

LOW SPEED FLOOR MACHINE

Model No.:

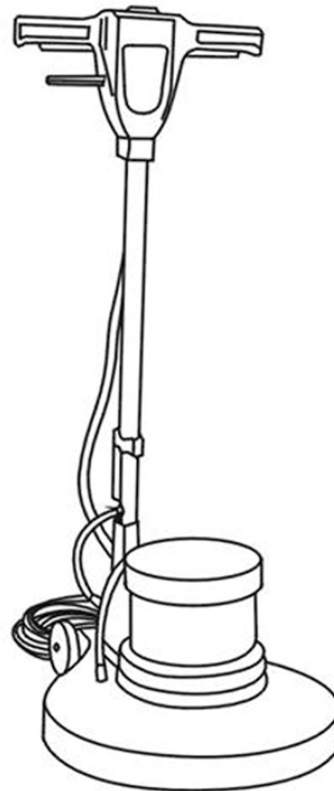
612209-17 inch 1.0HP

612210-17 inch 1.5HP

612211-20 inch 1.0HP

612212-20 inch 1.5HP

Operator and Parts Manual



TENNANT COMPANY
701 NORTH LILAC DRIVE
MINNEAPOLIS, MN 55422

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1-800-522-7839 EXT: 5356

612398
Rev:02[07-03]

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SAFETY PRECAUTIONS

SAFETY PRECAUTIONS

This machine is intended for commercial use only. It is designed exclusively to scrub floors in an Indoor environment and is not constructed for any other use. Use only recommended pads/brushes and commercially available floor cleaners intended for machine application.


All operators must read, understand and practice the following safety precautions.

The following warning alert symbol and the "FOR SAFETY" heading are used throughout this manual as indicated in their description:


 **WARNING:** To warn of hazards or unsafe practices which could result in severe personal injury or death.

FOR SAFETY: To identify actions which must be followed for safe operation of equipment.


Failure to follow these warnings may result in: personal injury, electrocution, electric shock, fire or explosion:

 **WARNING:** Do Not Use Flammable Liquids Or Operate Machine In Or Near Flammable Liquids, Vapors Or Combustible Dusts.

This machine is not equipped with an explosion proof motor. The electric motor will spark upon start up and during operation which could cause a flash fire or explosion if machine is used in an area where flammable vapors/liquids or combustible dusts are present.

 **WARNING:** Do Not Operate With Damaged Power Cord. Do Not Modify Plug. Unplug Power Cord Before Servicing Machine

If the supply cord is damaged or broken, it must be replaced by the manufacturer or it's service agent or a similarly qualified person in order to avoid a hazard.

 **WARNING:** Do Not Use Outdoors. Do Not Expose to Rain. Store indoors.

The following information signals potentially dangerous conditions to the operator or equipment:

FOR SAFETY:

1. Do not operate machine:

- With flammable liquids or near flammable

vapors as an explosion or flash fire may occur.

- Unless trained and authorized.
- Unless operator manual is read and understood.
- Unless cord is properly grounded.
- With damaged cord or plug.
- If not in proper operating condition.
- In outdoor areas.
- In standing water.
- With the use of an extension cord.

2. Before operating machine:

- Make sure all safety devices are in place and operate properly.
- Place wet floor signs as needed.
- Remove loose objects on floor to prevent dangerous projectiles if struck by spinning pad.

3. When using machine:

- Stay clear of spinning pad.
- Do not run machine over cord.
- Do not pull machine by plug or cord.
- Do not pull cord around sharp edges or corners.
- Wear non-slip shoes.
- Do not close doors on cord.
- Do not unplug by pulling on cord.
- Do not stretch cord.
- Do not handle plug with wet hands.
- Keep cord away from heated surfaces.
- Never activate the power when the handle is in the upright position
- Do not release handles until pad comes to a complete stop.
- Go slow on inclines and slippery surfaces.
- Never allow children to play on or around.
- Report machine damage or faulty operation immediately.
- Follow mixing and handling instructions on chemical containers.

4. Before leaving machine:

- Turn off machine .
- Unplug cord from wall outlet.

