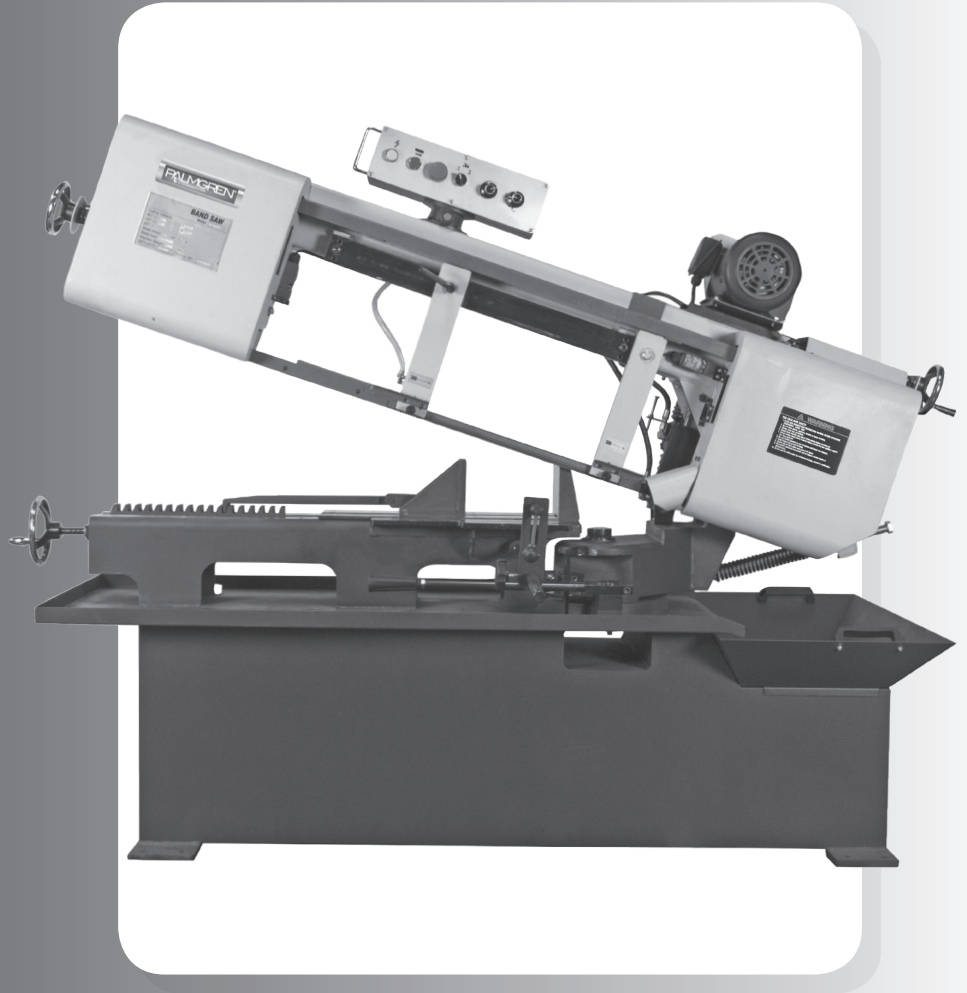


**PALMGREN**<sup>®</sup>  
*a CH Hanson brand*



## **10" Horizontal Mitering Band Saw**

**Model 9683315**

**PALMGREN**<sup>®</sup>  
*a CH Hanson brand*

**PLEASE READ AND SAVE  
THESE INSTRUCTIONS.  
READ CAREFULLY  
BEFORE ATTEMPTING  
TO ASSEMBLE, INSTALL,  
OPERATE OR MAINTAIN THE  
PRODUCT DESCRIBED.**

**PROTECT YOURSELF AND  
OTHERS BY OBSERVING ALL  
SAFETY INFORMATION. FAILURE  
TO COMPLY WITH INSTRUCTIONS  
COULD RESULT IN PERSONAL  
INJURY AND/OR PROPERTY  
DAMAGE! RETAIN INSTRUCTIONS  
FOR FUTURE REFERENCE.**

**PLEASE REFER TO BACK COVER  
FOR INFORMATION REGARDING  
DAYTON'S WARRANTY  
AND OTHER IMPORTANT  
INFORMATION.**

**Model #:** \_\_\_\_\_

**Serial #:** \_\_\_\_\_

**Purch. Date:** \_\_\_\_\_

## GETTING STARTED

### Save this manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

### Structural requirements



Make sure all supporting structures and load attaching devices are strong enough to hold intended loads. If in doubt, consult a qualified structural engineer.

### Electrical requirements



The power supply to the Model 9683315, 10" Band Saw needs to be 220V AC, 3-phase, 3.2 amps, 60 HZ.

### Tools needed

Standard professional mechanic's hand tool set (socket set, pliers and spirit level, etc.).

## UNPACKING

When unpacking, check to make sure all parts listed below are included. If any parts are missing or broken, please contact your local retailer.

**IMPORTANT:** Many unpainted steel surfaces have been coated with a protectant. To ensure proper fit and operation, remove coating. Coating can be easily removed with mild solvents, such as mineral spirits, and a soft cloth. Avoid getting solution on paint or any of the rubber/plastic parts. Solvents may deteriorate these finishes. Use soap and water on paint, plastic or rubber components. After cleaning, cover all exposed surfaces with a light coating of oil.

**CAUTION** *Never use highly volatile solvents. Non-flammable solvents are recommended to avoid possible fire hazard.*

### Contents of Model 9683315 10" Band Saw

- Complete Band Saw
- Depth Stop Rod (for assembly see page 6)
- Depth Stop (for assembly see page 6)
- Operating instructions

### Unpack



Remove all the over packing materials, but leave unit attached to its pallet. Do not discard packing materials until after the machine has been inspected for damage and completeness. Locate loose parts and set aside.

### Inspect



After unpacking the unit, carefully inspect for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. Shipping damage claims must be filed with the carrier.

This machine and its accessories should be visually inspected before use, in addition to regular periodic maintenance inspections. Be sure that the voltage labeled on the unit matches your power supply.

## SAFETY RULES

**WARNING** *For your own safety, read all of the instructions and precautions before operating the tool.*

**WARNING** *Always disconnect the machine from its power source before changing blades or carrying out any maintenance procedure even in the case of irregular machine operation.*



**PROPOSITION 65 WARNING:** Some dust created by using power tools contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints
- Crystalline silica from bricks and cement and other masonry products
- Arsenic and chromium from chemically-treated lumber

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area and work with approved safety equipment. Always wear OSHA/NIOSH approved, properly fitting face mask or respirator when using such tools.

**WARNING** *Always follow proper operating procedures as defined in this manual even if you are familiar with the use of this or similar tools. Remember that being careless for even a fraction of a second can result in severe personal injury.*

### Read all instructions before using this tool

- Dress properly. Do not wear loose clothing, shirts with sleeves that are too long, gloves that are too big, jewelry or chains as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
- Use eye and ear protection. Always wear ANSI approved impact safety goggles.
- Stay alert. Watch what you are doing, use common sense. Do not operate any tool when you are tired.
- Guard against electrical shock. Prevent body contact with grounded surface such as pipes, radiators, ranges and refrigerator enclosures.
- Do not operate tool if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgement or reflexes will be impaired. If there is any doubt, do not operate the tool.

### Prepare work area for job

- Keep work area clean and free of equipment, tools or other objects. Cluttered areas invite injuries.
- Observe work area conditions. Do not use machines or power tools in damp or wet locations. Do not expose to rain.

## SAFETY RULES - CONTINUED

- Keep work areas well-lit. Do not use electrically powered tools in the presence of flammable gases or liquids.
- Keep children away. Children must never be allowed in the work area. Do not let them handle machines, tools or extension cords.
- All internal operations, maintenance, or repairs must be performed in a well-lit area

### **Tool should be maintained**

- Maintain this machine with care. Use a clean sharp cutting blade for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect the power supply cables periodically and if damaged, have them repaired by an authorized technician. The bow handle must be kept clean, dry and free from oil and grease at all times.
- When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from your local retailer.
- The machine must be completely disconnected from its power source before any maintenance or service is performed. Follow OSHA lock-out, tag-out procedures to prevent accidental machine starts.
- Immediately replace any damaged or obscured warning labels that are attached to the machine.
- For your safety, service and maintenance should be performed by a qualified technician.
- Band saw blades are sharp. Use suitable gloves when changing the blade or other adjustments that involve the blade.

### **Know how to use tool**

- The blade must not move when the saw head (bow) is in a suspended mode (or raised).
- Only the blade section used for cutting can be exposed. Use the blade guides to adjust the blade guards.
- Never use the machine without its guards in place and working properly.
- Never put your hands or arms near the cutting area while the machine is operating.
- Keep the area free of equipment, tools, or any other objects.
- Perform only one operation at a time.
- Never have several objects in your hands at the same time.
- Keep your hands as clean as possible.
- Do not force tool. It will do the job better and more safely at the rate for which it was intended. Do not use inappropriate attachments in an attempt to exceed the tool capacity.
- 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. There are certain applications for which this tool was designed. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
- Do not overreach. Keep proper footing and balance at

all times. Do not reach over or across machines while in operation.

- Remove adjusting keys and wrenches. Check that keys and adjusting wrenches are removed from the tool or machine work surface before attaching it to a power supply.
- Avoid unintentional starting. Be sure the switch is in the OFF position when not in use and before attaching the machine to a power supply.
- Check for damaged parts. Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting pieces should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn ON and OFF properly.

**▲ WARNING** *The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.*

## SPECIFICATIONS

### Model 9683315 - 10" Band Saw

Motor	2 HP, 1725 RPM, 220V, 3-phase, 3.2 amps, 60HZ
Coolant Pump	1/8 HP
Cutting Capacity Rectangle	10" x 18"
Cutting Capacity Round	10"
Maximum Cut Thickness	10"
Miter Capacity	0 - 45 degrees with angle locks at 0, 15, 30 and 45 degrees
Blade Width Range	1" to 1-1/16"
Blade Thickness	0.035"
Minimum Blade Length	157"
Maximum Blade Length	158-1/2"
Blade Speed	125 to 246 FPM
Coolant Tank (liters)	22
Dimensions (L x W x H)	81" x 27" x 48"
Weight (lbs.)	1,100

## ASSEMBLY/INSTALLATION



- In the event of incorrect operation or dangerous conditions, the machine may be stopped immediately by pressing the red emergency shut off button on the operator control panel.
- The casual or voluntary opening of the flywheel covers causes a safety switch activation that automatically stops all machine functions. The flywheel cover doors **MUST** be closed tightly to de-activate the safety switches.

**Power source**

- The motor on this machine is designed for operation on the voltage and frequency specified. Normal loads will be handled safely on voltages not more than 10% above or below specified voltage.
- Running the unit on voltages which are not within the range may cause overheating and motor burn-out. Heavy loads require that the voltage at the motor terminals be no less than the voltage specified. Power supply to the motor is controlled by a double pole locking rocker switch. Remove the key to prevent unauthorized use.

**Electrical connections**

**▲ WARNING** *Make sure unit is off and disconnected from power source before any service or maintenance being made to the machine.*

**▲ WARNING** *This machine must be grounded. To avoid electrocution or fire, any repairs to electrical system should be done only by a qualified electrician, using genuine replacement parts.*

**Electrical safety**

- 1 This machine must be grounded in accordance with the National Electrical Code and local codes and ordinances. Any electrical work must be handled by a professional, qualified electrician. To help prevent and protect the user from shock, this machine must be properly grounded.
2. Confirm that power supply matches power requirements of the machine before any electrical connection is made to the machine. Before connecting the machine to a power source, ensure that the switch is in the off position.

**Lifting and setting up your machine**

**▲ WARNING** *Make certain that slings, cables, chains, forklifts or other load suspending gear or machines used to move this unit are properly rated to handle the weight. The machine is extremely heavy.*

**▲ CAUTION** *The machine must be properly secured and anchored before use. Make sure that it is supported equally on all four corners.*

Remove any crating or overpacking materials which may be covering the machine. Leave the machine attached to the pallet.

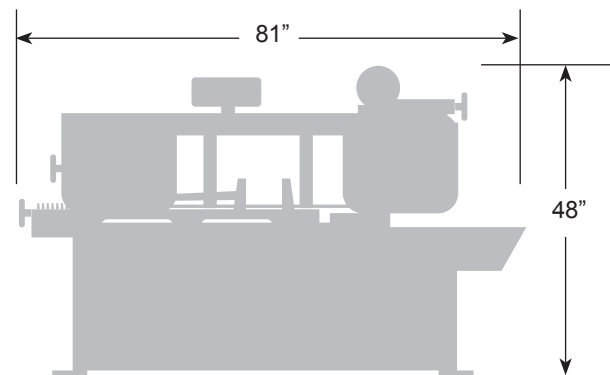
**NOTE:** The Model 9683315 Band Saw weighs 1100 lbs. Be certain any machine or devices used to lift the machine are capable of handling this weight.

1. Remove all accessory items from the pallet or machine table. Compare these items with the listed on page 3.
2. Check and lock any handles, covers or moving parts.
4. Remove all the nuts and/or bolts securing the machine to the pallet.
5. Center an overhead crane or other suitable overhead lifting device and sling arrangement over the machine.

