

# *Grizzly* *Industrial, Inc.*®

## MODEL T23034 50" SLIP ROLL 16 GAUGE OWNER'S MANUAL



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**WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE  
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(FOR MODELS MANUFACTURED SINCE 4/10) #JB13111 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.

		<b>MODEL GXXXX</b> <b>MACHINE NAME</b>	
<b>SPECIFICATIONS</b>		<b>WARNING!</b>	
Motor:		<b>Manufacture Date of Your Machine</b> ing this machine: operation. s and respirator. sted/setup and suit before starting.	
Specification:			
Specification:			
Specification:			
Weight:			
<input type="text"/> Date			
<input type="text"/> Serial Number			
Manufactured for Grizzly in Taiwan			
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.			

For your convenience, we post all available manuals and manual updates for free on our website at [www.grizzly.com](http://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 service questions, parts requests or general questions about the machine, please call or write us at the location listed below.

Grizzly Industrial, Inc.  
1203 Lycoming Mall Circle  
Muncy, PA 17756  
Phone: (570) 546-9663  
E-Mail: [techsupport@grizzly.com](mailto:techsupport@grizzly.com)

We want your feedback on this manual. If you can take the time, please email or write to us at the address below and tell us how we did:

Grizzly Industrial, Inc.  
c/o Technical Documentation Manager  
P.O. Box 2069  
Bellingham, WA 98227-2069  
Email: [manuals@grizzly.com](mailto:manuals@grizzly.com)

## Machine Description

The Model T23034 50" Slip Roll is used to form radius bends in metals up to 16 gauge thickness.

To create bends, the sheet metal is first placed between the top and bottom rollers. The workpiece is then fed through the top and bottom rollers and into the rear roller. By turning the radius adjustment knobs, the rear roller can be raised, forming a bend in the workpiece.

Small diameter tubing and wire can be shaped using the wire channels located on one end of the lower and rear roller.

The top roller is easily removed to allow unloading of cylindrical-shaped final workpieces.



# Identification

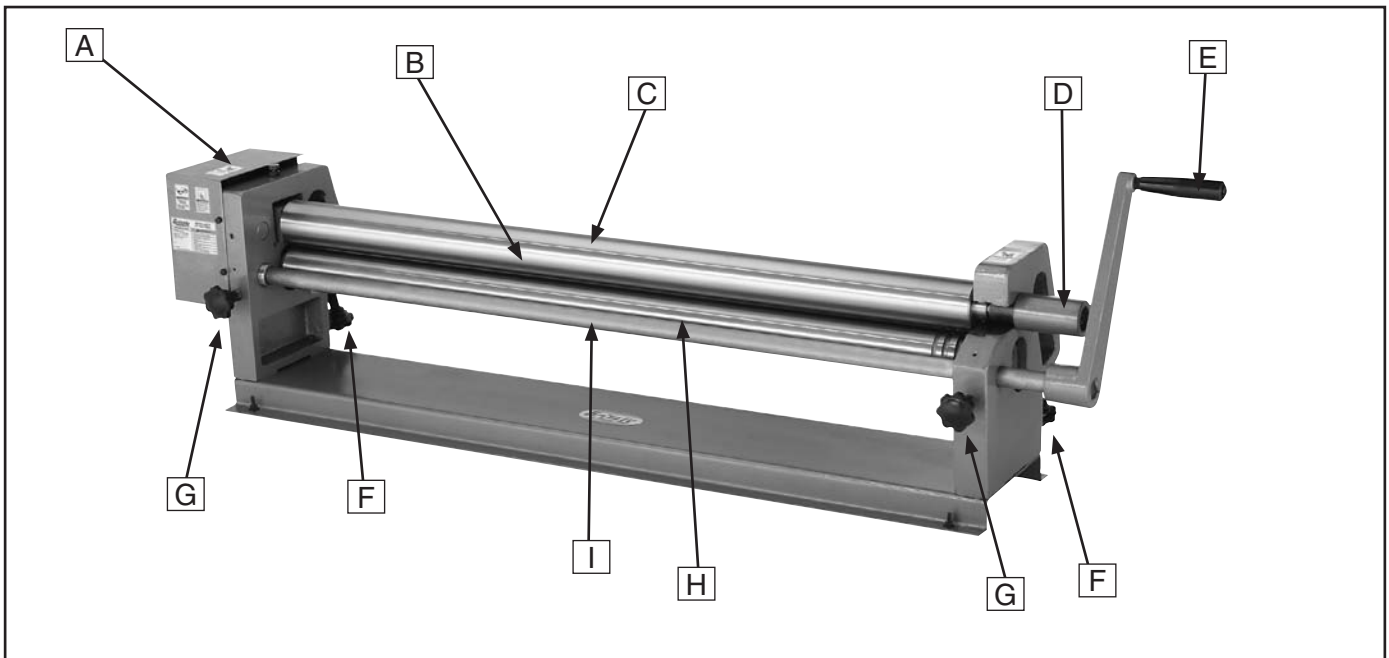


Figure 1. Identification.

## Identification List (Figures 1 and 2)

- A. Gear Assembly Cover
- B. Top Roller
- C. Rear Roller
- D. Removable Bushing
- E. Crank
- F. Radius Adjustment Knob
- G. Thickness Adjustment Knob
- H. Bottom Roller
- I. Crank Shaft Roller

## Sample Illustration (Figure 2)

Throughout this manual, diagrams are used to illustrate how the components of the machine are used during the various steps of operation.

Familiarize yourself with the illustration in **Figure 2**, its relationship to the machine, and the symbols used in it before proceeding through this manual.

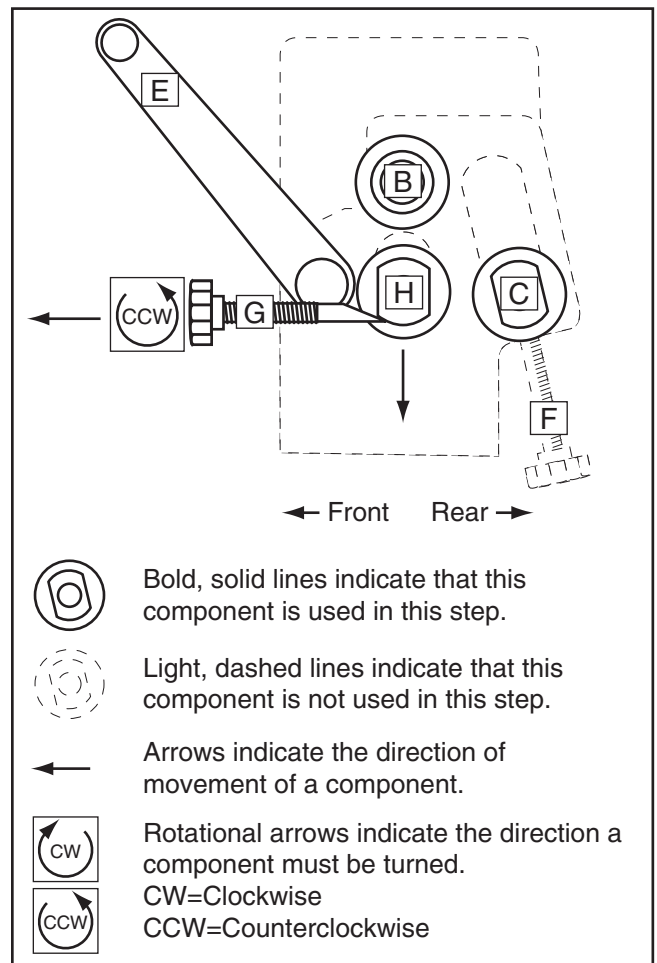


Figure 2. Sample Illustration.





# MACHINE DATA SHEET

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

## MODEL T23034 50" SLIP ROLL

### Product Dimensions:

Length/Width/Height.....	58 <sup>1</sup> / <sub>4</sub> " x 22 <sup>7</sup> / <sub>8</sub> " x 28 <sup>3</sup> / <sub>4</sub> "
Footprint.....	54 <sup>3</sup> / <sub>4</sub> " x 9 <sup>7</sup> / <sub>8</sub> "
Weight.....	469 Lbs.

### Shipping Dimensions:

Type .....	Wood Crate
Length/Width/Height.....	68" x 18" x 21"
Weight.....	522

### Capacities:

Maximum Width .....	50"
Maximum Thickness up to Full Width.....	18 Ga. Mild Steel
Maximum Thickness up to Half Width .....	16 Ga. Mild Steel
Wire Sizes.....	<sup>5</sup> / <sub>16</sub> ", <sup>3</sup> / <sub>8</sub> ", <sup>1</sup> / <sub>2</sub> "
Minimum Roll Diameter.....	3"

### Construction:

Rollers.....	3" Dia. Precision-Ground Steel
Frame.....	Cast Iron

### Features:

- Quick Release Top Roller
- Hardened Steel Gearing
- Bushing Lubrication Ports



# 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

### Safety Instructions for Machinery

**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

## Safety Instructions for Machinery

**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.

**INTENDED USE.** Only use the machine for its intended purpose and only use recommended accessories. Never stand on machine, modify it for an alternative use, or outfit it with non-approved accessories.

**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.

**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.

**REMOVING TOOLS.** Never leave adjustment tools, chuck keys, wrenches, etc. in or on machine—especially near moving parts. Verify removal 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.

**DANGEROUS ENVIRONMENTS.** Do not use machinery in wet locations, cluttered areas, around flammables, or in poorly-lit areas. Keep work area clean, dry, and well lighted to minimize risk of injury.

