OPERATOR'S MANUAL

Metal Working

FOOT SHEAR
MODEL: SF-5216E

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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 an 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 10 days from date of receipt. The foregoing warranty is Seller's sole obligation, and the original end-user's exclusive remedy, with regard to any defective Goods. This limited warranty does not apply to: (a) die sets, tooling, and saw blades; (b) periodic or routine maintenance and setup, (c) repair or replacement of the Goods due to normal wear and tear, (d) defects or damage to the Goods resulting from misuse, abuse, neglect, or accidents, (f) defects or damage to the Goods resulting from improper or unauthorized alterations, modifications, or changes; and (f) any Goods that has not been installed and/or maintained in accordance with the instruction manual or technical guidelines provided by Seller.

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

Limitation of Liability. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER OR ANY OTHER PARTY FOR ANY INCIDENTIAL, 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, lightning, natural disasters or any other cause beyond Seller's reasonable control. In the event of any such delay, performance will be postponed by such length of time as may be reasonably necessary to compensate for the delay.

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

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

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

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

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

Summary of Return Policy.

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

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

For Customer Service & Technical Support:
Please contact one of our knowledgeable Sales and Service team members at:
(920) 684-4990 or e-mail us at Baileigh-Sales@jpwindustries.com

INTRODUCTION

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

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

In this manual you will find: (when applicable)

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

Register your product using the mail-in card provided or register online:

www.baileigh.com/product-registration

To quickly reach the product registration webpage, scan the QR code below.

GENERAL NOTES

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

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

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

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

IMPORTANT

PLEASE READ THIS OPERATORS MANUAL CAREFULLY

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

SAFETY INSTRUCTIONS

LEARN TO RECOGNIZE SAFETY INFORMATION

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

Follow recommended precautions and safe operating practices.

UNDERSTAND SIGNAL WORDS

A signal word – **DANGER**, **WARNING**, or **CAUTION** – is used with the safety alert symbol. **NOTICE**, which is not related to personal injury, is used without a symbol.

DANGER: Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

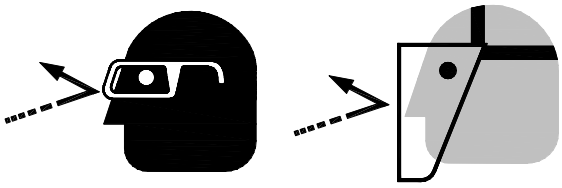
CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE: Indicates a situation which, if not avoided, could result in property damage.

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

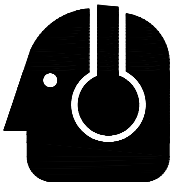
PROTECT EYES

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



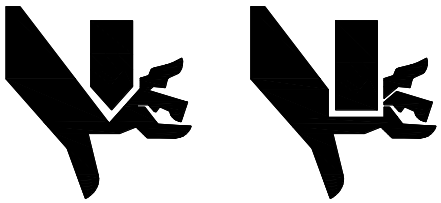
PROTECT AGAINST NOISE

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



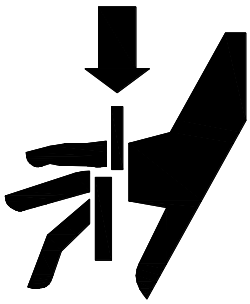
BEWARE OF SHEAR, PINCH, AND CRUSH HAZARD

NEVER place your hands, fingers, or any part of your body in the die area of this machine. Keep hands and fingers away from the shear blade and the punching and notching dies when the machine is in operation.



BEWARE OF SHEAR HAZARD

Keep hands and fingers clear from under the blade.
NEVER place your hand or any part of your body in this machine.



CALIFORNIA PROPOSITION 65

WARNING: Cancer and Reproductive Harm.
www.P65Warnings.ca.gov

SAFETY PRECAUTIONS

Metal working can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.
Safety equipment such as guards, hold-downs, safety glasses, dust masks and hearing protection can reduce your potential for injury. But even the best guard will not make up for poor judgment, carelessness or inattention. **Always use common sense** and exercise **caution** in the workshop. If a procedure feels dangerous, don't try it.
REMEMBER: Your personal safety is your responsibility.

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

Dear Valued Customer:

- All Baileigh machines should be used only for their intended use.
- Baileigh does not recommend or endorse making any modifications or alterations to a Baileigh machine. Modifications or alterations to a machine may pose a substantial risk of injury to the operator or others and may do substantial damage to the machine.
- Any modifications or alterations to a Baileigh machine will invalidate the machine's warranty.

PLEASE ENJOY YOUR BAILEIGH MACHINE! ....PLEASE ENJOY IT SAFELY!

1. **FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.** Learn the machine's application and limitations as well as the specific hazards.
2. **Only trained and qualified personnel can operate this machine.**
3. **Make sure guards are in place and in proper working order before operating machinery.**
4. **Remove any adjusting tools.** Before operating the machine, make sure any adjusting tools have been removed.
5. **Keep work area clean.** Cluttered areas invite injuries.
6. **Overloading machine.** By overloading the machine, you may cause injury from flying parts. **DO NOT** exceed the specified machine capacities.
7. **Dressing material edges.** Always chamfer and deburr all sharp edges.

8. **Do not force tool.** Your machine will do a better and safer job if used as intended. **DO NOT** use inappropriate attachments in an attempt to exceed the machine's rated capacity.
9. **Use the right tool for the job. DO NOT** attempt to force a small tool or attachment to do the work of a large industrial tool. **DO NOT** use a tool for a purpose for which it was not intended.
10. **Dress appropriately. DO NOT** wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.
11. **Use eye protection**. Always wear ISO approved protective eye wear when operating machinery. Wear a full-face shield if you are producing metal filings. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specification. Use of eye wear which does not comply with ANSI Z87.1 specification could result in severe injury from breakage of eye protection.
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 machine in damp or wet locations. Do not expose to rain. Keep work area well lighted.
16. **Blade adjustments and maintenance**. Always keep blades sharp and properly adjusted for optimum performance.
17. **Keep children away**. Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
18. Keep visitors a safe distance from the work area.
19. **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.
20. **DO NOT operate machine if under the influence of alcohol or drugs**. Read warning labels on prescriptions. If there is any doubt, **DO NOT** operate the machine.

TECHNICAL SPECIFICATIONS

Maximum Shear Length	52” (1321mm)
Maximum Material Thickness	16 ga. (1.52mm) mild steel* 20 ga. (.912mm) stainless steel**
Minimum Material Thickness	24 ga. (0.607mm)
Front Gate Length	20” (508mm)
Back Gate Length	33” (838mm)
Blade Angle	1° / 40ft (12.19 m)
Power Requirements	Manual
Shipping Dimensions (L x W x H)	66” x 30” x 46” (1676 x 762 x 1168mm)
Shipping Weight	1199 lbs. (544 kg)
Based on a material tensile strength of **100000 PSI – stainless steel	*65000 PSI – mild steel

TECHNICAL SUPPORT

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

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

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

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

UNPACKING AND CHECKING CONTENTS

Your Baileigh machine is shipped complete. Separate all parts from the packing material and check each item carefully. Make certain all items are accounted for before discarding any packing material.

⚠ WARNING: SUFFOCATION HAZARD! Immediately discard any plastic bags and packing materials to eliminate choking and suffocation hazards to children and animals.
If any parts are missing, DO NOT place the machine into service until the missing parts are obtained and installed correctly.

