

SAFETY, OPERATION MANUAL & PARTS LIST



KR-54GP15 GRINDING/SURFACING FLOOR MACHINE

This unit is intended for commercial use.

**READ & FOLLOW ALL
INSTRUCTIONS, WARNINGS & CAUTIONS
BEFORE USING THIS GRINDING MACHINE**

PLEASE READ CAREFULLY BEFORE OPERATING

This grinder will afford you many years of trouble-free operating satisfaction if it is given the proper care. All parts have passed rigid quality control standards before being assembled to produce the finished product. Prior to packaging, the units are again inspected for assurance of flawless operation.

This grinding machine was protectively packed to prevent damage in shipment. It is recommended that upon delivery, the unit is removed from its pallet and carefully inspected for any possible damage in transit.

If damage is discovered, immediately notify the transportation company that delivered your floor machine.

As a shipper, we are unable to act upon any claim for concealed damage. You must originate any claim within 5 days of delivery.

These instructions are for your protection and information. **PLEASE READ CAREFULLY!** Failure to follow these precautions could result in injury or damage.

Treat this machine as you would any other high-grade precision-made product. Throwing, dropping, unreasonable bumping across thresholds and other misuse may result in a damaged unit and invalidate the warranty.

SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

WARNING:



To reduce the risk of fire, electric shock or injury;
Read all instructions before using this grinding machine.

