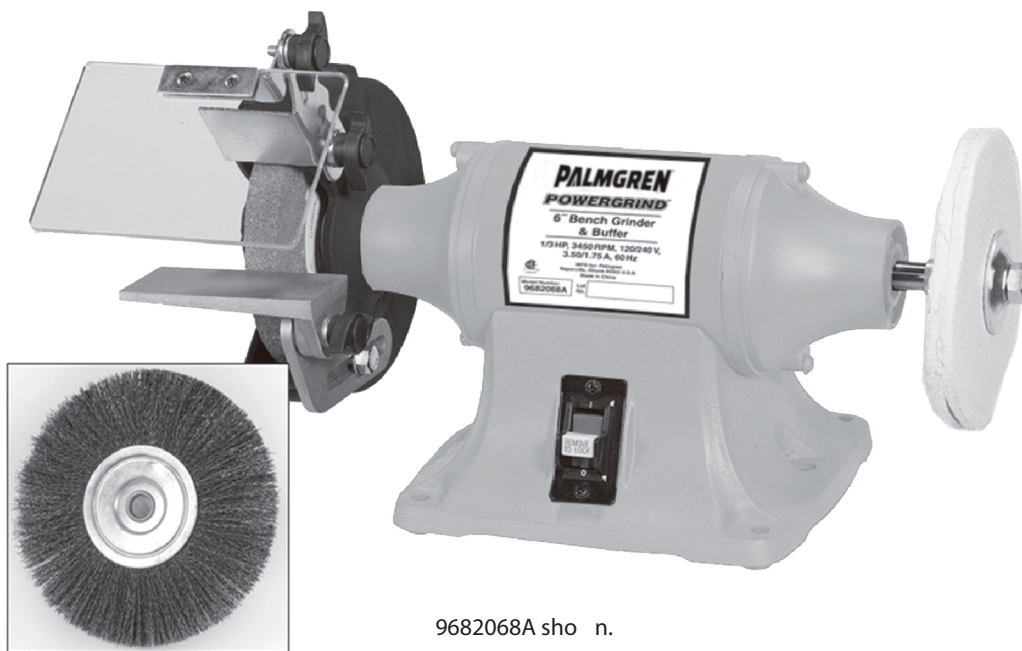


PALMGREN®

6" & 8"

COMBINATION GRINDER/BUFFER



9682068A sho n.

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

DESCRIPTION

Palmgren Combination Grinder/Buffers are equipped with a totally enclosed ball bearing motor. Armature assembly is dynamically balanced for smooth operation. Removable wheel guard allows for easy changing of wheels. Tool rest is adjustable for wheel wear and angle grinding. Grinder/Buffers come complete with spark guard, safety eyeshield and one each grinding wheel, wire wheel and buffing wheel.

UNPACKING

Check for shipping damage. If damage has occurred, a claim must be filed with the carrier immediately. Check for completeness. Immediately report missing parts to dealer.

To be certain the grinding wheels have not been damaged in shipment, strike the edges slightly with a metal object. A ringing sound indicates a good wheel, but a dull noise may signal a fracture.

WARNING: If you suspect a wheel of being fractured, replace it immediately. Fractured wheels may shatter, causing serious injury.

SPECIFICATIONS

82068 - 6" Combination Grinder/Buffer

Horsepower	1/3
Voltage	120/240
Amperes	3.5/1.75
Hertz	60
Phase	Single
RPM	3450
Rotation (viewed from left side)	Clockwise
Wheel diameter	6"
Wheel bore	1/2"

82069 - 8" Combination Grinder/Buffer

Horsepower	3/4
Voltage	120/240
Amperes	7.0/3.5
Hertz	60
Phase	Single
RPM	3450
Rotation (viewed from left side)	Clockwise
Wheel diameter	8"
Wheel bore	5/8"

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

CAUTION: Always follow proper operating procedures as defined in this manual even if you are familiar with 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 and work benches 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 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 the 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 clean for safest operation.
- Remove adjusting tools. Form habit of checking to see that adjusting tools are removed before turning 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 of moving parts, breakage of parts, 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 the parts list to order replacement parts.)

