

PALMGREN®

24" TOOL ROOM 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 Model 9683122 needs to be 220 volt/ 9.7 amp, three phase, 60 Hz. The standard allowable voltage variation is plus or minus 10%.

The power supply to Model 9683123 needs to be 440 volt/ 4.9 amp, three phase, 60 Hz. The standard allowable voltage variation is plus or minus 10%.

TOOLS NEEDED:

Standard mechanic's hand tool set.

UNPACKING

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.

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

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.

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.

SPECIFICATIONS

	9683122	9683123
Blade Length	167.75" - 169"	167.75" - 169"
Blade Width	1/4" - 3/4"	1/4" - 3/4"
Blade Thickness	.035"	.035"
HP	3 HP	3 HP
Voltage	220V	440V
Amperage	9.7 A	4.9 A
Phase	3 PH	3 PH
Cutting Capacity Rectangle	14" x 22"	14" x 22"
Cutting Capacity Round	14"	14"
Cutting Capacity Square	13-1/2"	13-1/2"
Table Height	36.5"	36.5"
Table Tilt	45° right; 15° left	45° right; 15° left
Blade to Frame	13-3/4"	13-3/4"
Electric Welder	4.2 kVA	4.2 kVA
Grinder Motor	1/8 HP	1/8 HP
Machine Dimensions	53" x 40" x 77.5"	53" x 40" x 77.5"
Weight	1500 lbs	1500 lbs
Speeds	0 - 1650 sfpm	0-1650 sfpm
Table Dimensions	24.25" x 24.25"	24.25" x 24.25"
Blade Wheels Diameter	24"	24"

SAFETY RULES

WARNING: For your own safety, read operating instructions manual 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.

SAFETY RULES (CONTINUED)

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.

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.

INSTALLATION

POWER SOURCE

Model 9683122 is wired for 220 volt, 60 Hz power source.

Model 9683123 is wired for 440 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.

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.
- Inspect tool cords periodically, and, if damaged, have repaired by an authorized service facility.

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

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.
- 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
		240	50	100	150	300
		Minimum Gage for Cord				
More Than	Not More Than					
0	6		18	16	16	14
6	10		18	16	14	12
10	12		16	16	14	12
12	16		14	12	Not Recommended	

OPERATION

CONTROLS

Refer to Figures 1, 2 and 3.

- A. Speed Readout – Displays speed in feet per minute.
- B. Speed Selection Dial – Variable speed control.
- C. Power Switch – Main power control with key.
- D. Power Lamp – Lights up if power is getting to the machine.
- E. Saw Motor/Blade Welder Switch – Switches power between band saw motor and blade welder. (The saw motor and blade welder cannot operate at the same time.)
- F. Start – Starts the saw motor.
- G. Emergency Stop – Stops the machine quickly. To reset, twist and pull the knob to allow motor to be reactivated.

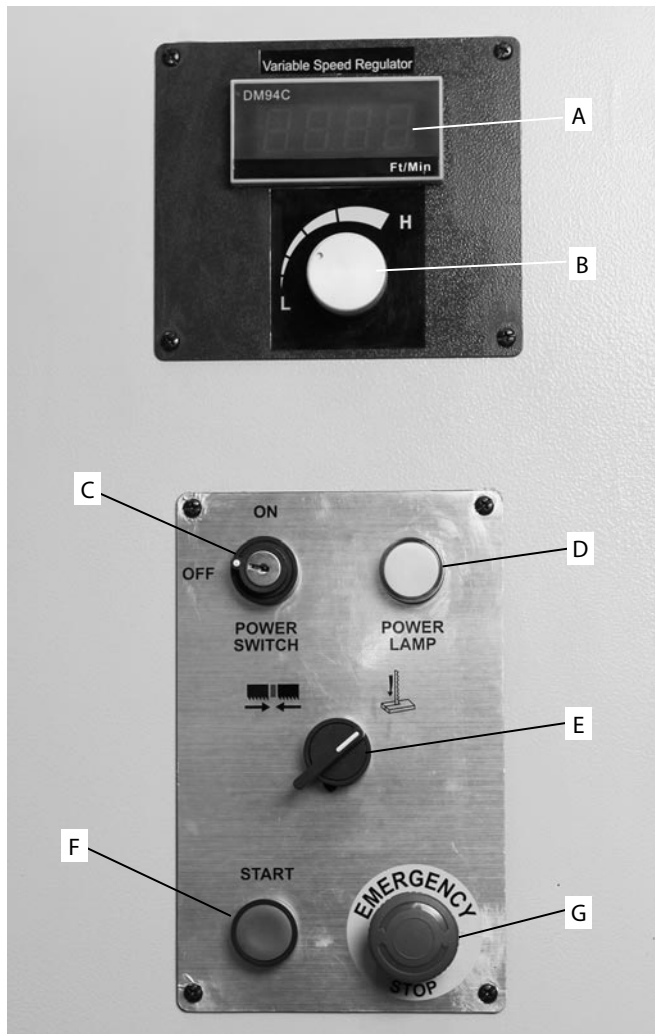


Figure 1 – Controls

- H. Blade Guide Up and Down Handwheel
- I. Blade Guide
- J. Blade Tension Handwheel



Figure 2 – Controls

- K. Blade Tracking Knob
- L. Blade Guide Lock Knob

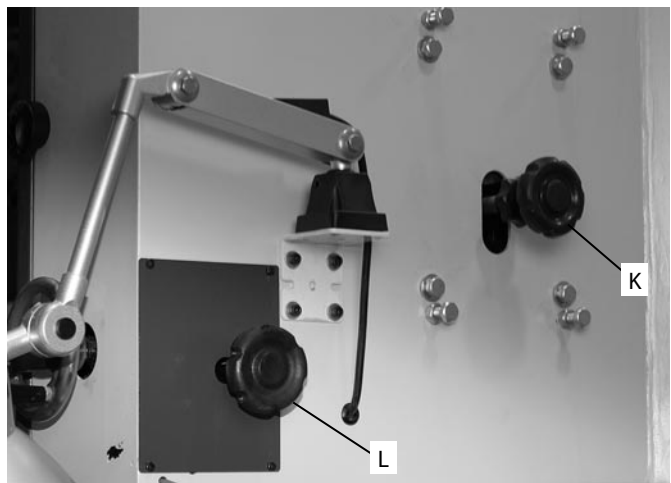


Figure 3 – Controls

INSTALLING/REPLACING BLADE

WARNING: Ensure the saw is disconnected from power supply, so there is no possibility of saw activation!

WARNING: When handling blades always wear thick work gloves.

REMOVE SAW BLADE

1. Open upper and lower cabinets
2. Loosen Blade tension handle "J". Beware the blade does not spring off the wheel
3. Start with the upper section and remove the saw blade from the top of the wheel
4. Work the saw blade out of the blade guide "I"
5. Slide the saw blade through the table slit
6. Remove the rest of the saw blade from around the lower wheel.

