

Grizzly Bandsaw SOP

This Bandsaw runs on 220V (208V really because, 3 phase power).

Set blade guide rollers to appropriate height for the piece you are cutting.

The rollers should be close to your piece.

Keep hands and fingers away from blade, use push sticks and/or T-square pusher.

Be very careful while resawing and use a push stick.

The off button has to be twisted to reset itself.

Please read the next 14 pages of this guide to gain an understanding of the operation of the Bandsaw itself.

The full manual is available online and a paper copy is here in the shop.

Basic Controls

Refer to **Figures 1–4** and the following descriptions to become familiar with the basic controls and components of your bandsaw. Knowledge of these controls and terminology will help you better understand this manual.

Control Panel

The 2-button power switch on Models G0513, G0513P, and G0513X2 is located on the column for easy access (see **Figure 1**). The power button can be disabled with a padlock to prevent unauthorized startup of the bandsaw (refer to **Page 42** for additional details).



Figure 1. 2-Button power switch.

The Models G0513X2B, G0513X2BF, and G0513X2F feature a power switch that can be disabled with a key to prevent unauthorized starting of the machine (see **Figure 2**). To disable the switch, turn the key to "0" and remove it. To enable the switch, insert the key and turn it to "1."

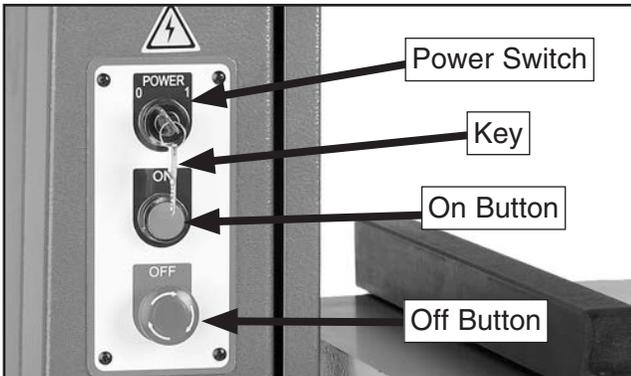


Figure 2. Control panel with a switch disabling lock.

Front Controls

- A. Blade Tension Scale:** Allows for easy monitoring of blade tension in arbitrary numbers 1–8.
- B. Blade Tension Handwheel:** Tensions blade in gradual increments.
- C. Blade Tracking Window:** Allows you to monitor blade tracking on the wheel without opening the wheel cover.
- D. Fence and Miter Gauge:** Supports workpiece for controlled straight or angled cuts.

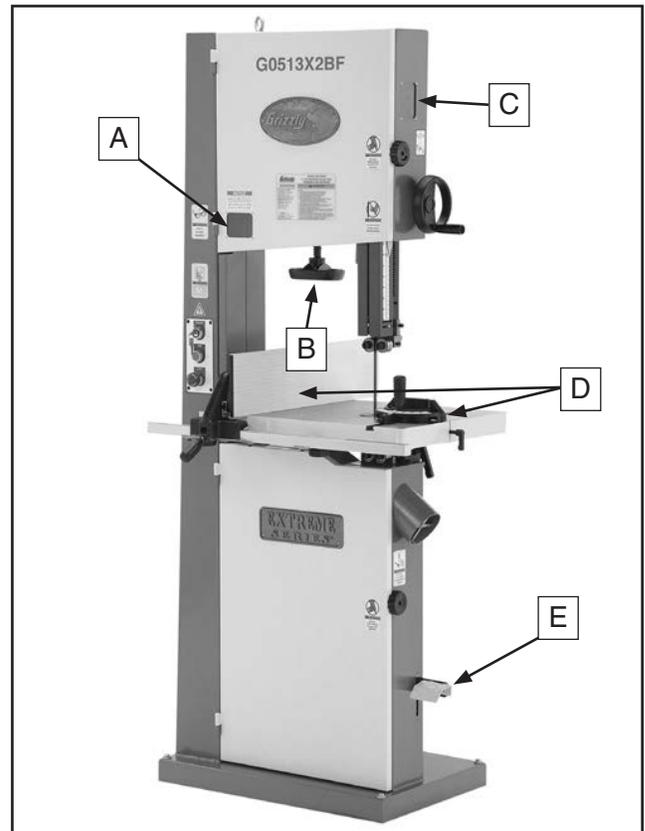


Figure 3. Front controls (G0513X2BF shown).

- E. Foot Brake (Models G0513X2BF & G0513X2F):** Quickly stops bandsaw blade and motor.

Motor Brake

The Models G0513X2B and G0513X2BF have a motor brake that activates and quickly stops the blade when the OFF button is used, or the foot pedal is pressed on the Model G0513X2BF.