5. When servicing machine:

- Unplug cord from wall outlet.
- Avoid moving parts. Do not wear loose jackets, shirts, or sleeves.
- Use manufacturer supplied or approved replacement parts.
- All repairs must be performed by a qualified service person.
- Do not modify the machine from it's original design.

SAFETY PRECAUTIONS

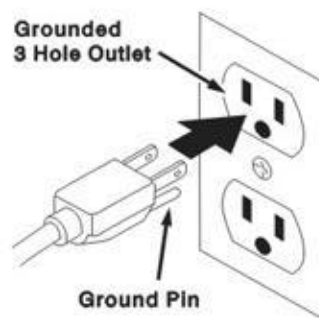
6. When transporting machine:

- Get assistance when lifting machine.
- Unplug cord from wall outlet.
- Use tie-down straps to secure machine to truck or trailer.

GROUNDING INSTRUCTIONS

Machine must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electrical current to reduce the risk of electrical shock. This machine is equipped with a cord having an equipment- grounding conductor and grounding plug.

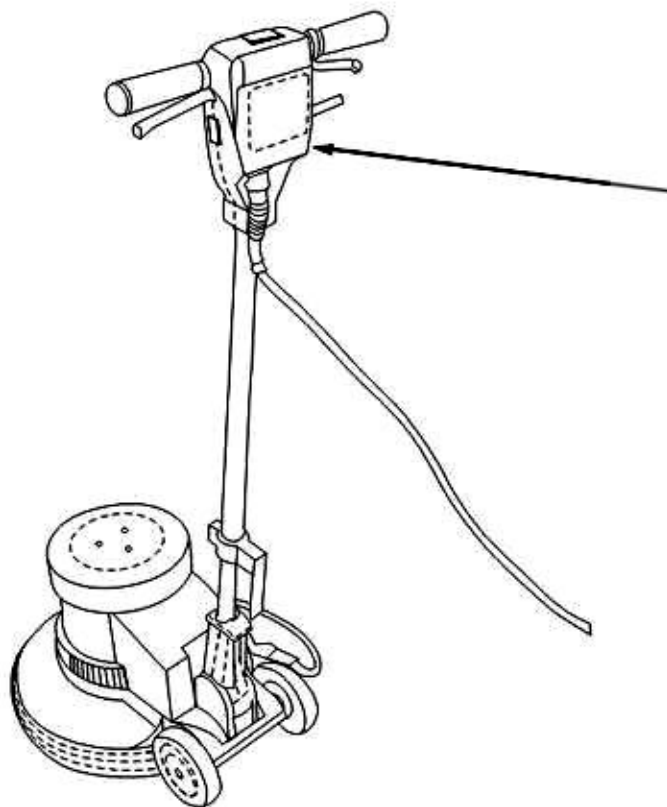
The plug must be plugged into an appropriate outlet that is properly installed in accordance with all local codes and ordinances. Do not remove ground pin; if missing, replace plug before use.



WARNING LABEL

The warning label appears on the machine in the location indicated. Replace label if it becomes damaged or illegible.

WARNING LABEL - Located on backside of machine handle.



