

PALMGREN[®]
a CH Hanson brand

POWERGRIND[™]

BENCH GRINDERS, 3 PHASE



9682082B shown.

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

DESCRIPTION

Palmgren Bench Grinders are equipped with a totally enclosed ball bearing motor. Armature assembly is dynamically balanced for smooth operation. Motor housing is compact so long pieces of work can press against both wheels without touching the motor frame. Removable wheel guards allow for easy changing of wheels. Two-way tool rests are adjustable for wheel wear and angle grinding. Grinders come complete with spark guards, safety eyeshields and dust collection hose.

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

9682082B, 8" Bench Grinder

Horsepower	3/4
Voltage	220/440
Amperes	2.2/1.1
Hertz	60
Phase	Three
RPM	1725
Rotation (viewed from left side)	Clockwise
Wheel diameter	8"
Wheel bore	5/8"

9682102B 10" Bench Grinder

Horsepower	1
Voltage	220/440
Amperes	3.3/1.7
Hertz	60
Phase	Three
RPM	1725
Rotation (viewed from left side)	Clockwise
Wheel diameter	10"
Wheel bore	1"

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.

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.
- Use proper extension cord. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Extension Cord Table on page 4 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.
- 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.)

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.

SAFETY RULES (CONTINUED)

- 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 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.

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

- A Knob (2)
- B Flat washer, M8 (6)
- C Tool rest bracket (2)
- D Tool rest (2)
- E M10 Flat washer (2)
- F Knob (2)
- G Pan head screw, M5 x 10 (4)
- H Upper eyeshield bracket (2)
- I Eyeshield (2)
- J Lower eyeshield bracket (2)
- K Knob (2)
- L Spark Deflector (2)
- M Knob (2)
- N Spring Washer, M10 (8)

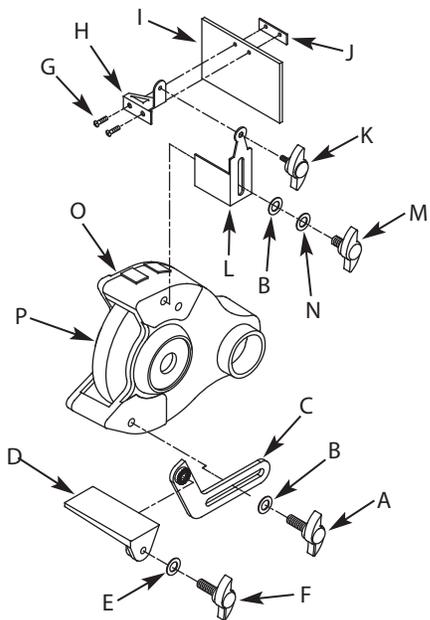


Figure 1 – Left Tool Rest and Eyeshield Assembly

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 1/16". Reposition angle of tool rest if necessary. Secure all knobs.
- Mount right tool rest in a similar manner.

EYESHIELD ASSEMBLY

- Attach spark guard (L) to left wheel guard (O) using knob (M), spring washer (N) and flat washer (B).
 - Mount left upper eyeshield bracket (H) to eyeshield (I) and lower eyeshield bracket (J) using two pan head screws (G).
- NOTE:** Left upper eyeshield bracket is stamped "L" for identification.
- Slide knob (K) through hole at top of left spark deflector (L) into upper eyeshield bracket (H) and secure in position.
 - Locate eyeshield in desired position for protecting operator and secure all knobs and bolts.
 - Mount right eyeshield assembly in a similar manner.

DUST COLLECTION HOSE

- A dust collector hose has been provided with grinder. Slide hoses onto sides of T-connector and flanges. Mount the hose by sliding the flanges at each end over the exhaust ports on the left and right wheel guards. Attach 2½" shop vacuum hose to collector hose. Be sure hose is mounted securely.

DANGER: Be sure to empty shop vacuum of all flammable material (flammable liquids and vapors, paper, wood, plastic, etc.) before connecting vacuum to grinder. Hot sparks from grinder may ignite flammable materials in shop vacuum.

