



Shop Fox[®] Fence

ITEM W1410

OPERATING MANUAL



P.O. Box 2309
Bellingham, WA 98227

COPYRIGHT © 1996 BY WOODSTOCK INTERNATIONAL, INC.
WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE
OR FORM WITHOUT THE WRITTEN APPROVAL OF WOODSTOCK INTERNATIONAL, INC.
REVISED MAY, 1997 PRINTED IN USA

TABLE OF CONTENTS

I.	INTRODUCTION	2
A.	SAFETY RULES FOR ALL TOOLS.....	3
B.	UNPACKING.....	4
C.	PIECE INVENTORY.....	4
D.	CLEAN UP.....	4
II.	INSTALLATION	5
A.	ORDER OF INSTALLATION	5
B.	TOOLS REQUIRED	5
C.	MOUNTING THE RAILS.....	5-7
D.	OPTIONAL EXTENSION RAILS	8
E.	MOUNTING THE FENCE.....	8
F.	BLADE GUARDS	9
III.	ADJUSTMENTS.....	10
A.	TABLE CLEARANCE	10
B.	TRACKING	10
C.	LOCK HANDLE.....	11
D.	FENCE CLAMPING PRESSURE.....	12-13
E.	PARALLELISM TO BLADE.....	14-15
F.	90° TO TABLE TOP.....	15-16
G.	SCALE/INDICATOR	16-17
H.	FENCE STOP.....	17
IV.	OPERATIONS	18
A.	FINE POSITIONING.....	18
B.	BOARD BUDDIES®	18
C.	WOOD FACING.....	19
V.	TROUBLESHOOTING	20
A.	RAILS TOO CLOSE TOGETHER	20
B.	RAILS TOO FAR APART	20-21
C.	FRONT CLAMP WILL NOT ADJUST	21
D.	REAR CLAMP WILL NOT ADJUST	22
E.	FENCE DOES NOT MOVE SMOOTHLY	22-23
F.	FENCE WILL NOT ADJUST PARALLEL TO BLADE.....	23
VI.	PART DOCUMENTATION.....	24-26
VII.	SPECIFICATIONS	27
XIII.	WARRANTY	28

SECTION I: INTRODUCTION

Thank you for purchasing Woodstock International's Shop Fox® Fence. The Item W1410 Shop Fox® Fence was designed by Woodstock's engineering staff to provide the woodworker with a precision alternative to standard table saw fences. The Shop Fox® Fence fits most contractor and cabinet-style table saws with tables measuring 27" from front to back.

The key to the Shop Fox® Fence's accuracy is its unique roller tracking system, which allows the fence to hold precise alignment with the blade, even when the locking system is disengaged. This consistency allows the woodworker to make even the most minute adjustments with complete confidence.

The Shop Fox® Fence features polished and black-anodized aluminum construction with built-in micro adjustment knobs on either side of the positive locking lever. A T-slot on top of the fence

is designed to accept Woodstock's Board Buddies® hold down rollers. Optional extension rails are also available for the Shop Fox® Fence for use with wider materials such as plywood and wood composites.

Woodstock is pleased to provide this manual to assist in the installation and operation of the Shop Fox® Fence. It represents our effort to offer the finest documentation available. If you feel there are areas where this manual could be improved, we encourage you to write us with your comments at the following address:

Technical Documentation
Woodstock International, Inc.
P.O. Box 2309
Bellingham, WA 98227
(360) 734-3482
Fax (360) 671-3053

A. SAFETY RULES FOR TABLE SAWS

1. **KNOW YOUR TABLE SAW.** Read the owner's manual carefully. Learn the tool's applications and limitations, as well as its particular hazards.
2. **DO NOT REMOVE GUARDS.** Maintain guards in working order.
3. **ENSURE THAT YOUR TABLE SAW IS ELECTRICALLY GROUNDED.** Never remove the grounding prong.
4. **KEEP WORK AREA CLEAN.** Cluttered areas invite accidents.
5. **AVOID DANGEROUS ENVIRONMENTS.** Do not use power tools in damp or wet locations or expose them to rain. Keep your work area well lighted.
6. **MAKE WORKSHOP CHILD-PROOF** with padlocks, master switches, or by removing starter keys.
7. **DO NOT FORCE WORK THROUGH TABLE SAW.** Tools work better and more safely when they are allowed to work at their own speed.
8. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, or jewelry that might get caught in moving parts. Non-slip footwear should be worn. Wear a hat or other protective head wear if your hair is long.
9. **NEVER STAND OR LEAN ON TOOL.**
10. **ALWAYS USE SAFETY GLASSES, EAR PROTECTION AND RESPIRATORY PROTECTION.**
11. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
12. **USE A PUSH STICK WHEN CUTTING NARROW PIECES.**
13. **DO NOT REACH BEHIND TABLE SAW TO GRAB CUTOFF PIECE.** If wood binds against saw blade it will kick back faster than you can let go.
14. **DO NOT LET THE END OF THE WORK-PIECE CONTACT THE FENCE WHILE CROSSCUTTING WOOD WITH THE MITER GAUGE.** There is a potential for kick-back. Move the fence away.
15. **DISCONNECT TABLE SAW FROM POWER** before servicing and when changing accessories, such as blades, bits, and cutters.
16. **AVOID ACCIDENTAL STARTING.** Make sure the switch is in the "OFF" position before plugging in the cord.
17. **CHECK DAMAGED PARTS.** Do not operate the table saw until you are certain it is in perfect running condition.
18. **NEVER LEAVE THE TABLE SAW RUNNING UNATTENDED - TURN POWER OFF.** Do not leave the saw until it comes to a full stop.
19. **DO NOT OPERATE EQUIPMENT IF USING DRUGS, ALCOHOL, OR MEDICATION.**
20. **DO NOT WORK IN HASTE** or operate equipment if you are mentally or physically fatigued.
21. **IF THERE IS SOMETHING YOU DO NOT KNOW OR UNDERSTAND, DO NOT OPERATE MACHINE!** Ask for help first.
22. **BAD HABITS ARE DANGEROUS.** Review all safety procedures often.

These safety rules cannot cover every situation in a woodshop. Consider your conditions when setting up and using your Shop Fox® Fence.

B. UNPACKING

The Item W1410 Shop Fox® Fence is shipped from our factory in a carefully packed carton. If you discover the product is damaged, please contact your local Woodstock dealer immediately for advice. Be sure to save the packing containers for possible inspection.

The Shop Fox® Fence weighs only 35 pounds. However, when lifting, we must caution against improper lifting techniques. Always keep your back straight and lift with your legs. If you are limited by the amount of weight you can lift and carry, please refrain from moving The Shop Fox® Fence until you get the necessary assistance.

C. PIECE INVENTORY

The parts are arranged in two layers of packing. Remove the parts in an orderly fashion. This will simplify identification and make inventory and assembly that much easier. When removing the parts, please take care not to destroy the foam and cardboard carton. It is a good idea to save the carton for future storage or shipment if necessary.

In the event that any parts or hardware are missing, please contact Woodstock at the phone number or address found on page 2 and we will send replacements right away.

Piece count for the W1410 Shop Fox® Fence.

Qty	Description
1	Shop Fox® Fence
1	Front rail
1	Back Rail
1	Manual
1	Scale
1	Bag of Mounting Hardware
1	Universal Blade Guard Bracket (optional)
Mounting Hardware Consists of:	
4	$\frac{3}{8}$ " - 16 x 1" Hex Bolts
9	$\frac{3}{8}$ " Flat Washers
1	$\frac{5}{16}$ " Drill Bit
1	$\frac{3}{8}$ " - 16 Tap
1	Rubber Bumper w/ Mounting Hardware
1	Cross Brace w/ Mounting Hardware

D. CLEAN UP

Remove the plastic protective covering and wipe the fence off with a clean rag. Inspect all the parts (especially the contact areas) for burrs and other irregularities that might hinder assembly. If you find any burrs or "flash" from the machining or casting process, simply sand or file them flat. Although this is not a common occurrence, it is possible that one or more of the parts could have been missed during the machining and deburring process.

SECTION II: INSTALLATION

A. ORDER OF INSTALLATION

Installation of the Shop Fox® Fence is quick and easy. Installation involves mounting the front and back rails to your table saw and then attaching the fence to the rails. On some saws, the mounting holes for the rails will match the existing rail mounting holes. On other saws where the mounting holes do not line up, it will be necessary to drill and tap new mounting holes in your table top edge. We've supplied you with a drill and tap for this purpose. If you are uncomfortable with the tapping process, through-bolting may be used as an alternative. If through-bolting, make sure you have access to the backside of the hole and that the table webbing will not interfere with the nut and bolt before attempting this method.

Before beginning installation, measure your table saw top from front to back. The Shop Fox® Fence comes preset to fit on tables measuring between 26⁵/₈" and 27¹/₄". If your table top is not within this range, refer to the Troubleshooting Guide for further instruction.

B. TOOLS REQUIRED

Only a few common tools are required to assemble your Shop Fox® Fence. Specifically, these are:

- 14mm open end wrench
- 5mm Allen wrench
- 3mm Allen wrench
- Regular screwdriver
- 6" adjustable wrench
- Needle nose pliers
- ⁷/₁₆" socket and ratchet

Optional Tools:

- ³/₈"-16 tap
- ⁵/₁₆" drill bit
- ¹/₈" drill bit
- ³/₈" or ¹/₂" Electric drill
- Center punch
- Hammer
- Tap handle

C. MOUNTING THE RAILS

Step 1.

Locate the back fence rail (the rail with the oval cut-outs) and set it against the rear edge of the table saw. Position the back rail so that its top edge is ¹/₁₆" below the table top and the oval cut-outs are in line with the miter slots. Figure 1. If the back rail mounting holes line up with the existing holes in the table top, attach the rail using the original mounting hardware as shown in Figure 3. If the holes do not line up, use the mounting method covered in Steps 3-6.

