



OPERATOR'S MANUAL

Metal Working



MANUAL SHEETMETAL PUNCH MODEL: HP-160

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

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THANK YOU & WARRANTY

Thank you for your purchase of a machine from Baileigh Industrial Holdings LLC. 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 an 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 10 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, (f) 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 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 attorney 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 Holdings LLC 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 Holdings LLC 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@baileigh.com



INTRODUCTION

The quality and reliability of the components assembled on a Baileigh Industrial Holdings LLC 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
- Setup 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 Holdings LLC 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 modifications.



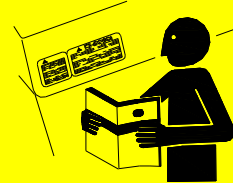
Note: This symbol refers to useful information throughout the manual.



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. **NOTICE**, which is not related to personal injury, is used without a symbol.

DANGER: Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE: Indicates a situation which, if not avoided, could result in property damage.

DANGER

WARNING

CAUTION

NOTICE

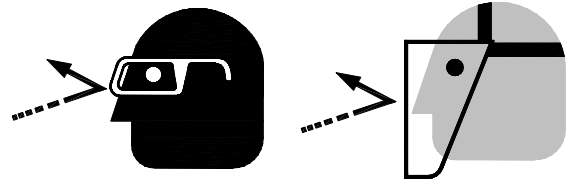


SAVE THESE INSTRUCTIONS.
Refer to them often and use them to instruct others.



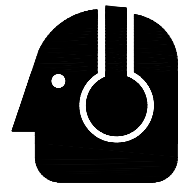
PROTECT EYES

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



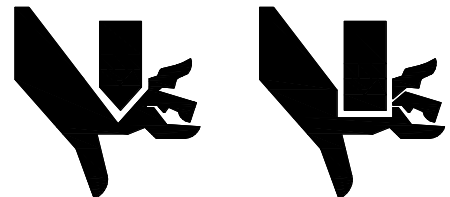
PROTECT AGAINST NOISE

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



BEWARE OF SHEAR, PINCH, AND CRUSH HAZARD

NEVER place your hands, fingers, or any part of your body in the die area of this machine. Keep hands and fingers away from the shear blade and the punching and notching dies when the machine is in operation.



CALIFORNIA PROPOSITION 65

WARNING: Cancer and Reproductive Harm.
www.P65Warnings.ca.gov





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 will not 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**

Dear Valued Customer:

- All Baileigh machines should be used only for their intended use.
- Baileigh does not recommend or endorse making any modifications or alterations to a Baileigh machine. Modifications or alterations to a machine may pose a substantial risk of injury to the operator or others and may do substantial damage to the machine.
- Any modifications or alterations to a Baileigh machine will invalidate the machine's warranty.

PLEASE ENJOY YOUR BAILEIGH MACHINE!PLEASE ENJOY IT SAFELY!

1. **FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.** Learn the machine's application and limitations as well as the specific hazards.
2. **Only trained and qualified personnel can operate this machine.**
3. **Make sure guards are in place and in proper working order before operating machinery.**
4. **Remove any adjusting tools.** Before operating the machine, make sure any adjusting tools have been removed.
5. **Keep work area clean.** Cluttered areas invite injuries.
6. **Overloading machine.** By overloading the machine, you may cause injury from flying parts. **DO NOT** exceed the specified machine capacities.
7. **Dressing material edges.** Always chamfer and deburr all sharp edges.



8. **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 machine's rated capacity.
9. **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.
10. **Dress appropriately.** **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.
11. **Use eye protection.** Always wear ISO approved protective eye wear when operating machinery. Wear a full-face shield if you are producing metal filings. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specification. Use of eye wear which does not comply with ANSI Z87.1 specification could result in severe injury from breakage of eye protection.
12. **Do not overreach.** Maintain proper footing and balance at all times. **DO NOT** reach over or across a running machine.
13. **Stay alert.** Watch what you are doing and use common sense. **DO NOT** operate any tool or machine when you are tired.
14. **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.
15. **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.
16. **Blade adjustments and maintenance.** Always keep blades sharp and properly adjusted for optimum performance.
17. **Keep children away.** Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
18. Keep visitors a safe distance from the work area.
19. **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.
20. **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.



