PALMGREN®

10” x 16” Variable Speed Horizontal Bandsaw

Models 9683275, 9683276

965102201 - 01/24

PALMGREN®

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 PALMGREN'S WARRANTY AND OTHER IMPORTANT INFORMATION.

Model #: _____

Serial #: _____

Purch. Date: _____

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GETTING STARTED

Save this manual

You will need this manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts lists and diagrams. 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 your intended loads. If in doubt, consult a qualified structural engineer.

Electrical requirements

The power supply to the 9683275 single-phase bandsaw must be 240 VAC, single-phase, 60 Hz.

The power supply to the 9683276 three-phase bandsaw must be 240 VAC, three-phase, 60 Hz.

The standard allowable voltage variation is ±10%.

Tools needed

Standard professional mechanic's hand tool set.

UNPACKING

Unpack

When the bandsaw is delivered, please check immediately that it has not been damaged during transport. Transport the bandsaw in its packing crate near its final installation site before unpacking it. If the packaging shows signs of possible transport damage, take the necessary precautions to avoid damaging the machine when unpacking.

Do not discard packing materials until after bandsaw has been inspected for damage and completeness. Locate loose parts and set aside.

Inspect

After unpacking, carefully inspect the bandsaw for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. Notify the carrier immediately; shipping damage claims must be filed with the carrier. Immediately report any missing parts to the dealer.

- Be sure that the voltage labeled on the machine matches your power supply.
- Inspect the machine completely and carefully, making sure that all materials, such as shipping documents, manuals and accessories supplied with the machine have been received.
- Also check that no fastening screws have come loose. Compare the scope of delivery with the attached packing list.
- All tools should be visually inspected before use, in addition to regular periodic maintenance inspections.

SAFETY RULES

Before repairs, powering on the machine or maintenance, the user must know and follow all safety guidelines.

Clothing and General Use

⚠ WARNING

- For your own safety, read all of the instructions and precautions before operating tool.
- 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.
- 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.
- Work area should be properly lighted.
- 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.
- **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.

Installation Safety

⚠ WARNING

- Ensure the installation location can support the weight of the machine and has adequate space, ventilation, and heat dissipation.
- Do not allow water or other liquids, dust, metal dust or other contaminants to enter the controls or electrical box, it may cause fires or damage to the machine and surroundings.
- Do not make any changes or modifications to the machine; this could cause an electric shock or personal injury and void the warranty.

⚠ CAUTION

- When moving to the install location make sure the bandsaw is firmly secured to the lifting means. Use the appropriate means to place the machine in the desired location for use.
- Ensure the machine is level before using.

Electrical Safety

- Make sure wiring codes and recommended electrical connection instructions are followed and that machine is properly grounded.

⚠ WARNING ***Before connecting power source, check that the bandsaw power switch is off.***

Maintenance Safety

- Always ensure bandsaw is powered off prior to inspection, maintenance, or repair.
- Consult manual for specific maintaining and adjusting procedures.
- Only a qualified electrician should check the electric parts.
- Keep bandsaw 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 guards and 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.
- Do not force tool. It will work most efficiently at the rate for which it was designed.
- Use of improper accessories may cause risk of injury to persons.

⚠ CAUTION ***Think safety! Safety is always a combination of operator common sense and alertness when tool is being used.***

Operating Safety

⚠ WARNING

Before starting machine check:

- KEEP GUARDS IN PLACE AND IN WORKING ORDER.
- KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
- NEVER USE IN DANGEROUS ENVIRONMENT. Do not use power tools in damp or wet locations, or where any flammable or noxious fumes may exist. Do not expose power tools to rain. Keep work area well lighted.
- NEVER FORCE TOOL. It will do the job better and safer at the rate for which it was designed.
- USE THE RIGHT TOOL. Do not force tool or attachment to do a job for which it was not designed.
- If you are not familiar with the operation of horizontal band saws, obtain advice from your supervisor, instructor or other qualified person before using saw.
- Always turn power off before making any adjustments.
- Adjust and position the blade guide before cutting.
- Ensure that blade tension is properly adjusted before cutting.
- Stop the saw before putting a workpiece in the vise. Ensure stock is firmly clamped in vise before cutting.
- Handle workpiece correctly. Protect hands from possible injury. Keep hands away from moving parts and surfaces.
- Never leave bandsaw running unattended. Turn 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.
- Clean dust/chips frequently. Stop the saw before cleaning. Before leaving the machine, make sure the work area is clean

⚠ CAUTION

- Do not repeatedly turn the power switch on and off in a short amount of time. This will damage the machine.
- Please treat the debris generated during processing as industrial waste to prevent environmental pollution or personal injury.

SPECIFICATIONS

Description	Dayton Variable Speed Horizontal Bandsaw 10” x 16”
Model number and Phase	9683275 (single-phase) 9683276 (three-phase)
Voltage	240V
Amperage	9683275: 8A 9683276: 6A
HP	2 HP
RPM	1725
Blade Dimensions	1" x 0.032" x 130"
Blade wheel Ø	14"
Blade speeds	80-250 SFPM
Capacity: 90° Round	10"
Capacity: 90° Square	10" x 16.5"
Capacity: 90° Flat	8" x 18"
Capacity: 45° Round	7.5"
Capacity: 45° Square	10" x 7.5"
Coolant Volume	5.8 gallons
Height of Table Vise	23.6”
Machine Dimensions	68" x 30" x 43”
Weight (both models)	706 lbs uncrated 793 lbs crated

Blade Selection

Never use a blade so coarse that less than 3 teeth are engaged in the workpiece at a time. Too few teeth causes teeth to strip out.

Never use a blade finer than needed to obtain a satisfactory surface finish or satisfactory flatness. Too many teeth slows down the sawing rate; can cause premature blade wear; and frequently produces “dished” cuts or cuts that are not square nor parallel.

NOTE:

- When cutting standard wall pipe, tubes, channel iron, angle iron, and I-beam, a 10 pitch (number of teeth per inch of blade) saw blade of wave-set type or sawblade of (HSS) 6/10T is commonly used.
- Tubing or structure with wall thickness or web thickness of 1/2” or more is usually cut satisfactorily using an 8 or 6 pitch sawblade of (HSS) 4/6T.
- When sawing rectangular solid bar, the work should, whenever possible, be loaded with the thinnest cross section exposed to the blade teeth. The pitch selected must provide engagement of at least 3 teeth in the workpiece. If this is not possible because the thinnest cross section is too thin, then load the piece with the wider dimension exposed to the saw teeth and use a coarser blade intended for cutting round and square solid bars.

