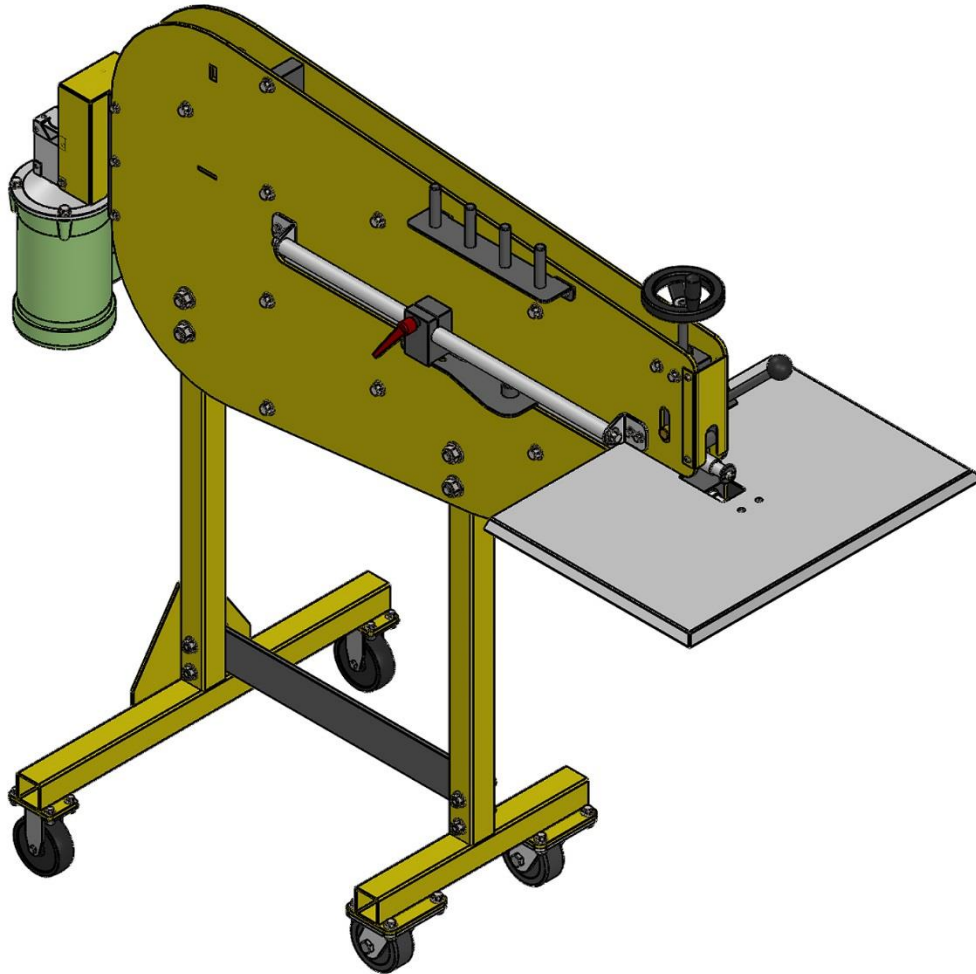




# OPERATOR'S MANUAL

Metal Working



## ENVELOPE STYLE METAL BEAD ROLLER MODEL: BR-16E-36EV

Baileigh Industrial, Inc.  
P.O. Box 531  
Manitowoc, WI 54221-0531  
Phone: 920.684.4990  
Fax: 920.684.3944  
[sales@baileigh.com](mailto:sales@baileigh.com)

REPRODUCTION OF THIS MANUAL IN ANY FORM WITHOUT WRITTEN APPROVAL OF BAILEIGH INDUSTRIAL, INC. IS PROHIBITED. Baileigh Industrial, Inc. does not assume and hereby disclaims any liability for any damage or loss caused by an omission or error in this Operator's Manual, resulting from accident, negligence, or other occurrence.

Rev. 12/2016

© 2016 Baileigh Industrial, Inc.



## Table of Contents

THANK YOU & WARRANTY .....	1
INTRODUCTION.....	3
GENERAL NOTES.....	3
SAFETY INSTRUCTIONS .....	4
SAFETY PRECAUTIONS .....	6
Dear Valued Customer:.....	6
TECHNICAL SPECIFICATIONS.....	8
TECHNICAL SUPPORT .....	8
UNPACKING AND CHECKING CONTENTS.....	9
Cleaning .....	9
TRANSPORTING AND LIFTING .....	10
INSTALLATION.....	11
ELECTRICAL.....	12
GENERAL BEAD ROLLING .....	14
ROLLER INSTALLATION AND REMOVAL .....	14
OPERATION.....	15
Controls.....	15
Rolling .....	15
Offsetting the Rolls .....	17
Support Tray.....	18
MATERIAL SELECTION.....	19
UNDERSTANDING SPRINGBACK .....	19
LUBRICATION AND MAINTENANCE .....	20
OPTIONAL TOOLING AVAILABLE.....	21
FRAME ASSEMBLY .....	23
SHAFT HOUSING ASSEMBLY .....	24
CAM HOUSING ASSEMBLY .....	25
LOWER SHAFT ASSEMBLY .....	26
SLIDE SHAFT ASSEMBLY.....	27
FORWARD HOUSING ASSEMBLY.....	28
FENCE ASSEMBLY.....	29
Parts List .....	30



## THANK YOU & WARRANTY

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

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

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

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

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

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



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

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

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

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

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

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

**Summary of Return Policy.**

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

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

**For Customer Service & Technical Support:**

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



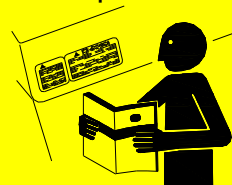
**Note:** This symbol refers to useful information throughout the manual.



## IMPORTANT

### PLEASE READ THIS OPERATORS MANUAL CAREFULLY

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



## SAFETY INSTRUCTIONS

### LEARN TO RECOGNIZE SAFETY INFORMATION

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

Follow recommended precautions and safe operating practices.

### UNDERSTAND SIGNAL WORDS

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

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

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



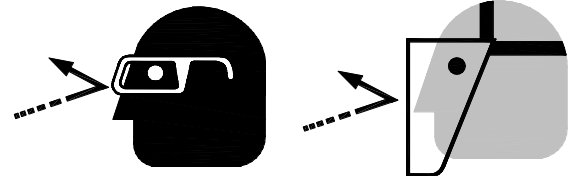


**SAVE THESE INSTRUCTIONS.**  
**Refer to them often and use them to instruct others.**



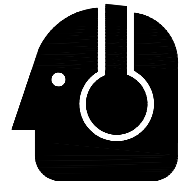
**PROTECT EYES**

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



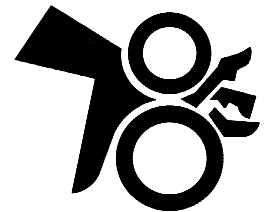
**PROTECT AGAINST NOISE**

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

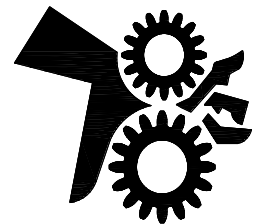


**BEWARE OF PINCH POINTS**

Keep hands and fingers away from the rolls when the machine is in operation.

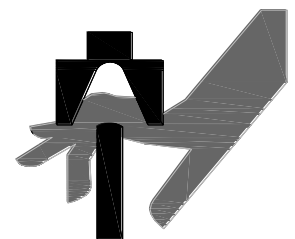


Keep hands and fingers clear of any gears or mechanisms. Make sure guard is in place before operating machine.