⚠ WARNING

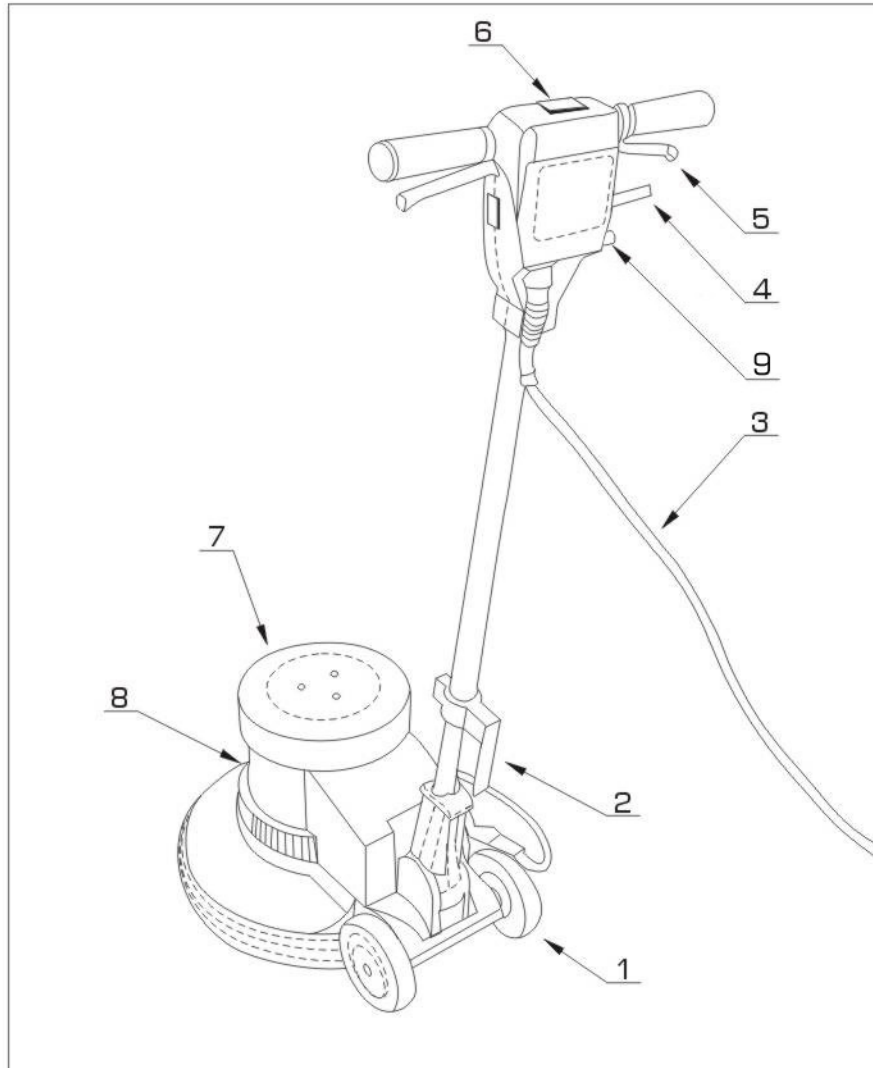
FAILURE TO FOLLOW THESE WARNINGS MAY RESULT IN: PERSONAL INJURY, ELECTROCUTION, ELECTRICAL SHOCK, FIRE OR EXPLOSION.

		Do Not Use Flammable Liquids Or Operate Machine In Or Near Flammable Liquids, Vapors Or Combustible Dusts.
		
		Do Not Operate With Damaged Power Cord. Do Not Modify Plug. Unplug Power Cord Before Servicing Machine.
		

Do Not Use Outdoors. Do Not Expose To Rain. Store Indoors.

613286

 FOR SAFETY: READ THE OWNER'S MANUAL BEFORE USING MACHINE.



- 1. 5" Wheel
- 2. Hook, Cable
- 3. Cable
- 4. Leveling Handle
- 5. Handle Switch

- 6. Button, Safety Lock
- 7. Top Cover, Motor
- 8. Cover, Motor
- 9. Circuit Breaker

OPERATION AND MAINTENANCE

MACHINE SETUP AND OPERATION

FOR SAFETY: Do not operate machine unless operation manual is read and understood.

⚠️ WARNING: Do Not Use Flammable Liquids Or Operate Machine In Or Near Flammable Liquids, Vapors Or Combustible Dusts.

This machine is not equipped with an explosion proof motor. The electric motor will spark upon start up and during operation which could cause a flash fire or explosion if machine is used in an area where flammable vapors/liquids or combustible dusts are present.

FOR SAFETY: Do not operate machine unless cord is properly grounded. Do not operate machine with damaged cord or plug. Do not operate machine with the use of an extension cord.

1. Be prepared before starting by removing all obstructions or other obstacles in the area, which is to be cleaned.
2. To properly attach brush, **UNPLUG THE FLOOR MACHINE**, place handle in vertical position, then tilt the machine back until handle rests on the floor.

Place the brush or pad clutch plate over the three lugs on the motor drive adapter. Twist brush right to lock into position.

3. To remove the brush, **UNPLUG THE MACHINE** and follow the same procedure as above and twist brush off to the left.
4. When not using this machine, **REMOVE** the brush or pad driver.
FOR SAFETY: When servicing machine, unplug cord from wall outlet.
5. To operate this machine adjust handle height to a comfortable position.

