PALMGREN®

14″ Band Saw

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

9644165.02-0520

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/ 3.4 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 204 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.

IMPORTANT: Table is coated with a protectant. To ensure proper fit and operation, remove coating. Coating is easily removed with mild solvents, such as mineral spirits, and a soft cloth. Avoid getting solution on paint or any of the rubber or plastic parts. Solvents may deteriorate these finishes. Use soap and water on paint, plastic or rubber components. After cleaning, cover all exposed metal surfaces with a light coating of oil. Paste wax is recommended for table top.

WARNING: Never use highly volatile solvents. Non flammable solvents are recommended to avoid possible fire hazard.

Palmgren model 9683125 14" Band Saw is shipped complete in one box. The band saw comes assembled as one unit. Additional parts which need to be assembled or fastened to the saw should be located and accounted for before assembling.

CONTENTS:

Tool Parts

- Band Saw (1)
- Rip fence assembly (1)
- Push stick (1)
- Miter gauge (1)
- Guide rail (1)
- Table (1)

Stand Parts

- Mounting plate (1)
- Leg (4)
- Short connection plate (2)
- Long connection plate (2)
- Carriage bolt (16)
- Washer (16)
- Nut (16)
- Operating Instructions and Parts Manual (1) not shown

UNPACK:

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.

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.

SAFETY RULES (CONTINUED)

- 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.

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 (Refer to page13). 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 14" Band Saw features welded steel frame construction and a solid cast iron table surface to insure durability. It is designed for cutting hard and soft woods. 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°	13 1/2″
Maximum depth of cut at 90°	9″
Maximum depth of cut at 45°	6″
Table size	15 ¾ x 21 ½″
Table tilt	0° to 45°
Wheel diameter	13¾″
Blade length	100 ¾″
Blade width	1/8 - 3/4″
Blade speed	1445/3150 FPM
Motor	1 HP, 120V, 9.5A, 60 Hz, 1725 RPM
Overall dimensions	33 x 20 x 68″
Weight	189 lbs
Shipping weight	204 lbs
Dust collection port	4″

ASSEMBLY

Refer to Figures 1 through 9 and Figure 18.

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

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

ASSEMBLE STAND

Refer to Figure 18, page 11.

NOTE: Hand tighten all hardware during assembly. Do not completely tighten hardware until assembly is complete.

1. Place base (Ref. No. 6) on flat surface. Attach right and left panels (Ref. Nos. 1 and 5) to base using four socket head bolts, washers and hex nuts (Ref. Nos. 14, 10 and 13).
2. Attach rear panel (Ref. No. 3) to the side panels using four hex head bolts and flat washers (Ref. Nos. 10 and 11).
3. Attach the two braces (Ref. No. 2) to the top front and bottom front of the side panels using four hex head bolts and flat washers.
4. Attach the shelf (Ref. No. 4) to the center of the side panels using four hex head bolts and flat washers.
5. Attach the door assembly (Ref. No. 7) to the left panel using two pan head screws and flat washers (Ref. Nos. 8 and 9).
6. Secure all hardware.
7. Place band saw on top of stand and secure in position using four flat head screws, washers and hex nuts (Ref. Nos. 12, 10 and 13).

ASSEMBLY (CONTINUED)

ATTACH TABLE TO TRUNNION

Place the table on the trunnion, taking care when passing the saw blade through the slot of the table. (See Figure 1).

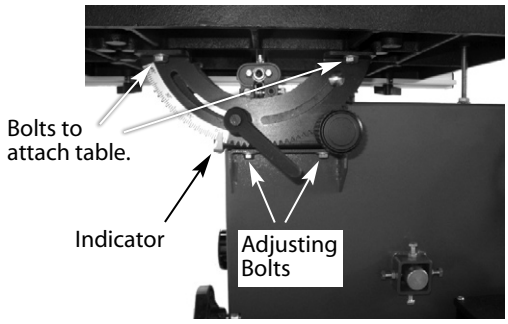

Figure 1 - Attaching and centering table.

1. Locate four M6 x 16 hex bolts and four M6 flat washers from the bag of loose parts.
2. Mount the table to the upper table trunnion and install a bolt with washer in each hole, and then tighten with adjustable wrench.

CENTERING THE TABLE

1. Loosen the hex bolts mounting the trunnion to the saw frame (See Figure 1).
2. Move the table sideways as required, until the saw blade runs through the center of the table insert.
3. Re-tighten hex bolts for trunnion and recheck the saw blade position.

SETTING TABLE SQUARE TO SAW BLADE

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.
2. Tighten the hex nut and recheck the saw blade and the table for squareness.

