WOODSTOCK

# SHOP FOX®

INTERNATIONAL

## MODEL M1118

# 48" PAN & BOX BRAKE


# OWNER'S MANUAL

***(FOR MODELS MANUFACTURED SINCE 09/21)***

**Phone: (360) 734-3482 • Online Technical Support: techsupport@woodstockint.com**



**V1.10.21** **#22091KS 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.**

# Contents



**USE THE QUICK GUIDE PAGE LABELS TO SEARCH OUT INFORMATION FAST!**

# INTRODUCTION

## Woodstock Technical Support

This machine has been specially designed to provide many years of trouble-free service. Close attention to detail, ruggedly built parts and a rigid quality control program assure safe and reliable operation.

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

We stand behind our machines! In the event that questions arise about your machine, please contact Woodstock International Technical Support at (360) 734-3482 Ext. 2 or send e-mail to: **techsupport@woodstockint.com**. Our knowledgeable staff will help you troubleshoot problems and process warranty claims.

If you need the latest edition, you can download it from **http://www.woodstockint.com/manuals**.
If you have comments about this manual, please contact us at:

**Woodstock International, Inc.**
**Attn: Technical Documentation Manager**
**P.O. Box 2309**
**Bellingham, WA 98227**
**Email: manuals@woodstockint.com**

# MACHINE SPECIFICATIONS



# MODEL M1118
# 48" PAN AND BOX BRAKE

**Product Dimensions**

Weight..... 313 lbs.
Width (side-to-side) x Depth (front-to-back) x Height..... 78-1/2 x 18 x 31 in.
Footprint (Length x Width)..... 52 x 12-1/2 in.

**Shipping Dimensions**

Type..... Wooden Crate
Content..... Machine
Weight..... 383 lbs.
Length x Width x Height..... 62 x 18 x 26 in.
Must Ship Upright..... Yes

**Main Specifications**

**Capacities**

Maximum Width..... 48 in.
Maximum Thickness at Half Width Mild Steel..... 16 Gauge
Maximum Thickness at Full Width Mild Steel..... 18 Gauge
Aluminum..... 11 Gauge
Soft Brass..... 14 Gauge
Annealed Phosphor Bronze..... 15 Gauge
Soft Copper..... 14 Gauge
Hard Copper..... 15 Gauge
Stainless Steel..... 20 Gauge
Brake Range..... 0 - 135 deg.
Minimum Reverse Bend..... 7/16 in.
Maximum Height of Pan/Box Brake Sides..... 2-1/2 in.
Number of Fingers..... 16
Width of Fingers..... 2, 3, 4 in.

**Construction**

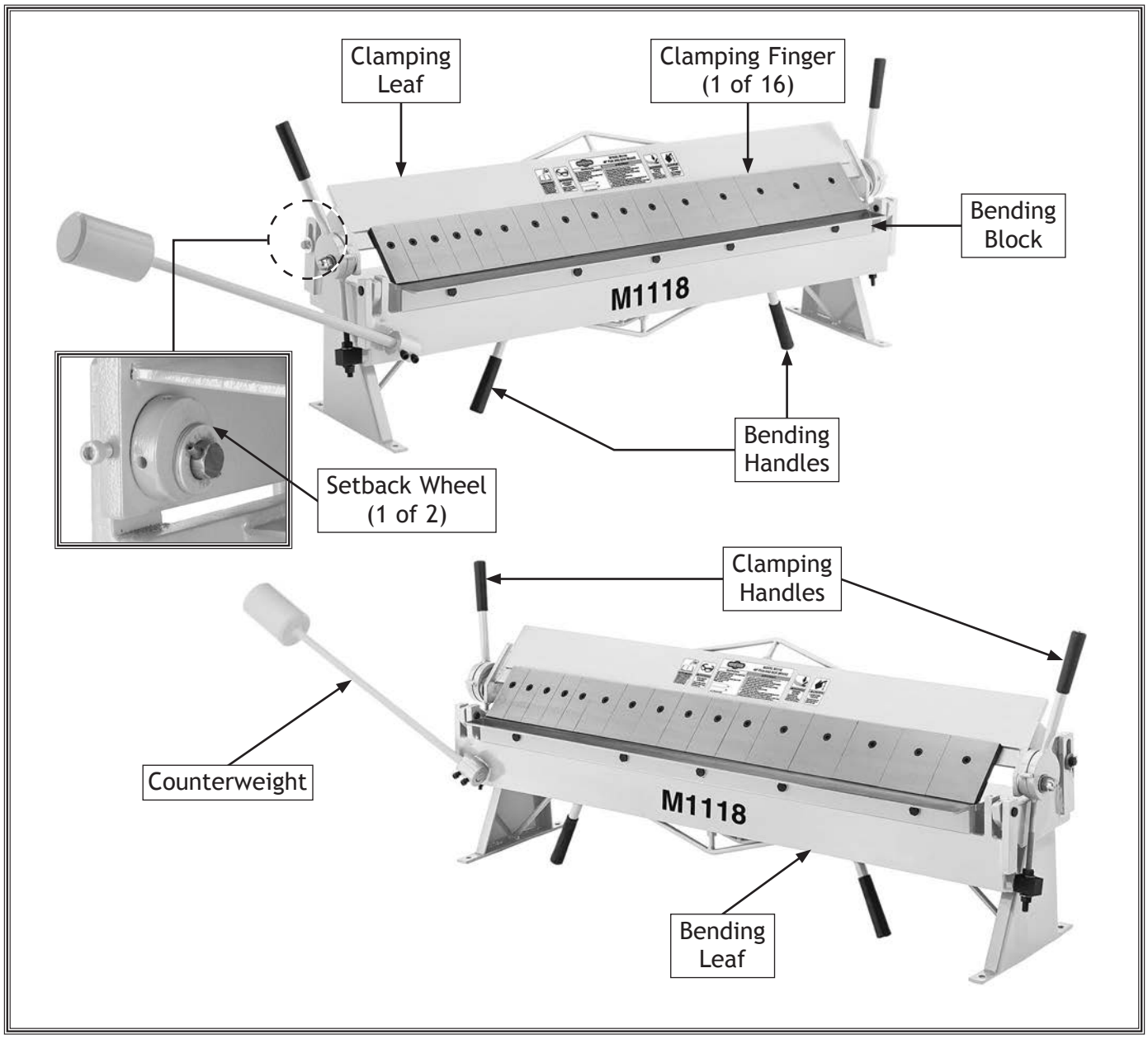
Base..... Steel
Bending Leaf..... Steel
Clamping Leaf..... Steel
Fingers..... Precision-Ground Steel, Hardened Edge

**Other**

Country of Origin ..... China
Warranty ..... 1 Year
Approximate Assembly & Setup Time ..... 15 Minutes
Serial Number Location ..... ID Label

# Identification

Become familiar with the names and locations of the controls and features shown below to better understand the instructions in this manual.




**⚠WARNING**

**To reduce your risk of serious injury or damage to the machine, read this entire manual BEFORE using machine.**

# Controls & Components

Refer to the **Figures 1–3** and the following descriptions to become familiar with the basic controls and components of this machine. Understanding these items and how they work will help you understand the rest of the manual and stay safe when operating this machine.

