



# **OPERATOR'S MANUAL**

## **MINI SHEAR**



### **Warren Machine Tools Ltd**

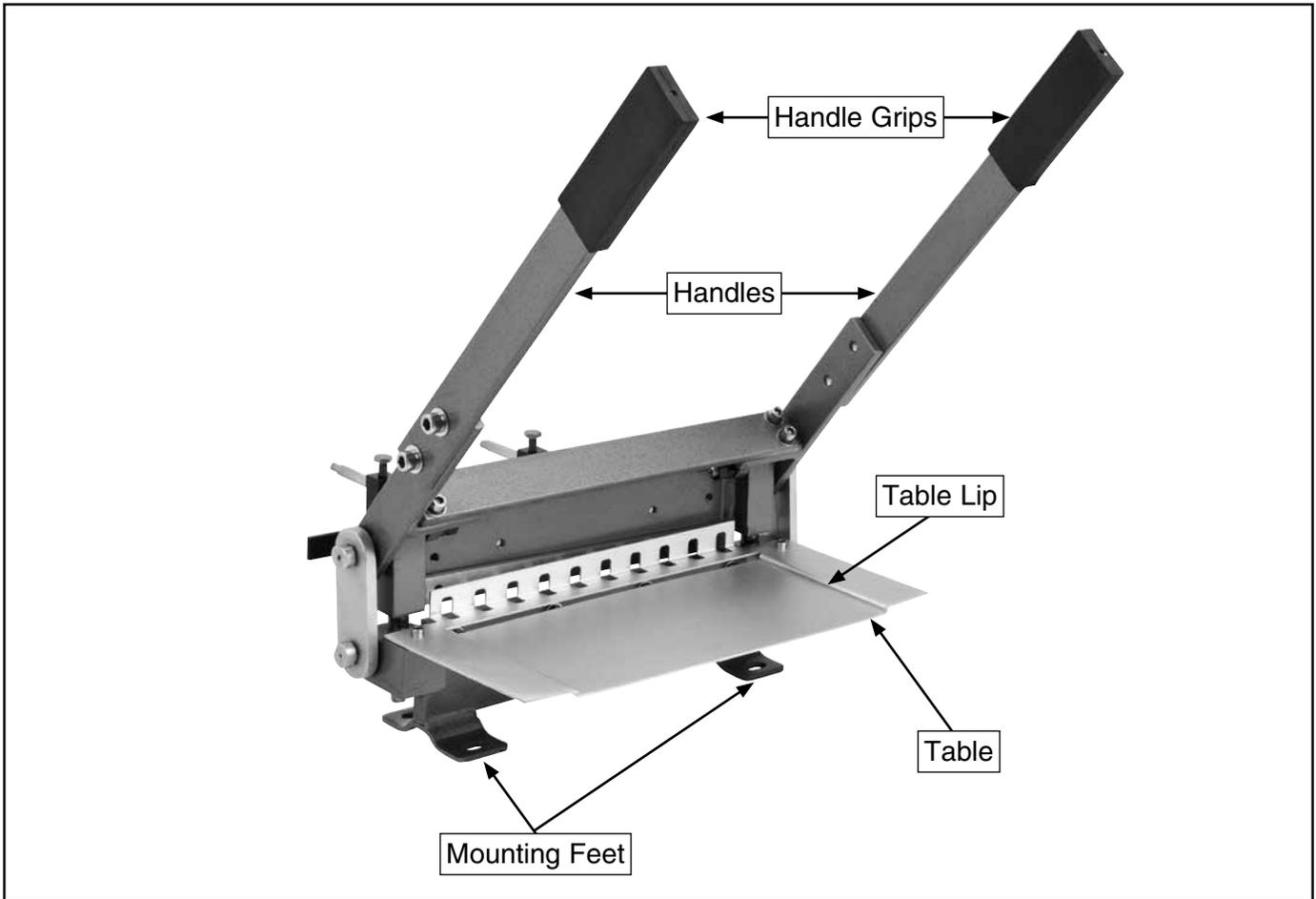
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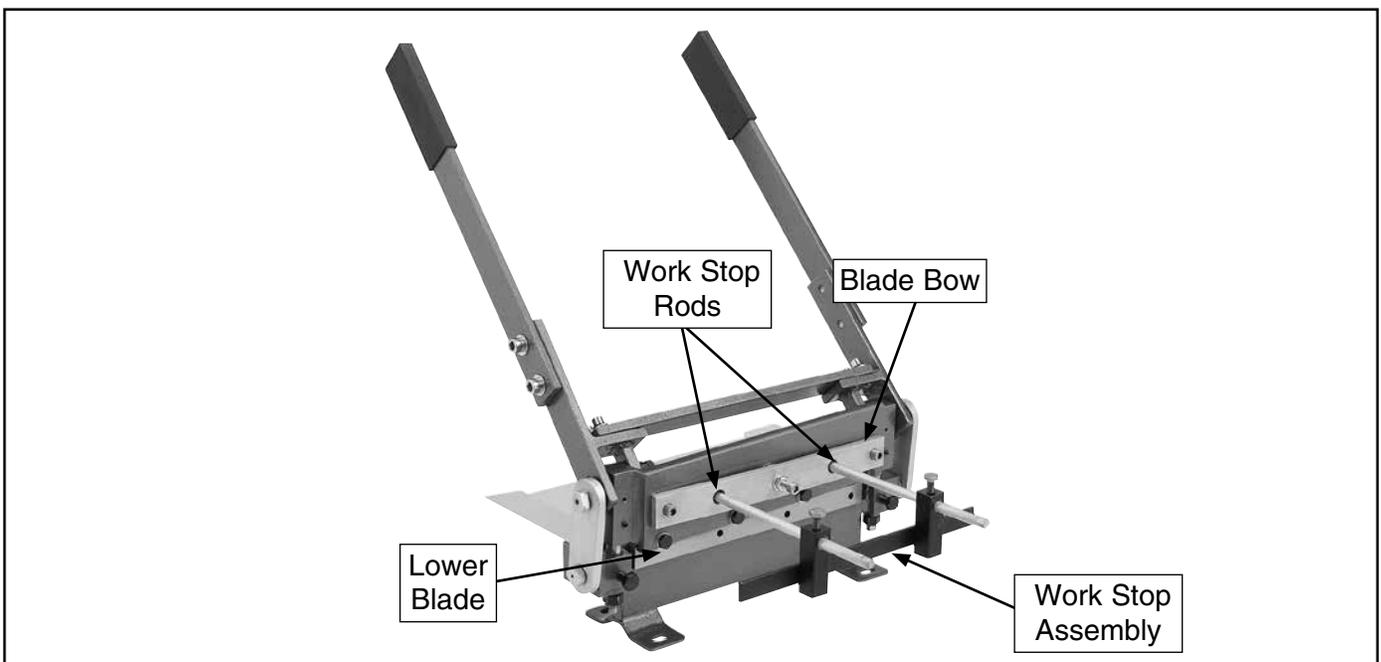
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# Identification



