

# PALMGREN®

## 10" VERTICAL, METAL CUTTING BAND SAW



***Read carefully and follow all safety rules and operating instructions before first use of this product.***

## GETTING STARTED

### STRUCTURAL REQUIREMENTS

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

### ELECTRICAL REQUIREMENTS

The power supply to the Band Saw needs to be 120 volt/ 3.5 amp, single phase, 60 Hz. The standard allowable voltage variation is plus or minus 10%.

### TOOLS NEEDED

Standard mechanic's hand tool set.

## UNPACKING

**WARNING:** Be careful not to touch overhead power lines, piping, lighting, etc. if lifting equipment is used. Band Saw weighs approximately 77 lbs, proper tools, equipment and qualified personnel should be employed in all phases of unpacking and installation.

Carton should be handled with care to avoid damage from dropping, bumping, etc. Store and unpack carton with correct side up. After unpacking Band Saw, inspect carefully for any damage that may have occurred during transit. Check for loose, missing or damaged parts. If any damage or loss has occurred, claim must be filed with carrier immediately. Check for completeness. Immediately report missing parts to dealer.

Band Saw is shipped partially assembled. End user will need to assemble loose parts to machine.

**IMPORTANT:** The tool has been coated with a protective coating. In order to ensure proper fit and operation, the coating must be removed. Remove coating with mild solvents such as mineral spirits and a soft cloth. Nonflammable solvents are recommended. After cleaning, cover all exposed metal surfaces with a light coating of oil. Paste wax is recommended for table top.

**CAUTION:** Never use highly volatile solvents. Avoid getting cleaning solution on paint as it may tend to deteriorate these finishes. Use soap and water on painted components.

### CONTENTS

- Band Saw (1)
- Table (1)
- Guide rail (1)
- Rip fence with knob (1)
- Miter gauge assembly (1)
- Hardware bag (1) - Includes: M6 x 30 hex head bolt and nut; four each hex bolts and M6 serrated washers; four each wing nut bolts and washers.
- Operating Instructions and Parts Manual (1)

### UNPACK

Do not discard packing materials until after 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.

All tools 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 tool.



**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.

### BE PREPARED FOR JOB

- Wear proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewelry which may get caught in moving parts of machine.
- Wear protective hair covering to contain long hair.
- Wear safety shoes with non-slip soles.
- Wear safety glasses complying with United States ANSI Z87.1. Everyday glasses have only impact resistant lenses. They are **NOT** safety glasses.
- Wear face mask or dust mask if operation is dusty.
- Be alert and think clearly. Never operate power tools when tired, intoxicated or when taking medications that cause drowsiness.

### PREPARE WORK AREA FOR JOB

- Keep work area clean. Cluttered work areas invite accidents.
- Do not use power tools in dangerous environments. Do not use power tools in damp or wet locations. Do not expose power tools to rain.
- Work area should be properly lighted.
- Proper electrical receptacle should be available for tool. Three-prong plug should be plugged directly into properly grounded, three-prong receptacle.
- Extension cords should have a grounding prong and the three wires of the extension cord should be of the correct gauge.
- Keep visitors at a safe distance from work area.
- Keep children out of workplace. Make workshop childproof. Use padlocks, master switches or remove switch keys to prevent any unintentional use of power tools.

**SAFETY RULES (CONTINUED)**

**TOOL SHOULD BE MAINTAINED**

- Always unplug tool prior to inspection.
- Consult manual for specific maintaining and adjusting procedures.
- Keep tool lubricated and clean for safest operation.
- Remove adjusting tools. Form habit of checking to see that adjusting tools are removed before switching machine on.
- Keep all parts in working order. Check to determine that the guard or other parts will operate properly and perform their intended function.
- Check for damaged parts. Check for alignment of moving parts, binding, breakage, mounting and any other condition that may affect a tool's operation.
- A guard or other part that is damaged should be properly repaired or replaced. Do not perform makeshift repairs. (Use parts list provided to order repair parts.)

**KNOW HOW TO USE TOOL**

- Use right tool for job. Do not force tool or attachment to do a job for which it was not designed.
- Disconnect tool when changing the blade.
- Avoid accidental start-up. Make sure that the tool is in the OFF position before plugging in.
- Do not force tool. It will work most efficiently at the rate for which it was designed.
- Keep hands away from moving parts and cutting surfaces.
- Never leave tool running unattended. Turn the power off and do not leave tool until it comes to a complete stop.
- Do not overreach. Keep proper footing and balance.
- Never stand on tool. Serious injury could occur if tool is tipped or if blade is unintentionally contacted.
- Know your tool. Learn the tool's operation, application and specific limitations.
- Use recommended accessories. Use of improper accessories may cause risk of injury to persons.
- Handle workpiece correctly. Protect hands from possible injury.
- Turn machine off if it jams. Blade jams when it digs too deeply into workpiece. (Motor force keeps it stuck in the work.) Do not remove jammed or cut off pieces until the saw is turned off, unplugged and the blade has stopped.
- Maintain proper adjustment of blade tension, blade guides and thrust bearings.
- Adjust upper guide to just clear workpiece.
- Hold workpiece firmly against table.
- DIRECTION OF FEED: Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

**WARNING:** The operation of any power tool can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety goggles complying with United States ANSI Z87.1 (shown on package) before commencing power tool operation.

**CAUTION:** Think safety! Safety is a combination of operator common sense and alertness at all times when tool is being used.

**SPECIFICATIONS**

The Palmgren 10" Vertical, Metal Cutting Band Saw features welded steel frame construction and a solid cast iron table surface to insure durability. It is designed for cutting non-ferrous metals. The saw is equipped with a miter gauge for performing many different operations. A convenient quick tensioning and comprehensive tracking mechanism makes blade changing quick and easy. Saw also features a rip fence and dust collection port.

Depth of throat at 90°	9 1/2"
Maximum depth of cut at 90°	4"
Maximum depth of cut at 45°	2"
Table size	13 1/4" x 13 1/4"
Table tilt	0° to 45°
Wheel diameter	10"
Blade length	67 3/8"
Blade width	1/4" - 1/2"
Blade speed	250, 350, 450 SFPM
Motor	1/3 HP, 120V, 3.5 A, 60 Hz, 1725 RPM
Overall dimensions	39" x 13.4" x 20.8"
Weight	70 lbs
Shipping weight	77 lbs
Dust collection port	2 1/2"

**ASSEMBLY**

**CAUTION:** Do not attempt assembly if parts are missing. Use this manual to order repair parts.

The machine is supplied partly assembled. Prior to use, the following items have to be installed: Table, Guide Rail, Rip Fence, Dust Collector (not included) and Rip Fence.

