



OPERATOR'S MANUAL



SHRINKER / STRETCHER MODEL: MSS-16F

Baileigh Industrial, Inc.
P.O. Box 531
Manitowoc, WI 54221-0531
Phone: 920.684.4990
Fax: 920.684.3944
sales@baileighindustrial.com

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CINCINNATI PRECISION MACHINERY 513-860-4133



THANK YOU & WARRANTY

Thank you for your purchase of a machine from Baileigh Industrial. We hope that you find it productive and useful to you for a long time to come.

Inspection & Acceptance. Buyer shall inspect all Goods within ten (10) days after receipt thereof. Buyer's payment shall constitute final acceptance of the Goods and shall act as a waiver of the Buyer's rights to inspect or reject the goods unless otherwise agreed. If Buyer rejects any merchandise, Buyer must first obtain a Returned Goods Authorization ("RGA") number before returning any goods to Seller. Goods returned without a RGA will be refused. Seller will not be responsible for any freight costs, damages to goods, or any other costs or liabilities pertaining to goods returned without a RGA. Seller shall have the right to substitute a conforming tender. Buyer will be responsible for all freight costs to and from Buyer and repackaging costs, if any, if Buyer refuses to accept shipment. If Goods are returned in unsalable condition, Buyer shall be responsible for full value of the Goods. Buyer may not return any special order Goods. Any Goods returned hereunder shall be subject to a restocking fee equal to 30% of the invoice price.

Specifications. Seller may, at its option, make changes in the designs, specifications or components of the Goods to improve the safety of such Goods, or if in Seller's judgment, such changes will be beneficial to their operation or use. Buyer may not make any changes in the specifications for the Goods unless Seller approves of such changes in writing, in which event Seller may impose additional charges to implement such changes.

Limited Warranty. Seller warrants to the original end-user that the Goods manufactured or provided by Seller under this Agreement shall be free of defects in material or workmanship for a period of twelve (12) months from the date of purchase, provided that the Goods are installed, used, and maintained in accordance with any instruction manual or technical guidelines provided by the Seller or supplied with the Goods, if applicable. The original end-user must give written notice to Seller of any suspected defect in the Goods prior to the expiration of the warranty period. The original end-user must also obtain a RGA from Seller prior to returning any Goods to Seller for warranty service under this paragraph. Seller will not accept any responsibility for Goods returned without a RGA. The original end-user shall be responsible for all costs and expenses associated with returning the Goods to Seller for warranty service. In the event of a defect, Seller, at its sole option, shall repair or replace the defective Goods or refund to the original end-user the purchase price for such defective Goods. Goods are not eligible for replacement or return after a period of 30 days from date of receipt. The foregoing warranty is Seller's sole obligation, and the original end-user's exclusive remedy, with regard to any defective Goods. This limited warranty does not apply to: (a) die sets, tooling, and saw blades; (b) periodic or routine maintenance and setup, (c) repair or replacement of the Goods due to normal wear and tear, (d) defects or damage to the Goods resulting from misuse, abuse, neglect, or accidents, (e) defects or damage to the Goods resulting from improper or unauthorized alterations, modifications, or changes; and (f) any Goods that has not been installed and/or maintained in accordance with the instruction manual or technical guidelines provided by Seller.

EXCLUSION OF OTHER WARRANTIES. THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ANY AND ALL OTHER EXPRESS, STATUTORY OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. NO WARRANTY IS MADE WHICH EXTENDS BEYOND THAT WHICH IS EXPRESSLY CONTAINED HEREIN.

Limitation of Liability. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER OR ANY OTHER PARTY FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR DOWN TIME) ARISING FROM OR IN MANNER CONNECTED WITH THE GOODS, ANY BREACH BY SELLER OR ITS AGENTS OF THIS AGREEMENT, OR ANY OTHER CAUSE WHATSOEVER, WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY OF LIABILITY. BUYER'S REMEDY WITH RESPECT TO ANY CLAIM ARISING UNDER THIS AGREEMENT IS STRICTLY LIMITED TO NO MORE THAN THE AMOUNT PAID BY THE BUYER FOR THE GOODS.



