



PALMGREN®

12" BENCH GRINDER WITH STAND



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



DESCRIPTION

Palmgren 12" Bench Grinder is 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. Grinder comes complete with spark deflectors, safety eyeshields, dust collection hose and stand.

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

Model	HP	RPM	AMPS	Volts	Hz
9682121A	2	1800	10	240	60

ALUMINUM OXIDE VITRIFIED WHEELS

GRIT: 1 ea. 36 Coarse and 1 ea. 60 Medium

SIZE: 12" Dia., 2" Face, 1¼" Bore

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.
- 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 repair parts.)
- Maintain tools with care. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

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.

SAFETY RULES (CONTINUED)

- Adjust distance between wheel and tool rest to maintain 1/8" or less gap.
- Handle the workpiece correctly. Whenever possible, use tool rest to support workpiece during grinding operation. Turn tool off if it jams.
- Secure work. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
- Always use guards and eyeshields.
- Clean grinding dust from beneath tool frequently.
- Direction of feed. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

ASSEMBLY

Parts to be fastened to the grinder should be located and accounted for (See List and Figure 1).

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

- A Carriage Bolt (4)
 - B Tool Rest Bracket (4)
 - C* Flat Washer (8)
 - D* Lock Washer (2)
 - E Tool Rest (2)
 - F Flat Washer (4)
 - G Wing Nut (4)
 - H* Hex Bolt (8)
 - I Knob (2)
 - J Spark Deflector (2)
 - K Eyeshield (2)
 - L* Lower Eyeshield Bracket (2)
 - M* Upper Eyeshield Bracket (2)
 - N* Pan Head Screw (4)
 - P Flat Washer (2)
 - Q* Knob (2)
 - R* Wheel Guard (2)
 - S* Wheel Guard Cover (2)
- Dust collector hose (not shown)

NOTE: Parts marked with an asterisk (*) are mounted to the grinder at the factory.

TOOL REST ASSEMBLY

Refer to Figure 1.

To mount tool rest to left wheel first attach tool rest brackets to tool rest.

1. Slide carriage bolts (A) into square holes in tool rest (E).
2. Slide tool rest brackets (B) into carriage bolts (A) add flat washers (F) and wing nuts (G). Tighten wing nuts finger tight.

Mount tool rest assembly to wheel assembly.

3. Remove hex bolts (H) and flat washers (C) from wheel assembly. Position slot in right tool rest bracket (B) over holes in wheel guard (R). Replace flat washers and hex bolts. Position slot in left tool rest bracket (B) over holes in wheel guard cover (S). Replace flat washers and hex bolts.
4. Position tool rest so that distance between tool rest and wheel is less than 1/8". Secure all nuts and bolts.
5. Mount right tool rest in a similar manner.

EYESHIELD ASSEMBLY

Refer to Figure 1.

Attach spark deflector to left wheel guard.

NOTE: Left upper eyeshield bracket (M) is stamped "L" for identification.

1. Slide knob (I) through hole at top of left spark deflector (J) into left upper eyeshield bracket (M) and secure in position.
2. Locate eyeshield (K) in desired position for protecting operator and secure all knobs and bolts.
3. Mount right eyeshield assembly in a similar manner.