Cleaning

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

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

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

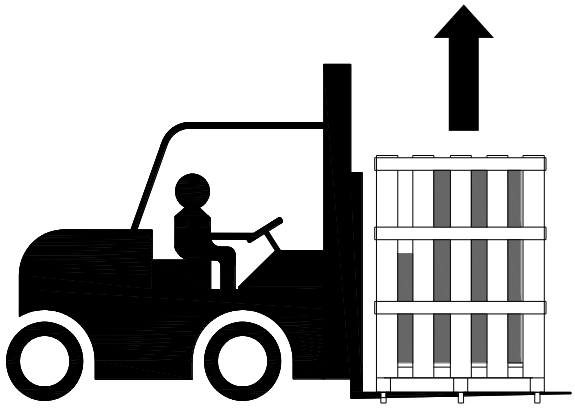
Important: *This waxy coating is **NOT** a lubricant and will cause the machine to stick and lose performance as the coating continues to dry.*

TRANSPORTING AND LIFTING

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

Follow these guidelines when lifting with truck or trolley:

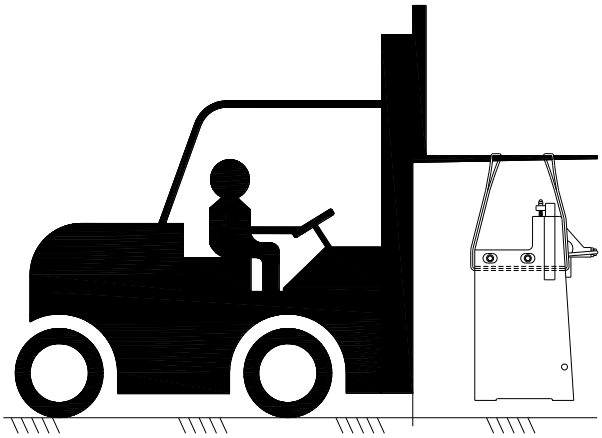
- The lift truck must be able to lift at least 1.5 – 2 times the machines gross weight.
- Make sure the machine is balanced. While transporting, avoid rough or jerky motion, and maintain a safe clearance zone around the transport area.
- Use a fork lift with sufficient lifting capacity and forks that are long enough to reach the complete width of the machine.
- Remove the securing bolts that attach the machine to the pallet.



- Approaching the machine from the side, lift the machine on the frame taking care that there are no cables or pipes in the area of the forks.
- Move the machine to the required position and lower gently to the floor.
- Level the machine so that all the supporting feet are taking the weight of the machine and no rocking is taking place.

Follow these guidelines when lifting crane or hoist:

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



INSTALLATION

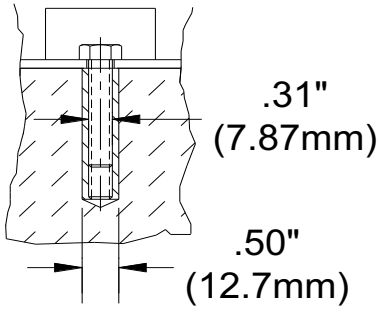
IMPORTANT:

Consider the following when looking for a suitable location to place the machine:

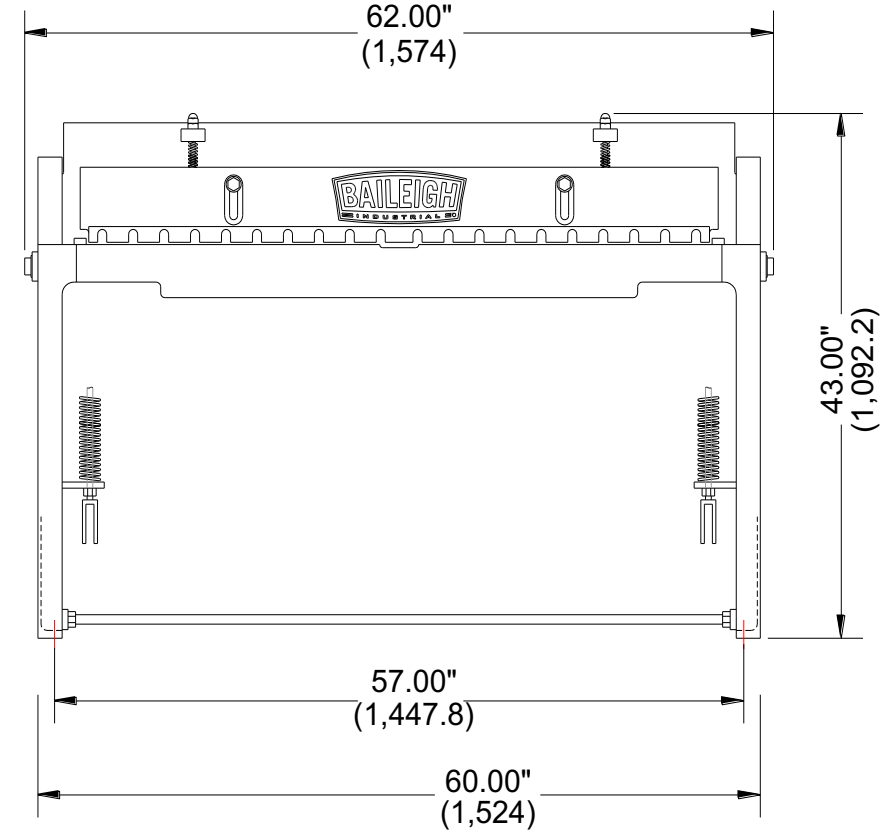
- Overall weight of the machine.
- Weight of material being processed.
- Sizes of material to be processed through the machine.
- Space needed for auxiliary stands, work tables, or other machinery.
- Clearance from walls and other obstacles.
- Maintain an adequate working area around the machine for 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.

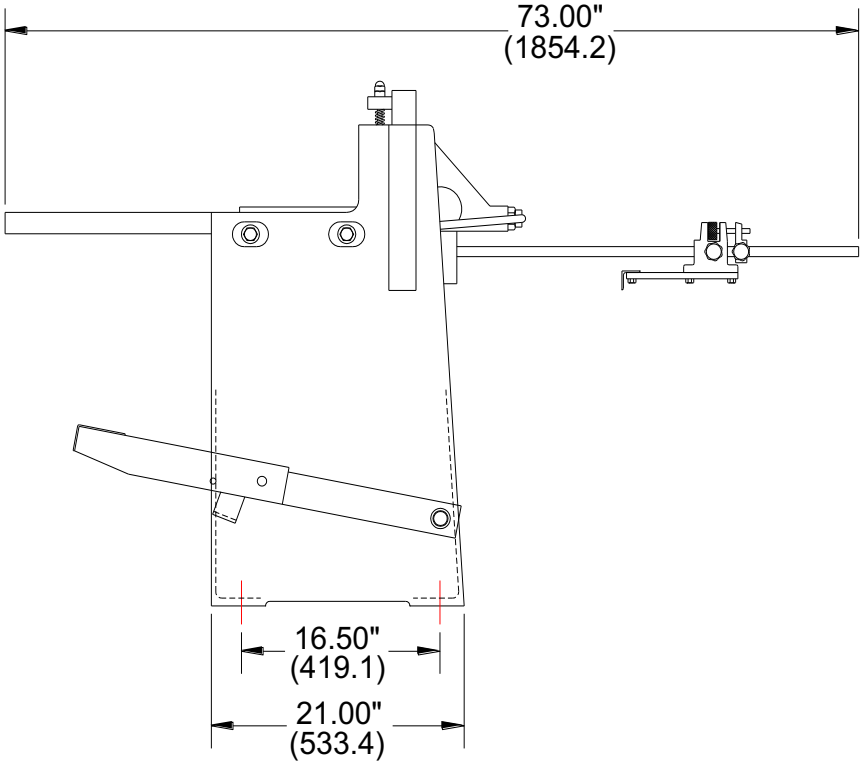
Anchoring the Machine

- Once positioned, anchor the machine to the floor, as shown in the diagram. Use bolts and expansion plugs or sunken tie rods that connect through and are sized for the holes in the base of the stand.
- This machine requires a solid floor such as concrete at a minimum of 4” (102mm) thick. 6” (153mm) minimum is preferred.