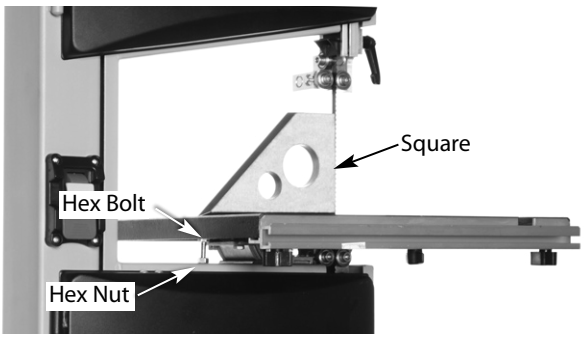

Figure 2 - Square table to saw blade.

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 1).

ATTACH GUIDE RAIL

Refer to Figure 3.

- Fasten the guide rail with four each wing nut bolts and washers to the table.

Figure 3 - Attach guide rail.

INSTALL RIP FENCE

- Lay the rip fence onto the guide rail. Adjust the rip fence parallel to the saw blade. Tighten rip fence handle by pressing downward (See Figure 4).

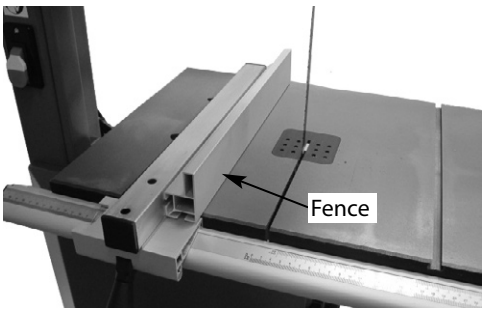

Figure 4 - Attach rip fence.

ATTACH PUSHSTICK STORAGE HOOK

Refer to Figure 5.

1. Thread hex nut completely up to unthreaded portion of hook.
2. Thread hook into saw frame several turns.
3. Tighten hex nut against saw frame.

- Store pushstick on hook when not in use.

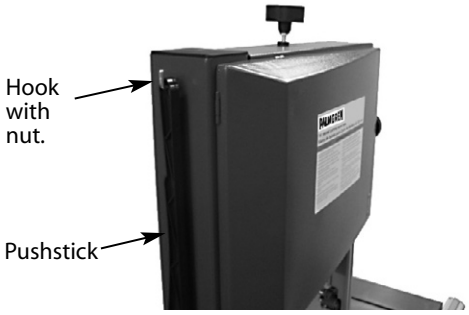

Figure 5 - Attach pushstick hook with nut.

ASSEMBLY (CONTINUED)

ATTACH DRIVE BELT TENSION HANDWHEEL

Refer to figure 6.

1. Place handwheel assembly onto shaft.
2. Secure in position with set screw.

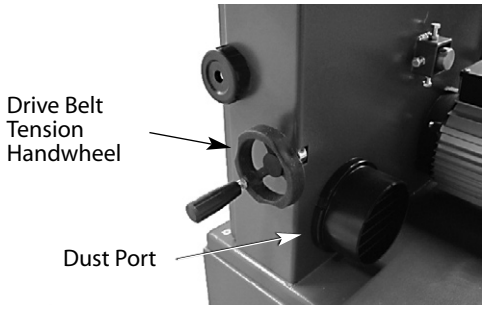

Figure 6 - Attach drive belt tension handwheel.

STABILIZE MACHINE

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.

USE SUITABLE DUST COLLECTOR

The band saw has a 4" dust port included (See Figure 7).

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

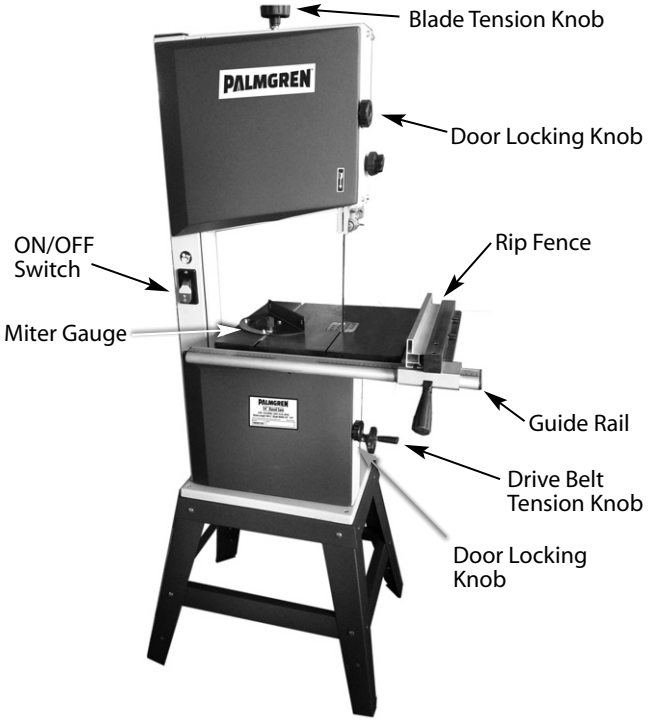

Figure 7 - Know your band saw.

