



OPERATOR'S MANUAL



SEMI-AUTOMATIC COLD SAW MODEL: CS-350SA

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THANK YOU & WARRANTY

Thank you for your purchase of a machine from Baileigh Industrial. We hope that you find it productive and useful to you for a long time to come.

Inspection & Acceptance. Buyer shall inspect all Goods within ten (10) days after receipt thereof. Buyer's payment shall constitute final acceptance of the Goods and shall act as a waiver of the Buyer's rights to inspect or reject the goods unless otherwise agreed. If Buyer rejects any merchandise, Buyer must first obtain a Returned Goods Authorization ("RGA") number before returning any goods to Seller. Goods returned without a 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 30 days from date of receipt. The foregoing warranty is Seller's sole obligation, and the original end-user's exclusive remedy, with regard to any defective Goods. This limited warranty does not apply to: (a) die sets, tooling, and saw blades; (b) periodic or routine maintenance and setup, (c) repair or replacement of the Goods due to normal wear and tear, (d) defects or damage to the Goods resulting from misuse, abuse, neglect, or accidents, (e) defects or damage to the Goods resulting from improper or unauthorized alterations, modifications, or changes; and (f) any Goods that has not been installed and/or maintained in accordance with the instruction manual or technical guidelines provided by Seller.

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

Limitation of Liability. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER OR ANY OTHER PARTY FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR DOWN TIME) ARISING FROM OR IN MANNER CONNECTED WITH THE GOODS, ANY BREACH BY SELLER OR ITS AGENTS OF THIS AGREEMENT, OR ANY OTHER CAUSE WHATSOEVER, WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY OF LIABILITY. BUYER'S REMEDY WITH RESPECT TO ANY CLAIM ARISING UNDER THIS AGREEMENT IS STRICTLY LIMITED TO NO MORE THAN THE AMOUNT PAID BY THE BUYER FOR THE GOODS.



Force Majeure. Seller shall not be responsible for any delay in the delivery of, or failure to deliver, Goods due to causes beyond Seller's reasonable control including, without limitation, acts of God, acts of war or terrorism, enemy actions, hostilities, strikes, labor difficulties, embargoes, non-delivery or late delivery of materials, parts and equipment or transportation delays not caused by the fault of Seller, delays caused by civil authorities, governmental regulations or orders, fire, lightening, natural disasters or any other cause beyond Seller's reasonable control. In the event of any such delay, performance will be postponed by such length of time as may be reasonably necessary to compensate for the delay.

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

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

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 attorneys' fees and costs.

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

Summary of Return Policy.

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

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

For Customer Service & Technical Support:

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



INTRODUCTION

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

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

In this manual you will find: (when applicable)

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

GENERAL NOTES

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

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 unauthorized 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. **DANGER** identifies a hazard or unsafe practice that will result in severe **Injury or Death.**

Safety signs with signal word **DANGER** or **WARNING** are typically near specific hazards.

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



DANGER



WARNING



CAUTION

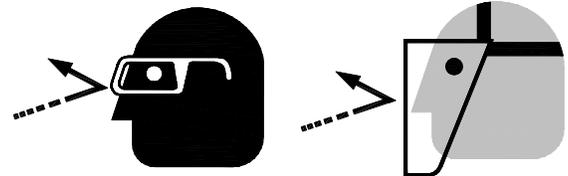


SAVE THESE INSTRUCTIONS.
Refer to them often and use them to instruct others.



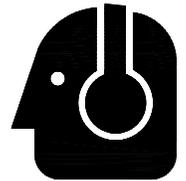
PROTECT EYES

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



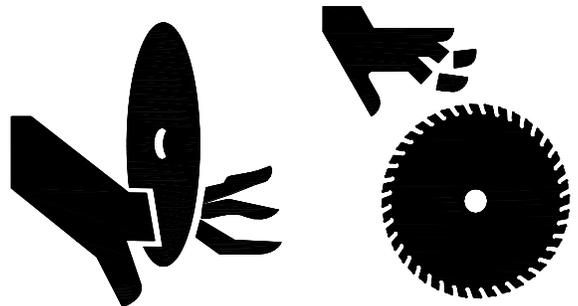
PROTECT AGAINST NOISE

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



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.**



HIGH VOLTAGE

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



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.





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 won't 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

1. **Only trained and qualified personnel can operate this machine.**
2. **Make sure guards are in place and in proper working order before operating machinery.**
3. **Remove any adjusting tools.** Before operating the machine, make sure any adjusting tools have been removed.
4. **Keep work area clean.** Cluttered areas invite injuries.
5. **Overloading machine.** By overloading the machine you may cause injury from flying parts. **DO NOT** exceed the specified machine capacities.
6. **Dressing material edges.** Always chamfer and deburr all sharp edges.
7. **Do not force tool.** Your machine will do a better and safer job if used as intended. **DO NOT** use inappropriate attachments in an attempt to exceed the machines rated capacity.
8. **Use the right tool for the job. DO NOT** attempt to force a small tool or attachment to do the work of a large industrial tool. **DO NOT** use a tool for a purpose for which it was not intended.
9. **Dress appropriate. DO NOT** wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.
10. **Use eye and ear protection.** Always wear ISO approved impact safety goggles. Wear a full-face shield if you are producing metal filings.



11. **Do not overreach.** Maintain proper footing and balance at all times. **DO NOT** reach over or across a running machine.
12. **Stay alert.** Watch what you are doing and use common sense. **DO NOT** operate any tool or machine when you are tired.
13. **Check for damaged parts.** Before using any tool or machine, carefully check any part that appears damaged. Check for alignment and binding of moving parts that may affect proper machine operation.
14. **Observe work area conditions.** **DO NOT** use machines or power tools in damp or wet locations. Do not expose to rain. Keep work area well lighted. **DO NOT** use electrically powered tools in the presence of flammable gases or liquids.
15. **Blade adjustments and maintenance.** Always keep blades sharp and properly adjusted for optimum performance.
16. **Keep children away.** Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
17. **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.
18. **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.
19. **DO NOT** touch live electrical components or parts.
20. **Turn off** power before checking, cleaning, or replacing any parts.
21. Be sure **all** equipment is properly installed and grounded according to national, state, and local codes.
22. Keep **all** cords dry, free from grease and oil, and protected from sparks and hot metal.
23. Inspect power and control cables periodically. Replace if damaged or bare wires are exposed. **Bare wiring can kill!**
24. **DO NOT** bypass or defeat any safety interlock systems.
25. Keep visitors a safe distance from the work area.



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

Max. Blade Diameter	14" (355.6mm)
Operation	Semi-Automatic
Head Miter	90° Slotting, 45° Left / 45° Right
Slotting Capable	Yes, Left and Right
Round Solid at 45°	1.575" (40mm)
Square Tube at 45°	2.953" x 2.953" (75 x 75mm)
Round Tube at 45°	2.953" (75mm)
Rectangle Tube at 45°	2.953" x 2.362" (75 x 60mm)
Round Solid at 90°	2.362" (60mm)
Rectangle Tube at 90°	4.25" x 3.5" (108 x 89mm)
Square Tube at 90°	4.25" x 4.25" (108 x 108mm)
Round Tube at 90°	4.331" (110mm)
Vice Style	Dual Action, Self-Centering
Max. Vice Opening	6.5" (165mm)
Head Style	Pivot
Arbor Size	1.26" (32mm)
Power	220V, 3ph, 60hz
Motor	4.0hp (2.98kw)
Blade Speed	Two Speeds, 26 / 52 (rpm)
Air Supply (Min – Max)	80psi – 100psi (.55 – .69mpa)
Coolant System	1/8hp (93w)
Coolant System Capacity (80%)	5.3gal. (20L)
Shipping Weight	900lbs. (408kg)
Shipping Dimensions	60" x 44" x 48" (1524 x 1118 x 1220mm)

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.



UNPACKING AND CHECKING CONTENTS

Your Baileigh machine is shipped complete in one crate. 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 plug in the power cable, or turn the power switch on until the missing parts are obtained and installed correctly.

Cleaning

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

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

Your machine may be shipped with a rustproof waxy coating and/or grease on the exposed unpainted metal surfaces. Fully and completely remove this protective coating using a degreaser or solvent cleaner. Moving items will need to be moved along their travel path to allow for cleaning the entire surface. For a more thorough cleaning, some parts will occasionally have to be removed. **DO NOT USE** acetone or brake cleaner as they may damage painted surfaces.

Follow manufacturer's label instructions when using any type of cleaning product. After cleaning, wipe unpainted metal surfaces with a light coating of quality oil or grease for protection.



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





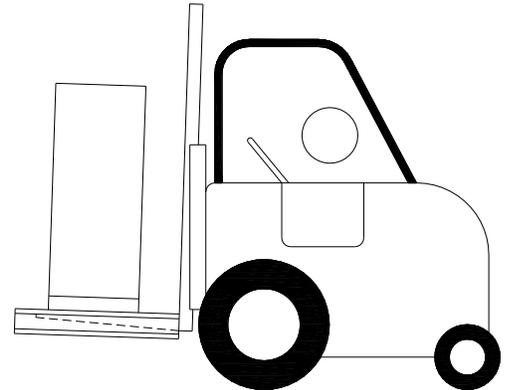
TRANSPORTING AND LIFTING



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

Follow these guidelines when lifting with truck or trolley:

- The lift truck must be able to lift at least 1.5 – 2 times the machines gross weight.
- Make sure the machine is balanced. While transporting, avoid rough or jerky motion, and maintain a safe clearance zone around the transport area.
- Use a fork lift with sufficient lifting capacity and forks that are long enough to reach the complete width of the machine.
- Remove the securing bolts that attach the machine to the pallet.
- Approaching the machine from the side, lift the machine on the frame taking care that there are no cables or pipes in the area of the forks.
- Move the machine to the required position and lower gently to the floor.
- Level the machine so that all the supporting feet are taking the weight of the machine and no rocking is taking place.



Follow these guidelines when lifting crane or hoist:

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



INSTALLATION

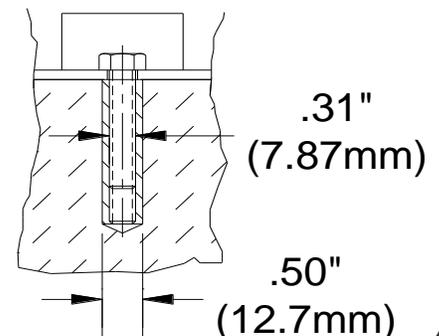
IMPORTANT:

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

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

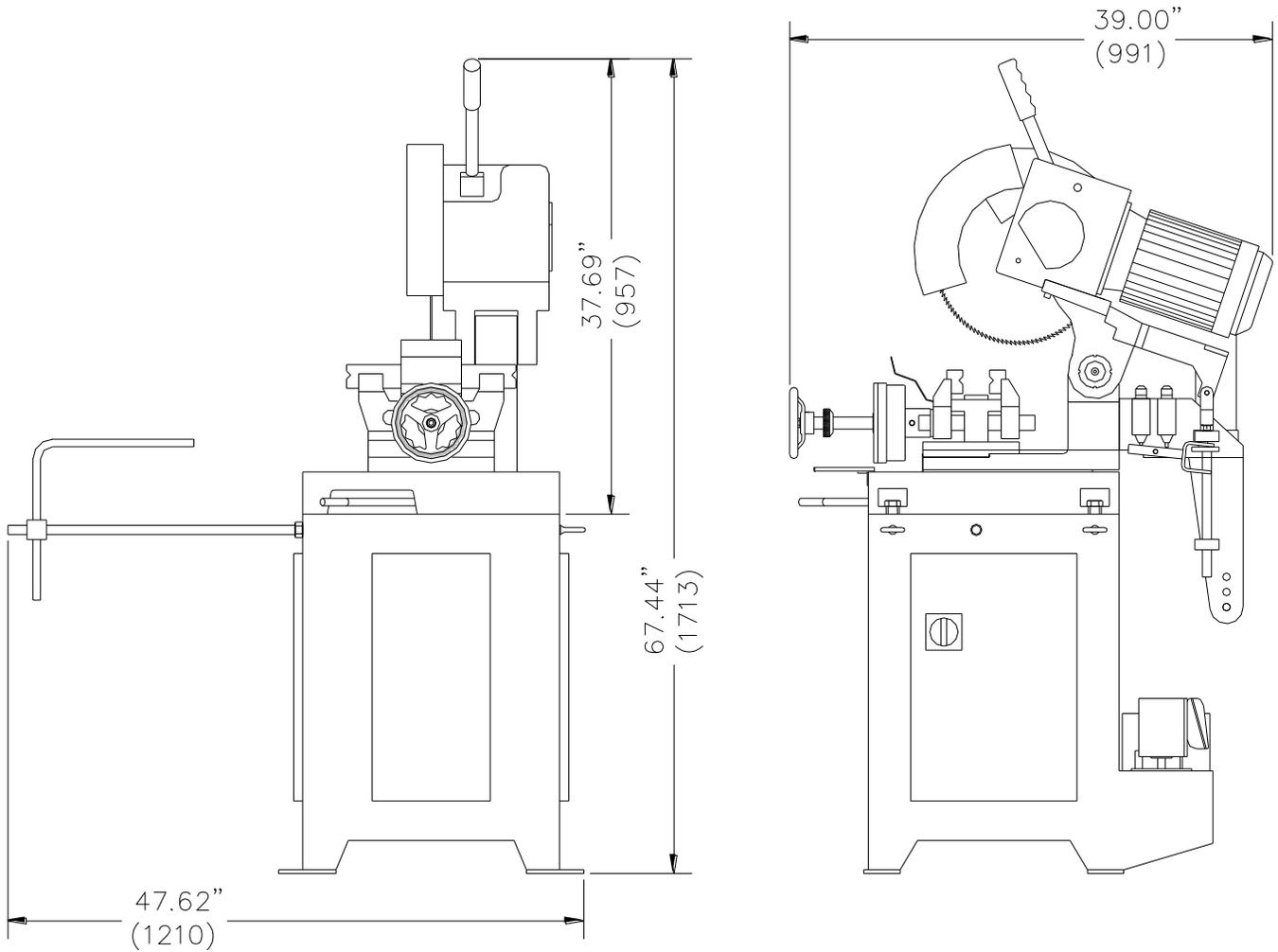
Anchoring the Machine

- Once positioned, anchor the machine to the floor, as shown in the diagram, using bolts and expansion plugs or sunken tie rods that connect through holes in the base of the stand.



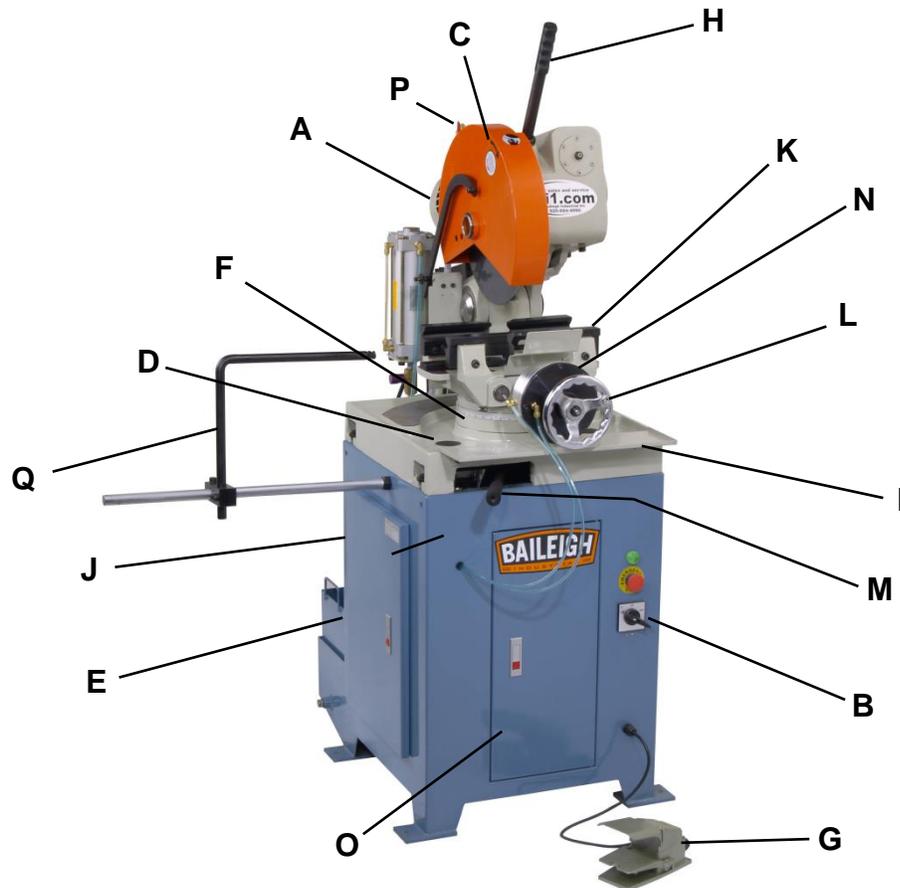


OVERALL DIMENSIONS





GETTING TO KNOW YOUR MACHINE

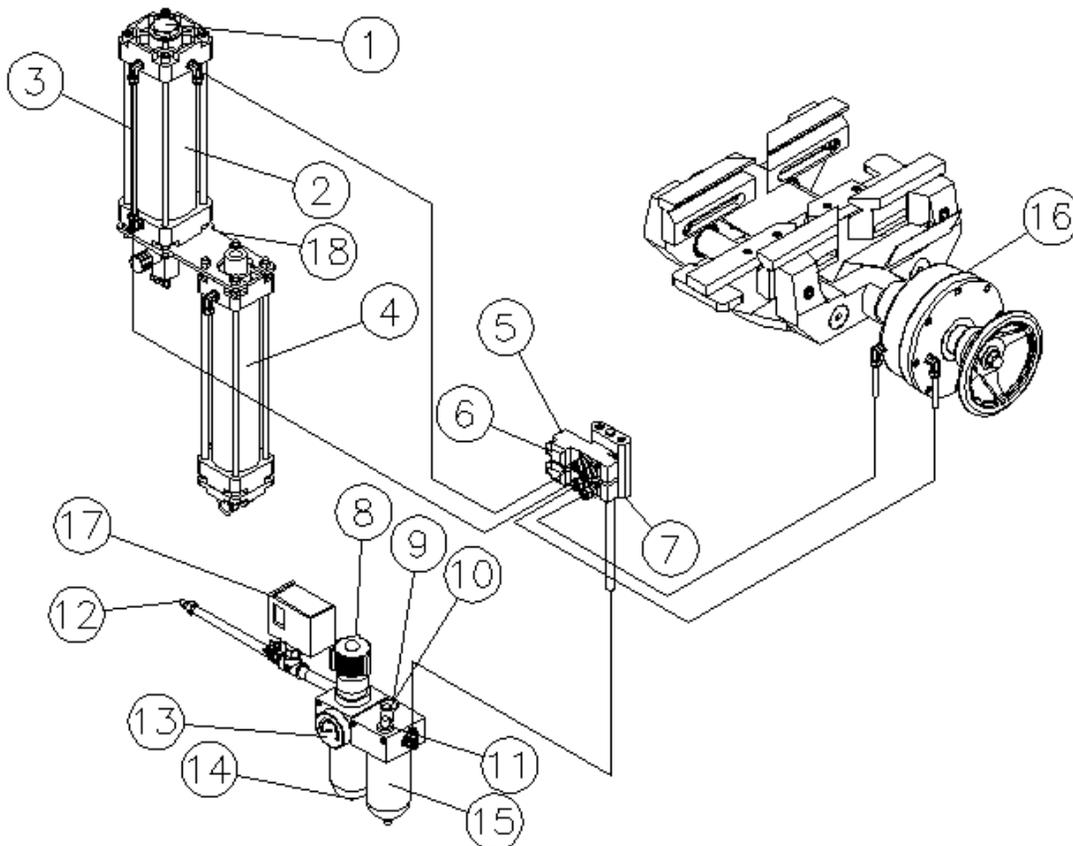


A	Spindle Motor	For driving the spindle
B	2-Speed Switch	Changes saw blade from 26 rpm to 52 rpm
C	3-Piece Saw Guard	Provides safety protection from saw blade
D	Filter Tank Screen	For filtering metal chips and contaminants
E	Chip Basket	For collecting metal chips
F	Angle Indicator	For showing angular cutting degrees
G	Footswitch	Press this switch to start the cutting cycle
H	Feed Handle	Used to move head when adjusting switches
I	Air Cylinder Guard	For diverting chips and coolant
J	Air-In Connector	For connecting customer supplied air
K	Front And Rear Jaw	For clamping piece part
L	Vise Hand-Wheel	Turning hand-wheel opens and closes vise
M	Miter Lock Lever	Tightens and loosens table to set angles



N	Vise Air Cylinder	Pushes front jaw towards rear jaw to clamp part
O	Storage Compartment	Use for storing tools, blades, manual, etc.
P	Coolant Valve	Regulates coolant flow to saw blade
Q	Stop Bar	For setting the length of cut

Pneumatic Circuit



1	Oil inlet port	10	Oil see-thru window
2	Air hydraulic oil drum	11	Oil air mixing ratio adjustment screw
3	Oil hose	12	Air hose quick connector
4	Hydraulic cylinder	13	Pressure gauge
5	Test button	14	Water release port
6	Coil	15	Lubrication oil cup
7	Buffer	16	Vise air cylinder
8	Pressure regulation knob	17	Pressure switch
9	Lubrication oil inlet port	18	Cylinder connection plate



Disk Head Assembly

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

Feed Handle

A straight tube with a grip for raising and lowering the disk head. Used when setting the up/down travel limits of the saw blade. Note: Flow control valve must be open and airline disconnected.

Transfer Case

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



Machine Base

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



Stand

Support structure for the machine head assembly, machine base, vise system, and the coolant pump system. The stand also houses the air and electrical system components.



Vise

A clamping system that provides the basic support and grip for the work material. A handwheel opens and closes the vise jaws. The front jaw has a quick grip and release feature using a pneumatic cylinder.





Coolant Pump

Located at the back of the machine is a self-contained coolant system. It includes a coolant tank with removable chip basket, a pump with motor, and hoses.

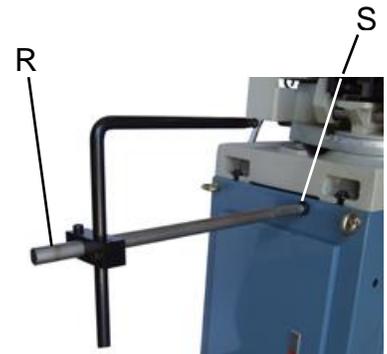




ASSEMBLY AND SET UP

⚠ 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.

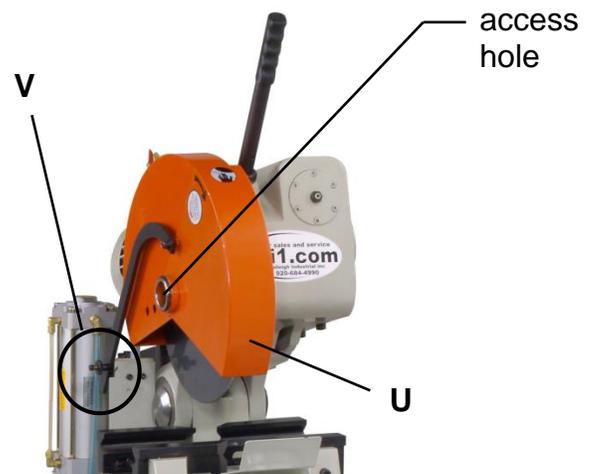
1. Attach the bar stop to the stand.
2. Insert the threaded end of the long rod (R) into the side of the stand. (Can be mounted on left side or right side.)
3. Turn clockwise (cw) until snug, making sure graduated scale can be easily read.
4. Using a wrench, turn hex jam nut (S) clockwise (cw) until tight.



5. Attach the feed handle to the head assembly.
6. Insert the threaded end of the feed handle (H) into the handle receiver block (T) located on the saw head body.
7. Turn the handle clockwise (cw) until tight.
8. Tighten jam nut.