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 1¼" 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" (base should be flush for 9682102B). 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 1¼" wood screws with flat washers beneath heads. Tighten screws until space between grinder base and bench top is 1/8" (base should be flush for 9682102B).

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.
- Inspect tool cords periodically, and, if damaged, have them repaired by an authorized service facility.
- Green (or green and yellow) conductor in the cord is the grounding wire. Never connect the green (or green and yellow) wire to a live terminal.

INSTALLATION (CONTINUED)

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

EXTENSION CORDS

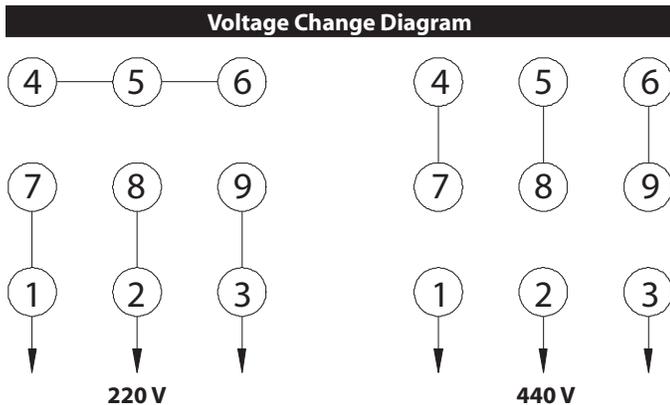
- The use of any extension cord will cause some drop in voltage and loss of power.
- Wires of the extension cord must be of sufficient size to carry the current and maintain adequate voltage.
- Running the unit on voltages which are not within $\pm 10\%$ of the specified voltage may cause overheating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

Extension Cord Table					
		Volts	Total Length of Cord in Feet		
Ampere Rating		220	25	50	100
More Than	Not More Than	440	50	100	200
		Minimum Gage for Cord			
0	6		18	16	16
6	10		18	16	14
10	12		16	16	14
12	16		14	12	Not Recommended

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 2). 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, 15 A three-prong plug onto grinder line cord.



DISCONNECT FROM SUPPLY CIRCUIT BEFORE OPENING

Figure 2 – Wiring Diagram

OPERATION

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.

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

- 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.

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.
- Model 9682082B replacement wheels must have a minimum rated speed of at least 1725 RPM and a maximum wheel diameter of 8".
- Model 9682102B replacement wheels must have a minimum rated speed of at least 1725 RPM and a maximum wheel diameter of 10".
- 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, Page 4) 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, Page 4)