**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!

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

**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.

**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.

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

**MAINTENANCE & INSPECTION.** A machine that is not properly maintained may operate unpredictably. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. Regularly inspect machine for loose bolts, alignment of critical 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 Slip Rolls

- 1. METAL EDGES.** Always chamfer and deburr sharp metal edges before inserting them into the slip roll. Sharp edges on sheet metal can cause severe cuts.
- 2. HAND PROTECTION.** Always wear leather gloves when using this tool to reduce the likelihood of laceration injuries from sharp metal edges.
- 3. PINCHING HAZARD.** Keep fingers out of roller path during operation. If your hands are pulled into the rollers during use, they will be crushed.
- 4. CRUSHING HAZARD.** Make sure rollers and workpieces are fully supported during installation and removal. Wear steel toed footwear during operation to protect your feet from being crushed if you drop a roller or workpiece.
- 5. EXPERIENCING DIFFICULTIES.** If at any time you are experiencing difficulties performing the intended operation, stop using the machine! Contact Tech Support at (570) 546-9663.

## **WARNING**

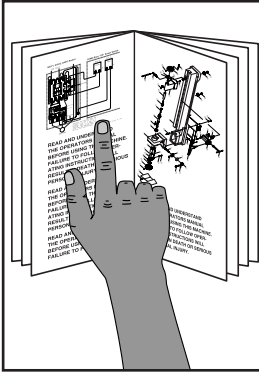
Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored,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

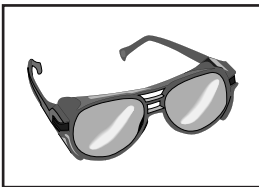


# SECTION 2: SETUP



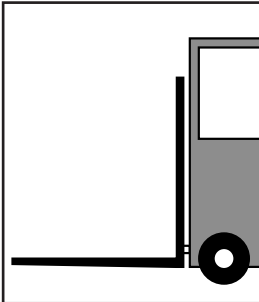
## **!WARNING**

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**

This machine and its components are very heavy. Get lifting help or use power lifting equipment such as a forklift to move heavy items.

## Needed for Setup

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

Description	Qty
• Power Lifting Equipment (Rated for at least 600 lbs).....	1
• Lifting Straps (Rated for at least 600 lbs.).....	2
• Additional People .....	As needed
• Safety Glasses (For each assistant) .....	1

## Unpacking

Your machine was carefully packaged for safe transportation. Remove the packaging materials from around your machine and inspect it. If you discover the machine is damaged, *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, inventory the contents.

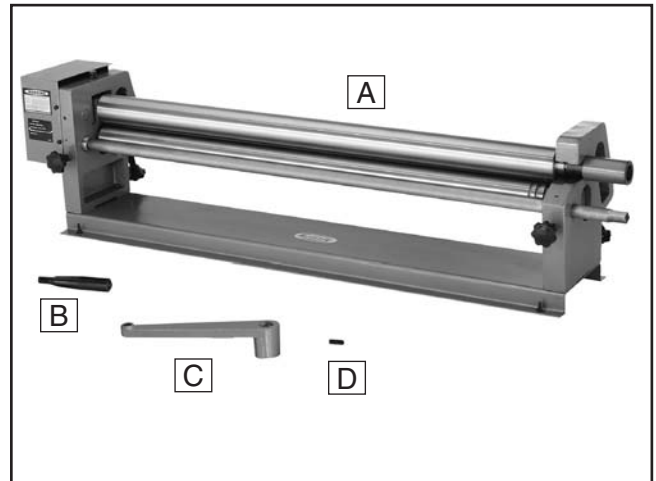


# Inventory

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

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

Box 1: (Figure 3)	Qty
A. Slip Roll .....	1
B. Crank Handle .....	1
C. Crank .....	1
D. Set Screw M5-8 x 20.....	1



**Figure 3.** Inventory.

If any nonproprietary parts are missing (e.g. a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.



# 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 has been your machine's close ally and guardian since it left the factory. If your machine arrived to you free of rust, then be thankful that the rust preventative protected it during its journey...and try to stay thankful as you clean it off, because it can be challenging to remove if you are unprepared and impatient.

Plan on spending some time cleaning your machine. The time you spend doing this will reward you with smooth sliding parts and a better appreciation for the proper care of your machine's unpainted surfaces.

Although there are many ways to successfully remove the rust preventative, these instructions walk you through what works well for us.

## Before cleaning, gather the following:

- Disposable Rags
- Cleaner/degreaser (see below)
- Safety glasses & disposable gloves

## H9692—Orange Power Cleaner & Degreaser

One of the best cleaners we've found for quickly and easily removing rust preventative.



**Figure 4.** Model H9692 Industrial Orange Power Cleaner/Degreaser (99.9% biodegradable).

**Note:** *In a pinch, automotive degreasers, mineral spirits or WD•40 can be used to remove rust preventative. Before using these products, though, test them on an inconspicuous area of your paint to make sure they will not damage it.*

	<b>⚠️ WARNING</b> 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.
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	<b>⚠️ CAUTION</b> Many cleaning solvents are toxic if inhaled. Minimize your risk by only using these products in a well ventilated area.
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<b>NOTICE</b> Avoid chlorine-based solvents, such as acetone or brake parts cleaner that may damage painted surfaces. Always follow the manufacturer's instructions when using any type of cleaning product.
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## Basic steps for removing rust preventative:

1. Put on safety glasses and disposable gloves.
2. Coat all surfaces that have rust preventative with a liberal amount of your cleaner/degreaser and let them soak for few minutes.
3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily.

**Note:** *To clean off thick coats of rust preventative on flat surfaces, such as tables, use a PLASTIC paint scraper to scrape off the majority of the coating before wiping it off with your rag. (Do not use a metal scraper or you may scratch your machine.)*

4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant to prevent rust.



# 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

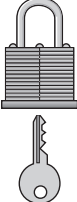
Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers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

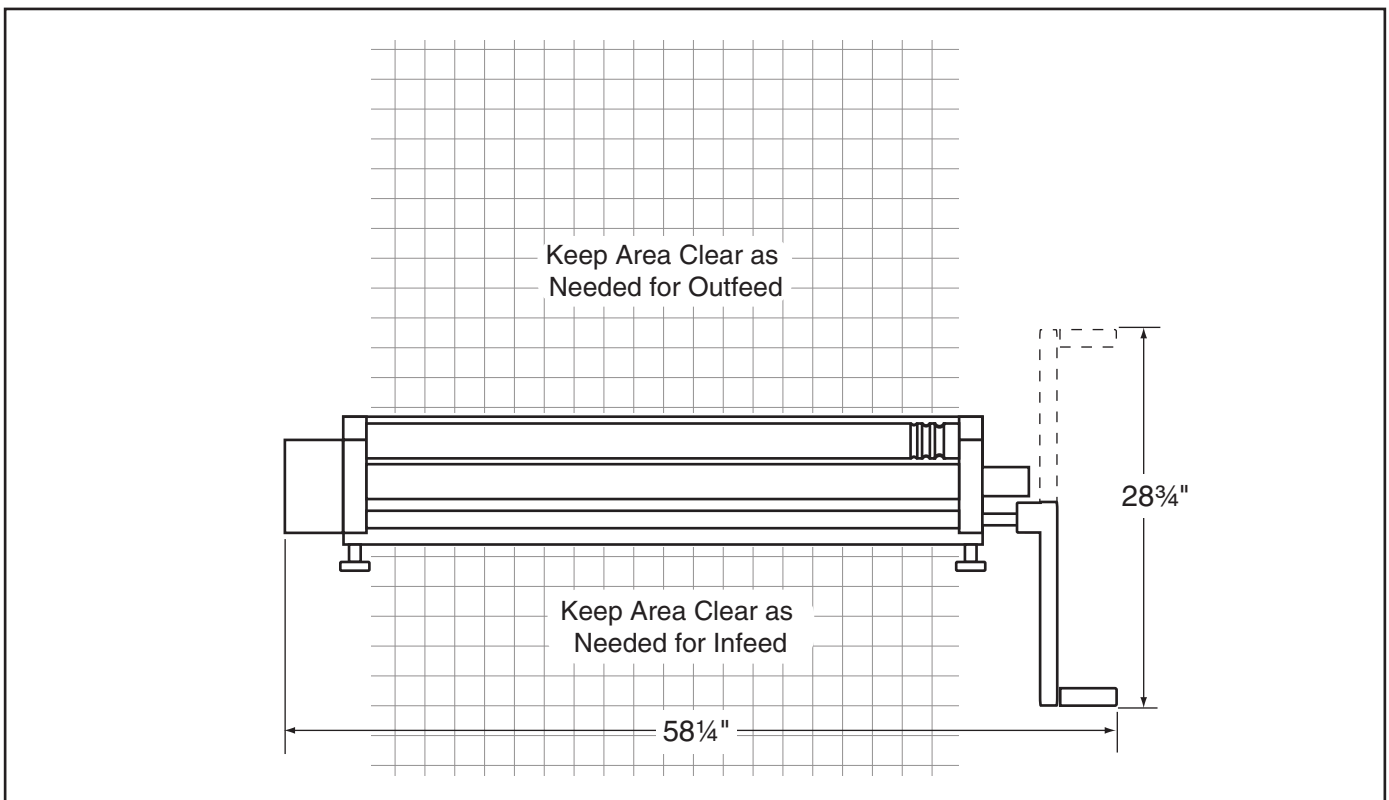
## Weight Load

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.

