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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, (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 Majuere. 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, lightning, 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@baileigh.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 modifications.

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

HYDRAULIC HOSE FAILURE

Exercise CAUTION around hydraulic hoses in case of a hose or fitting failure.

BEWARE OF 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 ram and tooling when the machine is in operation.
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

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 machines 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 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.

11. **Use eye and ear protection.** Always wear ISO approved impact safety goggles. Wear a full-face shield if you are producing metal filings.

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.

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

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Capacity</td>
<td>10 ton (9 ton)</td>
</tr>
<tr>
<td>Working Width</td>
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<tr>
<td>Moveable Cylinder</td>
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</tr>
<tr>
<td>Cylinder Stroke</td>
<td>7&quot; (178mm)</td>
</tr>
<tr>
<td>Cylinder Diameter</td>
<td>2.2&quot; (56mm)</td>
</tr>
<tr>
<td>Piston Rod Diameter</td>
<td>1.5&quot; (38mm)</td>
</tr>
<tr>
<td>Piston Head Diameter</td>
<td>1.5&quot; (38mm)</td>
</tr>
<tr>
<td>Power Requirement</td>
<td>Manual</td>
</tr>
<tr>
<td>Maximum Pump Pressure</td>
<td>10000psi (68.9mPa)</td>
</tr>
<tr>
<td>Shipping Weight</td>
<td>150 lbs (68kgs)</td>
</tr>
<tr>
<td>Shipping Dimensions</td>
<td>44&quot; x 60&quot; x 11&quot; (1118 x 1524 x 280mm)</td>
</tr>
</tbody>
</table>

## 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.
TRANSPORTING AND LIFTING

⚠️ **IMPORTANT:** Lifting and carrying operations should be carried out by skilled workers, such as a truck operator, crane operator, etc. If a crane is used to lift the machine, attach the lifting chain carefully, making sure the machine is well balanced.

Follow these guidelines when lifting with truck or trolley:
- Take proper precautions for handling and lifting.
- The lift truck must be able to lift at least 1.5 – 2 times the machines gross weight.
- Make sure the machine is balanced. While transporting, avoid rough or jerky motion, and maintain a safe clearance zone around the transport area.
- Move the machine to the required position and lower gently to the floor.
- Level the machine so that all the supporting feet are taking the weight of the machine and no rocking is taking place.

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.
Once positioned, anchor the machine to the workbench or into the floor using bolts or expansion plugs that connect through holes in the base of the stand. 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.

**FLOOR / MOUNTING SURFACE:** 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.

**Anchoring the Machine**

- Once positioned, anchor the machine to the floor, as shown in the diagram. Use bolts and expansion plugs or sunken tie rods that connect through and are sized for the holes in the base of the stand.

If you intend to mount the Baileigh machine on a workbench be aware of the following:
- Overall weight of the machine.
- Weight of material being processed.
- 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.

**Tank Filling**

The hydraulic oil is the primary medium for transmitting pressure and also must lubricate the running parts of the pump.

After installation of the machine and before machine startup, bring the oil level up to 90% of capacity. Verify that any cylinder rams are in the retracted position to prevent overfilling of the tank. Recheck the oil level after the first few hours of operation and again after the first full week of operation.

A shortage of hydraulic oil can cause hydraulic system breakdown and damage to major mechanical parts due to overheating.
DIMENSIONS AND WORKING CLEARANCE

Provide adequate clearance for the equipment in an environment that is clean, non-flammable, non-corrosive, and dust free.

Minimum Clearance Dimensions

45.75” (1162mm)

5” (127mm)

12” - 18” (305 - 457mm)

17” (432mm)

19.75” (502mm)

23.75” (603.25mm)
### GETTING TO KNOW YOUR MACHINE

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Pressure Gauge</td>
</tr>
<tr>
<td>B</td>
<td>Press Cylinder</td>
</tr>
<tr>
<td>C</td>
<td>Ram w/Saddle</td>
</tr>
<tr>
<td>D</td>
<td>Heel Blocks</td>
</tr>
<tr>
<td>E</td>
<td>Press Bed</td>
</tr>
<tr>
<td>F</td>
<td>Bed Position Pins and Retaining Clips</td>
</tr>
<tr>
<td>G</td>
<td>Bed Position Holes</td>
</tr>
<tr>
<td>H</td>
<td>Hydraulic Control Valve</td>
</tr>
<tr>
<td>I</td>
<td>Hydraulic Pump</td>
</tr>
<tr>
<td>J</td>
<td>Hydraulic Hose</td>
</tr>
<tr>
<td>K</td>
<td>Hydraulic Breather/Fill Fitting</td>
</tr>
</tbody>
</table>
Note: Refer to the Part Diagram as an additional assembly aid.