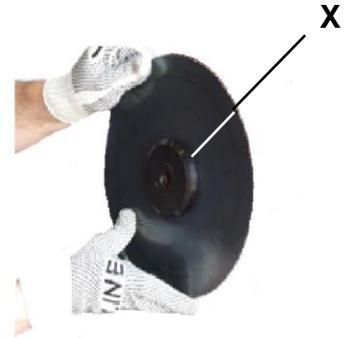
9. Mounting the saw blade (Wear gloves when handling Blade)
10. Remove the saw blade from the stand storage compartment.
11. Rotate the pivot guard (U) by pulling back on the knurled washer (V) which releases the rocking hook (W).
12. Remove the lock bolt (through the access hole), by turning clockwise (cw). Remove blade washer (X) from the spindle.
13. Align blade washer (X) to saw blade and mount to spindle.





Note: Be sure teeth point in the direction as indicated by the arrow on the guard.

14. Tighten lock bolt counterclockwise (ccw). (It has a left handed thread).
15. Rotate pivot guard (U) and reconnect rocking hook (W).
16. Check for proper blade rotation.





ELECTRICAL

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

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

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

Motor Specifications

Your tool is wired for 220 volt, 60Hz alternating current. Before connecting the tool to the power source, make sure the machine is cut off from power source.

Considerations

- Observe local electrical codes when connecting the machine.
- The circuit should be protected with a time delay fuse or circuit breaker with a amperage rating slightly higher than the full load current of machine.
- A separate electrical circuit should be used for your tools. 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 tool.
- 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 tool 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 a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool 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
0-6	16	16	16
7-10	16	16	14
11-12	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 disconnect 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.

Check for correct rotation of the motor

5. With power connected and the main disconnect turned ON, the power light on the control panel will be lit.
6. Check that the saw blade is running in the direction as indicated by the arrowhead on the blade guard. If not, cut the power to the machine. Swap the position of any two of the three power wires; but DO NOT change the position of the green grounding wire!



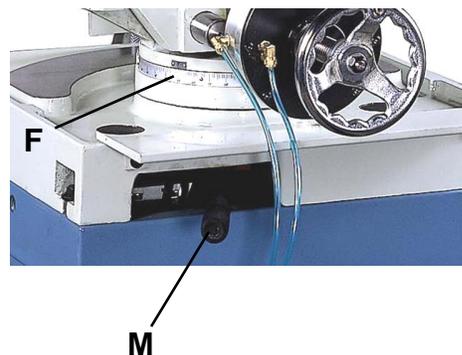
OPERATION

⚠ 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

⚠ IMPORTANT: 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. Use the miter lock lever (M) to release the disk head assembly.
2. Rotate the disk head assembly to the correct miter angle.
3. Check the miter angle on the angle indicator (F) (below the vise).
4. Use the miter lock lever (M) to lock in the angle.

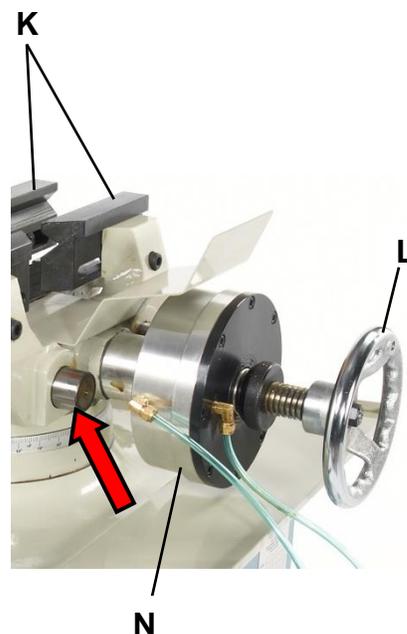


Vise Operation



Important: Make sure the vise base never opens beyond the travel limits of the slide rails or the assembly may de-rail. (See arrow)

1. With power off and air connected, Use the hand wheel (L) to open (ccw) and close (cw) the vise jaws (K) for pieces that vary in width.
2. Using the handwheel, load and secure the workpiece.
3. Turn main power ON and the vise will open. (This function is on a timer to allow the operator time to grasp the part for removal or to advance the part.)

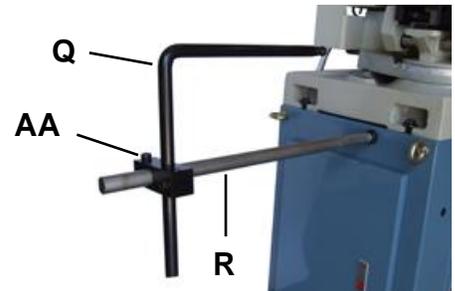




Setting Cut Length

Setting the cut length eliminates measuring duplicate pieces.

1. With main power off, Measure and mark the length of material to be cut off.
2. With the vise open, load the piece part.
3. Line up the cut.
4. Manually clamp the piece part.
5. Loosen the socket hex bolt at the base of the bar riser (AA).
6. Slide the bar riser (AA) along the long rod (R) so that the tip of stop bar (Q) touches the end of the piece part.
7. Tighten the socket hex bolt at the base of the bar riser.



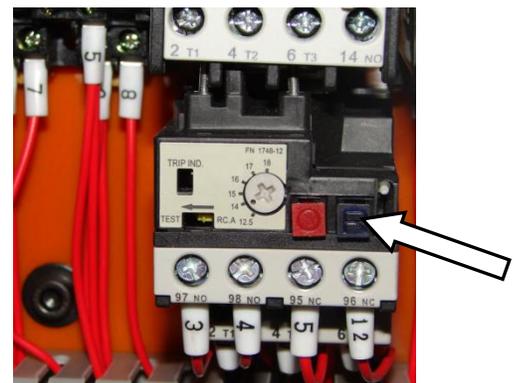
Using the stop bar

8. Cut off the first length from the clamped piece part.
9. When the vise opens, slide the piece part forward until it reaches the tip of the stop bar (Q).
10. Proceed with the cutting cycle.

Pinched Saw Blade

If the saw blade gets stuck in the workpiece during a cut cycle the overload switch will trip, shutting off the saw motor and coolant pump motor.

1. Turn OFF main power disconnect switch located on electrical box door.
2. Disconnect air supply and manually raise the cutting head from the workpiece.
3. Push the reset button, located in the electrical enclosure (see photo).
4. Reconnect air supply.
5. Turn on main disconnect switch.
6. Reload workpiece and press footswitch to start cut cycle.





Connect utilities to cold saw: Air – 80 psi. (min.) 100 psi. (max.) Electrical – 220v, 3ph, 60hz

1. Set the length of cut.
2. With power off, place the workpiece in the vise, and turn the vise hand wheel (L) clockwise (cw) until the piece is held. Turn the main power switch (AB) to the ON position, and check the green power indicator light (AC) to make sure it's on. When the power is on, the vise will open. Remove the workpiece from the vise and turn OFF the main power switch.



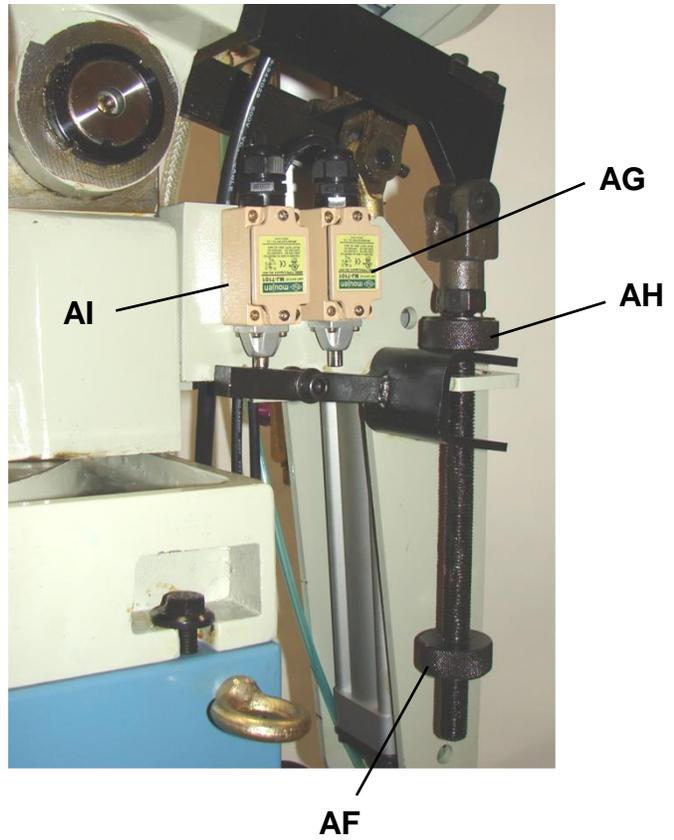
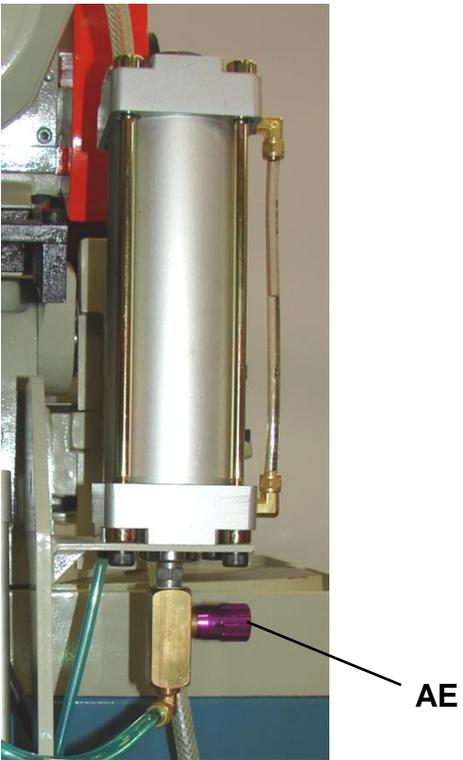
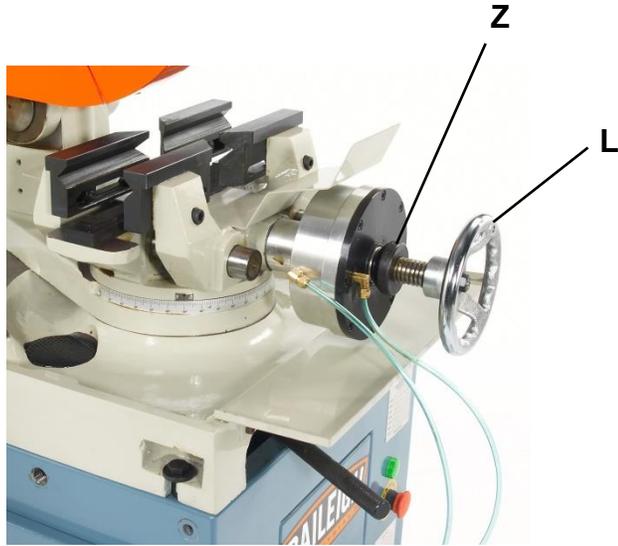
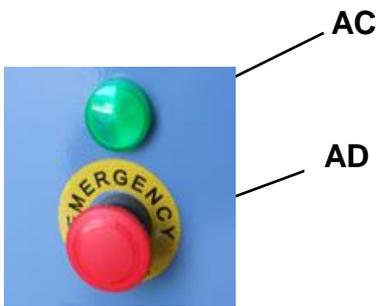
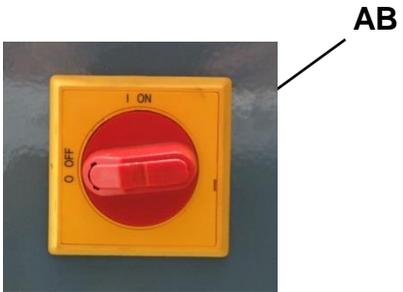
Note: *Open flow control valve and disconnect air before lowering saw head manually.*

3. Lower the saw head by pulling down on the feed handle to proper depth of cut. Turn the lower stroke setting nut (AF) until a "KA" sound is heard as the lower limit switch (AG) is energized. Return the saw head to the position right before it would begin contact with the workpiece. Turn the upper stroke setting nut (AH) until a "KA" sound is heard as the upper stroke limit switch (AI) is energized to finish setting your depth of cut.
4. Turn ON the main power switch. Turn the saw head flow control valve (AE) clockwise (cw) until it is closed. Push on the foot switch. After the work piece has been clamped securely by the vise, slowly open counterclockwise (ccw) the flow control valve. Repeat this motion until a desired feed speed of the saw head is obtained.
5. Turn on the coolant switch lever (P) then make a trial cut. (See procedure below)

Cutting operation cycle

1. Hold workpiece against the back jaw.
2. Step on footswitch to start the cutting cycle.
3. Sawblade motor and coolant pump motor will start.
4. Vise cylinder moves forward to clamp the workpiece.
5. The air over hydraulic cylinder lowers saw blade into workpiece. As soon as the lower limit switch is energized the saw head will retract.
6. The saw blade motor and coolant pump motor shut off.
7. The front jaw retracts, after a preset time delay, releasing the part for removal or manually advancing to the adjustable stop for next cut.
8. When the saw head reaches the up position, it energizes the upper limit switch which resets the cut cycle.