**Figure 1.** Hand shear identification (front).



**Figure 2.** Hand shear identification (rear).

# WARNING

**WEARING PROPER APPAREL.** Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to 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!

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

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

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

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

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

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

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

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

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

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

**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. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

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

# Additional Safety for Shear Machines

## WARNING

**AMPUTATION HAZARD.** The shear blades can easily pinch, crush, or amputate fingers or other body parts. Always keep hands, fingers, and other body parts away from the blades during operation.

**RATED CAPACITY.** Only use sheet metal that is within the rated capacity of this shear (refer to the **Machine Data Sheet** on **Page 4**).

**SHARP METAL EDGES.** Sharp edges on sheet metal workpieces can easily cause deep cuts while handling. Wear leather gloves when handling sheet metal, and always chamfer and debur sharp workpiece edges.

**PROPER WORKPIECE MATERIAL.** Do not attempt to cut round stock, glass, wood, dry-wall, backer board, or plywood. Cutting incorrect materials can produce unexpected results, which increases the risk of injury, and may result in damage to the machine.

**SECURE SHEAR BEFORE USE.** Before using, fasten shear to a sturdy surface that can withstand the dynamic forces involved in cutting sheet metal. Otherwise, shear may unexpectedly move or fall, causing serious injury or property damage.

**STABLE FOOTING.** This shear requires you to apply moderate force while cutting. Without stable footing, you could slip or fall, which could cause personal injury. Always stand with both feet comfortably on a non-slip surface during operation.