Rear Controls

- F. Wheel Cover Lock Knobs:** Secure the wheel covers.
- G. Quick-Release Blade Tension Lever:** Adjusts blade tension for quick blade changes.
- H. Blade Tracking Knob and Lock Lever:** Moves and locks upper wheel tilt for blade tracking.
- I. Table Tilt Controls:** Adjusts table tilt and locks the table in place.
- J. Magnetic Switch:** Provides thermal overload protection for the motor.
- K. Lower Wheel Adjustment Hub:** Used when adjusting coplanarity of the wheels.
- L. Guide Post Handwheel and Lock Knob:** Quickly moves the upper guide post to the desired height; locks setting.

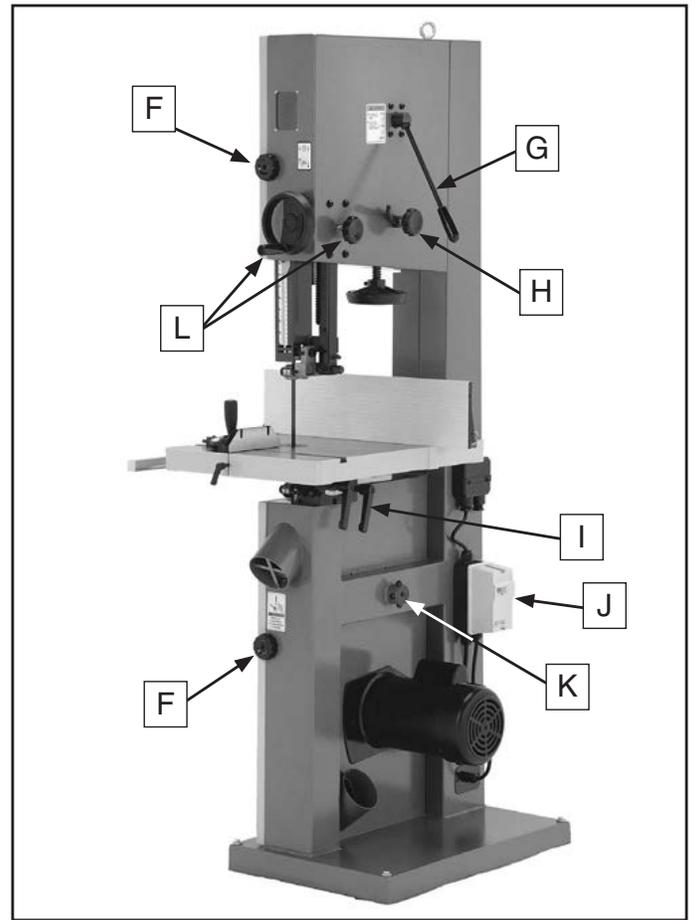


Figure 4. Rear controls (G0513X2B shown).



WARNING

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 reduce risk of slipping and losing control or accidentally contacting cutting tool or moving parts.

HAZARDOUS DUST. Dust created by machinery operations may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material. 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!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to 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 BEFORE operating machine.

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 the 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.

DAMAGED PARTS. Regularly inspect machine for damaged, loose, or mis-adjusted parts—or any condition that could affect safe operation. Immediately repair/replace BEFORE operating machine. For your own safety, DO NOT operate machine with damaged parts!

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. 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 our Technical Support at (570) 546-9663.

Additional Safety for Bandsaws

WARNING

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

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

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

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

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

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

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

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

GUARDS/COVERS. Blade guards and covers protect operator from the moving bandsaw blade. The wheel covers protect operator from getting entangled with rotating wheels or other moving parts. **ONLY** operate this bandsaw with blade guard in proper position and wheel covers completely closed.

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

UPPER BLADE GUIDE SUPPORT. To reduce exposure of operator to blade and provide maximum blade support while cutting, keep upper blade guides adjusted to just clear workpiece.

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

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

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

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 disabling mechanism 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 61**.

If you still cannot remedy a problem, contact our Tech Support at (570) 546-9663 for assistance.

To test run the machine:

- 1. Make sure that you have successfully completed the Initial Blade Tracking procedure on Page 28 before continuing.**
 - 2. Make sure you have read the safety instructions at the beginning of the manual and that the machine is setup properly.**
 - 3. Make sure all tools and objects used during setup are cleared away from the machine.**
 - 4. Connect the machine to the power source.**
 - 5. Test the operation of the machine to verify that it starts and operates correctly.**
G0513, G0513P, G0513ANV, & G0513X2 Only
- a. Verify that the machine is operating correctly by pressing the power button.
 - 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.

