



OPERATOR'S MANUAL



METAL BEAD ROLLER MODEL: BR-22

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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, (e) defects or damage to the Goods resulting from improper or unauthorized alterations, modifications, or changes; and (f) any Goods that has not been installed and/or maintained in accordance with the instruction manual or technical guidelines provided by Seller.

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

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



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

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

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

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

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

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

Summary of Return Policy.

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

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

For Customer Service & Technical Support:

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



INTRODUCTION

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

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

In this manual you will find: (when applicable)

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

GENERAL NOTES

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

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

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



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



IMPORTANT

PLEASE READ THIS OPERATORS MANUAL CAREFULLY

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



SAFETY INSTRUCTIONS

LEARN TO RECOGNIZE SAFETY INFORMATION

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

Follow recommended precautions and safe operating practices.

UNDERSTAND SIGNAL WORDS

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

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

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



DANGER



WARNING



CAUTION

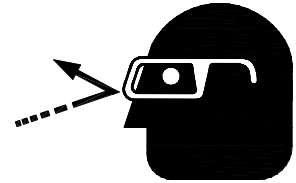


SAVE THESE INSTRUCTIONS.
Refer to them often and use them to instruct others.



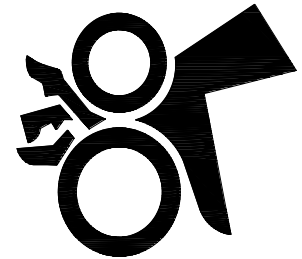
PROTECT EYES

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



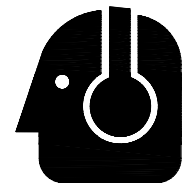
BEWARE OF CRUSH HAZARD

Moving parts can crush and cut. Keep hands and fingers clear of rotating mechanism



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.





SAFETY PRECAUTIONS



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

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

REMEMBER: Your personal safety is your responsibility.



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

1. **Only trained and qualified personnel can operate this machine.**
2. **Make sure guards are in place and in proper working order before operating machinery.**
3. **Remove any adjusting tools.** Before operating the machine, make sure any adjusting tools have been removed.
4. **Keep work area clean.** Cluttered areas invite injuries.
5. **Overloading machine.** By overloading the machine you may cause injury from flying parts. **DO NOT** exceed the specified machine capacities.
6. **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.
7. **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.
8. **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.
9. **Use eye and ear protection.** Always wear ISO approved impact safety goggles. Wear a full-face shield if you are producing metal filings.
10. **Do not overreach.** Maintain proper footing and balance at all times. **DO NOT** reach over or across a running machine.



SAFETY PRECAUTIONS (cont.)



11. **Stay alert.** Watch what you are doing and use common sense. **DO NOT** operate any tool or machine when you are tired.
12. **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.
13. **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.
14. **Keep children away.** Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
15. **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.
16. **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.
17. Keep visitors a safe distance from the work area.