	<p><b>⚠ CAUTION</b> Children or untrained people may be seriously injured by this machine. Only install in an access restricted location.</p>
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**Figure 5.** Minimum working clearances.

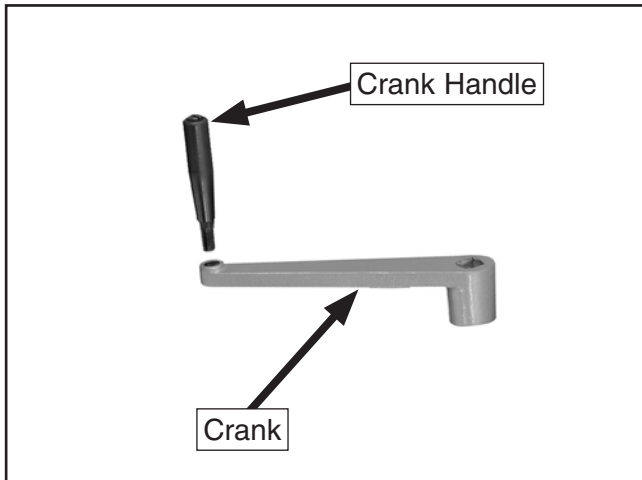


# Assembly

The Model T23034 comes from the factory almost fully assembled. All that is required to assemble are the crank and handle.

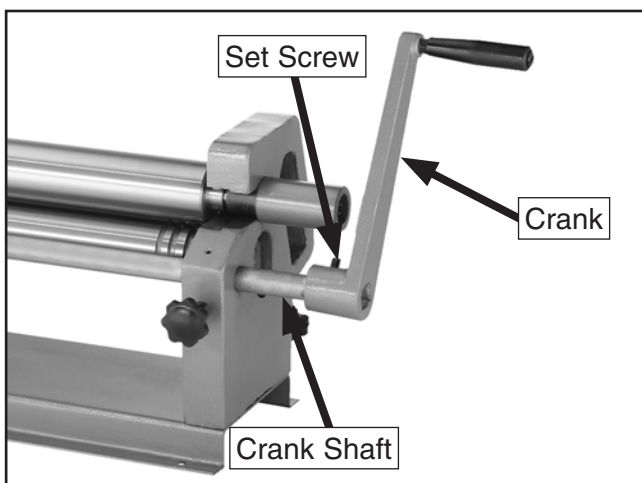
## To assemble your machine:

1. Thread the crank handle into the small end of the crank and tighten, as shown in **Figure 6**.



**Figure 6.** Crank assembly.

2. Slide the crank onto the crank shaft until the crank stops against the beveled shoulders of the shaft. Tighten the set screw to secure the crank in place (**Figure 7**).

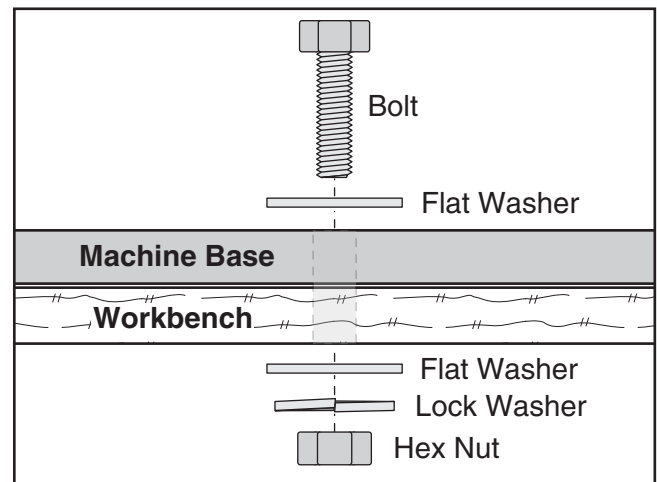


**Figure 7.** Crank mounting.

# Mounting

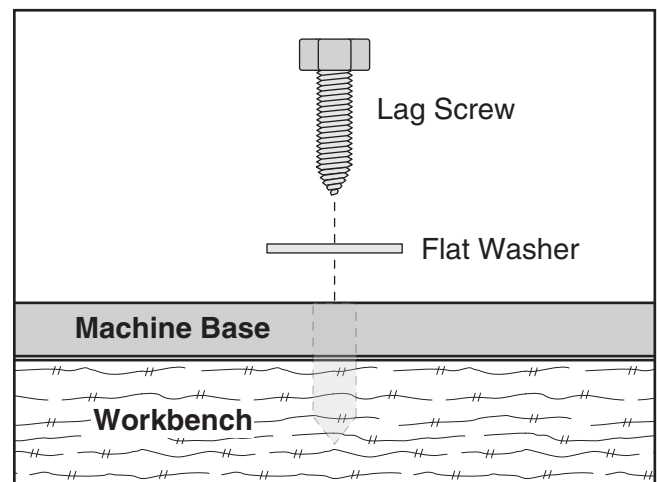
Once you have confirmed that your machine is assembled and functioning properly, mount it to a workbench through the holes in the base.

The strongest mounting option is a "Through Mount" where holes are drilled all the way through the workbench, and hex bolts, washers, and hex nuts are used to secure the slip roll to the workbench.



**Figure 8.** Example of a through mount setup.

Another option for mounting is a "Direct Mount" where the machine is simply secured to the workbench with a lag screw.



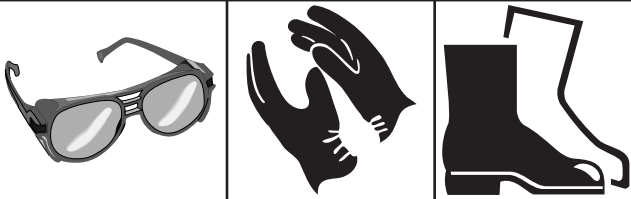
**Figure 9.** Example of a direct mount setup.



# 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, leather gloves, and steel toed footwear when operating this machine.



## **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.

## Basic Controls

Use the descriptions and figures below to become familiar with the basic controls of your slip roll.

**Thickness Adjust Knob:** Raises and lowers the bottom roller to adjust for thicknesses of different workpieces.

**Radius Adjust Knob:** Raises and lowers the rear roller to create smaller and larger radius bends.

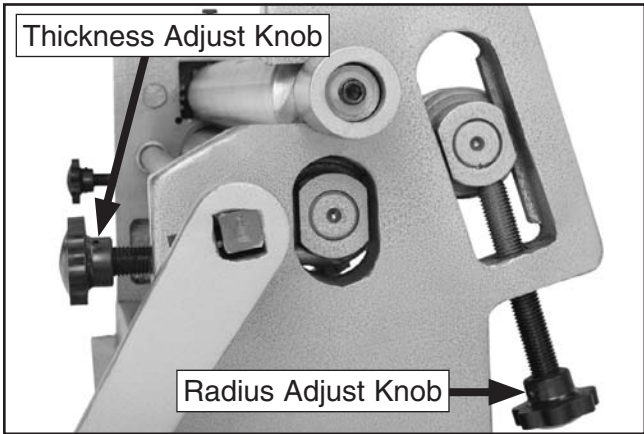


Figure 10. Adjustment knobs.

**Removable Bushing:** Slides out to allow removal of the top roller to facilitate the unloading of cylindrical workpieces.

**Crank:** Turns the rollers, feeding the workpiece through the machine.

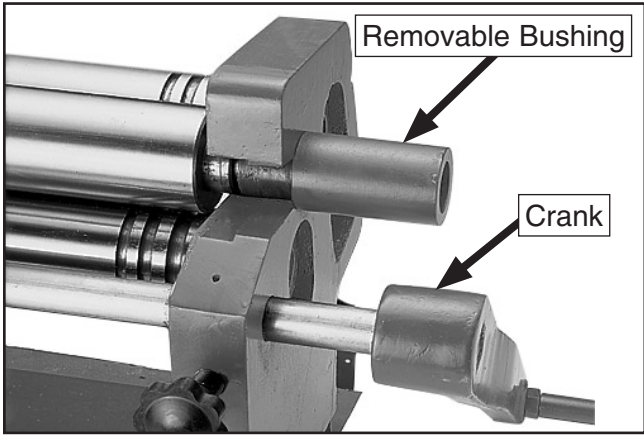


Figure 11. Controls.

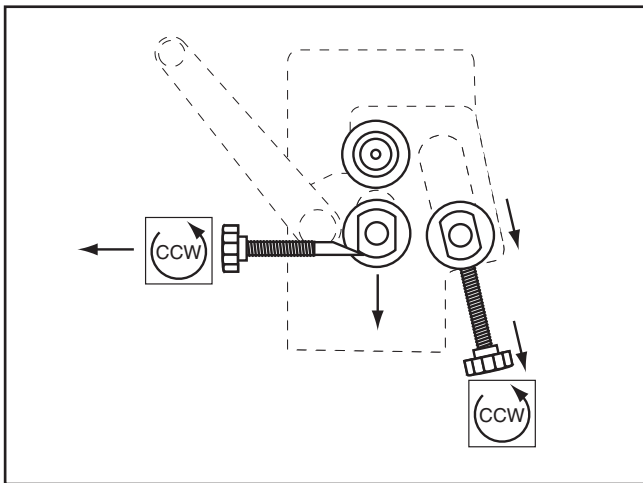


# Preparation

Before every use, follow these procedures to set up your slip roll for safe, accurate, and efficient use.