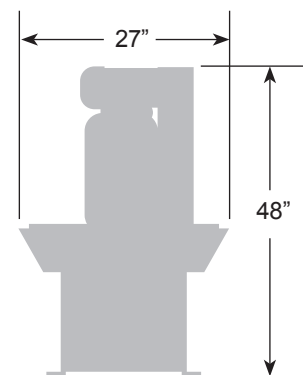
6. Carefully lift the machine off the pallet. Lift the machine no higher than necessary to clear the hold-down hardware and pull the pallet out of the way. **DO NOT** get your hands or feet underneath the machine when removing the pallet.
7. Place the machine into its final location where it will be anchored to the floor. Anchor bolts of sufficient size and length must be fastened to the floor.
8. While it is not recommended, the machine may be mounted to a wooden floor. The floor must be sturdy and properly braced to ensure a solid foundation for safety and machine accuracy.
8. When the machine is over its anchor location, level the machine using shims under the corners needing them. A highly accurate spirit or digital level should used for leveling. Leveling should be done on the table top since it is the reference standard for both side-to-side and front-to-back leveling. It is very important that the machine be properly leveled for accurate performance.

**NOTE:** The following diagrams the reasonable approximate dimensions of the machine and its parts. When determining a final location for your machine ensure there is enough clearance for both the operator and for technicians who will service the machine. Also, consider any larger workpieces that would extend beyond the machine's table and require extra space.

**Dimensions**



Front View

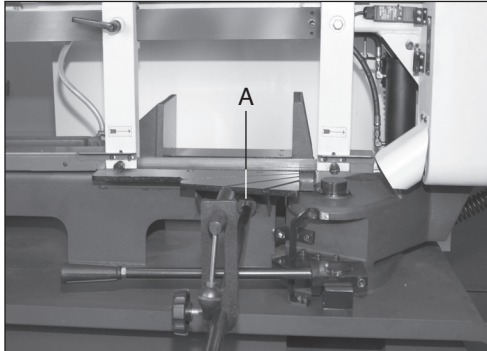


End View

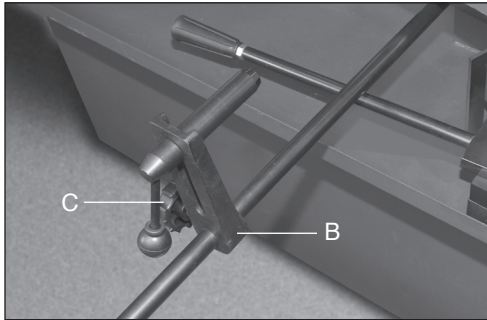
## ASSEMBLY/INSTALLATION - CONTINUED

The Model 9683315 Band Saw is fully assembled with exception of the measuring rod and measuring bracket / depth stop. To attach these items:

1. Locate the measuring rod that is packed with the machine.



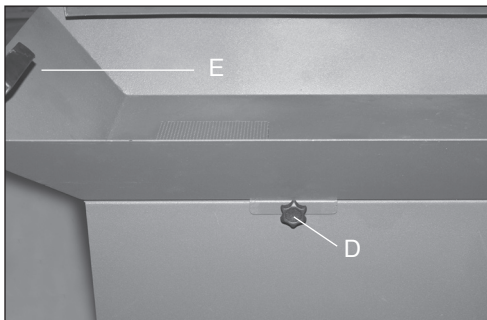
2. Insert the threaded end of the measuring rod into the threading hole under the support table (A).
3. Tighten the measuring rod so it is secure and does not move.



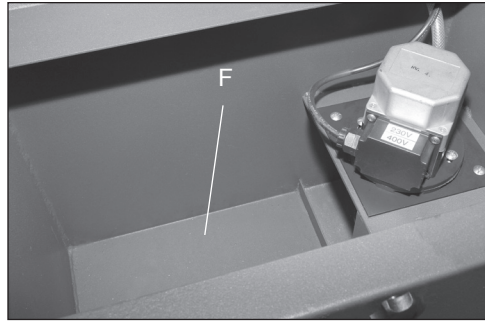
4. Slide the measuring bracket / depth stop attachment (B) over the measuring rod and tighten it using the set knob (C).

### Filling up the coolant tank

Before starting up the band saw, the coolant tank must be filled. The coolant is used to cool the blade and materials being cut. During operation coolant flows from the tank to the bottom of the blade guide post. Coolant is dispersed on the blade during operation and flows into the catch basin. The basin drains into the chip tray on the right end of the machine. Under the chip tray is the tank. To fill the tank:



1. Remove the knob (D) that holds the chip tray to the tank.
2. Grab the handles on the left and right (E) of the chip tray and lift the tray off to reveal the tank (F).



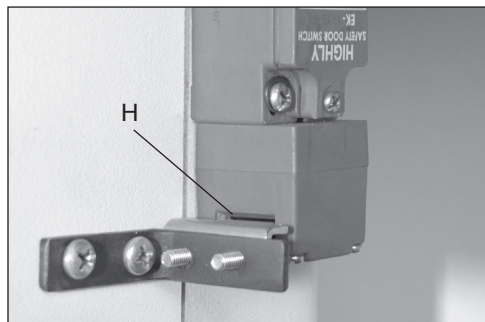
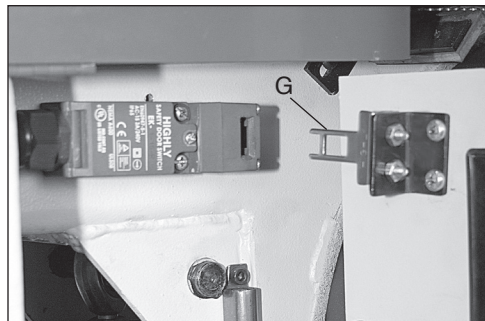
3. Clean the tank of any dust or dirt that may have accumulated during transit.
4. Fill the tank with a suitable cutting coolant. The tank holds 22 liters of coolant.
5. Replace the chip tray and chip tray knob.

## OPERATION GENERAL

**⚠ WARNING** *Keep your hands away from all cutting edges and moving parts. Never reach under the saw or workpiece. The blade is exposed in these areas and the guards cannot protect your body there. Be alert to the possibility of blade binding and kickback occurring.*

**⚠ WARNING** *The blade covers have safety switches that stop the band saw from operating if the covers are open. Do not override or disable the switches.*

**⚠ CAUTION** *To prevent damage to the band saw, speed changes must be made when the machine is running.*



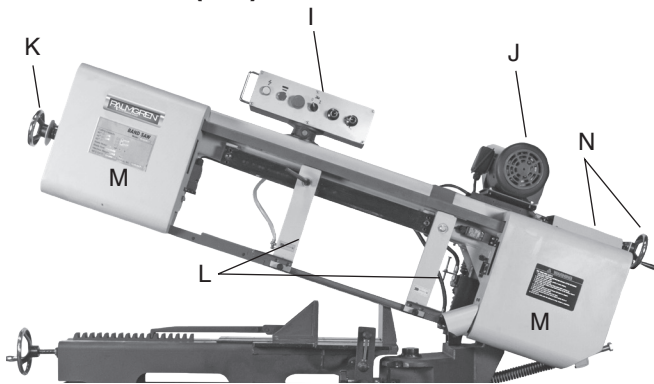
**⚠ NOTE:** The blade wheel covers (M) must be shut securely for the safety switches to deactivate; allowing the machine to operate. The deactivation tab (G) must be completely inserted into the switch receiving slot (H).

**General preparation for use**

1. All covers and guards must be in place, doors must be closed, and operator understands the safety rules and operation of the machine.
2. Fill coolant reservoir with coolant with a suitable industrial lubricant.
3. Be sure that all other points listed in the Lubrication Chart listed on page 18 have been serviced.

**Band saw functioning parts**

**The saw head (bow)**

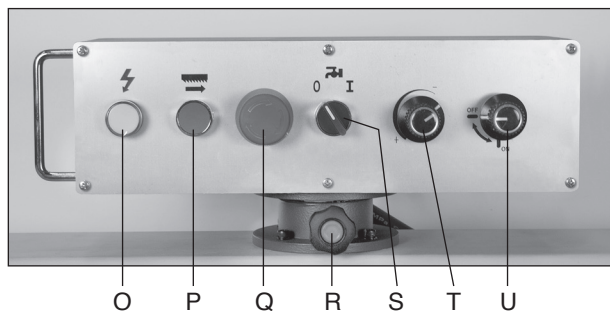


The saw bow is a collection of machine parts consisting:

- I. Operator control panel
- J. Drive members (motor and belt)
- K. Blade wheel blade tension system
- L. Blade guides
- M. Bladewheel covers
- N. Mechanical motor speed adjustment

This model also uses a hydraulic cylinder and adjustable counter-balance spring to lower and raise the bow.

**Controls**



The controls on top of the saw bow operate the machine:

- O. Power indicator light
- P. Starts the blade
- Q. Emergency stop button. Once pressed, it must be rotated to release.
- R. Control panel rotation knob. Loosen the knob to rotate the control panel. This feature is helpful when making angle cuts.
- S. Starts the coolant pump

T. Speed adjustment for saw bow descent

U. Saw bow descend / On-Off

**OPERATION SET-UP**

**⚠ WARNING** *Keep your hands away from all cutting edges and moving parts. Never reach under the saw or workpiece. The blade is exposed in these areas and the guards cannot protect your body there. Be alert to the possibility of blade binding and kickback occurring.*

**⚠ WARNING** *The blade covers have safety switches that stop the band saw from operating if the covers are open. Do not override or disable the switches.*

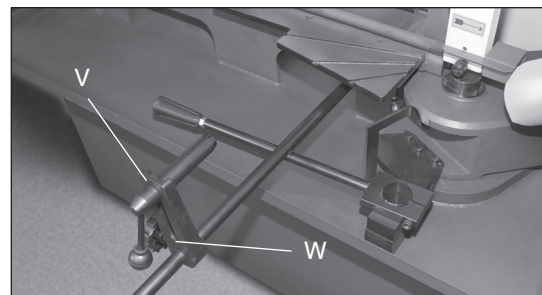
**⚠ CAUTION** *To prevent damage to the band saw, speed changes must be made when the machine is running.*



**In case of an emergency situation**

- Push the emergency shut off button down to stop all functions. To release the emergency shut off button rotate the mushroom shaped button clock-wise. The button will pop up and machine operation can normally resume.

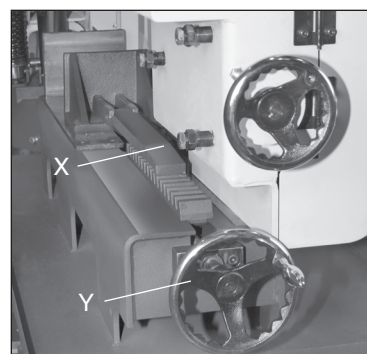
**Setting the workpiece cut length**



You can control the depth of cut on the Model 9683315 by using the depth stop attachment (V). The attachment slides on to the measuring rod. The bracket (W) can be rotated so that the rod contacts the end of your workpiece. This allows you to conveniently make repetitive cuts at the same length

**Vise adjustment - clamping the workpiece**

- Place the work piece between the vise jaws and have it rest next to the fixed vise jaw on the left. If your workpiece is close to the size of the vise jaws, rotate the vise handwheel (Y) clockwise to tighten the vise.



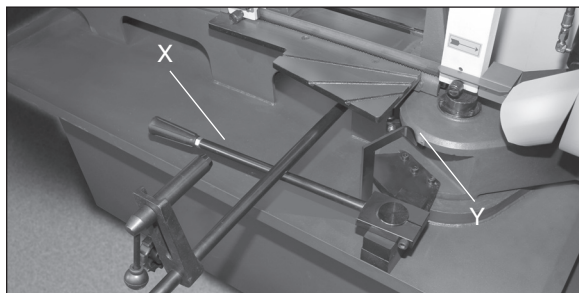
- If your workpiece is smaller than the vise opening you can use the vise rack claw (X) to quickly close up the open space.

## OPERATION SET-UP - CONTINUED

Lift the vise rack claw and position the movable vise jaw so that is close to the workpiece.

- Place the tab of the vise rack claw into the rack. Tighten the handwheel to secure your workpiece.
- Rotate the hand wheel (Y) clockwise to tighten and counter-clockwise to loosen the vise jaws and release your workpiece.

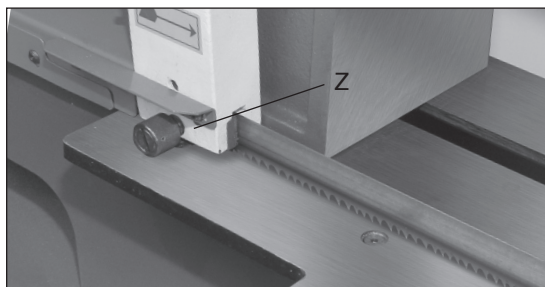
### Cutting angle adjustment



The Model 9683315 Band Saw can cut 15°, 30° and 45° angles by rotating the saw bow. To change the angle of the saw bow perform the following steps.

- Pull the unlock lever (X). This will release the saw bow.
- Move the saw bow to the desired angle. The angle scale (Y) shows the angle being set
- Push the lock lever back in to secure the saw bow and set the angle
- The saw bow can be set at any angle between 15° and 45°. Be aware the blade may cut into the workpiece table.