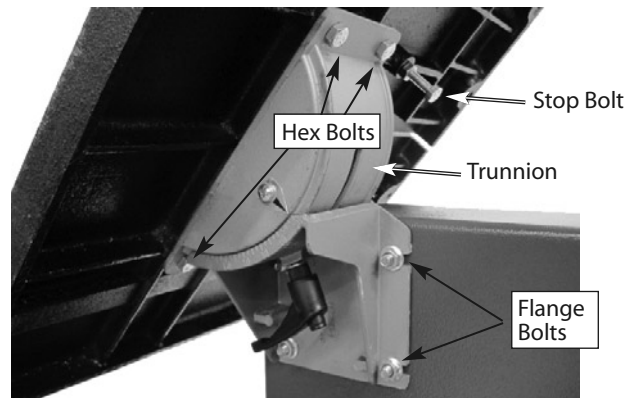
**WARNING:** To avoid injury, do not attempt to run or use this machine until all parts are assembled and working properly.

**ASSEMBLE TABLE TO TRUNNION**

Refer to Figure 1

Assemble the table on to the upper table trunnion, taking care when passing the saw blade through the slot of the table.

1. Attach M6 x 30 hex head bolt and nut (Stop Bolt) into hole next to the insert on table bottom.
2. Locate four hex bolts and four M6 serrated washers from the bag of loose parts. Mount the table to the upper table trunnion and install a bolt with washer in each hole, and then tighten with adjustable wrench.



**Figure 1 - Assemble table to trunnion.**

**ASSEMBLY (CONTINUED)**

**CENTERING THE TABLE**

Refer to Figure 1, page 3.

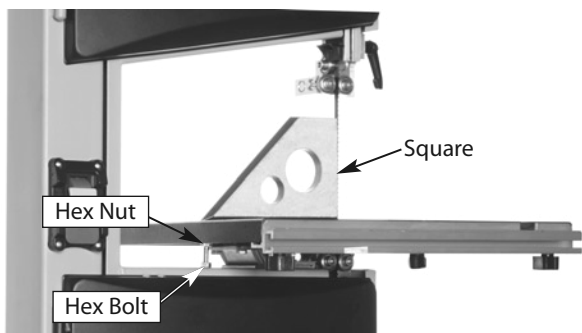
1. Loosen the four hex bolts mounting the table to the upper table trunnion.
2. Move the table sideways as required, until the saw blade runs through the center of the table insert.
3. If moving the upper table trunnion is not enough to center the table, loosen the four flange nuts holding the lower table trunnion and move the table sideways to place the table in the center.
4. Re-tighten hex bolts for trunnion and flange nuts, recheck the saw blade position.

**SETTING TABLE SQUARE TO SAW BLADE**

Refer to Figures 2 and 3.

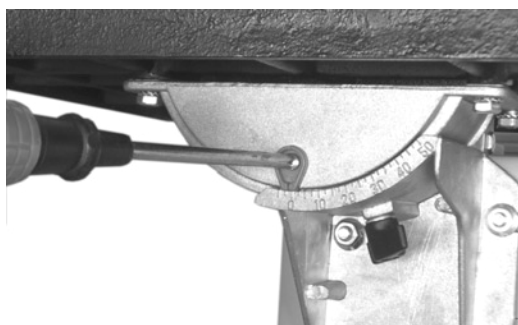
Loosen the knob on the lower table trunnion and place a suitably sized square against the saw blade. If the table requires adjustment, proceed as follows:

1. Using a wrench, release the hex nut on the bolt (see Figure 2). Place the wrench on the hex bolt and adjust until the table is square to the saw blade.



**Figure 2 - Square table to saw blade.**

2. Tighten the hex nut and recheck the saw blade and the table for squareness.
3. Lock the table into position and check that the indicator reads zero degree on the side of lower table trunnion. Loosen the screw securing the indicator and reset if necessary to give zero degree reading (see Figure 3).

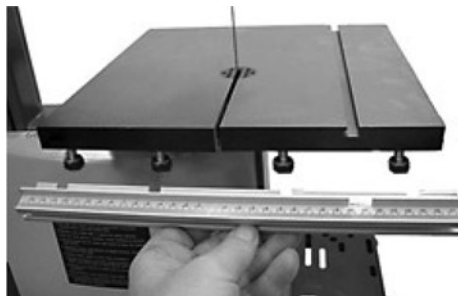


**Figure 3 - Set indicator to zero.**

**FASTEN GUIDE RAIL**

Refer to Figure 4.

- Fasten the guide rail with four hex bolts and washers to the table.

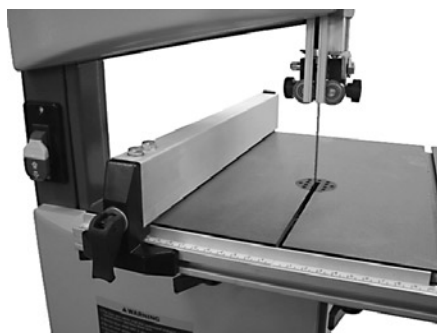


**Figure 4 - Fasten guide rail.**

**INSTALL RIP FENCE**

Refer to Figure 5.

- Lay the rip fence onto the guide rail. Adjust the rip fence parallel to the saw blade. Tighten rip fence handle by pressing downward.



**Figure 5 - Install rip fence.**

**STABILIZE MACHINE**

Refer to Figure 6.

- To ensure sufficient upright stability of the machine it should be bolted to floor, bench or worktable. For this purpose 8mm holes are provided in the machine's base. Mounting hardware not provided.



**Figure 6- Mounting holes and dust port.**

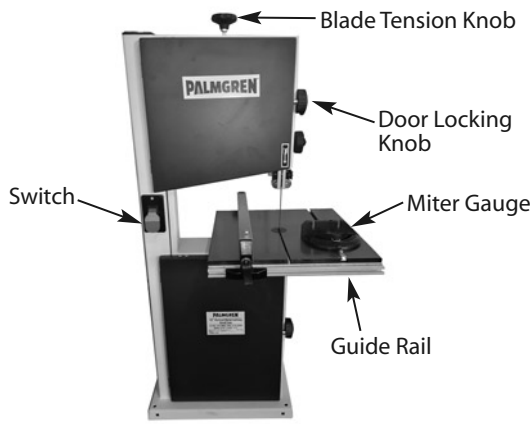
**USE SUITABLE DUST COLLECTOR**

Refer to Figure 6 and 8.

