)
811	PSB1111811	SHELF END PLATE
812	PSB1111812	LOWER SHELF BRACKET
813	PSB1111813	HEX BOLT M6-1 X 12
814	PSB1111814	HEX NUT 3/8-16
815	PSB1111815	FOOT 3/8-16 X 2
816	PSB1111816	HEX NUT M6-1
817	PSB1111817	LOWER SHELF

Machine Labels



REF	PART #	DESCRIPTION
901	PSB1110901	BLADE GUARD LABEL
902	PSB1110902	RIP FENCE LABEL
903	PSB1110903	MACHINE WARNINGS LABEL
904	PSB1110904	HANDWHEEL NOTICE LABEL
905	PSB1110905	CONTROL PANEL LABEL
906	PSB1110906	SOUTH BEND NAMEPLATE
907	PSB1110907	MODEL NUMBER LABEL (SB1110)

REF	PART #	DESCRIPTION
907	PSB1111907	MODEL NUMBER LABEL (SB1111)
908	PSB1110908	BLADE REQUIREMENTS LABEL (SB1110)
908	PSB1111908	BLADE REQUIREMENTS LABEL (SB1111)
909	PSB1110909	MACHINE ID LABEL (SB1110)
909	PSB1111909	MACHINE ID LABEL (SB1111)
910	PSB1110910	DOOR CLOSED LABEL
911	PSB1110911	ELECTRICITY LABEL

⚠WARNING

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

Warranty

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

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

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

Thank you for your business and continued support.

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

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