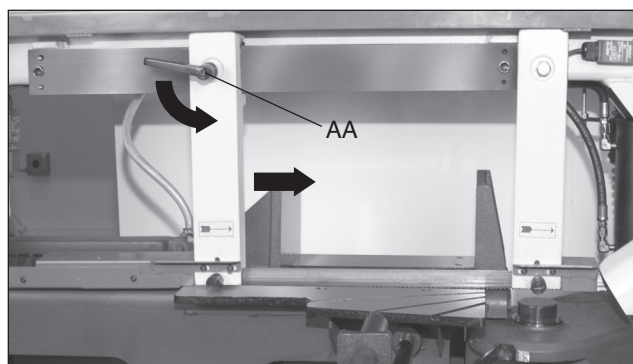
### Saw blade guide insert adjustment



The adjustment knobs for the saw guide inserts are located on the lower portion of each saw guide arm (Z). Follow these adjustment procedures:

- Turn the adjustment knob clockwise until the guide is tight against the saw band (do not over tighten)
- Turn the adjustment knob back counterclockwise 1/4 turn

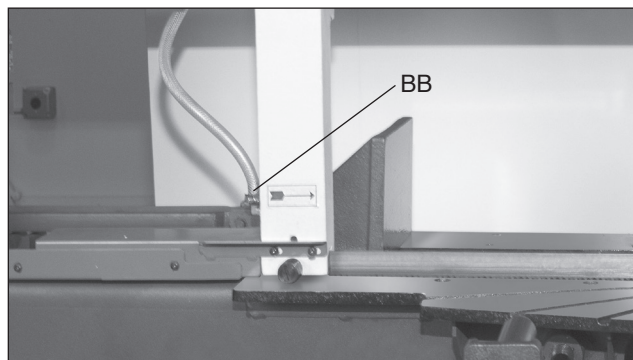
### Saw guide arm adjustment



The machine's right saw guide arm is fixed. The left saw guide arm can be adjusted to accommodate varying stock widths. The saw guide need to be adjusted while setting up and clamping your workpiece for cutting. The best results are achieved by leaving a very small gap between the saw guide arm and work piece. To adjust the guide arm.

- Loosen the saw guide insert adjustment knob (Z) by turning it counterclockwise
- Loosen the left arm's locking handle (AA) by turning it counterclockwise
- Move the arm along the slide bar until it is as close as possible to the stock
- Turn the saw guide arm locking handle clockwise to tighten
- Tighten the insert adjustment knob as previously instructed

### Coolant application



1. Coolant is supplied by means of a reservoir and pump to the cutting area through a valve and then the saw guide inserts on the left saw guide arm (BB). Turn the valve counterclockwise until coolant completely covers both sides of the saw band.
2. Used coolant flows back to the reservoir through the open end of the base pan. The screening and straining within the reservoir removes metal particles and other impurities before the coolant is recirculated.
3. Coolant reservoir capacity is 22 liters. The pump will not operate correctly unless it is completely submerged in coolant.



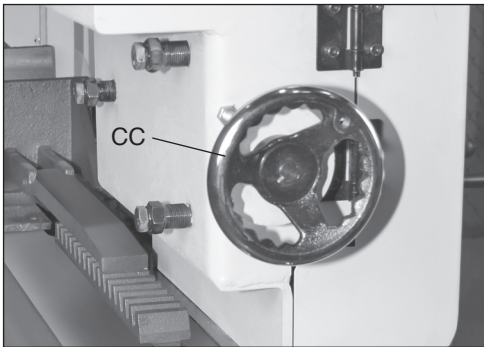


**NOTE:** You may find it better to cut certain materials (such as cast iron, aluminum, magnesium, etc.) without coolant. When dry cutting these materials, follow the same operating procedures used when cutting with coolant. Dry cutting will reduce the overall life of the saw band blade.

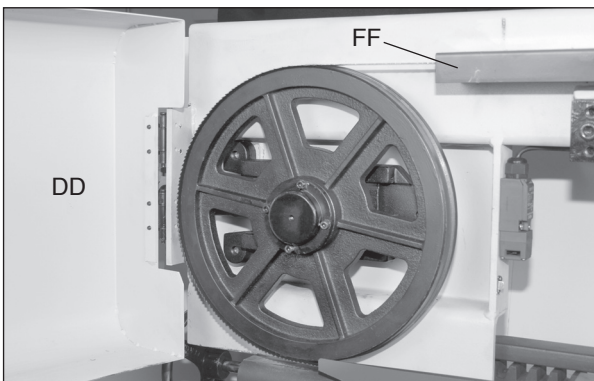
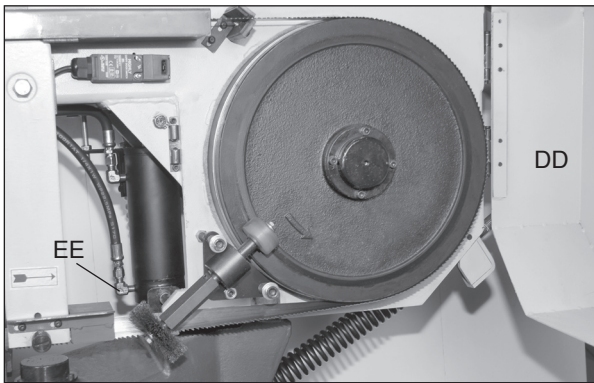
**Band saw blade removal**



**Take care when working around and on the saw blade. Band saw blades are very sharp. Wear kevlar gloves.**



1. Push the red emergency stop button on the control panel.
2. Turn the band tension handwheel (CC) on the left end of the saw head counterclockwise. This moves the idler bandwheel to the right and loosens the blade tension
3. Grasp the band tension handwheel and manually lift the saw head so there is approximately five (5) inches of clearance under the saw guide arms.



4. Open the right and left bandwheel doors (DD).
5. If necessary, remove or reposition the blade brush (EE).
6. Loosen and remove the top blade guard (FF).

7. Loosen the saw guide inserts by turning the adjusting knob counterclockwise.
8. Grasp the on the non-cutting edge of the saw blade between the saw guide arms with your gloved hands and push the saw blade downward to free it from the saw guide inserts.
- 8 Grasp the saw band near the idler bandwheel and remove it. Remove the saw band from around the drive bandwheel.

**Band saw blade replacement**



**Take care when working around and on the saw blade. Band saw blades are very sharp. Wear kevlar gloves.**

1. Remove the saw band as described in the previous section. Clean metal chips and other foreign materials and debris from around the saw guides and both bandwheels. Remove the new saw blade's protective cap if necessary.
2. Form the saw blade into a loop and slip the blade under the saw guide arms and into approximate position for placement. With the saw blade's teeth facing towards you, place the blade around the drive and idler bandwheels.
3. Twist the saw blade 90° so that its teeth between the saw guide arms point down and to the right.
4. Insert the saw blade into the saw guide inserts and pull up against the back-up bearing
5. Check the saw blade's position around the bandwheels (its back edge must rest against each bandwheel's rear flange).
6. Apply correct blade tension by turning the band tension handwheel clockwise.
7. Turn the saw guide insert adjustment knobs clockwise until tight (do not over tighten). Turn each adjustment screws back counterclockwise 1/4 turn.
8. Reposition or mount the band brush and top guard. Close both bandwheel doors.

**OPERATING THE BAND SAW**



**Keep your hands away from all cutting edges and moving parts. Never reach under the saw or workpiece. The blade is exposed in these areas and the guards cannot protect your body there. Be alert to the possibility of blade binding and kickback occurring.**



**Always wear safety glasses complying with United States ANSI Z87.1 before beginning power tool operation.**

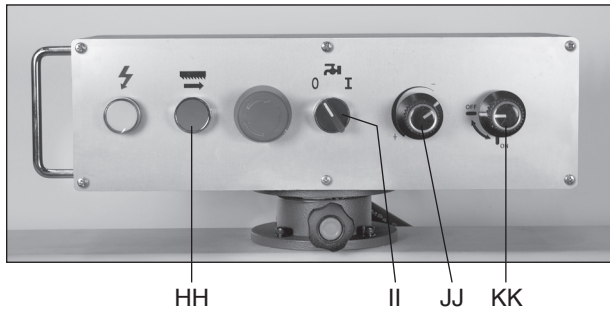
Before operating the machine, all the main parts of the machine must be set up correctly as per the directions in the previous Assembly/Installation Section.

**Blade break-in**

When cutting for the first time, it is good practice to break in the blade by making a series of cuts at a low advance speed (= 12-14 in2/min on material of average dimensions compared to the cutting capacity and solid section of normal steel with R = 410-510 Nimm2), Generously spray the cutting area with lubricating coolant during the break-in.

## OPERATING THE BAND SAW - CONTINUED

### Making a cut

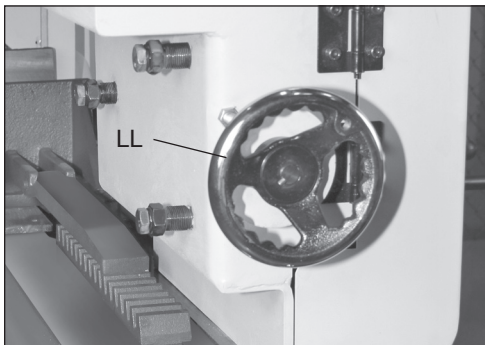


After your workpiece(s) have been secured and bandsaw properly adjusted as described previously, you can make your cut.

1. Push the blade start button (HH)
2. Turn on the coolant flow (II)
3. Set the saw bow descent speed (JJ)
4. Activate the saw bow descent (KK)
5. When the cut is finished the saw will stop. Manually lift the saw bow.

### Saw blade tension

**CAUTION** Do not start the blade drive motor without proper tension on the band saw blade.



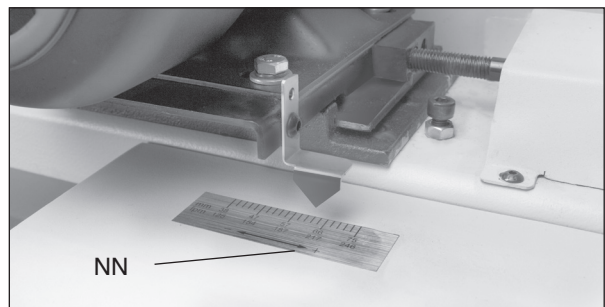
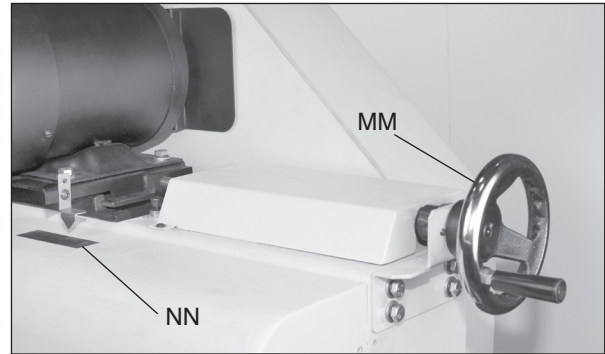
1. Blade tension is applied by turning the handwheel which protrudes from the saw head's left side (LL). Turn the handwheel clockwise to increase band tension; counterclockwise to decrease it.
2. Correct band tension for the machine's standard one (1) inch (25.4 mm) wide by 0.035-inch (0.89 mm) saw blade is 27,000 to 30,000 psi (1900 to 2100 kg/cm<sup>2</sup>).

This tension setting is established when the preset stop bolt contacts the large washer. An escutcheon near the band tension handwheel describes the washer to stop bolt relationship in a setting of 30,000 psi (2100 kg/cm<sup>2</sup>).

3. Important factors which influence band tension settings are the size of stock to be cut and desired blade life. General rules-of-thumb are: (a) Lower tensions will increase saw blade life; (b) Greater tension is required as spacing is increased between the saw guide arms; (c) Higher band speeds require greater tension.

### Blade speed adjustment

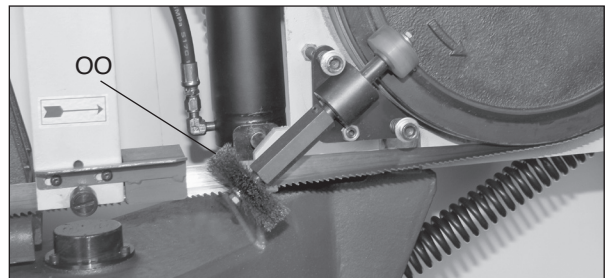
**CAUTION** To prevent damage to the band saw, speed changes must be made when the machine is running.



The blade speed is infinitely variable between 125 and 246 fpm. Use lower speeds for harder materials and high speeds for softer materials.

1. To adjust, turn the band speed adjusting handwheel (MM) on the right end of the saw head clockwise to "INCREASE" band speed. Turn it counterclockwise to "DECREASE" the blade speed.
2. A speed indicator pointer and scale provided on your machine will show you the blade speed based on the handwheel's adjustment (NN).

### Blade brush



A powered blade brush (OO) removes metal particles from the saw blade teeth. The blade brush is located inside the right bandwheel door.

The brush must be properly adjusted to clean the blade tooth gullets without touching the bottom of the gullets for optimum sawing performance. As bristles wear down, adjust brush position by loosening the mounting bolts holding the brush assembly to the bracket on the saw head. Move the brush to the correct cleaning position and retightening the mounting bolts.

## OPERATION - BLADE SELECTION GUIDELINES

### Types of materials and blade choices

To obtain the best cutting performance from your band saw, various parameters such as material hardness, material shape and thickness, cross cutting section of the part to be cut, selection of the type of cutting blade, cutting speed and the control of saw frame lowering all must be considered.