The chart provided here is a general guide. Consult with your blade supplier or qualified engineers for information on saw blades. **HSS**=High Speed Steel; **HCS**=High Carbon Steel

	Material Shape	○	⊢ L				
	Material Diameter	<0.12”	>0.2”	>2”	>4”	>6”	>8”
Sawblade	(HSS) 14T	●					
	(HSS) 6/10T		●				
	(HSS) 5/8T			●			
	(HSS) 4/6T			●	●		
	(HSS) 3/4T				●		
	(HSS) 2/3T					●	●
	(HSS) 1/2T						●
	(HCS) 10T	●					
	(HCS) 8T		●				
	(HCS) 6T			●			
	(HCS) 4T				●		
	(HCS) 2T					●	●

INSTALLATION

Moving the Bandsaw

The bandsaw must be installed on a solid, level foundation. Choose a location that allows room for servicing and for moving large stock around the bandsaw.

⚠ WARNING ***Severe or fatal injuries may occur if the machine is moved improperly. Follow the instructions and information on the transport crate. Check that the lifting and load suspension equipment has sufficient load capacity and that it is in perfect condition.***

⚠ WARNING ***The total weight of the uncrated bandsaw is 706 lb. Use only transport and load suspension devices that can hold the total weight of the bandsaw.***

Fasten the load properly.

Never walk under suspended loads!

1. Move bandsaw to desired location as follows:
   - If moving with a lifting strap, remove all bolts attaching machine to shipping base. Leave packing material between vise clamps and saw head in place until bandsaw has been lifted to its final position. See Figure 1 for strap placement
   - Using lifting straps that are isolated from the bandsaw's finished surfaces If moving with a forklift, orient the bandsaw on forklift as, shown in Figure 1 (right). Keep the bandsaw balanced when moving it. Consider the center of gravity. Drive forklift slowly and carefully.

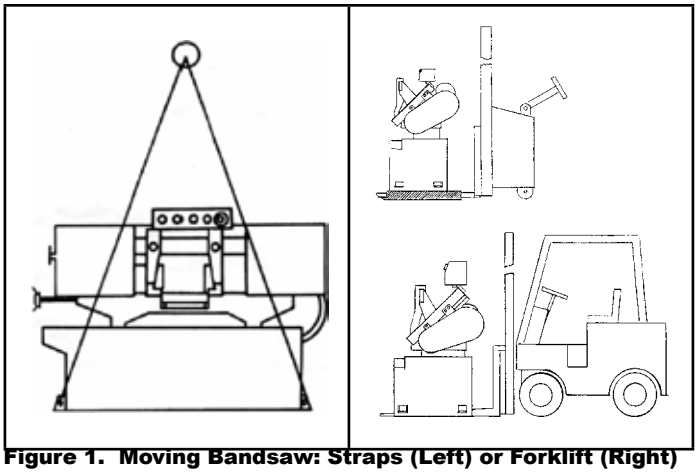

Figure 1. Moving Bandsaw: Straps (Left) or Forklift (Right)

Mounting and Leveling

2. Position bandsaw in the desired location. Ensure there is access to the electrical panel and that the panel is located close to the 240 VAC power source.
3. Secure the bandsaw in position by mounting it on pads or by anchoring it to the floor. Use the leveling adjustments at the base of the saw to level it before use.
4. Place a level on the table surface and check side to side and front to back.
5. Adjust leveling screws until machine is level in both directions.

Rust inhibitor was applied to the machined surfaces at the factory. Clean the rust inhibitor off using a soft cloth lightly dampened with WD-40.

Fill Coolant

The saw is shipped without coolant/cutting fluid. Before use, add 5.8 gallons of coolant to the tank.

Electrical Wiring

Model 9683275 Single-Phase

See Figure 2. Connect the bandsaw to the electrical source as shown. Refer to the wiring diagram inside the electrical box for proper motor and transformer connections, lead selection and wiring connections from the motor to the power source.

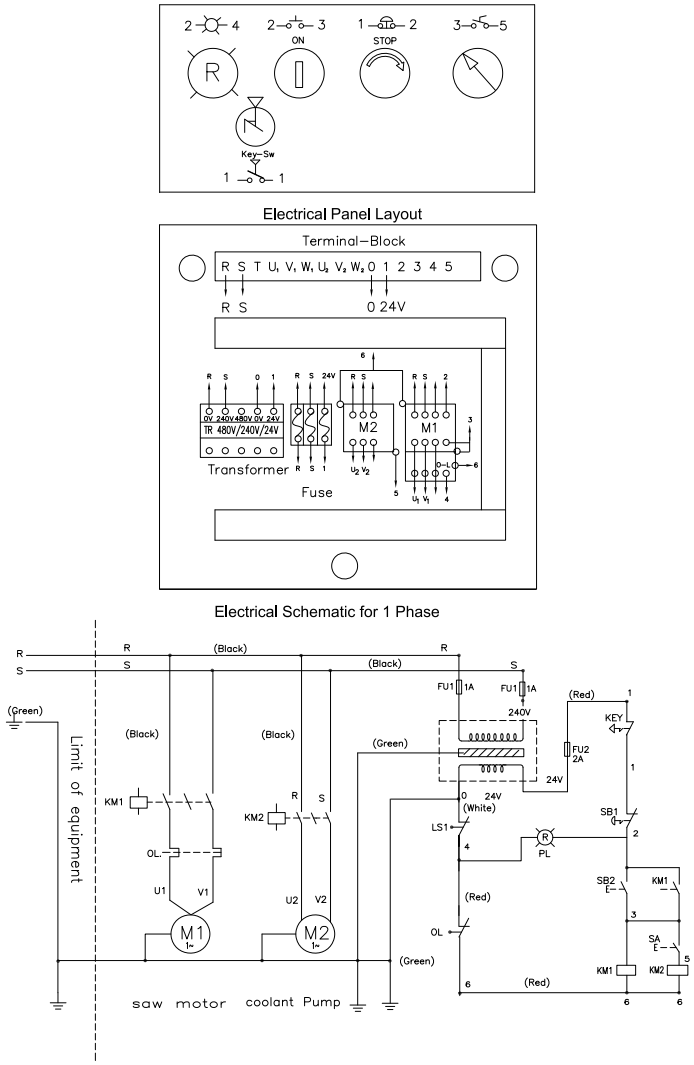

Figure 2. Electrical Panel Wiring, 1-Phase

Model 9683276 Three-Phase

See Figure 3. Connect the bandsaw to the electrical source as shown. Refer to the wiring diagram inside the electrical box for proper motor and transformer connections, lead selection and wiring connections from the motor to the power source.