TECHNICAL SPECIFICATIONS

Throat Depth		6.25" (158.75mm)		
Punch Diameter Capacity per Material Type and Thickness				
Thickness	0.019"-0.059" (0.5-1.5mm)	0.059"-0.098" (1.5-2.5mm)	0.098"- 0.137" (2.5-3.5mm)	0.137"- 0.196" (3.5-5.0mm)
Material				
Aluminum	Ø 0.098"-.75" (2.5-19.1mm)			
Copper	Ø 0.118"-1.18" (3-30mm)	Ø 0.196"-.75" (5-19.1mm)		
Mild Steel*	Ø 0.236"-1.18" (6-30mm)	Ø 0.315"-0.708" (8.0-18mm)	Ø 0.393"-0.669" (10-17mm)	-
Based on a material tensile strength of *60000 PSI – mild steel				
Power		Manual		
Shipping Weight		176 lbs. (79.8kg)		
Shipping Dimensions		20.5" x 9" x 36.6" (521 x 229 x 930mm)		



Note: Material thickness should not exceed the punch diameter being used.

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@baileigh.com, Phone: 920.684.4990, or Fax: 920.684.3944.



Note: The photos and illustrations used 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.



UNPACKING AND CHECKING CONTENTS

Your Baileigh machine is shipped complete. 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: SUFFOCATION HAZARD! Immediately discard any plastic bags and packing materials to eliminate choking and suffocation hazards to children and animals.

If any parts are missing, **DO NOT** place the machine into service until the missing parts are obtained and installed correctly.

Cleaning



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.

Your machine may be shipped with a rustproof waxy coating and/or grease on the exposed unpainted metal surfaces. Fully and completely remove this protective coating using a degreaser or solvent cleaner. Moving items will need to be moved along their travel path to allow for cleaning the entire surface. 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.



Important: This waxy coating is **NOT** a lubricant and will cause the machine to stick and lose performance as the coating continues to dry.





INSTALLATION

IMPORTANT:

Consider the following when looking for a suitable location to place the machine:

- Overall weight of the machine.
- Weight of material being processed.
- Sizes of material to be processed through the machine.
- Space needed for auxiliary stands, work tables, or other machinery.
- Clearance from walls and other obstacles.
- Maintain an adequate working area around the machine for safety.
- Have the work area well illuminated with proper lighting.
- Keep the floor free of oil and make sure it is not slippery.
- Remove scrap and waste materials regularly, and make sure the work area is free from obstructing objects.
- If long lengths of material are to be fed into the machine, make sure that they will not extend into any aisles.
- **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.
- **FLOOR:** This tool distributes a large amount of weight over a small area. Make certain that the floor is capable of supporting the weight of the machine, work stock, and the operator. The floor should also be a level surface. If the unit wobbles or rocks once in place, be sure to eliminate by using shims.
- **WORKING CLEARANCES:** Take into consideration the size of the material to be processed. Make sure that you allow enough space for you to operate the machine freely.