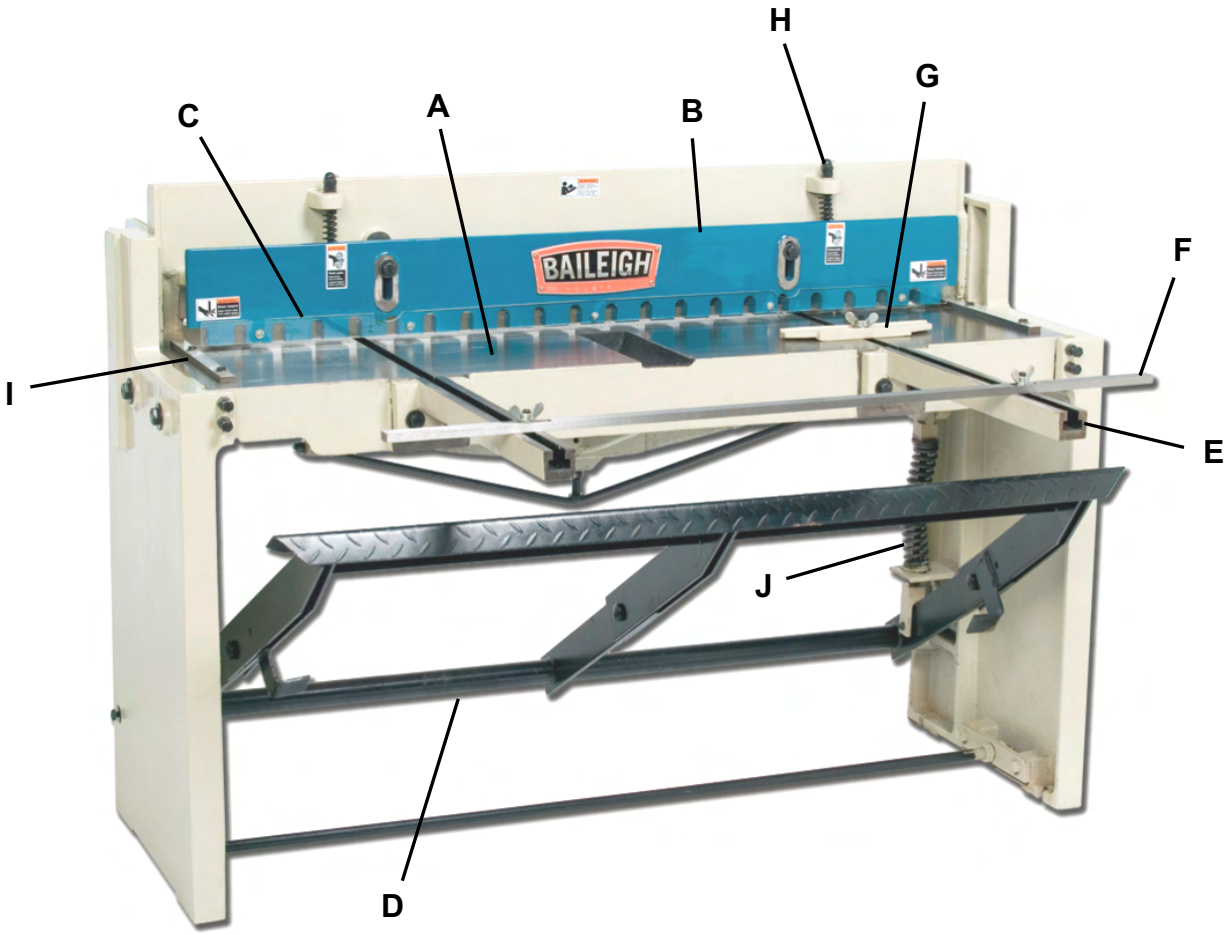


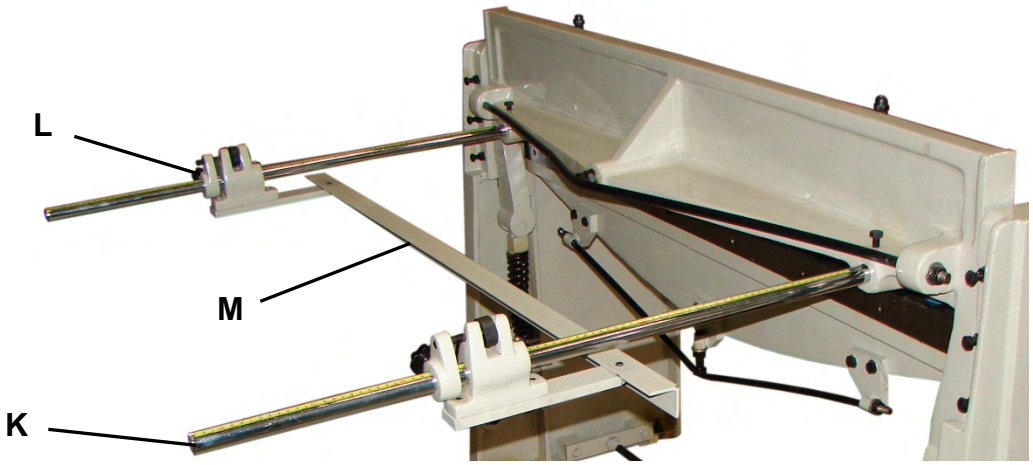
OVERALL DIMENSIONS





GETTING TO KNOW YOUR MACHINE

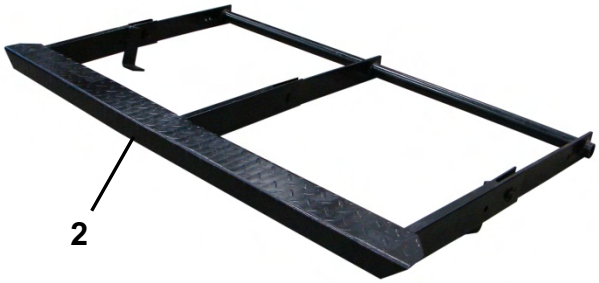


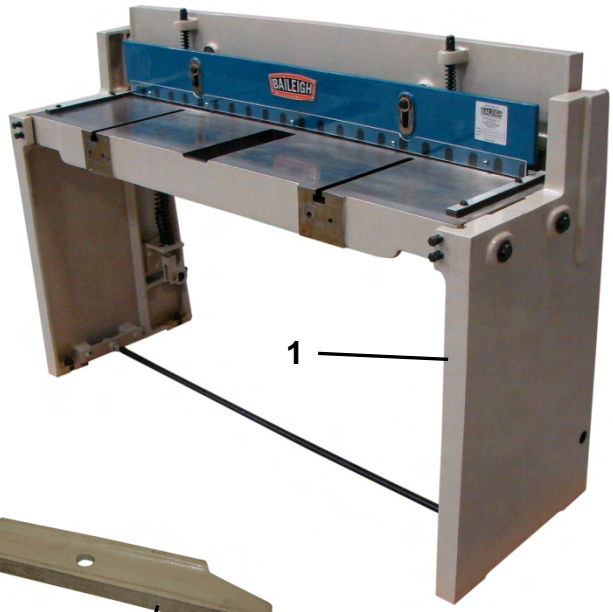


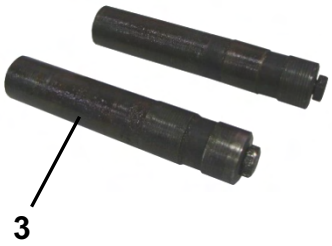
Back Side

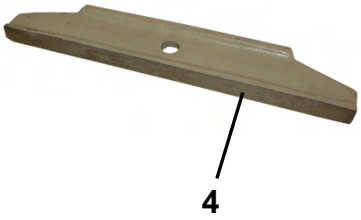
Item	Description	Function
A	Table	Machined surface for loading material
B	Hold down	Spring loaded bar to secure material
C	Safety shield	Clear plastic guard attached to hold down
D	Foot pedal	Used to lower the top blade for shearing
E	Front arm extensions	Provides material support at load end
F	Front Stop	Adjustable with T-slot
G	Miter guide	Use for angled cuts of smaller material
H	Hold down adjusting springs	Allows hold down to adjust to various heights
I	Graduated side guide	Keeps material square to the shear blade
J	Blade return spring	Dual springs to raise top blade to up position
K	Blade return spring	Used to support micro-adjust and back stop
L	Micro-adjuster	Use to accurately set back stop position
M	Back gauge stop	Set and use for repeat shearing