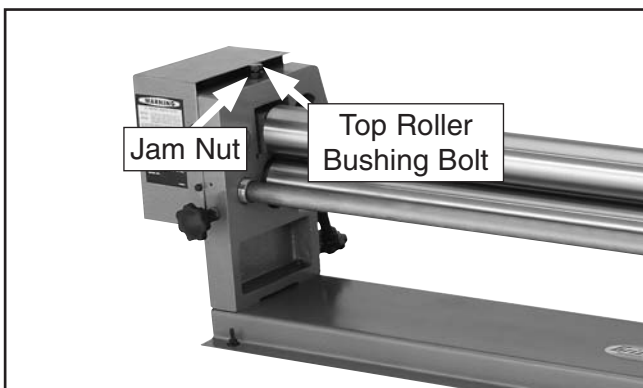
## To prepare the slip roll for use:

1. Turn the thickness adjust knob to lower the bottom roller to approximately  $\frac{1}{4}$ " below the top roller. Use calipers or a spacer to set the distance between the rollers evenly at each end (**Figure 12**).



**Figure 12.** Slip roll preparation.

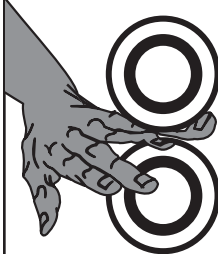
2. Lower the rear roller until it is approximately even with the bottom roller. Use calipers or a spacer to set the distance between the rear roller and top roller evenly at each end.
3. Make sure the top roller bushing bolt is threaded into the top roller bushing and the jam nut is tightened against the cast-iron base (**Figure 13**).



**Figure 13.** Top roller bushing.

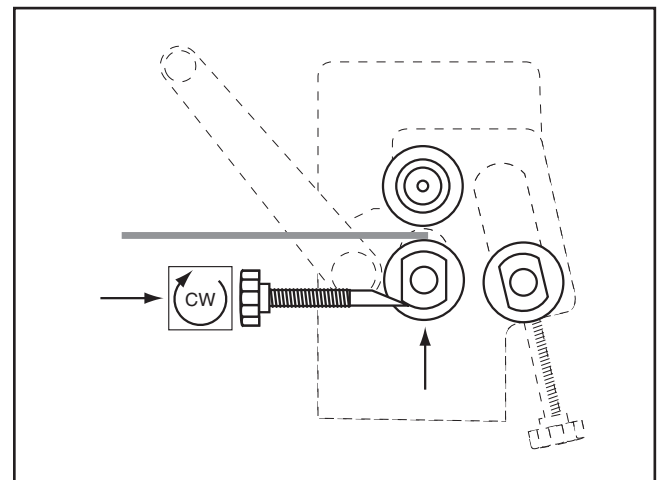
# Flat Rolling

The Model T23034 can be used to flat roll sheet metal up to 16 gauge. This can be done to straighten, flatten, and slightly reduce the thickness of workpieces.

	<b>CAUTION</b>
	The main rollers of this machine present a pinching hazard. Make sure no body part or clothing is near the area between the rollers. Failure to follow this warning may result in fingers, hair, or clothing being pulled into the machine, causing personal injury.

## To flat roll a workpiece:

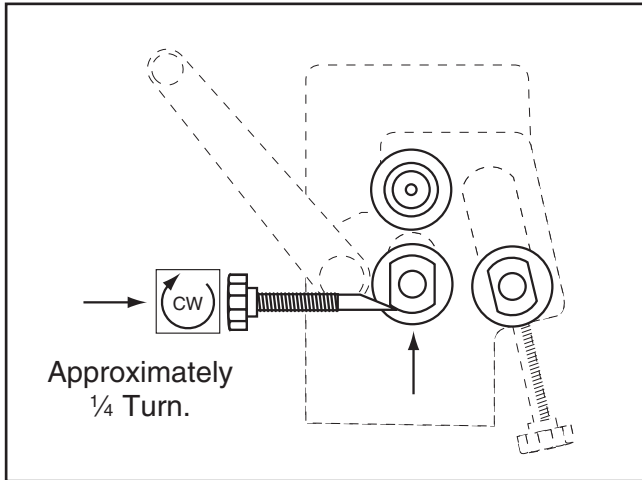
1. Place the workpiece between the top and bottom rollers, as shown in **Figure 14**. Turn the thickness adjust knobs to lift the bottom roller until the workpiece is held snug between the top and bottom rollers. Be sure to turn the thickness adjust knobs equal amounts.



**Figure 14.** Raising bottom roller for flat rolling.

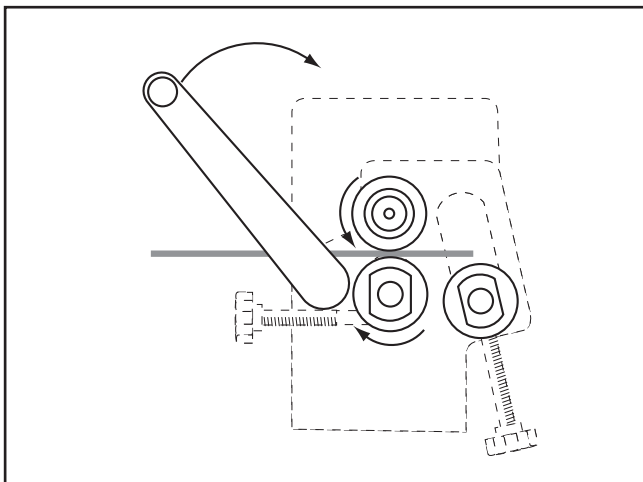


- Remove the workpiece from between the rollers, then raise the bottom roller slightly by rotating each thickness adjust knob approximately  $\frac{1}{4}$  turn. Also, make sure the rear roller is lowered completely and will not interfere with the workpiece as it exits the machine (**Figure 15**).



**Figure 15.** Raising bottom roller  $\frac{1}{4}$  turn.

- With the help of another person if needed, feed the workpiece into the rollers while turning the crank (**Figure 16**).



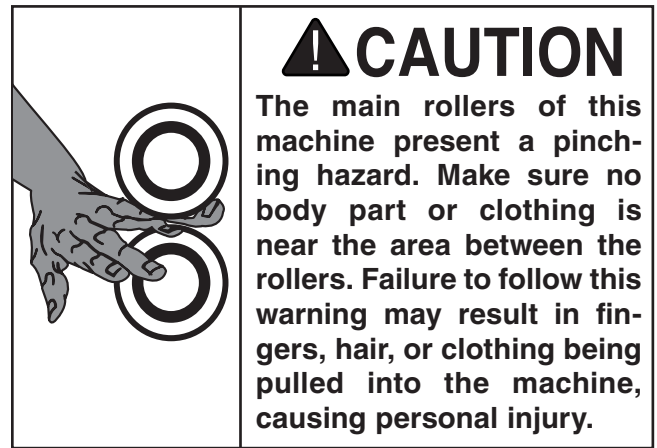
**Figure 16.** Flat rolling the workpiece.

- Continue processing the workpiece by repeating **Steps 2–3** until the desired results are produced.

## Creating Bends

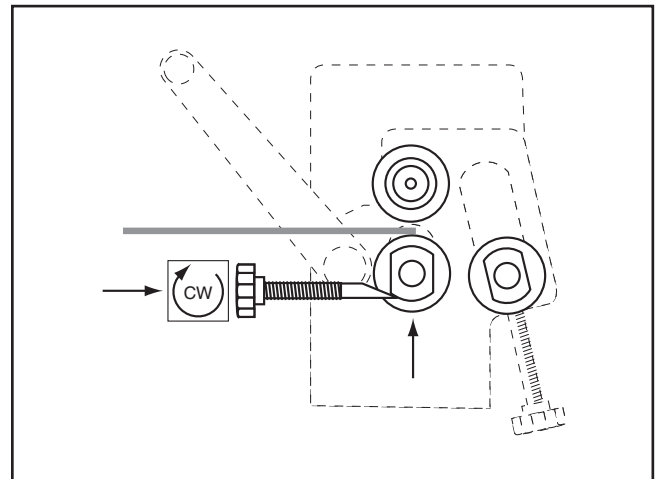
The Model T23034 can easily create constant-radius bends in sheet metal up to 16 gauge.

**Note:** The method for creating a specific radius is a trial-and-error process. Due to the many variations among metal workpieces, no single positioning will create the same curve on all materials. We recommend using scrap pieces the same dimensions and material as your final workpiece until the desired curve is achieved.



**To create a bend in a workpiece:**

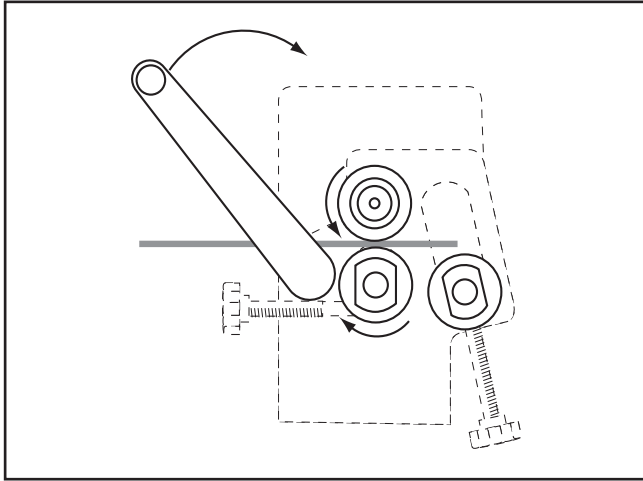
- Place the workpiece between the top and bottom rollers, as shown in **Figure 17**. Turn the thickness adjust knobs to lift the bottom roller until the workpiece is held snug between the top and bottom rollers. Be sure to turn the thickness adjust knobs equal amounts.