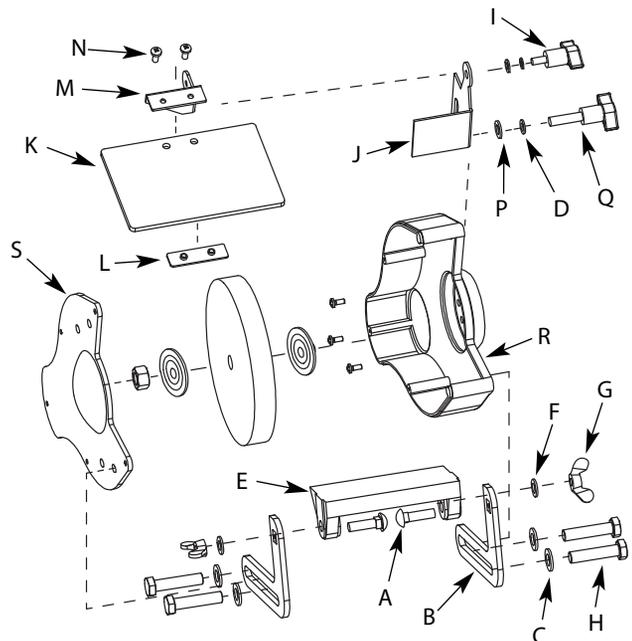


Figure 1 - Left tool rest and eyeshield assembly.

DUST COLLECTOR 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.

ASSEMBLY (CONTINUED)**STAND ASSEMBLY**

Parts to be assembled should be located and accounted for (See List and Figure 2).

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

- A Base (1)
- B 10-1.5mm Hex Nut (5)
- C 10-1.5 x 30mm Socket Head Bolt (5)
- D Column (1)
- E Water Pot Holder (1)
- F Water Pot (1)
- G Top (1)

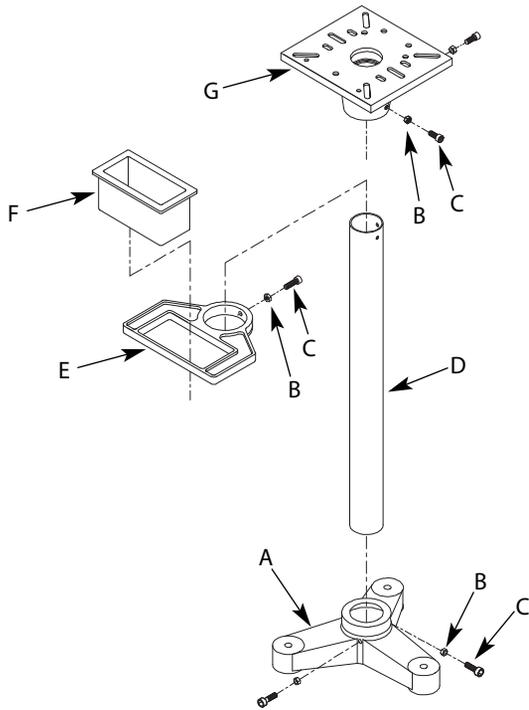


Figure 2 - Stand assembly.

1. Slide column (D) into base (A). Secure by tightening hex head bolts (C) against column. Tighten hex nuts (B) against base to secure bolts.
2. Slide water pot holder (E) over column. Tighten hex head bolt (C) and nut (B) to secure holder.
3. Slide top (G) over column and secure with bolts (C) and nuts (B).
4. Slide water pot (F) into holder. Adjust pot holder height as required.
5. Secure base to floor for maximum stability and safety. (Hardware not included.)

MOUNT GRINDER

Locate bag with following hardware:

- 8-1.25 x 45mm Hex Head Bolt (4)
- 8mm Flat Washer (8)
- 8mm Lock Washer (4)
- 8-1.25mm Hex Nut (4)

1. Place grinder on top of stand.
2. Align mounting holes in grinder's base with diagonal slots on stand's top.
3. Use hex head bolts with flat washers, lock washers and hex nuts to secure grinder to stand top.

INSTALLATION**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.

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.

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.

POWER SOURCE

The Palmgren 12" Grinder is prewired for 240 volts, 60 Hz, single-phase power. A qualified electrician should wire a 240 volt, 20 AMP, 3-prong plug to grinder line cord.

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

EXTENSION CORDS

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. Table 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.

Extension Cord Table						
		Volts	Total Length of Cord in Feet			
Ampere Rating		120	25	50	100	150
		240	50	100	150	300
More Than	Not More Than	Minimum Gage for Cord				
0	6	18	16	16	14	
6	10	18	16	14	12	
10	12	16	16	14	12	
12	16	14	12	Not Recommended		

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.