The Baileigh Industrial cold saw is now ready to start work. For quality cutting and machine performance always use the correct type of saw blade.





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.

CHOOSING A SAW BLADE

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

Use the chart on the following page to help select the saw blade suitable for your application.



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

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



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.



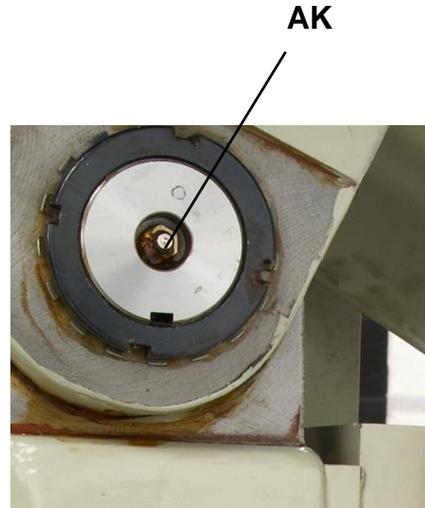
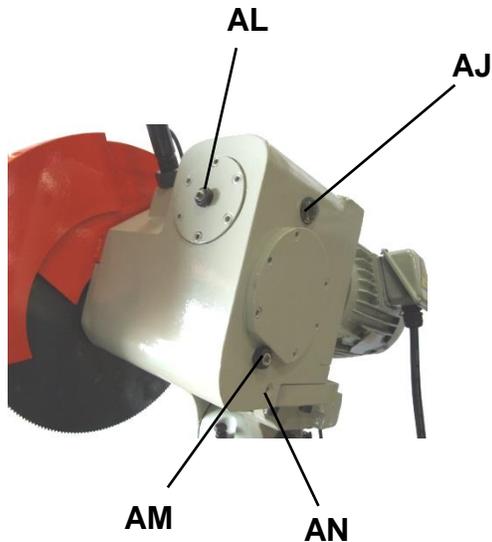
Note: Proper maintenance can increase the life expectancy of your machine.

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)
- Clean both filter screens located on the saw basin as often as necessary.
- Inspect the disk/saw blade for wear.
- Check that the blade guard, shields, and emergency stop are in good working order.
- Inspect air and hydraulic lines for leaks or damage.

Weekly Maintenance

- On a weekly basis clean the machine and the area around it.
- Lubricate threaded components and sliding devices.
- Apply rust inhibitive lubricant to all non-painted surfaces.
- Check the oil fill window (AJ) It is located on the side of the saw head and should be at least half full at all times.
- Thoroughly clean the machine including the coolant tank. See accessing and cleaning the cooling system.
- 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, the pump, the vise jaws, and the guard are tight and secure.
- Check that the saw guard is operating properly.
- There is a grease fitting (AK) on the side of the saw head pivot for lubricating the saw head joint. Using a grease gun inject grease through this fitting.
- Check the gear backlash. After the machine has been in use for a long period, the gears inside the saw head may become worn slightly, resulting in a clearance between the gears. Before checking the gear backlash be sure to turn and lock out main power source to the saw. Checking the gear backlash can be done by shifting the saw blade up and down and side to side. If a chatting occurs then the backlash needs to be adjusted. To do so loosen the backlash adjustment fix nut and turn the backlash adjustment screw (AL) or (AM) until the chatter is gone. Tighten up the fix nut after adjustment is completed.

Replacing Oil in the Gearbox

1st Time: After initial operation of 30 hours.

2nd Time: After 1 month of operation

3rd Time: Every 3 months of operation

- To change the oil you need to remove the oil release plug (AN) and the oil fill cap (AO) located on the top of the gearbox. (Have a drain pan or container handy to collect the used oil). Be sure the gearbox is completely empty before putting the oil drain plug back in. Fill the gearbox with fresh oil until it reaches the center of the oil sight window.





Oil Disposal

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

Accessing and Cleaning the Coolant System

1. Remove the chip basket (E) from the tank and clean thoroughly.
2. Drain coolant from both ends of tank by removing drain plugs (AP)
3. Wash out the dirt and debris from tank.
4. Replace both drain plugs.
5. Re-fill tank with coolant solution.
6. Replace chip basket.



Oils for Lubricating Coolant

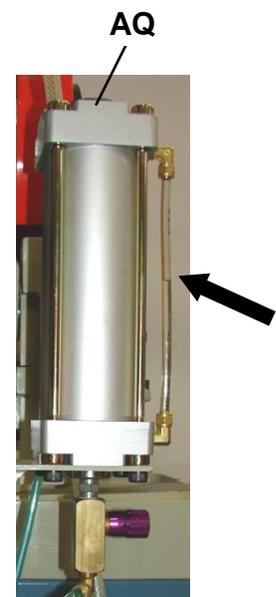
Any 10:1 (water to coolant) solution will work, however we recommend Baileigh B-Cool 20:1 (water to coolant) biodegradable metal cutting fluid. It has excellent cooling and heat transfer characteristics, is non-flammable, and extends tool and machine life. Each gallon of concentrate makes 21 gallons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

Storing Machine for Extended Period of Time

1. If the Cold Saw is to be inactive for a long period of time, prepare the machine as follows:
2. Detach the plug from the electrical supply panel.
3. Empty and clean the coolant tank.
4. Clean and grease the machine.
5. Drain any water from the FRL unit.
6. Cover the machine

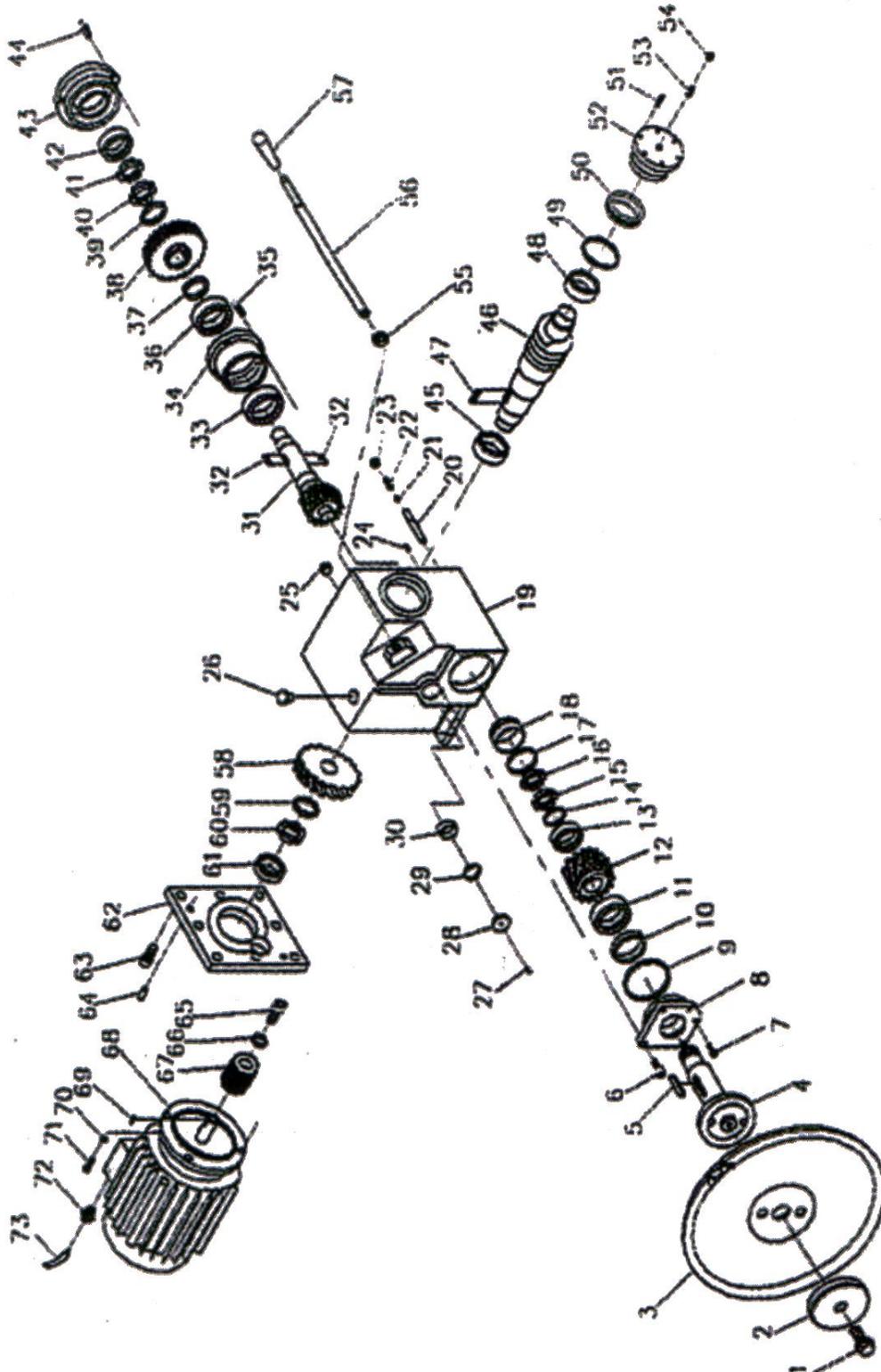
Filling air over oil hydraulic cylinder with oil

1. Open the oil outlet cap (AQ) on the cylinder and fill the cylinder till the level shows halfway up the sight tube as shown by the arrow in the photo.
2. Inspect weekly, and refill if needed.





PARTS DIAGRAM - A





Parts List - A

Item	Description	Specification	Qty.
1	Sawblade lock screw	M16-13 x 32 (LHT)	1
2	Blade washer		1
3	Saw blade		1
4	Spindle		1
5	Key	12x8x40	1
6	Hex socket setscrew	M8x20	3
7	Hex socket setscrew	M6x20	2
8	Spindle front cap		1
9	"O"-ring	G80	1
10	Oil seal	TC45629	1
11	Bearing	32008	1
12	Worm gear		1
13	Bearing	32006	1
14	Washer		1
15	Nut	M30xP1.5	1
16	Nut	M30xP1.5	1
17	"O"-ring	G50	1
18	Bearing case		1
19	Saw Head		1
20	Collar		1
21	"O"-ring	P7	1
22	Hex. Socket set screw	M12x35	1
23	Nut	M12	1
24	Plug	PT1/4	1
25	Oil window		1
26	Oil cap	3/4"x18	1
27	Hex socket set screw	M6x6	1
28	Hole plug		1
29	"O"-ring	G35	1
30	Bearing	TA3020	1
31	Worm gear		1
32	Key	10x8x30	1
33	Bearing	32008	1



