



MODEL G0481

42" SWIVEL BENDING BRAKE

OWNER'S MANUAL



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**WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE
OR FORM WITHOUT THE WRITTEN APPROVAL OF GRIZZLY INDUSTRIAL, INC.**

#EW7566 PRINTED IN CHINA



WARNING!

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

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

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

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



WARNING!

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

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

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

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INTRODUCTION

Manual Accuracy

We are proud to offer this manual with your new machine! We've made every effort to be exact with the instructions, specifications, drawings, and photographs of the machine we used when writing this manual. However, sometimes we still make an occasional mistake.

Also, owing to our policy of continuous improvement, **your machine may not exactly match the manual**. If you find this to be the case, and the difference between the manual and machine leaves you in doubt, check our website for the latest manual update or call technical support for help.

Before calling, find the manufacture date of your machine by looking at the date stamped into the machine ID label (see below). This will help us determine if the manual version you received matches the manufacture date of your machine.

		MODEL GXXXX MACHINE NAME	
SPECIFICATIONS		⚠ WARNING!	
Motor:		Manufacture Date of Your Machine When using this machine: 1. Wear safety glasses and respirator. 2. Read and understand the manual. 3. Make sure the machine is properly set up and adjusted before starting. 4. Make sure the motor has stopped and disconnect power before adjustments, maintenance, or service. 5. DO NOT expose to rain or dampness. 6. DO NOT modify this machine in any way. 7. DO NOT remove safety guards. 8. Never leave machine running unattended. 9. DO NOT operate under the influence of drugs or alcohol. 10. Maintain machine carefully to prevent accidents.	
Specification:			
Specification:			
Specification:			
Weight:			
<input type="text"/>	Date		
<input type="text"/>	Serial Number		
Manufactured for Grizzly in Taiwan			

For your convenience, we post all available manuals and manual updates for free on our website at **www.grizzly.com**. Any updates to your model of machine will be reflected in these documents as soon as they are complete.

Contact Info

We stand behind our machines. If you have any questions or need help, use the information below to contact us. Before contacting, please get the serial number and manufacture date of your machine. This will help us help you faster.

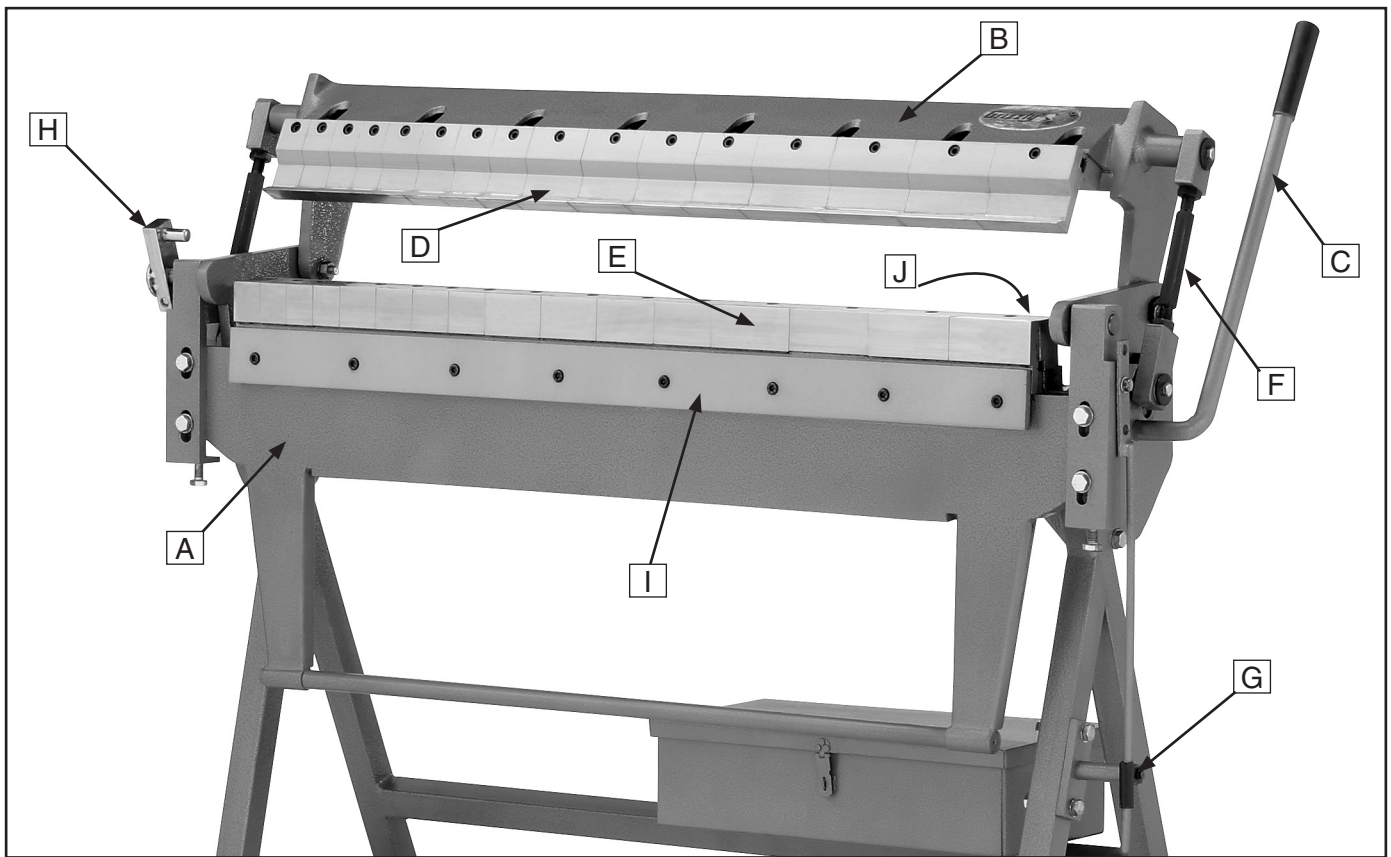
Grizzly Technical Support
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
Email: techsupport@grizzly.com

We want your feedback on this manual. What did you like about it? Where could it be improved? Please take a few minutes to give us feedback.

Grizzly Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com



Identification



- A. **Bending Leaf**—Swivels up to bend the workpiece.
- B. **Clamping Leaf**—Holds the clamping leaf fingers. Squeezes the workpiece against the block.
- C. **Operating Handle**—Used to raise and lower the bending leaf.
- D. **Clamping Leaf Fingers**—Adjustable dies that hold the workpiece against the clamping block.
- E. **Bending Leaf Fingers**—Adjustable dies that the workpiece is bent against.
- F. **Clamping Pressure Turnbuckle**—Adjusts clamping pressure, allowing for different gauges.
- G. **Stop Collar**—Used to lock bending angle.
- H. **Quick Stop**—Indicates the bending angle and can be used as an easily adjustable stop.
- I. **Clamping Plate**—Holds the bending leaf fingers.
- J. **Clamping Block**—Holds the workpiece against the clamping leaf.





MACHINE DATA SHEET

Customer Service #: (570) 546-9663 • To Order Call: (800) 523-4777 • Fax #: (800) 438-5901

MODEL G0481 42" SWIVEL BENDING BRAKE

Design Type Floor Model Swivel Bending Brake

Overall Dimensions:

Width 52"
Depth 30³/₄"
Height 42¹/₂"
Net Weight 370 lbs.
Footprint 31¹/₂" x 45¹/₄"
Crate Size 35¹/₂" D x 63³/₄" W x 45¹/₄" H
Shipping Weight 525 lbs.

Finger Sizes:

1 pc. 1"(25mm)
1 pc. 1³/₁₆"(30mm)
1 pc. 1³/₈"(35mm)
1 pc. 1⁹/₁₆"(40mm)
1 pc. 1³/₄"(45mm)
1 pc. 2"(50mm)
1 pc. 2¹⁵/₁₆"(75mm)
1 pc. 3¹⁵/₁₆"(100mm)
1 pc. 5¹⁵/₁₆"(150mm)
2 pc. 9⁷/₈"(250mm)

Capacities:

Brake Range 0° - 140°
Maximum Width 42"
Maximum Height of Pan/Box Sides 1¹/₂"
Mild Steel 16 Gauge
Aluminium..... 12 Gauge
Soft Brass..... 14 Gauge
Annealed Phospor Bronze 16 Gauge
Soft Copper 14 Gauge
Hard Copper..... 16 Gauge

Construction:

Fingers Precision Ground Steel, Hardened Edge
Base Steel
Bending Leaf Steel
Clamping Leaf Steel



SECTION 1: SAFETY

WARNING

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



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. It may also be used to alert against unsafe practices.