These specifications must therefore be harmoniously combined in a single operating condition according to practical considerations and common sense, so as to achieve an optimum condition that does not require countless operations to prepare the machine when there are many variations in the job to be performed. The various problems that crop up from time to time will be solved more easily if the operator has a good knowledge of these specifications.

The tables below lists characteristics of materials to be cut so that the correct blade can be chosen.

Thickness Inches	Z continuous tooth design	Z combo tooth design
Till .059"	14	10/14
From .039" to .078"	8	8/12
From .078" to .118"	6	6/10
From .118" to .196"	6	5/8
From .157" to .236"	6	4/6
More than .236"	4	4/6

S = Thickness

Solid Ø or L Inches	Z continuous tooth design	Z combo tooth design
Till 1.181"	8	5/6
From 1.181" to 60	6	4/6
From 1.574" to 3.149"	4	4/6
More than 3.54331"	3	3/4

S = Thickness      L=Width

### Blade teeth per inch (tpi)

Choose a blade with the proper number of teeth per in (TPI) for the material being cut. The following factors should be considered:

- Parts with a thin and/or variable section such as profiles, pipes and plate, need closely space teeth, so that the number of teeth used simultaneously in cutting ranges from 3 to 6.

- Parts with large crosscut sections and solid cores need widely spaced teeth to allow for the greater volume of the shavings and better tooth penetration.
- Parts made of soft material or plastic (light alloys, mild bronze, Teflon, wood, etc. also require widely spaced teeth.
- Pieces cut in bundles require combo tooth design.

### Cutting and advance speed

The cutting speed (in/min) and the advance speed (in<sup>2</sup>/min = area traveled by the blade teeth when removing shavings) are limited by heat build up on the tips of the teeth.

- The cutting speed is dictated by the resistance of the material (R N/mm<sup>2</sup>), its hardness (HRC) and its dimensions in the widest section.
- An advance speed (= lowering of the saw bow) set too fast tends to cause the blade to deviate from the ideal cutting path, producing misaligned cuts on both the vertical and the horizontal plane.
- The best way to determine the proficiency of these two parameters is to examine the chips from the cut.
- Long spiral-shaped chips indicate ideal cutting.
- Very fine or pulverized chips indicate lack of feed and/or cutting pressure.
- Thick and/or blue chips indicate overload of the blade.

### Blade break-in

When cutting for the first time, it is good practice to break in the blade by making a series of cuts at a low advance speed (= 12-14 in<sup>2</sup>/min on material of average dimensions compared to the cutting capacity and solid section of normal steel with R = 410-510 N/mm<sup>2</sup>), Generously spray the cutting area with lubricating coolant during the break-in.

### Blade structure

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

### Blade type

Blades differ because of their construction characteristics, such as:

- Shape and cutting angle of tooth
  - Pitch
  - Set shape
  - Angle (rake) of the teeth

## OPERATION - BLADE SELECTION GUIDELINES

### TEETH PITCH AND RAKE

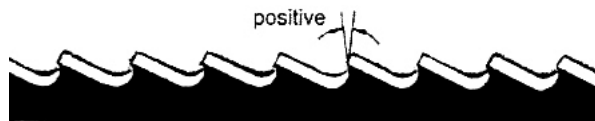


#### Regular tooth

0° rake and constant pitch.

Regular tooth blades are typically used for crosscut or inclined cutting in small solid and average cross-section cuts in or pipes, laminated mild steel, gray iron or general metal.

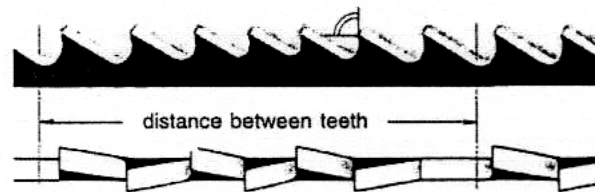
#### Positive rake tooth



9°-10° positive rake and constant pitch.

This blade is used for crosscut or inclined cuts in solid sections or large pipes, including all harder materials (highly alloyed and stainless steels, special bronze and forge pig iron).

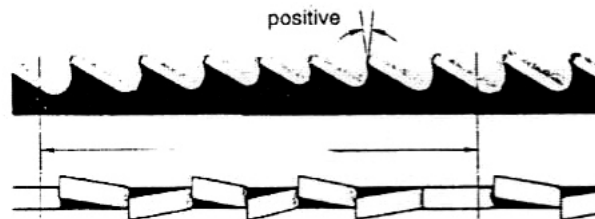
#### Combo tooth



This blade has pitch variations between teeth and variations in teeth size along with variable gullet depths. These unique parameters ensures a smoother, quieter cut, and longer blade life due to the lack of vibration.

Another advantage offered by the use of this blade is its ability to cut wide range of different material sizes and shapes.

#### Combo tooth



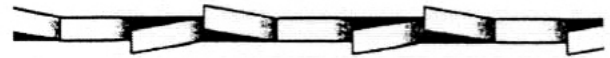
9°-10° positive rake.

This blade type is suitable for the cutting of section bars and large and thick pipes as well as for the cutting of solid bars at machine capacity. Available pitches: 3-4, 6-8.

### TEETH SET

Saw teeth are slightly bent out of the plane of the saw body, resulting in a wide cut in the workpiece. This parameter is called "tooth set."

#### Regular or raker set



The cutting teeth are set right and left, alternated by a straight tooth.

For use for materials with dimensions greater than .2". Used for the cutting of steel, castings and hard nonferrous materials.

#### Wavy set (in smooth waves).



This tooth set is associated with very fine teeth and is mainly used for the cutting of pipes and thin section bars (from .04" to .118").

#### Alternate set (grouped teeth)



Teeth are set in alternate groups of both right and left separated by a straight tooth.

This tooth set is used for smooth cuts in extremely thin materials (less than .04").

#### Alternate set (individual teeth)



The cutting teeth are individually set right and left.

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

**TROUBLESHOOTING GUIDE**

Symptom	Possible Cause(s)	Corrective Action
Motor will not start; fuses or circuit breakers blow	<ol style="list-style-type: none"> <li>1. Short circuit in line cord or plug</li> <li>2. Short circuit in motor or loose connection</li> <li>3. Incorrect fuses or circuit breakers in power line</li> <li>4. Motor overloaded</li> <li>5. Bandwheel door covers are open</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect line cord or plug for damaged insulation and shorted wires. Replace damaged wires and/or components.</li> <li>2. Inspect all lead terminals on motor for loose or worn insulation on wires. Tighten any loose connections. Replace or repair motor.</li> <li>3. Install correct fuses or circuit breakers</li> <li>4. Reduce load on motor</li> <li>5. The bandwheel doors must be completely closed and latched</li> </ol>
Motor fails to develop full power (power output of motor decreases rapidly) with decreased voltage at motor terminals	<ol style="list-style-type: none"> <li>1. Power Line overloaded</li> <li>2. Undersized wires or cords too long</li> <li>3. General overloading at power company's facilities</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce the load on the power line</li> <li>2. Increase the wire sizes or reduce the length of cords</li> <li>3. Request a voltage check from the power company</li> </ol>
Motor overheats	<ol style="list-style-type: none"> <li>1. Motor overloaded</li> <li>2. Air circulation around motor is restricted</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce load on motor</li> <li>2. Clean motor to provide normal air circulation around motor</li> </ol>
Motor stalls (resulting in blown fuses or tripped circuit breakers)	<ol style="list-style-type: none"> <li>1. Short circuit in motor; connections loose; or shorted terminals; or worn insulation on lead wires</li> <li>2. Low voltage line conditions</li> <li>3. Incorrect fuses or circuit breakers in power line</li> <li>4. Motor overloaded</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect all lead terminals on motor for loose or worn insulation on wires. Tighten any loose connections. Replace or repair motor.</li> <li>2. Correct low voltage line conditions</li> <li>3. Install correct fuses or circuit breakers</li> <li>4. Reduce load on motor</li> </ol>
Frequent opening of fuses or circuit breakers	<ol style="list-style-type: none"> <li>1. Motor overloaded</li> <li>2. Incorrect fuses or circuit breakers</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce load on motor</li> <li>2. Install correct fuses or circuit breakers</li> </ol>
Motor problems in general	Various causes	To troubleshoot and service the motor consult a qualified technician
Motor running too hot	<ol style="list-style-type: none"> <li>1. Blade tension too high</li> <li>2. Blade too coarse for work (especially when cutting pipes)</li> <li>3. Blade too fine for work (heavier, soft materials)</li> <li>4. Gears need lubrication</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce tension on the blade</li> <li>2. Change the type of blade. See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11.</li> <li>3. Change the type of blade. See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11.</li> <li>4. Check oil bath and add lubrication as needed</li> </ol>

**NOTES**

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**TROUBLESHOOTING GUIDE**

Symptom	Possible Cause(s)	Corrective Action
<p>Tooth breakage</p> 	Cut advancing too quickly	Decrease cutting advance, exerting less cutting pressure. Adjust the braking device.
	Wrong cutting speed	Change speed and/or type of blade. See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11.
	Wrong tooth pitch	Replace blade choosing the proper tooth pitch. See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11.
	Chips sticking to the teeth and in the gullets or material that gums	Check to ensure the coolant outlet hole on the left blade guide is not clogged and the coolant flow is adequate to remove of chips from the blade.
	Defects on the material or material too hard	Material surfaces can be oxidized or covered with impurities making these areas harder than the blade itself. Materials may have hardened areas or inclusions inside the section due to production materials such as castings and welding wastes, etc. Avoid cutting these materials. In a situation where a cut has to be made use extreme care, cleaning and removing hard impurities as quickly as possible.
	Ineffective gripping of the part in the vise.	Check the gripping of the part being cut. Tighten the vise as needed.
	The blade gets stuck in the material	Decrease the cutting advance and exert less cutting pressure.
	Starting cut on sharp or irregular section bar	Pay more attention when you start cutting. Slowly and carefully start the cut.
	Poor quality blade	Switch to a superior quality blade.
	Previously broken tooth left in the cut	Remove in the broken tooth from the cut.
	Resuming a cut on a previously made groove	Make the cut elsewhere, turning the part over.
	Vibrations	Check the grip of the part being cut to ensure it is being held securely in the vise.
	Wrong tooth pitch or shape	Replace blade choosing the proper tooth pitch or shape. See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11. Adjust blade guides.
Insufficient lubricating, refrigerant, or wrong lubricant viscosity	Check level of liquid in the tank. Increase the flow of lubricant. Check to ensure the hole and the liquid outlet pipe are not blocked. Check the lubricant viscosity.	
Teeth positioned in the direction opposite the cutting direction	Remove the blade and reinstall it with the teeth cutting in the proper direction.	

**TROUBLESHOOTING GUIDE**

GETTING STARTED


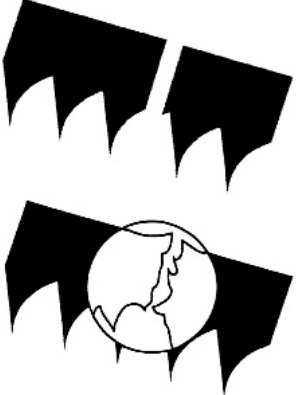
SAFETY / SPECIFICATIONS

ASSEMBLY / INSTALLATION

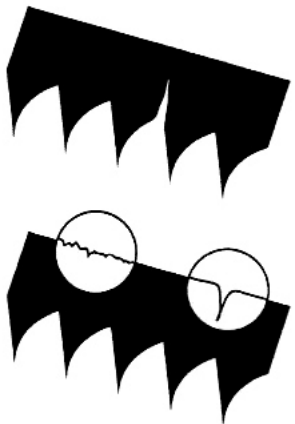
OPERATION

TROUBLESHOOTING

MAINTENANCE / REPAIR


Symptom	Possible Cause(s)	Corrective Action
Premature blade wear 	Faulty running-in of blade	See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11.
	Teeth positioned in the direction opposite of the cutting direction	Remove the blade and reinstall it with the teeth cutting in the proper direction.
	Poor quality blade	Switch to a superior quality blade.
	Cut advancing too quickly	Decrease cutting advance, exerting less cutting pressure. Adjust the braking device.
	Wrong cutting speed	Change speed and/or type of blade. See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11.
	Defects on the material or material too hard	Material surfaces can be oxidized or covered with impurities making these areas harder than the blade itself. Materials may have hardened areas or inclusions inside the section due to production materials such as castings and welding wastes, etc. Avoid cutting these materials. In a situation where a cut has to be made use extreme care, cleaning and removing hard impurities as quickly as possible.
Insufficient lubricating refrigerant or wrong emulsion	Check level of liquid in the tank. Increase the flow of lubricant. Check to ensure the blade guide outlet hole and the liquid outlet pipe are not blocked. Check the lubricant viscosity.	
Blade breakage/damage 	Faulty welding of blade	Switch to a superior quality blade.
	Cut advancing too quickly	Decrease cutting advance, exerting less cutting pressure. Adjust the braking device.
	Wrong cutting speed	Change speed and/or type of blade. See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11.
	Wrong tooth pitch	Replace blade choosing the proper tooth pitch. See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11.
	Ineffective gripping of the part in the vice	Check the gripping of the part being cut. Tighten the vise as needed.
	Blade touching material at beginning of cut	At the beginning of the cutting process, never lower the saw bow into the material before starting the machine.