G0513X2B, G0513X2F, & G0513X2BF Only

- a. Insert the key into the power switch (see **Figure 41**), then turn it to the "1".

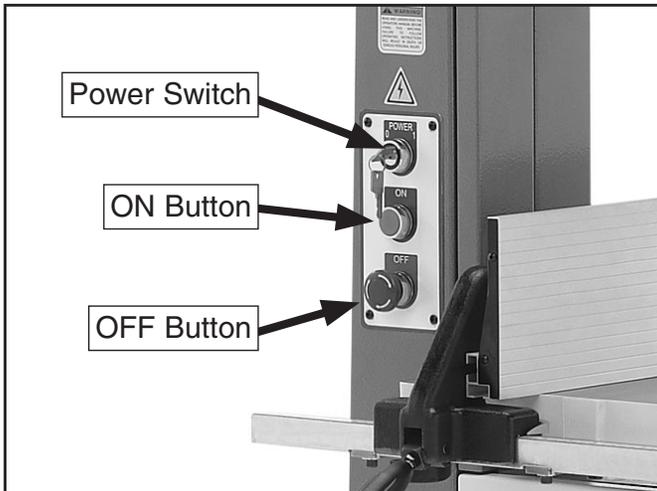


Figure 41. G0513X2B and G0513X2BF control panel.

- b. Verify that the machine is operating correctly by pressing the ON button.
 - 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.
- c. Press the OFF button to stop the bandsaw.
- d. WITHOUT resetting the OFF button, press the ON button. The machine should not start.
 - If the machine does start (with the OFF button pushed in), immediately disconnect the machine from power. The OFF button safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

- e. Push the OFF button in, then twist it clockwise so it pops out. When the OFF button pops out, the switch is reset and ready for operation (see **Figure 42**).

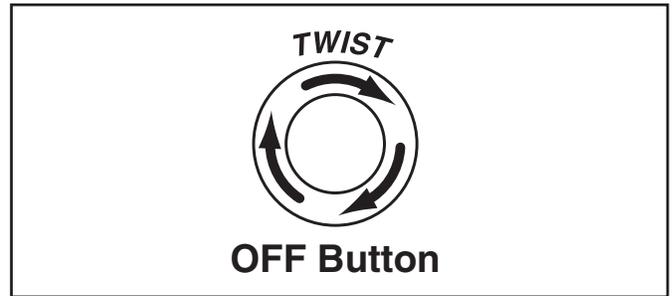


Figure 42. Resetting the OFF button.

- f. Turn the key in the power switch to "0".
 - g. Try to turn the machine **ON**. The bandsaw should not start.
 - If the bandsaw starts, immediately disconnect the machine from power. The switch disabling feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.
6. Test the operation of the foot brake:

G0513X2BF & G0513X2F Only

- a. Start the bandsaw, then press the foot brake. The motor should shut off and the blade should come to a rapid stop.
 - If the motor does not stop or the blade does not come to a rapid stop, immediately disconnect the machine from power. The foot brake feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

Congratulations! The test run is complete and you are ready to proceed with the following adjustments before putting the bandsaw into full operation.

Tensioning Blade

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

CAUTION

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

NOTICE

Tensioning the blade according to the blade tension scale before the Test Run section gave an approximate tension for completing the bandsaw setup. The following procedures tension the blade for operation.

Blade tensioning method is a matter of preference. The flutter method and the deflection method are described below. Either method safely tensions the blade. Experience and personal preference will help you decide which method you prefer. Optimal cutting results for any workpiece results from a combination of correct blade selection, proper blade tension, and a light and even feed rate.

Flutter Method

1. DISCONNECT BANDSAW FROM POWER!
2. Make sure the blade is properly center tracking as instructed in the **Initial Blade Tracking** on **Page 28**.
3. Raise the guide post all the way, and move the upper and lower blade guides away from the blade.

4. Engage the blade tension quick-release lever to apply tension to the blade (see **Figure 43**).

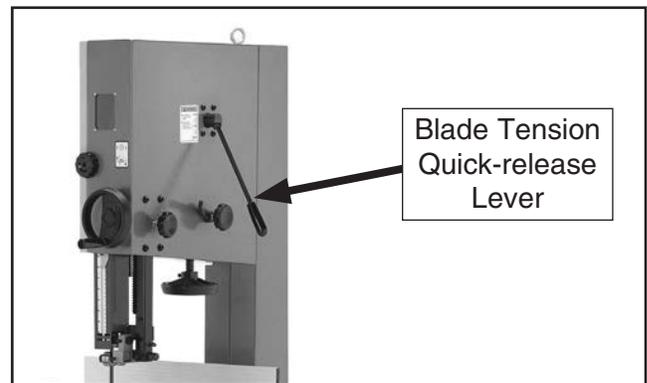


Figure 43. Blade tension quick-release lever (G0513X2 shown).

