



# Operating Instructions and Parts Manual

## Swivel Head Horizontal Band Saw

Model BS-712MS



**Baileigh Industrial**  
P.O. Box 531  
Manitowoc, WI 54221-0531  
Ph.: 920-684-4990  
Fax: 920-684-3944  
Baileigh-Sales@jpwindustries.com

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# 1.0 Table of Contents

Section	Page
1.0 Table of Contents .....	2
2.0 Safety Instructions .....	4
3.0 About This Manual .....	5
4.0 Product Identification .....	6
4.1 Overall Dimension .....	8
5.0 Specifications .....	9
6.0 Setup and Assembly .....	10
6.1 Unpacking and Checking Contents .....	10
6.2 Cleaning .....	10
6.3 Shipping Container Contents .....	10
6.4 Transporting and Lifting .....	11
6.5 Installation .....	11
6.6 Assembly .....	11
7.0 Electrical Connection .....	13
7.1 Power Specifications .....	13
7.2 Considerations .....	14
7.3 Extension Cord Safety .....	14
7.4 Power Cord Connection .....	14
8.0 Before Each Use .....	14
8.1 Whenever Saw is Running .....	15
8.2 Breaking in a Band Saw Blade .....	15
8.3 Metal Chip Indicators .....	15
8.4 Blade Terminology .....	15
8.5 Width of Blade .....	15
8.6 Length of Blade .....	16
8.7 Blade Structure .....	16
8.8 Blade Type .....	16
8.9 Sets .....	16
9.0 Blade Care .....	17
9.1 Choosing a Saw Blade .....	17
10.0 Blade Breakage .....	17
11.0 Material Selection .....	18
12.0 Machine Adjustments .....	18
12.1 Blade Guide Adjustment .....	18
12.2 Swivel Saw Head .....	18
12.3 Adjusting Automatic Shut-off .....	19
12.4 Adjusting Blade Tension .....	20
12.5 Adjusting Bow Weight .....	20
12.6 Changing the Blade .....	20
12.7 Adjusting Blade Guide Bearings .....	21
12.8 Adjusting Blade Tracking .....	22

12.9 Changing Blade Speed.....	23
12.10 Vertical Cutting .....	23
13.0 Prior to Operation.....	24
13.1 Hydraulic Feed Selector .....	24
14.0 Operation .....	25
15.0 Maintenance .....	25
15.1 Daily Maintenance .....	25
15.2 Weekly Maintenance .....	25
15.3 Monthly Maintenance .....	26
15.4 Six Month Maintenance .....	26
15.5 Machine Lubrication .....	26
15.6 Accessing and Cleaning the Coolant System.....	26
15.7 Gearbox Maintenance .....	26
15.8 Oils for Lubricating Coolant .....	26
15.9 Storing Machine for Extended Period of Time .....	26
16.0 Troubleshooting .....	27
17.0 Replacement Parts .....	29
17.1.1 Swivel Head Horizontal Band Saw Assembly – Exploded View A.....	29
17.1.2 Swivel Head Horizontal Band Saw Assembly – Exploded View B .....	30
17.1.3 Swivel Head Horizontal Band Saw Assembly – Part List for “A” and “B” .....	31
18.0 Wiring Diagram .....	35
18.1 Electrical Schematic .....	36
18.2 Electrical Components.....	37
19.0 Warranty and Service.....	38



## 2.0 Safety Instructions

### **⚠ WARNING**

**Failure to follow these rules may result in serious personal injury**

1. FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE. Learn the machine's application and limitations as well as the specific hazards.
2. Only trained and qualified personnel can operate this machine.
3. Make sure guards are in place and in proper working order before operating machinery.
4. Remove any adjusting tools. Before operating the machine, make sure any adjusting tools have been removed.
5. Keep work area clean. Cluttered areas invite injuries.
6. Overloading machine. By overloading the machine, you may cause injury from flying parts. DO NOT exceed the specified machine capacities.
7. Dressing material edges. Always chamfer and deburr all sharp edges.
8. Do not force tool. Your machine will do a better and safer job if used as intended. DO NOT use inappropriate attachments in an attempt to exceed the machine's rated capacity.
9. Use the right tool for the job. DO NOT attempt to force a small tool or attachment to do the work of a large industrial tool. DO NOT use a tool for a purpose for which it was not intended.
10. Dress appropriately. DO NOT wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.
11. Use eye protection. Always wear ISO approved protective eye wear when operating machinery. Wear a full-face shield if you are producing metal filings. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specification. Use of eye wear which does not comply with ANSI Z87.1 specification could result in severe injury from breakage of eye protection.
12. Do not overreach. Maintain proper footing and balance at all times. DO NOT reach over or across a running machine.
13. Stay alert. Watch what you are doing and use common sense. DO NOT operate any tool or machine when you are tired.
14. Check for damaged parts. Before using any tool or machine, carefully check any part that appears damaged. Check for alignment and binding of moving parts that may affect proper machine operation.
15. Observe work area conditions. DO NOT use 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 children away. Children must never be allowed in the work area. DO NOT let them handle machines, tools, or extension cords.
18. Keep visitors a safe distance from the work area.
19. Store idle equipment. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep them out of reach of children.
20. DO NOT operate machine if under the influence of alcohol or drugs. Read warning labels on prescriptions. If there is any doubt, DO NOT operate the machine.
21. Turn off power before checking, cleaning, or replacing any parts.
22. Be sure all equipment is properly installed and grounded according to national, state, and local codes.
23. Keep all cords dry, free from grease and oil, and protected from sparks and hot metal.
24. Inspect power and control cables periodically. Replace if damaged or bare wires are exposed. Bare wiring can kill! DO NOT touch live electrical components or parts.
25. DO NOT bypass or defeat any safety interlock systems.

**Familiarize yourself with the following safety notices used in this manual:**

**⚠ CAUTION**

This means that if precautions are not heeded, it may result in minor injury and/or machine damage.

**⚠ WARNING**

This means that if precautions are not heeded, it may result in serious injury or death.

**⚠ DANGER**

This means that if precautions are not heeded, it will result in serious or fatal, injury.

## **Save the Instructions**

### **3.0 About This Manual**

This manual is provided by Baileigh Industrial, covering the safe operation and maintenance procedures for a Baileigh Model BS-712MS Swivel Head Horizontal Band Saw. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions as set forth in this document.

Technical Support handles questions on setup, operation, schematics, warranty issues, and individual parts needed. Our Technical Support department can be reached at 920-684-4990.

If there are questions or comments, please contact your local supplier or Baileigh Industrial. We can also be reached at our web site: [www.baileigh.com](http://www.baileigh.com).

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

**⚠ WARNING**

**Read and understand the entire contents of this manual before attempting assembly or operation! Failure to comply may cause serious injury!**

Register your product online -

<https://baileigh.com/product-registration>



# 4.0 Product Identification



Figure 4-1

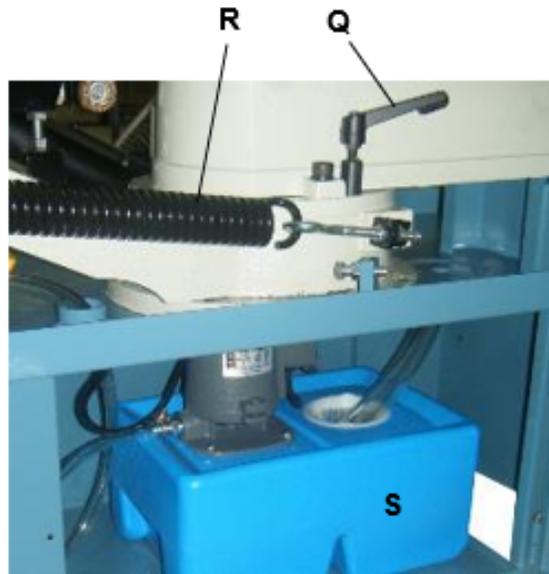
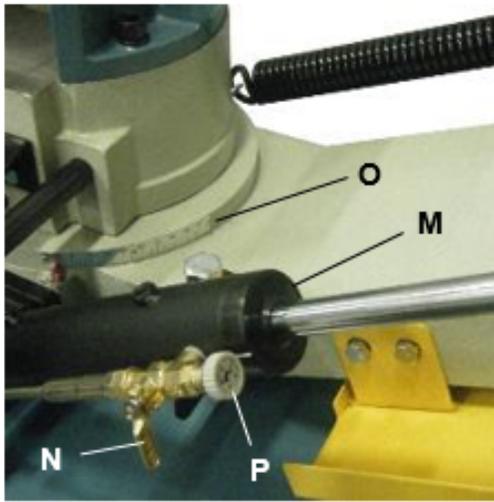


Figure 4-2

Table 4-1

Item	Description	Function
A	Front and rear jaw	For clamping material.
B	Blade tension knob	Used to increase or decrease blade tension
C	Blade tension side plate	Holds adjustable head pulley
D	Blade adjustment assembly	Adjusts front end of blade
E	Blade adjustment assembly	Adjusts rear end of blade
F	On - Off pushbuttons	Used to start and stop saw motor
G	"E" - Stop pushbutton	Press to stop saw motor in an emergency
H	Vise hand wheel	Turning hand wheel opens and closes vise
I	Motor/gearbox	Drives the saw blade
J	Discharge Tray	Directs the cut piece part from the saw
K	Speed knob	3 position gear selector to change blade speeds
L	Material stop bar	For setting the length of cut
M	Hydraulic drop cylinder	Handles up/down movement of the blade head
N	Ball valve	Starts and stops the blade descent
O	Mitering Scale	Indicates angle that material is to be cut at.
P	Needle valve	Turn (cw) to slow descent, (ccw) to accelerate
Q	Miter Lock Lever	Turn counterclockwise (ccw) to unlock the saw head to set the cut angle
R	Tension spring	Assists with raising and lowering saw head
S	Coolant System	Circulates coolant to lubricate and cool blade

