



OPERATOR'S MANUAL



MAGNETIC BOX AND PAN BRAKE

Model: BB-4816M

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

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THANK YOU & WARRANTY

1. Thank you for your purchase of a Baileigh Industrial Magnetic Box and Pan Brake. We hope that you find it productive and useful to you for a long time to come.

2. **Inspection & Acceptance.** Buyer shall inspect all Goods within a reasonable period of time after delivery, not to exceed ten (10) days. If Buyer rejects any Goods, Buyer must first obtain a Return Authorization Number ("RAN") before returning any goods to Seller. Goods returned without a RAN 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 RAN. 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 unsaleable 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.

3. **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.

4. **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 RAN 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 RAN. 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. 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.



5. 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.

6. 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.

7. 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, lightning, natural disasters or any other cause beyond Seller's reasonable control. In the event of any such delay, performance will be postponed by such length of time as may be reasonably necessary to compensate for the delay.

8. 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.

9. 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.

10. 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.



11. **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.

12. **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.



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.

DESCRIPTION

The Baileigh Model BB-4816M is a unique magnetic box and pan brake with endless bending possibilities, as compared to a conventional sheet metal brake. A powerful electro-magnet in the bending bed, engaged by either pushbutton or foot pedal, holds down a mild steel clamping bar to the bed. The piece part is held between this clamping bar and the bed while the bending leaf is lifted to complete the bend.

The brake comes with an assortment of clamping bars to handle a variety of bending configurations. It can bend items, which are impossible on a traditional box and pan brake, such as totally enclosed boxes, triangles, alternate bends on varying planes, round items as in scrolling applications, and many more.

One of the advantages to this type of box and pan brake is that the magnetic power of 6 tons is consistent across the entire beam, allowing for very crisp bends, even in the middle of the machine. This machine is perfect for bending sheets of mild steel, stainless steel, aluminum, coated materials, heated plastics, and more.

In this manual you will find: (when applicable)

- Safety procedures, Installation guidelines, Capacity charts
- Description of the functional parts of the machine
- 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.

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

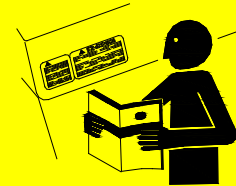


Note: This symbol refers to useful information throughout the manual.



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.



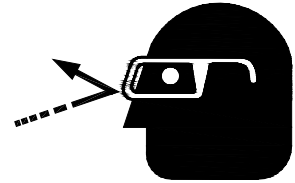
General precautions are listed on **CAUTION** safety signs. **CAUTION** also calls attention to safety messages in this manual.





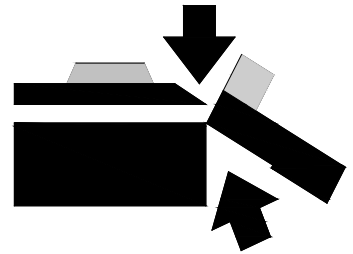
PROTECT EYES

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



BEWARE OF CRUSH HAZARD

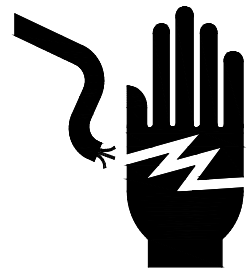
Placing fingers or hands between the clamping leaf and the magnetic bed could cause serious personal injury. **NEVER** place any part of your body in the bending mechanism of the machine.



HIGH VOLTAGE

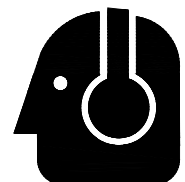
USE CAUTION IN HIGH VOLTAGE AREAS.
DO NOT assume the power to be off.

MAKE SURE PROPER LOCKOUT
PROCEDURES ARE FOLLOWED.



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

1. **Using Lift equipment.** Be careful not to touch overhead power lines, piping, lighting, etc.
2. **Remove any adjusting tools.** Before operating the machine make sure any adjusting tools have been removed.
3. **Keep work area clean.** Cluttered areas invite injuries.
4. **Overloading Brake.** By overloading the brake you may cause injury from flying parts. DO NOT exceed the specified machine capacities.
5. **Machine usage.** DO NOT use the brake as a press or crushing tool.
6. **Dressing material edges.** Before bending sheet metal, always chamfer and deburr all sharp edges.
7. **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.
8. **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.
9. **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.
10. **Use eye and ear protection.** Always wear ISO approved impact safety goggles. Wear a full-face shield if you are producing metal filings.
11. **Do not overreach.** Maintain proper footing and balance at all times. DO NOT reach over or across a running machine.
12. **Stay alert.** Watch what you are doing and use common sense. DO NOT operate any tool or machine when you are tired.



SAFETY PRECAUTIONS (cont.)

13. **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.
14. **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.
15. **Keep children away.** Children must never be allowed in the work area. DO NOT let them handle machines, tools , or extension cords.
16. **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.
17. **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.
18. **Bolt machine to sturdy level floor.** This will prevent machine from slipping and possibly tipping over.



TECHNICAL SPECIFICATIONS

Bend Length	48"
Bend Material Thickness	16 ga. (M.S.) 20 ga. (SSTL)
Clamping Force	6 Tons
Floor Stand	2 Pc. Welded Steel
Electrical	220V, Single Phase, 60Hz
Amp Draw	12 Amps
Box Depth	Unlimited
Shipping Dimensions (L / W / H)	57" / 44" / 15"
Shipping Weight	462 Lbs.