Force Majeure. Seller shall not be responsible for any delay in the delivery of, or failure to deliver, Goods due to causes beyond Seller's reasonable control including, without limitation, acts of God, acts of war or terrorism, enemy actions, hostilities, strikes, labor difficulties, embargoes, non-delivery or late delivery of materials, parts and equipment or transportation delays not caused by the fault of Seller, delays caused by civil authorities, governmental regulations or orders, fire, lightening, natural disasters or any other cause beyond Seller's reasonable control. In the event of any such delay, performance will be postponed by such length of time as may be reasonably necessary to compensate for the delay.

Installation. If Buyer purchases any Goods that require installation, Buyer shall, at its expense, make all arrangements and connections necessary to install and operate the Goods. Buyer shall install the Goods in accordance with any Seller instructions and shall indemnify Seller against any and all damages, demands, suits, causes of action, claims and expenses (including actual attorneys' fees and costs) arising directly or indirectly out of Buyer's failure to properly install the Goods.

Work By Others; Safety Devices. Unless agreed to in writing by Seller, Seller has no responsibility for labor or work performed by Buyer or others, of any nature, relating to design, manufacture, fabrication, use, installation or provision of Goods. Buyer is solely responsible for furnishing, and requiring its employees and customers to use all safety devices, guards and safe operating procedures required by law and/or as set forth in manuals and instruction sheets furnished by Seller. Buyer is responsible for consulting all operator's manuals, ANSI or comparable safety standards, OSHA regulations and other sources of safety standards and regulations applicable to the use and operation of the Goods.

Remedies. Each of the rights and remedies of Seller under this Agreement is cumulative and in addition to any other or further remedies provided under this Agreement or at law or equity.

Attorney's Fees. In the event legal action is necessary to recover monies due from Buyer or to enforce any provision of this Agreement, Buyer shall be liable to Seller for all costs and expenses associated therewith, including Seller's actual attorneys' fees and costs.

Governing Law/Venue. This Agreement shall be construed and governed under the laws of the State of Wisconsin, without application of conflict of law principles. Each party agrees that all actions or proceedings arising out of or in connection with this Agreement shall be commenced, tried, and litigated only in the state courts sitting in Manitowoc County, Wisconsin or the U.S. Federal Court for the Eastern District of Wisconsin. Each party waives any right it may have to assert the doctrine of "forum non conveniens" or to object to venue to the extent that any proceeding is brought in accordance with this section. Each party consents to and waives any objection to the exercise of personal jurisdiction over it by courts described in this section. Each party waives to the fullest extent permitted by applicable law the right to a trial by jury.

Summary of Return Policy.

- 10 Day acceptance period from date of delivery. Damage claims and order discrepancies will not be accepted after this time.
- You must obtain a Baileigh issued RGA number PRIOR to returning any materials.
- Returned materials must be received at Baileigh in new condition and in original packaging.
- Altered items are not eligible for return.
- Buyer is responsible for all shipping charges.
- A 30% re-stocking fee applies to all returns.

Baileigh Industrial makes every effort to ensure that our posted specifications, images, pricing and product availability are as correct and timely as possible. We apologize for any discrepancies that may occur. Baileigh Industrial reserves the right to make any and all changes deemed necessary in the course of business including but not limited to pricing, product specifications, quantities, and product availability.

For Customer Service & Technical Support:

Please contact one of our knowledgeable Sales and Service team members at:
(920) 684-4990 or e-mail us at sales@baileighindustrial.com



INTRODUCTION

The quality and reliability of the components assembled on a Baileigh Industrial machine guarantee near perfect functioning, free from problems, even under the most demanding working conditions. However if a situation arises, refer to the manual first. If a solution cannot be found, contact the distributor where you purchased our product. Make sure you have the serial number and production year of the machine (stamped on the nameplate). For replacement parts refer to the assembly numbers on the parts list drawings.

Our technical staff will do their best to help you get your machine back in working order.

In this manual you will find: (when applicable)

- Safety procedures
- Correct installation guidelines
- Description of the functional parts of the machine
- Capacity charts
- Set-up and start-up instructions
- Machine operation
- Scheduled maintenance
- Parts lists

GENERAL NOTES

After receiving your equipment remove the protective container. Do a complete visual inspection, and if damage is noted, **photograph it for insurance claims** and contact your carrier at once, requesting inspection. Also contact Baileigh Industrial and inform them of the unexpected occurrence. Temporarily suspend installation.

Take necessary precautions while loading / unloading or moving the machine to avoid any injuries.

Your machine is designed and manufactured to work smoothly and efficiently. Following proper maintenance instructions will help ensure this. Try and use original spare parts, whenever possible, and most importantly; **DO NOT** overload the machine or make any unauthorized modifications.