5. Connect the bandsaw to power, and turn the bandsaw **ON**.
6. Using the blade tension handwheel (**Figure 44**), slowly decrease blade tension until the blade starts to flutter.

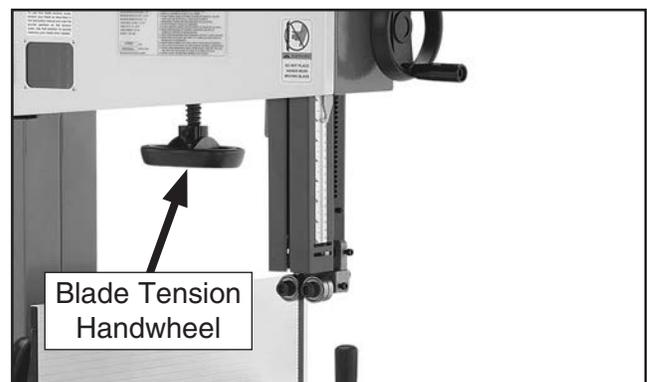


Figure 44. Blade tension handwheel.

7. Slowly increase the tension until the blade stops fluttering, then turn the blade tension adjustment knob an additional $\frac{1}{8}$ to $\frac{1}{4}$ of a turn.
8. Turn the bandsaw **OFF** and disconnect it from power.
9. Note what the tension gauge reads. Use that as a guide for tensioning that specific blade in the future.
10. Re-adjust blade guides as described in **Adjusting Blade Guides** beginning on **Page 36** for your model bandsaw.

Deflection Method

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

To tension the bandsaw blade:

1. DISCONNECT BANDSAW FROM POWER!
2. Make sure the blade is properly tracking as instructed in the **Initial Blade Tracking** section on **Page 28**.
3. Raise the guide post all the way, and move the upper and lower blade guides away from the blade.
4. Engage the blade tension quick-release lever to apply tension to the blade.
5. Using moderate pressure, push the center of the blade sideways.
 - If the blade deflects approximately $\frac{1}{4}$ ", it is properly tensioned. Proceed to **Step 6**.
 - If the blade deflects less than $\frac{1}{4}$ " it is over-tensioned. Turn the blade tensioning handwheel counterclockwise two full turns and repeat this step.
 - If the blade deflects more than $\frac{1}{4}$ ", the blade is under-tensioned. Apply tension to the blade a small amount and repeat this step until the blade is properly tensioned.
6. Re-adjust the blade guides as described in **Adjusting Blade Guides** beginning on **Page 36** for your model bandsaw.

NOTICE

Whenever changing a blade or adjusting tension and tracking, the upper and lower blade support bearings and blade guides must be properly adjusted before performing cutting operations.

Adjusting Blade Support Bearings

Support bearings stop excessive backward deflection of the blade from the advancing workpiece. The proper adjustment of the support bearings is an important part of making accurate cuts and prevents damage to the blade teeth from contact with the blade guides.

It is important that the distance of the support bearing behind the blade is the same as the distance of the blade guides behind the teeth gullets, which is typically about 0.016" (see **Figure 45**).

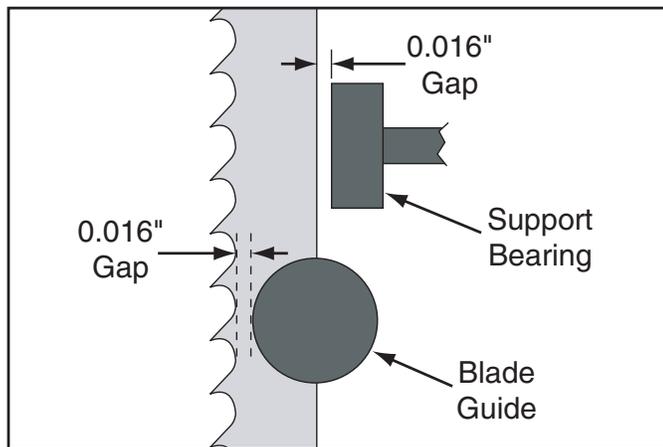


Figure 45. Distance settings of upper support bearings and blade guides.

NOTICE

Before adjusting the blade support bearings, make sure the blade is tracking properly (*Page 28*) and that it is correctly tensioned (*Page 33*).

Tools Needed	Qty
Hex Wrench 5mm.....	1
Feeler Gauge 0.016".....	1 Each
Crisp Dollar Bill (Optional).....	1

Tip: You can use a crisp dollar bill in place of the feeler gauge for the following procedures. The thickness of the bill when folded in half twice is approximately 0.016".