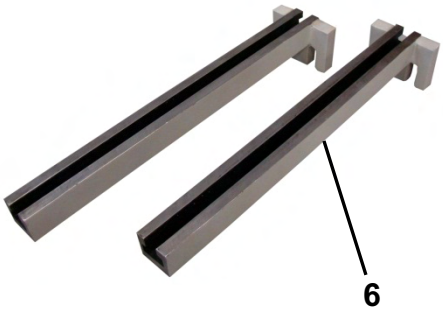
ASSEMBLY AND SET UP

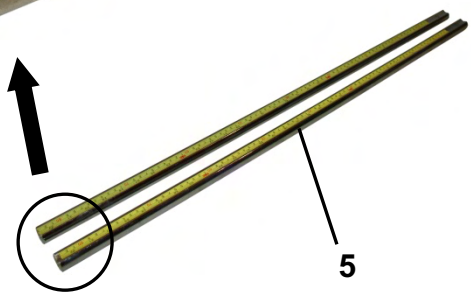


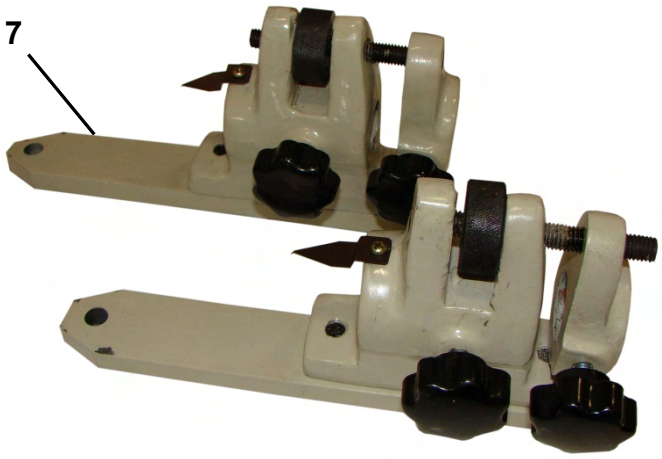






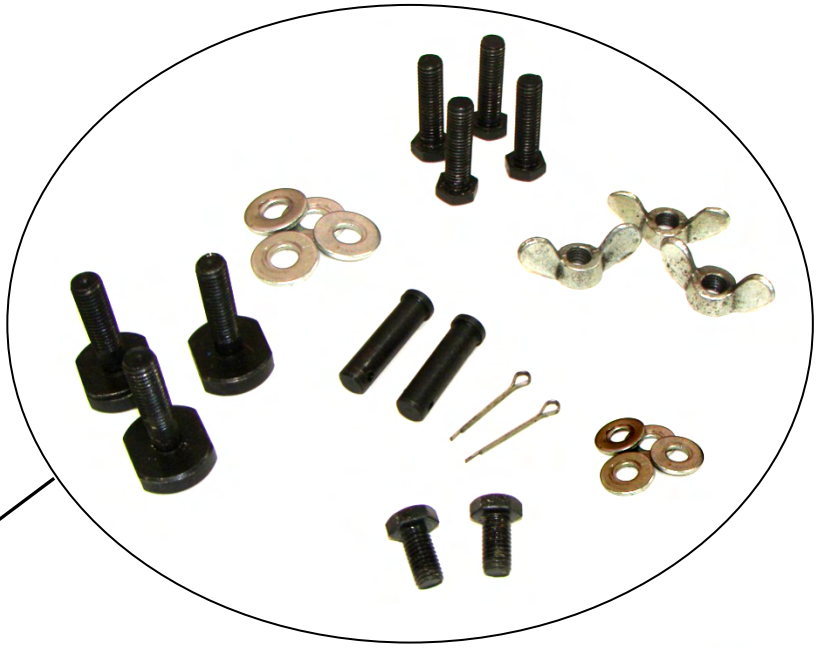


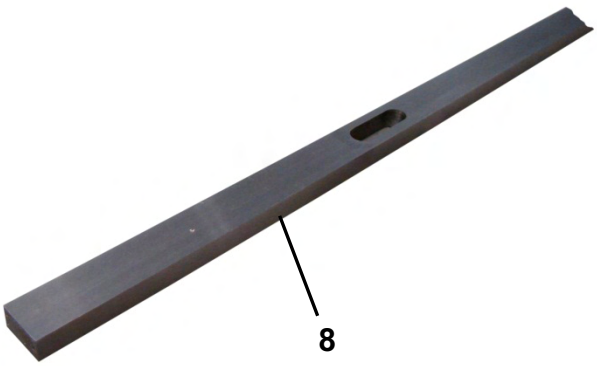


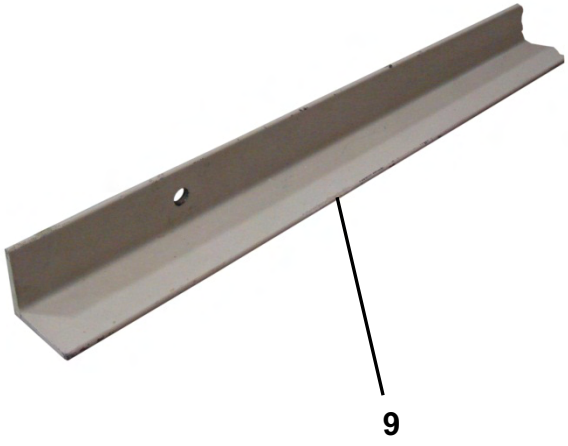


Spare clevis pin (long)

Spare clevis pin (short)







Item	Description	Qty.
1	Shear Body	1
2	Foot Pedal	1
3	Pedal Pivot Shaft	2
4	Miter Guide	1
5	Back Gauge Shaft	2
6	Front Arm Extensions	2
7	Micro adjuster Assembly	2
8	Front Stop	1
9	Back Gauge Stop	1
10	Hardware	1
	T-Bolt M12 Flat Washer M12 Wing Nut M12 Hex Head Bolt M12 x 45mm Hex Head Bolt M10 x 20mm Clevis Pin (short) Cotter Pin 3/32 x 1” (2.36 x 25.4mm)	3 8 3 4 2 1 2
Spare Parts		
	Clevis Pin (Long)	2
	Clevis Pin (short)	4
	Cotter Pin 3/32 x 1” (2.36 x 25.4mm)	4

Machine Assembly

The foot pedal needs to be attached to the shear frame. See (fig.3) below for the finished pedal assembly.

figure 3

Installation Procedure

1. Lay the pedal on the floor and insert (2) short clevis pins as indicated by the arrows in (fig. 4). Secure with cotter pins.
2. Move the pedal into position between the legs of the shear and attach to the yokes with short clevis pins as in (fig. 5). Secure with cotter pins.
3. Now line up the hole in the tube with the hole in the frame and insert the pivot pin. Do this on both ends of the pedal. Secure the pin with the hex capscrew.