**⚠CAUTION**

**Sharp edges of sheet metal can easily cut fingers, hands, or other body parts. Always wear leather gloves when handling sheet metal, and always chamfer and deburr the edges.**

**A. Clamping Leaf:** Holds and positions clamping fingers.

**B. Clamping Handle (1 of 2):** Use to raise and lower clamping leaf.

**C. Clamping Finger (1 of 16):** Holds workpiece in place while bending block produces bend. Fingers can be individually removed or repositioned to allow clearance for workpiece.

**D. Bending Block:** Pivots with bending leaf to produce bend in workpiece.

**E. Clamping Pressure Adjustment Rod (1 of 2):** Move up or down to set clamping pressure on workpiece according to workpiece gauge. Lock rod in place with jam nuts.

**F. Bending Leaf:** Swivels up to bend workpiece.

**G. Bending Handle (1 of 2):** Use to raise bending leaf and form bend in workpiece.

**H. Counterweight:** Provides leverage for bending thick workpieces. Can be adjusted or removed.

**I. Setback Wheel (1 of 2):** Use to adjust distance between clamping fingers and bending block. Moves clamping leaf forward and backward.

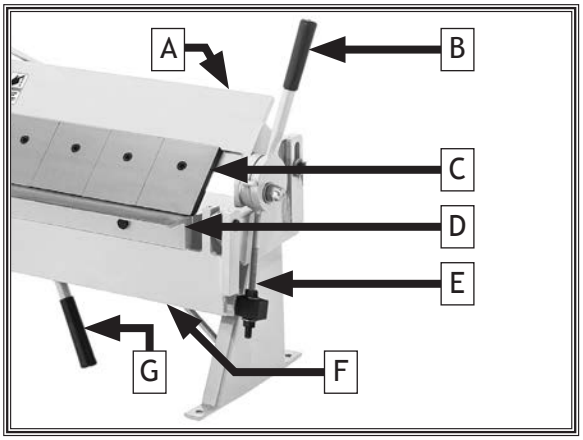



**Figure 1**. Controls and components—front.

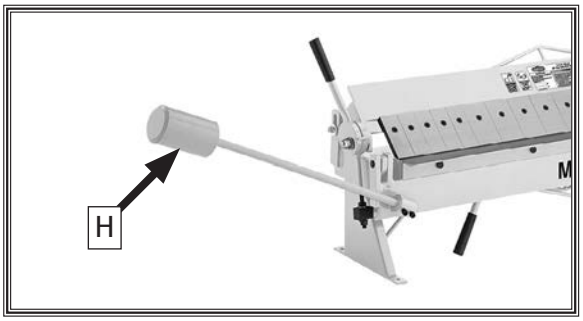



**Figure 2**. Bending leaf counterweight.

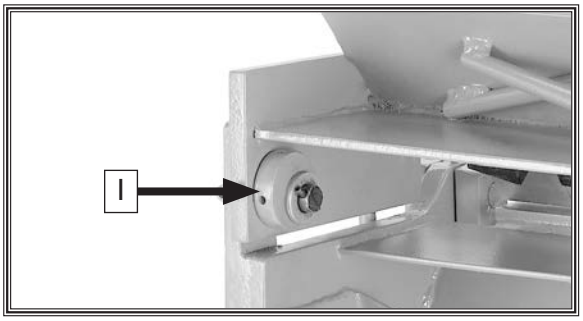



**Figure 3**. Controls and components—rear.

# SAFETY

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

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

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

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

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

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

## Standard Machinery Safety Instructions

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

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

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

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

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

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

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

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

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

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

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

**INTENDED USAGE.** Only use machine for its intended purpose—never make modifications without prior approval from Woodstock International. Modifying machine or using it differently than intended will void the warranty and may result in malfunction or mechanical failure that leads to serious personal injury or death!

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

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

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

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

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

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

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

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

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

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

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

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

# Additional Safety for Pan & Box Brakes

**Hands/fingers can be crushed or severely pinched if caught between clamping fingers and bending blocks during operation. Severe cuts can occur to hands/fingers when contacting sharp workpiece edges. To minimize risk of injury, anyone operating this machine MUST completely heed the hazards and warnings below.**

**CRUSHING & AMPUTATION INJURIES:** The brake can quickly crush or amputate fingers, hands, or body parts. Never place fingers, hands, or body parts between or near the clamping fingers and bending blocks during operation.

**SECURING BRAKE:** Before using, secure the brake to the workbench so it can support the weight and dynamic forces involved in bending sheet metal. Otherwise, the brake may unexpectedly move or tip during operation, causing serious injury or property damage.

**TOOLS IN POOR CONDITION:** Using this tool with loose hardware or damaged components could result in sudden, unexpected movements during use. Inspect the brake for cracked components, damaged linkage, levers, or loose fasteners. Correct any problems before use.

**LEAVING UNATTENDED:** To reduce the risk of crushing or amputation injuries with children or visitors, lower the clamping leaf when not in use.

**METAL EDGES:** Sharp edges on sheet metal can produce severe cuts. Always wear leather gloves and chamfer/de-burr sharp sheet metal edges before bending the workpiece with this machine.

**COMFORTABLE BODY POSITION:** The required body motion to operate the brake can result in operator injury over time if proper ergonomics are not used during operation.

**HEATING METAL:** Heating the workpiece with a torch or welding it while clamped in the brake may weaken the fingers, blocks, and frame. Do not use a torch, welder, or other similar heating tool near the brake.

**CAPACITY:** Exceeding the capacity of the brake may result in sudden breakage that ejects dangerous metal debris at the operator or bystanders, or causes machine damage. Only use sheet metal that is within the rated capacity of this brake (refer to the Machine Data Sheet).

# SETUP

## Unpacking

This machine has been carefully packaged for safe transportation. If you notice the machine has been damaged during shipping, please contact your authorized Shop Fox dealer immediately.

## Items Needed for Setup

The following items are needed, but not included, to set up your machine.

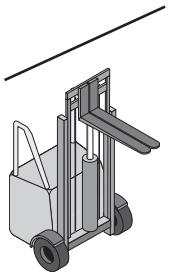
| Description | Qty |
|---|---|
| • Forklift | 1 |
| • Lifting Straps (rated for 500 lbs.) | 2 |
| • Additional Person | 1 |
| • Safety Glasses for Each Person | 1 Pair |
| • Leather Work Gloves for Each Person | 1 Pair |
| • Solvent/Cleaner | As Needed |
| • Clean Shop Rags | As Needed |
| • Wood 2x4 (12" Length) | 1 |
| • Mounting Hardware (**Page 14**) | As Needed |

**⚠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 and leather work gloves during the entire setup process!**

**⚠WARNING**

**HEAVY LIFT!**

**Straining or crushing injury may occur from improperly lifting the machine or some of its parts. To reduce this risk, get help from other people and use a forklift (or other lifting equipment) rated for weight of machine.**

# Inventory

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

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

| **Box Contents (Figures 4-5):** | **Qty** |
|---|---|
| **A.** Pan & Box Brake | 1 |
| **B.** Counterweight | 2 |
| **C.** Hex Wrench 8mm | 1 |
| **D.** Hex Wrench 6mm | 1 |