NOTICE

This symbol is used to alert the user to useful information about proper operation of the machine.

WARNING

OWNER'S MANUAL. Read and understand this owner's manual **BEFORE** using machine. Untrained users can be seriously hurt.

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.

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.

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 a loss of workpiece control.

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.

MENTAL ALERTNESS. Be mentally alert when running machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.



WARNING

DISCONNECTING POWER SUPPLY. Always disconnect machine from power supply before servicing, adjusting, or changing cutting tools (bits, blades, cutters, etc.). Make sure switch is in OFF position before reconnecting to avoid an unexpected or unintentional start.

APPROVED OPERATION. Untrained operators can be seriously hurt by machinery. Only allow trained or properly supervised people to use 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 wet or rainy locations, cluttered areas, around flammables, or in poorly-lit areas. Keep work area clean, dry, and well-lighted to minimize risk of injury.

ONLY USE AS INTENDED. Only use machine for its intended purpose. Never modify or alter machine for a purpose not intended by the manufacturer or serious injury may result!

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

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

REMOVE ADJUSTING TOOLS. Never leave adjustment tools, chuck keys, wrenches, etc. in or on machine—especially near moving parts. Verify removal before starting!

SECURING WORKPIECE. When required, use clamps or vises to secure workpiece. A secured workpiece protects hands and frees both of them to operate the machine.

FEED DIRECTION. Unless otherwise noted, feed work against the rotation of blades or cutters. Feeding in the same direction of rotation may pull your hand into the cut.

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

GUARDS & COVERS. Guards and covers can protect you from accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly before using machine.

NEVER STAND ON MACHINE. Serious injury or accidental contact with cutting tool may occur if machine is tipped. Machine may be damaged.

STABLE MACHINE. Unexpected movement during operations greatly increases the risk of injury and loss of control. Verify machines are stable/secure and mobile bases (if used) are locked before starting.

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.

UNATTENDED OPERATION. Never leave machine running while unattended. Turn machine **OFF** and ensure all moving parts completely stop before walking away.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. An improperly maintained machine may increase the risk of serious injury.

CHECK DAMAGED PARTS. Regularly inspect machine for damaged parts, loose bolts, mis-adjusted or mis-aligned parts, binding, or any other conditions that may affect safe operation. Always repair or replace damaged or mis-adjusted parts before operating machine.

EXPERIENCING DIFFICULTIES. If at any time you are experiencing difficulties performing the intended operation, stop using the machine! Contact our Technical Support Department at (570) 546-9663.



WARNING

Additional Safety for Bending Brakes

OVERLOADING HAND BRAKE. Over-loading this tool can cause injury from flying parts. Do not exceed the machine capacities.

SECURING BENDING BRAKE. Secure bending brake to the floor before using. Tipping may occur during use and the machine could fall, causing serious injury or property damage.

METAL EDGES. Sharp edges on sheet metal can result in severe cuts. Always chamfer and de-burr sharp sheet metal edges before bending in the hand brake.

PINCHING. To prevent pinching hazards, lower the clamping leaf when not in use.

CRUSHING & AMPUTATION INJURIES. The bending brake can quickly crush or amputate fingers or hands. Never place fingers or hands between the clamping and bending leaves.

GLOVES AND GLASSES. Always wear leather gloves and approved safety glasses when using this machine.

HEATING METAL. Heating the workpiece with a torch while it is in the brake will weaken the metal of the clamping and bending leaves and fingers. Do not use a torch or other similar heating tool near the brake.

BACK INJURIES. The lifting motion required to operate this machine is potentially harmful if proper technique is not used. To avoid back injuries, keep your back vertical and lift with your legs while raising the bending leaf, and never over-exert yourself.

TOOLS IN POOR CONDITION. Loose hardware or cracks could result in sudden, uncontrolled movements during use. Inspect the bending brake for any cracked linkage, levers, or loose fasteners. Correct any problems before use.

WARNING

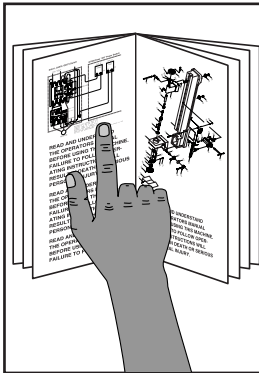
Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to decrease the risk of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

CAUTION

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

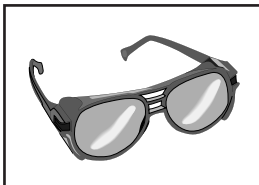


SECTION 2: SET UP



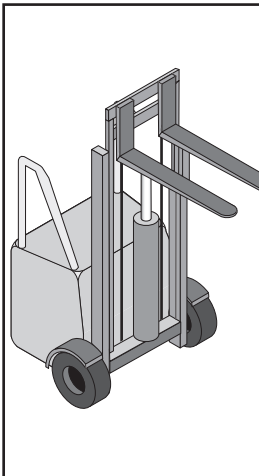
!WARNING

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



!WARNING

Wear safety glasses during the entire setup process!



!WARNING

The Model G0481 is a heavy machine. Serious personal injury may occur if safe moving methods are not followed. To be safe, you will need assistance and power equipment when moving the shipping crate and removing the equipment from the crate.

Needed for Setup

The following are needed to complete the setup process, but are not included with your machine.

Description	Qty
• Safety Glasses	1
• Cleaner/Degreaser	1
• Disposable Shop Rags.....	As Needed
• Forklift w/Lifting Straps.....	1
• Additional People At Least	1
• Mounting Hardware (Page 11)	As Needed
• Wrench or Socket 17mm	1
• Wrench or Socket 19mm.....	2

Unpacking

The Model G0481 was carefully packed when it left our warehouse. If you discover the machine is damaged after you have signed for delivery, please immediately call Customer Service at (570) 546-9663 for advice.

Save the containers and all packing materials for possible inspection by the carrier or its agent. Otherwise, filing a freight claim can be difficult.

When you are completely satisfied with the condition of your shipment, you should inventory the contents.



!WARNING

SUFFOCATION HAZARD!

Keep children and pets away from plastic bags or packing materials unpacked with this machine. Discard immediately.

Cleanup

The unpainted surfaces of your machine are coated with a heavy-duty rust preventative that prevents corrosion during shipment and storage. This rust preventative works extremely well, but it will take a little time to clean.

Be patient and do a thorough job cleaning your machine. The time you spend doing this now will give you a better appreciation for the proper care of your machine's unpainted surfaces.

There are many ways to remove this rust preventative, but the following steps work well in a wide variety of situations. Always follow the manufacturer's instructions with any cleaning product you use and make sure you work in a well-ventilated area to minimize exposure to toxic fumes.

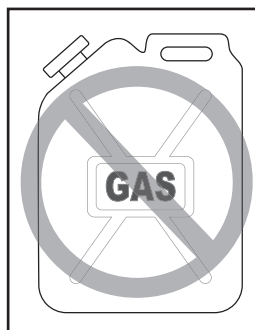


Before cleaning, gather the following:

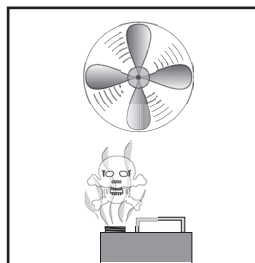
- Disposable Rags
- Cleaner/degreaser (WD-40 works well)
- Safety glasses & disposable gloves
- Plastic paint scraper (optional)

Basic steps for removing rust preventative:

1. Put on safety glasses.
2. Coat the rust preventative with a liberal amount of cleaner/degreaser, then let it soak for 5–10 minutes.
3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily. If you have a plastic paint scraper, scrape off as much as you can first, then wipe off the rest with the rag.
4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant to prevent rust.