Push the safety lock button, which is on the switch housing, and start the machine by depressing either the left or right switch levers.

Note: the machine's circuit breaker may trip under conditions of excessive overload. If circuit breaker should trip, change to a less aggressive pad/brush and periodically check pad for soil buildup. To reset circuit breakers switch, wait 15 seconds and press reset button located on the handle.

6. When the machine is in operation, both hands should be placed on the handle.
7. The machine will glide sideways over the floor by a slight raising and lowering of the handle. Raise the handle slightly to go right, lower, go left.
8. Releasing the switch lever stops the machine at once.
FOR SAFETY: When using machine, do not release handles until pad comes to a complete stop.

MACHINE MAINTENANCE

FOR SAFETY: When servicing machine, unplug cord from wall outlet.

⚠️ WARNING: Do Not Use Outdoors. Do Not Expose to Rain. Store Indoors

Store the machine in a clean dry area. Wipe the entire machine and cord down with a clean cloth. Wrap the machine's electrical cord onto the handles and the cord hood provided. **CHECK** the cord and plug for nicks, cuts or damage. Remove the pad or brush and clean thoroughly.

FOR SAFETY: When transporting machine, get assistance when lifting machine.

FOR SAFETY: When servicing machine, all repairs must be performed by a qualified service person.

FOR SAFETY: When servicing machine, do not modify the machine from it's original design.

LUBRICATION

Both gear unit and motor are lubricated for life under normal use, No oiling or greasing is necessary. If machine is used in dusty areas or is used for spray buffing. It is suggested the motor be blown out by compressed air or exhaust from a vacuum, This will keep the motor clean and allow clean passage of air for ventilation and prevent overheating

