OPERATOR'S MANUAL

Metal Working

MANUAL COLD SAW

MODEL: CS-350EU

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

Rev. 07/2020

Table of Contents

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, (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, 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.

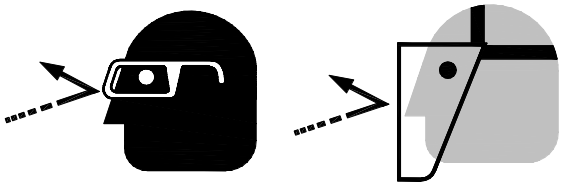
CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

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

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.

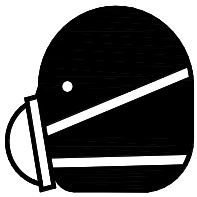


PROTECT AGAINST NOISE

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.

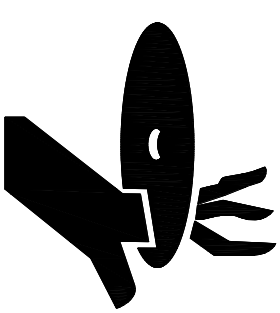
DUST HAZARD

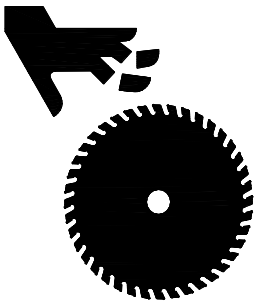
Wear appropriate dust mask. Dust created while using machinery can cause cancer, birth defects, and long-term respiratory damage. Be aware of the dust hazards associated with all types of materials.



ROTATING BLADE HAZARD

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





EMERGENCY STOP BUTTON

In the event of incorrect operation or dangerous conditions, the machine can be stopped immediately by pressing the **E-STOP** button. Twist the emergency stop button clockwise (cw) to reset. Note: Resetting the E-Stop will not 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. **Do not force tool.** Your machine will do a better and safer job if used as intended. **DO NOT** use inappropriate attachments in an attempt to exceed the machines rated capacity.
9. **Use the right tool for the job. DO NOT** attempt to force a small tool or attachment to do the work of a large industrial tool. **DO NOT** use a tool for a purpose for which it was not intended.
10. **Dress appropriate. DO NOT** wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.
11. **Use eye and ear protection**. Always wear ISO approved impact safety goggles. Wear a full-face shield if you are producing metal filings.
12. **Do not overreach**. Maintain proper footing and balance at all times. **DO NOT** reach over or across a running machine.
13. **Stay alert**. Watch what you are doing and use common sense. **DO NOT** operate any tool or machine when you are tired.
14. **Check for damaged parts**. Before using any tool or machine, carefully check any part that appears damaged. Check for alignment and binding of moving parts that may affect proper machine operation.
15. **Observe work area conditions**. **DO NOT** use machines or power tools in damp or wet locations. Do not expose to rain. Keep work area well lighted. **DO NOT** use electrically powered tools in the presence of flammable gases or liquids.
16. **Blade adjustments and maintenance**. Always keep blades sharp and properly adjusted for optimum performance.
17. Keep visitors a safe distance from the work area.
18. **Keep children away**. Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
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. **Do not** cut where the atmosphere might contain flammable dust, gas, or liquid vapors such as from gasoline.

22. **DO NOT** touch live electrical components or parts.
23. **Turn off** power before checking, cleaning, or replacing any parts.
24. Be sure **all** equipment is properly installed and grounded according to national, state, and local codes.
25. Keep **all** cords dry, free from grease and oil, and protected from sparks and hot metal.
26. Inspect power and control cables periodically. Replace if damaged or bare wires are exposed. **Bare wiring can kill!**
27. **DO NOT** bypass or defeat any safety interlock systems.
28. Always check that the work piece is securely clamped and that long pieces are properly supported.
29. **DO NOT** use a saw blade size that is outside the limits of the machines specifications.
30. Immediately release the start / run trigger button if the saw blade should get stuck in a cut. Press the red power off switch and remove the yellow lock key before raising the machine head. Then open the vise and remove the work piece. Check the blade teeth for damage. If any of the teeth are broken or missing replace the saw blade.
31. The operator should stand in front of the machine using a single hand to grip the feed handle.
32. A proper break-in period for the cold saw is recommended. Intervals of 30 minutes to be repeated two or three times, after which the cold saw may be used continuously.

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.*

TECHNICAL SPECIFICATIONS

Blade Size (Customer Supplied, must match work material)	Ø14" (355mm) x T0.10” (2.5mm)
Arbor Size	1.26" (32mm)
Blade Speed	Variable, 24 - 120rpm
Head Style	Pivot
Operation	Manual
Head Miter	45° Left / 45° Right
Vice Style	Single Action with Cam Lock
Maximum Vice Opening	4.72" (120mm)
Slotting Ability	No
Material Stop Length	27.25” (762mm)
Vise Table Height from Floor	41.55” (1055mm)
Power	220V, 1ph, 60hz
Main Motor	3hp (1.86kw), 220V, 3ph, 4P, 60hz, 10A
Coolant Pump	1/8hp (93w), 220, 1ph, 50/60hz, 0.5A, L140
Coolant Tank	1.5gal (5.7L)
Net Weight with Stand	600lbs (272kg)
Shipping Weight	720lbs (327kg)
Overall Dimensions (LxWxH)	51.25” x 39.5” x 75.75” (1302 x 1003 x 1924mm)
Base Footprint	22.74” x 23.62” (578 x 600mm)
Shipping Dimensions (LxWxH)	60" x 44" x 62" (1524 x 1118 x 1575mm)

Cutting Capacities:

	Solid Bars			Tubing		
Angle						
90°	3.5" (90mm)	4" x 4" (100x100mm)	6.3" x 3.5" (160x90mm)	4.7" (120mm)	4" x 4" (100x100mm)	6.3" x 3.5" (160x90mm)
45°	3" (75mm)	3.5" x 3.5" (90x90mm)	3.5" x 2.8" (90x70mm)	4" (100mm)	3.5" x 3.5" (90x90mm)	3.5" x 2.8" (90x70mm)

UNPACKING AND CHECKING CONTENTS

Your Baileigh machine is shipped complete in two boxes on one pallet. 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.*

Two Person Lift. Use an assistant or lifting devise (preferred) to support the weight of the saw body. Do not lift alone.

Head and Stand Assembly

Material Stop

Hardware

Feed Handle

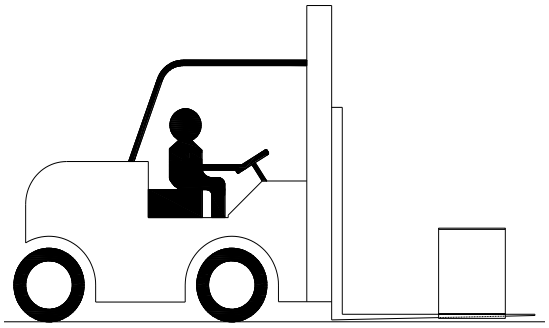
Support Roller

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.

INSTALLATION

IMPORTANT:

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

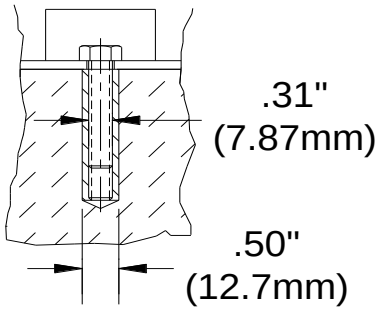
- Overall weight of the machine.
- Weight of material being processed.
- Sizes of material to be processed through the machine.
- Space needed for auxiliary stands, worktables, or other machinery.
- Clearance from walls and other obstacles.
- Maintain an adequate working area around the machine for safety.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

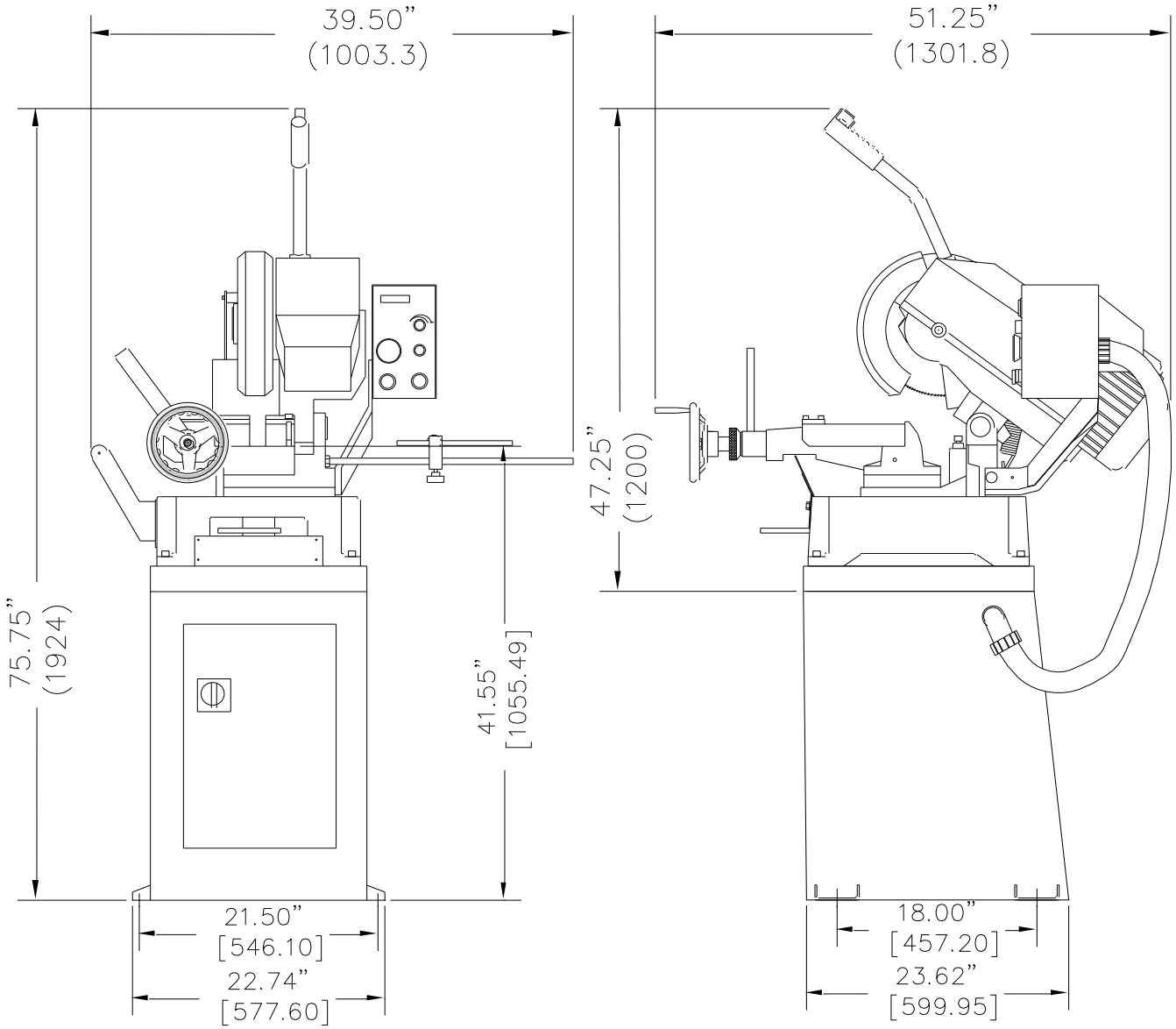
This saw can be operated as free standing if; all of the installation points are followed and the saw is solid and will not tip, rock, or move, with or without material loaded or during operation. If it does not meet these criteria, then the saw should be anchored as follows.