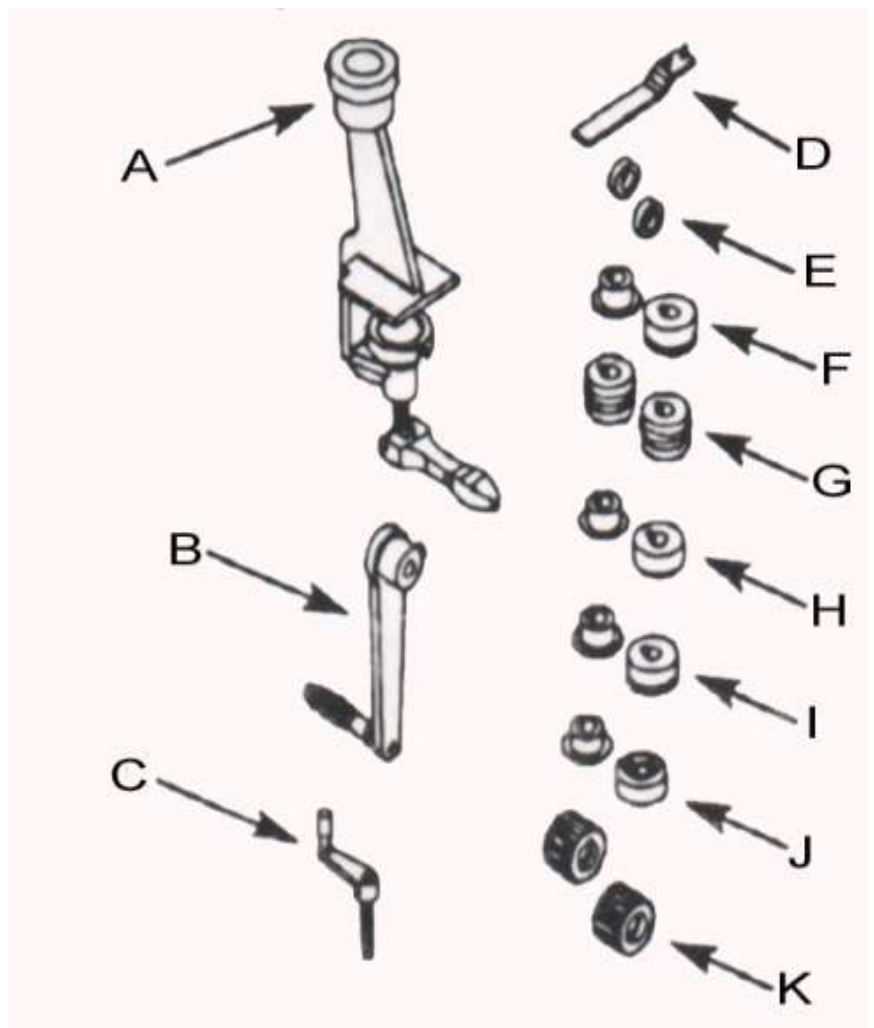


UNPACKING AND CHECKING CONTENTS

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

The rotary machine comes assembled as one unit with one die set attached. Additional parts which need to be fastened to the tool should be located and accounted for before assembling:

- A Base assembly
- B Crank handle assembly
- C Adjusting handle assembly
- D Wrench
- E Spacers, 2 each
- F Small turning die set
- G Ogee bead die set
- H Burring die set
- I Large turning die set
- J Wiring die set
- K Crimping die set

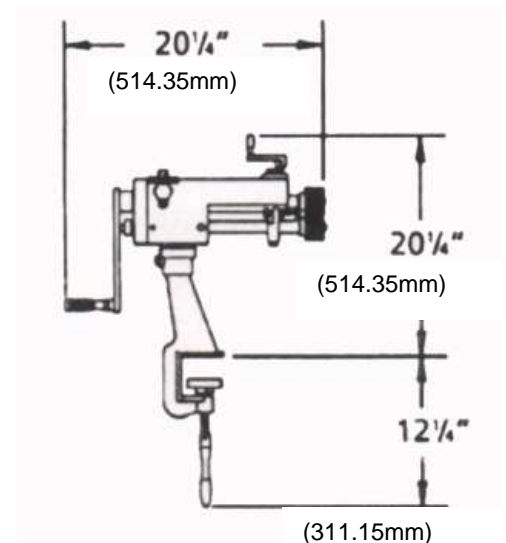




TECHNICAL SPECIFICATIONS

Rotary machine is hand operated and will form sheet metal up to 22 Gauge (.76mm) thickness mild steel (or equivalent). The Rotary machine is constructed of cast iron and steel ensuring minimum deflection of the work-piece during forming operations. Six die sets are included, allowing the following operations to be performed: large and small turning, burring, wiring, ogee beading, and crimping.

Maximum thickness	22 GA. (.030") mild steel
Throat depth	7" (178mm)
Material stop range	0-7" (0-178mm)
Maximum thickness of mounting surface	2" (51mm)
Weight	47 Lbs (21.32kg)



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



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

TECHNICAL SUPPORT

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

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



ASSEMBLY AND INSTALLATION

Machine should be installed on a level surface, with proper lighting. Machine is to be bench mounted. Be sure to provide clearance for crank arm rotation. Area around machine should be clear of scraps, oil or dirt. Apply a suitable non-skid material to floor.

Mount Base Assembly

- Mount base assembly to a suitable area on workbench. The thickness of the mounting surface cannot exceed 2" (51mm). Secure in position using clamp handle.