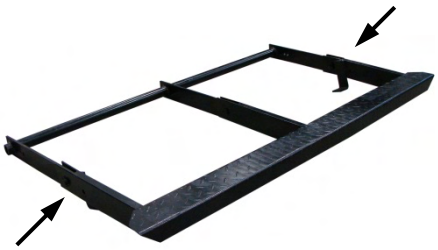


figure 4

***Note**: Grease the pins before inserting.*

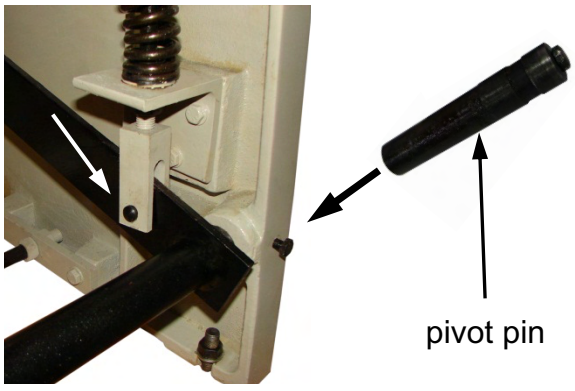


figure 5

Installing Front Extension Rails

1. Attach (4) M12 hex bolts and (4) flatwashers to the machined rail pads as in (fig. 6).
2. Slide the rail onto the capscrews and behind the flatwashers.
3. Line up the rail channel with the channel on the table, making sure the top machined surfaces are flush.
4. Tighten the capscrews making sure the rails stay aligned to the table.
5. Fig. 8 below shows the proper installation of the foot pedal, front rails, work stops, and small workpiece push plate (when needed).

figure 6

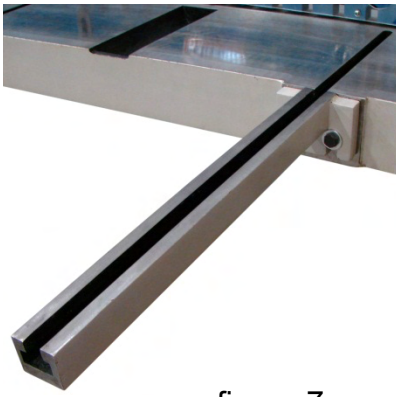


figure 7

figure 8

Installing the Rear Gauge Shafts

1. Slide the gauge shafts into the housing hole with the scales facing up and tighten each capscrew as shown in (fig. 9).
2. Slide the micro-adjustment assemblies onto the shafts and position them at the same location using the scales as a reference. Secure them to the shaft using the hand knobs.
3. Set the stop angle on the mounting bars and bolt up from the bottom (fig. 11).

figure 9

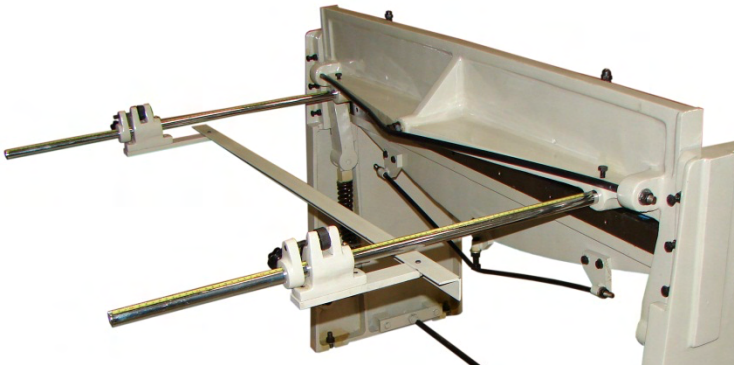


figure 10

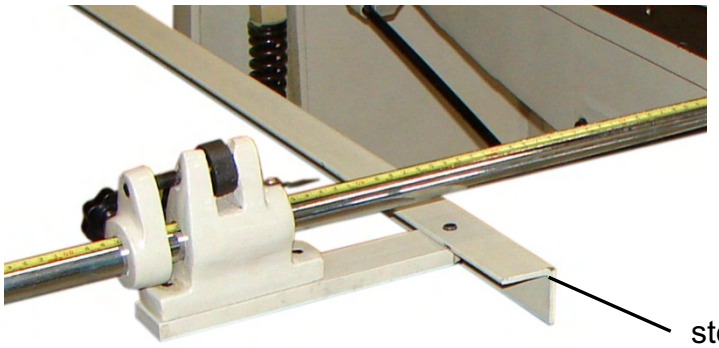


figure 11

MACHINE FUNCTIONS

Foot Pedal

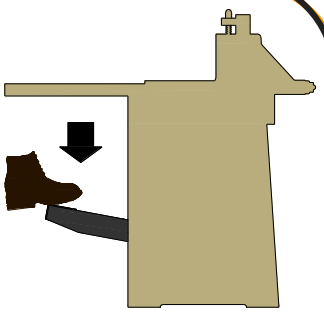


figure 12

Stepping down on the foot pedal does two things. First it lowers the hold downs which keep the piece part from moving during a cut. Second it lowers the top blade past the lower blade to shear the material.

Front and Rear Extension Rods

The front extensions help support large sheets of material and the rear extensions provide support for the micro-adjusters.

The Rear Stop Angle

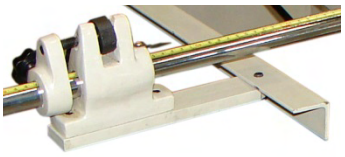


figure 13

When doing repetitive shearing the stop angle can be set at a precise dimension using the scales and the micro-adjusters. It also helps to keep the piece part aligned to the blades.

Stops and Guides

The front stop and small piece push plate are easily adjusted with wing nuts. The front stop bar is slotted which allows it to be positioned at an angle while in the T-slot. The push plate slides in either T-slot and can be rotated for angle shearing of smaller piece parts.

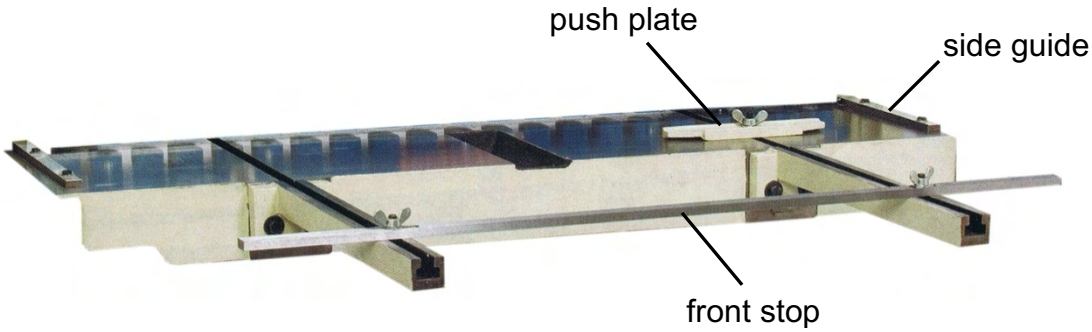


figure 14

Miter Angle Guide

To use the miter angle guide:

1. Loosen the wing nut.
2. Lay your piece part against the straight edge.
3. Position the miter guide at the angle and distance you required from the shear blades.
4. Make the cut.

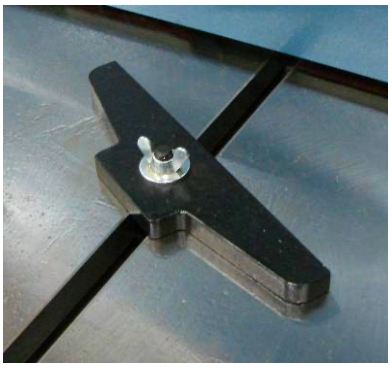


figure 15

Material Support Arm

CAUTION: When handling large piece parts, you may require assistance in handling the piece as it exits the blades. Failure to adequately support the piece part may result in the piece falling and causing bodily injury.

The two material support arms (**A**) attach to the front of the shear as shown in (fig. 16). Remove the capscrews and washers, Position each arm and secure with the washer and capscrew. (Make sure the arms are centered to the table slots and are flush with the top of the table.) The front gauge (**H**) can now be inserted in the arm slots.