SAFETY RULES (CONTINUED)**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 from power when changing accessories such as grinding wheels, buffing wheels and the like.
- Avoid accidental start-up. Make sure that the switch 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 grinding surfaces.
- Never leave a 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 over.
- Know your tool. Learn the tool's operation, application and specific limitations.
- Use recommended accessories. Understand and obey all safety instructions supplied with accessories. The use of improper accessories may cause risk of injury to persons.
- Do not over tighten wheel nut. Replace cracked wheel immediately. Use only flanges supplied with the grinder.
- Adjust distance between wheel and tool rest to maintain $\frac{1}{16}$ " or less gap.
- Handle the workpiece correctly. Whenever possible, use tool rest to support workpiece during grinding operation. Turn tool off if it jams.
- Always use guards and eyeshields.
- Clean grinding dust from beneath tool frequently.

ASSEMBLY

Parts to be fastened to the unit should be located and accounted for before assembly.

WARNING: Only use grinding wheels and wire wheels on the guarded shaft end, installed within the wheel guard. Grinding wheels and wire wheels can shatter and flying debris may cause serious injury.

IMPORTANT: Do not attempt assembly if parts are missing. Use this manual to order replacement parts.

- A Knob (1)
- B Flat washer (2)
- C Tool rest bracket (1)
- D Tool rest (1)
- E Flat washer (1)
- F Knob (1)
- G Pan head screw (2)
- H Upper eyeshield bracket (1)
- I Eyeshield (1)
- J Lower eyeshield bracket (1)
- K Knob (1)
- L Spark deflector (1)
- M Knob (1)
- N Spring Washer (1)
- O Wheel Guard (1)
- P Wheel (1)

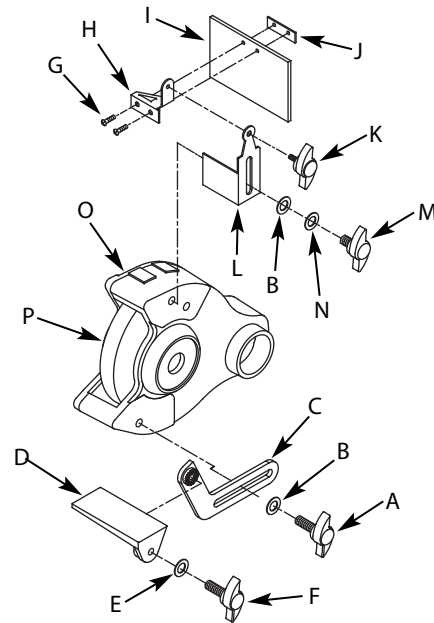


Figure 1 – Tool Rest and Eyeshield Assembly

TOOL REST ASSEMBLY

- 1) Place tool rest (D) over tool rest bracket (C) and secure in position with knob (F) and flat washer (E).
- 2) Attach tool rest bracket (C) to the bottom of the wheel guard (O) using knob (A) and flat washer (B). Make sure that the slot of the bracket is located over the raised boss on the wheel guard. Secure in position with knob.
- 3) Position tool rest (D) so that distance between tool rest (D) and wheel (P) is less than $\frac{1}{16}$ ". Reposition angle of tool rest if necessary. Secure all knobs.

EYESHIELD ASSEMBLY

- 1) Attach spark deflector (L) to wheel guard (O) using knob (M), spring washer (N) and flat washer (B).
- 2) Mount upper eyeshield bracket (H) to eyeshield (I) and lower eyeshield bracket (J) using two pan head screws (G).
- 3) Slide knob (K) through hole at top of spark deflector (L) into upper eyeshield bracket (H). Secure in position with knob.
- 4) Locate eyeshield in desired position for protecting operator and secure all knobs.

INSTALL BUFFING WHEEL

Refer to Figures 5 and 6.

To install buffing wheels on the buffer:

- 1) Remove plastic protective sleeves from armature shaft.
- 2) Slide bushing (9682068A Ref. No. 29) (9682069A Ref No. 19) onto armature shaft.
- 3) Slide inner wheel flange (Ref. No. 4) onto armature shaft.
- 4) Slide buffing wheel (9682068A Ref. No. 43) (9682069A Ref No. 21) on the armature shaft and butt it against the inner wheel flange.
- 5) Slide in the outer wheel flange (Ref No. 4) and butt the flat side of the flange against the buffing wheel.
- 6) Tighten hex nut (9682068A Ref. No. 44) (9682069A Ref No. 23) on to the armature shaft. Make sure the buffing wheel is firmly held in place and the hex nut is snug against the outer wheel flange. Use additional bushings (not supplied) if required.