MACHINE FEATURES

- Bends metal and more
- Handy lined tool tray
- Dual pushbuttons or footswitch to energize electro-magnet
- Easy to use gap adjustment knobs on long clamp bars
- Scaled angle control for repeatable bends
- Sturdy four legged base
- Adjustable back gauges for production runs
- Spring loaded locating balls to position long clamp bars
- 3-Hinged bending leaf for strength and reliability



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



OVERALL DIMENSIONS

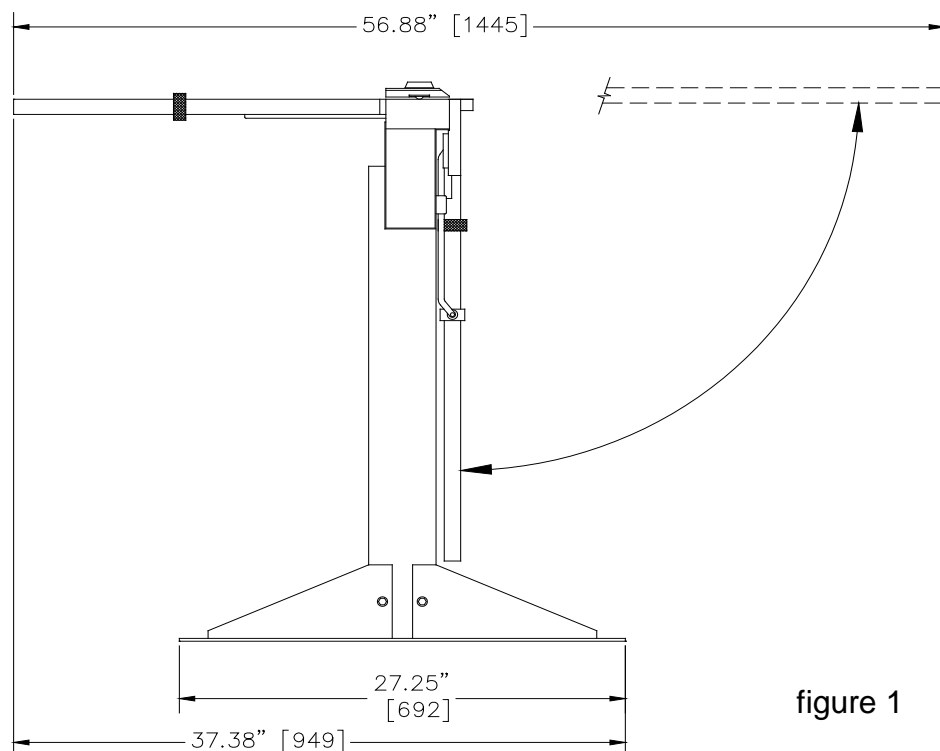
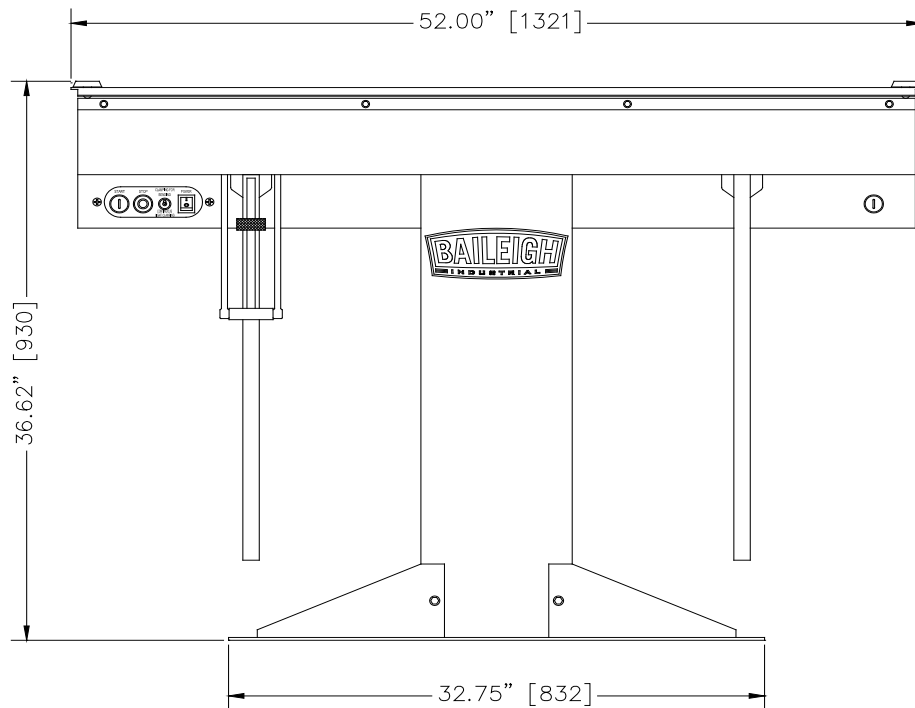


figure 1



TRANSPORTING AND LIFTING



WARNING: 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 straps carefully, making sure the magnetic brake is well balanced. Choose a location that will keep the brake free from vibration and dust from other machinery. Keep in mind that having a large clearance area around the machine is important for safe and efficient working conditions.

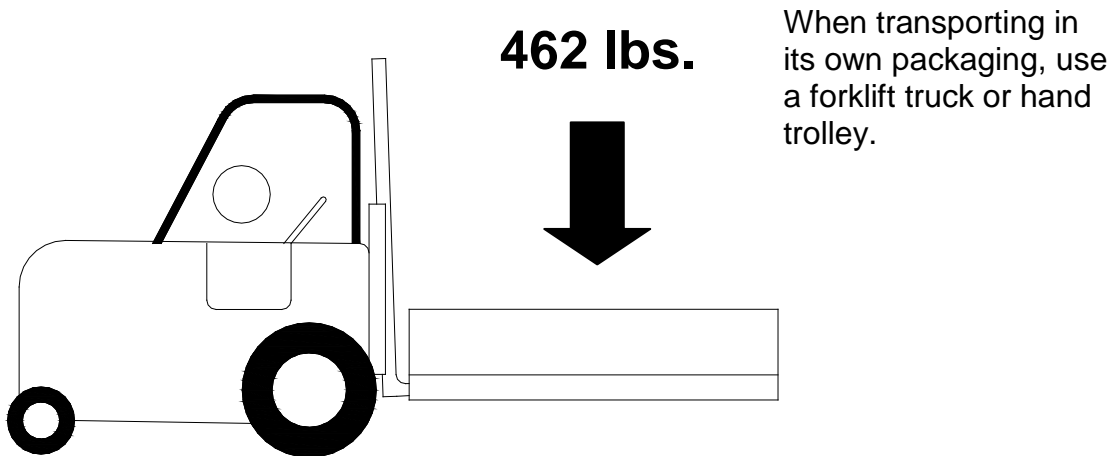


figure 2

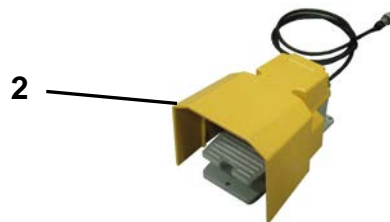
Your Baileigh BB-4816M Magnetic Box and Pan Brake is shipped complete in one crate.

