

# READ THIS FIRST

## Model W1827

### \*\*\*IMPORTANT UPDATE\*\*\*

Applies to Models Mfd. Since 1/17  
and Owner's Manual Printed 8/12



Phone #: (360) 734-3482 • Tech Support: techsupport@woodstockint.com • Web: www.woodstockint.com

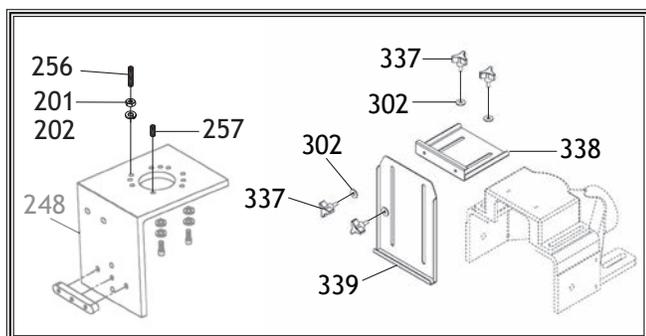
We made the following changes to this machine since the manual was printed:

- Added an additional spindle enclosure guard.
- Changed spindle cartridge support fasteners.

Aside from the information contained in this update, all other content in the owner's manual is applicable and MUST be read and understood for your own safety.

**IMPORTANT:** Keep this update with the owner's manual for future reference. If you have any further questions, contact our Technical Support.

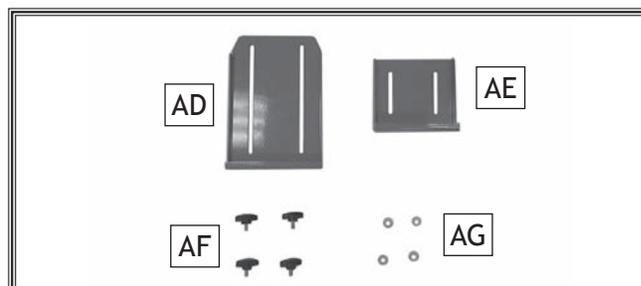
### New Parts



REF	PART #	DESCRIPTION
201	X1827201	HEX NUT 3/8-16
202	X1827202	LOCK WASHER 3/8
256	X1827256	SET SCREW 3/8-16 X 1
257	X1827257	SET SCREW 3/8-16 X 1/2
302	X1827302	FLAT WASHER 1/4
337	X1827337	KNOB BOLT 1/4-20 X 1/2
338	X1827338	FRONT GUARD EXTENSION PLATE
339	X1827339	FRONT SPINDLE ENCLOSURE GUARD

### New Inventory

Inventory	Qty
AD. Front Spindle Enclosure Guard .....	1
AE. Front Guard Extension Plate.....	1
AF. Knob Bolts 1/4"-20 x 1/2" .....	4
AG. Flat Washers 1/4".....	4



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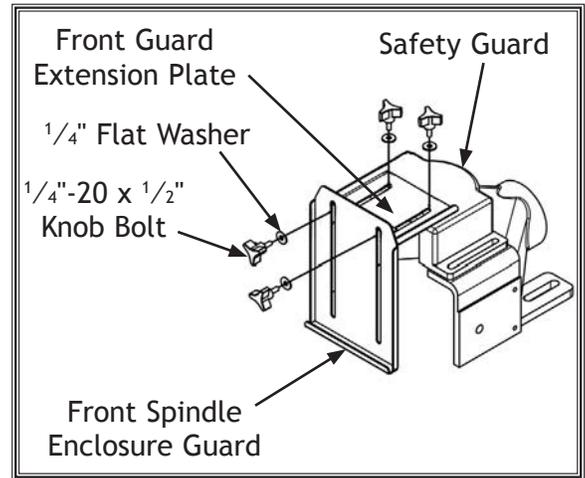
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## Attaching Spindle Enclosure Guard

Before attaching the spindle enclosure guard, follow instructions on Pages 13–16 in the Owner's Manual for installing the cutter guard and attaching the safety guard.

To attach spindle enclosure guard, do these steps:

1. Attach front guard extension plate to threaded holes on front of safety guard with (2) 1/4"-20 x 1/2" knob bolts and (2) 1/4" flat washers (see Figure 1).
2. Attach front spindle enclosure guard to extension plate with (2) 1/4"-20 x 1/2" knob bolts and (2) 1/4" flat washers, (see Figure 1).



**Figure 1.** Front guard extension plate and spindle enclosure guard attached to safety guard.

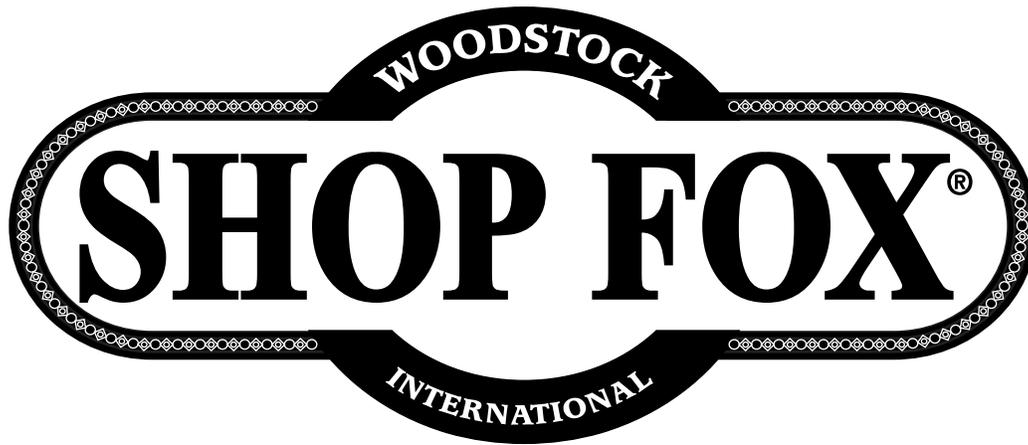
## Spindle Enclosure Guard Positioning

The spindle enclosure guard protects the user from exposure to the cutter and chips thrown by it. To minimize the risk of injury, the spindle enclosure guard must be adjusted so it encloses as much of the spindle area as possible, while still allowing the workpiece to pass through the cut. Typically this means the front guard is positioned to just clear the top of the workpiece.

To position the spindle enclosure guard, loosen the top knob bolts and slide the extension plate in or out, then loosen the front knob bolts and raise or lower the spindle enclosure guard as needed. Tighten the knob bolts to secure the setting.

# ! WARNING

All guards **MUST** be installed on your shaper before operating it. Shapers can quickly cause serious injury if some kind of guard is not used. To reduce your risk of injury, read and follow the entire Owner's Manual carefully and do additional research on shop made guards and safety jigs.



# MODEL W1827 5 HP HEAVY-DUTY SHAPER



## OWNER'S MANUAL *(FOR MODELS MANUFACTURED SINCE 3/12)*

Phone: (360) 734-3482 • Online Technical Support: [tech-support@shopfox.biz](mailto:tech-support@shopfox.biz)

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## **WARNING!**

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

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

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

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



## **WARNING!**

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

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

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

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# INTRODUCTION

## Woodstock Technical Support

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

In the event that questions arise about your machine, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: [tech-support@shopfox.biz](mailto:tech-support@shopfox.biz). Our knowledgeable staff will help you troubleshoot problems or process warranty claims.

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

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

# Controls & Features

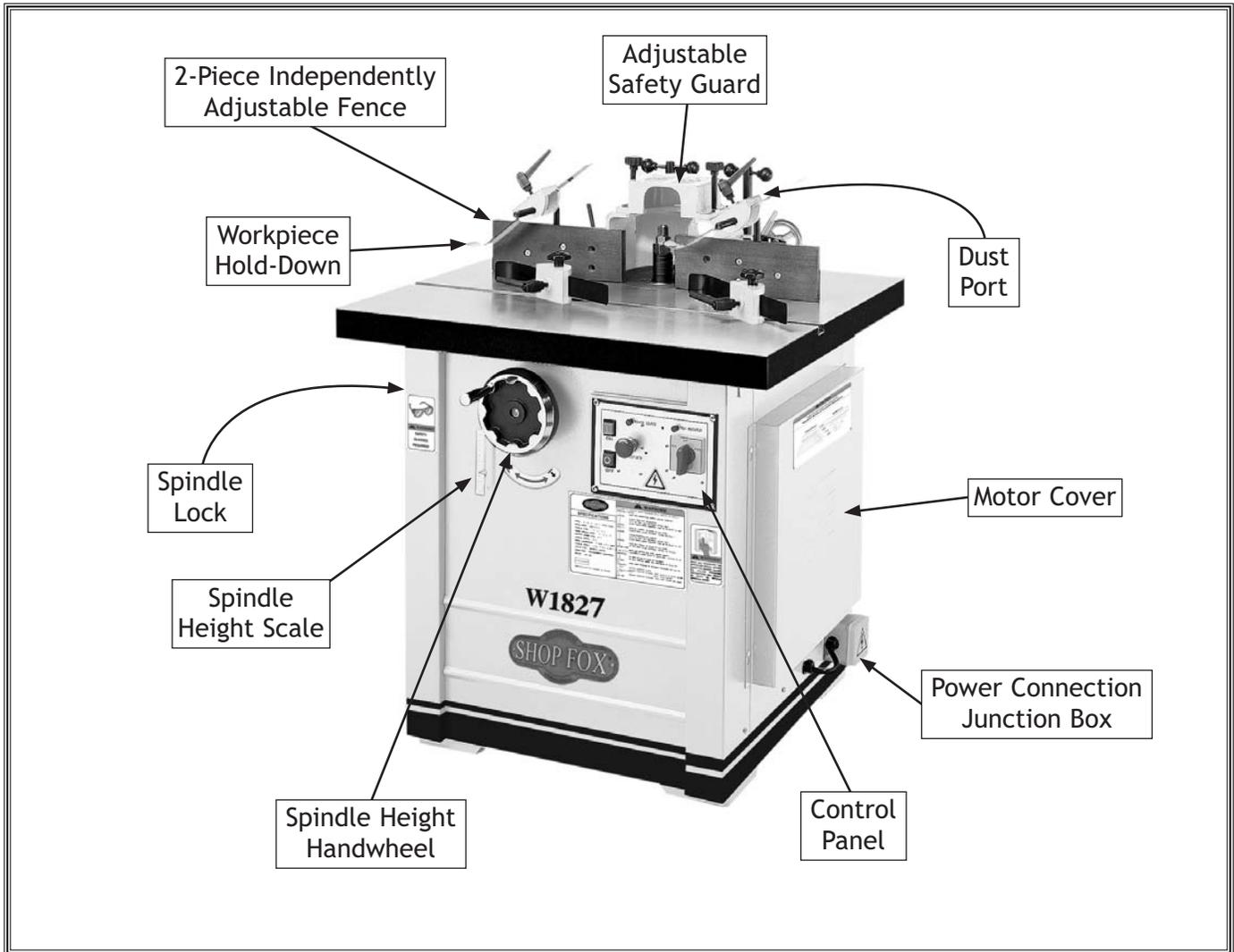


Figure 1. Model W1827 controls and features.

## WARNING

For Your Own Safety Read Instruction Manual Before Operating Shaper

- Wear eye protection.
- Be sure keyed washer is directly under spindle nut and spindle nut is tight.
- Feed workpiece against rotation of cutter.
- Do not use awkward hand positions.
- Keep fingers away from spinning cutter; use fixtures or jigs when necessary.
- Use overhead guard when adjustable fence is not in place.



# MACHINE SPECIFICATIONS



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## MODEL W1827 SHOP FOX® 5 HP SHAPER

### Product Dimensions

Weight..... 562 lbs.  
 Width (side-to-side) x Depth (front-to-back) x Height..... 34 3/4 x 35-1/2 x 43 in.  
 Footprint (Length x Width)..... 26 x 27 in.

### Shipping Dimensions

Type..... Wood Crate  
 Content..... Machine  
 Weight..... 720 lbs.  
 Length x Width x Height..... 40 x 30 x 43 in.

### Electrical

Power Requirement..... 220V, Single-Phase, 60 Hz  
 Minimum Circuit Size..... 30A  
 Switch..... Push Button ON/OFF, Emergency Stop, Lever for Forward/Reverse  
 Switch Voltage..... 220V  
 Plug Included..... No

### Motors

#### Spindle

Type..... TEFC Capacitor Start Induction  
 Horsepower..... 5  
 Voltage..... 220V  
 Phase..... 1  
 Amps..... 25A  
 Speed..... 3450 RPM  
 Cycle..... 60 Hz  
 Number of Speeds..... 1  
 Power Transfer ..... Belt Drive  
 Bearings..... Shielded and Lubricated

### Main Specifications

#### Operation Info

Max. Cutter Height..... 5 in.  
 Max. Cutter Dia..... 5-7/8 in.  
 Spindle Sizes..... 3/4, 1, 1-1/4 in.  
 Spindle Lengths..... 6-7 in.  
 Exposed Spindle Length..... 5-7/8 - 6-7/8 in.  
 Spindle Cap Under The Nut..... 4-1/4, 4-5/8, 5-1/8 in.  
 Spindle Speeds..... 3600, 5100, 8000, 10000 RPM  
 Spindle Travel..... 3-1/4 in.  
 Spindle Openings..... 2, 3, 3-1/2 in.

**Table Info**

No. of Table Inserts.....	3
Table Insert Sizes I.D.....	2, 3, 3-1/2 in.
Table Insert Sizes O.D.....	3, 3-1/2, 7 in.
Table Counterbore Diameter.....	7 in.
Table Counterbore Depth.....	5/8 in.
Table Size Length.....	35-1/2 in.
Table Size Width.....	28 in.
Table Size Thickness.....	2-5/16 in.
Floor To Table Height.....	34-3/4 in.
Table Fence Length.....	33-3/8 in.
Table Fence Width.....	9/16 in.
Table Fence Height.....	4-1/4 in.

**Miter Gauge Info**

Miter Angle.....	Left and Right 60 deg.
Miter Gauge Slot Type.....	T-Slot
Miter Gauge Slot Width.....	3/4 in.
Miter Gauge Slot Height.....	25/64 in.

**Construction**

Table.....	Ground Cast Iron
Body Assembly.....	Steel
Cabinet.....	Formed Steel
Fence.....	Cast Iron with Wood
Miter Gauge.....	Cast Iron
Guard.....	Cast Iron
Spindle Bearings.....	Sealed and Lubricated
Paint.....	Powder Coated

**Other**

No. of Dust Ports.....	1
Dust Port Size.....	4 in.
Mobile Base.....	D2058A

**Features**

- 4 Spring Steel Hold-Down Assemblies
- Fence Adjustment Includes Built-In Ratchets and Knob-Equipped Adjusters
- Spindle Height Scale in Inches and Metric
- 2 Wood Fence Pieces Included
- 3 Spindles with 8 Spacers and 2 Nuts Included
- Assorted Wrenches Included

# SAFETY

## For Your Own Safety, Read Manual Before Operating Machine

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



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



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



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

### **NOTICE**

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

## Standard Machinery Safety Instructions

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

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

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

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

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

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

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

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

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

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

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

**INTENDED USAGE.** Only use machine for its intended purpose and never make modifications not approved by Woodstock. Modifying machine or using it differently than intended may result in malfunction or mechanical failure that can lead to serious personal injury or death!

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

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

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

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

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

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

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

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

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

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

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

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

# Additional Safety for Shapers

**GUARDING FROM CUTTER EXPOSURE.** When setting up cuts, take every possible step to reduce operator exposure to the cutter to prevent laceration or amputation injuries. These steps include but are not limited to: Keeping the unused portion of the cutter below the table, using the smallest table insert allowed by cutter, adjusting fences as close as practical to the cutter on both sides, using a properly installed box guard, and securing the guard as close to the workpiece as possible. *Keep the provided guard or other protective devices between your hands and the cutter at all times!*

**KEEPING HANDS SAFE.** Never pass your hands near or directly over or in front of the cutter. As one hand approaches the 6-inch radius point, move it in an arc motion away from the cutter to the outfeed side and reposition that hand more than 6 inches beyond the cutter. Do not use awkward hand positions.

**SMALL WORKPIECES.** There is a risk when shaping a small workpiece that it will slip between the fence boards and draw the operator's hand into the spinning cutter. Keep fingers away from revolving cutter—use fixtures when necessary. Where practical, shape longer stock and cut to size.

**TESTING FOR CLEARANCE.** If the spinning cutter should contact the fence, guard, or insert, the resulting flying debris presents injury hazards. Unplug the shaper, and always rotate the spindle by hand to test any new setup for proper cutter clearance before starting the shaper.

**SAFE CUTTER INSTALLATION.** A tight spindle nut reduces the risk of the cutter or rub collars flying off during operation. Always make sure that the arbor key and the spindle keyway are aligned. Always use both spindle nuts and make sure they are tight.

**CUTTER POSITIONING.** Keep the cutters on the underside of the workpiece whenever possible to reduce operator exposure to the moving cutter.

**AVOIDING CUTTER AND WORKPIECE GRAB.** Moving the workpiece into the cutter in the same direction as it is rotating will aggressively pull the workpiece from your hands and could draw them into the cutter. Always make sure the cutter is rotating in the correct direction before starting shaper, and always feed the workpiece against the rotation of the cutter.

**PREPARING A WORKPIECE.** Always "square up" a workpiece before you run it through the shaper. A warped workpiece is difficult to process and increases the risk of an accident. Always inspect the workpiece before shaping. The danger of kickback is increased when the stock has knots, holes, or foreign objects in it.

**AVOIDING AN OVERLOAD.** Removing too much material in one pass increases the risk of the workpiece kicking back toward the operator. Never attempt to remove too much material in one pass. Several light passes are safer and give a cleaner finish.

**SAFELY FEEDING A WORKPIECE.** We recommend using some type of fixture, jig, or hold-down device to safely support the workpiece when feeding. ALWAYS use a push stick when shaping small or narrow workpieces. Use an outfeed support table if shaping long workpieces to make sure that they remain supported during the entire cutting procedure.

**SAFETY GUARDS.** To reduce the risk of unintentional contact with the rotating cutter, ALWAYS make sure the cutter safety guard and a properly dimensioned box guard are correctly installed before beginning operation.

**CONTOUR SHAPING.** When shaping contoured work and using a rub collar, NEVER start shaping at a corner. See the rub collar section in the manual. Use the overhead safety guard when the adjustable fence is not in place.

# ELECTRICAL

## Circuit Requirements

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

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

### Full-Load Current Rating

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

Full-Load Current Rating at 220V ..... 25 Amps

### Circuit Requirements

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

- Circuit Type ..... 220V/240V, 60 Hz, Single-Phase
- Circuit Size ..... 30 Amps
- Plug/Receptacle ..... NEMA L6-30
- Cord ..... "S" Type, 3 Wire, 10 AWG, 300 VAC

**⚠ WARNING**

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

**⚠ WARNING**



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

**NOTICE**

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

ELECTRICAL

# Grounding Requirements

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

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

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

## For 220V Connection

A NEMA L6-30 plug has a grounding prong that must be attached to the equipment-grounding wire inside the power cord. The plug must only be inserted into a matching receptacle (see **Figure 2**) that is properly installed and grounded in accordance with all local codes and ordinances.