**BODY POSITION.** The forces and body motion required to operate shear can result in operator injury over time if proper technique is not used. Always keep your body centered with the machine and your back straight when applying pressure against handles.

**BLADE CONDITION.** Blades that are sharp, undamaged, and properly adjusted will reduce risk of injury and improve cutting results. Always keep blades properly maintained.

**BLADE GUARD.** The blade guard is designed to reduce risk of amputation. Always keep guard properly attached and in good condition during operation.

## WARNING

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

## CAUTION

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

# SECTION 2: SETUP

## Unpacking

Your machine was carefully packaged for safe transportation. Remove the packaging materials from around your machine and inspect it. If you discover any damage, *please call us immediately 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.



## Needed for Setup

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

Description	Qty
• Safety Glasses .....	1
• Cleaner/Degreaser ( <b>Page 9</b> ) .....	As Needed
• Disposable Shop Rags.....	As Needed
• Hex Wrenches 4, 5, 8mm.....	1

## Inventory

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

If any non-proprietary 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.

Inventory	Qty
A. Machine Base.....	1
B. Handles .....	2
C. Handle Grips .....	2
D. Table.....	1
E. Work Stop Rods .....	2
F. Work Stop.....	1
G. Flat Head Cap Screws M6-1 x 16 .....	2
H. Work Stop Blocks.....	2

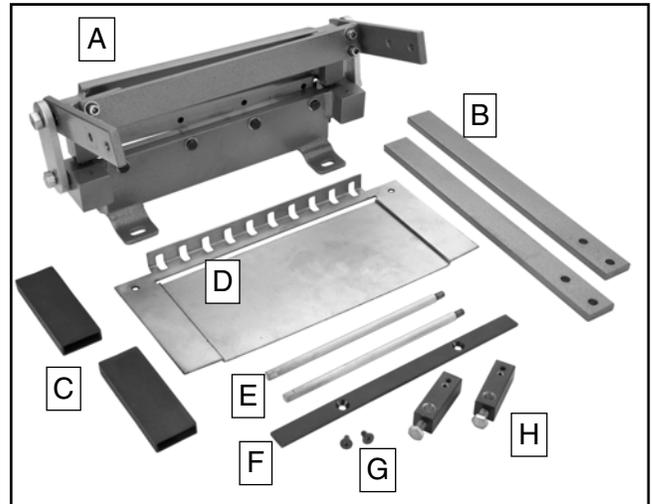


Figure 3. T26470 inventory.

## NOTICE

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.

# Cleanup

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

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

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

## Before cleaning, gather the following:

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

## Basic steps for removing rust preventative:

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

## **NOTICE**

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

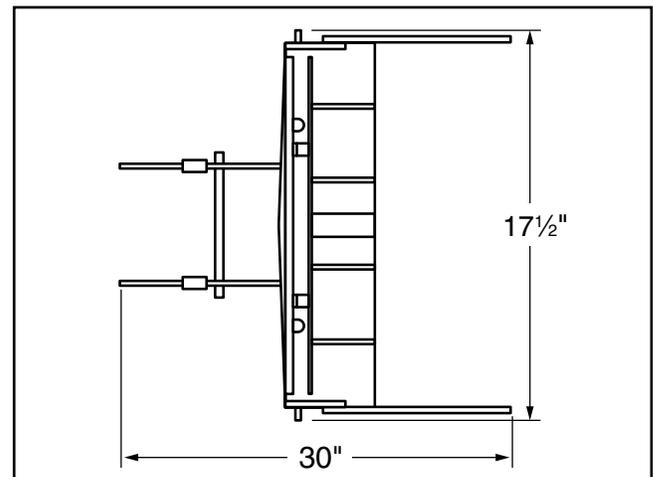
# Site Considerations

## Workbench Load

Refer to the **Machine Data Sheet** 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.