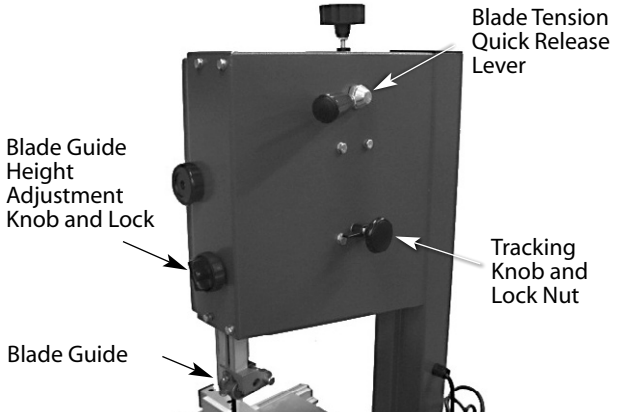

Figure 8 - Know your band saw.

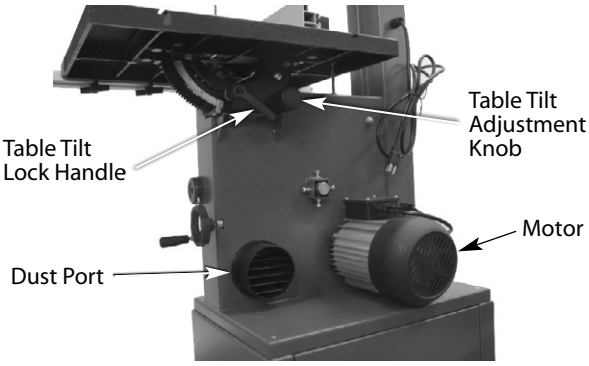

Figure 9 - Know your band saw.

INSTALLATION

Refer to Figures 10 and 11.

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

ELECTRICAL CONNECTIONS

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.

INSTALLATION (CONTINUED)

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 (see Figure 10).

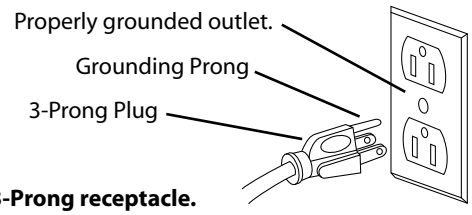

Figure 10 – 3-Prong receptacle.

- 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 11) is available for connecting plugs to a two pole outlet if it is properly grounded.

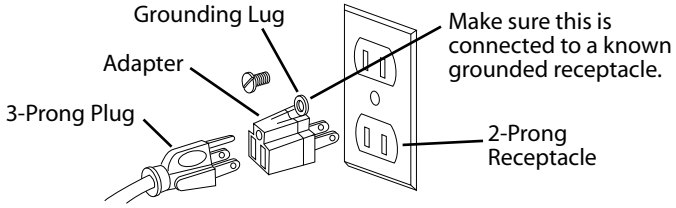

Figure 11 – 2-Prong receptacle with adapter.

- 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.

EXTENSION CORDS

- The use of any extension cord will cause some drop in voltage and loss of power.
- Wires of the extension cord must be of sufficient size to carry the current and maintain adequate voltage.
- Running the unit on voltages which are not within ±10% of the specified voltage may cause overheating and motor burn-out.
- Use the table to determine the minimum wire size (A.W.G.) extension cord.
- Use only 3-wire extension cords having 3-prong grounding type plugs and 3-pole receptacles which accept the tool plug.
- If the extension cord is worn, cut or damaged in any way, replace it immediately.

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

Refer to Figures 12 through 17 and 8.

The Palmgren 14" Band Saw features welded steel frame construction and a solid cast iron table surface to insure durability. It is designed for cutting hard and soft woods. 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.

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.

OPERATION (CONTINUED)

- 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 12.

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.

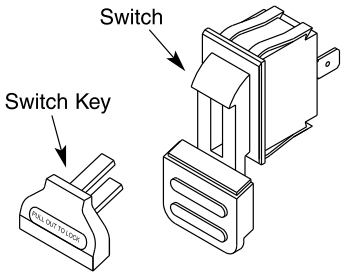

Figure 12 - ON/OFF switch and key.

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 and the guide rail from the table.
2. Open the upper and lower doors by turning the door locking knobs.
3. Loosen the tracking lock nut (See figure 13).

