



# OPERATOR'S MANUAL

Metal Working



## RECIPROCATING MACHINE MODEL: PH-28A

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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 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 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](mailto: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
- 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 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.

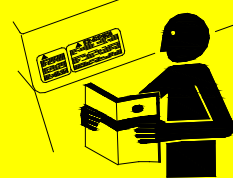




## IMPORTANT

### 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**

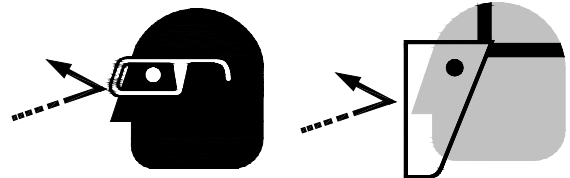


**SAVE THESE INSTRUCTIONS.**  
**Refer to them often and use them to instruct others.**



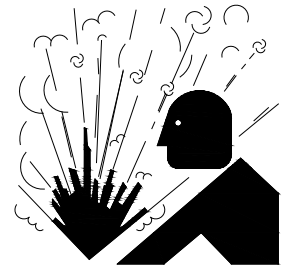
### **PROTECT EYES**

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



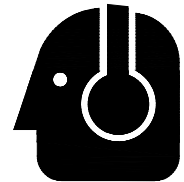
### **AIR HOSE FAILURE**

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



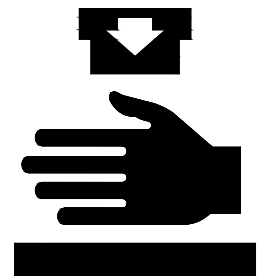
### **PROTECT AGAINST NOISE**

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 CRUSH HAZARD**

**NEVER** place your hands, fingers, or any part of your body in the die area of this machine.



**WARNING:** This machine has a maximum operating pressure of 120 PSI. Exceeding the maximum pressure can lead to high pressure parts failure, which may cause serious personal injury!



## **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 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. **DO NOT** use electrically powered tools in the presence of flammable gases or liquids.
16. **Keep children away.** Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
17. Keep visitors a safe distance from the work area.
18. **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.
19. **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**

Control Power	Pnumatic, 80 – 120psi
Air Consumption	15CFM
Blows per Minute	0 – 1000
Tooling Height Adjustment	1.5" (38.1mm)
Capacity Mild Steel	16ga., 0.059" (1.51mm)
Aluminum	14ga., 0.064" (1.62mm)
Throat Depth	28" (711mm)
Included Tooling	2.5" Thumbnail Shrinking Dies, 2.5" Master Flat Top Die, 1" Linear Stretch Die, Ø2.5" x 36" Radius Die, Ø2.5" x 24" Radius Die, Ø2.5" x 12" Radius Die,
Weight	1000 lbs (454kg)
Shipping Dimensions	36" x 48" x 70" (915 x 1219 x 1778mm)
Based on a material tensile strength of *60000 PSI – mild steel	

## **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](mailto: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.



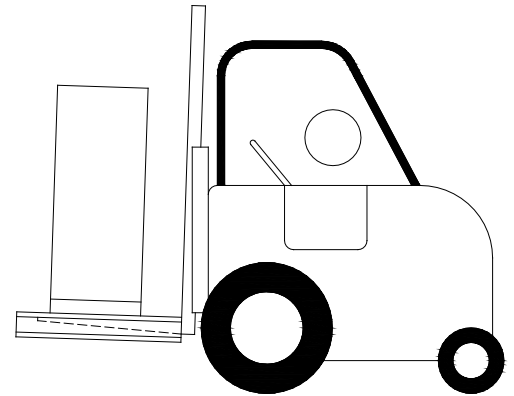


## **TRANSPORTING AND LIFTING**

**NOTICE:** *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:**

- 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.
- Use a fork lift with sufficient lifting capacity and forks that are long enough to reach the complete width of the machine.
- Remove the securing bolts that attach the machine to the pallet.
- Approaching the machine from the side, lift the machine on the frame taking care that there are no cables or pipes in the area of the forks.
- 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.



### **Follow these guidelines when lifting crane or hoist:**

- Always lift and carry the machine with the lifting holes provided at the top of the machine.
- Use lift equipment such as straps, chains, capable of lifting 1.5 to 2 times the weight of the machine.
- Take proper precautions for handling and lifting.
- Check if the load is properly balanced by lifting it an inch or two.
- Lift the machine, avoiding sudden accelerations or quick changes of direction.
- Locate the machine where it is to be installed, then lower slowly until it touches the floor.