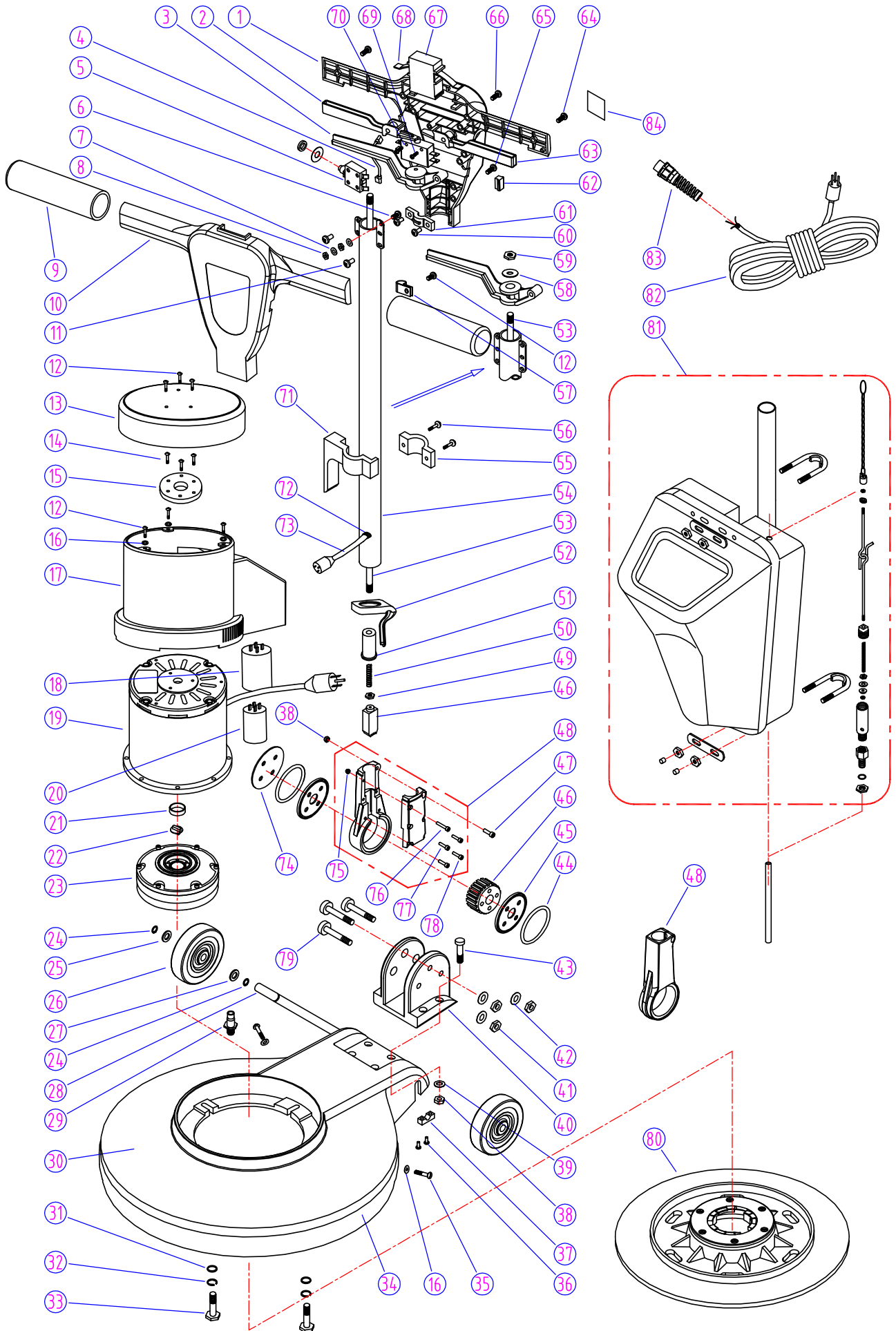
TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
Machine does not operate.	Faulty power cord.	Contact Service Center.
	Tripped building circuit breaker.	Reset circuit breaker in building.
	Faulty machine wiring.	Contact Service Center.
	Faulty ON/OFF handle switch.	Contact Service Center.
	Faulty motor .	Contact Service Center.
	Capacitor burned out.	Contact Service Center.
	Machine circuit breaker tripped	Reset the circuit breaker button located on the handle
Machine operates with a wobble or jerky motion.	Soiled Pad .	Replace Pad
	Improper pad/brush for application.	Change to proper pad/brush.
	Pad driver/brush not installed correctly	Remove and reinstall pad driver/brush.
	Pad/brush unevenly worn.	Replace pad/brush.
	Pad not properly centered on pad driver.	Remove and reinstall pad.
Machine circuit breaker trips continuously	Heavily soiled pad .	Replace or turn over pad.
	Improper pad for application.	Change to proper pad.
	Faulty circuit breaker.	Contact Service Center.

SPECIFICATIONS

MODEL NO.	612209	612210	612211	612212
MACHINE WIDTH	430mm (17 in)	430mm (17 in)	508mm (20 in)	508mm (20 in)
MACHINE HEIGHT	1219mm(48 in)	1219mm(48 in)	1219mm(48 in)	1219mm(48 in)
MACHINE WEIGHT	48 kg (105 lbs)	48 kg (105 lbs)	50 kg (110 lbs)	50 kg (110 lbs)
DRIVE MOTOR	120V, 1 hp 15 A, 60Hz	120V, 1.5 hp 12 A, 60Hz	120V, 1 hp 15 A, 60Hz	120V, 1.5 hp 12 A, 60Hz
PAD/BRUSH SPEED	175 RPM	175 RPM	175 RPM	175 RPM
POWER CORD LENGTH	15 M (50 ft)	15 M (50 ft)	15 M (50 ft)	15 M (50 ft)
BRUSH PAD DIA	430 mm (17 in)	430 mm (17 in)	510 mm (20 in)	510 mm (20 in)
DECIBEL RATING AT OPERATOR'S EAR, INDOORS ON TILE FLOOR	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)

Specifications may change without notice.