**BEWARE OF PINCH POINTS AND CRUSH HAZARD**

Keep hands and fingers from between the roller and die when bending materials to avoid possible injury.



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



## **SAFETY PRECAUTIONS**



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

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

**REMEMBER: Your personal safety is your responsibility.**



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

### **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. **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. **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. **Turn off** power before checking, cleaning, or replacing any parts.
20. Be sure **all** equipment is properly installed and grounded according to national, state, and local codes.
21. Inspect power and control cables periodically. Replace if damaged or bare wires are exposed. **Bare wiring can kill!** **DO NOT** touch live electrical components or parts.
22. **DO NOT** bypass or defeat any safety interlock systems.
23. Keep visitors a safe distance from the work area.



## TECHNICAL SPECIFICATIONS

This bead roller is power driven and will form sheet metal up to 16 Gauge thickness mild steel (or equivalent). Available die sets allow for the following operations to be performed: wiring, edging, ogee bead, single bead, and elbow edging.

Capacity, Mild Steel	16ga. (.0598") (1.52mm)
Capacity, Aluminum	14ga. (.0641") (1.63mm)
Throat Depth	36" (914mm)
Arbor Diameter	.875" (22mm)
Standard Roll Diameter	2.5" (63.5mm)
Power	110VAC, 60hz
Motor HP	1/2hp (.37kw) 220V, 3ph
Shipping Dimensions (L x W x H)	60" x 44" x 68" (1524 x 1118 x 1727mm)
Weight	300lbs. (137kg)

- Inverter driven variable speed foot pedal control
- Forward and reverse rotation
- Left or right hand operator controls
- Quick release top roll
- Adjustable depth on bottom roll
- Depth stop included

## 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.





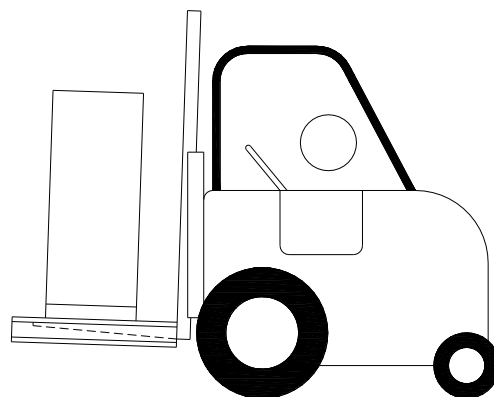
## TRANSPORTING AND LIFTING



**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:**

- 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, and 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 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.
- **POWER SUPPLY PLACEMENT:** The power supply should be located close enough to the machine so that the power cord is not in an area where it would cause a tripping hazard. Be sure to observe all electrical codes if installing new circuits and/or outlets.



## ELECTRICAL

 **CAUTION:** HAVE ELECTRICAL UTILITIES CONNECTED TO MACHINE BY A CERTIFIED ELECTRICIAN!  
Check if the available power supply is the same as listed on the machine nameplate.

 **WARNING:** Make sure the grounding wire (green) is properly connected to avoid electric shock. DO NOT switch the position of the green grounding wire if any electrical plug wires are switched during hookup.


### Power Specifications

Your tool is wired for 110 volts, 60Hz alternating current. Before connecting the tool to the power source, make sure the machine is cut off from power source.

Before switching on the power, you must check the voltage and frequency of the power to see if they meet with the requirement, the allowed range for the voltage is  $\pm 5\%$ , and for the frequency is  $\pm 1\%$ .

### Considerations

- Observe local electrical codes when connecting the machine.
- The circuit should be protected with a time delay fuse or circuit breaker with a amperage rating slightly higher than the full load current of machine.
- A separate electrical circuit should be used for your tools. Before connecting the motor to the power line, make sure the switch is in the "OFF" position and be sure that the electric current is of the same characteristics as indicated on the tool.
- All line connections should make good contact. Running on low voltage will damage the motor.
- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

 **WARNING:** In all cases, make certain the receptacle in question is properly grounded. If you are not sure, have a qualified electrician check the receptacle.



- Improper connection of the equipment-grounding conductor can result in risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.
- Repair or replace damaged or worn cord immediately.

### **Extension Cord Safety**

Extension cord should be in good condition and meet the minimum wire gauge requirements listed below:

AMP RATING	LENGTH		
	25ft	50ft	100ft
1-12	16	16	14
13-16	14	12	12
17-20	12	12	10
21-30	10	10	No
WIRE GAUGE			

An undersized cord decreases line voltage, causing loss of power and overheating. All cords should use a ground wire and plug pin. Replace any damaged cords immediately.

### **Power cord connection:**

1. Turn the main disconnect switch on the control panel to the OFF position.
2. Unwrap the power cord and route the cord away from the machine toward the power supply.
  - a. Route the power cord so that it will NOT become entangled in the machine in any way.
  - b. Route the cord to the power supply in a way that does NOT create a trip hazard.
3. Connect the power cord to the power supply and check that the power cord has not been damaged during installation.
4. When the machine is clear of any obstruction. The main power switch may be turn ON to test the operation. Turn the switch OFF when the machine is not in operation.



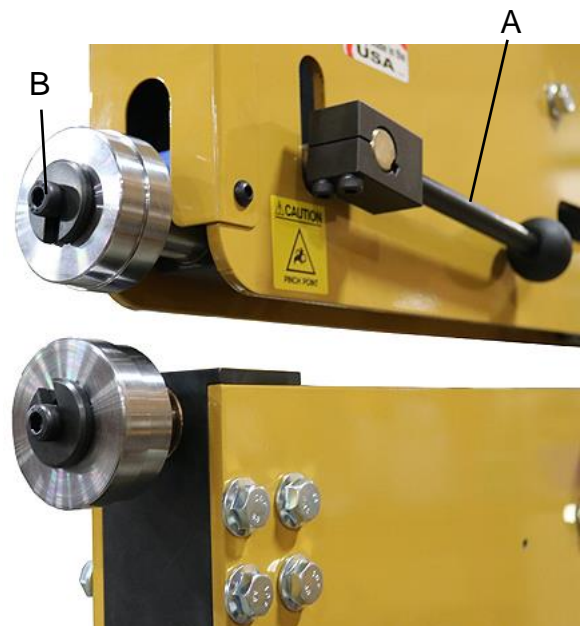
## **GENERAL BEAD ROLLING**

The primary purpose is to “roll form” into sheet metal, primarily “Beads”. A multitude of tools are available for just about any profile you can think of. Bead rolling is both functional and artistic. The functional portion of this operation will add strength and rigidity to sheet material. The artistic portion will add aesthetic appeal to the design. Both operations require practice and experience to perfect. When safety and machine capacity are taken into account, the remaining is open to the imagination and creativity of the metal worker.

- Never exceed the machines capacity. Keeping in mind items like seams and hems increase the material thickness which may exceed the machines capacity.
- Never handle material larger than you are able to comfortably control. Keep in mind that when the material is being rolled, the forces of the rolls will cause the material to move and twist. Use additional equipment such as back gauges, tables, and additional persons to support and secure materials as needed.
- Take several passes. Most beads will require several passes to obtain the desired depth. Planning and practice will assist with this. Practice on similar material to become familiar with how the material will react and to predict the number of passes and the depth of each pass.

## **ROLLER INSTALLATION AND REMOVAL**

1. Use the quick release lever (A) to open the roll gap enough for the rolls to clear each other.
2. Loosen the retaining bolt (B) enough to remove the slotted washer.
3. Remove the rolls.
4. Select and install the die set required for the desired bead type. Either roller can be top or bottom depending on your application.
5. Install the slotted washer and secure with the retaining bolts.
6. The adjustable upper shaft makes it very easy to align tools perfectly, as well as setting tool gaps between step dies.