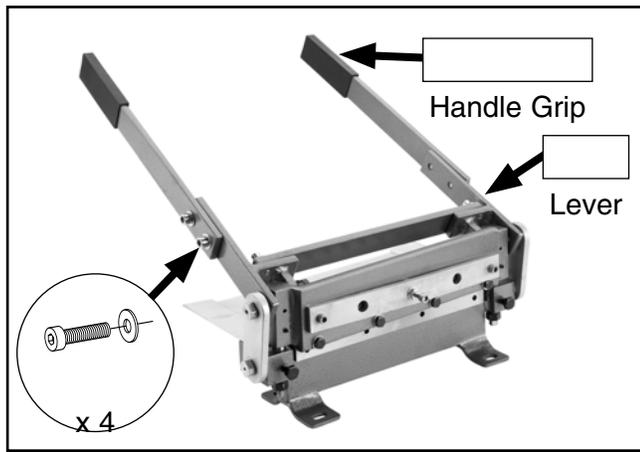
**Figure 4.** Minimum working clearances.

# Assembly

This shear is mostly assembled at the factory. The only assembly required is attaching the table, work stop, and handle assemblies.

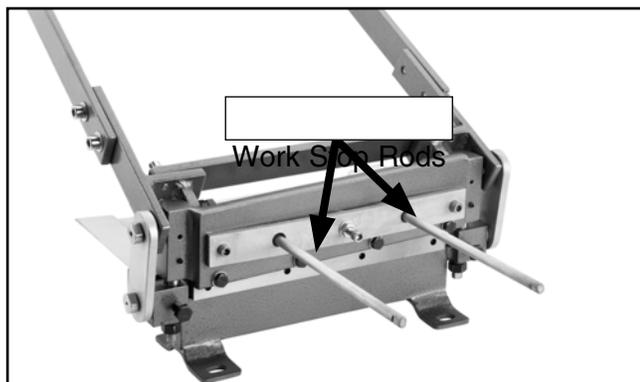
## To assemble your machine:

1. Attach handles to levers with the (4) pre-installed M10-1.5 x 25 cap screws and 10mm flat washers as shown in **Figure 5**.



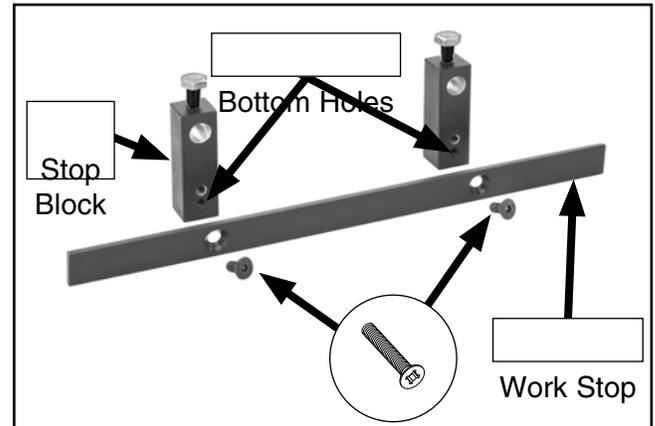
**Figure 5.** Handles attached.

2. Slide handle grips over handles on end without mounting holes as shown in **Figure 6**.
3. Thread work stop rods through blade bow and into back of machine (see **Figure 6**).



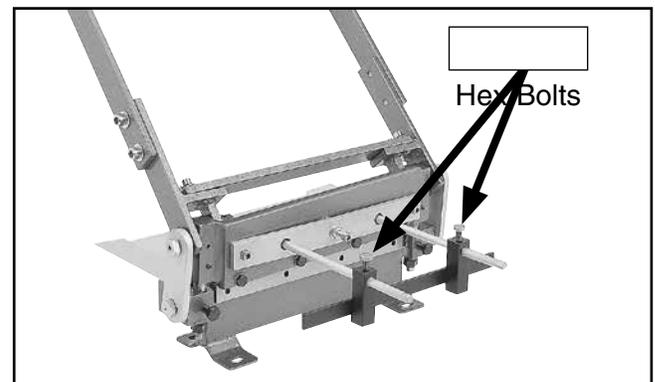
**Figure 6.** Work stop rods installed.

