

# Commercial Sweeper

## OPERATORS MANUAL AND PARTS LIST

### Model PS900



**WARNING: OPERATOR MUST READ AND UNDERSTAND THIS MANUAL COMPLETELY BEFORE OPERATING THIS EQUIPMENT.**

## SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

Read all instructions before using this machine.

### IMPORTANT SAFETY INSTRUCTIONS

This manual is to ensure that the PS900 is operated correctly. All operators must read, understand practice the following safety instructions.

Before use, check that the unit and operating equipment are in perfect condition and are safe to operate. Do not use the machine if it is not in perfect condition. This vacuum sweeper is intended exclusively for operation on solid, level and dry surfaces with an inclination not exceeding 2%.

- CAUTION:** Use only as described in this manual.
- CAUTION:** This sweeper must not be used for removing hazardous materials.
- CAUTION:** Use only on surfaces indicated in the operating instructions.
- CAUTION:** Never leave sweeper unattended while running.
- CAUTION:** Replace damaged or worn parts with genuine original equipment parts in order to maintain safety and to protect your warranty.
- CAUTION:** Never sweep over surfaces that are wet.
- CAUTION:** Do not store outdoors.
- CAUTION:** Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.

- CAUTION:** Do not reach into or under the machine under any circumstances when the motor is running.
- CAUTION:** The hood latch should remain secured in the closed position except when performing maintenance work.
- CAUTION:** Switch off the motor and secure the unit before transporting.
- CAUTION:** Use only accessories and spare parts that have been approved by the manufacturer.
- CAUTION:** Do not spray clean the unit.
- CAUTION:** Repairs may only be carried out by authorized customer service centers.

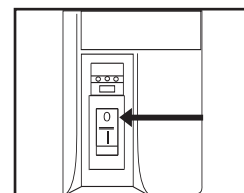
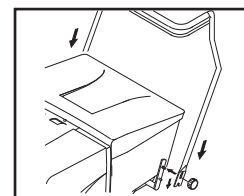
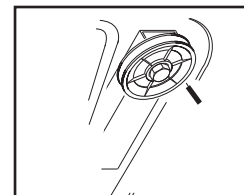
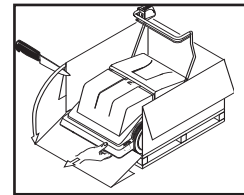
#### Battery Operated Units

- CAUTION:** Remove the battery lug or disconnect the battery before working on the electrical system of battery-operated units.
- CAUTION:** Always keep the batteries clean and dry in order to avoid leakage current. Protect batteries from contaminants.
- CAUTION:** Do not place any tools, etc., on the battery to avoid risk of short-circuiting and explosion.
- CAUTION:** Do not smoke, generate sparks or use open flame near a battery or in a charging area.
- CAUTION:** Use caution when handling battery acid. Comply with corresponding safety regulations.
- CAUTION:** Avoid picking up strings, cords, wires or similar materials.

### Unpacking and Assembly

1. Your sweeper is shipped on a pallet. To remove the sweeper, cut the front side of the box open and fold it under to form a ramp. Roll the sweeper over the ramp so that the running wheels are still standing on the pallet.
  2. While the machine is in this position, install the side brushes. The side brushes are located in the dirt container under the side brush plate in the front exterior portion of the machine. Simply apply light pressure, twisting the brushes upwards until you feel them lock into place.
- NOTE:** Do not tip over the machine in this process. There is a danger of battery acid running out, creating a hazardous condition.
3. Roll the machine from the box and off of the pallet.
  4. Put the handle in the upright position by pulling it downwards into the two tappets completely. Tighten with the two thumbscrews.
  5. Install and connect the battery cables. Set the safety switch on the handle to the "0" position.
  6. The tool to unlatch the main cover is found inside the dirt collector bin. Remove the dirt collector and using the tool, unlatch the main cover. Connect the positive pole of the battery and tighten with a wrench. Connect the negative pole of the battery and tighten with a wrench.