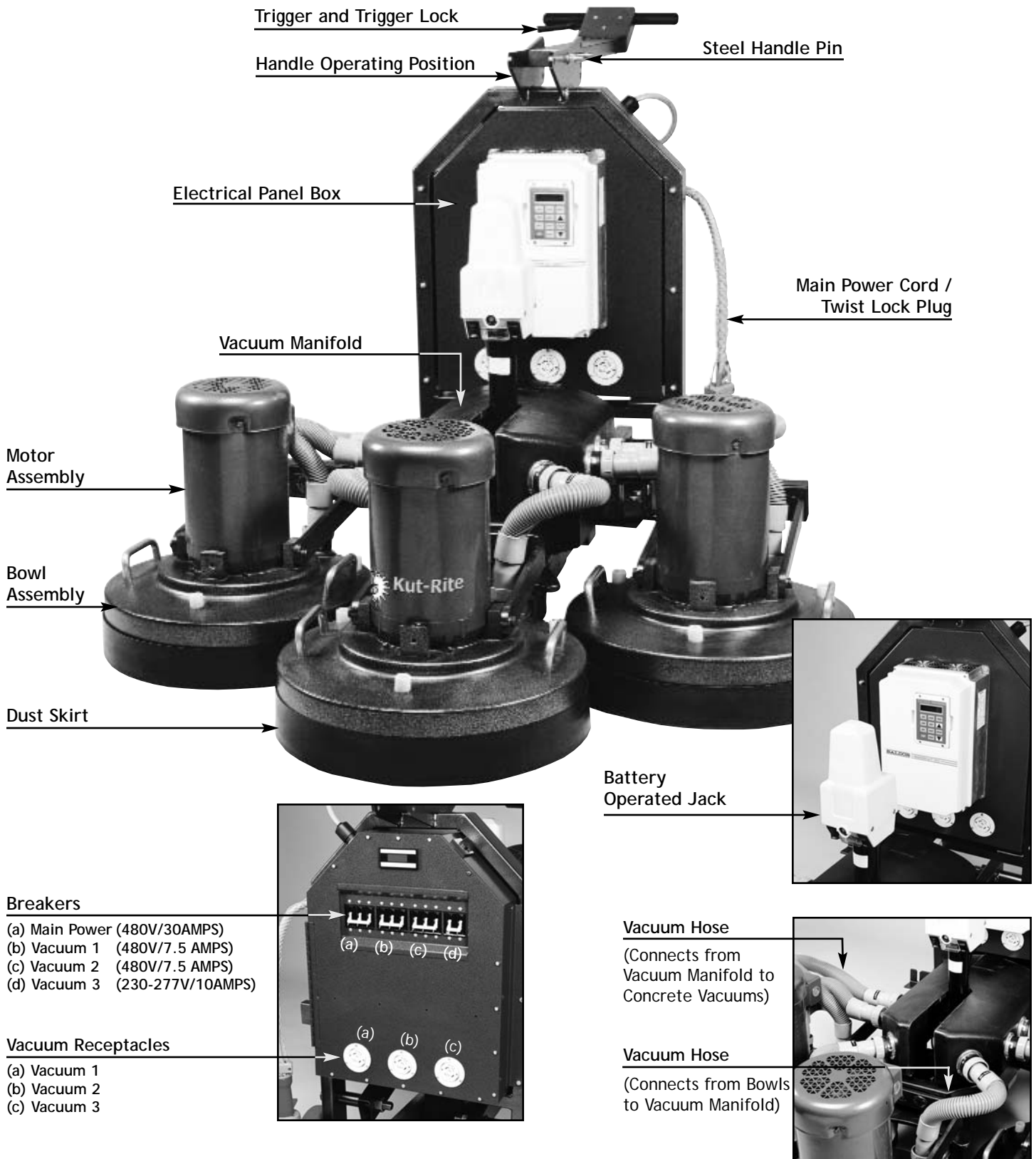
- 1) **DO NOT** leave the machine plugged in when not in use. Unplug from the outlet when not in use and/or before servicing.
- 2) Electric shock could occur if exposed to rain. Store indoors.
- 3) This is **NOT** a toy. Not recommended for use around or near children. If children must be present, protective eye wear, clothing, and close attention is necessary.
- 4) Use this machine only as described in this manual. Use only manufacturer's recommended attachments.
- 5) Inspect all power cords for damage before operating the machine and **DO NOT** use with damaged cord or plug.
- 6) If the machine is not working properly as a result of damage or exposure to the elements, stop usage immediately and contact the manufacturer or authorized service center.
- 7) **DO NOT** operate this machine in a wet environment.
- 8) **DO NOT** handle the plug or operate with wet hands.
- 9) **DO NOT** plug any equipment into the machine unless it is recommended by the manufacturer.
- 10) **DO NOT** pull the machine by the power cord. Always use the handles when moving the machine. Running over the cord with the machine, pulling the cord around sharp corners or edges, pinching the cord in doors, or exposing the cord to heated surfaces may result in permanent damage to the cord.
- 11) **DO NOT** unplug the machine by pulling on the power cord. Grasp the plug at the wall to disconnect and avoid damage or injury.
- 12) **DO NOT** put any object into motor openings.
- 13) Before flipping the motor bowl assembly back, unplug the power cord from the motor.
- 14) Take care to keep hair, loose clothing, fingers and all parts of body away from moving parts.
- 15) **DO NOT** operate this machine without a vacuum and the manufacturer's filters in place.
- 16) **DO NOT** operate where anesthetics and/or oxygen are being used.
- 17) **DO NOT** use around flammable or combustible liquids such as gasoline or use in areas where they may be present.
- 18) Replace damaged or worn parts immediately with genuine manufacturer equipment parts to maintain your safety and protect your limited warranty.
- 19) The power source **MUST** be properly grounded. If using a generator, check the manufacturer's grounding instructions.
- 20) The electrical box panel **MUST** only be opened by a licensed electrician or authorized service technician and the power cord **MUST** be unplugged.
- 21) When transporting the machine from one location to another, keep the machine on level ground.
- 22) Prior to operating this machine, ensure that the proper voltage is established - (480) 3 phase power, minimum 30 AMPS.
- 23) Ensure that proper machine rotation is established with the vacuum and motor assembly.



DANGER:

Improper use of the grounding plug can result in a risk of electrical shock.

ABOUT THE KR-54GP15 GRINDER



Trigger and Trigger Lock

Handle Operating Position

Steel Handle Pin

Electrical Panel Box

Vacuum Manifold

Motor Assembly

Bowl Assembly

Dust Skirt

Main Power Cord /
Twist Lock Plug

Battery
Operated Jack

Breakers

- (a) Main Power (480V/30AMPS)
- (b) Vacuum 1 (480V/7.5 AMPS)
- (c) Vacuum 2 (480V/7.5 AMPS)
- (d) Vacuum 3 (230-277V/10AMPS)

Vacuum Receptacles

- (a) Vacuum 1
- (b) Vacuum 2
- (c) Vacuum 3

Vacuum Hose

(Connects from
Vacuum Manifold to
Concrete Vacuums)

Vacuum Hose

(Connects from Bowls
to Vacuum Manifold)