OPERATION (CONTINUED)

INSTALL NEW SAW BLADE

1. Start by wrapping the new saw blade around the lower wheel. Ensure the blade teeth are facing towards you and down towards the table.
2. Slide the new blade through the table slit
3. Slide the new saw blade through the long slit in the blade guide "I"
4. Wrap the new blade around the top of the upper wheel.
5. Finish by re-tensioning the upper wheel using the handwheel "J".

BLADE WELDING

The control panel for the blade welder is shown in Figure 4. The welding circuitry is energized independent of the band saw circuitry. To operate the welder, plug in the line cord to a proper power source.

CAUTION: Do not operate the band saw and the welder at the same time.

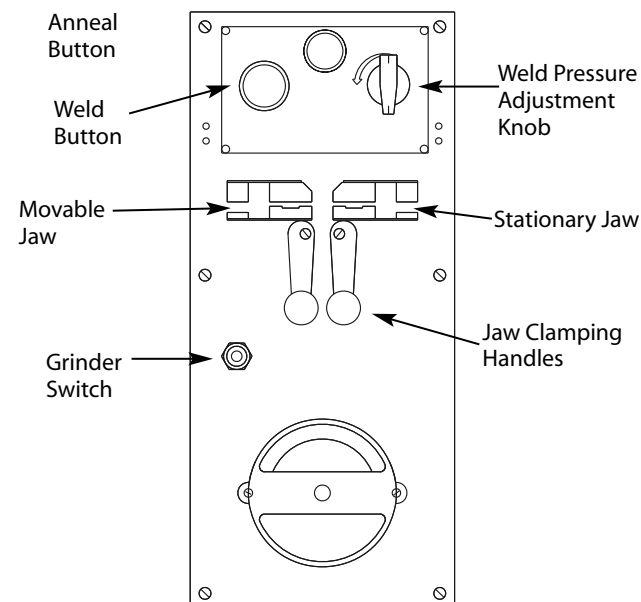


Figure 4 – Blade welder controls.

PREPARING BLADE FOR WELDING

1. A properly prepared blade is essential in producing a high-quality, long lasting band saw blade.
2. The blade must be cut to proper length.
3. Blade ends should be cut and ground square.
4. Any rust, oil or dirt must be removed.
5. Some teeth must be ground off blade ends depending upon the pitch of the blade.

BLADE CUTTING

Refer to Figure 5.

1. Cut the blade ends flat, square and smooth using the blade shear.
2. Lean the back of blade against the shear blade guide when cutting blade ends (See Figure 5).
3. Use grinder, as needed, to make blade ends flat, square and smooth.

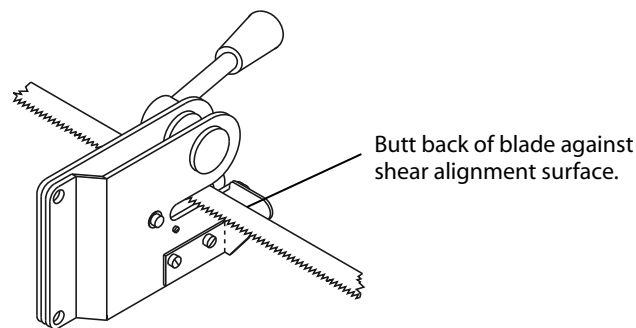


Figure 5 – Blade cutting.

BLADE MOUNTING

Refer to Figure 6.

1. Clean welder jaw of any scale, oil, rust or dirt. Clean blade ends which contact welder jaws to provide proper electrical contact.
2. Set weld pressure adjustment knob to "0" (released).
3. Insert one end of blade into stationary jaw with teeth facing out and blade end centered between jaws.
4. Firmly set back of blade against back alignment surface of welder jaw and clamp blade tight with the jaw clamping handle (See Figure 6).
5. Insert other end of blade into movable jaw; butt the blade ends together and clamp tight.

IMPORTANT: The blade ends should butt against each other over the full width of the blade and should not overlap (See Figure 6).

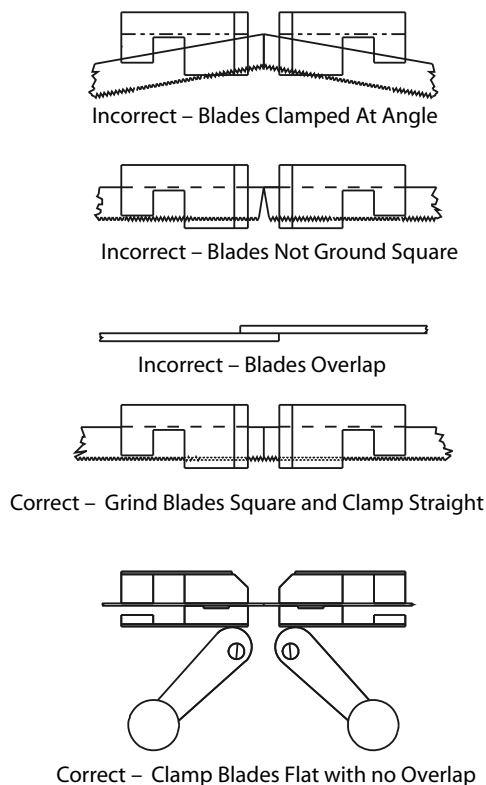


Figure 6 – Blade mounting and clamping.

OPERATION (CONTINUED)

TOOTH SPACING

Refer to Figure 7.

1. Approximately 1/8" of blade will be consumed during the welding process. This blade loss must be taken into account.
2. All blades must have some of the teeth ground off so that the tooth spacing will be uniform after welding.
3. Tooth grinding procedure must be done carefully in order to grind the proper number of teeth and not to grind below gullet which would weaken the blade.

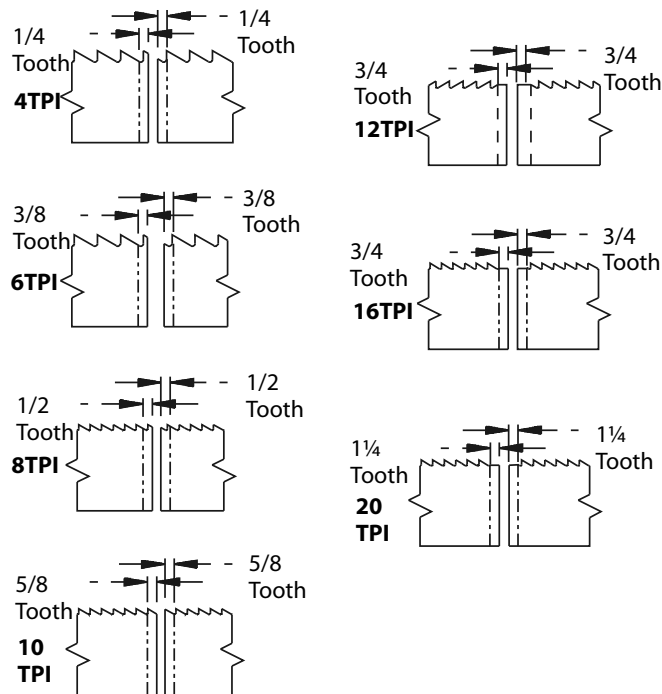


Figure 7 – Tooth spacing (TPI = teeth per inch).