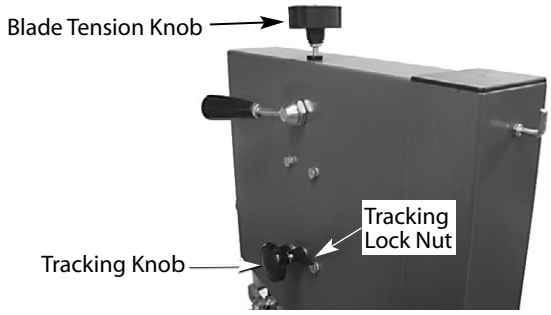

Figure 13 - Saw blade adjustments.

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) or turn blade tension quick release lever to the right. See Figures 13 and 8.
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.

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. See "Tracking the Saw Blade".

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

TRACKING THE SAW BLADE

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 (see Figure 13).
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 lock nut.

SETTING THE CUTTING HEIGHT

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

1. To adjust this height, loosen the locking knob in the center of the adjusting knob (See Figure 8).
2. Set the blade guide to the required height by turning the guide post adjusting knob.
3. Tighten locking knob after setting.

ADJUSTING THE BLADE GUIDES

Refer to Figure 14.

NOTE: Upper and lower blade guides are adjusted in the same manner.

1. To adjust the upper blade guides, first position the right and left roller guides relative to the blade by loosening set screw (A) and moving the guide carrier until both roller guides are approximately 1/16″ behind the gullets of the saw blade. Tighten set screw (A).
2. Set both roller guides to within 1/32″ of the saw blade by loosening the thumb screw (B) then turning shaft (C) at rear of guide carrier. Do not set the roller guides too close as this will adversely affect the life of the saw blade. Tighten thumb screws.

OPERATION (CONTINUED)

3. Adjust the rear roller guide to be just clear of the back of the saw blade by unlocking the set screw (D) located on rear of guide carrier, adjust shaft (E), then lock set screw (D).

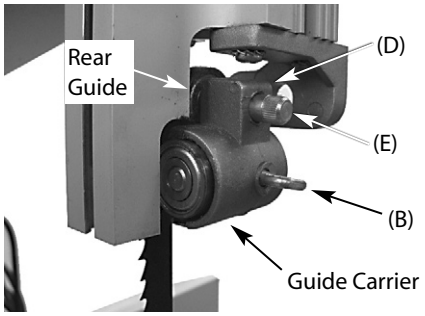

Figure 14 - Adjusting blade guides.

TILTING THE TABLE

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

1. To tilt the table, loosen the locking handle on the table trunnion, set the table to the required angle by turning adjustment knob (See Figure 15). Secure table in position by tightening locking handle.
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.

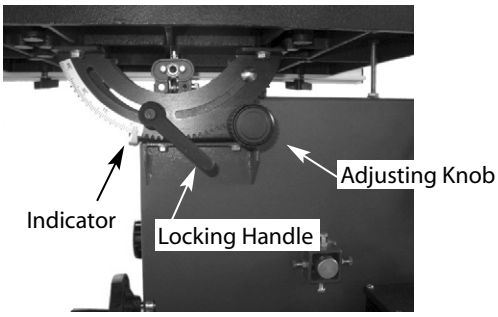

Figure 15 - Tilting the table.

ADJUSTING THE RIP FENCE

Refer to Figure 16.

The locking pressure of the rip fence has been factory-set.

- The fence handle has a cam action, press down the handle to clamp tightly to the table after setting rip fence to desired position.

NOTE: The rip fence can be used on both sides of the blade. The rip fence extrusion needs to be positioned on the side of the fence body that is closest to the blade.

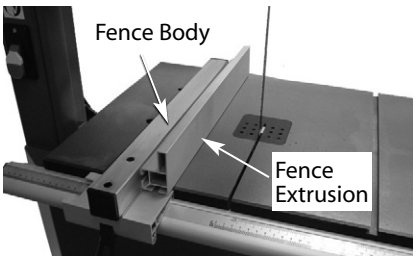

Figure 16 - Adjusting rip fence.

BLADE SPEED ADJUSTMENT

Refer to Figure 17

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 drive belt by turning handwheel clockwise.
3. Position belt on desired pulley of blade wheel and motor. Belt must run on both front or both rear pulleys only.
4. Drive belt on front pulleys (nearest to blade wheel) results in low blade speed.
5. Drive belt on rear pulleys (nearest to frame) results in high blade speed.
6. Tighten drive belt by turning handwheel counterclockwise.
7. Close lower housing door.

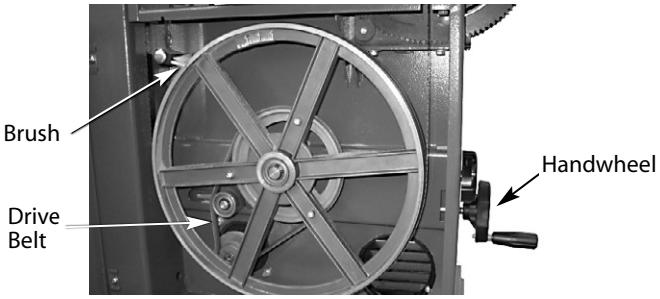

Figure 17 - Changing the blade speed.