# Extension Cords

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

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

- Minimum Gauge Size at 220V ..... 10 AWG
- Maximum Length (Shorter is Better) ..... 50 ft.

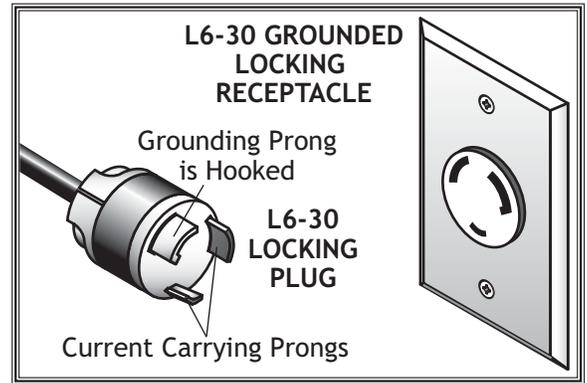
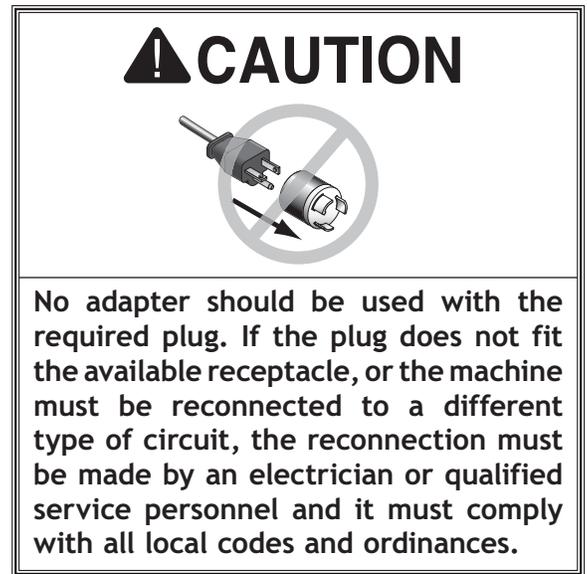


Figure 2. NEMA L6-30 plug & receptacle.



ELECTRICAL

# SETUP

## Inventory

The following is a description of the main components shipped with the Model W1827. Lay the components out to inventory them.

**Note:** *If you can't find an item on this list, check the mounting location on the machine or examine the packaging materials carefully. Occasionally we pre-install certain components for safer shipping.*

Inventory (Figure 3)	Qty
A. Hold-Down Brackets w/Large Holes .....	2
B. Hold-Down Brackets w/Small Holes .....	2
C. Cutter Guard .....	1
D. Safety Guard .....	1
E. Fence Brackets.....	2
F. Fence Boards.....	2
G. Draw Bar w/Nut .....	1
H. Double-Threaded Bars 4" .....	2
I. Cutter Guard Tie-Downs w/Set Screws ...	2
J. Fence Adjuster Shafts.....	2
K. Hold-Down Bars.....	2

L. Hold-Downs.....	4
M. Knob Bolts $\frac{5}{16}$ "-18 x 1", 2 $\frac{3}{4}$ " Shaft.....	2
N. Knob Bolts $\frac{5}{16}$ "-18 x $\frac{3}{8}$ ", 2- $\frac{1}{2}$ " Shaft.....	2
O. V-Belt A28.....	1
P. Spindle w/Nuts & Spacers $\frac{3}{4}$ ".....	1
Q. Spindle w/Nuts & Spacers 1" .....	1
R. Spindle w/Nuts & Spacers 1 $\frac{1}{4}$ " .....	1
S. Lock Handles .....	2
T. Fence Adjuster Handwheels .....	2
U. Round Knobs.....	4
V. Handwheel Handle .....	1
W. Knob Bolts $\frac{3}{8}$ "-16 x 1 $\frac{1}{4}$ ".....	2
X. Knob Bolts $\frac{3}{8}$ "-16 x 1" .....	2
Y. Hardware Bag:	
• Lock Washers $\frac{5}{16}$ " .....	6
• Flat Head Screws $\frac{5}{16}$ "-18 x $\frac{1}{2}$ " .....	6
• Flat Washers $\frac{5}{16}$ ".....	8
• Flat Washers $\frac{1}{2}$ " .....	4
• Hex Nuts $\frac{5}{16}$ " .....	6
• T-Nuts .....	2
Z. Hex Wrench 3mm, 4mm .....	1 Each
AA. Spindle Wrench 1", 1 $\frac{1}{2}$ " .....	1 Each
AB. Multi Wrench 10, 19, 23, 26, 37mm.....	1
AC. Miter Gauge Assembly (Not Shown) .....	1

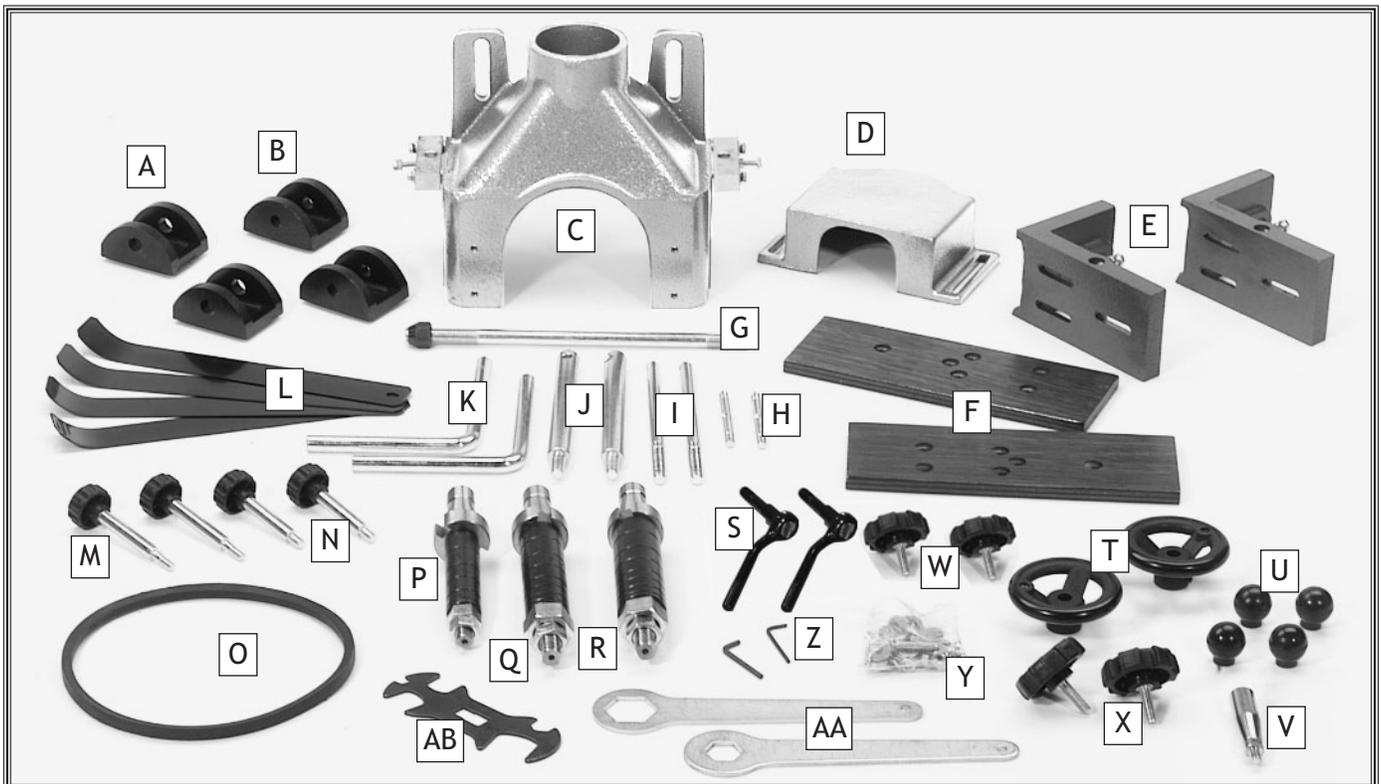


Figure 3. Shipping inventory.

SET UP

# Machine Placement

- **Floor Load:** This machine distributes a heavy load in a small footprint. Some residential floors may require additional bracing to support both machine and operator.
- **Working Clearances:** Consider existing and anticipated needs, size of material to be processed through the machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your shaper.
- **Lighting:** Lighting should be bright enough to eliminate shadow and prevent eye strain.
- **Electrical:** Electrical circuits must be dedicated or large enough to handle amperage requirements. Outlets must be located near each machine, so power or extension cords are clear of high-traffic areas. Follow local electrical codes for proper installation of new lighting, outlets, or circuits.

SET UP

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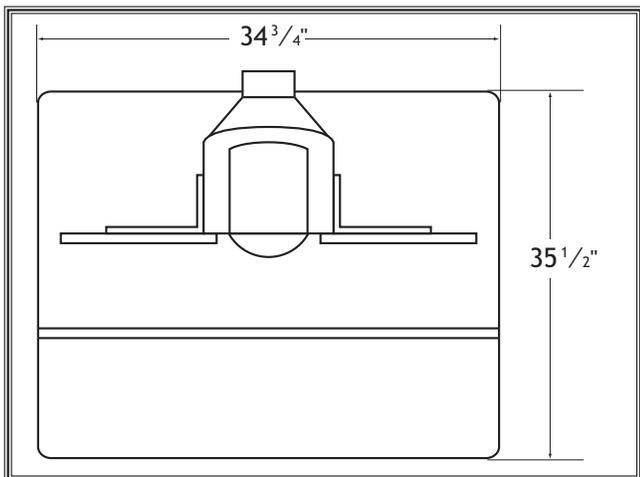


Figure 4. Working clearances.

# Cleaning Machine

The table and other unpainted parts of your machine are coated with a waxy grease that protects them from corrosion during shipment. Clean this grease off with a solvent cleaner or citrus-based degreaser. DO NOT use chlorine-based solvents such as brake parts cleaner or acetone—if you happen to splash some onto a painted surface, you will ruin the finish.

	<p><b>WARNING</b>  <b>NEVER</b> clean with gasoline or other petroleum-based solvents. Most have low flash points, which make them extremely flammable. A risk of explosion and burning exists if these products are used. Serious personal injury may occur if this warning is ignored!</p>
--	--

	<p><b>CAUTION</b>  <b>ALWAYS</b> work in well-ventilated areas far from possible ignition sources when using solvents to clean machinery. Many solvents are toxic when inhaled or ingested. Use care when disposing of waste rags and towels to be sure they <b>DO NOT</b> create fire or environmental hazards.</p>

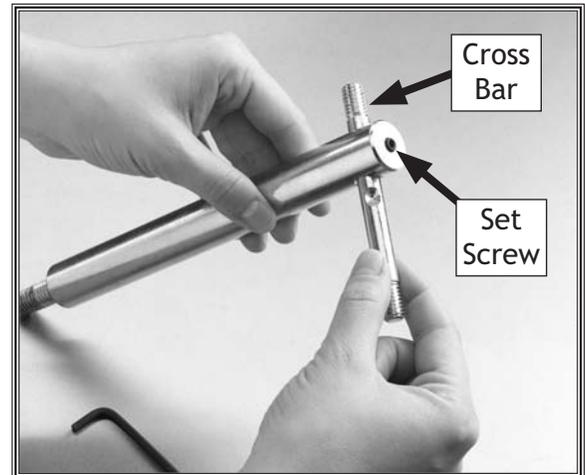
# Assembly

## Installing Cutter Guard

The guard tie-downs are used to secure the guard to the table and are used when re-positioning the guard.

To install the cutter guard, do these steps:

1. Insert each of the double-threaded bars into a guard tie-down shaft, as shown in **Figure 5**, and align the groove in the bar with the set screw in the top of the shaft.
2. Tighten the set screw to secure each cross bar, as shown in **Figure 6**.
3. Thread the round knobs onto each end of the cross bars, as shown in **Figure 7**.



**Figure 5.** Inserting cross bar into guard tie-down shaft.



**Figure 6.** Securing cross bar in place.



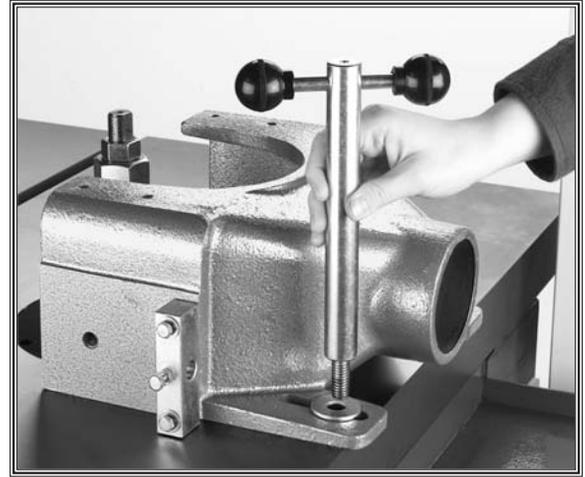
**Figure 7.** Installing the cross bar knobs.

SET UP

4. Position the cutter guard over the threaded holes in the table.

**Note:** *The guard can be positioned over either pair of holes, depending upon the requirements of the operation.*

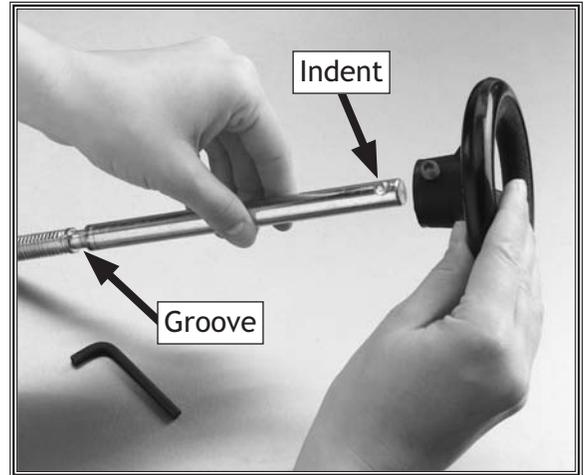
5. Insert the tie-down assemblies with 1/2" flat washers through the slots in the guard, and thread them into the table to secure the guard in place, as shown in **Figure 8**.



**Figure 8.** Securing the guard to the table.

### Installing Fence

1. Slide a handwheel onto a fence adjuster shaft as you align the set screw in the handwheel with the shaft indent, as shown in **Figure 9**.



**Figure 9.** Attaching handwheel to fence adjuster.

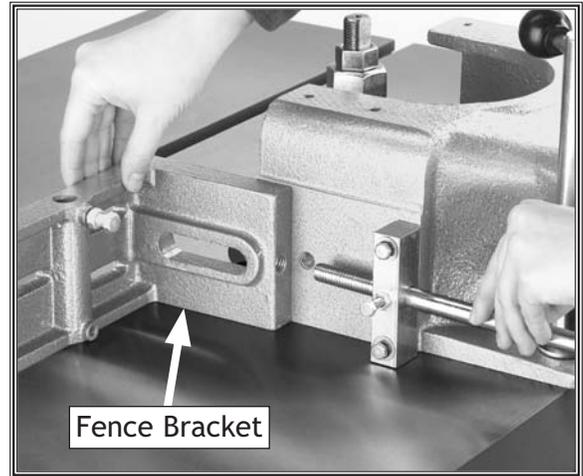
2. On each side of the guard, insert a fence adjuster through the bracket, as shown in **Figure 10**, and align the groove on the shaft (see **Figure 9**) with the middle bolt.
3. Tighten the middle bolt into the shaft groove just enough to keep the fence adjuster in place as it turns.



**Figure 10.** Installing fence adjuster.

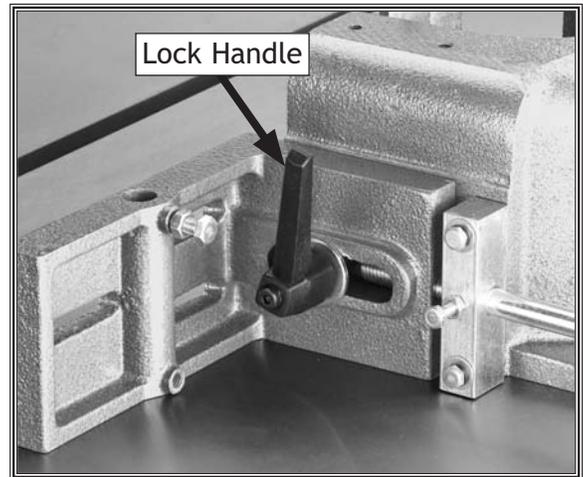
SET UP

4. For each side of the guard, thread the fence adjuster into the fence brackets, as shown in **Figure 11**.



**Figure 11.** Attaching fence bracket to adjuster.

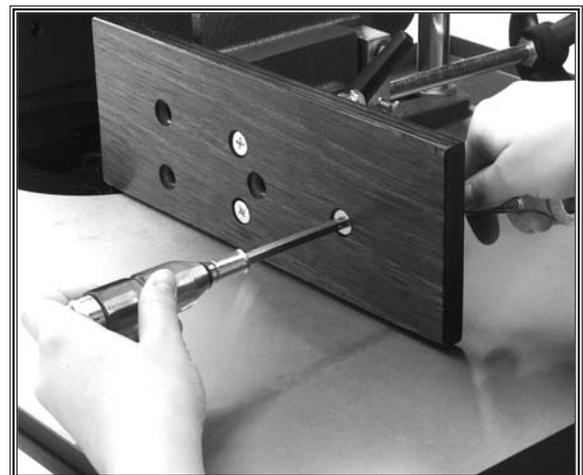
5. Use the lock handles to secure the fence brackets to the guard, as shown in **Figure 12**.



**Figure 12.** Fence bracket secured with lock handle.

6. Attach the fence boards to the fence brackets with (6)  $\frac{5}{16}$ "-18 x 1" Phillips head screws,  $\frac{5}{16}$ " flat washers, and  $\frac{5}{16}$ "-18 hex nuts, as shown in **Figure 13**.

**Note:** *If using your own fence boards, make sure the countersunk holes in your fence material are deep enough so that the entire screw head is below the fence surface. This will prevent the screws from interfering with the workpiece during operations.*



**Figure 13.** Attaching fence boards.

SET UP

### Attaching Safety Guard

1. Place the safety guard over the threaded holes on top of the guard body.
2. Thread the (2)  $\frac{5}{16}$ -18 x 4" knob bolts with  $\frac{5}{16}$ " flat washers through the safety guard and into the guard body to secure the cover, as shown in Figure 14.



Figure 14. Installing safety guard.

### Installing Spindle Height Handwheel Handle

Thread the handle into the handwheel, as shown in Figure 15.



Figure 15. Handwheel handle installed.

### Installing V-Belt

To install the V-belt (see Figure 16), follow the instructions in the **V-Belt Tensioning & Replacement** procedure on Page 38.