## **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 machine 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.
- **AIR SUPPLY PLACEMENT:** The air supply should be located close enough to the machine so that the airline is not in an area where it would cause a tripping hazard.





## **MOUNTING AND ASSEMBLY**

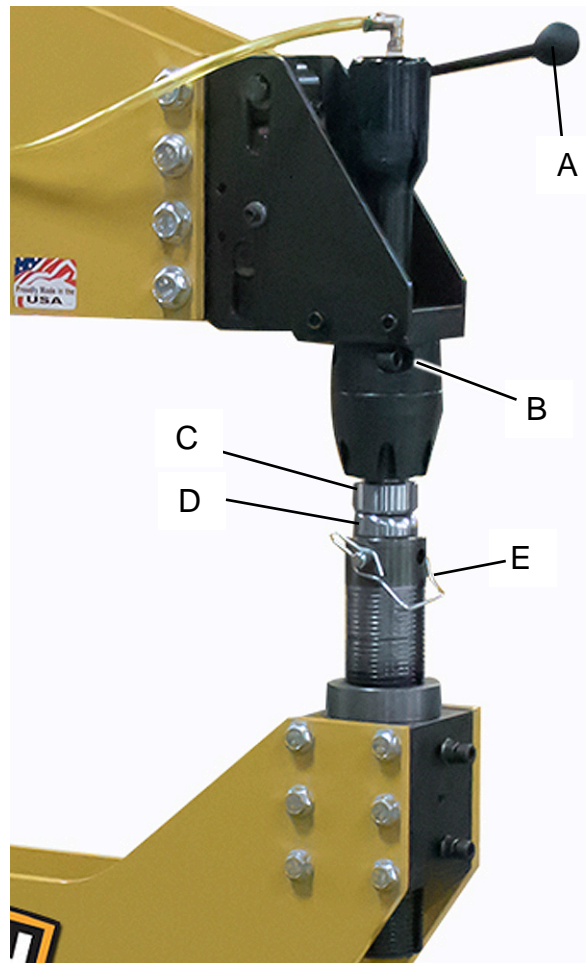
1. Determine the most suitable location for your machine based on the planned usage. Larger workpieces will require a larger space around the machine.
2. Consider placing this machine on an industrial grade floor mat to reduce vibration.
3. Check the oil level in the air lubricator. If the oil level is low, refill with an SAE 10-weight non-detergent, non-additive oil.
4. Install a male 1/4" NPT quick connector fitting into the air inlet of the filter/regulator.

## **SETUP**

Set up involves installing the tooling, setting the gap between the anvil and the hammer head, setting the air pressure, positioning the foot pedal in a comfortable position for the operation of the machine.

### **Tooling Installation**

1. Lift the quick release handle (A) to raise the hammer head.
2. Loosen the two clamping block bolts (B).
3. If needed, lower the anvil ram to allow for clearance to insert the upper tool (C) into the hammer head.
4. Align the index slot on the tool to the hammer head and hold the fully upward and tighten the two clamping bolts (B).
5. Insert the lower die (D) into the anvil ram and align the die with the pin holes and install the lock pin (D).
6. Pull forward on the quick release handle (A) to lower the hammer head to the anvil.
7. Set the tooling clearance.