REPAIR PARTS ILLUSTRATION FOR 9682082B, 8" BENCH GRINDER, 3 PHASE

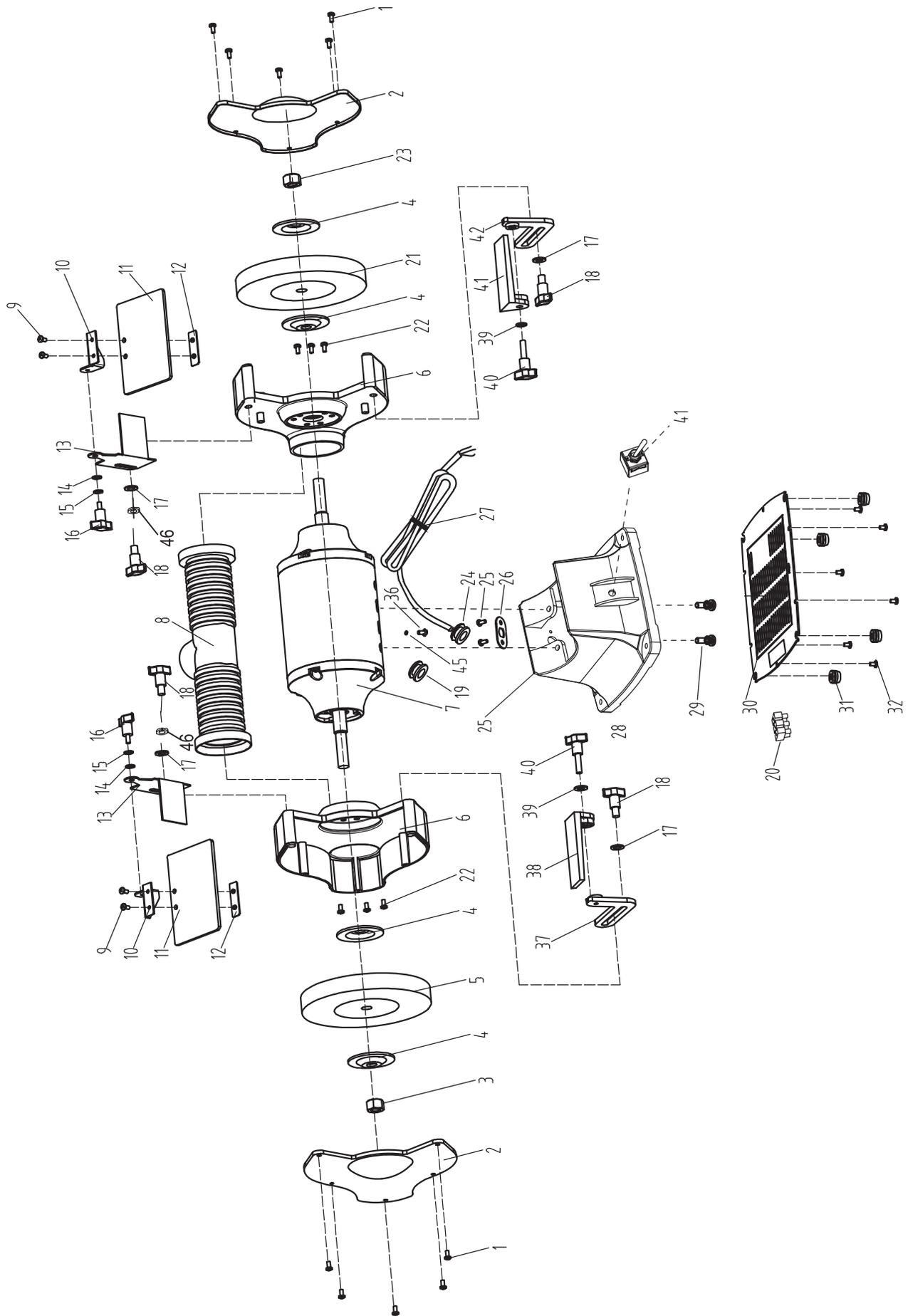


Figure 8 – Repair Parts Illustration for 9682081D, 8" Bench Grinder, 3 Phase

REPAIR PARTS LIST FOR 9682082B, 8" BENCH GRINDER, 3 PHASE

Ref. No.	Description	Part Number	Qty.	Ref. No.	Description	Part Number	Qty.
1	Philips Screw, Spring Washer, Flat Washer, M5x10	*	10	22	Philips Hex Bolt, Spring Washer, M6x14	*	6
2	Wheel Guard Cover	9624496.03	2	23	Hex Nut, M16	*	1
3	Hex Nut, M16, LH Thread	9600088.02	1	24	Cord Clip	*	1
4	Flange	9600089.01	4	25	Philips Screw, M5x8	*	4
5	Grinding Wheel, 36 Grit, 5/8" Bore	9602038.00	1	26	Clip Plate	9608099.01	1
6	Wheel Guard Inner Cover	9626056.01	2	27	Power Cord	9600090.00	1
7	Motor Assembly	N/A	1	28	Base	N/A	1
8	Dust Port Assembly	9608070.06	1	29	Philips Hex Bolt, Spring Washer, M8x20	*	2
9	Philips Screw, Spring Washer, M5x10	N/A	4	30	Base Plate	9624500.01	1