PUSH STICK

- The push stick protects against accidental contact with the saw blade.
- Always use the push stick when the distance between the saw blade and rip fence is less than 5 inches.
- Hold the push stick at an angle of 25-30 degrees to the table surface and guide workpiece through the blade.
- When the push stick is not in use, store it on the hook located at the top rear of the saw frame.

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.

OPERATION (CONTINUED)

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.
- 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

Refer to Figure 17, page 8.

Make sure that brush is in contact with blade to properly remove foreign particles from drive wheel.

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.

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
The machine does not work when switched on.	1. No power supply.	1. Check the cable for breakage.
	2. Defective switch.	2. Replace the lock switch.
	3. Defective motor.	3. Replace the motor.
The saw blade does not move with the motor running.	1. The blade tension knob has not been tightened.	1. Switch off the motor, tighten the blade tension knob.
	2. The blade has come off one of the wheels.	2. Open the doors and check
	3. The saw blade has broken.	3. Replace the blade.
	4. The drive belt has snapped.	4. Replace the belt.
The saw blade does not cut in a straight line.	1. Rip fence for cutting not used.	1. Use a rip fence.
	2. Feed rate too fast.	2. Put light pressure on the workpiece. Make sure the saw blade does not bend.
	3. The blade teeth are dull or damaged.	3. Try a new saw blade.
	4. Blade guides not suitably adjusted.	4. Adjust the blade guides (see OPERATION instructions).
The saw blade does not cut, or cuts very slowly.	1. The teeth are dull, caused by cutting hard material or long use.	1. Replace the saw blade, use a 6 T.P.I. saw blade for wood and soft material. Use a 14 T.P.I. saw blade for harder materials. A 14 T.P.I. saw blade always cuts slower due to the finer teeth and the slower cutting performance.
	2. The saw blade was fitted the wrong way on the band saw.	2. Fit the saw blade correctly.
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.	1. The table is not at right angles to the blade.	1. Adjust the table.
	2. The saw blade is dull or too much pressure was put on the workpiece.	2. Replace the saw blade or put less pressure on the workpiece.
The saw blade cannot be properly positioned on the wheels.	1. The wheels are not in alignment or defective bearing.	1. Replace bearing.
	2. The blade tracking knob hasn't been properly adjusted.	2. Adjust the blade tracking knob (See OPERATION instructions).
	3. Inferior saw blade.	3. Replace the saw blade.