Important: Immediately after wiring the machine, remove the drive belt, turn on the power and make sure the motor is running in the right direction (counter-clockwise when looking at the motor shaft.) Reinstall drive belt before use.

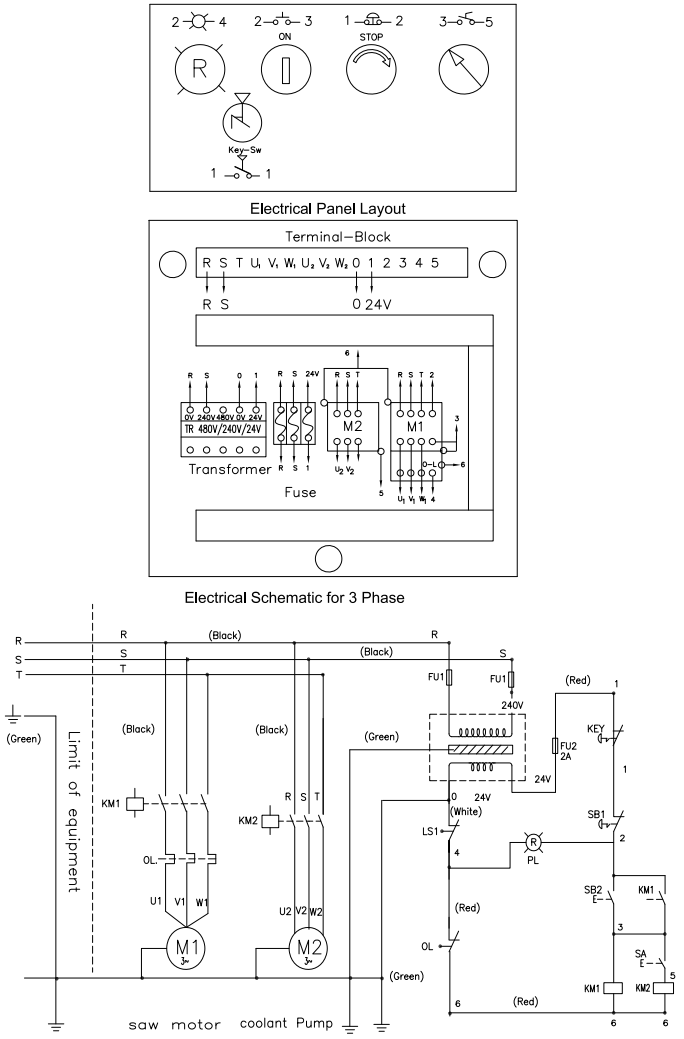

Figure 3. Electrical Panel Wiring, 3-Phase

OPERATION

Setting Up the Machine for Operation

NOTE: You must fill the coolant tank before the first use of the saw. The bandsaw has no coolant when it is delivered. Add 5.8 gallons of water-soluble cutting fluid before using the saw.

1. Check coolant level and add if necessary.
2. Keep vise slides clean and oiled.
3. Clean chips from blade wheels and the areas around wheels.
4. Ensure saw blade is sharp.
5. Check blade tension, particularly after initial cuts with a new blade.
6. Select the proper speed and blade for the type of material you are going to cut.
7. Lift the saw frame up and turn off the feed control (Figure 4, item **C**).
8. Place the stock between the vise jaws, set the stock for the desired width of cut and tighten the vise.
9. Make sure the left blade guide bracket (**A**) is adjusted as close as possible to the left vise jaw (**B**). Loose blade guide will affect cutting accuracy.
10. Turn the feed control (**C**) counter-clockwise until the saw blade begins to lower by the desired rate.
11. Proceed to cut through the workpiece. The machine will shut off upon completion of cut.

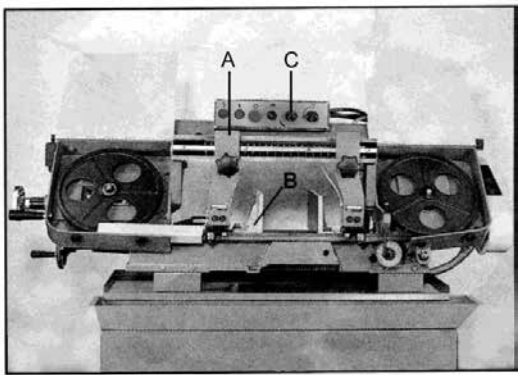

Figure 4. Front of Bandsaw

Starting and Stopping the Bandsaw

The saw frame must be in the raised position before starting the machine. The machine is started by pushing the start button (**A**) Figure 5, and will continue to run until the saw frame is in the down position at the end of the cut, or when the stop button (**B**) is pushed.

Pushing the stop button (**B**) will stop the motor at any time.

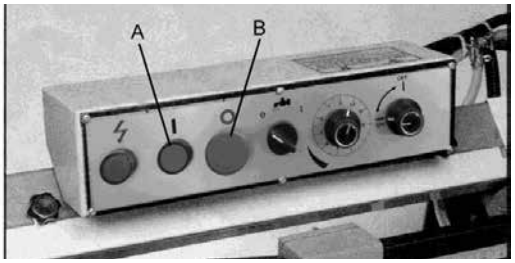

Figure 5. Start Button (A) and Stop Button (B)

Changing Speed

The bandsaw speed range is 80-250 RPM. See Figure 6. To adjust speed while saw is running, turn speed control knob **A** clockwise to increase speed or counterclockwise to decrease.

⚠ WARNING ***Guard removed in photo. Guard must be in place for operation.***

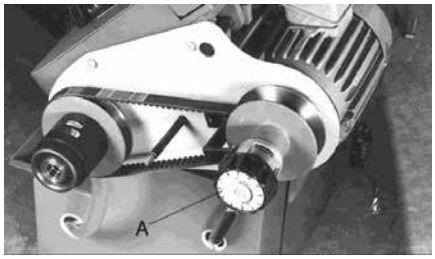

Figure 6. Speed Control Knob (A)

TROUBLESHOOTING

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

Symptom	Possible Causes	Corrective Action
Foaming coolant, high blade temperature	Low coolant	Check coolant and add if necessary.
No coolant when cutting.	1. Low coolant or clogged pump. 2. Pump motor not working	1. Add coolant to a level above the pump. 2. Remove pump motor; clean/repair.
Clogged pump	Dirty or weak coolant	Replace coolant (5.8 gallons).
Crooked cuts	Dirty or weak coolant	Replace coolant (5.8 gallons).
Slow cutting rate	Dirty or weak coolant. Dirty coolant may also cause the growth of bacteria with possible skin irritation resulting.	Replace coolant with 5.8 gallons of water soluble cutting fluid.