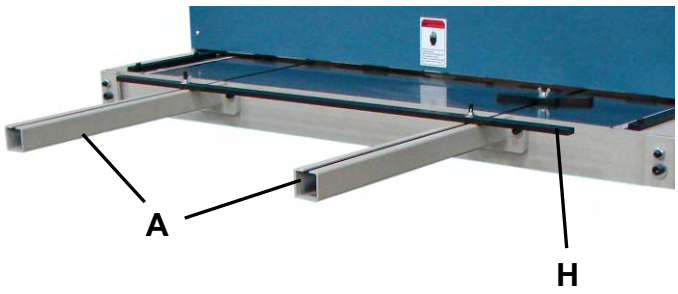


figure 16

Micro-Adjusting Stop

These adjustable stops allow for accurate placement of the stop angle. Set the stop close to where you need to be on the graduated scale. Finger tighten knob “A” to secure the back housing to the shaft. Make sure knob “B” is loose. Turn the thumb wheel to position the front half of the housing which has the indicator. Turn knob “B” (**cw**) clockwise to hold in position. Repeat for the other side.

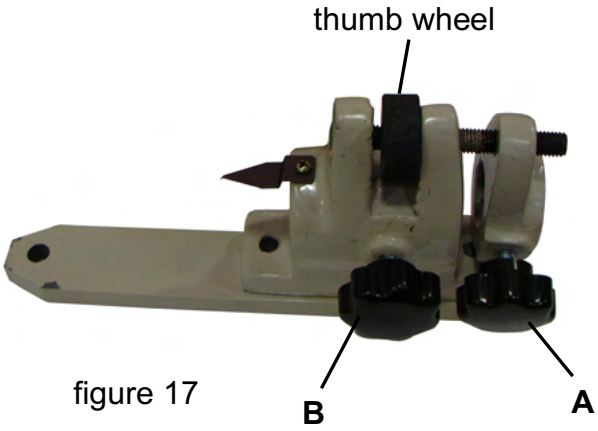


figure 17

Note: *When using for the first time, verify the dimension “X” from the face of the lower blade to the front edge of the stop angle. See (fig. 18).*

It should match the dimension shown on the scale indicator. If not, re-adjust the position of the gauge shafts in the mounting holes, either IN or OUT. Retighten the hex bolts.

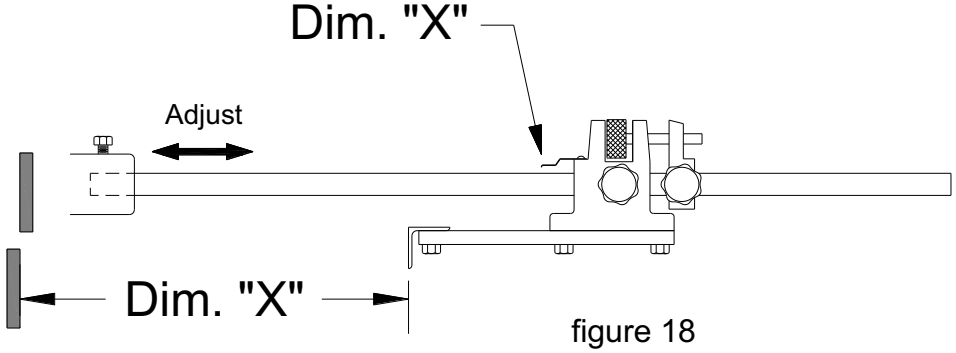


figure 18

THE SHEARING CYCLE

⚠ WARNING: Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges.
The shearing blade poses an amputation hazard. Make sure no body part or clothing is near the specific hazard. Failure to follow this warning could result in severed or crushed fingers.

⚠ WARNING: DO NOT remove the clear plastic finger guard under any circumstances. It is provided to keep your fingers away from the blades.
NEVER put any part of your body under or behind this guard and in the path of the hold downs which can crush.

1. When planning your cut, either scribes a line on the material or use the side scale which measures the distance to the blade.
2. The scale is graduated in both inches and millimeters.
3. Place the piece part on the table top and slide over to the right guide bar. Align the scribed line with the edge of the lower blade.
4. Step down on the foot pedal until the cut has been completed.
5. If you are making multiple pieces of the same length, set the rear stop to the needed length. Each consecutive piece is then pushed up to the stop angle and sheared.
6. If the material exceeds the length of the extension arms, be sure and provide additional support.

Shearing Tips

- To achieve the best results, never shear a piece narrower than 8 times the thickness of the material. An example would be a 1/2” (12.7mm) strip of 16 ga. (.059”) (1.5mm) mild steel.
- Keep the blade gap as narrow as possible. The blade gap is the space between the blades passing each other during a stroke. Tighter blade gaps cut material without rolling it over. Using a blade gap too narrow for thicker material prevents the material from moving between the blades and stalls the cut. On the other hand, a gap too wide will cause the material to fold over. The wide gap for thinner material does not set the blades close enough to cleanly cut the material.

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.

Material Equivalency Chart

	16 Ga.	18 Ga.	20 Ga.
Mild Steel	.060" (1.52mm)	.048" (1.22mm)	.036" (.91mm)
Stainless Steel	—	—	.031" (.78mm)
Cold Rolled Steel	.048" (1.22mm)	.035" (.89mm)	.030" (.76mm)
Aluminum	.100" (2.54mm)	.090" (2.28mm)	.063" (1.60mm)
Soft Brass	.072" (1.83mm)	.064" (1.63mm)	.051" (1.29mm)
Half Hard Brass	.064" (1.62mm)	.051" (1.29mm)	.036" (.91mm)
Hard Brass	.054" (1.37mm)	.051" (1.29mm)	.036" (.91mm)
Bronze, Annealed	.064" (1.62mm)	.051" (1.29mm)	.040" (1.02mm)
Soft Copper	.072" (1.83mm)	.064" (1.62mm)	.051" (1.29mm)
Hard Copper	.064" (1.62mm)	.051" (1.29mm)	.040" (1.02mm)

BLADE CLEARANCE

The blade gap on the shear was set at the factory. At this setting it will shear mild steel up to 16 ga. (1.52mm) and stainless steel up to 20 ga. (.912mm). To measure the blade gap, gradually lower the top blade and measure the gap going from left to right while facing the rear of the machine. The gap should be .005" (.12mm) with the blades perfectly parallel all the way across the cutting edges. The chart below shows the suggested blade clearances with .005" (.13mm) as the average between .002" (.05mm) and .009" (.23mm).

SUGGESTED BLADE CLEARANCE	
METAL THICKNESS	BLADE CLEARANCE
Up to 16 ga	.002" - .005" (.05mm - .13mm)
14 ga.	.003" - .006" (.07mm - .15mm)
12 ga.	.004" - .008" (.10mm - .20mm)
10 ga.	.006" - .009" (.15mm - .23mm)

Under no circumstances do you want the blades making contact with each other as this can cause blade breakage as well as premature dulling of the cutting edges.

SHEARING STRENGTH OF MATERIALS		
MATERIAL	TONS/SQ. IN.	FACTOR
Mild Steel (.25 Carbon)	25	1.00
Mild Steel (.50 Carbon)	30	0.83
Stainless Steel	38	0.65
Boiler Plate	30	0.83
Spring Steel (1.99 Carbon)	42	0.60
Tool Steel - Not Tempered (1.20 Carbon)	45	0.56
Tool Steel - Tempered (1.20 Carbon)	95	0.26
Nickel Steel (0.5% Nickel)	41	0.61
Aluminum Sheet	10	2.50
Brass	13	1.92
Copper	12.5	2.00
Lead	1.5	16.67
Tin - Coated Sheet Steel	25	1.00
Zinc	8.5	2.94
Galvanized Steel Sheet	25	1.00

***Note**: **How to use this table:** The shear is rated 16 ga. (.0598") in mild steel. What thickness can it cut of other materials?*
(0598) x (material factor) = materials thickness.

SETUP AND ADJUSTMENTS

Hold down Adjustment

The hold down, when properly adjusted, secures the piece part while being sheared, and prevents the operator's fingers from getting in the cutting blades path. The ideal adjustment allows only enough clearance to slide the piece part under the hold down. (Approximately .125" (3.17mm).