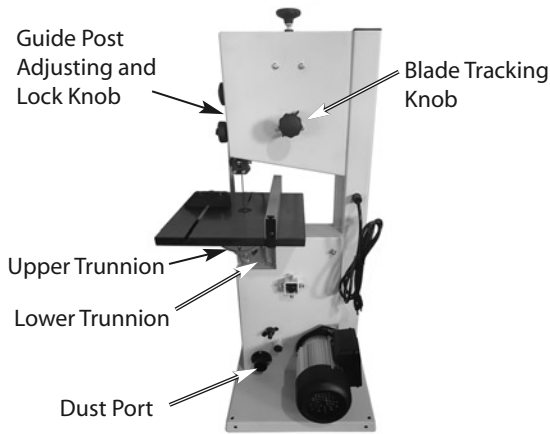
- The band saw has a dust port included that will accommodate 40mm (1.57") dust collection hoses.

It is recommended that when in use, the band saw is connected to a suitable dust collector.

**ASSEMBLY (CONTINUED)**



**Figure 7 - Know your band saw.**



**Figure 8 - Know your band saw.**

**INSTALLATION**

**ELECTRICAL CONNECTIONS**

**WARNING:** All electrical connections must be performed by a qualified electrician.

**WARNING:** Make sure unit is off and disconnected from power source any time wiring is inspected.

**POWER SOURCE**

Band Saw is prewired for 120 volt, 60 HZ power source.

The motor 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 the 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 motor terminals be no less than the voltage specified. Power supply to the motor is controlled by a single pole toggle switch.

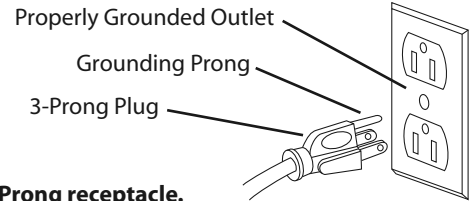
**GROUNDING INSTRUCTIONS**

**WARNING:** Improper connection of equipment grounding conductor can result in the risk of electrical shock. Equipment should be grounded while in use to protect operator from electrical shock.

- Check with a qualified electrician if grounding instructions are not understood or if in doubt as to whether the tool is properly grounded.

This tool is equipped with an approved 3-conductor cord rated at 150V and a three prong grounding type plug or your protection against shock hazards.

- Grounding plug should be plugged directly into a properly installed and grounded 3-prong grounding-type receptacle, as shown (Figure 9).



**Figure 9 – 3-Prong receptacle.**

- Do not remove or alter grounding prong in any manner. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electrical shock.

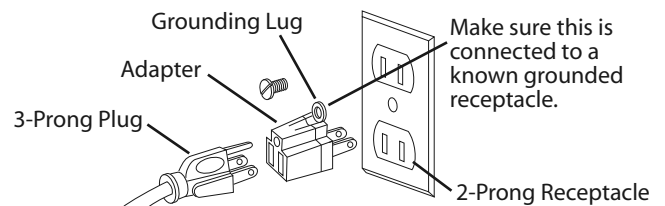
**WARNING:** Do not permit fingers to touch the terminals of plug when installing or removing from outlet.

- Plug must be plugged into matching outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify plug provided. If it will not fit in outlet, have proper outlet installed by a qualified electrician.
- Inspect tool cords periodically, and if damaged, have repaired by an authorized service facility.
- Green (or green and yellow) conductor in cord is the grounding wire. If repair or replacement of the electric cord or plug is necessary, do not connect the green (or green and yellow) wire to a live terminal.

Where a 2-prong wall receptacle is encountered, it must be replaced with a properly grounded 3-prong receptacle installed in accordance with National Electric Code and local codes and ordinances.

**WARNING:** This work should be performed by a qualified electrician.

A temporary 3-prong to 2-prong grounding adapter (see Figure 10) is available for connecting plugs to a two pole outlet if it is properly grounded.



**Figure 10 – 2-Prong receptacle with adapter.**

- Do not use a 3-prong to 2-prong grounding adapter unless permitted by local and national codes and ordinances. (A 3-prong to 2-prong grounding adapter is not permitted in Canada.) Where permitted, the rigid green tab or terminal on the side of the adapter must be securely connected to a permanent electrical ground such as a properly grounded water pipe, a properly grounded outlet box or a properly grounded wire system.

Many cover plate screws, water pipes and outlet boxes are not properly grounded. To ensure proper ground, grounding means must be tested by a qualified electrician.

## INSTALLATION (CONTINUED)

### EXTENSION CORDS

Use proper extension cord. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

Extension Cord Table						
		Volts	Total Length of Cord in Feet			
Ampere Rating		120	25	50	100	150
More Than	Not More Than	240	50	100	150	300
		Minimum Gage for Cord				
0	6		18	16	16	14
6	10		18	16	14	12
10	12		16	16	14	12
12	16		14	12	Not Recommended	

**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.

## OPERATION

### SAFETY PRECAUTIONS

**WARNING:** Always observe the following safety precautions.

- Whenever adjusting or replacing any parts on the band saw turn, switch off and remove plug from power source.
- Make sure the blade guides are positioned correctly.
- Use the appropriate blade for the workpiece that is being cut.
- Use a sharp blade. Replace dull blades or blades which are missing teeth.
- Make sure the blade is tensioned properly and going in the right direction.
- Use the proper blade speed for the work.
- For optimum performance, do not stall the motor or reduce the speed. Use the proper feed pressure.
- Secure the workpiece in a stable position.
- Check that all guards are attached.
- After turning the switch on, let the blade come to full speed.
- Keep hands away from the blade and all moving parts.
- Always wear eye protection or face shield.
- Always stop the band saw before removing scrap pieces from table.
- Never attempt to saw stock that does not have a flat surface, unless a suitable support is used.
- Always hold material firmly and feed it into the blade at a moderate speed.
- Always turn off the machine if the material is to be backed out of an uncompleted cut.
- Make sure that the blade tension and blade tracking are properly adjusted.
- Make "relief" cuts before cutting long curves.
- Release blade tension when the saw will not be used for a long period of time.

### ON/OFF SWITCH

Refer to Figure 11.