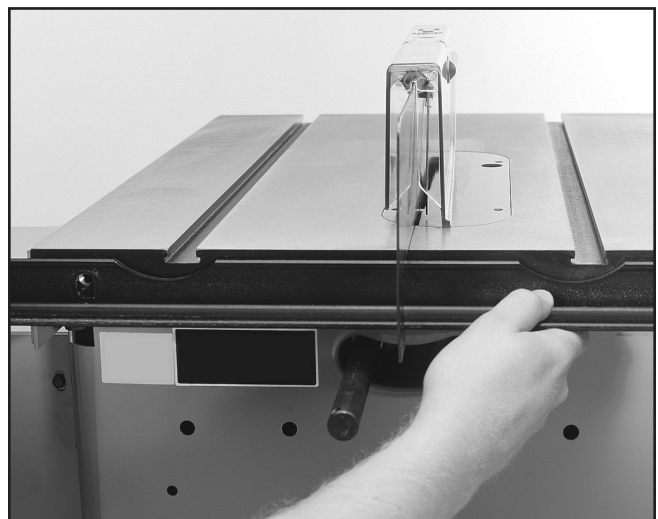


Figure 1. Attaching the back rail.

Step 2.

Line up the ends of the front rail even with the back. Set the top edge ¹/₁₆" below the bottom of the miter slots. Figure 2. If the front rail mounting holes line up with the existing holes in the table top, attach the rail using the original mounting hardware as shown in Figure 3. If the holes do not line up, use the mounting method covered in Steps 3-6. If both rails are mounted at this point, skip to Step 7.

Note: Delay installation of the adhesive scale (#56) until Section III Part G.

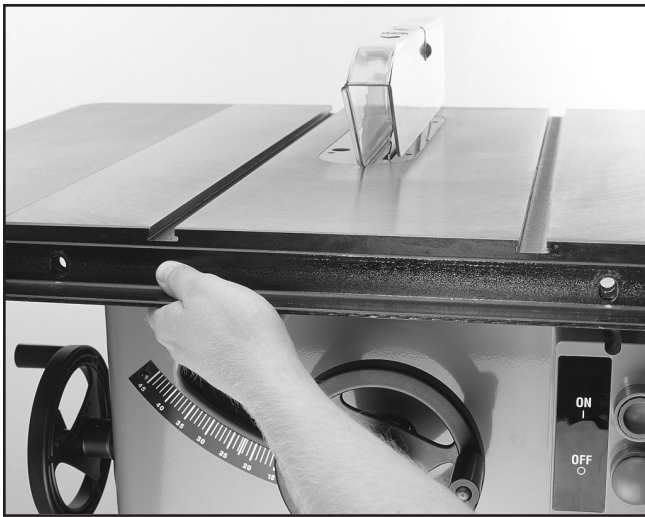


Figure 2. Attaching the front rail.

Step 3.

If the front and back mounting holes do not line up with the existing holes in the table top, you will need to drill and tap new mounting holes in the table top.

Position the back rail according to the instructions in Step 1. Clamp the rail to the table saw using C-clamps or bar clamps. The use of wood clamping blocks will ensure a secure, non slip set-up. Mark the oval mounting holes on the edge of the table. Remove the rail and centerpunch the middle of the outlined slots on the table edge. Refer to Step 2 for positioning the front rail and repeat this process for the front rail.

Step 4.

At each centerpunch location, drill a $\frac{1}{8}$ " diameter starter hole, then drill a $\frac{5}{16}$ " hole using the bit supplied with the Shop Fox® Fence. It is not necessary to use cutting oil when drilling cast iron.

Step 5.

Tap each hole with the $\frac{3}{8}$ " - 16 tap supplied. Hold the tap in a tap wrench if one is available. If a tap wrench is not available use a $\frac{3}{8}$ " or $\frac{1}{2}$ " electric drill that is set on slow speed. Treat it as though it were a drill bit. After the first few rotations however, the tap will invariably start slipping in the

drill chuck. Loosen the chuck, detach the tap and continue turning the tap into the hole with an adjustable wrench. Advance the tap half a turn, back it out half a turn, advance another half turn, etc. until the tip of the tap extends $\frac{1}{2}$ " beyond the hole. Back the tap out and proceed to the next hole. It is not necessary to use cutting oil when tapping cast iron.

Step 6.

Mount the front rail with the $\frac{3}{8}$ "-16 x 1" Hex Bolts and Flat Washers provided. Figure 3. It is imperative that the front rail mounts flat against the front edge of the table. If there is a gap between the front rail and the extension wing, it is a good idea to loosen the wing and move it over until it touches the rail. This will add extra support to the front rail.

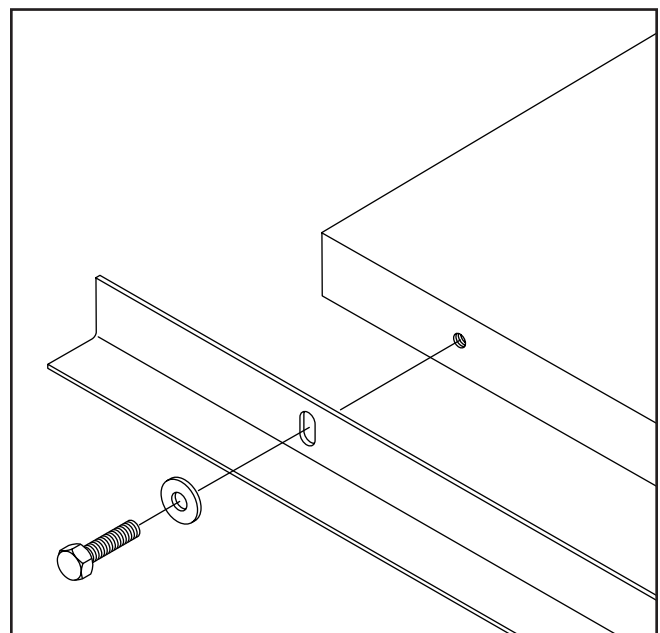


Figure 3. Mounting the front rail.

Step 7.

Mount the rear rail with the $\frac{3}{8}$ "-16 x 1" Hex Bolts and Flat Washers provided. There should be 2 flat washers between the rear rail and the table top. Figure 4.

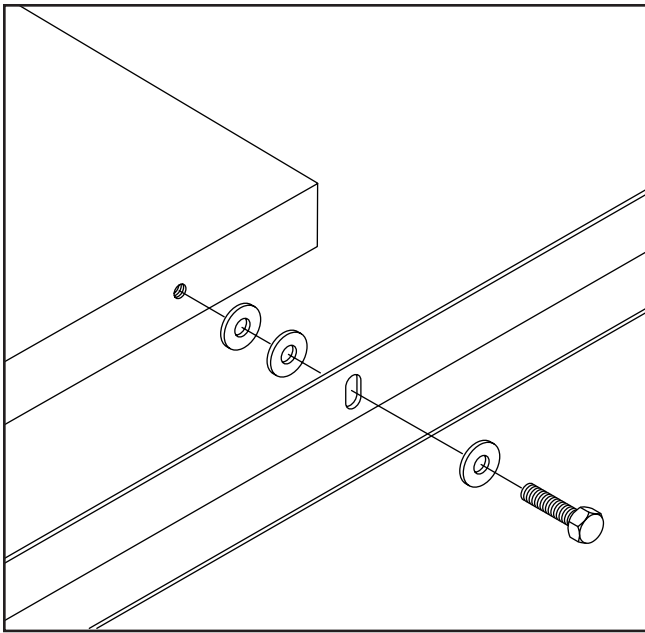


Figure 4. Mounting the rear rail.

Step 8.

The distance between the front and back rail should be $27'' \pm \frac{1}{4}''$. Add or remove washers to achieve this measurement. If your measurement does not fall within this range, refer to Section V on page 20 for further instruction.

Step 9.

Measure the distance between both ends of the rails to determine if they are parallel. The difference between the two ends of the rails should be no more than $\pm \frac{1}{8}''$.

Note: relative parallelism between the ends of the rails is not critical to the accuracy of the fence, but will prevent the unlocked fence from moving by itself in the direction of the taper. Extra washers may be added or removed from between the table and back rail to achieve parallelism.

Step 10.

Mount the cross brace to the end of the rails using the $\frac{3}{8}$ -16 x 1" Hex Bolts and Flat Washers provided. Leave the bolt in the middle of the brace loose until the bolts at the ends of the brace are tight.

D. OPTIONAL EXT. RAILS

An extended rail set is available for the Shop Fox® Fence increasing the rip capacity to the right of the blade to 49". They are mounted in the same manner as the standard rails.

An extension table (Figure 5.) must be mounted between the fence extension rails to properly support the rails as well as the workpiece. The extension table must fit in the gap between the rails perfectly or the rails will be bowed. Remove the right side table saw wing and bolt the extension table in place using the existing holes for the wing. Extra holes will need to be drilled in the rails to secure the extension table at the right end.

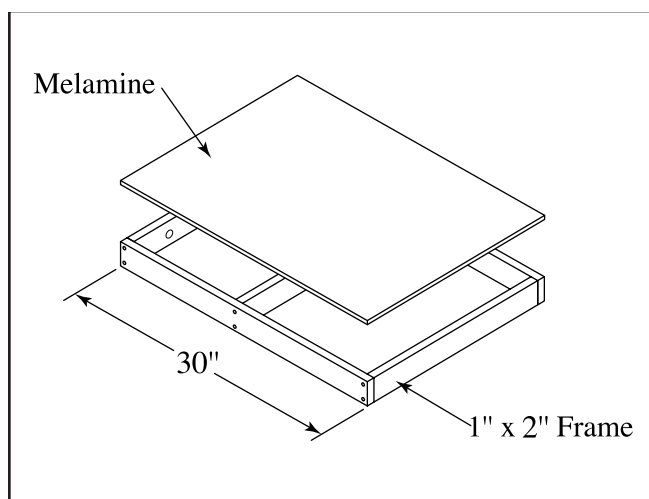


Figure 5. Extension table.

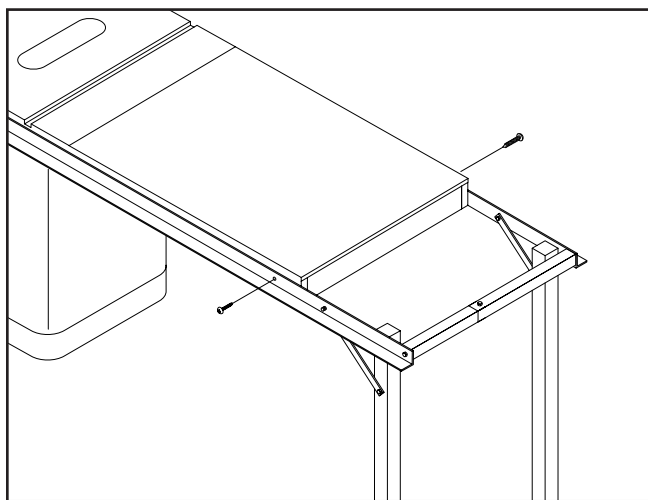


Figure 6. Extension table and extension rails assembled.