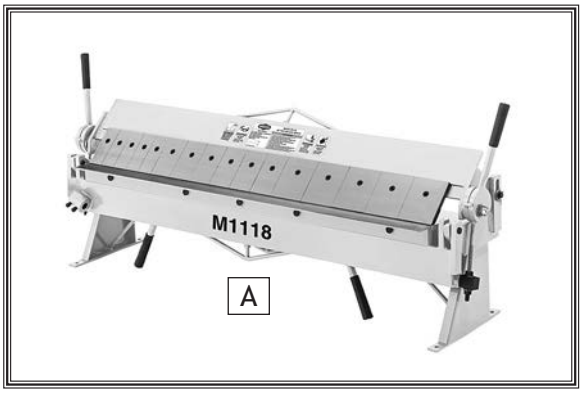



**Figure 4.** Pan & box brake.

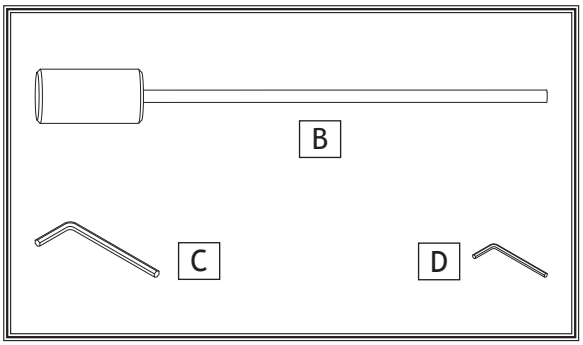



**Figure 5.** Loose inventory.

# Machine Placement

## Workbench Load

Refer to the **Machine Specifications** for the weight and footprint specifications of your machine. Some workbenches may require additional reinforcement to support the weight of the machine and workpiece materials.

## Placement Location

Consider anticipated workpiece sizes and additional space needed for auxiliary stands, work tables, or other machinery when establishing a location for this machine in the shop. Below is the minimum amount of space needed for the machine.

**⚠CAUTION**

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

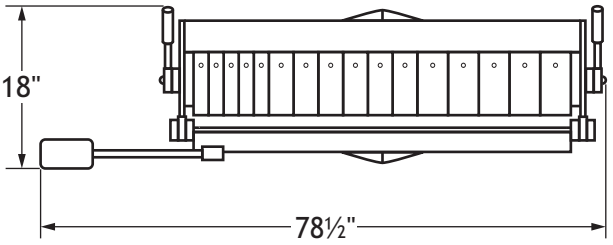



**Figure 6.** Working clearances.

# Cleaning Machine

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.

***NOTICE***

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

# Cleaning Fingers

Although rust preventative was applied only to the visible surfaces of the clamping fingers (see **Figure 7**), some may have worked in between and underneath them. We recommend you remove all the clamping fingers and thoroughly clean them.

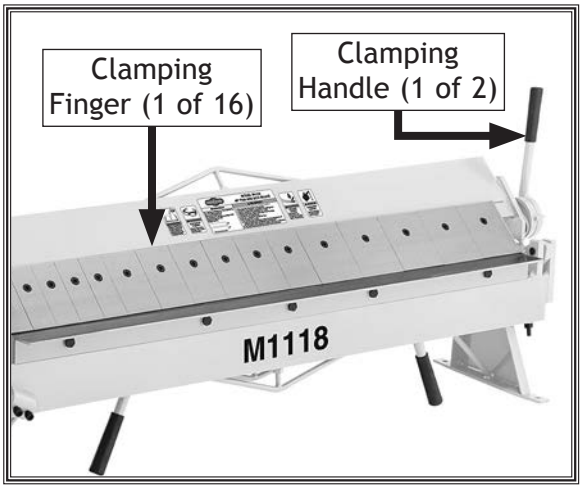



**Figure 7.** Location of clamping handle and fingers.



To remove the clamping fingers, move the clamping handles (see **Figure 7**) toward the back of the machine to raise the clamping leaf, then loosen the cap screws and remove the clamping fingers and toe clamps (see **Figure 8**).

After all the fingers have been cleaned, coat them liberally with a metal protectant (see **Page 23**), and clean the finger guide on the clamping leaf. Place the fingers along the guide on the clamping leaf, align the toe clamps to catch the bottom of the clamping leaf, and tighten the cap screws enough so the fingers will not fall off. When done, make sure the fingers are properly aligned (refer to **Aligning Fingers** on **Page 16**).

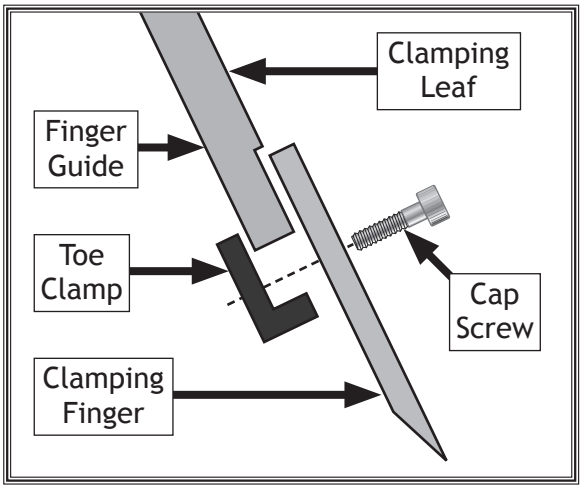
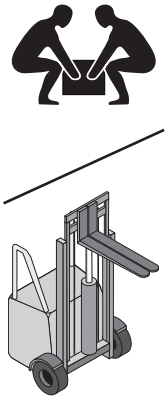



**Figure 8.** Clamping finger components.

# Lifting & Placing

Use a forklift to lift the machine off the pallet and onto a suitable location.



**⚠WARNING**

**HEAVY LIFT!**

**Straining or crushing injury may occur from improperly lifting the machine or some of its parts. To reduce this risk, get help from other people and use a forklift (or other lifting equipment) rated for weight of machine.**

**To lift and place machine, do these steps:**

1. Using a forklift, move crate to machine work site location.
2. Remove crate top and sides, components inside crate, and blocks around machine base.
3. Remove fasteners securing machine to base.
4. Secure clamping leaf by inserting a wood 2x4 between clamping leaf and bending block (see **Figure 9**).
5. Use forklift to raise machine, then place onto workbench.
6. Fasten machine to workbench following instructions in **Bench Mounting** on **Page 14**.

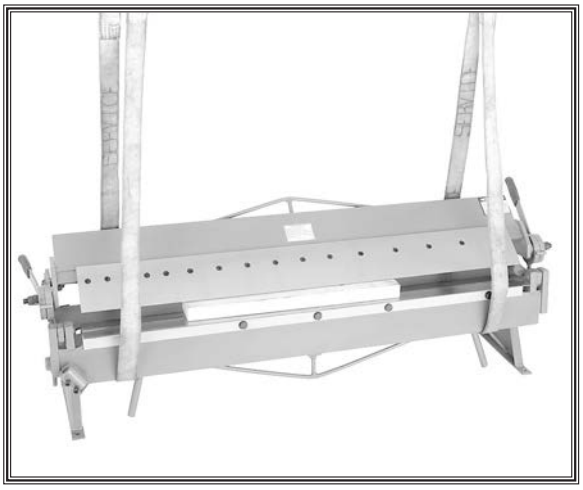


**Figure 9.** Example of pan & box brake supported by lifting straps and 2x4 to secure clamping leaf.

# Bench Mounting

**Number of Mounting Holes..... 4**
**Diameter of Mounting Hardware Needed.....3/8"**

The base of this machine has mounting holes that allow it to be fastened to a workbench or other mounting surface to prevent it from moving during operation and causing accidental injury or damage.