! WARNING
Gasoline and petroleum products have low flash points and can explode or cause fire if used to clean machinery. Avoid using these products to clean machinery.



! CAUTION
Many cleaning solvents are toxic if inhaled. Only work in a well-ventilated area.

To clean the fingers:

1. Raise the clamping leaf to make sure there is no pressure on the fingers.
2. Use a 6mm hex wrench to remove the clamping fingers as shown in **Figure 1**, but leave the T-nuts in the guide slots.

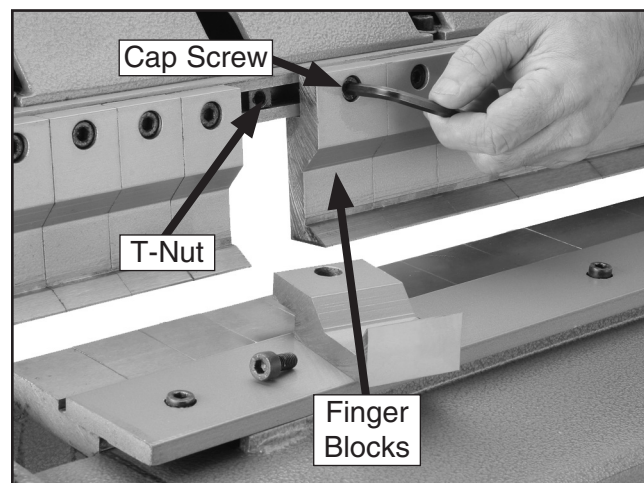


Figure 1. Removing finger blocks.

3. Loosen the clamping block and remove the bending leaf fingers.
4. Thoroughly clean the fingers and coat them liberally with a metal protectant.

Note: For metal protectants, we recommend using G96® GUN TREATMENT or BOESHIELD® T-9 (see **SECTION 4: ACCESSORIES** on **Page 18**).

5. Replace the fingers and secure them with the cap screws.

NOTICE

Avoid chlorine-based solvents, such as acetone or brake parts cleaner, that may damage painted surfaces.



Site Considerations

Physical Environment

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

Space Allocation

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

Weight Load

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

Lighting

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

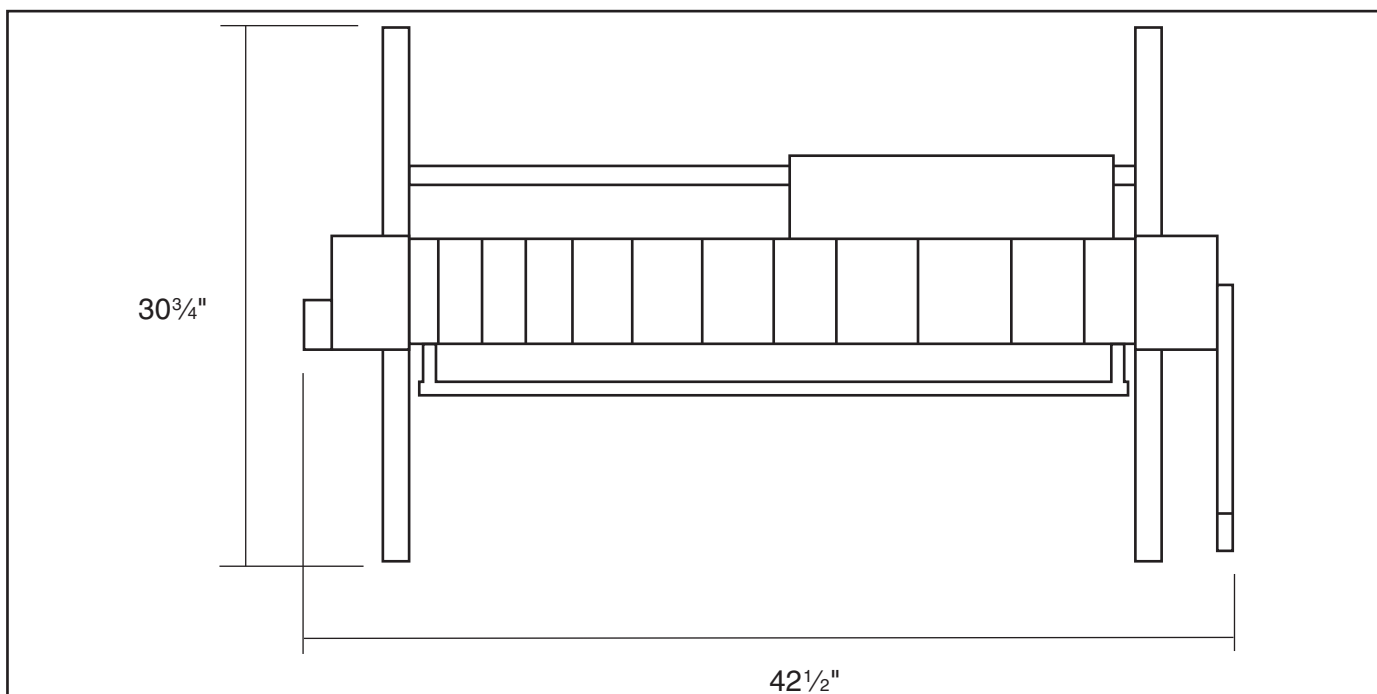
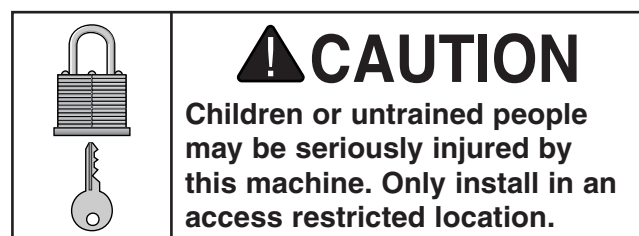


Figure 2. Machine dimensions.



Lifting

- If you are unsure of how to lift this equipment safely, consult a qualified professional.
- When lifting the bending brake, make sure the weight is supported evenly with two or more lifting devices.
- Make sure the body of the brake is bearing the load (**Figure 3**).

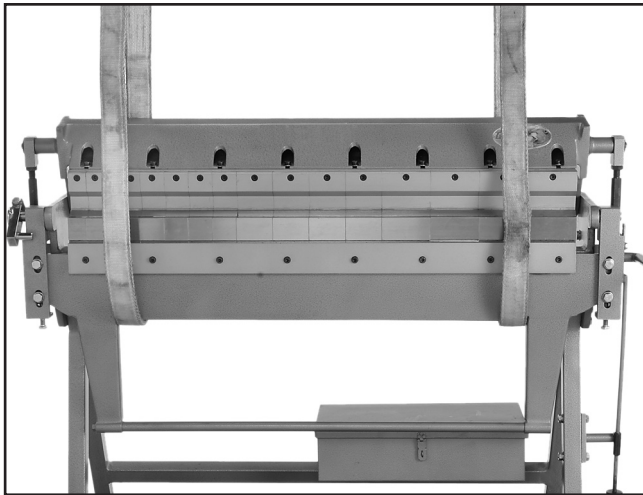


Figure 3. Swivel bending brake supported evenly by two lifting straps.

Mounting to Floor

WARNING

Do not operate the Model G0481 unless it has been mounted to the floor, or it could tip over on you, causing severe injury!

Confirm that the bending brake works to your satisfaction using a small test piece, then mount the bending brake to the floor. Make sure there is enough working room around the bending brake and the mounting location is level to ensure accurate operation.

Floor mounting hardware is not included because floor materials vary. Research machine mounting options and choose the best method for your application. Lag shield anchors with lag bolts, or anchor studs (**Figures 4 & 5**), are common methods for mounting machines to concrete floors.