MAINTENANCE

Removing and Installing the Blade

A blade is installed in the saw at the factory. When selecting a new blade refer to the selection of sawblades. The bandsaw requires a blade 1" x 0.032" x 130".

To replace the blade:

1. Disconnect the power source.
2. Raise the saw frame about 6" and close the feed control valve by turning it clockwise as far as it will go. (Do not overtighten.)
3. Open both wheel covers and clean the chips out of the machine.
4. Release blade tension by turning the blade tension handwheel (Figure 7, **C**) counterclockwise.

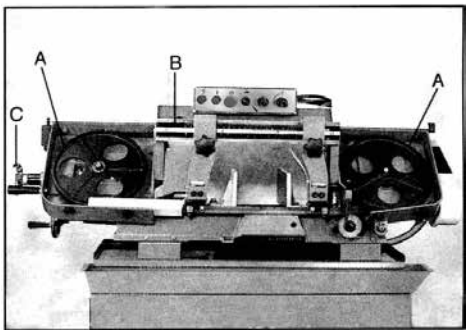

Figure 7. Blade Tensioning

5. Slide left blade guide arm to the right as far as possible.
6. Remove blade from both wheels and out of each blade guide.
7. Make sure the teeth of the new blade are pointing in the direction of travel. If necessary, turn the blade inside out.
8. Place the blade in place on the wheels (Figure 7, **A**) and through the upper blade guard (Figure 7, B).
9. Work the blade all the way up between the blade guide bearings with the back of the blade against the back-up bearing, as shown in Figure 8.

Figure 8. Blade Backup Bearing

NOTE: If bearings need adjustment, see "Guide Roller Adjustment" on page 10.

10. Put light tension on the blade and work it on both wheels, as shown in Figure 9. **IMPORTANT: Ensure that the back of the blade is against the wheel flanges of both wheels.**

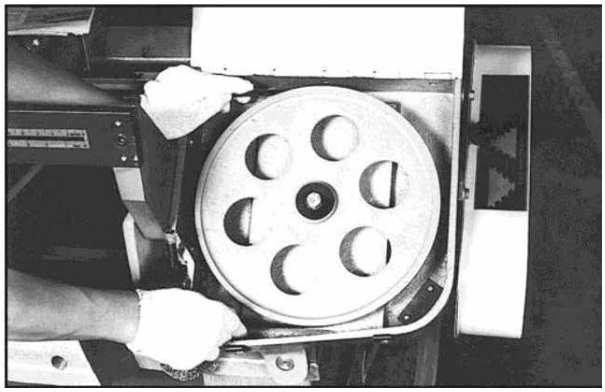

Figure 9. Working Blade Around Wheels

11. When you are sure the back of the blade is against the wheel flanges of both wheels and properly inserted into the guides, finish putting tension on the blade. Proper tension is achieved when the pointer is on the left mark of the blade tension scale behind the driven wheel.
12. Reconnect the power source. Briefly turn the power "on" and "off" to be sure the blade is in place and tracking properly. If blade is not tracking properly refer to the section tracking the blade.

Blade Tracking Adjustment

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

⚠ WARNING ***Tracking adjustment is done with the wheel covers open to observe the blade. Use extreme caution so as not to come into contact with the blade while wheel covers are open.***

⚠ WARNING ***Never cut material when the wheel covers are open.*** Because tracking can only be adjusted while machine is running, it is suggested that this adjustment be accomplished by qualified personnel familiar with this type of adjustment and the dangers associated with it.

1. Disconnect machine from the power source.
2. Raise saw arm to its highest position and close cutting pressure control valve to hold saw arm in place.
3. Locate tracking adjustment plate on the back side of the driven blade wheel.
4. See Figure 10. Loosen the three bolts (**A**) located on the top of the tracking nuts. Tracking adjustment is accomplished by either loosening or tightening three adjusting nuts (**B**).
5. Tracking is set properly when the back of the blade slightly touches the wheel flange.

NOTE: Over-tracking (allowing blade back to rub hard against wheel flange) will damage the blade wheels and blade.

6. Tighten locking bolts (**A**) once properly tracking is completed.
7. Reconnect machine to the power source.

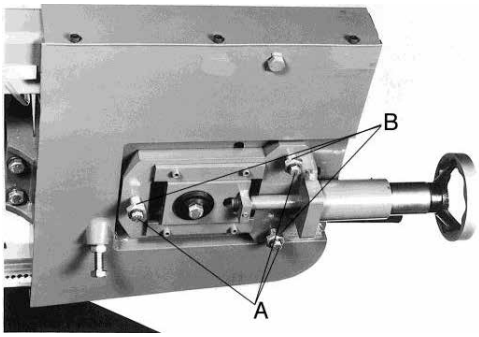

Figure 10. Blade Tracking Adjustment

Adjusting Feed Rate

When the hydraulic oil regulating control (Figure 11, **A**) is turned all the way clockwise, the saw frame will not move down. By turning the feed control counter-clockwise, you regulate the flow of oil from the cylinder and determine the speed at which the saw frame will lower and the blade will feed through the work.

Too many factors are involved to make tabulated data practical on feed rates. As a general rule, an even pressure without forcing the blade gives the best results. Avoid forcing the blade at the start as this may shorten blade life and produce a bad cut. Inspecting the chips while the cut is being made will indicate whether the feed rate is correct.

- Fine powdery chips indicate a feed rate which is too light. The teeth are rubbing over the surface instead of cutting.
- Burned chips indicate excessive feed which causes the teeth to break off as the blade overheats.
- The ideal feed rate is indicated by chips that have a free curl. This provides the fastest cutting time and longest blade life.

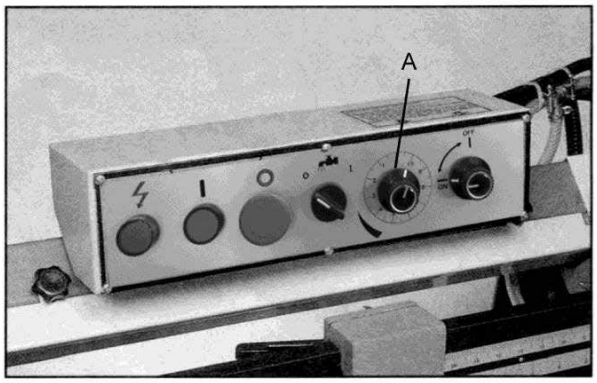

Figure 11. Hydraulic Oil Regulating Control (Feed Control)

Adjusting Blade Guide Brackets

The blade guides should be set as close to the vise jaws as possible. The right blade guide bracket is not adjustable and is set at the factory to clear the right hand vise jaw. The left blade guide bracket can be moved to the left or right depending on the position of the left hand vise jaw.

