



OPERATOR'S MANUAL

Metal Working



SEMI-AUTOMATIC HORIZONTAL BAND SAW MODEL: BS-360SA

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Table of Contents

THANK YOU & WARRANTY	1
INTRODUCTION.....	3
GENERAL NOTES.....	3
SAFETY INSTRUCTIONS	4
SAFETY PRECAUTIONS	6
Dear Valued Customer:.....	6
TECHNICAL SPECIFICATIONS.....	9
TECHNICAL SUPPORT	9
UNPACKING AND CHECKING CONTENTS.....	10
TRANSPORTING AND LIFTING	11
INSTALLATION.....	12
Anchoring the Machine.....	13
ASSEMBLY AND SET UP	14
ELECTRICAL.....	15
DESCRIPTION OF MACHINE PARTS	17
Control Panel.....	17
Saw Bow	18
Base	18
Work Light	18
Saw Bow Up and Down Limit Switches	18
Cover Limit Switch.....	19
Blade Broken Limit Switch.....	19
Chip Brush.....	19
Vise	19
Vertical Vise.....	20
COMPONENT OPERATION SET-UP.....	20
Using the Vise	20
Adjusting Blade Speed	21
Adjusting Feed Rate	21
Guidepost Positioning.....	22
Setting the Height Limit	22
BEFORE EACH USE	23
Whenever Saw is Running	23
OPERATION.....	24
MATERIAL SELECTION.....	25
MAINTENANCE AND ADJUSTMENTS	26
Thrust Roller Adjustment	26
Guide Roller Adjustment.....	26
Blade Tracking Adjustment.....	27
Changing the Blade	28
Breaking in a Band Saw Blade	30
Metal Chip Indicators.....	30



Blade Terminology.....	31
Width of Blade	31
Length of Blade	31
Blade structure	32
Blade type	32
SETS	33
BLADE CARE	34
CHOOSING A SAW BLADE	34
BLADE BREAKAGE.....	36
LUBRICATION AND MAINTENANCE	37
Lubricating Coolant.....	38
Accessing and Cleaning the Coolant System	38
Hydraulic Oil	39
Changing Gear Oil.....	39
PARTS DIAGRAM – BASE - A	40
Parts List – Base - A.....	41
PARTS DIAGRAM – BOW - B	46
Parts List – Bow - B.....	47
PARTS DIAGRAM – ELECTRICAL - C.....	53
Parts List – Electrical - C	54
ELECTRICAL SCHEMATIC.....	55
HYDRAULIC SCHEMATIC	57



THANK YOU & WARRANTY

Thank you for your purchase of a machine from Baileigh Industrial Holdings LLC. 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, (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 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 Holdings LLC 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 Holdings LLC reserves the right to make any and all changes deemed necessary in the course of business including but not limited to pricing, product specifications, quantities, and product availability.

For Customer Service & Technical Support:

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



INTRODUCTION

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

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

In this manual you will find: (when applicable)

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

GENERAL NOTES

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

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

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



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



IMPORTANT

PLEASE READ THIS OPERATORS MANUAL CAREFULLY

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



SAFETY INSTRUCTIONS

LEARN TO RECOGNIZE SAFETY INFORMATION

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



Follow recommended precautions and safe operating practices.

UNDERSTAND SIGNAL WORDS

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

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

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

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

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

DANGER

WARNING

CAUTION

NOTICE

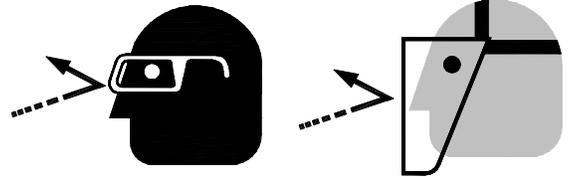


SAVE THESE INSTRUCTIONS.
Refer to them often and use them to instruct others.



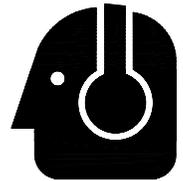
PROTECT EYES

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



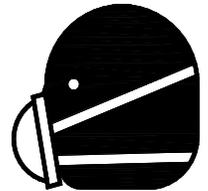
PROTECT AGAINST NOISE

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.



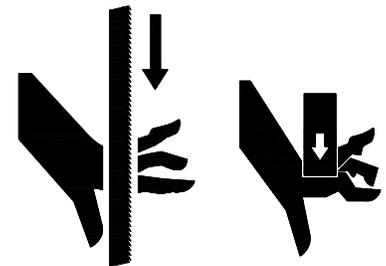
DUST HAZARD

Wear appropriate dust mask. Dust created while using machinery can cause cancer, birth defects, and long-term respiratory damage. Be aware of the dust hazards associated with all types of materials.



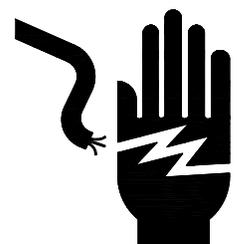
BEWARE OF CUT AND PINCH POINTS

Moving saw blade may result in loss of fingers or limb. **DO NOT** operate with guard removed. **Follow lockout/tagout procedures before servicing.**



HIGH VOLTAGE

USE CAUTION IN HIGH VOLTAGE AREAS. DO NOT assume the power to be off.
FOLLOW PROPER LOCKOUT PROCEDURES.





Power Switch with Lock Out

In the event of incorrect operation or dangerous conditions, the machine can be stopped immediately by pressing the Power Switch paddle downward. Remove the yellow lock key to prevent the machine from starting.



Note: Resetting the Power Switch WILL start the 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. **Blade adjustments and maintenance.** Always keep blades sharp and properly adjusted for optimum performance.
9. **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.
10. **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.
11. **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.
12. **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.
13. **Do not overreach.** Maintain proper footing and balance at all times. **DO NOT** reach over or across a running machine.
14. **Stay alert.** Watch what you are doing and use common sense. **DO NOT** operate any tool or machine when you are tired.



15. **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.
16. **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.
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.
21. **Turn off** power before checking, cleaning, or replacing any parts.
22. Be sure **all** equipment is properly installed and grounded according to national, state, and local codes.
23. Keep **all** cords dry, free from grease and oil, and protected from sparks and hot metal.
24. Inspect power and control cables periodically. Replace if damaged or bare wires are exposed. **Bare wiring can kill! DO NOT** touch live electrical components or parts.
25. **DO NOT** bypass or defeat any safety interlock systems.
26. Learn the function and controls. Know the location of the **ON - OFF** switch and the “**E**”-**STOP** button.



TECHNICAL SPECIFICATIONS

Capacity Rectangular 90°	14.17" x 22" (360 x 560mm)
Capacity Round 90°	14.17" (360mm)
Capacity Square 90°	14.17" (360mm)
Return	Hydraulic
Table Height	29.21" (742mm)
Miter Angle	N.A.
Blade Size (H x T x L)	1.34" x .043" x 192.1" (34 x 1.1 x 4880mm)
Blade Speed	76.4 – 252.7fpm (23 – 77mpm) Variable
Blade Guide	Carbide, Roller
Descent Control	Pressure Assist Hydraulic
Drive	Belt and Pulley
Noise Level (Cutting Mild Steel)	73db
Hydraulic Tank Capacity	8.1gal. (31L)
Coolant Tank Capacity	21gal. (80L)
Power	220V, 3ph, 60hz
Blade Motor	5hp (3.7kw) / 220V / 3ph / 60hz / 14A
Hydraulic Motor	1hp (.75kw) / 220V / 3ph / 60hz / 3.5A
Coolant Pump	1/8hp (.09kw) / 220V / 3ph / 60hz / 1A
Net Weight	2271lbs. (1030kg)
Shipping Weight	2513lbs. (1140kg)
Shipping Dimensions (L x W x H)	98.5" x 30" x 73.25" (2500 x 760 x 1860mm)

TECHNICAL SUPPORT

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

For specific application needs or future machine purchases contact the Sales Department at: sales@baileigh.com, 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.



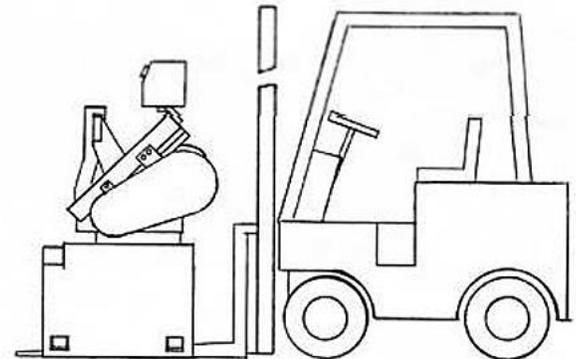
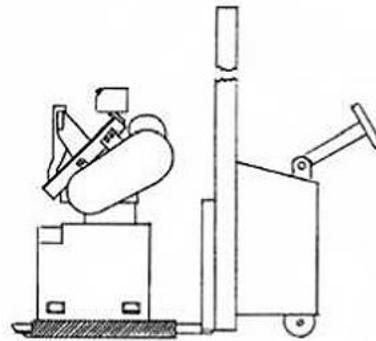


TRANSPORTING AND LIFTING

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 forklift with sufficient lifting capacity and forks that are long enough to reach the complete width of the machine.
- Remove the securing bolts that attach the machine to the pallet.
- Approaching the machine from the side, lift the machine on the frame taking care that there are no cables or pipes in the area of the forks.
- Move the machine to the required position and lower gently to the floor.
- Level the machine so that all the supporting feet are taking the weight of the machine and no rocking is taking place.



Follow these guidelines when lifting crane or hoist:

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



INSTALLATION

IMPORTANT:

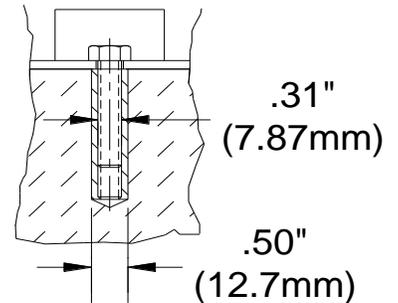
Consider the following when looking for a suitable location to place the machine:

- Overall weight of the machine.
- Weight of material being processed.
- Sizes of material to be processed through the machine.
- Space needed for auxiliary stands, worktables, or other machinery.
- Clearance from walls and other obstacles.
- Maintain an adequate working area around the machine for safety.
- Have the work area well illuminated with proper lighting.
- Keep the floor free of oil and make sure it is not slippery.
- Remove scrap and waste materials regularly, and make sure the work area is free from obstructing objects.
- If long lengths of material are to be fed into the machine, make sure that they will not extend into any aisles.
- **LEVELING:** The machine should be sited on a level, concrete floor. Provisions for securing it should be in position prior to placing the machine. The accuracy of any machine depends on the precise placement of it to the mounting surface.
- **FLOOR:** This machine distributes a large amount of weight over a small area. Make certain that the floor is capable of supporting the weight of the machine, work stock, and the operator. The floor should also be a level surface. If the unit wobbles or rocks once in place, be sure to eliminate by using shims.
- **WORKING CLEARANCES:** Take into consideration the size of the material to be processed. Make sure that you allow enough space for you to operate the machine freely.
- **POWER SUPPLY PLACEMENT:** The power supply should be located close enough to the machine so that the power cord is not in an area where it would cause a tripping hazard. Be sure to observe all electrical codes if installing new circuits and/or outlets.



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.



Tank Filling

The hydraulic oil is the primary medium for transmitting pressure and also must lubricate the running parts of the pump.

After installation of the machine and before machine startup, bring the oil level up to 90% of capacity. Refer to any labels or marking affixed to the outside of the machine, If none exist, use SHELL BRAND #46 or #68 hydraulic oil or an equivalent with similar specifications. (Based upon location temperature and availability.)

Verify that any cylinder rams are in the retracted position to prevent overfilling of the tank. Recheck the oil level after the first few hours of operation and again after the first full week of operation.

A shortage of hydraulic oil can cause hydraulic system breakdown and damage to major mechanical parts due to overheating.

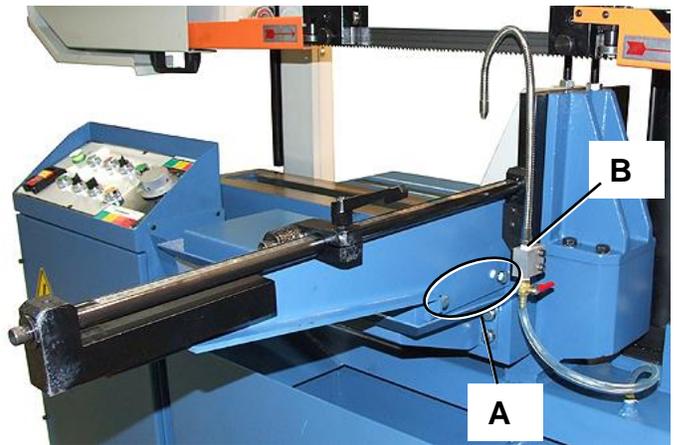


ASSEMBLY AND SET UP

⚠ WARNING: For your own safety, **DO NOT** connect the machine to the power source until the machine is completely assembled and you read and understand the entire instruction manual.

The stop rod assembly, coolant nozzle, and vertical coolant tray are removed for shipping. Install these items after installation of the machine is complete.