Note: *Anchor studs are stronger and more permanent than lag shield anchors; however, they stick out of the floor, causing difficulties if you decide to move your bending brake later.*

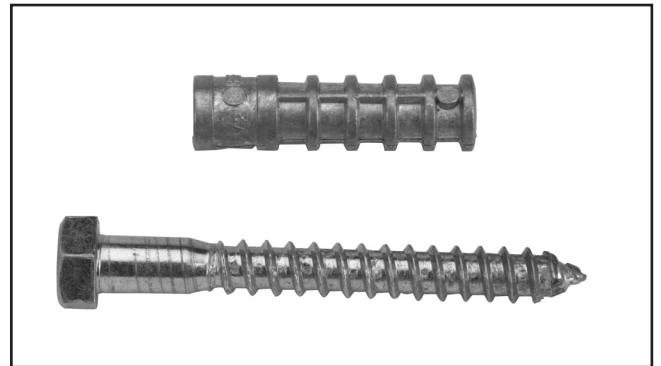


Figure 4. Typical lag shield anchor and lag bolt.

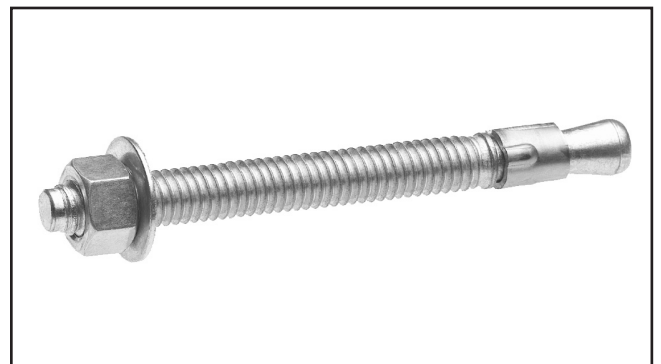


Figure 5. Typical anchor stud.



SECTION 3: OPERATIONS

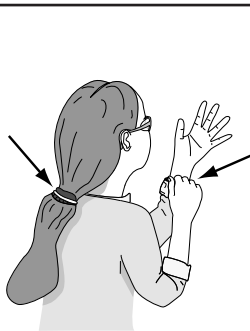
!WARNING

Damage to your eyes, hands, and feet could result from using this machine without proper protective gear. Always wear safety glasses, protective gloves and footwear when operating this machine.



!WARNING

Loose hair and clothing could get caught in machinery and cause serious personal injury. Keep loose clothing and long hair away from moving machinery.



NOTICE

If you have never used this type of machine or equipment before, WE STRONGLY RECOMMEND that you read books, trade magazines, or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.

Setback

NOTICE

You must include the thickness of folded edges or joints when determining the proper setback, or the brake may be damaged.

Before you begin any bending operation, consider the differences of sheet metal gauges when trying to achieve either sharp or rounded edges, and allow for the differences by adjusting the setback.

The setback is the distance from the forward edge of the fingers to the edge of the bending leaf, as shown in **Figure 6**. The setback distance is determined by the gauge of the workpiece and the desired radius of the bend.

Normally, setback is adjusted at least 1½–2 times the thickness of the workpiece. Thicker or tempered workpieces will need a larger setback. Refer to material gauge capacities on the **MACHINE DATA SHEET** on **Page 4**.

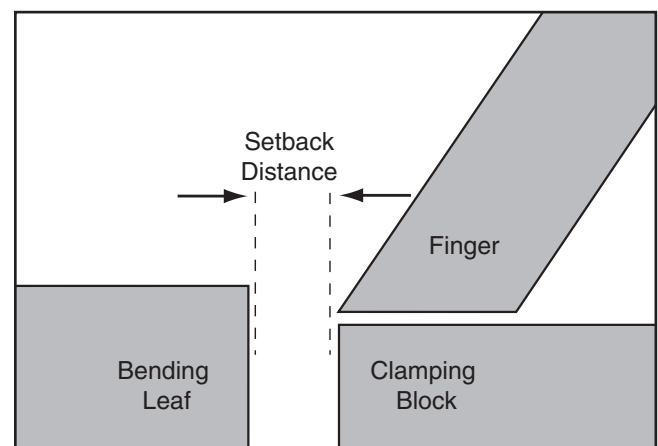


Figure 6. Setback distance.

Tools Needed:	Qty
17mm Wrench.....	2
32mm or 1¼" Wrench.....	1
6mm Hex Wrench.....	1



To make minor setback adjustments to the clamping leaf:

1. Unlock the clamping leaf, loosen the setback adjustment lock bolts shown in **Figure 7**, and rotate the setback adjustment cams evenly to move the clamping fingers.

Note: Make sure the finger edges are parallel with the edge of the clamp block or your bend will be distorted.

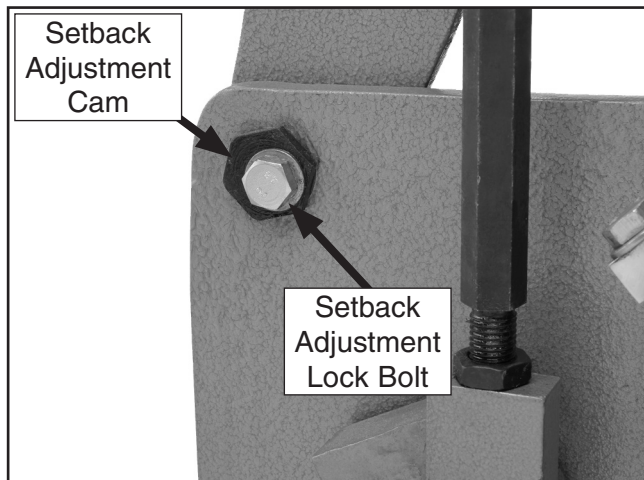


Figure 7. Setback adjustment controls.

2. Tighten the setback adjustment lock bolts.

To make major setback adjustments:

1. Unlock the clamping leaf.
2. Loosen all of the setback adjustment cap screws like the one shown in **Figure 8**, then adjust the finger block.

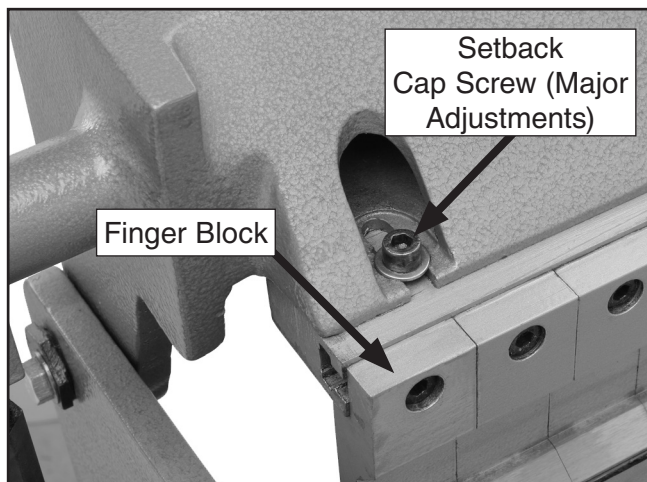


Figure 8. Setback adjustment cap screws.

3. Make minor adjustments with the setback adjustment cams if necessary to make sure the finger edges are parallel with the edge of the clamp block.
4. Retighten the cap screws before using.

To make bending leaf adjustments:

1. Loosen the lock bolts on both sides of the bending leaf (see **Figure 9**).

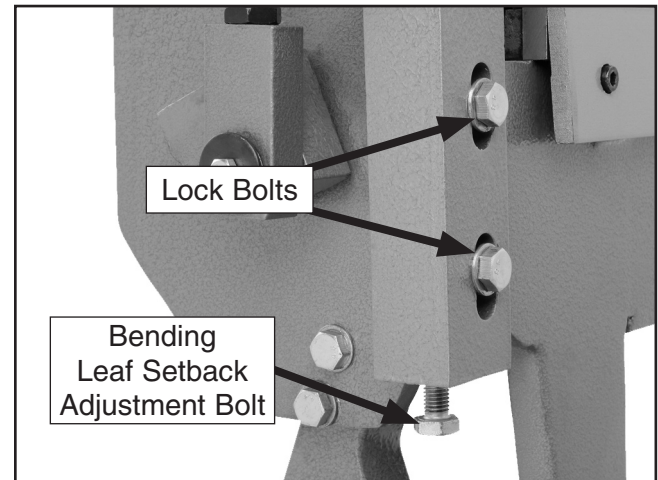


Figure 9. Bending leaf setback adjustments.