The strongest mounting option is a "Through Mount" (see example) where holes are drilled all the way through the workbench—and hex bolts, washers, and hex nuts are used to secure the machine in place.

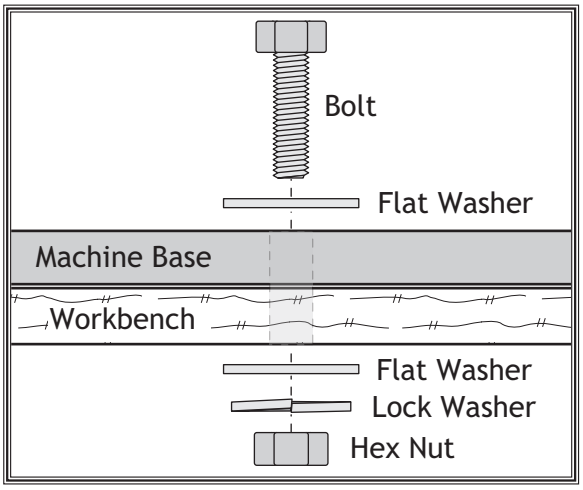



**Figure 10.** Typical "Through Mount" setup.

Another option is a "Direct Mount" (see example) where the machine is secured directly to the workbench with lag screws and washers.

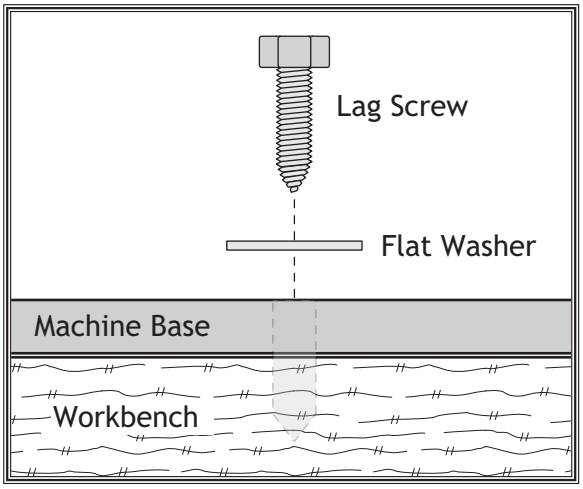



**Figure 11.** Typical "Direct Mount" setup.

# OPERATIONS

## General

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

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

The overview below provides the novice machine operator with a basic understanding of how the machine is used during operation, so the machine controls/components discussed later in this manual are easier to understand. Due to its generic nature, this overview is **NOT** intended to be an instructional guide.

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

1. Examines workpiece to make sure it is suitable for bending.
2. If required for the operation, adjusts clamping finger spacing.
3. Positions counterweight depending on workpiece thickness.
4. Adjusts clamping pressure for workpiece thickness.
5. Correctly adjusts setback.
6. Puts on safety glasses, leather boots, and leather gloves.
7. Properly positions workpiece underneath clamping fingers and lowers clamping leaf to secure workpiece.
8. With body square to brake and using both hands, raises bending leaf to form correct bend angle.
9. Lowers bending leaf and removes workpiece.

**⚠WARNING**

**To reduce your risk of serious injury or damage to the machine, read this entire manual BEFORE using machine.**

**⚠WARNING**

**Bodily injury could result from using this machine. Always wear safety glasses, leather work boots, and heavy duty leather work gloves when operating this machine or whenever handling sheet metal.**

***NOTICE***

**If you are an inexperienced operator, we strongly recommend that you read books or trade articles, or seek training from an experienced operator of this type of machinery before performing unfamiliar operations. Above all, safety must come first!**

# Spacing Fingers

The clamping 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 inside width of your pan or box (see **Figure 12**).

**Tool Needed:** **Qty**
Hex Wrench 8mm .....1

**To space clamping fingers, do these steps:**

1. Loosen cap screw on each finger you need to remove.

2. Remove fingers and toe clamps from clamping leaf, as shown in **Figure 12**, and set them aside.

   **Note:** *You may need to mix and match finger widths or space fingers appropriately to match the inside width of your pan or box.*

3. Align remaining fingers and tighten cap screws.

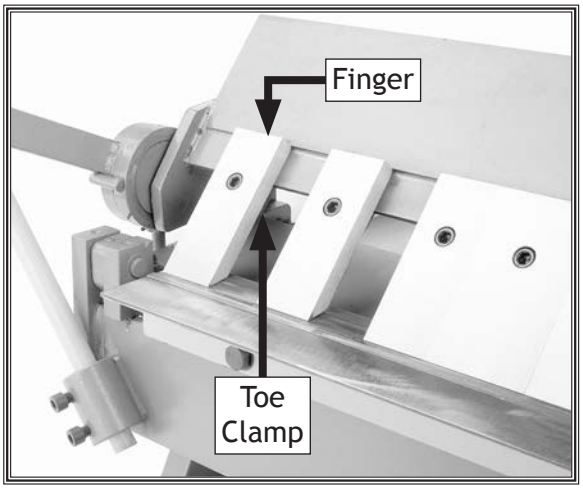



**Figure 12.** Example of finger spacing.

# Aligning Fingers

To help ensure the bend is even along its length, the clamping fingers must be parallel with the clamping surface and bending block.

**Tool Needed:** **Qty**
Hex Wrench 8mm .....1

**To align clamping fingers, do these steps:**

1. Lower clamping leaf until clamping fingers just touch clamping surface (see **Figure 13**).

2. Look closely along bottom edge of each finger to determine if any are out of alignment with clamping surface and bending block, as shown in **Figure 13**.

3. Loosen cap screw on misaligned finger just enough to move it up or down.

4. Align finger parallel with clamping surface and bending block, and then tighten cap screw.

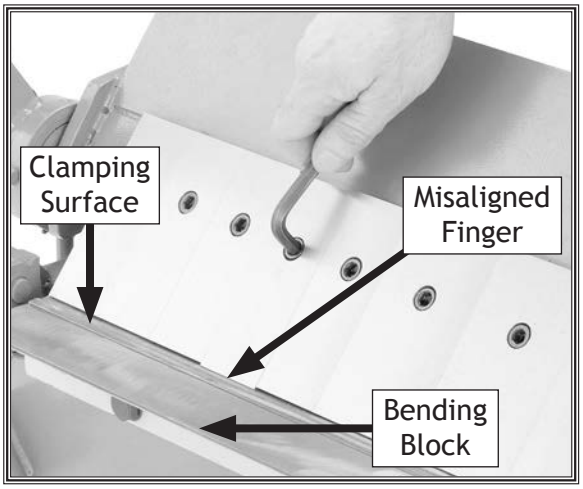



**Figure 13.** Example of a misaligned clamping finger.

# Adjusting Setback

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

Setback is the distance from the forward edge of the fingers to the edge of the bending leaf, as shown in **Figure 14**. The setback distance is determined by the gauge of the workpiece material and the desired radius of the bend.

Setback is normally adjusted 1½ times the thickness of 22 gauge and thinner workpieces, and two times the thickness of workpieces thicker than 22 gauge. M1118 material gauge capacities are listed in the **Machine Specifications** on **Page 3**.

**Tool Needed:** **Qty**
Hex Wrench 6mm .....1

**To adjust setback, do these steps:**

1. Determine setback required for bend.
2. Raise clamping fingers about ½" off of clamping surface (see **Figure 14, A**).
3. Loosen cap screws securing setback wheels (see **Figure 15**).
4. Rotate both setback wheels until desired setback distance is achieved.