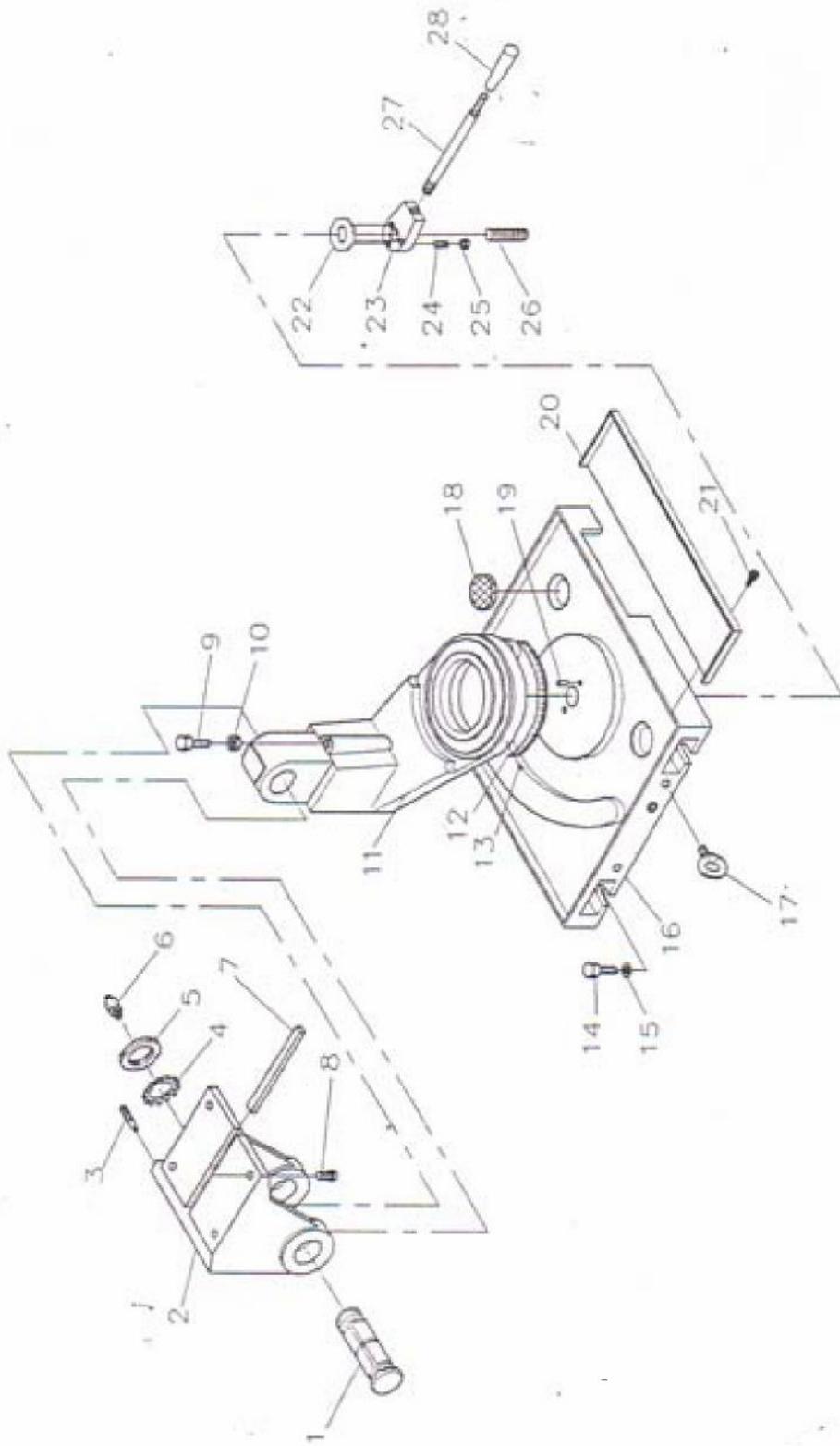
Item	Description	Specification	Qty.
34	Bearing case		1
35	Hex. socket head screw	M8x20	4
36	Bearing	32007	1
37	Washer		1
38	Helical gear		1
39	Washer		1
40	Nut	M30xP1.5	1
41	Nut	M30xP1.5	1
42	Bearing	6005	1
43	Spindle rear cap		1
44	Hex. socket head screw	M6x16	4
45	Bearing	32006	1
46	Worm		1
47	Key	8x8x20	1
48	Bearing	30205	1
49	"O"-ring	G45	1
50	Bearing case		1
51	Hex. socket head screw	M6x20	6
52	Bearing seat		1
53	Hex. socket set screw	M10x25	1
54	Nut	M10	1
55	Nut	M24xP1.5	1
56	Handle bar	S20C	1
57	Handle knob	1/2"x12T	1
58	Worm gear	(40T)L (29T)H	1
59	Washer		1
60	Nut	M25xP1.5	2
61	Bearing	6004Z	1
62	Saw Head top cover		1
63	Hex. socket head screw	M10x40	1
64	Pin	8x15 dia.	1
65	Hex. socket head screw	M8x15	1
66	Washer		1
67	Motor gear wheel	(22T)L (33T)H	1
68	Motor	4/3 HP 2/4P	1



Item	Description	Specification	Qty.
69	Key		1
70	Spring washer	10 dia.	1
71	Hex. socket screw	M10x30	1
72	Plastic bind	M25	1
73	Motor lines		1



PARTS DIAGRAM - B



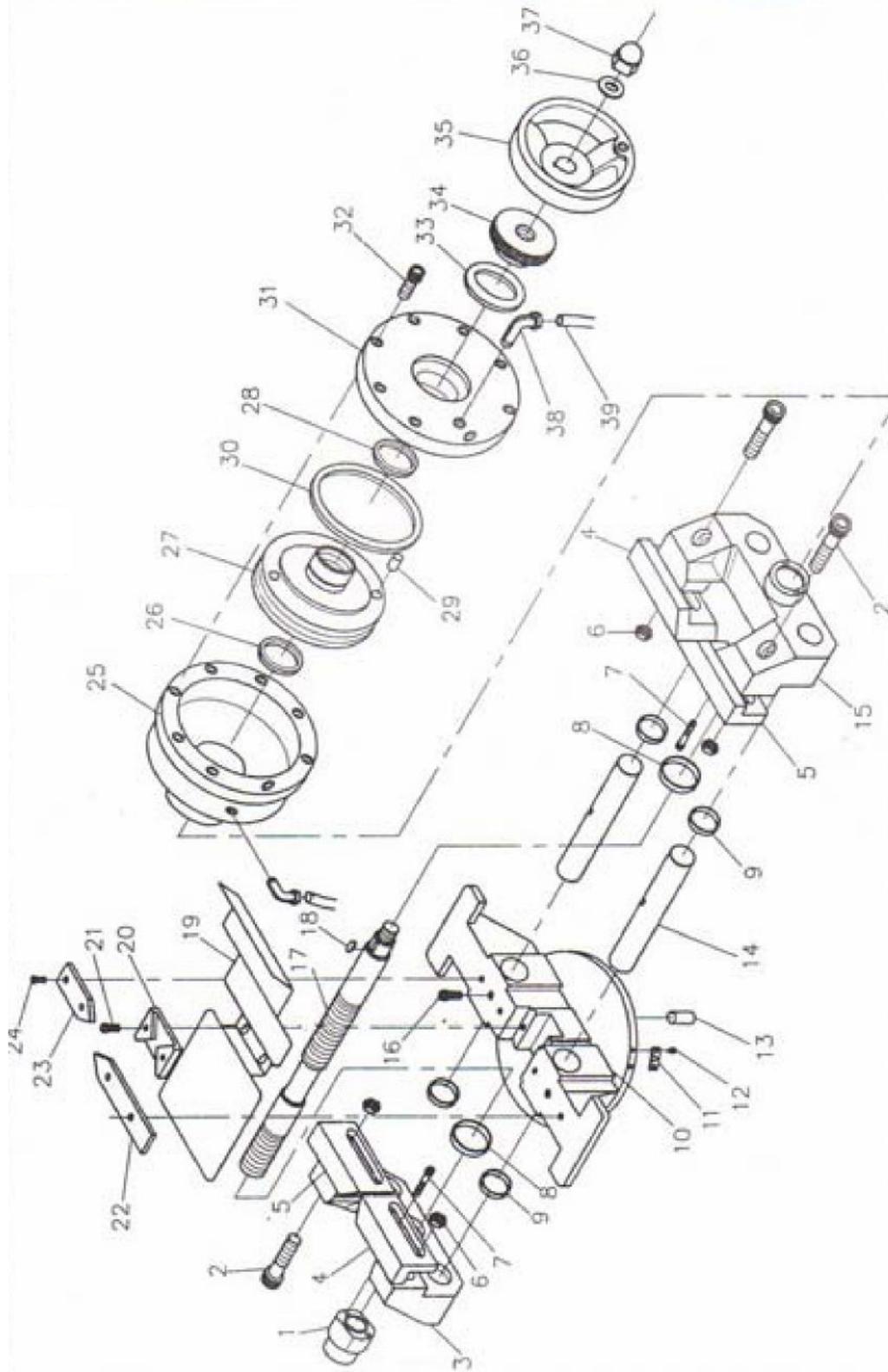


Parts List - B

Item	Description	Spec.	Qty.
1	Rocking Arm Shaft	S45C	1
2	Main Shaft Bracket	FC-25	1
3	Handle	SS41	1
4	Washer	50Ø	1
5	Nut	S45C	1
6	Grease Nipple	1/8" NPT	1
7	Key	10x10x 150	1
8	Socket Screw	M10	4
9	Hex Screw	M10x40	1
10	Hex Nut	M10	1
11	Rotary Table Pivot	FC-25	1
12	Graduation Piece	Aluminum	1
13	Rivet	2x5Ø	2
14	Hex Screw	M12x40	4
15	Washer	SS41	4
16	Base Seat	FC-25	1
17	Hoisting Ring	1/2"	4
18	Filter Nut		2
19	Locating Pin	S45C	2
20	Cylinder Splash Guard	SS41	1
21	Bearing Screw	M6x12	2
22	Locating Plate	SS41	1
23	Lock Nut	FC-20	1
24	Socket Fixing Screw	M8x50	3
25	Hex Nut	M8	3
26	Locking Thread	S45C	1
27	Locking Knob	SS41	1
28	Sponge Knob		1



PARTS DIAGRAM - C





Parts List - C

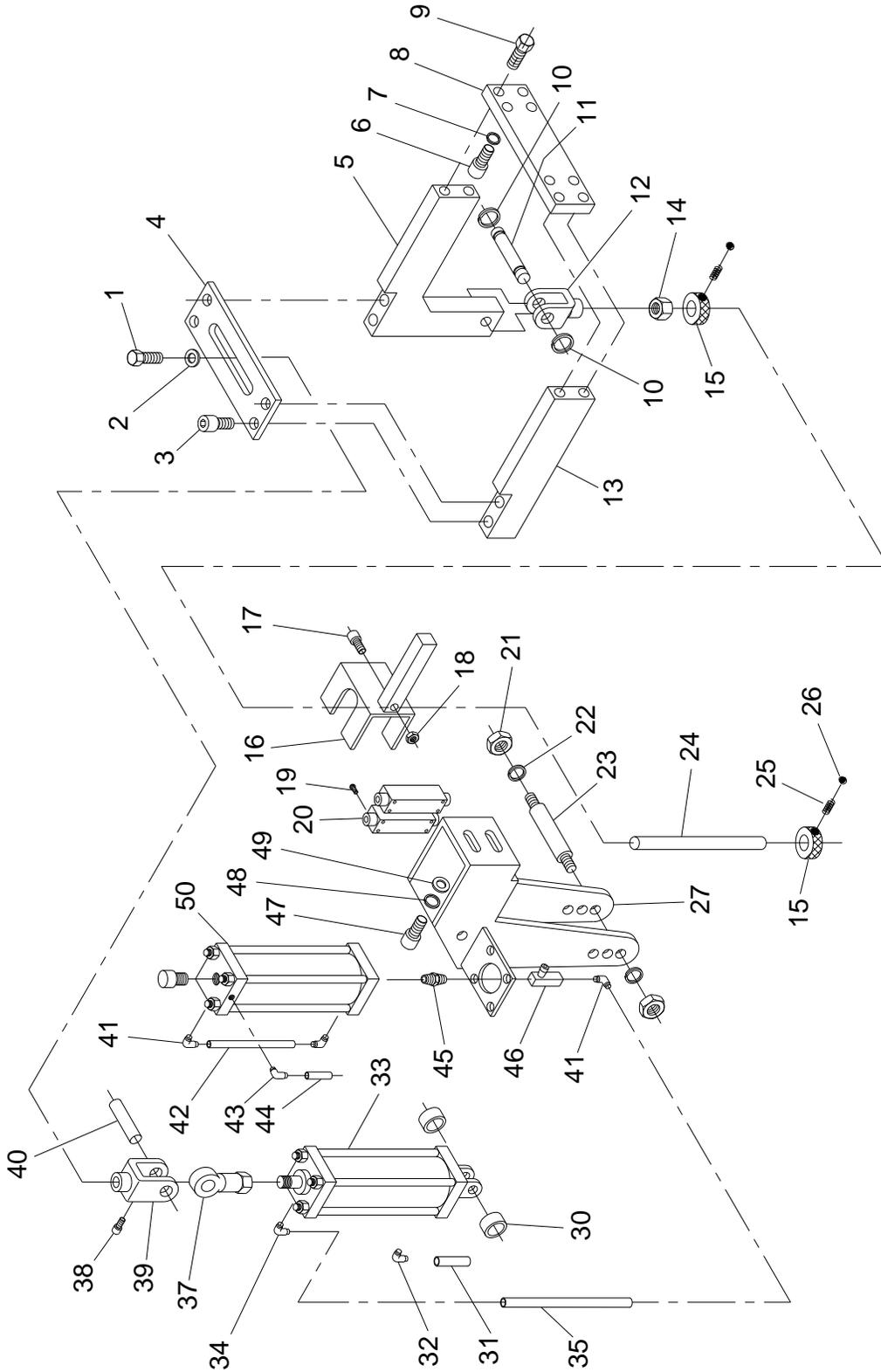
Item	Description	Spec.	Qty.
1	Nut		1
2	Hex. screw	M10x45	4
3	Vise base		1
4	Right clamp jaw		2
5	Left clamp jaw		2
6	Nut	M10	4
7	Hex. socket head screw	M6x60	4
8	Oil seal	TC28387	2
9	Oil seal	VC35455	4
10	Vise base		1
11	Instruction plate		1
12	Rivet		2
13	Dowel pin		2
14	Sliding rail		2
15	Vise base		1
16	Hex. socket head screw	M8x25	2
17	Lead screw		1
18	Two-head half round key	6x6x20	1
19	Screw splash guard		1
20	Pressure plate		1
21	Hex. socket head screw	M6x20	2
22	Press rod		1
23	Press rod		1
24	Hex. socket head screw	M6x16	2
25	Cylinder		1
26	"O" ring	G35	1
27	Piston		1
28	"O" ring	G35	1
29	Piston dowel		2
30	"O" ring	P130	1
31	Piston cylinder		1
32	Hex. socket head screw	M6x12	8
33	Oil seal	40626	1