To move the left blade guide bracket (Figure 12, **A**), loosen hand knob (**B**), position blade guide bracket, and tighten hand knob (**B**).

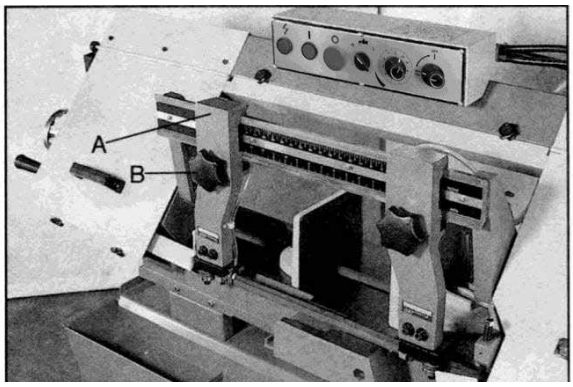

Figure 12. Left Blade Guide Adjustment

Automatic Shut-Off Adjustment

The motor should shut off immediately after the blade has cut through the material and just before the head comes to rest on the horizontal stop bolt. If the machine continues to run after the workpiece has been fully cut, locate and adjust the micro switch mounting plate down. If the machine shuts off before the workpiece has been completely cut, move the micro switch mounting plate up.

Thrust Roller Adjustment

1. Disconnect machine from the power source.
2. Loosen two hex socket cap screws (Figure 13, **A**).
3. Move guide seat (**B**) up or down until a clearance of 0.003" to 0.005" between back of blade and thrust roller is obtained.
4. Tighten two hex socket cap screws (**A**).
5. Repeat for other blade guide assembly.
6. Reconnect machine to power source.

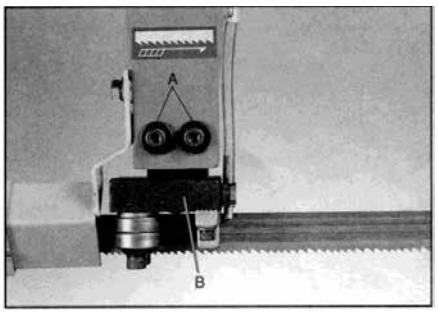

Figure 13. Thrust Roller Adjustment

Guide Roller Adjustment

1. Disconnect machine from the power source.
2. See Figure 14. Loosen blade guides (**A**) by loosening screws **(B)**. Slide blade guides away from blade.
3. Use a hex wrench to loosen locking screws (**C**).
4. Adjust the eccentric bushings with a combination wrench until the ball bearings are snug to the blade.

NOTE: Blade should travel freely up and down between the ball bearings. Do not pinch the blade.

5. Tighten locking screws (**C**).
6. Slide blade guides back into contact with blade and tighten screws (**B**).
7. Reconnect machine to the power source.

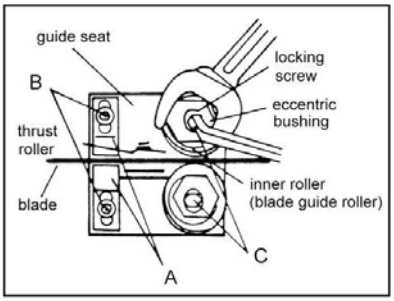

Figure 14. Guide Roller Adjustment

Vise Adjustment

To position the moveable vise jaw:

1. See Figure 15. Turn vise handwheel (**A**) 1/2 turn counter-clockwise.
2. Move rack block (**B**) to desired location by sliding along the bed. Place the rack block onto the rack.
3. Turn the handwheel to tighten the vise.

To adjust vise for angle cutting:

1. Loosen bolts and move vise jaw (**C**) to desired location.
2. Set the vise to desired angle, reinstall nuts and tighten the nut and bolt assemblies.
3. Adjust the movable vise parallel to the fixed vise by loosening bolt (**D**) adjusting to parallel and tightening bolt.

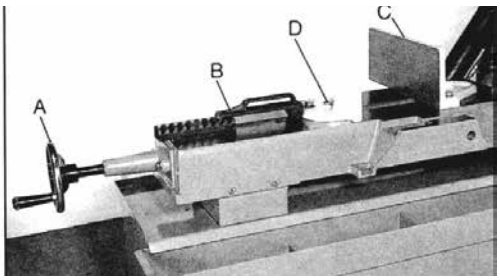

Figure 15. Vise Adjustments

Lubrication

The following lubricants are used with this bandsaw:

- Coolant: Use water-soluble cutting fluid #####
- Gear oil: HD-150
- Hydraulic system: #32 / #68

Changing Gear Box Oil

After the first 50 hours of use, drain and refill the gear box by doing the following:

1. See Figure 16. Place a collection container below the drain plug.
2. Remove drain plug **A**, drain all oil from the gearbox, and replace plug.
3. Remove oil filler plug located beneath the right blade wheel and fill the gear box with 1.5 pints of MOBIL CYL. OIL # HD150 or equivalent.

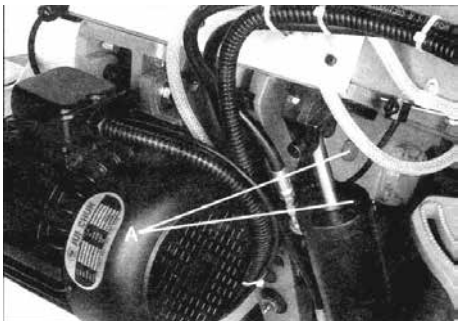

Figure 16. Gearbox Drain Plug Location (A)