   **Note:** *Setback wheels are eccentric. Turning them one full turn will bring clamping leaf back to its original position.*

   **Tip:** *If you find it hard to turn setback wheels with your fingers, insert a hex wrench into the holes on edges of wheels to gain leverage.*
5. Lower clamping fingers onto clamping surface and check setback distance.
6. If necessary, repeat **Steps 2**–**4** until desired setback is achieved.
7. Check finger alignment (refer to **Aligning Fingers** on **Page 16**).

**NOTICE**

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

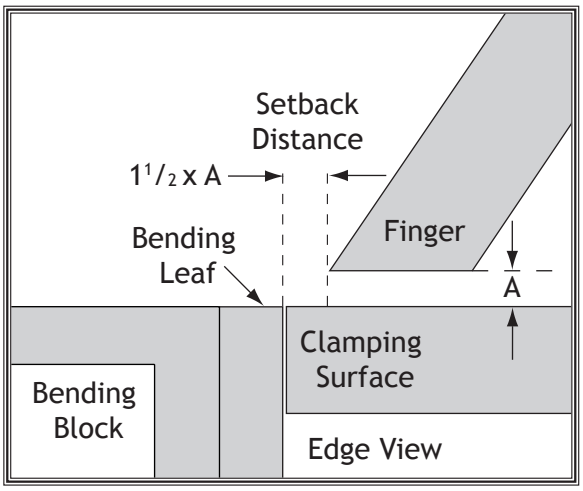



**Figure 14.** Determining setback distance for workpieces 22 gauge and thinner.

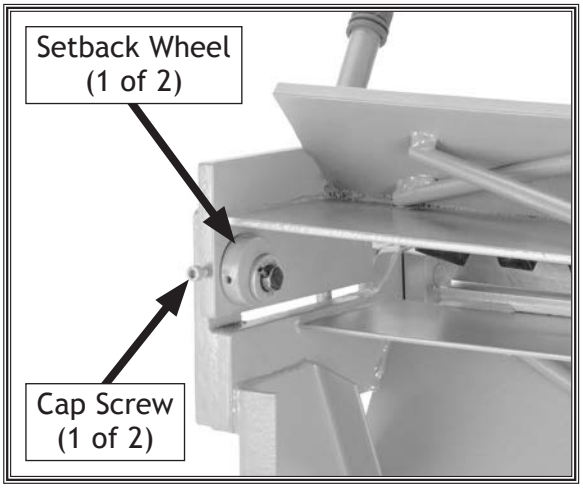



**Figure 15.** Location of setback wheel and cap screw.

# Adjusting Clamping Pressure

Clamping pressure must be properly adjusted for different workpiece thicknesses. The ideal pressure will have medium resistance at the clamping handles, and will lock the workpiece into position easily—much like a pair of Vice-Grips®. Pressure is adjusted by rotating the adjustment nuts on the clamping pressure adjustment rods (see **Figure 16**).

**Tool Needed:** **Qty**
Open-End Wrench 19mm.....1

**To adjust clamping pressure, do these steps:**

1. Lower clamping leaf so clamping fingers just touch workpiece.

   **Tip:** *It is best if the workpiece used in this procedure is same width as pan and box brake. If not, place two pieces of metal of same thickness as workpiece on each end of brake.*

   — If clamping handles *are* at 10 o'clock (viewed from right end of brake) and 2 o'clock (viewed from left end of brake) position, clamping pressure is suitable for workpiece. Proceed to **Step 4**.

   — If clamping handles *are not* at 10 o'clock (viewed from right end of brake) and 2 o'clock (viewed from left end of brake) position, clamping pressure *is not* suitable for workpiece. Proceed to **Step 2**.

2. Loosen adjustment nuts (see **Figure 16**) and turn both sets up or down until clamping handles are in 10 and 2 o'clock positions when clamping fingers just touch workpiece.

3. Tighten adjustment nuts to secure position.

4. Make sure clamping pressure is even on both ends of brake by raising one end and testing clamping action of other end. Clamping action should be same on both ends.

5. If necessary, repeat **Steps 1-4** until proper clamping pressure is achieved.

   **Note:** *Proper clamping pressure is achieved when the clamping handle "snaps" (or locks) into position against handle stop (see **Figure 16**).*

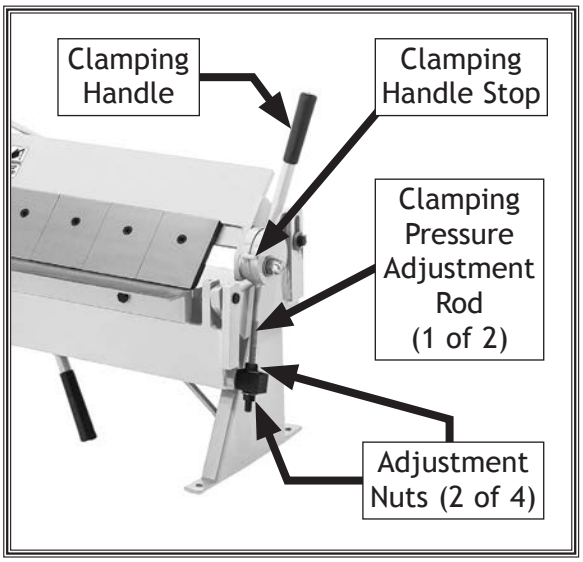



**Figure 16.** Location of clamping pressure components.

# Basic Bending

All bending operations require the clamping fingers to be parallel with the edge of the clamping surface and bending block, and the setback and clamping pressure must be correctly adjusted for the thickness of the workpiece.

**To perform basic bending operations, do these steps:**

1. Determine setback required for bend and adjust machine if needed (refer to **Adjusting Setback** on **Page 17**).
2. Raise clamping leaf.
3. Insert workpiece between clamping fingers and clamping surface.
4. Align bend mark(s) on workpiece with fingers, then clamp it in place using clamping handles.

   **Note:** *If clamping handles do not lock, the clamping pressure may need to be adjusted (refer to **Adjusting Clamping Pressure** on **Page 18**).*
5. With body square to brake and using both hands, lift bending leaf until workpiece reaches desired bend angle.
6. Raise clamping leaf and remove workpiece.

# Bending Allowance

When a bend is made in sheet metal, the inside surface of the bend compresses and the outside surface stretches. To bend metal objects accurately, you need to consider the length of each bend, especially when more than one bend is required. This is called bend allowance.

As a rule of thumb, subtract the 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 and error due to differences in sheet metal hardness, whether the bend is with or across the grain, and the bend radius. Use metalworking handbooks or the internet to find bend allowances accurate enough for average use.

**⚠WARNING**

**Do not operate machine unless it has been securely mounted to a workbench, or it could tip over on you, causing severe injury!**

**⚠WARNING**

**Bodily injury could result from using this machine. Always wear safety glasses, leather work boots, and heavy duty leather work gloves when operating this machine or whenever handling sheet metal.**

**⚠CAUTION**

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

**⚠CAUTION**

**Sharp edges of sheet metal can easily cut fingers, hands, or other body parts. Always wear leather gloves when handling sheet metal, and always chamfer and deburr the edges.**

# Positioning Counterweight

The counterweight helps to provide additional leverage when bending thick workpieces, and can be adjusted to vary the weight being applied by the bending leaf.