DIA NO	PART NUMBER	DESCRIPTION	NO REQ'D
1	613894 *	REAR COVER, SWITCH HOUSING (metal)	1
	610043 *	REAR COVER, SWITCH HOUSING (plastic) (metal handle kit available - #613883)	1
2	613878 *	LEVELING SWITCH, RIGHT (metal)	1
	610037 *	LEVELING SWITCH, RIGHT (plastic)	1
3	613877 *	LEVELING HANDLE (metal)	1
	612386 *	LEVELING HANDLE (plastic)	1
4	613999	JUMP WIRE	1
5	612542	CIRCUIT BREAKER 17AMPS (FOR MODEL: 612209 612211)	1
	614004	CIRCUIT BREAKER 12AMPS (FOR MODEL: 612210 612212)	1
6	575569000	HEX SCREW M5 x 16	1
7	140031	WASHER, #10, EXT ZN	2
8	140297	NUT M5	2
9	613876	HANDLE GRIP	2
10	613874 *	FRONT COVER, SWITCH HOUSING (metal)	1
	610042 *	FRONT COVER, SWITCH HOUSING (plastic) (metal handle kit available - #613883)	1
11	613875	SCREW,M5 x 12	3
12	612550	SCREW,M5 x 10	6
13	610041	COVER,MOTOR, TOP	1
14	612859	SCREW,M5 x 18	3
15	612392	GASKET,ABS	1
16	612393	WASHER,PLAIN, 5	5
17	610040	COVER,MOTOR	1
18	610032	START CAPACITOR 400MFD/150V	1
19	611993	MOTOR,110V 1.5HP (FOR MODEL: 612210 612212)	1
	610027	MOTOR,110V 1.0HP (FOR MODEL: 612209 612211)	1
20	613972	RUNNING CAPACITOR,75UF/250V (FOR MODEL: 612210 612212)	1
21	614022	SLEEVE	1
22	610028	COUPLER, MOTOR	1
23	610029	GEAR BOX	1
24	612394	RETAINING RING,EXTERNAL, 12	4
25	612396	WASHER,PLAIN, 12.35	2
26	612860	WHEEL,5"	2
27	612397	WAVING WASHER, 12	2
28	612861	AXLE,WHEEL	1
29	612401	HOSE BARB, SOLUTION FEED	1
30	612402	FRAME,20" (FOR MODEL: 612211 612212)	1
	612403	FRAME,17"(FOR MODEL: 612209 612210)	1
31	612404	WASHER,PLAIN, 8	4
32	612406	WASHER,LOCK, 8	4
33	612407	SCREW,M8 x 30	4
34	612408	BUMPER,FRAME,17"	1
	612409	BUMPER,FRAME,20"	1
35	612411	SCREW,M5 x 16	2
36	612412	SELF-TAPPING SCREW.ST5 x 20	4
37	612413	CLAMP BLOCK,AXLE	2
38	612414	NUT,M6,NYLON INSERT	1
39	612415	WASHER,PLAIN, 6 x 16 x 1.5mm	4
40	612417	MOUNTING BASE,GEAR	1
41	612418	NUT,M8 x 7.5,NYLON INSERT	3
42	612419	WASHER,PLAIN,8	3

Motor Replacement Parts:
614211 Switch, Start (1.0/1.5 HP motors)
614210 Switch, Centrifugal (1.5 HP motor)