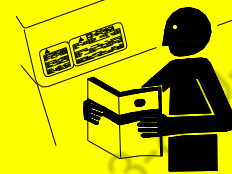


Note: This symbol refers to useful information throughout the manual.



IMPORTANT **PLEASE READ THIS OPERATORS MANUAL CAREFULLY**

It contains important safety information, instructions, and necessary operating procedures. The continual observance of these procedures will help increase your production and extend the life of the equipment.



SAFETY INSTRUCTIONS

LEARN TO RECOGNIZE SAFETY INFORMATION

This is the safety alert symbol. When you see this symbol on your machine or in this manual, **BE ALERT TO THE POTENTIAL FOR PERSONAL INJURY!**

Follow recommended precautions and safe operating practices.

UNDERSTAND SIGNAL WORDS

A signal word – **DANGER**, **WARNING**, or **CAUTION** is used with the safety alert symbol. **DANGER** identifies a hazard or unsafe practice that will result in severe **Injury or Death.**

Safety signs with signal word **DANGER** or **WARNING** are typically near specific hazards.

General precautions are listed on **CAUTION** safety signs. **CAUTION** also calls attention to safety messages in this manual.



DANGER



WARNING



CAUTION

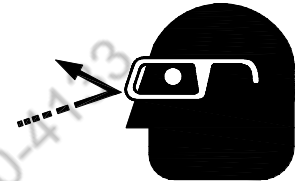


SAVE THESE INSTRUCTIONS.
Refer to them often and use them to instruct others.



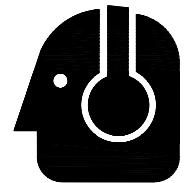
PROTECT EYES

Wear safety glasses or suitable eye protection when working on or around machinery.



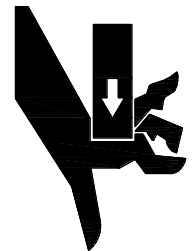
PROTECT AGAINST NOISE

Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear suitable hearing protective devices such as ear muffs or earplugs to protect against objectionable or uncomfortable loud noises.



BEWARE OF PINCH AND CRUSH HAZARD

Keep hands and fingers away from the pivoting jaw Mechanism.
NEVER place your hand or any part of your body in this machine.



SAFETY PRECAUTIONS



Metal working can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

Safety equipment such as guards, hold-downs, safety glasses, dust masks and hearing protection can reduce your potential for injury. But even the best guard won't make up for poor judgment, carelessness or inattention. **Always use common sense** and exercise **caution** in the workshop. If a procedure feels dangerous, don't try it.

REMEMBER: Your personal safety is your responsibility.



WARNING: FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY



1. **Only trained and qualified personnel can operate this machine.**
2. **Make sure guards are in place and in proper working order before operating machinery.**
3. **Remove any adjusting tools.** Before operating the machine, make sure any adjusting tools have been removed.
4. **Keep work area clean.** Cluttered areas invite injuries.
5. **Overloading machine.** By overloading the machine you may cause injury from flying parts. **DO NOT** exceed the specified machine capacities.
6. **Dressing material edges.** Before bending sheet metal, always chamfer and deburr all sharp edges.
7. **Do not force tool.** Your machine will do a better and safer job if used as intended. **DO NOT** use inappropriate attachments in an attempt to exceed the machines rated capacity.
8. **Use the right tool for the job. DO NOT** attempt to force a small tool or attachment to do the work of a large industrial tool. **DO NOT** use a tool for a purpose for which it was not intended.
9. **Dress appropriate. DO NOT** wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.
10. **Use eye and ear protection.** Always wear ISO approved impact safety goggles. Wear a full-face shield if you are producing metal filings.
11. **Do not overreach.** Maintain proper footing and balance at all times. **DO NOT** reach over or across a running machine.
12. **Stay alert.** Watch what you are doing and use common sense. **DO NOT** operate any tool or machine when you are tired.
13. **Check for damaged parts.** Before using any tool or machine, carefully check any part that appears damaged. Check for alignment and binding of moving parts that may affect proper machine operation.
14. **Observe work area conditions. DO NOT** use machines or power tools in damp or wet locations. Do not expose to rain. Keep work area well lighted. **DO NOT** use electrically powered tools in the presence of flammable gases or liquids.
15. **Blade adjustments and maintenance.** Always keep blades sharp and properly adjusted for optimum performance.
16. **Keep children away.** Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
17. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep them out of reach of children.