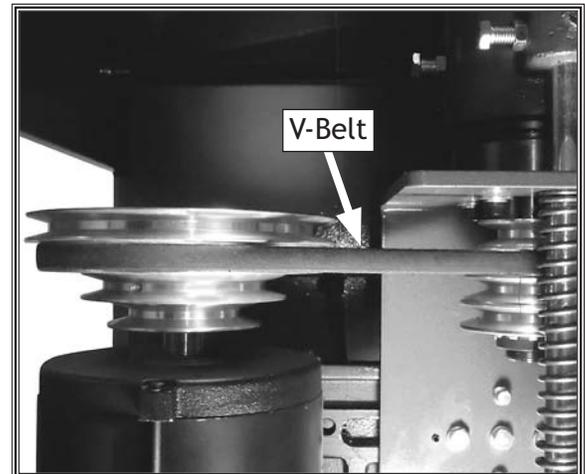


Figure 16. V-belt installed.

# Table Insert Adjustment

The aluminum table insert is held in place by a cast iron insert ring, which should be adjusted level with the table top (see **Figure 17**). This is necessary to avoid the workpiece catching on the insert or ring during operation, causing an unsafe condition and poor cutting results.

To make the inserts and insert ring level with the table top, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the table inserts, then remove the three Phillips screws that secure the insert ring to the table top.
3. Lay a precision straightedge across the insert ring and the table, then adjust the three set screws that are in the other holes (see **Figure 17**) until the insert ring is level with the table top in all directions.
4. Replace the Phillips screws, but do not overtighten them.
5. Replace the table inserts, then use the straightedge to re-check the inserts. If necessary, repeat this procedure until both the insert ring and table inserts are completely level with the table top in all directions.

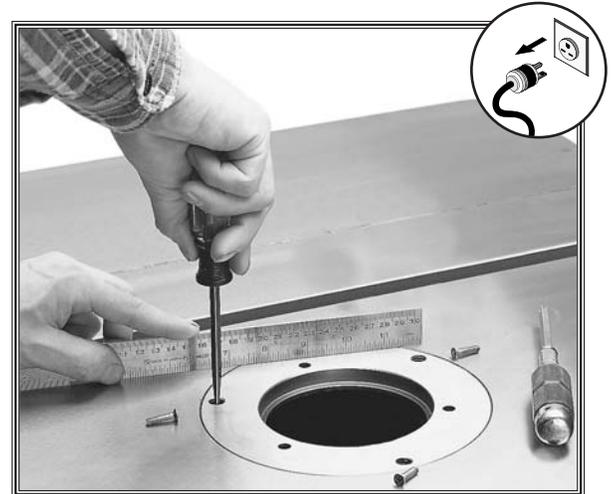


Figure 17. Leveling the table insert ring.

SET UP

# Dust Collection

Recommended CFM at Dust Port: ..... 400 CFM

Do not confuse this CFM recommendation with the rating of the dust collector. To determine the CFM at the dust port, you must take into account many variables, including the CFM rating of the dust collector, the length of hose between the dust collector and the machine, the amount of branches or Y's, and the amount of other open lines throughout the system. Explaining this calculation is beyond the scope of this manual. If you are unsure of your system, consult an expert or purchase a good dust collection "how-to" book.

Connect a 4" flexible dust collection hose to the rear of the cutter guard, and use a hose clamp to secure it in place. Tug on the hose to make sure that it is firmly held in place.

**⚠ CAUTION**  
DO NOT operate the Model W1827 without an adequate dust collection system. This machine creates substantial amounts of wood dust while operating. Failure to use a dust collection system can result in short and long-term respiratory illness.

# Test Run

Once the assembly is complete, test run your machine to make sure it runs properly and is ready for regular operation.

The test run consists of verifying the following: 1) The motor powers up and runs correctly, and 2) the safety feature on the emergency STOP button works correctly.

If, during the test run, you cannot easily locate the source of an unusual noise or vibration, stop using the machine immediately, then review **Troubleshooting** on **Page 43**. If you still cannot remedy a problem, contact our Tech Support at (360) 734-3482 for assistance.

To test run the machine, do these steps:

1. Make sure you understand the safety instructions at the beginning of the manual, and verify that the machine is setup properly.
2. Ensure all tools and objects used during setup are cleared away from the machine.
3. Connect the machine to the power source.
4. Push the ON button (see **Figure 18**) to enable power to the motor—the power source lamp should light.
5. Push the emergency STOP switch, then twist it clockwise so it pops out. When the switch pops out it is reset and ready for operation (see **Figure 19**).
6. Turn the FWD/REV switch to the right to verify the machine operates correctly.
  - When operating correctly, the machine runs smoothly with little or no vibration or rubbing noises.
  - Investigate and correct strange or unusual noises or vibrations before operating the machine further. Always disconnect the machine from power when investigating or correcting potential problems.
7. Turn the FWD/REV switch to the OFF (middle) position and press the emergency STOP switch to turn the machine **OFF**.



Figure 18. Control panel.

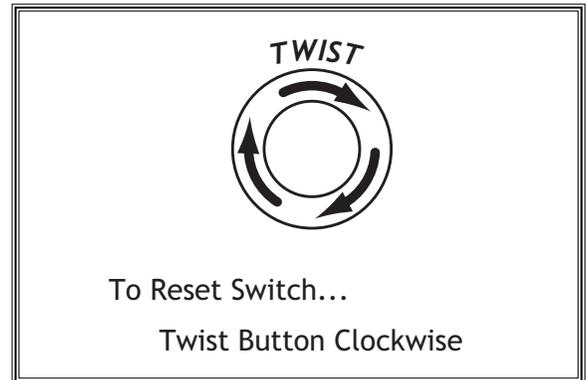


Figure 19. Resetting the emergency stop switch.

8. **WITHOUT** resetting the emergency STOP switch, turn the FWD/REV switch to the right in an attempt to start the machine. The machine should **NOT** start.
  - If the machine **DOES** start (with the emergency STOP button pushed in), immediately disconnect power to the machine. The emergency STOP switch safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

SET UP

# OPERATIONS

## General

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

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

If you are an inexperienced operator, we strongly recommend that you read books or trade articles, or seek training from an experienced shaper operator before performing any unfamiliar operations. **Above all, your safety should come first!**

**⚠ WARNING**



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

## Control Panel

Refer to **Figure 20** and read the following descriptions below to become familiar with the control panel of your shaper.

- A. Power ON Button.** Enables power to the machine.
- B. Power Source Lamp.** Illuminates when power is enabled to the machine.
- C. REV Indicator Lamp.** Illuminates when the spindle is set to rotate in reverse. This alerts the operator to verify that the cutter is setup correctly before proceeding with the cut.
- D. Spindle Switch.** Starts, stops, and reverses spindle rotation.
- E. Emergency STOP Button.** Disables power to the motor. Twist clockwise until it pops out to reset it.
- F. Power OFF Button.** Disables power to the machine.

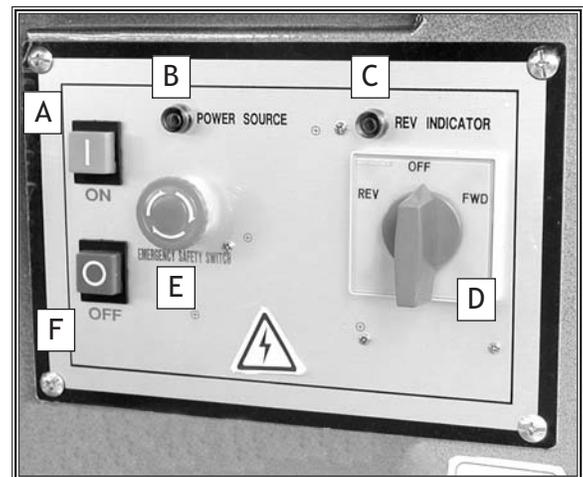


Figure 20. Control panel.

**⚠ WARNING**

**ALWAYS check the direction of the cutter rotation before beginning operation and ALWAYS feed the stock into the cutter AGAINST the cutter rotation. Feeding stock WITH the rotation of the cutter could pull the workpiece from your hands and draw your hands into the spinning cutter, resulting in laceration or amputation injuries.**

**OPERATIONS**

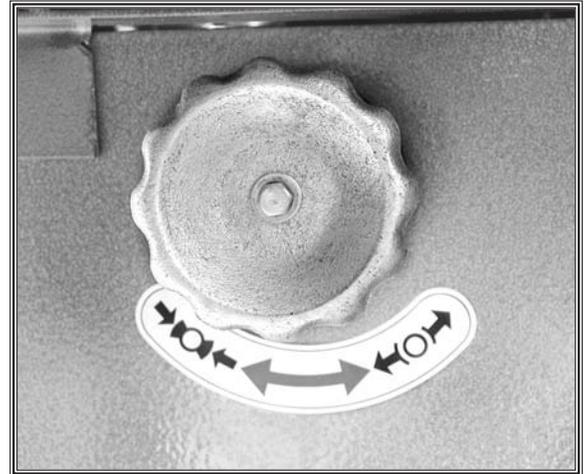
# Cutter Height

The cutter height is adjusted with the height handwheel.

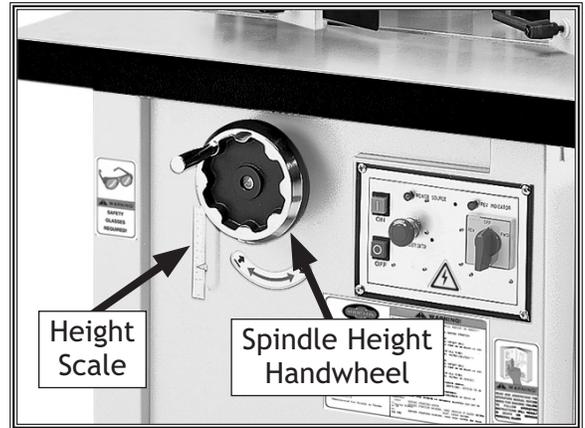
To gauge the cutter height in relation to the table, use the height scale or a precision ruler with fine graduations. An alternative method would be to place a sample of the shaped cut next to the cutter.

To change the cutter height, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Loosen the spindle lock on the left side of the cabinet (see **Figure 21**).
3. Rotate the spindle height handwheel to bring the cutter to the required height, then re-tighten the lock (see **Figure 22**).



**Figure 21.** Spindle lock on the left side of the cabinet.



**Figure 22.** Spindle height scale and handwheel.

## Operation Overview

This overview explains the basic process that happens during an operation with this machine. Familiarize yourself with this process to better understand the remaining parts of the **Operation** section.

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

1. Examines the workpiece to make sure it is suitable for cutting.
  2. Installs the cutter onto the spindle and adjusts the spindle height for the operation.
  3. Correctly adjusts the safety guard and fence boards for the operation and locks them in place.
  4. Checks the outfeed side of the machine for proper support and to make sure the workpiece can safely move past the cutter without interference from other objects.
  5. Places the workpiece on the infeed side of the table and firmly against the fence, stabilizing it with hold-downs, jigs, or other safety workpiece holding devices.
  6. Wears safety glasses and a respirator, and locates push sticks if needed.
  7. Starts the machine.
  8. Verifies cutter rotation and feed directions.
  9. Holds the workpiece firmly and flatly against both the table and fence, and then pushes the workpiece past the cutter at a steady and controlled rate until the workpiece moves completely beyond the cutter.
- The operator is very careful to keep the workpiece firmly against the table and fence during the entire cut, while also keeping hands well away from the spinning cutter.
10. Stops the machine.

## Stock Inspection & Requirements

Follow these rules when choosing and cutting stock:

- **Workpiece Material:** Your shaper and cutters are designed to cut wood and wood products ONLY! DO NOT attempt to cut man-made materials (such as glass, metal, plastics, etc.) that may cause the cutter or workpiece to break apart, which could cause serious personal injury or property damage.
- **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, and break or chip the cutter, which might then fly apart. Always visually inspect your workpiece for these items. If they cannot be removed, do NOT cut the workpiece.
- **Large/Loose Knots:** Loose knots can become dislodged during the shaping 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 cutter, increases the risk of kickback, and yields poor results.
- **Excessive Warping:** Workpieces with excessive cupping, bowing, or twisting are dangerous to shape because they are unstable and often unpredictable when being cut. DO NOT use workpieces with these characteristics!
- **Minor Warping:** Workpieces with slight cupping can be safely supported if the cupped side is facing the table or the fence. On the contrary, a workpiece supported on the bowed side could rock during the operation and could cause kickback or severe injury.

# Changing Spindle Speeds

The spindle speeds for the Model W1827 are 3600, 5100, 8000, and 10,000 RPM.

Use the following rules when selecting the speed for your operation:

- Use scrap stock similar to your workpiece to find the right spindle speed and feed rate so that the resulting cut is smooth and requires little sanding to finish.
- Reduce spindle speed or increase feed rate if your workpiece becomes glazed or burned.
- Increase spindle speed or decrease feed rate if your workpiece shows a rough or washboard surface.
- The cutting edges of large cutters travel faster than those of smaller cutters at the same spindle speed (see Figure 23). Use slower speeds for larger cutters.

The spindle speed is changed by adjusting the V-belt position on the motor and spindle pulleys, as illustrated in Figure 24.

To reposition the V-belt on the pulleys, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the side and rear motor access panels.
3. Loosen the two motor adjustment hex bolts (see Figure 25), then slide the motor toward the spindle assembly. DO NOT remove the bolts completely.
4. Position the V-belt on the pulleys for the selected speed.
5. Slide the motor and motor mount assembly to the left until the V-belt is snug, then tighten the bolts. The amount of V-belt deflection between the pulleys should be approximately 1/4" when pressed with moderate pressure.
6. Check to make sure the V-belt is correctly aligned on both pulleys (refer to **Pulley Alignment** on Page 40 for detailed instructions).

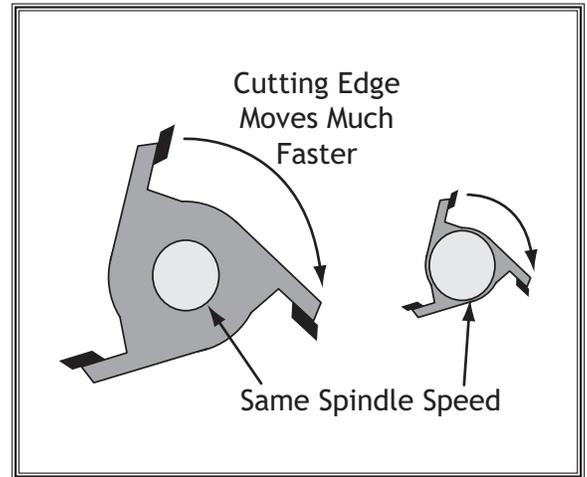


Figure 23. Relative speed of cutting edges between large and small cutters.

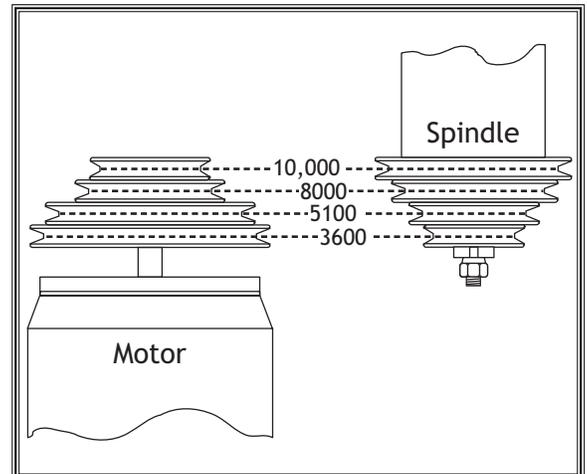


Figure 24. V-belt positions for the different spindle speeds.

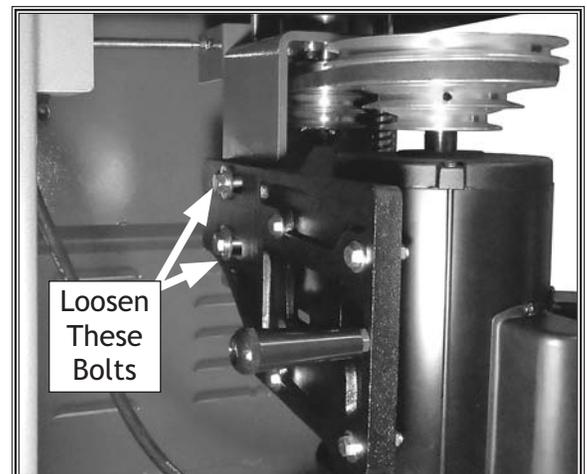


Figure 25. Motor adjustment hex bolts.

# Installing Spindle

The Model W1827 comes with three interchangeable spindles—1<sup>1</sup>/<sub>4</sub>", 1", and 3<sup>3</sup>/<sub>4</sub>" (see **Figure 26**). The spindles must be inserted correctly and remain stable in order to produce quality work. When installing and changing spindles, make sure the spindle seats snugly and that there is enough drawbar threaded into the bottom of the spindle to safely secure it in place.

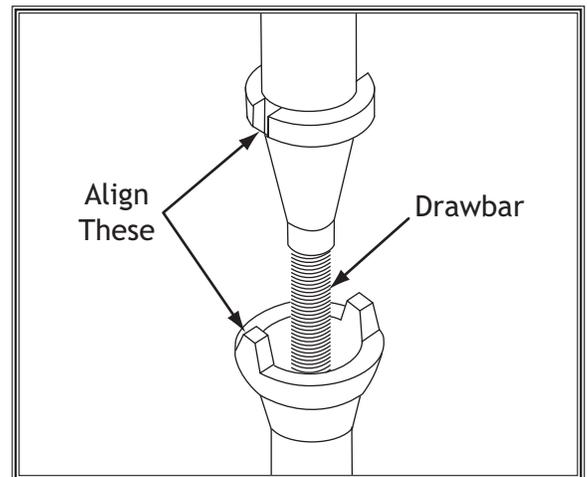
To install a spindle, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Thread the drawbar approximately 10-15 turns into the bottom of the spindle (see **Figure 27**). The drawbar has two threaded ends. One of them will remain exposed.
3. Insert the spindle/drawbar into the spindle cartridge at the top of the table. Line up the notches at the top of the spindle cartridge with those in the spindle, as shown in **Figure 27**. You will feel the spindle seat itself.
4. Reach into the cabinet and thread the drawbar nut, tapered side up, onto the bottom of the drawbar, as illustrated in **Figure 28**.
5. Place the spindle wrench on top of the spindle, so it fits over the head of the spindle. Place a 15mm wrench on the drawbar nut.
6. Hold the spindle in place and tighten the drawbar nut. DO NOT use excessive force.

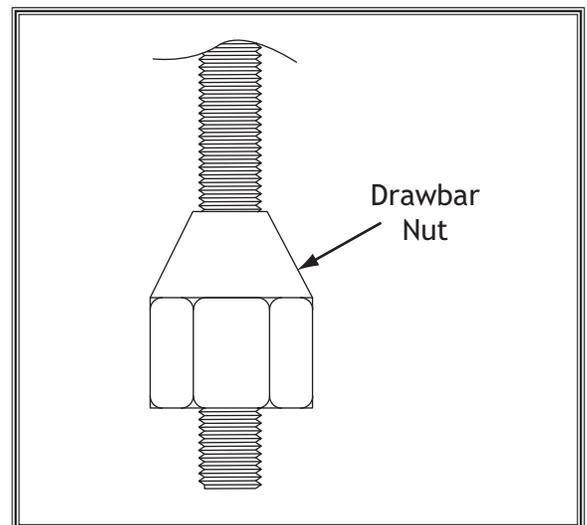
**Tip:** If the spindle will remain installed for several months, use a clean rag to wipe a very thin coat of light oil onto the mating surfaces (too much oil will not allow the spindle to seat properly). This will prevent corrosion that could make removing the spindle difficult.