Item	Description	Spec.	Qty.
34	Adjusting screw nut		1
35	Vise hand wheel		1
36	Washer	M10	1
37	Hex. head nut	M10	1
38	Adapter	1/8" NPT	2
39	Air tubing		2



PARTS DIAGRAM - D





Parts List - D

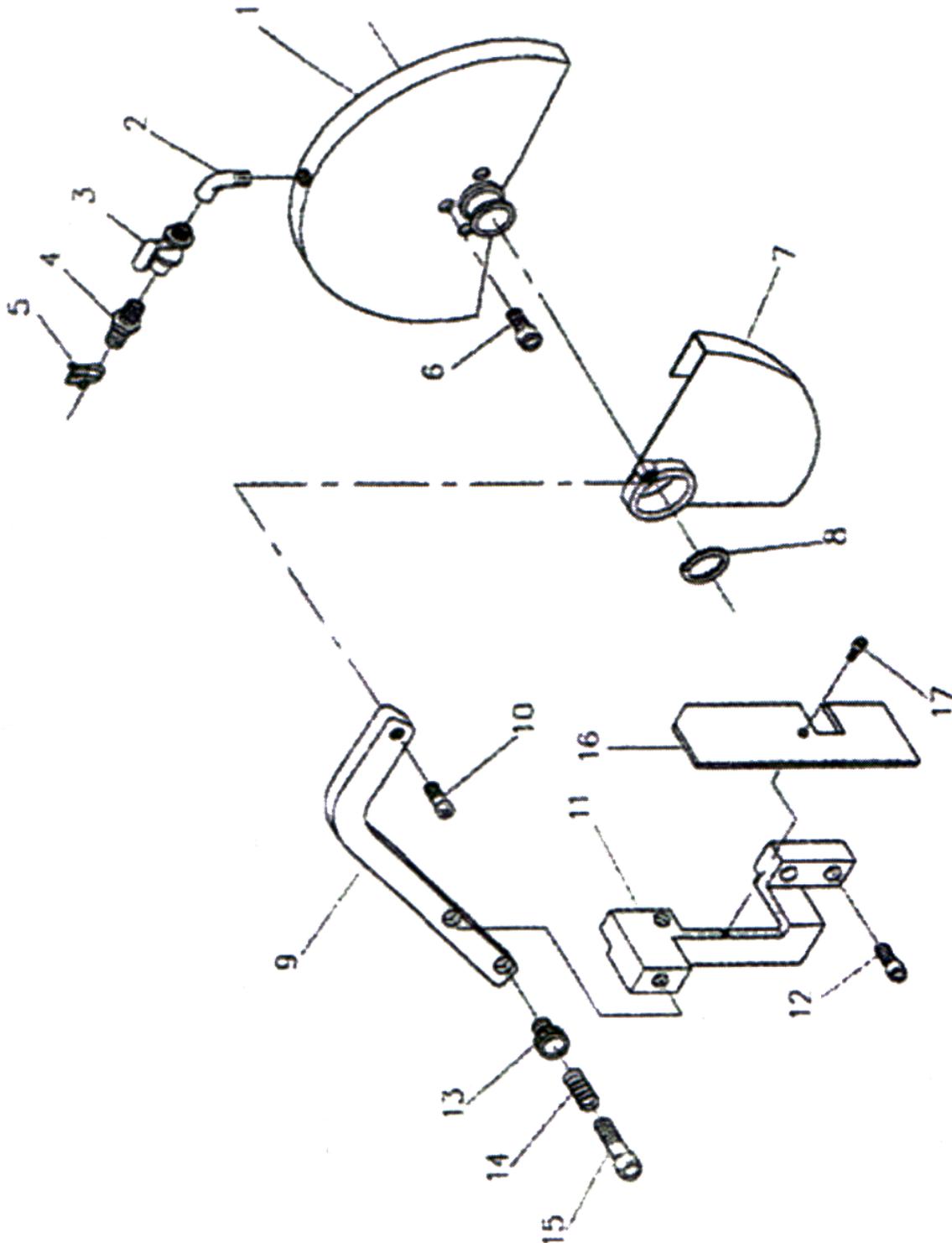
Item	Description	Spec.	Qty.
1	Hex Screw	M8x30	1
2	Washer	10Ø	1
3	Socket Screw	M8x20	4
4	L-Connection	SS41	1
5	L-Connection	SS41	1
6	Socket Screw	M8x30	4
7	Spring Washer	8Ø	4
8	L- Connection	SS41	1
9	Bearing Screw	M8x20	4
10	C Circlip	10Ø	2
11	Pin	SS41	1
12	Connection	FCD45	1
13	L-Connection	SS41	1
14	Hex Nut	M20	1
15	Adjusting Screw Nut	SS41	2
16	Micro-Switch Brake Block	SS41	1
17	Socket Screw	M10Øx45	1
18	Hex Nut	M10	1
19	Cross Screw		8
20	Micro Switch	MJ-7101	2
21	Hex Nut	M10	2
22	Spring Washer	10Ø	2
23	Bolt	SS41	1
24	Bolt	SS41	1
25	Spring		2
26	Steel Ball	5/16"	2
27	Air Cylinder Bracket	SS41	1
30	Washer	SS41	2
31	Polyurethane Tubing	8x5	1
32	90° Brass Fitting 802		1
33	Cylinder	63x225HA	1
34	90° Brass Fitting 803		1
35	Polyurethane Tubing	10x8	1



Item	Description	Spec.	Qty.
37	End Rod Bearing	PHS-16	1
38	Socket Screw	M6x16	1
39	Clevis Bracket	FDC45	1
40	Pin	SS41	1
41	90° Brass Fitting 602		3
42	Polyurethane Tubing	6x4	1
43	90° Brass Fitting 802		1
44	Polyurethane Tubing	8x5	1
45	(3/8Tx3/8T) Brass Fitting	3T3T	1
46	Oil Flow Control Valve	3/8"	1
47	Socket Screw	M12x40	2
48	Spring Washer	12Ø	2
49	Washer	SS41	2
50	Oil Tank		1



PARTS DIAGRAM - E



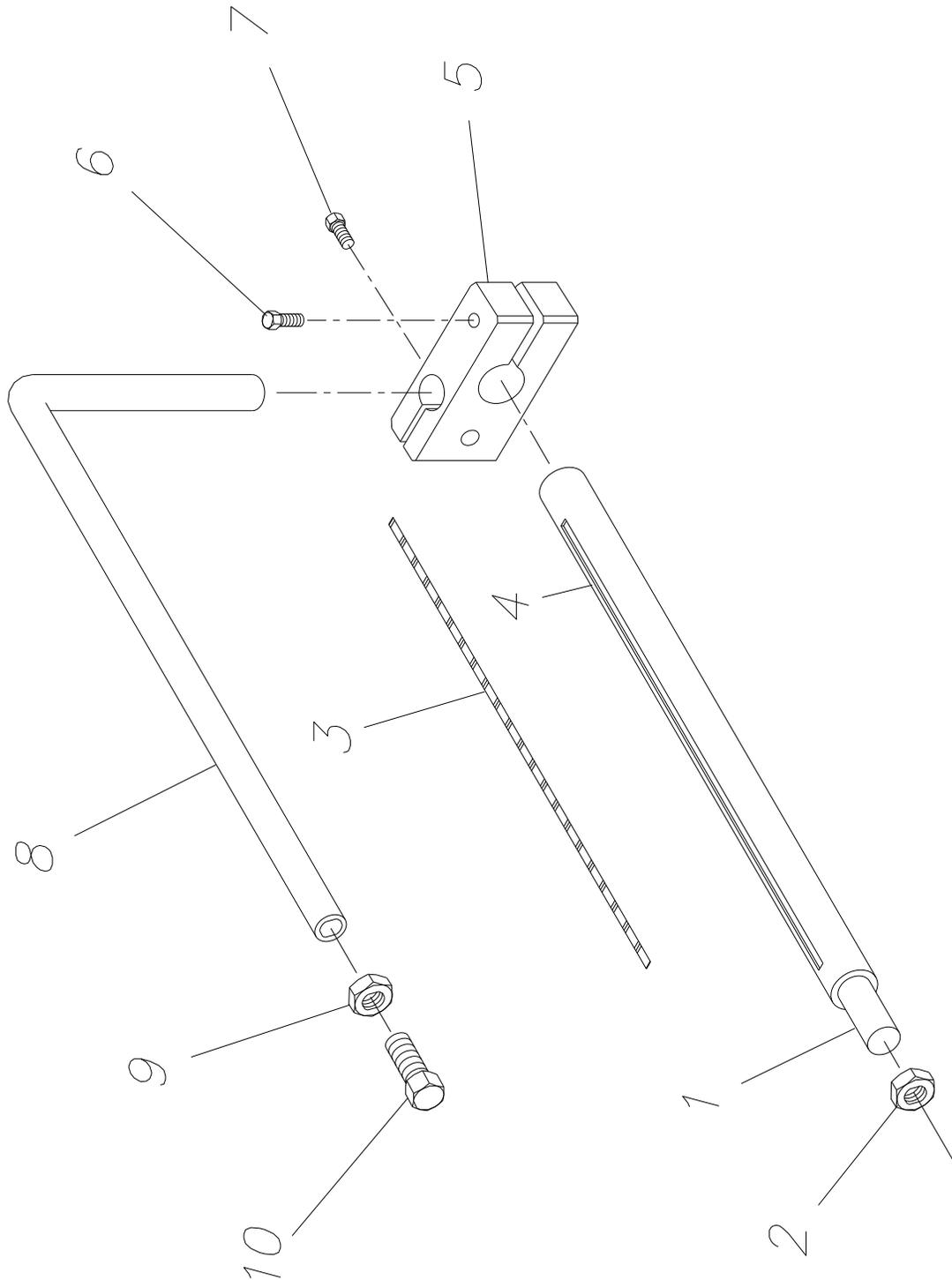


Parts List - E

Item	Description	Spec.	Qty.
1	Cutter guard		1
2	90° connector		1
3	Coolant valve		1
4	Rod		1
5	Clamp		1
6	Hex. screw		1
7	Movable blade guard cover		1
8	Circlip		2
9	Pulling rod		1
10	Hex. screw		1
11	Rod base		1
12	Hex. screw		1
13	Washer		1
14	Spring		1
15	Hex. screw		1
16	Back splash		1
17	Hex. screw		1