- 18. **DO NOT operate machine if under the influence of alcohol or drugs.** Read warning labels on prescriptions. If there is any doubt, **DO NOT** operate the machine.
- 19. Keep visitors a safe distance from the work area.

TECHNICAL SPECIFICATIONS

Working Depth	6" (153mm)
Capacity Mild Steel Aluminum	16 ga (1.5mm) 14 ga (1.6mm)
Dimensions (L x W x H)	36.25" x 16.12" x 46.25" (920 x 410 x 1175mm)
Shipping Weight (approx.)	92 lbs (42kg)
Shipping Dimensions (L x W x H)	45.5" x 20" x 8" (1156 x 508 x 203mm)



Note: The photos illustrations using in this manual are representative only and may not depict the actual color, labeling or accessories and may be intended to illustrate technique only.



Note: The specifications and dimensions presented here are subject to change without prior notice due to improvements of our products.

TECHNICAL SUPPORT

Our technical support department can be reached at 920.684.4990, and asking for the support desk for purchased machines. Tech Support handles questions on machine setup, schematics, warranty issues, and individual parts needs: (other than die sets and blades).

For specific application needs or future machine purchases contact the Sales Department. at: sales@baileighindustrial.com, Phone: 920.684.4990, or Fax: 920.684.3944.



UNPACKING AND CHECKING CONTENTS

Your Baileigh machine is shipped complete in one crate. Separate all parts from the packing material and check each item carefully. Make certain all items are accounted for before discarding any packing material.

⚠ WARNING: If any parts are missing, do not operate the machine until the missing parts are obtained and installed correctly.

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

Cleaning

Your machine may be shipped with a rustproof waxy oil coating and grease on the exposed unpainted metal surfaces. To remove this protective coating, use a degreaser or solvent cleaner. For a more thorough cleaning, some parts will occasionally have to be removed. **DO NOT USE** acetone or brake cleaner as they may damage painted surfaces. Follow manufacturer's label instructions when using any type of cleaning product. After cleaning, wipe unpainted metal surfaces with a light coating of quality oil or grease for protection.

⚠ WARNING: DO NOT USE gasoline or other petroleum products to clean the machine. They have low flash points and can explode or cause fire.

⚠ CAUTION: When using cleaning solvents work in a well-ventilated area. Many cleaning solvents are toxic if inhaled.





INSTALLATION

Leveling

The machine should be sited on a level, concrete floor. Provisions for securing it should be in position prior to placing the machine. The accuracy of any machine depends on the precise placement of it to the mounting surface.

IMPORTANT:

- Consider current and future needs, size of material to be processed through each machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your new machine.
- Maintain an adequate working area around the machine for safety.
- Have the work area well illuminated with proper lighting.
- Remove scrap and waste materials regularly, and make sure the work area is free from obstructing objects.
- Keep the floor free of oil and make sure it is not slippery.
- If long lengths of material are to be fed into the machine, make sure that they will not extend into any aisles.

It is recommended that you mount your new machine to the floor. Because flooring material may vary, floor mounting hardware is not included. Generally, you can either bolt your machine to the floor or mount it on machine mounts. Both options are describes below. Whichever option you choose, it is necessary to level your machine with a precision level.

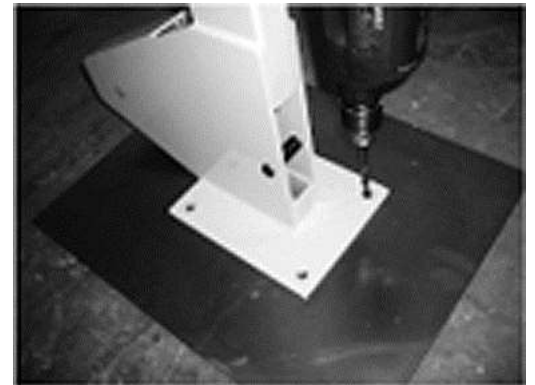
Bolting to concrete floors

Leg shield anchors with lag bolts and anchor studs are two popular methods for anchoring an object to a concrete floor. We suggest you research the many options and methods for mounting your machine and choose the best that fits your specific application.



Note: Anchor studs are stronger and more permanent alternatives to lag shield anchors; however, they will stick out of the floor, which may cause a tripping hazard if you decide to move your machine.