- 1) When lifting the assembled machine, make sure the weight is supported evenly with a minimum of two straps, each capable of lifting 500 lbs. (Make sure the body of the brake is bearing the load.)
- 2) Lift the machine carefully, avoiding sudden accelerations or quick changes of direction.



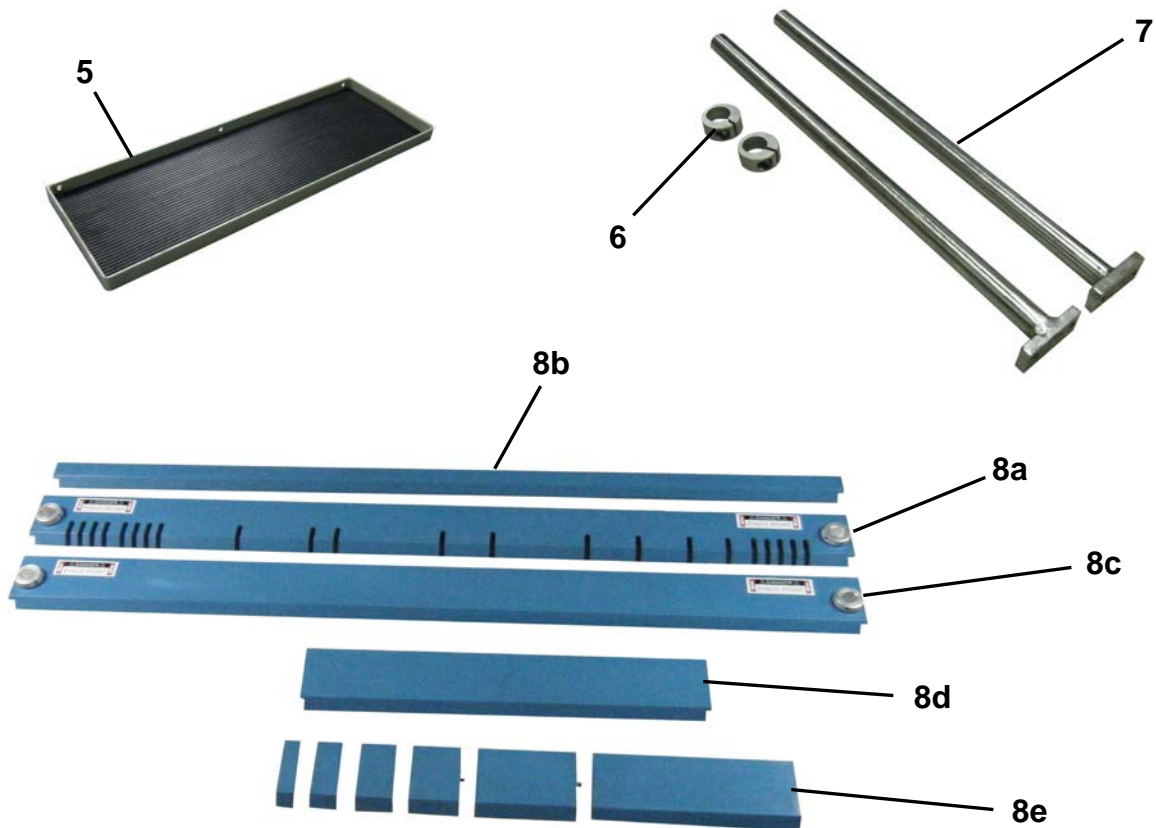
UNPACKING AND CHECKING CONTENTS

Separate all parts from the packing material and check each item carefully. Make certain all items are accounted for before discarding any packing material.





UNPACKING AND CHECKING CONTENTS (cont.)



Item	Name	Qty.
1	Body and Pedestal	1
2	Footswitch	1
3	Back Feet	2
4	Front Feet	2
5	Tool Tray	1
6	Back Stop Collars	2
7	Back Stop Bars	2
8a	Notched Clamp Bar - Long	1
8b	Narrow Clamp Bar	1
8c	Wide Clamp Bar - Long	1
8d	Wide Clamp Bar - Short	1
8e	Segmented Clamp Bar (Assortment)	1
9	Bag of Hardware	1



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.





MAGNETIC BRAKE ASSEMBLY

Attaching the Legs

With the help of another individual, raise the support column to a vertical position as shown in (fig. 3). Attach each foot with (2) M10x16 button head screws (provided). The two feet with the safety tape will be on the front of the brake. (the side with the Baileigh logo) Tighten the button head screws securely. Carefully lay the brake on its side and then place in an upright position with a suitable lifting device.



figure 3

Tool Tray and Backgauge Supports

Using (3) M8x12 socket cap screws attach the tool tray to the back of the brake. Lay the rubber mat into the tray. Attach each backgauge bar to the brake with (2) M8x16 socket capscrews. Tighten securely. Slide a backgauge collar onto each bar as shown in (fig. 4).