**TROUBLESHOOTING GUIDE**

Symptom	Possible Cause(s)	Corrective Action
Blade breakage/damage  	Blade guide pads not adjusted properly or dirty because of lack of maintenance	Check the adjustment of the blade guides. See OPERATION SET-UP / Blade guide insert adjustments on page 8. Extremely tight tolerance guiding may cause cracks and breakage of teeth. Use extreme care when cleaning.
	Blade guide block too far from material to be cut	Set the left blade guide arm closely to the material being cut so that only the blade section used in the cut is free, this will prevent deflections that stress the blade,
	Improper position of blade on flywheels	The back of blade rubs against the support due to deformed or poorly welded bands (tapered), causing cracks and swelling of the back contour. Replace the defective blade with a new one.
	Insufficient lubricating coolant or wrong emulsion	Check level of lubricating coolant level in the tank. Increase the flow of lubricating coolant, checking to ensure the hole and the liquid outlet pipe are not blocked. Check the emulsion percentage.
Streaked or etched bands	Damaged or chipped blade guide pads	Replace the blade guide pads.
	Tight or loose blade guide bearings	Correctly adjust the guide bearings. See OPERATION SET-UP / Blade guide insert adjustments on page 8.
Blade cuts crooked	Blade not parallel in relation to the counter vise	Check the blade guide blocks to ensure they are fastened tightly to the counter vise. Adjust the blocks vertically and if necessary adjust the stop screws of the degree cuts.
	Blade not perpendicular due to the excessive play between the guide pads and misalignment of the blocks	Check and adjust the blade guides for proper tolerances. See OPERATION SET-UP / Blade guide insert adjustments on page 8.
	Cut advancing too fast	Decrease the speed of the cut advance, exerting less cutting pressure. Adjust the braking device.
	Worn out blade	Move the blade close to material being cut so that only the blade section used in the cut is free, This will prevent deflections that would excessively stress the blade. Replace the blade.
	Wrong tooth pitch	Replace blade choosing the proper tooth pitch. See OPERATION - BLADE SELECTION GUIDELINES beginning on page 11.
	Broken teeth	The lack of teeth can cause deflection during the cut; check the blade for broken teeth and replace it if necessary.
	Insufficient lubricating coolant or wrong emulsion	Check level of lubricating coolant level in the tank. Increase the flow of lubricating coolant, checking to ensure the outlet hole on the left blade guide arm and the liquid outlet pipe are not blocked. Check the emulsion percentage.



**TROUBLESHOOTING GUIDE**

Symptom	Possible Cause(s)	Corrective Action
Faulty cut	Worn out bandwheels. Flywheel housing full of chips	The support and guide flange of the bandwheels are so worn they cannot maintain the proper alignment of the blade causing ' faulty cutting. The blade rolling and drawing tracks can have become tapered. Replace the bandwheels. Clean out chips with compressed air.
Streaked cutting surface 	Cut advancing too fast	Decrease the speed of the cut advance, exerting less cutting pressure. Adjust the braking device.
	Poor quality blade	Replace blade with a superior quality blade.
	Worn out blade or with chipped and/or broken teeth	Replace it with a new blade.
	Wrong tooth pitch	The teeth in the blade being used are probably large. Use a blade with higher TPI. Replace blade choosing the proper tooth pitch.
	Blade guide block too far from material to be cut	Move the blade close to material being cut so that only the blade section used in the cut is free, This will prevent deflections that would excessively stress the blade. See OPERATION SET-UP / Blade guide insert adjustments on page 8.
	Insufficient lubricating coolant or wrong emulsion	Check level of lubricating coolant level in the tank. Increase the flow of lubricating coolant, checking to ensure the hole and the liquid outlet pipe are not blocked. Check the emulsion percentage.
Noise on guide blocks	Chipped bearings	Dirt and/or chips have come between the blade and guide bearings. Replace the chipped bearings.

**NOTES**

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## MAINTENANCE - MODEL 9683315 – 10” BAND SAW

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

### Daily maintenance

- General clean the machine to remove accumulated shavings.
- Clean the lubricant coolant drain hole to avoid excess fluid.
- Top off the level of lubricating coolant.
- Check blade for wear.
- Check to ensure the proper functionality of the bandwheel doors and emergency stop.

### Weekly maintenance

- Thoroughly clean the machine to remove shavings, especially from the lubricant fluid tank.
- Use compressed air to clean the blade guides (guide bearings and drain hole of the lubricating cooling).
- Clean the bandwheel housings and blade sliding surfaces on bandwheels.

### Monthly maintenance

- Check to ensure the motor bandwheel bolts are tight.
- Check to ensure blade guide bearings on the heads are in perfect running condition.
- Check to ensure the motor, pump, and accident protection guarding fasteners are tight.
- Check and adjust the blade brush as needed.

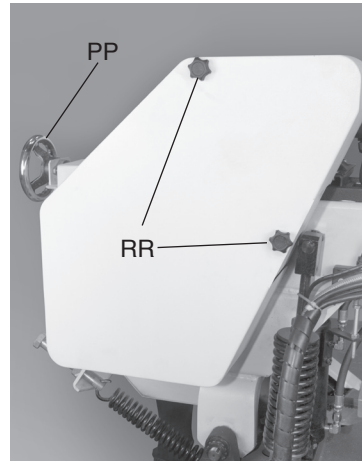
### Six-month maintenance

Continuity test of the equipment potential protection circuit.

### Coolant system

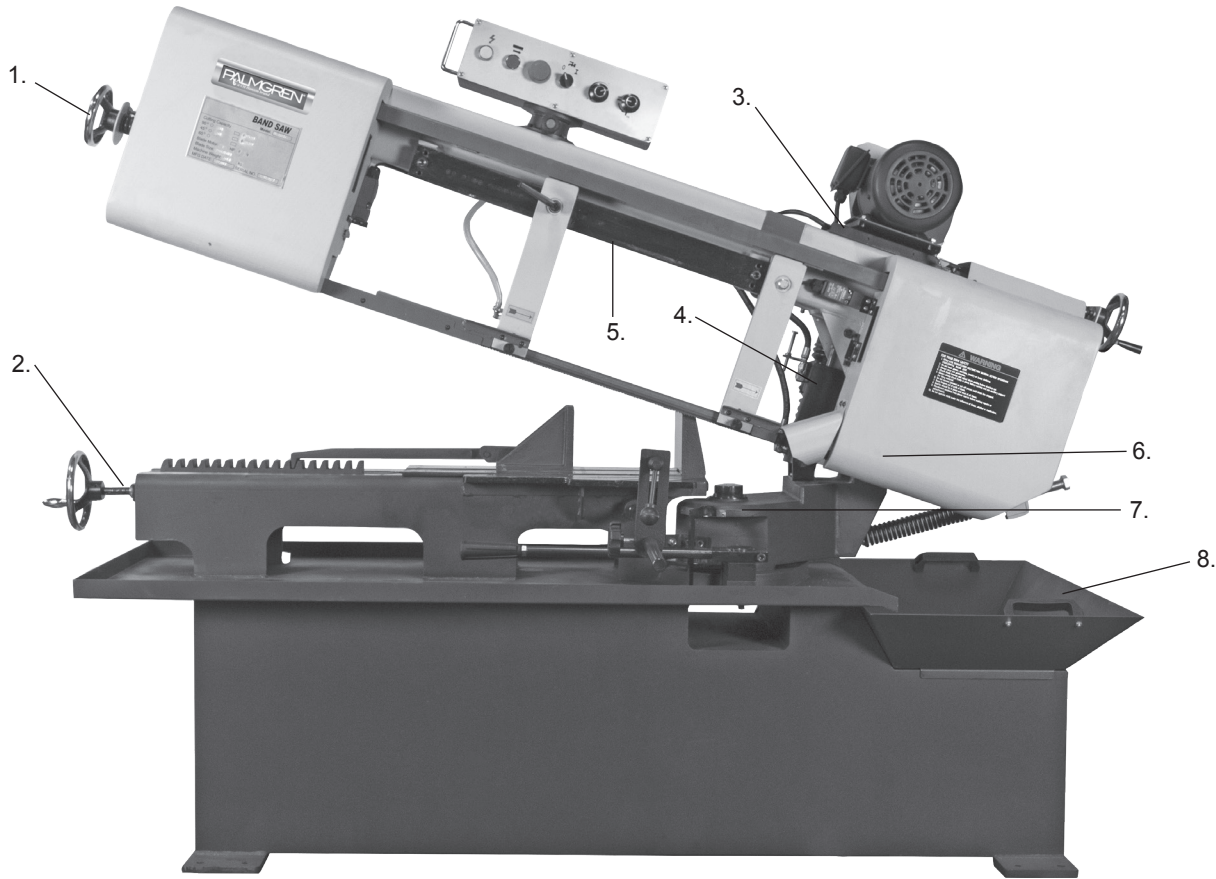
- Check the coolant often for signs of contamination or breakdown. Drain the entire system and clean it thoroughly when coolant becomes unsuitable for further use.
- Empty the reservoir periodically and clean the coolant screens.
- Flush the entire coolant system with a suitable cleaning agent when changing coolants.

### Drive belt



1. To install or remove the band drive belt, turn the disconnect switch to "OFF". Turn the band speed handwheel (PP) clockwise as far as possible
2. Take off the drive cover by removing the knobs holding it to the cover's back-up plate (RR).
2. Slip the old drive belt from around the drive pulley, then from around the variable speed pulley. Carefully place a new drive belt into the drive pulley groove. Pull the belt around and into the variable speed pulley groove.
3. Check the new belt's tracking in the pulley grooves by turning the band speed handwheel slowly counterclockwise. If tracking is correct, replace the drive cover.

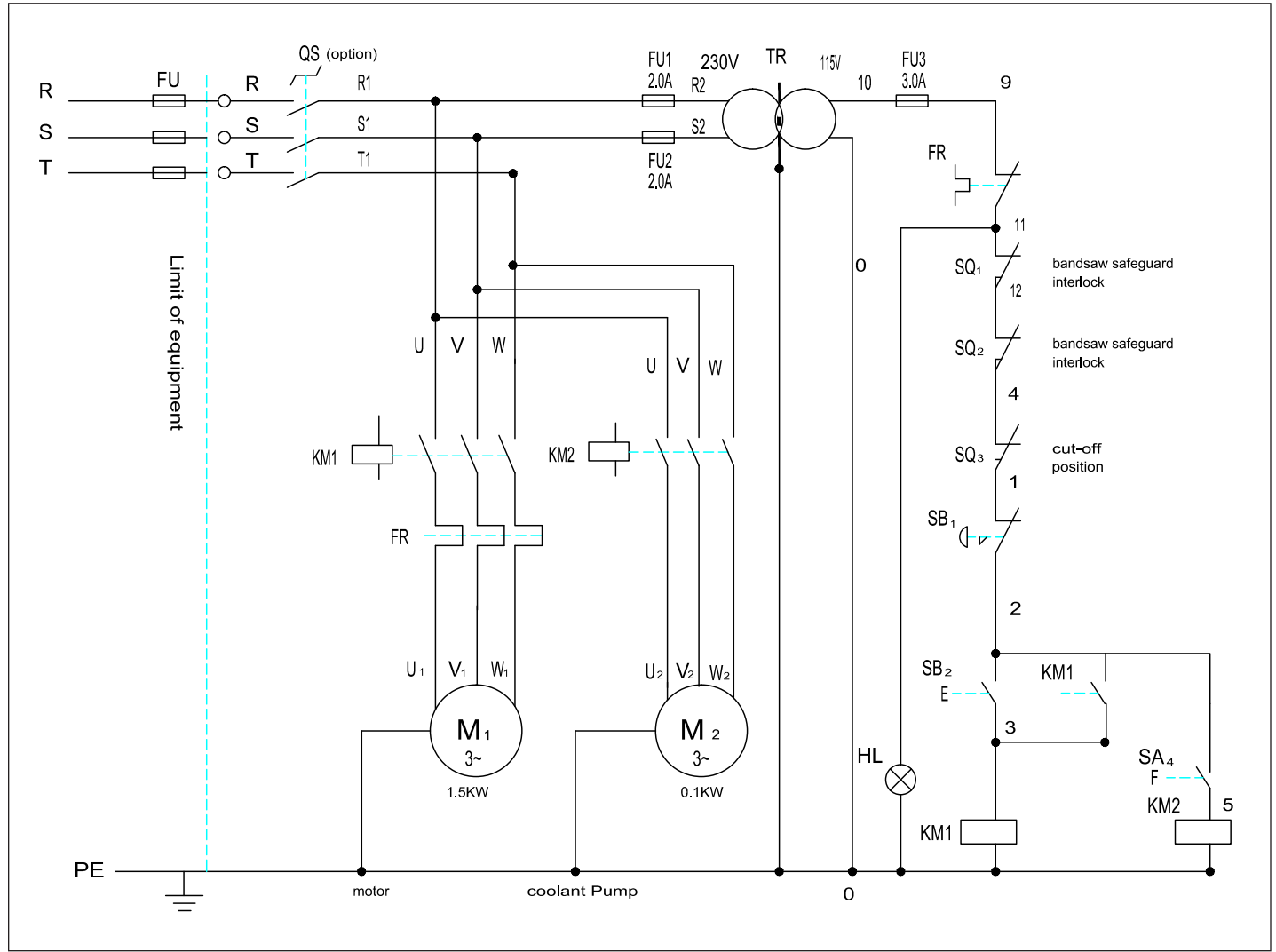
**LUBRICATION SCHEDULE - MODEL 9683315 - 10" BAND SAW**