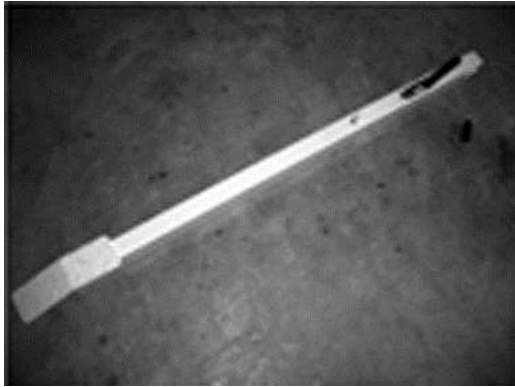
As an alternative you can mount the shrinker / stretcher on a movable stand. The stand must be strong enough to support the weight of the machine and the material being processed, as well as providing the ballast to prevent the machine from tipping over.



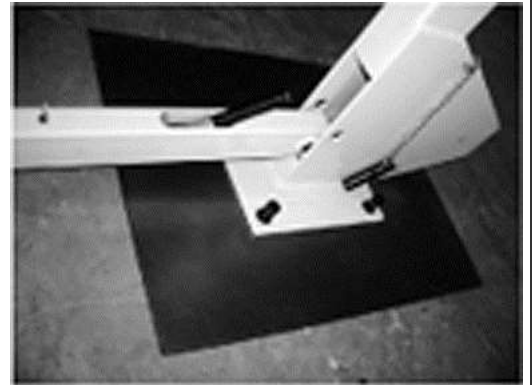


ASSEMBLY AND SET UP

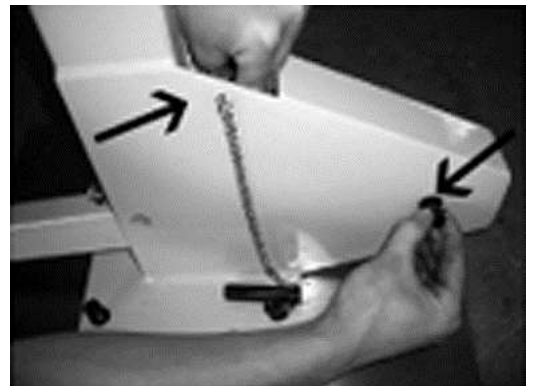
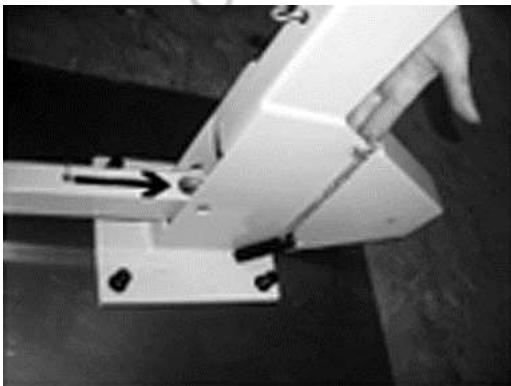
1. Grease the pivot shaft and install the pivot shaft in the hole on the end of the foot pedal.
2. Mount the foot pedal and pivot shaft with the M10 screws.



3. Place the foot pedal into the base. Make sure the threaded link screw is pointing up and into the main unit.

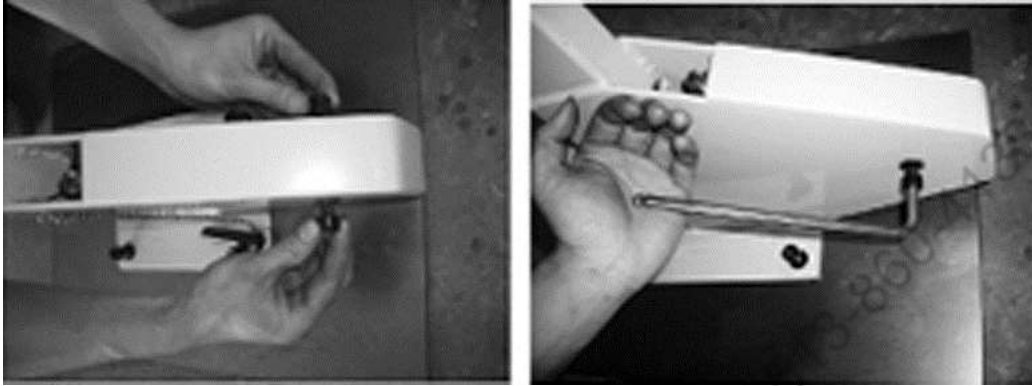


4. Move the foot pedal in to the main unit and at the same time, with your other hand guide the threaded link screw up in the opening.
5. Install the two (2) M10 screws for the pivot shaft and at the same time keep the screw threaded link in the opening.