**Figure 17.** Raising bottom roller.

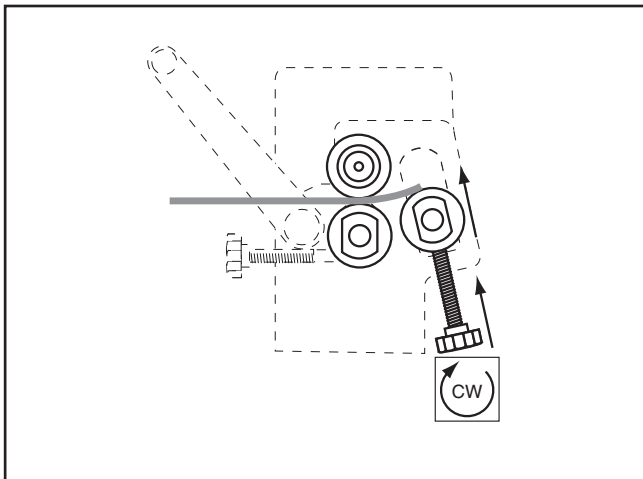


- Turn the crank clockwise to feed the workpiece until its edge is directly above the rear roller, as shown in **Figure 18**.



**Figure 18.** Feeding the workpiece.

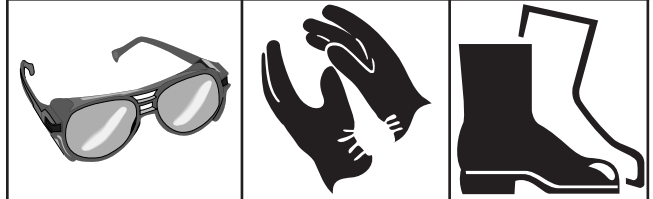
- Turn the radius adjust knobs to lift the rear roller until the desired radius bend is reached (**Figure 19**). Make sure to turn the knobs equal amounts so the rear roller is always parallel with the other rollers. Failure to do so will create a larger radius on one end than the other, resulting in a cone or spiral shape.



**Figure 19.** Setting the radius.

## **!WARNING**

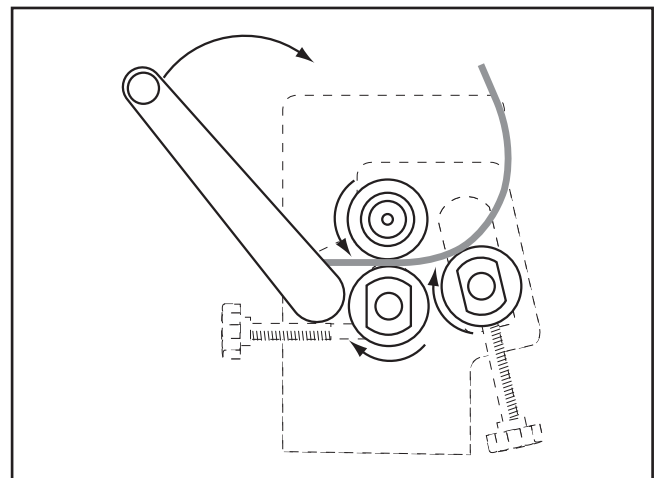
This machine poses a crushing hazard if workpieces are not properly supported when exiting the rollers. If necessary, get assistance to support the workpiece. Make sure all helpers are wearing safety glasses, leather gloves, and steel toed footwear when assisting in the use of this machine.



- Turn the crank to process the material through the slip roll. Continue turning until the workpiece is completely through the top and bottom rollers (**Figure 20**).

## **!CAUTION**

Depending on the size and shape of your workpiece, you may need assistance to support the workpiece as it exits the machine. Failure to adequately support the workpiece may result in the workpiece falling, causing crushing injuries.



**Figure 20.** Processing the workpiece.



# Creating Cylinders

The Model T23034 Slip Roll can be used to easily and accurately create cylinders.

If you know the diameter of the cylinder you want to create, use the formula below to calculate the length of material needed.

$$C = \pi D$$

C=Circumference  
(Length of Material Needed)

$\pi$ =Pi (Approximately 3.142)

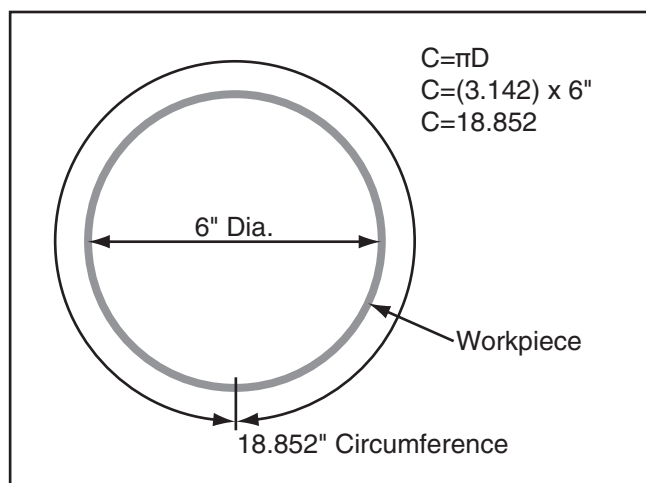
D=Diameter

**Example:** Suppose you want to create a 6" diameter cylinder. You would use the above formula as follows:

$$C = \pi D$$
$$C = (3.142) \times 6"$$
$$C = 18.852"$$

The result of 18.852" indicates that you need to start with a piece of sheet metal that is approximately 18.852" in length in order to create a 6" diameter cylinder.

You can use the slip roll to create a bend with the correct radius so that the two ends meet, forming a 6" diameter cylinder (**Figure 21**). Remember that any material required for a fold or seam at the ends must be added to the circumference



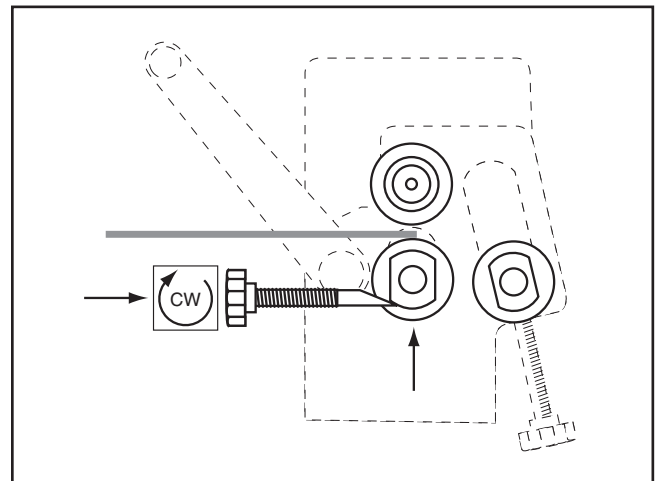
**Figure 21.** Calculating circumference example.

Once you have the necessary length workpiece, follow the steps below to create the cylinder.

**Note:** The method for creating a specific radius is a trial-and-error process. Due to the many variations among metal workpieces, no single positioning will create the same curve on all materials. We recommend using scrap pieces the same dimensions and material as your final workpiece until the desired curve is achieved.

**To create a cylinder:**

1. Place the workpiece between the top and bottom rollers, as shown in **Figure 22**. Turn the thickness adjust knobs to lift the bottom roller until the workpiece is held snug between the top and bottom rollers. Be sure to turn the thickness adjust knobs equal amounts.

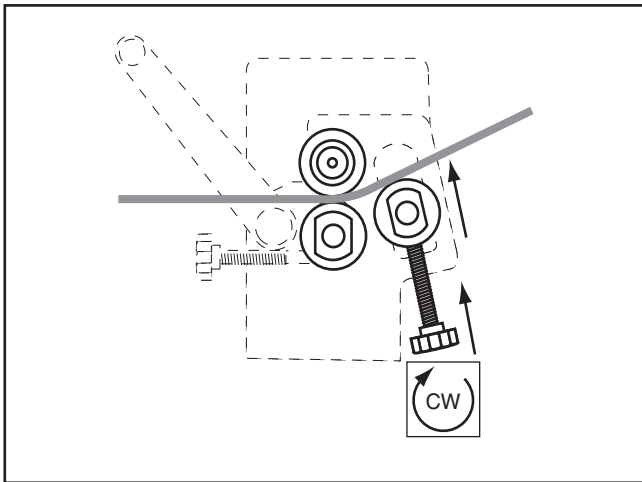


**Figure 22.** Raising bottom roller.



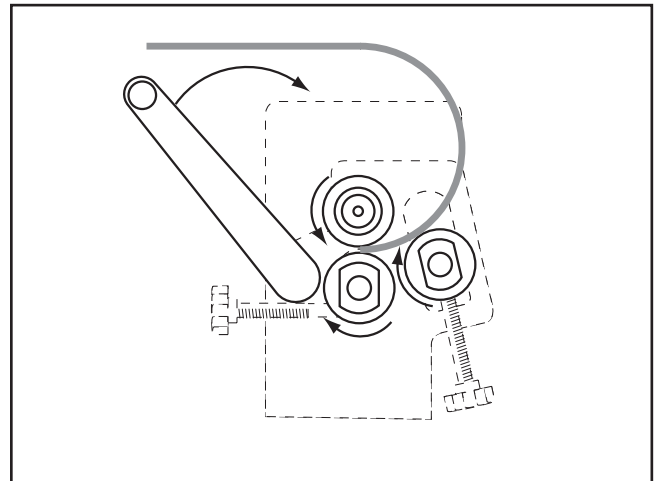
- Turn the crank clockwise to feed the workpiece until it is approximately half way through the rollers.
- Turn the radius adjust knobs to lift the rear roller until the desired radius bend is reached (**Figure 23**). Make sure to turn the knobs equal amounts so the rear roller is always parallel with the other rollers. Failure to do so will create a larger radius on one end than the other, resulting in a cone shape.