## 4.1 Overall Dimension

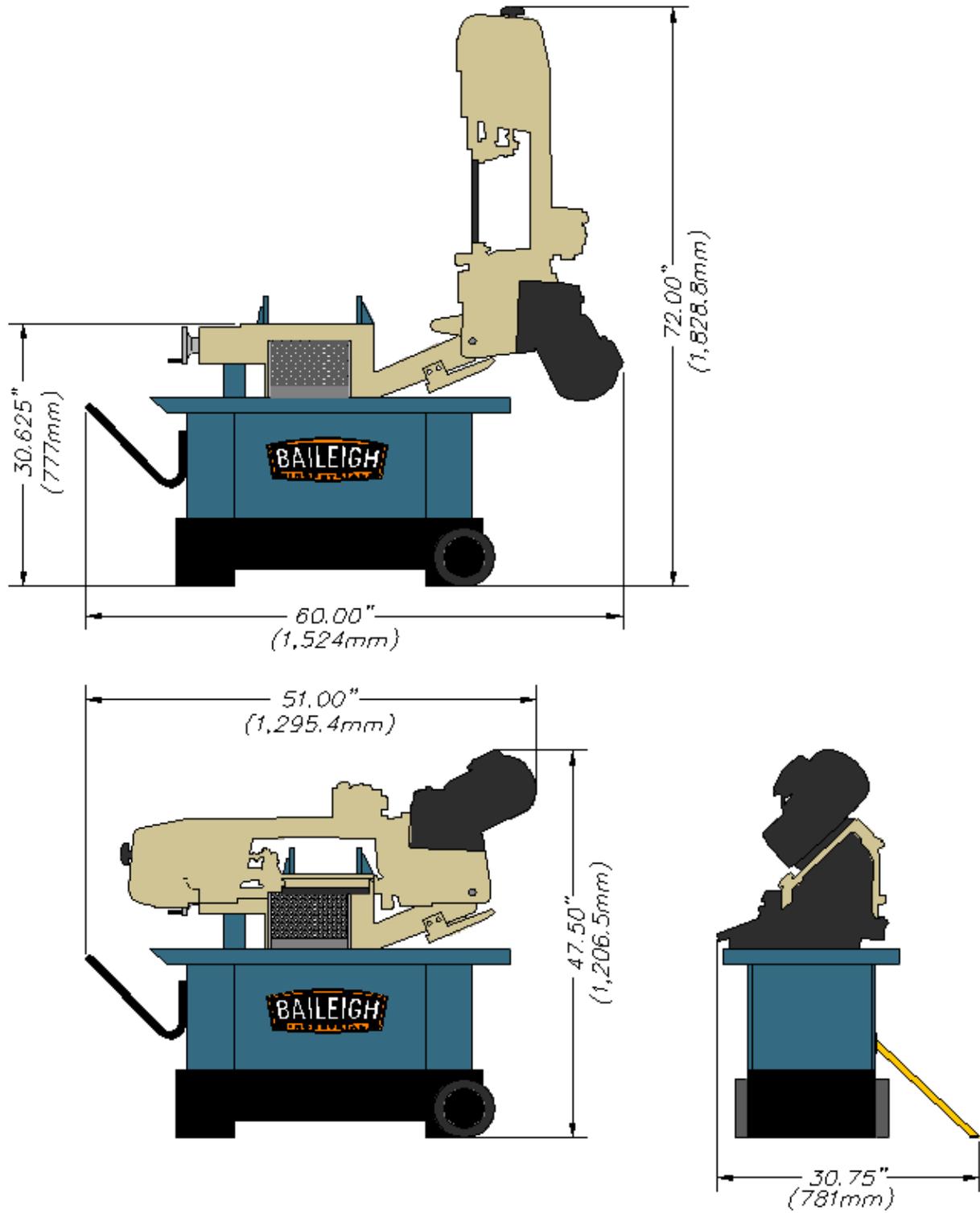


Figure 4-3

## 5.0 Specifications

Table 5-1

Model number	BS-712MS
Stock Number	BA9-1001684
<b>Motor and Power</b>	
Power	120V, 1ph, 60hz
Motor	1hp (.75kw) 120V, 1ph, 60hz, 14A
<b>General Specifications</b>	
Capacity 90°	
Round	7" (180mm)
Rectangular	7" x 10.23" (180 x 260mm)
Capacity 45°	
Round	4" (100mm)
Rectangular	3.75" x 4" (95 x 100mm)
Return	Manual
Miter Adjustment	Swivel Head
Miter Angle	0 - 45°
Vise Table Height	30.625" (777mm)
Blade Size (H x T x L)	.75" x .035" x 92.91" (19 x .09 x 2360mm)
Blade Speed	3@ 145, 200, 245fpm (48, 66, 80mpm)
Bow Decent Control	Closed Hydraulic with needle valve
Drive	Gear
Table Height	23" (584mm)
<b>Weights and Dimensions</b>	
Net Weight	397lbs. (181kg)
Shipping Weight	462lbs. (210kg)
Shipping Dimensions	50" x 22" x 44" (1270 x 559 x 1118mm)

## ⚠ WARNING

Read and understand the entire contents of this manual before attempting assembly or operation. Failure to comply may cause serious injury.

## 6.0 Setup and Assembly

### 6.1 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.

## ⚠ WARNING

If any parts are missing, **DO NOT** place the machine into service until the missing parts are obtained and installed correctly.

### 6.2 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.

### 6.3 Shipping Container Contents

- 1 Saw
- 1 Base-left end
- 1 Base-right end
- 2 Base-sides
- 1 Hardware bag (includes (4) ea. hex bolt and flat washers).

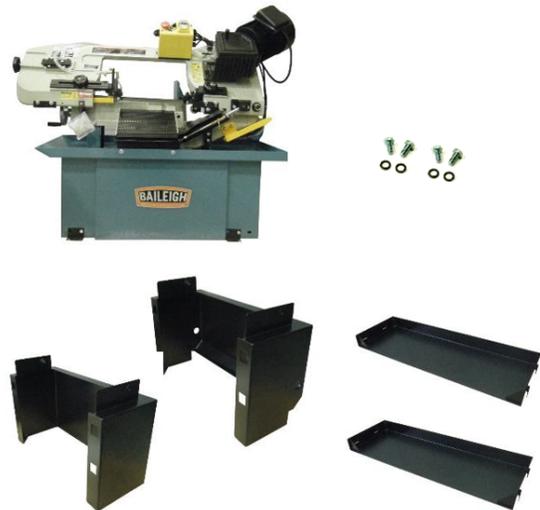


Figure 6-1

- 1 Stop bracket
- 1 Stop rod
- 1 Work stop
- 1 Saw bow guard w/hardware
- 1 Drain screen
- 1 Lift handle w/hardware
- 1 Support leg w/hardware
- 2 Wheels w/bearings
- 1 Axle w/ (2) hitch pins & (2) flat washers



Figure 6-2

## 6.4 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.



Figure 6-3

## 6.5 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.

## 6.6 Assembly

### 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.

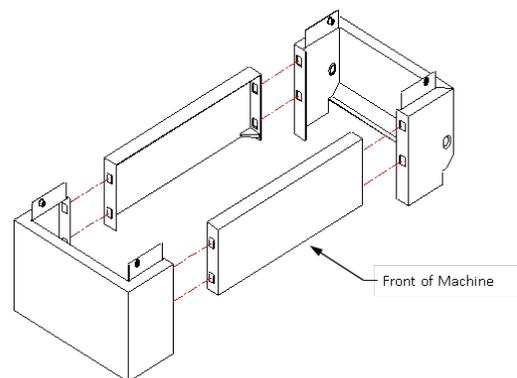


Figure 6-4

1. Insert the tabs on the side panels into the square openings of the end panels.
2. Push down on the side panels until they lock.
3. Insert the axle into the holes on the right end panel as shown.
4. Push each wheel onto the axle, slip on a flat washer, and secure each with a cotter pin.

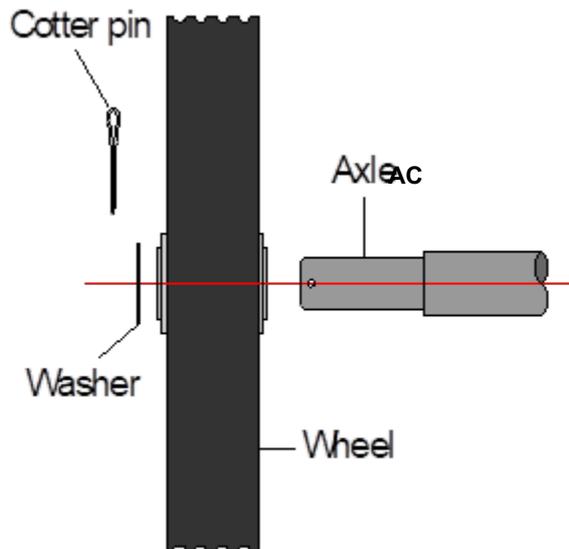


Figure 6-5

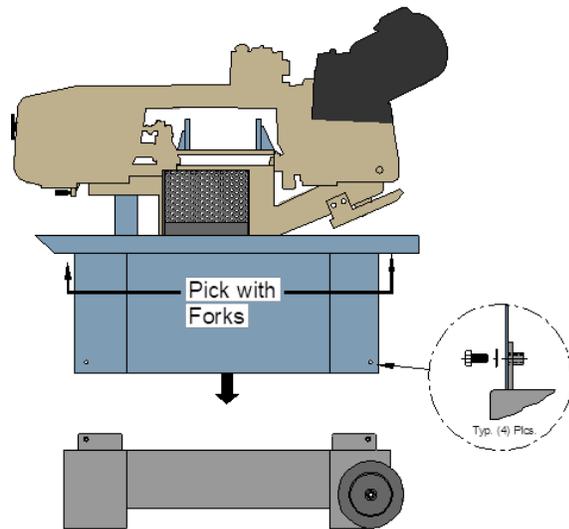


Figure 6-6

5. Unbolt and remove the (4) angle brackets that hold the saw to the pallet base.
6. Carefully pick up the saw and place onto the assembled wheelbase.
7. Secure with the (4) bolts and flat washers provided.
8. Screw the threaded stop rod into the vise base and assemble the material stop onto the stop rod as shown. The material stop can be adjusted to suit a variety of material configurations.



Figure 6-7

9. Remove the shipping strap that holds the saw bow down. Save the strap and use whenever transporting the saw.



Figure 6-8

10. Attach the handle to the saw with the hex bolts, flat washers, lock washers, and hex nuts provided. For the correct orientation. Use the access door on the rear of the machine when attaching the nuts.



Figure 6-9

### 6.6.1 Attaching the Support Bar

The support bar helps to prevent the saw from tipping over when the bow is in the vertical sawing position.

Attach the bar to the back of the saw, just left of the coolant access doorknob. Use the (2) hex bolts and lock washers provided.