E. MOUNTING THE FENCE

With the lock handle in the "UP" (unlocked) position, attach the fence to the rails by skewing the fence so the groove in the rear spring loaded roller engages the back rail first. Figure 7. Then, holding the rear of the fence stationary, roll the first front roller onto the front rail. Align the rear jaws so the back rail will pass between them. Figure 8. You may need to gently separate the jaws with a screwdriver to allow them to clear the rail. Feed the front jaws onto the front rail and slide the fence the rest of the way on, making sure the second front roller engages securely.

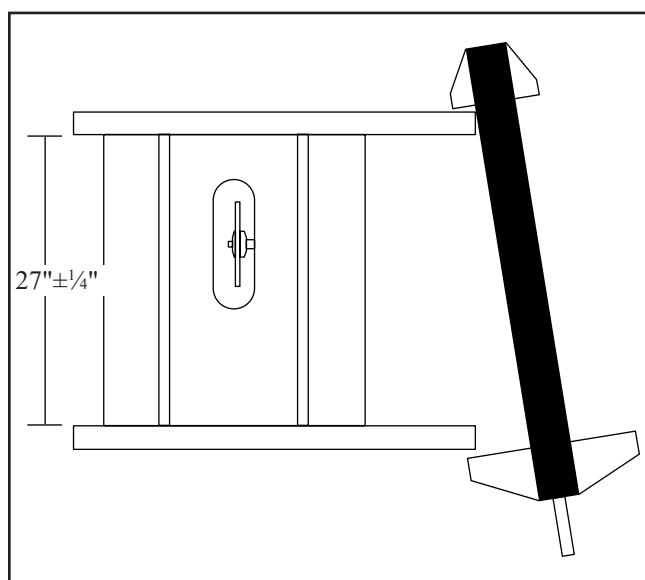


Figure 7. Fence installation.

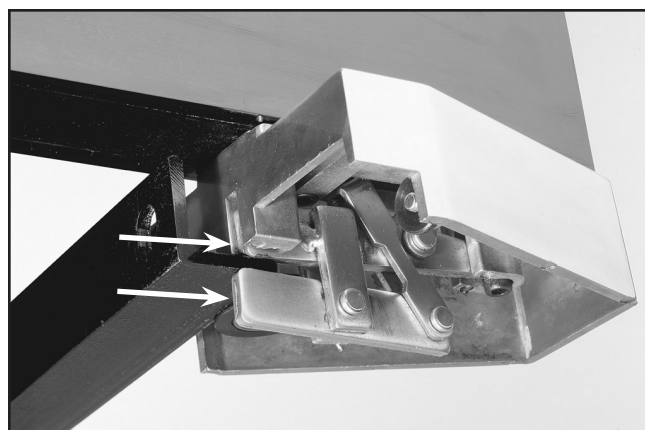


Figure 8. Jaw position.

F. BLADE GUARDS

CAUTION: Table saw blade guards are an important safety component on any table saw. **DO NOT REMOVE THE BLADE GUARD.**

A little extra time spent aligning your saw guard to the blade will make it a smooth functioning and integral component of the machine. Please refer to your table saw operator's manual.

One of the challenges of working with a blade guard lies in cutting narrow pieces. Most blade guards overhang the actual blade by about 1" on either side of the blade. When working in close proximity to the blade (under 3") we recommend using a push stick made from $\frac{3}{4}$ " or wider material. Since the push stick must go around the blade guard, any cut less than $1\frac{1}{2}$ " wide presents a potentially dangerous situation.

The safest way to rip narrow pieces is to cut narrow strips from wider boards so that the narrow piece comes off the saw to the left of the blade. In the event that a narrow piece (under $1\frac{1}{2}$ ") needs to be further trimmed down, we recommend that you re-evaluate which machine may be better suited to the job. Jointers, planers and thickness sanders all produce excellent finishes and provide safer alternatives to removing the blade guard from a table saw.

Please note that the rear carriage (#44) of the Shop Fox® Fence works in conjunction with most rear mounted blade guard support systems, but limits the minimum cutting width to approximately $1\frac{1}{2}$ ". Facing the fence with wood or using an overarm style guard may allow closer cutting than $1\frac{1}{2}$ ". If your existing rear blade guard support bracket prevents the Shop Fox® Fence from coming within $1\frac{3}{4}$ " of the blade, we recommend installing Woodstock's optional bracket. Figure 9. Please contact Woodstock at the phone number or address on page 2.

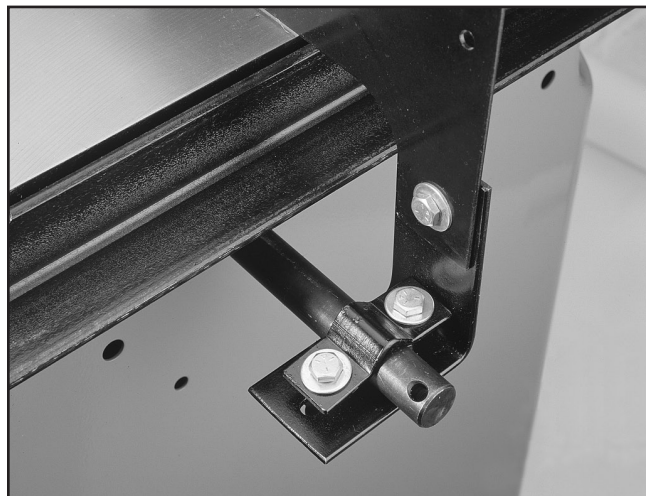


Figure 9. Optional bracket installation.

SECTION III: ADJUSTMENTS

Your Shop Fox® Fence has been pre-adjusted at the factory. However, it will be necessary to check and fine tune each adjustment with the fence installed on your saw. A quality steel rule and square will help you bring your new fence into perfect alignment.

A. TABLE CLEARANCE

It is important to minimize the gap between the bottom of the fence and the table so thin material will not slide under the fence during operation. This clearance must be uniform along the table surface. It is also very important that the fence does not contact the table surface when sliding from side to side.

With the fence mounted on the rails, try sliding it over the table. Make sure the fence is supported by all three rollers. Gauge the gap under the fence at various locations over the table surface. There should be a uniform gap of $\frac{1}{16}$ " between the bottom of the fence and the tabletop. If the gap is not uniform, loosen the rail mounting bolts and raise or lower one end of one or both rails to achieve a uniform gap.

If ripping thin laminates or veneers, clamp an auxiliary fence to the Shop Fox® Fence so it rests right on the table. This will ensure that thin material will not slip under the fence.

B. TRACKING

The spring tension on the rear roller will affect the ease with which the fence will travel from side to side. Too much spring tension will restrict free movement of the fence on the rails. Too little tension may allow the fence to derail if moved abruptly or allow the fence to skew slightly when being locked down. Tension is easily adjusted by reaching underneath the rear carriage (#44) and turning the adjustment nut (#48). Figure 10. Tightening the adjustment nut onto the stud will

increase the spring tension while loosening the adjustment nut will reduce the tension. To adjust tracking:

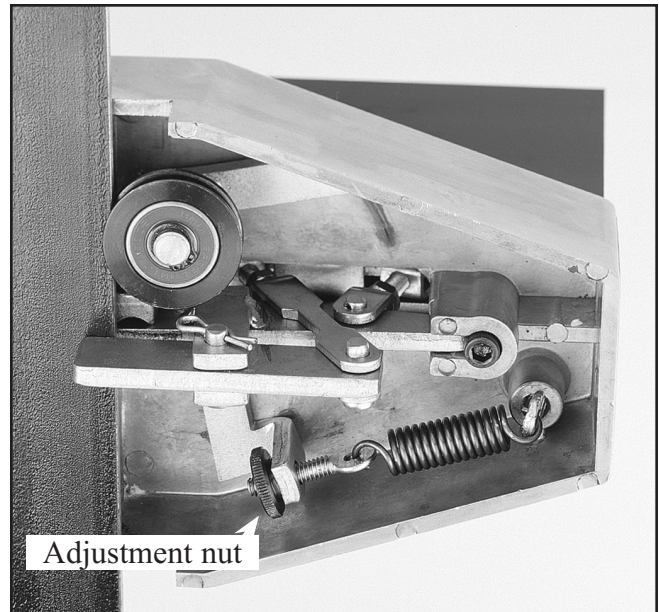


Figure 10. Rear spring adjustment.

Step 1.

Test ease of movement relative to tracking quality. The best way to do this is to experiment with the rear roller tension until a setting is found that allows comfortable motion and tracking. Grab the fence by the handle and abruptly slide it back and forth several times. When changing direction, both front rollers should stay engaged to the rails. If either roller tends to move away from the rail, increase the rear spring tension and repeat the test.

Step 2.

Continue to increase or decrease rear spring tension as necessary until all rollers remain in constant contact with the rails when changing directions. Don't increase tension to the point that movement becomes restricted.

C. LOCK HANDLE

The lock handle (#2) actuates and holds the clamping jaws when in the engaged (down) position and releases the jaws in the up position. This handle is already adjusted for use out of the box. However, further adjustment may be necessary after a short break-in period. To adjust the lock handle:

Step 1.

Push down on handle. Very little effort is required to do this (15-20 pounds of force).

Step 2.

Check the position of the power link (#5). Figure 11. Notice how the link “cams over” slightly past horizontal when the handle is engaged. The power link should be adjusted to “cam over” at approximately five degrees past horizontal.

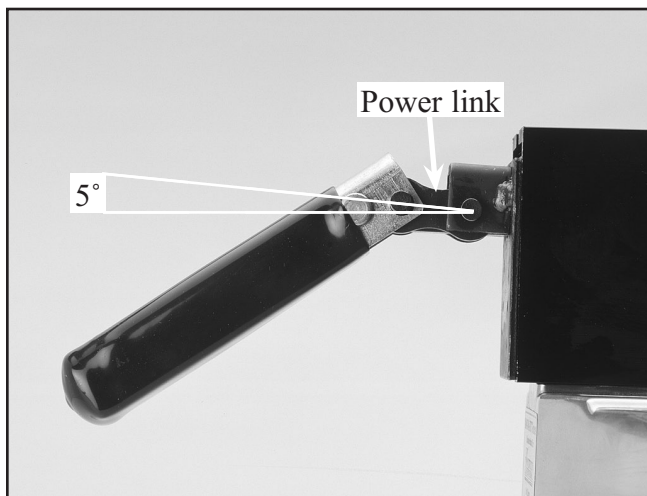


Figure 11. Adjusting the power link.