INSTALLATION

MOUNT GRINDER

- Mount grinder to a solid horizontal surface (hardware not provided). If mounted to metal pedestal, align mounting holes with corresponding holes in pedestal. Insert a 1/4-20 x 1 1/4" hex head bolt with flat washer through base of grinder. From bottom of pedestal, place a 1/4" flat washer and 1/4"-20 hex nut onto the bolt. Tighten only until space between grinder base and pedestal is 1/8". Using second nut on each bolt, jam tighten against the first to prevent loosening by vibration.
- To mount grinder to wooden bench top, use 1/4 x 1 1/4" wood screws with flat washers beneath heads. Tighten screws until space between grinder base and bench top is 1/8".

GROUNDING INSTRUCTIONS

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

- Check with a qualified electrician if grounding instructions are not understood or if in doubt as to whether the tool is properly grounded.
- This grinder is equipped with an approved 3-conductor cord rated at 300V and a 3-prong, grounding type plug (See Figure 2) for your protection against shock hazards.
- Grounding plug should be plugged directly into a properly installed and grounded 3-prong grounding-type receptacle (See Figure 2).

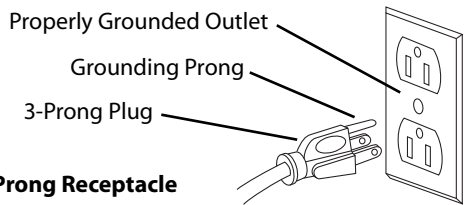


Figure 2 – 3-Prong Receptacle

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

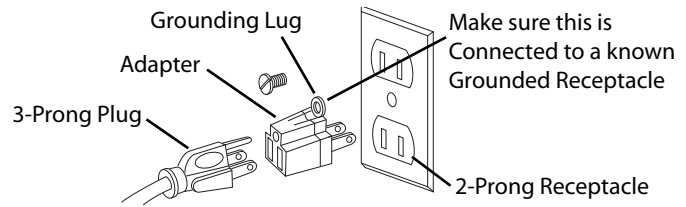


Figure 3 – 2-Prong Receptacle with Adapter

- 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 LENGTH for Model 9682068A (120V)

Wire Size	A.W.G.
Up to 25 ft.	18
25 – 100 ft.	16
100 – 150 ft.	14

NOTE: Using extension cords over 150 ft. long is not recommended.

EXTENSION CORD LENGTH for Model 9682069A (120V)

Wire Size	A.W.G.
Up to 25 ft.	18
25 – 50 ft.	16
50 – 100 ft.	14
100 – 150 ft.	12

NOTE: Using extension cords over 150 ft. long is not recommended.

INSTALLATION (CONTINUED)**ELECTRICAL CONNECTIONS**

WARNING: All electrical connections must be performed by a qualified electrician. Make sure tool is off and disconnected from power source while motor is mounted, connected, reconnected or anytime wiring is inspected.

- Motor and wires are installed as shown in wiring diagram (See Figure 4, page 5). Motor is assembled with approved, 3-conductor cord to be used at 120/240 volts. Motor is prewired at the factory for 120 volts.
- To use the grinder with a 240V power supply, have a qualified electrician rewire motor and attach a 240 volt, 15A three-prong plug onto grinder line cord.

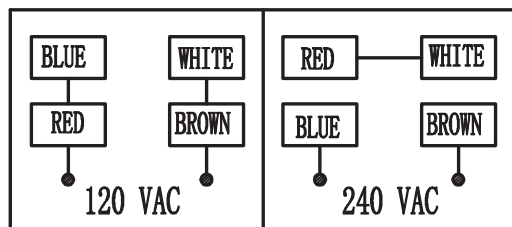


Figure 4 – Wiring Diagram

OPERATION

WARNING: Always wear safety glasses complying with United States ANSI Z87.1 (shown on package) before commencing power tool operation.

WARNING: Only use grinding wheels and wire wheels on the guarded shaft end, installed within the wheel guard. Grinding wheels and wire wheels can shatter and flying debris may cause serious injury.

