



OPERATOR'S MANUAL

Metal Working



MANUAL COLD SAW MODEL: CS-225M-V2

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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	12
INSTALLATION.....	12
OVERALL DIMENSIONS.....	14
GETTING TO KNOW YOUR MACHINE	15
Saw Blade Head Assembly	15
Machine Base Assembly	15
ASSEMBLY AND SET UP	16
ELECTRICAL	18
OPERATION.....	20
Miter Angle	20
Vise Operation.....	20
Loading the Piece Part	21
Setting Cut Length.....	21
Using the Stop Bar	21
Cutting Operation Cycle	22
MACHINE ADJUSTMENTS	23
Setting Saw Blade Head Stop	23
Blade Guard Adjustment	23
Changing the Saw Blade	24
MATERIAL SELECTION.....	24
Metal Chip Indicators.....	25
CHOOSING A SAW BLADE	25
General Characteristics	26
Determining Proper Tooth Pitch	26
Cutting and Feeding Speed	26
Breaking in a Saw Blade	27
Coolant.....	27
Blade structure	27
BLADE SELECTION CHART.....	30
LUBRICATION AND MAINTENANCE	31
Accessing and Cleaning the Coolant System.....	33
Oils for Lubricating Coolant	33
Storing Machine for Extended Period of Time	33



PARTS DIAGRAM	34
Parts List	36
ELECTRICAL PARTS	39
Electrical Parts List	40
ELECTRICAL SCHEMATIC	41
TROUBLESHOOTING	42



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 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.



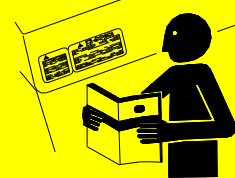
Note: This symbol refers to useful information throughout the manual.



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.



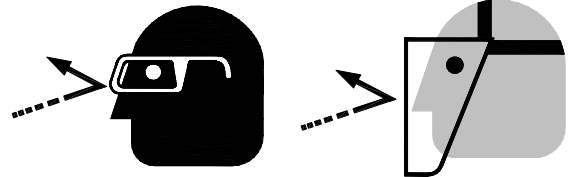
SAVE THESE INSTRUCTIONS.

Refer to them often and use them to instruct others.



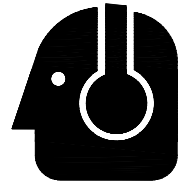
PROTECT EYES

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



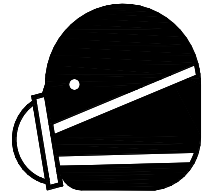
PROTECT AGAINST NOISE

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.



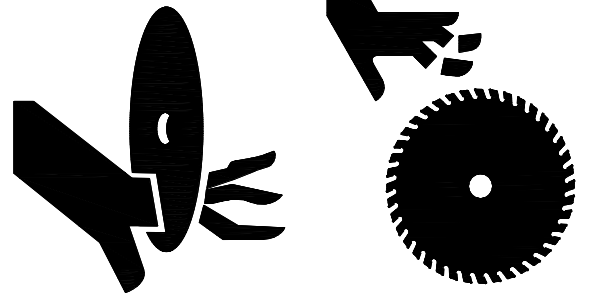
DUST HAZARD

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.**



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!

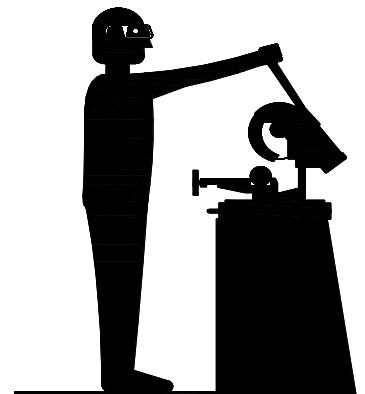
1. **FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.** Learn the machine's application and limitations as well as the specific hazards.
2. **Only trained and qualified personnel can operate this machine.**
3. **Make sure guards are in place and in proper working order before 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. **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 SPECIFICATIONS

Round Solid 45° / 90°	1.5" (38.1mm) / 1.75" (44.5mm)
Round Tube 45° / 90°	2.125" (54mm) / 2.5" (63.5mm)
Square Tube 45° / 90°	2" x 2" (50.8 x 50.8mm) / 2.25" x 2.25" (57 x 57mm)
Square Solid 45° / 90°	1.5" (38.1mm) / 1.75" (44.5mm)
Blade Diameter Max. (Customer Supplied, must match material to be cut)	9" (102mm)
Operation	Manual
Head Miter	45°
Head Style	Pivot
Coolant System	Yes
Vice Style	Dual Action, Self-Centering
Max. Vice Opening	2.75" (69.8mm)
Arbor Size	1.26" (32mm)
Blade Speed	50rpm
Power	110V, 60hz
Motor	1hp (.75kw) 110V, 60hz, 10.5A
Coolant Pump	1/16hp (46.5w) 24VCD
Shipping Weight	187lbs (85kg)
Shipping Dimensions	28" x 20" x 25" (711 x 508 x 635mm)

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.





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

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



Head and Base Assembly

Material Stop



Rubber Feet



Feed Handle



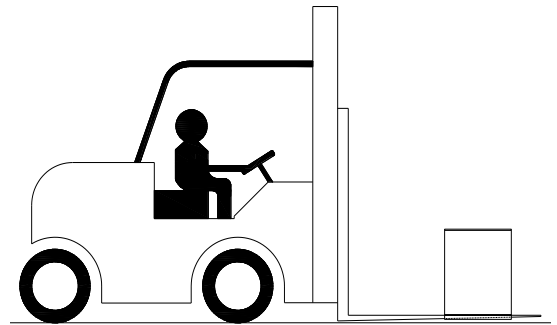


TRANSPORTING AND LIFTING

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.