**Note:** Always err on the side of making the radius too large rather than too small. It is easy to decrease the radius but very difficult to increase the radius later.



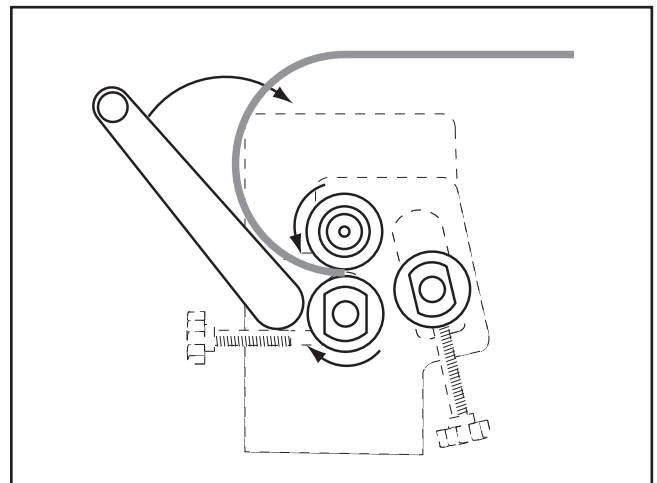
**Figure 23.** Setting the radius.

- Turn the crank to process the material through the slip roll. Continue turning until the workpiece is completely through the top and bottom rollers (**Figure 24**).



**Figure 24.** Processing the workpiece.

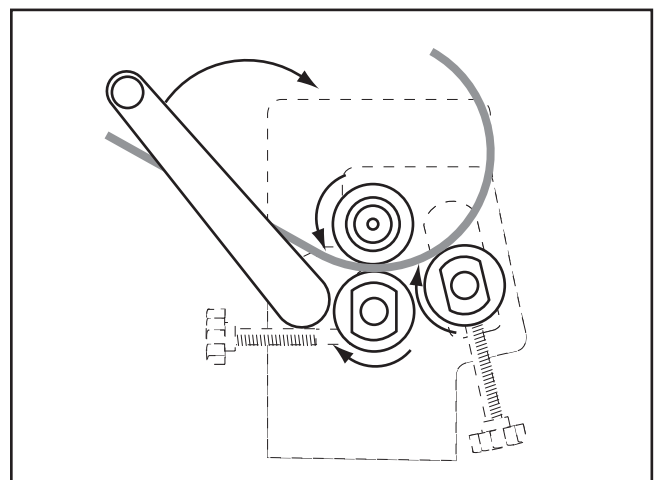
- Rotate the workpiece 180°, insert the curved end into the slip roll, then process the workpiece through the machine, as shown in **Figures 25 and 26**.



**Figure 25.** Re-inserting the workpiece.

**⚠ CAUTION**

Depending on the size and shape of your workpiece, you may need assistance to support the workpiece as it exits the machine. Failure to adequately support the workpiece may result in the workpiece falling, causing crushing injuries.



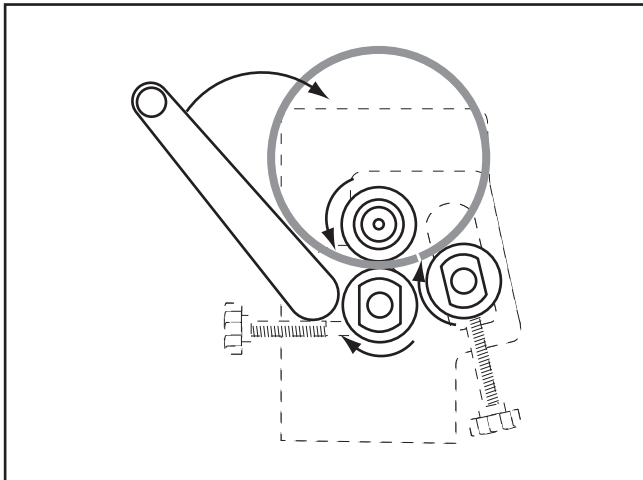
**Figure 26.** Creating the cylinder.



6. Continue to process the workpiece until the cylinder is formed, as shown in **Figure 27**.

—If the ends of the cylinder do not meet, lift the rear roller equally at both ends, then process the entire cylinder through the slip roll again. Repeat as necessary.

—If the ends of the cylinder overlap, remove the cylinder as described in **Removing Workpiece on Page 20**. Then, either attempt to increase the radius by manually bending it, or scrap the workpiece. Lower the rear roller equally at both ends, then process a new workpiece through the slip roll. Repeat as necessary.



**Figure 27.** Finishing the cylinder.

7. Remove the workpiece as described in **Removing Workpiece on Page 20**.

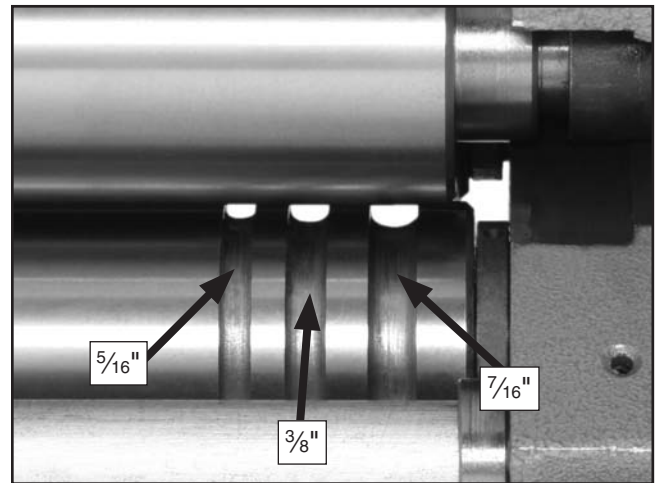
## Bending Wire

The Model T23034 Slip Roll can be used to shape wires, rods, and small-diameter tubing.

### To use the wire grooves:

1. Place your workpiece into the smallest possible groove on the wheel. The three sizes are  $\frac{5}{16}$ " ,  $\frac{3}{8}$ " , and  $\frac{7}{16}$ " (**Figure 28**).

**Example:** Suppose you want to bend a piece of  $\frac{1}{4}$ " rod. Though it would fit in any of the three grooves, you would use the  $\frac{5}{16}$ " groove since it is the smallest possible groove that the rod will fit into.



**Figure 28.** Wire grooves.

2. Process the material through the machine as described in **Creating Bends on Page 15**.

—If you want to make a loop of wire, follow the instructions in **Creating Cylinders on Page 17**.

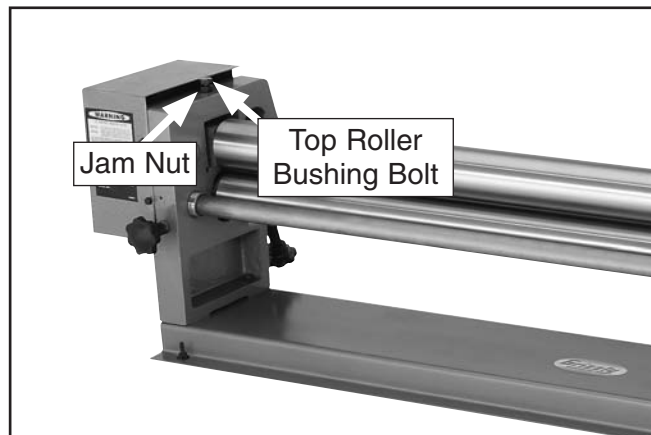
**Note:** *The wire grooves can also be used when rolling sheet metal that has a wire bead at one end.*



# Removing Workpiece

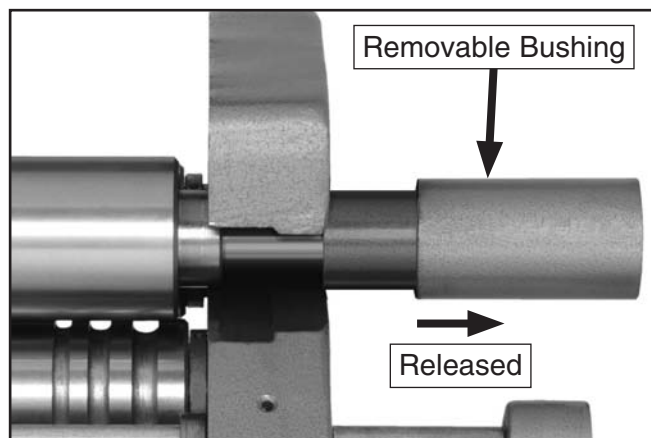
## To remove cylindrical workpieces:

1. Loosen the hex bolt and jam nut that secure the top roller at the gearbox (**Figure 29**).



**Figure 29.** Hex bolt and jam nut.

2. Slide the removable bushing outward. This will release the top roller from the stand (**Figure 30**). Do not yet attempt to remove the top roller.