1. Position the main frame on a flat surface with area to work around it.
2. Locate and install the two base supports (8) and secure each side with two bolts, washers and nuts (7, 10, & 11). Stand the frame in its’ base supports.
3. Install both bed support pins (9) and secure with four pin retaining rings.
4. Install the press bed (13) between the frame columns and resting it securely on the bed pins with the retaining rings to the outside of the bed.
5. Install thick support plate (15) below and the thin support plate (20) above and at the center upper bolster beam. Secure in position using the mounting studs, flat washers, lock washers, and hex nuts.
6. Remove the threaded spanner rings (14 & 16) from the piston, and lay them out on the workbench.
7. Position the thin spanner ring on top of the lower support plate (15), and install the piston assembly through the top of the support plate holes.
8. Make sure that the thin spanner nut is threaded onto the piston housing completely. If not, there may not be enough thread exposed for the thicker load-carrying spanner ring below. The thicker spanner ring must have full thread engagement. The thick spanner ring is the support for the piston during the pressing operation.
9. Thread the thicker spanner ring (14) onto the piston housing until tight.
10. Wearing safety glasses, use a spanner wrench (or a hammer and a 1/4" drift punch) finish tightening the thick spanner ring an additional 1/8 turn.
11. Attach the hydraulic pump (6) to the lower pump bracket using two hex bolts, flat washers, lock washers and hex nuts.

12. Insert a hex bolt with a lock washer and flat washer installed, through the upper mounting hole (19 & 18) and tighten it into the upper pump mounting bracket.

13. Install the hydraulic hose (4) from the pump into the top of the ram (3).

14. Remove the plastic caps and connect the pressure gauge (1) to the top of the piston housing.

**Note: DO NOT** use Teflon tape or thread sealant of any kind on any of the hydraulic fittings. These fittings use self-sealing ring.
OPERATION PREPLANNING

This is a general discussion on press operation and is not intended to be an exact step-by-step procedure. This is intended to create a broad thought process to be considered prior to using the press to stimulate the operator into thinking about as many possible scenarios that could cause injury or material damage. The operator should then take all steps they can think of to prevent or protect against such possible scenarios.

The following is a listing of some of the most common procedures the operator shall take into consideration and employ. The specific application will require the operator to address any items not covered here.

1. Provide a container or applicable padding under the press to protect the part when it drops.
2. Positions the heel plates to support the workpiece, and aligns the press pin or tooling on the part to be pressed.
3. Preload the workpiece prior to proceeding with the full pressing operation.
4. View the setup from various angles, and verify that the ram remains aligned with and centered with the workpiece and the bed.
5. Relieves the hydraulic pressure and allows the ram to return to the retracted position.

⚠️ WARNING: Failure to center the piece part on the blocks and the ram to the piece part may cause serious injury.

Never compress springs or objects that when compressed, could shatter, or explode out of the press causing serious injury.
Workpiece Considerations

Before using this hydraulic press, you must inspect the workpiece. This is not a comprehensive list but rather a list of common issues. It is up to you to address any additional special items required to prepare your workpiece for press operations. Not addressing the items below can lead to galled, seized, or broken housings. Ignoring any of the items listed can lead to a workpiece or tooling being ejected from the press, which could cause severe injury or death.

- **Material Strength**: Make sure that the workpiece material is designed to withstand the intended force the press will apply.

- **Material Cleanliness**: Make sure that the workpiece is clean and that all burrs, grit, rust, or damage is removed from the pressing path. Light oiling on the components may prevent galling or seizing.

- **Pressing Path and Sequence**: Make sure that the direction of the component to be pressed on or off is correct and that the correct size of sleeve or arbor plate is used for support.

- **Fasteners and Retainers**: Make sure that all retaining rings, pins, or fasteners are removed, and no hidden secondary retainers are present.

- **Hidden Objects**: Some components house one or more pieces such and springs, retaining rings, or spacers. Make sure that the part to be dismantled with the press has the applicable caging system to catch hidden items. Should the workpiece slip or open up when the retaining ring is removed and the hydraulic pressure is relieved.