- 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

Machine Dimensions
(when assembled)



GETTING TO KNOW YOUR MACHINE

Saw Blade Head Assembly

The section of the machine composed of the saw motor, gear case, blade and blade guard, and feed handle and trigger switch.

Feed Handle

A long angled tube with a grip for raising and lowering the disk head and a trigger switch to start and stop the saw motor.

Gear Case

The central part of the assembly, housing the gear system. The motor mounts to the back and the output to the blade is to the left side.

Blade Guard

The blade guard has a stationary cover which mounts to the left side of the gear case and a movable part which has linkage connect to it to cause the guard to open and expose the lower part of the blade as the feed handle is pulled downward.

Saw Blade

The saw blade is mounted onto the end of the arbor shaft and positioned to be centered within the guard assembly.

Electrical Box

The electrical box is mounted to the right of the saw blade head assembly and house the electrical control system except for the trigger switch. The function of the switches will be discussed later.

Machine Base

A heavy cast iron structure that supports the miter system, vise system, and head assembly.

Vise

A clamping system that provides the basic support and grip for the work material. A handwheel opens and closes the vise jaws.
From the operators position in front of the saw, the left side of the vise has the jaws to clamp the material. The right side bar provides support to reduce and prevent the material from kicking out at the end of the cut.

Material Stop

The material stop to the right side of the vise may be used to set the cut length of the material. This is especially useful for multiple cuts of the same length.

Support Roller

The support roller to the left or infeed side of the vise will assist in holding the material on plane with the vise table as well as assist in feeding the material through the vise.

Stand

Support structure for the machine head assembly, machine base, vise system, and coolant pump system. Houses additional electrical operation components.

Coolant Pump

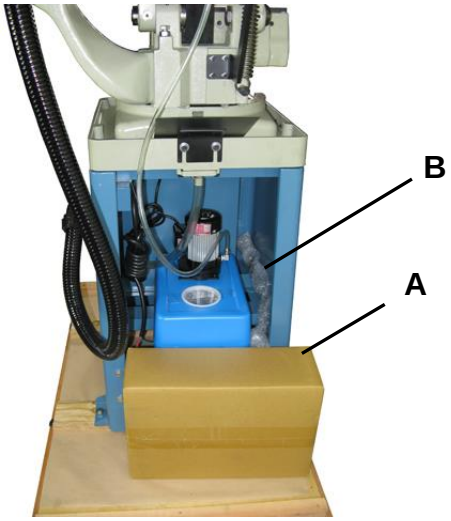
Located in the back of the machine stand, the self contained coolant system includes a tank, coolant pump, filter, and hoses.

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.

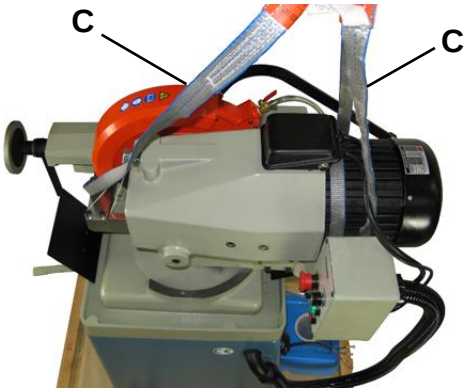
Take out the accessories box (**A**) and the feed handle (**B**) from inside of the stand and set aside for later use.

Lift off the stand and place into the intended working location.



Prepare the machine for hoisting

- Using a sling (**C**), carefully wrap it around the collar of the moveable jaw and motor mount. Use care not to pinch wires.

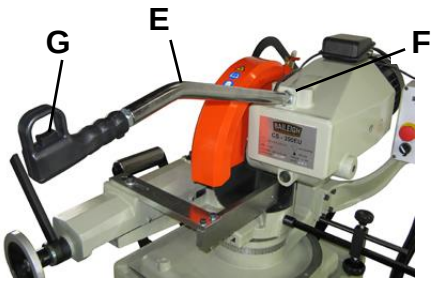


Remove the oil fill transport plug from gear transfer case.

- Use a wrench to unscrew an M20x40 hex screw from the oil fill hole (**D**).

Attach the feed handle to the head assembly.

- Insert the threaded end of the feed handle (**E**) into the gear oil fill hole (**F**).
- Turn the handle clockwise (**cw**) until tight so that the trigger switch (**G**) points up.
- Tighten jam nut clockwise (**cw**).

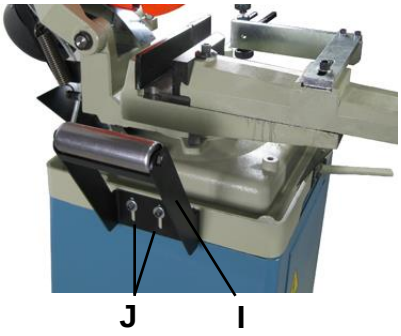


Connect feed handle cable to motor box.

- Route the feed handle cable over the transfer case to the electrical box on the motor.
- Plug the feed handle cable connector (**H**) into the open socket.
- Tighten the connector nut.

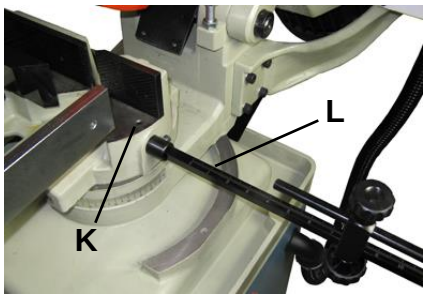
Attach the support roller to the left side of the base.

- Place the support roller (**I**) up to the machine base and align the 2 slots (**J**) with the screw holes in the base.
- Using (2) M10 washers and (2) M10x25 hex bolts, attach the support roller to the base.
- (**DO NOT** Tighten).
- Place a level across the mouth of the vise and the top of the roller. Raise or lower roller (**I**) until level, then secure by tightening bolts.



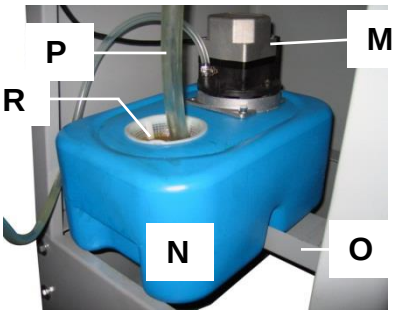
Attach the bar stop to the vise.

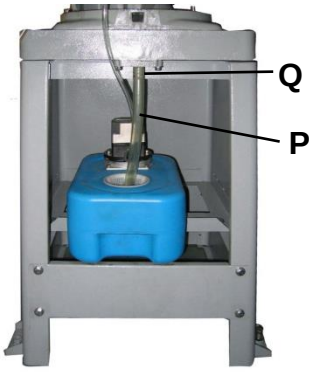
- Verify set screw (**K**) is loose enough not to interfere with the mounting hole on the side of the vise.
- Insert the collar on the long rod (**L**) into the side of the vise until snug making sure graduated scale can be easily read.
- Tighten the set screw (**K**) to secure the bar stop.



Verify coolant tank installation.

- Place the coolant pump (**M**) towards the rear opening of the machine stand.
- Place the coolant tank (**N**) onto the coolant platform (**O**). The trough of the tank fits over the vertical lip of the platform.
- Insert one end of the 0.50” drain hose (**P**) onto the hose connector (**Q**) on the underside of the machine base.
- Place the other end into the strainer cup (**R**) of the coolant tank.





Install the splash plate.

- Insert the splash plate (**S**) onto the front sidewall of machine base.
- Align the 2 slots (**T**) and attach plate with (2) M8 washers and (2) M8x20 hex screws.
- Adjust the plate to its proper position and tighten bolts.

ELECTRICAL

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

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

Power Specifications

Your machine is wired for220 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 ±5%, and for the frequency is ±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:

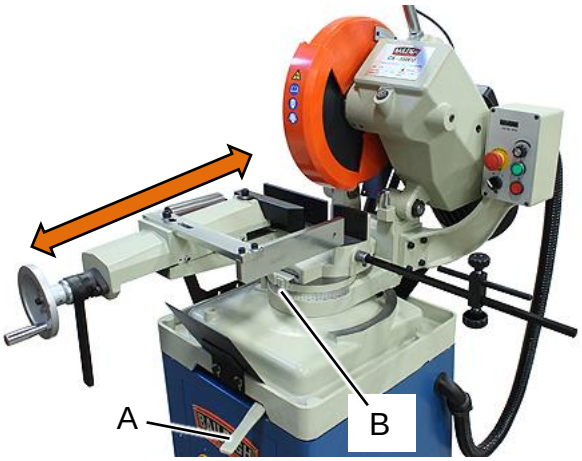
1. Turn the main disconnect switch on the control panel to the OFF position.
2. Unwrap the power cord and route the cord away from the table toward the power supply.
    a. Route the power cord so that it will NOT become entangled in the saw, saw blade, or counterbalance assembly in any way.
    b. Route the cord to the power supply is a way that does NOT create a trip hazard.
3. Connect the power cord to the power supply and check that the power cord has not been damaged during installation.
4. When the saw blade is clear of any obstruction and raised to the up position, the saw turned ON to test operation.
5. Turn the saw OFF and press the E-Stop button when the saw is not in operation.

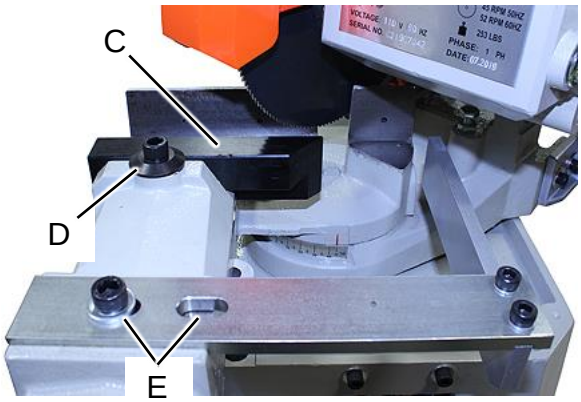
OPERATION SETUP

Miter Angle

⚠ CAUTION: Check that the cutting blade clears all parts of the vise assembly before cutting. The blade can strike and damage parts of the vise assembly (especially during miter cuts) if not properly adjusted.