Refer to **Figures 46–47** and the following descriptions to become familiar with the controls to adjust the support bearings. Then, adjust the surface of the support bearings approximately 0.016" behind the blade.

Note: The support bearing controls are similar for all models.

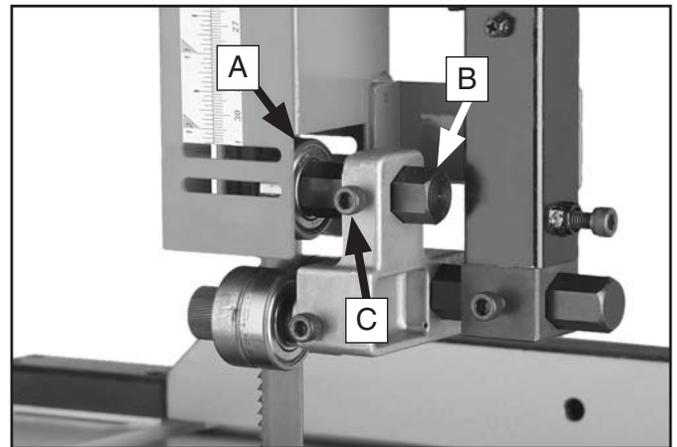


Figure 46. Upper support bearing controls.

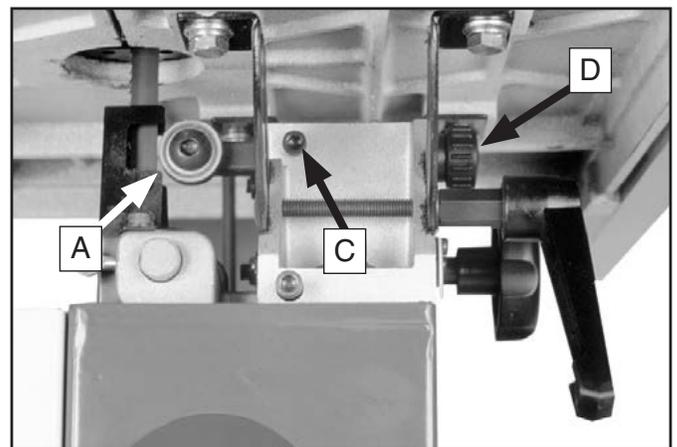


Figure 47. Lower support bearing controls.

Adjusting Blade Guides

- A. Support Bearing.** Stops excessive backward blade deflection from the pressure of the advancing workpiece.

Note: *The flat surface of the upper support bearing faces the blade. The round edge of the lower support bearing faces the blade.*

- B. Upper Support Bearing Shaft.** Mounts the support bearing behind the blade. When the support bearing shaft cap screw is loose, move this shaft by hand to adjust the upper support bearing approximately 0.016" behind the blade, then re-tighten the shaft cap screw to secure the setting.

- C. Support Bearing Shaft Cap Screw.** When loose, allows distance adjustment of the support bearing behind the blade.

- D. Lower Support Bearing Adjustment Knob.** When the support bearing shaft cap screw is loose, moves the support bearing toward or away from the blade. Use this knob to adjust the lower support bearing approximately 0.016" behind the blade, then re-tighten the shaft cap screw to secure the setting.

The blade guides provide side-to-side support to keep the blade straight while cutting. These guides are adjustable in two ways—forward-and-back and side-to-side.

To keep the blade straight while cutting, the blade guides must be as close to the sides of the blade without exerting any clamping pressure. This distance is typically about 0.004".

To prevent damage to the blade teeth as the blade deflects back while cutting, the guides must be behind the teeth gullets the same amount as the support bearing is behind the blade, which is typically about 0.016" (see **Figure 45** on the previous page for an illustration of this relationship).

Note: *Models G0513, G0513P, and G0513ANV use carbide discs as guides, while the remaining models use ball bearings.*

NOTICE

Before adjusting the blade guides, make sure the blade is tracking properly (Page 28) and that it is correctly tensioned (Page 33).

Important: *Although the function and the distance adjustment of the blade guides is the same for all the G0513 Series Models, the guide controls are not all the same. Use the set of instructions on the following pages that is correct for your model of bandsaw.*

Adjusting Blade Guides (G0513, G0513P, & G0513ANV)

Tools Needed	Qty
Hex Wrench 5mm.....	1
Feeler Gauge 0.004"	1 Each
Crisp Dollar Bill (Optional)	1
Fine Ruler	1

Tip: You can use a crisp dollar bill in place of the feeler gauge. The thickness of the bill is approximately 0.004" .