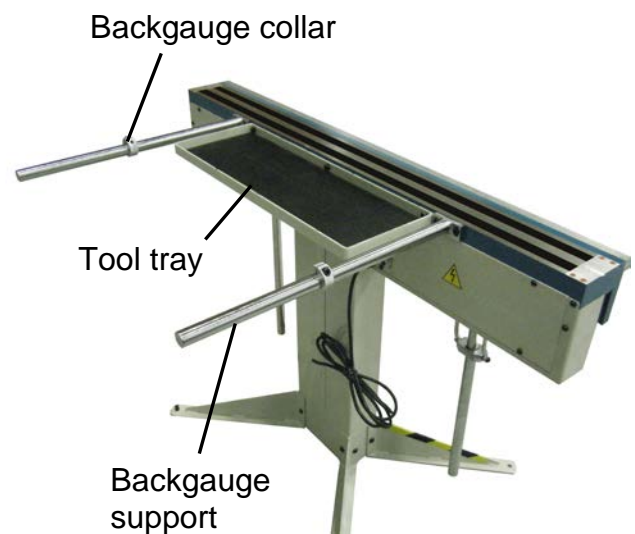


figure 4

Footswitch

Unstrap and straighten out the footswitch cable. Grasp the connector end and plug into the receptacle at the back of the machine. Tighten the connector sleeve.



figure 5



INSTALLATION

ATTENTION: HAVE ELECTRICAL UTILITIES CONNECTED TO MACHINE BY A CERTIFIED ELECTRICIAN !

Check if the available power supply is the same as required by the magnetic brake (consult nameplate on machine base)

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.



WARNING

Leveling

The machine should be sited on a level, concrete floor and adequately secured. The accuracy of any machine depends on the precise placement of it to the mounting surface.

IMPORTANT:

- Maintain an adequate working area around the machine for safety.
- Have the work area well illuminated with proper lighting.
- Remove scrap and waste materials regularly, and make sure the work area is free from obstructing objects.
- Keep the floor free of oil and make sure it is not slippery.
- If long lengths of material are to be fed into the machine, make sure that they will not extend into any aisles.

THE OPERATION CYCLE



Note:

DO NOT run the magnetic brake without material between the clamping bar and the electromagnetic work bench. After releasing the electromagnet, residual magnetism could still hold down the clamp bar.



THE OPERATION CYCLE

Bending Sheetmetal

- 1) If you are using the clamp bars with the lifting balls, make sure they are both properly seated in the pockets of the workbench. (fig. 6)
- 2) Set the machine for the material thickness you will be bending. Raise the bending leaf 90° as shown in (fig. 7). Rotate the knobs on each end of the clamping bar which adjusts the setback distance gap. Set this gap at slightly more than the material thickness to achieve an accurate bend. There are three positions on the knobs (**0 – 1 – 2**) which are useful when doing repeat bending.
- 3) Press the **RED** power button to turn on the machine.
- 4) Position the piece part under the clamp bar. Use the backstop if needed.
- 5) To apply the pre-clamping force, step down on the footswitch or press either of the **GREEN** start switches. (See fig. 8 below) Now that the piece part is held in place, pull up on the bending leaf handles. This will activate the microswitch which tells the electro-magnet to apply full clamping force. Continue pulling up on the handles until the desired bend angle is made.

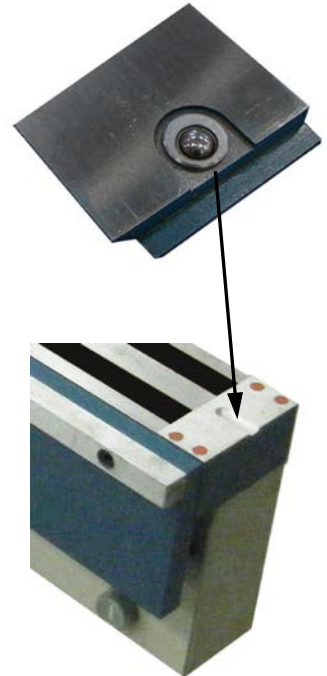


figure 6

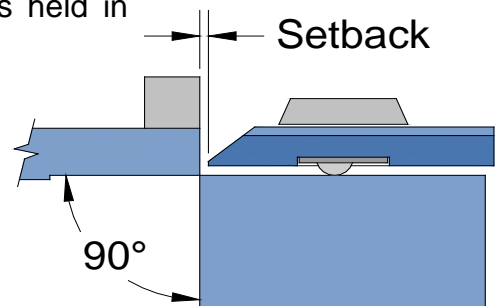


figure 7



figure 8



THE OPERATION CYCLE (cont.)

- 6) The left handle has a leaf angle indicator that is shown in (fig. 9). To allow for springback of the material, bend a few degrees more than the required angle. Read the section Understanding springback on page 22. There is also a locking collar on the indicating shaft which can be set and locked to duplicate multiple bends.
- 7) After the bend is made, lower the bending leaf. Press and hold IN the **RED** stop button (fig. 10) until the clamping bar releases and raises up. Immediately let go of the button. (Every time the machine switches OFF, a short pulse of reverse current is sent through the electromagnet to demagnetize it as well as the piece part.)
- 8) Reposition the piece part for the next bend and repeat steps 4 thru 7.
- 9) For thicker gauge materials set the toggle switch in (fig. 10) to the CLAMPING FOR BENDING position. When bending very thin materials set the toggle switch to CONTINUOUS LIGHT CLAMPING.



figure 9



figure 10

Bending Thicker Materials

When bending a narrow lip on a thicker piece of material it is a good idea to place a piece of filler material under the clamping bar as shown in (fig. 11).

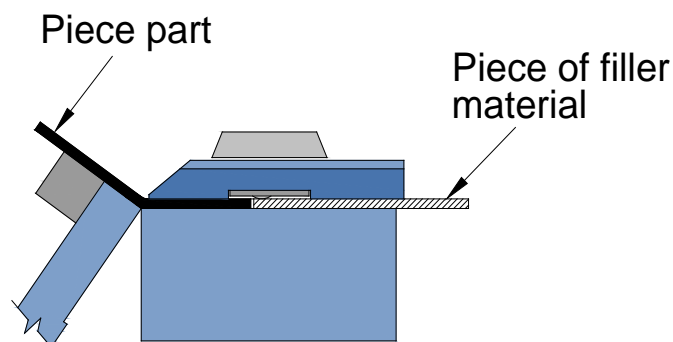


figure 11



THE OPERATION CYCLE (cont.)

Bending Allowance

In order to bend sheet metal accurately, you will need to consider the total length of each bend. This is referred to as bend allowance. Subtract the bend allowance from the sum of the outside dimensions of the piece part to obtain the actual overall length or width of the piece. Because of differences in sheet metal hardness, and whether the bend is made with the grain or against it, exact allowances must sometimes be made by trial and error. However bend allowances for general use can be obtained from metal working books or from the Internet.