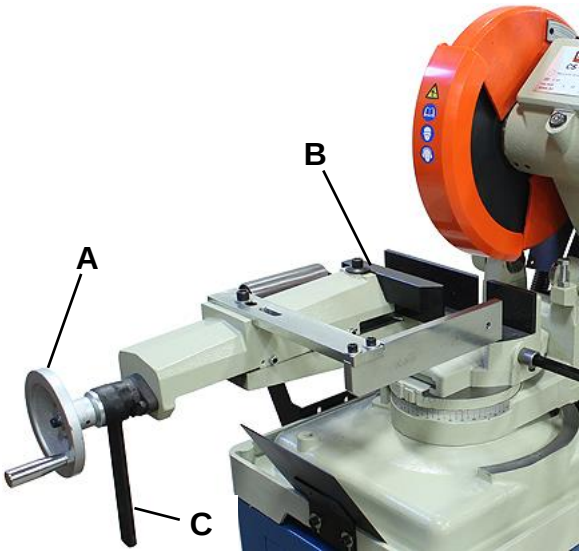
1. Push the miter lock lever (A) to the left to release the disk head and vise assembly.
1. Rotate the disk head assembly to the desired miter angle.
2. Use the indicator scale (B) to set the desired cut angle. (Fine tune the angle as needed to get the exact angle.
3. Slide the vise assembly forward or aft as needed to provide clearance for the cutting blade.
4. Adjust the vise clamping jaw (C) to allow for the blade to clear the vise without contacting the jaw.
5. Loosen the clamping bolt (D) and slide the jaw left or right as needed to clear the saw blade. The jaw should be between 0.25” and 0.5” (6 – 13mm) with out contacting the saw blade.
6. Adjust the clamping support to the right side of the blade by loosening and the mounting bolt and sliding the support within the slots (E) or when needed, changing the slots. If necessary, the clamping support may be removed.
7. Pull the miter lock lever (A) back to the right to lock in the angle. ALWAYS LOCK THE LEVER BEFORE CUTTING.





Vise Operation

1. Use the hand wheel (A) to open and close the vise jaw (B) for pieces that vary in width.
    a. Counter clockwise (ccw) to open jaws
    b. Clockwise (cw) to close jaws
2. Use the vise release lever (C) to quickly clamp and unclamp pieces of the same width. The release lever is a 1/2 turn lever, from straight up (loosen) to straight down (clamped).
    a. Clockwise (cw) to clamp the piece
    b. Counter clockwise (ccw) to unclamp the piece



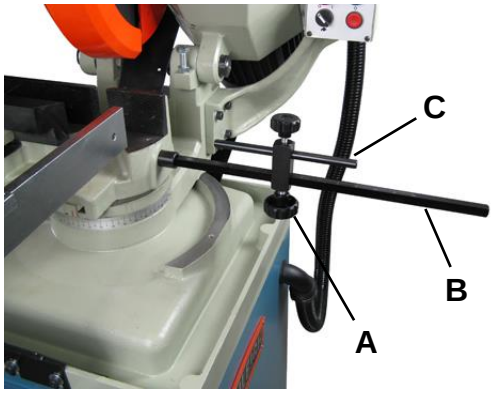
Loading the Piece Part

1. Use the vise hand-wheel to open the jaws wider than the width of the piece.
2. Measure and mark off the length of material to be cut.
3. Place the piece on the flat surface in between the vise jaws.
4. Slide the piece through the jaws so the scribed length mark lines up with the blade or disk.
5. Push the piece up against the back vise jaw.
6. Turn the hand-wheel clockwise (cw) to clamp the piece.

If repetitive cuts are required for material of the same width:

1. Turn the vise hand-wheel clockwise (**cw**) to approach the piece part, leaving approximately 3/16” (5mm) gap between front jaw and the piece part.
2. Then use the vise lock lever to clamp and unclamp the piece.

Setting Cut Length



Setting the cut length eliminates measuring duplicate pieces.

1. Measure and mark the length of material to be cut off.
2. Load the piece part.
3. Line up the cut.
4. Clamp the piece part.
5. Loosen the hand knob (A) at the base of the bar riser.
6. Slide the bar riser along the long rod (B) so that the tip of stop bar (C) touches the end of the piece part.
7. Tighten the hex nut at the base of the bar riser (A).

Using the stop bar

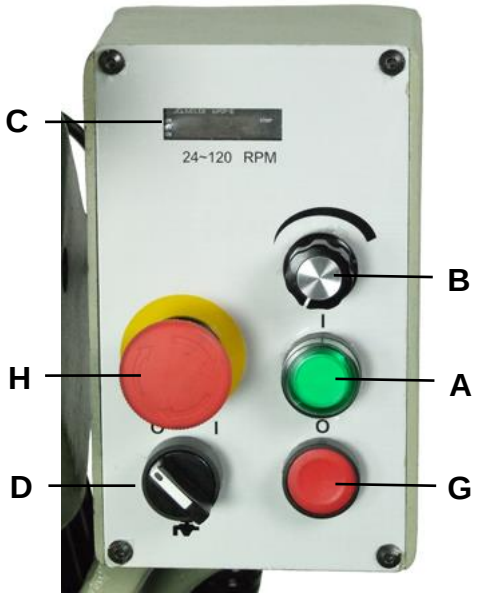
1. Cut off the first length from the clamped piece part.
2. Unclamp the piece part.
3. Slide the piece part forward until it reaches the tip of the stop bar (C).
4. Clamp the piece part.
5. Proceed with the cutting cycle.

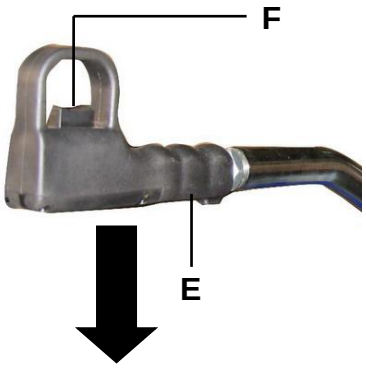
OPERATION

⚠ CAUTION: Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges.
When handling large heavy material make sure they are properly supported.

Cutting Cycle

- Set the miter cut angle.
- Open the vise jaws.
- Load and clamp the piece part.
- Adjust the bar stop for cutting length as needed.
- Press button (A) to turn power on to the saw. (**Green** light will be lit).
- Set the blade speed (B), read the display (C).
- Set the coolant switch (D) to on.
- Grasp the feed handle (E).
- Press the trigger switch (F) to start blade motor.
- Pull down the feed handle (E) applying a steady and constant pressure.
- After cut-off, raise feed handle slowly.
- Release the trigger switch (F) to stop the blade motor.
- Use vise lever to open the jaws.
- Remove or advance the piece part forward for next cut.
- To turn off machine power press the stop button (G)
- To stop machine in an emergency situation, press the **EMERGENCY STOP** button (H).
- Before restarting machine, emergency stop button must be reset with a clockwise (**cw**) twist.





NOTICE: *Do not allow the saw to slam back up to the start position. Doing so will cause damage to the pivot block and the weight of the motor will cause damage to the gear case adaptor over time.*

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

The Baileigh cold saw is now ready to start work. For quality cutting and machine performance always use the correct type of blade or disk and recommended cutting speeds. To extend the life of a new blade or disk, the first two or three cuts must be made while exerting a slight pressure on the piece part. This will double the normal cutting time.

CHOOSING A SAW BLADE

Note: *The saw blade included with this cold saw is a general-purpose blade. It is considered a starter blade and is intended to allow for the saw to make cut as soon as it is safely set up and ready for operation.*
While this blade will cut many material profiles, the best cutting results will be achieved using a blade which is chosen to match the material to be cut.

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
- Rotational 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 toothing. At least 3-6 teeth should be in contact with the material while cutting. Large solid or transverse sections require widely spaced toothing to allow for greater volume of chips and better tooth penetration. Soft materials such as plastics, light alloys, mild bronze, Teflon, wood, etc., require widely spaced toothing to avoid clogging.

General Characteristics

Fine Tooth Pitch – used for thin wall materials such as sheet steel, tubes and profiles.
Coarse Tooth Pitch – used for large cross-sections, and for soft materials (aluminum alloys and soft alloys in general).

Determining Proper Tooth Pitch

Proper tooth pitch depends on:
The size of the section.
The hardness of the material.
Wall thickness.
Solid sections call for blades with a coarse tooth pitch, while small cross-sections require blades with finer teeth.
When cutting walls of small cross-section 0.039” – 0.275” (1–7mm) profiles, it is important that the number of teeth actually making the cut should be at least 3 teeth. Otherwise the effect obtained will be one of tearing rather than of chip removal, leading to a large increase in shearing stress.
When cutting thick materials or solid sections using an excessively fine tooth pitch, the chip collects as a spiral inside the gullet, and since fine tooth pitches have small gullets, the accumulated chip will exceed the gullet capacity and press against the walls of the workpieces, resulting in poor cutting (same situation with soft materials), greater shearing stress and hence breakage of the blade.

A larger pitch should be chosen when the shape of the piece to be cut has a cross-section at any given point which exceeds the average cross-section.

Choice of tooth pitch T as a function of cross-section to be cut for light alloy solid pieces and profiles

			
S in mm.	Pitch T	S and sp in mm.	Pitch T
10	6	10 sp=0.5	3–4
30	8	30 sp=1.5	4–5
50	10	50 sp=2.5	6–7
70	12	70 sp=3.5	8–9
90	14	90 sp=4.5	8–9
130	18	130 sp=6.5	10

KEY:
s = diameter or width of the solid piece to be cut in mm.
sp = thickness of the wall to be cut in mm.
T = tooth pitch in mm.

Cutting and Feeding Speed

The cutting speed and the head feeding speed are limited by the amount of heat generated near to the points of the teeth. If the head feeding speed is too high, the cut will not be straight in either the vertical or the horizontal plane.
The cutting speed depends on the strength (kg/mm2) and hardness (HRC) of the material and the dimensions of the thickest section.
The feeding speed depends on the cross-section of the material. Solid or thick-walled materials (thickness>5mm) can therefore be cut at high speed providing there is sufficient swarf removal by the blade, while thin-walled materials such as tubes or thin profiles must be cut with a low feeding speed.

Breaking in a Saw Blade

Important: A new blade requires a break- in period, during which time about half the normal feeding speed should be used.

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 saw blades may tend toward vibrations and vibration sounds. In this case a slight reduction of the cutting speed (feed rate if the saw is a single rpm machine) 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.

Coolant

The cooling fluid ensures that the blade teeth and material in the area of the cut do not overheat. The fluid must be an excellent lubricant so as to prevent abrasion of the teeth and welding of the chips to the teeth (seizing).

Blade structure

For non-ferrous metals, it is common to use circular saws with a brazed hard metal HM cutting edge, consisting of a disc made of alloy tool steel (71Cr1) on which the shape of the teeth and the seats for the cutting edges are made of Widia K10. These saws have shown excellent wear resistance but low resistance to impact, which is in any case a minor problem with non-ferrous materials.

CHEMICAL COMPOSITION:

Blade body	C	Cr	Mn	Mo	V	Co	HRC
steel type 71Cr1	0,71 ÷ 0,78	0,20 ÷ 0,30	0,40 ÷ 0,70	- ÷ -	- ÷ -	- ÷ -	43+/-1

KEY:

C = Carbon Co = Cobalt Cr = Chromium
Mo = Molybdenum Mn = Manganese V = Vanadium

The numbers in the columns indicate the % of the element present in the steel.