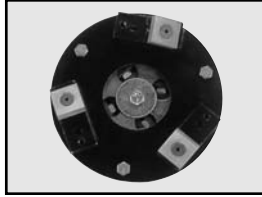
ATTACHMENT DESCRIPTIONS



Colbolt Diamond:



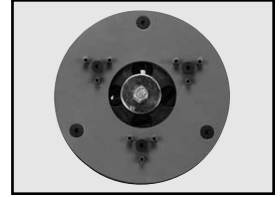
Carbide Scarifier



8-Way Scraper



Velcro Pad Holder



Xtralife Driver

COLBOLT DIAMOND:

The "Colbolt" diamond is one piece and is permanently affixed to the driver. It is used for the removal of concrete and concrete coatings, and to abrade existing coatings on concrete for re-coating.

CARBIDE SCARIFIER:

Used for the removal of coatings or adhesives on concrete.

8-WAY SCRAPER:

Used for the removal of mastics.

POLISHING VELCRO PAD HOLDERS:

Used to hold the diamond polishing disks in place. The velcro pad holder can remain through the polishing steps (grits: 100/200/400/800/1500/3000) cutting down on storage space and maximizing the use of a single set of drivers.

XTRALIFE DRIVER:

Used to hold the Xtralife diamonds in place. Xtralife diamonds are available in different grits for smoothing and polishing soft or hard concrete.

CHANGING AND INSTALLING ATTACHMENTS

CAUTION:



When installing or changing the accessories, turn OFF the machine and disconnect the power cord from the electrical outlet.

When installing or removing attachments, always wear protective gloves.

- 1) Turn the speed dial to "1". Disengage the main power breaker and disconnect the main power source.
- 2) Disconnect the vacuum hoses from the bowls.



3) Raise the motor assemblies with the battery operated jack until they clear the floor and can be rotated to the bottom face up position.

4) When removing the attachments, position the first attachment at 12 o'clock.

5) Using both hands, reach beneath the bottom side of the attachment and pull up towards yourself to free it from the machine. When all the attachments have been removed install the next attachments required.

6) Select the attachment required for the job, and line up the holes on the attachment with the four metal pins protruding from each of the three heads on the bowls.

7) Push attachments on by hand and if necessary, carefully tap it into place with a rubber mallet.

8) Repeat steps 1 thru 4 with the remaining 2 motor assemblies.

9) Rotate the motor assemblies into their operating position, move the machine where work is to begin and lower motor assemblies.

10) Since the attachments are different heights, you may need to adjust the dust skirt to make sure it is level with the attachments. This will ensure clean and virtually dust-free operation.

11) To adjust skirt, align the skirt with the center of the machine and wrap it around with the bottom edge touching the floor.

12) Follow Operating Instructions and begin again.

GENERAL SAFETY PRECAUTIONS



CAUTION:

This machine is designed for surfacing concrete.
All operators and maintenance personnel should read and understand the safety procedures for this floor machine.

- 1) All personnel in the immediate work area must wear safety glasses with side shields whenever the machine is in operation. Protective clothing and safety shoes are recommended. Avoid any loose clothing.
- 2) Dust masks should be worn when resurfacing the floor.
- 3) Keep the power cord away from the revolving heads to avoid damage.
- 4) **DO NOT** operate this floor machine in the rain or in areas where liquids could enter the electrical components of the machine.
- 5) **DO NOT** attempt to service or replace attachments while the machine is running or connected to a power source.
- 6) Check main power supply to assure that you have connected the equipment to a proper dedicated service.