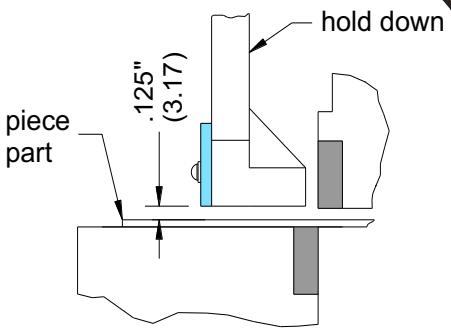


figure 17

1. Turn the hex nuts on the spring's clockwise (**cw**) to raise the hold down plate.

Note: The fixing bolt must be loose enough to allow the hold down plate to travel up and down freely.

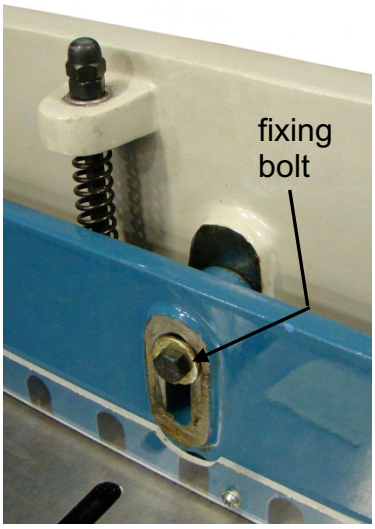


figure 18

2. Insert adequate shim stock under the hold down. Turn the nuts on the spring counterclockwise (**ccw**) until the hold down rests on the shim.
3. Repeat step 2 for the other side.
4. Check that the gap distance is equal end to end.

***Note**: If material scratching is a problem you can apply a thin rubber pad to the bottom of the hold down feet.*

Gib Adjustment

The gib adjustment is to remove unwanted slide movement and eliminate binding. Loose gibs can cause poor cuts on the piece part and unnecessary wear on the slides. Over tightening them can cause unnecessary wear of the slides and difficulty in lowering the foot pedal.

Loosen the jam nuts and tighten each gib bolt until snug. Now back off each bolt about 1/8 turn and retighten the jam nuts. Check for binding by pushing and pulling on the top of the cutting frame.

figure 19

Adjusting the Blade

The blade adjustment was set at the factory. Try a few test cuts to see if it is adequate for your needs. Follow the procedure that follows if an adjustment is required.

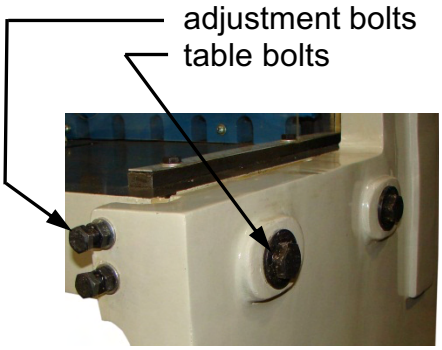


figure 20

1. Loosen, but do not remove the four table adjustment bolts, located at the front of the shear, and the four table slide bolts located at each end of the shear.
2. Have an assistant step on the foot pedal to lower the blade into position.
3. Turn the table adjustment screws to move the table with the fixed blade either in or out until it makes light contact with the upper moving blade.

⚠ CAUTION: To avoid blade damage, the upper (moving) blade must NEVER overlap the lower (fixed) blade.

4. With the upper blade still in the down position, look down at the blades from behind the hold down. They should be parallel and make light contact across the full length. If they do, proceed to step 5. If you notice a gap between the two blade surfaces, contact the service department at Baileigh Industrial (920.684.4990) for assistance in adjusting the bow.
5. Using a sheet of paper, make a series of cuts along the length of the blade. The paper should cut cleanly.
6. Turn the table adjustment screws counterclockwise (**ccw**) to move the fixed blade away from the moving blade. Using a feeler gauge set the gap to .002” (.051mm).
7. Check the .002” (.051mm) gap along the entire length.
8. Tighten the four table bolts and recheck the gap.

Blade Replacement and Sharpening

To remove either blade from the casting you must loosen and remove the cap screws and washers. The upper (moving) blade has two cutting edges each with a 2° edge relief. The blade can be sharpened by surface grinding both wide sides. The lower (fixed) blade has one cutting edge with a 2° edge relief and a 1° face relief. It can be sharpened by surface grinding the wide side of the blade.

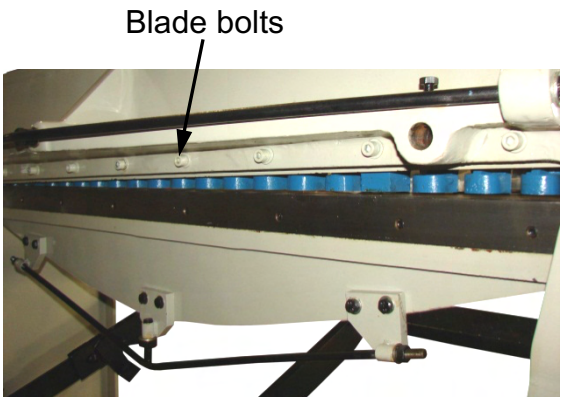


figure 21

LUBRICATION AND MAINTENANCE

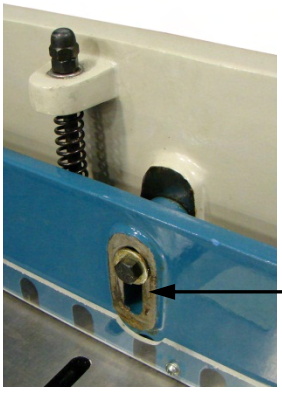
⚠ WARNING: Maintenance should be performed on a regular basis by qualified personnel.
Always follow proper safety precautions when working on or around any machinery.

Daily Maintenance

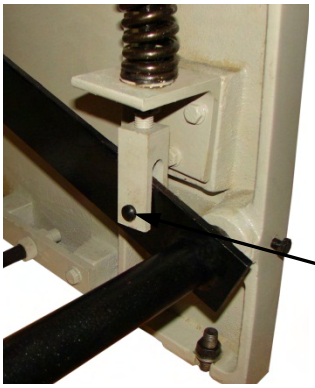
- Check daily for any unsafe conditions and fix immediately. (Cracked castings, welds, worn pins and shafts)
- Check that all bolts and nuts are secure.
- Keep area around machine clear of debris.

Weekly Maintenance

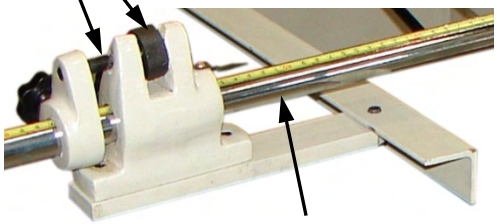
- Clean the machine and the area around it.
- Apply rust inhibitive lubricant to all non-painted surfaces.
- Keep threads, T-slots, shafts, and pivot pins properly lubricated.
- Keep guards attached and in good working order.
- Make sure grease fitting locations are kept lubricated.
- Check back gauge components for lubrication.