## CAUTION

**AVOID TIP OVER!** The Support Bar must be installed prior to using the saw in the vertical position.

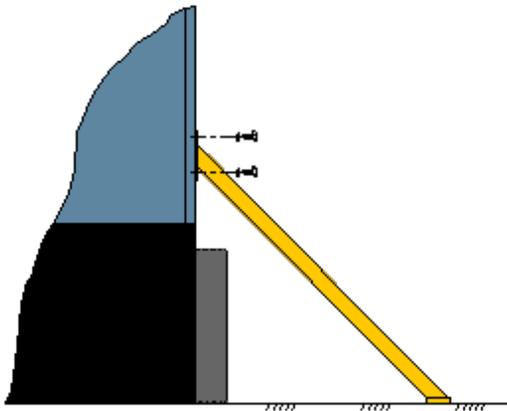


Figure 6-10

### 6.6.2 Attaching the Saw Bow Cover Guard

Using the (2) hex bolts, lock washers, and flat washers provided, attach the bow cover guard.



Figure 6-11

### 6.6.3 Coolant Tank Preparation

Use a 20:1 (water to coolant) solution to increase cutting efficiency and prolong blade life.

1. Disconnect machine from the power source.
2. Remove the coolant return hose from the drain pan fitting and the strainer basket.
3. Slide the tank out from the lower compartment.
4. Remove the strainer basket and fill the tank to 80% capacity with coolant.

5. Replace the strainer basket and return the tank assembly back into the base.
6. Place the drain hose into the basket and connect to the drain fitting.
7. Assemble the bolt to the drain screen as shown and set over the drain hole.



Figure 6-12



Figure 6-13

## 7.0 Electrical Connection

## 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.

### 7.1 Power Specifications

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

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

## 7.2 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.

## 7.3 Extension Cord Safety

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

Table 7-1

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.

## 7.4 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.

## 8.0 Before Each Use

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

- Never turn the saw "ON" before clearing everything except the work piece beneath the blade.
- Never put lubricants on the blade while it is spinning.

### 8.1 Whenever Saw is Running

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

### 8.2 Breaking in a Band Saw Blade

Sharp cutting edges with extremely small edge radii are required for high cutting capacity. To achieve the optimal tool life we recommend breaking-in the blade accordingly. The correct cutting speed is determined by the material being cut and its dimensions. It is very important that the new blade is first used with only 50% of the determined feed rate. This will avoid micro-breakages of the blade because of too large chip thicknesses. New band saw blades may tend toward vibrations and vibration sounds. In this case a slight reduction of the cutting speed is helpful. With small workpiece dimensions approximately 300cm<sup>2</sup> 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.

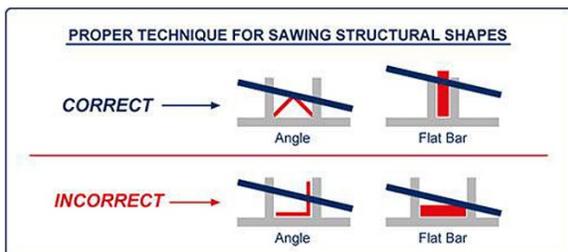


Figure 8-1

### 8.3 Metal Chip Indicators

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

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

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

### 8.4 Blade Terminology

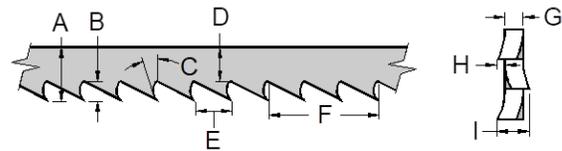


Figure 8-2

Table 8-1

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

### 8.5 Width of Blade

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

## 8.6 Length of Blade

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

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

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

B = the band saw pulley diameter.

## 8.7 Blade Structure

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

## 8.8 Blade Type

They differ essentially in their constructive characteristics, such as:

- Shape and cutting angle of tooth
- Pitch
- Set

Shape and angle of tooth

REGULAR TOOTH: 0° rake and constant pitch.



Figure 8-3

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

POSITIVE RAKE TOOTH: 9° - 10° positive rake and constant pitch.

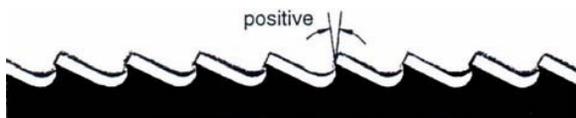


Figure 8-4

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

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

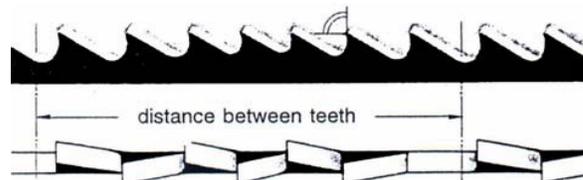


Figure 8-5

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

COMBO TOOTH: 9° - 10° positive rake.

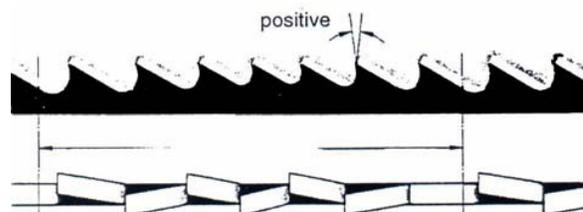


Figure 8-6

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

## 8.9 Sets

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



Figure 8-7

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



Figure 8-8

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

WAVY SET: Set in smooth waves.



Figure 8-9

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

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



Figure 8-10

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



- Blade teeth are dull or broken.
- Blade is not properly aligned with the guides.
- Forcing a large width blade to cut a small radius.
- Using a blade with an improperly finished weld joint.
- Allowing the blade to run when not in use. (NEVER leave an unattended blade running.)

## 11.0 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.

## 12.0 Machine Adjustments

### ⚠ WARNING

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

### ⚠ WARNING

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

### 12.1 Blade Guide Adjustment

1. Disconnect saw from the power source.
2. Loosen knobs "D" and "E".
3. Slide the blade guide assemblies as close as possible to the work piece without interfering with the cut or vise.
4. Tighten knobs "D" and "E".
5. Reconnect the saw to the power source.

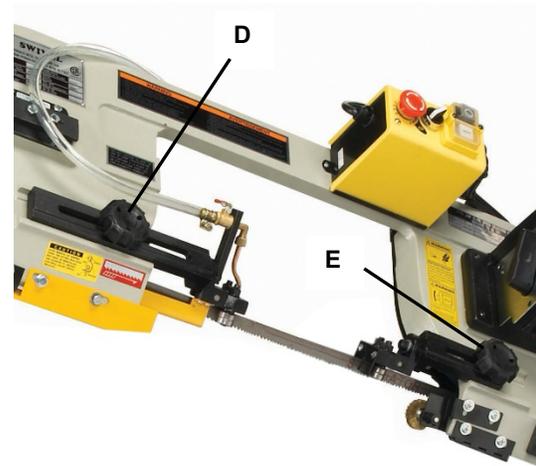


Figure 12-1

### 12.2 Swivel Saw Head

### ⚠ WARNING

Do not make any adjustments or load / unload material from the vise while the saw is running. Failure to comply may cause serious injury

Angles can be cut from 0 to 45° left with the BS-712MS band saw.

1. Unlock the rotating saw bow by turning the clamp handle counterclockwise (ccw).
2. Rotate the saw bow to the desired angle as shown on the red angle indicator.
3. Lock the bow by turning the clamp handle clockwise (cw).

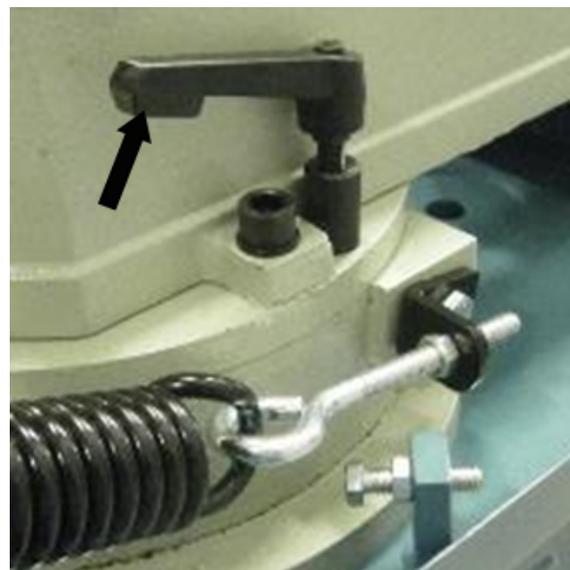


Figure 12-2

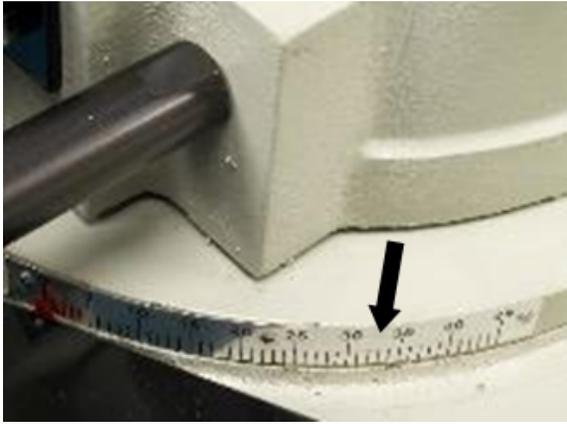


Figure 12-3

### **CAUTION**

Make sure saw bow is in a down or horizontal position when moving or mitering, to avoid tipping the machine.

4. The two adjusting bolts shown in (fig. 12-4) are used to stop the saw bow at both 0° and 45° as indicated on the scale.
5. Make sure the jam nuts are tight.

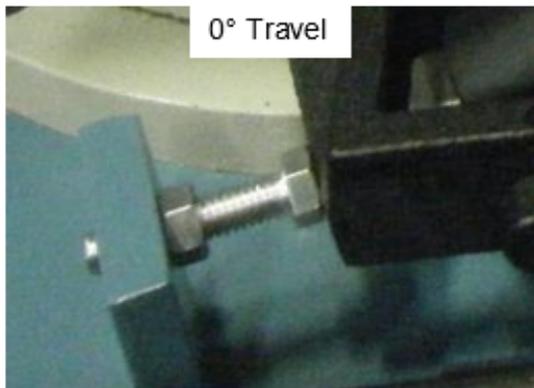


Figure 12-4

## 12.3 Adjusting Automatic Shut-off

The saw should stop after the cut has been made. This adjustment is completed by adjusting both the down travel bolt (U) and limit switch activation bolt (T).