2. Adjust the setback adjustment bolts (**Figure 9**) on both ends of the bending leaf equally.

Note: Use a permanent marker, paper correction fluid, or fingernail polish to mark the setback adjustment bolt on both sides. This step will aid you in keeping track of the rotations as you turn the bolts, so they remain as even as possible.

3. Retighten the lock bolts before using the bending brake.



Clamping Pressure

Clamping pressure depends on the workpiece thickness. The ideal pressure will have medium/hard resistance and will lock the workpiece into position easily—much like a pair of Vice-Grips. This pressure is adjusted by adjusting the turnbuckles, shown in **Figure 10**, located on both sides of the bending brake.

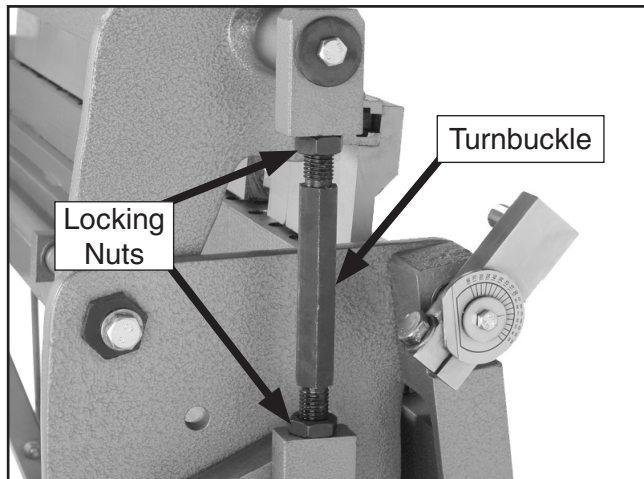


Figure 10. Clamping pressure turnbuckle.

Tools Needed:	Qty
24mm or Adjustable Wrench	1
19mm Wrench	1
17mm Wrench.....	1

To adjust the clamping pressure:

1. Lock the clamping leaf with your workpiece in the brake using the operating handle.
 - If the clamping pressure feels right, no further adjustments are necessary.
 - If the clamping pressure feels light, move the turnbuckle clockwise.
 - If the clamping pressure feels hard, move the turnbuckle counterclockwise.
2. Remove the workpiece from the brake, lock the clamping leaf in place, then loosen the locking nuts.
3. Unlock the clamping leaf and turn the turnbuckle a ½ turn in the needed direction.
4. Lock the clamping leaf, tighten the locking nuts, and repeat **Step 1**.

5. Loosen the cam shown in **Figure 11** and rotate it to fine tune the clamping pressure.

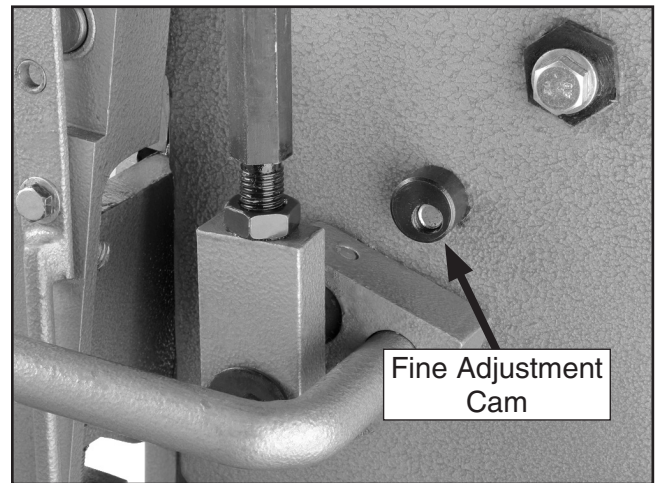


Figure 11. Clamping pressure fine adjustment cam.

Bend Allowance

To bend metal objects accurately, you need to consider the total length of each bend, especially when more than one bend is required. This is called bend allowance.

Subtract bend allowance from the sum of the workpiece outside dimensions to obtain the overall length and width of the blank needed to make a particular part.

Exact allowances can only be obtained by trial due to differences in sheet metal hardness, whether the bend is with or across the grain, and difficulties in making an exact bend radius. Bend allowances accurate enough for average use may be found in metalworking handbooks.



Basic Bending

WARNING

Do not operate the Model G0481 unless it has been mounted to the floor, or it could tip over on you, causing severe injury!

Bending operations require the fingers to be parallel with the edge of the clamping block and require the setback and clamping pressure to be correctly adjusted for the thickness of the workpiece.

To perform a basic bending operation:

1. Mark the desired bend on the workpiece.
2. Open the clamping leaf and insert the workpiece between the fingers and the clamping block.
3. Align the fingers to the bend mark on the workpiece, and clamp it in place.

Note: Do not force the clamping handle. If the handle is hard to put in the locked position, the pressure may need to be adjusted for the sheet metal thickness (see **Clamping Pressure** on **Page 14**).

4. Lift the bending leaf until the workpiece has reached the desired bend angle.
5. Raise the clamping leaf and remove the bent workpiece.

Note: If a pan or box bend is desired, choose a finger or a selection of fingers that are as close as possible to the length of the pan or box side lengths.

CAUTION

Hold onto the workpiece so it does not drop and hit you when it is released!

Spacing Fingers

The fingers can be spaced apart for clearance when making pans or boxes. This requires removing one or more of the fingers so that you can space the others to match the width of your pan or box as shown in **Figure 12**.



Figure 12. Fingers spaced apart.

Tools Needed:	Qty
8mm Hex Wrench.....	1

To space the fingers apart:

1. Remove the cap screw from each of the clamping leaf fingers you decide to remove.
2. Pull the fingers off the guide and set them aside.

Note: Mix and match finger widths to equal the width of the pan/box opening.

3. Loosen the top cap screws of the fingers you need to move, slide them across the guide so that you have adequate room for your workpiece on both sides, then retighten the cap screws.
4. Remove the bending leaf fingers by loosening the cap screws securing the clamping block and sliding the fingers out.
5. Adjust the bending leaf fingers as necessary, then retighten the cap screws in the clamping block.



Setting the Adjustable Stops

The Model G0481 features two adjustable stops that limit the bending leaf travel, allowing you to repeat a bend at an exact angle.

Tools Needed:	Qty
17mm Wrench.....	1
10mm Wrench	1

To set the adjustable quick stop:

1. Rotate the bending leaf all the way down.
2. Loosen the hex bolt on the quick stop and rotate it down until it rests against the bending leaf, as shown in **Figure 13**.

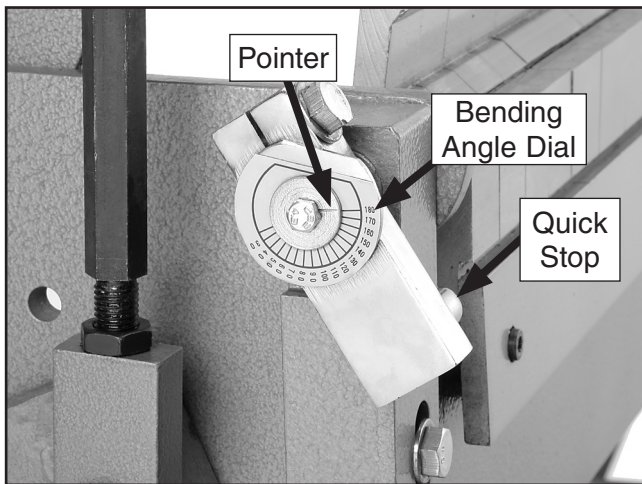


Figure 13. Setting adjustable stop.

3. Loosen the pointer and align it with the 180° mark on the bending angle dial.
4. Tighten the quick stop hex bolt and raise the bending leaf to the desired angle. The quick stop will stay in the raised position, allowing the bend to be repeated.
5. To select and lock a different bending angle, loosen the quick stop and repeat **Steps 1-4**.