Grease

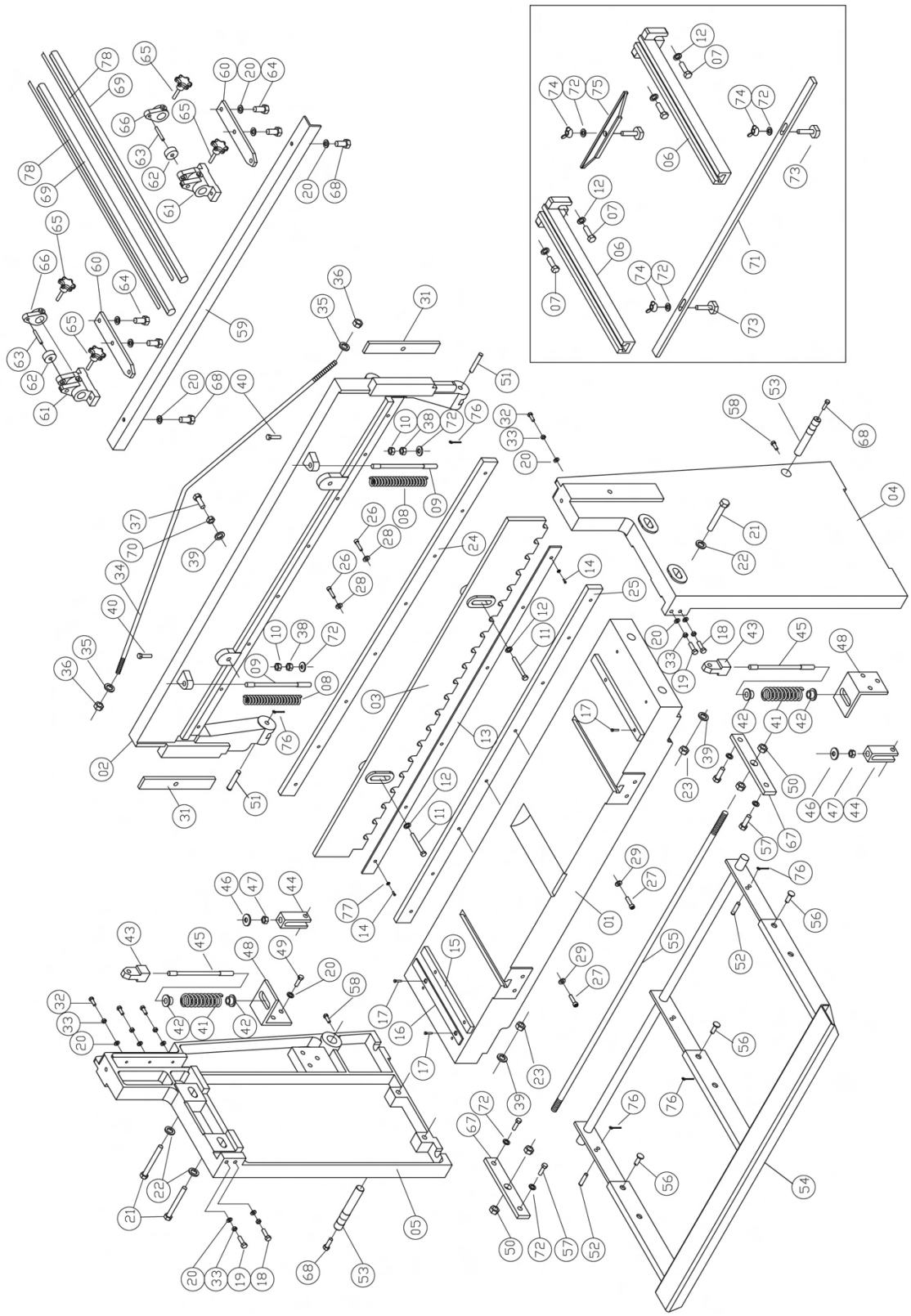


Oil



Wipe down with lubricant

PARTS IDENTIFICATION DRAWING



Parts List

Item	Part No.	Description	Size	Qty
1	SF5216E-1	Work Table		1
2	SF5216E-2	Frame		1
3	SF5216E-3	Pressing Plate		1
4	SF5216E-4	Right Stand		1
5	SF5216E-5	Left Stand		1
6	SF5216E-6	Connecting Rod		2
7	TS-1492021	Hex Cap Screw	M12X30	2
8	SF5216E-8	Spring		2
9	SF5216E-9	Threaded Stud		2
10	TS-2331121	Acorn Nut	M12P1.75	2
11	TS-1499141	Hex Cap Screw	M12X80	2
12	SF5216E-12	Flat Washer	M12	6
13	SF5216E-13	Finger Guard		1
14	TS-1534052	MACH Screw, Pan HD, Phillips	M6X15	5
15	SF5216E-15	Workpiece Stop		2
16	SF5216E-16	Scale		2
17	TS-1490041	Hex Cap Screw	M8X25	4
18	TS-1491101	Hex Cap Screw	M10X60	2
19	F2210551	Hex Cap Screw	M10X55	2
20	TS-2360103	Flat washer	M10	22
21	F22161201	Hex Cap Screw	M16X120	4
22	F2360164	Flat Washer	M16	4
23	F2310164	Hex Nut	M16P2.0	4
24	SF5216E-24	Upper Blade		1
25	SF5216E-25	Lower Blade		1
26	TS-1505071	Socket Head Cap Screw	M10X45	9
27	TS-1505081	Socket Head Cap Screw	M10X50	8
28	TS-2360103	Flat Washer	M10	9
29	TS-2360063	Flat Washer	M6	8
31	SF5216E-31	Gib Plate		2
32	TS-1491101	Hex Cap Screw	M10X60	6
33	TS-2310104	Hex Nut	M10P1.5	10
34	SF5216E-34	Straightener Rod		1

Item	Part No.	Description	Size	Qty
35	TS-155009	Flat Washer	M14	2
36	TS-154009	Hex Nut	M14P2.0	2
37	SF5216E-37	Adjusting Bolt	M16X60	1
38	TS-1540081	Hex Nut	M12P1.75	2
39	F2360164	Flat Washer	M16	1
40	F2210404	Hex Cap Screw	M10X40	2
41	SF5216E-41	Spring		2
42	SF5216E-42	Spring seat		4
43	SF5216E-43	Upper Connecting Block		2
44	SF5216E-44	Lower Connecting Block		2
45	SF5216E-45	Threaded Stud		2
46	F2360164	Flat Washer	M16	2
47	SF5216E-47	Hex Nut M16		2
48	SF5216E-48	Connecting Angle		2
49	TS-1491031	Hex Cap Screw	M10X25	6
50	TS-2310201	Hex Nut	M20P2.5	4
51	SF5216E-51	Upper Pin		2
52	SF5216E-52	Lower Pin		2
53	SF5216E-53	Foot Stand Pin		2
54	SF5216E-54	Foot Stand Frame		1
55	SF5216E-55	Draw bar		1
56	SF5216E-56	Upper Pin		3
57	TS-1492011	Hex Cap Screw	M12X25	4
58	TS-1492011	Hex Cap Screw	M12X25	2
59	SF5216E-59	Stop Angle		1
60	SF5216E-60	Mounting Bar		2
61	SF5216E-61	Adjustment Housing		2
62	SF5216E-62	Adjusting Nut		2
63	SF5216E-63	Threaded Shaft		2
64	TS-1491041	Hex Cap Screw	M10X30	2
65	SF5216E-65	Hand Knob		4
66	SF5216E-66	Fine Adjustment Housing		2
67	SF5216E-67	Straightener Rod		2
68	TS-1491021	Hex Cap Screw	M10X20	4
69	SF5216E-69	Gauge Shaft		2

Item	Part No.	Description	Size	Qty
70	F2310164	Hex Nut	M16P2.0	1
71	SF5216E-71	Workpiece Pushing Plate		1
72	TS-2360123	Flat Washer	M12	9
73	SF5216E-73	T-Style Bolt		3
74	SF5216E-74	Wing Nut M12		3
75	SF5216E-75	Small Workpiece Push Plate		1
76	TS-0341051	Cotter Pin	3X30	10
77	TS-2360063	Flat Washer	M6	2
78	SF5216E-78	Straightener Center Bracket		1

TROUBLESHOOTING

FAULT	PROBABLE CAUSE	REMEDY
CUTS NOT SQUARE	Contact with guides is uneven. Not enough hold down force. Blade gap is unequal along length. Blade has a bow.	Check and maintain consistency. Adjust hold down gap. Adjust blade gap. Consult the Baileigh service department. (920.684.4990)
CAN NOT CUT MATERIAL	Improper blade gap. Material thickness beyond machine capacity.	Widen gap for thicker material. Stay within machine capabilities.
POOR QUALITY SHEARING	Blades are dull. Blade gap not set properly. Gibs are loose.	Either sharpen blades or replace them. Check and reset gap. Adjust gib bolts.

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