**WARNING:** Before starting check if any part of your band saw is missing, malfunctioning, has been damaged or broken, such as the motor switch, or other operation control, a safety device or the power cord, turn the band saw off and unplug it until the particular part is properly repaired or replaced.

The ON/OFF switch is located on the left front of the saw column. To turn saw ON, pull the switch to the up position. To turn saw OFF, push the switch to the down position.

The saw can be locked from unauthorized use by locking the switch. To lock the switch:

1. Turn the switch to OFF position and disconnect saw from power source.
2. Pull the key out. The switch cannot be turned on with the key removed.

**NOTE:** Should the key be removed from the switch at the ON position, the switch can be turned off but cannot be turned on again.

- To replace key, slide key into the slot on switch until it snaps.

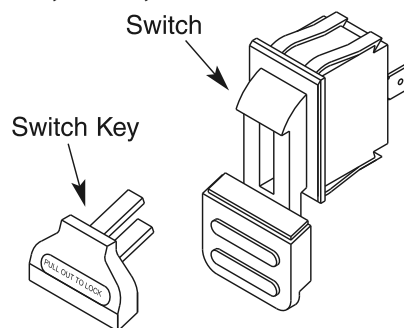


Figure 11 - ON/OFF Switch and key.

### ADJUSTMENTS

The blade tracking, tension and blade guides have been properly adjusted at the factory. However, the adjustments may change while the saw is in transit.

It is recommended to verify these adjustments before operating saw.

### CHANGING AND ADJUSTING THE SAW BLADE

This band saw is factory-equipped with a general-purpose wood cutting blade; the saw blade is set prior to delivery.

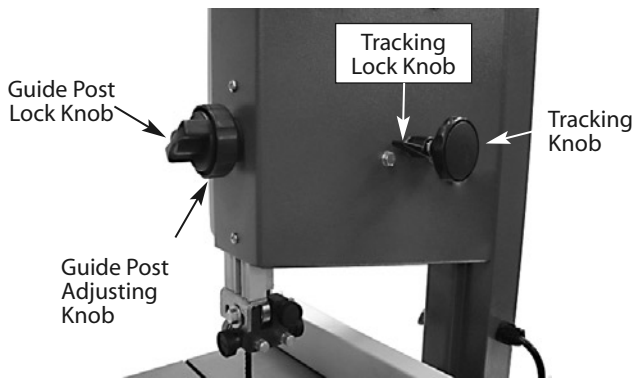
To change the saw blade, the following procedure must be followed:

**WARNING:** To avoid injury from unexpected starting, whenever changing the saw blade or carrying out adjustments, switch the band saw off and remove the power cord from the main outlet. To avoid injury to hands when handling the saw blade, wear gloves whenever necessary.

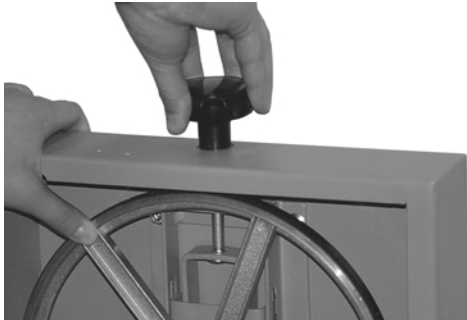
1. Remove the rip fence, the guide rail, the wing nut and screw from the table.
2. Open the upper and lower doors by turning the door locking knobs.
3. Loosen the tracking lock knob (See figure 12, page 7).
4. Loosen the blade tension by turning the blade tension knob on the top of the upper wheel housing counterclockwise until the saw blade has slackened (viewed from above). See Figure 13, page 7.
5. Remove the saw blade from the upper and lower wheels.

When fitting the new saw blade ensure the blade teeth are pointing downwards and towards you at the position where the saw blade passes through the table.

**OPERATION (CONTINUED)**



**Figure 12 - Set tracking of saw blade.**



**Figure 13- Blade Tension Knob**

6. Re-tension the new saw blade and check the saw blade tracking by turning the upper wheel by hand.

The saw blade should run in the center of the band saw wheels. If needed adjust the tracking of the saw blade, follow procedures for "Tracking the Saw Blade".

7. Tighten the tracking lock knob.
8. Replace the rip fence, the guide rail, the wing nut and screw to the table.
9. Close the upper and lower doors by turning the door locking knobs before reconnecting the power supply.

**TRACKING THE SAW BLADE**

Refer to Figure 13.

Set the tracking of the saw blade before setting the blade guides.

1. Once the saw blade is installed and tensioned, track the saw blade by adjusting the tracking knob by hand.
2. The saw blade should run in the center of the band saw wheels.
3. When the correct adjustment is achieved lock the tracking knob with the tracking lock knob.

**SETTING THE CUTTING HEIGHT**

Refer to Figure 13.

The upper blade guide should be set as close as practical against the workpiece.

1. To adjust this height, loosen the guide post lock knob at the side of the upper wheel housing.
2. Set the blade guide to the required height by turning the guide post adjusting knob.
3. Tighten guide post locking knob after setting.

**ALIGNING THE UPPER BLADE GUIDE**

The upper blade guide consists of:

- A thrust bearing (supporting the band saw blade from the rear).
- Two guide bearings (providing lateral support).

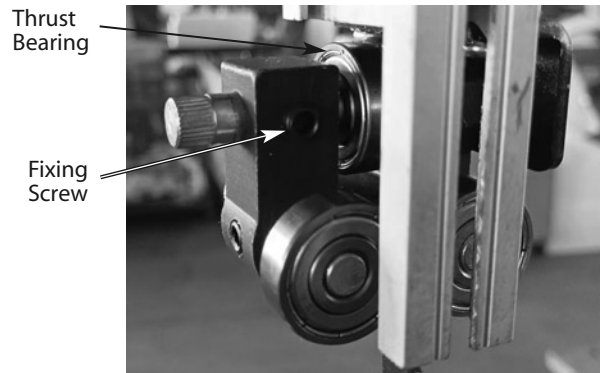
All bearings need to be readjusted after every band saw blade change and/or tracking adjustment.

**NOTE:** Periodically check all bearings for wear, if necessary replace both guide bearings at the same time.

**ADJUSTING THE THRUST BEARING**

Refer to Figure 14.

1. If necessary, align and tighten the band saw blade.
2. Loosen fixing screw of the upper blade guide.
3. Align upper blade guide
4. Tighten the upper blade guide's fixing screw.
5. Loosen the thrust bearing's lock screw.
6. Adjust thrust bearing position (distance thrust bearing - band saw blade = 0.5 mm – if the band saw blade is turned by hand, it must not touch the thrust bearing).
7. Tighten the thrust bearing lock screw.