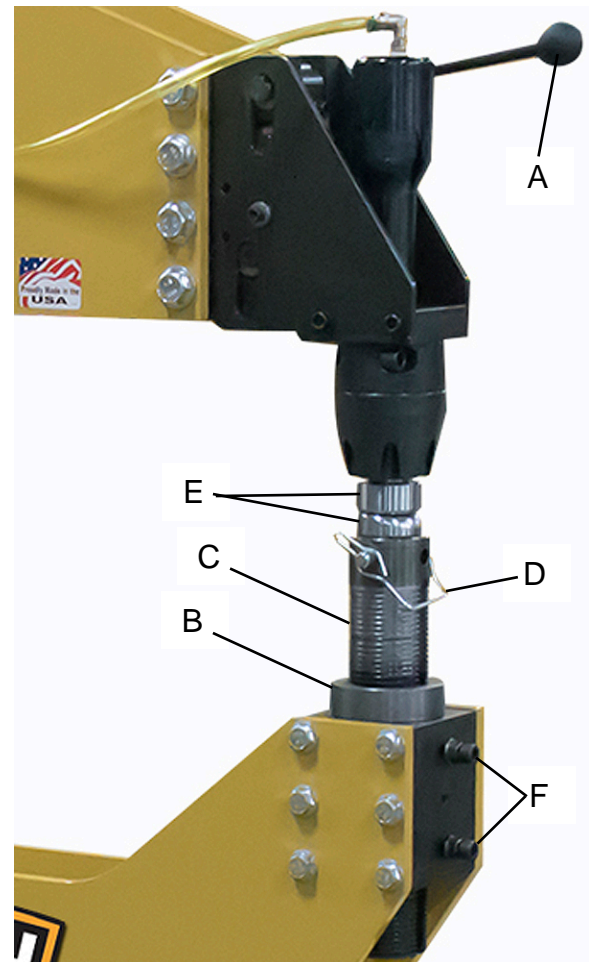
### Tooling Clearance Adjustment

1. Disconnect the machine from the air supply.
2. Install the desired tooling into the hammer head and anvil ram.
3. Pull forward on the quick release handle (A) to lower the hammer head to the anvil.
4. Loosen the anvil lock nut (B) to allow the anvil ram (C) to turn.
5. Remove the lower tool lock pin (D) to allow the lower tool to rotate within the anvil ram.
6. Adjust the anvil ram (A) up or down until the gap between the dies is the same as the material thickness. Example: 16ga. = 0.059" (1.51mm) thick, this should be the gap.



**Note:** For dies that have an interlocking type profile, verify that the lower die is aligned with the upper die when setting the clearance between the dies. Failure to align the dies will damage the tooling.

7. Install the tool lock pin (D). Because the holes for the anvil ram may not align with the tool hole, the anvil ram must be turned to align the holes.
8. Rotate the anvil ram to increase to increase the tool clearance until the first possible set of holes will align with the tool and install the lock pin. If at all possible, do not increase the gap to more than 2 times the material thickness.
9. Tighten the anvil lock nut (B).
10. Once the gap is set, use the release handle to open and close the hammer for easier loading. Always lock the handle when the hammer is in use.



### Air Setting

1. Connect the machine to the air supply.
2. Set the desired air pressure between 80-120PSI using the filter/regulator dial. A lower air pressure will provide a softer hammer blow.
3. Adjust the oil flow using the dial at the top of the lubricator. A setting of 2 drips per minute is sufficient for regular operation.



## **OPERATION**



**CAUTION:** Always wear proper hearing and 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.

PRACTICE AND PATIENCE. A Reciprocating Hammer is a simple tool that is easy to start to use however, it is the type of tool that requires experience to master. When an operator keeps in mind a few safety considerations as noted in the front of the manual they can create and form metal to almost any shape.

The best recommendation is to practice, take notes, experiment, and seek out advice through technical colleges, individual mentoring with an experienced operator, and through online forums and trade magazines.

1. Use a permanent marker to layout the design, pattern, or area on the material which will be formed. This will be the area that is worked between the dies during the hammering operation.
2. Install the desired tooling.
3. Set the required clearance between the dies for the material thickness to be processed.
4. Connect the machine to the air supply and set the air pressure.
5. Position the material between the dies in a comfortable and controlled position.
6. Pull the quick release handle forward to lower the hammer head to the operating position.



**WARNING:** DO NOT run this machine with no material. The tools on this machine should never directly come in contact with each other while hammering. If they do, the tooling can shatter causing injury and machine damage.

7. Position yourself and the material so that you can clearly see the area on the material that the hammer will contact. This is important for controlling the amount of forming and area of the forming of the material.
8. Using the foot pedal, slowly press down on the pedal to obtain the desired number of beats per minute (BPM).
9. The max speed is 1000 BPM; you should only use max BPM if the stroke is set to the minimum. Most forming applications will work at a lower speed rate.



10. Keep moving. Once the hammer has started, keep the material moving between the dies and within the area marked on the material. While you may go over an area several times during the forming process, it is very unusual to hammer in one place for any length of time.
11. Keep working the material until it is formed as desired. This may be when it matches your imagination or when it matches a form or template.
12. One of the most common tools used are the supplied Mini Thumbnail Shrink dies. Set the most downward stroke to be equal to the material thickness.
13. Beading tools can be installed in the same fashion; but the tool clearance is more critical. It must be slightly greater than the material thickness.