1. Using the two cap screws (A) provided, attach the stop rod assembly to the mounting plate and fully tighten the screws.
2. Loosen the handle and adjust the position of the stop rod to be clear of the blade and vise clamp. Setting the specific cut length will occur later prior to actual cutting operations.
3. Using the two cap screws provided, attach the coolant nozzle and valve assembly (B) to the mounting bracket on the stop assembly. Direct the nozzle toward the cut point and clear of the blade. Specific positioning will occur later as needed during actual cutting operations.
4. Insert the coolant tray onto the machine base on the right side and tighten two thumb knobs to secure it.
5. Remove the back cover and check that the hydraulic oil is up to the full mark on the sight gauge. Add as needed. See Hydraulic Oil in the maintenance section for instructions.
6. Check the sight glass on the gear box and check that the oil is in the middle of the sight class. Add as needed. See Changing Gear Oil in the maintenance section for instructions.





ELECTRICAL

⚠ WARNING: Baileigh Industrial Holdings LLC is not responsible for any damage caused by wiring up to an alternative 3-phase power source other than direct 3-phase. If you are using an alternate power source, consult a certified electrician or contact Baileigh Industrial Holdings LLC prior to energizing the machine.

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

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

Power Specifications

Your machine is wired for 220 volts, 60hz alternating current. Before connecting the machine to the power source, make sure the power source is OFF.

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

Considerations

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



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

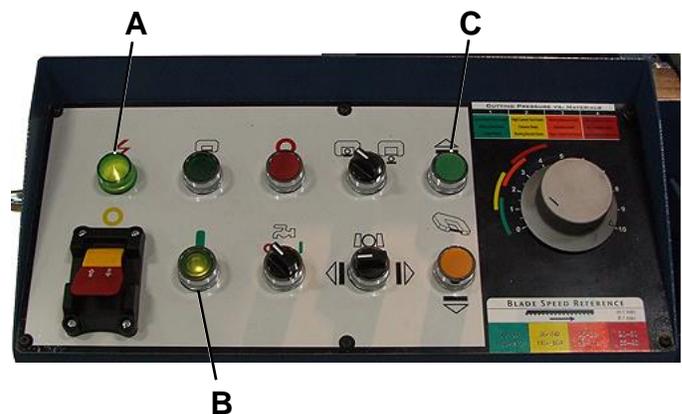
- Improper connection of the equipment-grounding conductor can result in risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary,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

Power cord connection:

1. Locate and unwrap the power cord and route the cord away from the machine toward the power supply.
 - a. Route the power cord so that it will NOT become entangled in the machine.
 - b. Route the cord to the power supply in a way that does NOT create a trip hazard.
2. Connect the power cord to the power supply and check that the power cord has not been damaged during installation.

Check for correct rotation of the motor

3. With power connected, lift the emergency stop paddle switch to the ON position, the power light (A) on the control panel will be lit.
4. Push the hydraulic start button (B) and press the bow up button (C). The bow should rise.
5. If not, disconnect power to the machine, and switch the L1 and L3 wires. DO NOT move the ground wire.
6. When the connections have been safely made and protected, retest the pump direction.



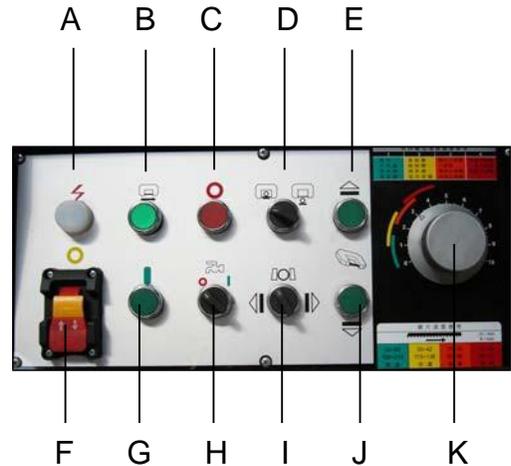
NOTE: If the bow does not raise, verify that the up-limit switch is not engaging the adjustable stop block. If using the bow down button, place the hydraulic flow control knob between the 3 and 6 setting.



DESCRIPTION OF MACHINE PARTS

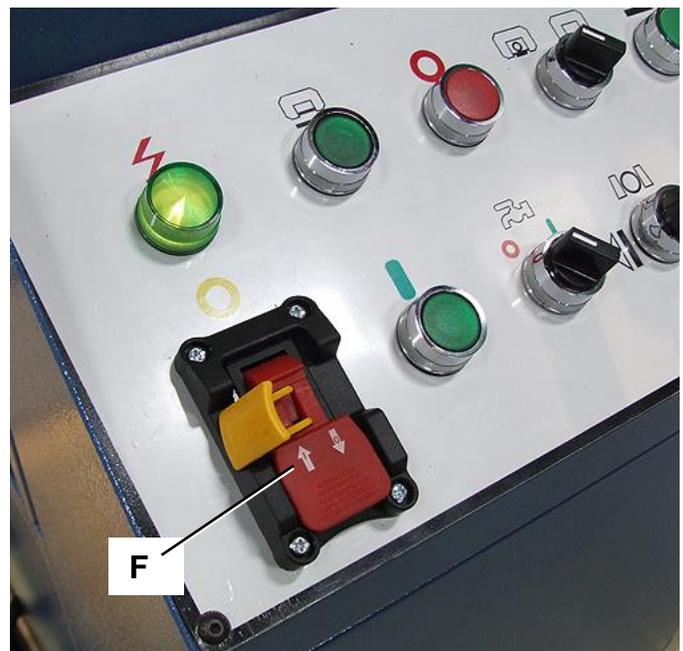
Control Panel

- A. Power indicator light.
- B. Operation start switch – starts the cutting operation cycle.
- C. Operation stop switch – stops the cutting operation cycle.
- D. Sets the position of the saw bow after the cut. Turn to left side stops the bow at down position. Turn to right side stops the bow at up position.
- E. Bow up switch – raises the saw bow.
- F. Stop/Emergency stop button – Press to stop all machine functions.
- G. Hydraulic pump start switch – starts the pump, lights when active.
- H. Coolant switch – controls the coolant pump. Turn to right side – starts coolant flow. Turn to left side – stops coolant flow.
- I. Vise open/close manual switch – left side opens the vise. Right side closes the vise.
- J. Bow down switch – lowers the saw bow.
- K. Hydraulic flow dial – controls the drop rate of the saw bow.



* F. Emergency Stop Button

- 7. Insert the yellow lock key to activate the switch paddle.
- 8. Lift the paddle to activate the control panel and operate the functions.
- 9. Depress to immediately stop all machine functions.
- 10. Lift up on the button to reset or connect the control system.
- 11. Pull up and remove the yellow lock insert to lock the control system. Insert the yellow lock to activate again.





Saw Bow

The saw bow is the upper half of the machine used for cutting. It is the sawing mechanism with machine parts consisting of drive members (gears, variable speed motor, and flywheels), tensioning system, approach sensor, light, posts, brush, and blade guide.

Base

The base is the lower half of the machine which includes the structure supporting the saw bow (the bow column, and power track), controls/electrical console, hydraulic system, vise, chip tray and coolant system.



Work Light

The work light is mounted on the bow and is used to illuminate work pieces at the cut site. The toggle switch on the top of the lamp turns the light On and Off.

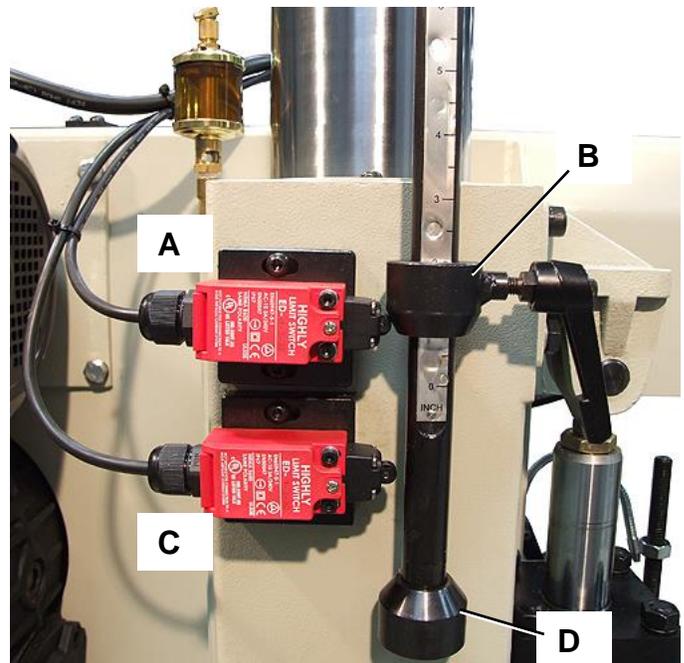
Saw Bow Up and Down Limit Switches

This saw uses two limit switches to control saw bow up and down travel.

The upper limit switch (A) stops the saw bow at the top of the travel and is adjustable by means of the slide collar (B) on the adjustment post.

The scale is an indicator to provide an approximate setting for how high the bow will raise before contacting the limit switch and stopping the upward travel.

The lower limit switch (C) stops the saw bow at the bottom of the travel limit. This also stops the blade when cutting material. This position is set to be timed with the down travel stop bolt. This will provide for the teeth of the blade to be below the material table surface but before it contacts the table. It is activated when the limit switch contacts the stop collar (D).





Cover Limit Switch

This machine is equipped safety limit switch (A) to prevent operation when the cover is opened. Close and secure the blade cover to activate the blade operation.

Blade Broken Limit Switch

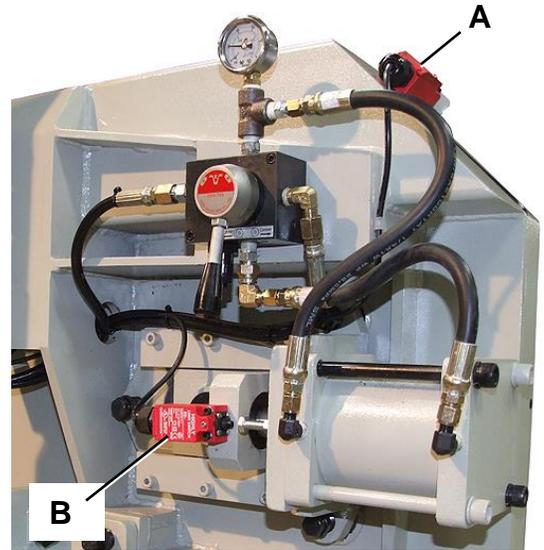
This machine is equipped safety limit switch (B) to prevent continuing damage when a blade has broken. The safety limit switch will automatically cut power when there is a loss of blade tension. Loss of tension may be caused by extreme stretching or breakage of the blade

Chip Brush

This model has a powered chip brush driven by the blade wheel. The chip brush is designed to clean the blade thus prolonging the life of the blade.

Vise

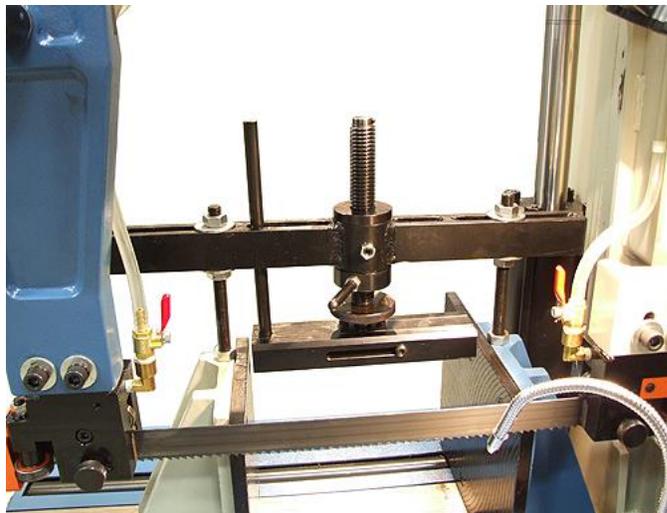
The vise is a system to clamp and holding the workpiece to prevent it from moving during cutting. The vise consists of vise jaws (fixed and mobile) with replaceable plate, vise table, table slides, hydraulic ram.





Vertical Vise

The vertical vise is an overhead press that provides extra security when clamping. It is primarily used for nest cutting operations.



COMPONENT OPERATION SET-UP

Using the Vise

The vise is used to clamp materials that require cutting. It is powered by a hydraulic cylinder that forces the mobile vise jaw against the workpiece and fixed vise jaw. They prevent movement of workpiece and irregular cuts.