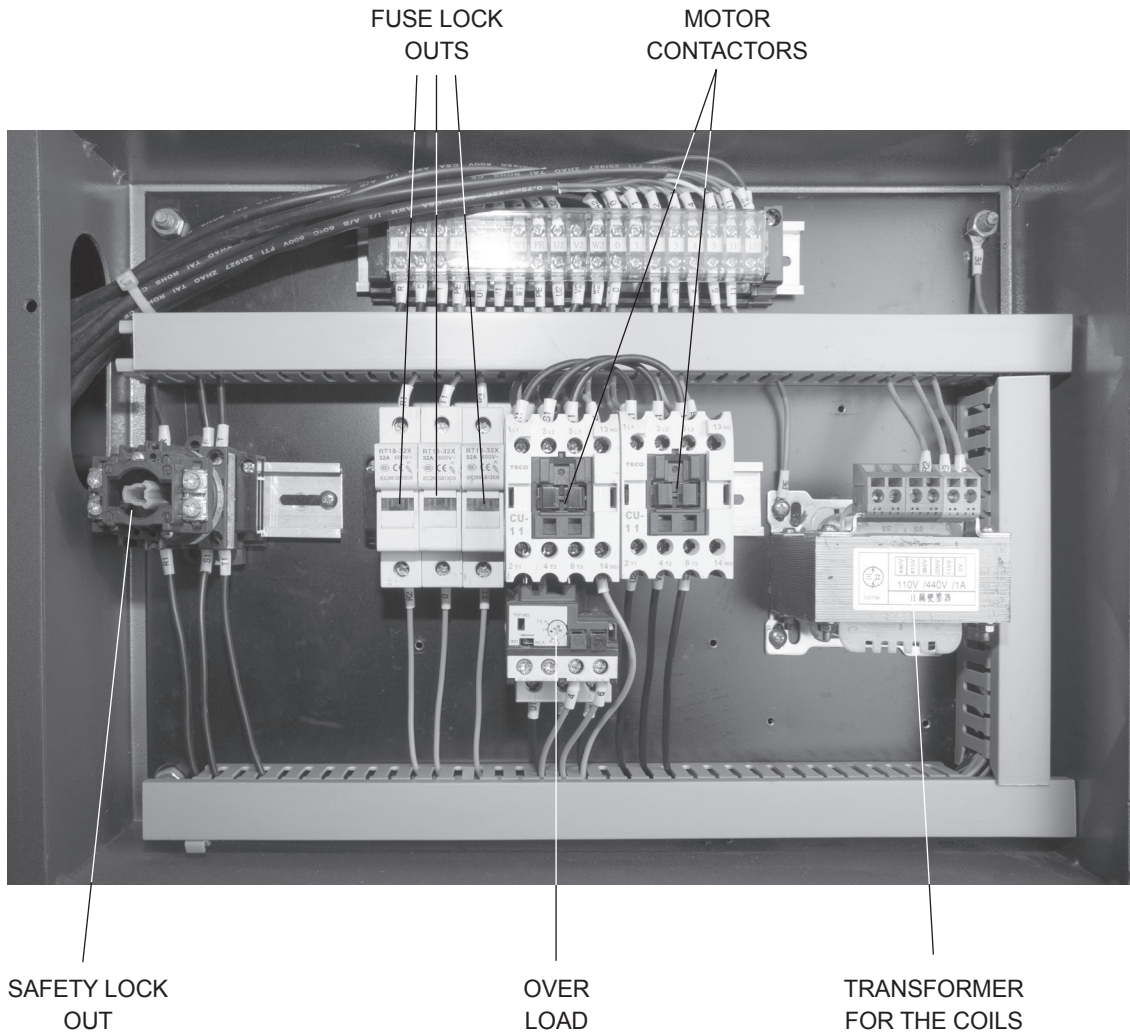
REF. NO.	LOCATION DESCRIPTION and SERVICE RECOMMENDATIONS	LUBRICATION INTERVAL*
1.	Band Tension Screw. Clean and apply grease.	MONTHLY
2.	Vise Clamp Screw. Clean and apply grease.	MONTHLY
3.	Drive Motor Slide. Clean and apply grease.	3 MONTHS
4.	Head Feed Cylinder. 1 pint (0.47 liter) capacity. Check oil level if head fall rate is not uniform. Add oil if necessary	CHECK 6 MONTHS. CHANGE YEARLY
5.	Saw Guide Arm Slide. Clean and apply oil.	MONTHLY
6.	Head Pivot Shaft Bearing Surfaces. Apply Oil	MONTHLY
7.	Micellaneous: Vise Slide, Hinges, Pivot Points, etc. Clean and apply oil	3 MONTHS
8.	Coolant Reservoir. (22 liter) capacity.	AS REQUIRED

\* Lubrication intervals are based on an 8-hour day, 40-hour work week. Lubricate more often with heavier use.

**WIRING DIAGRAM - MODEL 9683315 - 10" BAND SAW**



**ELECTRICAL CONTROL SYSTEMS - MODEL 9683315 - 10" BAND SAW**



GETTING STARTED

SAFETY / SPECIFICATIONS

ASSEMBLY / INSTALLATION

OPERATION

TROUBLESHOOTING

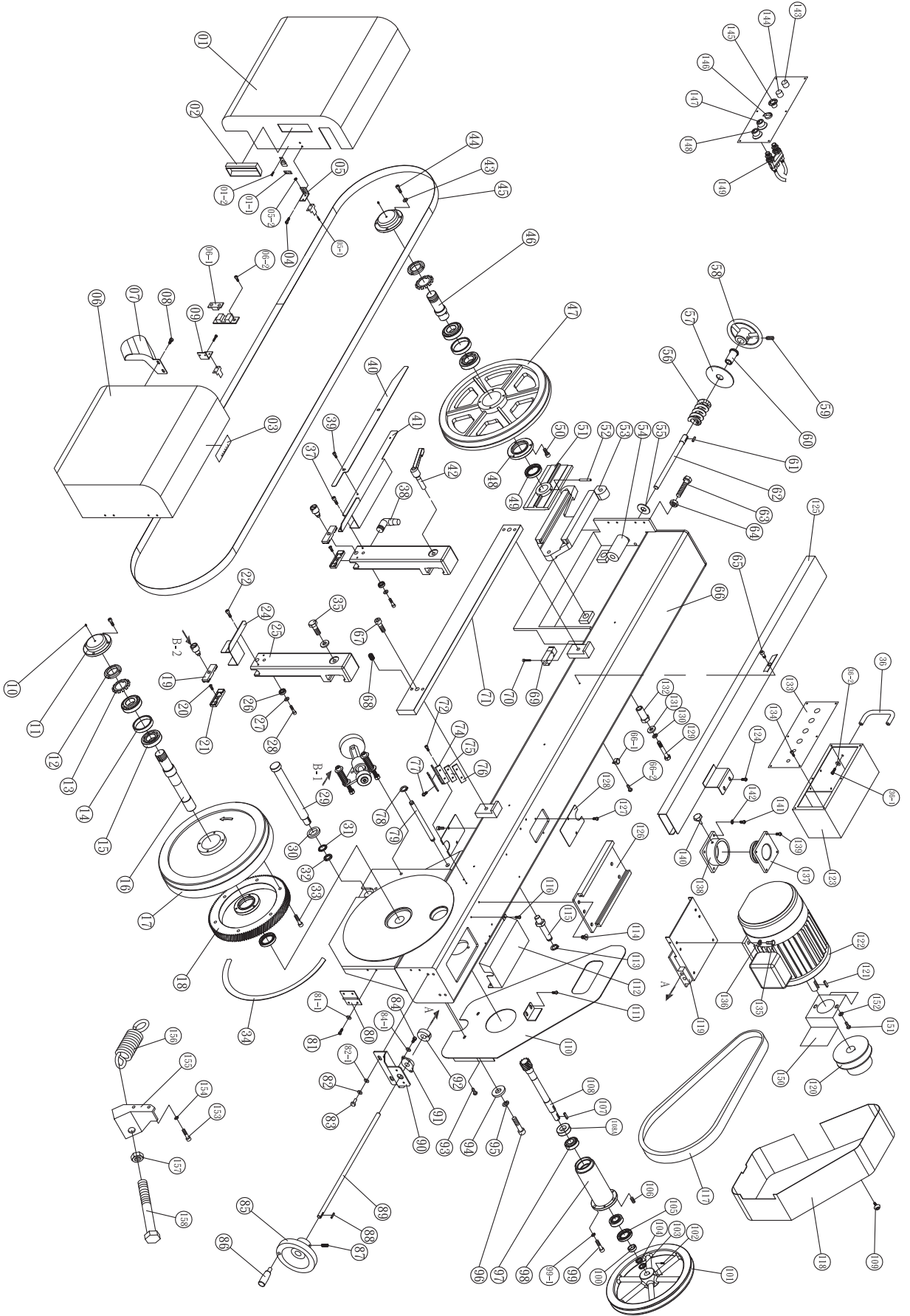
MAINTENANCE / REPAIR

**REPAIR PARTS ILLUSTRATION  
FOR MODEL 9683315 - 10" BAND SAW - SECTION A**

**For Repair Parts, call 1-800-827-3398**  
**24 hours a day – 365 days a year**

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list



**REPAIR PARTS LIST FOR MODEL 9683315 – 10” BAND SAW - SECTION A**

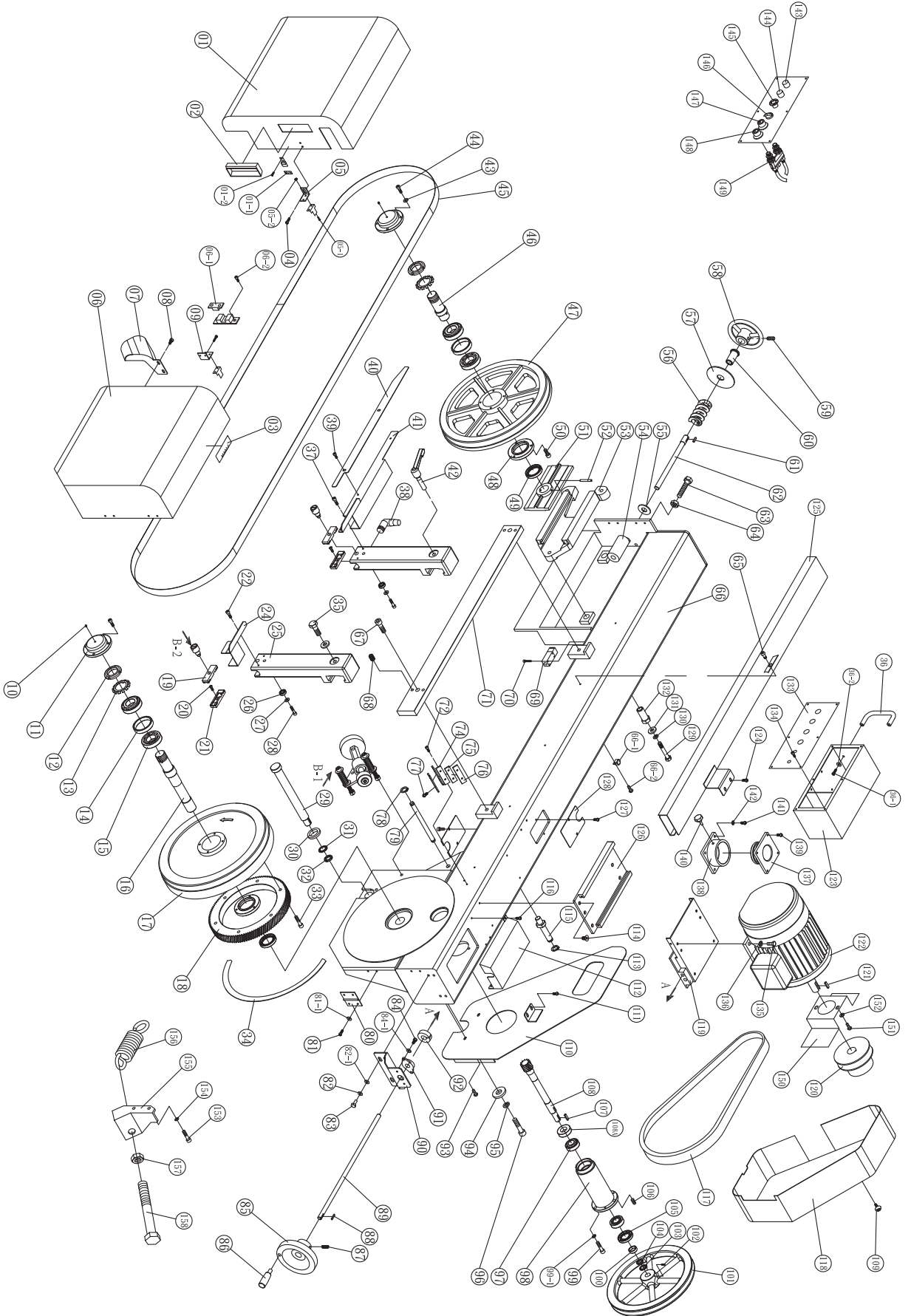
Ref. No.	Description	Part No.	Qty.
1	Idle Wheel Cover	9643071.01	1
1.1	Door Lock	9643072.01	2
1.2	Round Head Screw M3x12	*	4
2	Handle (Plastic)	9643073.01	2
3	Speed Scale	9643074.01	1
4	Round Head Screw M5x10	*	4
5	Pin Holder (Front)	9643075.01	1
5.1	Round Head Screw M4x12	*	4
5.2	Nut M4	*	2
6	Drive Wheel Cover	9643076.01	1
6.1	Cop1	9643077.01	1
6.2	Flat Head Screw 5/32x1/4	*	4
7	Brush cover	9643078.01	1
8	Half Button Head Socket Screw M6x10	*	2
9	Pin Holder (Back)	9643079.01	2
10	Grease Nipple 1/16"	9643080.01	2
11	Cover (Front)	9643081.01	2
12	Bearing Nut M30(AN06)	9643082.01	4
13	Bearing Nut Washer M30(AW06)	9643083.01	2
14	Spacer	9643084.01	2
15	Bearing 30206	9643085.01	4
16	Shaft	9643086.01	1
17	Drive Wheel	9643087.01	1
18	Drive Gear	9643088.01	1
19	Active Carbide	9643089.01	2
20	Flat Head Screw M5x12	*	2
21	Fixing Carbide	9643090.01	2
22	Half Button Head Socket Screw M5x10	*	2
24	Blade Guard (back)	9643091.01	1
25	Guide Post	9643092.01	2
26	Bearing 6200	9643093.01	2
27	Washer M10	*	2
28	Hex. Socket Cap Screw M1 0x25	*	2
29	Stand Bearing	9643094.01	1
30	Stand Collar	9643095.01	1
31	Bearing Nut Washer M20(AW04)	*	1
32	Bearing Nut M20(AN04)	*	1
33	Hex. Socket Cap Screw M8x30	*	6
34	Speer D365xd355	9643096.01	1
35	Hex. Cap Bolt M12x35	*	1
36	Handle A-45-C	9643097.01	1
36.1	Round Head Screw M5x10	*	2
36.2	Lock Washer M5	*	2
37	Half Button Head Socket Screw M5x10	*	2
38	Connector 1/8"PTx5/16"	9643098.01	1
39	Half Button Head Socket Screw M5x10	*	2
40	Blade Cover (Front)	9643099.01	1
41	Blade Guard (Front)	9643100.01	1
42	Handle M12x45L	9643101.01	1
43	Lock Washer M6	*	8
44	Half Button Head Socket Screw M6x20	*	6
45	Blade 27x4013x0.9	9643102.01	1