## **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.**

Before every use:

- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.
- Check oil level in the lubricator, refill as needed with an SAE 10-weight non-detergent, non-additive oil.
- 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.*

## **Pneumatic Care**

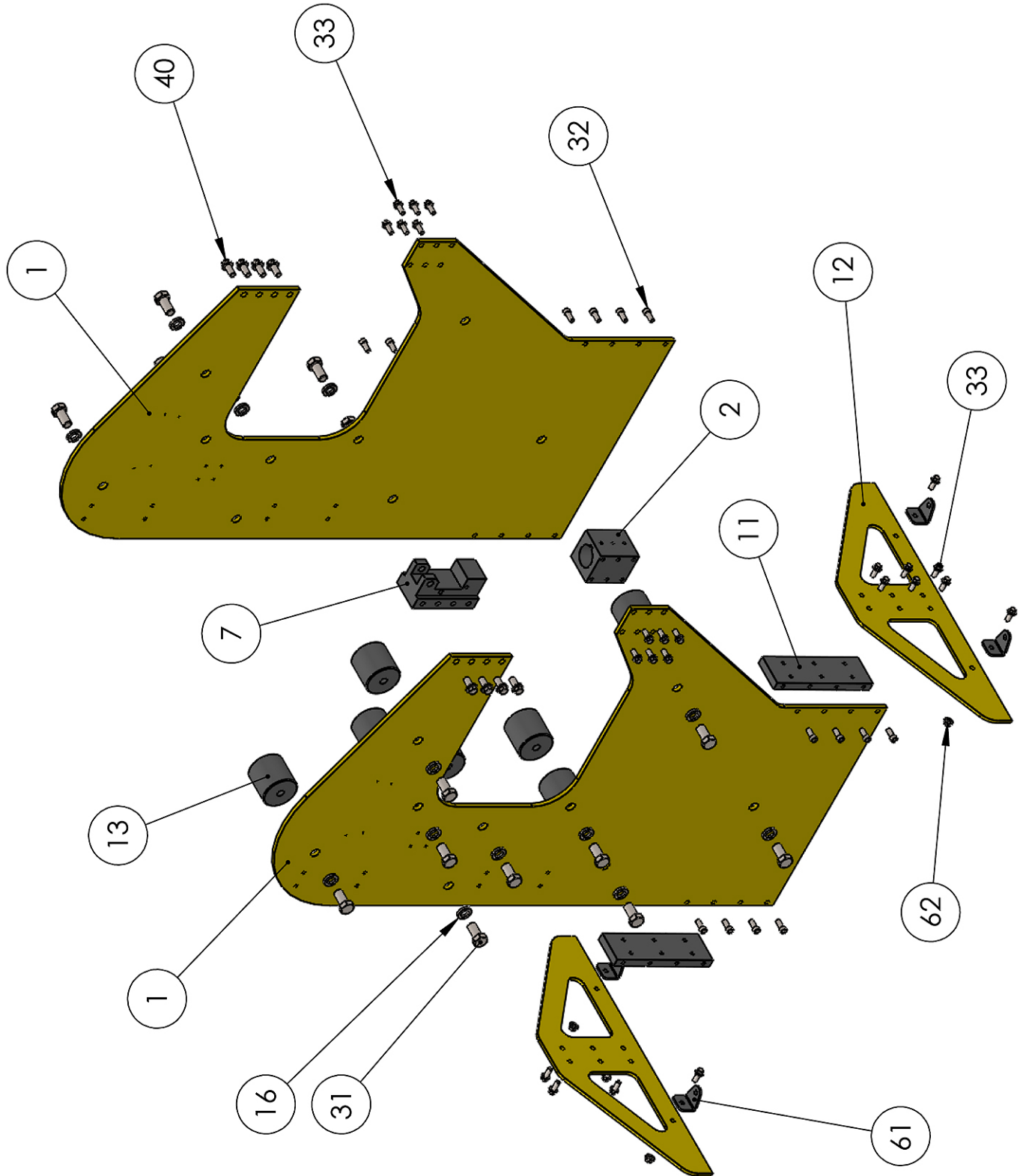
Start with clean and dry. Follow your compressor manufacturer's instructions for proper maintenance, filtering, and moisture control and removal.

Use a 10W pneumatic air tool oil in an oiler set at the lowest setting to provide enough oil to the system to maintain good lubrication. Once started, do not allow the air system to run dry.