- **Special Fits**: Make sure that interference fits are correct before pressing a part on, and make sure that the applicable parts have been heated or chilled to the correct temperatures to avoid galling and seizing. Be aware, that not all parts were designed to be pressed off. If in doubt, refer to the OEM of the part you are working on.
PRESSING OPERATION

**CAUTION:** Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges.

**IMPORTANT:** *NEVER* lift or lower the bed with tooling or material or pressure from the ram on the bed. This will damage the machine voiding the warranty.

1. Open the control valve (H) \( \frac{1}{2} \) - 1 turn by turning it clockwise (cw) and allow the ram to fully retract.
2. Raise the bed as high to the ram as will allow the material to fit between the arbor plates and the ram.
3. Secure the four wire clips to the pins (F) and verify the bed is resting squarely on the pins.
4. Place the two heel blocks on the bed so that the locating blocks (M) fit between the bed rails and are centered under the ram. The heel blocks can be used with the flat side up or the V-block side up.

*Note:* The heel blocks should always be used as a pair, not individually.

5. Close the hydraulic control valve (H) by turning it clockwise (cw).
6. Position the work material squarely on the heel blocks and centered under the ram.
7. Pump the handle on the hydraulic unit to extend the cylinder ram. As the ram is extending, watch the alignment of the material to the ram and stop pumping to re-align as needed.

8. Pump the handle to apply load to the piece part. Applied pressure is read on the pressure gauge (A).

9. When the work is done, stop pumping on the handle.

10. Slowly and carefully remove the load from the piece part by turning the control valve (H) counterclockwise (ccw) in small increments until the ram backs away from the piece part.

11. Once the ram has fully retracted, remove the piece part from the bed frame.

**UNDERSTANDING SPRINGBACK**

Springback, also known as elastic recovery, is the result of the metal wanting to return to its original shape after undergoing compression and stretch. After the bending leaf is removed from the metal and the load is released, the piece part relaxes, forcing the bent portion of the metal to return slightly to its original shape. The key to obtaining the correct bend angle is to over bend the metal a little and allow it to spring back to the desired angle. All metals exhibit a certain amount of spring back.

**MATERIAL SELECTION**

**WARNING:** Failure to center the piece part on the blocks and the ram to the piece part may cause serious injury. Never compress springs or objects that when compressed, could shatter, or explode out of the press causing serious injury.

**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.
- Chemical structure of material must be consistent.
- Buy certificated steel from the same vendor when possible.
Note: Proper maintenance can increase the life expectancy of your machine.

Daily Maintenance

- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.
- Lubricate threaded components pivot points and sliding devices.
- Check hydraulic hoses and fittings for leakage.
- Keep area around machine clear of debris.
- Clean the outside of the press with a clean, soft, and dry cloth.
- When not in use, keep the press dry and covered. Keep the ram and piston fully retracted to prevent rust or corrosion.
- If press efficiency drops, purge air from the hydraulic system. See Purging the Hydraulic System.

DO NOT allow lubricant on the frame bed or the heel blocks. Wipe off immediately.
Checking/Purging the Hydraulic System

The hydraulic system should be purged whenever any fitting is opened for any reason. Not only will this ensure proper operation of the hydraulic, it only requires one extra step from a simple oil level check.

Air in the hydraulic system will reduce the performance of the shop press. Because air will compress as compared to hydraulic oil, the press will not have the force it should have. Air in the hydraulic system is likely if:

- The ram pressure drops when the pump handle is stopped.
- The ram springs back noticeably when the pump handle is stopped.

1. Open the control valve (H) ½ - 1 turn by turning it clockwise (cw) and allow the ram to fully retract.
2. Remove the reservoir breather/fill assembly fitting (K) on top side of the reservoir.
3. The oil level should be to the point that it just runs out of the breather port.
4. If oil is low, refill with 22 ISO6743 hydraulic jack oil or equivalent.
5. With the control valve open, pump the handle quickly 10-12 times.
6. Top off the oil level as needed. Refill with 22 ISO6743 hydraulic jack oil or equivalent.
7. Replace the breather assembly fitting (K). Verify that the breather plug is fully open.
Changing Hydraulic Oil

The hydraulic fluid should be changed every three year usage to maintain trouble-free service. If your press is under heavy use such as daily production, you may want to change the fluid every year. Drain and refill the reservoir on the hydraulic pump with 22 ISO6743 hydraulic jack oil or equivalent.