Ref. No.	Description	Part No.	Qty.
46	Shaft	9643103.01	1
47	Idle Wheel	9643104.01	1
48	Cover (Back)	9643105.01	2
49	Oil Seal TC35528	9643106.01	2
50	Half Button Head Socket Screw M6x16	*	6
51	Slider	9643107.01	1
52	Spring Pin 05x45L	*	1
53	Slider Base	9643108.01	1
54	Cushion	9643109.01	1
55	Tension Spring Washer	*	1
56	Tension Spring 041x82x9	9643110.01	1
57	Tension Stop Plate	9643111.01	1
58	Hand Wheel HB-5 015-5x5	9643112.01	1
59	Set Screw M6x10	*	1
60	Tension Fulcrum	9643113.01	1
61	Key 5x5x15	*	1
62	Lead Screw	9643114.01	1
63	Hex. Cap Bolt M1 0x80	*	1
64	Nut M10	*	1
65	Round Head Screw M5x10	*	4
66	Saw Bow	9643115.01	N/A
66.1	Fixing Ring UC-1.5(5/16)ACC-2.5	9643116.01	3
66.2	Round Head Screw M5x10	*	3
67	Hex. Socket Cap Screw M12x45	*	2
68	Set Screw M10x16	*	4
69	Limit Switch EK-1-15-R(CSA)	9643117.01	2
70	Round Head Screw 5/35x1-1/4"	*	4
71	Slide Bracket	9643119.01	1
72	Round Head Screw M5x10	*	2
74	Stripper	9643120.01	1
75	Cushion	9643121.01	2
76	Stripper Plate	9643122.01	2
77	Half Button Head Socket Screw M5x10	*	4
78	C ring S-16	9643123.01	2
79	Cylinder Support Rod	9643124.01	1
80	Door Lock 70#121	9643125.01	4
81	Half Button Head Socket Screw M6x10	*	16
81.1	Lock Washer M6	*	16
82	Washer 5/16x18x2	*	4
82.1	Lock Washer M8	*	4
83	Hex. Cap Bolt M8x20	*	4
84	Hex. Socket Cap Screw M6x20	*	2
84.1	Lock Washer M6	*	2
85	Hand Wheel HB-5 012-4x4	9643126.01	1
86	Plastic Handle HH-5/16	9643127.01	1
87	Set Screw M6x10	*	1
88	Key 4x4x15	*	1
89	Lead Screw	9643128.01	1
90	Motor Adjusting Bracket	9643129.01	1
91	Pillow Block Ball Bearing SBUFL001	9643130.01	1
92	Groove Collar SGR706.2-0016	9643131.01	1
93	Half Button Head Socket Screw M5x10	*	2

(Δ) Not Shown    (\*) Standard hardware item available locally    (N/A) Not available as replacement part

**REPAIR PARTS ILLUSTRATION  
FOR MODEL 9683315 - 10" BAND SAW - SECTION A**

**For Repair Parts, call 1-800-827-3398**  
**24 hours a day – 365 days a year**



Please provide following information:  
-Model number  
-Serial number (if any)  
-Part description and number as shown in parts list



**REPAIR PARTS LIST FOR MODEL 9683315 – 10” BAND SAW - SECTION A**

Ref. No.	Description	Part No.	Qty.
94	Washer	*	1
95	Lock Washer M12	*	1
96	Hex. Cap Bolt M12x40	*	1
97	Bearing 32004	9643132.01	2
98	Drive Wheel Bearing Base	9643133.01	1
99	Hex. Socket Cap Screw M8x20	*	3
99.1	Lock Washer M8	*	3
100	Bearing Spacer	9643134.01	1
101	Idle Wheel	9643135.01	1
102	Set Screw M4x6	*	1
103	Bearing Nut Washer M20(AW04)	*	1
104	Bearing Nut M20(AN04)	*	2
105	Oil Seal TC25477	9643136.01	1
106	Set Screw M6x10	*	3
107	Key 5x5x15	*	1
108A	Oil Seal TC23477	9643138.01	1
108	Motor Gear	9643137.01	1
109	Thumb Screw 1/4"	9643139.01	2
110	Pulley Plate	9643140.01	1
111	Half Button Head Socket Screw M5x10	*	2
112	Motor Screw Cover	9643141.01	1
113	C ring S-16	9643142.01	1
114	Flat Head Soc. Screw M5x12	*	4
115	Spring support	9643143.01	1
116	Half Button Head Socket Screw M5x10	*	2
117	Belt RPF5490	9643144.01	1
118	Pulley Cover	9643145.01	1
119	Motor Bracket	9643146.01	1
120	Change Wheel (Two-Way) 1/2HP BP18(125)	9643147.01	1
121	Key 5x5x25	*	1
122	Motor 2HP	9643148.01	1
123	Control Box	9643149.01	1
124	Half Button Head Socket Screw 5x10	*	2
125	Blade Protector	9643150.01	1

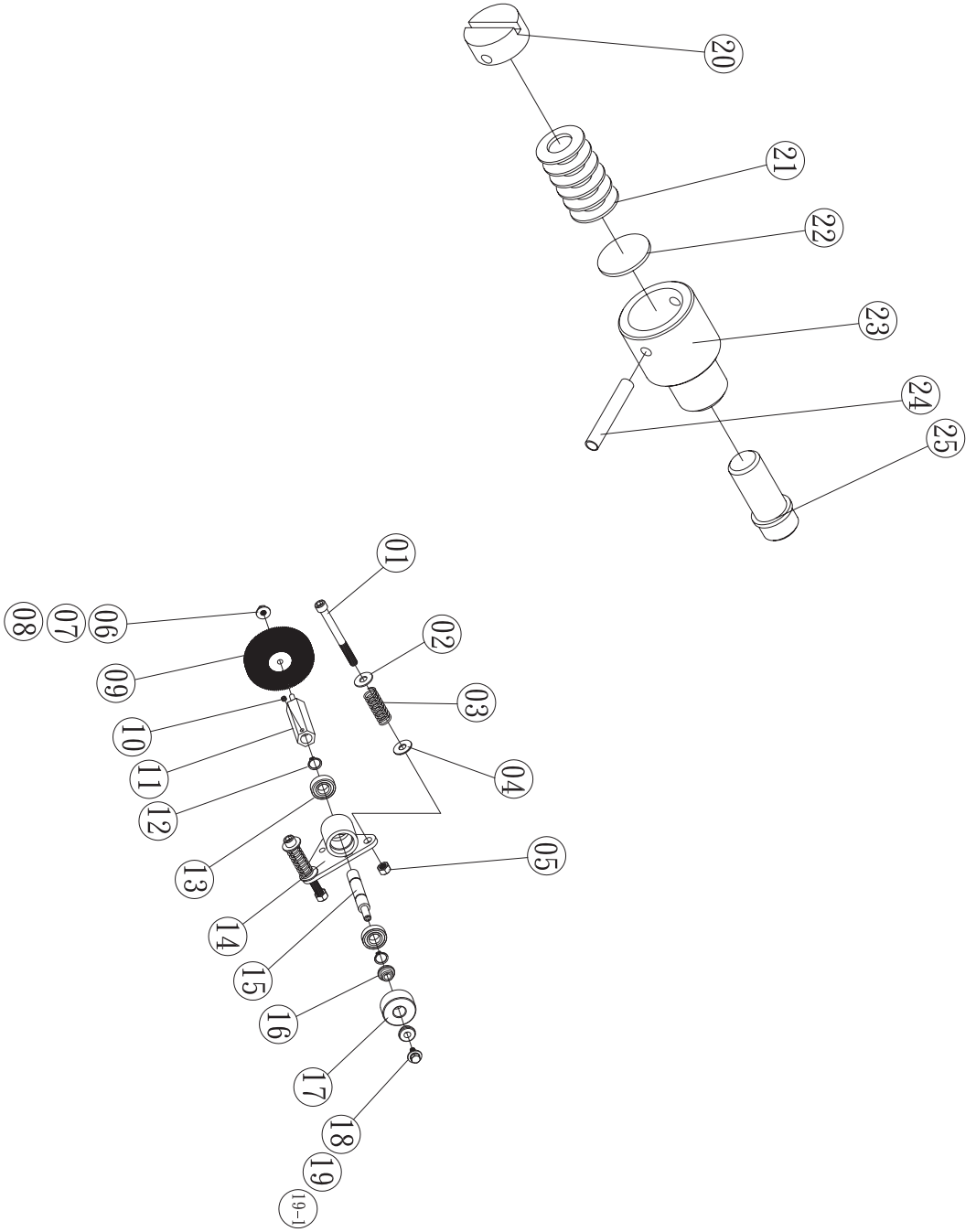
Ref. No.	Description	Part No.	Qty.
126	Motor Base	9643151.01	1
127	Half Button Head Socket Screw 5x10	*	2
128	Saw Bow Cover	9643152.01	1
129	Hex. Cap Bolt M12x70	*	3
130	Lock Washer M12	9643153.01	3
131	Washer 1/2x28x3	*	3
132	Guide Adjusting Screw	*	3
133	Control Panel	9643154.01	1
134	Half button Head Socket Screw M5x10	*	6
135	Hex. Cap Bolt M8x20	*	4
136	Lock Washer M8	*	4
137	Swiveling Base B	9643155.01	1
138	Swiveling Base A	9643156.01	1
139	Half Button Head Socket Screw 5x10	*	4
140	Thumb Screw M8x40	9643157.01	1
141	Hex. Socket Cap Screw M6x20	*	4
142	Lock Washer M6	*	4
143	Power Indicator Light LED (24/30/1103220) (Ce)	9643158.01	1
144	Start Button 1AG(CE)	9643159.01	1
145	Emergency Button IBR(CE)	9643160.01	1
146	Coolant Switch 1ABK(CE)	9643161.01	1
147	Down Feed Control Knob	9643162.01	1
148	ON/OFF Switch	9643163.01	1
149	Down Feed Valve	9643164.01	1
150	Cover	9643165.01	1
151	Half Button Head Socket Screw M5x10	*	2
152	Washer M5	*	2
153	Hex. Socket Cap Screw M8x25	*	2
154	Lock Washer M8	*	2
155	Spring Bracket	9643166.01	1
156	Spring	9643167.01	1
157	Nut M20	*	1
158	Hex. Cap Bolt M20x110L	*	1

(Δ) Not Shown    (\*) Standard hardware item available locally    (N/A) Not available as replacement part

**REPAIR PARTS ILLUSTRATION  
FOR MODEL 9683315 - 10" BAND SAW - SECTION B**

**For Repair Parts, call 1-800-827-3398**  
**24 hours a day – 365 days a year**

Please provide following information:  
-Model number  
-Serial number (if any)  
-Part description and number as shown in parts list