**Figure 26.** 1<sup>1</sup>/<sub>4</sub>", 1", and 3<sup>3</sup>/<sub>4</sub>" spindles.



**Figure 27.** Aligning spindle and cartridge.

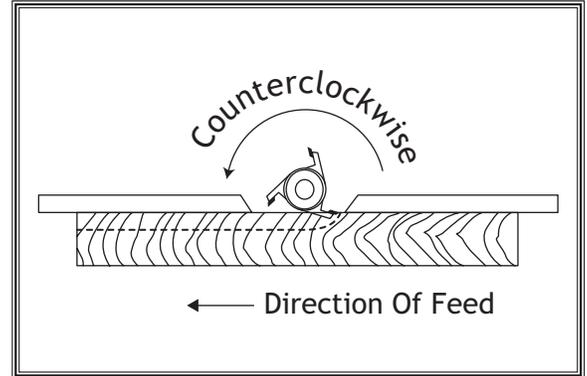


**Figure 28.** Drawbar nut threaded onto bottom of drawbar.

# Cutter Rotation Direction

Most cutters are designed to rotate counterclockwise and cut the stock from underneath the workpiece, which provides a safety barrier between the spinning cutter and the operator. In this case, the workpiece is fed past the cutter from right to left—against the cutter rotation (see the illustration in **Figure 29**).

However, some cutters are designed to shape from the top of the workpiece, which exposes the operator to the spinning cutter and increases the risk of operator injury. To avoid this hazard, you can cut from the bottom of the workpiece by mounting the cutter upside-down on the spindle, reversing the spindle rotation, and feeding the workpiece past the cutter from left to right. Refer to the following **Cutter Installation** procedure for detailed instructions.



**Figure 29.** Typical feeding operation with cutter rotating counterclockwise.

# Cutter Installation

The Model W1827 accommodates cutters that have  $\frac{3}{4}$ ", 1", and  $1\frac{1}{4}$ " center bores when used with the corresponding spindle. A large variety of shaper cutters are available through your local Woodstock International Inc. Dealer.

**To ensure a safe and efficient operation, follow these rules when installing cutters:**

- The cutting edges of large cutters travel faster than smaller ones at the same spindle speed. Cutters with a  $3\frac{1}{2}$ " or larger outside diameter must be operated at the slowest speed.
- Do not use a spindle speed that exceeds the speed rating of the cutter.
- Wear heavy leather gloves when handling cutters to avoid laceration injuries—cutters are SHARP!
- Keep the spindle, spacers, and cutter clean and free of debris to prevent them from binding when placed on the spindle.
- Use the smallest table insert opening possible to keep the gap between the table surface and the cutter to a minimum. This will help keep wood chips from falling into the cabinet, provide better workpiece support, and increase operator safety by reducing risk of kickback or accidental contact with the cutter.

- Whenever possible, setup the cutter so that it cuts the workpiece from the underside. This creates a safety barrier between your hands and the cutter.
- If the cutter is designed to remove material from the top of the workpiece, we recommend you mount the cutter upside down, then reverse the spindle rotation and feed direction. In this configuration, the workpiece provides a safety barrier between the cutter and the operator.
- Always use the largest spindle possible to reduce stress on the spindle bearings.
- If necessary to install a cutter with a larger bore than the spindle diameter, only use a bushing that is designed for this purpose and do not use more than one bushing.
- Use the spacers to install the cutter as low as possible on the spindle in order to decrease the risk of accidental contact with the cutter and reduce wear on the spindle bearings.

**Note:** Each spindle supplied with your shaper comes with eight spacers in these heights: 1/4", 3/8", 1/2" (2), 3/4" (2), and 1" (2).

## Cutter Installation

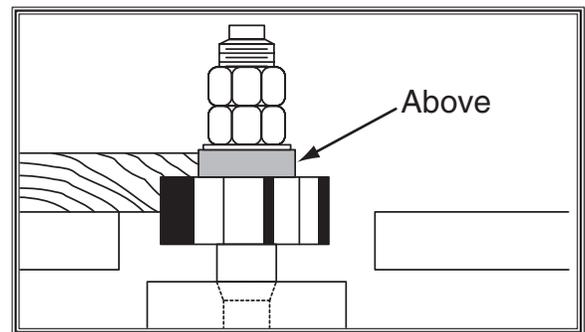
Before installing cutters, you must plan the configuration of rub collars and cutters required for the intended application. No matter how the rub collars are configured on the spindle, they must allow the hex nuts to tightly fasten down to prevent the rub collars and cutter from being loose on the spindle.

There are three setup positions for rub collars:

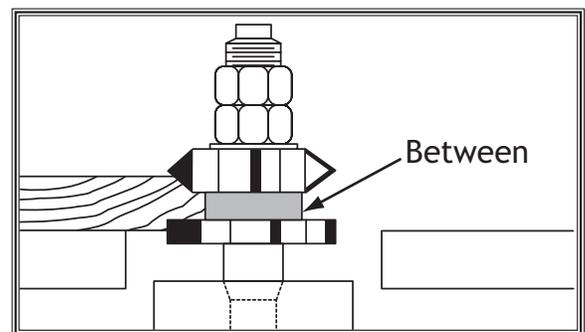
- **ABOVE THE CUTTER** as shown in **Figure 30**. This setup is the safest and produces the most consistent results.
- **BETWEEN TWO CUTTERS** as shown in **Figure 31**. This setup has the advantage of making two profile cuts in a single pass.
- **BELOW THE CUTTER** as shown in **Figure 32**. This setup allows the cut to be viewed by the operator; however, it is also the most dangerous because the operator is exposed to the moving cutter. **WE DO NOT RECOMMEND SHAPING WITH A RUB COLLAR BELOW THE CUTTER!**

**⚠ WARNING**

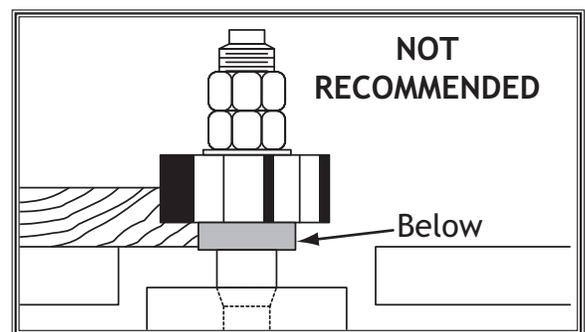
**DO NOT** use a spacer or other substitute for a rub collar that could break apart during operation, resulting in laceration, amputation or impact injuries.



**Figure 30.** Rub collar mounted above cutter.



**Figure 31.** Rub collar mounted between two cutters.



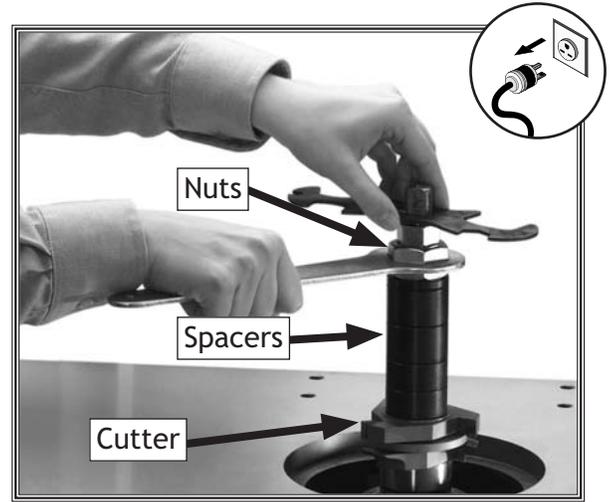
**Figure 32.** Rub collar mounted below cutter.

To install a cutter, do these steps:

1. DISCONNECT SHAPER FROM POWER!

*Note: For convenience, remove the fence assembly before performing the following steps.*

2. Remove the two spindle nuts from the spindle.
3. Place the required spindle spacers on the spindle to raise the cutter to the proper distance.
4. Protecting your hands from the sharp edges, slide the cutter onto the spindle, making sure the cutting edges are facing in the right direction for the selected spindle rotation.
5. Place the additional spacers onto the spindle as necessary (see **Figure 33**).
6. Thread one spindle nut tightly onto the spindle to secure the components, then thread the second spindle nut against the first to act as a lock nut, as shown in **Figure 33**.



**Figure 33.** Tightening the spindle nuts to secure the spindle components.

## **WARNING**

Always use a spindle lock nut during operation to reduce the risk of the cutter or spindle components leaving the spindle and flying at the operator.

# Hold-Downs

Each hold-down is independently adjustable, and, when properly positioned, they firmly hold the workpiece flat on the table and against the fence, as shown in Figure 34.

To assemble the hold-downs, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Slide a hold-down into each of the cast iron hold-down brackets with the large holes, and secure them with the lock handles.
3. Insert the bracket bars into the fence brackets and hold-down bracket.
4. Position the above assemblies according to the workpiece size, then use the lock handles to secure them in place.
5. Insert the  $\frac{5}{16}$ "-18 x  $\frac{3}{8}$ " knob bolts with the  $2\frac{1}{2}$ " shafts into two hold-down brackets with the small holes and loosely thread the T-nuts onto the knob bolts.
6. Slide the assemblies from Step 5 into the table miter slot, position them according to the workpiece size, then tighten the knob bolts to secure their position.

**⚠ WARNING**

If the workpiece should rise up when it is against the cutter, kickback could occur. To reduce the chance of kickback and serious personal injury, always properly secure the workpiece with the hold-down devices during operation.

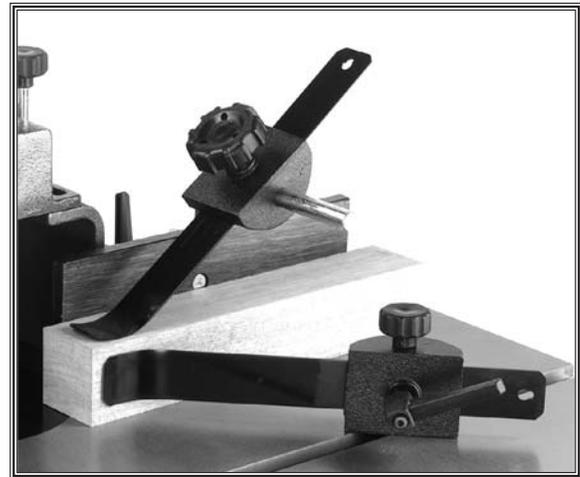


Figure 34. Example of workpiece held in place by hold-downs.

**⚠ WARNING**

Always wear safety glasses or a face shield when operating this machine to avoid eye or face injuries from flying debris. Wood dust may cause short and long-term respiratory illness. To avoid this hazard, always wear a respirator during operation.

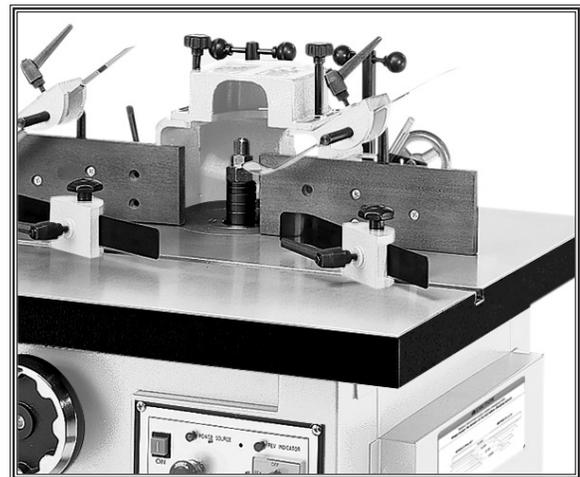


Figure 35. Hold-downs assembled and installed.

OPERATIONS

# Fence Positioning

The type of cut dictates the position of the fence pieces during operation. There are three basic types of cuts when straight shaping—full face, partial face, and plunge cuts.

## Full Face Cut.....Fence Pieces Offset

Full face cutting is similar to a jointer cut where the entire edge of the workpiece is removed. These cuts are most often performed with straight, tongue-and-groove, crown moulding bits, etc. The outfeed fence must be set forward from the infeed fence when full face cutting, so the workpiece is supported by the outfeed fence after it has been cut (Figure 36).

The distance that the outfeed fence is set forward from the infeed fence will dictate the depth of cut. Keep in mind that removing too much material at one time increases the risk of kickback. Instead, make multiple passes if you need to remove a large amount of material.

## Partial Face Cut ..... Fence Pieces Aligned

Partial face cutting is where part of the edge of the workpiece rides on a rub collar or bearing and is not cut. These cuts are typically performed with profiles, stile-and-rails, rabbets, etc. Partial face removal cuts can be done with or without the fence, because the rub collar or bearing dictates the depth of cut. When the fence is used for these types of cuts, the fence pieces are aligned with each other and are aligned with the forward most edge of the bearing or router bit (Figure 37). (We strongly recommend using the fence whenever possible because it allows for maximum support, which results in safer operation.)

## Plunge Cuts.....Fence Pieces Aligned

Plunge cutting is when the workpiece is fed over the top of the cutter or bit. This type of cut is typically used for slots, dovetails, T-slots, etc. The fence pieces must be aligned when plunge cutting to provide a single plane for the workpiece to slide against (Figure 38).

### CAUTION

Keep the fence opening around the cutter as small as possible without interfering with the cutter rotation. This configuration provides the best support for the workpiece and reduces operator exposure to the spinning cutter during operation.

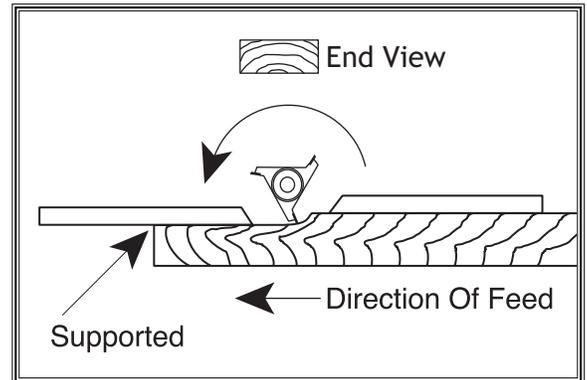


Figure 36. Full face cut.

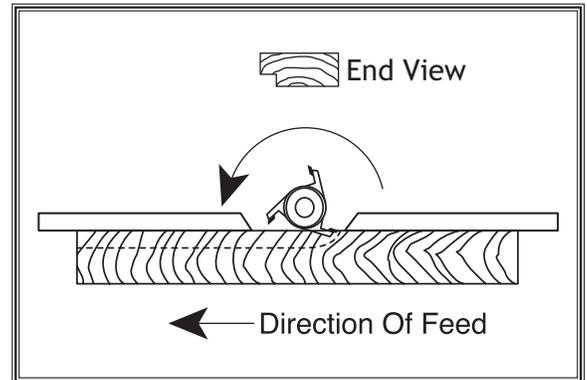


Figure 37. Partial face cut.

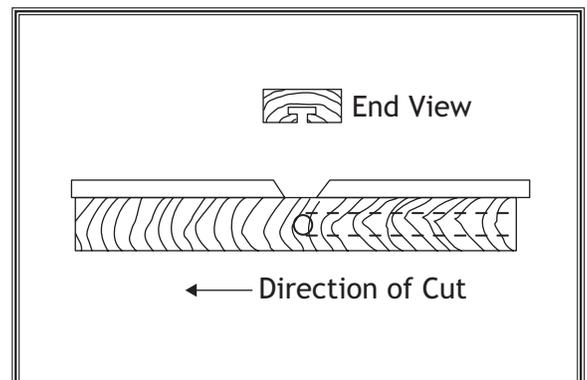


Figure 38. Plunge cut.

# Straight Shaping

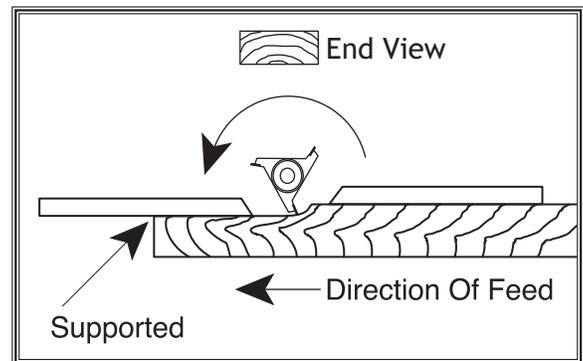
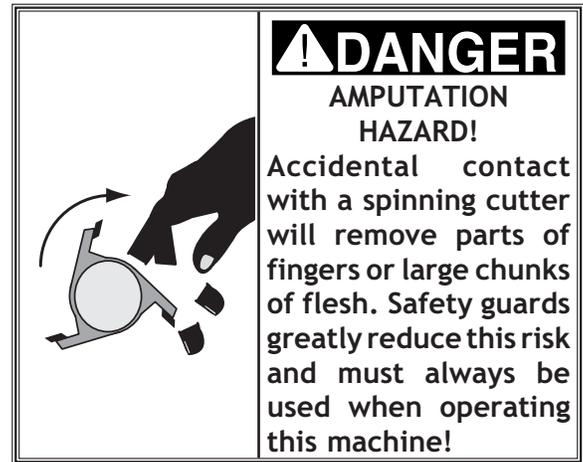
Because the shaper fence boards are independently adjustable, you can set up the shaper to cut part or all of the workpiece edge.

To set up the fence for cutting material from the whole edge of the workpiece, do these steps:

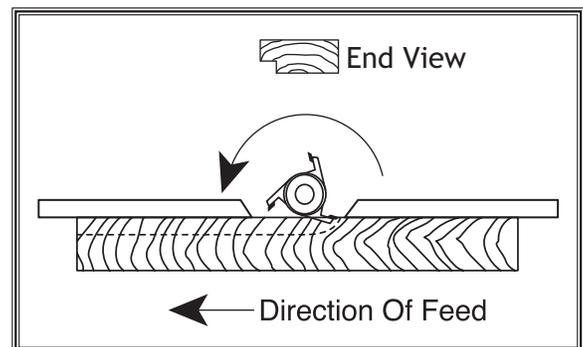
1. Loosen the infeed fence bracket lock handle that secures it to the guard body.
2. Turn the fence adjuster handwheel located on the back of the fence bracket and adjust the infeed fence until the workpiece contacts the cutter at the desired location, then re-tighten the lock handles.
3. Adjust the outfeed fence even with the infeed fence.
4. Set both fence boards as close to the cutter from side-to-side as possible without interfering with the cutter rotation. Make sure that the fence boards are firmly secured to the brackets and that all knobs and locks are tight.
5. Turn the shaper **ON**.
6. Using a piece of scrap wood, advance the workpiece just past the edge of the outfeed fence, and turn the machine **OFF**. DO NOT remove the workpiece from the infeed fence face.
7. Once the cutter has come to a complete stop, adjust the outfeed fence so that it just touches the newly cut edge as shown in **Figure 39**.
8. Tighten the outfeed fence bracket lock handle.

To set up the fence for partial edge removal, do these steps:

1. Loosen the infeed fence bracket lock handle that secures it to the guard body.
2. Turn the fence adjuster handwheel and adjust the infeed fence until the workpiece contacts the cutter at the desired location, then re-tighten the lock handle.
3. Align the outfeed fence with the infeed fence as shown in **Figure 40**.