PARTS LIST

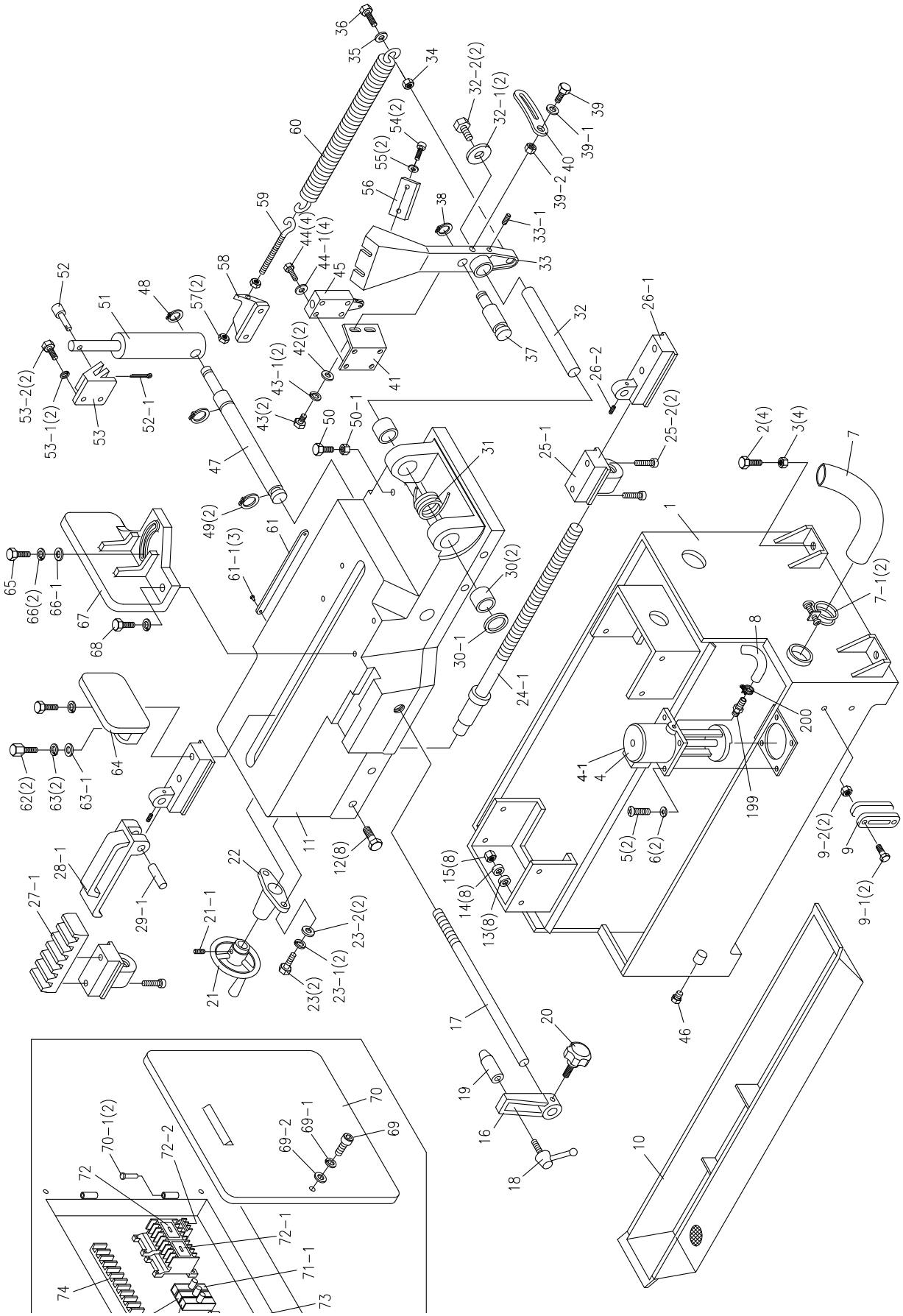

Figure 17. Parts Diagram - Sheet 1 of 2

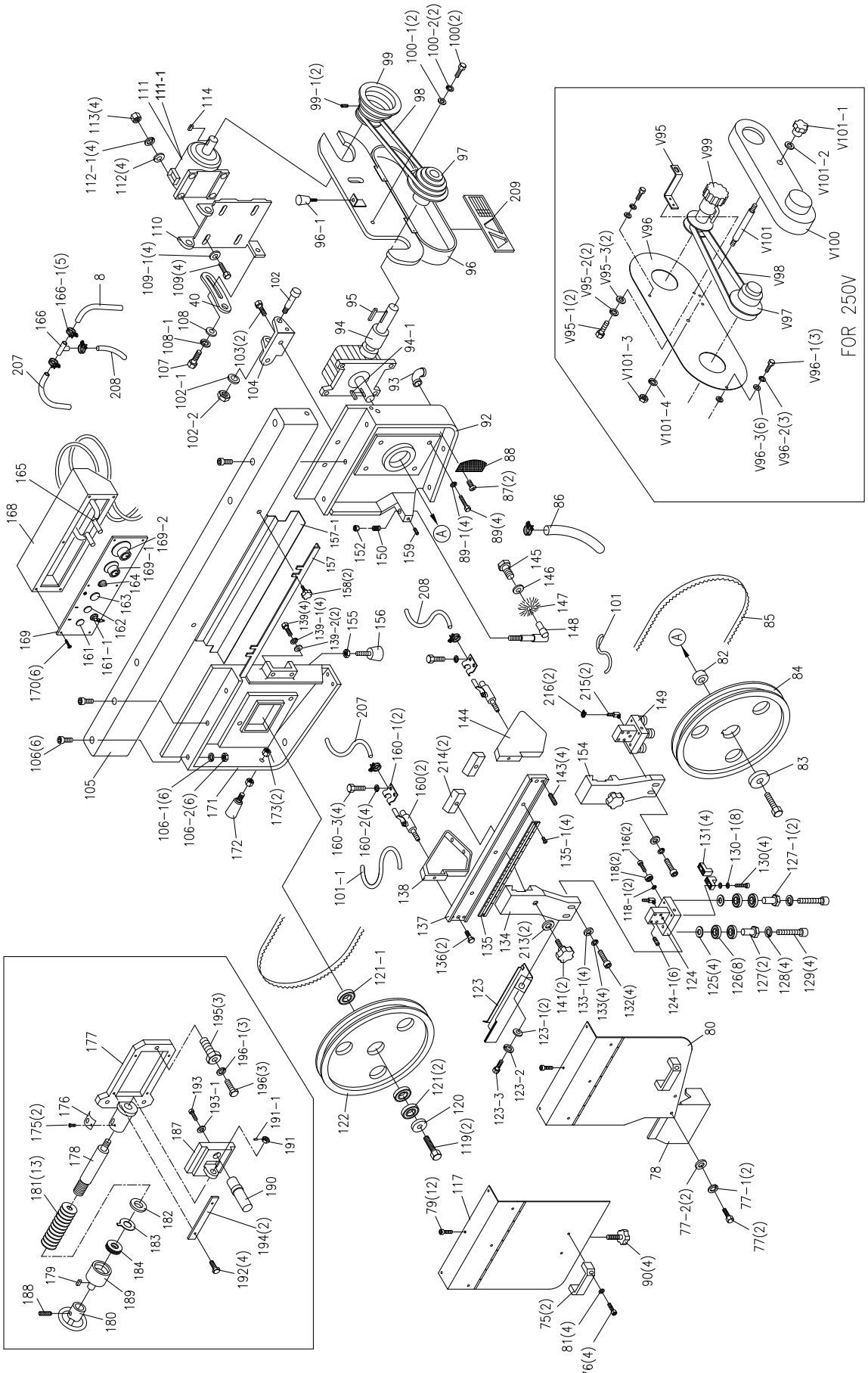

Figure 18. Parts Diagram - Sheet 2 of 2

Ref.	Description	Part Numbers	Qty
1	Base	965118101	1
2	Hex. Cap Bolt M12x65	*	4
3	Nut M12	*	4
4	Coolant Pump	965118701	1
5	Round Head Screw M6x16	*	2
6	Lock Washer M6	*	2
7	Hose	965118801	1
7-1	Hose Clamp 35MM	965118901	2
8	Hose	965119001	1
9	Coolant Gauge	965119101	1
9-1	Hex. Cap Bolt M10x30	*	2
9-2	Nut M10	*	2
10	Chip Tray	965119201	1
11	Bed	965119301	1
12	Hex. Cap Bolt M8x30	*	8
13	Washer M8	*	8
14	Lock Washer M8	*	8
15	Nut M8	*	8
16	Work Stop Bracket	965119401	1
17	Work Stop Rod	965119501	1
18	Lock Handle	965119601	1
19	Work Stop	965119701	1
20	Lock Knob 3/8”x1-1/4	965119801	1
21	Hand Wheel Assembly	965119901	1
21-1	Set Screw 5/16”x3/8	*	1
22	Lead Screw Seat	965120001	1
23	Hex. Cap Bolt M8x30	*	2
23-1	Lock Washer M8	*	2
23-2	Washer M8	*	2
24-1	Lead Screw	965120101	1
25-1	Lead Screw Bracket	965120201	1
25-2	Hex. Socket Cap Screw M8x25	*	2
26-1	Slide Bracket	965132601	1
26-2	Set Screw M6x8	*	1
27-1	Rack	965120301	1
28-1	Rack Block	965120401	1
29-1	Pin	965120501	1
30	Closed Bearing HK25 15	*	2
30-1	Bushing	965120601	1
31	Torsion Spring	965120701	1
32	Pivot Shaft	965120801	1
32-1	Spacer M12	*	2
32-2	Hex. Cap Bolt M12x20	*	2
33	Pivot Bracket	965120901	1
33-1	Set Screw M10x12	*	1
34	Nut M12	*	1
35	Washer M12	*	1
36	Hex. Cap Bolt M12x40	*	1

Ref.	Description	Part Numbers	Qty
37	Torsion Spring Shaft	965121001	1
38	C-Ring S-22	*	1
39	Hex. Cap Bolt M8x30	*	1
39-1	Washer M8	*	1
39-2	Nut M8	*	1
40	Motor Tilt Plate	965121101	1
41	Limit Switch Plate	965121201	1
42	Washer M8	*	2
43	Hex. Cap Bolt M8x20	*	2
43-1	Lock Washer M8	*	2
44	Hex. Cap Bolt M6x12	*	4
44-1	Washer M6	*	4
45	Limit Switch	965121301	1
46	Drain Plug 3/8PT	965121401	1
47	Cylinder Pin	965121501	1
48	C-Ring S-20	*	1
49	C-Ring S-25	*	2
50	Hex. Cap Bolt M10x30	*	1
50-1	Nut M10	*	1
51	Hydraulic Cylinder Assembly	965121601	1
52	Cylinder Pin-Top	965121701	1
52-1	Pin	965121801	1