Positioning the Machine

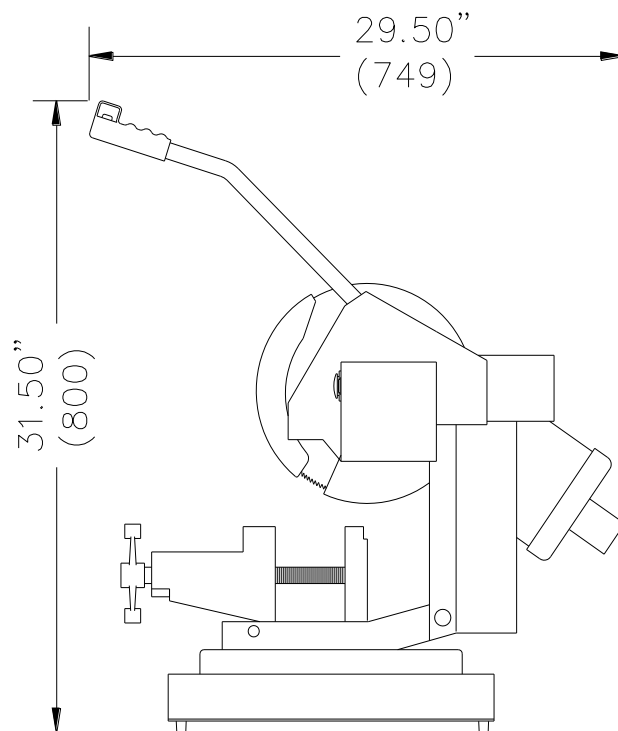
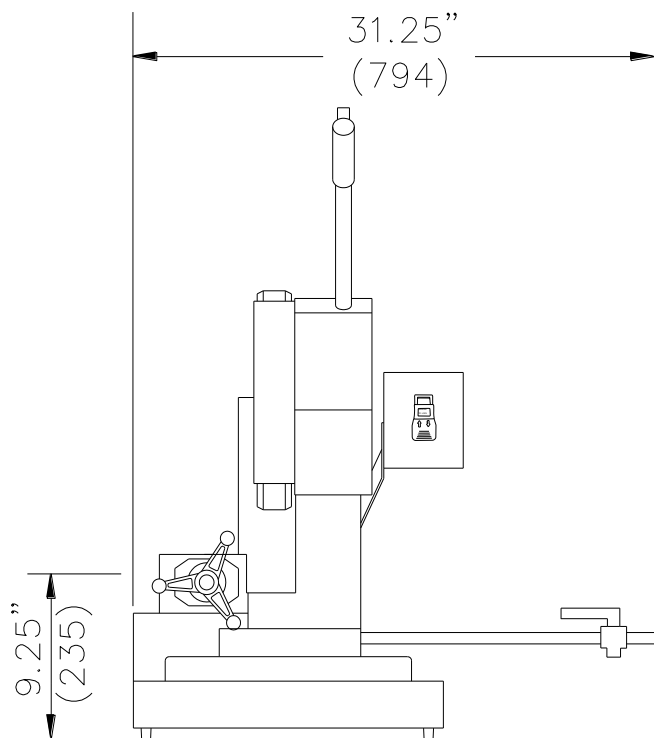
If you intend to mount the Baileigh machine on a workbench be aware of the following:

- Position the machine on a solid, level bench capable of supporting the full weight of the machine and the material to be cut.
- Maintain a minimum distance of 2.00" (50.8mm) from the wall to rear of the machine.
- Make sure the workbench is properly reinforced to support the total weight. Verify that neither the machine nor the bench will tip or wobble.



OVERALL DIMENSIONS

Machine Dimensions
(when assembled)





GETTING TO KNOW YOUR MACHINE

Saw Blade Head Assembly

The section of the machine composed of the motor, gear transfer system, disc or blade, and feed handle.

Feed Handle (A)

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

Transfer Case (B)

The central part of the assembly, housing the gear system and oil tank.

Machine Base Assembly

The section of the machine composed of the stand, base, vise, and material stop.

Base (C)

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

Material Stop (D)

The central part of the assembly, housing the gear system and oil tank.

Stand (E)

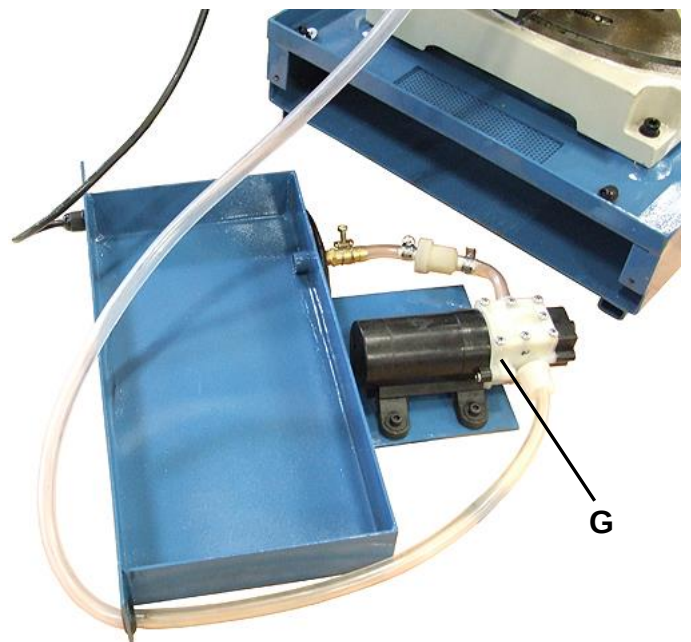
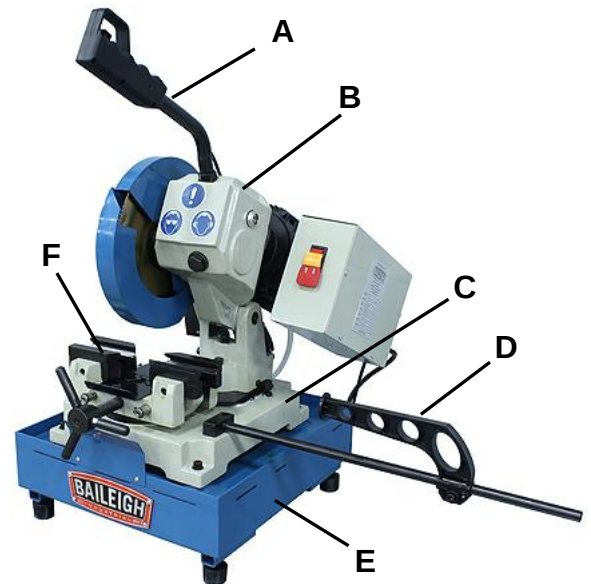
Support structure for the machine head assembly, machine base, and vise system. The stand also houses the coolant tray.

Vise (F)

A clamping system that provides the basic support and grip for the work material. A hand wheel opens and closes the vise jaws.

Coolant Pump (G)

Located as part of the coolant tank within the base of the saw, the coolant pump (G) starts when the power switch is ON and the feed handle switch is depressed. The coolant flow is controlled by the valve located on the top of the blade guard. The system includes a tank (tray), coolant pump, control valve, screen, and hoses.





ASSEMBLY AND SET UP



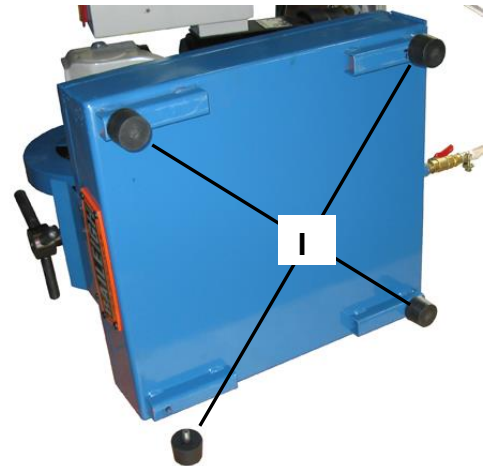
WARNING: For your own safety, DO NOT connect the machine to the power source until the machine is completely assembled and you read and understand the entire instruction manual.

Locate and prepare the machine for assembly.

1. Locate and remove the material stop, rubber feet, and feed handle from around the base.
2. Using proper lifting techniques lift the machine off the skid and place on a solid, level bench capable of supporting the full weight of the machine and the material to be cut.

Install the Rubber Feet.