Mount Rotary Machine To Base

- Mount rotary machine body to base. Secure with hex head bolt.

Mount Handle To Machine

- Mount the crank assembly to the driving shaft. Secure with hex head bolt. Mount the adjusting handle assembly into top of body.

Cleaning

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



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



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





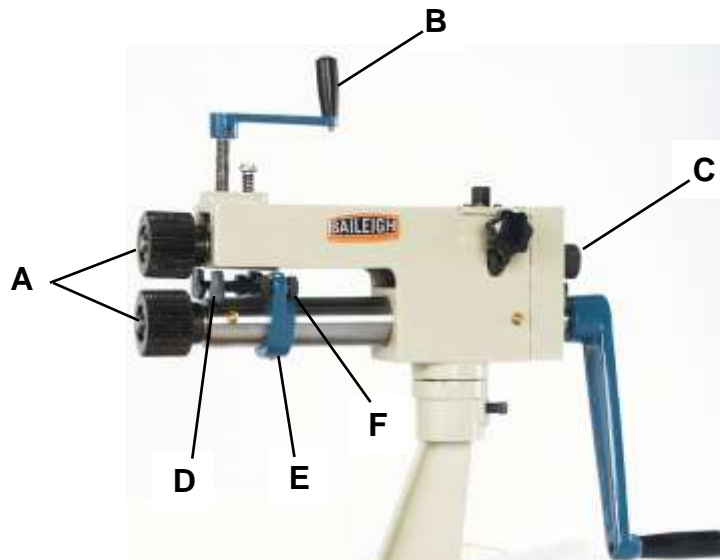
OPERATION

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

Keep hands and fingers clear of the die area.

Be sure to keep hands clear of forming dies when rotating crank handle. The maximum capacity of the machine is 22 gauge (.76mm) mild steel or equivalent.

1. Select the die set required for the operation to be performed.
2. Place spacers, dies and retaining nuts onto the driving and driven shafts (A). Tighten the retaining nuts with wrench provided.
3. Adjust the position of the upper die according to thickness of the workpiece by using the adjusting handle (B).
4. Adjust the horizontal position of the upper die by rotating the adjusting nut (C).
5. Adjust the stop gauges (D) or the stop plate (E) to the required size. The required size is the distance the form will be from the edge of the metal. Use the stop gauge for sheet and use the stop plate for cylinders. The stop gauge can be finely adjusted using the thumb nuts (F).
6. Insert metal between dies and slowly rotate the crank arm. Check the workpiece. It may be necessary to fine tune the adjustments made in steps 3 - 5. Repeat steps 3 thru 5 until the correct form is obtained.





MATERIAL SELECTION

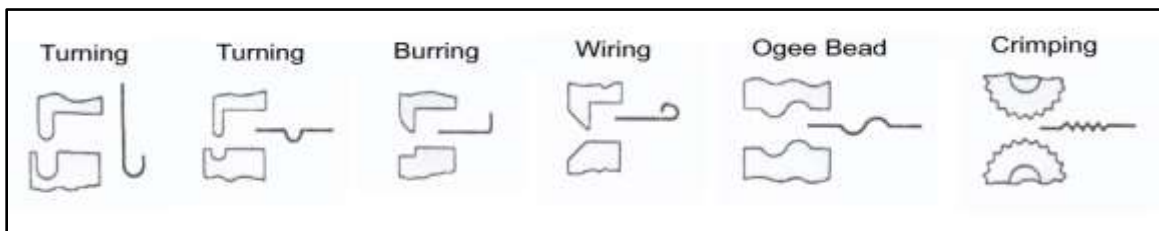
⚠ CAUTION: It must be determined by the customer that materials being processed through the machine are NOT potentially hazardous to operator or personnel working nearby.

The maximum capacity of the machine is 22 gauge (.76mm) mild steel or equivalent. Below is an equivalency chart for use when working with materials other than mild steel.

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.