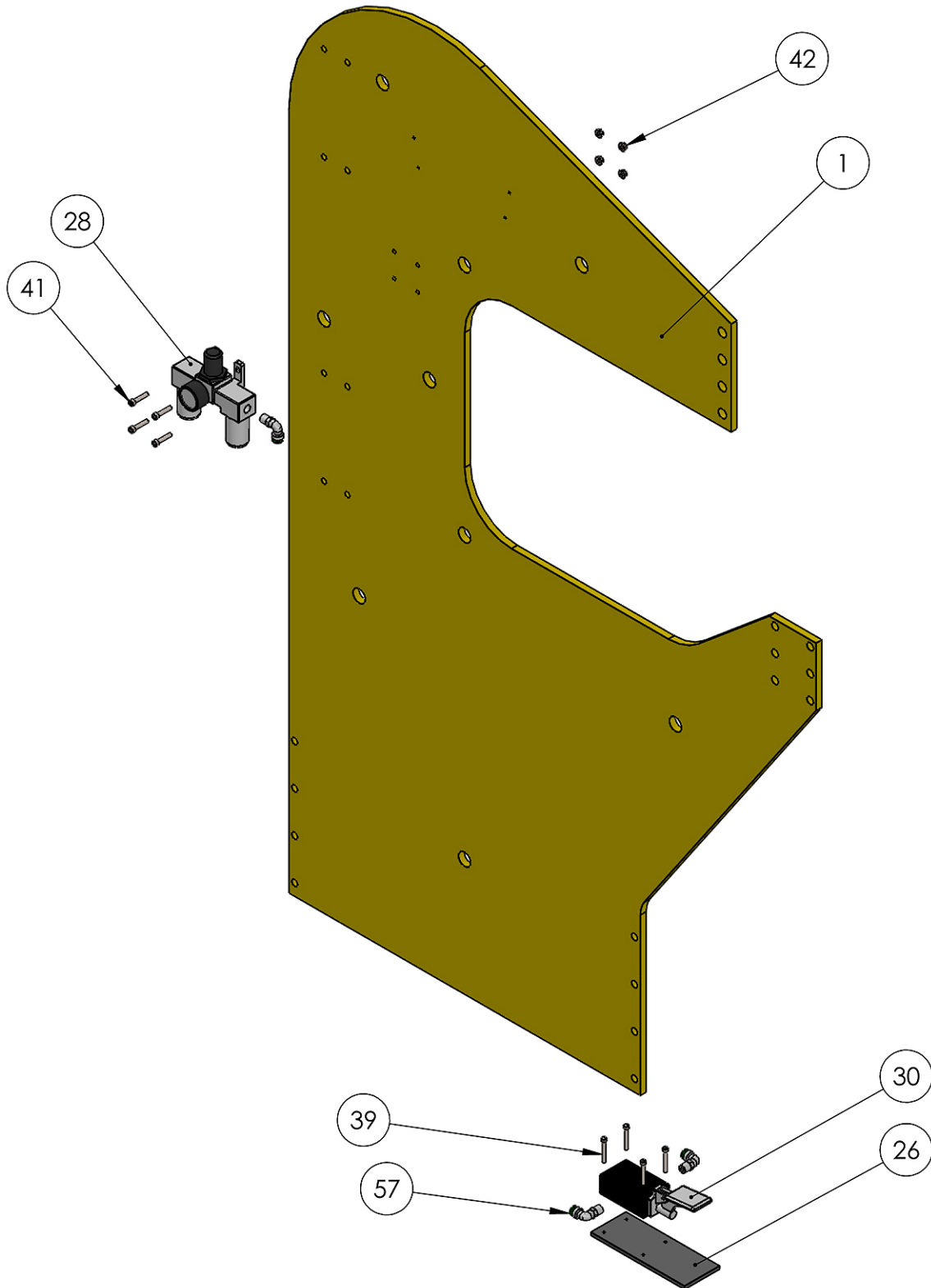


## FRAME





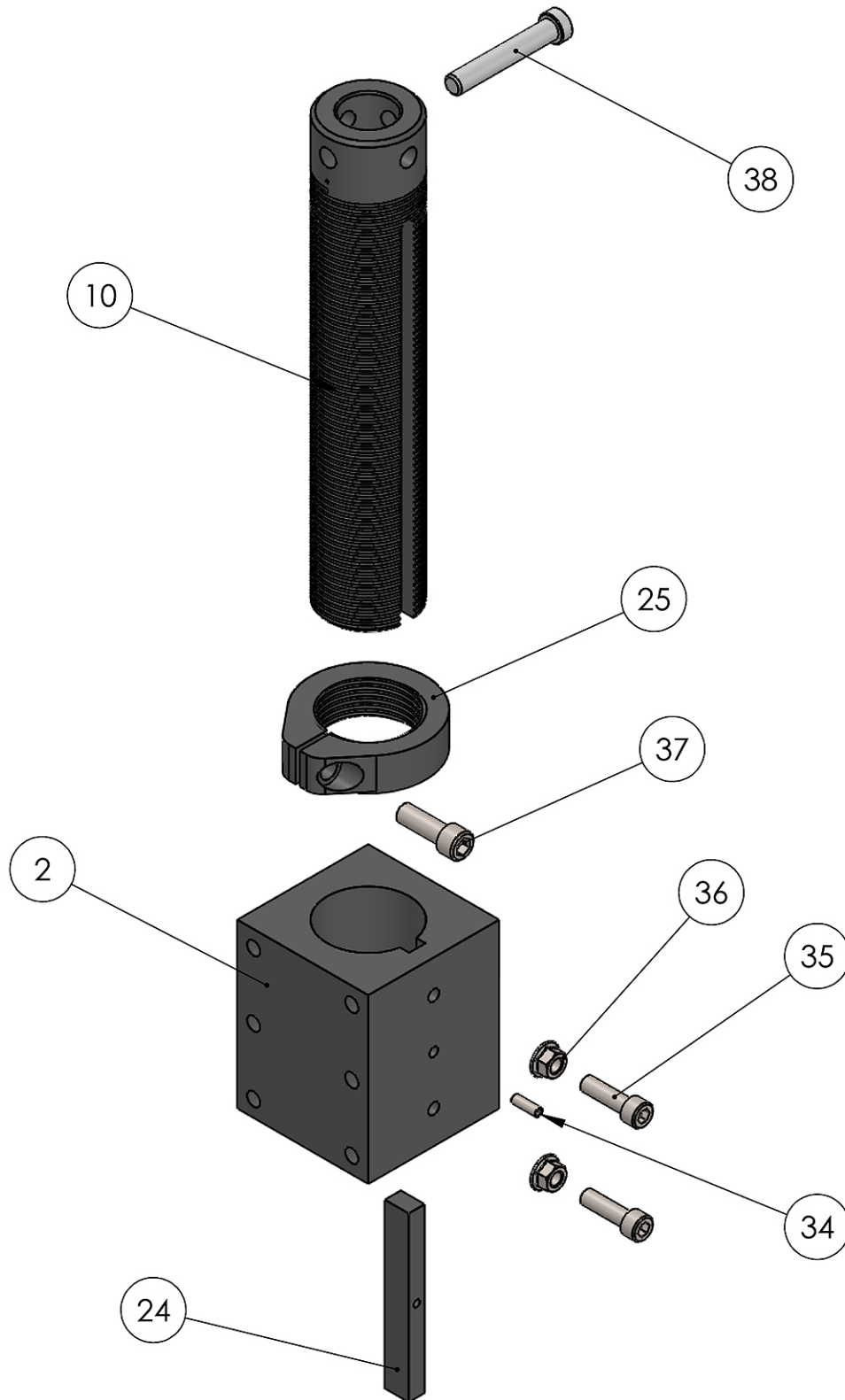
## PNEUMATICS







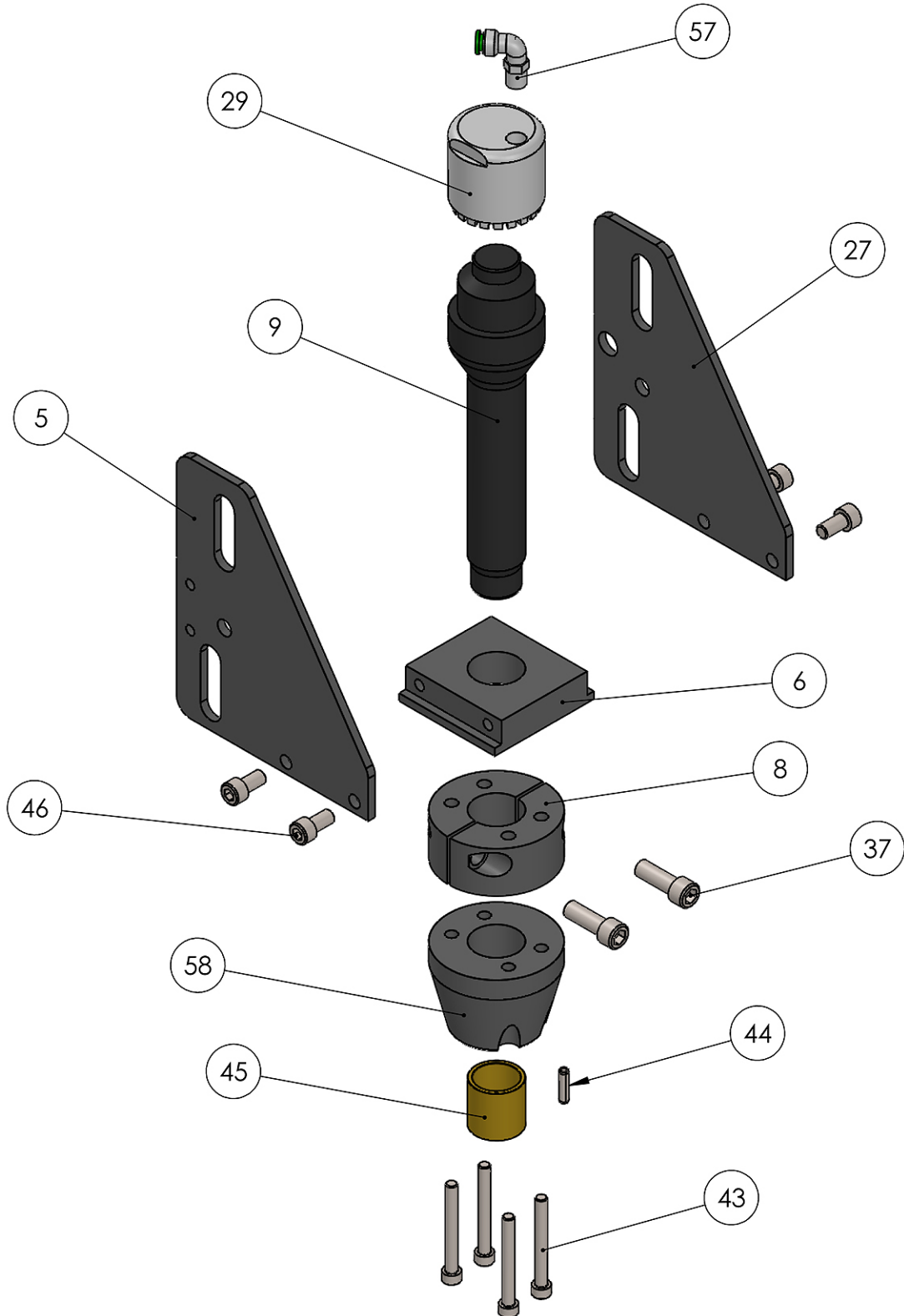
## ANVIL RAM







## HAMMER HEAD- PRE 2018





## Parts List

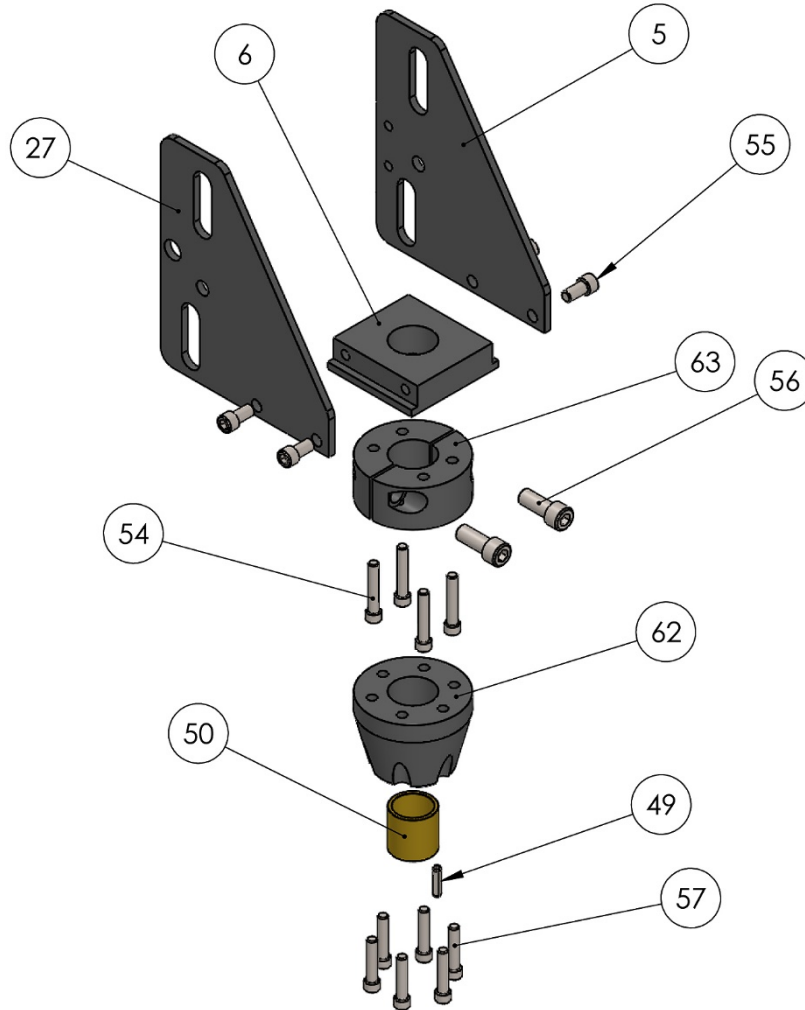
Item	Part No.	Description	Qty.
1	AH28-6A026	Side Plate 30"	2
2	AH28-6A027	Lower Tool Block	1
3	AH28-6A028	Toggle Master	1
4	AH-6A006	Toggle Link	2