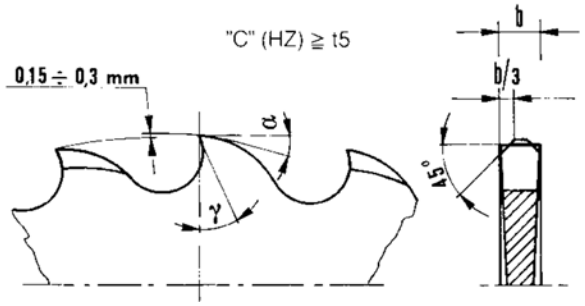
Types of blades

In addition to the size and pitch of the teeth, the blades also have different geometric characteristics in accordance with their particular use:
tooth cutting angle – may be negative or positive
tooth sharpening – may be BW with an alternate raked tooth or C with a roughing tooth raked on both sides and a non-raked finishing tooth
tooth pitch – the distance between the crest of one tooth and the crest of the next tooth (tooth pitch = T)

Teeth shape

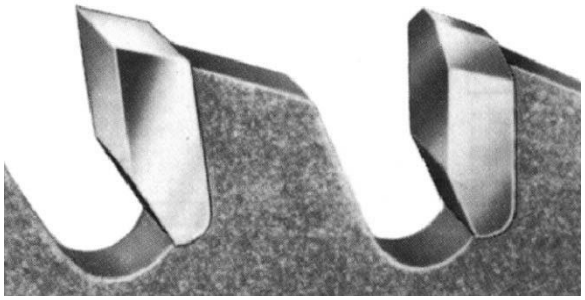
"C" TYPE SHARPENING (HZ)

Coarse toothing with roughing tooth raked on both sides and non-raked finishing tooth. The roughing tooth is about 0.3 mm higher.
Coarse toothing with roughing tooth and finishing tooth. Used in saws with pitch greater than or equal to 5 mm for cutting ferrous and non-ferrous materials with solid or solid-profiled sections.



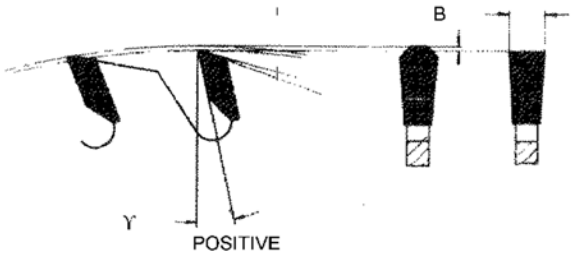
"BW" TYPE SHARPENING DIN 1838--UNI 4014

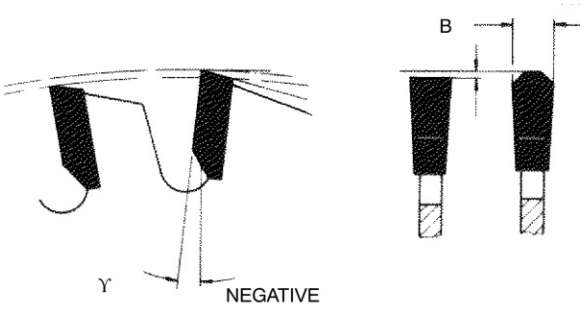
Coarse toothing with teeth alternately raked to the right and left.
Toothing generally used on cut-off machines for cutting ferrous and alloy materials with tubular and profiled sections.



POSITIVE AND NEGATIVE CUTTING ANGLES

The cutting angle may vary from positive to negative depending on the cutting speed, the profile and the type of material to be cut.
A positive angle determines better penetration of the tool and hence lower shear stress and greater ease of sliding for the swarf over the cutting edge. On the other hand, the cutting edge has lower mechanical resistance, so that as the breaking load of the material to be cut increases, the cutting angle decreases from positive until it becomes negative, thus offering a cutting edge with a larger resistant section.

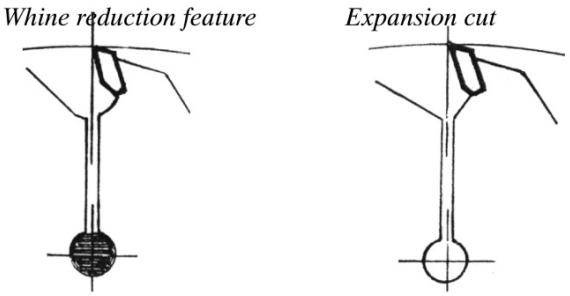




Short swarf material such as brass, bronze, aluminum and hard cast iron require smaller cutting angles because the swarf becomes crushed immediately and the rake angle has little effect during the cutting stage.

The cold saws use discs with positive cutting angles for cutting solid materials and with negative cutting angles for cutting hollow profiles. This is because, as a result of the high cutting speeds, even with non-ferrous materials the tool “strikes” against the wall of the profile to be cut several times, thus requiring a cutting edge with a larger resistant section.

Circular saws can also be characterized by other parameters such as the whine reduction feature, which cuts down noise at high speeds, or expansion, which compensates for the pushing of chips inside the cutting edge, thus reducing the thrust on the walls of the material to be cut.



Use the chart on the following page to help select the saw blade suitable for your application. Baileigh Industrial offers a wide selection of tooth styles for various cutting applications. Please phone Baileigh Industrial at (920.684.4990) to have one of our technicians assist you in selecting the proper cold saw blades for your cutting applications.

BLADE SELECTION CHART

Tube Diameter	Wall Thickness	Blade Diameter- Metric (Normal Inch)						
		225 (9")	250 (10")	275 (10-3/4")	300 (12")	315 (12-1/2")	350 (14")	401.0 (16")
1/2"	.030"-.090"	220BW	240BW	280BW	300BW	300BW	320BW	340BW
1/2"	.090"-.150"	200BW	220BW	240BW	280BW	280BW	300BW	320BW
1"	.030"-.060"	220BW	240BW	280BW	300BW	300BW	320BW	340BW
1"	.060"-.090"	220BW	220BW	240BW	280BW	280BW	300BW	320BW
1"	.090"-.150"	180BW	220BW	220BW	240BW	240BW	280BW	300BW
1-1/2"	.030"-.060"	220BW	240BW	260BW	300BW	300BW	320BW	340BW
1-1/2"	.060"-.090"	200BW	220BW	240BW	280BW	280BW	300BW	320BW
1-1/2"	.090"-.150"	180BW	200BW	220BW	240BW	240BW	280BW	300BW
1-1/2"	.150"-.250"	140C	160C	180C	200C	220C	220C	240BW
2"	.030"-.060"	240BW	260BW	280BW	300BW	300BW	320BW	340BW
2"	.060"-.090"	180BW	200BW	220BW	240BW	240BW	280BW	320BW
2"	.090"-.180"	140C	160C	180C	220C	220C	220C	300BW
2"	.180"-.300"	120C	140C	160C	180C	180C	200C	240BW
2"	.300"-.500"	100C	110C	120C	140C	140C	160C	180C
2-1/2"	.030"-.060"	240BW	260BW	280BW	300BW	300BW	320BW	340BW
2-1/2"	.060"-.090"	200BW	220BW	240BW	260BW	260BW	280BW	300BW
2-1/2"	.090"-.150"	180BW	180C	180C	200C	200C	220C	240BW
2-1/2"	.150"-.250"	120C	140C	160C	180C	180C	200C	220C
2-1/2"	.250"-.400"	100C	110C	120C	140C	140C	160C	180C
2-1/2"	.400".500"	90C	100C	110C	120C	120C	140C	160C
3"	.030"-.060"			280BW	300BW	300BW	320BW	340BW
3"	.060"-.090"			240BW	260BW	260BW	280BW	300BW
3"	.090"-.150"			180C	200C	200C	220C	240BW
3"	.150".250"			160C	180C	180C	200C	220C
3"	.150"-.250"			120C	140C	140C	160C	180C
3"	.250"-.400"			100C	120C	120C	140C	160C
3-1/2"	.030"-.060"				300BW	300BW	320BW	340BW
3-1/2"	.060"-.090"				260BW	260BW	280BW	300BW
3-1/2"	.090"-.150"				200C	200C	220C	240BW
3-1/2"	.150".250"				180C	180C	200C	220C
3-1/2"	.150"-.250"				140C	140C	160C	180C
3-1/2"	.250"-.400"				120C	120C	140C	160C

For Stainless Steel: Recommended Teeth X 1.2 approx.

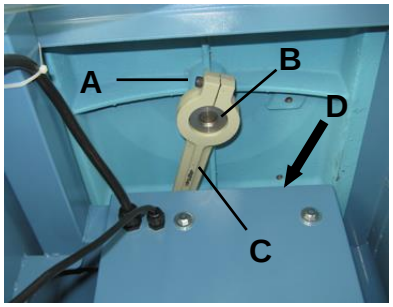
For Non-Ferrous Materials: Recommended Teeth X .75 Approx

SOLID Diameter	Blade Diameter- Metric (Normal Inch)						
	225 (9")	250 (10")	275 (10-3/4")	300 (12")	315 (12-1/2")	350 (14")	401.0 (16")
1/4"-3/4"	180BW	180C	200C	220BW	220BW	280BW	320BW
3/4"-1-1/4"	120C	120C	140C	180C	180C	220BW	240BW
1-1/4"-1-3/4"	100C	100C	120C	140C	140C	180C	200C
1-3/4"-2-1/4"	80C	80C	100C	120C	120C	120C	140C
2-1/4"-2-3/4"	60C	60C	70C	80C	80C	80C	90C
2-3/4"-3-1/2"				60C	60C	60C	80C

MACHINE ADJUSTMENTS

WARNING: BEFORE PERFORMING THE FOLLOWING OPERATIONS, THE ELECTRIC POWER SUPPLY AND THE POWER CABLE MUST BE COMPLETELY DISCONNECTED.

Adjusting the Mitering Lock Lever



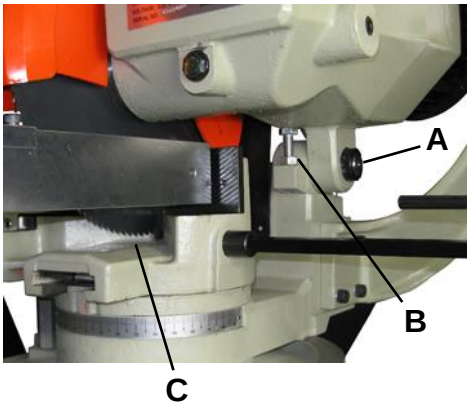
1. The lock lever may require adjustment when the lever contacts the machine base and fails to lock the machine head at required angle. To re-adjust lever:
2. Loosen bolt (A).
3. Support the bushing (B) so that it does not drop.
4. Pivot lever (C) to unlock side (D) to allow more range of motion.
5. Re-tighten bolt (A).

Adjustment of Saw Blade Head

If excessive axial play is found on the pivot hinge, it will be necessary to tighten the screws.
NOTE: Do not overtighten.

To adjust the saw blade head:

- Loosen the 3 set screws on each hinge nut (A).
- Tighten the nut to remove the axial play without causing the pivot to bind.
- Tighten the 3 set screws on each hinge nut (A).