4. Attach work stop to bottom holes in work stop blocks with (2) M6-1 x 16 flat head cap screws (see **Figure 7**).



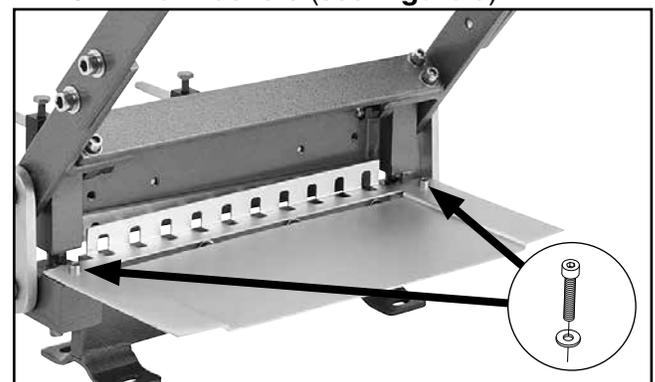
**Figure 7.** Attaching work stop to stop blocks.

5. Slide work stop assembly onto work stop rods and tighten M8-1.25 x 20 hex bolts (see **Figure 8**).



**Figure 8.** Work stop attached.

6. Fasten table to machine base using the (2) pre-installed M6-1 x 12 cap screws and (2) 6mm flat washers (see **Figure 9**).

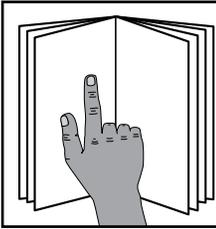


**Figure 9.** Table attached to machine base.

# SECTION 3: OPERATIONS

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## **!WARNING**

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



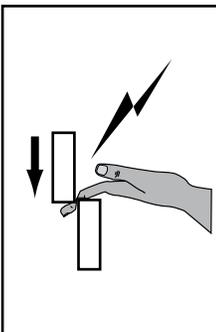
## **!WARNING**

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



## **NOTICE**

If you are not experienced with this type of machine, **WE STRONGLY RECOMMEND** that you seek additional training outside of this manual. Read books/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.



## **!WARNING**

Shear blades can easily pinch, crush, or amputate fingers or other body parts. Always keep hands, fingers, and other body parts away from blades during operation.

## Cutting Sheet Metal

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This shear is designed to cut mild steel up to 20-gauge at full width and up to 17-gauge at half width. Exceeding these capacities can result in damage to shear blades.

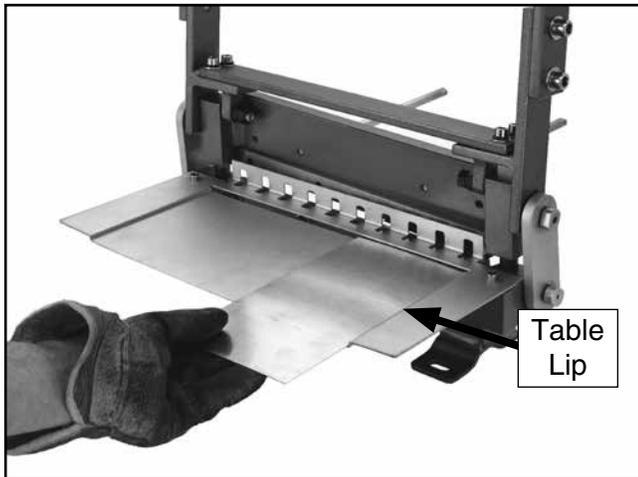
To cut sheet metal:

1. Mark cut line across workpiece.
2. Make sure gap between shear blades is correct for workpiece material (refer to **Adjusting Blade Bow** on **Page 19** for detailed instructions).

*Continued on next page* →

3. Position workpiece against table lip on right side of table as shown in **Figure 1\$**, then align cut mark with upper shear blade.

**Note:** *The shearing action begins on the right side of the workpiece and moves to the left.*



**Figure 1\$.** Positioning workpiece for a cut.

**Note:** *If you are using the work stop, adjust the stop so that at least one square edge of the workpiece is against it.*