OPERATING INSTRUCTIONS

- 1) Remove and clean the floor of any materials, loose objects and debris.
 - 2) When operating this machine be aware of any protrusions such as lag bolts, shields, etc. Running over these may cause damage to the attachments and/or machine, voiding the warranty.
 - 3) Select and install the accessory set required for the job, then lower the motor assemblies using the battery operated jack. (See page 4 for installation instructions.)
 - 4) If the handle is in the "storage" position, remove the pin and flip handle back before operation.
 - 5) Remove the handle pin and adjust the handle so that it is positioned just below the operator's sternum. When it reaches the correct height, reinsert the pin.
 - 6) Connect the hoses from the motor assembly bowls to the manifold and the hoses for the two vacuums to the connectors on each side of the manifold.
 - 7) Engage the 480 Volt MAIN POWER breaker located on the back of the electrical panel.
 - 8) Engage the 480 Volt VACUUM 1 and VACUUM 2 breakers located the back of the electrical panel.
 - 9) Plug vacuums into the clearly labeled outlets located on the back of the electrical box panel.
 - 10) Plug the main power cord into the extension cord. Both the cords are equipped with twist-lock plugs and **MUST** be properly engaged. After plugging the cords in, slide the protective locking sleeve over the male end of the plug assembly.
 - 11) Plug the extension cord into main power source.
 - 12) Set the speed dial located on the right side of the machine to position one.
 - 13) Place your hands on the handle grips and squeeze the trigger lock beneath the right handle to activate the motors and start the operation.
 - 14) To stop the machine, release the safety trigger and it will automatically turn OFF.
 - 15) This machine operates in a straight path. Make sure to maintain a steady, consistent pace when using the machine.
 - 16) A set of attachments **MUST** be left on the machine to protect the heads when the machine is not in use.
- IMPORTANT:**
After the machine is plugged into the main power source and the main power breaker is engaged, the voltage indicator should read **480 Volts**. If it does not - **DO NOT RUN THE MACHINE**. Check and correct this problem.



CAUTION:

DO NOT attempt to operate this unit if the machine is not fully assembled.
When servicing or replacing accessories turn OFF the machine and **DISCONNECT FROM THE POWER SOURCE**.

ACHIEVING THE BEST RESULTS

To achieve the best results with the KR-54GP15 the following is recommended:

PACE:

The pace will change depending on the stage of operation (grinding, buffing or polishing). Also, the pace will be largely dictated by the hardness, smoothness and conditions of the concrete floor.

The operator should move the machine in as slow of a pace necessary to achieve the desired results. It is critically important to spend as much time as necessary in the cutting stages normally 30/80 grit.

As a general guideline, the pace of the operator should be between 2 inches per second at the slowest to 1 ft per second at the fastest.

PATTERN:

The KR-54GP15 should be operated in a straight back and forth motion. Each path should overlap the previous path by no less than 4 to 6 inches for the best results. It is recommended that the perimeter of the production space be completed first. This will provide a 54 inch area where the machine can be turned to begin the next lap.

When turning the KR-54GP15, it should be done through a series of right angles or pivoting the machine. **NEVER** move the machine in a curve. This will leave unfinished gaps between grinding bowls.

It is recommended that alternate patterns be used for each progressive step (side to side, then front to back. This will avoid "patterns" or "striping" from being visible in the finished product.

Note: A recommended and approved method is when grinding the floor with the next grit, it should be in a pattern perpendicular to the previous pass. This crosshatch method will avoid patterns on the finish.

FLOOR CLEANING:

The floor should be thoroughly cleaned between each grinding/polishing step for the best results. This will prevent any dust or residue left on the floor from leaving scratches on the floor surface.

Additionally, it becomes harder and harder to keep track of what has and has not been processed by the

machine as the stages progress. This problem is resolved by thoroughly cleaning the floor after each stage.

Note: It is recommended for the best results, that you use an automatic scrubber with cleaning solution between each step to clean the floor.

WHAT TO AVOID:

VINYL CRACK AND JOINT FILLER

Vinyl material will often smear on the floor if processed by metal or resin diamonds at higher speeds. It is also likely that it will create a thin coating over the resin diamond, impacting its effectiveness. Avoid these areas by processing them as closely as possible from multiple directions.

UNEVEN SURFACES

The floating heads of the grinder are designed to adjust to elevation variations in the floor equal to, or less than approximately $\frac{1}{4}$ inch if the variation is gradual, or $\frac{1}{8}$ of an inch if the variation is abrupt. Attempts to transition uneven surfaces that exceed the tolerance of the machine design will cause the affected bowl to "jump" abruptly. When this happens, move the machine from the affected area quickly. Approach these areas as closely as possible from different directions for best results. Floor repairs may be necessary before grinding/polishing can be accomplished.

ROUGH SURFACES

Rough concrete surfaces such as exposed large aggregate and areas where the cement is disintegrated must be repaired prior to the grinding/polishing process.

MISSED AREAS

It is critical that a pattern be established to ensure there are no missed areas during of the stages. Any area, no matter how small that does not get processed will continue to be one process level behind the surrounding floor through the end result. This area may be distinctly visible.