The gauge of the workpiece determines where the counterweight should be placed. For example, the counterweight would be positioned low in the collar for bending 20-gauge steel, and high for bending 12-gauge steel.

**⚠WARNING**

**Lifting heavy machinery or parts without proper assistance or equipment may result in strains, back injuries, crushing injuries, or property damage.**

**Items Needed:** **Qty**
Additional Person .....1
Hex Wrench 8mm .....1

**To position counterweight, do these steps:**

1. Loosen (2) cap screws on bending leaf counterweight collar (see **Figure 17**).

2. Have an additional person insert counterweight into counterweight collar, then tighten (2) cap screws to secure.

   — For maximum weight leverage, position narrow end of counterweight flush with bottom of counterweight collar (see **Figure 17**).

   — For less weight leverage, extend narrow end of counterweight beyond bottom of counterweight collar until desired weight is achieved.

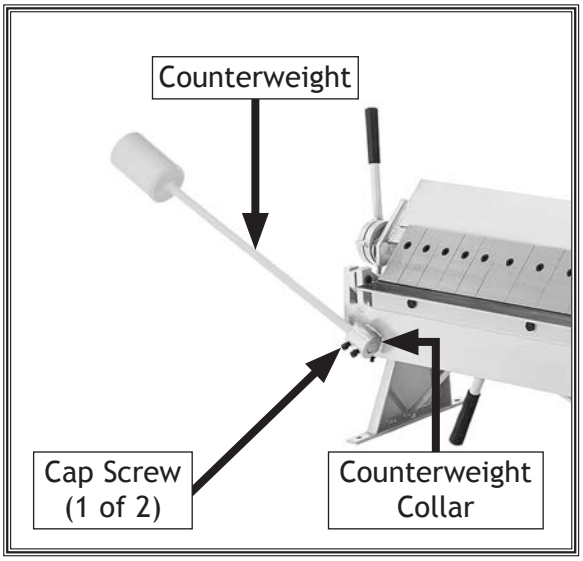



**Figure 17.** Location of bending leaf counterweight clamping components.

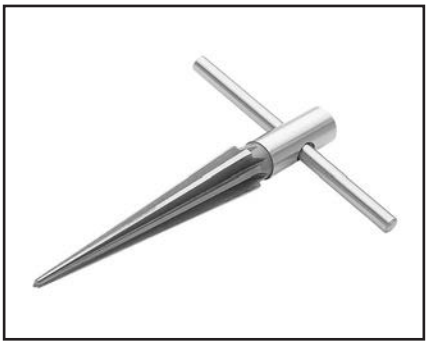
# ACCESSORIES

## Pan & Box Brake Accessories

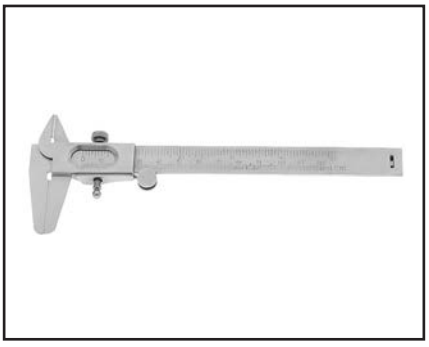
The following Pan & Box Brake accessories may be available through your local Woodstock International Inc. Dealer. If you do not have a dealer in your area, these products are also available through online dealers. Please call or e-mail Woodstock International Inc. Customer Service to get a current listing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

The Shop Fox **M1041 12" Plate Shear** can be mounted for stationary use and features compound lever action for tremendous mechanical advantage. Using a plate shear is the fastest way to cut sheet metal, plate stock, and round stock to size.

The Shop Fox **D4140 Repairman's Taper Reamer** features seven flutes for smooth bores, removable handle for compact storage, and reams holes from 1/8" to 5/8". Reamer measures 5" long. Handle measures 3 1/2" long.



The Shop Fox **D3385 5" Vernier Caliper** measures inside, outside and depth dimensions up to 5" in sixteenths of an inch and millimeters. A vernier scale provides readings as small as 1/128" and 0.1mm. Includes lock knob and thumb roll.



# MAINTENANCE

## General

For optimum performance from this machine, this maintenance schedule must be strictly followed.

**⚠WARNING**
**Always wear safety glasses during the entire maintenance process!**

**Ongoing**
To minimize your risk of injury and maintain proper machine performance, stop operations immediately if you ever observe any of the items below, and fix the problem before continuing operations:

- Loose mounting bolts.
- Worn or damaged clamping fingers.
- Any other unsafe condition.

**Daily Maintenance**
- Lubricate clamping leaf pivots.
- Lubricate bending leaf pivots.

**Weekly Maintenance**
- Lubricate clamping leaf guide pin slots.

## Cleaning & Protecting

Cleaning the Model M1118 is relatively easy. Use a brush to clear away any metal debris and dust from the clamping fingers, clamping base, and bending blocks.

Use a shop rag to carefully apply a thin coat of quality metal protectant to all exposed unpainted surfaces to prevent corrosion.

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

# Lubrication

## Clamping Leaf Pivots

Oil Type.....ISO 32 Equivalent
Oil Amount ..... 1–2 Drops
Lubrication Frequency ..... Daily, or As Needed

Use an oil can to add lubricant to the hole shown in **Figure 18** (one on each side of the brake), then raise and lower the clamping leaf several times to distribute the lubricant.

## Bending Leaf Pivots

Oil Type.....ISO 32 Equivalent
Oil Amount ..... 1–2 Drops
Lubrication Frequency ..... Daily, or As Needed

Use an oil can to add lubricant to the hole shown in **Figure 18** (one on each side of the brake), then raise and lower the bending leaf several times to distribute the lubricant.

## Clamping Leaf Guide Pin Slots

Oil Type.....NLGI#2 Equivalent
Oil Amount ..... Thin Coat
Lubrication Frequency .....Weekly, or As Needed

Apply a thin coat of grease to the guide pin slots shown in **Figure 18**.

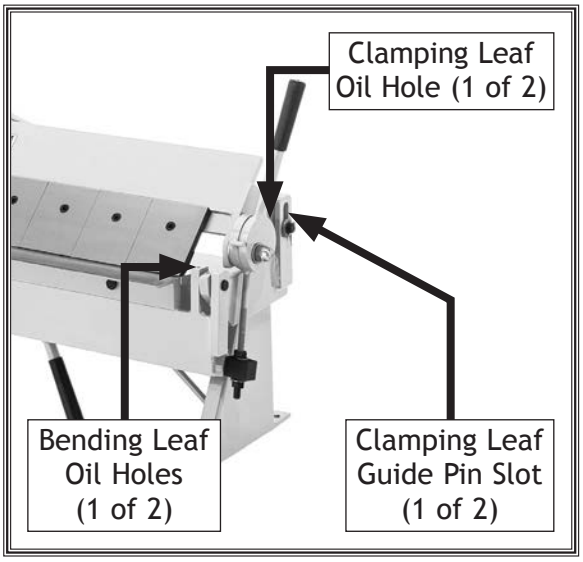



**Figure 18.** Lubrication points.

# SERVICE

## General

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

If you require additional machine service not included in this section, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: **techsupport@woodstockint.com**.

## Aligning Bending Block

To help ensure the bend is even along its length, the bending block must be mounted flush with the top of the bending leaf. The bending block is factory-aligned and should only need re-alignment after extended use.