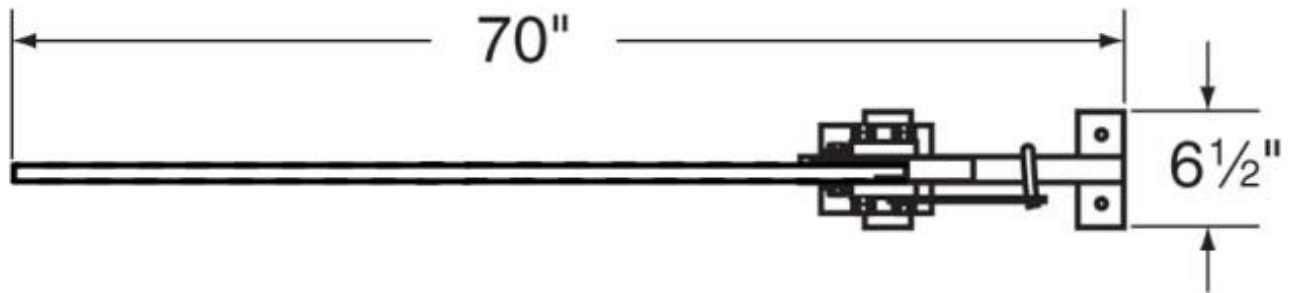
WARNING: Before operating the Baileigh Ironworker, make sure it is firmly bolted to a table, bench, or the floor. If it tips over on you, it could cause severe injury or death.

When mount the Baileigh HP-160 on a workbench be aware of the following:

- Make sure the workbench is properly reinforced to support the weight.
- The strongest mounting option is where the holes are drilled all the way through the workbench and the machine is secured with bolts, washers, and nuts.



1. Locate the Baileigh HP-160 punch on your work surface.
2. Using the base as a template, mark the holes on the mounting surface.
3. Drill thru and bolt down the base. Customer to provide necessary hardware.



ASSEMBLY

4. Assemble the handle to the punch lever using the 2 hex bolts, lock washers and lock nuts included.
5. Test that enough clearance has been allowed for the handle to travel full distance.





BASIC MACHINE FUNCTIONS

The Punch and Die should be checked for alignment, prior to punching any material.



WARNING: Tooling and or workpiece could break apart under pressure, sending metal debris toward the operator at a high rate of speed.

To reduce the risk of hazard:

Material shall be adequately supported and held in place.

Always keep all safety guards and access panels and tooling in the correct position and secured when operating this machine.

Never exceed the machine capacity.

Punch Tooling General Guides

1. The punch stripper plate must be adjusted correctly with sufficient clearance to allow positioning and removal of the material being punched.
2. Punch holes with enough material around the hole so that contact will be made on both sides of the stripper plate. Stripping forces can be severe and unbalanced due to contact on one side. This may cause Punch breakages.
3. Liberal oiling of the punch will significantly lengthen the life of the punch and die and also help reduce the stripping forces.
4. The quality of the hole is a direct indicator of the condition of the punch and die.
5. Do not punch material thicker than the punch diameter, this overloads the punch and can result in breakage.
6. Punch full and complete holes do not punch partial holes unless tooling is specifically designed to do so.
7. Small items (i.e. small pieces of plate, bar etc.) MUST be placed and removed with suitable handling aids, extra guarding may be required to ensure operator safety.
8. Never exceed the rated capacity of the machine.



OPERATION

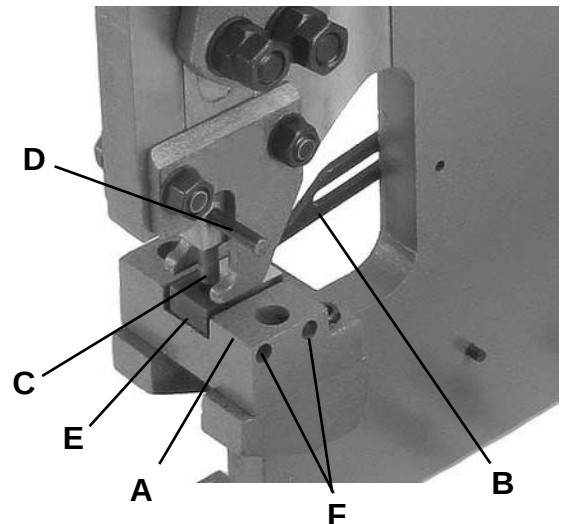


CAUTION: Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges. Keep hands and fingers clear of the punch area. When handling large heavy material, make sure it is properly supported.