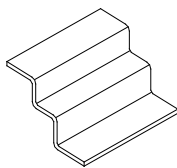
WARNING: The bending brake poses a pinching hazard. Make sure no body part or clothing comes between the clamping bar and the bending leaf.



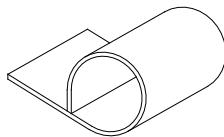
CAUTION:

Always wear proper eye protection with side shields, steel toe footwear, and leather gloves to protect from burrs and sharp edges.

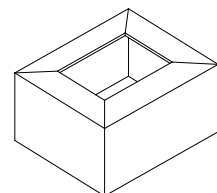
Bend Configurations



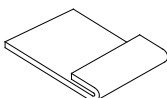
Return Bends



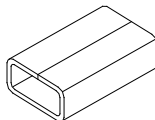
Rolled Edge



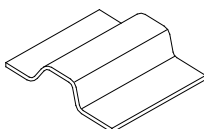
Box



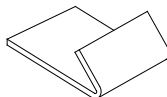
Hem



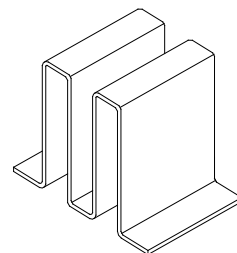
Closed Channel



Stiffening Rib



Angle Bend



Fins



THE OPERATION CYCLE (cont.)



CAUTION: If handling large heavy sheets make sure they are properly supported

Understanding Spring back

Spring back, 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.



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.

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@bii1.com or phone: 920.684.4990



BENDING EXAMPLES

Folding Over a Lip

The thickness, width, and length of material are factors to consider when folding a lip. DO NOT exceed 20ga. (.035") for material thickness.

- 1) With the clamping bar in place and properly secured, bend the material as far as the bending leaf will allow. (Normal bending procedure)
- 2) Now remove the clamping bar, bring up the bending leaf, and continue the fold as in (fig. 12). (No clamping is required.)
- 4) To further flatten the material, slide the piece part forward about 1/2" and use the bar to magnetically clamp it as shown in (fig. 13)

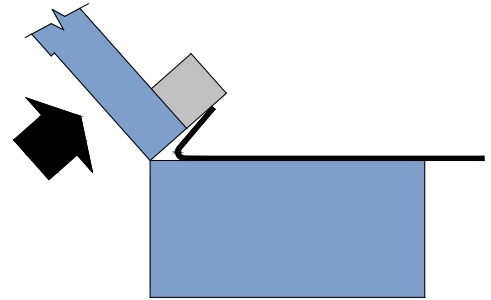


figure 12

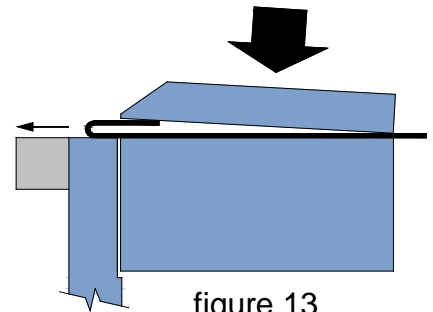


figure 13

Rolling the edge

Use a piece of solid steel round or a pipe to accomplish this.

- 1) Position the clamping bar and the round bar as in (fig. 14) to ensure that the piece part is positioned correctly. Energize the electromagnet.
- 2) Raise the bending leaf to make the initial bend.
- 3) Release the electromagnet and rotate the piece part down to the horizontal position.
- 4) Continue the above procedure until you are satisfied with the result.

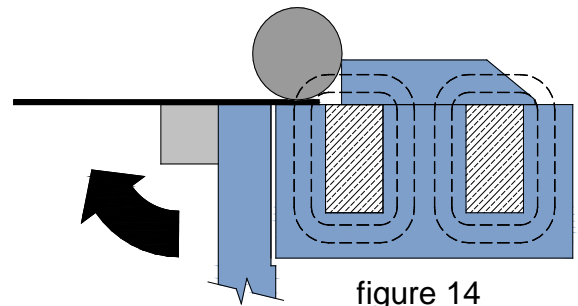


figure 14

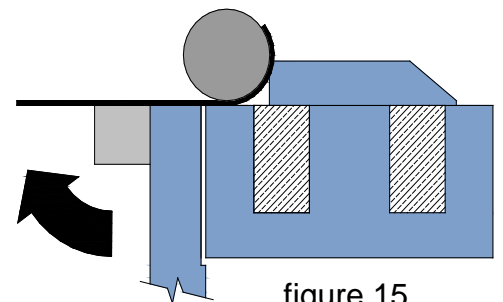


figure 15



BENDING EXAMPLES (cont.)

Making a Box With Clamping Bars

- 1) Using a long clamp bar, initiate the first two bends.
- 2) Choose and insert one or more of the short clamp bars as shown in (fig. 16) below for the opposite bends. (This method allows for deep depth boxes.)
- 3) Clamping bars can be layed side by side or pinned together for repeat bending of multiple units.

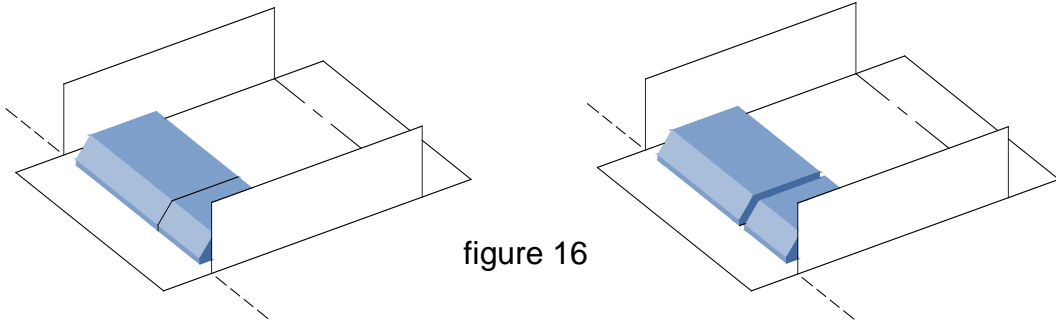


figure 16

Forming Pans With Slotted Clamp Bar

The slotted clamp bar works great for making shallow pans and trays. The entire clamp bar lifts automatically for easy insertion and removal of the piece part.