**Tool Needed** **Qty**
Open-End Wrench 17mm.....1

**To align bending block, do these steps:**

1. Look closely along tops of bending block and bending leaf (see **Figure 19**) to determine if they are out of alignment.

2. Loosen (5) hex bolts (see **Figure 19**) that secure bending block to bending leaf just enough to move it up or down.

3. Align bending block flush with top of bending leaf, and then tighten hex bolts.

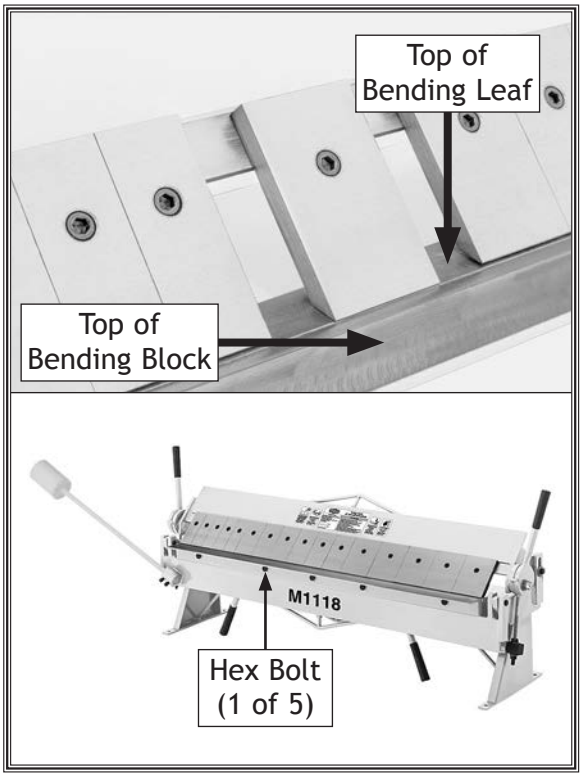



**Figure 19.** Location of hex bolts for aligning bending block.

# Troubleshooting

The following troubleshooting tables cover common problems that may occur with this machine. If you need replacement parts or additional troubleshooting help, contact our Technical Support.

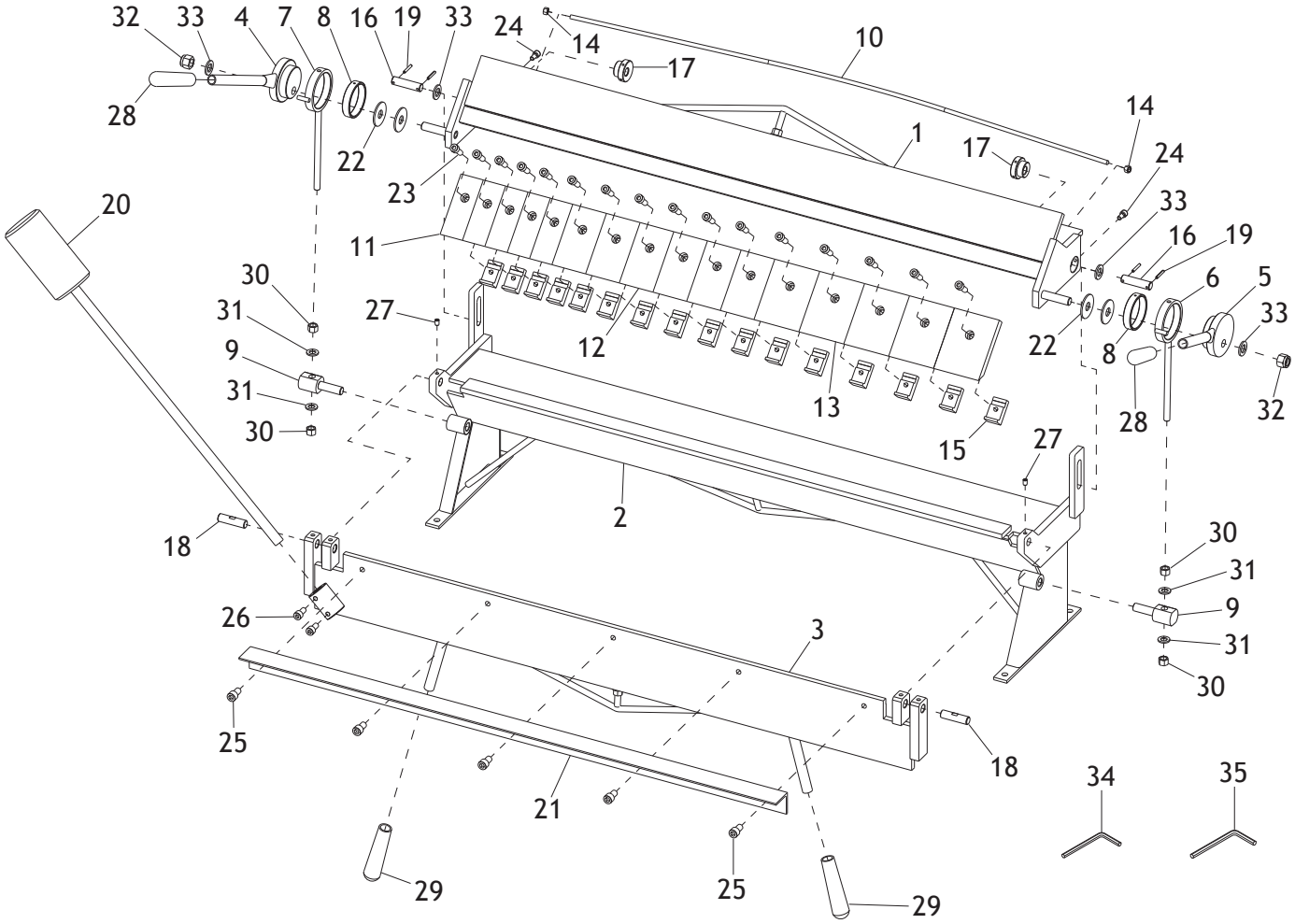
**Note:** *Before contacting Tech Support, find the machine serial number and manufacture date, and if available, your original purchase receipt. This information is required to properly assist you.*

## Operation

| PROBLEM | POSSIBLE CAUSE | CORRECTIVE ACTION |
|---|---|---|
| Heavy resistance during bends. | 1. Machine capacities exceeded.<br>2. Not enough setback. | 1. Use sheet metal gauge/thickness size within machine capacities (**Page 3**).<br>2. Properly calculate and adjust setback (**Page 17**). |
| Bend radius not consistent along workpiece. | 1. Machine capacities exceeded.<br>2. Clamping fingers not aligned.<br>3. Bending block not flush with bending leaf.<br>4. Too much setback. | 1. Use sheet metal gauge/thickness size within machine capacities (**Page 3**).<br>2. Properly align clamping fingers (**Page 16**).<br>3. Properly align bending block (**Page 24**).<br>4. Properly calculate and adjust setback (**Page 17**). |
| Workpiece moves while bending. | 1. Machine capacities exceeded.<br>2. Clamping pressure not correctly adjusted. | 1. Use sheet metal gauge/thickness size within machine capacities (**Page 3**).<br>2. Correctly adjust clamping pressure for workpiece thickness (**Page 18**). |