BLADE WELDING

Refer to Figure 8.

1. To set weld pressure adjustment knob, turn the knob counterclockwise to increase the pressure. The pressure adjustment knob controls force applied to the movable jaw.

NOTE: Weld pressure adjustment knob must be reset to "0" after each welding.

2. Wider blades and thicker blades need more weld pressure to force the blade ends together during welding. If too little pressure is applied, the blade ends will melt. Too much pressure may cause the blades to overlap.

For example, for 1/2" wide blades, turn the pressure adjustment knob counterclockwise until the pointer is at 6 (See Figure 8).

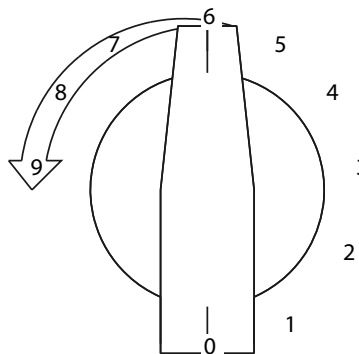


Figure 8 – Weld Pressure Adjustment

3. If blade melts, increase pressure. If there are "blow holes" in the weld, increase pressure.
 4. If blade overlaps, decrease pressure.
 5. Wider blades need more pressure and thinner blades need less pressure. Weld pressure is also affected by blade material.
- WARNING:** Welding operation produces sparks at blade intersection. Step away to left side of welder during welding operation.
- WARNING:** Always wear ANSI approved safety glasses during welding. Sparks from welder can cause serious injury to eyes.
6. Press weld button and hold down. The blade ends will become red hot and soft. The movable jaw will force the blade ends together creating a bead of metal and the limit switch will automatically cut power to jaws.
 7. Release weld button and wait 10 seconds to allow blade to cool.
 8. Reset weld pressure adjustment to "0".
 9. Heat build-up in the tool can cause serious damage to the tool. Allow transformer to cool down to room temperature between each welding or each annealing operation. It is a safe procedure to let the transformer be idle for at least 3 minutes between successive welding/annealing operations.

BLADE ANNEALING

1. After the blade has been welded, the weld area will be very hard and brittle. Before the blade can be used, it must be annealed and the flash removed.
2. The blade weld is annealed by heating the blade just under the melting temperature and then slowly cooling the weld.

NOTE: Reset weld pressure adjustment knob to "0" prior to annealing. Failure to do so can cause damage to transformer.

3. Press the anneal button until the weld area glows a cherry red and then release the anneal button.

CAUTION: The blade weld will melt, destroying the weld, if the anneal button is not released as soon as the weld glows cherry red.

4. Let the blade cool for several seconds.
5. Press the anneal button again, but release the button before the weld glows as brightly as the first time.
6. Wait several seconds until the blade cools further.
7. Repeat the anneal process 6 or 7 times, decreasing the anneal temperature each time.
8. The weld flash must be ground from the blade. See "Grinding Blade".

OPERATION (CONTINUED)**GRINDING BLADE**

1. After annealing the blade, the metal buildup or flash must be ground from the blade.
2. Toggle grinder switch to the ON position.
3. Flip the grinder guard open, exposing the top of the grinding wheel.
4. Weld should be ground to same thickness as blade.
5. Grind flash off under-side of blade taking care not to grind into blade.
6. Turn blade inside out and grind other side of blade same as first side (or, flip the grinder guard to the closed position and use the bottom of the wheel).
7. Take care not to grind into blade.
8. Turn blade inside out again (to original shape).
9. Turn grinder off when grinding is completed. The blade must be annealed again.

ANNEAL BLADE AFTER GRINDING

1. After flash has been removed, anneal the blade a second time. The weld may have been hardened by heat created during grinding. Repeat "Blade Annealing" step.
2. After second blade annealing operation, the blade is ready for installation onto band saw. Follow band saw instruction when installing and adjusting blade.

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.