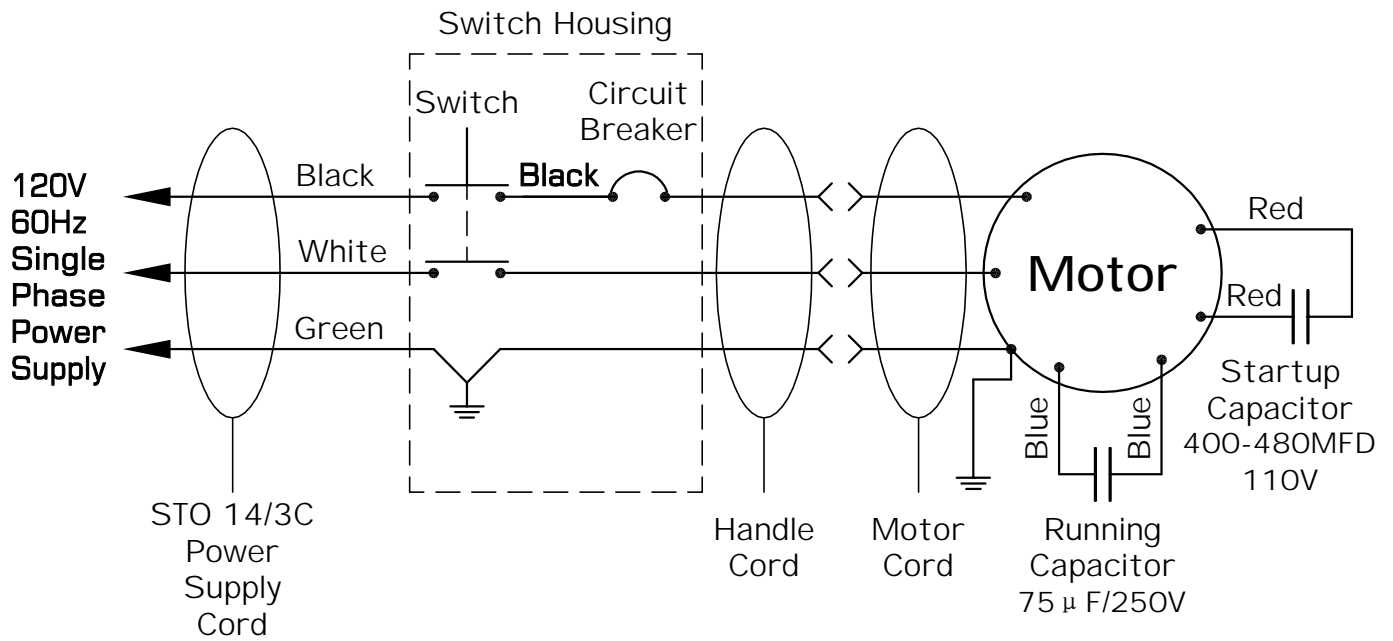
***NOTE:Plastic and metal handle replacement parts are not interchangeable.**

PARTS LIST

DIA NO	PART NUMBER	DESCRIPTION	NO REQ'D
43	612421	SCREW,M6 x 35,HEX SOCKET	4
44	612422	"O"RING,GEAR SEAT	2
45	612423	WASHER,NYLON	2
46	613938	KIT, GEAR AND PLUNGER	1
47	612150	SCREW,M6 x 20	1
48	613977	ASM, GEAR SEAT REPLACEMENT (INCLUDES ITEM #46)	1
49	612862	NUT,M4	1
50	612430	SPRING,LEVELING	1
51	612432	RETAINER	1
52	612436	SEAL	1
53	612437	ROD	1
54	612442	TUBE, HANDLE	1
55	610038	COVER,HOOK	1
56	612449	SCREW,M4 x 16	2
57	612450	CLAMP,POWER CABLE	1
58	612456	WASHER,PLAIN	1
59	612863	NUT,M4,NYLON INSERT	1
60	612388	SCREW,M4 x 8	2
61	613882	CLAMP BLOCK,CORD,HANDLE	1
62	612864	COVER,SOLUTION HANDLE	1
63	613881 *	LEVELING SWITCH, LEFT (metal)	1
	610036 *	LEVELING SWITCH, LEFT (plastic)	1
64	613895	SCREW,M5 x 16	2
65	612865	SCREW,M5 x 35	3
66	612459	SCREW,M5 x 30	2
67	612461	BUTTON,SAFETY LOCK	1
68	612464	SPRING,SAFETY LOCK BUTTON	1
69	613880	SCREW,M3 x 25	2
70	612866	SWITCH ASSY	1
71	610039	HOOK,CABLE	1
72	612469	GROMMET	1
73	612475	CORD,HANDLE 14/3C	1
74	612477	COVER,GEAR	1
75	614023	NUT,M5,NYLON INSERT	1
76	614024	SCREW,M5 x 38,HEX SOCKET	1
77	612720	SCREW,M5 x 25,HEX SOCKET	2
78	614025	SCREW,M5 x 20,HEX SOCKET	2
79	612480	SCREW,M8 x 60	3
80	605124	16"PAD HOLDER	1
	605123	19"PAD HOLDER	1
81	612482	SOLUTION TANK ASSY	1
82	612484	CABLE MAIN POWFR 14/3C	1
83	612488	STRAIN RELIEF,CORD	1
84	613286	WARNING LABEL	1

***NOTE:Plastic and metal handle replacement parts are not interchangeable.**

612210 612212



612209 612211