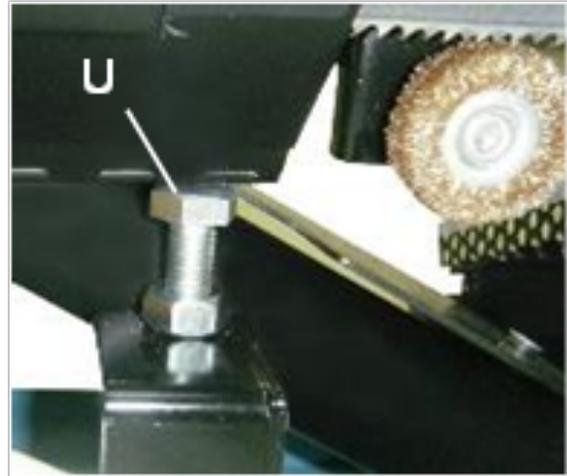


Figure 12-5

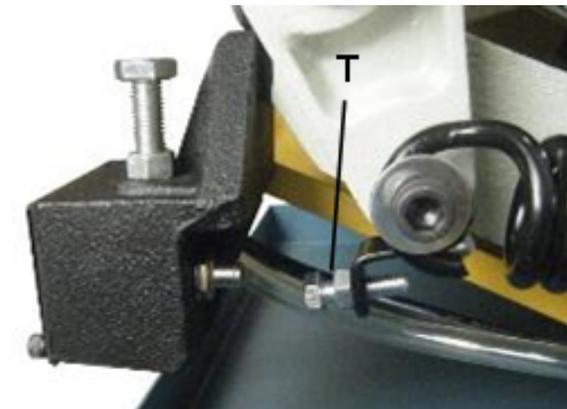


Figure 12-6

1. First, adjust the stop bolt for the down travel. Adjust the bolt (U) to stop the downward travel of the saw bow to a position that just cuts through the material but does not cut into the vise table.
2. When adjusted, hold the bolt in position and tighten the nut to the bracket to hold the bolt in place.
3. If the saw completes the cut and continues to run, adjust the stop bolt (T) out.
4. If the saw shuts off before the cut is complete, adjust the stop bolt (T) in.
5. When adjusted, hold the bolt in position and tighten the nut to the bracket to hold the bolt in place.
6. Balance the adjustment between the two stop bolts so the motor cuts off as soon as the cut has been completed.

**Note:** The limits switch is a normally closed switch. It stops the motor from running when pushed in. It allows the motor to run when released. If the switch is dirty or sticky from coolant or metal chips it may stick open and prevent the motor from running. Clean as needed.

## 12.4 Adjusting Blade Tension

Blade tension is important to the proper operation of the saw. The saw should be set in the “High Tension” range (about 2,300 psi) when you are finished with the blade tension setup.

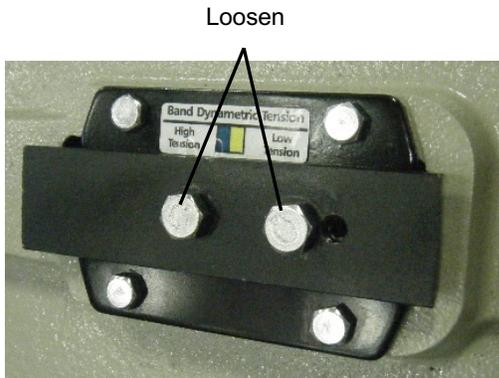


Figure 12-7

To set the blade tension without the use of a blade tension gauge:

1. Install blade onto the pulleys and insert between the bearings on the blade guides.
2. Loosen the two hex bolts.
3. Tension the blade slightly by turning the knob clockwise (cw), to remove any sag of the blade between the bearing wheels.
4. Now turn the knob an additional 1-3/4 - 2 turns clockwise (cw). This equals approximately 2,300 lbs. of blade tension. Use the Dynametric Tension Band setting as a reference.
5. Once the white indicator line is centered in the blue section, re-tighten the two hex bolts.



Figure 12-8

## NOTICE

**Lifting and Do not overtighten the blade. This may cause the blade to stretch and warp.**

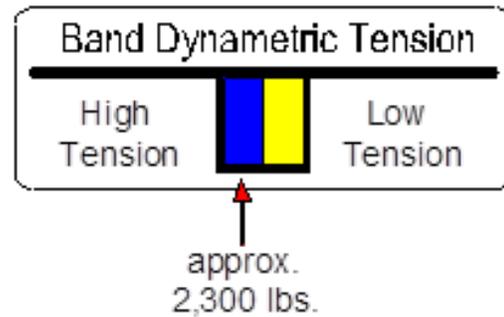


Figure 12-9

## 12.5 Adjusting Bow Weight

The extension spring which helps control the downward movement of the saw bow was preset at the factory. No additional adjustment to the spring should be necessary.

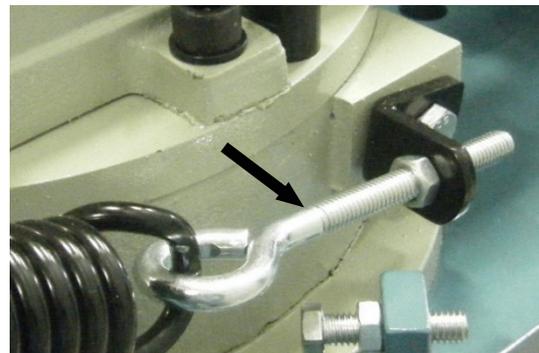


Figure 12-10

## 12.6 Changing the Blade

### CAUTION

**Blades are sharp! Use extra care when removing, installing, or adjusting the saw blade!**

1. Disconnect the saw from the power source.
2. Remove the two hex bolts (A) and remove the bow cover guard to allow the blade cover to open fully.
3. Remove (2) screws (B) and take off the inner blade guard.
4. Loosen (2) screws (C) and remove the wire wheel.
5. Raise the saw bow to a vertical position and lock in place by turning the hydraulic cylinder off.
6. Remove the (2) screws and open the hinged blade guard.



Figure 12-11



Figure 12-12

7. Release the blade tension by turning the tension knob (D) counterclockwise (ccw).
8. With gloves on, carefully remove the old or broken blade.
9. Install the new blade by placing between the blade guides first. Use the indicator (E) to verify the correct direction to point the teeth.



Figure 12-13

10. Place the blade around both the drive pulley and the idler pulley. Make sure the back edge of the blade rests near the flange (F) on both pulleys.

11. Turn the blade tension knob (D) clockwise (cw) to tension the blade. DO NOT over tension. See the section titled "Adjusting Blade Tension".
12. Close the blade cover, secure with the (2) screws, and slide the drive pulley cover down.
13. Attach the wire wheel (C), the inner blade guard (B), and the blade cover guard (A).
14. Lower the saw bow by releasing the cylinder lever.
15. Connect to the power source.
16. Run the saw and make sure the blade is tracking properly.

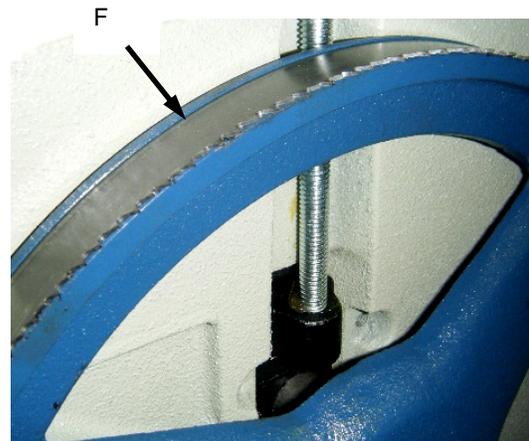


Figure 12-14

## 12.7 Adjusting Blade Guide Bearings

The blade guide bearings have been adjusted at the factory. Over time, an adjustment will become necessary due to uneven blade wear or skewed cuts. The side bearings have an eccentric shaft to allow for side to side adjustment.

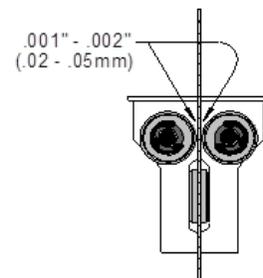
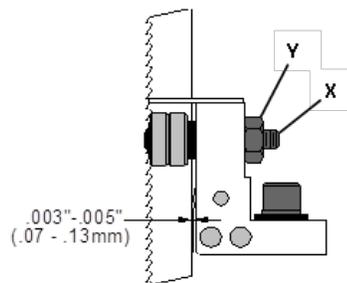


Figure 12-15

1. Disconnect power to the saw.
2. Move the saw bow to the vertical position and lock in place by turning off the hydraulic cylinder valve.
3. Loosen cap screw (X) in figure at right and adjust the bearing assembly so that the back-roller bearing is approximately .003"-.005" (.07mm - .13mm) from the back of the blade.
4. Turn nut(s) (Y) to adjust for a .001" - .002" (.02 - .05mm) side clearance between the bearing and the blade.
5. Repeat the procedure for the side clearance of the other bearing assembly. This assembly has no back-bearing adjustment.
6. Blade should still move up and down freely after adjusting.

## 12.8 Adjusting Blade Tracking

### **CAUTION**

**Blades are sharp! Use extra care when removing, installing, or adjusting the saw blade! The blade tracking adjustment requires running the saw with the back cover open. This adjustment must be completed by qualified trained personnel. Failure to comply may cause serious personal injury!**

**Note:** Before making any tracking adjustments, try a new blade. Warped blades will not track properly.

Blade tracking has been set at the factory and should not require adjusting. If a tracking issue occurs, adjust the machine as follows:

1. Move the saw bow to the vertical position and lock in place by turning off the hydraulic cylinder valve.
2. Confirm that the blade tension is set properly. To adjust, see the section titled "Adjusting Blade Tension"
3. Remove the (2) Screws and open the back cover after sliding up the drive pulley cover.
4. Run the saw and observe the blade. The blade should run close to, but not tightly against the pulley flange.



Figure 12-16

5. Loosen the two hex bolts (V) as indicated.
6. Turn setscrew (W) while observing blade tracking on the pulley. Turn the setscrew clockwise (cw) to track the blade closer to the pulley flange. Turn the setscrew counterclockwise (ccw) to track the blade away from the pulley flange.
7. Once the tracking is set, tighten the two hex bolts (V).