220V ELECTRICAL DIAGRAM

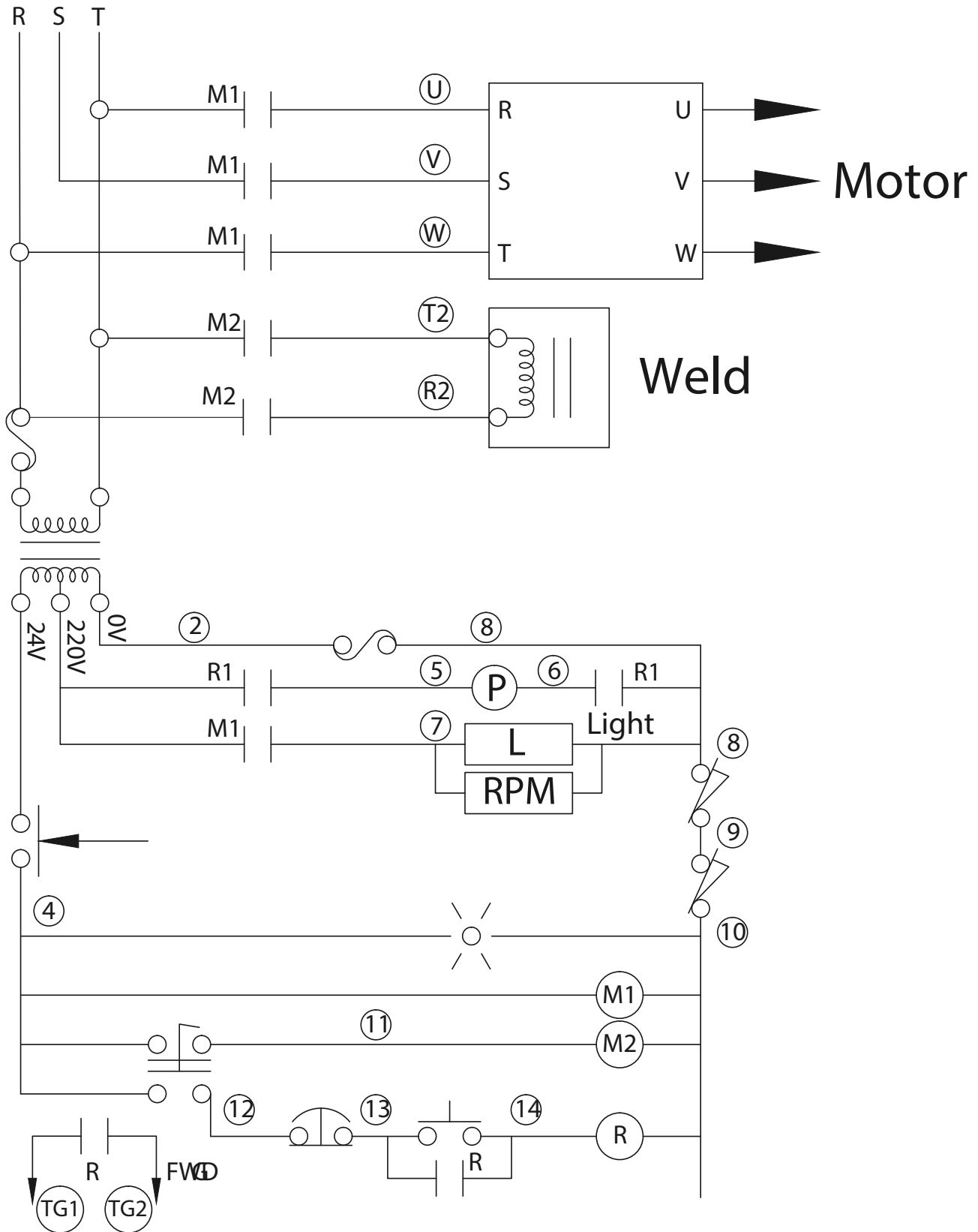


Figure 9 – 9683122 electrical diagram, 220V.

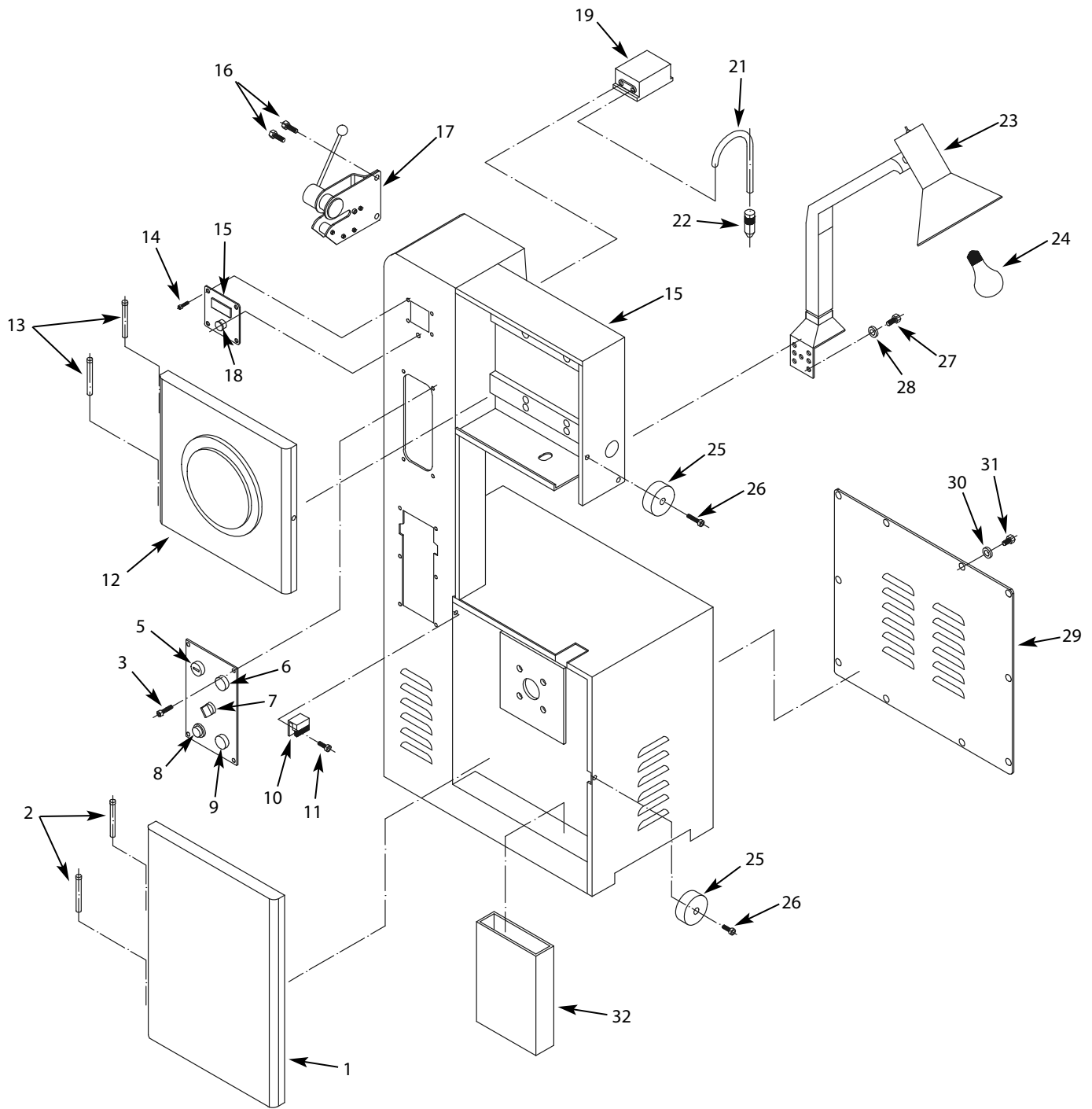


Figure 11 – Repair parts illustration for cabinet.

REPLACEMENT PARTS LIST FOR CABINET

Ref. No.	Description	Part Number	Qty.
1	Wheel Door Lower	9644969.01	1
2	Hinge Pin Lower	9644970.01	2
3	Philips-head Screw M5*0.8*8mm	*	4
4	Control Panel	9644971.01	1
5	Power Switch On/Off Button	9644972.01	1
6	Power Lamp	9644973.01	1
7	Selector Switch Button	9644974.01	1
8	Motor On/Off Button	9644975.01	1
9	Emergency Stop Button	9644976.01	1
10	Blade Cleaning Brush	9644977.01	1
11	Phlp HD Scr M6*1.0P*25mm	*	1
12	Wheel Door Upper	9644978.01	1
13	Hinge Pin Upper	9644979.01	2
14	Philips-head Screw M5*0.8*8mm	*	4
15	Digital Display Bracket	9644980.01	1
16	Cap Screw M8*1.25P*16mm	*	2
17	Blade Shear	9644981.01	1
18	Variable Speed Dial	9644982.01	1
19	Air pump	9644983.01	1
20	Bandsaw Cabinet	9644984.01	1
21	Air Hose 4*6mm	N/A	1
22	Air Nozzle	9644985.01	1
23	Work Lamp 220v	9644986.01	1
24	Light Bulb 220v	9644987.01	1
25	Door Knob	9644988.01	2
26	Philips-head Screw m6*1.0P*15mm	*	2
27	Cap Screw M6*1.0P*15mm	*	4
28	Flat Washer 6mm	*	4
29	Motor Access Panel	9644989.01	1
30	Flat Washer 6mm	*	10
25	Hex Bolt M6*1.0P*10mm	*	10
32	Chip Pan	9644990.01	1

(Δ) Not shown.

(N/A) Not available as repair part.

(*) Standard hardware item, available locally.