## OPERATION

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

**⚠ CAUTION:** Keep hands and fingers clear of the rolling dies. Be aware of how the material moves as it is being formed. Normally the operator should stand in front of the bead roller to avoid getting hit with the material as it is being formed. When handling large heavy materials make sure they are properly supported.

### Controls

- The main electrical box houses the majority of the electronics which controls the machine.
- To power machine, plug into a standard 110V wall outlet.
- Activate the power toggle switch to the "ON" position. It takes approx. 20-30 seconds before the motor drive is ready to run.
- The control panel has a speed pot control and a selector for FWD/STOP/REV direction. Forward will feed material from right to left. Reverse will feed material from left to right.
- Select a direction of rotation.
- The bottom roll will begin to rotate as the foot pedal is depressed and will gradually increase rotational speed until it reaches the maximum speed set on the potentiometer.



### Rolling

1. Unplug the power cord whenever changing dies.
2. To operate the machine, a set of tooling needs to be selected and installed. Either roller can be on top or bottom depending on your application.
3. With a set of tooling installed, the tool gap can be set with the top hand wheel (A). Clockwise (cw) is down, counterclockwise (ccw) is up.



4. Set the back gauge as desired to assist in positioning the material between the dies. This also assists in repeatability.
5. The quick release (B) is very handy because it will always return to the same depth setting.
6. When the material is positioned as desired, closed the quick release handle to close the gap between the rolls to start to impress the rolls into the material. This step may require some experimentation to get the proper depth so it is recommended that you use a scrap piece of the same material you want to bead roll.



**Note:** Most beading operations will need to be done in several steps, increasing the depth on each pass. Trying to bead too deep will flex the machine, so take your time with multiple passes.



- Do not start with the rolls completely closed as you may find that the rolls are too close together and find it difficult to feed the material.
7. Place the Forward/Reverse switch in the desired position based upon direction of feed. Forward will feed material from right to left. Reverse will feed material from left to right.
  8. Step down on the foot pedal while feeding the work-piece through the die set. Check the work-piece. It may be necessary to fine tune the adjustment to the depth of the bead to reach the desired bead depth.
  9. When doing beads, you can feed the panel from one end to the other, increase pressure, and switch the machine to reverse, to back it up.
  10. When the material has been fed through the rolls for one pass, release the foot pedal and then, either remove the material if the bead is complete, or toggle the switch to the opposite directions and feed the material back in the opposite direction increasing the pressure on the rolls.
  11. This may be repeated until the desired bead is achieved.



## Offsetting the Rolls

The top shaft and roll assembly has the ability to be offset from the bottom roll from  $-.375''$  (9.5mm) to  $+2.125''$  (54mm). This will allow the rolls to offset to allow for material thickness in rolls like step rolls, or offset to allow for experimentation with various end results based upon the rolls being in different positions relative to the lower roll.

1. Loosen the lock lever (A) to allow the top shaft to be slide inward (top picture) or outward (lower picture) until the desired alignment is achieved.
2. Hold the shaft in position and tighten the lock lever (A).



**Note:** Test. Test the rolls on a scrap piece of the same material as the project will be completed on to become familiar with the finished result. Bead rolling is an artistic process which can be repeated, but not easily calculated without practice.





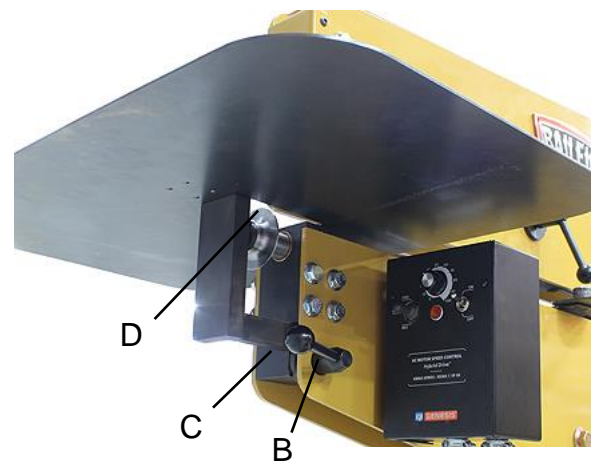
## Support Tray

1. When not in use, the support tray may be stored in the slot (A) located in the upper back corner of the frame.

It may be installed into the storage slot from either side.



2. Loosen the lock lever and insert the mounting bar into the lower bearing block while guiding the support plate over and around rolls.
3. Align the opening in the support plate over the rolls. This is typically to be centered. Do not allow the rolls to rub on the support plate.
4. Tighten the lock lever to hold the support tray in position.





## 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.

## 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.



## LUBRICATION AND MAINTENANCE



**WARNING:** Make sure the electrical disconnect is OFF before working on the machine.

Maintenance should be performed on a regular basis by qualified personnel.

Always follow proper safety precautions when working on or around any machinery.



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

- 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.
- The adjusting block should be greased.
- Oil the shaft around the bronze bushing monthly with a drop or two of a 30 to 40 weight oil.
- The gearbox is oiled for life and does not require service.



**OPTIONAL TOOLING AVAILABLE**

Part Number	Description
BR18E - .090" STEP ROLL	.090" Step Roll Set
BR18E - .090" STEP ROLL-NYLON	Nylon .090" Step Roll Set
BR18E - 1" FLAT BEAD	1" Flat Bead Roll Set
BR18E - 1" FLAT BEAD-NYLON	Nylon 1" Flat Bead Roll Set
BR18E - 1" ROUND BEAD	1" Round Bead Roll Set
BR18E - 1" ROUND BEAD-NYLON	Nylon 1" Round Bead Roll Set
BR18E - 1-1/4" SPOILER ROLL	1-1/4" Spoiler Roll Set
BR18E - 1-1/4" SPOILER ROLL-NY	Nylon 1-1/4" Spoiler Roll Set
BR18E - 1/16" STEP ROLL	1/16" Step Roll Set
BR18E - 1/16" STEP ROLL-NYLON	Nylon 1/16" Step Roll Set
BR18E - 1/2" FLAT BEAD	1/2" Flat Bead Roll Set
BR18E - 1/2" FLAT BEAD-NYLON	Nylon 1/2" Flat Bead Roll Set
BR18E - 1/2" ROUND BEAD	1/2" Round Bead Roll Set
BR18E - 1/2" ROUND BEAD-NYLON	Nylon 1/2" Round Bead Roll Set
BR18E - 1/4" FLAT BEAD	1/4" Flat Bead Roll Set
BR18E - 1/4" FLAT BEAD-NYLON	Nylon 1/4" Flat Bead Roll Set
BR18E - 1/4" ROUND BEAD	1/4" Round Bead Roll Set
BR18E - 1/4" ROUND BEAD-NYLON	Nylon 1/4" Round Bead Roll Set
BR18E - 1/4" STEP ROLL	1/4" Step Roll Set
BR18E - 1/4" STEP ROLL-NYLON	Nylon 1/4" Step Roll Set
BR18E - 1/8" FLAT BEAD	1/8" Flat Bead Roll Set
BR18E - 1/8" FLAT BEAD-NYLON	Nylon 1/8" Flat Bead Roll Set
BR18E - 1/8" ROUND BEAD	1/8" Round Bead Roll Set
BR18E - 1/8" ROUND BEAD-NYLON	Nylon 1/8" Round Bead Roll Set
BR18E - 1/8" STEP ROLL	1/8" Step Roll Set
BR18E - 1/8" STEP ROLL-NYLON	Nylon 1/8" Step Roll Set
BR18E - 3/16" FLAT BEAD	3/16" Flat Bead Roll Set
BR18E - 3/16" FLAT BEAD-NYLON	Nylon 3/16" Flat Bead Roll Set
BR18E - 3/16" ROUND BEAD	3/16" Round Bead Roll Set
BR18E - 3/16" ROUND BEAD-NYLON	Nylon 3/16" Round Bead Roll Set
BR18E - 3/16" STEP ROLL	3/16" Step Roll Set
BR18E - 3/16" STEP ROLL-NYLON	Nylon 3/16" Step Roll Set
BR18E - 3/32" STEP ROLL	3/32" Step Roll Set