3. Carefully tip the machine on its side and install the four rubber feet (I).

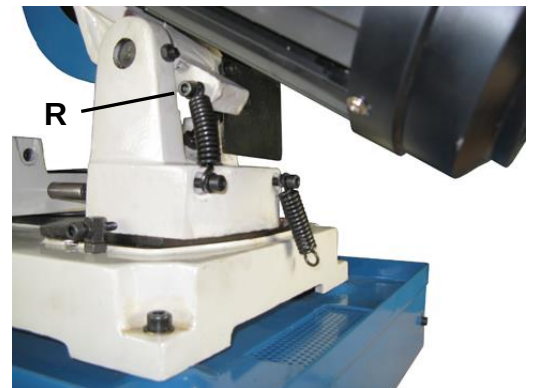
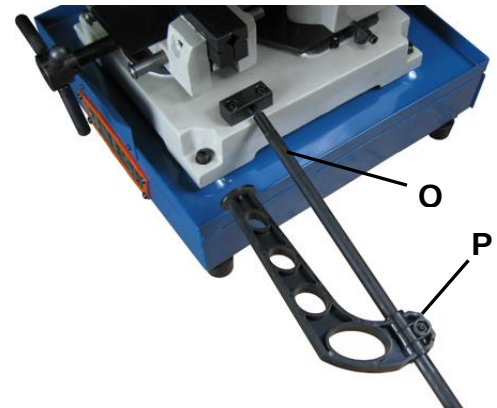


4. Remove the oil fill transport plug from gear transfer case.
5. Remove the packing material (J).
6. Use a wrench to unscrew an M20x40 hex screw from the oil fill hole (K).





7. Attach the feed handle to the head assembly.
8. Insert the threaded end of the feed handle (L) into the gear oil fill hole (M).
9. Turn the handle clockwise (cw) until tight so that the trigger switch (N) points up.
10. Tighten jam nut clockwise (cw).
11. Connect feed handle cable to motor box.
12. Route the feed handle cable over the transfer case to the back of the electrical.
13. Plug the feed handle cable connector (O) into the open socket.
14. Tighten the connector nut.
15. Attach the bar stop to the vise.
16. Loosen the clamping screw (P) to allow the bar stop to slide on the extension rod and allow clearance to turn the rod tight.
17. Insert the threaded end of the bar stop extension rod (Q) into the mounting block on the right side of the machine base. Turn cw until tight fully seated and tight.
18. Attach the return springs.
19. Raise the head assembly to the full up position and hold place.
20. Remove the cap screw (R) from head casting. Swing the spring into position and install that cap screw to secure in place.
21. Tighten the cap screw only about half of the thread length. DO NOT over tighten and pinch or bind the spring.
22. Repeat the steps for the remaining spring.





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 for 110 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.

Extension Cord Safety

Extension cord should be in good condition and meet the minimum wire gauge requirements listed below:

AMP RATING	LENGTH		
	25ft	50ft	100ft
1-12	16	16	14
13-16	14	12	12
17-20	12	12	10
21-30	10	10	No
WIRE GAUGE			

An undersized cord decreases line voltage, causing loss of power and overheating. All cords should use a ground wire and plug pin. Replace any damaged cords immediately.

Power cord connection:

1. Turn the main switch on the control panel to the OFF position.
2. 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 in any way.
 - b. Route the cord to the power supply in 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 machine is clear of any obstruction. The main power switch may be turn ON to test the operation. Turn the switch OFF when the machine is not in operation.



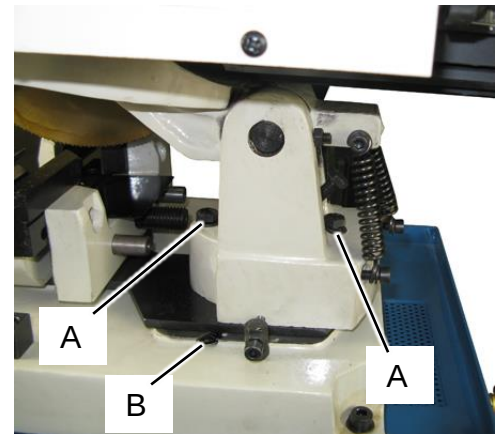
OPERATION

⚠ 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 materials, make sure they are properly supported.

Miter Angle

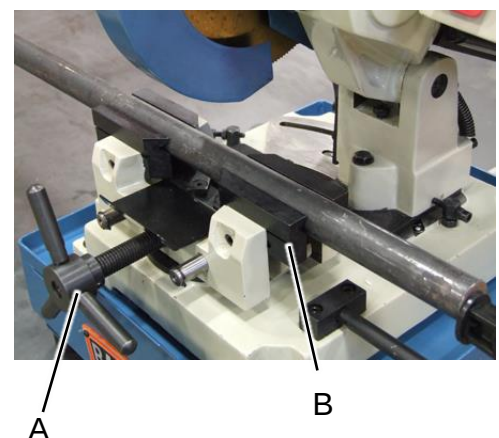
⚠ CAUTION: Check that the cutting blade clears all parts of the vise assembly before cutting. The blade can strike parts of the assembly (especially during miter cuts) if not properly adjusted.

1. Loosen the two cap screws (A) enough to allow the saw head to pivot.
2. Rotate the saw blade head assembly to the correct miter angle.
3. Use the angle indicator (B) to get the initial setting for the cut angle and verify with a protractor.
4. Check that the blade clears all parts of the vise by pulling down on the feed handle.
5. Tighten the two cap screws (A) to secure the head at the chosen angle.



Vise Operation

1. The vise is a self-centering vise with both the front and back jaws move away from or toward the clamping center point.
2. Use the hand wheel (A) to open and close the vise jaw (B) and secure the work material.
3. Counter clockwise (ccw) to open jaws
4. Clockwise (cw) to close jaws





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.

Setting Cut Length

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



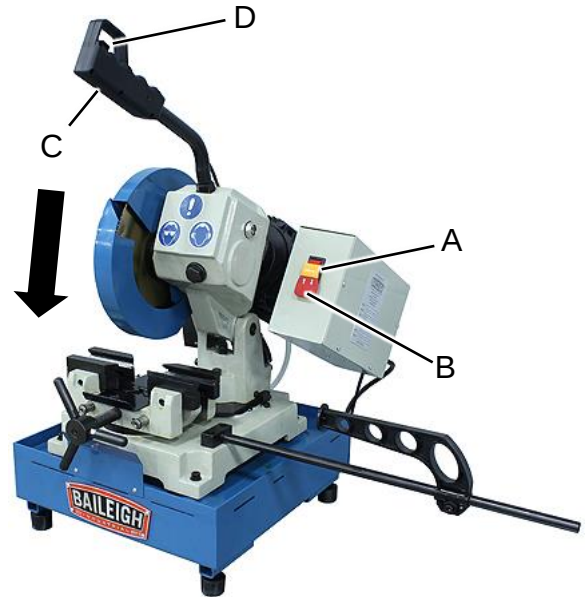
Using the Stop Bar

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 (B) of the stop bar.
4. Clamp the piece part.
5. Proceed with the cutting cycle.