- Keep a steady, moderate pressure on the work and keep it moving at an even pace for smooth grinding.
- Pressing too hard overheats the motor and prematurely wears down the grinding wheels.
- Note the original bevel angle on the item to be sharpened and try to maintain that angle. Sharpening a cutting edge requires removing burrs from edge.
- Deburring edge is done best by using the grinder to pull burr from edge across the bevel angle.
- The grinding wheel should rotate into object being sharpened.
- Dip work into a coolant regularly to prevent overheating. Overheating can weaken metals.

BUFFING

- Keep a steady, moderate pressure on the work and keep it moving at an even pace for smooth buffing.
- Pressing too hard overheats the motor and prematurely wears down the buffing wheels.
- The buffing wheel should rotate into object being buffed.

MAINTENANCE

- As wheels wear, tool rests should be positioned closer to the face of the wheels.
- The gap between the wheel and the tool rest should not be greater than 1/16". When the wheels are worn to the extent that the 1/16" maximum gap cannot be maintained, the wheels should be replaced.
- Replacement wheels should have a minimum rated speed of at least 3600 RPM.
- Maximum wheel diameter is 6" for 9682068A and 8" for 9682069A.
- To loosen nuts holding the wheels, disconnect power and push a wood wedge between the tool rest and the wheel to keep the shaft from turning. The threads on the right side of the grinder (facing unit) are right hand; threads on the left side are left hand. Tighten nuts securely before operating the grinder.
- For grinding efficiency, wheels should be dressed periodically, especially if they become clogged from grinding soft metals.

**TROUBLESHOOTING**

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Grinder won't start	<ol style="list-style-type: none"> 1. Blown line fuse or tripped circuit breaker 2. Low line voltage 3. Material wedged between wheel and guard 4. Defective switch 5. Defective, blown capacitor 	<ol style="list-style-type: none"> 1. If fuse is blown, replace with fuse of proper size. If breaker tripped, reset it 2. Check power supply for voltage and correct as needed 3. Turn grinder off and remove material 4. Replace switch 5. Replace capacitor
Excessive vibration	<ol style="list-style-type: none"> 1. Improper mounting of grinder or accessories 2. Grinding wheel out of balance 3. Improper wheel mounting 	<ol style="list-style-type: none"> 1. Remount 2. Dress wheels or replace wheels 3. Remount wheels, but rotate one wheel 90° with respect to its previous position. Other wheel should remain in its original position
Motor overheating	<ol style="list-style-type: none"> 1. Excess pressure required to grind material 2. Grinding on side of wheel 3. Motor not turning freely (without power) 	<ol style="list-style-type: none"> 1. Dress wheel or replace wheel with one of proper grit 2. Grind only on face of wheel 3. Clean around wheels and shaft and/or replace bearings
Fuses are being blown or circuit breakers are being tripped	<ol style="list-style-type: none"> 1. Overloading due to binding 2. Defective plug 3. Defective cord 4. Defective switch 5. Motor wired for different line voltage 6. Faulty internal wiring 	<ol style="list-style-type: none"> 1. Clean around wheels and shaft and/or replace bearings 2. Replace plug 3. Replace cord 4. Replace switch 5. Rewire motor as per wiring diagram, (See Installation, Pages 4 and 5) 6. Contact your Palmgren distributor
Motor does not develop proper torque	<ol style="list-style-type: none"> 1. Motor wired for different line voltage 	<ol style="list-style-type: none"> 1. Rewire motor as per wiring diagram, (See Installation, Pages 4 and 5)