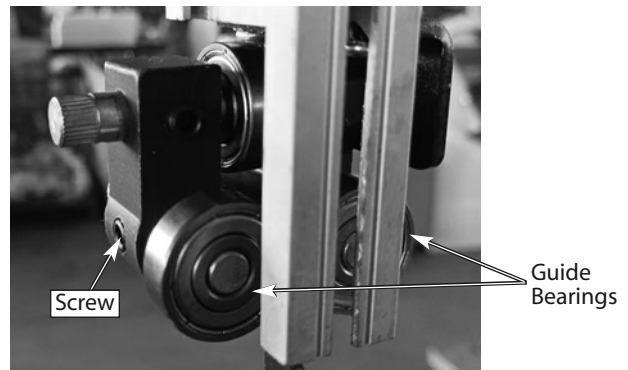


**Figure 14 - Adjusting the thrust bearings.**

**ADJUSTING THE GUIDE BEARINGS**

Refer to Figure 15.

1. Loosen the bearing's lock screw.
2. Set guide bearings with the screws against the band saw blade.
3. Turn band saw wheel by hand in a clockwise direction several times to bring the guide bearings in correct position – both guide bearings should just touch the band saw blade.
4. Tighten the bearing's lock screw.



**Figure 15 - Adjusting the guide bearings.**

**ALIGNING THE LOWER BLADE GUIDE**

The lower blade guide consists of:

- A thrust bearing (supporting the band saw blade from the rear).
- Two guide bearings (providing lateral support).

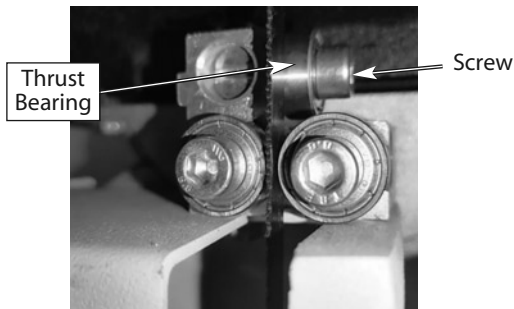
These parts need to be readjusted after every band saw blade change or tracking adjustment:

**NOTE:** Periodically check thrust bearings and guide bearings for wear, if necessary replace both guide bearings at the same time.

**OPERATION (CONTINUED)****ADJUSTING THE THRUST BEARING**

Refer to Figure 16.

1. Loosen the thrust bearing's lock screw.
2. Adjust thrust bearing position (distance thrust bearing - band saw blade = 0.5 mm – if the band saw blade is turned by hand, it must not touch the thrust bearing).
3. Tighten the thrust bearing lock screw.

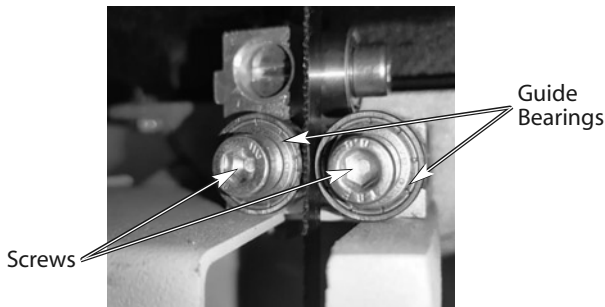


**Figure 16 - Adjust thrust bearings.**

**ADJUSTING THE GUIDE BEARINGS**

Refer to Figure 17.

1. Loosen screws.
2. Set guide bearings against the band saw blade.
3. Turn the band saw wheel by hand in a clockwise direction several times to bring the guide bearings in correct position – both guide bearings should just touch the band saw blade.



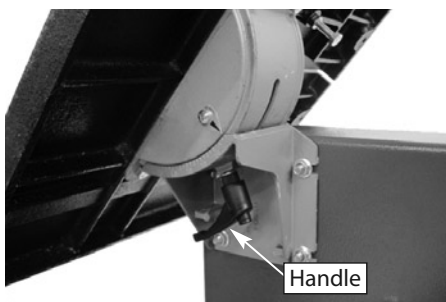
**Figure 17 - Adjusting the guide bearings.**

4. Tighten screws again.
5. Close the lower housing door.

**TILTING THE TABLE**

For bevel cuts, the table tilts 0 through 45 degrees.

1. To tilt the table, loosen the handle on the table trunnion, set the table to the required angle and tighten the handle again (see Figure 18).



**Figure 18 - Tilting the table.**

2. It is recommended to verify the correct angle setting using an angle guide, or by making trial cuts in scrap wood. Adjust the

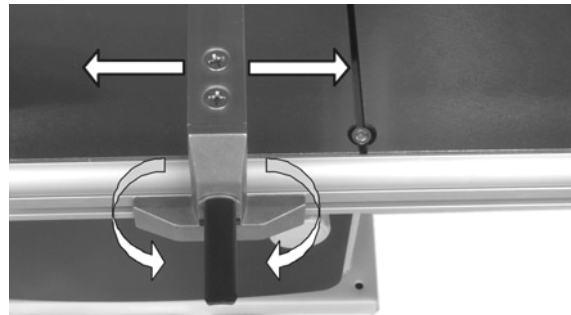
indicator accordingly by using a Phillips head screwdriver.

**ADJUSTING THE RIP FENCE**

Refer to Figure 19.

The locking pressure of the rip fence has been factory set; if adjustment is required proceed as follows:

1. Raise the fence handle to horizontal position.
2. Turn the fence handle clockwise to increase clamping pressure, counterclockwise to decrease clamping pressure.
3. After turning the fence handle counterclockwise, slide the rip fence to the desired position on the guide rail.
4. The fence handle has a cam action, press down the handle to clamp tightly to the table after setting rip fence to desired position.



**Figure 19 - Adjusting the rip fence.**

**NOTE:** Do not adjust the fence handle such that excessive pressure is exerted during operation - this may lead to deformation of the end clamp at the rear of the rip fence. Set the fence handle to apply just enough pressure to secure fence position during cutting

**BLADE SELECTION**

- Blades vary depending on type of material, size of workpiece and type of cut that is being performed.
- Characteristics which make blades different are width, thickness and pitch.