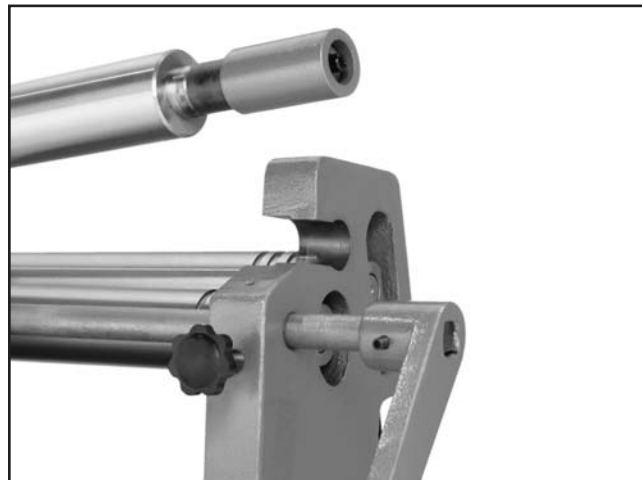


**Figure 30.** Removable bushing release.

## ⚠ CAUTION

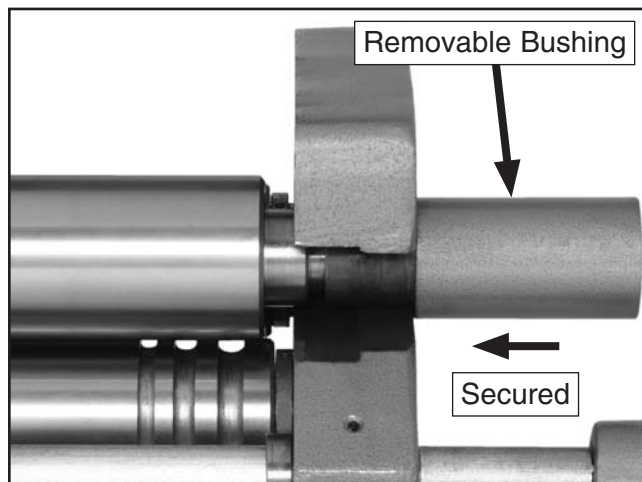
The components of this machine are very heavy and workpieces can be cumbersome and have sharp edges. Always wear gloves and fully support components and workpieces. Get help if necessary. Failure to do this may result in personal injury.

3. With the help of an assistant, slide and lift the top roller out from the base. Remove the workpiece from the top roller, then place the top roller back onto the base (**Figure 31**).



**Figure 31.** Releasing top roller.

4. Move the top roller back into position and slide the removable bushing in to secure the top roller (**Figure 32**).



**Figure 32.** Securing top roller.

5. Center the roller at the gearbox end and thread the hex bolt back into the top roller bushing. Then, tighten the jam nut against the base to lock the hex bolt in place.



# 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**

**G2871—Boeshield® T-9 12 oz Spray**

**G2870—Boeshield® T-9 4 oz Spray**

This ozone friendly protective spray penetrates deep and really holds up against corrosive environments. Lubricates metals for months and is safe for use on most paints, plastics, and vinyls.



**Figure 33.** Boeshield® T-9 spray.

**H6073—Deluxe Power Snip**

Lightweight aluminum cast handles. Full 3½" length of cut. Replaceable steel blades. Fully enclosed finger loops protect hands from sharp edges. Long handles provide plenty of leverage. Multi-purpose snip for sheet metal, vinyl and plastic.



**Figure 34.** Model H6073 Deluxe Power Snip.

**G5562—SLIPIT® 1 Qt. Gel**

**G5563—SLIPIT® 12 oz Spray**

Used on cast iron table surfaces and other unpainted metal surfaces to reduce sliding friction and hangups. This product also reduces rust and prevents resin build-up.



**Figure 35.** SLIPIT® gel and spray.



### **G4956—Super Nibbler**

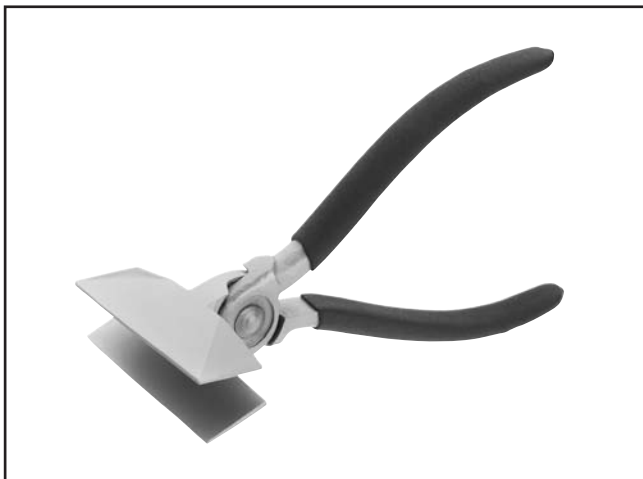
The super nibbler is just the ticket for cutting sheet metal up to  $\frac{3}{64}$ " thick. Extremely narrow headed design allows cuts in hard-to-reach areas, yet still features a safety guard to prevent flying splinters.  $10\frac{1}{4}$ " overall.



**Figure 36.** Model G4956 Super Nibbler.

### **H5958—Sheet Metal Pliers**

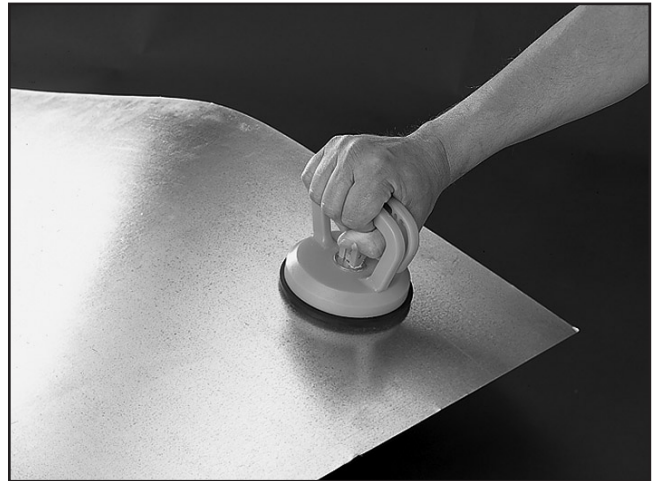
For bending and forming sheet metal. Jaws are  $3\frac{1}{2}$ " side. Rubber grips. Overall length is 8". Ideal for HVAC Installers.



**Figure 37.** Model H5958 Sheet Metal Pliers.

### **G8781—4 $\frac{1}{2}$ " Suction Cup**

Handle plate glass, glass mirrors and sheet metal with safety and security. Simple had lever action provides tremendous gripping power on any flat, smooth material. Buy two Suction Cups for two-handed control!



**Figure 38.** Model G8781 4-1/2" Suction Cup.

### **G5618—Deburring Tool with two Blades**

The quickest tool for smoothing freshly sheared metal edges. Comes with two blades, one for steel and aluminum and one for brass and cast iron.



**Figure 39.** Model G5618 Deburring tool.

**Call 1-800-523-4777 To Order**



# SECTION 5: MAINTENANCE

## Schedule

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

### Daily Check:

- Loose mounting bolts.
- Any other unsafe condition.

### Weekly Maintenance:

- Clean machine.
- Lubricate gears.
- Lubricate bushings.

## Cleaning

Cleaning the Model T23034 is relatively easy. Periodically wipe down the machine to remove dust and oil. Treat all unpainted cast iron and steel with a non-staining lubricant after cleaning.

## Unpainted Cast Iron

Protect the unpainted cast iron surfaces on the machine by wiping it clean after every use—this ensures rust-promoting debris does not remain on bare metal surfaces.

Keep the machine rust-free with regular applications of products like SLIPIT®, or Boeshield® T-9 (see **Section 5: Accessories** on **Page 21** for more details).

## Lubrication

Lubricating the Model T23034 consists of applying lubricant to the gears, adjustment screws, and the roller bushings.

### Grease Locations (Figure 40)

Remove the gear cover and apply a light coat of multi-purpose grease on the gear teeth. Turn the crank to disperse the grease. Also apply grease to the roller adjustment screws.

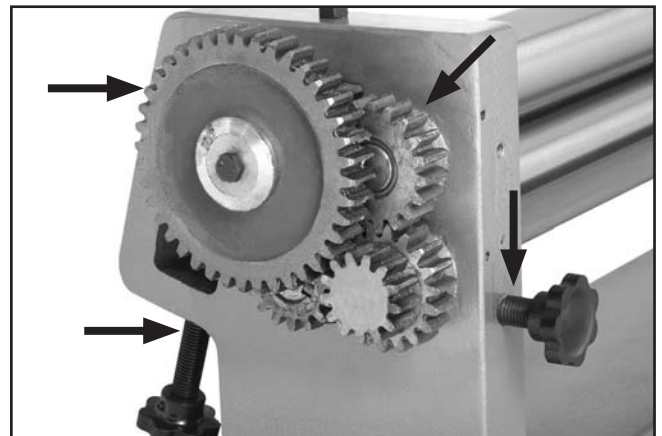


Figure 40. Grease locations.

### Oiling Bushings (Figure 41)

Apply several drops of SAE 30 or equivalent oil from an oil can into the oil holes at both ends of each roller. Turn the crank several times to disperse the oil. Wipe off excess oil.