Cutting Operation Cycle

1. Set the miter cut angle.
2. Open the vise jaws.
3. Adjust the bar stop for cutting length as needed.
4. Load and clamp the piece part.
5. Insert the yellow lock key (A) into the red power switch.
6. Lift the red power switch (B) to turn power on to the saw.
7. Grasp the feed handle (C).
8. Press the trigger switch (D) to start blade motor.
9. Pull down the feed handle (C) applying a steady and constant pressure.
10. After cut-off, raise feed handle slowly.
11. Release the trigger switch (D) to stop the blade motor.
12. Open the vise jaws.
13. Remove or advance the piece part forward for next cut.
14. To turn off machine power press down on the power switch (B).
15. To stop machine in an emergency situation, press the EMERGENCY STOP button (B).
16. Remove the yellow lock key (A) after use.



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.

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.



MACHINE ADJUSTMENTS



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

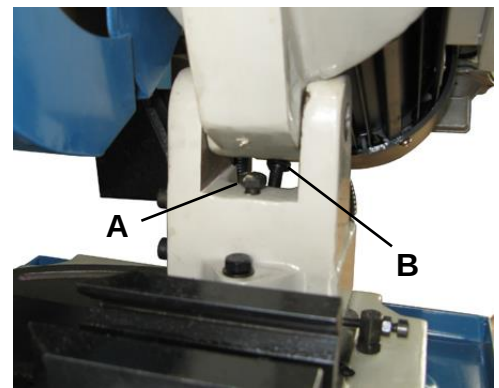
Setting Saw Blade Head Stop

To adjust the saw blade head DOWN stop:

1. Turn the stop bolt (A) 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.

To adjust the saw blade head UP stop:

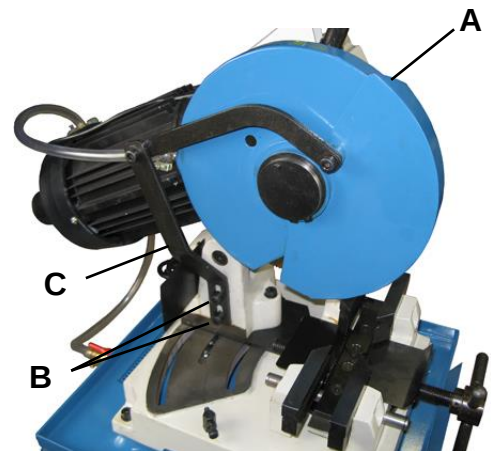
2. Loosen the stop bolt (B) jam nut.
3. Turn the stop bolt up or down as desired to set the UP stop position.
4. Hold the stop bolt (B) in position and tighten the jam nut.



Blade Guard Adjustment

To adjust the blade guard to cover the blade:

1. The moveable guard should overlap the stationary guard just enough to completely cover the blade.
2. If the blade is exposed at the overlap point (A) loosen the two socket head cap screws (B) and slide the link (C) up or down as needed to cover the blade.
3. Hold the link (C) in position and tighten the two socket head cap screws (B).

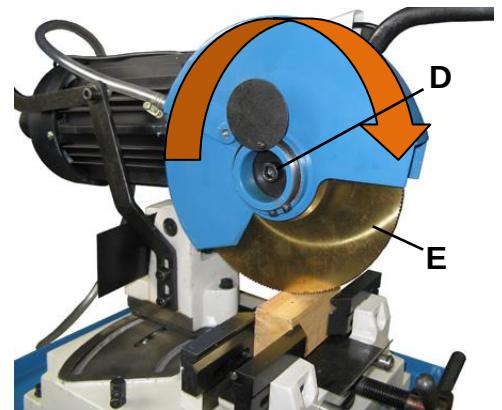
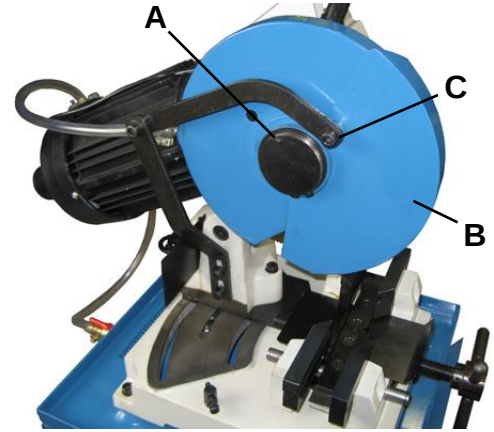




Changing the Saw Blade

To change the saw blade:

1. Loosen the screw (A) enough to rotate the cover plate and expose the hub. Lightly tighten the screw.
2. Release and pivot the mobile guard (B) by removing the hex socket screw (C).
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 (D) in a clockwise (cw) direction. (Left turn thread).
6. Remove the blade (E), blade washer, and locating pin from the spindle and remove from machine.
7. Place washer and locating pin onto the replacement blade and follow above procedure in reverse.
8. Check for proper blade rotation.



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.



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		 S			 sp
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	0,71	0,20	0,40	-	-	-	
71Cr1	÷ 0,78	÷ 0,30	÷ 0,70	÷ -	÷ -	÷ -	43+/-1

KEY:

C = Carbon
Mo = Molybdenum
Co = Cobalt
Mn = Manganese
Cr = Chromium
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)

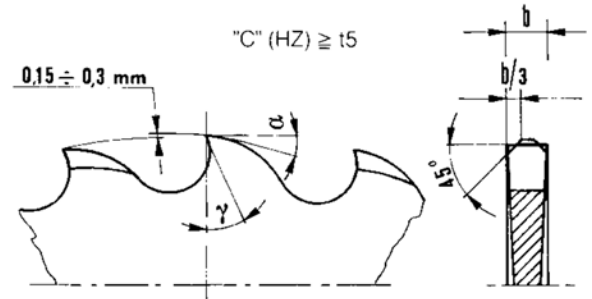


Teeth shape

"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.

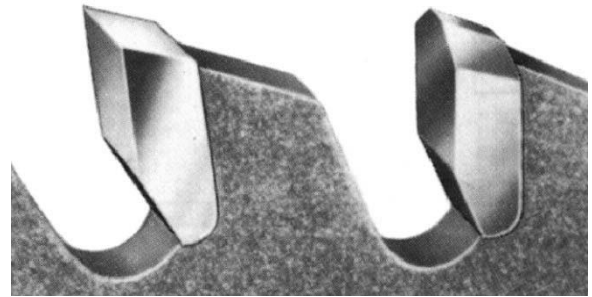
Coarse toothing with roughing tooth and finishing tooth. Used in saws with pitch greater than or equal to 5 mm for cutting ferrous and non-ferrous materials with solid or solid-profiled sections.



"BW" TYPE SHARPENING DIN 1838--UNI 4014

Coarse toothing with teeth alternately raked to the right and left.

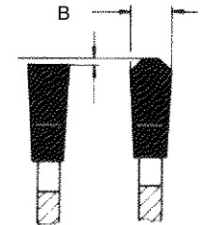
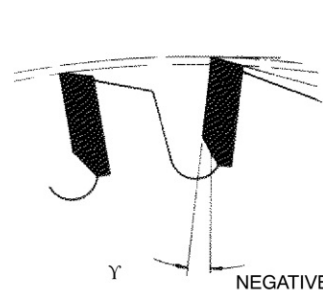
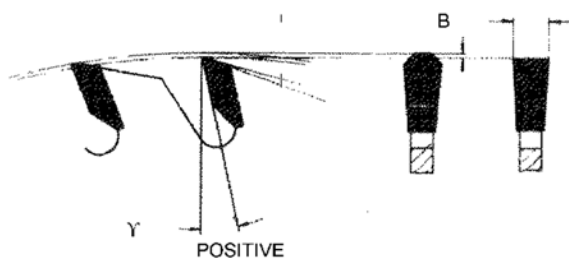
Toothing generally used on cut-off machines for cutting ferrous and alloy materials with tubular and profiled sections.