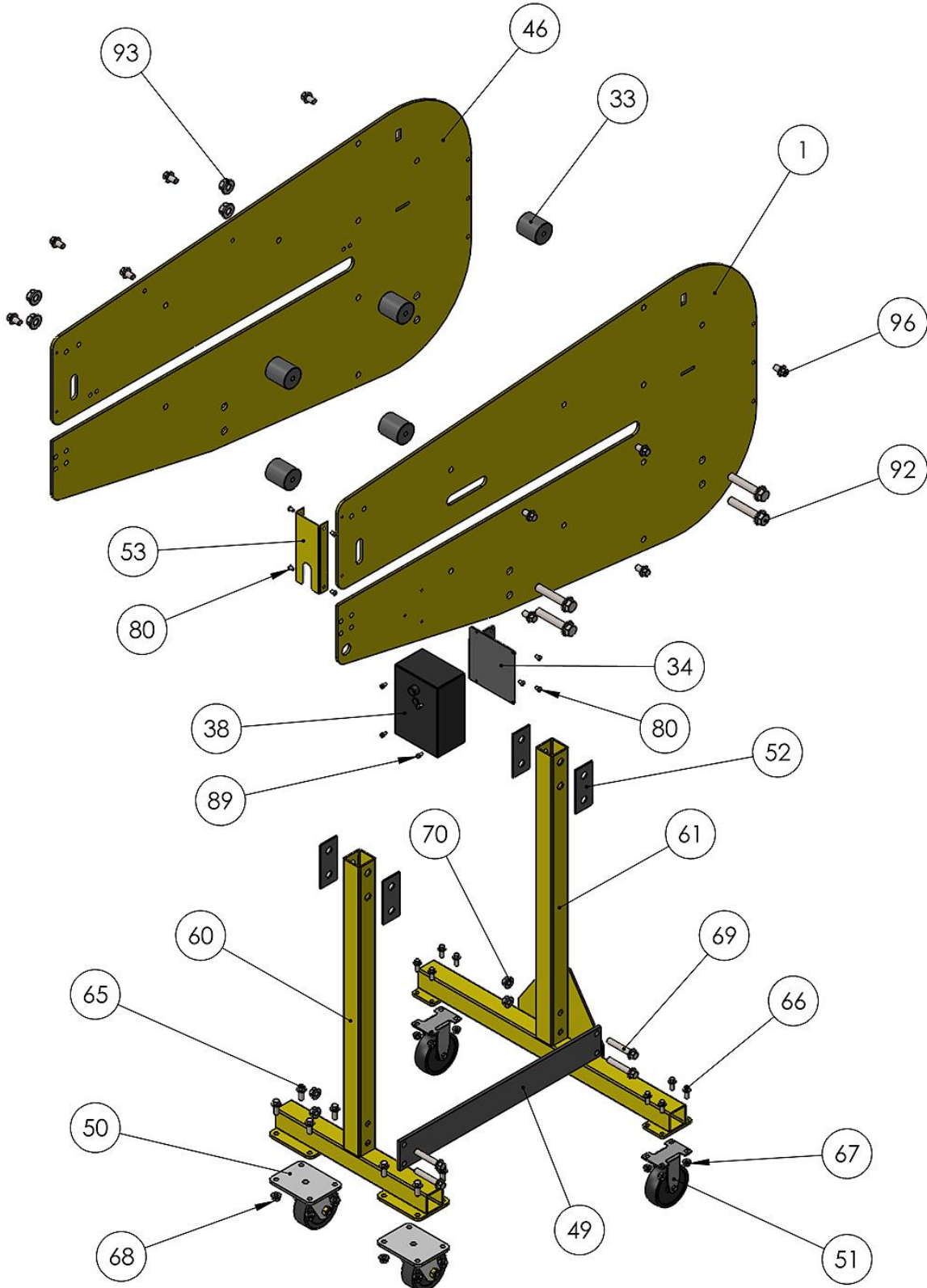


Part Number	Description
BR18E - 3/32" STEP ROLL NYLON	Nylon 3/32" Step Roll Set
BR18E - 3/4" FLAT BEAD	3/4" Flat Bead Roll Set
BR18E - 3/4" FLAT BEAD-NYLON	Nylon 3/4" Flat Bead Roll Set
BR18E - 3/4" ROUND BEAD	3/4" Round Bead Roll Set
BR18E - 3/4" ROUND BEAD-NYLON	Nylon 3/4" Round Bead Roll Set
BR18E - 3/8" FLAT BEAD	3/8" Flat Bead Roll Set
BR18E - 3/8" FLAT BEAD-NYLON	Nylon 3/8" Flat Bead Roll Set
BR18E - 3/8" ROUND BEAD	3/8" Round Bead Roll Set
BR18E - 3/8" ROUND BEAD-NYLON	Nylon 3/8" Round Bead Roll Set
BR18E - 45 DEGREE STEP ROLL	45 Degree Step Roll Set
BR18E - 45 DEGREE STEP ROLL-NY	Nylon 45 Degree Step Roll Set
BR18E - 5/16" FLAT BEAD	5/16" Flat Bead Roll Set
BR18E - 5/16" FLAT BEAD-NYLON	Nylon 5/16" Flat Bead Roll Set
BR18E - 5/16" ROUND BEAD	5/16" Round Bead Roll Set
BR18E - 5/16" ROUND BEAD-NYLON	Nylon 5/16" Round Bead Roll Set
BR18E - 5/8" ROUND BEAD	5/8" Round Bead Roll Set
BR18E - 5/8" ROUND BEAD-NYLON	Nylon 5/8" Round Bead Roll Set
BR18E - ART ROLL	Thin Bead Art Roll (One Roll)
BR18E - ART SET	Thin Bead Art Roll Set (Set of Two Dies)
BR18E - HEM ROLL #1	Hem Roll Set #1 (Set of Two Dies)
BR18E - HEM ROLL #2	Hem Roll Set #2 (Set of Two Dies)
BR18E - HEM ROLL #3	Hem Roll Set #3 (Set of Two Dies)
BR18E - SHEAR SET	Rotary Shear Set (Set of Two Dies)
BR18E - SOLID GROOVE ROLL	Plastic Solid Groove Roll (One Roll)
BR18E - SOLID ROLL	Plastic Solid Roll (One Roll)
BR18E - TIPPING ROLL	Tipping Roll Set (Set of Two Dies)
BR18E - TUBE BEAD	Heavy Duty Tube Bead Set (Set of Two Dies)
BR18E - UNIVERSAL GROOVE ROLL	Plastic Universal Groove Roll (One Roll)
BR18E - Z ROLL	"Z" Soft Step Roll Set (Set of Two Dies)