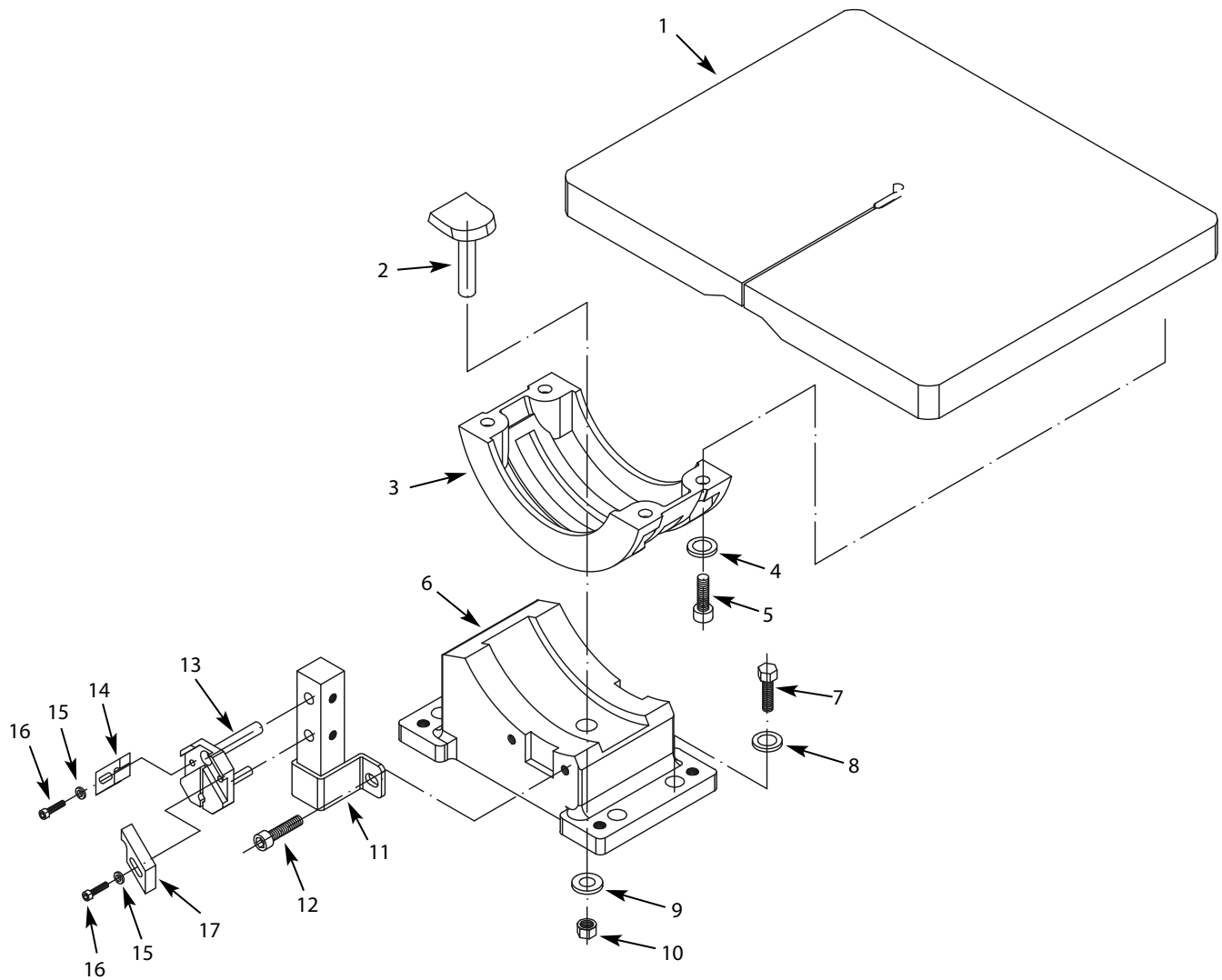


Figure 12 – Repair parts illustration for table and lower guide.

REPLACEMENT PARTS LIST FOR LOWER GUIDE

Ref. No.	Description	Part Number	Qty.
1	Table	9644991.01	1
2	Fixing Screw	9644992.01	1
3	Tilting (Seat L.R)	9644993.01	1
4	Washer M8	*	4
5	Hex Socket Cap M8*1.25P*20mm	*	4
6	Trunion Base	9644994.01	1
7	Hex bolt M8*1.25P*20mm	*	4
8	Washer M8	*	4
9	M10 Washer	*	4
10	Hex Nut M10*1.5P	*	4
11	Lower Guide Rod	9644995.01	1
12	Hex Socket Cap x2 M6*1.0P*25mm	*	2
13	Guide Seat (Lower)	9644996.01	1
14	Tungsten Support	9644997.01	2
15	M6 Washer	*	2
16	Hex Socket Cap M6*1.0P*20mm	*	2
17	Blade support	9644998.01	1

(Δ) Not shown.

(N/A) Not available as repair part.

(*) Standard hardware item, available locally.