# PARTS

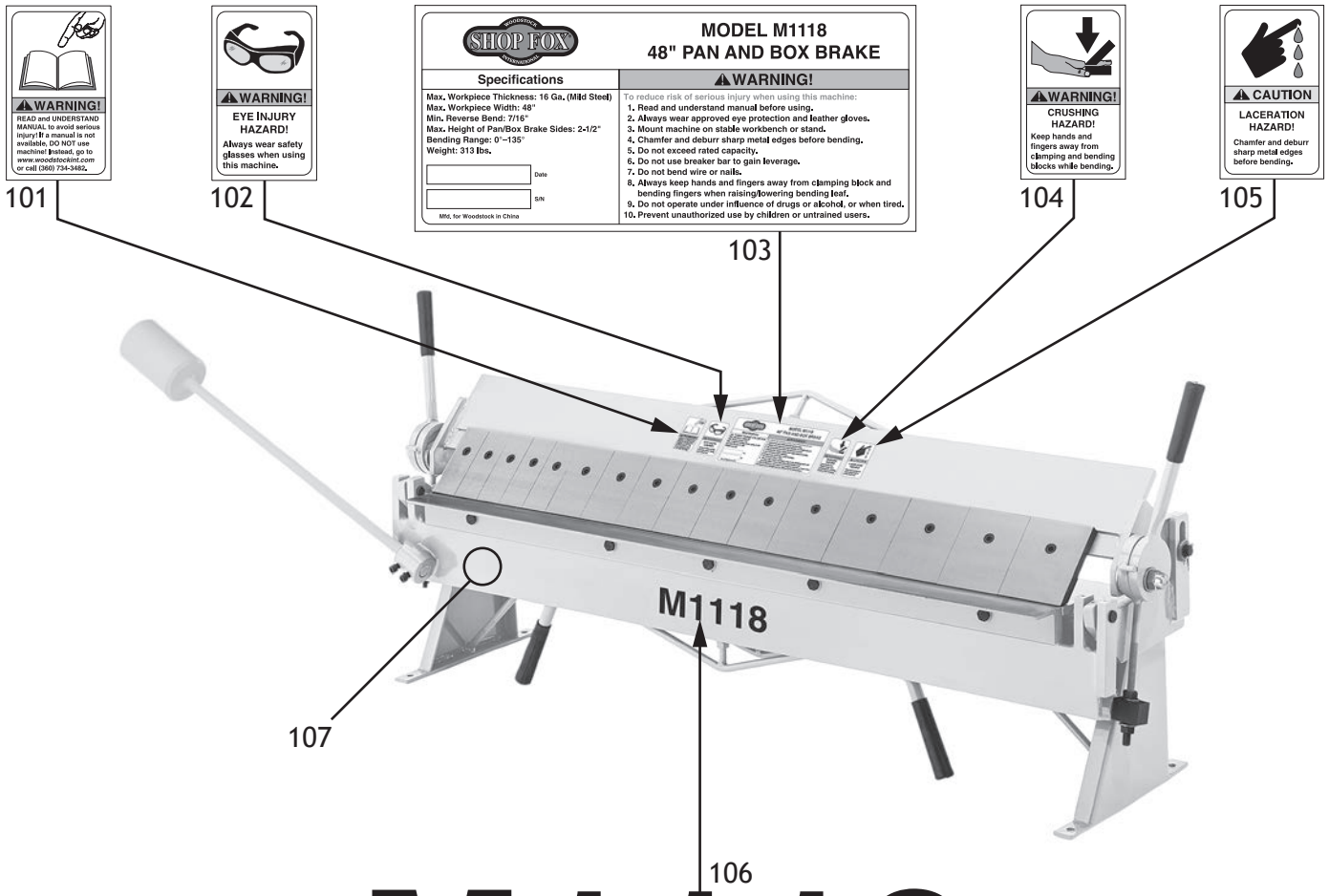
## Main




| REF | PART # | DESCRIPTION |
|---|---|---|
| 1 | XM1118001 | CLAMPING LEAF |
| 2 | XM1118002 | STAND |
| 3 | XM1118003 | BENDING LEAF |
| 4 | XM1118004 | HANDLE (LEFT) |
| 5 | XM1118005 | HANDLE (RIGHT) |
| 6 | XM1118006 | SWIVEL ROD (RIGHT) |
| 7 | XM1118007 | SWIVEL ROD (LEFT) |
| 8 | XM1118008 | SHAFT SLEEVE |
| 9 | XM1118009 | CONNECTING SHAFT |
| 10 | XM1118010 | TENSION ROD |
| 11 | XM1118011 | CLAMPING FINGER 2" |
| 12 | XM1118012 | CLAMPING FINGER 3" |
| 13 | XM1118013 | CLAMPING FINGER 4" |
| 14 | XM1118014 | HEX NUT M8-1.25 |
| 15 | XM1118015 | TOE CLAMP M10-1.5 |
| 16 | XM1118016 | ECCENTRIC SHAFT |
| 17 | XM1118017 | ECCENTRIC BUSHING |
| 18 | XM1118018 | BENDING LEAF PIVOT SHAFT |

| REF | PART # | DESCRIPTION |
|---|---|---|
| 19 | XM1118019 | ROLL PIN 4 X 30 |
| 20 | XM1118020 | COUNTERWEIGHT |
| 21 | XM1118021 | BENDING BLOCK |
| 22 | XM1118022 | FENDER WASHER 16MM |
| 23 | XM1118023 | CAP SCREW M10-1.5 X 30 |
| 24 | XM1118024 | CAP SCREW M8-1.25 X 16 |
| 25 | XM1118025 | CAP SCREW M12-1.75 X 20 |
| 26 | XM1118026 | CAP SCREW M10-1.5 X 20 |
| 27 | XM1118027 | SET SCREW M8-1.25 X 12 |
| 28 | XM1118028 | UPPER HANDLE COVER |
| 29 | XM1118029 | LOWER HANDLE COVER |
| 30 | XM1118030 | HEX NUT M12-1.75 |
| 31 | XM1118031 | FLAT WASHER 12MM |
| 32 | XM1118032 | LOCK NUT M16-2 |
| 33 | XM1118033 | FLAT WASHER 16MM |
| 34 | XM1118034 | HEX WRENCH 6MM |
| 35 | XM1118035 | HEX WRENCH 8MM |

# Labels & Cosmetics




# M1118

| REF | PART # | DESCRIPTION |
|---|---|---|
| 101 | XM1118101 | READ MANUAL LABEL |
| 102 | XM1118102 | SAFETY GLASSES LABEL |
| 103 | XM1118103 | MACHINE ID LABEL |
| 104 | XM1118104 | PINCH HAZARD LABEL |

| REF | PART # | DESCRIPTION |
|---|---|---|
| 105 | XM1118105 | LACERATION HAZARD LABEL |
| 106 | XM1118106 | MODEL NUMBER LABEL |
| 107 | XM1118107 | TOUCH-UP PAINT, SHOP FOX WHITE |

## ⚠WARNING

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

# WARRANTY

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

Woodstock International, Inc. will repair, replace, or arrange for a dealer refund, at its expense and option, the Shop Fox machine or machine part proven to be defective for its designed and intended use, provided that the original owner returns the product prepaid to an authorized warranty or repair facility as designated by our Bellingham, Washington office with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

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

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

To register the warranty, go to **https://www.woodstockint.com/warranty**, or scan the QR code below. You will be directed to the Warranty Registration page on www.woodstockint.com. Enter all applicable production information.

WARRANTY

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