The machine is now assembled and ready for operation.



## Starting Up/Operating

1. Lower the two side brushes by pushing the thumb washer forward with your foot until the brushes just touch the floor. (see fig. #1)
2. Adjust the height of the main sweeping brush so that the brush tips only touch the floor lightly. The adjustment handle is on the left side of the machine (under the dirt collector.) If the brushes are adjusted too low, this will increase the wear on the brushes and the gear components, as well as power consumption. (see fig. #2)

**Position 1** – the highest brush position (for new, unworn rollers)

**Position 5** – the lowest brush position (for worn brushes or very uneven floors for a short period of time).

3. Turn the sweeper on by placing the safety switch on the handle to the "1" position. (see fig. #3)

The LED's over the switch will indicate how much of a charge is in the battery.

**Green Light** Sweeper is ready for operation.

**Yellow Light** Sweeper needs to be charged.

**Red Light** Turn the machine off immediately

(Turn the safety switch to "0") to keep the battery from loosing its charge.

The safety switch will automatically turn off "0" if the motor is being overloaded. If the motor load should become significantly higher, for example as a result of a blockage or excessive resistance in the drive, the switch will go to the "0" position and the sweeper will turn off. After eliminating the malfunction, the machine may be restarted.

4. The sweeper starts moving when you carefully pull the handle towards you. You can adjust speed by increasing or decreasing pressure on the handle. For more areas with a heavier concentration of debris, the sweeper should be pushed more slowly to achieve the optimum cleaning effect. Loosen the grip on the handle slightly when going around curves to lower the speed in the curve. To move the sweeper backwards, decrease pressure on the handle and pull the machine in the desired location.

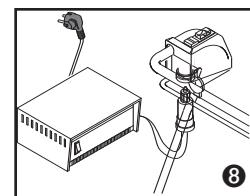
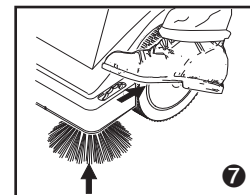
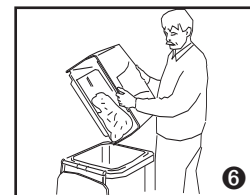
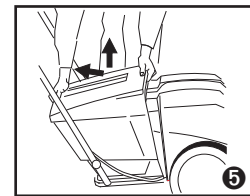
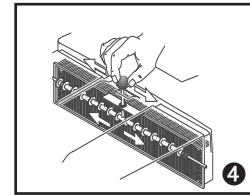
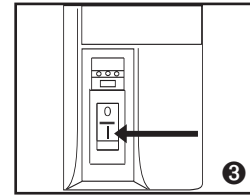
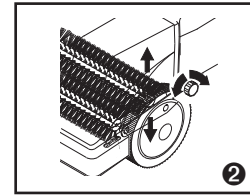
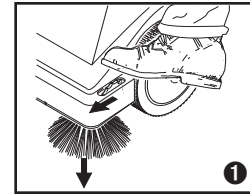
5. After you have finished sweeping, shut off the machine (turn safety switch to "0.") (see fig. #3)

6. The filters must be cleaned after every use of the machine, prior to emptying the dirt collector. There is a small knob located on top of the filter, in the area of the dirt collector handle. Move the knob back and forth a number of times. A vibrating mechanism will come on, loosening dirt that is sitting between the lamellas so that it will fall directly into the dirt collector. If there is stubborn dirt, clean the filter with a brush or remove the filter and tap slightly. (see fig. #4)

7. Always remove the dirt collector using both hands. Put one hand in the front handle area in the middle of the machine. Put the other hand on the upper edge from behind. Lift the container upwards from behind. It is easiest to empty the dirt collector over the side edge. (see fig. #5 & 6)

8. The side brushes must be put in the 'up' position to alleviate the load on them and ensure they are long lasting. Push the thumb washers backward with your foot until the brushes clear the floor. (see fig. #7)