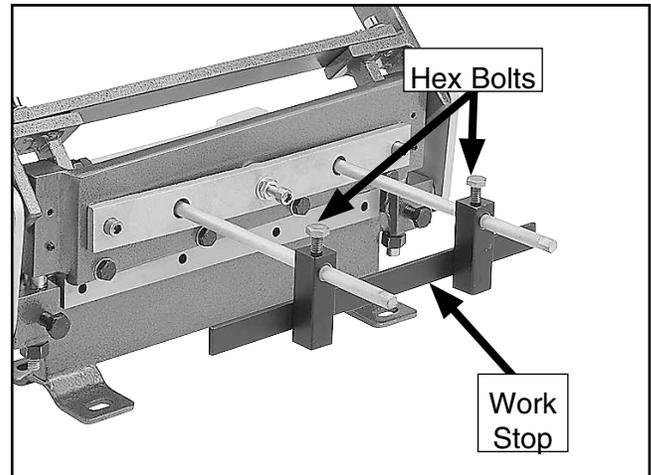
4. Clamp workpiece to table to prevent it from moving while cutting.
5. Keeping all body parts away from blades, pull down on both handles with an even and steady pressure to complete cut.

## Work Stop

The work stop is used for making repetitive cuts of the same length. The adjustable assembly allows the work stop to create workpieces as short as 1¼" or as long as 8¼".

**To position the work stop:**

1. Loosen both hex bolts shown in **Figure 1%**



**Figure 1%.** Hex bolts used for setting work stop.

2. Adjust work stop parallel with blades and at correct distance for cut.
3. Retighten both hex bolts.

# SECTION 3: SERVICE

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## Troubleshooting

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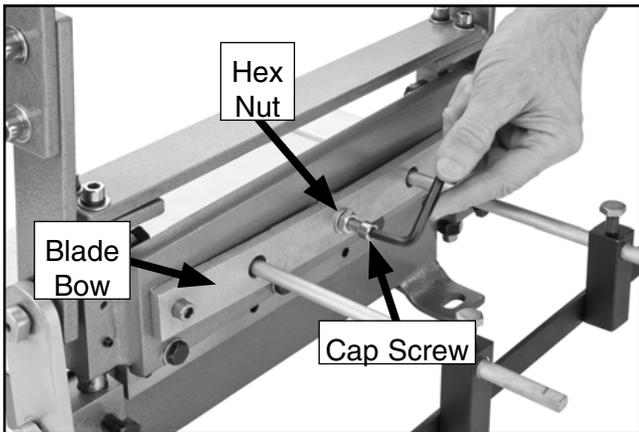
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Symptom	Possible Cause	Possible Solution
Shear will not cut workpiece.	<ol style="list-style-type: none"><li>1. Workpiece thickness exceeds shear capacity.</li><li>2. Blade bow not correct.</li><li>3. Not enough pressure applied.</li></ol>	<ol style="list-style-type: none"><li>1. Only use workpiece material within shear capacity ().</li><li>2. Properly adjust blade bow ().</li><li>3. Safely increase pressure.</li></ol>
Cuts are not square.	<ol style="list-style-type: none"><li>1. Work stop not parallel to blades.</li><li>2. Blade bow not correct.</li></ol>	<ol style="list-style-type: none"><li>1. Properly adjust work stop parallel to blades ().</li><li>2. Properly adjust blade bow ().</li></ol>
Poor quality of cuts (ripping or tearing).	<ol style="list-style-type: none"><li>1. Blade bow not correct.</li><li>2. Blades worn or damaged.</li></ol>	<ol style="list-style-type: none"><li>1. Properly adjust blade bow ().</li><li>2. Sharpen/replace blades ().</li></ol>

# Adjusting Blade Bow

The gap between the upper and lower blades (as they pass each other) must remain even along the length of blades to produce clean cuts. Initially, this adjustment has been made at the factory. However, over time and with normal wear, you may need to re-adjust the blade bow.

The blade bow is adjusted by loosening the hex nut and rotating the cap screw shown in **Figure 12** clockwise or counterclockwise.



**Figure 12.** Adjusting blade bow with cap screw.

Tools Needed	Qty
Wrench 14mm .....	1
Hex Wrench 6mm.....	1

## To adjust the blade bow:

1. Cut a piece of paper with shear.
2. If entire length of paper is cut cleanly, there is no need for adjustment.  
  
—If paper cuts cleanly at ends but not center, rotate cap screw clockwise  $\frac{1}{8}$ <sup>th</sup> turn at a time until paper cuts cleanly along the entire length of blades.  
  
—If paper cuts cleanly at center but not ends, rotate cap screw counterclockwise  $\frac{1}{8}$ <sup>th</sup> turn at a time until paper cuts cleanly along entire length of blades.
3. Retighten hex nut to secure cap screw in place.