EQUIVALENCY CHART	
Mild steel	.030" (.762mm)
Stainless steel	.020" (.508mm)
Cold-rolled steel	.024" (.609mm)
Aluminum	.055" (1.40mm)
Soft brass	.046" (1.17mm)
1/2 Hard brass	.030" (.762mm)
Annealed phosphor bronze	.034" (.864mm)
Soft copper	.046" (1.17mm)
Hard copper	.034" (.864mm)

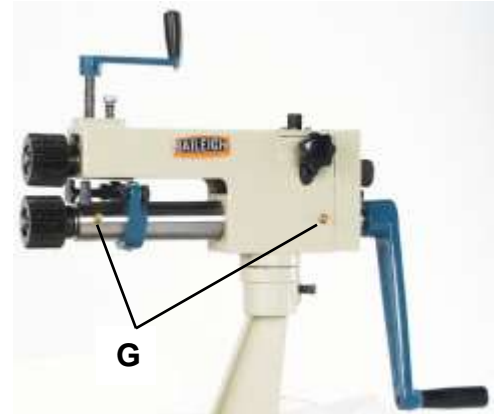


Profiles of Roll Dies included with Rotary Machine



LUBRICATION AND MAINTENANCE

- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts, bolts, and screws are properly tightened.
- Lubricate threaded components and sliding devices.
- Apply rust inhibitive lubricant to all non-painted surfaces.
- All exposed iron surfaces should be coated with light oil to prevent rusting. Use a multi-purpose or bearing grease for lubrication.
- The adjusting block should be greased.
- Grease the driving shaft fittings (G) monthly.



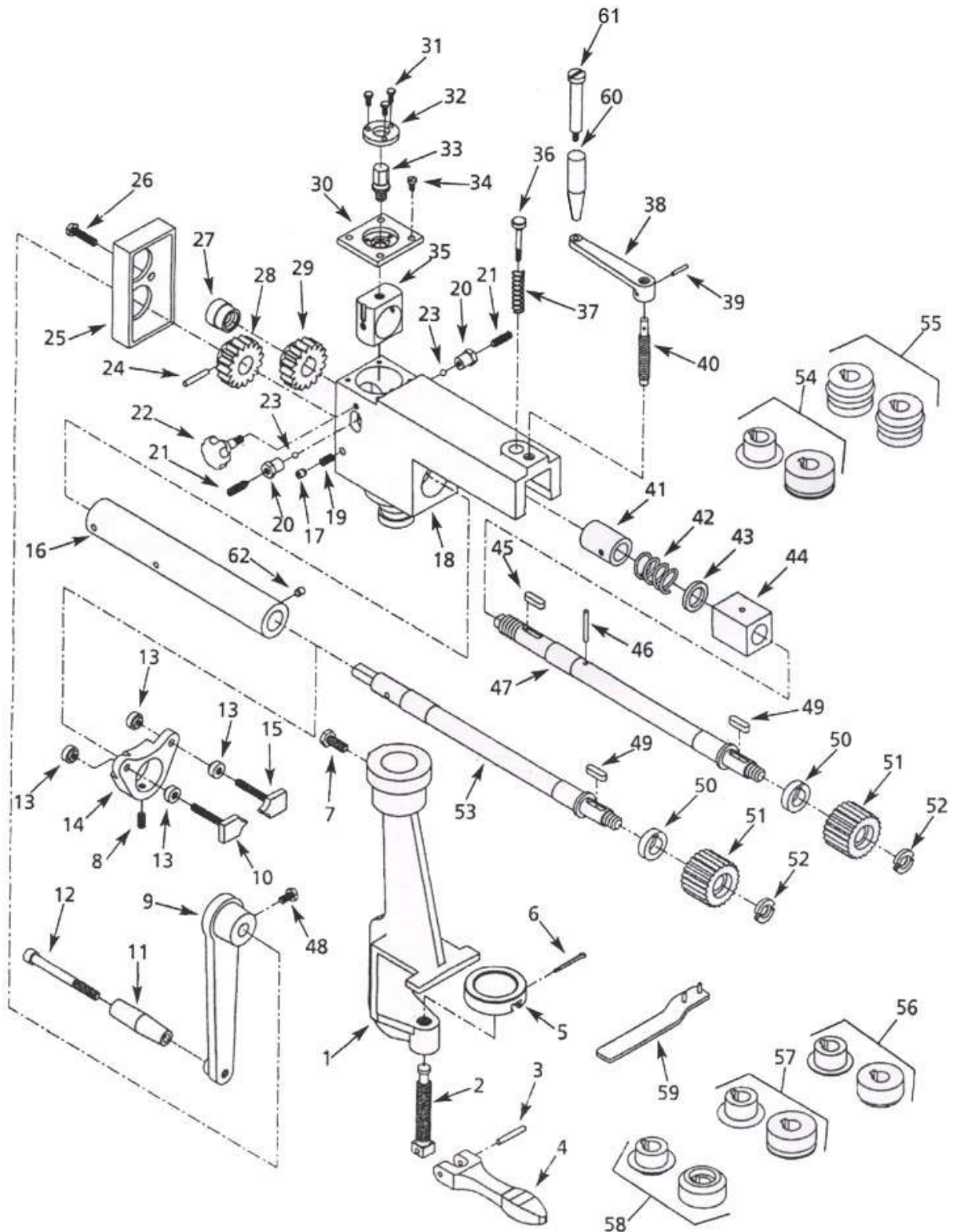
Note: Proper maintenance can increase the life expectancy of your machine.