Step 3.

Slide the vinyl grip (#1) back about half way to expose the setscrew stop (#28) located on the underside of the draw bar (#6). Figure 12. The setscrew stop limits the degree of handle throw.

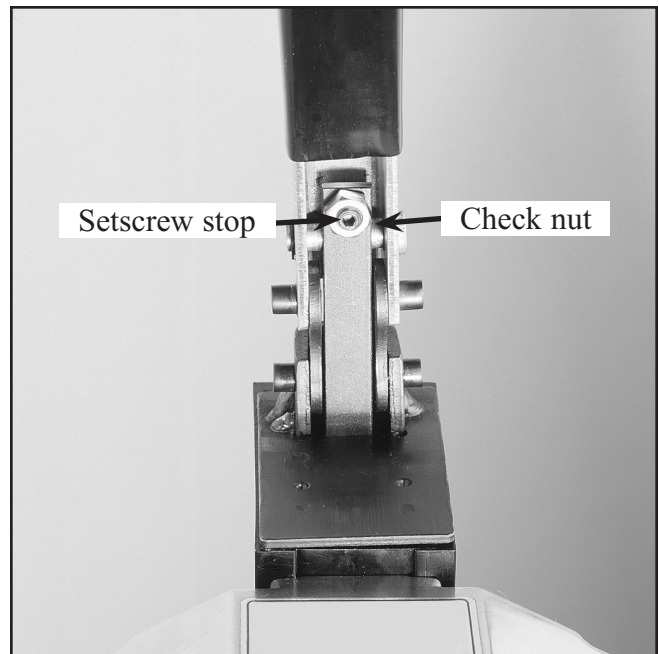


Figure 12. Setscrew stop.

Step 4.

Bump the handle from underneath. If the handle can be unlocked by bumping it 3 or 4 times, the setscrew stop needs to be backed off. If the setscrew stop is backed out too far, the power link will pivot past five degrees and the clamping force will diminish.

Step 5.

Loosen the check nut (#29) with a $\frac{7}{16}$ " socket. Adjust the setscrew stop using a 3mm Allen wrench until the the power link is 5° past horizontal. Test your results. If you can bump the handle and it releases, incrementally back out the setscrew stop some more. If the draw bar can be observed stopping its outward motion and then begins to reverse direction, turn the setscrew stop back in.

D. FENCE CLAMPING PRESSURE

If you can move the locked fence by exerting approximately 50 lbs. of lateral force, the fence clamping mechanism will require adjustment. It is quicker and easier to adjust the fence while it is on the saw; however, reaching underneath the fence may be awkward for some people. Removing the fence and laying it upside down on a bench to work on is another option. With this method, you may have to slide the fence on and off several times.

Before starting, review the adjustment steps while looking at the parts breakdown near the end of this manual.

Step 1.

The front clamp (#17 & 18) is adjusted first and to do so, it is necessary to disable the rear clamp (#23 & 24). Disable the rear clamp by removing the cotter pin (#16) and pivot pin (#8) located on the lower jaw (#24) of the rear clamp. Figure 13. Needle nose pliers will ease removal of the cotter pin.

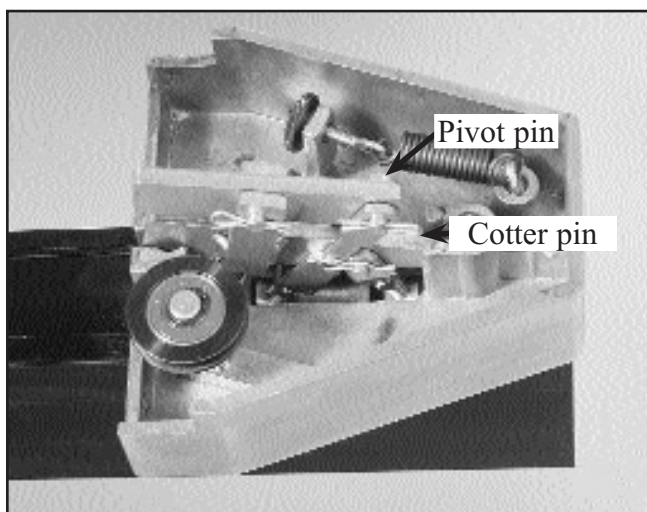


Figure 13. Disabling the rear clamp.

Step 2.

Now engage the locking lever several times to see how securely the front clamp holds. It should only require 5-10 pounds of force to push the lever into the locked position. Try moving the fence from side to side using the locking handle. If the front clamp slips under a lateral load of 25 pounds or less, then the clamping pressure needs to be adjusted.

Step 3.

Remove the two cotter and pivot pins shown in Figure 14 and remove the upper/lower jaw assembly as one unit. This will leave two steel yokes (#14 & 15) exposed, one long and one short.

Step 4.

To increase clamping pressure, either unscrew the longer yoke half a turn or screw the shorter yoke in half a turn. Adjustment should be done in half turn increments.

Step 5.

To reduce clamping pressure, turn the yokes in the opposite direction. After adjusting one yoke half a turn, reassemble the clamp and test the unit. If more adjustment is required, turn the other yoke half a turn and retest. Do not over-adjust.

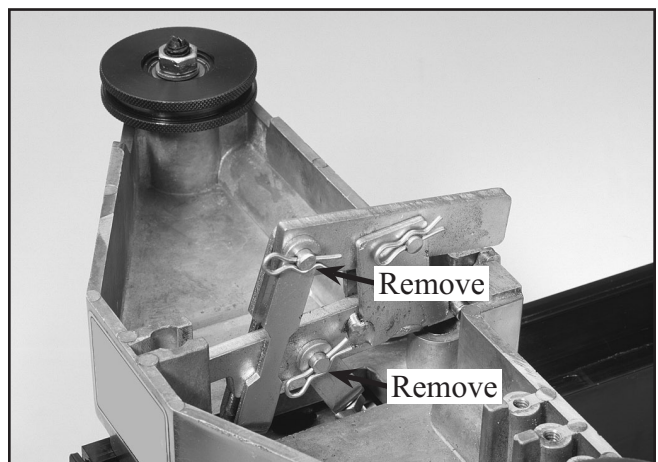


Figure 14. Removing front jaw assembly.

Step 6.

Once the front clamp is properly adjusted, reinstall both cotter pins. If the front clamp cannot be made to function properly, refer to Section V, Troubleshooting on page 20.

Step 7.

The procedure for adjusting the rear clamp is virtually identical to the procedure for adjusting the front clamp. Disable the front clamp by temporarily removing the cotter pin and pivot pin in the front clamp assembly. Figure 15.

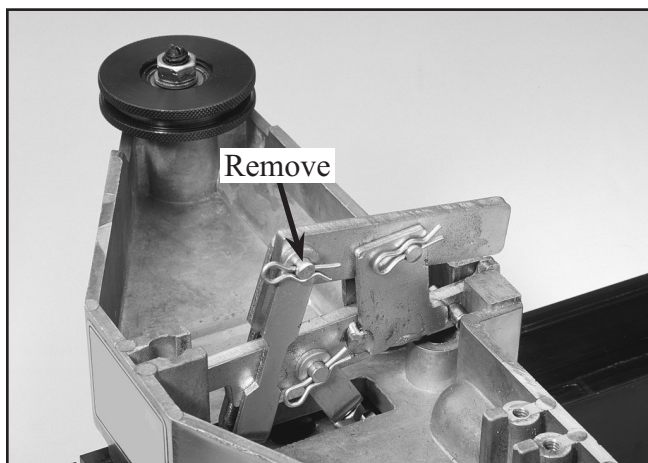


Figure 15. Disabling the front clamp.

Step 8.

Push down the locking lever and test the grip of the rear clamp by pushing from side to side on the back end of the fence. If the clamp holds securely under a lateral force of 25 pounds, the rear clamp requires no further adjustment. If the rear clamp slips under 25 pounds of lateral force, adjustment will be necessary.

Step 9.

To adjust the rear clamp, first remove the clamp assembly from the two yokes by removing the two cotter pins and pivot pins (#8 & 16). Figure 16.

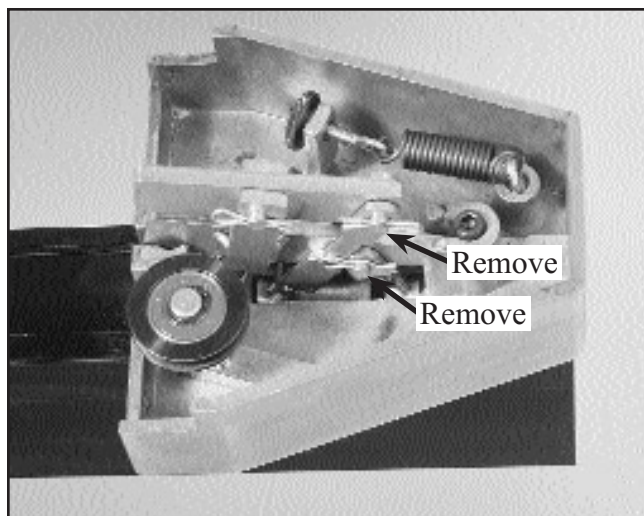


Figure 16. Removing clamp assembly.

Step 10.

Increase the clamping force by unscrewing the longer yoke (#22) half a turn and retest. If more adjustment is required, screw the shorter yoke (#10) in half a turn. If further adjustment is required, continue to work back and forth between the two yokes so that both are adjusted equally.

Step 11.

To reduce the clamping force, screw the longer yoke in or the shorter yoke out.

Step 12.

Reinstall all pivot pins and cotter pins and test the clamping force of the entire unit. Locking lever pressure should not exceed 20 pounds. The fence should be able to withstand approximately 50 pounds of lateral force.

CAUTION: Through repeated use and wear, re-adjustment of the front and rear clamps and handle throw may be necessary for safe operation and maximum performance.

E. PARALLELISM

If your table saw has been properly adjusted, the saw blade should be parallel to the miter slot. If your blade and miter slot are not parallel, refer to your table saw manual to adjust the saw blade to the miter slot correctly. Disconnect all electrical power to the table saw and follow all safety rules before you make any adjustments to your table saw.