OPERATION

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 1/8". When the wheels are worn to the extent that the 1/8" maximum gap cannot be maintained, the wheels should be replaced.
- Replacement wheels should have a minimum rated speed of at least 1800 RPM.
- Maximum wheel diameter is 12" for 9682121A.
- 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. Palmgren Grinding Wheel Dresser, Model 9682902, is recommended.



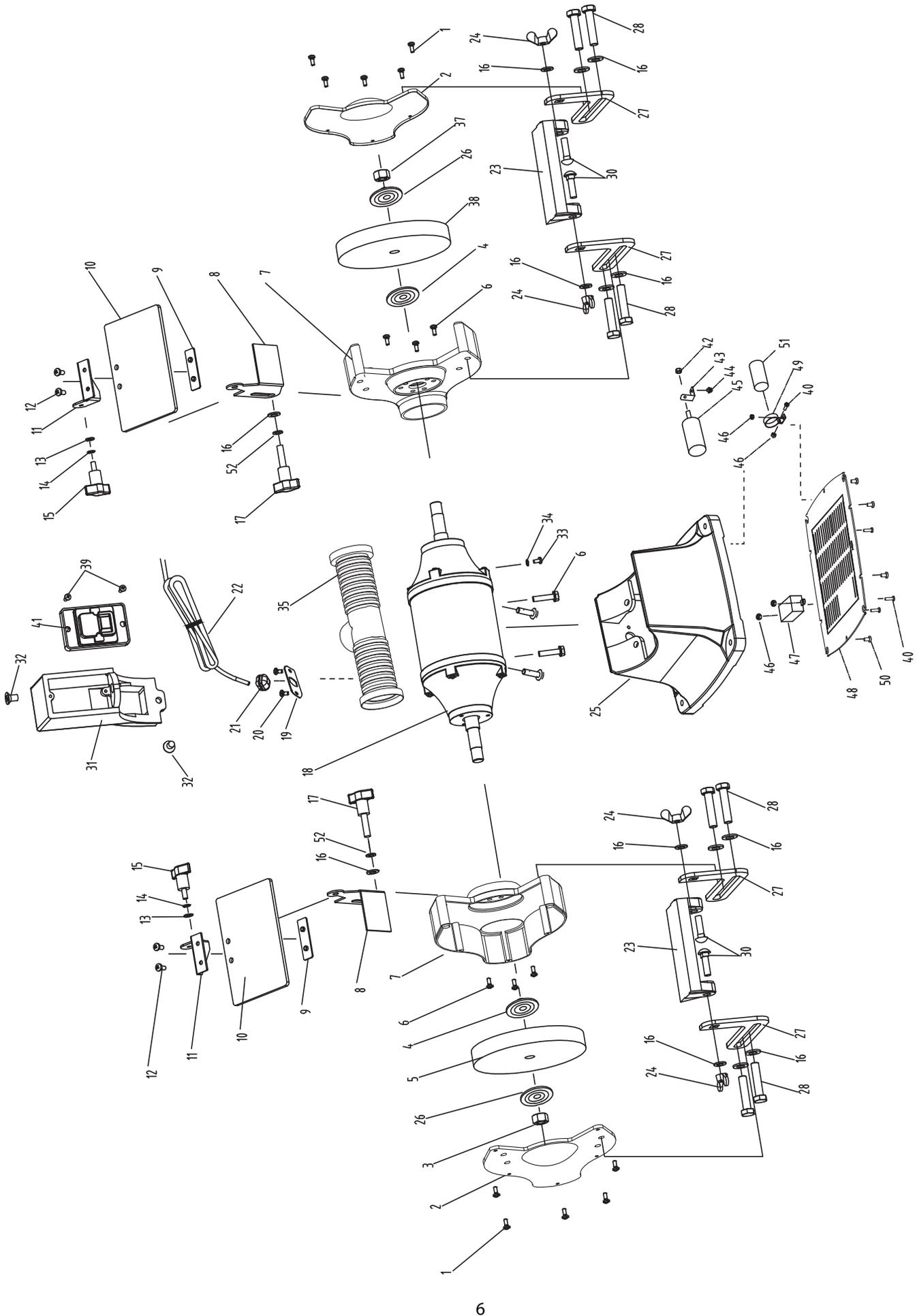


Figure 3 – Repair Parts Illustration for 12" Bench Grinder

REPAIR PARTS LIST FOR 12" BENCH GRINDER

Ref. No.	Description	Part No.	Qty	Ref. No.	Description	Part No.	Qty.
1	Phillips Screw, Spring Washer, Flat Washer Assy., M6x16	*	10	28	Hex Bolt, M10x16	*	8
2	Wheel Guard Cover	9624861.01	2	30	Cup Head Square Neck Bolts, M10x35	*	4
3	Hex Nut, M24 LH Thread	*	1	31	Magnetic Switch Holder	9624884.01	1
4	Inner Flange	9624864.01	2	32	Cross Recessed Countersunk Head Screw, M6x10	*	2
5	Grinding Wheel, 36 Grit, 1-1/4" Bore	9624863.00	1	33	Phillips Screw, Spring Washer, Flat Washer Assy., M5x8	*	1
6	Cross Recessed Hex Head Bolt, Spring Washer, M8x20	*	10	34	Serrated Washer, M5	*	1
7	Wheel Guard	9624865.01	2	35	Dust Collector Hose Assy.	9608070.07	1
8	Spark Deflector (2-Pc. Set)	9624869.01	1	37	Hex Nut, M24 Rh Threads	*	1
9	Eyeshield Plate (2-Pc. Set)	9624867.01	2	38	Grinding Wheel, 60 Grit, 1-1/4" Bore	9624888.00	1