To adjust the upper blade guides:

1. DISCONNECT BANDSAW FROM POWER!
2. Loosen the thumb screws shown in **Figure 48**.

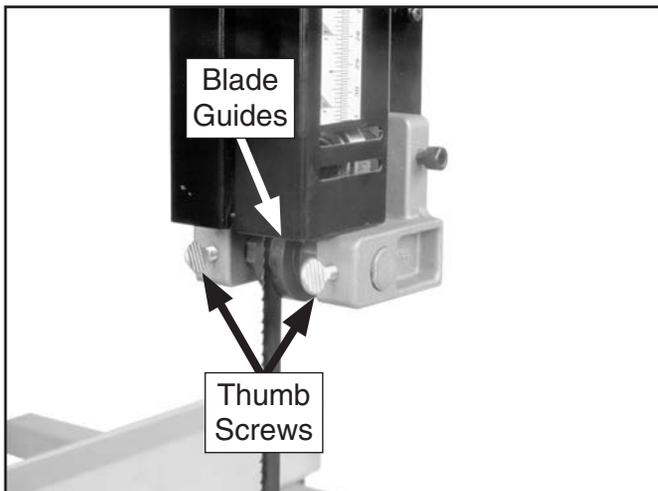


Figure 48. Upper blade guides side-to-side controls.

3. By hand, adjust the distance of the guides approximately 0.004" from the sides of the blades (see **Figure 49**), then re-tighten the thumb screws to secure the setting.

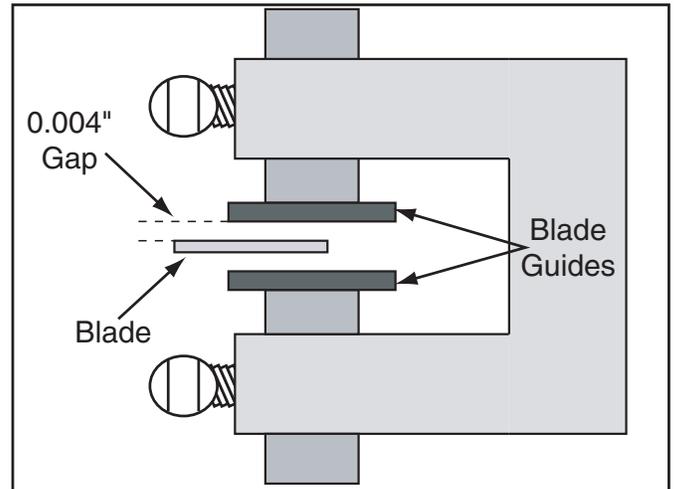


Figure 49. Correct gap between guide guides and blade.

4. Loosen the guide block cap screw shown in **Figure 50**.

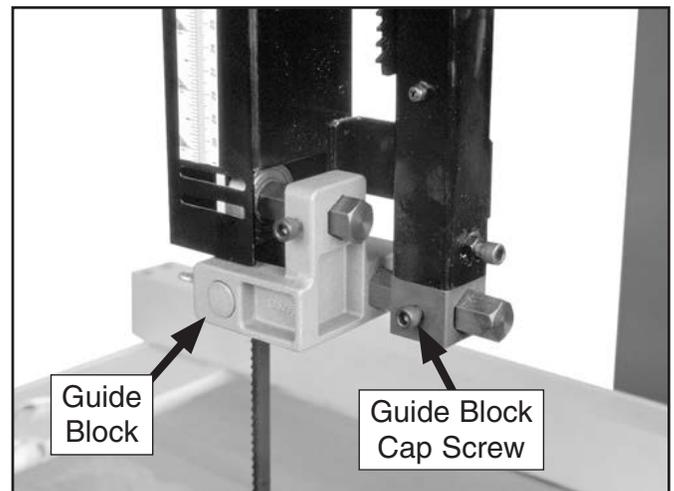


Figure 50. Back of upper blade guides.

- By hand, slide the guide block to position the blade guides approximately 0.016" behind the teeth gullets (see **Figure 51**), then re-tighten the guide block cap screw to secure the setting.

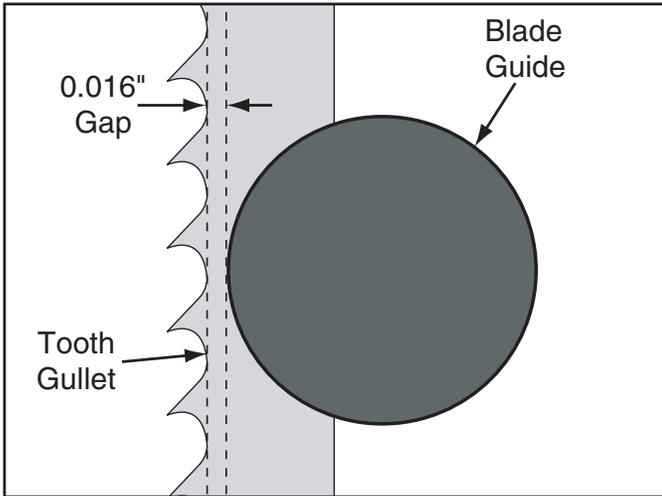


Figure 51. Correct guide alignment behind the teeth gullets.