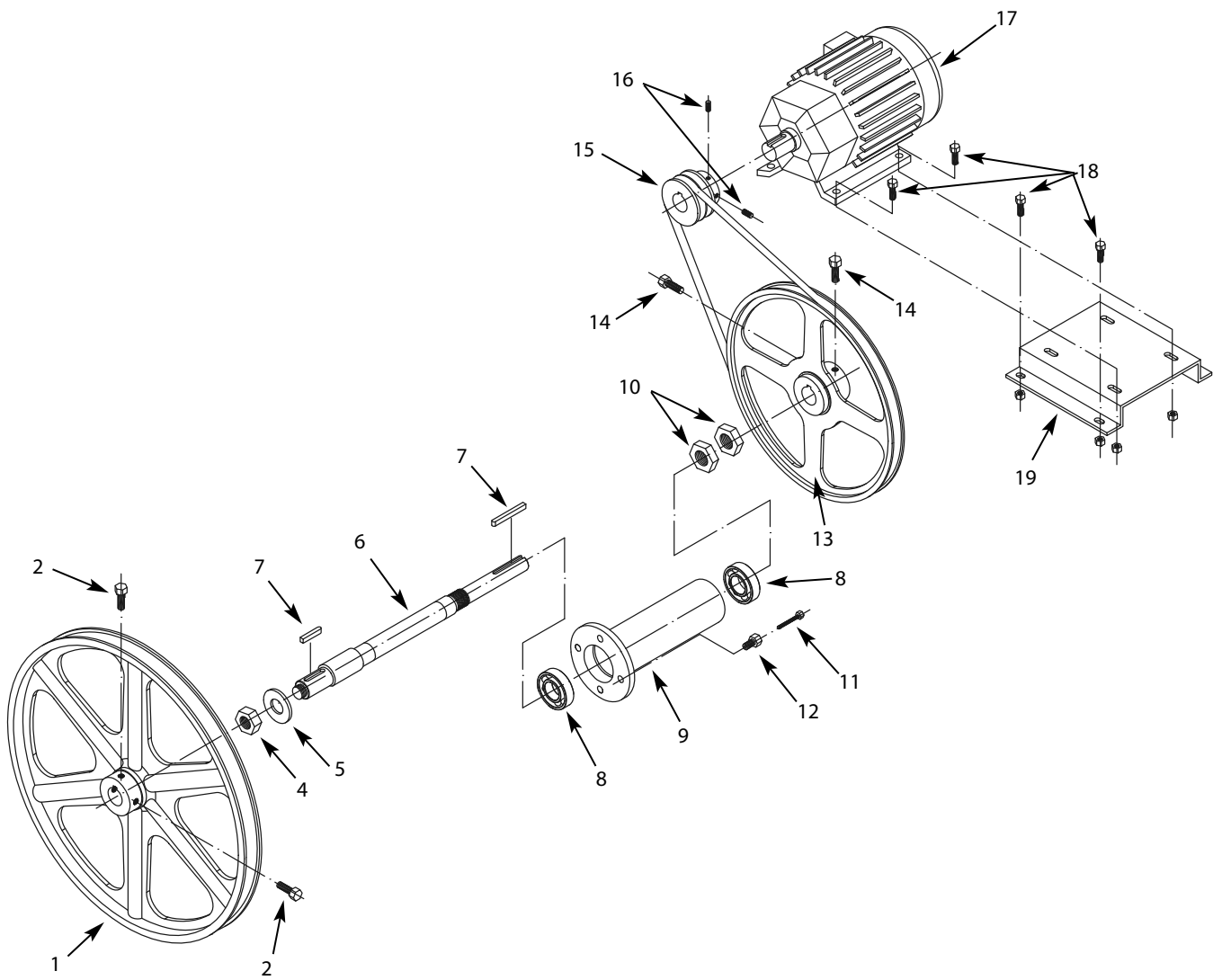


Figure 13 – Repair parts illustration for motor and lower wheel.

REPLACEMENT PARTS LIST FOR MOTOR AND LOWER WHEEL

Ref. No.	Description	Part Number	Qty.
1	Wheel Lower	9644999.01	1
2	Hex Bolt M10*1.5P*10mm	*	2
3	Wheel Tire	9645000.01	1
4	Hex Nut M20*1.5P	*	1
5	Washer M20	*	1
6	Lower Wheel Shaft	9645001.01	1
7	Key 7*7*26	*	2
8	Bearing 6206	*	2
9	Bearing Housing	9645002.01	1
10	Hex Nut M28*1.75P	*	2
11	Hex Bolt M10*1.5P*50mm	*	4
12	Special Screw	9645003.01	4
13	Wheel Pulley	9645004.01	1
14	Set Screw M12*1.75P*35mm	*	2
15	Motor Pulley	9645005.01	1
16	Set Screw M8*1.25P*10mm	*	2
17	Motor 3 HP, 220 V, 3 PH (Model 9683122)	9645006.01	1
17	Motor 3 HP, 440 V, 3 PH (Model 9683123)	9645075.01	1
18	Hex Bolt M8*1.25P*25mm	*	4
19	Base of Gear Reducer	9645007.01	1
20	V-Belt	9645008.01	1

(Δ) Not shown.

(N/A) Not available as repair part.

(*) Standard hardware item, available locally.

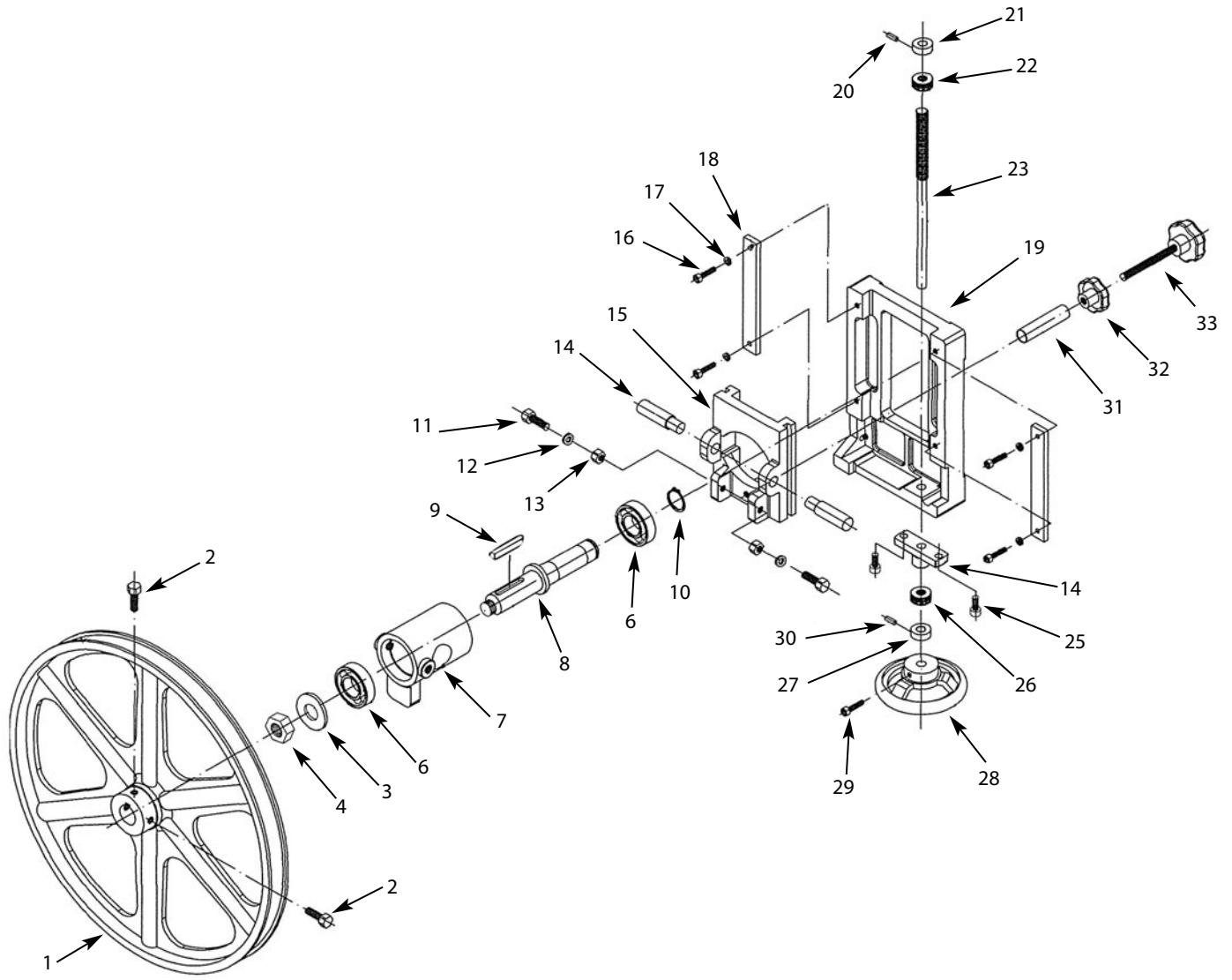


Figure 14 – Repair parts illustration for upper wheel.