53	Hydraulic Mounting Plate-Top	965121901	1
53-1	Lock Washer M10	*	2
53-2	Hex. Cap Bolt M10x30	*	2
54	Hex. Cap Bolt M12x50	*	2
55	Washer M12	*	2
56	Lock Plate	965122001	1
57	Nut 1/2”	*	2
58	Spring Bracket	965122101	1
59	Spring Adjustable Rod 1/2”	965122201	1
60	Spring	965122301	1
61	Angle Scale	965122401	1
61-1	Rivet	965122501	3
62	Hex. Cap Bolt M12x40	*	2
63	Lock Washer M12	*	2
63-1	Washer M12	*	1
64	Vise Jaw-Left	965122601	1
65	Hex. Cap Bolt M12x50	*	1
66	Lock Washer M12	*	2
66-1	Washer M12	*	1
67	Vise Jaw-Right	965132801	1
68	Hex. Cap Bolt M12x40	*	1
69	Hex. Socket Cap Screw M6x30	*	1
69-1	Lock Washer M6	*	1
69-2	Washer M6	*	1
70	Electrical Panel Cover	965122701	1

* Hardware item, available locally

Ref.	Description	Part Numbers	Qty
70-1	Pin	965122801	2
71	Fuse Block 1A	965122901	2
71-1	Fuse Block 2A	965123001	1
72	Contactor (main motor)	965123101	1
72-1	Contactor (pump)	965123201	1
72-2	Overload Relay	965123301	1
73	Transformer	965123401	1
74	Terminal Strip	965123501	1
75	Handle	965123601	2
76	Round Head Screw M6x16	*	4
77	Hex. Cap Bolt M6x12	*	2
77-1	Lock Washer M6	*	2
77-2	Washer M6	*	2
78	Wire Brush Guard	965132701	1
79	Hex. Socket Cap Screw M6x8	*	12
80	Blade Wheel Cover-Right	965123701	1
81	Washer M6	*	4
82	Bushing	965123801	1
83	Washer	965123901	1
84	Drive Wheel	965124001	1
85	Blade, 1” x 0.032” x 130”	965124101	1
86	Hose	965124201	1
87	Round Head Screw M5x10	*	2
88	Filter Screen	965124301	1
89	Hex. Cap Bolt M12x35	*	4
89-1	Lock Washer M12	*	4
90	Lock Knob	965124401	4
92	Blade Wheel Box-Right	965124501	1
93	Connector	965124601	1
94	Gear Box Assembly	965124701	1
94-1	Key 8MM	*	1
95	Key 7MM	*	1
96	Pulley Cover	965124801	1
96-1	Lock Knob 1/4”	965124901	1
97	Gear Box Pulley	965125001	1
98	Belt A.39	965125101	1
99	Motor Pulley	965125201	1
99-1	Set Screw M8x10	*	2
100	Hex. Cap Bolt M8x16	*	2
100-1	Washer M8	*	2
100-2	Lock Washer M8	*	2
101	Hose	965125301	1
101-1	Hose	965125401	1
102	Support Shaft	965125501	1
102-1	Washer M12	*	1
102-2	Nut M12	*	1
103	Hex. Cap Bolt M12x35	*	2
104	Motor Mount Bracket	965125601	1