To use the stop collar:

1. Raise the bending leaf to the desired angle according to the quick stop and hold the bending leaf in place at the top of the bend.
2. Thread the stop nut against the stop collar and tighten the lock nut against the bottom of the stop nut, as shown in **Figure 14**.

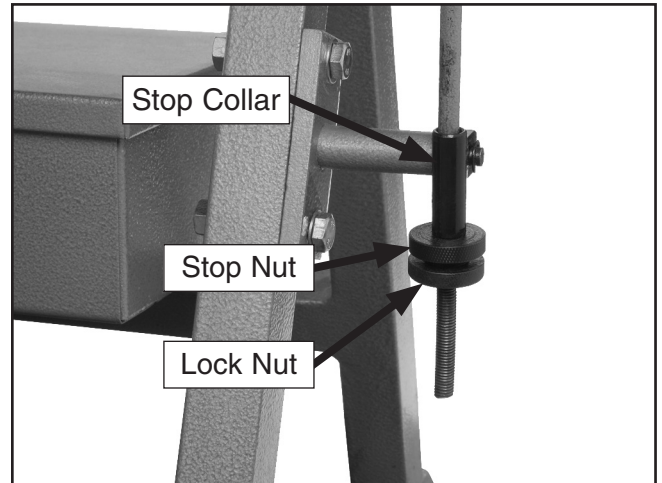


Figure 14. Stop nut tightened against stop collar on stop rod.

3. Check the stop collar by lowering the bending leaf and then raising the bending leaf into a bend. If the stop is working correctly, the bending leaf will stop in the same position as the first bend.
4. The stop rod can be attached in several locations for additional adjustment options, as shown in **Figure 15**.

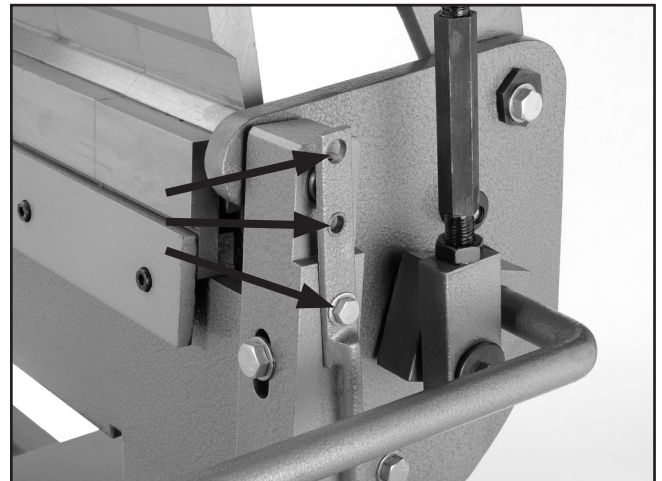


Figure 15. Stop rod attachment locations.



Aligning Fingers

Finger alignment is critical for accuracy and to prevent dimples in bends.

Tools Needed:	Qty
8mm Hex Wrench.....	1

To align a clamping leaf finger:

1. Loosen the cap screw on the misaligned finger enough to move it up or down without resistance.
2. Make sure the bending leaf is lowered all the way and close the clamping leaf.
3. Push the finger firmly against the clamping block and tighten the cap screw, as shown in **Figure 16**.

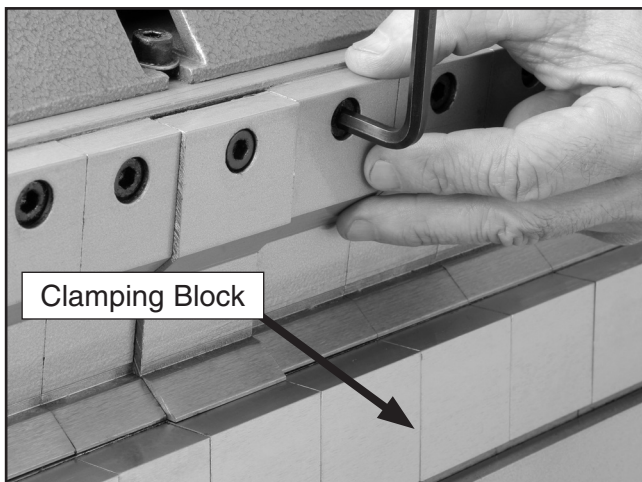


Figure 16. Tightening cap screw on finger.

To align all of the clamping leaf fingers:

1. Loosen all of the cap screws on the fingers enough to move them up or down without resistance.
2. Close the clamping leaf and lock the bending leaf in place at 90°.
3. Use the setback adjustments (**Page 12**) to push the fingers against the bending leaf.
4. Tighten all of the cap screws on the fingers.
5. Reset the setback as instructed on **Page 12**.

To align the bending leaf fingers:

1. Place a straightedge across the bending leaf fingers as shown in **Figure 17**.

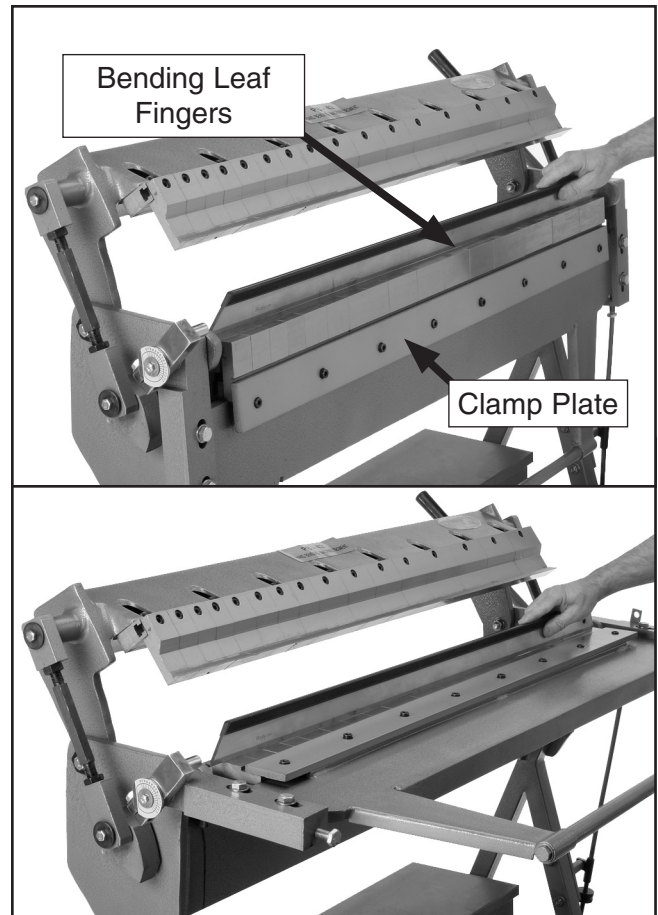


Figure 17. Finger edges aligned.

2. If an individual finger sticks out beyond the other fingers, loosen the cap screws in the clamp plate, wiggle the finger up or down, retighten and recheck finger alignment.
3. Repeat **Steps 1 & 2** if necessary.



SECTION 4: ACCESSORIES

⚠ WARNING

Some aftermarket accessories can be installed on this machine that could cause it to function improperly, increasing the risk of serious personal injury. To minimize this risk, only install accessories recommended for this machine by Grizzly.

NOTICE

Refer to the newest copy of the Grizzly Catalog for other accessories available for this machine.

Call 1-800-523-4777 To Order

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



Figure 18. Recommended products for protecting unpainted cast iron/steel part on machinery.

T23085—Pneumatic Nibbler

The Model T23085 pneumatic nibbler cuts up to 16 gauge steel without leaving burrs or deformed edges. Features a lightweight aluminum housing with adjustable die that can be turned to suit various cutting positions. Produces 3,800 strokes per minute at a working air pressure of 90 PSI. Average air consumption is 9.8 CFM.



Figure 19. Model T23085 Pneumatic Nibbler.

10" Aviation Tin Snips

G8189—Left
G8190—Straight
G8191—Right
G8782—3 Piece Set

Precision-machined, hardened steel cutting jaws ensure quality results. Color coded to provide quick identification, these snips feature thick grips for cutting comfort and a positive lock.