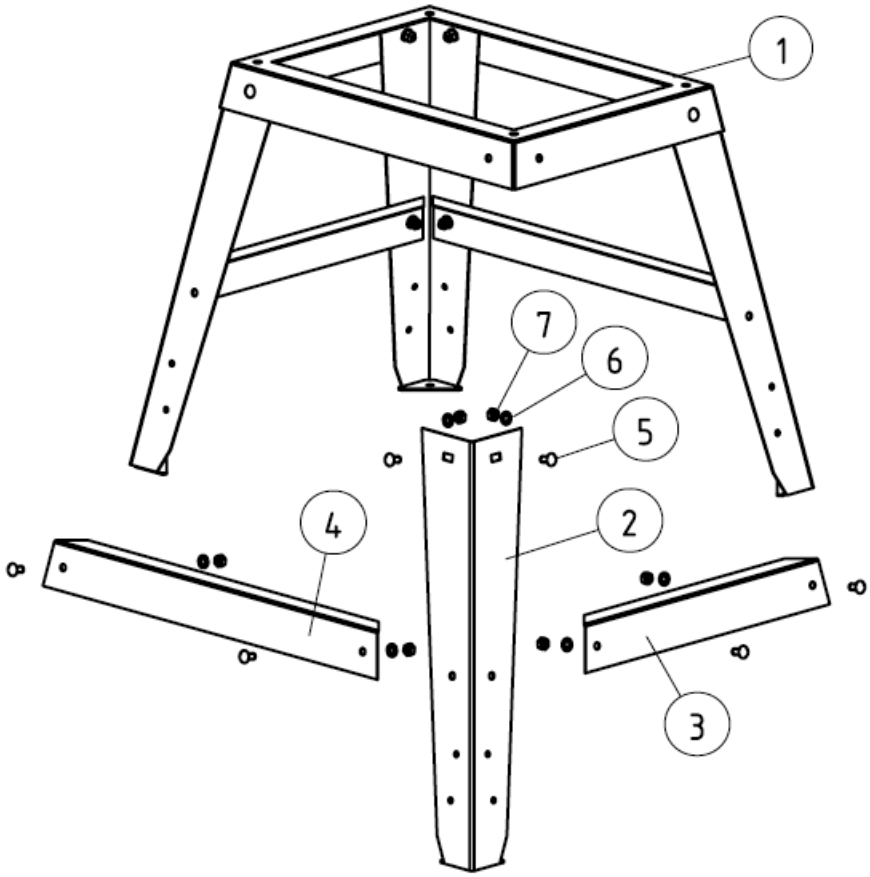

Figure 18 - Replacement Parts Illustration For Stand

REPLACEMENT PARTS LIST FOR STAND

Ref. No.	Description	Part Number:	Qty.
1	Mounting plate	964300201	1
2	Leg	964300301	4
3	Short connection plate	964300401	2
4	Long connection plate	964300501	2
5	Carriage bolt, M8×16	*	16
6	Washer M8	*	16
7	Nut M8	*	16