1. Open the control valve (H) ½ - 1 turn by turning it clockwise (cw) and allow the ram to fully retract. (Fig. 8)
2. Close the breather knob.
3. Remove the pump assembly from the press frame.
4. Remove the reservoir breather/fill assembly fitting (K) from the reservoir.
5. Tip the pump assembly and drain the hydraulic oil out of the filler port into a safe and suitable waste oil container for recycling.
6. Install the pump and fill the reservoir with 22 ISO6743 hydraulic jack oil or equivalent to the point where oil begins to flow out of the breather port.
7. Install the breather fitting and open the breather knob completely.
8. Close the control valve and pump the handle to extend the press piston a few inches.
9. Open the control valve, and allow the ram to fully retract again.
10. Remove the oil fill plug and top-off the hydraulic oil level as needed.
11. Wipe down all fittings and lines.
12. Purge air from the hydraulic system.
13. Replace the breather/filler assembly fitting (K). Verify that the breather plug is fully open.
### Press Frame Parts List

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pressure Gauge</td>
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<tr>
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<td>Nylon Ring</td>
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<td>3</td>
<td>Ram</td>
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<tr>
<td>4</td>
<td>Hydraulic Hose</td>
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<td>5</td>
<td>Piston Head</td>
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<td>Hand Pump</td>
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<tr>
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<td>Bolt M10 x 25</td>
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<tr>
<td>10</td>
<td>Washer M10</td>
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<tr>
<td>11</td>
<td>Nut M10</td>
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<tr>
<td>12</td>
<td>Heel Block</td>
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<td>Press Bed</td>
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<tr>
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<td>Round Nut, Lower</td>
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<td>Cylinder Mounting Plate</td>
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<td>Bolt M10 x 110</td>
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## Pump Parts List

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Qty.</th>
<th>Item</th>
<th>Description</th>
<th>Qty.</th>
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<td>Nylon ring</td>
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<td>Piston</td>
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<td>Pin</td>
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<td>Handle socket</td>
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<td>Coupler</td>
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<td>Screw</td>
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</table>
## TROUBLESHOOTING

<table>
<thead>
<tr>
<th>FAULT</th>
<th>PROBABLE CAUSE</th>
<th>REMEDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piston is weak or does not reach rated pressing capacity.</td>
<td>Reservoir low on oil.</td>
<td>Fill reservoir to correct oil level</td>
</tr>
<tr>
<td></td>
<td>Hydraulic System has air trapped in pump.</td>
<td>Purge air from hydraulic system</td>
</tr>
<tr>
<td></td>
<td>Defective control valve</td>
<td>Verify that control valve is closed.</td>
</tr>
<tr>
<td></td>
<td>Pump or piston is defective</td>
<td>Replace or rebuild pump or piston</td>
</tr>
<tr>
<td>System loses pressure under load.</td>
<td>Defective control valve</td>
<td>Verify that control valve is closed.</td>
</tr>
<tr>
<td></td>
<td>Pump or piston is defective</td>
<td>Replace or rebuild pump or piston</td>
</tr>
<tr>
<td>Pump lever feels spongy during pumping, or lever has lost stroke.</td>
<td>Reservoir low on oil.</td>
<td>Fill reservoir to correct oil level</td>
</tr>
<tr>
<td></td>
<td>Hydraulic System has air trapped in pump.</td>
<td>Purge air from hydraulic system</td>
</tr>
<tr>
<td></td>
<td>Pump or piston is defective</td>
<td>Replace or rebuild pump or piston</td>
</tr>
<tr>
<td>Pump handle moves upward while press is under a load.</td>
<td>Hydraulic System has air trapped in pump.</td>
<td>Purge air from hydraulic system</td>
</tr>
<tr>
<td></td>
<td>Pump or piston is defective</td>
<td>Replace or rebuild pump or piston</td>
</tr>
<tr>
<td>Oil leaking from fill plug, or other seals.</td>
<td>Reservoir is overfilled.</td>
<td>Remove the fill plug and drain-off excess oil</td>
</tr>
<tr>
<td></td>
<td>Hydraulic hose or fitting is leaking.</td>
<td>Replace any leaking hydraulic hose or fitting.</td>
</tr>
<tr>
<td></td>
<td>Pump or piston is defective</td>
<td>Replace or rebuild pump or piston</td>
</tr>
</tbody>
</table>