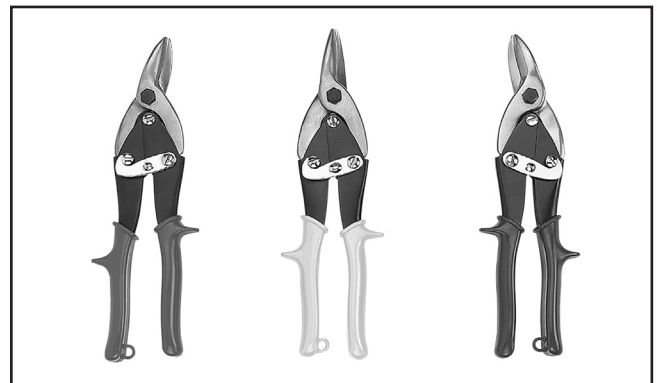


Figure 20. 10" Aviation Tin Snips.



SECTION 5: MAINTENANCE

Cleaning

Cleaning the Model G0481 is relatively easy. Vacuum metal shavings and wipe off oil and dust with a dry cloth. Treat all unpainted cast iron and steel with a non-staining lubricant after cleaning.

Unpainted Cast Iron

To prevent rust, all unpainted cast iron surfaces on the Model G0481 should be regularly maintained with a surface protectant like G96® GUN TREATMENT or BOESHIELD® T-9 (see **SECTION 4: ACCESSORIES** on **Page 18** for more details).

Lubrication

The pivot points indicated in **Figures 21** and **22** must be lubricated daily or each time the bending brake is used with a light machine oil.

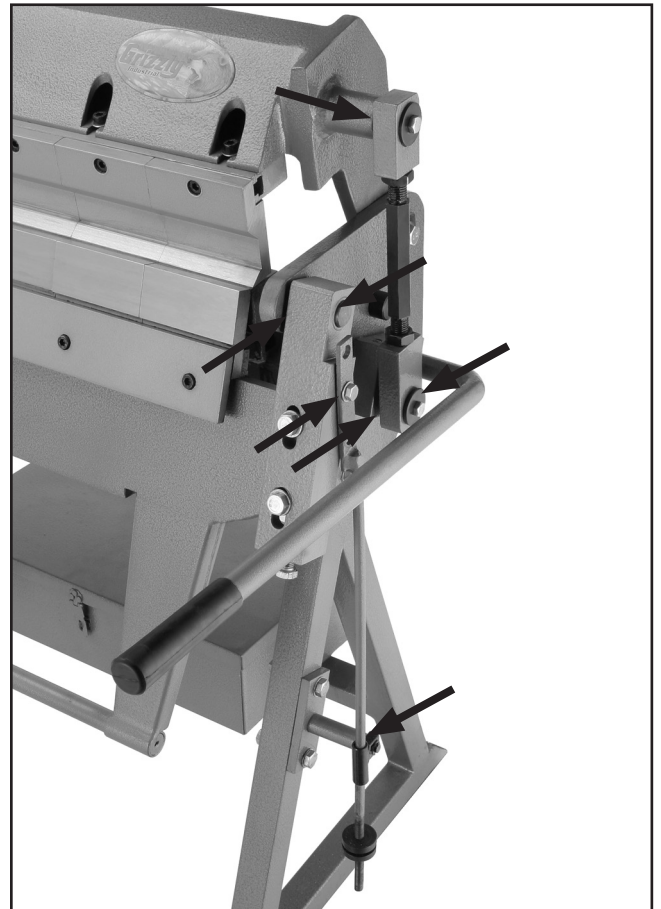


Figure 21. Pivot point locations.



Figure 22. Clamping leaf lubrication.

SECTION 6: SERVICE

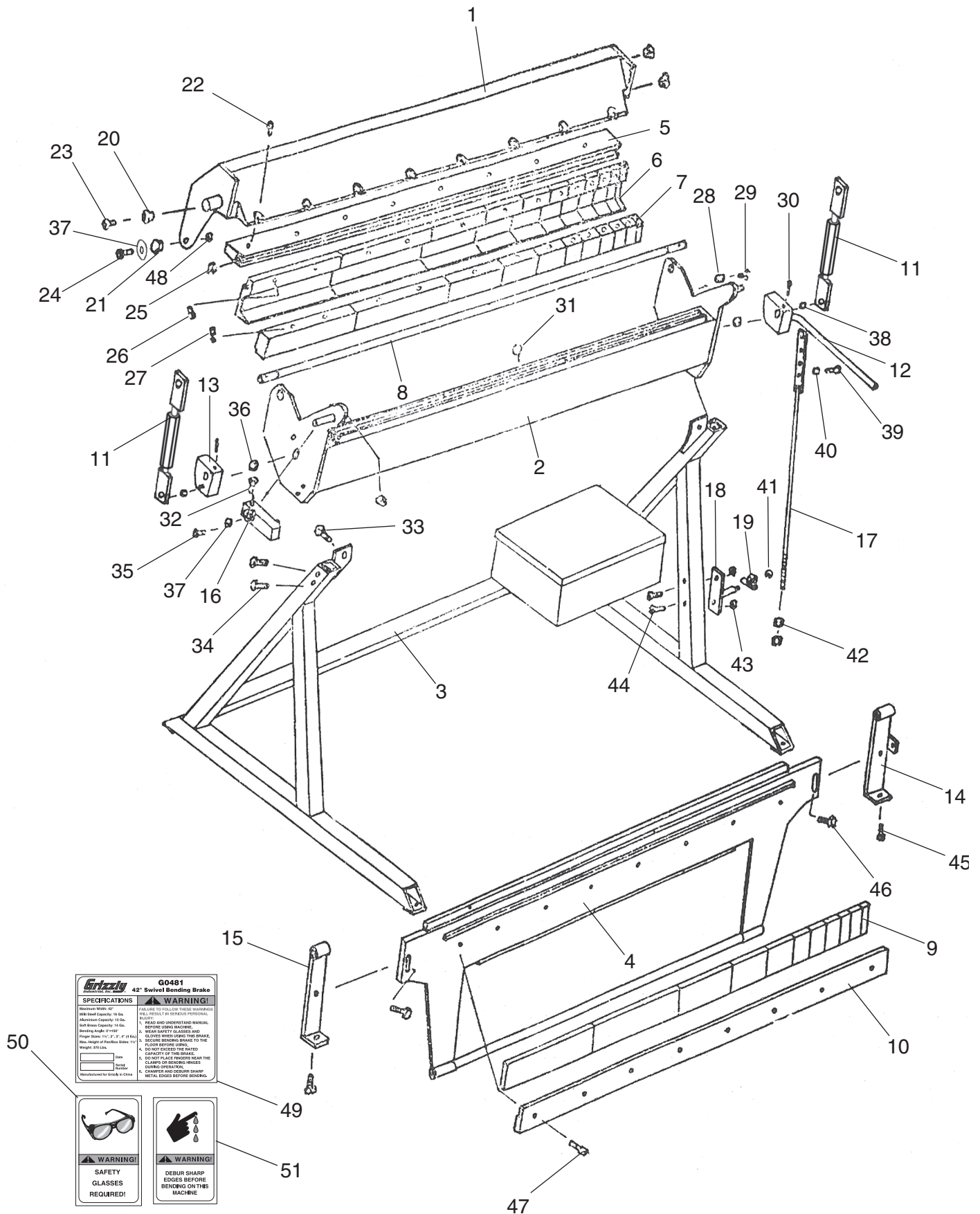
Review the troubleshooting and procedures in this section to fix your machine if a problem develops. If you need replacement parts or you are unsure of your repair skills, then feel free to call our Technical Support at (570) 546-9663.