**BLADE WIDTH**

- Width of blade describes distance from tip of a tooth to back of blade.
- Width of blade affects rigidity of blade. A wider blade wanders less and produces a straighter cut.
- Width of blade also limits the smallest radius which can be cut. A 1/4" wide blade can cut about a 1/2" radius.

**BLADE THICKNESS**

- Blade thickness describes the distance between sides of blade. A thicker blade has more rigidity and stronger teeth.
- A narrow thick blade is used to cut curves while a wide thin blade is used to make long, straight cuts.

**BLADE PITCH**

- Pitch describes number of teeth per inch or tooth size. A blade with more teeth per inch produces a smoother cut.
- The type of material being cut determines number of teeth which should be in contact with work.
- For soft materials, the proper blade has between 6 to 8 teeth per inch.
- When cutting hard materials, where shocking is more detrimental, use a blade with 8 to 12 teeth per inch.



## OPERATION (CONTINUED)

- There should always be at least three teeth in contact with cut to avoid shocking blade.
- lade shocking occurs when pitch is too large and blade tooth encounters too much material. This can strip teeth from blade.
- Blade manufacturers are prepared to supply information about blades for specific applications.

## TYPE OF CUT

- Contour cutting is done by guiding workpiece freehanded to produce curved shapes.
- Beveled cutting is done by tilting saw table and using proper work guide method.
- Regardless of which work guiding method is used, a workpiece which overhangs table by more than 5" needs proper support.

## CONTOUR SAWING

- When contour sawing, use both hands to keep workpiece flat against table and guided along desired path.
- Avoid positioning hands in line with blade. If hands slip, they could contact blade.
- Try to stand to front of the saw and use hands over the portion of table which is to right of blade and before cut.
- Cut small corners by sawing around them. Saw to remove scrap until desired shape is obtained.

## BEVEL CUTTING

Perform bevel cutting by tilting table to desired degree.

1. Unlock table by loosening locking handle located on the backside of the unit.
2. Tilt table to desired position.
3. Lock table in position by tightening locking handle.

## MITER GAUGE

Use miter gauge for securing and holding workpiece at desired angle to produce angled cuts. Use scale to adjust gauge to desired angle.

**WARNING:** Never use miter gauge and rip fence at the same time. The blade might bind in the workpiece. Operator could be injured and/or workpiece could be damaged.

## BLADE CLEANING BRUSH

Make sure that brush (located in the lower housing) is in contact with blade to properly remove foreign particles from drive wheel.

## BLADE SPEED ADJUSTMENT

Refer to Figures 20 and 21.

**WARNING:** Make certain that saw is disconnected from the power source before attempting to change the blade speed.

1. Open lower housing door.
2. Loosen motor mount plate on rear of saw (Ref. 58).
3. Remove v-belt (Ref. 81) from the motor pulley (Ref. 91).
4. Position v-belt (Ref. 81) on desired pulley step of medium wheel (Ref. 90).
5. Replace v-belt on motor pulley.
6. Reapply tension to the v-belt by resetting motor mount plate to the desired position and secure.
7. Close lower housing door.



Figure 20 - Blade speed adjustment.

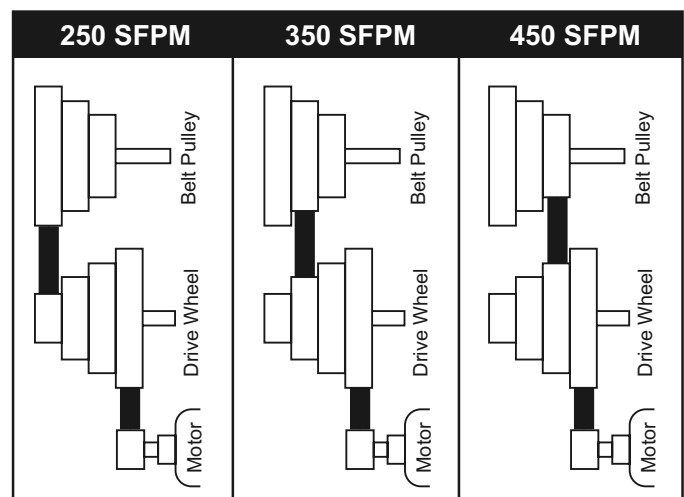


Figure 21 - Speed chart.

## MAINTENANCE

Steps required to keep the saw in optimum operating condition have been described under "Operating Instructions." The Safety Precautions should be performed before operation.

For proper maintenance:

- Keep saw clean and dry. Sweep off spots where chips have collected.
- Lubricate the unpainted surfaces with a light application of medium consistency machine oil to prevent corrosion after cleaning.
- Replace dull blades and blades from which teeth have been stripped. A clean saw with a sharp blade will yield the best cut.
- Internal parts of the band saw have been completely lubricated at the factory and do not need to be relubricated.

**WARNING:** Make certain that the saw is disconnected from the power source before attempting to service or remove any component.

**WARNING:** Any attempt to repair the motor may create a hazard unless repair is done by qualified service technician.

## TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
The machine does not work when switched on.	<ol style="list-style-type: none"> <li>1. No power supply.</li> <li>2. Defective switch.</li> <li>3. Defective motor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the cable for breakage.</li> <li>2. Replace the lock switch.</li> <li>3. Replace the motor.</li> </ol>
The saw blade does not move with the motor running.	<ol style="list-style-type: none"> <li>1. The blade tension knob has not been tightened.</li> <li>2. The blade has come off one of the wheels.</li> <li>3. The saw blade has broken.</li> <li>4. The drive belt has snapped.</li> </ol>	<ol style="list-style-type: none"> <li>1. Switch off the motor, tighten the blade tension knob.</li> <li>2. Open the doors and check</li> <li>3. Replace the blade.</li> <li>4. Replace the belt.</li> </ol>
The saw blade does not cut in a straight line.	<ol style="list-style-type: none"> <li>1. Rip fence for cutting not used.</li> <li>2. Feed rate too fast.</li> <li>3. The blade teeth are dull or damaged.</li> <li>4. Blade guides not suitably adjusted.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use a rip fence.</li> <li>2. Put light pressure on the workpiece. Make sure the saw blade does not bend.</li> <li>3. Try a new saw blade.</li> <li>4. Adjust the blade guides (see OPERATION instructions).</li> </ol>
The saw blade does not cut, or cuts very slowly.	<ol style="list-style-type: none"> <li>1. The teeth are dull, caused by cutting hard material or long use.</li> <li>2. The saw blade was fitted the wrong way on the band saw.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the saw blade. (See Changing and Adjusting the Saw Blade, Page 6)</li> <li>2. Fit the saw blade correctly.</li> </ol>
Sawdust builds up inside the machine.	This is normal	Clean the machine regularly. Open the doors and remove the sawdust with a vacuum cleaner.
Sawdust inside the motor housing.	This is normal	Clean the ventilating slots of the motor with a vacuum cleaner. From time to time remove the sawdust to prevent it from being drawn into the housing.
The machine does not cut at 45 or 90 degrees.	<ol style="list-style-type: none"> <li>1. The table is not at right angles to the blade.</li> <li>2. The saw blade is dull or too much pressure was put on the workpiece.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the table.</li> <li>2. Replace the saw blade or put less pressure on the workpiece.</li> </ol>
The saw blade cannot be properly positioned on the wheels.	<ol style="list-style-type: none"> <li>1. The wheels are not in alignment or defective bearing.</li> <li>2. The blade tracking knob hasn't been properly adjusted.</li> <li>3. Inferior saw blade.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace bearing.</li> <li>2. Adjust the blade tracking knob (See OPERATION instructions).</li> <li>3. Replace the saw blade.</li> </ol>