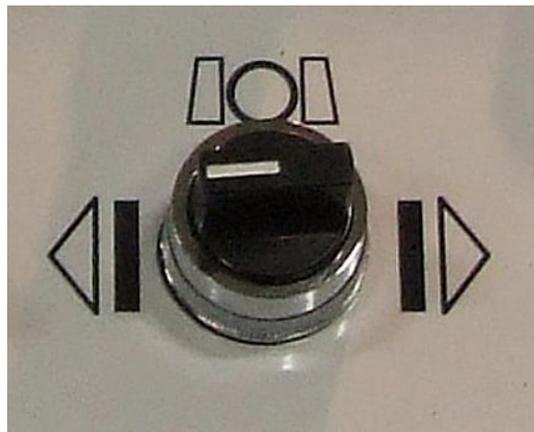
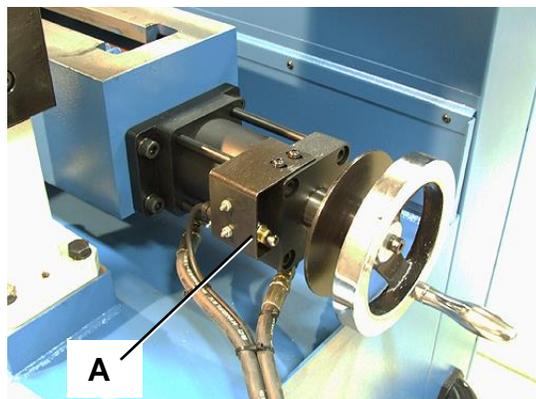
To operate the manually with hydraulic bench vise:

1. Turn and release the hydraulic vise switch counter clockwise (shown) to open the vise.
2. Turn the hand wheel to make a fine adjustment and approach the material within 1/8" – 1/4" (3-6mm) gap.
3. Clamp the material manually by turn the hydraulic vise switch clockwise to close the vise.



NOTE: When operating the vise, power and hydraulic pump must be active. The limit switch (A) on the vise must be activated to indicate that the vise has pressure and is closed.

4. Turn the vise switch clockwise to close the vise to clamp the material.
5. Turn the vise switch counter clockwise (shown) to open the vise.





Adjusting Blade Speed

This machine equipped with mechanic variable speed control device allow for variable blade speed.

1. Adjust the blade speed while the machine is running.
2. The dial sticking out of the motor cover (right side) controls the variable blade speed in FPM.
3. Rotate the knob until the digital display indicates the desired speed range.



Adjusting Feed Rate

Rate of feed is adjusted by turning the cutting pressure control knob on the control panel. Rate of feed is important to band saw performance.

- Excessive pressure may break the blade or stall the saw.
- Insufficient pressure rapidly dulls the blade.
- Material chips or shavings are the best indicator of proper feed and pressure.
- The ideal chip is thin, tightly curled, and warm to the touch.
- Chips that range from golden brown to black indicated excessive force.
- Blue chips indicate extreme heat from too high a blade speed, which will shorten blade life.
- Thin or powdered chips indicate insufficient feed pressure.

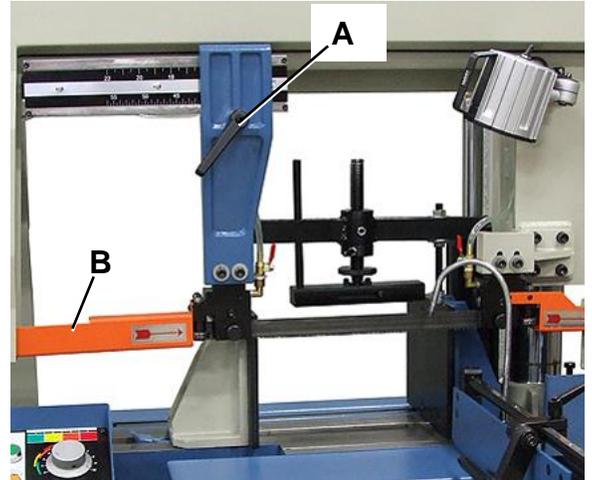




Guidepost Positioning

The guidepost may require adjustment to move the blade guide and guard closer to the workpiece. This will reduce the amount of exposed blade and strengthen the support of the blade.

1. Use the hand knob (A) to unclamp the guidepost.
2. Move the guidepost (open or closed, closed shown) to the desired location. Position the guidepost so that the blade guide is near the back of the vise jaw but does not touch it.
3. Use care with the blade guard (B) when moving the guidepost. Do not allow it to guard to get caught in the blade or turned or twisted to expose the blade.
4. Tighten the hand knob to clamp the guidepost in position.

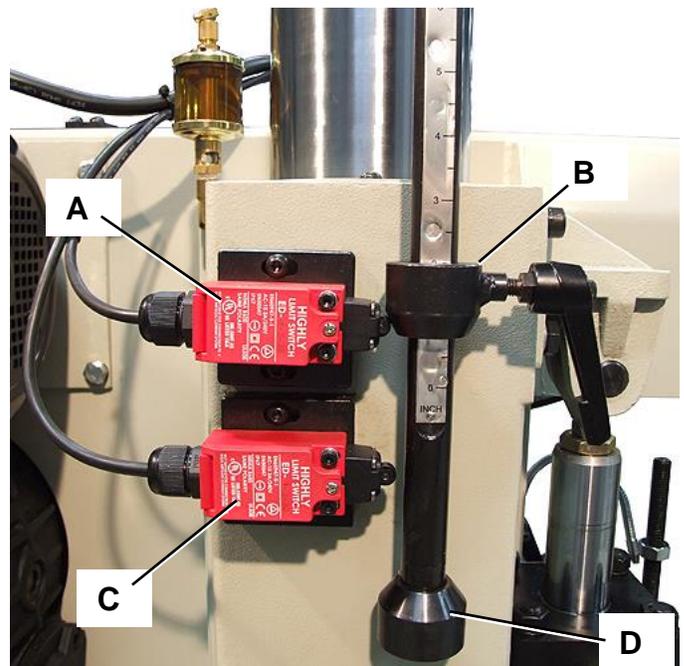


Setting the Height Limit

The upper limit switch (A) stops the bow up travel after a cut.

Set the stop block (B) by loosening the hand knob and sliding the block up or down as desired to allow the clear the material enough to safely set the material for the next cut. Tighten the hand knob to hold the position.

The lower limit switch (C) contacts the stop block (D) to stop the down travel and turn the blade motor off, and sets the signal to cause the bow to raise to the up position. This block is not adjustable.





BEFORE EACH USE

- For dusty operations, wear a face shield along with safety goggles.
- It is important to choose the right blade for the material and the type of cutting you plan to do. This saw is equipped with a bi-metallic blade which can be used to cut stainless steel, steel, iron, brass, aluminum, wood, plastic.
- Make sure the direction of rotation arrow on the blade matches the direction arrow on the saw. The blade teeth should always point downward at the front of the saw.
- Make sure the blade is sharp, undamaged and properly aligned. With the saw unplugged, push the power-head all the way down. Rotate the blade by hand checking for clearance. If the blade hits anything, make the adjustments shown in the Maintaining Maximum Cutting Capacity section.
- Never cut freehand.
- Make sure the cut-off piece can move sideways after it is cut off. Otherwise, it could get wedged against the blade and thrown violently.
- Never turn the saw "ON" before clearing everything except the work piece beneath the blade.
- Never put lubricants on the blade while it is spinning.

Whenever Saw is Running

- Never confine the piece being cut out.
- Never hold it, clamp it, touch it, or use length stops against it. It must be free to move sideways. If confined, it could get wedged against the blade and thrown violently.
- Avoid awkward hand positions where a sudden slip could cause a hand to move into the blade.
- Let the blade reach full speed before cutting.
- Feed the saw into the work piece only fast enough to let the blade cut without bogging down or binding.
- Before freeing jammed material, turn the switch off and unplug the saw. Wait for all moving parts to stop.
- After finishing a cut, keep holding the saw bow down, release the switch, and wait for all moving parts to stop before moving your hands.



OPERATION

⚠ CAUTION: Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges. **NEVER** operate saw without blade guards in place.

1. Lift the Paddle / Emergency Stop Switch to supply power to the controls.
2. Start the hydraulic system.
3. Following the Component Operation Set-up, set the components for blade speed, bow up travel, down travel speed, guide post position and vise position.
4. With the components set; raise the saw bow. Press the bow up switch until the saw bow has risen to the set height.
5. Open the vise and load the work material.
6. Clamp the material. Turn the vise close switch to clamp the material.
7. Verify that the blade is clear of any unintended materials. Press the start switch.



NOTE: The following items must happen for the blade motor to start and run and complete a cut.

- The hydraulic pump running,
 - The saw bow lifted up off of the down limit switch,
 - The e-stop reset,
 - The stop button released (this is normal and only a concern if damaged.),
 - The saw blade broken switch engaged (good blade),
 - The blade cover closed,
 - The vise clamped with the vise switch engaged.
8. Turn on the coolant switch and adjust the flow and direction as needed.
 9. The bow will stop at bottom of the cut. If the Semi-Auto function is selected, the bow will raise to the up position when the cut is complete.



Force Stop and Emergency Stopping

The machine will normally stop after the operation cycle. There are two ways to stop the cut in an event of an improper or emergency operation.

1. To stop the machine during normal operation, use the operation stop switch. This will not reset the controls and your operation setting. The blade and drive motor will stop. Then the saw bow will rise to the start position.
2. Make the needed adjustments and press the operation start button to restart the cut.
3. For unsafe and emergency conditions, use the emergency stop button. Using emergency stop button will stop the machine in position it is currently at. The motor and hydraulic will stop and control setting will be reset.
4. To restart the machine after pressing the emergency stop button, lift the emergency stop paddle to release it. The operation cycle must be reset.

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.

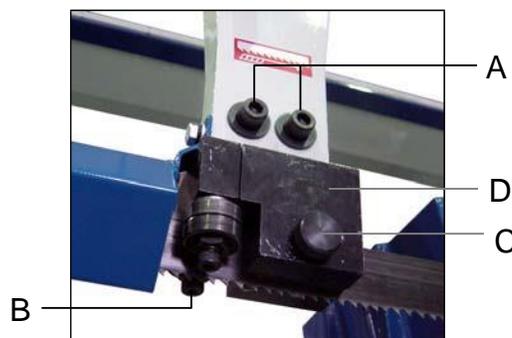


MAINTENANCE AND ADJUSTMENTS

⚠ WARNING: Make sure the electrical disconnect is OFF before working on the machine.
Maintenance should be performed on a regular basis by qualified personnel.
Always follow proper safety precautions when working on or around any machinery.

Thrust Roller Adjustment

1. Disconnect machine from the power source.
2. Loosen two hex socket cap screws (A).
3. Move guide seat (D) up or down until a clearance of .003" to .005" between back of blade and thrust roller is obtained.
4. Tighten two hex socket cap screws (A).
5. Repeat for other blade guide assembly.
6. Connect machine to the power source.

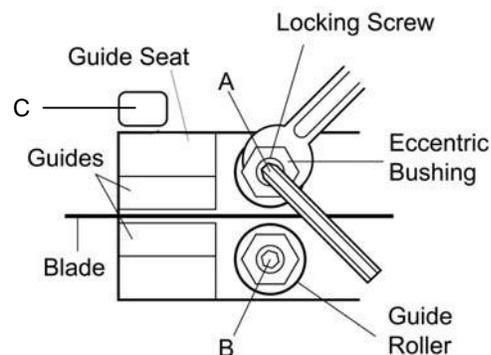


Guide Roller Adjustment



Note: Only bearing (A) is adjustable. Bearing (B) is fixed.

1. Disconnect machine from the power source.
2. Loosen blade guides by loosening guide adjustment screw (C).
3. Loosen locking screws (A) by using a hex wrench.
4. Adjust the eccentric bushings with a combination wrench until the ball bearings are snug to the blade (A)



Note: The blade should travel freely up and down between the ball bearings. Do not pinch the blade.

5. Tighten locking screws (A).
6. Connect machine to the power source.



Blade Tracking Adjustment

This adjustment must be accomplished by qualified personnel familiar with this type of adjustment and the dangers associated with it.

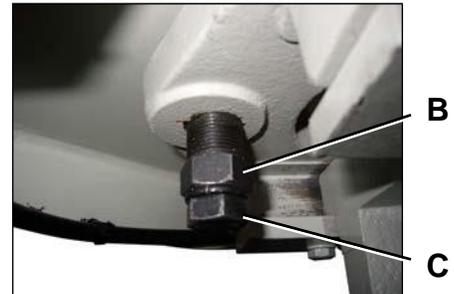
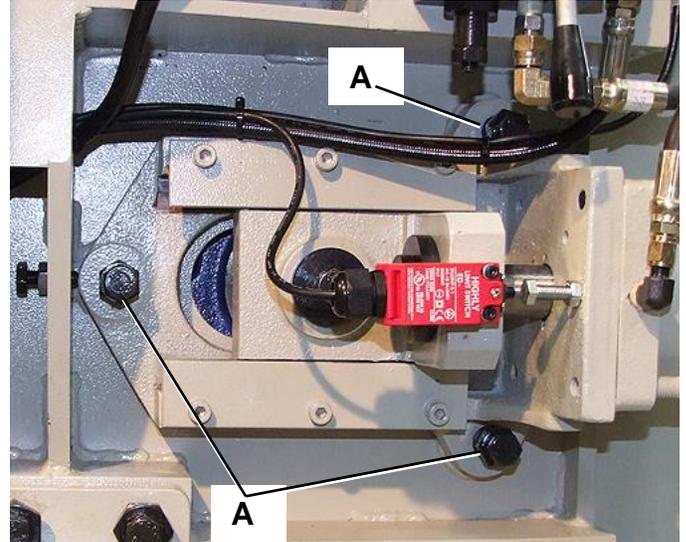
The blade tracking is factory set and should not require any adjustment. If a tracking problem occurs, adjust the machine as follows:

1. Raise saw arm to a usable height.
2. Disconnect the machine from the power source.
3. Locate tracking adjustment bolts (A) on the backside of the saw bow behind the flywheel.
4. Loosen hex cap screw (C), located on the top of the hollow screw (B).
5. Tracking adjustment is accomplished by either raising or lowering adjusting screw (B).
6. Tracking is set properly when the back of the blade lightly touches the wheel flange.