REPLACEMENT PARTS LIST FOR UPPER WHEEL

Ref. No.	Description	Part Number	Qty.
1	Wheel Upper	9645009.01	1
2	Hex Bolt M10*1.5P*10mm	*	2
3	Wheel Upper	9645010.01	1
4	Hex Nut M20*1.5P	*	1
5	Washer M20	*	1
6	Bearing 6206	*	2
7	Bearing Housing	9645011.01	1
8	Upper Wheel Shaft	9645012.01	1
9	Key 7*7*26mm	*	2
10	Retaining Ring STW30#	*	1
11	Hex Bolt 3/8-16*1/12	*	2
12	Lock Washer 3/8	*	2
13	Hex Nut 3/8	*	2
14	Pivot Pin	9645013.01	2
15	Upper Wheel Bracket	9645014.01	1
16	Hex Bolt M8*1.25P*25mm	*	4
17	Flat Washer 8mm	*	4
18	Bracket Plate	9645015.01	2
19	Tensioning Bracket	9645016.01	1
20	Set Screw M6*1.0P*6mm	*	1
21	Collar	9645017.01	1
22	Thrust Bearing 2901	9645018.01	1
23	Tension Leadscrew	9645019.01	1
24	Leadscrew Bracket	9645020.01	1
25	Hex Bolt M8*1.25P*25mm	*	2
26	Thrust Bearing 2901	9645021.01	1
27	Collar	9645022.01	1
28	Tensioning Handwheel	9645023.01	1
29	Hex Bolt 8*1.25*10mm	*	1
30	Set crew 6*1.0*6mm	*	1
31	Tube	9645024.01	1
32	Lock Knob (small) M10*1.5P	9645025.01	1
33	Lock Knob (Large) M1.*1.5P	9645026.01	1

(Δ) Not shown.

(N/A) Not available as repair part.

(*) Standard hardware item, available locally.

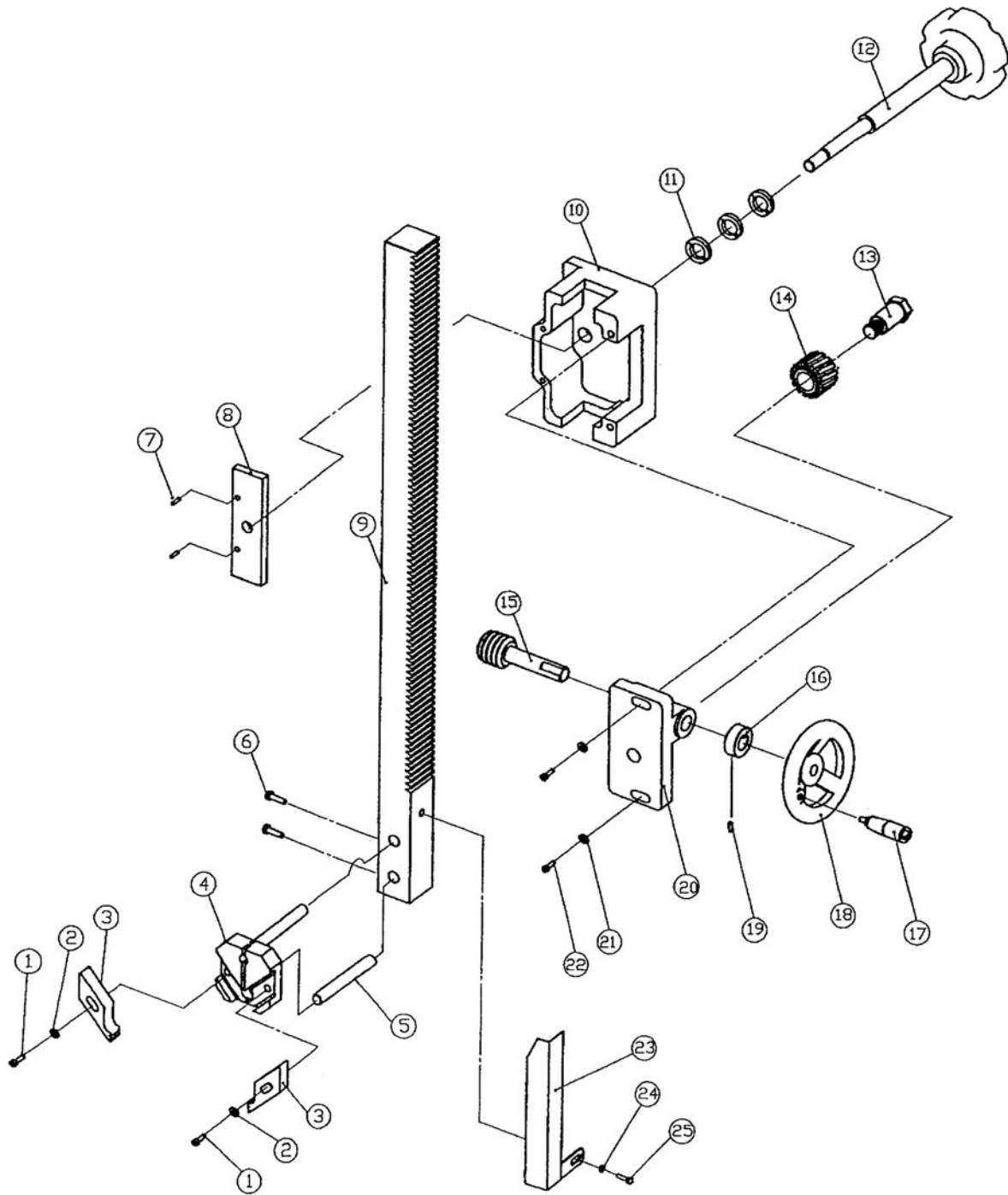


Figure 15 – Repair parts illustration for guide post.

REPLACEMENT PARTS LIST FOR GUIDE POST

Ref. No.	Description	Part Number	Qty.
1	Hexagon socket bolt M6*1P*20L	*	2
2	Flat Washer 6mm	*	2
3	Tungsten-support	9645027.01	2
4	Guide seat (upper)	9645028.01	1
5	B1 Tungs bar crown(upper)	9645029.01	1
6	Hexagon Socket bolt M6*1P*20L	*	2
7	Pin 4*6	*	2
8	Ascending/Descending Fixing Plate	9645030.01	1
9	Ascending/Descending Guide rod	9645031.01	1
10	Ascending/descending Bracket	9645032.01	1
11	Lock Washer 14mm	*	3
12	Lock knob	9645033.01	1
13	Screw worm	9645034.01	1
14	Gear Worm	9645035.01	1
15	Wormshaft	9645036.01	1
16	Collar	9645037.01	1
17	Handle	9645038.01	1
18	Handwheel	9645039.01	1
19	Pin Spring	*	1
20	worm shaft bracket	9645040.01	1
21	Spring washer M6	*	2
22	Hexagon socket bolt M6*1P*20L	*	2
23	Guard Blade Upper	9645041.01	1
24	Washer Flat	*	1
25	Screw Cap	*	1

(Δ) Not shown.