**NOTES**

Lined area for notes, consisting of multiple horizontal lines.

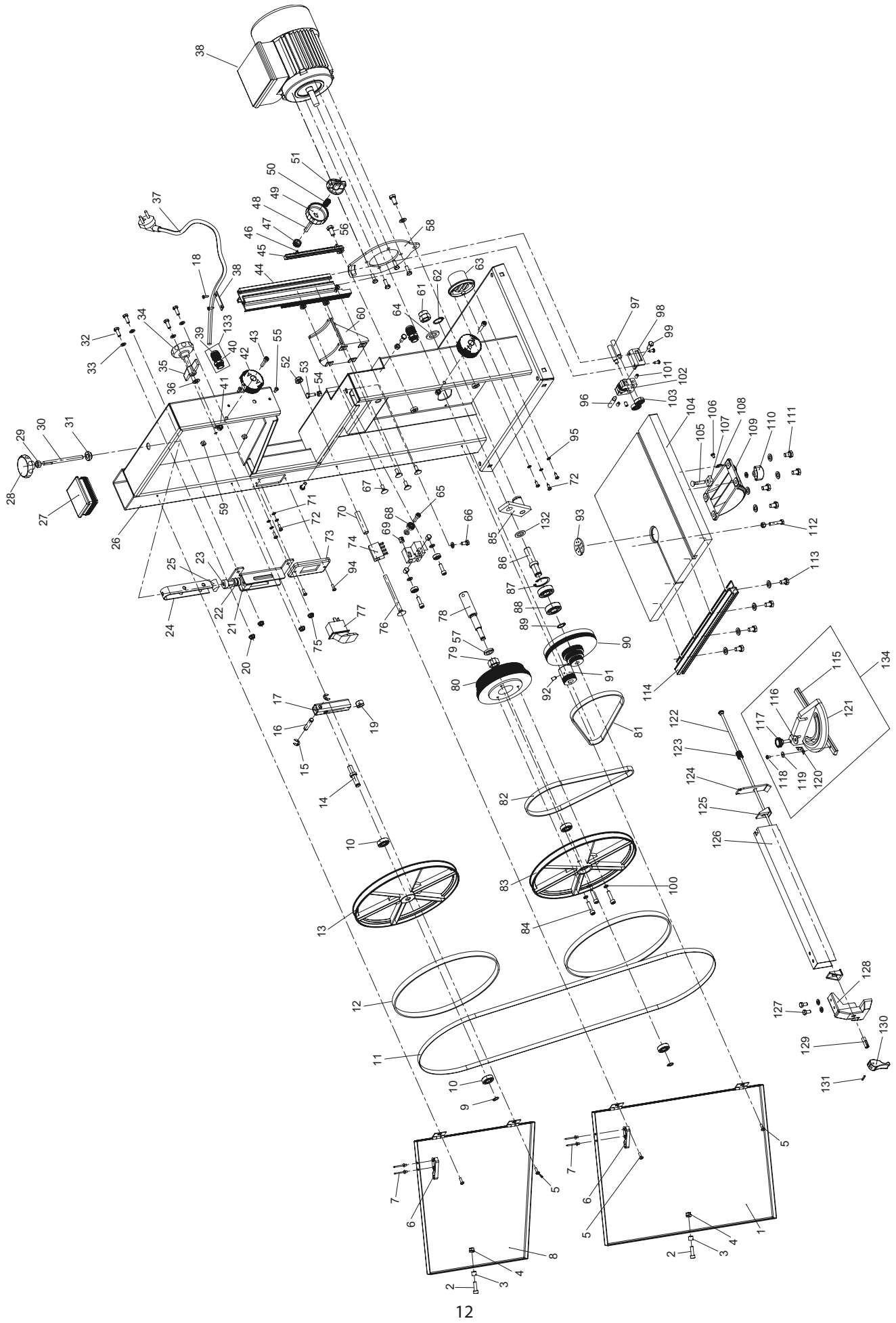


Figure 22 - Replacement parts illustration for Model 9683128 10" Band Saw.