6. Tighten both screws.

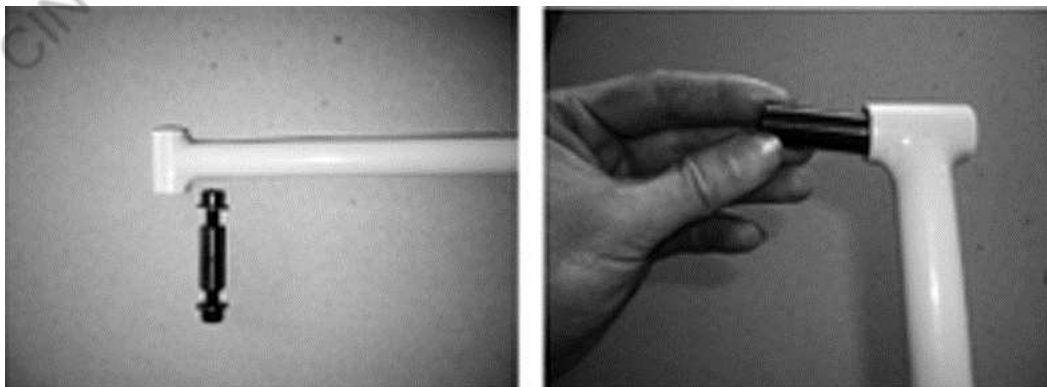


7. Mount the spring, first into the main unit, then to the foot pedal.



8. Grease the foot pedal axle and install the axle in the hole in the end of the foot pedal.

9. Mount the foot pedal link and the axle with the two (2) M8 screws.

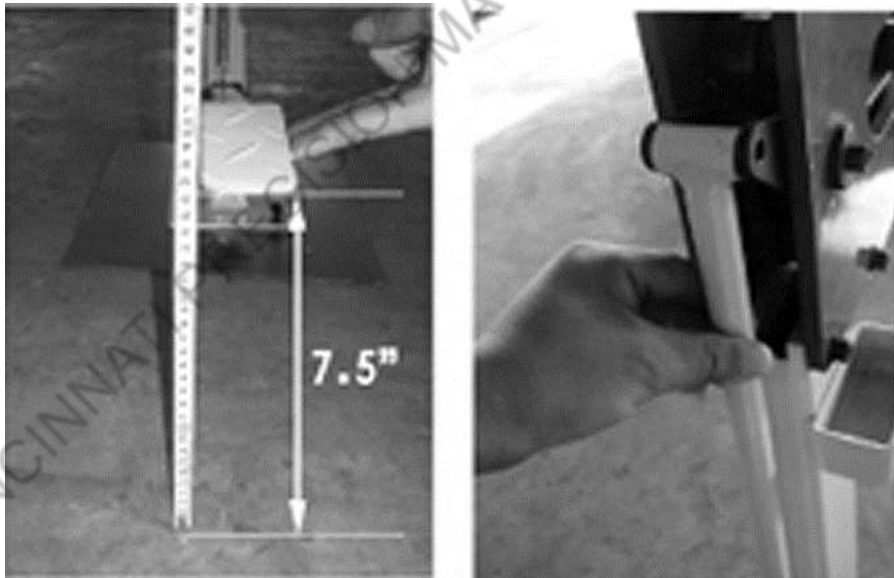




10. Connect the link to the threaded link screw and screw it in about 15 turns.



11. The length of the link has to be adjusted so that the height of the low side of the foot pedal is $7.5'' \pm .5''$ (190.5mm \pm 12.7mm). Place a 7.5" (190.5mm) block under the foot pedal and adjust the link until the upper screws will install easily.