- 1) Fold two opposite sides and the corner tabs with the slotted clamp bar. (The slots will **NOT** affect these bends.)
- 2) Select two slots that fit the pan for the remaining bends. The edge of the tray should be under the clamp bar and between the selected slots.

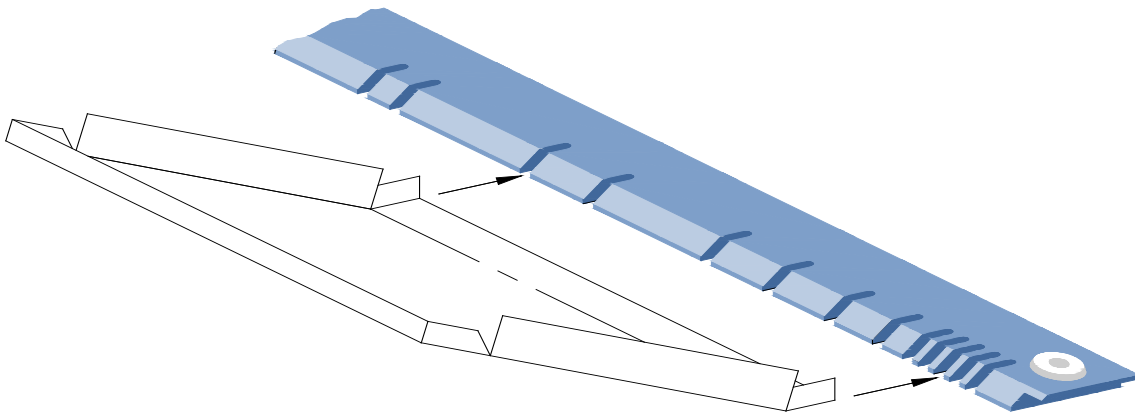


figure 17



LUBRICATION, MAINTENANCE, and ADJUSTMENTS

**MAINTENANCE SHOULD BE PERFORMED ON A REGULAR BASIS
BY QUALIFIED PERSONNEL**



WARNING: Always follow proper safety precautions when working around machinery

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



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



figure 18

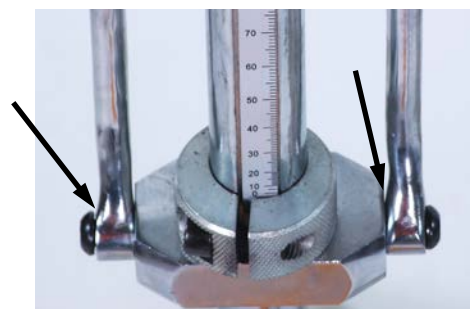


figure 19



LUBRICATION, MAINTENANCE, and ADJUSTMENTS (cont.)

Checking Machine Accuracy

To achieve and maintain accurate bends on the Baileigh BB-4816M magnetic brake, the working surface of the bending beam and the bending edge of the clamp bar need to be straight. Both of these surfaces must also be parallel to each other. This can be checked periodically with a precision straight edge.

Checking the Gap

Raise the bending leaf up to a 90° position as shown in (fig. 20). Secure with the locking collar (fig. 21) on the leaf angle indicator arm. Set the gap between the working surface of the bending leaf and the edge of the clamping bar to .039" +/- .008" by using the clamp bar adjusters (fig. 22). The adjuster knobs should be set the same at each end of the clamp bar.