Align the front edge of the fence to the front edge of the miter slot. Check to see if the fence is parallel along the length of the miter slot.

Adjusting the fence parallel to the miter slot is somewhat misleading in that it should not be adjusted perfectly in line. The back end of the fence should fall away from the miter slot approximately $\frac{1}{64}$ " so the workpiece clears the opposite end of the saw blade without binding. Figure 17. This is called "lead" (pronounced leed). You don't have enough lead if there is "feather" or burning on the wood as it is being cut.

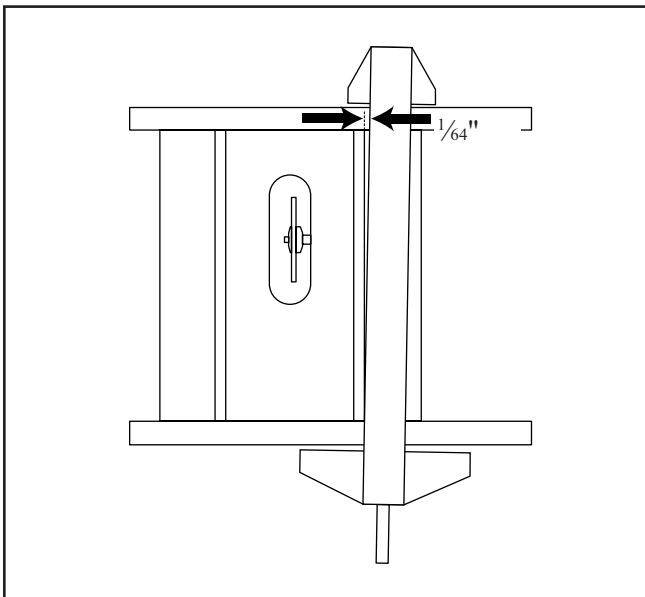


Figure 17. Lead adjustment.
(Shown exaggerated for illustration purposes.)

CAUTION: DO NOT cut from the right side of the fence if lead was adjusted for cutting on the left side of the fence. The wood will pinch and could cause dangerous kick-back.

To adjust the fence to the miter slot:

Step 1.

Unlock the fence and loosen the right hand set-screw (#32). Figure 18.



Figure 18. Loosen setscrew.

Step 2.

The right roller is mounted off-center on its axle (eccentric) so that as the axle is rotated, the roller will move from front to back a small amount. Since the rollers are firmly held against the front rail, this has the effect of changing the alignment of the fence with respect to the miter slot. Do not rotate the axle more than 180° in either direction. First, try moving it in one direction while watching the relationship between the side of the fence and the miter slot. Figure 19. If half a turn is not enough to align the two, go back half a turn to the starting point and proceed in the other direction until the fence is properly aligned.

NOTE: The nut under the right roller could come loose during adjustment. If this occurs, lock the axle by tightening the setscrew and then tighten the nut. Use a liquid thread locker on the nut if the problem persists.

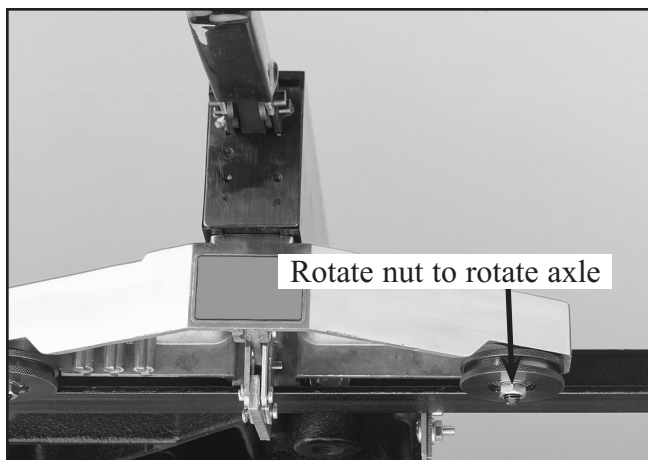


Figure 19. Adjusting the right roller axle.

Step 3.

Once adjusted, tighten the setscrew and recheck the fence alignment. Be aware that behind each setscrew there is a plastic plug (#31) that protects the threaded axle from damage and creates a soft stop for the setscrews. Do not over-tighten the setscrew after adjustments have been made.

Step 4.

It may be necessary to adjust the axle slightly to compensate for the slight axle shift induced by tightening the setscrew. Remember, the fence should be $\frac{1}{64}$ " away from the miter slot measured at the back end of the fence.

Step 5.

If for some reason you are having problems adjusting the fence, please refer to the Section V, Troubleshooting on page 20.

F. 90° TO TABLETOP

The fence must also be adjusted so the face of the fence is square or 90° to the table surface. Use a good quality square to check. To square the fence to the table, proceed as follows:

Step 1.

Unlock the fence and loosen the setscrew (#32) on the left side. Figure 20.

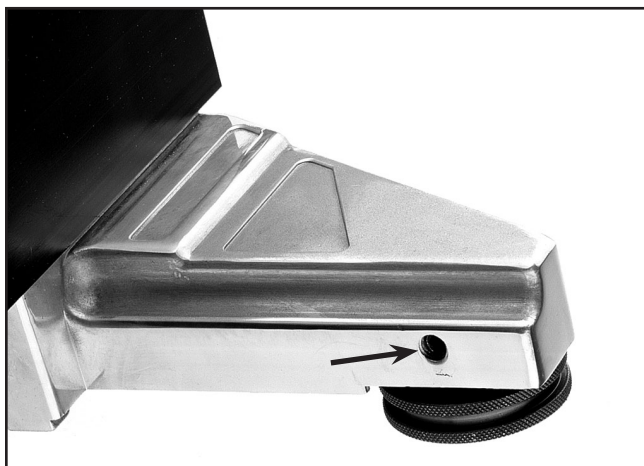


Figure 20. Loosen setscrew.

Step 2.

The left roller axle is threaded into the fence body. As the roller axle is rotated, the roller will move up and down a small amount. Since the rollers are firmly held against the front rail, this has the effect of changing the angle of the fence with respect to the table top. Rotate the left roller axle (#34) while monitoring the gap between the square and the fence. Figure 21.

NOTE: The nut under the left roller could come loose during adjustment. If this occurs, lock the axle by tightening the setscrew and then tighten the nut. Use a liquid thread locker on the nut if the problem persists.

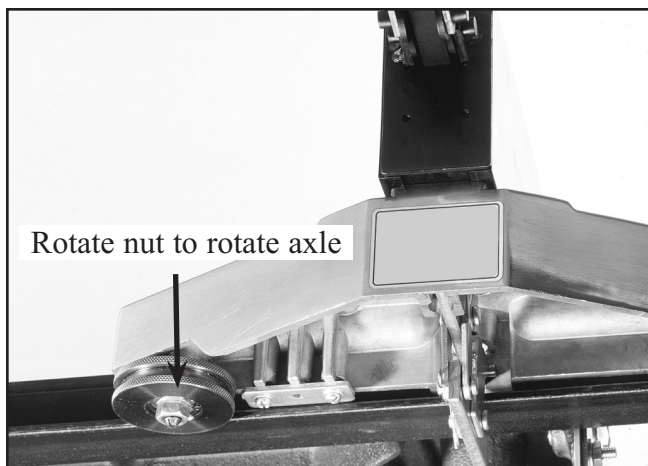


Figure 21. Adjusting the left roller axle.

Step 3.

Continue to rotate the axle until the fence is square to the table. Tighten the setscrew.

Step 4.

It is advisable at this point to recheck parallelism between the fence and the blade. If further adjustment is required, continue to check back and forth between parallelism and squareness until both are adjusted satisfactorily. Remember to adjust with the setscrews loose and measure with the setscrews tight. This procedure may seem a bit tedious, but this is a one time adjustment that, if done patiently, will ensure excellent performance.

G. SCALE/INDICATOR

The self adhesive scale (#56) and hairline indicator (#40) provide fast and accurate fence positioning. To mount the scale and indicator, proceed as follows:

Step 1.

Locate the zero point of the scale by measuring 2" to the left of the blade and mark the rail. Figure 22.

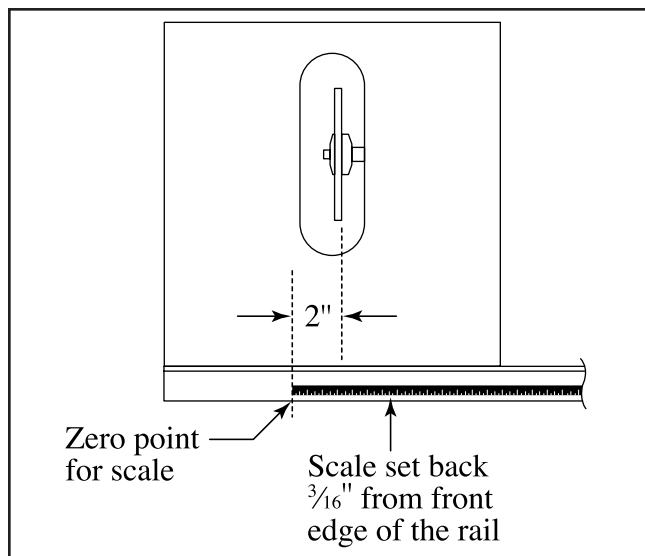


Figure 22. Placement of the scale.

Step 2.

Remove the fence and apply a strip of masking tape along the rail $\frac{3}{16}$ " in from the front edge.

Step 3.

Using the zero mark as the starting point and the masking tape as a guide, apply the adhesive scale to the rail. Figure 23. Burnish the scale into place with heavy thumb pressure.



Figure 23. Attaching the scale.

Step 4.

Reinstall the fence on the rails and slide it along slowly, checking to make sure that neither the rollers nor the upper clamp jaw contact the scale.

Step 5.

Note which side of the indicator the hairline is imprinted on. Orient the indicator with the hairline mark face down against the front rail. The hairline is imprinted off center to simplify adjustment of the indicator if the fence is faced with $\frac{3}{4}$ " material. If the fence is not faced, place the hairline off center to the right as viewed from above. If the fence is faced, position the hairline to the left.

Step 6.

The indicator can be shimmed downward for better reading accuracy. This eliminates any shifting that may seem to occur between the hairline and the marks on the scale when viewed from any position not directly overhead. Figure 24.

Step 7.

To fine tune the position of the hairline indicator, make a test cut and adjust the indicator to correspond with the actual width of the test board. This method accounts for any vibration or wobble that may be present in the spinning blade. This procedure must be repeated every time the saw blade is changed to maintain accuracy.