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.



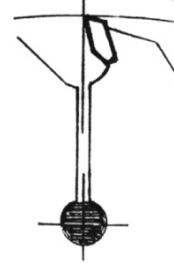
Short swarf material such as brass, bronze, aluminum and hard cast iron require smaller cutting angles because the swarf becomes crushed immediately and the rake angle has little effect during the cutting stage.



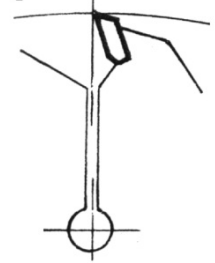
The cold saws use discs with positive cutting angles for cutting solid materials and with negative cutting angles for cutting hollow profiles. This is because, as a result of the high cutting speeds, even with non-ferrous materials the tool “strikes” against the wall of the profile to be cut several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

Whine reduction feature



Expansion 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"	.250"-.400"			120C	140C	140C	160C	180C
3"	.400"-.500"			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"	.250"-.400"				140C	140C	160C	180C
3-1/2"	.400"-.500"				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



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.

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



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.
- Sharpen the saw teeth.

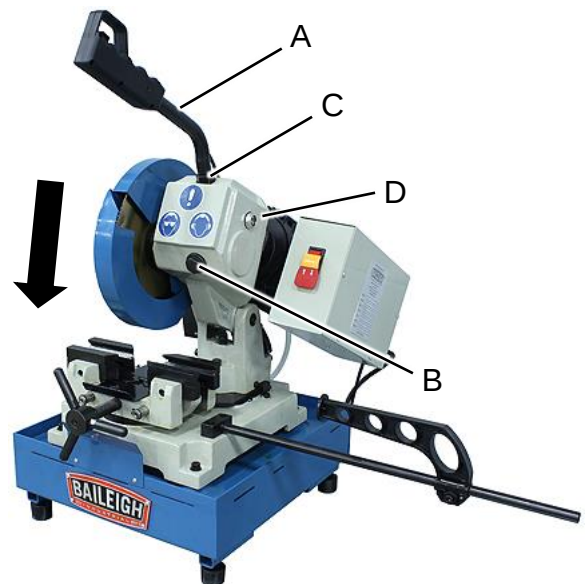
Monthly Maintenance

- Check that all screws on the motor, pump, vise jaws, and the guards are tight and secure.
- Check that the saw guard is operating properly.
- Oil the hinge pin for the head assembly.

Yearly Maintenance

Change the oil in the gear case as follows:

1. Lower the saw head to the down position.
2. Disconnect the trigger cord from the electrical box and unscrew the feed handle (A) from the gear case.
3. Place a container under the drain hole (B) and remove the drain plug allowing the oil to drain.
4. Install the drain plug.
5. Raise the head to the up position.
6. Fill the gear case with oil through the feed handle mounting hole (C) to the top of the sight gauge (D).





7. Install the feed handle and connect the trigger cord to the electrical box connector.

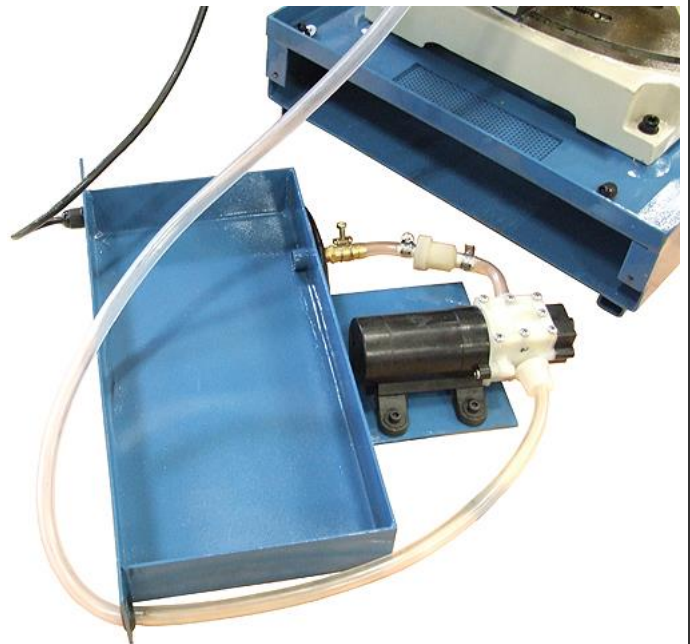
Oil Disposal

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

Accessing and Cleaning the Coolant System

The coolant pump and tank should be cleaned frequently. If the coolant has not been used for a week or longer, the coolant pump and tank should be cleaned. Hot water will work to loosen sticky dry coolant.

1. Remove the two socket head cap screws and remove the coolant tray from the machine stand.
2. Pour out the coolant from the tray.
3. Wash out the dirt and debris.
4. Remove and clean the filter. Replace if needed.
5. Replace tray and secure with two socket head cap screws.
6. Re-fill tray with coolant solution by pouring coolant through the chip strainer.



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.