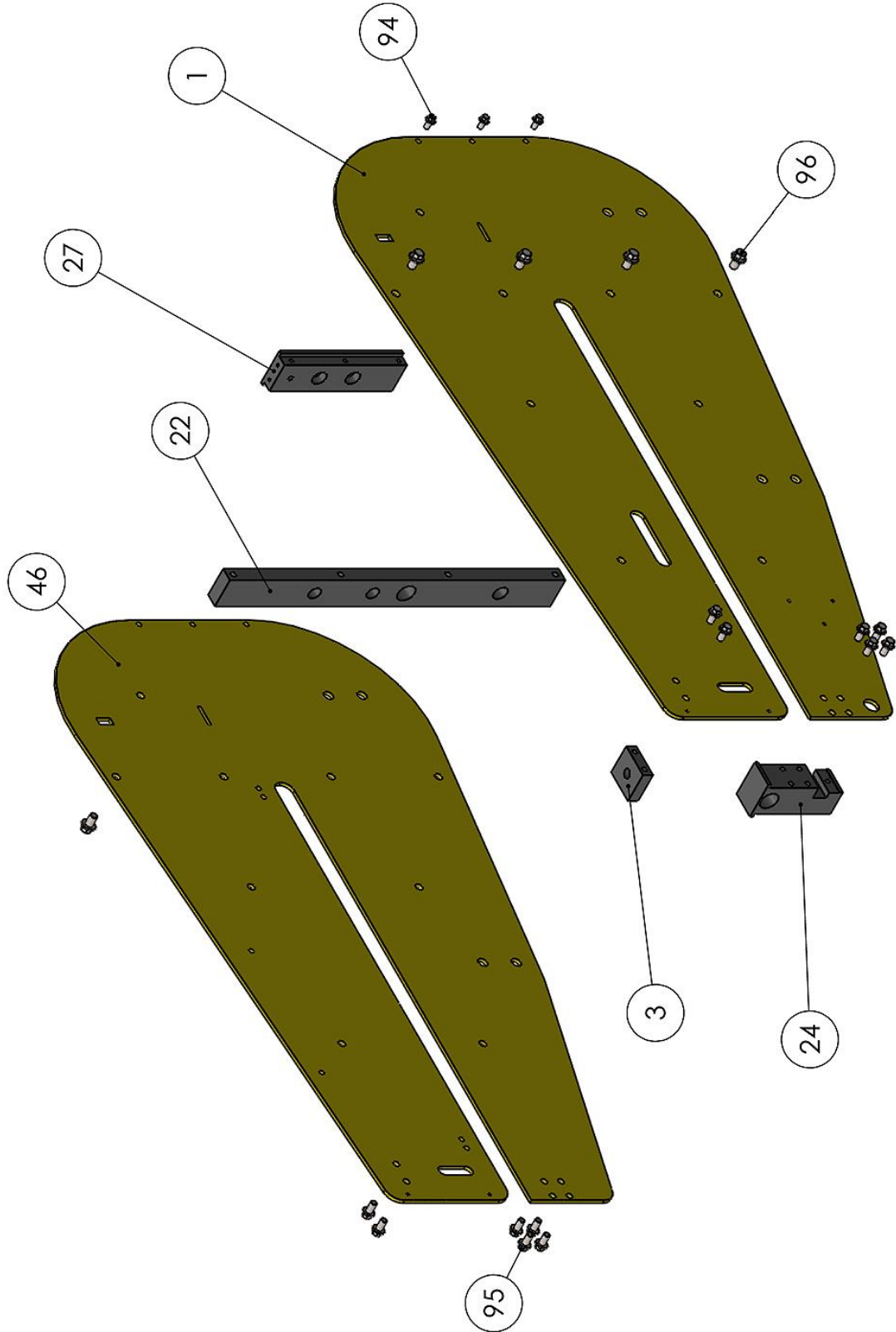


# FRAME ASSEMBLY



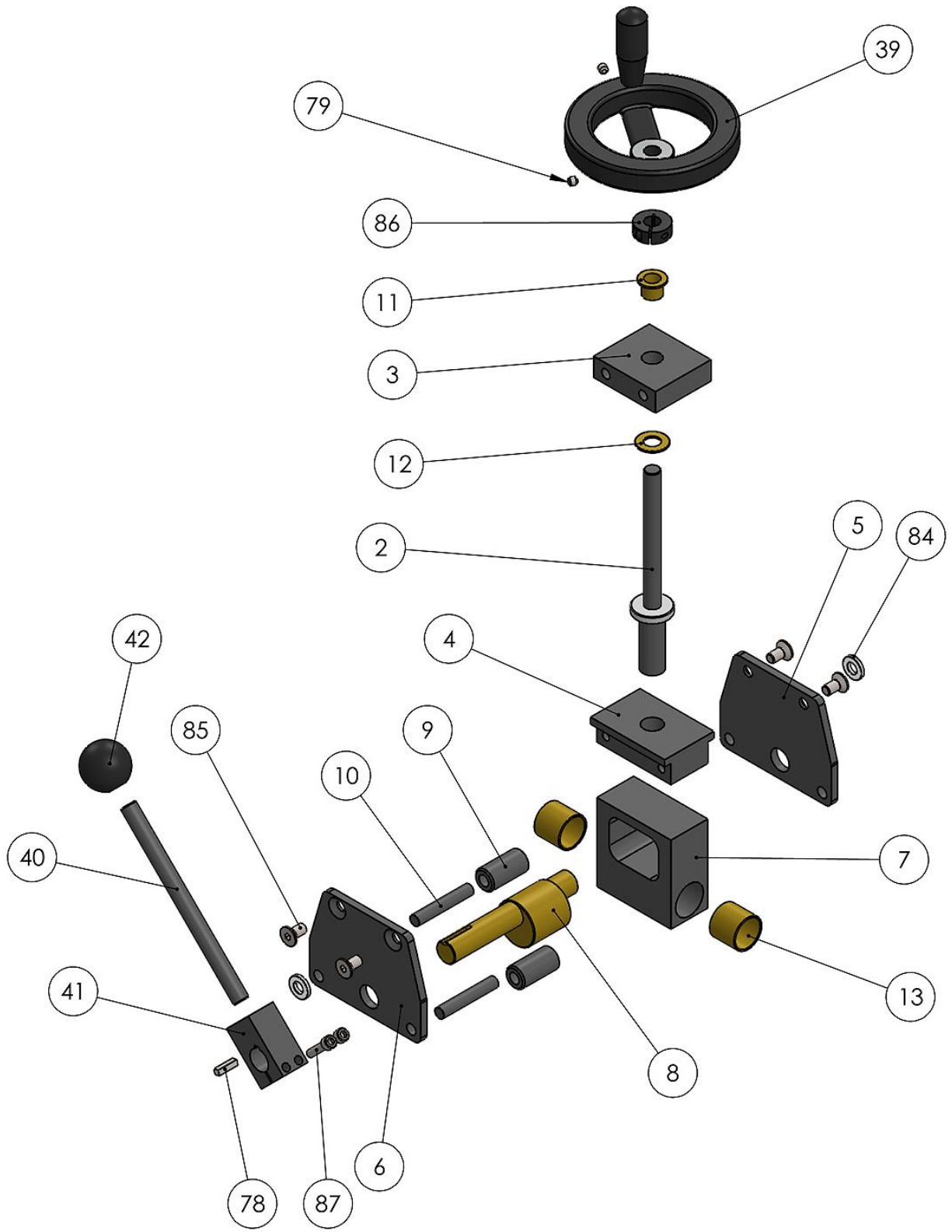


# SHAFT HOUSING ASSEMBLY



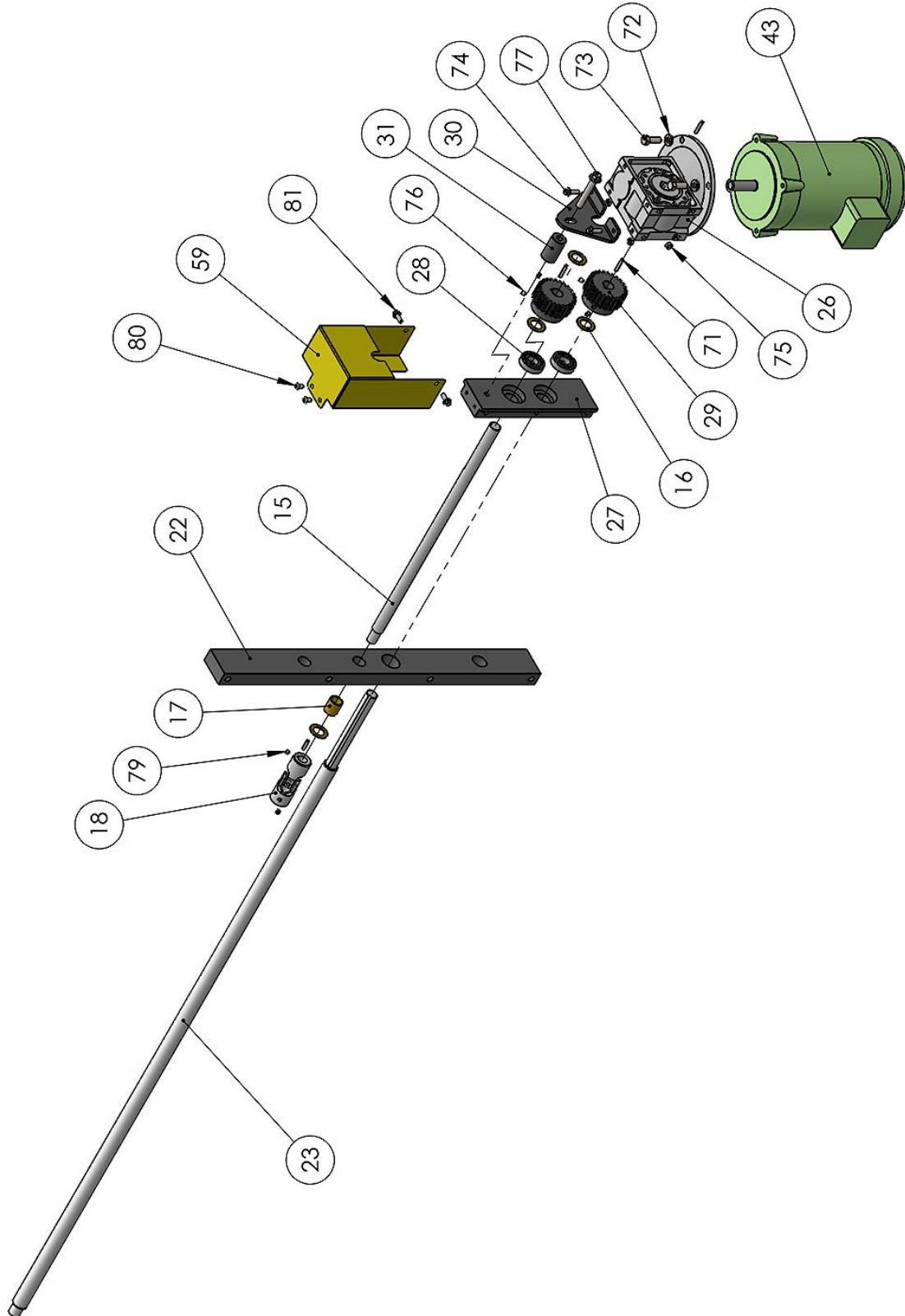


# CAM HOUSING ASSEMBLY



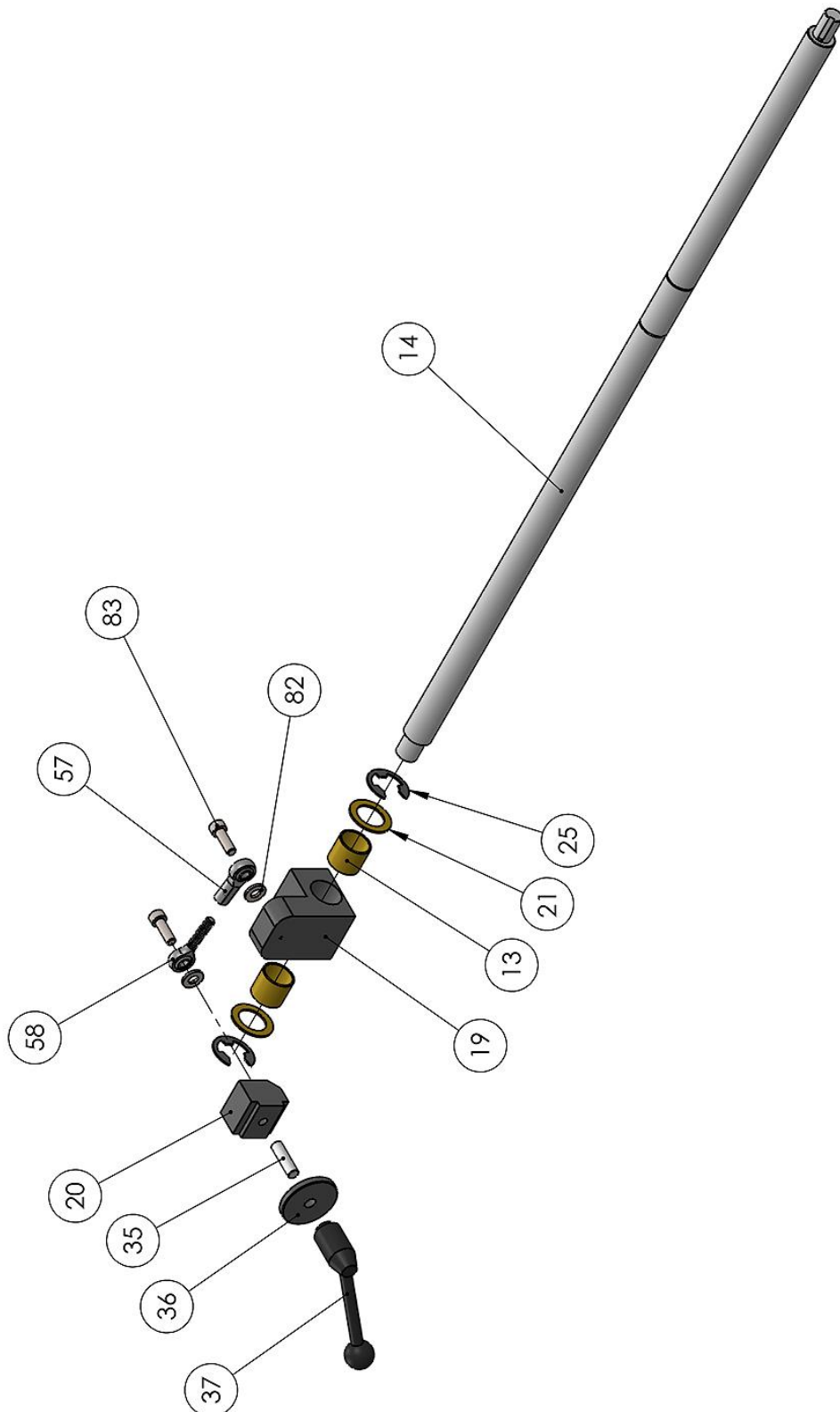


# LOWER SHAFT ASSEMBLY



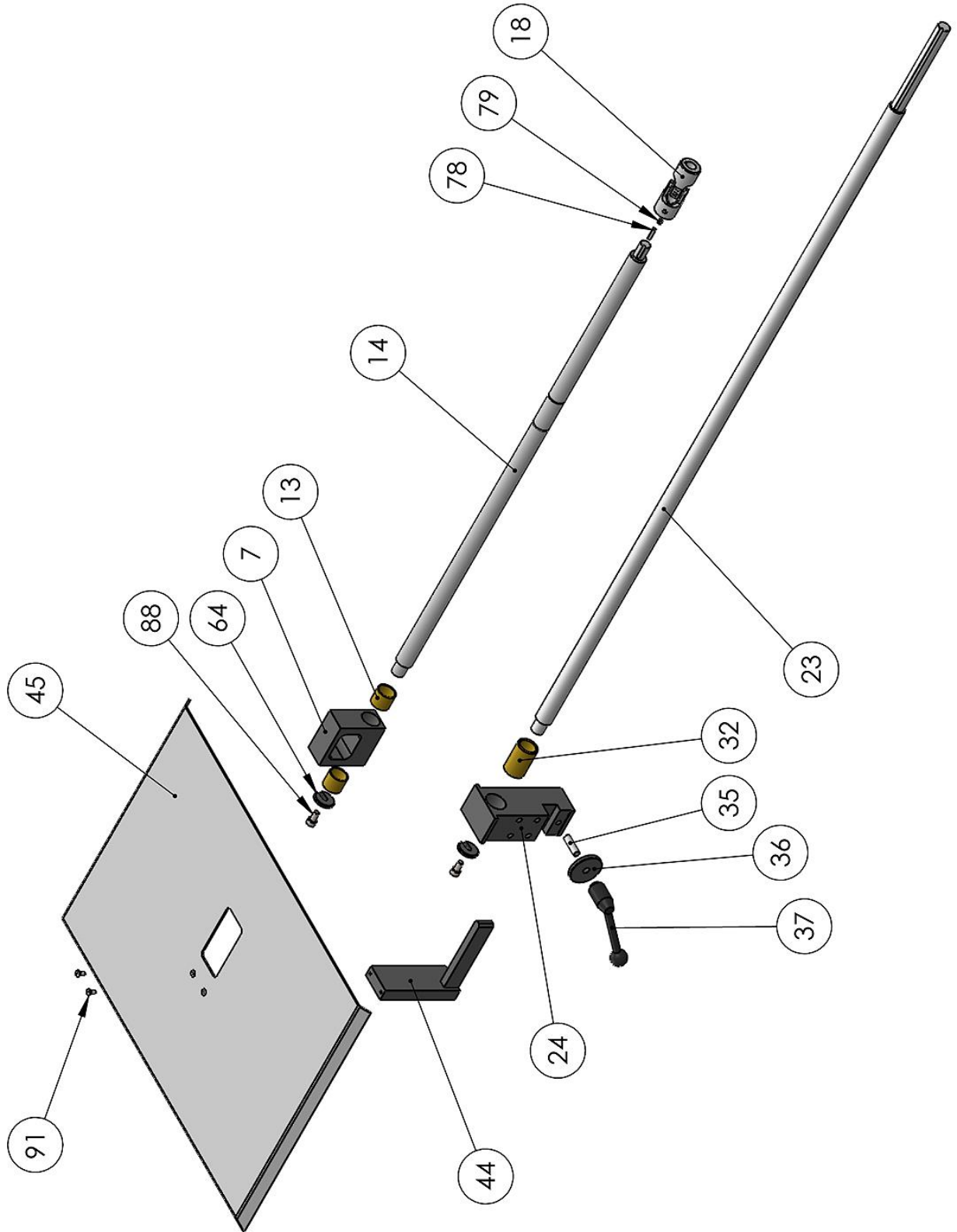


## SLIDE SHAFT ASSEMBLY



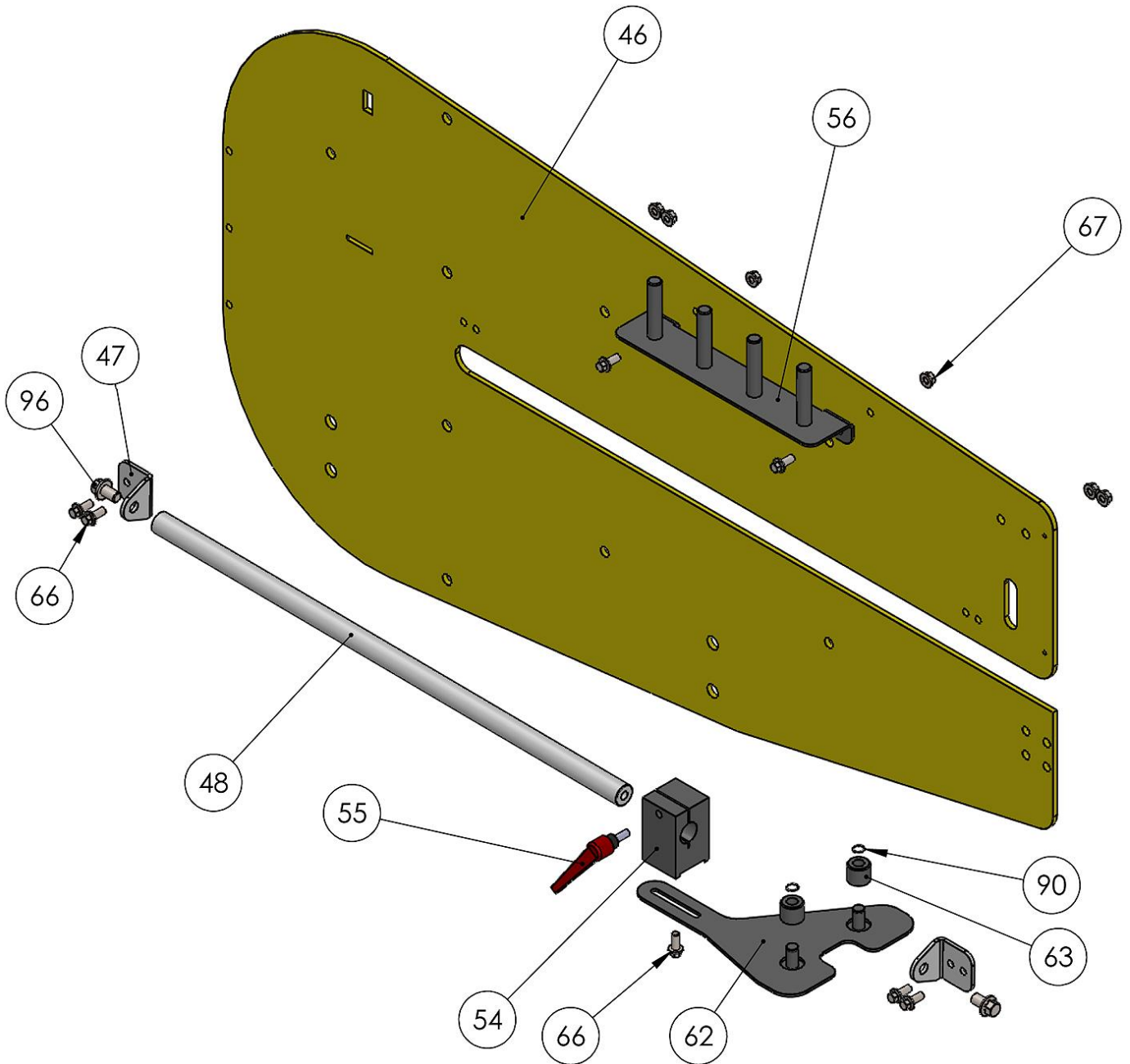


# FORWARD HOUSING ASSEMBLY





# FENCE ASSEMBLY





## Parts List

Item	Part Number	Description	Qty.
1	BR15-6A001	RH SIDE FRAME	1
2	BR16-5A006	FRONT ADJUSTMENT SCREW	1
3	BR16-6A003	ADJUSTMENT BLOCK	1
4	BR16-6A005	CAM HOUSING BLOCK	1
5	BR16-6A006	LH CAM HOUSING SIDE FRAME	1
6	BR16-6A007	RH CAM HOUSING SIDE FRAME	1
7	BR16-6A008	CAM HOUSING	1
8	BR16-7A003	CAM	1
9	BR16-7A008	GUIDE ROLLER	2
10	BR16-7A014	ROLLER SHAFT	2
11	PP-0196	0.5 ID X 0.625 OD X 0.562 LG	1
12	PP-0055	0.5 ID X 1.0 OD X .0625 THK	1
13	PP-1733	1.0ID X 1.125OD X 1.0 BUSHING	4
14	BR16-7A031	TOP SHAFT	1
15	BR16-7A032	DRIVE SHAFT	1
16	PP-0101	0.75 ID X 1.25 OD X .0625 THK	4
17	PP-0838	.75 ID X 1.0 OD X 1.0 LNG BUSHING	1