Note: Over tracking (allowing blade back to rub hard against wheel flange) will damage the blade wheels and blade.

7. Tighten hex cap screw after properly adjusting.
8. Connect machine to the power source.





Changing the Blade

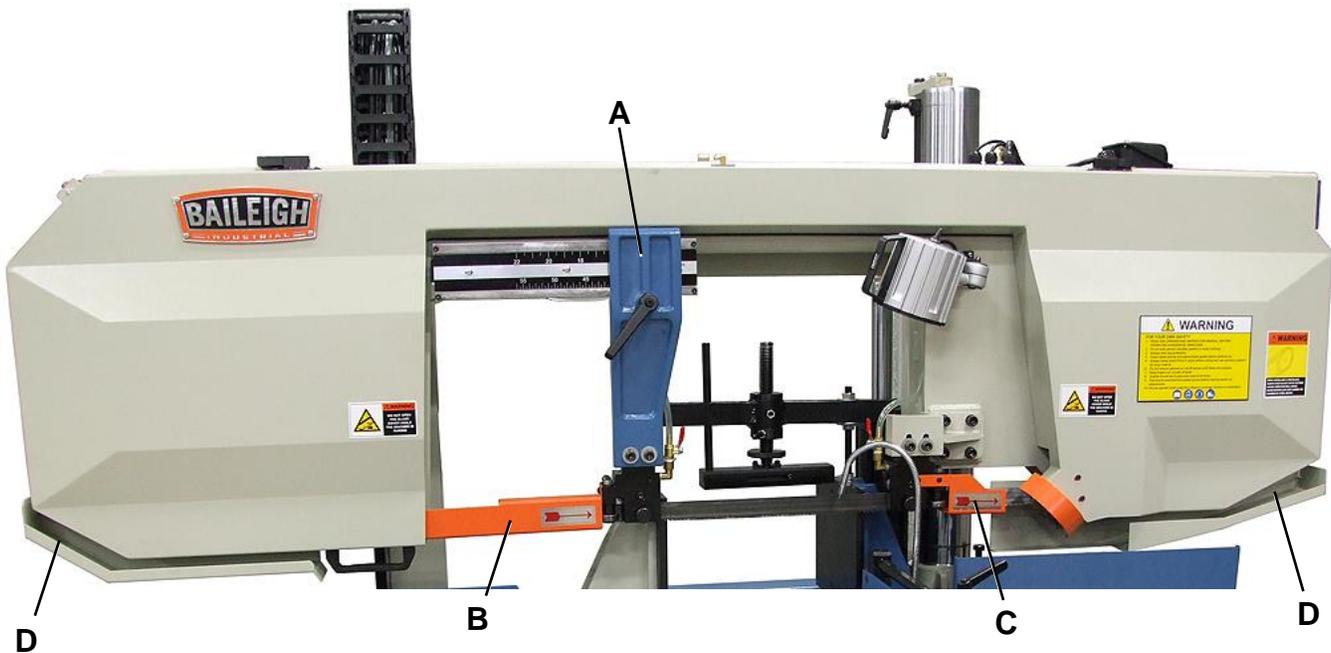
⚠ WARNING: Disconnect the machine from the power source before making any adjustments or repairs! Failure to comply may result in serious injury!

⚠ CAUTION: Even dull blades are sharp to the skin! Use extra caution handling band saw blades!



Note: While one person can replace the blade, using a second person will help to control and support the blade in removal and installation. Be certain to communicate to each other at each step of the operation to be clear on the step to be taken and the position of each person's fingers.

1. Raise the saw bow to about half of the lift height.
2. Turn off the hydraulic pump and lock out the power supply.

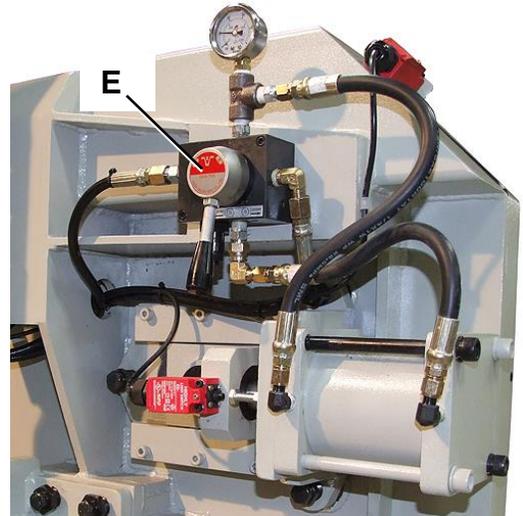


3. Move the guide post (A) inward to the right as far as possible. Slide the vise jaw closed as needed to provide clearance.
4. Remove the lead-in (B) and lead-out (C) blade guards.



5. Remove the cover lock screws (D) and open the cover until it latches into the fully open position.
6. Slowly release the blade tension by moving the tension control handle (E) from the center position to the loosen position and back until the blade is loose on the wheels.
7. Remove the old blade from both wheels and out of each blade guide.
8. The general installation will be to insert the blade into the blade guides, then onto the wheel, then starting the hydraulics and applying tension, and then testing.
9. Orient the blade under the blade guides so that the teeth are pointing down and to the right.
10. Insert and fully seat the blade into the blade guides.
11. Rotate the blade up and around the drive and idler wheels. Make sure back of the blade rests lightly against the flange of both wheels.
12. Have the assistant hold the blade in position and start the hydraulic pump.
13. Slowly apply tension to the blade by moving the tension control handle (E) from the center position to the tighten position and back until the blade is fully tensioned. The blade tension shows on the blade tension gauge.
14. If needed, reposition the chip brush to touch the blade then tighten the screws.
15. Close all covers, replace all guards, and fasten securely.
16. Connect machine to power and run the blade freely for one minute.
17. Turn the power OFF.
18. Recheck the blade tension and chip brush.

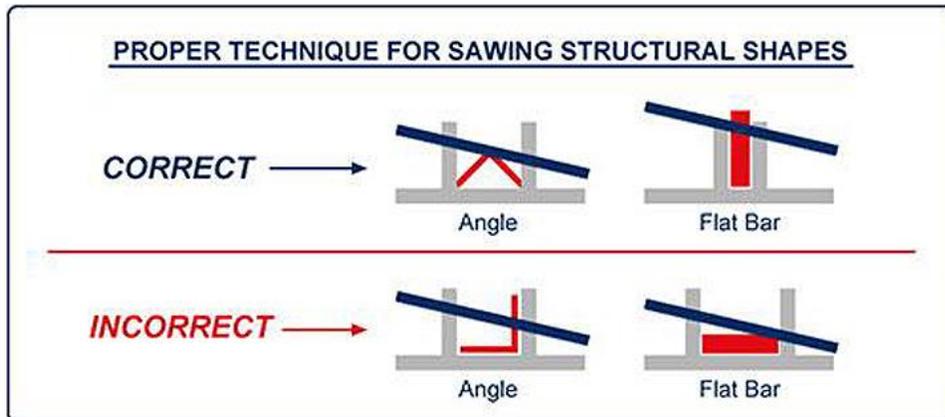
If further adjustment is necessary disconnect the saw from the power source, adjust, re- connect the power, and then test again.





Breaking in a Band Saw Blade

Sharp cutting edges with extremely small edge radii are required for high cutting capacity. To achieve the optimal tool life we recommend breaking-in the blade accordingly. The correct cutting speed is determined by the material being cut and its dimensions. It is very important that the new blade is first used with only 50% of the determined feed rate. This will avoid micro-breakages of the blade because of too large chip thicknesses. New band saw blades may tend toward vibrations and vibration sounds. In this case a slight reduction of the cutting speed is helpful. With small workpiece dimensions approximately 300cm² of the material should be cut for breaking-in. If large work piece dimensions are to be cut we recommend a breaking-in period of about 15 minutes. After breaking-in you may slowly increase the feed rate up to the determined value.



Metal Chip Indicators

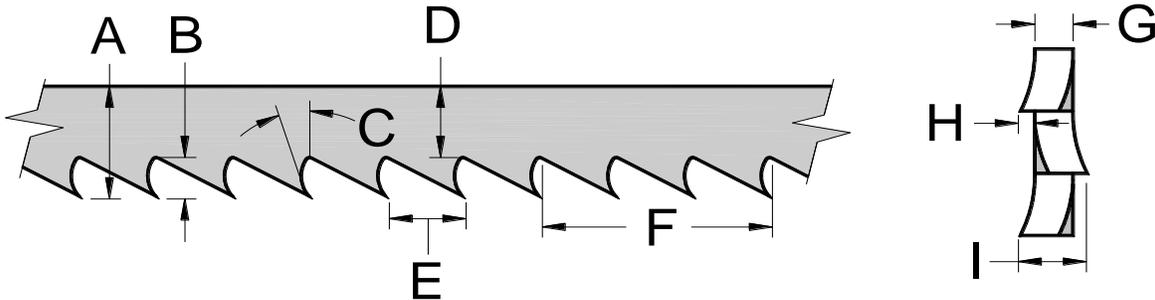
Chips are the best indicator of correct material feed force. Monitor chip information and adjust feed accordingly.

- Thin or Powdered Chips – increase feed rate or reduce saw speed
- Burned Chips – reduce feed rate and / or saw speed
- Curly Silvery and Warm Chips – optimum feed rate and saw speed

Baileigh Industrial offers a wide selection of tooth styles for various cutting applications. Please phone Baileigh Industrial at (920.684.4990) or fax to (920.684.3944) to have one of our technicians assist you in selecting the proper band saw blade for your cutting applications.



Blade Terminology



A	BLADE WIDTH	The widest part of the blade measured from the back edge of the blade to the tip of the tooth.
B	GULLET DEPTH	The distance from the tooth tip to the bottom of the curved area.
C	TOOTH RAKE	The angle of the tooth face from a line perpendicular to the length of the blade.
D	BLADE BACK	The distance between the back edge of the blade and the bottom of the gullet.
E	TOOTH PITCH	The distance between tooth tips.
F	TPI	The number of teeth per inch when measured from gullet to gullet.
G	GAUGE	The thickness of the blade.
H	TOOTH SET	The distance a tooth is bent from the blade.
I	KERF	The width of material that is removed by the blade when cutting.

Width of Blade

The blade width determines the largest and the smallest curve that can be cut. Usually the wider a blade is, the more accurate and straighter it will cut.

Length of Blade

The length of the band saw blade can be measured with a tape measure at it's circumference or by the formula below:

$$\text{Blade Length} = (2 \times A) + (3.14 \times B)$$

A = the distance in inches between the band saw pulley centers (when the upper pulley is midway in its adjustment range).

B = the band saw pulley diameter.



Blade structure

Bi-metal blades are the most commonly used. They consist of a silicon-steel blade backing by a laser welded high speed steel (HSS) cutting edge. The type of stocks are classified in M2, M42, M51 and differ from each other because of their major hardness due to the increasing percentage of Cobalt (Cc) and molybdenum (Mo) contained in the metal alloy.

Blade type

They differ essentially in their constructive characteristics, such as:

- Shape and cutting angle of tooth
- Pitch
- Set

Shape and angle of tooth

REGULAR TOOTH: 0° rake and constant pitch.



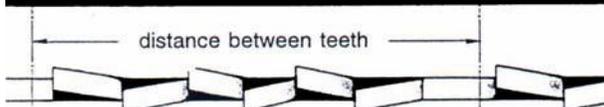
Most common form for transversal or inclined cutting of solid small and average cross-sections or pipes, in laminated mild steel and gray iron or general metal.

POSITIVE RAKE TOOTH: $9^\circ - 10^\circ$ positive rake and constant pitch.



Particular use for crosswise or inclined cuts in solid sections or large pipes, but above all harder materials (highly alloyed and stainless steels, special bronze and forge pig iron).

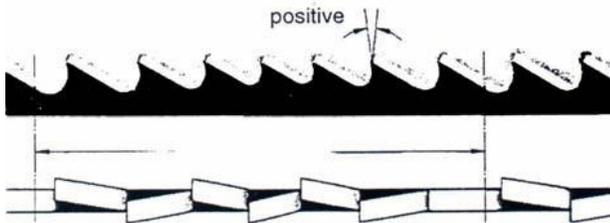
COMBO TOOTH: pitch varies between teeth and consequently varying teeth size and varying gullet depths. Pitch varies between teeth, which ensures a smoother, quieter cut and longer blade life owing to the lack of vibration.



Another advantage offered in the use of this type of blade in the fact that with an only blade it is possible to cut a wide range of different materials in size and type.



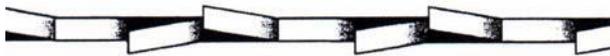
COMBO TOOTH: 9° - 10° positive rake.



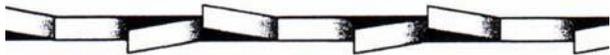
This type of blade is the most suitable for the cutting of section bars and large and thick pipes as well as for the cutting of solid bars at maximum machine capacity. Available pitches: 3-4/4-6.

SETS

Saw teeth bent out of the plane of the saw body, resulting in a wide cut in the workpiece.



REGULAR OR RAKER SET: Cutting teeth right and left, alternated by a straight tooth.