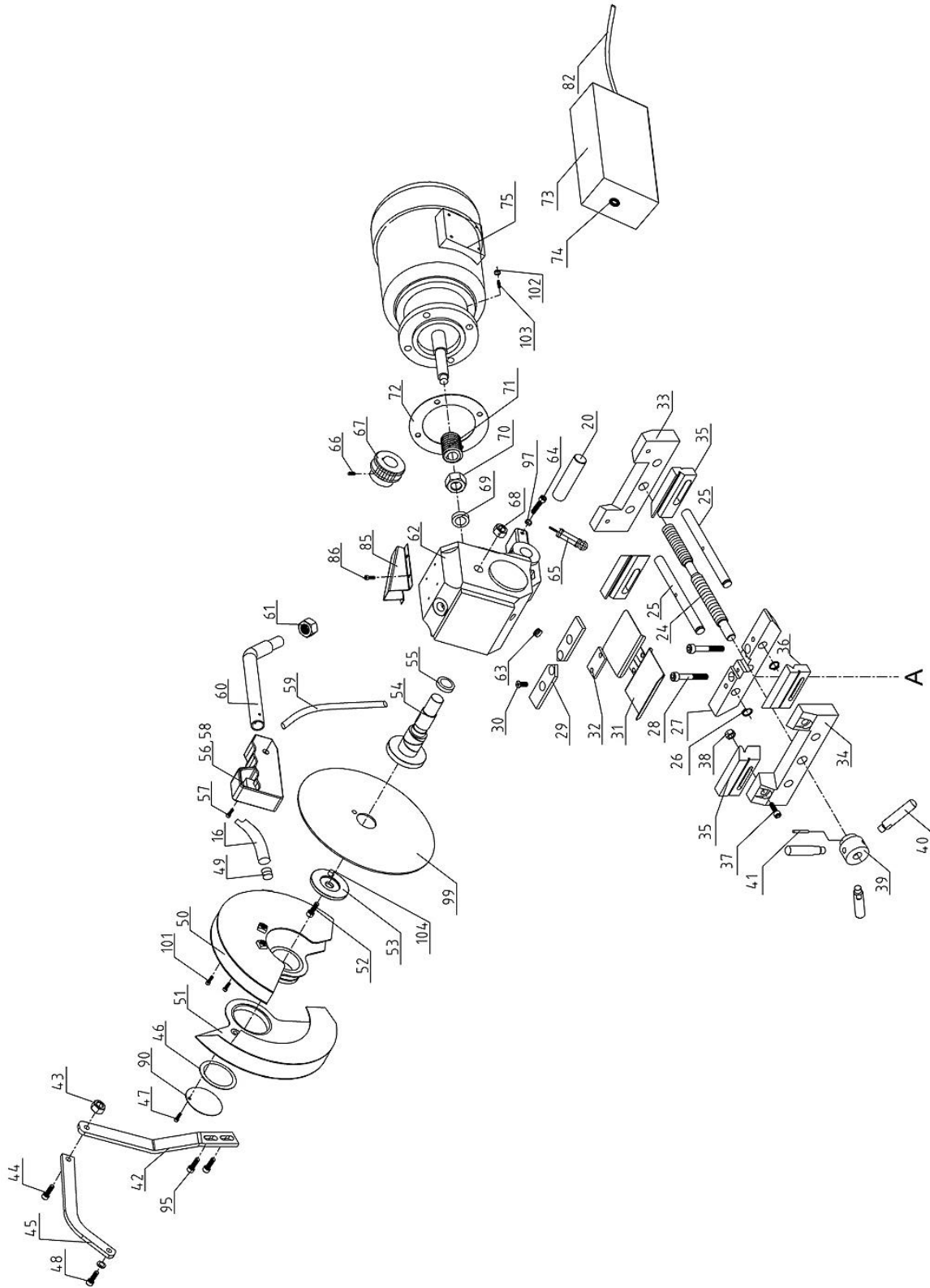
Storing Machine for Extended Period of Time

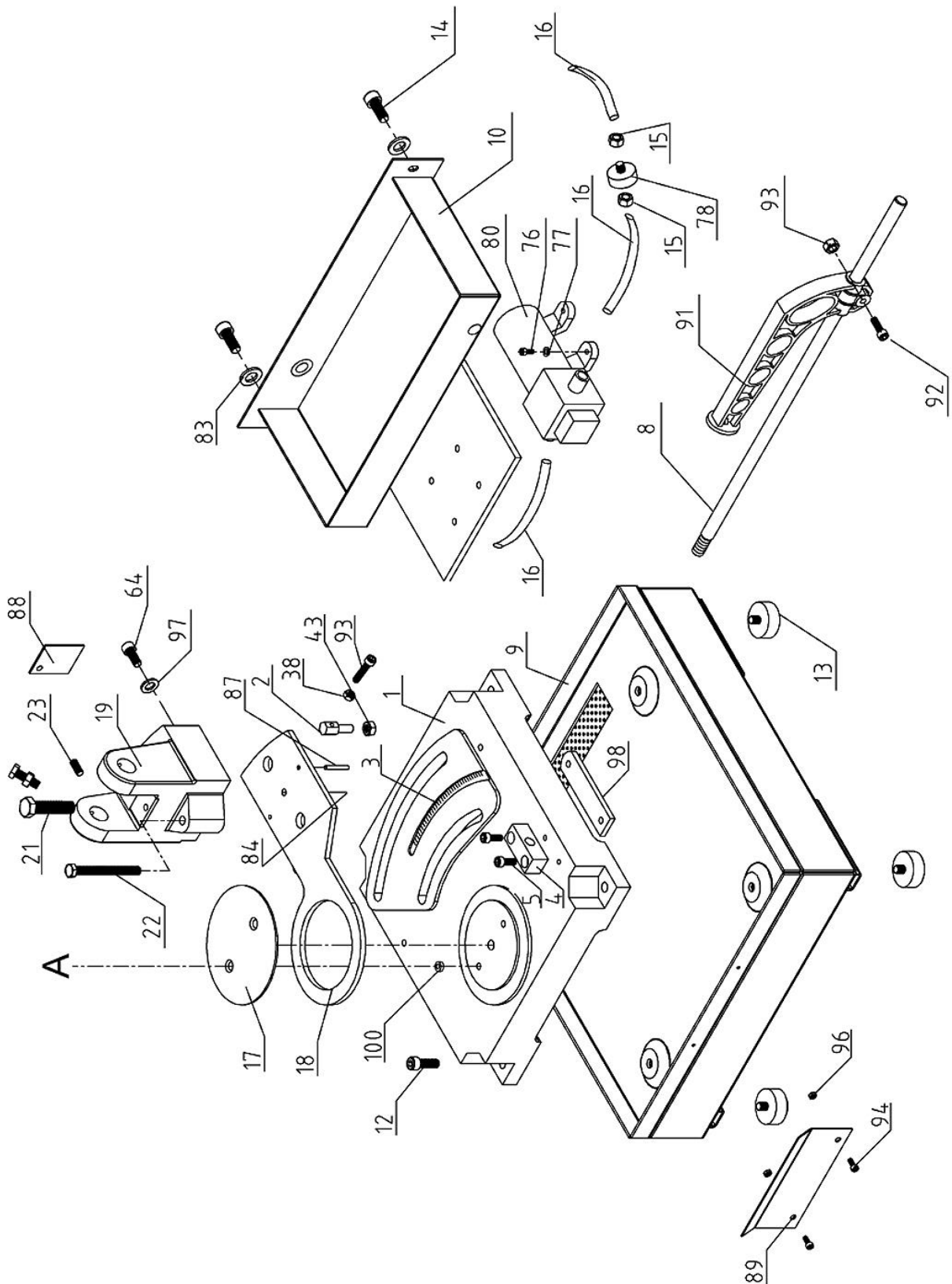
If the Cold Saw is to be inactive for a long period of time, prepare the machine as follows:

- 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



PARTS DIAGRAM







Parts List

Item	Part No.	Description	Qty.
1	CS225M-1	Base	1
2	CS225M-2	Spring Pin	2
3	CS225M-3	Scale	1
4	CS225M-4	Support Block	1
5	CS225M-5	Socket head cap screw	2
8	CS225M-8	Stop Rod	1
9	CS225M-9	Cabinet	1
10	CS225M-10	Coolant tank	1
12	CS225M-12	Hex cap screw	4
13	CS225M-13	Rubber foot	4
14	CS225M-14	Bolt	2
15	CS225M-15	Pipe coupling	2
16	CS225M-16	Coolant tube	3
17	CS225M-17	Disc	1
18	CS225M-18	Swivel Plate	1
19	CS225M-19	Pivot Block	1
20	CS225M-20	Shaft	1
21	CS225M-21	Hex cap screw	2
22	CS225M-22	Socket head cap screw	2
23	CS225M-23	Socket head cap screw	2
24	CS225M-24	Lead Screw	1
25	CS225M-25	Guide rod	2
26	CS225M-26	Retaining ring S13	2
27	CS225M-27	Middle support	1
28	CS225M-28	Socket head cap screw	2
29	CS225M-29	Plate	2
30	CS225M-30	Flat head screw	4
31	CS225M-31	Cover	1
32	CS225M-32	Support plate	1
33	CS225M-33	Rear vise jaw	1
34	CS225M-34	Front vise jaw	1
35	CS225M-35	Jaw insert	2
36	CS225M-36	Jaw insert	2