Ref.	Description	Part Numbers	Qty
105	Column	965125701	1
106	Hex. Socket Cap Screw M12x20	*	6
106-1	Lock Washer M12	*	6
106-2	Nut M12	*	6
107	Hex. Cap Bolt M8x30	*	1
108	Washer M8	*	1
108-1	Lock Washer M8	*	1
109	Hex. Cap Bolt M8x45	*	4
109-1	Washer M8	*	4
110	Motor Mount Plate	965125801	1
111	Motor	965125901	1
112	Washer M8	*	4
112-1	Lock Washer M8	*	4
113	Nut M8	*	4
114	Key 7MM	*	1
116	Hex. Socket Cap Screw M8x20	*	2
117	Blade Wheel Cover-Left	965126001	1
118	Ball Bearing	965126101	2
118-1	Lock Washer M8	*	2
119	Hex. Cap Bolt M12x20	*	2
120	Washer M12	*	1
121	Ball Bearing 6205Z	*	2
121-1	Ball Bearing 6205	*	1
122	Idler Wheel	965126201	1
123	Blade Guard	965126301	1
123-1	Washer M8	*	2
123-2	Lock Washer M8	*	1
123-3	Hex. Cap Bolt M8x16	*	1
124	Guide Bracket-Left	965126401	1
124-1	Set Screw M8x16	*	6
125	Washer M8	*	4
126	Ball Bearing 6201ZZ	*	8
127	Eccentric Sleeve	965126501	2
127-1	Centric Sleeve	965126601	2
128	Lock Washer M8	*	4
129	Hex. Socket Cap Screw M8x45	*	4
130	Hex. Socket Cap Screw M6x30	*	4
130-1	Washer M6	*	8
131	Tungsten Carbide Blade Guide	965126701	4
132	Hex. Cap Bolt M8x40	*	4
133	Lock Washer M8	*	4

* Hardware item, available locally

Ref.	Description	Part Numbers	Qty
133-1	Washer M8	*	4
134	Adjustable Bracket-Left	965126801	1
135	Scale	965126901	1
135-1	Round Head Screw	965127001	4
136	Hex. Socket Cap Screw M10x25	*	2
137	Slide	965127101	1
138	Blade Bracket-Left	965127201	1
139	Hex. Cap Bolt M12x30	*	4
139-1	Lock Washer M12	*	4
139-2	Washer M12	*	2
141	Knob	965127301	2
143	Set Screw M8x10	*	4
144	Blade Bracket-Right	965127401	1
145	Hex. Cap Bolt M6x12	*	1
146	Washer M6	*	1
147	Wire Brush	965127501	1
148	Wire Brush Rod	965127601	1
149	Guide Bracket-Right	965127701	1
150	Spring	965127801	1
152	Nut M10	*	1
154	Adjustable Bracket-Right	965127901	1
155	Nut M12	*	1
156	Stand Bolt M12x50	*	1
157	Blade Guard	965128001	1
157-1	Blade Guard-Down	965128101	1
158	Lock Knob	965128201	2
159	Set Screw M6x8	*	1
160	Adjusting Valve	965128301	2
160-1	Brace	965128401	2
160-2	Lock Washer M6	*	4
160-3	Hex. Cap Bolt M6x12	*	4
161	Power Indicator Light	965128501	1
161-1	Switch with Key	965128601	1
162	Start Switch	965128701	1
163	Emergency Stop Switch	965128801	1
164	Pump Switch	965128901	1
165	Speed Control Valve	965129001	1
166	Connection Tube	965129101	1
166-1	Hose Clamp	965129201	5
168	Control Box	965129301	1
169	Control Panel	965129401	1
169-1	Oil Regulating Micro Switch	965129501	1
169-2	On/Off Switch	965129601	1
170	Round Head Screw M5x10	*	6
171	Wheel Box-Left	965129701	1

Ref.	Description	Part Numbers	Qty
172	Handle	965129801	1
173	Nut M12	*	2
175	Round Head Screw M5x10	*	2
176	Indicator Scale	965129901	1
177	Slide Bracket	965130001	1
178	Tension Shaft	965130101	1
179	Key 5MM	*	1
180	Handwheel	965130201	1
181	Disc Spring	965130301	13
182	Flat Washer	*	1
183	Tension Indicator	965130401	1
184	Thrust Bearing	965130501	1
187	Slide	965130601	1
188	Set Screw M8x10	*	1
189	Extension Bar	965130701	1
190	Blade Wheel Shaft	965130801	1
191	Nut M12	*	1
191-1	Set Screw M6x8	*	1
192	Hex. Socket Cap Screw M8x25	*	4
193	Hex. Cap Bolt M12x20	*	1
193-1	Washer M12	*	1
194	Gib	965130901	2
195	Hex. Cap Bolt M16x30	*	3
196	Hex. Cap Bolt M10x60	*	3
196-1	Lock Washer M10	*	3
199	Hose Fitting	965131001	1
200	Hose Clamp 14MM	965131101	1
207	Hose	965131201	1
208	Hose	965131301	1
209	Speed Chart Label	965131401	1
213	Washer M10	*	2
214	Clamp	965131501	2
215	Connector (plastic)	965131601	2
216	Hose Clamp	965131701	2
V95	Support Rack	965131801	1
V95-1	Hex. Cap Bolt M6x12	*	2
V95-2	Lock Washer M6	*	2
V95-3	Washer M6	*	2
V96	Pulley Cover Plate	965131901	1
V96-1	Hex. Cap Bolt M8x16	*	3
V96-2	Lock Washer M8	*	3
V96-3	Washer M8	*	6
V97	Gear Box Pulley	965132001	1
V98	Belt	965132101	1

* Hardware item, available locally

Ref.	Description	Part Numbers	Qty
V99	Variable Speed Adjustable	965132201	1
V100	Pulley Cover	965132301	1
V101	Support Shaft	965132401	1
V101-1	Knob 3/8”	965132501	1
V101-2	Washer M10	*	1
V101-3	Nut 5/16”	*	1
V101-4	Lock Washer M8	*	1

* 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 vises, clamps, positioning tables, arbor presses, 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.

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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.

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