Of general use for materials with dimensions superior to 5 mm. Used for the cutting of steel, castings and hard nonferrous materials.

WAVY SET: Set in smooth waves.



This set is associated with very fine teeth and it is mainly used for the cutting of pipes and thin section bars (from 1 to 3 mm).

ALTERNATE SET (IN GROUPS): Groups of cutting teeth right and left, alternated by a straight tooth.



This set is associated with very fine teeth and it is used for extremely thin materials (less than 1mm).

ALTERNATE SET (INDIVIDUAL TEETH): Cutting teeth right and left.



This set is used for the cutting of nonferrous soft materials, plastics and wood.



BLADE CARE

The bandsaw blade is subjected to a tremendous amount of strain. Make sure to always use the appropriate feed rate for the type material you are cutting.

Be sure to select a blade of the proper width, style, and pitch that will produce the best cut in your material. Choosing the wrong blade can produce excess heat that can adversely affect the life of the blade.

A clean blade performs much better than one that is dirty. Blades that are gummed up and dirty offer more resistance when cutting through the material. This in turn creates unnecessary heat in the blade.

CHOOSING A SAW BLADE

A general purpose blade is furnished with this band saw.

To achieve a quality, economical, and efficient saw cut, the following points must be taken into consideration:

- Type of material being cut (ferrous or non ferrous)
- Material hardness and physical dimensions
- Blade descent rate
- Longitudinal speed of blade
- Blade tooth profile

Choose a tooth pitch that is suitable for the workpiece. Thin walled profiles, including tubes and pipes require close tothing. At least 3-6 teeth should be in contact with the material while cutting. Large solid or transverse sections require widely spaced tothing to allow for greater volume of chips and better tooth penetration. Soft materials such as plastics, light alloys, mild bronze, Teflon, etc. require widely spaced tothing to avoid clogging.



S	Outer Diameter of the Tube (inch) / Tooth pitch																
	0.787	1.574	2.362	3.15	4	4.724	6	7.873	11.811	15.75	19.685	23.621	27.5	31.5	35.5	39.5	59
0.079	14	14	14	14	14	14	10-14tpi	10-14tpi	8-12tpi	8-12tpi	8-12tpi	6-10tpi	5-8tpi	5-8tpi	5-8tpi	5-8tpi	5-8tpi
0.118	14	14	10-14tpi	10-14tpi	10-14tpi	10-14tpi	8-12tpi	8-12tpi	8-12tpi	8-12tpi	8-12tpi	5-8tpi	5-8tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi
0.157	14	14	10-14tpi	10-14tpi	8-12tpi	8-12tpi	8-12tpi	8-12tpi	8-12tpi	5-8tpi	5-8tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi
0.197	14	10-14tpi	10-14tpi	10-14tpi	8-12tpi	8-12tpi	8-12tpi	8-12tpi	8-12tpi	5-8tpi	5-8tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi
0.236	14	10-14tpi	10-14tpi	8-12tpi	8-12tpi	8-12tpi	8-12tpi	8-12tpi	5-8tpi	5-8tpi	4-6tpi	4-6tpi	4-6tpi	3-4tpi	3-4tpi	3-4tpi	3-4tpi
0.315	14	10-14tpi	8-12tpi	8-12tpi	8-12tpi	6-10tpi	6-10tpi	5-8tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi	3-4tpi	3-4tpi	3-4tpi	3-4tpi	3-4tpi
0.394		8-12tpi	6-10tpi	6-10tpi	6-10tpi	5-8tpi	5-8tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi	3-4tpi	3-4tpi	3-4tpi	2-3tpi	2-3tpi	2-3tpi
0.472		8-12tpi	6-10tpi	6-10tpi	5-8tpi	5-8tpi	4-6tpi	4-6tpi	4-6tpi	3-4tpi	3-4tpi	3-4tpi	3-4tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi
0.591		8-12tpi	6-10tpi	5-8tpi	5-8tpi	4-6tpi	4-6tpi	4-6tpi	4-6tpi	3-4tpi	3-4tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi
0.787			6-10tpi	5-8tpi	4-6tpi	4-6tpi	4-6tpi	3-4tpi	3-4tpi	3-4tpi	2-3tpi						
1.181				4-6tpi	4-6tpi	3-4tpi	3-4tpi	3-4tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	1-4-2tpi
2						3-4tpi	3-4tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	1-4-2tpi	1-4-2tpi	1-4-2tpi
3								2-3tpi	2-3tpi	2-3tpi	2-3tpi	2-3tpi	1-4-2tpi	1-4-2tpi	1-4-2tpi	1-4-2tpi	1-4-2tpi
4									2-3tpi	2-3tpi	1-4-2tpi						
6										1-4-2tpi							
7.873											1-4-2tpi						
9.842												1-4-2tpi	1-4-2tpi	1-4-2tpi	1-4-2tpi	1-4-2tpi	1-4-2tpi
11.81													1-1.4tpi	1-1.4tpi	1-1.4tpi	1-1.4tpi	1-1.4tpi
13.778													1-1.4tpi	1-1.4tpi	1-1.4tpi	1-1.4tpi	1-1.4tpi
15.747													1-1.4tpi	1-1.4tpi	1-1.4tpi	1-1.4tpi	1-1.4tpi
17.716																	
19.685																	

S= Wall Thickness
 If you have to cut two or more tubes lying side by side please use this table in consideration of the double wall thickness (s).



BLADE BREAKAGE

In some cases, blade breakage is unavoidable due to the stresses that are imparted on the blade. Avoidable breakage is often the result of poor care, or poor operator judgment when it comes to adjusting or mounting the blade or blade guides.

Listed below are some of the more common reasons for blade breakage.

- Top blade guide assembly is set too high above the piece part.
- The blade is tensioned incorrectly.
- Piece part is fed into the blade too quickly.
- Blade teeth are dull or broken.
- Blade is not properly aligned with the guides.
- Forcing a large width blade to cut a small radius.
- Using a blade with an improperly finished weld joint.
- Allowing the blade to run when not in use. (**NEVER** leave an unattended blade running.)



LUBRICATION AND MAINTENANCE



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

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

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

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



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

The maintenance jobs are listed below, divided into daily, weekly, and monthly intervals. If the following operations are neglected, the result will be premature wear of the machine and poor performance.

Daily

- Give general cleaning to the machine to remove accumulated shavings.
- Clean the lubricating coolant drain hole to avoid excess fluid.
- Top off the level of lubricating coolant.
- Check blade for wear.
- Raise the saw frame to the top position and partial slacken the blade to avoid useless yield stress.
- Check functionality of the shields and emergency stops.

Weekly

- Thoroughly clean the machine to remove shavings, especially from the coolant tank.
- Removal of pump from its housing, cleaning of the suction filter and suction zone.
- Clean the filter of the pump suction head and the suction area.
- Use compressed air to clean the blade guides (guide bearings and drain hole of the lubricating and cooling tank).
- Clean flywheel housings and the race of the flywheels.



Monthly

- Check the tightness of the drive wheel screws.
- Check that the blade guide bearings on the heads are in perfect running condition.
- Check the tightness of the screws for the motor, pump, and accident protection guards.

Lubricating Coolant

Any 10:1 (water to coolant) solution will work, however we recommend Baileigh B-Cool 20:1 (water to coolant) biodegradable metal cutting fluid. It has excellent cooling and heat transfer characteristics, is non-flammable, and extends tool and machine life. Each gallon of concentrate makes 21 gallons of coolant.

Accessing and Cleaning the Coolant System

1. Raise the bow to the maximum height and stop the machine and lock out power.
2. Clean the chips and debris from the saw and vise table.
3. Remove the chip tray and empty the chips and clean the screens.
4. Using a suitable container, remove the drain plug and drain the coolant tank.
5. Flush and clean the tank and replace the drain plug.
6. Remove the coolant pump cover to access the coolant pump and clean the pump chamber, pump, and pump inlet.
7. Install the chip tray.
8. Re-fill tank with coolant solution to the full level on the sight glass.
9. Install the coolant pump cover.



Oil Disposal

The disposal of these products is controlled by strict regulations. Follow all local regulation for proper disposal.



Hydraulic Oil

The hydraulic oil is the primary medium for transmitting pressure and also must lubricate the running parts of the pump.

1. Use hydraulic oil #68 SHELL BRAND or an equivalent with similar specifications.
2. Keep hydraulic reservoir filled to 90% of capacity.
3. DO NOT rely totally on the oil gauge as they can sometimes indicate an incorrect level reading. Do a visual inspection with the oil fill cap removed as well.
4. A shortage of hydraulic oil will cause hydraulic system breakdown to major mechanical components due to overheating.
5. Change the hydraulic oil every 12 months along with the oil filter.
6. Remove the back-cover panel.
7. Using a suitable container, remove the drain plug and drain the hydraulic fluid.
8. Fill the tank with fresh clean fluid up to the full mark on the sight gauge.



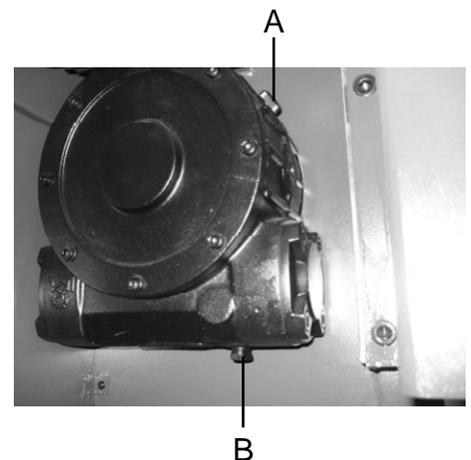
Changing Gear Oil

The gearbox requires periodic changing of oil.

The oil must be changed by the first 6 months of a new machine and every year thereafter.

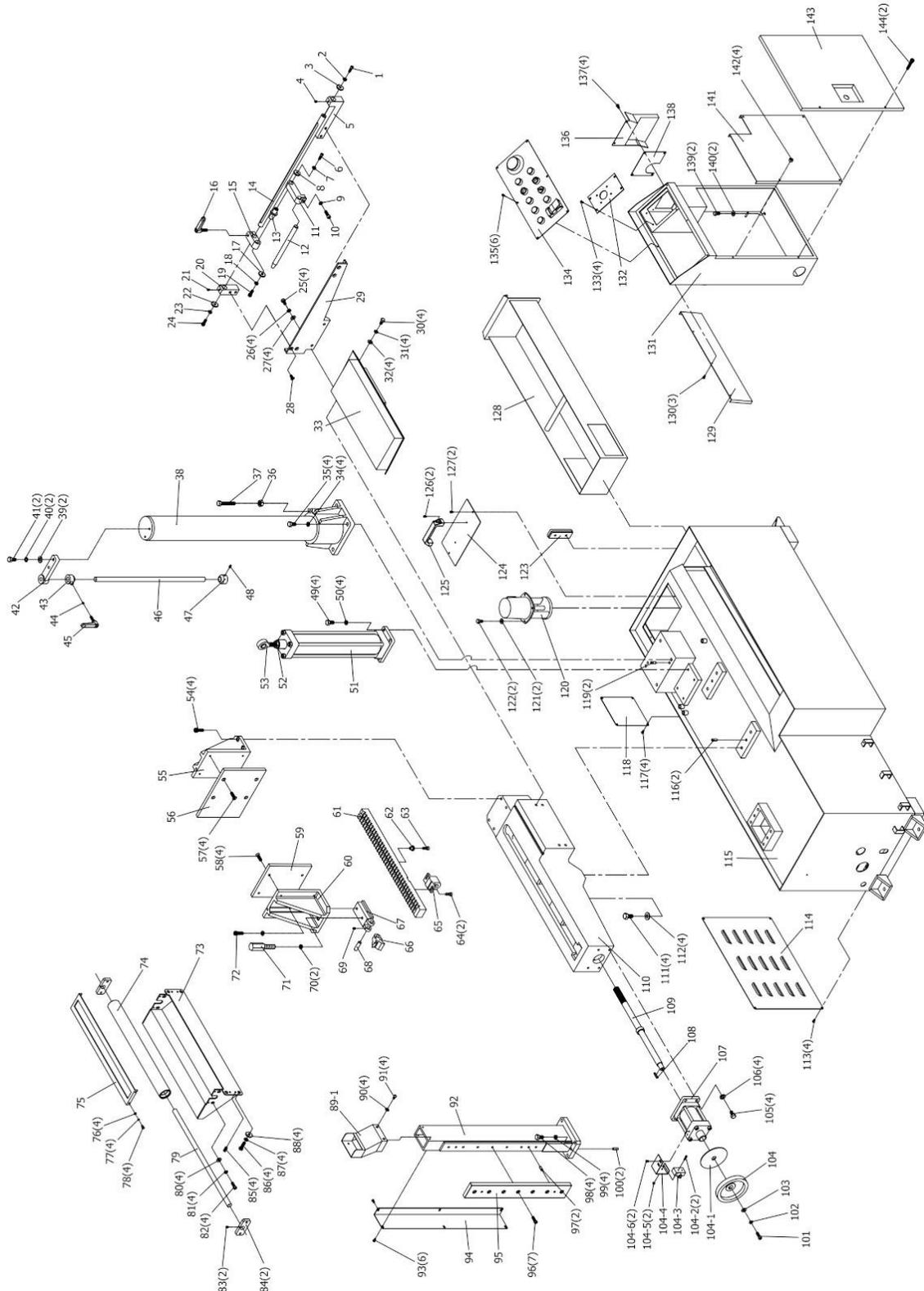
To change the gear box oil:

1. Lower the saw bow by pressing the bow down button.
2. Disconnect the machine from the power source.
3. Open the drain plug (B) to draw off gear oil. Remove the drain plug screw (B).
4. Remove the fill plug screw (A).
5. Replace the drain plug screw (B) after oil is completely drained.
6. Pour the gear oil into fill hole (A), until the oil reaches the center of the oil gauge.
7. Replace the fill plug screw (A).