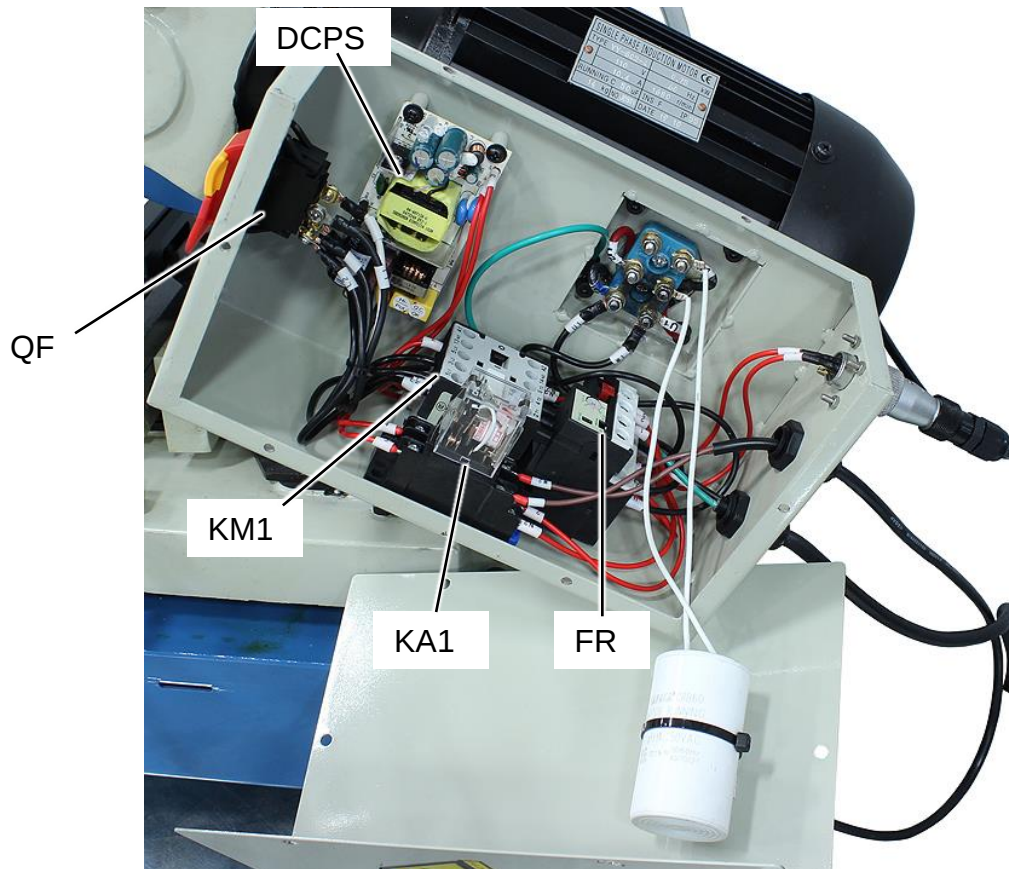
Item	Part No.	Description	Qty.
37	CS225M-37	Socket head cap screw	4
38	CS225M-38	Hex nut	7
39	CS225M-39	Handle hub	1
40	CS225M-40	Handle	3
41	CS225M-41	Spring pin	1
42	CS225M-42	Support Link	1
43	CS225M-43	Lock nut	3
44	CS225M-44	Socket head cap screw	1
45	CS225M-45	Guide link	1
46	CS225M-46	Retaining ring S60	1
47	CS225M-47	Screw	1
48	CS225M-48	Socket head cap screw	1
49	CS225M-49	Connector fitting	1
50	CS225M-50	Fixed blade guard	1
51	CS225M-51	Moveable blade guide	1
52	CS225M-52	Socket head cap screw	1
53	CS225M-53	Blade shaft flange	1
54	CS225M-54	Blade shaft	1
55	CS225M-55	Oil seal	1
56	CS225M-56	Handle grip	1
57	CS225M-57	Flat head screw	2
58	CS225M-58	SB1 Limit switch	1
59	CS225M-59	Cable	1
60	CS225M-60	Handle	1
61	CS225M-61	Hex nut	1
62	CS225M-62	Head	1
63	CS225M-63	Oil Plug	1
64	CS225M-64	Bolt	5
65	CS225M-65	Spring	2
66	CS225M-66	Socket set screw	1
67	CS225M-67	Worm	1
68	CS225M-68	Oil spring glass	1
69	CS225M-69	Ball Bearing	1
70	CS225M-70	Nut	1
71	CS225M-71	Worm	1



Item	Part No.	Description	Qty.
72	CS225M-72	Head gasket	1
73	CS225M-73	Switch box	1
74	CS225M-74	QF Switch, On/E-Stop Off	1
75	CS225M-75	M1 Saw Motor	1
76	CS225M-76	Bolt	4
77	CS225M-77	Washer	4
78	CS225M-78	Filter	1
80	CS225M-80	M2 Coolant Motor and Pump	1
82	CS225M-82	Cable	1
83	CS225M-83	Washer	2
84	CS225M-84	Bolt	1
85	CS225M-85	Cover	1
86	CS225M-86	Screw	4
87	CS225M-87	Spring Pin	2
88	CS225M-88	Rubber sheet	1
89	CS225M-89	Front cover plate	1
90	CS225M-90	Cover	1
91	CS225M-91	Stock Stop	1
92	CS225M-92	Bolt	1
93	CS225M-93	Bolt	2
94	CS225M-94	Screw	2
95	CS225M-95	Screw	2
96	CS225M-96	Nut	2
97	CS225M-97	Washer	5
98	CS225M-98	Mounting Plate	1
99	CS225M-99	Blade	1
100	CS225M-100	Washer	6
101	CS225M-101	Bot	2
102	CS225M-102	Nut	4
103	CS225M-103	Nut	4
104	CS225M-104	Pin	1