18	PP-1734	.625 BORE U-JOINT	1
19	BR16-6A029	SLIDE BLOCK	1
20	BR16-6A047	SLIDE CLAMP	1
21	PP-0935	1.0 ID X 1.5 OD X .0625 THK	2
22	BR16-6A051	SPACER BLOCK	1
23	BR15-7A001	LOWER SHAFT	1
24	BR15-6A003	LOWER BEARING BLOCK	1
25	STD.	1.0 E RING	2
26	PP-1719	60:1 GEARBOX	1
27	BR15-6A005	BEARING PLATE	1
28	PP-1718	.75ID X 1.625OD BEARING	2
29	BR15-6A011	25T .75 BORE SPUR GEAR	2
30	BR15-6A006	GEARBOX BRACE	1
31	BR15-7A002	GEARBOX SPACER	1
32	PP-0142	1.25 O.D. X 1.00 I.D. X 2.00 LNG	1
33	BR16-7A011	PLATE SPACER	5





Item	Part Number	Description	Qty.
34	BR16-6A013	CONTROLLER BRACKET	1
35	BS-0352	.375-16 X 1.375	2
36	BR16-7A028	WASHER	2
37	PP-0602	RELEASE HANDLE	2
38	PP-1720	KBMA CONTROLLER	1
39	PP-1033	5.0 HANDWHEEL	1
40	M150-7A013	QUICK RELEASE SHAFT	1
41	BR16-6A004-V2	CAM BLOCK	1
42	PP-0133	BLACK BALL KNOB	1
43	PP-1229	1/2 HP 3 PHASE MOTOR	1
44	BR16-5A011	TABLE MOUNT	1
45	BR16-6A038	TABLE	1
46	BR15-6A002	LH SIDE FRAME	1
47	IDX-6A002-V2	IDX SHAFT MOUNT	2
48	BR16-7A030	FENCE RAIL	1
49	BR16-6A059	STAND BRACE	1
50	PP-0048	4.0 INCH CASTER	2
51	PP-1732	STRAIGHT CASTER	2
52	BR16-6A033	STAND SPACER	4