BELT CHANGING INSTRUCTIONS



- 1) Unplug the motor power cord from the handle.
- 2) Turn the bowl assembly upside down by rotating the fixture on its arm assembly.
- 3) Remove pads/attachments. (See Page 4)
- 4) Remove the nine flat head screws and beveled washers from the cover plate.
- 5) Remove the cover plate from the inner bowl.
- 6) Vacuum up any dust and debris from the inner bowl.
- 7) To remove belts, pull upwards and use a screwdriver to roll them off while turning the pulley.
- 8) Roll new belt or belts back on the pulley.
- 9) Reverse the above steps to reassemble the machine.

STORAGE & TRANSPORTING

This machine should be stored with the grinding/polishing deck in the lowered position (seated completely on the ground). This will ensure the stability of the machine during transportation and storage.

When moving the KR-54GP15, raise the grinding/polishing deck up, leaving 3 and 4 inches between the lowest part of the bowl assemblies and the floor.

MACHINE MAINTENANCE

- 1) Unplug the machine.
- 2) Wipe off machine with a clean cloth after each use.
- 3) Empty the vacuum you are using in accordance with specific manufacturer's safety and operation instructions.
- 4) Regularly Check for loose parts and fasteners.
- 5) Check the power cord for any breaks in the wire. Breaks will most likely occur near the plug or switch. Repair or replace any breaks immediately.

KR-54GP15 WARRANTY & REGISTRATION

Warranty coverage is available to the original owner of this grinder against defects in material and workmanship for a period of 1 year, including the motor, starting from the date of delivery.

Please note the following conditions pertaining to this warranty:

- 1) Applies only to the original owner and is non-transferrable.
- 2) Machine will not have been dismantled or tampered with in any way.
- 3) Normal wear items will be warranted from manufacturing defects for up to 90 days from the date of purchase including but not limited to the following items:
Accessories; Belts; Bearings; Casters; Drive Couplers; Electric Cords; Filters; Relays; Switches; Triggers; and like items.
- 4) This warranty does not apply to any repairs that are a result of misuse, neglect, abuse, or to any other proprietary parts.
- 5) This warranty is in lieu of and excludes every condition or warranty not herein expressly set out and all liability for any form of consequential loss or damage is hereby expressly excluded.
- 6) This Warranty is limited to repair or replacement of covered components only and reasonable labor expenses.

Warranty Registration:

It is purchaser's responsibility to fill out the warranty card included in the manual package and mail it to:

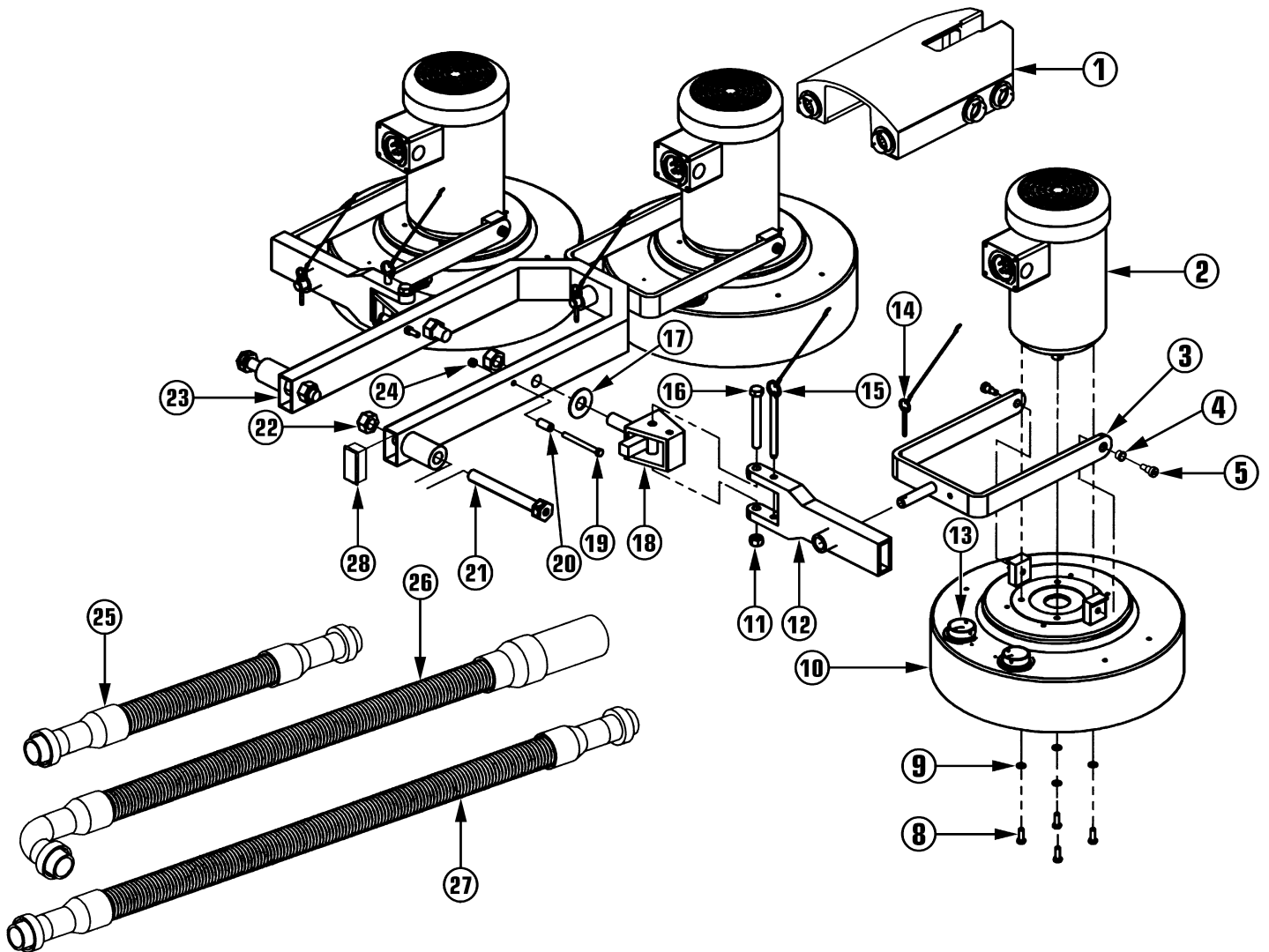
**Kut-Rite Service Department
27482 Northline
Romulus, MI 48174**

This will register your purchase and begin your warranty period. Failure to send this card within one week upon receipt of the machine may void the warranty.

ELECTRICAL & HANDLE PARTS LIST

Ref No	Part Description	Qty	Part No
1	Battery Operated Jack w/Brackets	1	221627
2	1/4 -20 X 3 1/2" Hex Bolt	6	307785
3	1/2" -13 Nylok Nut	3	215228
4	Lower Base Frame	1	221600
5	4" Swivel Caster	2	232440
6	.125 Dia X 2 1/2" Cotter Pin	2	463515
7	8" X 2" Wheel	2	463434
8	3/4" X 1 1/2" Steel Washer	4	463507
9	7" X 15" Metal Battery Tray	1	223212
10	.375-16 Nylok Nut	8	480789
11	.375-16 X 3 1/2" Hex Bolt	4	222879
12	480V, 30 AMP Female Receptacle	5	220345
13	Control Box	1	234958
14	10-24 x .62 Pan Screw	18	221023
15	.25-20 Nylok Nut	10	380784
16	250V, 20 AMP Female Receptacle	1	220337
17	220V, 15 AMP Circuit Breaker	1	232432
18	480V, 30 AMP-3 Pole Circuit Breaker	1	220213
19	480V, 7.5 AMP-3 Pole Circuit Breaker	2	220221
20	#6-32 X .37 Screw	22	377155
21	Digital Volt Meter Panel	1	225444
22	25 AMP Speed Control Switches	1	221740
23	460V AC 10/15/20 HP Inverter	1	414239
24	.25-20 X 1" Hex Bolt	4	480681
25	30" Rear Frame	1	221597
26	.5 Washer	2	215201
27	1/2 -12 X 4 3/4" Hex Bolt	1	215198
28	1/2 -Dia X 3.9 Speed Pin Assembly	1	217468
29	Handle Assembly	1	463566
30	25 AMP Micro Switch w/Hex Nut	1	469629
31	#6 Int Tooth Lockwasher	2	355224
32	#6-32 X 1" Pan Screw	2	335576
33	48", 480V-30A Ext Cord w/Male & Female Plug	2	220981
34	51 Ft, 480V-30A Ext Cord w/Male & Female Plug	1	221007
35	48" Pigtail w/Male Plug	1	220191
36	12 Volt, 34 AMP Battery	1	227080
37	115 Volt Battery Charger	1	227099
38	#10-24 Hex Nut	15	331201