10	Eyeshield Mounting Plate (Set-L&R)	9625177.01	1	31	Rubber Foot	9623991.01	4
11	Eyeshield (includes 9, 11, 12) Set of 2	9632290.01	2	32	Philips Screw, Flat Washer, M4x8	*	6
12	Eyeshield Plate	N/A	2	37	Tool Rest Bracket, Left	9631447.01	1
13	Spark Deflector (Set of 2)	9625815.01	1	38	Tool Rest, Left	9625813.01	1
14	Flat Washer, M6	*	2	39	Flat Washer, M8	*	2
15	Spring Washer, M6	*	2	40	Locking Knob	9625812.01	2
16	Locking Knob	9625816.01	2	41	Tool Rest Bracket, Right	9631448.01	1
17	Flat Washer, M10	*	4	42	Tool Rest, Right	9625825.01	1
18	Locking Knob	9625817.01	4	44	Switch	9600100.00	1
19	Cord Bushing	*	1	45	Toothed Lock Washer, M4	*	1
20	Wiring block	9616899.01	1	46	Spring Washer, M10	*	2
21	Grinding Wheel, 60 Grit, 5/8" Bore	9602037.00	1				

(Δ) Not shown.

(N/A) Not available as repair part.

(*) Standard hardware item, available locally.