53	BR16-6A044	UPPER FRONT GUARD	1
54	BR15-6A008	FENCE BLOCK	1
55	PP-1527	M8 HANDLE	1
56	BR16-5A002	TOOL HOLDER	1
57	PP-1738	.3125-24 FEMALE ROD END	1
58	PP-1737	.3125-24 MALE ROD END	1
59	BR15-6A010	GEAR GUARD	1
60	BR15-5A001	FRONT STAND	1
61	BR15-5A002	REAR STAND	1
62	BR15-5A003	ROLLER TABLE	1
63	BR16-7A017	ROLLER	2
64	BR36-7A038	RETAINING WASHER	2
65	M10 X 1.5 X 25	HEX FLANGE	8
66	M8 X 1.25 X 20	HEX FLANGE	15
67	M8 X 1.25	FLANGE NUT	14
68	M10 X 1.5	FLANGE NUT	8



Item	Part Number	Description	Qty.
69	M12 X 1.75 X 70	HEX FLANGE	4
70	M12 X 1.75	FLANGE NUT	4
71	STD.	.1875 X 1 KEYSTOCK	3
72	3/8 LOCK WASHER	STD.	4
73	3/8-16 X 1	HHCS	4
74	M6 X 1.0 X 20	HEX FLANGE	2
75	M6 X 1.0	HEX NUT	4
76	M6 X 1.0 X 8	SET SCREW	4
77	M10 X 1.5 X 65	HEX FLANGE	1
78	STD.	.1875 X 1 KEYSTOCK	3
79	1/4-20 X .25	SET SCREW	4
80	M6 X 1.0 X 10	BUTTON HEAD	9
81	M6 X 1.0 X 16	HEX FLANGE	2
82	M8 FLAT WASHER	STD.	2
83	M8 X 1.25 X 25	SHCS	2
84	BR16-7A034	CAM HOUSING WASHER	2
85	M8 X 1.25 X 16	FHCS	4
86	PP-0037	1/2" CLAMP COLLAR	1
87	M6 X 1.0 X 25	SHCS	2
88	M8 X 1.25 X 16	SHCS	2
89	M5 X 0.8 X 10	SHCS	4