(N/A) Not available as repair part.

(*) Standard hardware item, available locally.

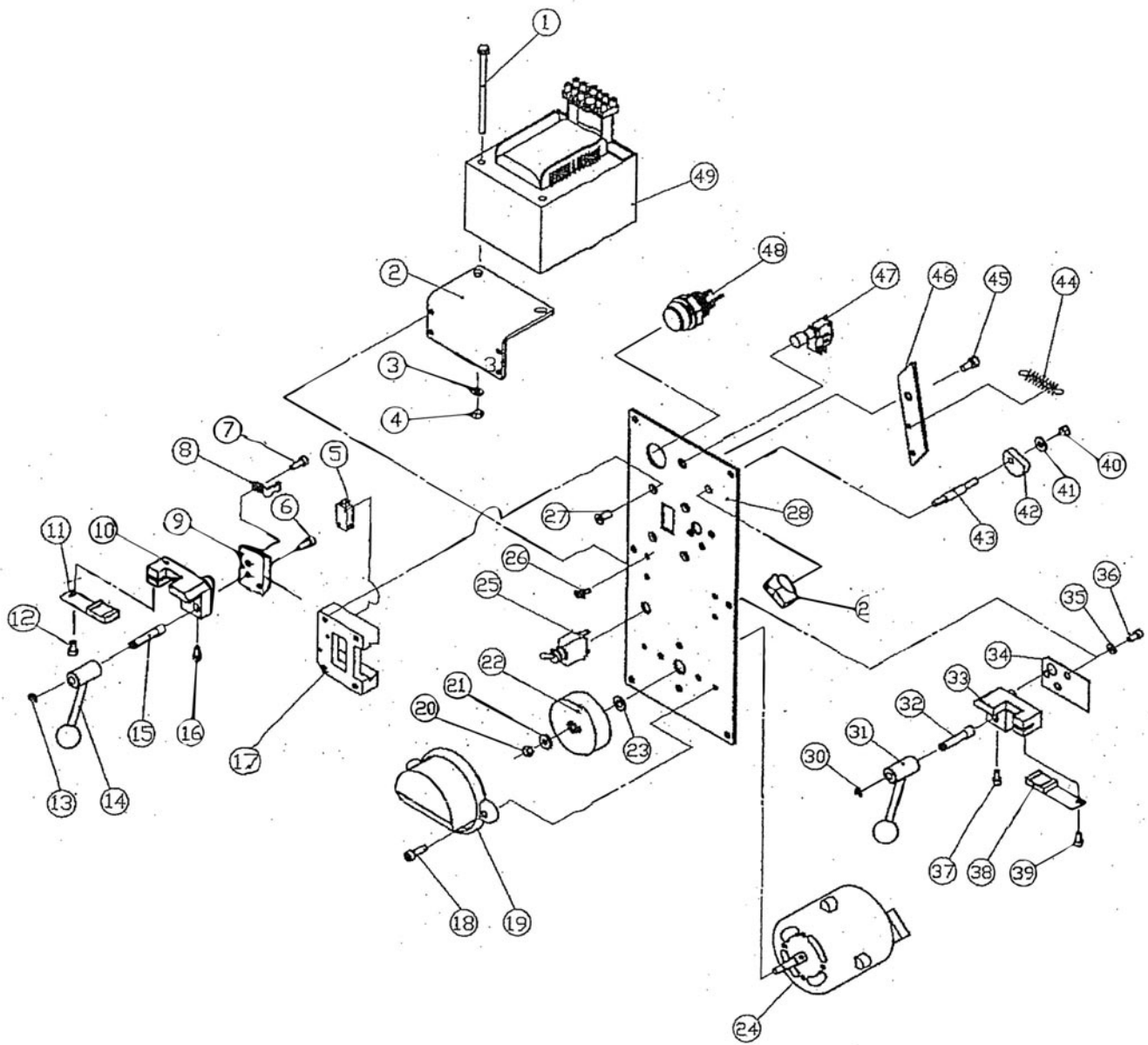


Figure 16 – Repair parts illustration for welding station.

REPLACEMENT PARTS LIST FOR WELDING STATION

Ref. No.	Description	Part No.	Qty.	Ref. No.	Description	Part No.	Qty.
1	Hex Nut	*	2	26	Screw AP M6*1.0P*16L	*	1
2	Bracket Transformer	9645042.01	1	27	Screw AP M6*1.0P*20L	*	1
3	Washer M6	*	2	28	Panel Welding	9645055.01	1
4	Nut M6	*	2	29	Clamp pressure bottom	9645056.01	1
5	Sensor	9645043.01	1	30	Retaining ring	*	1
6	Hexagon Socket Bolt M6*1.0P*25L	*	1	31	Handle A Centerless	9645057.01	1
7	Hexagon Socket Bolt M6*1.0P*10L	*	1	32	Shaft Centerless Handle	9645058.01	1
8	Base Limit Switch	9645044.01	1	33	Right Welding Base	9645059.01	1
9	Block Sliding	9645045.01	1	34	Insulating plate	9645060.01	1
10	Left Welding Base	9645046.01	1	35	Washer Flat M6	*	1
11	Left Pad Jaw Movable Welding Fixed Blade	9645047.01	1	36	Hexagon socket bolt M6*1.0P*20L	*	1
12	Hexagon Socket Bolt M6*1.0P*12L	*	1	37	Hexagon socket blot M6*1.0P*20L	*	1
13	Retaining Ring	*	1	38	Right pad Jaw Movable Welding Fixed Blade	9645061.01	1
14	Handle B Centerless	9645048.01	1	39	Hexagon socket bolt M6*1.0P*20L	9645062.01	1
15	Shaft Centerless Handle	9645049.01	1	40	Nut Hex M6	*	1
16	Hexagon Socket Bolt M6*1.0P*12L	*	1	41	Washer Flat M6	*	1
17	Pad Sliding	9645050.01	1	42	Pressured Cam	9645063.01	1
18	Hexagon Socket Bolt M6*1.0P*16L	*	2	43	Shaft Cam	9645064.01	1
19	Grinder Cover	9645051.01	1	44	Spring	9645065.01	1
20	Nut M6	*	1	45	Screw Pressure Cross	9645066.01	1
21	Washer Flat M6	*	1	46	Plate Pressure Cross	9645067.01	1
22	Grinding Wheel	9645052.01	1	47	ANNEALING Push-Button Switch Red	9645068.01	1
23	Washer M6	*	1	48	WELDING Push-Button Switch Green	9645069.01	1
24	1/8HP Motor Grinder	9645053.01	1	49	Transformer 4.2KVA	9645070.01	1
25	ON/OFF Switch	9645054.01	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 vises, clamps, positioning tables, tombstones, jack screws and vise accessories - LIFETIME.

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

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

Failure to follow these instructions will void the warranty.

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

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