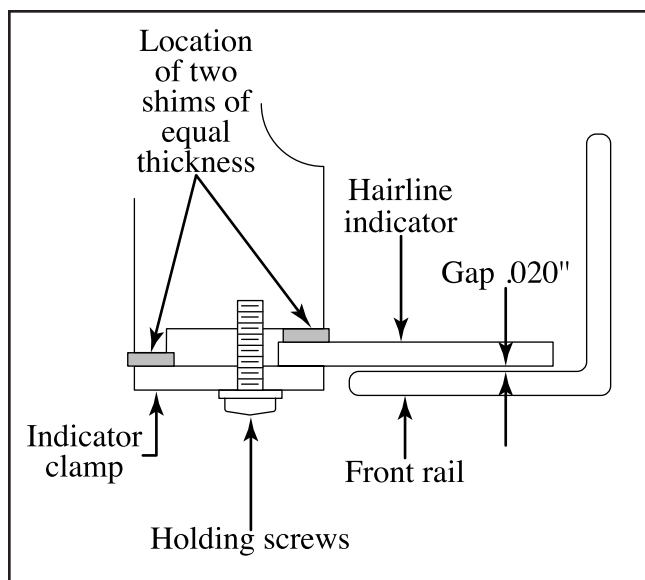


Figure 24. Location of shims.

H. FENCE STOP

Once the fence has been adjusted, install the fence stop through the hole located near the end of the scale on the front rail. Figure 25. This prevents the fence from accidentally being rolled off the end of the rails.

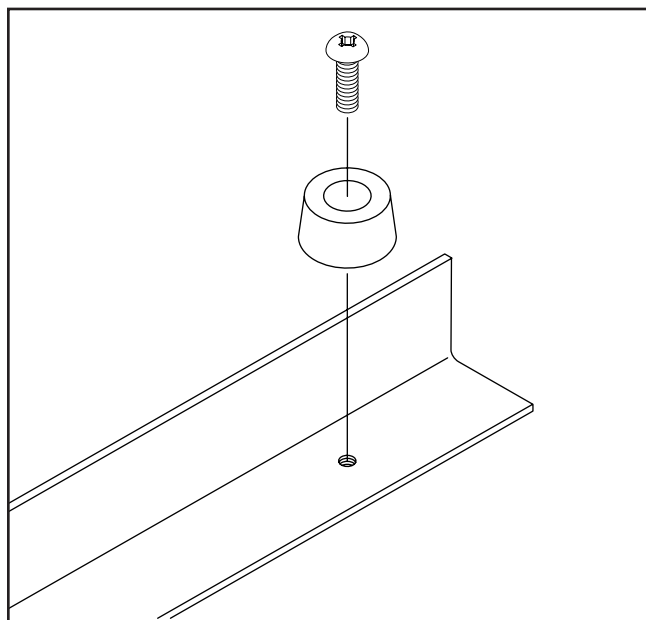


Figure 25. Fence stop installation.

SECTION IV: OPERATIONS

To operate this, or any tool, safely and efficiently, it is essential to become as familiar with its characteristics as possible. Take as much time as necessary to become acquainted with the W1410 Shop Fox® Fence. The time you invest before you begin to use it will be time well spent.

While most safety measures are generally universal, Woodstock reminds you that each work environment is different and safety rules should be considered as they apply to your situation.

The Item W1410 is specifically designed for use on table saws with 27" deep table surface. It must never be modified or used for any other purpose. Modifications or improper use of this tool will void all warranties. If you are not sure about operating the Shop Fox® Fence, DO NOT USE IT until you have resolved any questions or concerns you might have. Please contact Woodstock at the phone or address listed on page 2.



Figure 26. Fine fence adjustment.

A. FINE POSITIONING

Either one of the two front rollers can be used for extremely fine fence adjustments. Place your thumb against the knurled outer surface of one of the front rollers to rotate it. Figure 26. Moving the fence in this manner yields excellent control and accuracy.

B. BOARD BUDDIES®

The T-slot in the top of the Shop Fox® Fence has been customized to accept another popular product from Woodstock International: Board Buddies®. These one directional, spring loaded hold-down wheels keep material pressed firmly against the table and fence. They are fully adjustable and non-marking. Be sure to request the W1103 T-nuts separately from your Woodstock dealer for mounting Board Buddies® to your fence. Board Buddies® are a great addition to any fence system! For the location of your nearest Woodstock dealer, call Woodstock International at (360) 734-3482.

C. WOOD FACING

The Shop Fox® Fence can be faced with $\frac{3}{4}$ " kiln dried hardwood, plywood or medium density fiber board (MDF) to ensure that the aluminum fence does not come into contact with the blade during close sawing and dadoing operations. If using kiln dried lumber, use a piece that is free of knots and other defects and preferably a species that exhibits dimensional stability such as maple, birch or beech.

CAUTION: It is extremely important to attach the wood facing correctly. Lumber less the $\frac{3}{4}$ " is not recommended. Screws or fasteners must be counter sunk at least $\frac{1}{8}$ " below the wood surface, but no more than $\frac{1}{4}$ ".

To attach the wood facing to the fence:

Step 1.

Size a suitable piece of wood to the face of the fence.

Step 2.

Drill and counterbore at least two mounting holes in the wood face piece. Refer to Figure 27 as a guide for hole placement. Do not drill in the shaded area.

Step 3.

Transfer these mounting holes to the fence and drill suitably sized holes for self tapping screws or through bolts. If using through bolts, it will be necessary to drill through the fence on both sides.

Step 4.

Attach the wood facing to the fence, making sure the screws are counterbored well below the wood surface. Do not over tighten the self tapping screws to the point of stripping the holes in the aluminum fence.

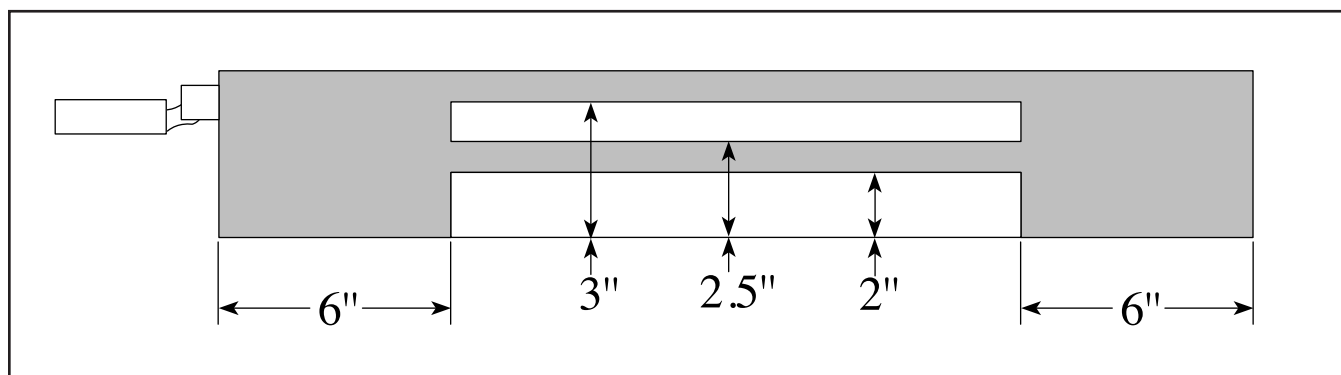


Figure 27. Side view of the fence. Do not drill in the shaded area for attaching wood facing.

SECTION V: TROUBLESHOOTING

A. RAILS TOO CLOSE TOGETHER

If your rails are less than $26\frac{3}{4}$ " apart, you will need to add spacers between the rails and table until the distance between the rails is $27" \pm \frac{1}{4}"$. Use flat washers to adjust the rail to rail distance.

B. RAILS TOO FAR APART

If your fence rails are farther apart than $27\frac{1}{16}"$, this fence cannot be made to work on the saw without considerable modifications. Contact Woodstock International at (360) 734-3482 for further information. To adjust the fence for rails up to $27\frac{1}{16}"$, it will be necessary to shift the rear carriage (#44) towards the back of the fence and adjust the internal tie rod (#20) an equal amount. First adjust the tie rod by removing the internal mechanism from the fence. The steps for removal are as follows:

Step 1.

Remove the plastic plug (#38) and unhook the return spring (#26) from the rear fence cap (#27). Needle nose pliers work well for connecting and disconnecting the return spring.

Step 2.

Remove the front and rear clamping jaws. Keep them organized so they can be reinstalled properly.

Step 3.

Remove the short and long yokes from within the front and rear carriage. Count the number of turns required to remove each one and lay the yokes with the jaw assemblies. Recording the number of turns will ease readjustment of the clamping pressure after reassembly.

Step 4.

Remove the front and rear carriages (#30 & 44) from the bottom of the fence. Each is held on by two socket head cap screws (#37). Now the internal mechanism can be slid out the front as one piece.

Step 5.

The tie rod (#20) can now be adjusted so that the distance "X" between the two connecting yokes (#14) equals the inside dimension between the two mounting rails plus $3\frac{3}{16}"$. Figure 28.

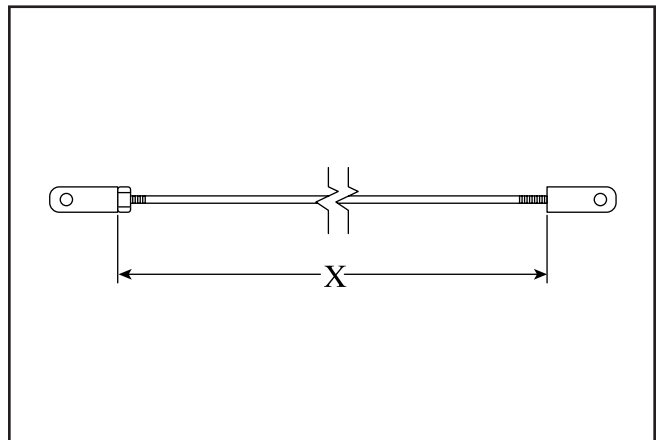


Figure 28. Tie rod length.

Step 6.

Reassembly is the reverse of disassembly, with one special note. After sliding the internal mechanism back into the fence, be sure that the two short yokes (#14) attached to the rocker plates (#9) are sticking up through their respective slots in the rocker mounts (#11). If they have pivoted out of position, they will remain stuck that way once the carriages are remounted. Figure 29.