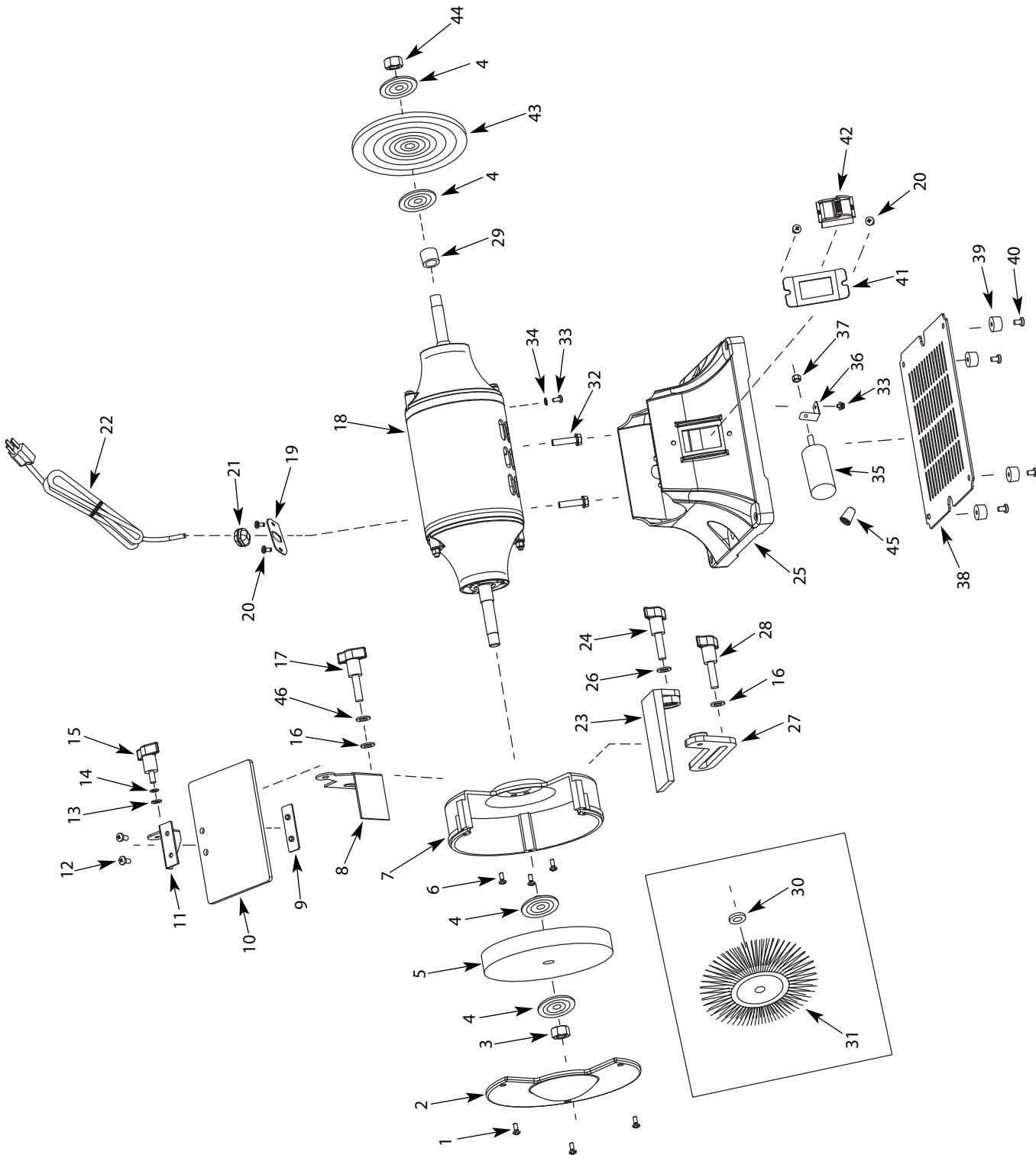


Figure 5 – Repair Parts Illustration for 9682068A, 6" Combination Grinder/Buffer

REPAIR PARTS LIST FOR 9682068A, 6" COMBINATION GRINDER/BUFFER

Ref. No.	Description	Part No.	Qty	Ref. No.	Description	Part No.	Qty.
1	Phillips Screw, Flat Washer, Spring Washer, M4x10	*	3	24	Knob	9625812.01	1
2	Wheel Guard Cover	9624462.05	1	25	Base	N/A	1
3	Hex Nut, M12, Left Hand Thread	9600064.01	1	26	Flat Washer, M8	*	1
4	Wheel Flange	9618904.00	4	27	Tool Rest Bracket	9625810.01	1
5	Grinding Wheel (36 Grit, 1/2" Bore)	9602034.00	1	28	Knob	9625816.01	1
6	Phillips Bolt, Spring Washer, M6x14	*	3	29	Buffing Wheel Bushing	9636384.01	1
7	Wheel Guard	9625986.01	1	30	Wire Wheel Bushing	9642741.01	1
8	Spark Deflector	9630014.01	1	31	Wire Wheel, 6", 1/2" Bore	9636468.00	1
9	Lower Eshield Mounting Bracket	N/A	1	32	Phillips Screw, Spring Washer, M6x20	*	2
10	Eshield (Sold as Set, Includes #9, 10, 11 & 12)	9632290.01	1	33	Phillips Screw, Flat Washer, Spring Washer, M4x8	*	2
11	Upper Eshield Mounting Bracket	9625177.01	1	34	Toothed Lock Washer, M4	*	1
12	Phillips Screw, Spring Washer, M5x10	*	2	35	Capacitor	9616908.01	1
13	Flat Washer, M6	*	1	36	Capacitor Support	9616655.01	1
14	Spring Washer, M6	*	1	37	Hex Nut, M8	*	1
15	Knob	9625816.01	1	38	Base Plate	9623758.01	1
16	Flat Washer, M10	*	2	39	Rubber Foot	9623391.01	4
17	Knob	9625817.01	1	40	Phillips Screw, Flat Washer, M4x12	*	4
18	Motor Assembly	N/A	1	41	Switch Plate	9636282.01	1
19	Cord Clip Plate	*	1	42	Switch	9608066.01	1
20	Phillips Screw, M5x8	*	4	43	Buffing Wheel, 6"/Cloth	9636383.00	1
21	Strain Relief	*	1	44	Hex Nut, M12	*	1
22	Power Cord	9600067.01	1	45	Wire Nut	*	1
23	Tool Rest	9625813.01	1	46	Lock Washer, M10	*	1

(A) Not shown.

(N/A) Not available as repair part.

(*) Standard hardware item, available locally.