PARTS DIAGRAM - F



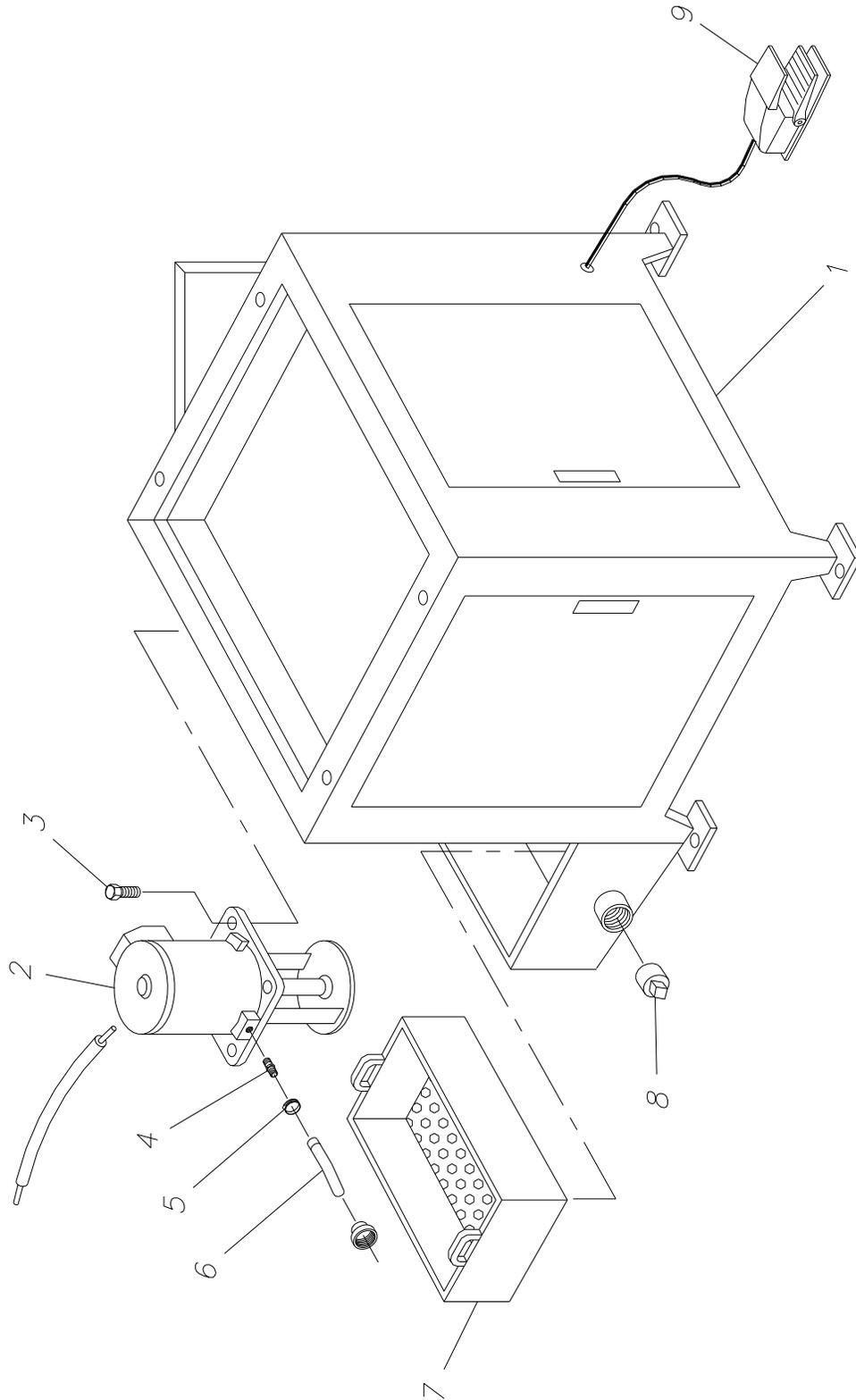


Parts List - F

Item	Description	Spec.	Qty.
1	Rule gauge shaft	S20C	1
2	Hex. nut	M20xP2.5	1
3	Rule gauge		1
4	Rivet	M2	4
5	Stopper arm	FC20	1
6	Hex. screw	M6x25	1
7	Hex. screw	M10x45	1
8	Stopper	S20C	1
9	Hex. nut	M10xP1.5	1
10	Hex. bolt	M10x35	1



PARTS DIAGRAM - G



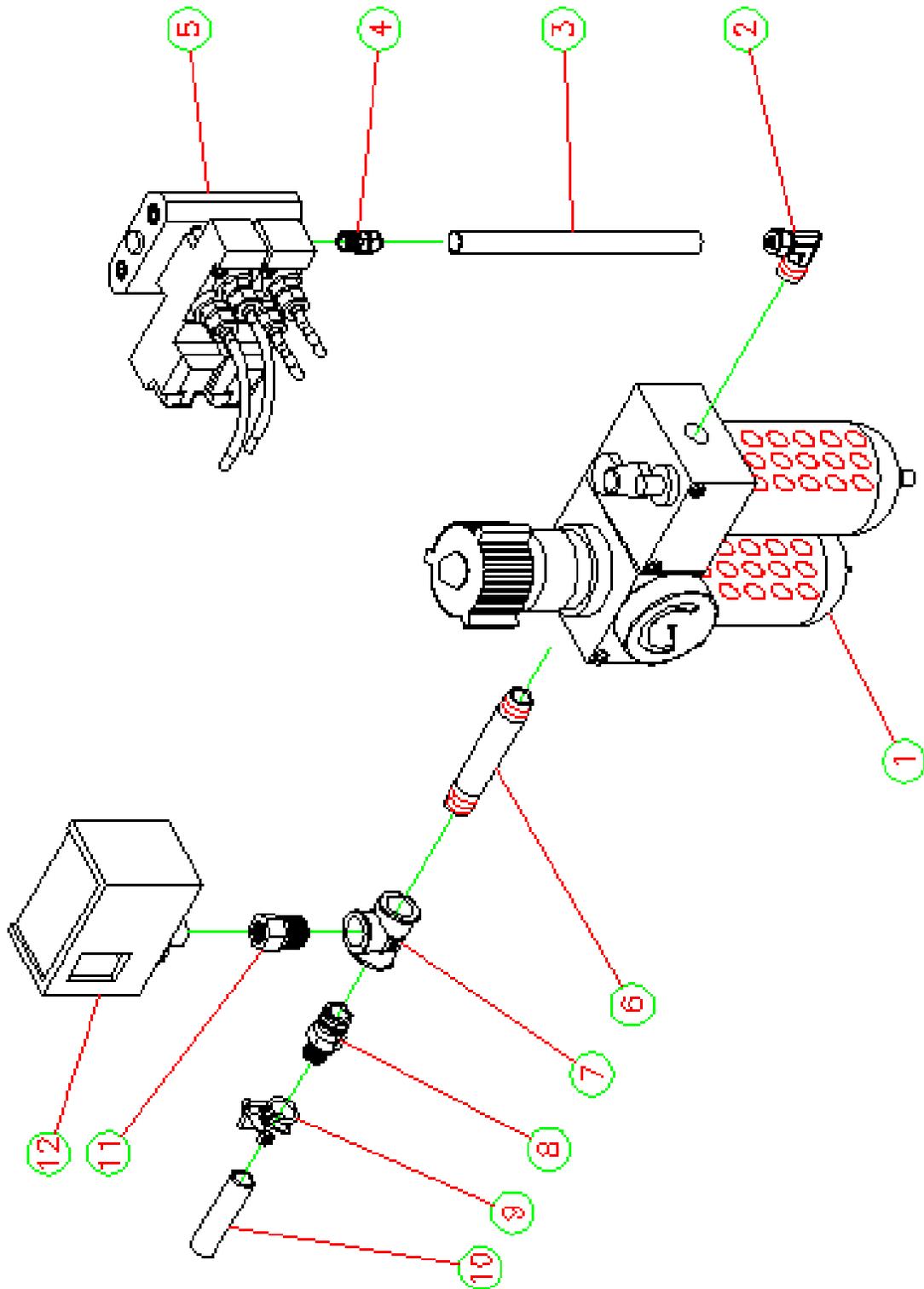


Parts List - G

Item	Description	Spec.	Qty.
1	Frame		1
2	Pump		1
3	Hex. socket head screw		4
4	Tube connector		1
5	Hose clamp		1
6	Flexible tube		1
7	Iron filings basket		1
8	Pipe plug		2
9	Footswitch		1



PARTS DIAGRAM - H





Parts List - H

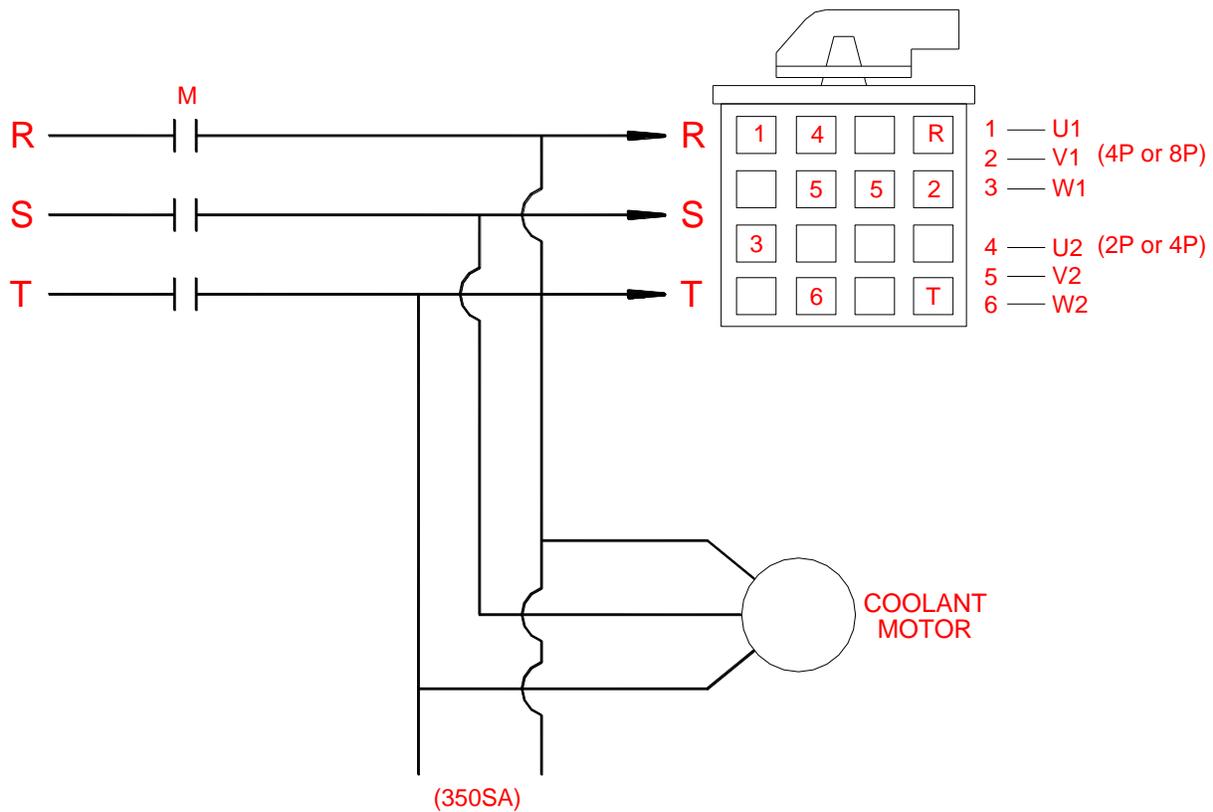
Item	Description	Spec.	Qty.
1	F.R.L combination K-856 FR&L	3/8"	1SET
2	Brass elbow	3/8"	1
3	Polyurethane Hose	5x8	1
4	Brass straight fitting	1/4"	1
5	Solenoid valve RCS2406 110V	Kuroda	1SET
6	Nipple	3/8"x2	1
7	T-joint	3/8"	1
8	Fitting	3/8"	1
9	Hose clamp	14mm	1
10	Polyurethane Hose	5x8	1
11	Brass bushing	3/8"	1
12	Pressure switch		1