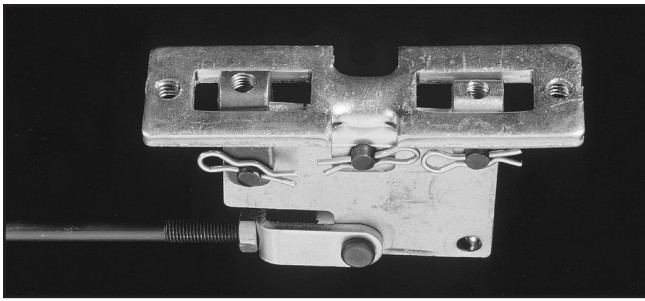


Figure 29. Correct orientation of the yokes.

Step 7.

Before tightening the carriages against the underside of the fence, use Figure 30 to get them positioned correctly. The distance "Y" between the front and rear carriage should equal the distance between fence rails + $1\frac{7}{16}$ ".

Step 8.

Once reassembled, proceed to work through Section III, Part D & E to get the front and rear clamps adjusted properly.

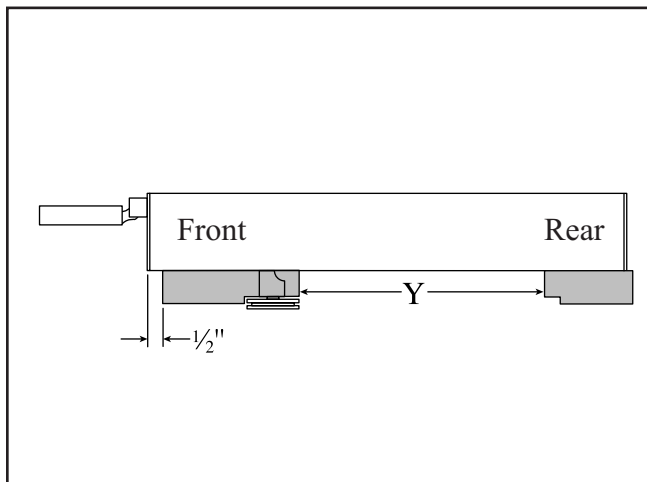


Figure 30. Distance between carriages.

C. FRONT CLAMP WILL NOT ADJUST

If the cap screws (#37) that hold the front carriage (#30) to the fence are not tight enough, the carriage may shift slightly when locked, thus releasing pressure on the front clamp.

Step 1.

Reference Figure 31 to verify the position of the front carriage relative to the front of the fence.

Note: To properly tighten the cap screws (#37), insert the long leg of the 5mm Allen wrench into the hex socket of the cap screw and apply torque to the short leg of the Allen wrench using an adjustable open end wrench.

Step 2.

If the front clamp cannot be adjusted tight enough with the front carriage in its standard position, shift the carriage forward $\frac{1}{16}$ " so that the front dimension in Figure 30 becomes $\frac{9}{16}$ " and work through the adjustment procedure again.

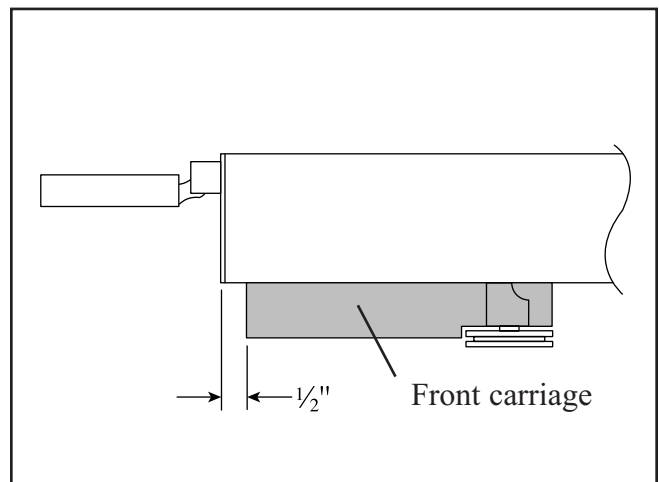


Figure 31. Front carriage positioning.

D. REAR CLAMP WILL NOT ADJUST

If the cap screws (#37) that hold the rear carriage (#44) to the fence are not tight enough, the carriage may shift slightly when the jaws are locked. This will loosen the grip of the jaws on the rail and prevent the jaws from staying in adjustment.

Step 1.

Check and adjust the position of the rear carriage so that it extends $\frac{1}{8}$ " past the end cap at the tail of the fence. Figure 32.

Note: to properly tighten the cap screws (#37 and #21), insert the long leg of the 5mm Allen wrench into the hex socket of the cap screw and use an adjustable open end wrench on the short leg of the Allen wrench to tighten.

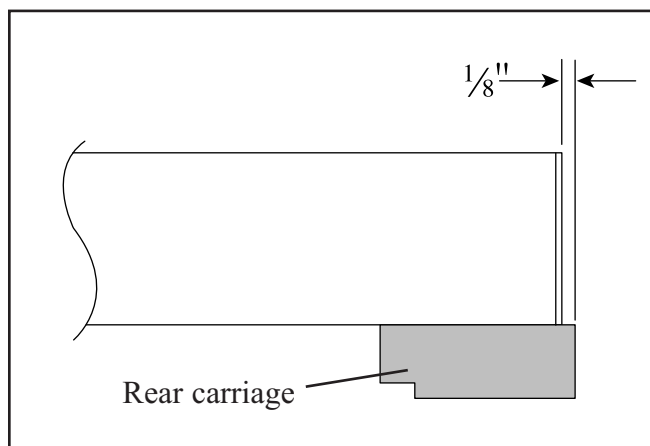


Figure 32. Rear carriage positioning.

Step 2.

If the rear clamp still won't tighten up enough, shift the rear carriage another $\frac{1}{16}$ " past the tail end of the fence and repeat the adjustment procedure.

Step 3.

If the rear clamp will not open up far enough, shift the rear carriage so that it extends only $\frac{1}{16}$ " past the end of the fence and readjust.

Step 4.

If none of the above steps work, it may be necessary to check and adjust the length of the tie rod (#20) inside the fence. To proceed, refer to the instructions in Part B of this troubleshooting guide.

E. FENCE DOES NOT MOVE SMOOTHLY

Possible problem: The fence could be adjusted too close to the tabletop and may be contacting the edge of the table or extension wing.

Solution: If necessary, raise any portion of the rail(s) to eliminate interference.

Possible problem: The hairline indicator may be rubbing on the front rail.

Solution: Check to see if it may be shimmed down too far or tipped forward. Reduce shim stack or if the indicator is tipped, add shims under the back of the clamp to level it out.

Possible problem: The indicator clamp may be rubbing the front rail if it is installed backwards.

Solution: Reverse the indicator clamp if necessary.

Possible problem: The adjustment nut or stud (#47 & #48) in the rear carriage may be rubbing the rear rail in some areas.

Solution: Look carefully underneath the rear carriage in the areas of rough travel. This problem may be solved by any one of the following steps:

- Take out a washer between the table and rail in that area. Reducing the distance between the two rails will eliminate the problem.
- Loosening the spring tension will fix the problem if only the stud (#47) is rubbing.
- Shift the rear carriage $\frac{1}{16}$ " further towards the back of the fence and readjust clamping pressure.

Possible problem: The rear carriage may be dragging on the rear rail.

Solution: Although this is unlikely, it is possible if the rear roller (#51) is pressed onto its bearing (#36) too far. Any one of the following approaches may be used:

- a. Re-install the bearing/roller upside down.
- b. Shift the roller on the bearing in a press.
- c. Contact Woodstock International for replacement parts (#36, 49, 51 and 52).
- d. Use a file to enlarge the rail cut-outs in the rear carriage slightly.

F. FENCE WILL NOT ADJUST PARALLEL TO BLADE

Possible problem: The front carriage is not mounted square to the underside of the fence.

Solution: Remove the clamping jaws to gain access to the mounting screws (#37) on the under

side of the front carriage. Loosen the mounting screws slightly and shift the carriage so that it is 90° to the fence. Figure 33. Tighten the mounting screws and reinstall the clamping jaws. Check and adjust the front clamping pressure as described in Section III, Part D.