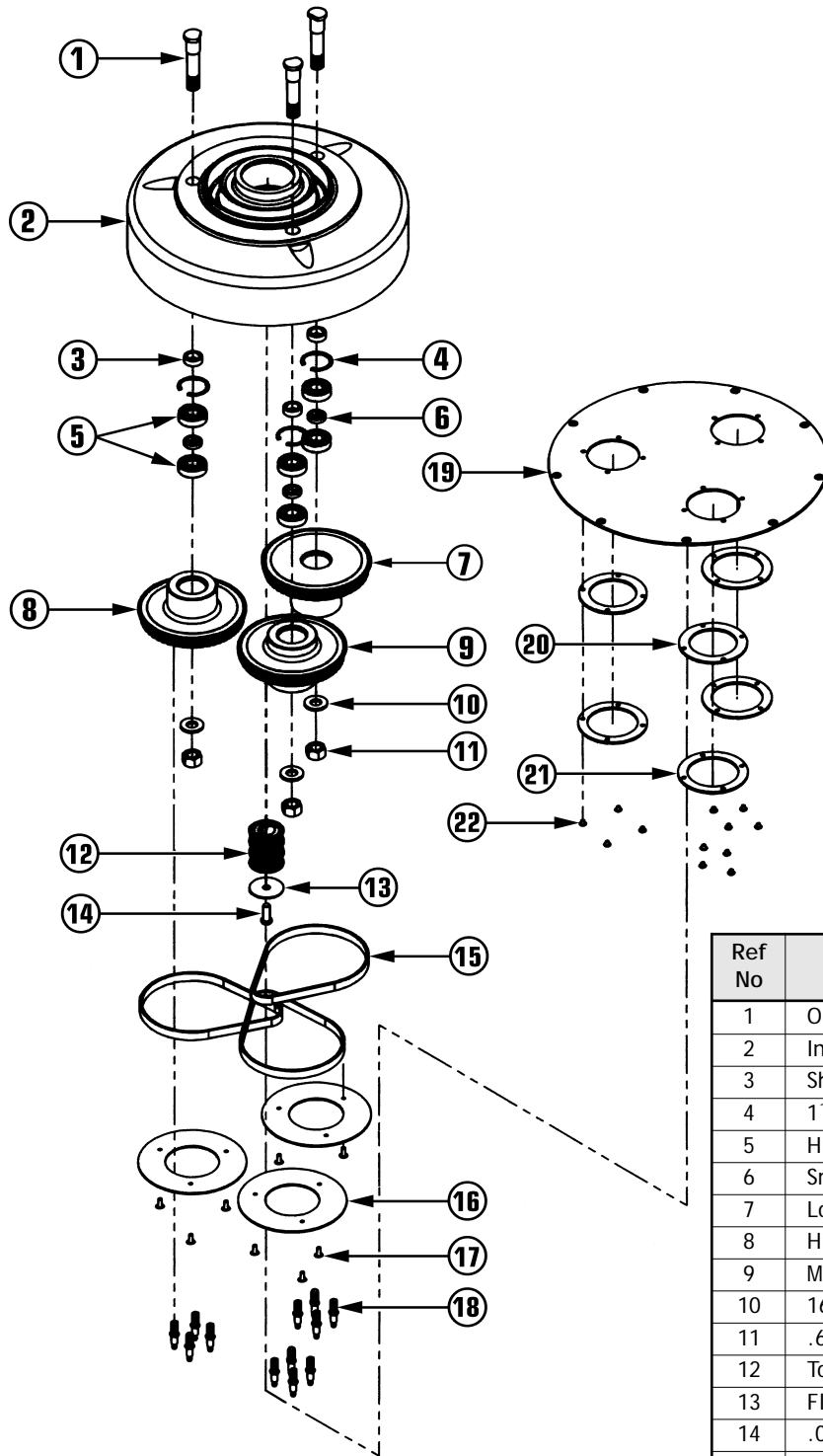
MOTOR & CHASSIS DRAWING & PARTS LIST



Ref No	Part Description	Qty	Part No
1	Manifold w/Vacuum Inlets	1	222771
2	5 HP, 208-230/460V 3450 RPM Motors	3	495247
3	Bowl & Motor Assembly Support Arm	3	221546
4	12 MM Flat Washer	6	232424
5	1/2" x 5/8 Dia Shoulder Bolt	6	232416
8	.37-16 X 1" Hex Bolt	12	368830
9	.37 Split Lockwasher	12	368849
10	20" Outer Bowl w/Handles	3	234931
11	.62 - 11 Nylok Nut	2	490628
12	Side Arm Support	2	221503
13	Hose Connector	6	310999
14	1/4" Dia X 2" Speed Pin	3	223085
15	1/2" Dia X 5" Speed Pin	2	223077