PARTS DIAGRAM - BASE - A





Parts List – Base - A

Item	Part No.	Description	Size No.	Qty.
1	BS360SA-A1	Hex. Soc. Cap Screw	3/8"x1"L	1
2	BS360SA-A2	Spring Washer	3/8"	1
3	BS360SA-A3	Length Rod Washer	S1380221-3	1
4	BS360SA-A4	Set Screw	5/16"x5/16"L	1
5	BS360SA-A5	Length Rod Left Bracket	S1380110-A	1
6	BS360SA-A6	Hex. Soc. Cap Screw	3/8"x1"L	1
7	BS360SA-A7	Spring Washer	3/8"	1
8	BS360SA-A8	Length Rod Washer	81380221-3	1
9	BS360SA-A9	Spring Washer	3/8"	1
10	BS360SA-A10	Hex. Soc. Cap Screw	3/8"x1"L	1
11	BS360SA-A11	Stopper Bracket	81380110-C	1
12	BS360SA-A12	Length Stopper	46002-64	1
13	BS360SA-A13	Welding Rod	81380221-2	1
14	BS360SA-A14	Length Rod	81380221	1
15	BS360SA-A15	Length Setting Bracket	81380110-B	1
16	BS360SA-A16	Handle 3/8x30L	81380416	1
17	BS360SA-A17	Length Rod Washer	81380221-3	1
18	BS360SA-A18	Spring Washer	3/8"	1
19	BS360SA-A19	Hex. Soc. Cap Screw	3/8"x1"L	1
20	BS360SA-A20	Length Rod Right Bracket	81380110	1
21	BS360SA-A21	Set Screw	5/16"x5/16"L	1
22	BS360SA-A22	Length Rod Washer	81380221-3	1
23	BS360SA-A23	Spring Washer	3/8"	1
24	BS360SA-A24	Hex. Soc. Cap Screw	3/8"x1"L	1
25	BS360SA-A25	Hex. Cap Bolt	M10x25L	4
26	BS360SA-A26	Spring Washer	M10	4
27	BS360SA-A27	Flat Washer	M10	4
28	BS360SA-A28	Flat Head Screw	5/16"x3/4"L	4
29	BS360SA-A29	Side Plate	H36D3-03-A	1
30	BS360SA-A30	Hex. Cap Bolt	M12x20L	4
31	BS360SA-A31	Spring Washer	M12x20L	4
32	BS360SA-A32	Flat Washer	M12x20L	4
33	BS360SA-A33	Work Out Table	H36D3-03	1



Item	Part No.	Description	Size No.	Qty.
34	BS360SA-A34	Spring Washer	M14	4
35	BS360SA-A35	Steel Hex. Cap Bolt	M14x50L	4
36	BS360SA-A36	Nut	M14	1
37	BS360SA-A37	Steel Hex. Cap Bolt	M14x60L	1
38	BS360SA-A38	Big Column	H33D2-01	1
39	BS360SA-A39	Flat Washer	M10	2
40	BS360SA-A40	Spring Washer	M10	2
41	BS360SA-A41	Hex. Cap Bolt	M10x40L	2
42	BS360SA-A42	Scale Bracket	H33D3-14	1
43	BS360SA-A43	Down Adjusting Sleeve	H46D2-22	1
44	BS360SA-A44	Down Adjusting Copper	H46D2-22-B	1
45	BS360SA-A45	Handle M8x30	331D4-38	1
46	BS360SA-A46	Height Scale	H36D2-10	1
47	BS360SA-A47	Adjusting Sleeve	H33D2-13-A	1
48	BS360SA-A48	Set Screw	M6x8L	1
49	BS360SA-A49	Steel Hex. Cap Bolt	M10x40L	4
50	BS360SA-A50	Spring Washer	M10x40L	4
51	BS360SA-A51	Lift Cylinder	H36D2-41	1
52	BS360SA-A52	Nut	M20xP1.5	1
53	BS360SA-A53	Universal Joint POS20	L46N5-01	1
54	BS360SA-A54	Hex. Soc. Cap Screw	M12x35L	4
55	BS360SA-A55	Rear Vise	H36D1-05	1
56	BS360SA-A56	Rear Vise Steel Plate	H36D2-11-A	1
57	BS360SA-A57	Flat Head Screw	M8x30L	4
58	BS360SA-A58	Flat Head Screw	M8x30L	4
59	BS360SA-A59	Front Vise Steel Plate	H36D2-11	1
60	BS360SA-A60	Front Vise	H36D1-04	1
61	BS360SA-A61	Rack	H36D1-09	1
62	BS360SA-A62	Rack Slider	3500211	1
63	BS360SA-A63	Hex. Soc. Cap Screw	M8x25L	1
64	BS360SA-A64	Hex. Soc. Cap Screw	M8x16L	2
65	BS360SA-A65	Lead Screw Nut	3300110	1
66	BS360SA-A66	Pawl	3300109	1
67	BS360SA-A67	Vise Base	3300108	1
68	BS360SA-A68	Vise Base Shaft	3300224	1



Item	Part No.	Description	Size No.	Qty.
69	BS360SA-A69	Set Screw	M6x8L	1
70	BS360SA-A70	Spring Washer	M12	2
71	BS360SA-A71	Front Vise Bolt	91602-38	1
72	BS360SA-A72	Steel Hex. Cap Bolt	M12x45L	1
73	BS360SA-A73	Roller Holder	H36D3-11	1
74	BS360SA-A74	Auxiliary Roller	H36D2-07	1
75	BS360SA-A75	Roller Cover	H36D3-11-A	1
76	BS360SA-A76	Flat Washer	M5	4
77	BS360SA-A77	Spring Washer	M5	4
78	BS360SA-A78	Hex. Cap Bolt	M5x8L	4
79	BS360SA-A79	Auxiliary Shaft	H36D2-07-A	1
80	BS360SA-A80	Flat Washer	M10	4
81	BS360SA-A81	Spring Washer	M10	4
82	BS360SA-A82	Hex. Soc. Cap Screw	M10x20L	4
83	BS360SA-A83	Set Screw	M6x8L	2
84	BS360SA-A84	Roller Setting Bracket	H36D3-11-B	2
85	BS360SA-A85	Set Screw	M8x10L	4
86	BS360SA-A86	Hex. Cap Bolt	M12x20L	4
87	BS360SA-A87	Spring Washer	M12	4
88	BS360SA-A88	Flat Washer	M12	4
89	BS360SA-A89	Cover Bracket	H36D3-10	1
90	BS360SA-A90	Flat Washer	M6	4
91	BS360SA-A91	Round Head Soc. Screw	M6x8L	4
92	BS360SA-A92	Small Column	H36D2-01	1
93	BS360SA-A93	Round Head Soc. Screw	M6x8L	6
94	BS360SA-A94	Small Column Cover	H36D3-13	1
95	BS360SA-A95	Guide Block	H36D2-09	1
96	BS360SA-A96	Hex. Soc. Cap Screw	M10x25L	7
97	BS360SA-A97	Spring Pin	M8x20L	2
98	BS360SA-A98	Steel Hex. Cap Bolt	M12x50L	4
99	BS360SA-A99	Spring Washer	M12x50L	4
100	BS360SA-A100	Spring Pin	10x20L	2
101	BS360SA-A101	Hex. Soc. Cap Screw	M8x25L	1
102	BS360SA-A102	Spring Washer	M8	1
103	BS360SA-A103	Flat Washer	M8	1



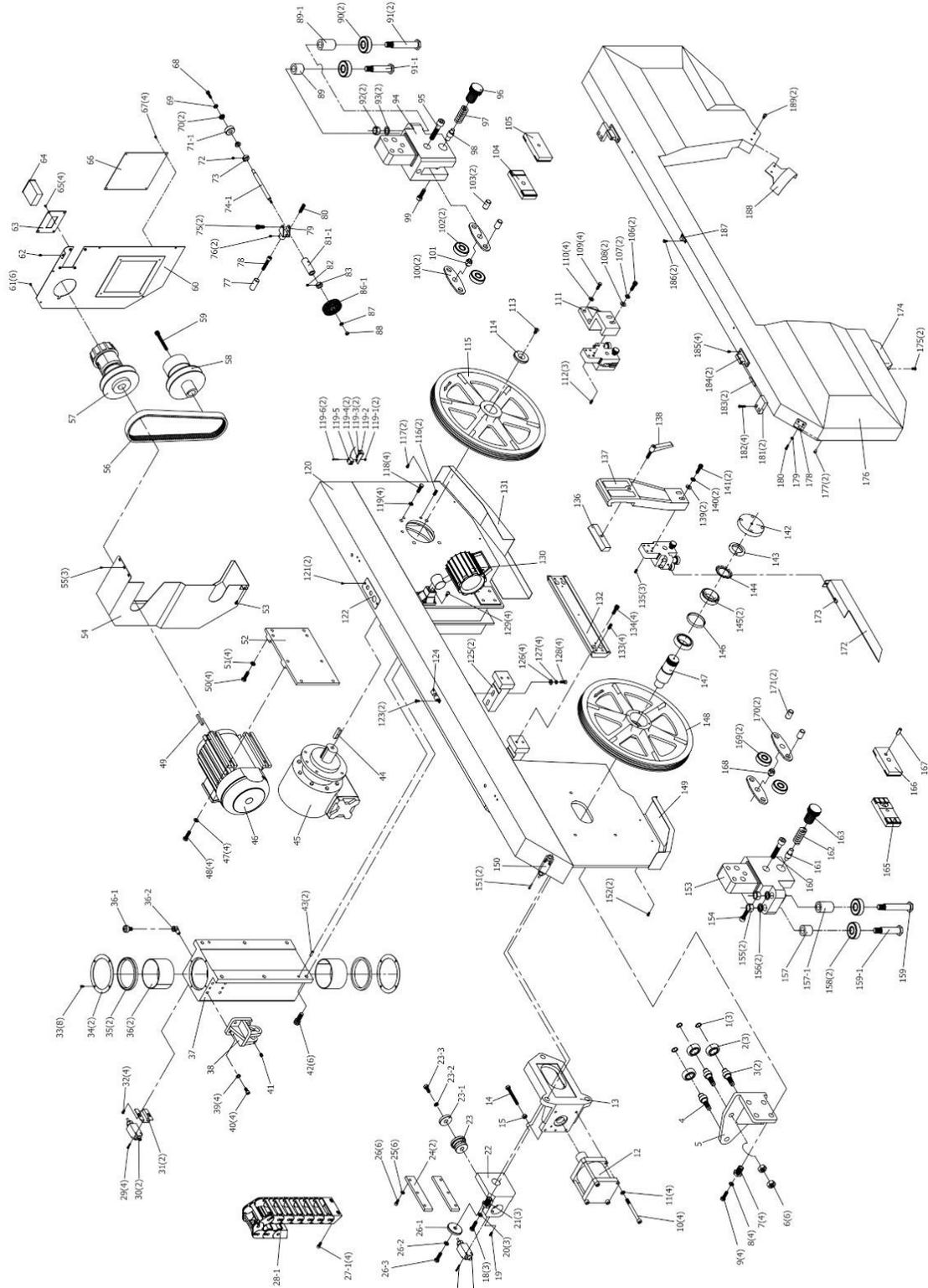
Item	Part No.	Description	Size No.	Qty.
104	BS360SA-A104	Handle Wheel HZ-3/8D		1
104-1	BS360SA-A104-1	Contact Plate	H36D3-24	1
104-2	BS360SA-A104-2	Hex. Soc. Cap Screw	M4x25L	2
104-3	BS360SA-A104-3	Limit Switch		1
104-4	BS360SA-A104-4	Cover	H36D3-24-A	1
104-5	BS360SA-A104-5	Nut	M4	2
104-6	BS360SA-A104-6	Round Head Soc. Screw	M6x8L	2
105	BS360SA-A105	Steel Hex. Cap Bolt	M10x35L	4
106	BS360SA-A106	Spring Washer	M10	4
107	BS360SA-A107	Vise Cylinder	H36D2-40	1
108	BS360SA-A108	Key	6x6x25L	1
109	BS360SA-A109	Lead Screw	H36D2-02	1
110	BS360SA-A110	Working Table	H36D1-01	1
111	BS360SA-A111	Steel Hex. Cap Bolt	M14x45L	4
112	BS360SA-A112	Spring Washer	M14x45L	4
113	BS360SA-A113	Round Head Soc. Screw	M5x8L	4
114	BS360SA-A114	Hydraulic Unit Cover	H36D3-01-A	1
115	BS360SA-A115	Machine Base	H36D3-01	1
116	BS360SA-A116	Spring Pin	10x20L	2
117	BS360SA-A117	Round Head Soc. Screw	M5x8L	4
118	BS360SA-A118	Small Cover	H36D3-01-B	1
119	BS360SA-A119	Spring Pin	10x20L	2
120	BS360SA-A120	Coolant Pump 1/6"X210l	M00280	1
121	BS360SA-A121	Spring Washer	M6	2
122	BS360SA-A122	Hex. Cap Bolt	M6x16L	2
123	BS360SA-A123	Oil Gauge	9160418	1
124	BS360SA-A124	Coolant Cover	H36D3-01-C	1
125	BS360SA-A125	Bending Handle	9160502	1
126	BS360SA-A126	Big Round Head Screw	M6x12L	2
127	BS360SA-A127	Round Head Soc. Screw	M6x8L	2
128	BS360SA-A128	Chip Collector	H36D3-06	1
129	BS360SA-A129	Water Plate	H36D3-12-D	1
130	BS360SA-A130	Round Head Soc. Screw	M6x8L	3
131	BS360SA-A131	Cabinet	H36D3-12	1
132	BS360SA-A132	Flow Control Plate	H36D3-17	1