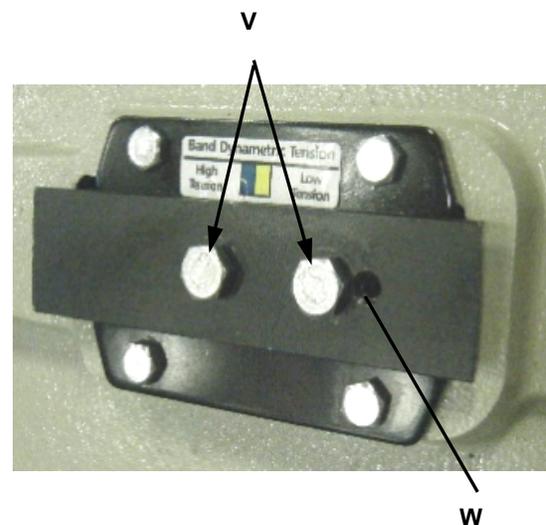


Figure 12-17

## 12.9 Changing Blade Speed

To change speeds from position 1 to 2 to 3.

1. Disconnect power to the saw.



Figure 12-18

2. Turn the handle on the reducer with one hand and use the other hand to slide the blade back and forth until the handle engages the required gear. (Wear proper hand protection.)
  - a. Speed 1, 145 FPM is used to cut tool steel, stainless steel, hard cast iron, alloy steel, and hard bronze.
  - b. Speed 2, 200 FPM is used to cut mild steel, soft cast iron, medium hard bronze, hard aluminum, and plastics.
  - c. Speed 3, 245 FPM is used to cut plastics, soft or medium soft aluminum, wood, and other light materials.
3. After the speed change, re-connect power to the saw.

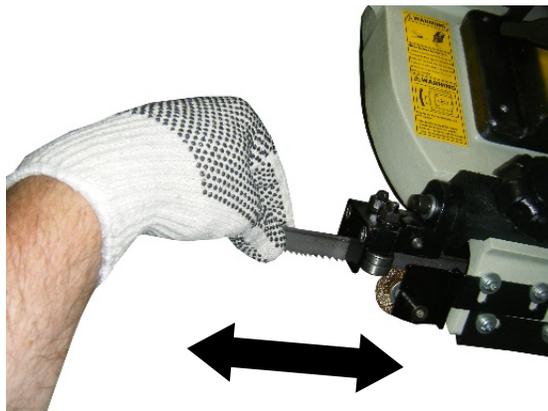


Figure 12-19

**Note:** There is also a speed selection chart posted above the gear box.

## 12.10 Vertical Cutting

### CAUTION

**AVOID TIP OVER!** The saw bow must be in the 0° position before raising the bow to the vertical position. The Support Bar must be installed prior to using the saw in the vertical position.

1. Move the saw bow to the 0° position.
2. Raise the saw bow to the vertical position and lock in place by turning off the hydraulic cylinder valve.
3. Remove two screws (Z) and take off deflector plate (AA).
4. Slide the slot in the plate over the blade and attach the plate with the two screws removed in step 2.

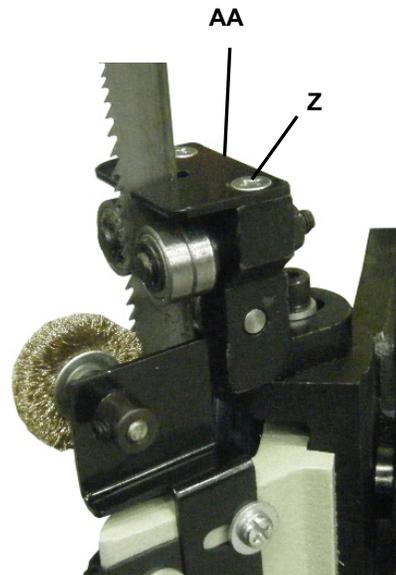


Figure 12-20



Figure 12-21

## 13.0 Prior to Operation

Read the section on adjusting the blade tension for the proper procedure.



# WARNING

## IMPORTANT

### DO NOT OPERATE BEFORE READING

1. For shipping purposes only the tension on the blade has been reduced. Before attempting to cut any materials you must re-adjust the blade to the proper tension.
2. A new label indicates the tension strength. For proper tension the indicator mark on the tension plate should line up with the center of the blue area.
 

Band Dynamic Tension	Tension
High Tension	
Low Tension	Tension
3. A break-in period is strongly advised for maximum blade life. Run the blade at a feed pressure reduced by one-third for the first 50 square inches of cutting. If you are cutting material with strong work hardening characteristics, Apply enough extra feed pressure to take a good chip.

Figure 13-1

1. Check to see if blade tooth direction matches the diagram on the saw body.



Figure 13-2

2. Check to see that the blade is properly seated on the pulleys after setting the blade tension.
3. Set the blade guide roller bearings as described in the (adjustment section of this manual).
4. Position the front and rear blade guides as close as possible to the piece part. (Check for any interferences)
5. Set the proper speed and feed rate for the material being cut.
6. Make sure the piece part is held securely in the vise.
7. Check for adequate coolant in the reservoir.
8. DO NOT start the cut on a sharp edge. Break it down with a file.
9. Keep the saw adequately lubricated. (See the lubrication and maintenance section).

## 13.1 Hydraulic Feed Selector

The hydraulic feed selector is used to control the blade feed rate and to lock the saw bow in the vertical position.

- To increase the feed rate, turn the knob counterclockwise (ccw).
- To decrease the feed rate turn the knob clockwise (cw).
- To turn off the flow of hydraulic fluid, turn the lever counterclockwise (ccw).
- To turn the hydraulic cylinder on, turn the lever clockwise (cw).

## HYDRAULIC FEED CONTROL



# WARNING

NEVER FORCE THE BANDSAW UP OR DOWN: doing so may cause the unit to tip or may cause this cylinder to fail, resulting in injury. Refer to manual for instructions BEFORE setup or use.

DO NOT REMOVE

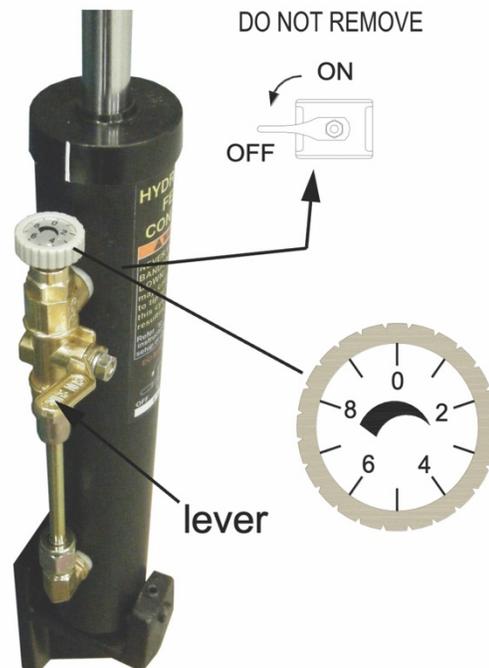


Figure 13-3

## 14.0 Operation

### ⚠ CAUTION

Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges.

### ⚠ CAUTION

When handling large heavy materials make sure they are properly supported.

### ⚠ CAUTION

**NEVER** operate saw without blade guards in place.

1. Select and set the proper blade speed for the material being cut.
2. Connect power to the saw.
3. Reset the “E”-Stop button.

4. Turn the feed rate knob  clockwise (cw) to close.

5. Turn the cylinder valve  to the “ON” clockwise (cw) position.

6. Adjust the blade guide assemblies for the size of the material.
7. Use the handle to raise the saw bow to approximately 45°.
8. Place material onto the base of the vise, set the material stop, and clamp the material securely.
9. Start the saw motor by pressing the Black “O” start button.

10. Slowly open the feed rate knob counter-clockwise (ccw) to start the bow descent. 

11. Start the coolant flow (slowly) by turning the brass valve counter-clockwise (ccw.)
12. When the cut is finished, the saw motor and coolant pump will shut off.
13. Raise the saw bow for the next cut.
14. Turn the cylinder valve to the “OFF” counter-clockwise (ccw) position to stop the bow descent.
15. Advance the material in the vise and secure it.
16. Press the Black “O” start button.



17. Turn the cylinder valve  to the “ON” clockwise (cw) position to start the bow descent.

## 15.0 Maintenance

### ⚠ WARNING

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

### ⚠ WARNING

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

### ⚠ WARNING

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

### 15.1 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.
- Inspect the saw blade for wear.
- Top off the coolant tank.
- Clean the lubricating coolant drain screen.
- Check that the blade guards and emergency stop button are in good working order.
- When through using machine, raise the saw head to its up position and release some tension on the saw blade.

### 15.2 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.
- Thoroughly clean the machine.
- Wipe and re-grease the vise screw and sliding surfaces.
- Remove chips from inside the guard housing for the saw blade.
- Use compressed air to clean the blade guides and guide bearings.

### 15.3 Monthly Maintenance

- Check the blade guide bearings for wear. (replace if necessary)
- Tighten any loose bolts or screws on the gear motor, pump, and safety switches.
- Clean coolant tank

### 15.4 Six Month Maintenance

- Do a continuity check of the safety circuit

### 15.5 Machine Lubrication

- Ball bearings on the blade guide assemblies and the blade wheels are permanently sealed and require no further lubrication.
- Lightly lubricate the vise screw with a #2 lubricating grease.

### 15.6 Accessing and Cleaning the Coolant System

1. Disconnect power from the saw
2. Remove the vinyl hose (AB) from the strainer basket and pull off of the drain fitting.
3. Carefully remove the tank from the base of the saw.
4. Remove the strainer basket (AC) and pour out the old coolant from the tank.
5. Wash out any dirt and debris.
6. Clean and replace the strainer basket.
7. Refill the tank with coolant to 80% capacity.
8. Place the tank back into the base and re-connect the drain hose.

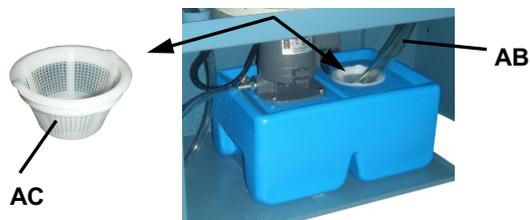


Figure 15-1

### 15.7 Gearbox Maintenance

The gearbox requires periodic changing of the oil. Initially after 6 months and then every year thereafter. Follow the procedure below:

1. Disconnect power from the saw
2. Raise the saw bow to a vertical position.
3. Remove the oil drain plug (AD) and drain the oil into a catch basin. Loosening oil fill plug (AE) will help oil to drain.
4. After draining, replace drain plug (AD).
5. Return the saw bow to a horizontal position.

6. Remove the fill plug (AE) and add 2 pints (.95 liter) of gear oil. (For reference use SHELL type gear oil or Mobil gear oil #90).