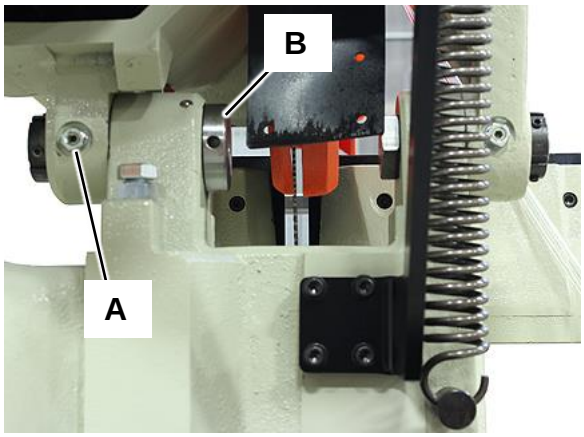
Setting Saw Blade Head Stop

To adjust the saw blade head stop:

- Loosen the jam nut (B).
- Turn the stop bolt up or down as desired to set the stop position of the blade. DO NOT allow the blade to be lowered to contact the vise (C).
- Hold the stop bolt in position and tighten the jam nut.

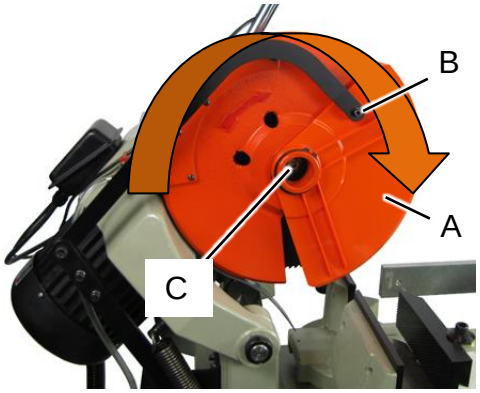
Blade tracking adjustment

The head pivot shaft is supported by eccentric bushings. If blade tracks off center resulting in crooked cuts, adjust as follows.

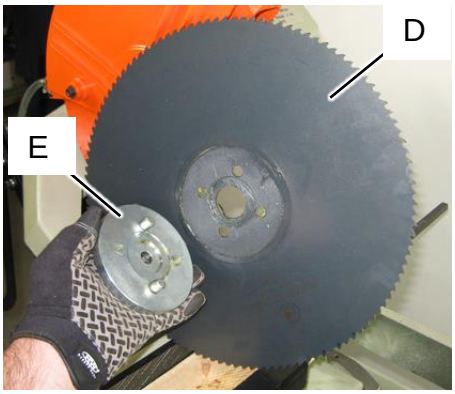


1. Loosen the set screw (A) from rear of head pivot with 4mm hex wrench.
2. If blade tracks to right side (viewed from back of the saw as shown.), rotate eccentric shaft forward.
3. If blade tracks to left side, rotate the eccentric shaft backward.
4. Tighten set screw (A) and operate saw to verify correctness of adjustment.

Changing the Saw Blade



1. To change the saw blade:
2. Release and pivot the mobile guard (A) by removing the hex socket screw (B).
3. Place a block of wood into the vise.
4. Lower the machine head to rest the saw blade on the block of wood.
5. Using a hex wrench, remove the lock bolt (C) in a clockwise (cw) direction. (It has a left handed thread).
6. Remove the blade (D) and blade washer (E) from the spindle.
7. Remove the blade washer from the saw blade (D).
8. Place washer (E) onto the replacement blade and follow above procedure in reverse.
9. Check for proper blade rotation.



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.

Daily Maintenance

- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.
- Do a general cleaning by removing dust and metal chips from the machine.
- Top off the coolant tank. (80% of full tank capacity)
- Inspect the disk/saw blade for wear.
- Check that the blade guard, shields, and emergency stops are in good working order.
- When through using machine, raise the head to reduce stress on the return spring.

Weekly Maintenance

- Clean the machine including the coolant tank and the area around it.
- Lubricate threaded components and sliding devices.
- Clean and grease the vise screw and sliding surfaces.
- Clean the guard housing for the disk/saw blade.
- Apply rust inhibitive lubricant to all non-painted surfaces.
- Sharpen the saw teeth.

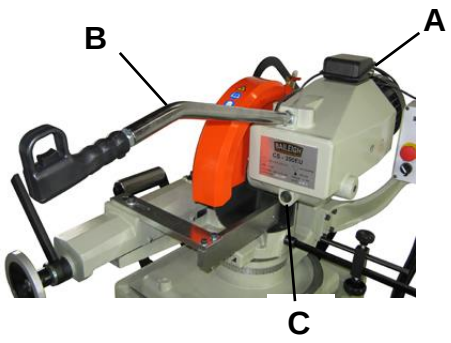
Monthly Maintenance

- Thoroughly clean the machine including the coolant tank.
- Check that all screws on the motor, the pump, the vise jaws, and the guard are tight and secure.
- Check that the saw guard is operating properly.
- Use an EP90 or similar oil to lubricate the saw head pivot (A) and the saw miter pivot.

Yearly Maintenance

Change the oil in the gear case as follows:

- Position the saw head in the horizontal position.
- Remove the connecting plug (A) from the electrical box socket and unscrew the feed handle (B).
- Place a container under the drain hole (C) and remove the drain plug.
- Drain off the old oil.
- Install the drain plug.
- Raise the head to the up position, add 1.58 qt. (1.5L) oil through the feed handle mounting hole.
- Install and connect the feed handle.



Oil Disposal

- Used oil products must be disposed of in a proper manner following local regulations.

Accessing and Cleaning the Coolant System

1. Remove the drain hose from the return screen.
2. Lift the tank and pump assembly off of the retaining tray and slide the assembly out of the stand.
3. Remove and clean the filter (A). Replace if needed.
4. Pour out the coolant from the tray.
5. Wash out the dirt and debris.
6. Replace the filter and install the pump and tank assembly so that the V-notch is over the retaining flange.
7. Fill the tank with coolant solution by pouring coolant through the chip strainer (A).

Oils for 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 blade and machine life. Each gallon of concentrate makes 21 gallons of coolant.

Storing Machine for Extended Period of Time

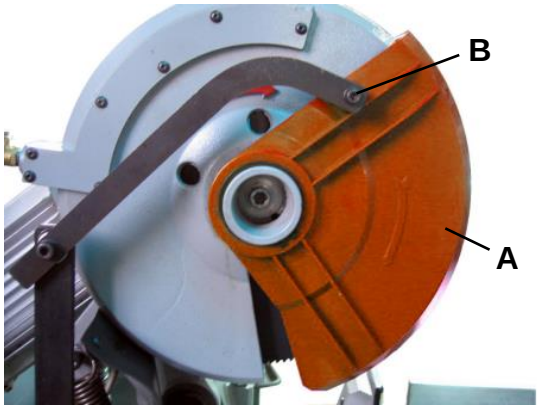
If the Cold Saw is to be inactive for a long period of time, prepare the machine as follows:

- Detach the plug from the electrical supply panel.
- Release the head return spring.
- Empty and clean the coolant tank.
- Clean and grease the machine.
- Cover the machine

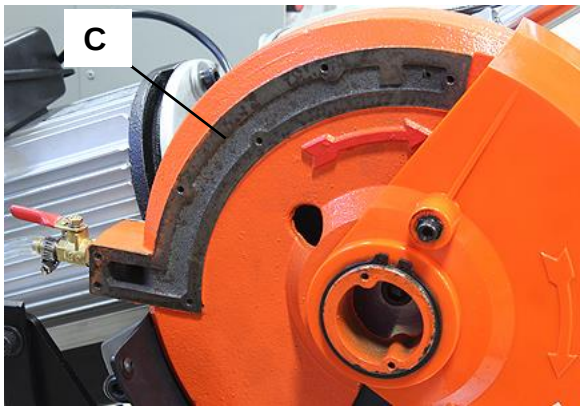
Note: *Proper maintenance can increase the life expectancy of your machine.*

Cleaning Coolant Path

Once a year or if the coolant flow is reduced, remove the channel covers and clean the coolant flow paths.



1. Disconnect power to the saw.
1. To change the saw blade:
2. Release and pivot the mobile guard (A) by removing the hex socket screw (B).
3. Remove the screws, covers, and gaskets from each side of the saw guard.
4. Clean the coolant path (C) to remove all debris.
5. Install the gasket and cover and secure with the screws. If the gasket has been damage, an RTV type seal may be used, however do not allow sealant to get into the coolant flow path.
6. When complete, connect the mobile guard pivot arm.



LUBRICATION OIL TABLE 1

Above 82°F (Select from the products listed below)

Brand	Hydraulic Tank Oil	Gear Oil	Slideway Oil
Mobil	DTE XL 68, DTE 16M	Mobilgear 634, SHC 460	Mobil Vactra Oil No. 4
Shell	Shell Tellus Oil 68	Shell Omala Oil 460	Shell Tonna Oil T220
Exxon	Nuto H 68	Spartan EP 460	Febis K220

Brand	Hydraulic Cylinder Oil	Air Lube System	Grease Fittings
Mobil	DTE 21	DTE 21	Mobil UX2 EPO
Shell	Shell Carnea Oil 10	Shell Carnea Oil 10	Aluania Greaser 1
Exxon	Spinesso 10	Spinesso 10	Ronex MP Beacon 2

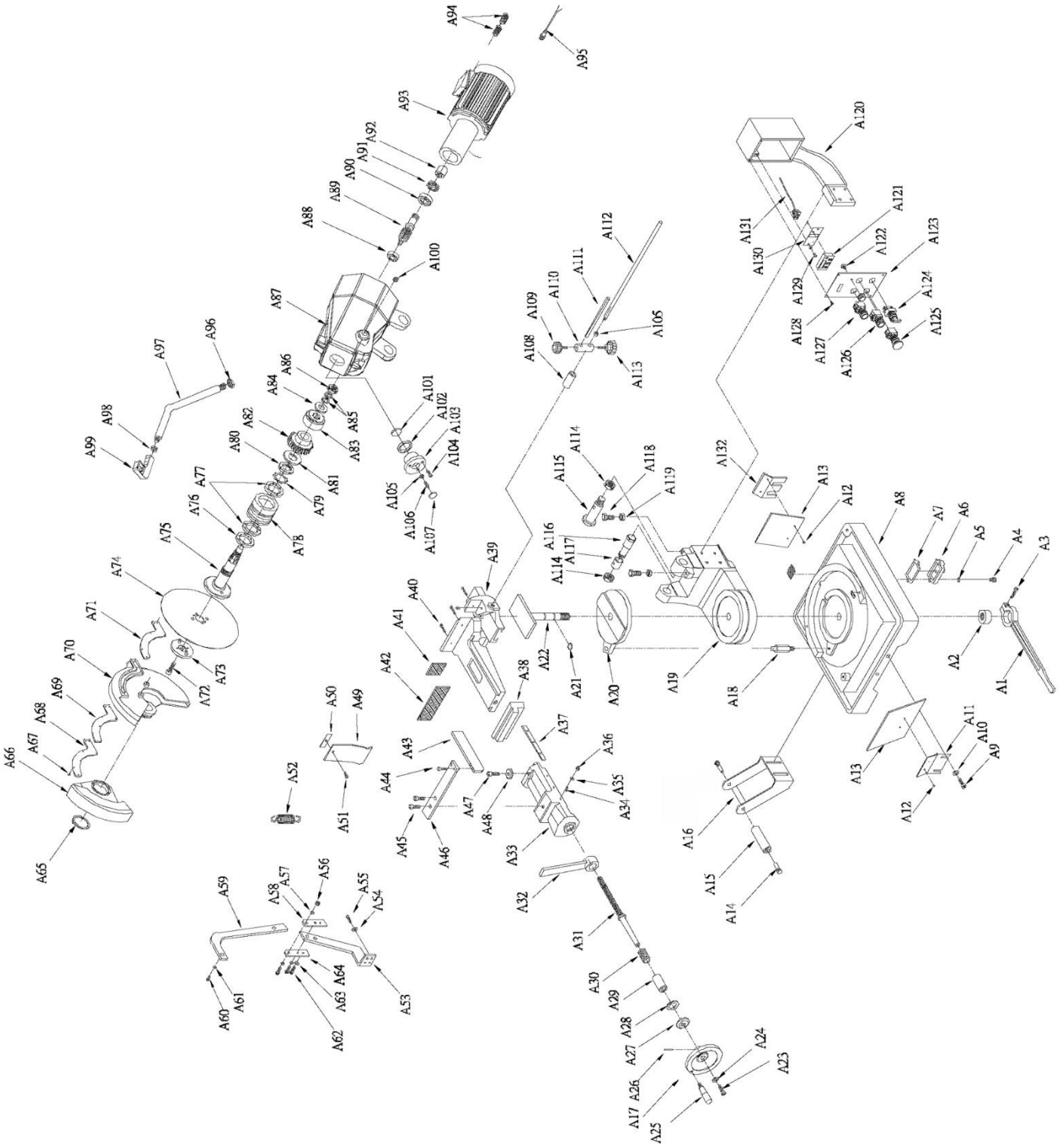
LUBRICATION OIL TABLE 2

Below 82°F (Select from the products listed below)