12. Install the two (2) M8 screws for the upper link and tighten.



13. Mount the jaws by first installing the screws into the jaw.



14. Place the jaws one at a time with the text to the outside. Then tighten the jaws.

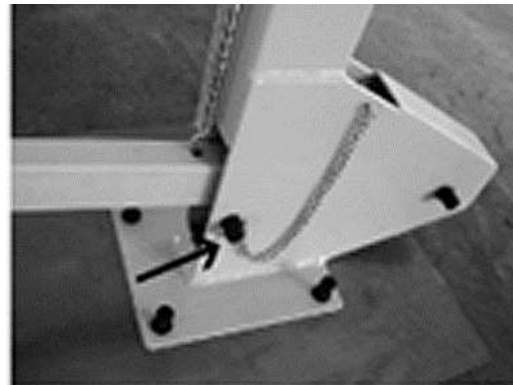




15. It is very important to use the same type of jaws; shrinker with shrinker or stretcher with stretcher jaws. DO NOT interchange. It is also important to have the text in the same direction. Best results are text to the outside.
16. On the shrinker jaws the openings have to be placed forward.
17. Oil the jaws every week depending on usage.



18. When the machine is not in use, the securing pin shall be installed to prevent unintended usage.



19. Use the holder on the side of the machine to store the jaws that are not in use.





OPERATION

⚠ WARNING: DO NOT step on the foot pedal without having work material between the jaws. The jaws may chip or break causing injury from fling objects.

⚠ CAUTION: Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges. Keep hands and fingers clear of the dies. When handling large heavy sheets make sure they are properly supported.

The function of this tool is to shrink or stretch sheet metal up to 16 ga. (1.5mm) with radius down to 1" (25.4mm)

The principal operation is made when the sheet work piece is placed between the jaws and then applying and releasing force with the foot on the foot pedal. The work piece is moved as required each time the foot pedal is released. By moving smoothly you will be able to make smooth shapes quickly and easily. PRACTICE.

MATERIAL SELECTION

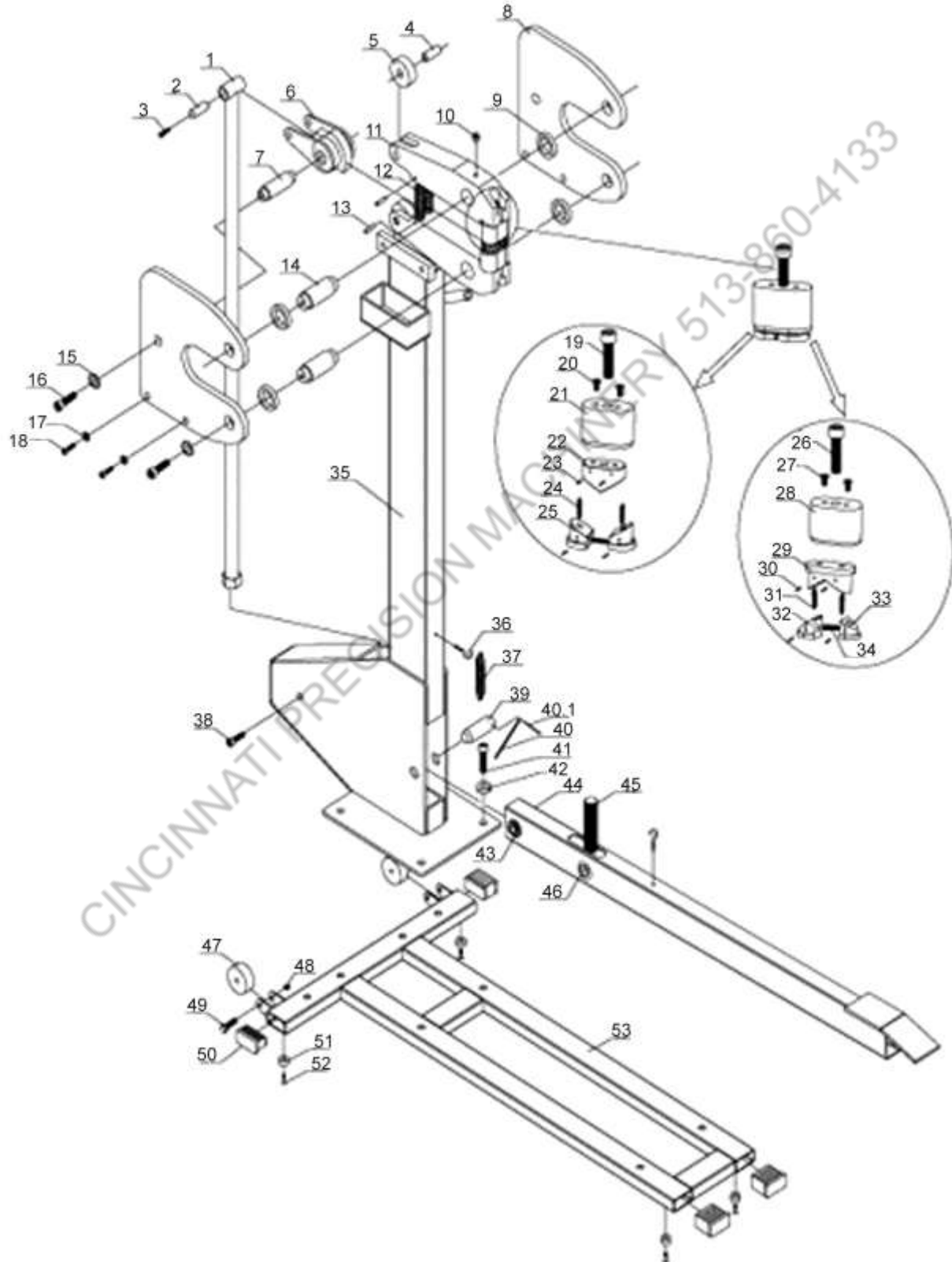
⚠ CAUTION: It must be determined by the customer that materials being processed through the machine are NOT potentially hazardous to operator or personnel working nearby.