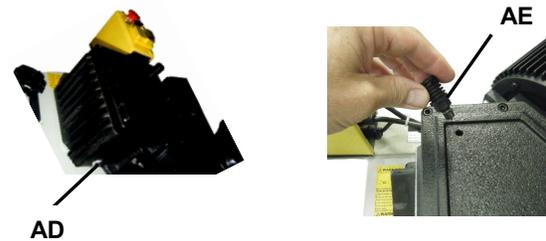


Figure 15-2

### 15.8 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.

### 15.9 Storing Machine for Extended Period of Time

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

- Disconnect the electrical supply from the power panel.
- Empty and clean the coolant reservoir.
- Clean and grease the machine.
- Cover the machine.

## 16.0 Troubleshooting



**WARNING**

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

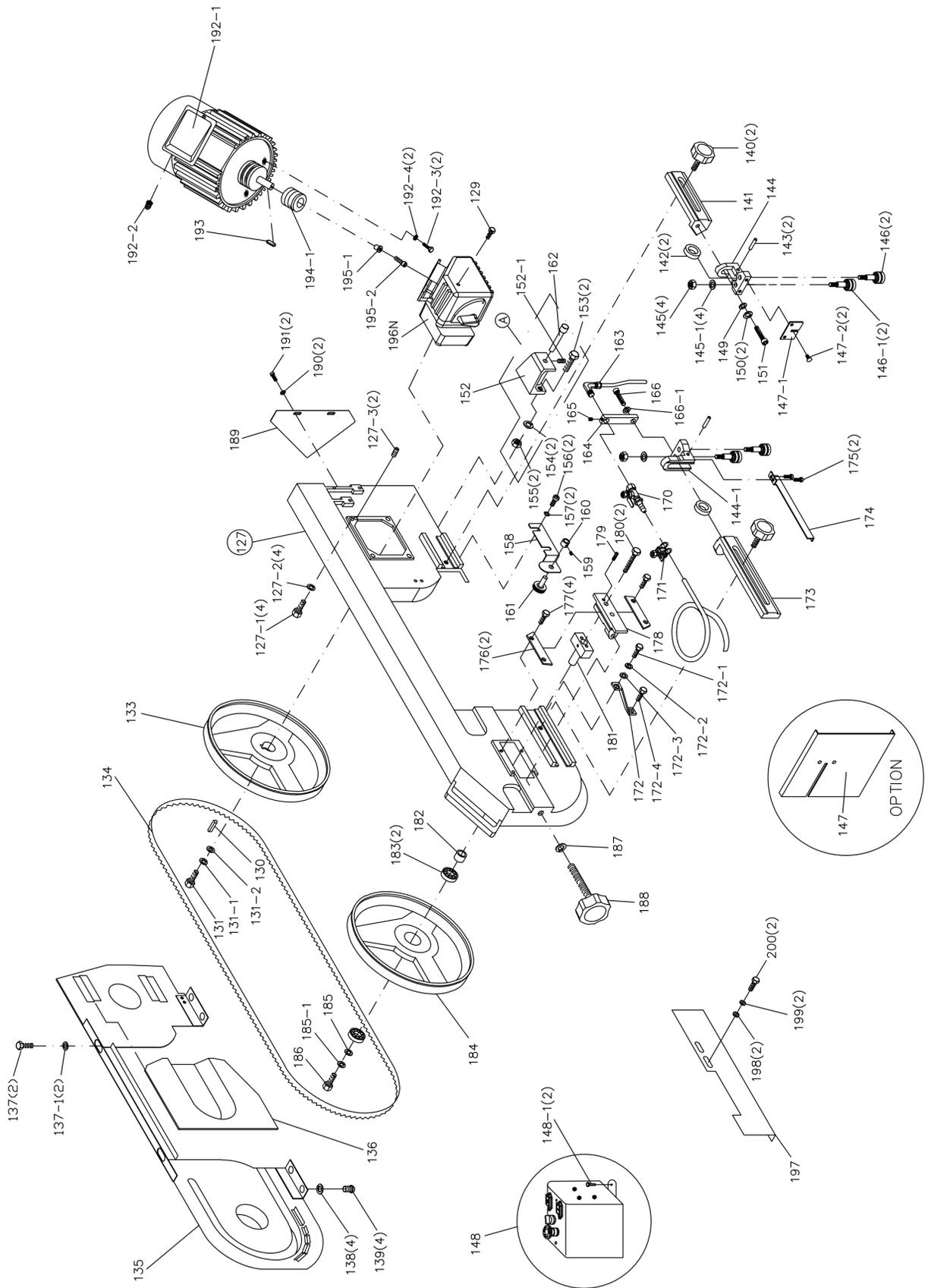
Table 16-1

Symptom	Possible Cause (S)	Corrective Action
The Blade Drive Motor Does Not Work	E-stop pushed.	Twist the button (cw) to reset or replace the switch.
	No power at the electrical outlet	Have electrician check breaker or fuses.
	Motor burned out.	Have motor repaired or replaced.
Excessive Blade Breakage	Incorrect blade tension.	Adjust to where blade just does not slip-on wheel.
	Incorrect speed or feed.	Consult machine chart or handbook.
	Material loose in vise.	Clamp work securely.
	Blade rubs on wheel flange.	Adjust the wheel alignment.
	Teeth too coarse for material.	Contact Baileigh Industrial for recommended blade type.
	Teeth in contact with the material before the saw is started.	Contact material after blade has been started.
	Misaligned guides.	Adjust as necessary.
	Blade too thick for wheel diameter.	Select a thinner blade (.035" x .75" recommended).
	Cracking of blade weld.	Make longer annealing cycle.
Teeth Ripping from Blade	Tooth too coarse for work.	Use a fine-tooth blade.
	Too heavy feed / too slow feed.	Increase feed pressure and / or speed.
	Vibrating piece part.	Make sure work is clamped securely.
	Gullets loading with chips and debris.	Use coarser tooth blade or brush to remove chips and debris.
Premature Blade Dulling.	Teeth too coarse.	Use a finer tooth blade.
	Too much speed.	Try next slower speed.
	Inadequate feed pressure.	Decrease spring tension on side of saw.
	Hard spots in or on material.	Scale: Reduce speed, increase feed pressure. Hard spots: Increase feed pressure.
	Work hardening of material (especially stainless steel).	Increase feed pressure by reducing spring tension.
	Blade installed backwards.	Remove blade twist inside out and reinstall blade.
	Insufficient blade tension.	Increase tension to proper setting.

Symptom	Possible Cause (S)	Corrective Action
Bad Cuts (Crooked)	Work not square.	Adjust vise to be square with blade.
	Feed pressure too great.	Reduce pressure by increasing spring tension on side of saw.
	Guide bearing not adjusted properly.	Adjust guide bearing to .001" greater than max. thickness, including weld of the saw blade.
	Inadequate blade tension.	Increase blade tension a little at a time. (Center of blue area on label.)
	Blade guides spaced out too far.	Move guide as close to work as possible without interference.
	Dull blade.	Replace blade.
	Speed incorrect.	Check manual for recommended speeds.
	Blade guide assembly loose.	Tighten.
	Blade guide bearing assembly loose.	Tighten.
	Blade tracks too far away from wheel flanges.	Re-adjust tracking per instructions in this manual.
Saw Motor Does Not Stop When Cut is Finished	Actuator on cylinder does not contact switch properly.	Re-adjust actuator or switch.
Coolant Motor Does Not Run with Band Saw Motor	Coolant motor M2 damaged.	Replace M2 motor.
Blade Cuts (Rough)	Too much speed or feed.	Reduce speed and feed.
	Blade is too coarse.	Replace with a finer blade.
Blade is Twisting	Cut is causing the blade to bind.	Decrease the feed pressure.
	Too much blade tension.	Decrease the blade tension.
Unusual Wear on Side/Back of Blade	Blade guides worn.	Replace blade guides.
	Blade guide bearings not adjusted properly.	Adjust as per operator's manual.
	Blade guide bearing bracket is loose.	Tighten bracket
Motor Running too Hot	Blade tension is too high.	Reduce tension on blade.
	Blade is too coarse for work (especially pipes).	Use finer blade.
	Blade is too fine for work. (Heavier, soft, materials).	Use coarser blade.
	Gears need lubrication.	Check oil bath.
	Idler wheel needs lubrication	Oil bearing/shaft on idler wheel.
No Coolant at Nozzle	Valve not open.	Open valve.
	Insufficient coolant.	Fill to 80% capacity
	Coolant motor burned out.	Replace motor.
	Plugged coolant line	Unplug line.



# 17.1.2 Swivel Head Horizontal Band Saw Assembly – Exploded View B



### 17.1.3 Swivel Head Horizontal Band Saw Assembly – Part List for “A” and “B”

Index No.	Part No.	Description	Size	Qty.
1	BA9-1224925	Bottom Dish		1
1-1	JT9-TS-0060071	Hex Cap Screw		2
1-2	JT9-TS-0570031	Hex Nut		2
1-3	**	Bracket		1
1-4	**	Spring Washer	(1/4")	1
1-5	**	Hex Cap Screw	(1/4" x 5/8")	1
2	BA9-1012283	Feet-Stand (Right)		1
3	BA9-1012284	Feet-Stand (Left)		1
4	BA9-1022499	Panel		2
5	BA9-1012206	Hose		1
6	BA9-1226702	Coolant Pump		1
8	JT9-TS-0050011	Hex Cap Screw		4
9	BA1-6768	Hose Fitting		1
10	BA1-6769	Hose Clamp		1
11	BA9-1232338	Hose		1
12	BA9-1008616	Coolant Tank		1
13	BA1-6770	Hand		1
14	JT9-TS-0208041	Hex Cap Screw		4
15	JT9-TS-0680031	Flat Washer		4
15-1	JT9-TS-0720081	Spring Washer		4
16	BA9-1020715	Wheel		2
16-1	JT9-TS-0680061	Flat Washer	(1/2")	2
18	BA9-1020717	Wheel Shaft		1
19	BA9-1020718	Spring Pin		2
20	JT9-TS-0051071	Hex Cap Screw		4
21	JT9-TS-0680031	Flat Washer		8
21-1	JT9-TS-0720081	Spring Washer		4
22	JT9-TS-0561021	Hex Nut		4
23	BA9-1224884	Door		1
24	BA1-6771	Pin		2
25	BA9-1230998	Lock Handle		1
25-1	JT9-TS-0640071	Nut	(1/4")	1
25-2	JT9-TS-0680021	Flat Washer	(1/4")	1
26	BA1-6774	Filter		1
27	BA1-1643	Bracket		1
28	BA1-6775	Bracket		1
29	BA1-1644	Chip Guide Plate		1
30	JT9-TS-0208041	Hex Cap Screw		2
30-1	JT9-TS-0680031	Flat Washer	(5/16")	4
31	JT9-TS-0561021	Hex Nut		2
31-1	JT9-TS-0720081	Spring Washer		2
32	JT9-TS-0680031	Flat Washer		2
32-1	JT9-TS-0081051	Hex Cap Screw		2
33	JT9-TS-0720081	Spring Washer		2
34	JT9-TS-0561021	Hex Nut		2
35	BA9-1016882	Low Base of Disc		1
36	JT9-TS-1505021	Socket Head Cap Screw		4
37	BA9-1230848	Swivel Base		1
43	BA9-1231479	Bottom Support		1
43-1	JT9-TS-0267041	Set screw	(1/4-20x3/8")	2
44	JT9-TS-0081051	Hex Cap Screw		3
45	JT9-TS-0720081	Spring Washer		3
46	BA9-1231567	Support Rod		1
47	BA9-1019351	Hydraulic Cylinder		1
48	BA9-1013364	Cylinder Cover		1
49	BA1-6776	Round Hd. Screw		2
49-1	**	Spring Washer	(1/4")	2
50	BA1-6777	Support Plate		1
51	JT9-TS-0081051	Hex Cap Screw		2