Item	Part No.	Description	Size No.	Qty.
133	BS360SA-A133	Round Head Soc. Screw	M6x8L	4
134	BS360SA-A134	Control Panel	NPB-036	1
135	BS360SA-A135	Round Head Soc. Screw	M5x8L	6
136	BS360SA-A136	Coolant Tray	H36D3-19	1
137	BS360SA-A137	Round Head Soc. Screw	M5x8L	4
138	BS360SA-A138	Panel Cover	H36D3-12-C	1
139	BS360SA-A139	Hex. Cap Bolt	M6x16L	2
140	BS360SA-A140	Flat Washer	M6	2
141	BS360SA-A141	Bottom Plate	H36D3-12-B	1
142	BS360SA-A142	Nut	M6	4
143	BS360SA-A143	Cabinet Door	H36D3-12-E	1
144	BS360SA-A144	Hex. Soc. Cap Screw	M6x30	2



PARTS DIAGRAM - BOW - B





Parts List – Bow - B

Item	Part No.	Description	Size No.	Qty.
1	BS360SA-B1	C Ring	S20	3
2	BS360SA-B2	Bearing 6304	L40N5-07	3
3	BS360SA-B3	Adjustable Shaft	H36D2-09-8	2
4	BS360SA-B4	Eccentric Shaft	H36D2-09-A	1
5	BS360SA-B5	Adjusting Bracket	H36D3-07	1
6	BS360SA-B6	Nut	M16	6
7	BS360SA-B7	45 Degree Steel Screw	L33N2-21	4
8	BS360SA-B8	Spring Washer	M12	4
9	BS360SA-B9	Steel Hex. Cap Bolt	M12x50L	4
10	BS360SA-B10	Hex. Soc. Cap Screw	M12x135L	4
11	BS360SA-B11	Spring Washer	M12	4
12	BS360SA-B12	Blade Tension Cylinder	H36D2-42	1
13	BS360SA-B13	Tension Slider	H36D1-06	1
14	BS360SA-B14	Hex. Cap Bolt	M8x45L	1
15	BS360SA-B15	Nut	M8	1
16	BS360SA-B16	Hex. Soc. Cap Screw	M4x30L	2
17	BS360SA-B17	Limit Switch AZD-1001T	331D5-06	1
18	BS360SA-B18	Steel Hex. Cap Bolt	M12x50L	3
19	BS360SA-B19	Set Screw	M10x12L	1
20	BS360SA-B20	Spring Washer	M12	3
21	BS360SA-B21	45 Degree Steel Screw	H36D2-06	3
22	BS360SA-B22	Tension Slider	H36D1-07	1
23	BS360SA-B23	Bolt Bush	H36D2-05-D	1
23-1	BS360SA-B23-1	Washer	H36D2-05-E	1
23-2	BS360SA-B23-2	Spring Washer	M12	1
23-3	BS360SA-B23-3	Steel Hex. Cap Bolt	M12x30L	1
24	BS360SA-B24	Cover Plate	460M2-09	2
25	BS360SA-B25	Spring Washer	M8	6
26	BS360SA-B26	Hex. Soc. Capscrew	M8x25L	6
26-1	BS360SA-B26-1	Washer	H46D2-18-8	1
26-2	BS360SA-B26-2	Spring Washer	M12	1
26-3	BS360SA-B26-3	Steel Hex. Cap Bolt	M12x30L	1
27	BS360SA-B27	Hex. Soc. Cap Screw	M5x50L	4



Item	Part No.	Description	Size No.	Qty.
28	BS360SA-B28	Wire Channel		1
29	BS360SA-B29	Hex. Soc. Cap Screw	M4x30L	4
30	BS360SA-B30	Limit Switch ED-1-3-32	H33D4-11	2
31	BS360SA-B31	Limit Switch Plate	H33D3-14-A	2
32	BS360SA-B32	Round Head Soc. Screw	M6x20L	4
33	BS360SA-B33	Round Head Soc. Screw	M6x8L	8
34	BS360SA-B34	Big Column Plate	H33D3-18	2
35	BS360SA-B35	Dust Seal DK8110	H33D4-30	2
36	BS360SA-B36	Oilless Bush 11070	H46D4-12	2
36-1	BS360SA-B36-1	Oil Cup		1
36-2	BS360SA-B36-2	90° Fitting 1/8x1/8	L25A4-28	1
37	BS360SA-B37	Column Sleeve	H33D1-09	1
38	BS360SA-B38	Upper Holder	H36D1-15	1
39	BS360SA-B39	Spring Washer	M10	4
40	BS360SA-B40	Hex. Soc. Cap Screw	M10x30L	4
41	BS360SA-B41	Setscrew	M6x6L	1
42	BS360SA-B42	Hex. Soc. Cap Screw	M12x30L	6
43	BS360SA-B43	Spring Pin	10x30L	2
44	BS360SA-B44	Key	14x9x50L	1
45	BS360SA-B45	Worm Reducer 100#1/40wt	H36D4-05	1
46	BS360SA-B46	Motor 5HP	ML360002	1
47	BS360SA-B47	Spring Washer	M10	4
48	BS360SA-B48	Hex. Cap Bolt	M10x30L	4
49	BS360SA-B49	Key	10x8x40L	1
50	BS360SA-B50	Hex. Cap Bolt	M10x25L	4
51	BS360SA-B51	Spring Washer	M10	4
52	BS360SA-B52	Motor Fixed Plate	H36D1-16	1
53	BS360SA-B53	Round Head Soc. Screw	M5x8L	1
54	BS360SA-B54	Variable Speed Guard	H36D3-05	1
55	BS360SA-B55	Round Head Soc. Screw	M5x8L	3
56	BS360SA-B56	Belt 1922V426	33104-06	1
57	BS360SA-B57	Variable Speed (Adjustable)		1
58	BS360SA-B58	Variable Speed (Fixed)		1
59	BS360SA-B59	Hex. Soc. Capscrew	M8x65L	1
60	BS360SA-B60	Cover Plate	H36D3-05-A	1



Item	Part No.	Description	Size No.	Qty.
61	BS360SA-B61	Round Head Soc. Screw	M5x8L	6
62	BS360SA-B62	Round Head Soc. Screw	M5x8L	1
63	BS360SA-B63	Speed Bracket	H36D3-09-A	1
64	BS360SA-B64	Speed Display		1
65	BS360SA-B65	Round Head Soc. Screw	M5x8L	4
66	BS360SA-B66	Wheel Cover Plate	331D3-16-A	1
67	BS360SA-B67	Round Head Soc. Screw	M5x8L	4
68	BS360SA-B68	Hex. Soc. Capscrew	M6x16L	1
69	BS360SA-B69	Spring Washer	M6	1
70	BS360SA-B70	Brush Pulley Sleeve	331D2-42-A	2
71-1	BS360SA-B71-1	Brush Pulley	331D2-42	1
72	BS360SA-B72	Set Screw	M6x6L	1
73	BS360SA-B73	Position Sleeve	331D2-41	1
74-1	BS360SA-B74-1	Brush Wheel Shaft	331D2-40	1
75	BS360SA-B75	Hex. Soc. Capscrew	M6x8L	2
76	BS360SA-B76	Setscrew	M6x6L	2
77	BS360SA-B77	Fixed Shaft		1
78	BS360SA-B78	Hex. Soc. Capscrew	M8x40L	1
79	BS360SA-B79	Brush Bracket	331D3-17	1
80	BS360SA-B80	Brush Spring	331D4-04	1
81-1	BS360SA-B81-1	Brush Shaft Bush	331D2-39	1
82	BS360SA-B82	Set Screw	M6x6L	1
83	BS360SA-B83	Position Sleeve	331D2-41	1
86-1	BS360SA-B86-1	Brush	331D4-08	1
87	BS360SA-B87	Spring Washer	M10	1
88	BS360SA-B88	Nut	M10	1
89	BS360SA-B89	Bearing Bush (Short)	L46N2-18-A	2
89-1	BS360SA-B89-1	Bearing Bush (Long)	L46N2-19-A	1
90	BS360SA-B90	Bearing 6201	L25A5-03	4
91	BS360SA-B91	Bearing Shaft (Long)	L46N2-19	2
91-1	BS360SA-B91-1	Bearing Shaft (Short)	L46N2-18	1
92	BS360SA-B92	Nut	M10	2
93	BS360SA-B93	Spring Washer	M10	2
94	BS360SA-B94	Rear Bearing Seat	H36D1-12	1
95	BS360SA-B95	Hex. Soc. Capscrew	M8x45L	1



Item	Part No.	Description	Size No.	Qty.
96	BS360SA-B96	Adjusting Screw	3300209	1
97	BS360SA-B97	Guide Spring	3300405	1
98	BS360SA-B98	Guide Pin	331D2-59	1
99	BS360SA-B99	Hex. Soc. Capscrew	M6x16L	1
100	BS360SA-B100	Upper Bracket	H36D3-21	2
101	BS360SA-B101	Bracket Shaft	H36D2-15	1
102	BS360SA-B102	Ball Bearing 6000	331D5-10A	2
103	BS360SA-B103	Bearing Shaft	H36D2-15-A	2
104	BS360SA-B104	Carbide Guide (L/R)	H36D2-16-A	1
105	BS360SA-B105	Carbide Guide (R/R)	H36D2-16-C	1
106	BS360SA-B106	Hex. Soc. Capscrew	M10x35L	2
107	BS360SA-B107	Spring Washer	M10	2
108	BS360SA-B108	Flat Washer	M10	2
109	BS360SA-B109	Steel Hex. Cap Bolt	M12x30L	4
110	BS360SA-B110	Spring Washer	M12	4
111	BS360SA-B111	Guide Arm (R)	H36D1-14	1
112	BS360SA-B112	Set Screw	M8x30L	3
113	BS360SA-B113	Flat Head Screw	M12x25L	1
114	BS360SA-B114	Wheel Washer	33102-49	1
115	BS360SA-B115	Driver Wheel	H36D1-03	1
116	BS360SA-B116	Setscrew	M12x25L	2
117	BS360SA-B117	Round Head Soc. Screw	M6x8L	2
118	BS360SA-B118	Steel Hex. Cap Bolt	M12x45L	4
119	BS360SA-B119	Spring Washer	M12x45L	4
119-1	BS360SA-B119-1	Nut	M4	2
119-2	BS360SA-B119-2	Set Plate	H36D3-23	1
119-3	BS360SA-B119-3	Spring Washer	M6	2
119-4	BS360SA-B119-4	Round Head Soc. Screw	M6x12L	2
119-5	BS360SA-B119-5	Sensor		1
119-6	BS360SA-B119-6	Round Head Screw	M4x25L	2
120	BS360SA-B120	Saw Head	H36D3-02	1
121	BS360SA-B121	Round Head Soc. Screw	M6x8L	2
122	BS360SA-B122	Wires Locking Plate	H33D3-02-B	1
123	BS360SA-B123	Flat Head Screw	M4x10L	2
124	BS360SA-B124	Cover Hook	330S0419	1