**Figure 39.** Fence setup for jointing-type operations (Guard Not Shown for Clarity).



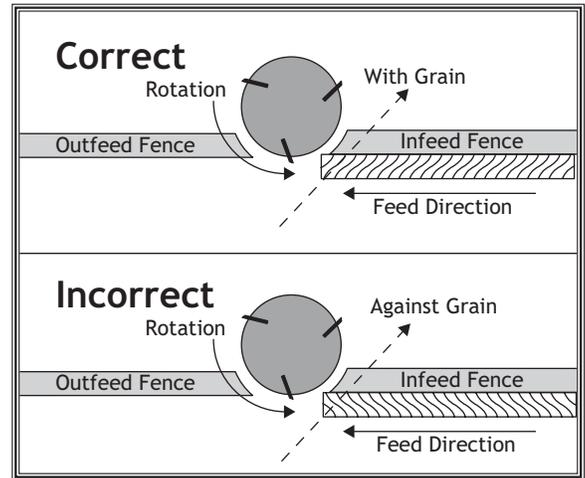
**Figure 40.** Fence setup for partial-edge removal (Guard Removed for Clarity).

OPERATIONS

5. Now place a straightedge against both faces of the fence to check alignment.
6. Once both fence pieces are aligned, tighten the fence bracket lock handles.
7. Set both fence boards as close to the cutter from side-to-side as possible without interfering with the cutter rotation. Make sure that the fence boards are firmly secured to the brackets and that all knobs and locks are tight.

Always feed the wood with the grain and against the rotation of the cutter, as shown in **Figure 41**. Another way to conceptualize this is to always feed the wood into the cutter so that the cutter is pushing against the direction of feed. Never feed wood in the same direction as the cutter rotation. This is called a “climb cut” and is extremely dangerous.

Also, examine the grain on the side edge of the board. Whenever possible, run the board so the shaper cutters are cutting with the grain as shown in **Figure 41**. This will minimize the chance of tear out.

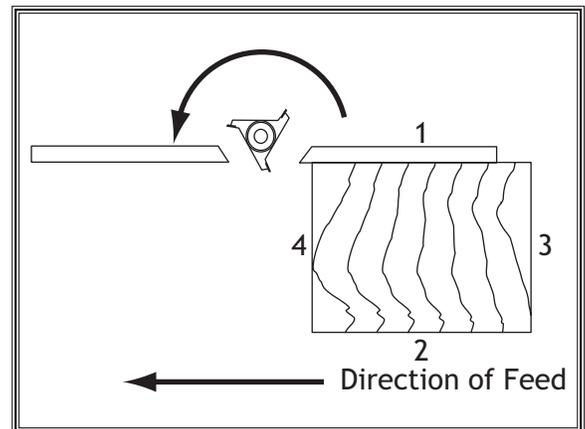


**Figure 41.** Feeding the workpiece with the grain, against cutter rotation.

## Shaping End Grain

It can be difficult to shape end grain and produce good results. Consider the following points to help shape end grain successfully.

- Make sure the cutter is sharp. End grain is especially tough and can easily burn.
- Use the miter gauge when shaping end grain on a narrow workpiece to ensure the workpiece remains stable against the forces of the cutter.
- Place a backing board behind the workpiece to prevent tear out on the trailing edge.
- Make end grain cuts before cuts that are with the grain (see **Figure 42**). This will help prevent end grain tear out.



**Figure 42.** Sequence for cutting the full perimeter of a workpiece.

# Freehand Shaping

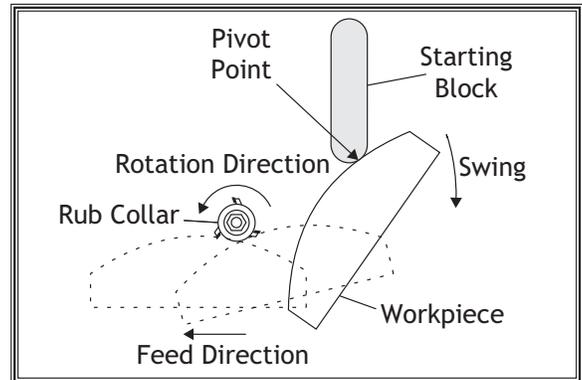
Freehand shaping is shaping without using the fence. A rub collar is used to control the depth of cut and support the workpiece while cutting. A piece of wood is clamped to the table to be used as a "starting block." The block supports the workpiece while you slowly pivot the workpiece into the cutter at the beginning of the cut (see **Figure 43**). It is important to never start cutting at the corner of workpiece or kickback may occur—even with the support of a starting block.

To set up the shaper for freehand shaping, do these steps:

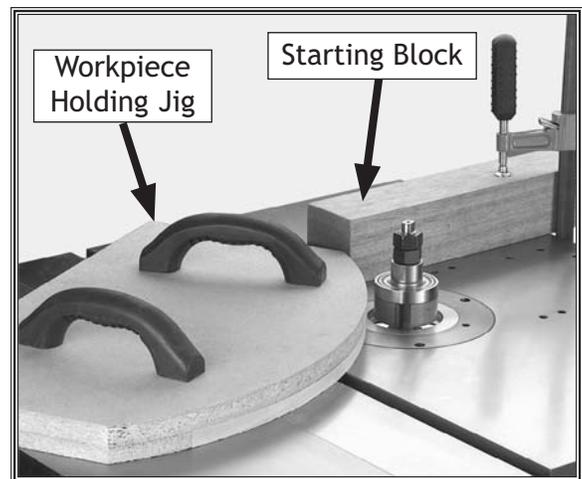
1. DISCONNECT SHAPER FROM POWER!
2. Remove the fence assembly from the shaper.
3. Clamp the starting block to the table in a position that allows you to feed the workpiece into and against the rotation of the cutter (see **Figure 43**).
4. Install the cutter so it will cut in the correct direction, and adjust the spindle height.
5. Use a workpiece holding jig to guide the workpiece and protect your hands (see the example in **Figure 44**). Read the tips on the next page when building a workpiece holding jig.
6. Place the workpiece/jig against the starting block.
7. Slowly pivot and feed the workpiece into the cutter. Avoid starting the cut on the corner of the workpiece as kickback could occur. Once the cut is started, the workpiece should be pulled away from the starting block.

**⚠ WARNING**

Freehand shaping can only be done when a rub collar is used in the cutting setup. Without a rub collar, there is no way to support the workpiece during the cut.



**Figure 43.** Feeding technique when using a starting pin.



**Figure 44.** Example of using a holding jig on a starting block.

**⚠ WARNING**

**AMPUTATION HAZARD!**

Freehand shaping increases the risk of injury because the cutter is more exposed than usual. To reduce this risk, **ALWAYS** feed the workpiece with a starting block and a hold-down jig to keep your hands at a safe distance from the cutter during the entire operation.

**OPERATIONS**

When making a workpiece holding jig, consider the following points:

- Secure your workpiece on the three sides that will not be cut; use toggle clamps or fasten the workpiece to the jig with wood screws.
- Make the jig stable and sturdy. Fasten the hand holds so hands will remain at least 6" away from the cutter during the entire operation.
- Ensure that clamps and hidden screws will not come into contact with the cutter.
- Design your fixture so that all cutting occurs underneath the workpiece.
- Make sure the workpiece rests flat on the table, not on the fixture.
- Remember, there is tremendous cutting force on the workpiece. The workpiece holding jig must be solid and stable, and the workpiece must be firmly secured.

## ⚠ CAUTION

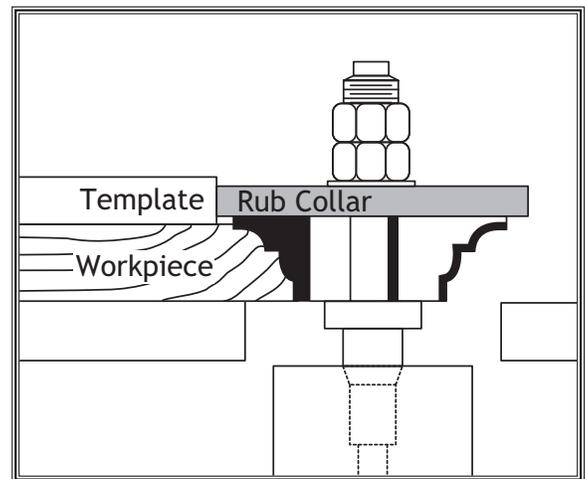
Design holding jigs so screws and clamps **DO NOT** contact the cutter and the workpiece is held securely to the jig. The jig must be stable on the shaper table. Failure to do so could result in laceration or amputation injuries.

## Templates

A template is a workpiece holding jig with a shape or pattern that rides against the rub collar during operation as the cutter cuts the matching profile on the workpiece edge (see **Figure 45**). Using templates allows identical parts to be cut with speed and accuracy.

When making a templates, consider the following points:

- Use a material that will smoothly follow the rub collar or fence.
- Always consider the cutting circle and rub collar diameter for the correct depth of cut when designing your pattern.



**Figure 45.** Template setup against the rub collar.

# Zero Clearance Fence

A shop-made zero-clearance fence (see **Figure 46**) provides more support than a standard fence and reduces tearout on narrow or fragile stock. Using a zero-clearance fence is the best way to reduce the risk associated with shaping inherently dangerous small stock.

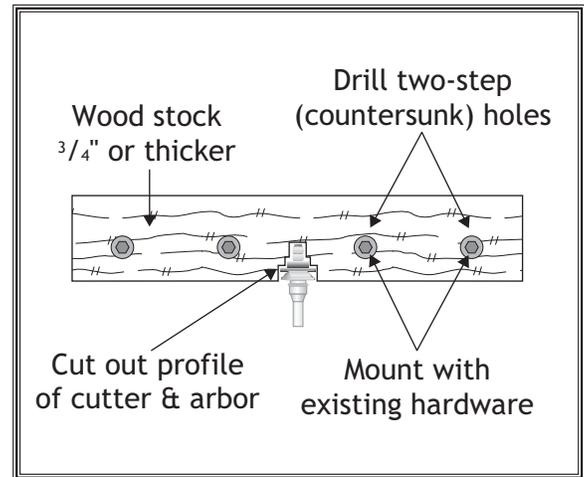
To make a zero-clearance fence, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the fasteners and fence boards on the split fence.
3. Place a 1x4 board over the fence brackets, and mark and drill four holes for securing the board to the brackets.

**Note:** Drilling the holes is a two step process. Drill the first holes all the way through the board with a diameter a little larger than the shaft of the mounting screw. Drill the second holes halfway through the boards with a diameter a little larger than the screw head. Drill these second holes deep enough that the screw heads will be well below the surface of the board.

4. Transpose an outline of the spindle, cutter, and related components onto the board, leaving room for the moving parts so they will not hit the board.
5. Use a bandsaw, scroll saw, or jig saw to cut out the outline.
6. If necessary, cut out notches in the top of the board for attaching the hold downs.
7. Make sure the fence brackets are aligned, and secure the board to the fence brackets with the fasteners removed in **Step 2**.

**Note:** For a totally flat fence face, pass the zero-clearance fence across a jointer, taking care not to cut deep enough that the cutter hits the mounting screws. Refer to **Resurfacing Fence on Page 41**.



**Figure 46.** Example of zero clearance fence.

## CAUTION

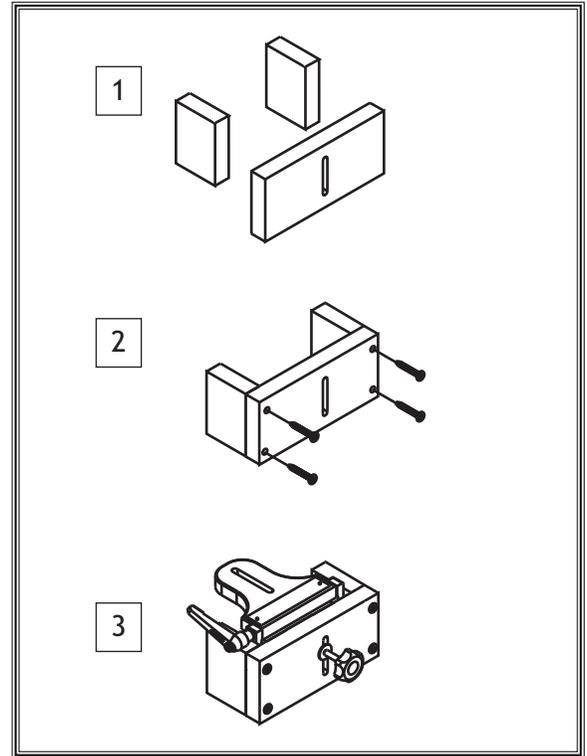
In addition to push sticks, always use hold downs or featherboards when shaping small or narrow stock. These devices will keep your hands away from the spinning cutterhead and support the stock sufficiently to allow a safe and effective cut. Failure to follow this warning may lead to laceration or amputation injuries.

# Box Guard

Shop-made box guards are an excellent way to enclose the cutter to virtually eliminate accidental contact with the cutter during operation. Having the cutter enclosed also helps increase the efficiency of dust collection. The drawback to box guards is that one size does not fit all. Often, professional woodworkers who use box guards make multiple guards that are different sizes.

**Figure 47** shows one way to make and attach a box guard to the Model W1827. For durability and strength, use a hardwood when making box guards. When installing the box guard, adjust the box guard approximately 1/4" above the stock you will shape and use hold downs on both sides.

**Note:** *DO NOT use the box guard as a hold down; instead, use the provided hold-downs or a feather board that has the ability to flex with the minor height variations of your stock.*



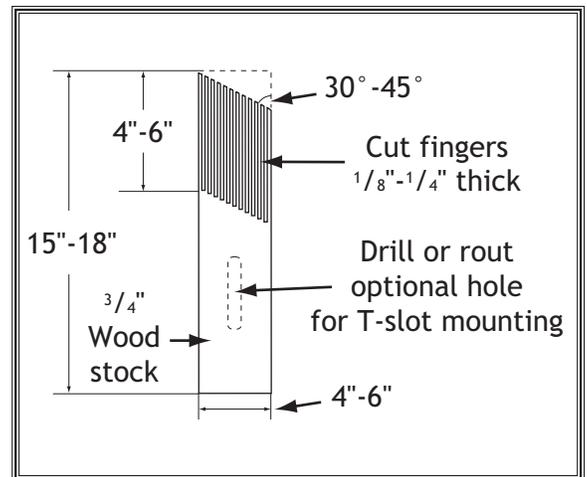
**Figure 47.** Example demonstrating one way to build a box guard.

# Feather Boards

Feather boards work similarly to the hold-downs provided with the shaper in the way they hold stock tightly against the fence and the table, while flexing with minor height or width variations from stock as it passes through. Because of the consistent pressure featherboards place on the stock, cuts are more consistent, the risk of kickback is greatly reduced, and the operator's hands do not need to get near the cutter to maintain feeding pressure. If a kickback does occur, featherboards will also slow down or stop the workpiece.

A shop made featherboard can be made to accommodate sizes of stock that the included hold-downs cannot reach. **Figure 48** shows the dimensions of a basic featherboard. The ultimate size is flexible and should be built around the size of stock you are shaping. The fingers can be cut with a bandsaw or table saw.

To install a featherboard, feed a piece of stock halfway through the machine, then turn the machine **OFF**. Place the featherboard against the stock so all the fingers touch the edge of the stock, then clamp the featherboard to the fence or table. For best results, place featherboards just before and just after the cutter. An alternative mounting method for tables is to rout a slot in the featherboard and use T-slot mounting hardware to secure the featherboard.



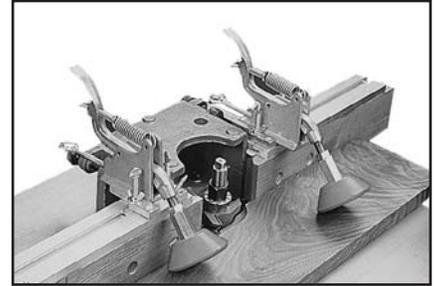
**Figure 48.** Basic featherboard construction.

# ACCESSORIES

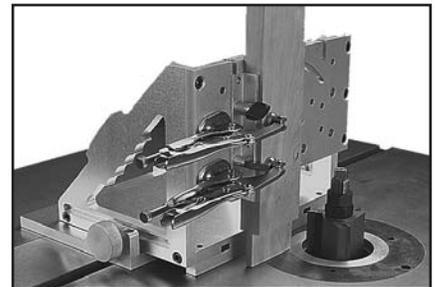
## Shaper Accessories

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

The **W1105 Woodstock Board Buddies®** hold the workpiece against the table and fence during cutting operations. These Board Buddies® are made from die-cast aluminum and feature non-marring green neoprene rubber wheels. Because the wheels turn in both directions, they function as hold-downs rather than anti-kickback devices. Mounts to fences 3" to 3½" high x 1" or wider with the optional **Model W1107 12" Tracks**, or the **Model W1108 24" Tracks**.



The **W1500 SHOP FOX Right Angle Jig** allows you to make cuts on board ends, and various other cuts with complete accuracy and improved safety. Constructed using top quality aluminum castings and plates which are machined to exacting tolerances. It has the perfect weight-use ratio to dampen vibration, yet is still light enough to easily slide the workpiece through the shaping process. Its quality and precision are evident from the first cut.



The features of the **Model W1764 Small Power Feeder** include: 1/8 HP, 110V, 1.2A motor; variable number of speeds between 6½-39 FPM; three synthetic rubber wheels (1⅛"W x 3"D); forward and reverse feed; X, Y, and Z adjustments; 13" vertical movement; and 11" horizontal movement.



The **D2057A SHOP FOX® Adjustable Mobile Base** supports your shaper so you can move it easily and lock it in position. Designed for long term and frequent moving of heavy machinery.



# MAINTENANCE

## General

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

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

### Daily:

- Clean and protect the top surfaces.
- Check/tighten loose mounting bolts.
- Check/replace damaged or dull cutters.
- Check/repair worn or damaged wires.
- Check/resolve any other unsafe condition.

### Weekly:

- Clean the inside of the cabinet.
- Check the V-belt condition and tension (**Page 38**).

### Monthly:

- Lubricate the spindle slide and elevation leadscrew (**Page 37**).



## Table & Base

Cleaning the Model W1763 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 surfaces on the table by wiping the table clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces.

Keep the table rust-free with regular applications of a quality paste wax or metal protectant.

# Lubrication

Since all bearings are sealed and permanently lubricated, simply leave them alone until they need to be replaced. Do not lubricate them. However, the spindle slide and leadscrew do need lubrication with NLGI#2 grease.

To lubricate the spindle slide and leadscrew, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Use the spindle height handwheel to lower the spindle all the way, then access the elevation assembly through the rear of the cabinet (see Figure 49).
3. Use mineral spirits, shop rags, and a stiff brush to clean away grease and built-up grime from the surfaces of both slides and the threads of the leadscrew, then apply a thin coat of NLGI#2 grease or equivalent to these surfaces.
4. Fully raise and lower the spindle to distribute the grease.