Troubleshooting

Symptom	Possible Cause	Possible Solution
Tapered bend or a radius change along the length of the bend.	<ol style="list-style-type: none"> 1. Clamping leaf fingers not aligned with the edge of the clamping block. 2. Bending leaf setback is too far from the clamping v. 	<ol style="list-style-type: none"> 1. Align the clamping leaf as instructed in Setback section on Page 12. 2. Adjust the setback as instructed in Setback section beginning on Page 12.
Dimple(s) in the bend.	<ol style="list-style-type: none"> 1. One or more fingers out of alignment. 	<ol style="list-style-type: none"> 1. Align the fingers (see Page 17).
Angle is not accurate or is not repeatable.	<ol style="list-style-type: none"> 1. Quick stop pointer is not adjusted correctly. 2. Quick stop is not tightened down. 3. Stop nut on the stop rod is not adjusted correctly. 4. The lock nut is not tightened against the stop nut on the stop rod. 	<ol style="list-style-type: none"> 1. Adjust the quick stop pointer (see Page 16). 2. Tighten the quick stop (see Page 16). 3. Adjust the stop nut (see Page 16). 4. Tighten the lock nut against the stop nut to prevent the angle from changing (see Page 16).
Moving the bending leaf or clamping leaf is extra difficult.	<ol style="list-style-type: none"> 1. Hinges are gummed up. 2. Attempting to bend too thick of material. 	<ol style="list-style-type: none"> 1. Clean and lubricate the pivot points (see Page 18). 2. Refer to material gauge capacities on the MACHINE DATA SHEET on Page 4.
Cannot complete the desired bend, incorrect radius, or cracked material.	<ol style="list-style-type: none"> 1. Not enough setback. 2. Attempting to bend too thick of material. 	<ol style="list-style-type: none"> 1. Adjust the setback to 1½–2 times the thickness of the workpiece (see Page 12). 2. Refer to material gauge capacities on the MACHINE DATA SHEET on Page 4.
Workpiece is not held securely.	<ol style="list-style-type: none"> 1. Incorrect clamping pressure. 	<ol style="list-style-type: none"> 1. Adjust the clamping pressure to accommodate the gauge of metal used (see Page 14).
Finished workpiece is too short.	<ol style="list-style-type: none"> 1. Inadequate bend allowance. 	<ol style="list-style-type: none"> 1. Lay out the workpiece with enough material to compensate for the length of the bend.
Fingers are stuck together or nuts on the stop rod will not move.	<ol style="list-style-type: none"> 1. The waxy oil used as a protectant during shipping was not removed during set-up. 	<ol style="list-style-type: none"> 1. Use a degreaser to clean off the waxy oil (see Page 8).



Parts Breakdown



Parts List

REF	PART #	DESCRIPTION
1	P0481001	CLAMPING LEAF FRAME
2	P0481002	CROSSBEAM
3	P0481003	STAND
4	P0481004	BENDING LEAF
5	P0481005	T-SLOT PLATE
6	P0481006	CLAMPING LEAF FINGER SET
6-1	P0481006-1	25MM FINGER
6-2	P0481006-2	30MM FINGER
6-3	P0481006-3	35MM FINGER
6-4	P0481006-4	40MM FINGER
6-5	P0481006-5	45MM FINGER
6-6	P0481006-6	50MM FINGER
6-7	P0481006-7	75MM FINGER
6-8	P0481006-8	100MM FINGER
6-9	P0481006-9	150MM FINGER
6-10	P0481006-10	250MM FINGER
7	P0481007	CLAMPING BLOCK SET
7-1	P0481007-1	25MM CLAMPING BLOCK
7-2	P0481007-2	30MM CLAMPING BLOCK
7-3	P0481007-3	35MM CLAMPING BLOCK
7-4	P0481007-4	40MM CLAMPING BLOCK
7-5	P0481007-5	45MM CLAMPING BLOCK
7-6	P0481007-6	50MM CLAMPING BLOCK
7-7	P0481007-7	75MM CLAMPING BLOCK
7-8	P0481007-8	100MM CLAMPING BLOCK
7-9	P0481007-9	150MM CLAMPING BLOCK
7-10	P0481007-10	250MM CLAMPING BLOCK
8	P0481008	TRANSMISSION BAR
9	P0481009	BENDING LEAF FINGER SET
9-1	P0481009-1	25MM BENDING LEAF FINGER
9-2	P0481009-2	30MM BENDING LEAF FINGER
9-3	P0481009-3	35MM BENDING LEAF FINGER
9-4	P0481009-4	40MM BENDING LEAF FINGER
9-5	P0481009-5	45MM BENDING LEAF FINGER
9-6	P0481009-6	50MM BENDING LEAF FINGER
9-7	P0481009-7	75MM BENDING LEAF FINGER
9-8	P0481009-8	100MM BENDING LEAF FINGER
9-9	P0481009-9	150MM BENDING LEAF FINGER
9-10	P0481009-10	250MM BENDING LEAF FINGER
10	P0481010	CLAMP PLATE
11	P0481011	TURNBUCKLE

REF	PART #	DESCRIPTION
12	P0481012	CLAMPING LEAF HANDLE
13	P0481013	CLAMPING LEAF ADJ BLOCK
14	P0481014	RT BENDING LEAF ADJ PLATE
15	P0481015	LT BENDING LEAF ADJ PLATE
16	P0481016	QUICK STOP
17	P0481017	STOP ROD
18	P0481018	STOP COLLAR BRACKET
19	P0481019	STOP COLLAR
20	P0481020	FENDER WASHER 8MM
21	P0481021	ECCENTRIC SLEEVE
22	PSB31M	CAP SCREW M8-1.25 X 25
23	PB87M	HEX BOLT M8-1.25 X 15
24	PB38M	HEX BOLT M12-1.75 X 60
25	P0481025	T-NUT M8-1.25
26	PSB11M	CAP SCREW M8-1.25 X 16
27	PSB60M	CAP SCREW M8-1.25 X 55
28	P0481028	ECCENTRIC SHAFT
29	PB27M	HEX BOLT M12-1.75 X 30
30	P0481030	ROUND PIN 8 X 50
31	P0481031	BUSHING
32	PB27M	HEX BOLT M12-1.75 X 30
33	PB49M	HEX BOLT M12-1.75 X 20
34	PB27M	HEX BOLT M12-1.75 X 30
35	PB02M	HEX BOLT M6-1 X 12
36	P0481036	BUSHING
37	PW06M	FLAT WASHER 12MM
38	P0481038	BUSHING
39	PB87M	HEX BOLT M8-1.25 X 15
40	P0481040	BUSHING
41	PEC03M	E-CLIP 10MM
42	P0481042	STOP NUT M10-1.5
43	PN02M	HEX NUT M10-1.5
44	PB34M	HEX BOLT M10-1.5 X 60
45	PB33M	HEX BOLT M12-1.75 X 50
46	PB27M	HEX BOLT M12-1.75 X 30
47	PSB31M	CAP SCREW M8-1.25 X 25
48	PN09M	HEX NUT M12-1.75
49	P0481049	G0481 ID LABEL
50	PLABEL11	SAFETY GLASSES 2" X 3 5/16"
51	P0481051	DEBURR LABEL

WARNING

Safety labels warn about machine hazards and ways to prevent injury. The owner of this machine **MUST** maintain the original location and readability of the labels on the machine. If any label is removed or becomes unreadable, **REPLACE** that label before using the machine again. Contact Grizzly at (800) 523-4777 or www.grizzly.com to order new labels.





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Model # _____ Order # _____ Serial # _____

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_____ Card Deck _____ Website _____ Other: _____

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_____ Family Handyman	_____ Popular Woodworking	_____ Woodshop News
_____ Hand Loader	_____ Precision Shooter	_____ Woodsmith
_____ Handy	_____ Projects in Metal	_____ Woodwork
_____ Home Shop Machinist	_____ RC Modeler	_____ Woodworker West
_____ Journal of Light Cont.	_____ Rifle	_____ Woodworker's Journal
_____ Live Steam	_____ Shop Notes	_____ Other: _____
_____ Model Airplane News	_____ Shotgun News	
_____ Old House Journal	_____ Today's Homeowner	
_____ Popular Mechanics	_____ Wood	

3. What is your annual household income?

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_____ \$50,000-\$59,000 _____ \$60,000-\$69,000 _____ \$70,000+

4. What is your age group?

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_____ 50-59 _____ 60-69 _____ 70+

5. How long have you been a woodworker/metalworker?

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7. Do you think your machine represents a good value?

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Note: We never use names more than 3 times.

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Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** 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 Grizzly'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 unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly 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, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they 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.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.



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