When selecting materials keep these instructions in mind:

- Material must be clean and dry. (without oil)
- Material should have a smooth surface so it processes easily.
- Dimensional properties of material must be consistent and not exceed the machine capacity values.
- Chemical structure of material must be consistent.
- Buy certificated steel from the same vendor when possible.



PARTS DIAGRAM





Parts List

Item	Description	Qty.
1	Foot Pedal Link	1
2	Link Axle	1
3	Screw, M8 x 16	2
4	Lock Axle	1
5	Wheel	2
6	Rotary Table	1
7	Side Plate Little Axle	1
8	Side Plate	2
9	Set Collar	4
10	Oil Hole Plug M6	2
11	Die Frame	2
12	Spring	2
13	Roll Pin, 3 x 30	2
14	Side Plate Big Axle	2
15	Washer	2
16	Screw, M8 x 20	2
17	Washer, M8	4
18	Screw, M8 x 20	4
19	Screw, M8 x 30	4
20	Screw, M4 x 8	8
21	Outer Die Cover	4
22	Upper Inner Die Cover 1	4
23	Roll Pin, 2 x 20	24
24	Little Spring	12
25	Lower Inner Die Cover	4
26	Screw, M8 x 30	4
27	Screw, M4 x 8	8

Item	Description	Qty.
28	Outer Die Cover	4
29	Upper Inner Die Cover	4
30	Roll Pin, 2 x 20	16
31	Little Spring	8
32	Lower Inner Die Cover	4
33	Lower Inner Die Cover	4
34	Bearing Spring	4
35	Frame	1
36	Pothook	2
37	Spring	1
38	Screw, M10 x 16	2
39	Axle	1
40	Hanging Chain	1
40.1	Split Pin, 3.2 x 25	2
41	Screw, M10 x 20	4
42	Washer, M10	4
43	Fixed Shaft	1
44	Foot Pedal	1
45	Localizer shaft	1
46	Link Shaft	1
47	Wheel	2
48	Nut, M6	2
49	Bolt, M6 x 35	2
50	Lid	4
51	Plastic Washer	4
52	Screw, M4 x 10	4
53	Base	1



NOTES

BAILEIGH INDUSTRIAL, INC. 1625 DUFEK DRIVE MANITOWOC, WI 54220

PHONE: 920. 684. 4990 FAX: 920. 684. 3944

WWW.BAILEIGHINDUSTRIAL.COM

BAILEIGH INDUSTRIAL, INC. 1455 S. CAMPUS AVENUE ONTARIO, CA 91761

PHONE: 920. 684. 4990 FAX: 920. 684. 3944

BAILEIGH INDUSTRIAL LTD. UNIT 1 FULLWOOD CLOSE

ALDERMANS GREEN INDUSTRIAL ESTATE

COVENTRY, CV2 2SS UNITED KINGDOM

PHONE: +44 (0)24 7661 9267 FAX: +44 (0)24 7661 9276

WWW.BAILEIGHINDUSTRIAL.CO.UK

BAILEIGH INDUSTRIAL GMBH HOFENER STRASSE 64

70736 FELLBACH

DEUTSCHLAND

WWW.BAILEIGHINDUSTRIAL.DE