Note: All capacities are based on materials to be punched having a tensile strength of 42.2kg/mm² (60,000psi). Never exceed the rated capacity of the machine.

1. Material is positioned on the lower die bed (A) as needed to align with the desired hole location.
2. The material stop (B) may be used as desired for repeatability.
3. The punch (C) is held in position with the punch pin (D) and the lower die (E) is aligned to the punch using the die adjustment bolts (F).
4. Position the material under the punch and pull forward and down on the handle to press the punch onto the material. Reposition as needed.
5. Pull firmly and steadily down on the handle until the punch has fully penetrated the material.
6. Lift the handle back to the full up position.



Punch and Die Lubrication

It is recommended that oil be applied by brush to the punch and die or both sides of the material being punched. Any general lubricating oil will work.



CHANGING PUNCHES AND DIES

Punch Changing



IMPORTANT: *Punches and Dies are sharp and delicate. Protect hands from cuts. Dropping the dies will damage the edges and may break the punches or dies.*



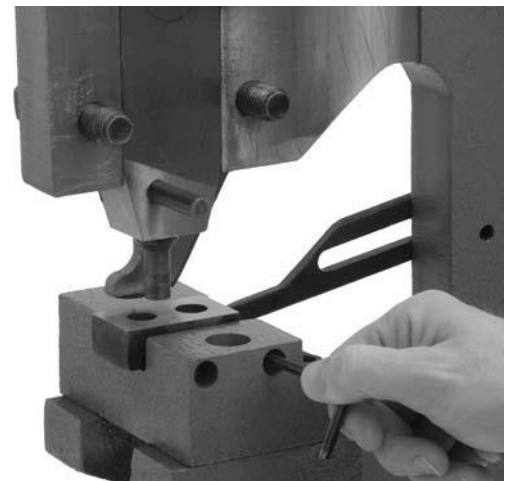
Note: *Material thickness must not exceed the diameter of punch being used.*

1. Raise the handle to the full up position.
2. Using a Nylon or Brass head hammer, tap the punch pin to either side until the pin is loose but not removed.
3. Hold the punch and remove the punch pin allowing the punch to be removed.
4. Insert the new punch into the machine with the flat on the punch toward the punch pin hole.
5. Insert the punch pin with the flat on the punch pin toward the punch.
6. Using a Nylon or Brass head hammer, tap the punch pin into the machine until it is centered.



Die Changing

1. Loosen the four die adjustment bolts evenly until the die is loose. Remove the die.
2. Install the new die into the die pocket. Either die hole will work. Marking the holes and changing when one is dull is recommended.
3. Slowly lower the handle so that the punch engages and fits into the die.
4. Evenly tighten the four die adjustment bolts so that the die remains aligned to the punch.
5. Carefully raise and lower the handle to run the punch in and out of the die to verify that the punch engages the die with no contact.





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:

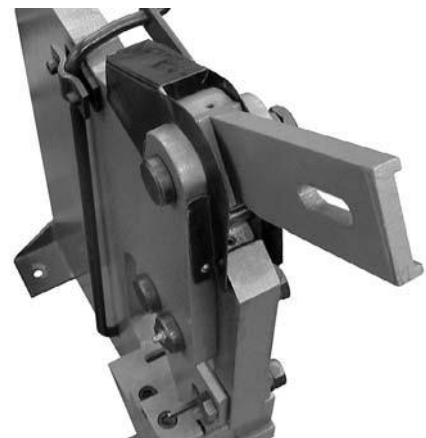
- Material must be clean and dry. (without oil)
- Material should have a smooth surface so it processes easily.
- Dimensional properties of material must be consistent and not exceed the machine capacity values.
- Chemical structure of material must be consistent.
- Buy certificated steel from the same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

LUBRICATION AND MAINTENANCE



WARNING: Maintenance should be performed on a regular basis by qualified personnel.
Always follow proper safety precautions when working on or around any machinery.