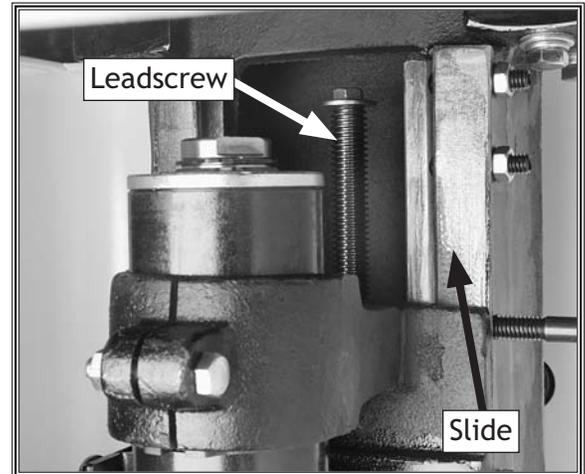


Figure 49. Spindle slide and leadscrew.

# V-Belt Tensioning & Replacement

The V-belt transfers power from the motor to the spindle. If the V-belt does not have the proper tension or is damaged in any way, the shaper will not operate optimally and unnecessary wear on the moving parts will occur. Regularly check the V-belt tension and replace it when necessary.

To tension/replace the V-belt, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the rear and side motor access panels.
3. Loosen the two motor adjustment hex bolts (see **Figure 50**). DO NOT remove the bolts completely.
3. If the V-belt is cracked, excessively worn, or damaged, slide the motor toward the spindle, then replace the V-belt.
4. To tension the V-belt, slide the motor away from the spindle until the V-belt is snug, then tighten the bolts. The amount of V-belt deflection between the pulley should be approximately 1/4" when moderate pressure is applied, as illustrated in **Figure 51**.
5. When the V-belt is adjusted properly, re-tighten the motor mount hex bolts.
6. Check to make sure the V-belt is correctly aligned on both pulleys (refer to **Pulley Alignment** on Page 40 for detailed instructions).

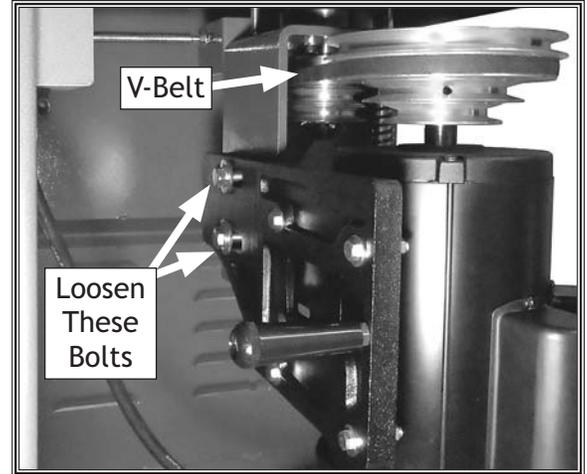


Figure 50. Motor adjustment hex bolts.

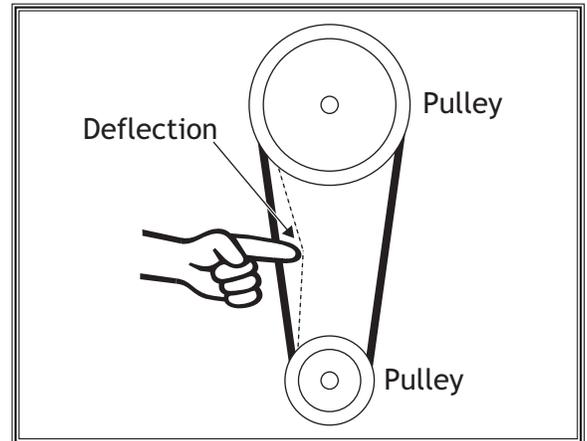


Figure 51. Checking V-belt tension.

# SERVICE

## General

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

If you require additional machine service not included in this section, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: [tech-support@shopfox.biz](mailto:tech-support@shopfox.biz).

## Fence Board Alignment

For safe and accurate shaping, the fence boards must be parallel with one another so that they properly support the workpiece through the entire cutting operation.

To check and align the fence boards parallel with each other, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Make sure the fence boards are even with each other, then place the straightedge against both fence boards, as shown in **Figure 52**.
  - If there is a gap between the straightedge and the fence boards, use shims as needed between the fence boards and the mounting brackets to make the boards completely parallel with each other along their entire length.

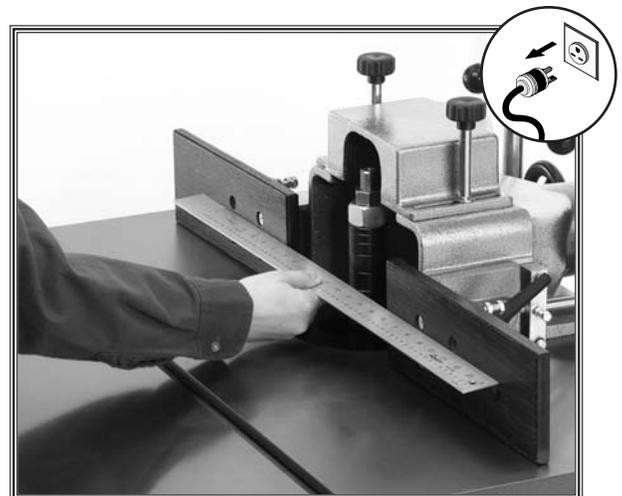


Figure 52. Aligning fence boards.

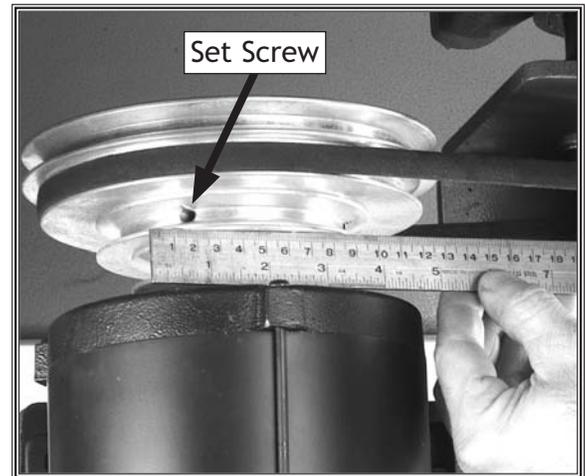
# Pulley Alignment

Pulley alignment is important to the performance of your shaper. If the pulleys are just slightly out of alignment, the shaper may suffer from power loss and decreased V-belt life.

To align the pulleys, do these steps:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the motor cover from the back of the shaper cabinet to expose the motor and pulleys.
3. Check the alignment with a straightedge. If the pulleys are in alignment, the straightedge should touch the two sides of each pulley evenly, as shown in **Figure 53**.
  - If the pulleys are correctly aligned with each other, no adjustments are needed. Replace the motor cover.
  - If the pulleys are NOT correctly aligned, proceed with **Step 4**.
4. This process is easiest with the help of another person. Loosen the four bolts that attach the motor to the motor base. One person should adjust the motor either up or down while the other person measures the alignment of the pulleys with a straightedge.
5. When the pulley alignment is correct, re-tighten the motor to the motor base.
6. Inspect your results. If necessary, repeat this procedure until the pulleys are properly aligned.

**Note:** You can also make small adjustments in the motor pulley alignment by raising or lowering it along the motor shaft. To do this, loosen the two set screws (one is shown in **Figure 53**) which are in the groove of the middle motor pulley and move the pulley into position. Tighten the set screws when the alignment is satisfactory.



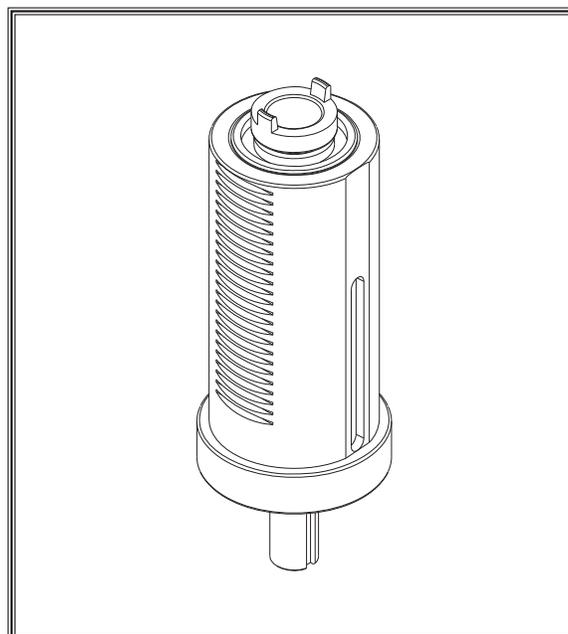
**Figure 53.** Checking pulley alignment.

## Spindle Bearings

The spindle cartridge assembly equipped with the Model W1827 features factory-sealed bearings, which require no lubrication during their lifetime.

In the rare event that a bearing fails, your shaper will probably develop a noticeable rumble that will increase when the machine is put under load. If allowed to get worse, overheating of the journal containing the bad bearing could occur. If the bad bearing is not replaced, it will eventually seize—doing damage to other parts of the machine.

Bearings are standard sizes and can be found through any regular bearing supply store or by ordering through Woodstock International. However, it is much easier to just replace the entire spindle cartridge assembly as one unit (part #X1827157A, see **Figure 54**).



**Figure 54.** Spindle cartridge assembly.

## Resurfacing Fence

The fence can be resurfaced or made flat with a jointer to correct any warping. This procedure should only be done if the fences will not align with each other after careful adjustment or they are warped.

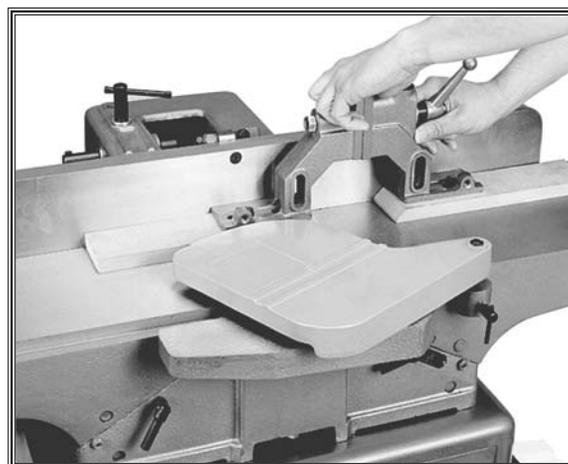
**To resurface the fence, do these steps:**

1. Make sure the fence face mounting screws are far enough below the surface of the fence that they will not contact the jointer knives during operation.

**Note:** *New fence faces can easily be made out of a hardwood and resurfaced by using this same procedure.*

2. Align both fence faces as straight as possible, using a straightedge or your jointer table as an alignment guide.
3. Resurface the fences on the jointer, as shown in **Figure 55**.

**Note:** *Make sure the screws are countersunk deep enough so the workpiece will not come in contact with screw heads.*



**Figure 55.** Resurfacing a shaper fence on a jointer.

# Spindle-to-Table Squaring

To reduce the risk of kickbacks and to increase the quality of cuts, it is important that the table and spindle are perpendicular to each other in all directions. Use a machinist's square or other precision square when checking/adjusting these components to ensure accurate results (see Figures 56 & 57).

To make the table and spindle perpendicular, do these steps:

1. DISCONNECT SHAPER POWER!
2. Remove the guard and fence assembly.
3. Raise the spindle all the way up.
4. Remove the locking fasteners, spacers, and cutters from the spindle.
5. Position a machinist square flat on the table and up against the spindle (see Figure 56) and in all directions (see Figure 57)—the spindle and table should be perpendicular to each other in all directions.
  - If spindle and table are not perpendicular to each other in all directions, do these steps:
    - a. Loosen the four table adjustment bolts (see Figure 58) enough so that the table can be adjusted.
    - b. Use a dead blow hammer to tap the table into proper alignment with the spindle.
    - c. Re-tighten the four table adjustment bolts.
    - d. Repeat this Step until the spindle and table are perpendicular to each other in all directions.

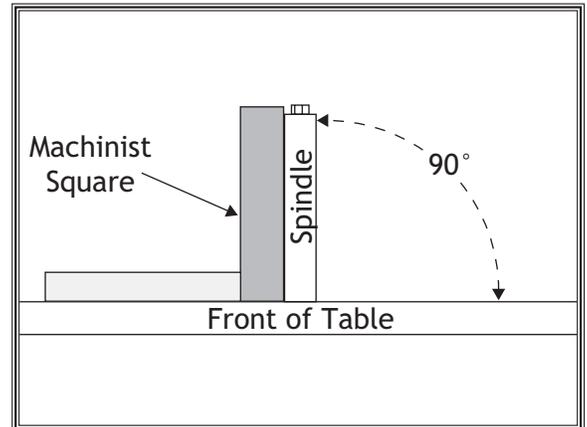


Figure 56. Illustration of using a machinist square with the table and spindle.

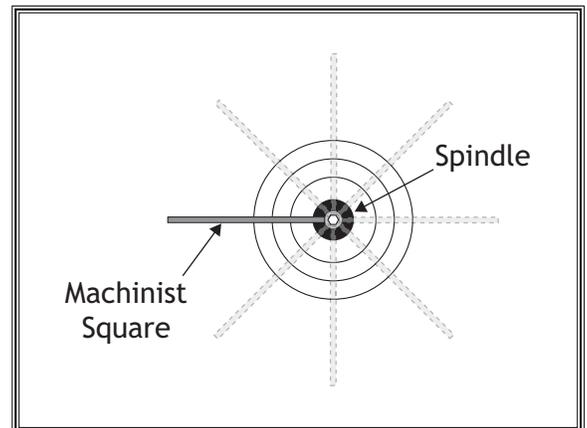


Figure 57. Illustration of machinist square at different directions around the spindle.

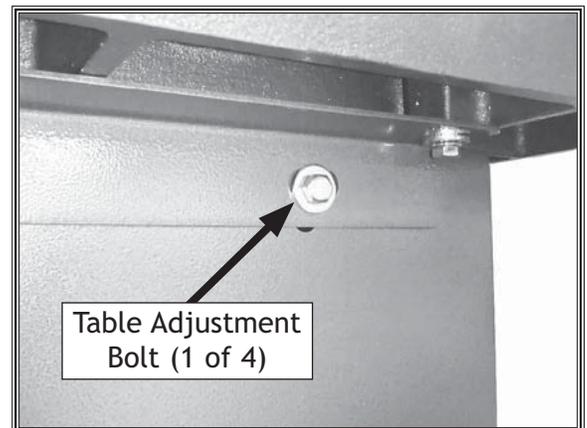


Figure 58. Table adjusting bolt (1 of 4).

# Troubleshooting

This section covers the most common problems and corrections with this type of machine. **WARNING! DO NOT** make any adjustments until power is disconnected and moving parts have come to a complete stop!



PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Machine does not start or a breaker trips.	<ol style="list-style-type: none"> <li>Emergency STOP button pushed in.</li> <li>Power supply switched <b>OFF</b> or at fault.</li> <li>Plug/receptacle at fault/wired wrong.</li> <li>Motor connection wired wrong.</li> <li>Thermal overload relay has tripped.</li> <li>Wall circuit breaker tripped.</li> <li>Wiring open/has high resistance.</li> <li>Start capacitor at fault.</li> <li>Spindle switch/ON button at fault.</li> <li>Motor at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Twist the STOP button clockwise until it pops out to reset it.</li> <li>Ensure power supply is <b>ON</b>/has correct voltage.</li> <li>Test for good contacts; correct the wiring.</li> <li>Correct motor wiring connections (<b>Page 46</b>).</li> <li>Reset; adjust trip load dial if necessary; replace.</li> <li>Ensure circuit size is correct/replace weak breaker.</li> <li>Check/fix broken, disconnected, or corroded wires.</li> <li>Test/replace if faulty.</li> <li>Replace.</li> <li>Test/repair/replace.</li> </ol>
Machine stalls or seems underpowered.	<ol style="list-style-type: none"> <li>Workpiece material not suitable for machine.</li> <li>Machine undersized for task.</li> <li>V-belt slipping.</li> <li>Motor wired incorrectly.</li> <li>Pulley slipping on shaft.</li> <li>Motor bearings at fault.</li> <li>Motor overheated.</li> <li>Spindle switch/ON button at fault.</li> <li>Motor at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Only cut wood/ensure moisture is below 20%.</li> <li>Use correct, sharp cutter; reduce feed rate/depth of cut.</li> <li>Tension/replace V-belt (<b>Page 38</b>).</li> <li>Wire motor correctly (<b>Page 46</b>).</li> <li>Replace loose pulley/shaft.</li> <li>Test/repair/replace.</li> <li>Clean motor, let cool, and reduce workload.</li> <li>Replace.</li> <li>Test/repair/replace.</li> </ol>
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> <li>Motor or component loose or broken.</li> <li>Cutter at fault.</li> <li>V-belt worn or loose.</li> <li>Motor fan rubbing on fan cover.</li> <li>Spindle at fault.</li> <li>Pulley loose.</li> <li>Machine incorrectly installed.</li> <li>Motor bearings at fault.</li> </ol>	<ol style="list-style-type: none"> <li>Inspect/replace damaged bolts/nuts, and re-tighten.</li> <li>Replace damaged cutter.</li> <li>Tension/replace V-belt (<b>Page 38</b>).</li> <li>Fix/replace fan cover; replace loose/damaged fan.</li> <li>Tighten loose spindle; replace defective spindle or spindle cartridge.</li> <li>Realign/replace shaft, pulley, set screw, and key.</li> <li>Tighten mounting bolts; relocate/shim machine.</li> <li>Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</li> </ol>

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Spindle does not raise or lower easily.	1. Spindle slide or elevation leadscrew clogged with sawdust.	1. Clean the spindle slide and leadscrew, then lubricate them (Page 37).
Workpiece burns when cut.	1. Dull cutter. 2. Too slow of a feed rate. 3. Pitch build-up on cutter. 4. Cutter rotating in the wrong direction (climb cutting). 5. Taking too deep of a cut.	1. Replace cutter or have it professionally sharpened. 2. Increase feed speed. 3. Clean cutter with a blade and bit cleaning solution. 4. Reverse the direction of the cutter rotation so it cuts against direction of feed. 5. Make several passes of light cuts rather than one heavy cut
Fuzzy grain.	1. Improper dust collection allowing dust/chips to build up and interfere with cutting operation. 2. Wood may have high moisture content or surface wetness. 3. Dull cutter. 4. Inherent characteristic of wood type.	1. Use correct dust collection system that is adequate to efficiently remove dust/chips during operation. 2. Check moisture content and allow to dry if moisture is more than 20%. 3. Replace or have cutter professionally sharpened. 4. Use a different wood type or plan for a sanding operation.
Chipping.	1. Knots or conflicting grain direction in wood. 2. Nicked or chipped cutter.  3. Feeding workpiece too fast. 4. Taking too deep of a cut.  5. Cutting against the grain of the wood.	1. Inspect workpiece for knots and grain direction; only use clean stock. 2. Replace the cutter, or have it professionally sharpened. 3. Slow down the feed rate. 4. Take a smaller depth of cut. (Always reduce cutting depth when working with hard woods.) 5. Cut with the grain of the wood.
Divots in the edge of the cut (snipe).	1. Inconsistent feed speed. 2. Inconsistent pressure against the fence and rub collar. 3. Fence not adjusted correctly. 4. Workpiece edge is warped.  5. Some amount of snipe may be inevitable.	1. Move smoothly or use a power feeder. 2. Apply constant pressure. 3. Adjust fence. 4. Use jointer/table saw to square up workpiece edge. 5. Plan ahead by shaping workpiece and cutting off ends to remove snipe.