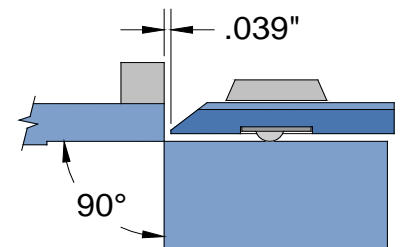


figure 20



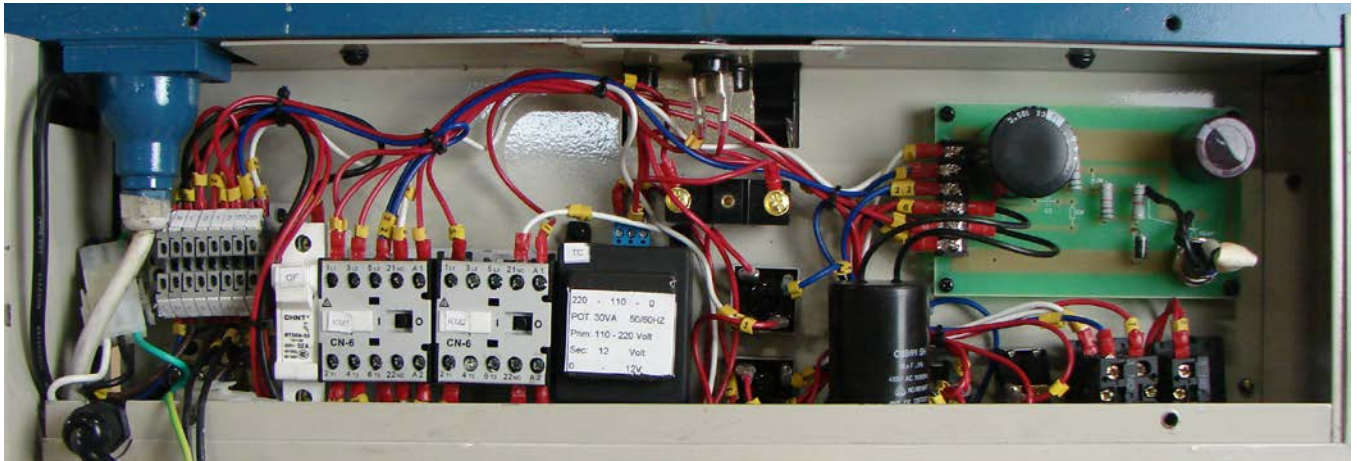
figure 21



figure 22



ELECTRICAL ENCLOSURE

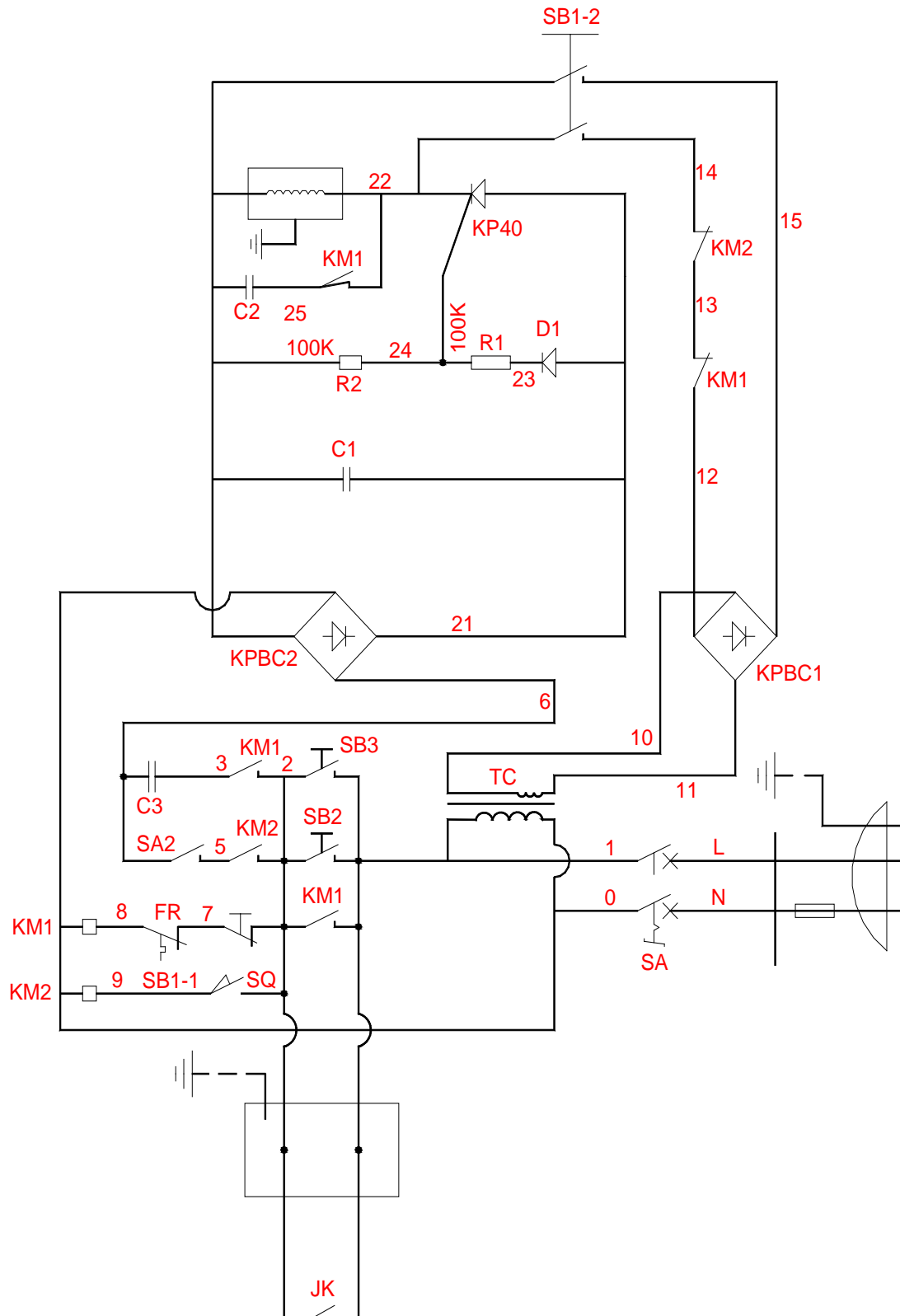


Shown with cover panel removed

Voltage Tests					
	AC		DC		
Reference Point	Any BLUE Wire		Any BLACK Wire		
Test Point	A	B	C	D	E
Light Clamping Condition	240V ac	25V ac	+25V dc	+25V dc	-300V dc
Full Clamping Condition	240V ac	240V ac	+215V dc	+215V dc	+215V dc