# Sharpening/ Replacing Blades

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Both blades have two cutting edges so that if one cutting edge becomes dull, you can reverse the blade and use the fresh, sharp cutting edge.

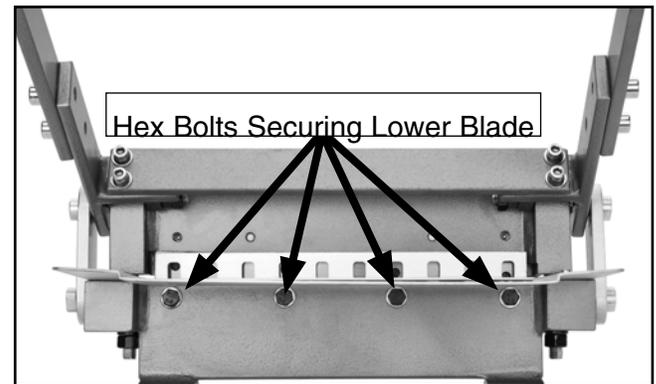
After both cutting edges become dull, sharpen the blades on a surface grinder and make sure they remain flat along their entire length. The blade must be replaced once it becomes too thin and the hex bolts that secure it extend beyond the opposite side of the cutting edge. If the blade is nicked, regrind it if possible.

We recommend you keep an extra set of blades on hand to avoid downtime. Order Part No. PT26470002 by contacting Grizzly at (800) 523-4777 or online at [grizzly.com](http://grizzly.com) to purchase.