Brand	Hydraulic Tank Oil	Gear Oil	Slideway Oil
Mobil	DTE XL 46, SHC 525	Mobilgear 630, SHC 220	Mobil Vactra Oil No. 4
Shell	Shell Tellus Oil 46	Shell Omala Oil 220	Shell Tonna Oil T220
Exxon	Nuto H 46	Spartan EP 220	Febis K220

Brand	Hydraulic Cylinder Oil	Air Lube System	Grease Fittings
Mobil	DTE 21	DTE 21	Mobil UX2 EPO
Shell	Shell Carnea Oil 10	Shell Carnea Oil 10	Aluania Greaser 1
Exxon	Spinesso 10	Spinesso 10	Ronex MP Beacon 2

PARTS DRAWING A



PARTS LIST A

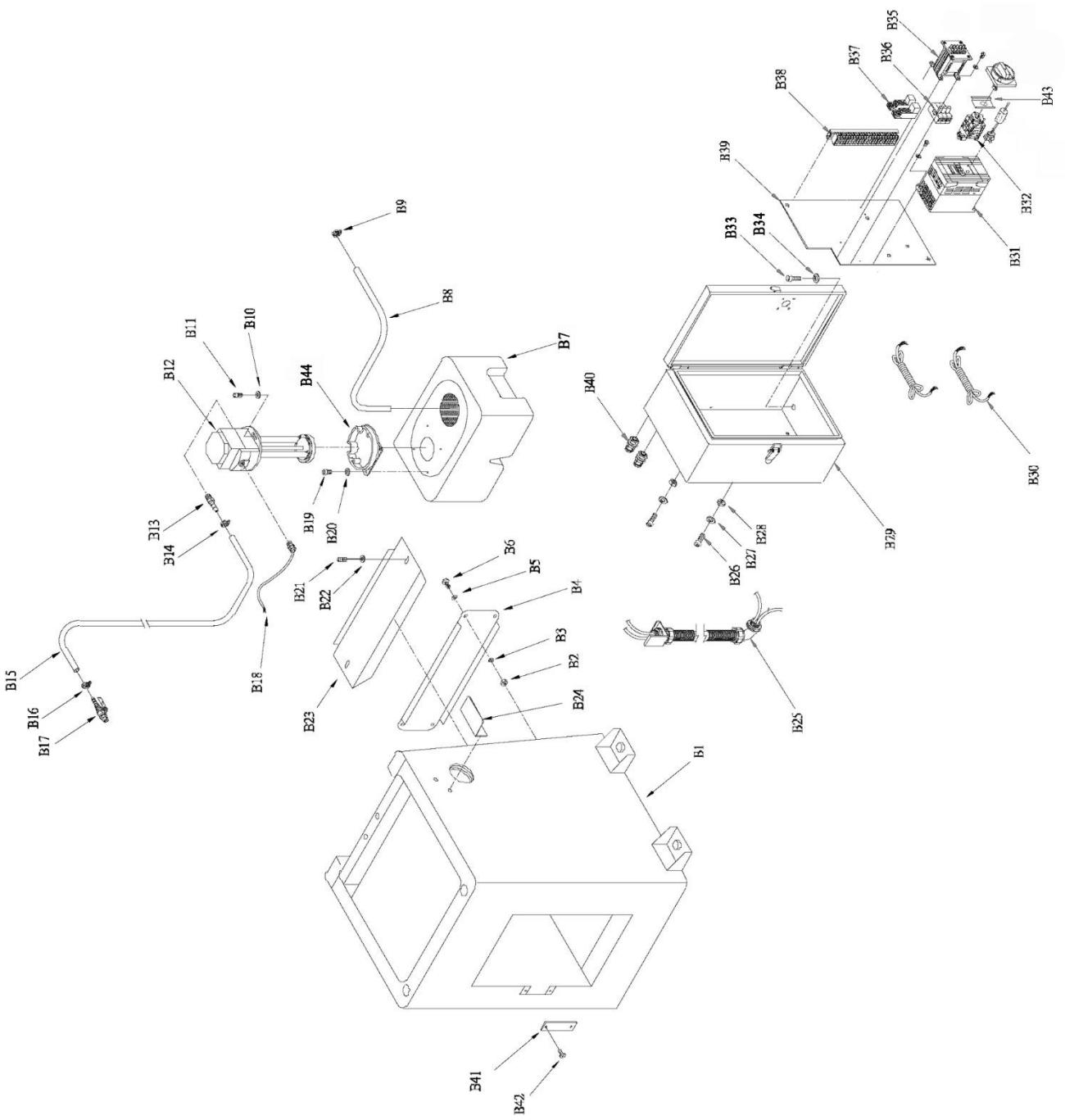
Item	Part No.	Description	Size	Qty.
A1	CS350EU-A1	Lock Handle		1
A2	CS350EU-A2	Lock Nut		1
A3	CS350EU-A3	Hex Socket Cap Screw		1
A4	CS350EU-A4	Hex Socket Cap Screw	M8x25	2
A5	CS350EU-A5	Washer	5/16"	2
A6	CS350EU-A6	Drainage		1
A7	CS350EU-A7	Rubber		1
A8	CS350EU-A8	Base		1
A9	CS350EU-A9	Hex Socket Cap Screw	M8x16	2
A10	CS350EU-A10	Washer	5/16"	2
A11	CS350EU-A11	Support Plate		1
A12	CS350EU-A12	Screw		2
A13	CS350EU-A13	Anti-Spray Plate		2
A14	CS350EU-A14	Hex Head Screw		2
A15	CS350EU-A15	Roller		1
A16	CS350EU-A16	Roller Bracket		1
A17	CS350EU-A17	Handle Wheel		1
A18	CS350EU-A18	Support Rod		1
A19	CS350EU-A19	Swing Arm (Base)		1
A20	CS350EU-A20	Slide Base		1
A21	CS350EU-A21	C-Clip		1
A22	CS350EU-A22	Center Shaft		1
A23	CS350EU-A23	Hex Socket Cap Screw	M8x20	1
A24	CS350EU-A24	Washer	M10	1
A25	CS350EU-A25	Grip		1
A26	CS350EU-A26	Set Screw		1
A27	CS350EU-A27	Bearing Cover		1
A28	CS350EU-A28	Bearing		1
A29	CS350EU-A29	Bushing		1
A30	CS350EU-A30	Spring		1
A31	CS350EU-A31	Leading Screw		1
A32	CS350EU-A32	Lock Handle		1
A33	CS350EU-A33	Slide Vise		1

Item	Part No.	Description	Size	Qty.
A34	CS350EU-A34	Set Screw		3
A35	CS350EU-A35	Washer		3
A36	CS350EU-A36	Nut		3
A37	CS350EU-A37	Gib		1
A38	CS350EU-A38	Vise Clamp		1
A39	CS350EU-A39	Vise Bench		1
A40	CS350EU-A40	Hex Socket Cap Screw	M5x25	3
A41	CS350EU-A41	Small Grooved Jaw		1
A42	CS350EU-A42	Grooved Jaw		1
A43	CS350EU-A43	Stopper		1
A44	CS350EU-A44	Hex Socket Cap Screw	M8x20	2
A45	CS350EU-A45	Hex Socket Cap Screw	M8x25	2
A46	CS350EU-A46	Plate (Vise)		1
A47	CS350EU-A47	Hex Socket Cap Screw	M8x25	1
A48	CS350EU-A48	Washer		1
A49	CS350EU-A49	Anti-Dust Plate		1
A50	CS350EU-A50	Holder Plate		1
A51	CS350EU-A51	Screw		1
A52	CS350EU-A52	Spring		1
A53	CS350EU-A53	Lower Switching Plate		1
A54	CS350EU-A54	Washer		2
A55	CS350EU-A55	Hex Socket Cap Screw		2
A56	CS350EU-A56	Nut		1
A57	CS350EU-A57	Washer		1
A58	CS350EU-A58	Joint Plate W/Thread		1
A59	CS350EU-A59	Swing Handle		1
A60	CS350EU-A60	Hex Socket Cap Screw	M6x12	1
A61	CS350EU-A61	Washer	1/4"	1
A62	CS350EU-A62	Hex Socket Cap Screw	M8x20	3
A63	CS350EU-A63	Washer	5/16"	2
A64	CS350EU-A64	Joint Plate		1
A65	CS350EU-A65	C-Clip		1
A66	CS350EU-A66	Blade Shield		1
A67	CS350EU-A67	Screw	M5x10	7
A68	CS350EU-A68	Plate (Cover)		1

Item	Part No.	Description	Size	Qty.
A69	CS350EU-A69	Rubber		2
A70	CS350EU-A70	Blade Cover (Casting)		1
A71	CS350EU-A71	Plate (Cover)		1
A72	CS350EU-A72	Hex Socket Cap Screw	M12x35	1
A73	CS350EU-A73	Fixing Flange		1
A74		Saw Blade	350mm	1
A75	CS350EU-A75	Spindle Shaft		1
A76	CS350EU-A76	Oil Seal	50 x 72 x 8	1
A77	CS350EU-A77	Taper Roller	32008	2
A78	CS350EU-A78	Spindle Sleeve		1
A79	CS350EU-A79	Star Washer		1
A80	CS350EU-A80	Locking Nut		1
A81	CS350EU-A81	Spacer		1
A82	CS350EU-A82	Worm Gear		1
A83	CS350EU-A83	Bushing		1
A84	CS350EU-A84	Plate, Stopper		1
A85	CS350EU-A85	Disc Spring Washer		2
A86	CS350EU-A86	Locking Nut		1
A87	CS350EU-A87	Machine Head		1
A88	CS350EU-A88	Ball Bearing	6301	1
A89	CS350EU-A89	Worm Shaft		1
A90	CS350EU-A90	Ball Bearing	5305	1
A91	CS350EU-A91	Oil Seal	25 x 52 x 10	1
A92	CS350EU-A92	Coupling		1
A93	CS350EU-A93	M1 Motor	3HP	1
A94	CS350EU-A94	Wire Relief		2
A95	CS350EU-A95	Control Wire		1
A96	CS350EU-A96	Nut	M20	1
A97	CS350EU-A97	Control Handle Rod		1
A98	CS350EU-A98	Nut	M16	1
A99	CS350EU-A99	Handle with SB4 Trigger Switch		1
A100	CS350EU-A100	Oil Pilot		1
A101	CS350EU-A101	Gasket		1
A102	CS350EU-A102	Oil Ring	5x55	2
A103	CS350EU-A103	Casting Plug		1