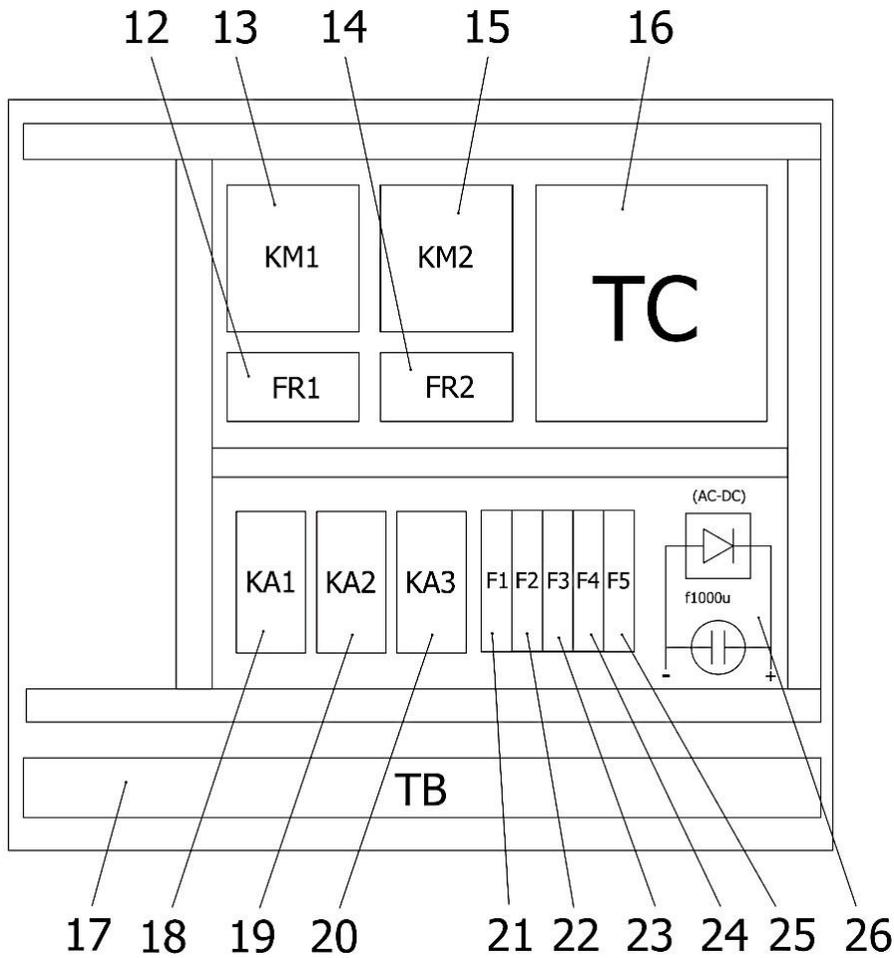
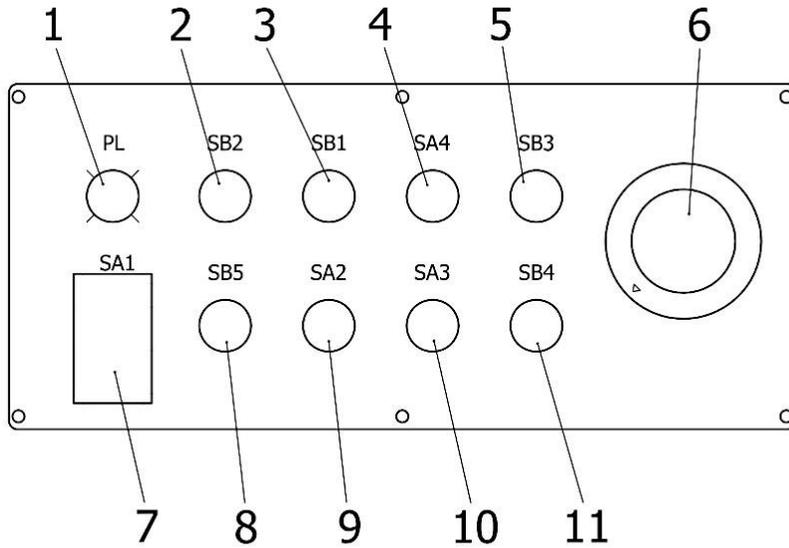
Item	Part No.	Description	Size No.	Qty.
125	BS360SA-B125	Holder Plates	H36D1-08	2
126	BS360SA-B126	Flat Washer	M10	4
127	BS360SA-B127	Spring Washer	M10	4
128	BS360SA-B128	Hex. Soc. Capscrew	M10x30	4
129	BS360SA-B129	Screw	M6x16L	4
130	BS360SA-B130	Working Light	L25A5-32	1
131	BS360SA-B131	Rear Coolant Tray	H36D3-15-A	1
132	BS360SA-B132	Guide Arm Holder	H36D2-04	1
133	BS360SA-B133	Set Screw	M10x16L	4
134	BS360SA-B134	Hex. Soc. Capscrew	M10x25L	4
135	BS360SA-B135	Setscrew	M8x16L	3
136	BS360SA-B136	Locking Block	460D2-46	1
137	BS360SA-B137	Guide Arm	H36D1-13	1
138	BS360SA-B138	Handle M12x45L	33104-39	1
139	BS360SA-B139	Flatwasher	M10	2
140	BS360SA-B140	Spring Washer	M10	2
141	BS360SA-B141	Hex. Soc. Capscrew	M10x35L	2
142	BS360SA-B142	Bearing Cover	H36D1-10	1
143	BS360SA-B143	Bearing Nut	AN09	1
144	BS360SA-B144	Teeth Washer	AW09	1
145	BS360SA-B145	Ball Bearing 32009	46004-20	2
146	BS360SA-B146	Spacer	H36D2-03-A	1
147	BS360SA-B147	Idle Wheel Shaft	H36D2-03	1
148	BS360SA-B148	Idle Wheel	H36D1-02	1
149	BS360SA-B149	Front Coolant Tray	H36D3-15	1
150	BS360SA-B150	Limit Switch AZO-1001T	33105-06	1
151	BS360SA-B151	Hex. Soc. Cap Screw	M4x30L	2
152	BS360SA-B152	Round Head Soc. Screw	M6x8L	2
153	BS360SA-B153	Front Bearing Seat	H36D1-11	1
154	BS360SA-B154	Hex. Soc. Capscrew	M6x16L	1
155	BS360SA-B155	Nut	M10	2
156	BS360SA-B156	Spring Washer	M10	2
157	BS360SA-B157	Bearing Bush (Short)	L46N2-18-A	2
157-1	BS360SA-B157-1	Bearing Bush (Long)	L46N2-19-A	1
158	BS360SA-B158	Ball Bearing 6201	L25A5-03	4



Item	Part No.	Description	Size No.	Qty.
159	BS360SA-B159	Bearing Shaft (Long)	L46N2-19	2
159-1	BS360SA-B159-1	Bearing Shaft (Short)	L46N2-18	1
160	BS360SA-B160	Hex. Soc. Capscrew	M8x45L	1
161	BS360SA-B161	Guide Pin	33102-59	1
162	BS360SA-B162	Guide Spring	3300405	1
163	BS360SA-B163	Guide Screw	3300209	1
164	BS360SA-B164	Spring Pin	5x15L	1
165	BS360SA-B165	Carbide Guide (UF)	H36D2-16	1
166	BS360SA-B166	Carbide Guide (Rlf)	H36D2-16-B	1
167	BS360SA-B167	Spring Pin	5x15L	1
168	BS360SA-B168	Bracket Shaft		1
169	BS360SA-B169	Ball Bearing6000	331D5-10A	2
170	BS360SA-B170	Upper Bracket	H36D3-21	2
171	BS360SA-B171	Bracket Shaft	H36D2-15-A	2
172	BS360SA-B172	Blade Guard	H36D3-22	1
173	BS360SA-B173	Round Head Soc. Screw	M6x8L	1
174	BS360SA-B174	Bending Handle	9160502	1
175	BS360SA-B175	Big Round Head Screw	M6x12L	2
176	BS360SA-B176	Blade Cover	H36D3-14	1
177	BS360SA-B177	Round Head Soc. Screw	M6x8L	2
178	BS360SA-B178	Contact Plate	H36D3-16	1
179	BS360SA-B179	Nut	M6	1
180	BS360SA-B180	Hex. Cap Bolt	M6x16L	1
181	BS360SA-B181	Fixed Block	46002-44-A	2
182	BS360SA-B182	Round Head Soc. Screw	M8x30L	4
183	BS360SA-B183	Pin	8x70	2
184	BS360SA-B184	Swiveling Latch	46002-45	2
185	BS360SA-B185	Round Head Soc. Screw	M6x16	4
186	BS360SA-B186	Flat Head Screw	M4x10L	2
187	BS360SA-B187	Locking Latch	330S0419	1
188	BS360SA-B188	Brush Cover	H36D3-14	1
189	BS360SA-B189	Round Head Soc. Screw	M6x8L	2



PARTS DIAGRAM - ELECTRICAL - C



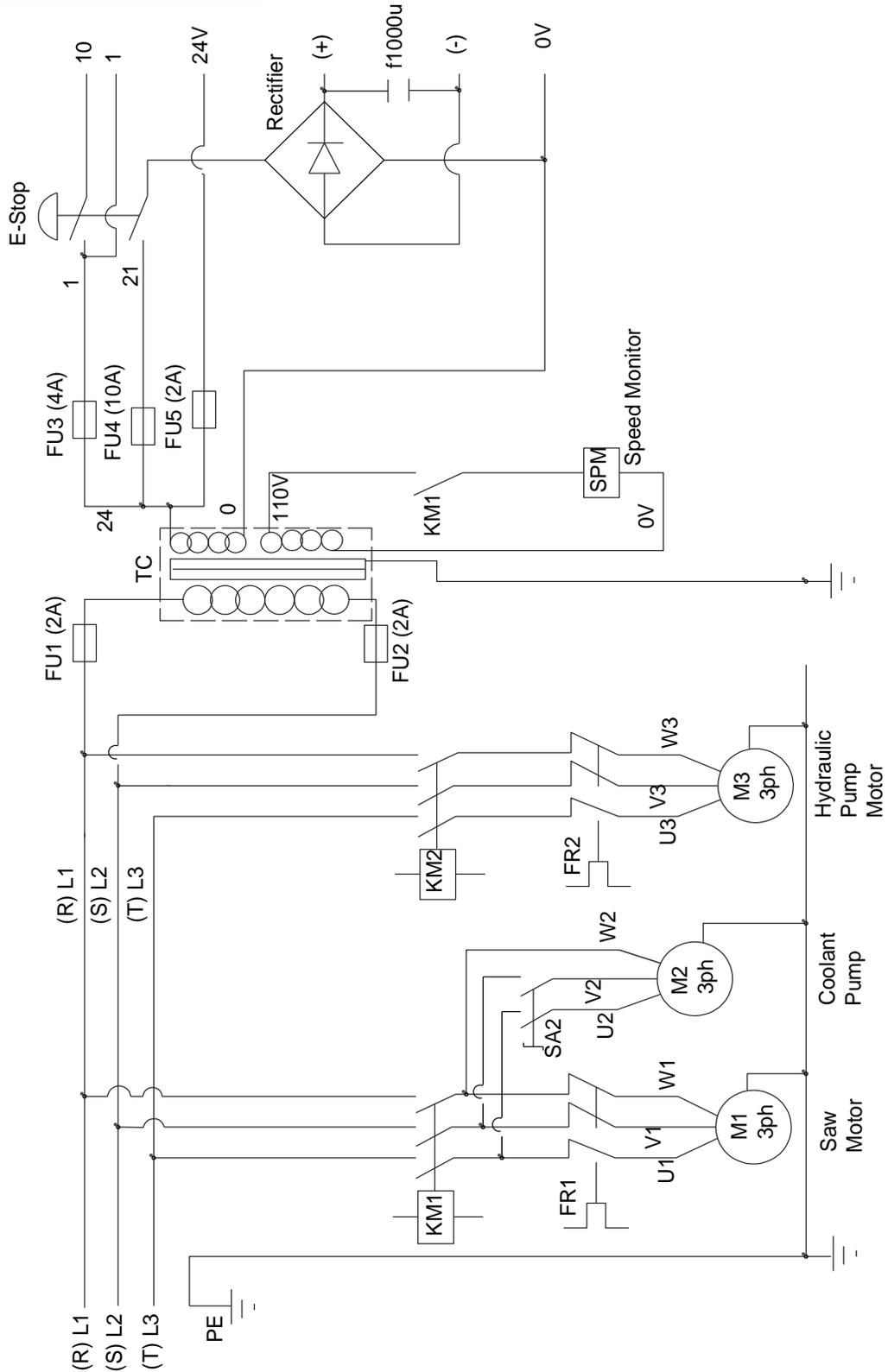


Parts List – Electrical - C

Item	Part No.	Description	Qty.
1	BS360SA-C1	PL – Power Indicator Light	1
2	BS360SA-C2	SB2 – Operation Start Button	1
3	BS360SA-C3	SB1 – Operation Stop Button	1
4	BS360SA-C4	SA4 – Select Switch	1
5	BS360SA-C5	SB3 – Bow Up Button	1
6	BS360SA-C6	Flow Regulator Valve	1
7	BS360SA-C7	SA1 – Emergency Stop Button	1
8	BS360SA-C8	SB5 – Hydraulic Start Button	1
9	BS360SA-C9	SA2 – Coolant Switch	1
10	BS360SA-C10	SA3 – Vise Open/Close Manual Switch	1
11	BS360SA-C11	SB4 – Bow Down Button	1
12	BS360SA-C12	FR1 – Main Motor Overload Relay	1
13	BS360SA-C13	KM1 – Blade Motor Switch	1
14	BS360SA-C14	FR2 – Hydraulic Motor Overload Relay	1
15	BS360SA-C15	KM2 – Hydraulic Motor Switch	1
16	BS360SA-C16	TC – Transformer	1
17	BS360SA-C17	TB – Terminal Board	1
18	BS360SA-C18	KA1 – Relay	1
19	BS360SA-C19	KA2 – Relay	1
20	BS360SA-C20	KA3 – Relay	1
21	BS360SA-C21	F1 – Power In Fuse	1
22	BS360SA-C22	F2 – Power In Fuse	1
23	BS360SA-C23	F3 – Control Circuit Fuse	1
24	BS360SA-C24	F4 – Solenoid Circuit Fuse	1
25	BS360SA-C25	F5 – Work Light Fuse	1
26	BS360SA-C26	Rectifier AC To DC	1



ELECTRICAL SCHEMATIC



HYDRAULIC SCHEMATIC