**REPAIR PARTS LIST FOR MODEL 9683315 – 10” BAND SAW - SECTION B**

Ref. No.	Description	Part No.	Qty.	Ref. No.	Description	Part No.	Qty.
1	Hex. Socket Cap Screw 3/8"x4"	*	2	15	Driver Shaft	9643174.01	1
2	Washer 3/8"	*	2	16	Shaft Bushing	9643175.01	2
3	Tension Spring	9643168.01	2	17	Driver Wheel	9643176.01	1
4	Washer 3/8"	*	2	18	Washer 1/4"	*	1
5	Nut 3/8"	*	2	19-1	Hex. Cap Bolt 1/4x112"	*	1
6	Nut 1/4"	*	1	19	Lock Washer 1/4"	*	1
7	Washer 1/4"	*	1	20	Adjusting Screw Pressing	9643177.01	2
8	Lock Washer 1/4"	*	1	21	Belleville Washer 158208	*	12
9	Brush	9643169.01	1	22	Adjusting Screw Plate	9643178.01	2
10	Set Screw 1/4"x1/4"	*	1	23	Adjusting Screw	9643179.01	2
11	Brush Connecting shaft	9643170.01	1	24	Hollow Pin 03x16L	*	2
12	C Ring S15	9643171.01	2	25	Upper Carbide Bearing	9643180.01	2
13	Bearing 6002	9643172.01	2				
14	Brush Bracket	9643173.01	1				

GETTING STARTED

SAFETY / SPECIFICATIONS

ASSEMBLY / INSTALLATION

OPERATION

TROUBLESHOOTING

MAINTENANCE / REPAIR

(Δ) Not Shown    (\*) Standard hardware item available locally    (N/A) Not available as replacement part



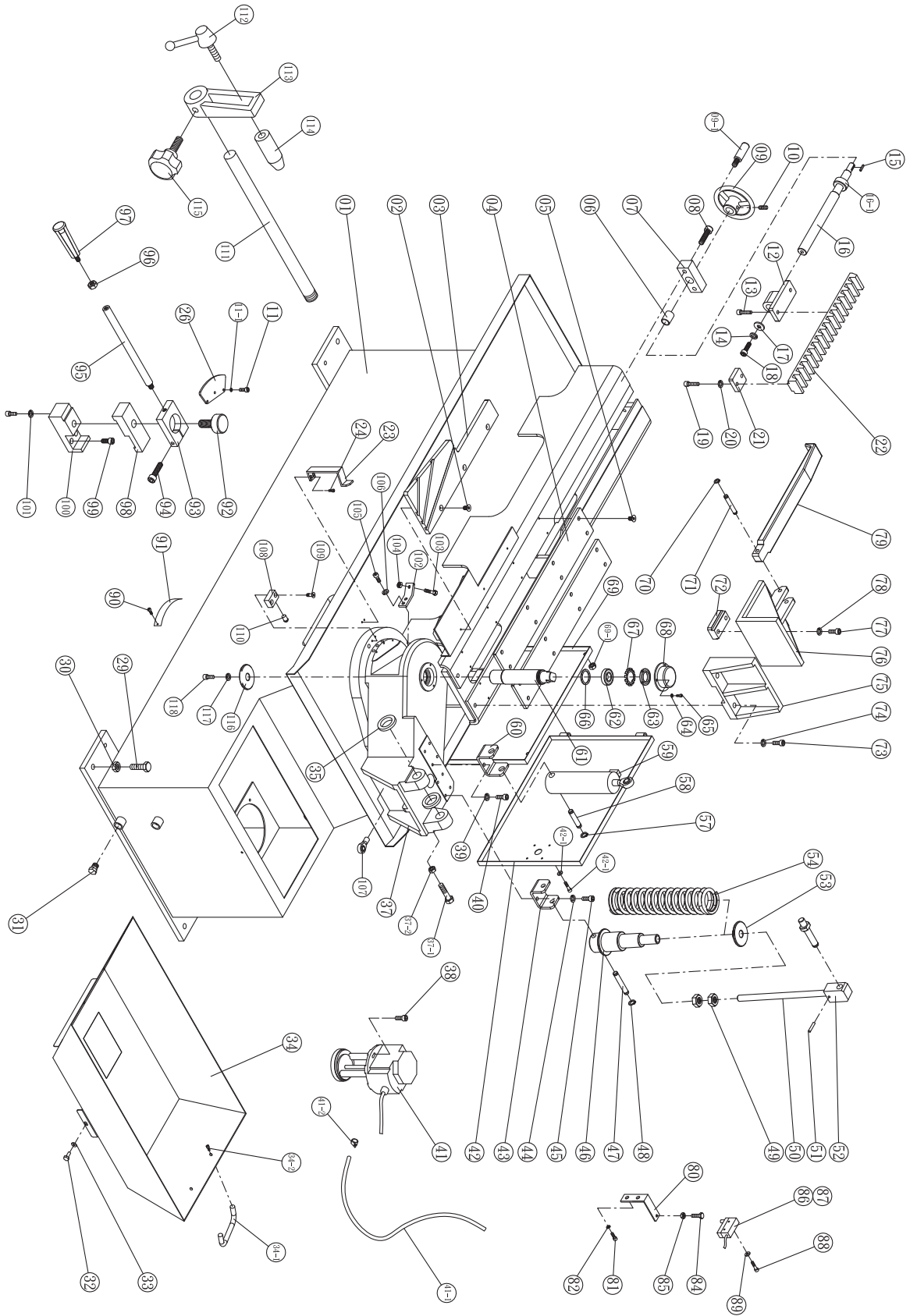
## REPAIR PARTS LIST FOR MODEL 9683315 – 10” BAND SAW - SECTION C

Ref. No.	Description	Part No.	Qty.
1	Machine Base	9643181.01	1
2	Flat Head Soc. Screw M6x12	*	3
3	Angle Cutting Board	9643182.01	1
4	Attached Plate	9643183.01	2
5	Half Button Head Socket Screw M5x10	*	16
6	Self-Lubricating Bearing DU202325	9643184.01	1
7	Conveyer Screw Base	9643185.01	1
8	Hex. Socket Cap Screw M1 0x35	*	2
9	Hand Wheel	9643186.01	1
9.1	Handle	9643187.01	1
11	Hex. Socket Cap Screw M5x20	*	3
11.1	Lock Washer M5	*	3
12	Rack Base	9643188.01	1
13	Hex. Socket Cap Screw M8x16	*	2
14	Lock Washer M10	*	1
15	Key 5x5x20	*	1
16	Vise Conveyer Screw	9643189.01	1
16.1	Spacer	*	1
17	Washer 3/8x27x3	*	1
18	Hex. Socket Cap Screw M1 0x25	*	1
19	Hex. Socket Cap Screw M8x25	*	2
20	Lock Washer M8	*	2
21	Vise Base (T block)	9643190.01	1
22	Vise Rack	9643191.01	1
23	Angle Pointer	9643192.01	1
24	Half Button Head Socket Screw M5x10	*	2
26	Angle Setting Block	9643193.01	1
29	Hex. Cap Bolt M12x65	*	4
30	Nut M12	*	4
31	Plug 3/8XT20	9643194.01	1
32	Texture Thumb Screw 1/4x3/8	*	1
33	Washer 1/4x13x1.5	*	1
34	Chip Tray	9643195.01	1
34.1	Handle (two holes)	9643196.01	2
34.2	Big Round Head Screw M6x12	*	4
35	Bushing	9643197.01	2
37	Swiveling Base	9643198.01	1
37.1	Hex. Cap Bolt M1 0x30	*	1
37.2	Nut M10	*	1
38	Big Round Head Screw M6x15	*	2
39	Lock Washer M8	*	2
40	Hex. Cap Bolt M8x25	*	2
41	Pump (150L)110/230V(32W)	9643199.01	1
41.1	Hose 3/8x210CM	9643200.01	1
41.2	Hose Clamp 15mm (5/8")	9643201.01	2
42	Cabinet Cover	9643202.01	1
42.1	Hex. Socket Cap Screw M6x25	*	1
42.2	Washer M6	*	1
43	Spring Lower Bracket	9643203.01	1
44	Lock Washer M8	*	2
45	Hex. Cap Bolt M8x25	*	2
46	Spring Base	9643204.01	1
47	Lower Bracket Shaft	9643205.01	1
48	C Ring S12	9643206.01	2
49	Nut M16	*	2

Ref. No.	Description	Part No.	Qty.
50	Thread M16x260L	9643207.01	1
51	Spring Pin 06x30L	9643208.01	1
52	Spring Support	9643209.01	1
53	Spring Plate	9643210.01	1
54	Saw Bow Spring A 070x308x9	9643211.01	1
57	C Ring S16	9643212.01	2
58	Cylinder Support Rod	9643213.01	1
59	Raise Hydraulic Cylinder (10)	9643214.01	1
60	Lower Bracket	9643215.01	1
61	Swiveling Shaft	9643216.01	1
62	Thrust Bearing 51106	9643217.01	1
63	Bearing Nut M30(AN06)	*	1
64	Lock Washer M5	*	3
65	Hex. Socket Cap Screw M5x16	*	3
66	O Ring P31.5 31.2x3.5	9643218.01	1
67	Bearing Nut Washer M30(AW06)	*	1
68	Upper Cover	9643219.01	1
69	Lower Plate	9643220.01	1
69.1	Nut M8	*	4
70	C Ring S10	9643221.01	2
71	Rack Rod	9643222.01	1
72	Vise Base (T block)	9643223.01	1
73	Hex. Socket Cap Screw M12x45	*	2
74	Lock Washer M12	*	2
75	Back Vise	9643224.01	1
76	Front Vise	9643225.01	1
77	Hex. Socket Cap Screw M12x45	*	2
78	Lock Washer M12	*	2
79	Front Vise Rack Claw	9643226.01	1
80	Limit Stop Frame	9643227.01	1
81	Hex. Cap Bolt 6x12	*	2
82	Lock Washer M6	*	2
84	Hex. Cap Bolt M1 0x60	*	1
85	Nut M10	*	2
86	Limit Switch 1307	9643228.01	1
87	Limit Switch Bushing (90°)	9643229.01	1
88	Round Head Screw 5/32X1-1/4"	*	2
89	Washer 5/32x10	*	2
90	Rivet	9643230.01	2
91	Angle Scale	9643231.01	1
92	Locking Bolt	9643232.01	1
93	Connecting Block	9643233.01	1
94	Hex. Socket Cap Screw M10x50L	*	1
95	Locking Rod	9643234.01	1
96	Nut M12	*	1
97	Handle	9643235.01	1
98	Brake Plate	9643236.01	1
99	Hex. Socket Cap Screw M8x20	*	3
100	Set Screw 5/16"x3/8"	*	1
101	Lock Washer M8	*	1
101	Brake Bracket	9643237.01	1
102	0° Position Bracket	9643238.01	1
103	Hex. Cap Bolt M1 0x35	*	1
104	Nut M10	*	1
105	Hex. Socket Cap Screw M8x25	*	2

**REPAIR PARTS ILLUSTRATION  
FOR MODEL 9683315 - 10" BAND SAW - SECTION C**

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**24 hours a day – 365 days a year**



*Please provide following information:*

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**REPAIR PARTS LIST FOR MODEL 9683315 – 10” BAND SAW - SECTION C**

Ref. No.	Description	Part No.	Qty.
106	Lock Washer M8	*	2
107	Spring Hook	9643239.01	1
108	Ball Plunger Seat	9643240.01	1
109	Flat Head Screw M6x16	*	2
110	Ball Plunger	9643241.01	1
110	Wire Locking (PG13.5)(CSA)	9643118.01	2
111	Work Stop Rod	9643245.01	1

Ref. No.	Description	Part No.	Qty.
112	Lock Handle	9643246.01	1
113	Work Stop bracket	9643247.01	1
114	Work Stop	9643248.01	1
115	Lock Knob	9643249.01	1
116	Plate	9643448.01	1
117	Lock Washer M12	9643449.01	1
118	Hex. Cap Bolt M12x35	9643450.01	1

## **PALMGREN WARRANTY**

C.H. Hanson / Palmgren warrants their products to be free of defects in material or workmanship. This warranty does not cover defects due directly or indirectly to misuse, abuse, normal wear and tear, failure to properly maintain the product, heated, ground or otherwise altered, or used for a purpose other than that for which it was intended.

The warranty does not cover expendable and/or wear part (i.e. v-belts, screws, abrasives, jaws), damage to tools arising from alteration, abuse or use other than their intended purpose, packing and freight. The duration of this warranty is expressly limited to the terms noted below beginning from the date of delivery to the original user.

**The Palmgren branded items carry the following warranties on parts:**

**All vises, clamps, positioning tables, tombstones, jack screws and vise accessories - LIFETIME.**

**All bench grinders, drill presses, tapping machines, band saws, lathes, milling machines, arbor presses, abrasive finishing machines and work stands - 3 YEARS.**

The obligation of C.H. Hanson / Palmgren is limited solely to the repair or replacement, at our option, at its factory or authorized repair agent of any part that should prove inoperable. Purchaser must lubricate and maintain the product under normal operating conditions at all times. Prior to operation become familiar with product and the included materials, i.e. warnings, cautions and manuals.

**Failure to follow these instructions will void the warranty.**

This warranty is the purchaser's exclusive remedy against C.H. Hanson for any inoperable parts in its product. Under no circumstances is C.H. Hanson liable for any direct, indirect, incidental, special or consequential damages including loss of profits in any way related to the use or inability to use our products. This warranty gives you specific legal rights which may vary from state to state.



**Palmgren - a C.H. Hanson Company**  
**2000 N. Aurora Rd., Naperville, IL 60563 U.S.A.**  
**or call 1-800-827-3398**