ELECTRICAL PARTS



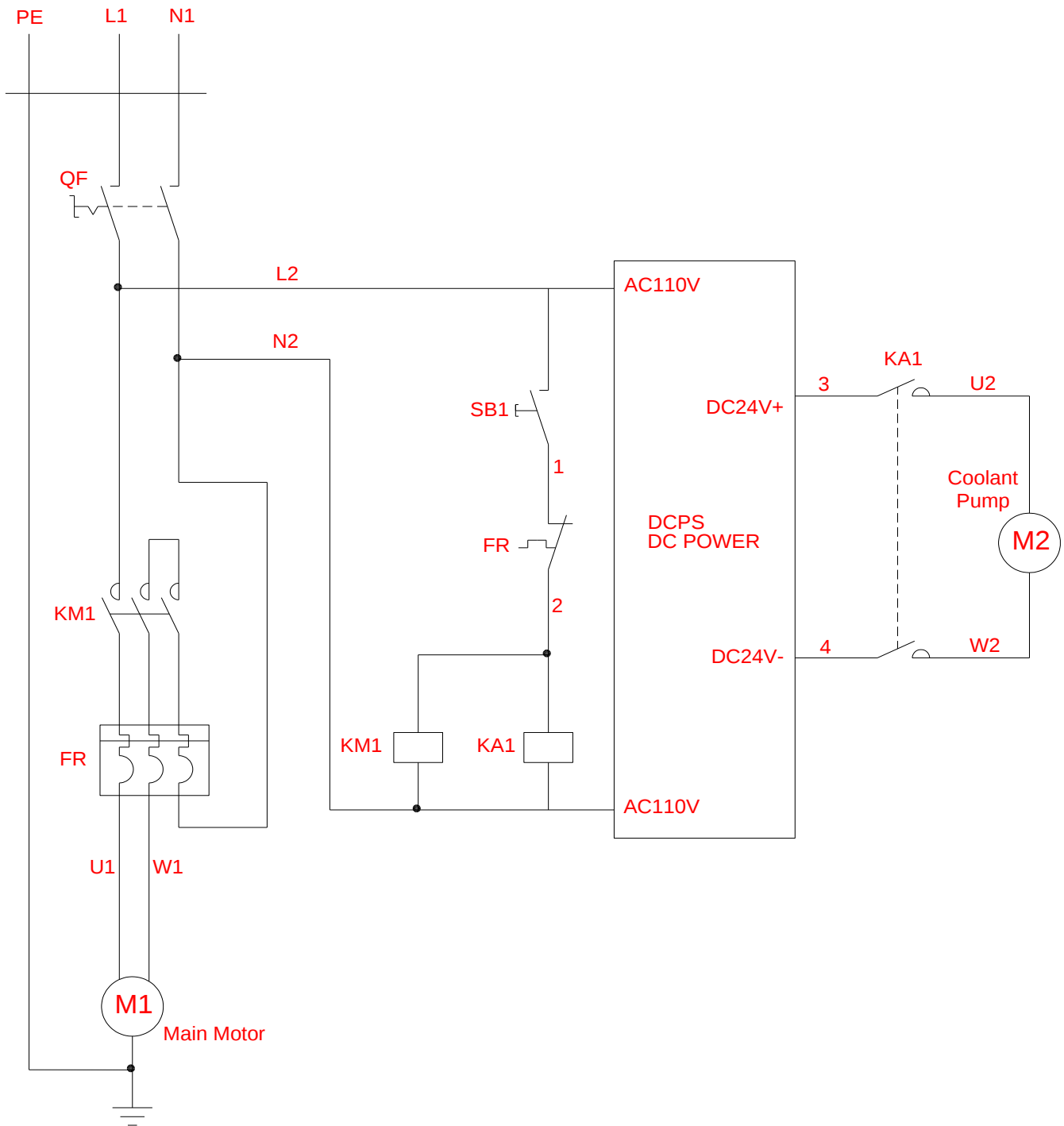


Electrical Parts List

Item	Item	Description	Technical Data	Qty.
QF	CS225M-74	Power / Emergency Stop	250V / 20A / HY18-XX	1
SB1	CS225M-58	Trigger Switch	15A 1/2HP 125/250VAC / 0.6A 125VDC	1
KM1	BB4616M-KM-CN6	Latching Relay	CN-6 600VAC 20A	1
FR	PL1440-RHU-10K1	Thermal Overload	RHN-5M 9 – 12.5A	1
KA1	CS225MA-KA1	Relay, Coolant Pump	JZX-22F(D)/2Z	1
M1	CS225M-75	Saw Motor	110V / 60hz 1 HP (.75kw) 10.4A	1
M2	CS225M-80	Coolant Motor	1/16hp (46.5w) 24VCD	1
DCPS	CS225M-CPPS	DC Power Supply	04-A0713A-G, E472249 XYJ-1	1
	CS225M-CAPACITOR	Capacitor	50UF 250V. AC (42*73)	1



ELECTRICAL SCHEMATIC



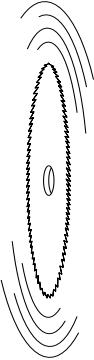
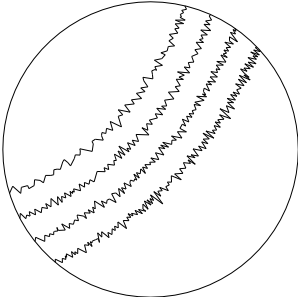


TROUBLESHOOTING

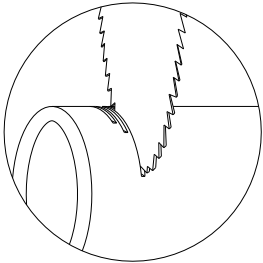


WARNING: Make sure the electrical disconnect is OFF before working on the machine.

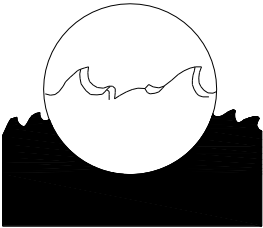
Blade and Cut Diagnosis

FAULT	PROBABLE CAUSE	REMEDY
DISK VIBRATION 	Wrong tooth pitch. Unsuitable tooth profile. Ineffective gripping of the part in the vise. Dimensions of the solid section too large with respect to the maximum admissible cutting dimensions. Disk diameter incorrect and/or too large.	Choose a suitable disk. Choose a suitable disk. Check the gripping of the part. Abide by the instructions. 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. Too fast advance. Disk teeth are worn. Insufficient lubricating coolant. Teeth do not unload shavings well.	Check the gripping of the part. Decrease advance, exerting less cutting pressure. Sharpen the tool. 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. Choose a blade with a larger tooth pitch that allows better unloading of shavings and that holds more lubricating coolant.

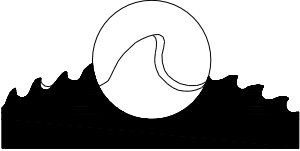
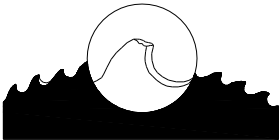


FAULT	PROBABLE CAUSE	REMEDY
CUT OFF THE STRAIGHT 	Too fast advance. Ineffective gripping of the part in the vise. Disk head off the straight. Disk sides differently sharpened. Dirt on the gripping device.	Decrease advance, exerting less cutting pressure. Check the gripping of the part which may be moving 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. Wrong cutting speed. Unsuitable tooth profile. Wrong tooth pitch. Low quality disk. Insufficient lubricating refrigerant.	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. Change disk speed and / or diameter. Choose a suitable disk. Choose a suitable disk. Use 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.
CHIPPED DISK 	Hardness, shape or flaws in the material Wrong cutting speed. Wrong tooth pitch. Vibrations Disk incorrectly sharpened. Low quality disk. Incorrect emulsion of the lubricating coolant.	Reduce the cutting pressure and/or the advance. Change disk speed and/or diameter. Choose a suitable disk. Check gripping of the part. Replace the disk with one that is more suitable and correctly sharpened. Use a better-quality disk. Check the percentage of water and oil in the emulsion.



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