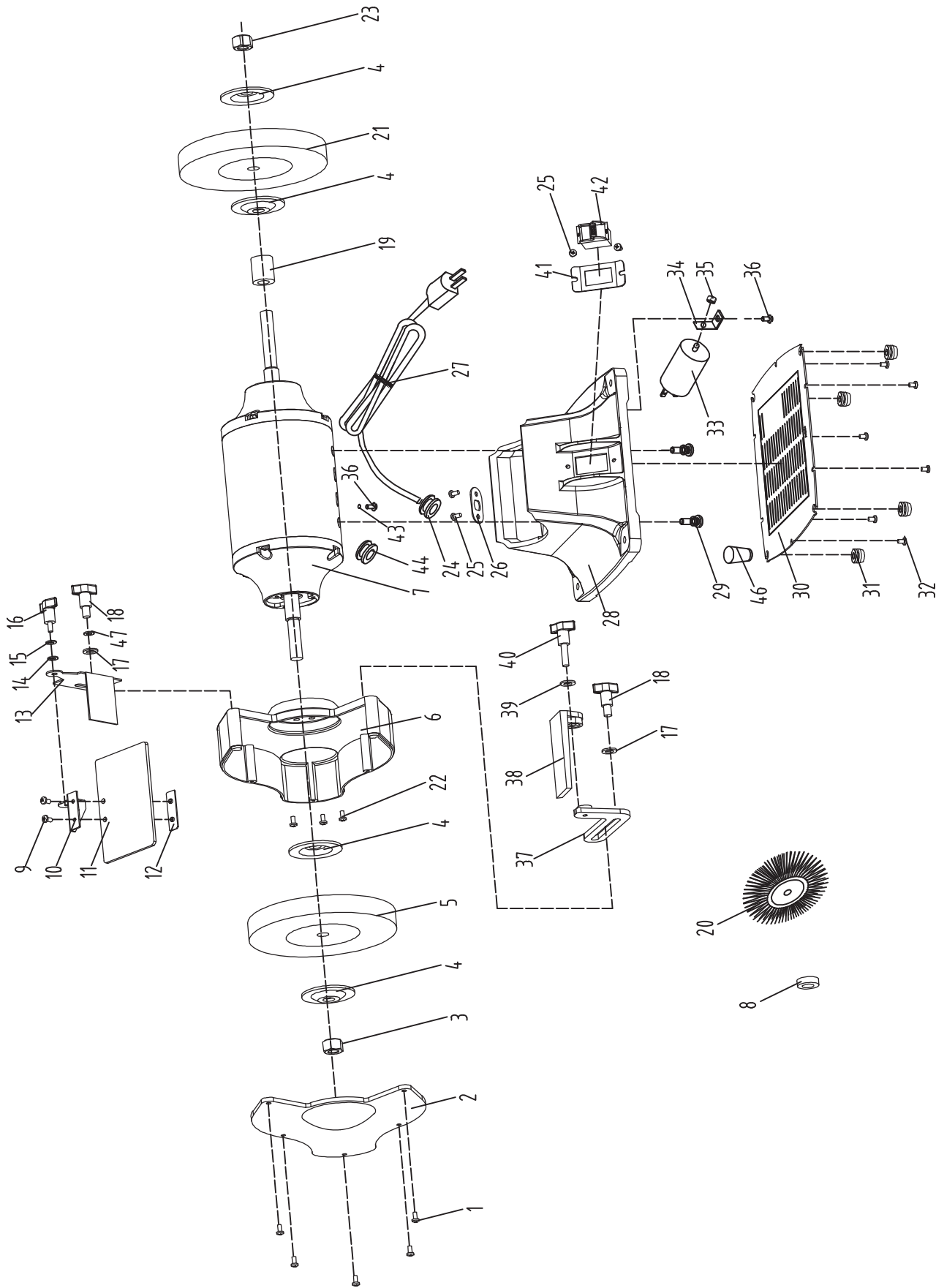


Figure 6 – Repair Parts Illustration for 9682069A, 8" Combination Grinder/Buffer

REPAIR PARTS LIST FOR 9682069A, 8" COMBINATION GRINDER/BUFFER

Ref. No.	Description	Part No.	Qty	Ref. No.	Description	Part No.	Qty.
1	Phillips Screw, Flat Washer, Spring Washer, M5x10	*	5	24	Strain Relief Bushing	*	1
2	Wheel Guard Cover	9624496.03	1	25	Phillips Screw, M5x8	*	4
3	Hex Nut, M16, Left Hand Thread	9600088.01	1	26	Cord Clip Plate	9608099.01	1
4	Wheel Flange	9600089.01	4	27	Power Cord, 16 AWG	N/A	1
5	Grinding Wheel, 36 Grit, 5/8" Bore	9602038.00	1	28	Base	N/A	1
6	Wheel Guard	9626056.01	1	29	Phillips Bolt, Spring Washer, M8x20	*	2
7	Motor Assembly	N/A	1	30	Base Plate	9624500.01	1
8	Wire Wheel Bushing	9643553.01	1	31	Rubber Foot	9623991.01	4
9	Phillips Screw, Spring Washer, M5x10	*	2	32	Phillips Screw, Flat Washer, M4x8	*	6
10	Upper Eyesield Mounting Bracket	9625177.01	1	33	Capacitor 40uf/300v	9616646.01	1