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

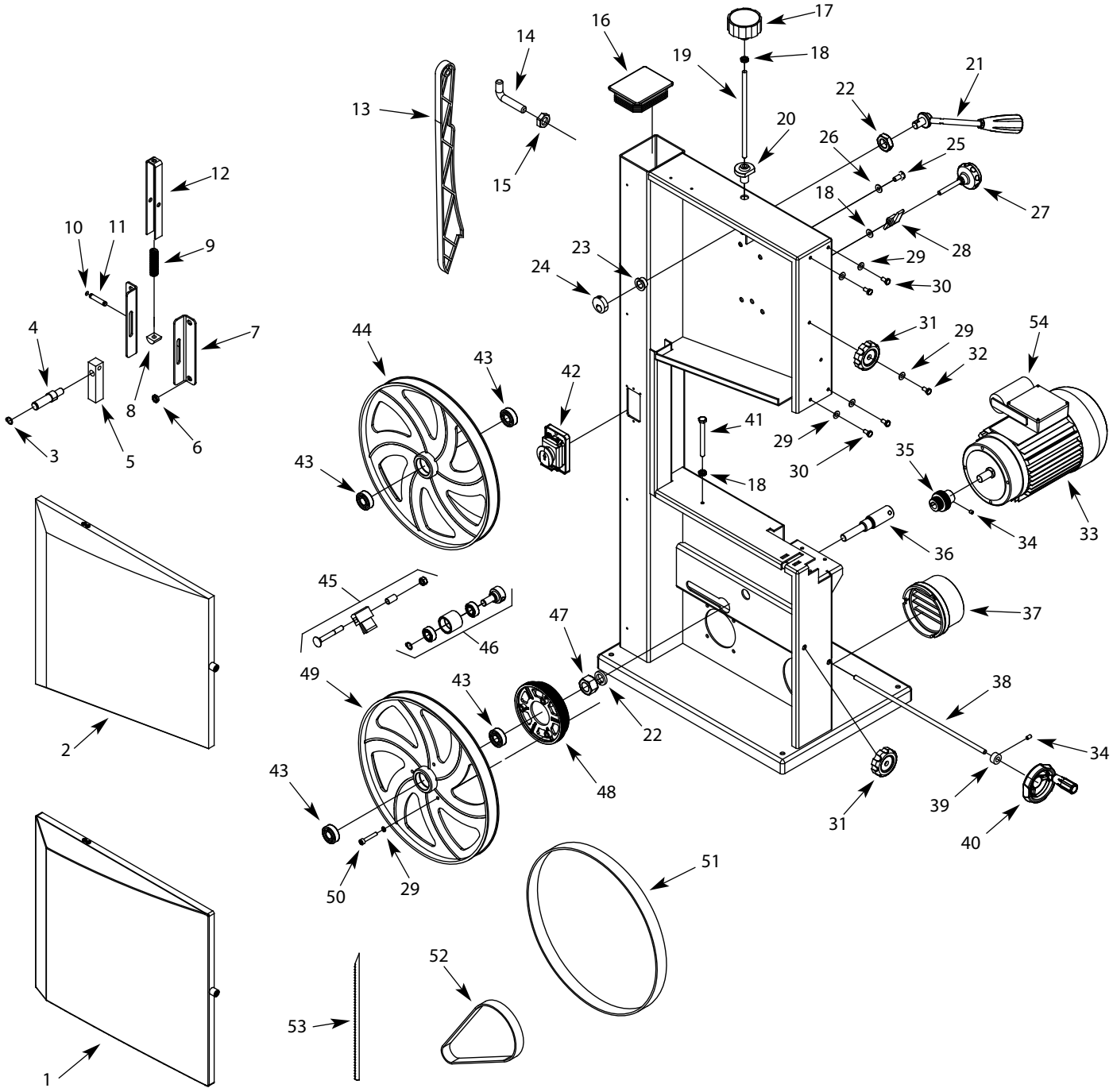

Figure 19 - Replacement Parts Illustration for Frame and Drive

REPLACEMENT PARTS LIST FOR FRAME AND DRIVE

Ref. No.	Description	Part No.	Qty.
1	Lower Door Assembly	963649200	1
2	Upper Door Assembly	963649300	1
3	3AMI-18 Retaining Ring	960616900	2
4	Upper Wheel Shaft	963649600	1
5	Tension Block	963649700	1
6	8-1.25mm Flange Nut	962033000	4
7	Guide Plate	963649800	2
8	Nut	963649900	1
9	Spring	963650000	1
10	Shaft	963650100	1
11	3CMI-8 Retaining Ring	960832300	2
12	Tension Bracket Frame	963650300	1
13	Push Stick	963649500	1
14	Hook	963650200	1
15	6-1.0mm Hex Nut	*	1
16	Cap	963650600	1
17	Tension Knob	963650400	1
18	8-1.25mm Jam Nut	960229300	3
19	Threaded Rod	963650500	1
20	Bushing	963650700	1
21	Tension Release Handle	963650800	1
22	20-1.5mm Hex Nut	963650900	2
23	Spacer	963651000	1
24	Cam	963651100	1
25	8-1.25 x 16mm Hex Head Bolt	*	8
26	8mm Flat Washer	*	8
27	Tracking Knob	963651200	1
28	Wing Nut	963651300	1
29	6mm Flat Washer	*	9
30	6-1.0 x 10mm Hex Head Bolt	*	4
31	Door Locking Knob	963651400	2
32	6-1.0 x 16mm Socket Head Bolt	*	2
33	Motor	963651500	1
34	6-1.0 x 6mm Set Screw	*	2
35	Motor Pulley	963651600	1
36	Lower Wheel Shaft	963651700	1
37	Dust Port	963651800	1
38	Shaft	963651900	1
39	Collar	963652000	1
40	Belt Tension Hand-wheel Assembly	963652100	1
41	8-1.25 x 80mm Hex Head Bolt	961902900	1
42	Switch Assembly	963652200	1
43	Bearing 6202zz	960154000	4
44	Upper Wheel	963649400	1
45	Brush Assembly	963652300	1
46	Belt Tension Drum Assembly	963652400	1
47	20mm Lock Washer	*	1
48	Drive Pulley	963652500	1
49	Lower Wheel	963652600	1
50	6-1.0 x 35mm Socket Head Bolt	*	3
51	Tire	963652700	2
52	Drive Belt	963652800	1
53	Blade	963652900	1
54	Capacitor	963653000	1