90	STD.	.5" EXT. RETAINING RING	2
91	M5 X 0.8 X 12	FHCS	2
92	M16 X 2.0 X 90	HEX FLANGE	4
93	M16 X 2.0	FLANGE NUT	4
94	M8 X 1.25 X 16	HEX FLANGE	6
95	M10 X 1.5 X 20	HEX FLANGE	12
96	M12 X 1.75 X 20	HEX FLANGE	20



NOTES



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

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

**[www.baileigh.com](http://www.baileigh.com)**

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

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

**BAILEIGH INDUSTRIAL LTD. UNIT D SWIFT POINT**

**SWIFT VALLEY INDUSTRIAL ESTATE, RUGBY**

**WEST MIDLANDS, CV21 1QH UNITED KINGDOM**

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

**[WWW.BAILEIGH.CO.UK](http://WWW.BAILEIGH.CO.UK)**

**BAILEIGH INDUSTRIAL GMBH HOFENER STRASSE 64**

**70736 FELLBACH**

**DEUTCHSLAND**

**[WWW.BAILEIGHINDUSTRIAL.DE](http://WWW.BAILEIGHINDUSTRIAL.DE)**

**BAILEIGH INDUSTRIAL PTY. LTD.**

**P.O Box 1573, 126 MELROSE DRIVE TULLAMARINE,**

**VIC 3043 AUSTRALIA**

**PHONE: 011 61 383 743 888**

**[WWW.BAILEIGH.COM.AU](http://WWW.BAILEIGH.COM.AU)**