11	Eyesield (Sold as 2-piece Set, Includes #10 & 11)	9632290.01	1	34	Capacitor Support	9616655.01	1
12	Lower Eyesield Mounting Bracket	N/A	1	35	Hex Nut, M8	*	1
13	Spark Deflector	9636465.01	1	36	Phillips Screw, Spring Washer, Flat Washer, M4x8	*	2
14	Flat Washer, M6	*	1	37	Tool Rest Bracket	9631447.01	1
15	Lock Washer, M6	*	1	38	Tool Rest	9625813.01	1
16	Knob	9625816.01	1	39	Flat Washer M8		1
17	Flat Washer, M10	*	2	40	Knob	9625812.01	1
18	Knob	9625817.01	2	41	Switch Plate	9636282.01	1
19	Buffing Wheel Bushing	9636466.00	1	42	Switch	9608066.01	1
20	Wire Wheel, 8", 5/8" Bore	9636469.00	1	43	Serrated Washer M4	*	1
21	Buffing Wheel, 8", Spiral	9636467.00	1	44	Strain Relief	*	1
22	Phillips Bolt, Spring Washer, M6x14	*	3	45	Spring Washer, M10	*	1
23	Hex Nut, M16	*	1	46	Wire Nut	*	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.

PALMGREN®

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or call: 1-800-827-3398