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

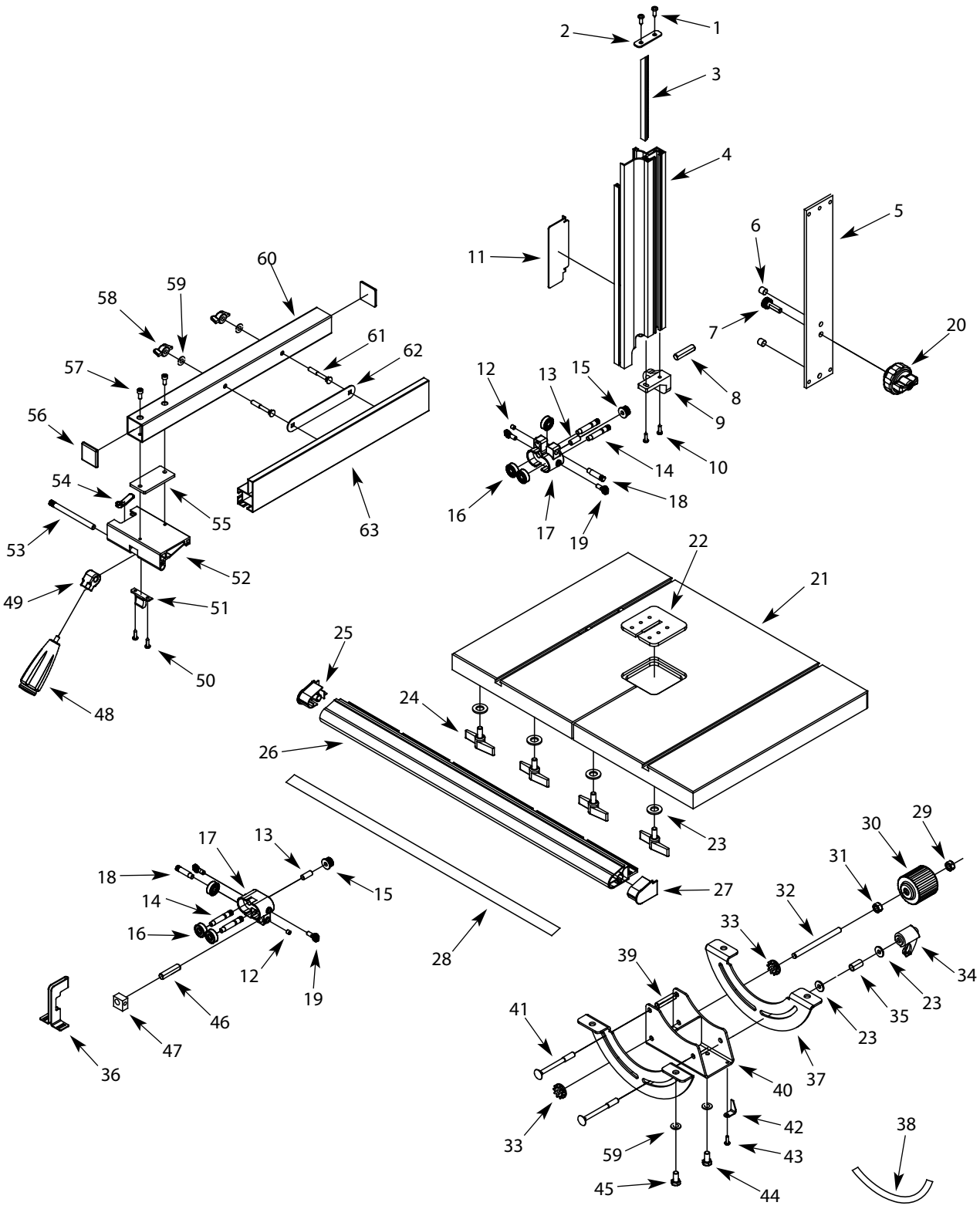

Figure 20 - Replacement Parts Illustration For Table

REPLACEMENT PARTS LIST FOR TABLE

Ref. No.	Description	Part No.	Qty.
1	4.8 x 16mm Tap Screw	963166300	2
2	Plate	963642700	1
3	Rack	963642800	1
4	Guide Post	963642900	1
5	Pressure Plate	963643000	1
6	Pin	963643100	2
7	Rack Gear and Shaft	963643200	1
8	Guide Block Pin	963653100	1
9	Guide Carrier	963643300	1
10	4.8 x 22mm Tap Screw	962065000	2
11	Sliding Guard	963643400	1
12	Spacer	963643500	2
13	Threaded Rod	963643600	2
14	Guide Shaft	963643700	4
15	Adjusting Nut	963643800	2
16	Bearing 627zz	961784700	6
17	Guide Block	963643900	2
18	Shaft	963644000	2
19	Thumb Screw	963644100	4
20	Guide Adjusting Knob Assembly	963644200	1
21	Table	963644300	1
22	Table Insert	963644400	1
23	8mm Flat Washer	*	6
24	Wing Bolt	963644500	4
25	Fence Rail Left Cap	963644600	1
26	Fence Rail	963644700	1
27	Fence Rail Right Cap	963644800	1
28	Scale	963644900	1
29	8-1.25mm Hex Nut	*	1
30	Knob	963645000	1
31	8-1.25mm Jam Nut	960229300	1
32	Shaft	963645100	1
33	Gear	963645200	2
34	Locking Handle	963645300	1
35	Spacer	963645400	1
36	Lower Blade Guard	963646200	1
37	Trunnion	963645500	2
38	Angle Scale	963645600	1
39	Spacer	963645700	1
40	Trunnion Bracket	963645800	1
41	Bolt	963666000	2
42	Indicator	963645900	1
43	4-0.7 x 6mm Pan Head Screw	*	1
44	6-1.0 x 6mm Socket Head Bolt	*	4
45	8-1.25 x 16mm Socket Head Bolt	*	4
46	Locking Pin	963646000	1
47	Lower Guide Seat	963646100	1
48	Handle Assembly	963653200	1
49	Cam	963653300	1
50	3.5 x 9.5 Tap Screw	963158500	2
51	Pressure Plate	963653400	1
52	Fence Carrier	963653500	1
53	Shaft	963653700	1
54	Lens	963653800	1
55	Plate	963653900	1
56	Cap	963654000	2
57	6-1.0 x 35mm Socket Head Bolt	*	2
58	Wing Nut	963654100	2
59	6mm Flat Washer	*	5
60	Fence Bracket	963654200	1
61	6-1.0 x 45mm Carriage Bolt	963665900	2
62	Plate	963654300	1
63	Fence	963654400	1
Δ	Miter Gauge	963654600	1
Δ	Complete Rip Fence Assy. (Ref. Nos. 48-63)	963654500	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 is 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 elated to the use or inability to use our products. This warranty gives you specific legal rights which may vary from state to state.

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