10	Eyeshield (2-Pc. Set)	9624866.01	2	39	Cross Recessed Small Pan Head Screw, M4x10	*	2
11	Upper Eyeshield Bracket (2-Pc. Set)	9624868.01	1	40	Cross Recessed Pan Head Screw, M4x15	*	5
12	Phillips Screw, Spring Washer, M5x10	*	4	41	Switch	9624883.01	1
13	Flat Washer, (Zinc Plated)	*	2	42	Hex Nut, M8	*	1
14	Spring Washer, (Zinc Plated)	*	2	43	Capacitor Holder	9643288.01	1
15	Eyeshield Locking Knob	9616714.01	2	44	Phillips Screw, Spring Washer, Flat Washer Assy., M4x8	*	1
16	Flat Washer, M10	*	14	45	Run Capacitor	964876.01	1
17	Spark Deflector Locking Knob	9643579.01	2	46	Hex Nut, M4	*	4
18	Motor	N/A	1	47	Electronic Centrifugal Switch	9643580.01	1
19	Cord Clip Plate	9608099.01	1	48	Base Plate	9616919.01	1
20	Phillips Screw, M5x8	*	2	49	Capacitor Clamp	9616918.01	1
21	Wire Clip	*	1	50	Phillips Screw, Flat Washer Assy., M4x8	*	6
22	Power Cord	9624882.01	1	51	Starting Capacity	9608174.01	1
23	Tool Rest	9624871.01	2	52	Spring Washer, M10	*	2
24	Wing Nut, M10	*	4	Δ	Owner's Manual	9643581.01	
25	Base	N/A	1	Recommended Accessories			
26	Outer Flange	9624862.01	2	†	Grinding Wheel Dresser (True & renew wheel surface.)	9682901	
27	Tool Rest Bracket	9624870.01	4	†	Large Grinding Wheel Dresser (True & renew wheel surface.)	9682902	

(Δ) Not shown.

(N/A) Not available as repair part.

(*) Standard hardware item, available locally.

(†) Not included.