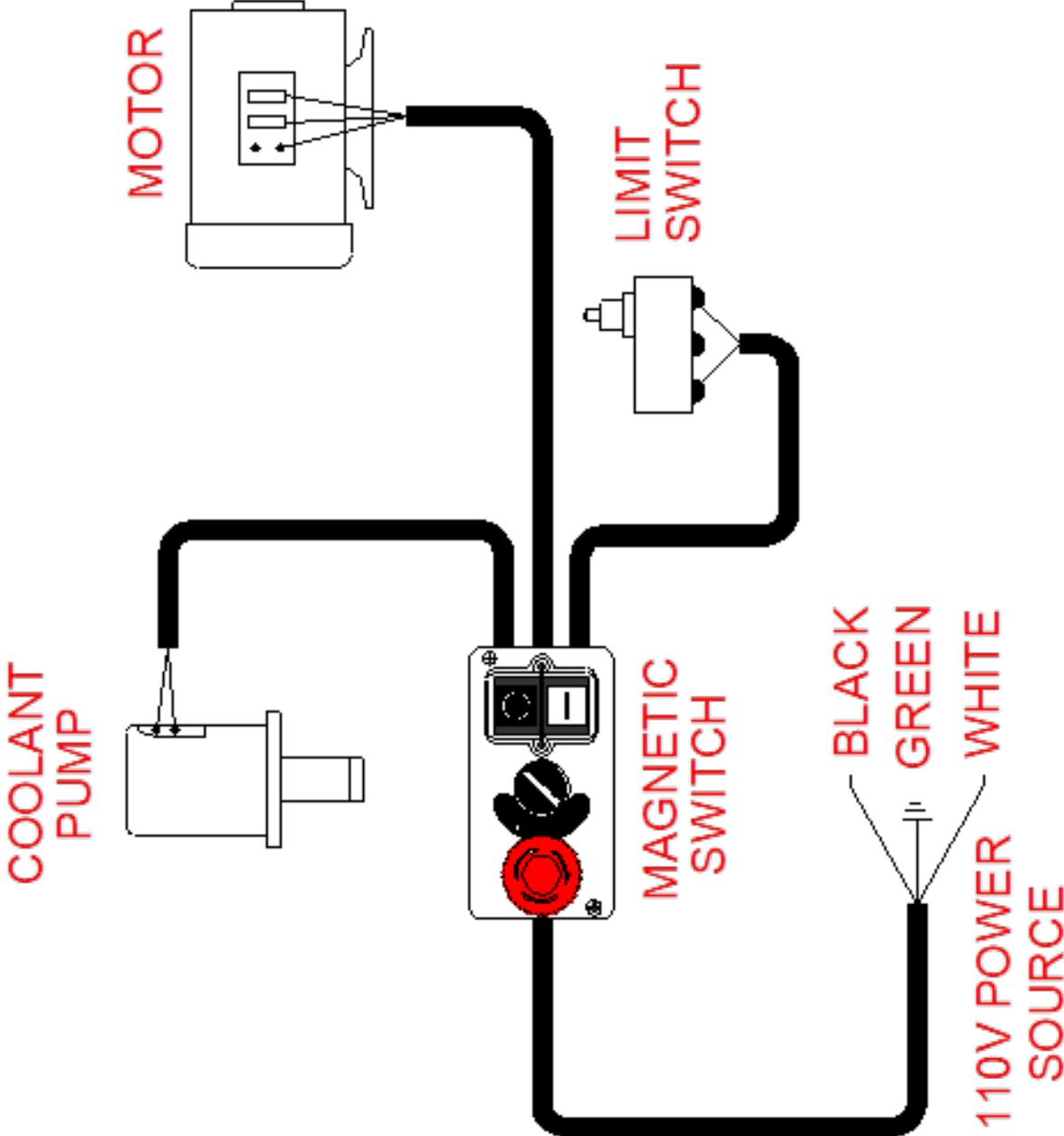
Index No.	Part No.	Description	Size	Qty.
52	JT9-TS-0720081	Spring Washer		2
53	JT9-TS-1492041	Hex Cap Screw		1
54	JT9-TS-1540081	Hex Nut		1
55	BA9-1013365	Splash Guard		1
56	JT9-TS-0208041	Hex Cap Screw		2
57	JT9-TS-0720081	Spring Washer		2
59	BA1-6778	Nylon Nut	(1/2")	2
60	BA1-6779	Washer	(1/2")	2
61	BA9-1012540	Bushing		1
62	BA1-6780	Support Shaft		1
63	BA1-6781	Pivot Arm		1
63-1	BA1-6782	Bracket		1
63-2	JT9-TS-0720081	Spring Washer		1
63-3	CM9-TS-0051011	Hex. Hd. Screw		1
64	JT9-TS-0561021	Hex Nut		1
65	JT9-TS-0081051	Hex Cap Screw	(5/16" x 1 1/4")	1
66	JT9-TS-0570031	Hex Nut		1
67	JT9-TS-0060081	Hex Cap Screw		1
67-1	JT9-TS-0680041	Washer	(3/8)	1
68	BA1-6783	Plate		1
69	JT9-TS-0060071	Hex Cap Screw		2
70	JT9-TS-0720091	Spring Washer		2
72	BA9-1018256	Upper of Disc		1
73	JT9-TS-1505021	Socket Head Cap Screw		4
74	BA9-1001696	Lock Handle		1
75	BA9-1226886	Bronze Bushing		1
76	BA1-6784	Thrust Shaft		1
77	BA9-1013366	Scale		1
77-1	BA1-6785	Rivet		3
78	BA9-1018539	Angle Indicator		1
78-1	BA1-6786	Rivet		2
81	BA9-1018315	Table		1
82	BA9-1001685	Handle Wheel Assembly(#82+82-1)		1
82-1	**	Handle		1
83	JT9-TS-0270031	Set Screw		1
84	BA1-6787	Lead Screw		1
85	BA1-6788	Key		1
86N	BA9-1010836	Lead Screw Bracket		1
92	JT9-TS-1506031	Socket Head Cap Screw		2
93	BA1-6789	Spring Washer		2
94	BA1-6790	Top Support		1
95	JT9-TS-0208041	Hex Cap Screw		2
97	BA1-6791	90° Support		1
98	JT9-TS-1491061	Hex Cap Screw		1
99	JT9-TS-1540071	Hex Nut		1
100	JT9-TS-0720091	Spring Washer		2
101	JT9-TS-0060061	Hex Cap Screw		2
102	BA9-1226768	Limit Switch		1
103	BA1-6792	Limit Switch Cover		1
103-1	BA1-6793	Pad		1
104	JT9-TS-1501021	Hex. Socket Cap Screw		4
104-1	BA1-6794	Spring Washer		4
105	JT9-TS-0208041	Hex Cap Screw		1
106	JT9-TS-0680031	Flat Washer		1
107	BA9-1012209	Thumb Screw		1
108	BA9-1012210	Stop Bracket		1
109	BA9-1012211A	Work Stop		1
110	JT9-TS-0561021	Spring Washer		2
111	JT9-TS-0208041	Hex Cap Screw		1
112	BA9-1012214	Stop Rod		1
114	JT9-TS-1492031	Hex Cap Screw		2

Index No.	Part No.	Description	Size	Qty.
115	JT9-TS-0720111	Spring Washer		2
116	BA1-6795	Rear Vise		1
117	JT9-TS-0060071	Hex Cap Screw		1
118	JT9-TS-0720091	Spring Washer		2
119	JT9-TS-0060061	Hex Cap Screw		1
120	BA1-6796	Washer		1
121	BA1-6797	Front Vise		1
122	JT9-TS-0570031	Hex Nut		2
123	JT9-TS-0060031	Hex Cap Screw		1
124	BA1-6798	Spring Bracket		1
125	BA1-6799	Spring Adjusting Rod		1
126	BA1-6800	Spring		1
127	BA9-1015798	Saw Bow		1
127-1	JT9-TS-0051061	Hex Cap Screw		4
127-2	JT9-TS-0720081	Spring Washer		4
127-3	JT9-TS-0267042	Adjust Screw		2
129	BA1-6801	Vent Plug		1
130	BA9-1012358	Key		1
131	BA1-6802	Hex Cap Screw		1
131-1	JT9-TS-0720091	Spring Washer		1
131-2	JT9-TS-0680041	Flat Washer		1
133	BA9-1011204	Blade Wheel (Rear)		1
134	Multiple Tpi/ Sku's Offered	Blade		1
135	BA9-1019256	Blade Back Cover		1
136	BA9-1021258	Wheel Cover		1
137	JT9-TS-0050011	Hex Cap Screw		2
137-1	JT9-TS-0680021	Flat Washer		2
138	JT9-TS-0680021	Flat Washer		4
139	BA9-1021488	Round Hd. Screw		4
140	BA9-1010838	Guide Adjustable Knob		2
141	BA1-6803	Adjustable Bracket (Rear)		1
142	JT9-BB-608ZZ	Ball Bearing		2
143	BA9-1226679	Bearing Pin		2
144	BA9-1022656	Blade Adjustable Seat (Rear)		1
144-1	BA9-1022657	Blade Adjustable Seat (Front)		1
145	JT9-TS-0561032	Hex Nut		4
145-1	JT9-TS-0720091	Spring Washer		4
146	BA9-1226780	Eccentric Shaft Assembly		2
146-1	BA9-1226781	Center Shaft Assembly		2
147	BA9-1013163	Vertical Cutting Plate(Option)		1
147-1	BA1-1604	Vertical Cutting Plate (Small)		1
147-2	JT9-TS-081F031	Flat Head Screw		2
148	BA9-1022221	Magnetic Switch(#148+148-1)		1
148-1	**	Round Hd. Screw		2
	BA9-1017903	Square Green on switch		
	BA9-1017904	OFF button for Magnetic Switch		
	BA9-1017905	Rubber Cover with screw		
149	BA1-6804	Washer		2
150	BA1-6805	Spring Washer		2
151	BA1-600	Hex. Soc. Screw		2
152	BA9-1226694	Top Support		1
152-1	JT9-TS-0267041	Set Screw	(1/4-20x3/8")	1
153	BA1-6807	Hex. Hd. Screw		2
154	JT9-TS-0720091	Spring Washer		2
155	JT9-TS-0570031	Hex Nut		2
156	BA1-6808	Round Hd. Screw		2
157	JT9-TS-0680021	Flat Washer		2
158	BA1-6809	Brush Holder		1
159	JT9-TS-0267021	Socket Set Screw		1
160	BA9-1001669	Fixed Bushing		1