Item	Part No.	Description	Size	Qty.
A104	CS350EU-A104	Hex Socket Cap Screw	M6x20	3
A105	CS350EU-A105	Nut	M10	1
A106	CS350EU-A106	Set Screw	M10x35	1
A107	CS350EU-A107	Oil Seal		1
A108	CS350EU-A108	Bushing		1
A109	CS350EU-A109	Lock Bolt with Knob	5x55	1
A110	CS350EU-A110	Bracket, Length Setting		1
A111	CS350EU-A111	Upper Length Setting Rod		1
A112	CS350EU-A112	Lower Length Setting Rod		1
A113	CS350EU-A113	Lock Bolt with Knob		1
A114	CS350EU-A114	Locking Nut		2
A115	CS350EU-A115	Shaft (Right)		1
A116	CS350EU-A116	Shaft (Left)		1
A117	CS350EU-A117	Bushing		1
A118	CS350EU-A118	Hex Head Screw		2
A119	CS350EU-A119	Nut		2
A120	CS350EU-A120	Control Arm		1
A121	CS350EU-A121	A1 Digital Display		1
A122	CS350EU-A122	VR Speed Control Potentiometer		1
A123	CS350EU-A123	Control Panel		1
A124	CS350EU-A124	SA2 Pump Selection Switch, On/Off		1
A125	CS350EU-A125	SB1 Emergency Switch		1
A126	CS350EU-A126	SB3 Start Button, Illuminated		1
A127	CS350EU-A127	SB2 Stop Button		1
A128	CS350EU-A128	Screw		4
A129	CS350EU-A129	Hex Socket Cap Screw		2
A130	CS350EU-A130	Support Plate		1
A131	CS350EU-A131	Transmission Wire		1
A132	CS350EU-A132	Support Plate, Rear		1

PARTS DRAWING B



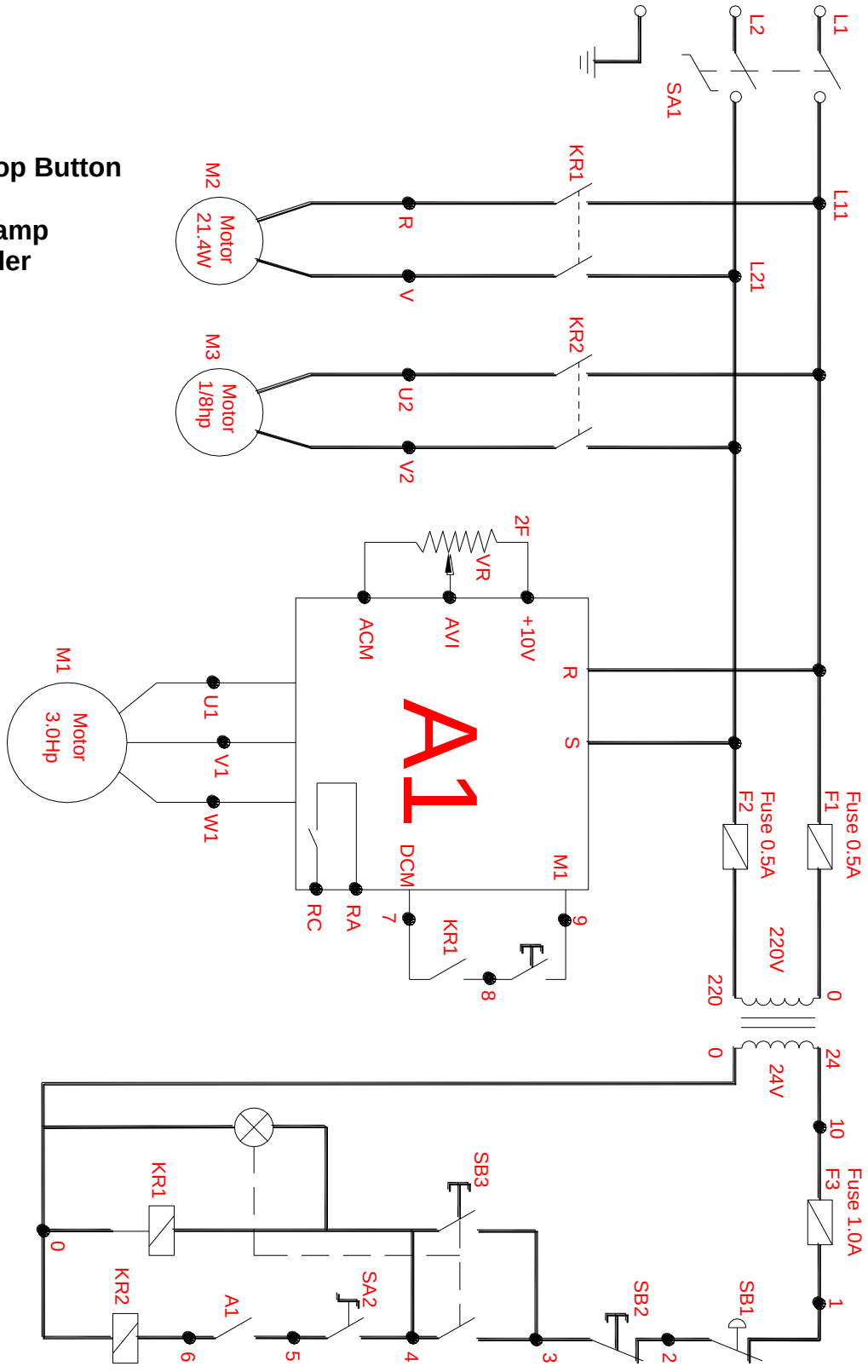
PARTS LIST B

Item	Part No.	Description	Size	Qty.
B1	CS350EU-B1	Stand		1
B2	CS350EU-B2	Nut	M6	4
B3	CS350EU-B3	Washer	1/4"	4
B4	CS350EU-B4	Support Plate		1
B5	CS350EU-B5	Washer	1/4"	4
B6	CS350EU-B6	Hex Cap Screw	M6x15	4
B7	CS350EU-B7	Coolant Tank		1
B8	CS350EU-B8	Hose		1
B9	CS350EU-B9	Hose Clamp		1
B10	CS350EU-B10	Washer	1/4"	2
B11	CS350EU-B11	Hex Socket Cap Screw	M6x16	2
B12	CS350EU-B12	M3 Coolant Pump		1
B13	CS350EU-B13	Hose Connector		1
B14	CS350EU-B14	Hose Clamp		1
B15	CS350EU-B15	Hose	3/8"	1
B16	CS350EU-B16	Hose Clamp		1
B17	CS350EU-B17	Valve		1
B18	CS350EU-B18	Pump Wire		1
B19	CS350EU-B19	Hex Cap Screw	M6x15	4
B20	CS350EU-B20	Washer	1/4"	4
B21	CS350EU-B21	Hex Cap Screw	M6x15	2
B22	CS350EU-B22	Washer	1/4"	2
B23	CS350EU-B23	Support Plate for Tank		1
B24	CS350EU-B24	Protector, Plate		1
B25	CS350EU-B25	Gooseneck Tube		1
B26	CS350EU-B26	Hex Cap Screw		4
B27	CS350EU-B27	Washer		4
B28	CS350EU-B28	Nut		4
B29	CS350EU-B29	Electrical Box		1
B30	CS350EU-B30	Power Cord		1
B31	CS350EU-B31	A1 Inverter		1
B32	CS350EU-B32	SA1 Safety Door Switch		1
B33	CS350EU-B33	Hex Socket Cap Screw		2

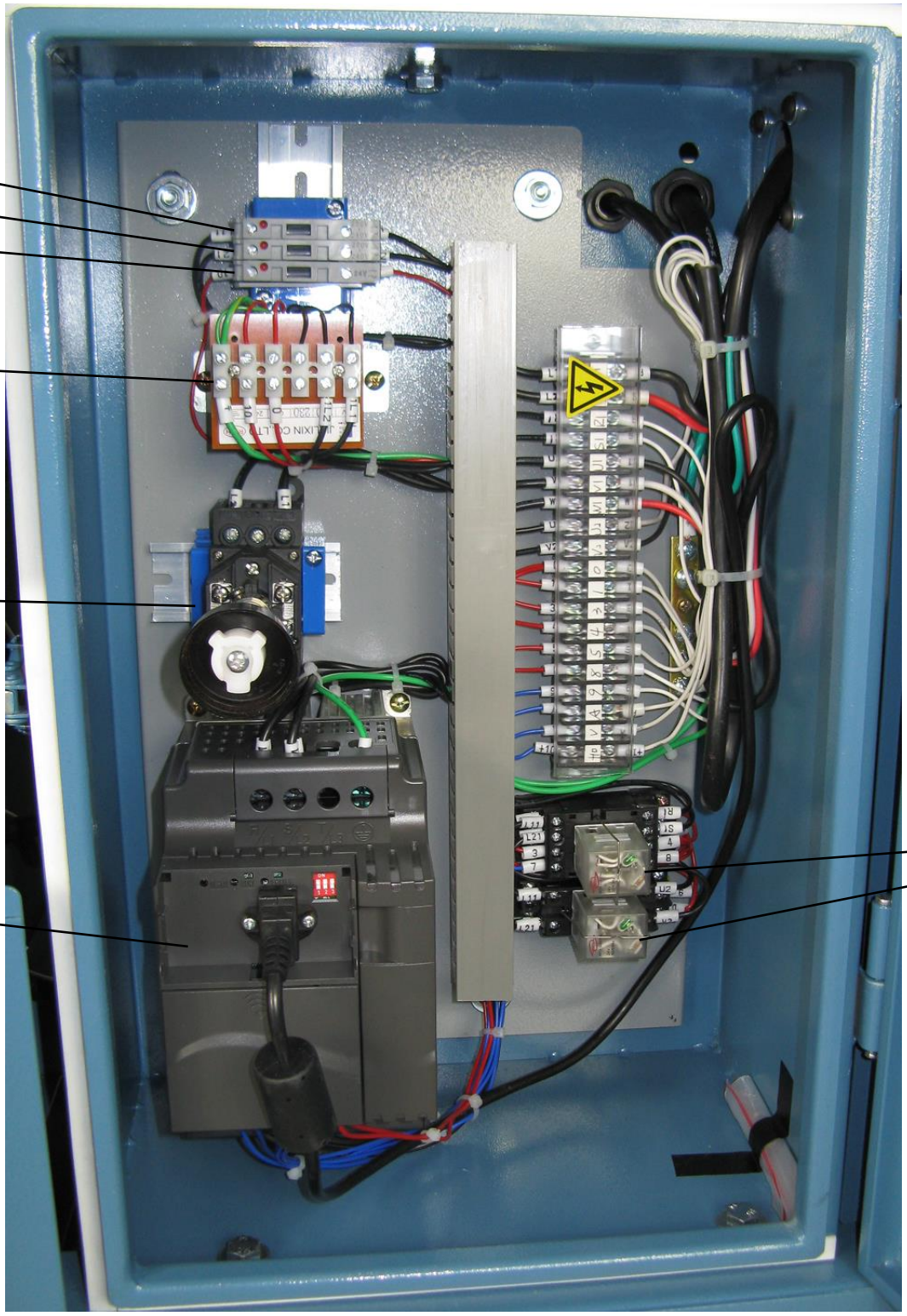
Item	Part No.	Description	Size	Qty.
B33	CS350EU-B33	Washer		2
B35	CS350EU-B35	TC Transformer		1
B36	CS350EU-B36	Fuse and Fuse Base		3
B37	CS350EU-B37	Relay, KR1, KR2		2
B38	CS350EU-B38	Terminal Strip		1
B39	CS350EU-B39	Mounting Panel		1
B40	CS350EU-B40	Wire Relief		2
B41	CS350EU-B41	Screw		2
B42	CS350EU-B42	Plate, Cover		1
B43	CS350EU-B43	Plate, Supporter		1
B44	CS350EU-B44	Collar		1