**REPAIR PARTS LIST FOR MODEL 9683128 10" BAND SAW**

Ref. No.	Description	Part No.	Qty.	Ref. No.	Description	Part No.	Qty.
1	Lower Cabinet Door	964984001	1	35	Wing Knob	964294301	1
2	Hexagon Socket Head Screws M6 x 16	*	2	36	Washer M8	*	8
3	Spacer Bushing	964292201	2	37	Power Cord	964299301	1
4	Type 1 Non-Metallic Insert Hexagon Lock Nut M6	*	4	38	Cover Board	964297601	1
5	Cross Recessed Pan Head Screws M4 x 6	*	4	39	Locking Cap (Relief Strain Assy. see Ref. No. 133)	N/A	1
6	Spring Plate	964292501	2	40	Base Tube (Relief Strain Assy. see Ref. No. 133)	N/A	1
7	Blind Rivet M4 x 8	*	4	41	Type 1 Non-Metallic Insert Hexagon Lock Nut M6	*	2
8	Upper Cabinet Door	964984101	1	42	Dook Locker	964294901	2
9	Retaining Ring For Shaft M10	*	2	43	Hexagon Socket Head Screws M6 x 25	*	2
10	Deep Groove Ball Bearings 6000-2Z	*	4	44	Upper Guide Slider	964984601	1
11	Metal Saw Blade 67-3/8" x 0.020 x 1/2" x 24 TPI	964984301	1	45	Rack	964297501	1
12	Band Saw Tyre	964984401	2	46	Elastic Cylindrical Pin M2.5 x 12	964984701	2
13	Upper Wheel	964292801	1	47	Gear	964984801	1
14	Bearing Bolt Upper	964292901	1	48	Gear Shaft	964984901	1
15	Retaining Ring For Shaft M8	*	2	49	Adjust Knob	964298501	1
16	Pin Guide	964293101	1	50	Compression Spring	964985001	1
17	Seat Bearing Bolt Upper	964984501	1	51	Lock Button Assembly	964298401	1
18	Cross Recessed Pan Head Tapping Screw ST3.5 x 13	*	2	52	Hex Flange Nut M8	*	1
19	Hex Nut M10	*	1	53	Hexagon Head Bolts M6 x 16	*	8
20	Hex Flange Nut M6	*	8	54	Hex Nut M6	*	4
21	Guide Plate Assembly	964293301	1	55	Cross Recessed Pan Head Tapping Screw ST4.2 x 13	*	2
22	Butterfly Spring A/16	964294701	18	56	Hexagon Head Bolts M8 x 16	*	2
23	Shaft	964294601	1	57	Spring Washer M14	*	1
24	Blade Tensioner	964294401	1	58	Motor Mount Plate	964299701	1
25	Nut	964294501	1	59	Guide Piece	964298601	2
26	Band Saw Frame	N/A	1	60	Bracket	964294801	1
27	Lamello Plug	964293801	1	61	Type 1 Non-Metallic Insert Hexagon Lock Nut M14	*	1
28	Tighten Handle	964294101	1	62	Retaining Ring For Shaft M20	*	1
29	Hexagon Thin Nut	*	1	63	Dust Outlet	964295801	1
30	Thread Bolt	964294201	1	64	Washer M14	*	1
31	Spacer Bushing	964295101	1	65	Hexagon Socket Head Screws M6 x 20	*	3
32	Hexagon Head Bolts M6 x 16	*	4	66	Hexagon Head Bolts M6 x 12	*	1
33	Washer M6	*	7	67	Large Round Head Square Neck Bolt M6 x 16	*	4
34	Adjust Handle	964295201	1	68	Deep Groove Ball Bearings 606-2Z	*	3

(A) Not shown. (N/A) Not available as repair part. (\*) Standard hardware item, available locally.

**REPAIR PARTS LIST FOR 9683128 10" BAND SAW (CONTINUED)**

Ref. No.	Description	Part No.	Qty.	Ref. No.	Description	Part No.	Qty.
69	Positioning Post	964985201	3	102	Upper Conductor	964986101	1
70	Spacer Bushing	964293601	1	103	Deep Groove Ball Bearings 627-2Z	*	1
71	Tooth Washer M4	*	4	104	Table	964296901	1
72	Cross Recessed Pan Head Screws M4x12	*	5	105	Large Round Head Square Neck Bolt M6x30	*	1
73	Switch Plate	964293901	1	106	Cross Recessed Pan Head Screws M4x6	*	1
74	Brush	964293501	1	107	Guide Piece	964297101	1
75	Hex Flange Nut M6	*	8	108	Indicator	964986201	1
76	Large Round Head Square Neck Bolt M8x70	*	1	109	Table Trunnion Upper	9642972.01	1
77	Switch	964294001	1	110	Tension Knob	964986301	1
78	Lower Wheel Shaft	964985301	1	111	Hexagon Head Bolts M6x12	*	4
79	Nut M14x1.5	*	1	112	Hexagon Head Bolts M6x30	*	1
80	Lower Pulley	964985401	1	113	Hexagon Head Bolts M8x12	*	4
81	Multi-Ribbed Belt J-559x4	964985501	1	114	Rip Fence Carrier Extrusion	964297001	1
82	Multi-Ribbed Belt J-610x4	964985601	1	115	Guide Rod (Miter Gauge Assy. see Ref. No. 134)	N/A	1
83	Lower Wheel	964298901	1	116	Big Washer (Miter Gauge Assy. see Ref. No. 134)	N/A	1
84	Hexagon Socket Head Screws M6x25	*	3	117	Bolt Knob (Miter Gauge Assy. see Ref. No. 134)	N/A	1
85	Welded Body Of Intermediate Wheel Shaft	964985701	1	118	Pan Hd. Screws M4x6 (Miter Gauge Assy. see Ref. No. 134)	N/A	1
86	Intermediate Axle	964985801	1	119	Washer (Miter Gauge Assy. see Ref. No. 134)	N/A	1
87	Retaining Ring For Shaft M35	*	1	120	Pointer (Miter Gauge Assy. see Ref. No. 134)	N/A	1
88	Deep Groove Ball Bearings 6202	*	2	121	Angle Gauge (Miter Gauge Assy. see Ref. No. 134)	N/A	1
89	Retaining Ring For Shaft M15	*	2	122	Clamp Screw	964595801	1
90	Medium Wheel	964985901	1	123	Spring	964986401	1
91	Motor Pulley	934299201	1	124	Clamp Board	964595701	1
92	Set Screw	964986001	1	125	Locking Pad	964595401	2
93	Table Insert	964296801	1	126	Rip Fence Ext.	964296501	1
94	Cross Recessed Countersunk Head Screw M4x12	*	3	127	Hexagon Head Bolts M6x10	*	2
95	Tooth Washer M5	*	3	128	Fence Bracket	964595501	1
96	Support Axle	964295601	1	129	Tension Bracket	964595201	1
97	Eccentric Guide Shaft	964595001	2	130	Tension Button	964595101	1
98	Seat Guide Upper	964986001	1	131	Elastic Cylindrical Pin M3x16	964986501	1
99	Hexagon Head Bolts M6x10	*	1	132	Washer M14	*	1
100	Spring Washer M6	*	3	133	Relief Strain Assembly (Includes Ref. Nos. 39 - 40)	964299901	1
101	Set Screw M6x6	*	3	134	Miter Gauge Assembly (Includes Ref. Nos. 115 - 121)	964295301	1

(Δ) Not shown. (N/A) Not available as repair part. (\*) Standard hardware item, available locally.



## 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 arbor presses, vises, clamps, positioning tables, tombstones, jack screws and vise accessories - LIFETIME.**

**All bench grinders, drill presses, tapping machines, band saws, lathes, milling machines, 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®

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