Electrical Parts Callout

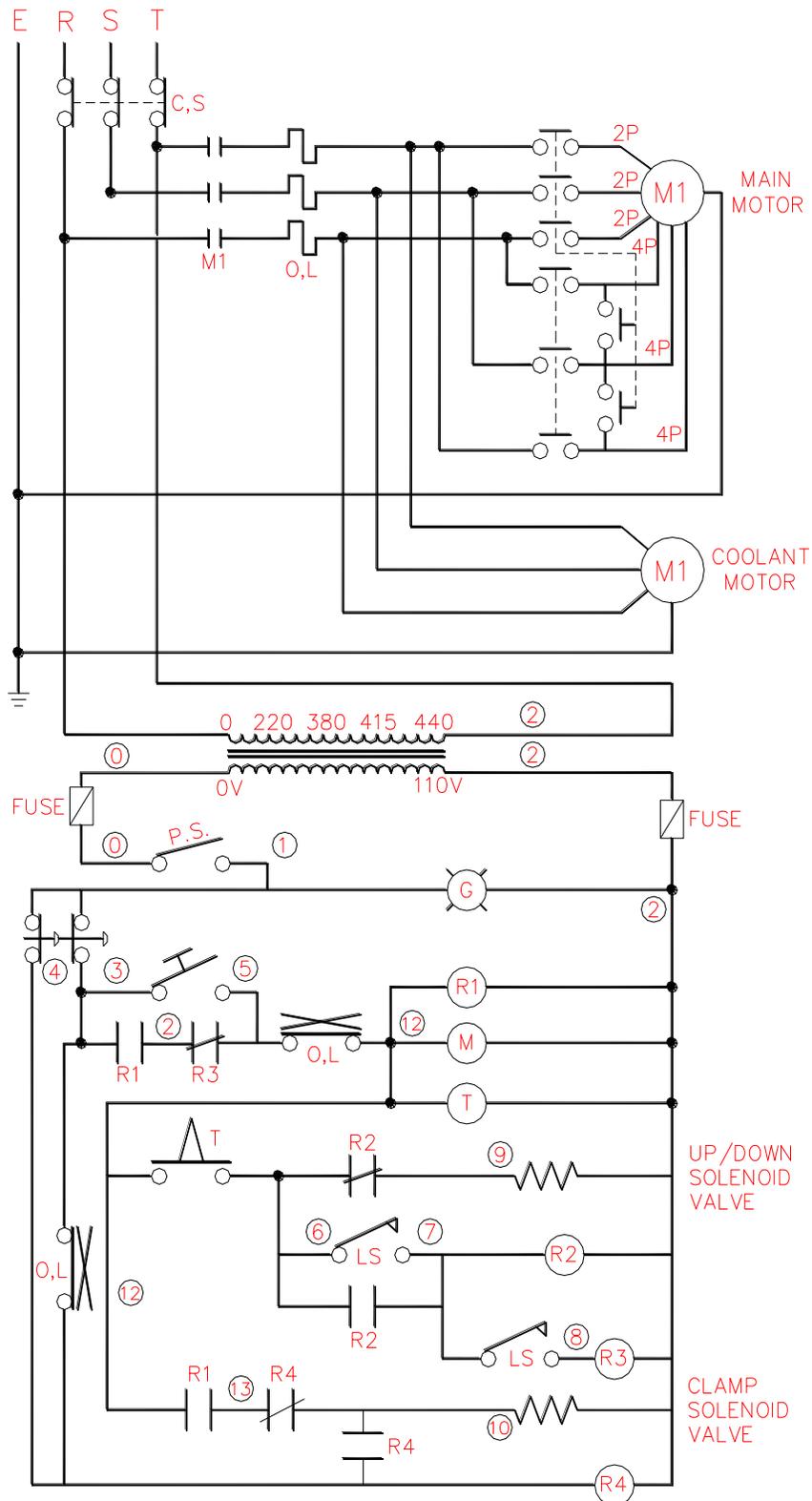
Item	Description	Spec.	Qty.
1	Transformer		1
2	Fuse socket and fuse	10A	2
3	Omron timer	STP-N-110V 5S	1
4	Disconnect switch		1
5	Relay		4
6	Overload		1
7	Electromagnetic contactor		1

ELECTRICAL SCHEMATIC



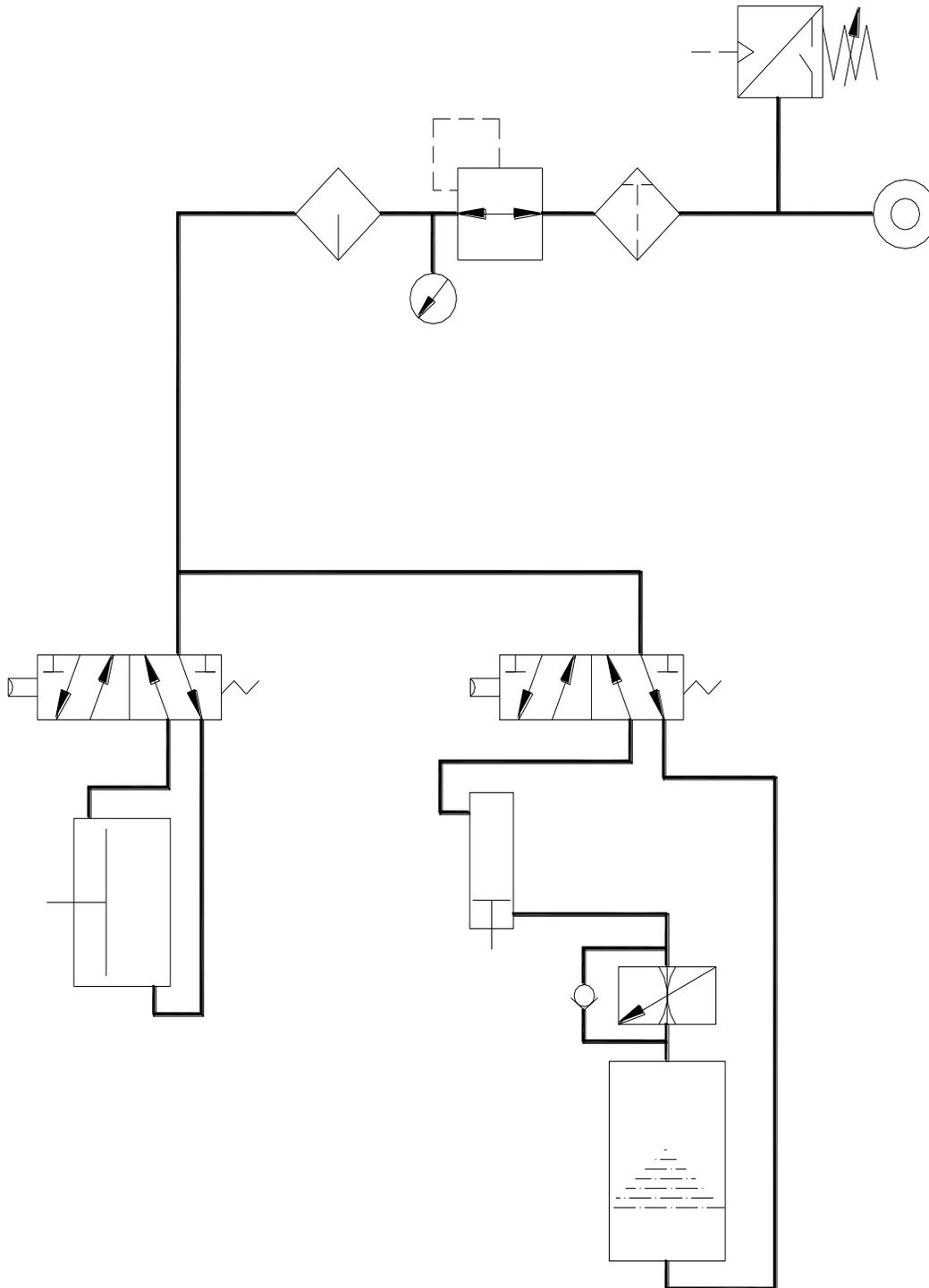


ELECTRICAL SCHEMATIC





PNEUMATIC / HYDRAULIC CIRCUIT DIAGRAM



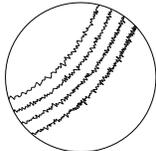
Customer
supplied air
80 psi (min.)
100 psi (max.)



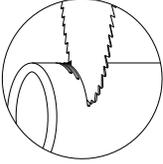
TROUBLESHOOTING

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

FAULT	PROBABLE CAUSE	REMEDY
<p>TOOTH BREAKAGE</p> 	<p>Too fast advance</p> <p>Wrong cutting speed</p> <p>Wrong tooth pitch</p> <p>Low quality disk</p> <p>Ineffective gripping of the part in the vise.</p> <p>Previously broken tooth left in the cut.</p> <p>Cutting resumed on a groove made previously.</p> <p>Insufficient lubricating coolant or wrong coolant.</p> <p>Sticky accumulation of material on the disk.</p>	<p>Decrease advance, exerting less cutting pressure.</p> <p>Change disk speed and/or diameter.</p> <p>Choose a suitable disk.</p> <p>Use a better quality disk.</p> <p>Check the gripping of the part.</p> <p>Accurately remove all the parts left in.</p> <p>Make the cut elsewhere, turning the part.</p> <p>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.</p> <p>Check the blend of lubricating coolant and choose a better quality disk.</p>
<p>PREMATURE DISK WEAR</p> 	<p>Wrong running in of the disk.</p> <p>Wrong cutting speed.</p>	<p>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.</p> <p>Change disk speed and / or diameter.</p>

	<p>Unsuitable tooth profile.</p> <p>Wrong tooth pitch.</p> <p>Low quality disk.</p> <p>Insufficient lubricating refrigerant.</p>	<p>Choose a suitable disk.</p> <p>Choose a suitable disk.</p> <p>Use a better quality disk.</p> <p>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.</p>
<p>CHIPPED DISK</p> 	<p>Hardness, shape or flaws in the material</p> <p>Wrong cutting speed.</p> <p>Wrong tooth pitch.</p> <p>Vibrations</p> <p>Disk incorrectly sharpened.</p> <p>Low quality disk.</p> <p>Incorrect emulsion of the lubricating coolant</p>	<p>Reduce the cutting pressure and/or the advance.</p> <p>Change disk speed and/or diameter.</p> <p>Choose a suitable disk.</p> <p>Check gripping of the part.</p> <p>Replace the disk with one that is more suitable and correctly sharpened.</p> <p>Use a better quality disk.</p> <p>Check the percentage of water and oil in the emulsion.</p>
<p>RIDGES ON THE CUTTING SURFACE</p> 	<p>Ineffective gripping of the part in the vise.</p> <p>Too fast advance.</p> <p>Disk teeth are worn.</p> <p>Insufficient lubricating coolant.</p>	<p>Check the gripping of the part.</p> <p>Decrease advance, exerting less cutting pressure.</p> <p>Sharpen the tool.</p> <p>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.</p>



	Toothing does not unload shavings well.	Choose a blade with a larger tooth pitch that allows better unloading of shavings and that holds more lubricating coolant.
<p>CUT OFF THE STRAIGHT</p> 	<p>Too fast advance.</p> <p>Ineffective gripping of the part in the vise.</p> <p>Disk head off the straight.</p> <p>Disk sides differently sharpened.</p> <p>Dirt on the gripping device.</p>	<p>Decrease advance, exerting less cutting pressure.</p> <p>Check the gripping of the part which may be moving sideways.</p> <p>Adjust the head.</p> <p>Choose proper tool quality, type, and construction characteristics.</p> <p>Carefully clean the laying and contact surfaces.</p>
<p>BLADE STICKS IN THE CUT</p> 	<p>Too fast advance.</p> <p>Low cutting speed.</p> <p>Wrong tooth pitch.</p> <p>Sticky accumulation of material on the disk.</p> <p>Insufficient lubricating refrigerant.</p>	<p>Decrease advance, exerting less cutting pressure.</p> <p>Increase speed.</p> <p>Choose a suitable disk.</p> <p>Check the blend of lubricating coolant and choose a better quality disk.</p> <p>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.</p>



NOTES



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