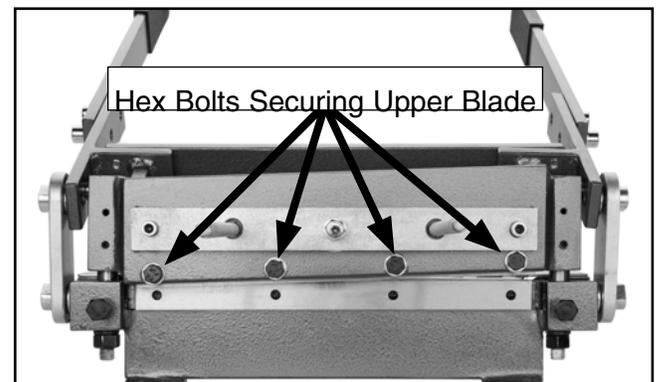
Tool Needed	Qty
Wrench 13mm .....	1

## To remove/re-install either blade:

1. Support blade so it does not fall and remove the four hex bolts that secure it (see **Figures 13 & 14**).



**Figure 13.** Hex bolts securing lower blade.

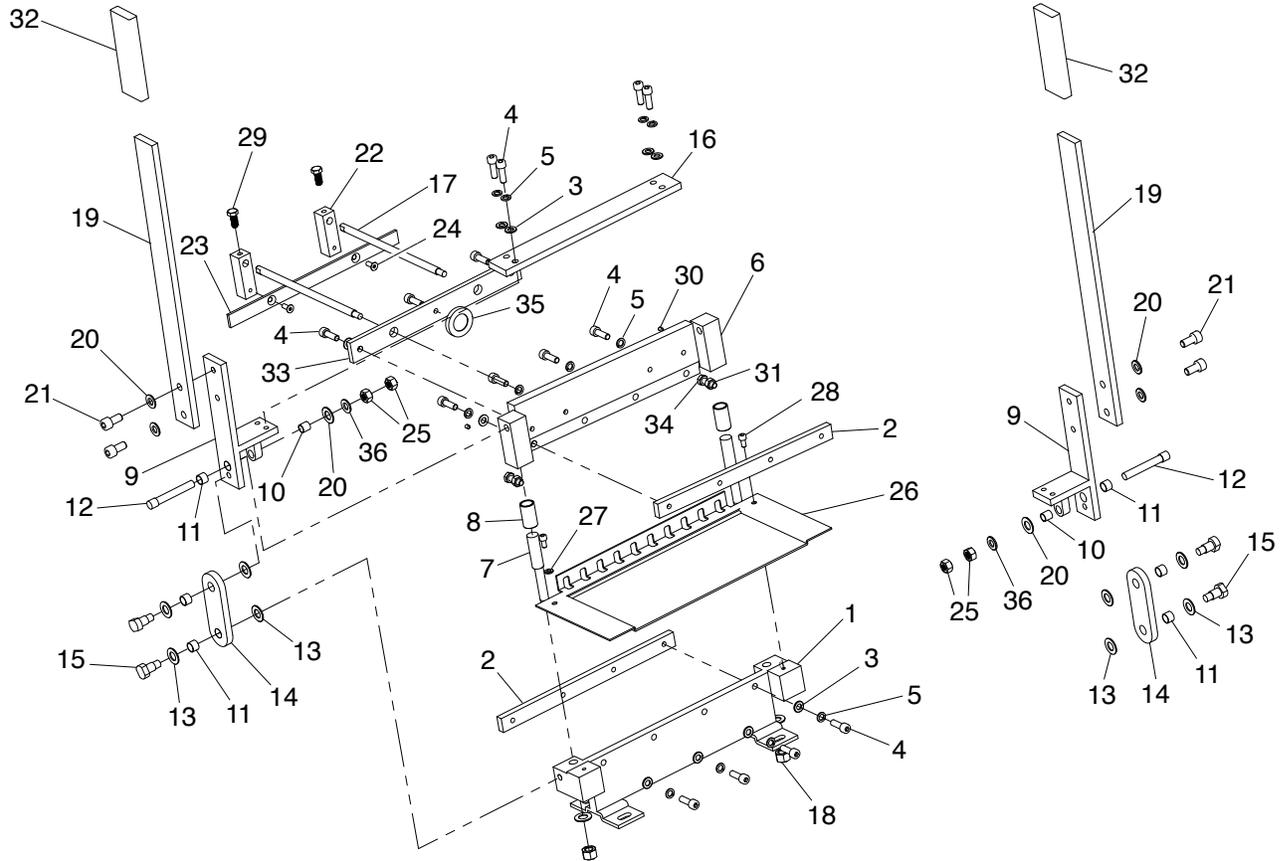


**Figure 14.** Hex bolts securing upper blade.

2. Before re-installing blade, clean it with mineral spirits, then apply a thin coat of quality metal protectant.
3. Secure blade in place with four hex bolts removed in **Step 1**.

# SECTION 4: PARTS

## Main



REF	PART #	DESCRIPTION
1	PT26470001	BASE
2	PT26470002	BLADE
3	PT26470003	FLAT WASHER 8MM SS
4	PT26470004	HEX BOLT M8-1.25 X 20 SS
5	PT26470005	LOCK WASHER 8MM SS
6	PT26470006	BLADE BRACKET
7	PT26470007	ALIGNMENT SHAFT
8	PT26470008	BUSHING, COPPER
9	PT26470009	HANDLE MOUNTING BRACKET
10	PT26470010	BUSHING 14 X 12
11	PT26470011	BUSHING 12 X 10
12	PT26470012	PIVOT PIN
13	PT26470013	FLAT WASHER 12MM
14	PT26470014	PIVOT ARM
15	PT26470015	STEP BOLT M12-1.75 X 20
16	PT26470016	CONNECTING PLATE
17	PT26470017	REAR WORK STOP ROD
18	PT26470018	HEX NUT M12-1.75

REF	PART #	DESCRIPTION
19	PT26470019	HANDLE
20	PT26470020	FLAT WASHER 10MM
21	PT26470021	CAP SCREW M10-1.5 X 25 SS
22	PT26470022	REAR WORK STOP BLOCK
23	PT26470023	REAR WORK STOP
24	PT26470024	FLAT HD CAP SCR M6-1 X 16
25	PT26470025	HEX NUT M10-1.5
26	PT26470026	TABLE
27	PT26470027	FLAT WASHER 6MM
28	PT26470028	CAP SCREW M6-1 X 12 SS
29	PT26470029	HEX BOLT M8-1.25 X 20 COPPER
30	PT26470030	SET SCREW M5-.8 X 8
31	PT26470031	HEX NUT M8-1.25
32	PT26470032	HANDLE GRIP
33	PT26470033	BLADE BOW
34	PT26470034	HEX BOLT M8-1.25 X 25
35	PT26470035	SPACER
36	PT26470036	LOCK WASHER 10MM

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