NOTICE

Make sure that the blade teeth will not contact the guides when the blade is against the rear support bearing during the cut or the blade teeth will be damaged.

The lower blade guides are adjusted in the same manner as the upper blade guides. However, some controls are different. Refer to **Figure 52** to become familiar with these controls.

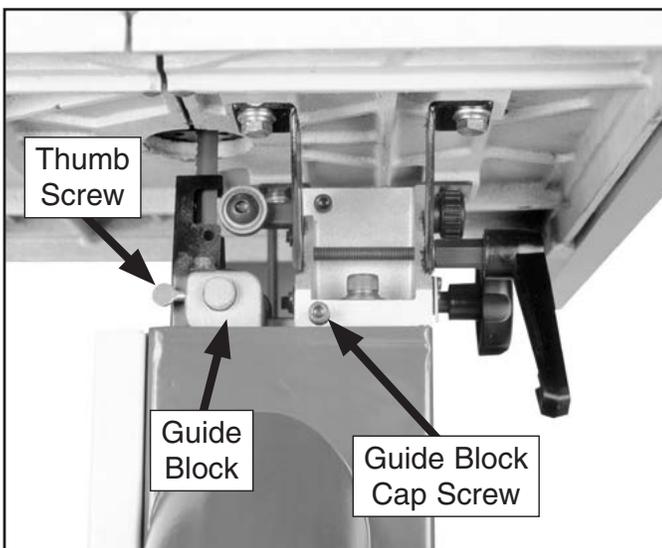


Figure 52. Lower blade guide controls.

Adjusting Blade Guide Bearings (G0513X2, G0513X2B, G0513X2BF, & G0513X2F)

Tools Needed

	Qty
Hex Wrench 5mm.....	1
Feeler Gauge 0.004", 0.016"	1 Each
Crisp Dollar Bill (Optional)	1

Tip: You can use a crisp dollar bill in place of the feeler gauge. The thickness of the bill is approximately 0.004", and when folded in half twice is approximately 0.016".

Note: The upper and lower guide bearings are adjusted in the same manner.

To adjust the upper and lower blade guide bearings:

- DISCONNECT BANDSAW FROM POWER!
- Familiarize yourself with the blade guide controls shown in **Figure 53**.

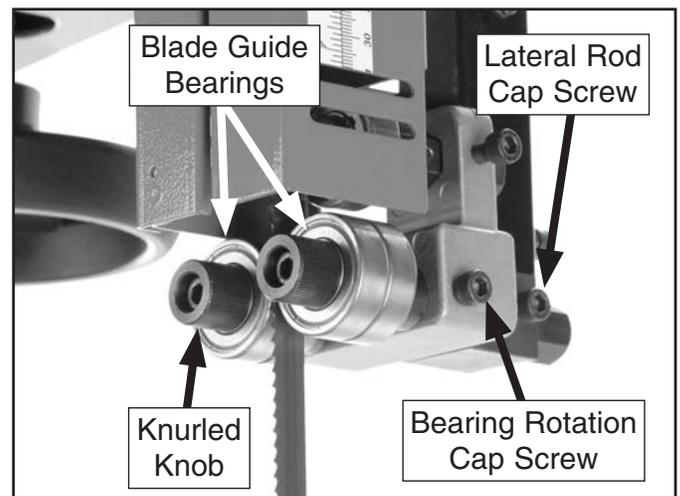


Figure 53. Blade guide controls.

NOTICE

Make sure that the blade teeth will not contact the guide bearings when the blade is against the rear support bearing during the cut or the blade teeth will be damaged.

Crosscutting

Crosscutting is the process of cutting across the grain of wood. For plywood and other processed wood, crosscutting simply means cutting across the width of the material.

To make a 90° crosscut:

1. Mark the workpiece on the edge where you want to begin the cut.
2. Adjust the blade guide assembly to no more than 1" above the workpiece and the miter gauge to 90°.
3. Move the fence out of the way. Place the workpiece evenly against the miter gauge.
4. Hold the workpiece against the miter gauge and line up the mark with the blade.
5. After all safety precautions have been met, turn the bandsaw **ON**. Slowly feed the workpiece into the blade and continue the cut until the blade is all the way through the workpiece. **Figure 77** shows a typical crosscutting operation.