Ref No	Part Description	Qty	Part No
16	.62-11 X 5.5" Hex Bolt	2	223069
17	2 1/2" X 1.075 Nylon Washer	2	225614
18	Arm Support	2	221457
19	.37-16 X 4" Hex Bolt	2	223034
20	.385" X .625" X 1/4" Steel Tube	2	223190
21	1.0-8" X 7" Hex Bolt	2	222852
22	1.0-8" Nylok Nut	2	222860
23	Upper Frame	1	222542
24	.375-16 Nylok Nut	2	480789
25	1 1/2" X 12" Hose w/Cuff & Connector	4	223115
26	1 1/2" X 26" Hose w/Cuff & Connector	2	223131
27	1 1/2" X 30" Hose w/Cuff & Connector	2	223158
28	Support Arm Cap	4	225916

INNER BOWL DRAWING & PARTS LIST



Ref No	Part Description	Qty	Part No
1	Outer Pulley Shaft	3	490547
2	Inner Bowl w/Shaft & Bearings	1	491969
3	Shaft Spacer	3	490555
4	1 1/2" Internal Snap Ring	3	490466
5	High Ball Bearing w/Seals	6	464910
6	Small Bearing Spacer	3	490474
7	Low Pulley	1	490415
8	High Pulley	1	490512
9	Middle Pulley	1	490490
10	16MM Steel Washer	3	490636
11	.62 - 11 Nylok Nut	3	490628
12	Toothed Pulley	1	499293
13	Flange Washer	1	490989
14	.037-16 X 1" Low Profile Screw	1	490997
15	Kevlar Timing Belt	3	499323
16	Pulley Alignment Plate	3	222828
17	#10-32 X 1 1/2" Screw	9	377201
18	Accessory Pins	12	222682
19	Aluminum Cover Plate	1	491888
20	Felt Gasket	3	491373
21	Grommets	3	490652
22	Pop Rivet	12	394068

TROUBLESHOOTING GUIDE

PROBLEM: Motor will not run.

POSSIBLE CAUSE

- 1) Defective switch.
- 2) Defective power cord or wiring.
- 3) Defective motor.
- 4) Blown fuse or tripped circuit breaker at wall panel.
- 5) Power cord not plugged in properly or damaged.
- 6) Motor hums but does not turn.

POSSIBLE SOLUTION

- 1) Check switch, replace if defective.
- 2) Check and replace if defective.
- 3) Have motor checked by an authorized service center.
- 4) Replace fuse or reset circuit breaker. If this does not correct the problem, have the machine checked by an authorized service center.
- 5) Plug in power cord properly or replace power cord if damaged.
- 6) Loss of phase, check breakers/fuses.

PROBLEM: Machine bogs down and runs slow.

POSSIBLE CAUSE

- 1) Attachment cutting too aggressively
- 2) Low line voltage in building.
- 3) Running hot and overloading.

POSSIBLE SOLUTION

- 1) Increase pace of process.
- 2) If wiring is old in the building have voltage checked by the power company.
- 3) Check incoming voltage. Ensure 480V is maintained especially when using a generator.

PROBLEM: Motor runs, driver will not rotate.

POSSIBLE CAUSE

- 1) Belts are broken.

POSSIBLE SOLUTION

- 1) See page 7 for Belt Changing Instructions.

PROBLEM: Noisy machine or vibration.

POSSIBLE CAUSE

- 1) Defective motor or loose parts.
- 2) Attachment is not level or securely attached.

POSSIBLE SOLUTION

- 1) Contact the manufacturer or authorized service center.
- 2) Level attachment and make sure all fasteners are securely attached.



Address: 27482 Northline, Romulus MI 48174
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Internet Address: www.kutritemfg.com / cservice@kutritemfg.com