TROUBLESHOOTING CHART

Symptom	Possible Cause(s)	Corrective Action
Dies cut through metal	Dies are too close together	1. Adjust die position using adjusting handle
Dies do not make the form correctly	1. Dies are improperly adjusted 2. Thumb screw loose 3. Workpiece material too thick	1. Adjust die position using adjusting nut 2. Tighten thumb screw 3. Do not exceed machine capacity of .030" (.76mm) mild steel or equivalent, See Equivalency Chart
Crank arm difficult to turn	1. Adjusting block loose or not in proper position 2. Improper lubrication	1. Adjust set screws and secure by tightening lock nuts. Loosen knob and adjust position of adjusting block by turning adjusting bolt. Retighten knob. 2. Lubricate properly, See Lubrication.



PARTS IDENTIFICATION DRAWING





PARTS IDENTIFICATION LIST

Item	Description	Qty.	Item	Description	Qty.
1	Base	1	32	Round plate	1
2	Clamp bolt	1	33	Adjusting bolt	1
3	6 x 45mm Dowel pin	1	34	6-1.0 x 14mm Pan head screw	4
4	Clamp handle	1	35	Adjusting block	1
5	Clamp head	1	36	Thumb screw	1
6	3 x 36mm Cotter pin	1	37	Spring	1
7	10-1.5 x 25mm Dog point bolt	1	38	Adjusting handle	1
8	8-1.25 x 15mm set screw	1	39	1/8 x 7/8" Dowel pin	1
9	Crank arm	1	40	Adjusting screw	1
10	Stop gauge (left)	1	41	Sleeve	1
11	Handle	1	42	Spring	1
12	Handle bolt	1	43	Collar	1
13	Thumb nut	4	44	Adjusting block	1
14	Stop plate	1	45	6 x 20mm Key	1
15	Stop gauge (right)	2	46	5 x 32mm Dowel pin	1
16	Shaft sleeve	1	47	Driven shaft	1
17	Oil port	1	48	8-1.25 x 20mm Hex head bolt	1
18	Body	1	49	6 x 6 x 25mm Key	2
19	Set screw	1	50	Spacer	4
20	Lock nut	2	51	Crimping roll dies (Set of 2)	1
21	Set screw	2	52	Retaining nut	2
22	Knob	1	53	Driving shaft	1
23	6mm Steel ball	2	54	Small turning roll dies (Set of 2)	1
24	5 x 35mm Dowel pin	1	55	Ogee bead roll dies (Set of 2)	1
25	Cover	1	56	Burring roll dies (Set of 2)	1
26	8-1.25 x 35mm Hex head bolt	2	57	Large turning roll dies (Set of 2)	1
27	Adjusting nut	1	58	Wiring roll dies (Set of 2)	1
28	Driving gear	1	59	Wrench	1
29	Driven gear	1	60	Handle	1
30	Square plate	1	61	Handle bolt	1
31	5-0.8 x 8mm Pan head screw	3	62	Oil port	1



NOTES



NOTES



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