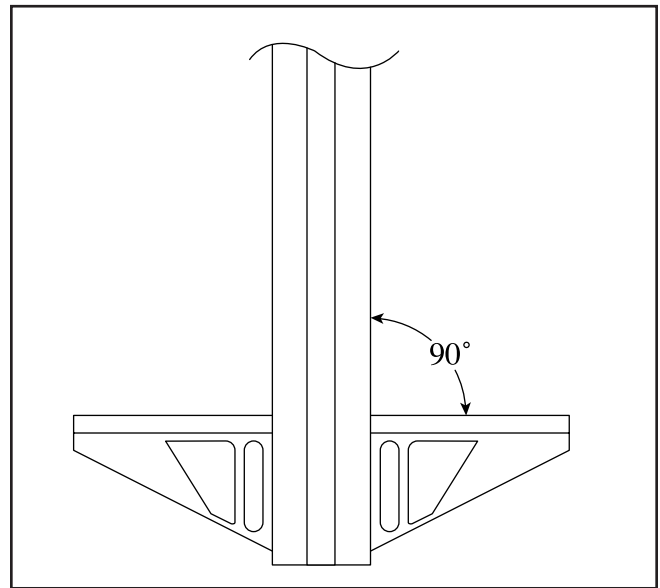
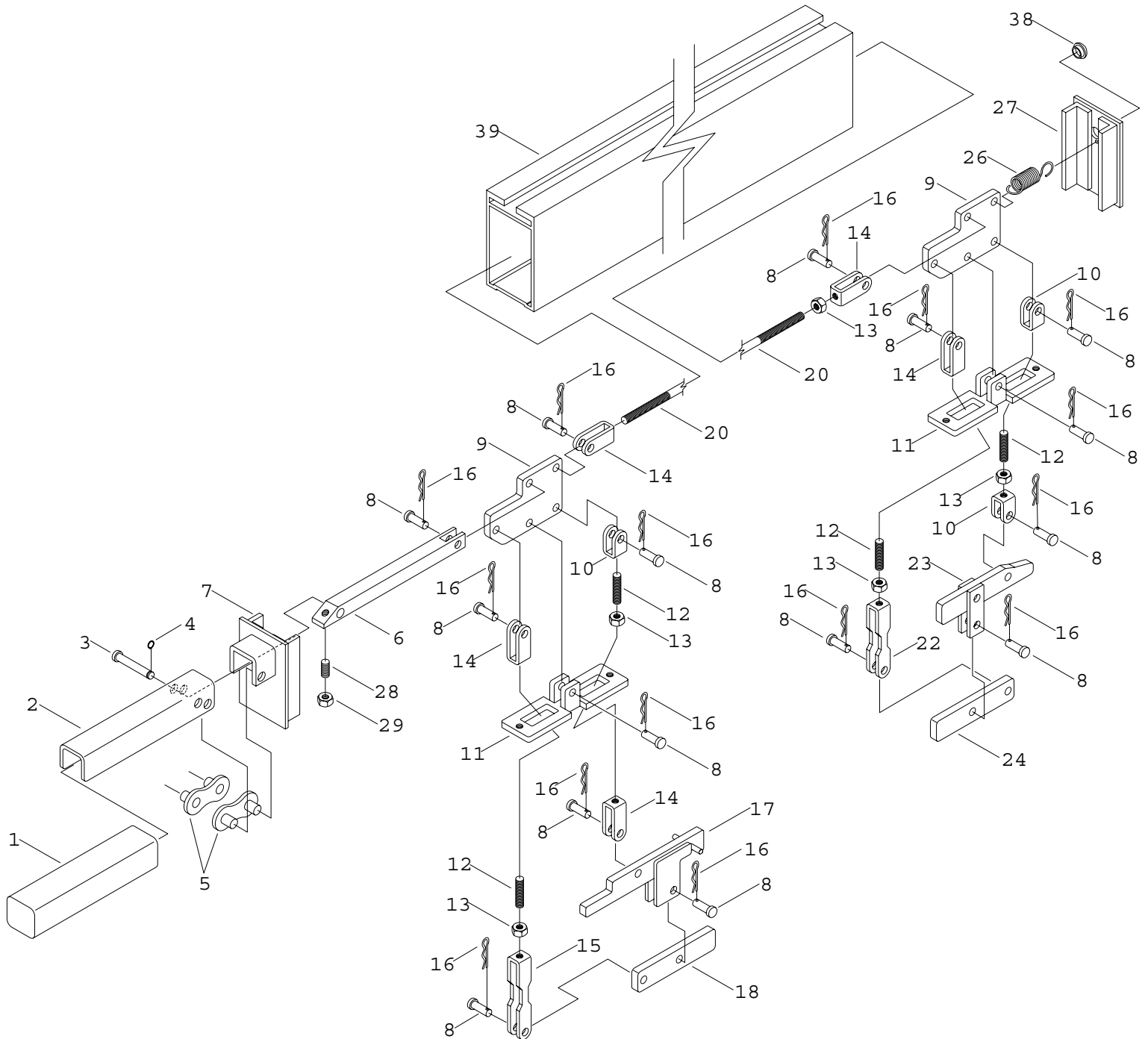
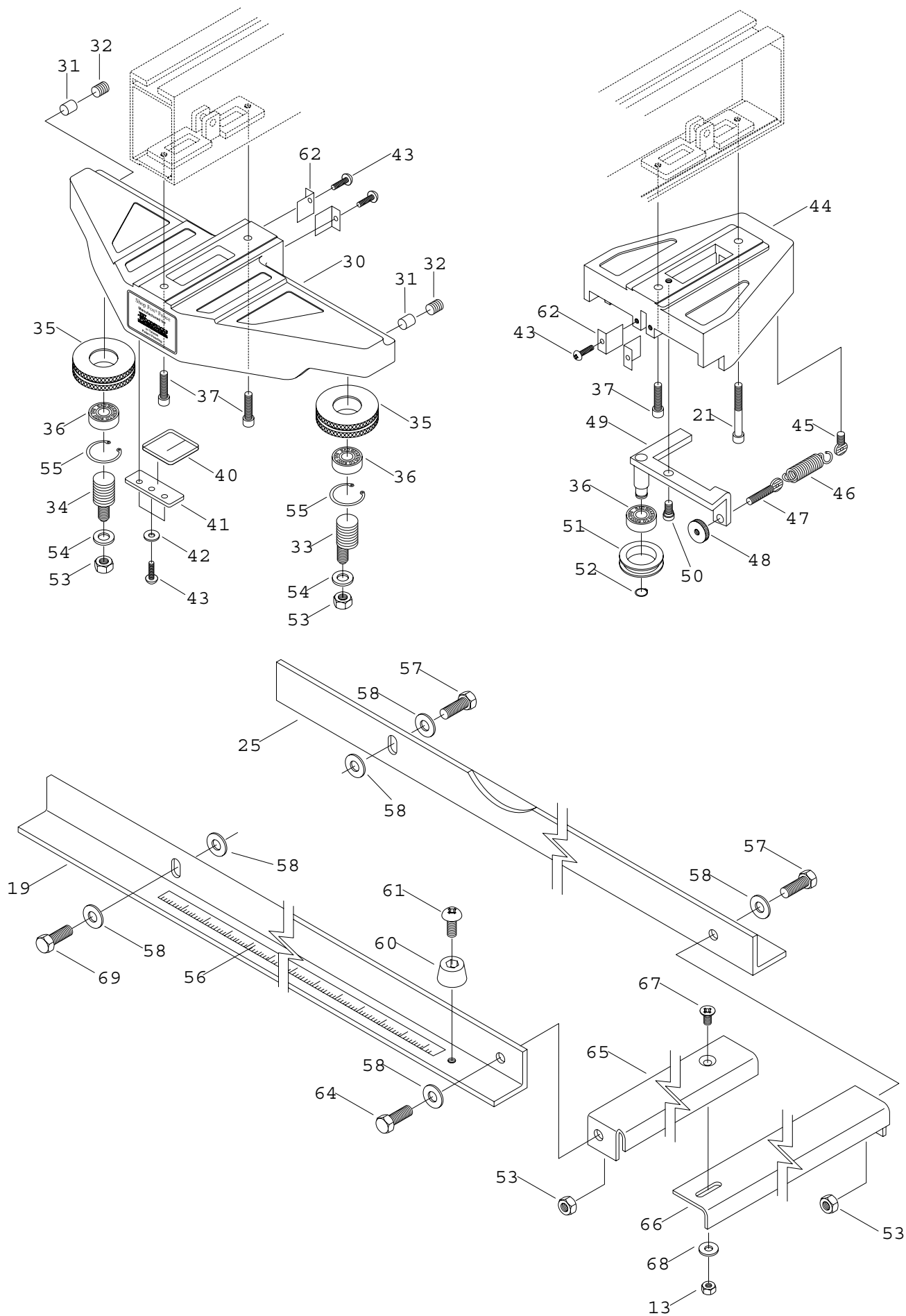


Figure 33. Squaring carriage on fence.

SECTION VI: PART DOCUMENTATION





REF#	DESCRIPTION
1	GRIP
2	LOCKING HANDLE
3	PIVOT PIN
4	SNAP RING 8mm
5	POWER LINK
6	DRAW BAR
7	FRONT END CAP
8	PIVOT PIN
9	ROCKER PLATE
10	SHORT YOKE
11	ROCKER PLATE MOUNT
12	THREADED SHAFT
13	HEX NUT ¼"-20
14	YOKE
15	FRONT YOKE
16	COTTER PIN
17	FRONT UPPER JAW
18	FRONT LOWER JAW
19	FRONT RAIL
20	TIE ROD
21	CAP SCREW ¼"-20 x 2"
22	REAR YOKE
23	REAR UPPER JAW
24	REAR LOWER JAW
25	BACK RAIL
26	RETURN SPRING
27	REAR FENCE CAP
28	SETSCREW ¼"-20 x ⅝"
29	HEX NUT ¼"-20
30	FRONT CARRIAGE
31	PLASTIC PLUG
32	SETSCREW ⅜"-16 x ⅜"
33	ECCENTRIC ROLLER AXLE
34	ROLLER AXLE

REF#	DESCRIPTION
35	FRONT ROLLER
36	BEARING 6000-2RS
37	CAP SCREW ¼"-20 x 1"
38	PLASTIC CAP
39	FENCE
40	HAIRLINE INDICATOR
41	INDICATOR CLAMP
42	FLAT WASHER #8
43	PHILLIPS HEAD SCREW 8-32 x ¾"
44	REAR CARRIAGE
45	THUMB SCREW
46	TENSION SPRING
47	THUMB SCREW
48	KNURLED NUT
49	PIVOT ARM
50	SHOULDER BOLT
51	REAR ROLLER
52	SNAP RING 10 mm
53	HEX NUT ⅜"-16
54	FLAT WASHER ⅜"
55	SNAP RING 26 mm
56	SCALE
57	HEX BOLT ⅜"-16 x 1"
58	FLAT WASHER ⅜"
60	FENCE STOP
61	PHILLIPS HEAD SCREW
62	SHIM .008"
63	SHIM .012"
64	SHIM .016"
65	BRACE, SHORT
66	BRACE, LONG
67	FLAT HD SCR ¼"-20 X ½"
68	FLAT WASHER ¼"
69	SPECIAL BOLT ⅜"-16 x 1"

SECTION VII: SPECIFICATIONS

W1410 SHOP FOX® FENCE

Design Type:..... T-Square Roller Fence

Overall Dimensions and Specifications:

Length 30"
Width..... 2"
Height..... 3½"
Max cut to the right 25"
Max cut to the left..... 7½"
Max cut to the right with extended rails..... 50"
Container Dimensions..... 9½" x 19½" x 21"
Shipping Weight 40 lbs.

Construction:..... Steel and Aluminum

Features:

Fits table saws with a 27±¼" deep table top
Three ball bearing guide rollers
Maintains alignment with blade, locked or unlocked
Left and right hand fine positioning rollers
Fully adjusts 90° to table and parallel to blade
Fence clamps in front and rear
T-slot for Board Buddies®

Specifications, while deemed accurate, are subject to change without notice.

SECTION XIII: WARRANTY

Woodstock International, Inc. (Woodstock) warrants this product against defects in workmanship and materials under normal use and service for a period of one year. This warranty extends to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance.

This is Woodstock'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 or represent that the merchandise complies with the provisions of any law or acts. In no event shall Woodstock's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against

Woodstock 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.

To take advantage of this warranty, the product or part must be returned to the original place of purchase. Proof of purchase must accompany the merchandise. Woodstock reserves the right to change specifications at any time since we constantly strive to achieve better quality equipment.

We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.