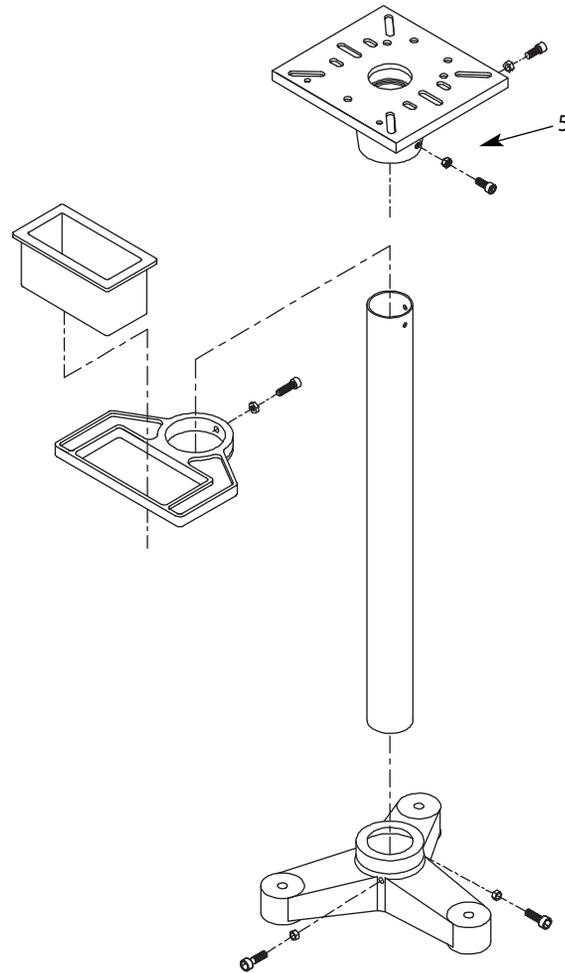


Figure 4 – Replacement Parts Illustration for Stand

REPLACEMENT PARTS LIST FOR STAND

Ref. No.	Description	Part Number:	Qty.
1	Top	9604889.01	1
2	Column	9624899.00	1
3	Base	9624898.00	1
4	Water Pot Holder	9624954.00	1
5	Water Pot	9624955.00	1
6	10-1.5 X 30mm Socket Head Bolt	*	5
7	10-1.5mm Hex Nut	*	5
Δ	8-1.25 X 45mm Hex Head Bolt	*	4
Δ	8mm Flat Washer	*	8
Δ	8mm Lock Washer	*	4
Δ	8-1.25mm Hex Nut	*	4

(Δ) Not shown.

(N/A) Not available as repair part.

(*) Standard hardware item, available locally.

**TROUBLESHOOTING**

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Grinder won't start	1. Blown line fuse or tripped circuit breaker	1. If fuse is blown, replace with fuse of proper size. If breaker tripped, reset it
	2. Low line voltage	2. Check power supply for voltage and correct as needed
	3. Material wedged between wheel and guard	3. Turn grinder off and remove material
	4. Defective magnetic contactor	4. Replace magnetic contactor
	5. Defective, blown capacitor	5. Replace capacitor
Excessive vibration	1. Improper mounting of grinder or accessories	1. Remount
	2. Grinding wheel out of balance	2. Dress wheels or replace wheels
	3. Improper wheel mounting	3. Remount wheels, but rotate one wheel 90° with respect to its previous position. Other wheel should remain in its original position
Motor overheating	1. Excess pressure required to grind material	1. Dress wheel or replace wheel with one of proper grit
	2. Grinding on side of wheel	2. Grind only on face of wheel
	3. Motor not turning freely (without power)	3. Clean around wheels and shaft and/or replace bearings
Fuses are being blown or circuit breakers are being tripped	1. Overloading due to binding	1. Clean around wheels and shaft and/or replace bearings
	2. Defective plug	2. Replace plug
	3. Defective cord	3. Replace cord
	4. Faulty internal wiring	4. Contact your Palmgren distributor



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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