5	AH-6A007	Side Plate (LH)	1
6	AH28-6A008	Tie Block	1
7	AH28-6A025	Toggle Block	1
8	AH28-7A006-V3	Clamp Block	1
9	PP-1891	Hammer Head	1
10	PH24-7A007	Lower Ram	1
11	AH28-6A024	Leg Mount	2
12	AH28-6A023	Leg Brace	2
13	EW30-7A001	Plate Spacer	9
14	AH28-7A017	Main Pivot Shaft	1
15	BR16-6A004-V2	Cam Block	1
16	M24 Lock Washer	Std.	18
17	M24 x 3.0 x 50	HHCS	2
18	PP-1192	.50 Steel Ball	1
19	PP-1186	.5 x 1.5 Spring	1
20	ME-AH-7A007	Pivot Shaft	1
21	AH-7A012	Middle Pivot Pin	1
22	M150-7A013	Quick Release Shaft	1
23	PP-0133	Black Ball Knob	1
24	PH24-6A044	Lower Tool Shaft Key	1
25	PH24-7A036	Ram Locknut	1
26	ME-AH-6A019	Foot Pedal Base	1
27	AH-6A018	Slide Plate (R.H.)	1
28	PP-1288	Regulator Manifold	1
29	AH28-7A018	Air Hammer Cap	1
30	PP-1289	Foot Pedal	1
31	M24 x 3.0 x 50	HHCS	16
32	M12 x 1.75 x 30	SHCS	16
33	M12 x 1.75 x 30	Hex Flange	28