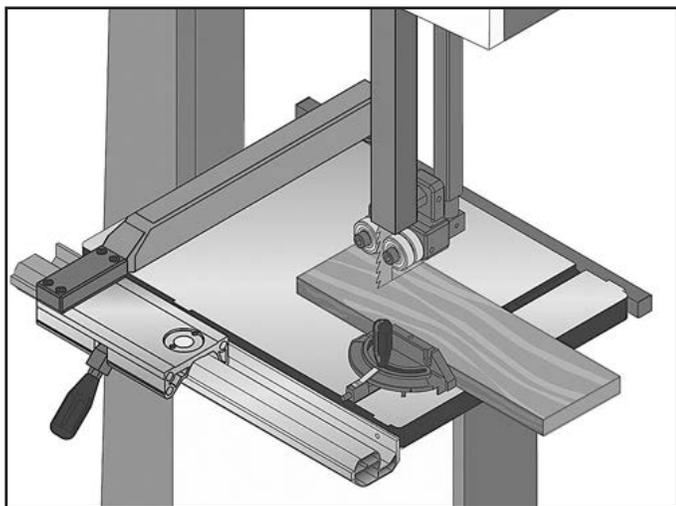


Figure 77. Example of crosscutting.

Resawing

Resawing (see **Figure 78** for an example) is the process of cutting a board into two or more thinner boards. The maximum board width that can be resawn is limited by the maximum cutting height of the bandsaw.

Blade selection is one of the most important considerations when resawing. Generally, the wider blade, the better. In most applications, a hook or a skip tooth style blade with fewer teeth-per-inch (from 2 to 4) is desirable because they offer larger gullet capacities for clearing sawdust, decrease blade heat, and reduce strain on the motor.

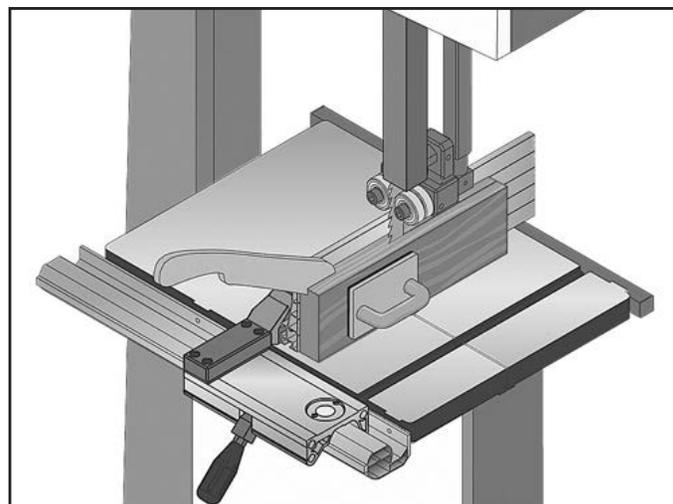


Figure 78. Example of resawing.

!WARNING

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

To resaw a workpiece:

1. Verify that the bandsaw is setup properly and that the table is perpendicular to the blade.
2. Use the widest blade your bandsaw will accept.

Note: *The blade must also be sharp and clean.*

3. Install the resaw fence, set it to the desired width of cut, and lock it in place.

Note: *When resawing thin workpieces, set up the resaw fence in the alternate position, as shown in **Figure 79**, and make sure to use a push stick.*



Figure 79. Resaw fence installed in the alternate position.

NOTICE

The fence scale will NOT be accurate when using the resaw fence.

4. Support the ends of the board if necessary.
5. Turn the bandsaw **ON**.
6. Using push paddles and a push stick, keep pressure against the fence and table, and slowly feed the workpiece into the moving blade until the blade is completely through the workpiece.

Cutting Curves

When cutting curves, simultaneously feed and turn the stock carefully so that the blade follows the layout line without twisting. If a curve is so abrupt that it is necessary to repeatedly back up and cut a new kerf, use either a narrower blade or a blade with more TPI (teeth per inch), or make more relief cuts.

Always make short cuts first, then proceed to the longer cuts. Relief cuts will also reduce the chance that the blade will be pinched or twisted. Relief cuts are cuts made through the waste portion of the workpiece and are stopped at the layout line. As you cut along the layout line, waste wood is released from the workpiece, alleviating any pressure on the back of the blade. Relief cuts also make backing the workpiece out easier, if needed.

NOTICE

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

Width	Radius
1/8"	1/8"
3/16"	3/8"
1/4"	5/8"
3/8"	1 1/4"
1/2"	2 1/2"
5/8"	3 3/4"
3/4"	5 1/2"