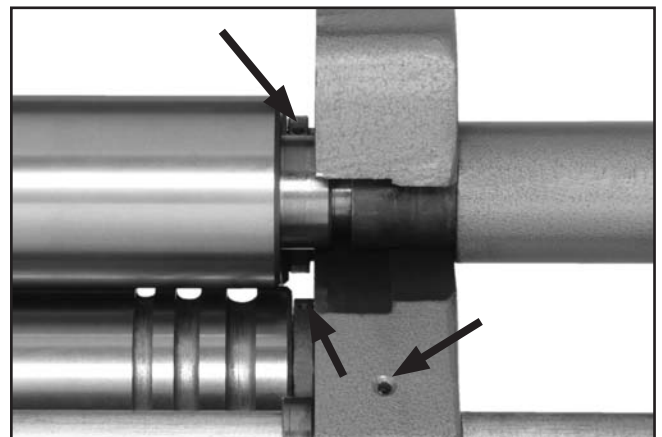


Figure 41. Oil locations.



# SECTION 6: SERVICE

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Review the troubleshooting and procedures in this section to fix or adjust 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

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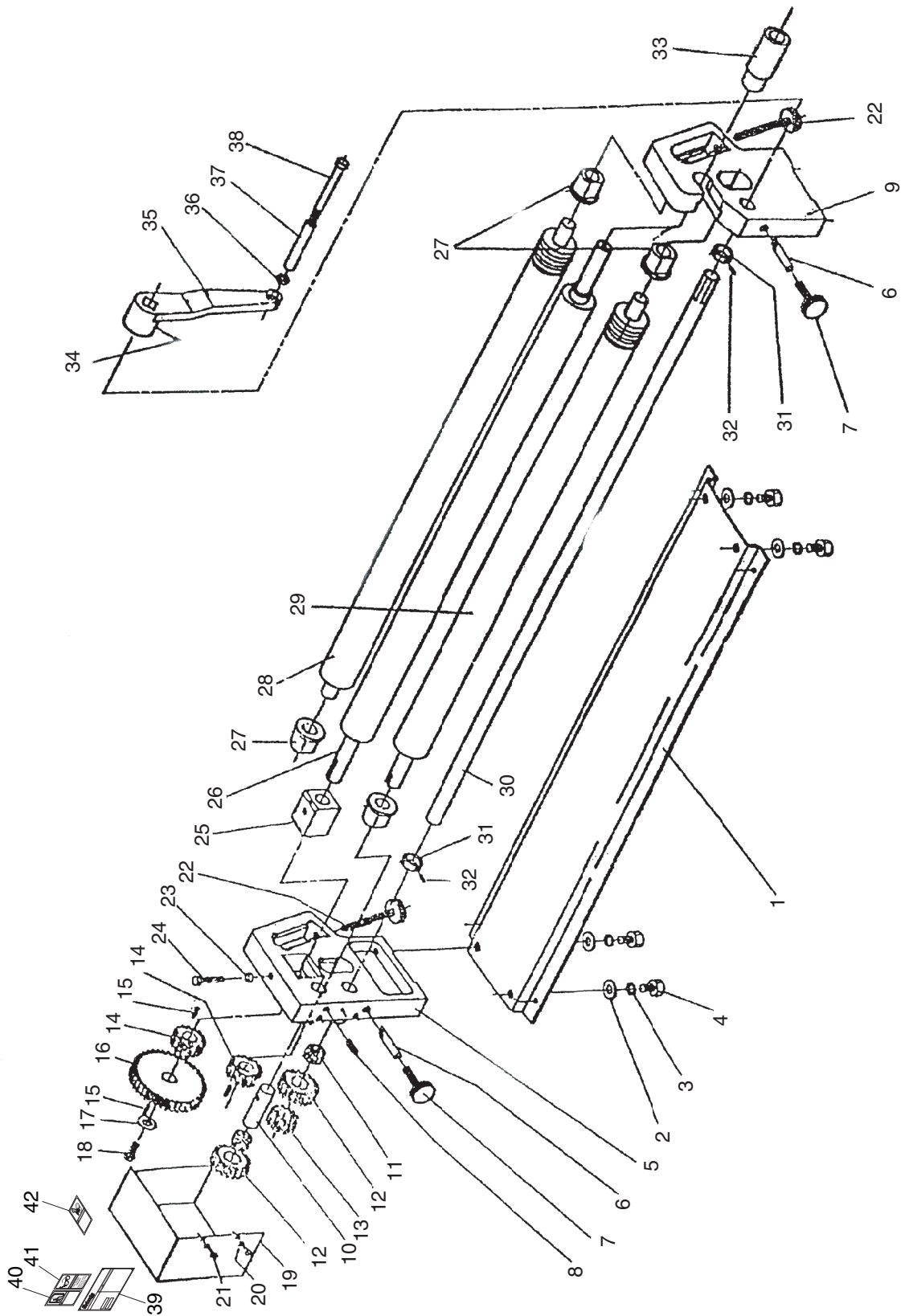
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### Operations

Symptom	Possible Cause	Possible Solution
Slip roll creates cones when trying to create cylinders.	1. Rollers are not parallel.	1. Adjust rear roller adjustment knobs as necessary to be sure the rear roller and top roller are parallel.
A noticeable crease is formed in the workpiece.	1. Excessive pressure applied in one spot.	1. Reduce the radius and perform the bend in several passes.
Crank does not turn top and bottom rollers.	1. Gearbox end of top roller is not secure. 2. Gears are damaged.	1. Re-center the bushing and secure the hex bolt and jam nut ( <b>Step 5 on Page 20</b> ). 2. Check/Replace gears.
Slip roll does not bend material.	1. Machine capacities exceeded. 2. Rear roller not engaged.	1. Use materials within the capacity of the slip roll. 2. Check/Adjust rear roller.



# Parts Breakdown



# Parts List

REF	PART #	DESCRIPTION
1	PT23034001	BASE
2	PW06M	FLAT WASHER 12MM
3	PLW05M	LOCK WASHER 12MM
4	PB75M	HEX BOLT M12-1.75 X 35
5	PT23034005	LIFT STAND
6	PK19M	KEY 5 X 5 X 14
7	PT23034007	SETTING KNOB
8	PSS73M	SET SCREW M10-1.5 X 30
9	PT23034009	RIGHT STAND
10	PT23034010	GEAR LOCKING SHAFT
11	PT23034011	BUSHING 30 X 38 X 24
12	PT23034012	GEAR 19T
13	PT23034013	GEAR 13T
14	PT23034014	GEAR 16T
15	PT23034015	KEY B10 X 25
16	PT23034016	GEAR 40T
17	PW04M	FLAT WASHER 10MM
18	PB14M	HEX BOLT M10-1.5 X 35
19	PT23034019	GEAR COVER
20	PLW03M	LOCK WASHER 6MM
21	PB18M	HEX BOLT M6-1 X 15

REF	PART #	DESCRIPTION
22	PT23034022	FEED ROLLER KNOB
23	PN03M	HEX NUT M8-1.25
24	PB125M	HEX BOLT M12-1.75 X 65
25	PT23034025	ROLLER #1 BASE
26	PT23034026	ROLLER #1
27	PT23034027	ROLLER BASE
28	PT23034028	FEED ROLLER
29	PT23034029	ROLLER #2
30	PT23034030	SHAFT
31	PT23034031	LOCK COLLAR
32	PSS20M	SET SCREW M8-1.25 X 8
33	PT23034033	REMOVABLE BUSHING M10 X 15
34	PSS10M	SET SCREW M10-1.5 X 20
35	PT23034035	CRANK HANDLE
36	PN03M	HEX NUT M8-1.25
37	PT23034037	GRIP
38	PT23034038	GRIP SHAFT
39	PT23034039	MACHINE ID LABEL
40	PLABEL-12C	READ MANUAL LABEL VS
41	PLABEL-11B	EYE INJURY LABEL VS
42	PLABEL-68B	SLIP ROLL LABEL VS





# WARRANTY CARD

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 Model # \_\_\_\_\_ Order # \_\_\_\_\_ Serial # \_\_\_\_\_

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

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 Card Deck                               Website                       Other:

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<input type="checkbox"/> Family Handyman	<input type="checkbox"/> Popular Woodworking	<input type="checkbox"/> Woodshop News
<input type="checkbox"/> Hand Loader	<input type="checkbox"/> Precision Shooter	<input type="checkbox"/> Woodsmith
<input type="checkbox"/> Handy	<input type="checkbox"/> Projects in Metal	<input type="checkbox"/> Woodwork
<input type="checkbox"/> Home Shop Machinist	<input type="checkbox"/> RC Modeler	<input type="checkbox"/> Woodworker West
<input type="checkbox"/> Journal of Light Cont.	<input type="checkbox"/> Rifle	<input type="checkbox"/> Woodworker's Journal
<input type="checkbox"/> Live Steam	<input type="checkbox"/> Shop Notes	<input type="checkbox"/> Other:
<input type="checkbox"/> Model Airplane News	<input type="checkbox"/> Shotgun News	
<input type="checkbox"/> Old House Journal	<input type="checkbox"/> Today's Homeowner	
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 \$50,000-\$59,000                       \$60,000-\$69,000                       \$70,000+

4. What is your age group?

20-29                                       30-39                                       40-49  
 50-59                                       60-69                                       70+

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

0-2 Years                       2-8 Years                       8-20 Years                       20+ Years

6. How many of your machines or tools are Grizzly?

0-2                       3-5                       6-9                       10+

7. Do you think your machine represents a good value?       Yes                       No

8. Would you recommend Grizzly Industrial to a friend?       Yes                       No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?

**Note:** We never use names more than 3 times.       Yes                       No

10. Comments: \_\_\_\_\_  
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# WARRANTY AND RETURNS

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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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