# Electrical Safety Instructions

These pages are current at the time of printing. However, in the spirit of improvement, we may make changes to the electrical systems of future machines. Study this diagram carefully. If you notice differences between your machine and these wiring diagrams, call Woodstock International Technical Support at (360) 734-3482.

## WARNING

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

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

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

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

**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.

**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.

**CAPACITORS/INVERTERS.** Some capacitors and power inverters store an electrical charge for up to five minutes after being disconnected from the power source. To avoid being shocked, wait at least this long before working on these components.

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

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

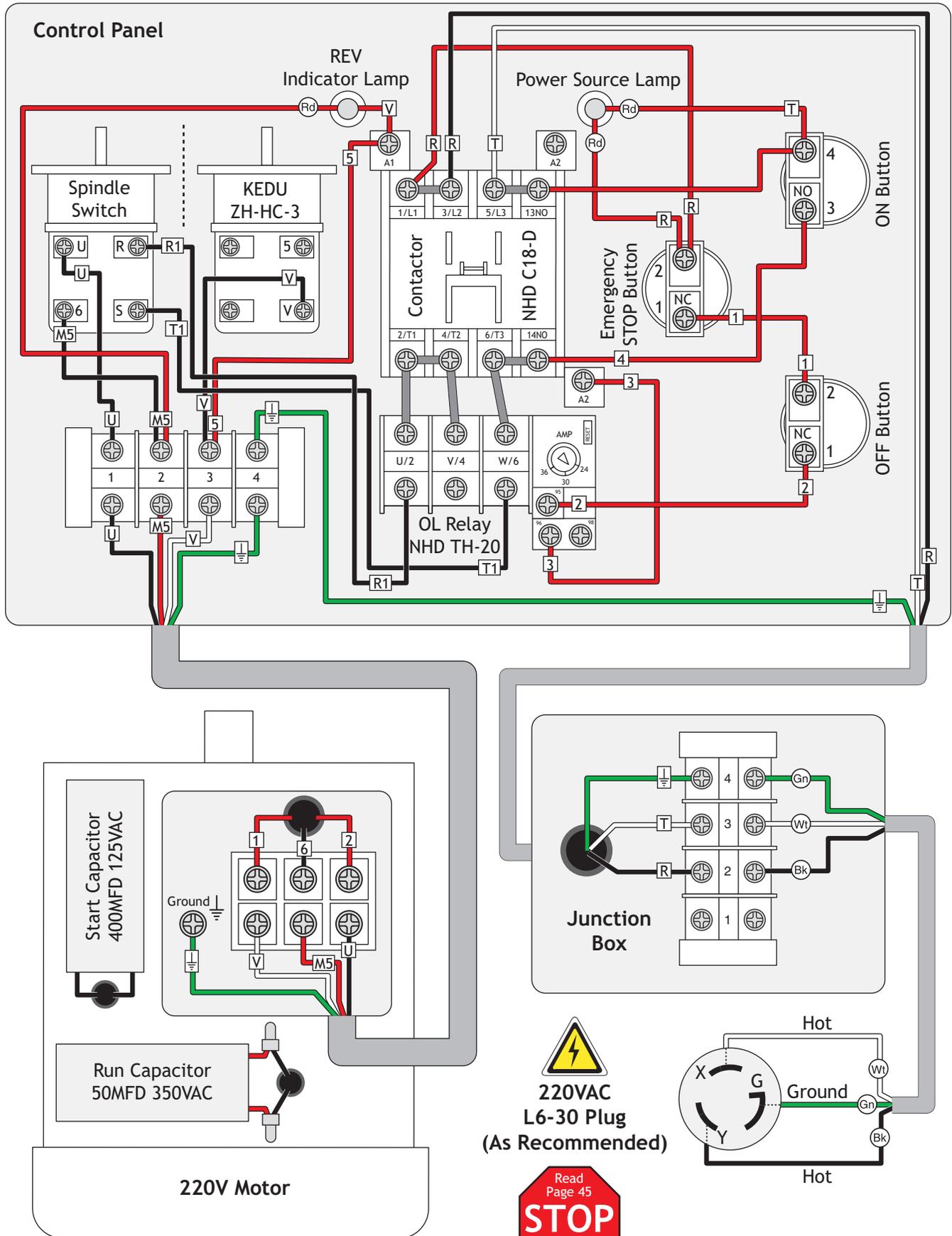
### NOTICE

The photos and diagrams included in this section are best viewed in color. You can view these pages in color at [www.shopfox.biz](http://www.shopfox.biz).

### WIRING DIAGRAM COLOR KEY

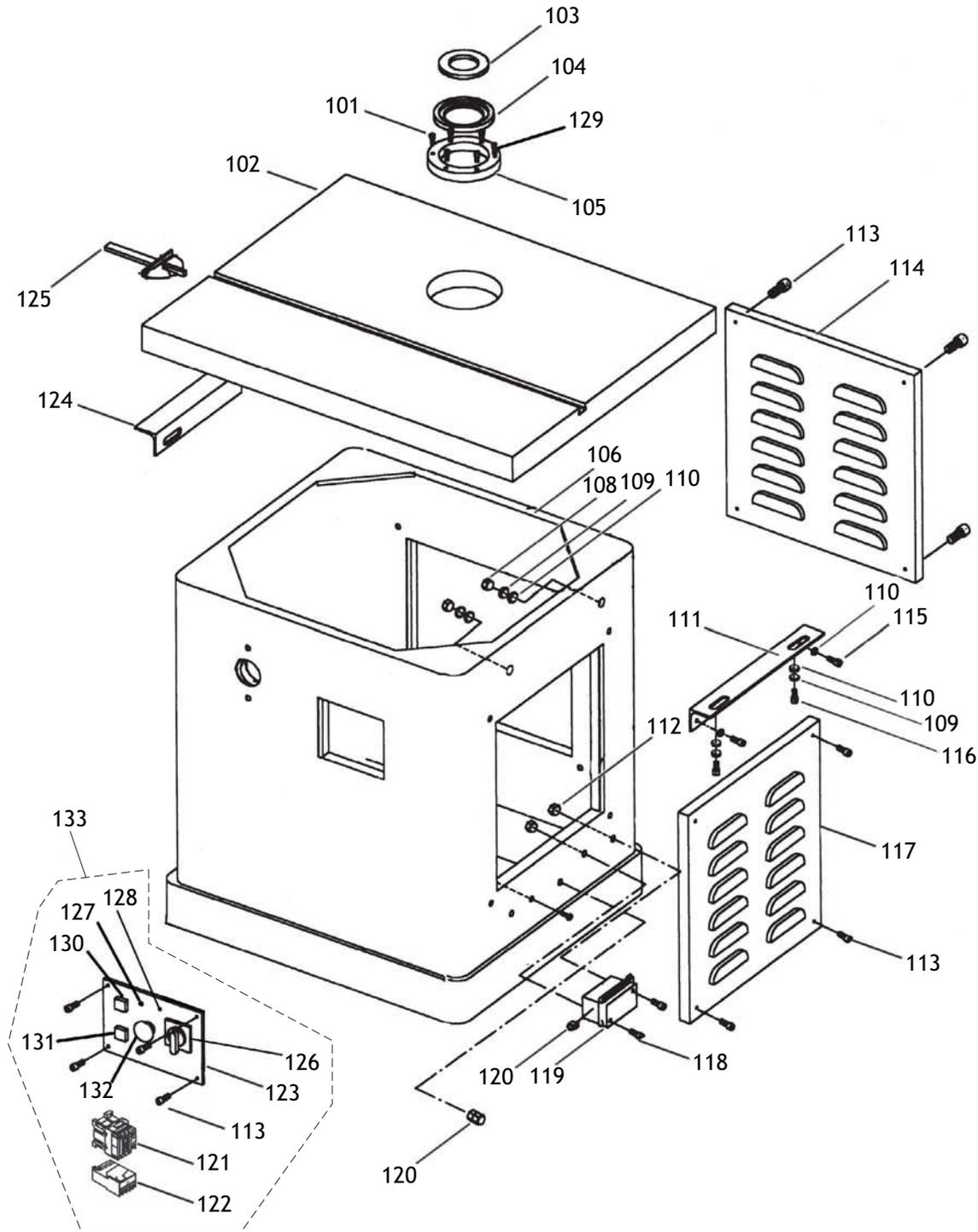
BLACK	BLUE	YELLOW	LIGHT BLUE
WHITE	BROWN	YELLOW GREEN	BLUE WHITE
GREEN	GRAY	PURPLE	TURQUOISE
RED	ORANGE	PINK	

# Wiring Diagram



SERVICE

# PARTS Cabinet

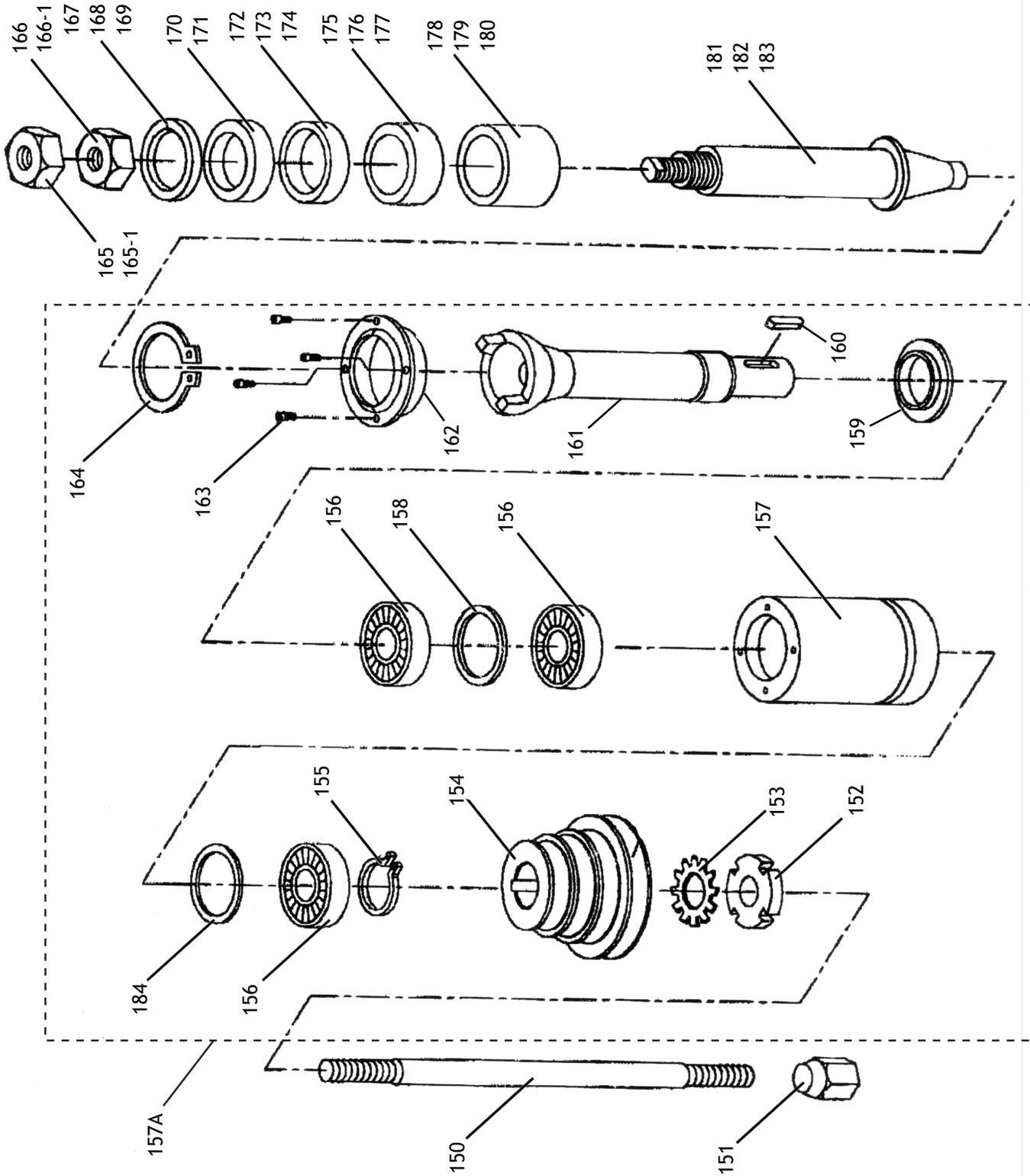


# Cabinet Parts List

REF	PART #	DESCRIPTION
101	XPSS08	SET SCREW 5/16-18 X 1/2
102	X1827102	TABLE
103	X1827103	TABLE INSERT 3" O.D.
104	X1827104	TABLE INSERT 3-1/2" O.D.
105	X1827105	CAST IRON INSERT RING
106	X1827106	CABINET
108	XPN08	HEX NUT 3/8-16
109	XPLW04	LOCK WASHER 3/8
110	XPW02	FLAT WASHER 3/8
111	X1827111	RIGHT TABLE BRACE
112	XPN07	HEX NUT 10-24
113	XPS12	PHLP HD SCR 1/4-20 X 5/8
114	X1827114	REAR CABINET ACCESS PANEL
115	XPB24	HEX BOLT 3/8-16 X 1-1/4
116	XPB21	HEX BOLT 3/8-16 X 3/4
117	X1827117	SIDE CABINET ACCESS PANEL

REF	PART #	DESCRIPTION
118	XPS08	PHLP HD SCR 10-24 X 3/4
119	X1827119	TERMINAL BOX ASSEMBLY
120	X1827120	STRAIN RELIEF 3/8" STRAIGHT
121	X1827121	CONTACTOR NHD C-18D 220V
122	X1827122	OL RELAY NHD TH-20 24-36A
123	X1827123	CONTROL PANEL PLATE
124	X1827124	LEFT TABLE BRACE
125	X1827125	MITER GAUGE ASSEMBLY
126	X1827126	SPINDLE SWITCH KEDU ZH-HC-3
127	X1827127	POWER LAMP
128	X1827128	REVERSE LAMP
129	XPFH21	FLAT HD SCR 10-24 X 3/4
130	X1827130	ON BUTTON LA68-CT.AK10
131	X1827131	OFF BUTTON LA68-CT.BK01
132	X1827132	E-STOP BUTTON LA68-CT.BK01
133	X1827133	CONTROL PANEL ASSEMBLY

# Spindle

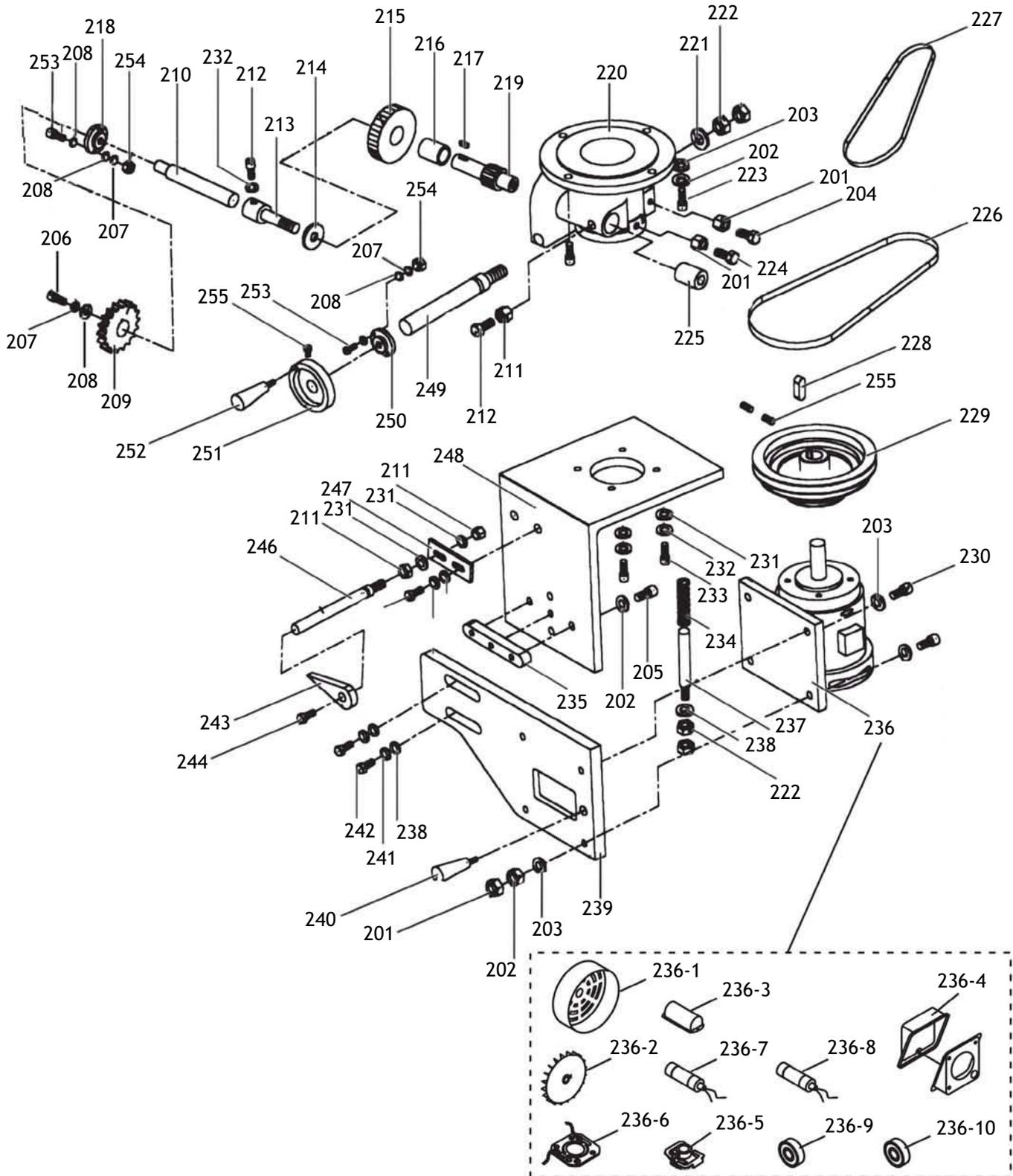


# Spindle Parts List

REF	PART #	DESCRIPTION
150	X1827150	DRAWBAR 3/8-11
151	X1827151	TAPER LOCK NUT 3/8-11
152	X1827152	SPANNER NUT 30-3.5
153	X1827153	SPANNER LOCK WASHER 30MM
154	X1827154	SPINDLE PULLEY ASSEMBLY
155	XPR68M	EXT RETAINING RING 40MM
156	XP6008ZZ	BALL BEARING 6008ZZ
157	X1827157	QUILL
157A	X1827157A	SPINDLE PULLEY & QUILL ASSY
158	X1827158	BEARING SPACER
159	X1827159	CARTRIDGE LOWER FLANGE
160	XPK55M	KEY 7 X 7 X 40
161	X1827161	SPINDLE CARTRIDGE
162	X1827162	CARTRIDGE UPPER FLANGE
163	XPCAP17M	CAP SCREW M4-.7 X 10
164	XPR43M	EXT RETAINING RING 50MM
165	XPN37	HEX NUT 1-1/4-7 LH
165-1	PN09-1	HEX NUT 5/8-18 LH
166	XPN36	HEX NUT 1-1/4-7