Index No.	Part No.	Description	Size	Qty.
161	BA9-1018259	Brush		1
162	BA9-1008677	Support Rod		1
163	BA1-6810	Nozzle Cock		1
164	BA1-6811	Nozzle Cock Support		1
165	CM9-TS-0267051	Set Screw 20" OR 28"?	(1/4x3/8")	1
166	BA1-6812	Socket Head Cap Screw		1
166-1	JT9-TS-0720081	Spring Washer		1
170	BA9-1226335	Valve		1
171	BA1-6813	Hose Clamp		1
172	BA1-6814	Bracket		1
172-1	JT9-TS-0050011	Hex Cap Screw		1
172-2	JT9-TS-0720071	Spring Washer		1
172-3	JT9-TS-0680021	Flat Washer		1
172-4	CM9-TS-0051011	Hex Cap Screw	(5/16" x 1/2")	1
173	BA9-1019929	Adjustable Bracket (Front)		1
174	BA9-1012539	Blade Guard		1
175	BA1-6815	Round Hd. Screw		2
176	BA1-6816	Sliding Guide Plate		2
177	JT9-TS-0050011	Hex Cap Screw		4
178	BA1-6817	Blade Tension Sliding Block		1
179	JT9-TS-0270071	Socket Set Screw		1
180	JT9-TS-0051071	Hex Cap Screw		2
181	BA1-6818	Sliding Draw Block		1
182	BA9-1020325	Bearing Bushing		1
183	BA9-1020326	Ball Bearing		2
184	BA1-6819	Blade Wheel (Front)		1
185	JT9-TS-0680031	Flat Washer		1
185-1	JT9-TS-0720081	Spring Washer		1
186	JT9-TS-0208041	Hex Cap Screw		1
187	JT9-TS-0680041	Flat Washer		1
188	BA1-6820	Guide Adjustable Knob		1
189	BA1-6821	Support Plate		1
190	JT9-TS-0680021	Flat Washer		2
191	BA1-6822	Hex Cap Screw		2
192-1	BA9-1018574	Motor		1
192-1	BA9-1021483	Motor Flange		
192-2	BA1-6823	Strain Relief		1
192-3	JT9-TS-1490041	Hex Cap Screw		2
192-4	CM9-TS-2361081	Spring Washer	(5/16)	2
193	BA9-1230145	Key		1
194-1	BA9-1226782	Worm Shaft		1
195-1	BA9-1230144	Gear Flange		1
195-2	JT9-TS-1503051	Socket Head Cap Screw		1
196N	BA9-1016609	Gear Box		
197	BA9-1022969	Splash Guard (Front)		1
198	BA1-6824	Flat Washer		2
199	BA1-6825	Spring Washer		2
200	JT9-TS-0050011	Hex Cap Screw		2
Base-Left	BA9-1021484	Base Left End		
Base-Right	BA9-1021485	Base Right End		
DGA	BA9-1231383	Drive Gear Assembly for 5th type		
TGA	BA9-1231384	Transfer Gear assembly for 5th type		
N22	BA9-1224858	Motor Cover		
N24	BA9-1224859	O-RingID x 3.5MM		
A24	BA9-1014872	Motor Flange		
Run-Cap	BA9-1018970	Run Capacitor		
St-Cap	BA9-1018971	Start Capacitor		

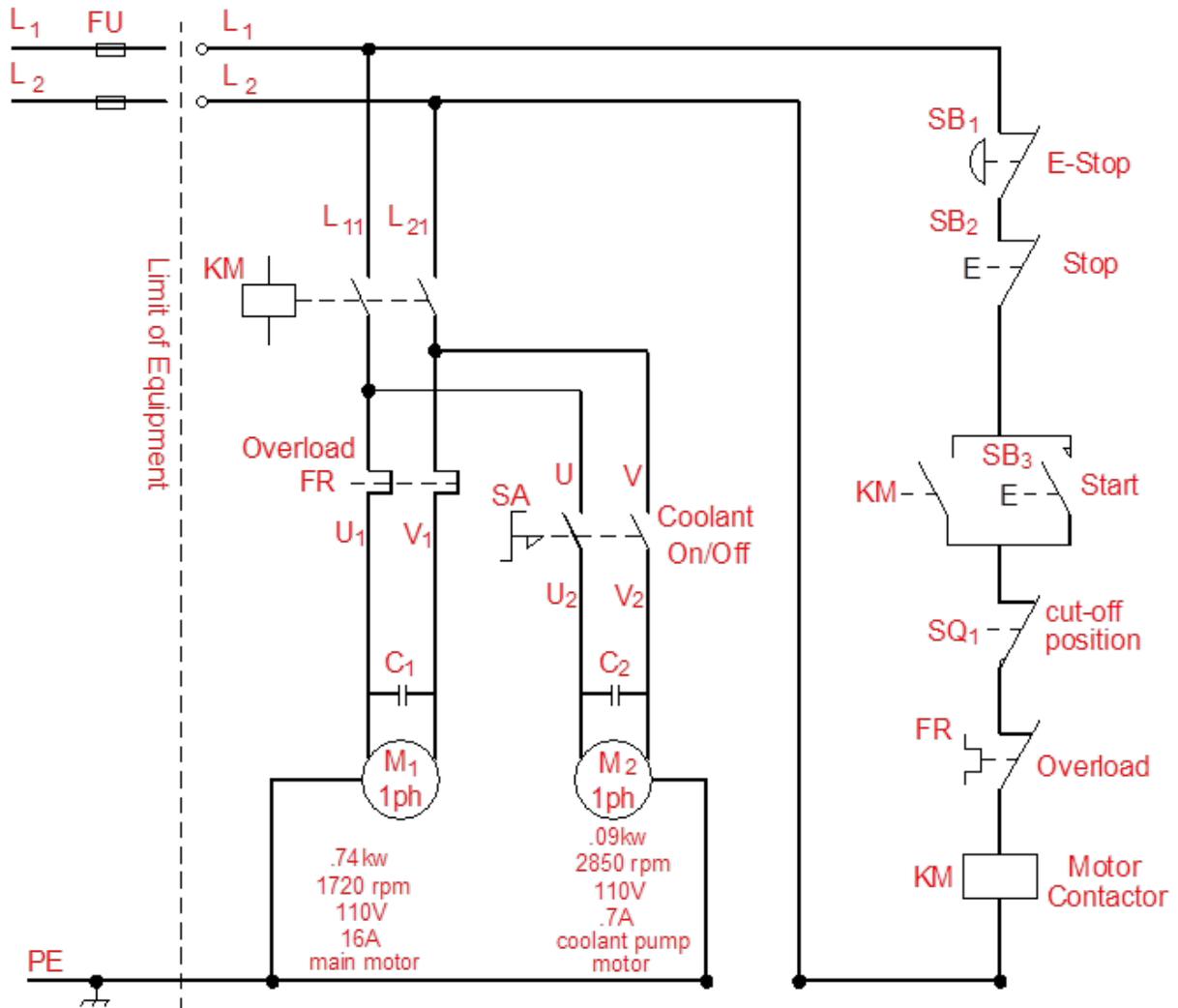
\*\* These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

# 18.0 Wiring Diagram



## 18.1 Electrical Schematic

1 ph (RECOM)  
60Hz 10A gL type



## 18.2 Electrical Components

Table 18-1

Item	Description and function	Technical data	Remark
KM	Magnetic Contactor	AC1 – 12A, 600V	CNS 2930 BS 775
FR	Overload Relay	12.0 ~ 18.0/14A, 1x115VAC	TH-12
SQ1	Cut off limit switch	250VAC, 10A	UL
SB1	Push-Button Emergency Stop	300VAC, 3.0A 125VAC, 6.0A 1<<b>>	CSA
SB2	Push-Button Off	AP11<<b>>	
SB3	Push-Button On	AP11<<a>>	
SA	Coolant Pump On/Off Switch	1<<a>> for 1 phase 600VAC, max.	VDE UL E5579

## 19.0 Warranty and Service

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

**Inspection & Acceptance.** Buyer shall inspect all Goods within ten (10) days after receipt thereof. Buyer's payment shall constitute final acceptance of the Goods and shall act as a waiver of the Buyer's rights to inspect or reject the Goods unless otherwise agreed. If Buyer rejects any merchandise, Buyer must first obtain a Returned Goods Authorization ("RGA") number before returning any Goods to Seller. Goods returned without an RGA will be refused. Seller will not be responsible for any freight costs, damages to Goods, or any other costs or liabilities pertaining to Goods returned without an 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 an 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 an 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, lightning, natural disasters or any other cause beyond Seller's reasonable control. In the event of any such delay, performance will be postponed by such length of time as may be reasonably necessary to compensate for the delay.

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

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

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

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

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

**Summary of Return Policy:**

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

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

**For Customer Service & Technical Support:**

Please contact one of our knowledgeable Sales and Service team members at:  
(920) 684-4990 or e-mail us at [Baileigh-Service@jpwindustries.com](mailto:Baileigh-Service@jpwindustries.com)



**BAILEIGH INDUSTRIAL**

**1625 DUFEK DRIVE MANITOWOC, WI 54220**

**PHONE: 920.684.4990 FAX: 920.684.3944**

**[www.baileigh.com](http://www.baileigh.com)**