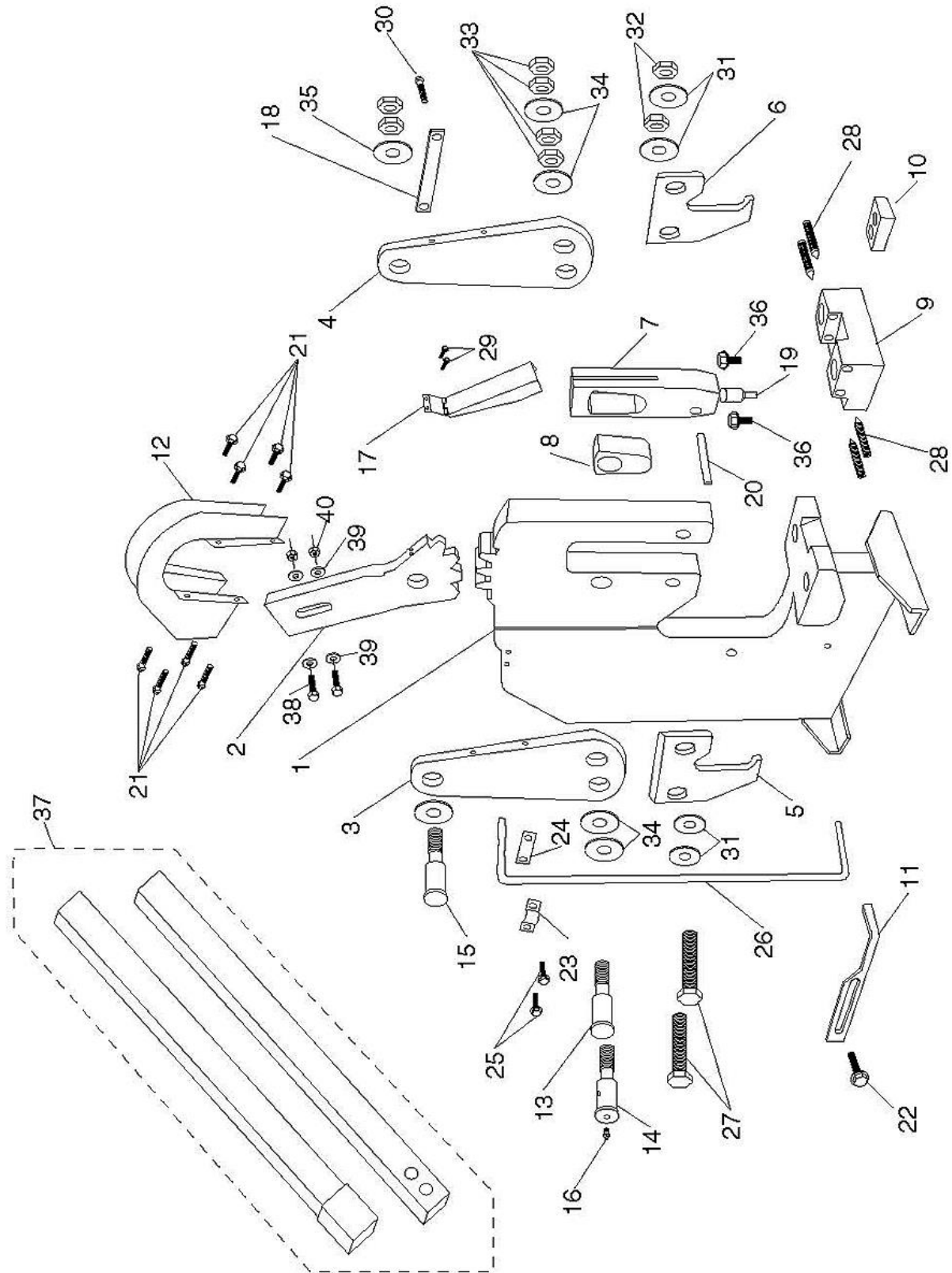
- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.
- On a weekly basis clean the machine and the area around it.
- Lubricate threaded components and sliding devices.
- Apply rust inhibitive lubricant to all non-painted surfaces.