REF	PART #	DESCRIPTION
166-1	PN03	HEX NUT 3/4-16
167	X1827167	SPINDLE SPACER 1-1/4" X 1/4"
168	X1827168	SPINDLE SPACER 1" X 1/4"
169	X1827169	SPINDLE SPACER 3/4" X 1/4"
170	X1827170	SPINDLE SPACER 1-1/4" X 3/8"
171	X1827171	SPINDLE SPACER 1" X 3/8"
172	X1827172	SPINDLE SPACER 1-1/4" X 1/2" 2-PC
173	X1827173	SPINDLE SPACER 1" X 1/2" 2-PC
174	X1827174	SPINDLE SPACER 3/4" X 1/2" 2-PC
175	X1827175	SPINDLE SPACER 1-1/4" X 3/4" 2-PC
176	X1827176	SPINDLE SPACER 1" X 3/4" 2-PC
177	X1827177	SPINDLE SPACER 3/4" X 3/4" 2-PC
178	X1827178	SPINDLE SPACER 1-1/4" X 1" 2-PC
179	X1827179	SPINDLE SPACER 1" X 1" 2-PC
180	X1827180	SPINDLE SPACER 3/4" X 1" 2-PC
181	X1827181	SPINDLE 1-1/4"
182	X1827182	SPINDLE 1"
183	X1827183	SPINDLE 3/4"
184	X1827184	BEARING SPACER

# Motor

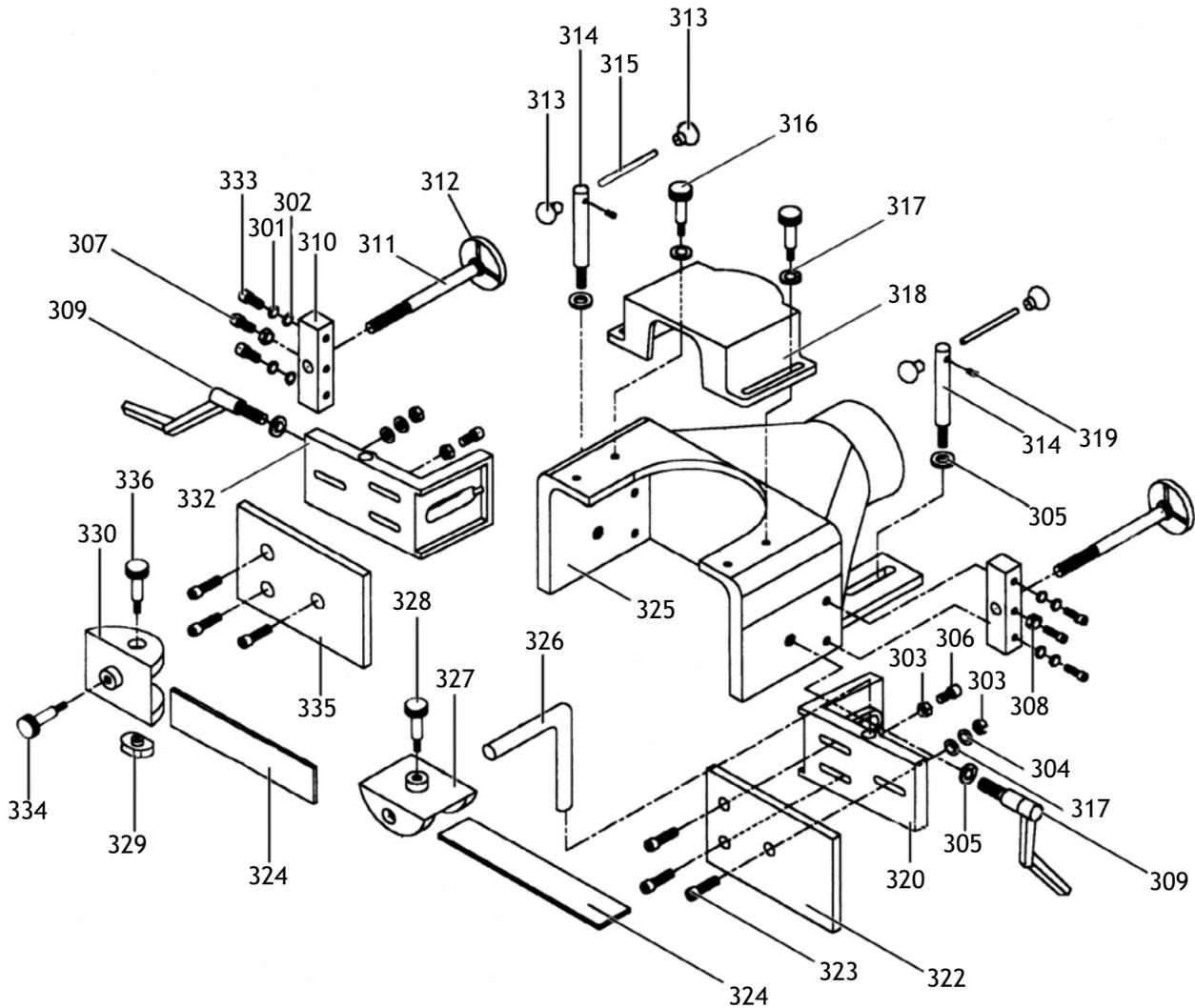


# Motor Parts List

REF	PART #	DESCRIPTION
201	XPN08	HEX NUT 3/8-16
202	XPLW04	LOCK WASHER 3/8
203	XPW02	FLAT WASHER 3/8
204	XPB24	HEX BOLT 3/8-16 X 1-1/4
205	XPB21	HEX BOLT 3/8-16 X 3/4
206	XPB02	HEX BOLT 1/4-20 X 5/8
207	XPLW02	LOCK WASHER 1/4
208	XPW06	FLAT WASHER 1/4
209	X1827209	HEIGHT LOCK KNOB
210	X1827210	HEIGHT LOCK SHAFT
211	XPN02	HEX NUT 5/16-18
212	XPB03	HEX BOLT 5/16-18 X 1
213	X1827213	SHAFT CONNECTOR
214	X1827214	GEAR FLAT WASHER
215	X1827215	GEAR
216	X1827216	KEYED GEAR SHAFT BUSHING
217	XPK37M	KEY 4 X 4 X 16
218	X1827218	HEIGHT LOCK GEAR
219	X1827219	GEAR SHAFT
220	X1827220	HEIGHT GEARING HOUSING
221	XPW01	FLAT WASHER 1/2
222	XPN06	HEX NUT 1/2-12
223	XPCAP25	CAP SCREW 3/8-16 X 1-1/4
224	XPB24	HEX BOLT 3/8-16 X 1-1/4
225	X1827225	GEAR SHAFT BUSHING
226	XPVA30	V-BELT A-30
227	XPVA28	V-BELT A-28
228	XPK157M	KEY 7 X 7 X 50
229	X1827229	MOTOR PULLEY
230	XPB11	HEX BOLT 5/16-18 X 1-1/2
231	XPW07	FLAT WASHER 5/16
232	XPLW01	LOCK WASHER 5/16

REF	PART #	DESCRIPTION
233	XPCAP03	CAP SCREW 5/16-18 X 1
234	X1827234	COMPRESSION SPRING 3.4 X 20.3
235	X1827235	KEY 3/8 X 3/4 X 1
236	X1827236	MOTOR 5HP 220V 1-PH
236-1	X1827236-1	MOTOR FAN COVER
236-2	X1827236-2	MOTOR FAN
236-3	X1827236-3	CAPACITOR COVER
236-4	X1827236-4	MOTOR JUNCTION BOX
236-5	XPCS007	CENTRIFUGAL SWITCH 1/2-3450
236-6	XPCP001	CONTACT PLATE
236-7	XPC4005	S CAPACITOR 400M 125V 1-3/4 X 3-3/8
236-8	XPC050A	R CAPACITOR 50M 350V 1-3/4 X 3-3/8
236-9	P6205ZZ	BALL BEARING 6205ZZ
236-10	P6203ZZ	BALL BEARING 6203ZZ
237	X1827237	DRIVE SHAFT
238	XPW01	FLAT WASHER 1/2
239	X1827239	MOTOR MOUNT PLATE
240	X1827240	KNOB BOLT 3/8-16
241	XPLW07	LOCK WASHER 1/2
242	XPB54	HEX BOLT 1/2-20 X 1
243	X1827243	POINTER
244	XPS06	PHLP HD SCR 10-24 X 3/8
246	X1827246	POINTER SHAFT
247	X1827247	SLOTTED PLATE
248	X1827248	SPINDLE BRACKET SUPPORT
249	X1827249	HEIGHT LEADSCREW
250	X1827250	LEADSCREW GEAR
251	X1827251	HEIGHT HANDWHEEL
252	X1827252	HANDWHEEL HANDLE
253	XPB31	HEX BOLT 1/4-20 X 1
254	XPN05	HEX NUT 1/4-20
255	XPSS22	SET SCREW 10-32 X 1/2

# Fence



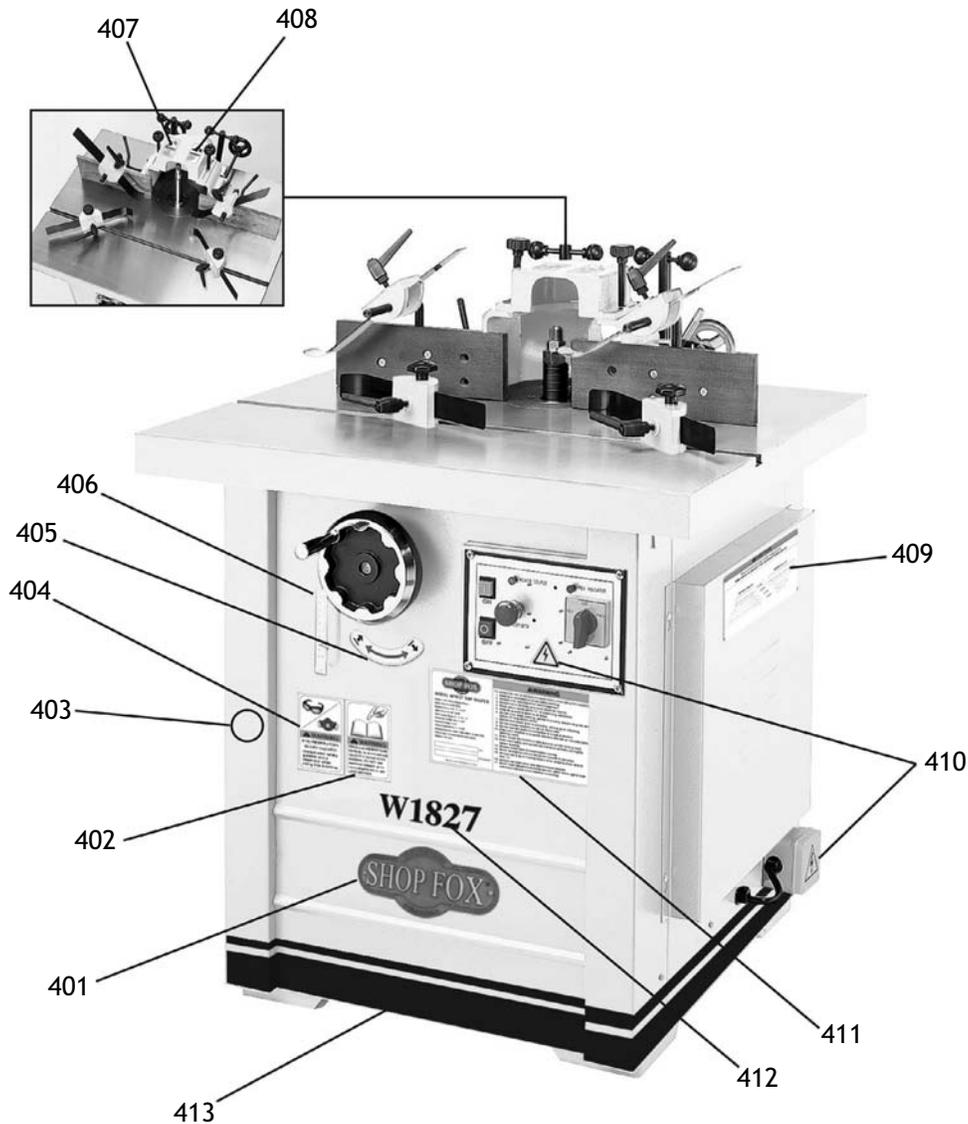
REF	PART #	DESCRIPTION
301	XPLW02	LOCK WASHER 1/4
302	XPW06	FLAT WASHER 1/4
303	XPN02	HEX NUT 5/16-18
304	XPLW01	LOCK WASHER 5/16
305	XPW01	FLAT WASHER 1/2
306	XPB03	HEX BOLT 5/16-18 X 1
307	XPB31	HEX BOLT 1/4-20 X 1
308	XPN05	HEX NUT 1/4-20
309	X1827309	LOCK HANDLE
310	X1827310	FENCE ADJUSTER BRACKET
311	X1827311	FENCE ADJUSTER SHAFT
312	X1827312	FENCE ADJUSTER HANDWHEEL
313	X1827313	KNOB
314	X1827314	GUARD TIE-DOWN SHAFT
315	X1827315	GUARD TIE-DOWN BAR
316	X1827316	KNOB BOLT 5/16-18 X 1, 2-3/4 SHAFT
317	XPW07	FLAT WASHER 5/16

REF	PART #	DESCRIPTION
318	X1827318	SAFETY GUARD
319	XPSS11	SET SCREW 1/4-20 X 1/4
320	X1827320	RIGHT FENCE BRACKET
322	X1827322	RIGHT FENCE BOARD
323	XPFH23	FLAT HD SCR 5/16-18 X 1-1/2
324	X1827324	HOLD-DOWN PLATE
325	X1827325	CUTTER GUARD BODY
326	X1827326	HOLD-DOWN BAR
327	X1827327	HOLD-DOWN BRACKET W/LARGE HOLE
328	X1827328	KNOB BOLT 3/8-16 X 1
329	X1827329	T-NUT 3/8-16
330	X1827330	HOLD-DOWN BRACKET W/SMALL HOLE
332	X1827332	LEFT FENCE BRACKET
333	XPB26	HEX BOLT 1/4-20 X 1-1/2
334	X1827334	KNOB BOLT 3/8-16 X 1-1/4
335	X1827335	LEFT FENCE BOARD
336	X1827336	KNOB BOLT 5/16-18 X 3/8, 2-1/2 SHAFT

# Labels & Cosmetics

## ⚠️ WARNING

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



REF	PART #	DESCRIPTION
401	D3376	MEDIUM SHOP FOX NAMEPLATE
402	XLABEL-08	READ MANUAL LABEL
403	XPPAINT-1	SF WHITE TOUCH-UP PAINT
404	XLABEL-06	SAFETY GLASSES/RESPIRATOR LABEL
405	X1827405	HANDWHEEL DIRECTION LABEL
406	X1827406	SPINDLE HEIGHT SCALE
407	X1827407	HAND NEAR CUTTER LABEL

REF	PART #	DESCRIPTION
408	XLABEL-07B	UNPLUG MACHINE LABEL
409	X1827409	SPEED CHANGE LABEL
410	XLABEL-04	ELECTRICITY LABEL
411	X1827411	MACHINE ID LABEL
412	X1827412	MODEL NUMBER LABEL
413	X1827413	BASE BLACK STRIP LABEL



# Warranty Registration

Name \_\_\_\_\_  
 Street \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone # \_\_\_\_\_ Email \_\_\_\_\_ Invoice # \_\_\_\_\_  
 Model # \_\_\_\_\_ Serial # \_\_\_\_\_ Dealer Name \_\_\_\_\_ Purchase Date \_\_\_\_\_

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. Of course, all information is strictly confidential.

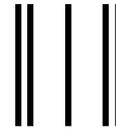
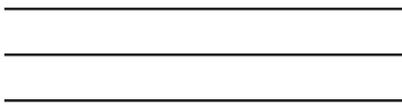
- How did you learn about us?  
 Advertisement       Friend       Local Store  
 Mail Order Catalog       Website       Other:
- How long have you been a woodworker/metalworker?  
 0-2 Years       2-8 Years       8-20 Years       20+ Years
- How many of your machines or tools are Shop Fox?  
 0-2       3-5       6-9       10+
- Do you think your machine represents a good value?       Yes       No
- Would you recommend Shop Fox products to a friend?       Yes       No
- What is your age group?  
 20-29       30-39       40-49  
 50-59       60-69       70+
- What is your annual household income?  
 \$20,000-\$29,000       \$30,000-\$39,000       \$40,000-\$49,000  
 \$50,000-\$59,000       \$60,000-\$69,000       \$70,000+
- Which of the following magazines do you subscribe to?  

<input type="checkbox"/> Cabinet Maker	<input type="checkbox"/> Popular Mechanics	<input type="checkbox"/> Today's Homeowner
<input type="checkbox"/> Family Handyman	<input type="checkbox"/> Popular Science	<input type="checkbox"/> Wood
<input type="checkbox"/> Hand Loader	<input type="checkbox"/> Popular Woodworking	<input type="checkbox"/> Wooden Boat
<input type="checkbox"/> Handy	<input type="checkbox"/> Practical Homeowner	<input type="checkbox"/> Woodshop News
<input type="checkbox"/> Home Shop Machinist	<input type="checkbox"/> Precision Shooter	<input type="checkbox"/> Woodsmith
<input type="checkbox"/> Journal of Light Cont.	<input type="checkbox"/> Projects in Metal	<input type="checkbox"/> Woodwork
<input type="checkbox"/> Live Steam	<input type="checkbox"/> RC Modeler	<input type="checkbox"/> Woodworker West
<input type="checkbox"/> Model Airplane News	<input type="checkbox"/> Rifle	<input type="checkbox"/> Woodworker's Journal
<input type="checkbox"/> Modeltec	<input type="checkbox"/> Shop Notes	<input type="checkbox"/> Other:
<input type="checkbox"/> Old House Journal	<input type="checkbox"/> Shotgun News	

9. Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CUT ALONG DOTTED LINE

FOLD ALONG DOTTED LINE



Place  
Stamp  
Here



WOODSTOCK INTERNATIONAL INC.  
P.O. BOX 2309  
BELLINGHAM, WA 98227-2309



FOLD ALONG DOTTED LINE

TAPE ALONG EDGES--PLEASE DO NOT STAPLE

# WARRANTY

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

Woodstock International, Inc. will repair or replace, at its expense and at its option, the Shop Fox machine or machine part, which in normal use has proven to be defective, provided that the original owner returns the product prepaid to a Shop Fox factory service center with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

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

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



## High Quality Machines and Tools

Woodstock International, Inc. carries thousands of products designed to meet the needs of today's woodworkers and metalworkers. Ask your dealer about these fine products:

**BROSENA**  
PRECISION STOP BLOCK

**JOINTER PAL**<sup>®</sup>

**Rotacator**<sup>®</sup>

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FINE TOOLS

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