REPAIR PARTS ILLUSTRATION FOR 9682102B, 10" BENCH GRINDER, 3 PHASE

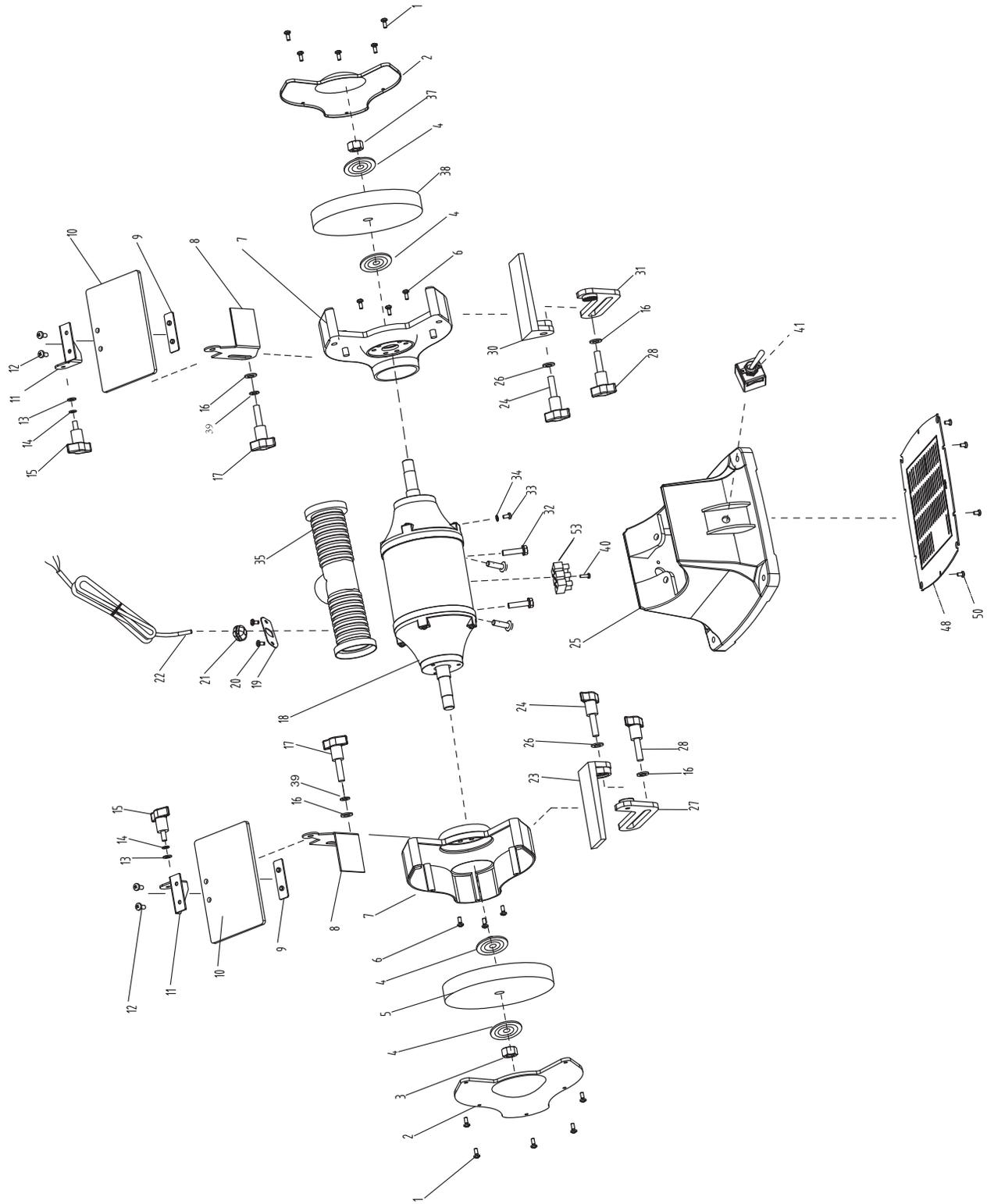


Figure 9 – Repair Parts Illustration for 9682102B, 10" Bench Grinder, 3 Phase

REPAIR PARTS LIST FOR 9682102B, 10" BENCH GRINDER, 3 PHASE

Ref. No.	Description	Part Number	Qty.	Ref. No.	Description	Part Number	Qty.
1	Phillips Screw, Flat Washer, Spring Washer, M6x16	*	10	22	Power Cord	N/A	1
2	Wheel Guard Cover	9616911.03	2	23	Tool Rest (Left)	9625813.01	1
3	Hex Nut M24, LH Thread	*	1	24	Locking Knob	9625812.01	2
4	Flange	9624480.00	4	25	Base	N/A	1
5	Grinding Wheel 36 Grit, 1" Bore	9602040.00	1	26	Flat Washer, M8	*	2
6	Phillips Bolt, Spring Washer, M8x22	*	6	27	Tool Rest Bracket (Left)	9626290.01	1
7	Wheel Guard	9626057.01	2	28	Locking Knob	9625817.01	2
8	Spark Deflector (Set of 2)	9625815.01	1	30	Tool Rest (Right)	9625825.01	1
9	Eyeshield Plate	N/A	2	31	Tool Rest Bracket (Right)	9626291.01	1
10	Eyeshield Kit (Include 9,10,12)	9632290.01	1	32	Phillips Bolt, Spring Washer, M8x20	*	4
11	Upper Eyeshield Bracket (Set of 2)	9625177.01	1	33	Phillips Screw, Flat Washer, M5x8	*	1
12	Phillips Screw, Spring Washer M5x10	N/A	4	34	Toothed Lock Washer, M5	*	1
13	Flat Washer, M6	*	2	35	Dust Port	9608070.07	1
14	Spring Washer, M6	*	2	37	Hex Nut, M24	*	1
15	Locking Knob	9625816.01	2	38	Grinding Wheel, 60 Grit, 1" Bore	9602039.00	1
16	Flat Washer, M10	*	4	39	Spring Washer, M10	*	2
17	Locking Knob	9625817.01	2	40	Phillips Screw, M4x15	*	1
18	Motor	N/A	1	41	Switch	9600100.00	1
19	Cord Clip Plate	9608099.01	1	48	Base Plate	9616919.01	1
20	Phillips Screw, M5x8	*	4	50	Phillips Screw, Flat Washer, M4x8	*	6
21	Lead Wire Clip	*	1	53	Wire Block	9616899.01	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.