Note: Proper maintenance can increase the life expectancy of your machine.



PARTS IDENTIFICATION DRAWING





Parts Identification List

Item	Part No.	Description	Qty.
1	HP160-1	Body	1
2	HP160-2	Handle Base	1
3	HP160-3	Jointing Plate Left	1
4	HP160-4	Jointing Plate Right	1
5	HP160-Left Pressure Plate	Pressure Plate Left	1
6	HP160-Right Pressure Plate	Pressure Plate Right	1
7-8	HP160-7/8	Slide Set with Rocker	1
9	HP160-9	Die Holder Table	1
10	HP160-10	Ask for Punch and Die Set	
11	HP160-11	Work Stop	1
12	HP160-12	Handle Bracket	1
13	HP160-13	Pivot Pin	1
14	HP160-14	Ported Pivot Pin	1
15	HP160-15	Handle Pivot Pin	1
16	HP160-16	Zerk Fitting	1
17	HP160-17	Gear Cover	1
18	HP160-18	Spring Plate	1
19	HP160-19	Ask for Punch and Die Set	
20	HP160-Wedge Pin	Wedge Pin	1
21	HP160-21	Flange Bolt M5-.8 x 10	8
22	HP160-22	Hex Bolt M10-1.5 x 20	1
23	HP160-23	Spring Bracket (Inner)	1
24	HP160-24	Spring Bracket (Outer)	1
25	HP160-25	Flange Bolt M8-1.25 x 25	2
26	HP160-Torsion Rod	Torsion Rod	1
27	HP160-27	Hex Bolt M16-2 x 70	2
28	HP160-28	Set Screw M10-1.5 x 50 Cone Point	4
29	HP160-29	Hex Bolt M6-1 x 8	2
30	HP160-30	Flange Bolt M10-1.5 x 20	1
31	HP160-31	Flat Washer 16mm	4
32	HP160-32	Special Nut M16	2
33	HP160-33	Special Nut M20	6
34	HP160-34	Flat Washer 20mm	4



Item	Part No.	Description	Qty.
35	HP160-35	Flat Washer 20mm	2
36	HP160-36	Hex Bolt M12-1.75 x 60	2
37	HP160-37	Pipe Handle 2pc Set V2.11.02	1
38	HP160-38	Hex Bolt M12-1.75 x 55	2
39	HP160-39	Flat Washer 12mm	4
40	HP160-40	Hex Nut M12-1.75	2
	HP160-1/8" Punch	Punch	
	HP160-1/4" Punch	Punch	
	HP160-1/2" Punch	Punch	
	HP160-3/16" Punch	Punch	
	HP160-3/8" Punch	Punch	
	HP160-5/16" Punch	Punch	
	HP160-7/16" Punch	Punch	
	HP160-9/16" Punch	Punch	
	HP160-1/8" Punch and Die	Punch and Die	
	HP160-1/4" Punch and Die	Punch and Die	
	HP160-1/2" Punch and Die	Punch and Die	
	HP160-3/16" Punch and Die	Punch and Die	
	HP160-3/8" Punch and Die	Punch and Die	
	HP160-5/16" Punch and Die	Punch and Die	
	HP160-7/16" Punch and Die	Punch and Die	
	HP160-9/16" Punch and Die	Punch and Die	

BAILEIGH INDUSTRIAL HOLDINGS LLC
1625 DUFEK DRIVE MANITOWOC, WI 54220
PHONE: 920. 684. 4990 FAX: 920. 684. 3944
www.baileigh.com