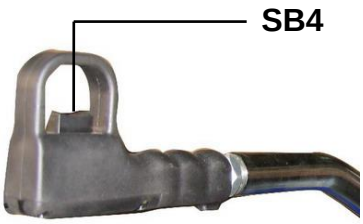
ELECTRICAL SCHEMATIC

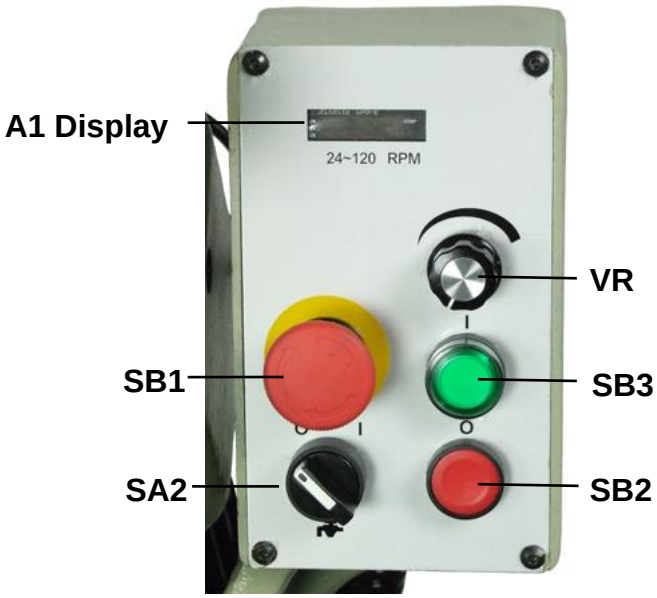
KR1	Relay (Fan)
KR2	Relay (Pump)
SA1	Main Switch
SA2	Pump Switch
SB1	Emergency Stop Button
SB2	Stop Button
SB3	Start Button/Lamp
VR	Speed Controller
A1	Inverter
M1	Motor
M2	Fan Motor
M3	Coolant Pump



ELECTRICAL PARTS




SB4


A1 Display
24~120 RPM
VR
SB1
SB3
SA2
SB2

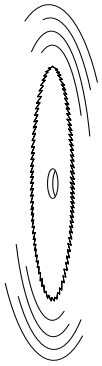
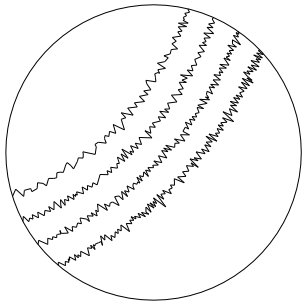
ELECTRICAL PARTS LIST

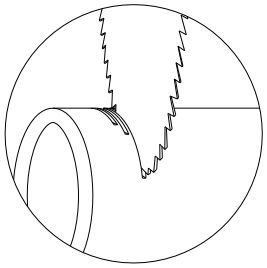
Item	Description and Function	Technical Data	Qty.
FU1 FU2 FU3	Fuses	0.5A, 6.2x30, 250V 0.5A, 6.2x30, 250V 1A, 6.2x30, 250V	1 1 1
	Fuse base	10A, 1P, FSB-104	3
KR1	Relay	BMY5-4C-5-S-CWL, 250VAC 5A Coil: 24VAC 50/60Hz	1
KR2	Relay	BMY5-2C-5-S-CWL, 250VAC 5A Coil: 24VAC 50/60Hz	1
A1	Variable Speed AC Motor Driver	VFD022E21A, 220/240V 24A 0-240V 11A 4.2KVA, 3.0Hp (2.2kw)	1
TC	Transformer	35VA, 230/24V, 400V/24V	1
SB1	Emergency Stop	KB2-BE102, 250V 6A	1
SB2	Stop Button	NPB22F, CB-01, 250V 6A 2A	1
SB3	Start Button	NLB22F CB-01, 250V 6A 2A PL-BA9 250V 6A 2A	1
SB4	Trigger switch	15A 1/2HP 125/250VAC 0.6A 125VDC 0.3A 250VDC	1
SA1	Main Switch	NSS22-5 CB-10 16A 440VAC	1
SA2	Pump Switch	NSS-22-S2, 1A 250V	1
VR	Adjustable Speed Switch	RV24YN20S-B502, 5KΩ Maximum	1
M1	Motor	400V, 230V 1-Ph, 3.0hp (2.2kW)	1
M2	Fan Motor	220~230, 0.12/0.11A, 21.38/21.59w	1
M3	Coolant Pump	220V / 1ph, 1/8HP (0.09kw)	1

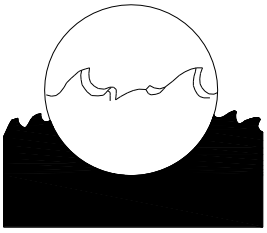
TROUBLESHOOTING

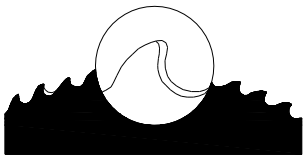
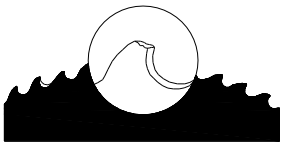
WARNING: Make sure the electrical disconnect is OFF before working on the machine.

Blade and Cut Diagnosis

FAULT	PROBABLE CAUSE	REMEDY
DISK VIBRATION 	Wrong tooth pitch.	Choose a suitable disk.
	Unsuitable tooth profile.	Choose a suitable disk.
	Ineffective gripping of the part in the vise.	Check the gripping of the part.
	Dimensions of the solid section too large with respect to the maximum admissible cutting dimensions.	Abide by the instructions.
	Disk diameter incorrect and/or too large.	Decrease the disk diameter, adapting it to the dimensions of the part to be cut.
RIDGES ON THE CUTTING SURFACE 	Ineffective gripping of the part in the vise.	Check the gripping of the part.
	Too fast advance.	Decrease advance, exerting less cutting pressure.
	Disk teeth are worn.	Sharpen the tool.
	Insufficient lubricating coolant.	Check the level of the liquid in the tank. Increase the flow of lubricating coolant, checking that the hole and the liquid outlet pipe are not blocked.
	Teeth do not unload shavings well.	Choose a blade with a larger tooth pitch that allows better unloading of shavings and that holds more lubricating coolant.

FAULT	PROBABLE CAUSE	REMEDY
CUT OFF THE STRAIGHT 	Too fast advance. Ineffective gripping of the part in the vise. Disk head off the straight. Disk sides differently sharpened. Dirt on the gripping device.	Decrease advance, exerting less cutting pressure. Check the gripping of the part which may be moving sideways. Adjust the head. Choose proper tool quality, type, and construction characteristics. Carefully clean the laying and contact surfaces.
BLADE STICKS IN THE CUT 	Too fast advance. Low cutting speed. Wrong tooth pitch. Sticky accumulation of material on the disk. Insufficient lubricating refrigerant.	Decrease advance, exerting less cutting pressure. Increase speed. Choose a suitable disk. Check the blend of lubricating coolant and choose a better-quality disk. Check the level of the liquid in the tank. Increase the flow of lubricating coolant, checking that the hole and the liquid outlet pipe are not blocked.

FAULT	PROBABLE CAUSE	REMEDY
TOOTH BREAKAGE 	Too fast advance	Decrease advance, exerting less cutting pressure.
	Wrong cutting speed	Change disk speed and/or diameter.
	Wrong tooth pitch	Choose a suitable disk.
	Low quality disk	Use a better-quality disk.
	Ineffective gripping of the part in the vise.	Check the gripping of the part.
	Previously broken tooth left in the cut.	Accurately remove all the parts left in.
	Cutting resumed on a groove made previously.	Make the cut elsewhere, turning the part.
	Insufficient lubricating coolant or wrong coolant.	Check the level of the liquid in the tank. Increase the flow of lubricating coolant, checking that the hole and the liquid outlet pipe are not blocked.
	Sticky accumulation of material on the disk.	Check the blend of lubricating coolant and choose a better-quality disk.

FAULT	PROBABLE CAUSE	REMEDY
PREMATURE DISK WEAR 	Wrong running in of the disk.	When cutting for the first time run in the tool, making a series of cuts at a low advance speed, spraying the cutting area with lubricating coolant.
	Wrong cutting speed.	Change disk speed and / or diameter.
	Unsuitable tooth profile.	Choose a suitable disk.
	Wrong tooth pitch.	Choose a suitable disk.
	Low quality disk.	Use a better-quality disk.
	Insufficient lubricating refrigerant.	Check the level of the liquid in the tank. Increase the flow of lubricating coolant, checking that the hole and the liquid outlet pipe are not blocked.
CHIPPED DISK 	Hardness, shape or flaws in the material	Reduce the cutting pressure and/or the advance.
	Wrong cutting speed.	Change disk speed and/or diameter.
	Wrong tooth pitch.	Choose a suitable disk.
	Vibrations	Check gripping of the part.
	Disk incorrectly sharpened.	Replace the disk with one that is more suitable and correctly sharpened.
	Low quality disk.	Use a better-quality disk.
	Incorrect emulsion of the lubricating coolant.	Check the percentage of water and oil in the emulsion.

NOTES

NOTES

BAILEIGH INDUSTRIAL HOLDINGS LLC
1625 DUFEK DRIVE MANITOWOC, WI 54220
PHONE: 920. 684. 4990 FAX: 920. 684. 3944
www.baileigh.com

BAILEIGH INDUSTRIAL HOLDINGS LTD. UNIT D SWIFT POINT
SWIFT VALLEY INDUSTRIAL ESTATE, RUGBY
WEST MIDLANDS, CV21 1QH UNITED KINGDOM
PHONE: +44 (0)24 7661 9267 FAX: +44 (0)24 7661 9276
WWW.BAILEIGH.CO.UK