ELECTRICAL SCHEMATIC





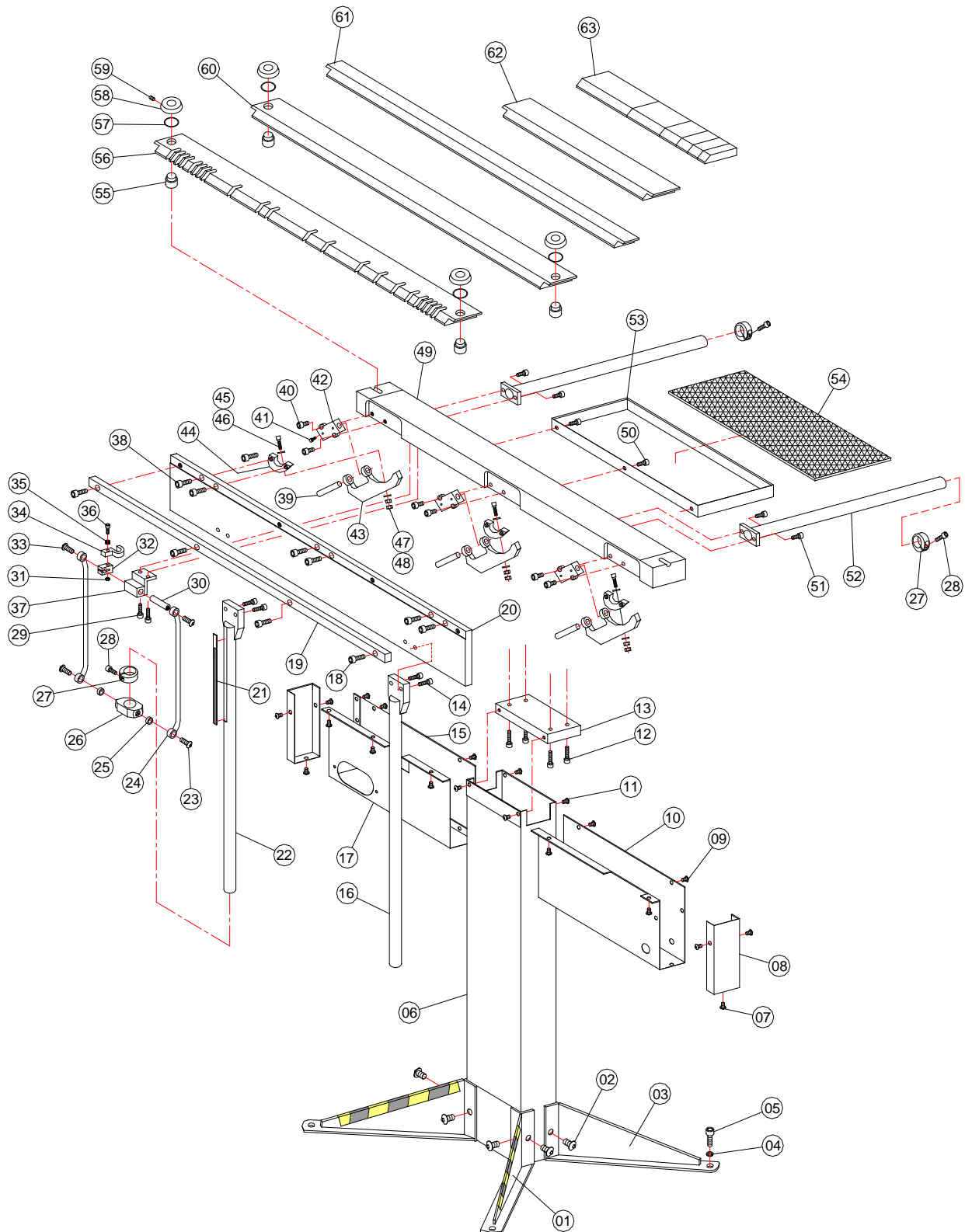
BB-4816M PARTS LIST

Item	Description	Qty
01	Front feet	2
02	Screw M10 x 20	8
03	Back feet	2
04	Nut M8	2
05	Screw M8 x 25	2
06	Stand	1
07	Screw M6 x 12	6
08	Plate	2
09	Screw M6 x 12	4
10	Right shield	1
11	Screw M8 x 20	4
12	Screw M8 x 30	4
13	Connect Plate	1
14	Screw M8 x 16	4
15	Cover	1
16	Right clamp handle	1
17	Left shield	1
18	Screw M8 x 20	4
19	Spoke	1
20	Bending plate	1
21	Graduated scale	1
22	Left clamp handle	1
23	Screw M8 x 20	2
24	Connect plate	2
25	Screw M8 x 6	2
26	Slider	1
27	Stop block	3
28	Screw M8 x 20	3
29	Screw M8 x 20	2
30	Shaft	1
31	Nut M6	1
32	Block	1
33	Screw M8 x 20	2
34	Block	1
35	Disc spring 6.2 x 12.5	2

Item	Description	Qty
36	Screw M6 x 25	1
37	Angle iron	1
38	Screw M8 x 20	6
39	Straight pin 12 x 100	3
40	Screw M8 x 20	6
41	Screw M5 x 4	6
42	Fixed set	3
43	Hinge body	3
44	Tee	3
45	Bolt	3
46	Ball seat	3
47	Disc spring 6.2 x 12.5	1
48	Nut M6	2
49	Workbench	1
50	Screw M8 x 16	3
51	Screw M8 x 16	4
52	Back stop bar	2
53	Tray	1
54	Rubber mat	1
55	Fix shaft	4
56	Notched clamp bar – long	1
57	Spring	4
58	Indicator dial	4
59	Screw M6 x 8	4
60	Wide clamp bar – long	1
61	Narrow clamp bar	1
62	Wide clamp bar – short	1
63	Segmented clamp bar (assorted)	1



PARTS IDENTIFICATION DRAWING





TROUBLESHOOTING

FAULT	PROBABLE CAUSE	REMEDY
MACHINE DOES NOT OPERATE	Machine is not plugged in to a live circuit	Have qualified electrician check circuit.
	Machine power switch is not lit.	Push switch to ON position and make sure light is ON.
	The machine is hot and overheated.	Let the machine cool and try to start again.
	Bending leaf is raised before starting machine.	Do Not lift the bending leaf prior to starting the machine.
	Start pushbutton is faulty.	Try to start with the footswitch, if it starts replace the start switch.
	Loose connection	Check the connector and magnet at the electrical module (<u>Electrician Only</u>)
	Clamp bar snaps down on the release of the start button.	Replace the 15 microfarad capacitor.
	Blown fuses or tripped circuit breakers.	Bridge rectifier may be blown.



Notes

BAILEIGH INDUSTRIAL, INC. 1625 DUFEK DRIVE MANITOWOC, WI 54220
PHONE: 920. 684. 4990 FAX: 920. 684. 3944
WWW.BAILEIGHINDUSTRIAL.COM

BAILEIGH INDUSTRIAL, INC. 1455 S. CAMPUS AVENUE ONTARIO, CA 91761
PHONE: 920. 684. 4990 FAX: 920. 684. 3944

BAILEIGH INDUSTRIAL LTD. UNIT 1 FULLWOOD CLOSE
ALDERMANS GREEN INDUSTRIAL ESTATE
COVENTRY, CV2 2SS UNITED KINGDOM
PHONE: +44 (0)24 7661 9267 FAX: +44 (0)24 7661 9276
WWW.BAILEIGHINDUSTRIAL.CO.UK

BAILEIGH INDUSTRIAL GMBH HOFENER STRASSE 64
70736 FELLBACH
DEUTCHSLAND
WWW.BAILEIGHINDUSTRIAL.DE