Item	Part No.	Description	Qty.
34	M6 x 1.0 x 20	Set Screw	1
35	M10 x 1.5 x 35	SHCS	2
36	M10 x 1.5	Flange Nut	2
37	M12 x 1.75 x 35	SHCS	3
38	PP-1492	Tooling Pin	1
39	M5 x 0.8 x 40	SHCS	4
40	M16 x 2.0 x 35	Hex Flange	8
41	M6 x 1.0 x 30	SHCS	4
42	M6 x 1.0	Flanged Nut	4
43	M8 x 1.25 x 70	SHCS	4
44	.25 x 1.0	Slotted Spring Pin	1
45	PP-0837	1.25 I.D. x 1.50 O.D. x 1.50 Long	1
46	M10 x 1.5 x 20	SHCS	4
47	STD.	.1875 x 1 Keystock	2
48	3/4" Ext. Retaining Ring	Std.	6
49	1/2-13 x 1.0	SHCS	2
50	PP-0322	0.75 Id x 1.25 Od x .125 THK	4
51	PP-0101	0.75 Id x 1.25 Od x .0625 THK	10
52	AH-7A015	Spacer	2
53	STD.	M16 x 2.0 x 30 Set Screw	1
54	M6 x 1.0 x 20	SHCS	2
55	M8 x 1.25 x 25	SHCS	2
56	M6 x 1.0 x 25	SHCS	2
57	PP-1333	1/4 NPT – 3/8 Push Lock Elbow	4
58	AH28-7A016-V2	Guide Hub	1
61	AH28-6A007	Shipping Bracket	4
62	M12 x 1.75	Flange Nut	4



## HAMMER HEAD- 2018 AND AFTER



Item	Part No.	Description	Qty.
5	AH-6A007	Side Plate (L.H.)	1
6	AH28-6A008	Tie Block	1
27	AH-6A018	Slide Plate (R.H.)	1
49	.25 x 1.0	Slotted Spring Pin	1
50	PP-0837	1.25 I.D. x 1.50 O.D. x 1.50 Long	1
54	5/16-18 x 1.75	SHCS	4
55	3/8-16 x .75	SHCS	4
56	1/2-13 x 1.25	SHCS	2
57	5/16-18 x 1.50	SHCS	6
62	AH28-7A016	Guide Hub	1
63	AH28-7A006-V2	Clamp Block	1





## NOTES



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