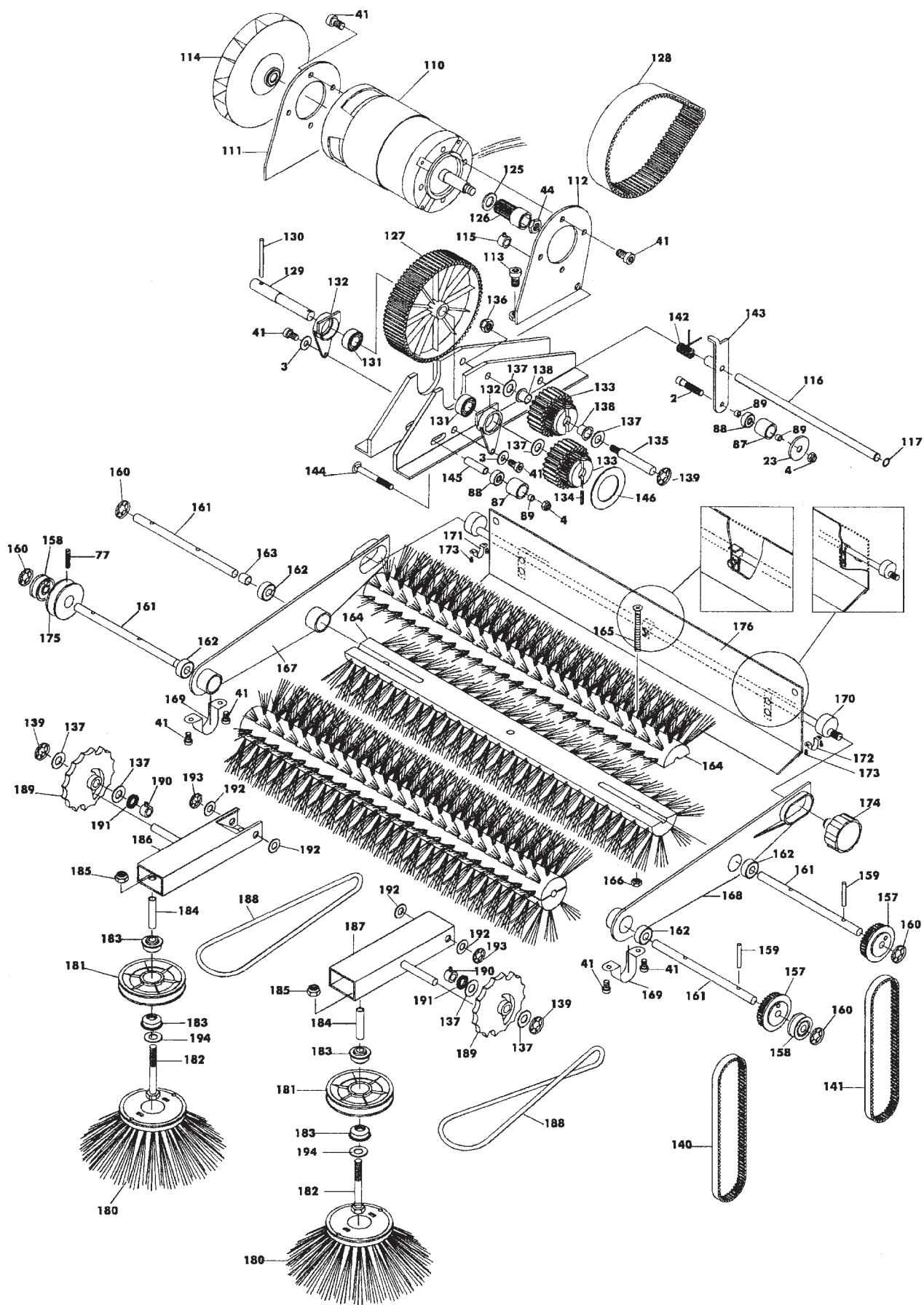
9. The battery should be charged after each use. This will guarantee that you will always have a machine that is ready for operation. The charging socket is located on the lower side of the operating console. Insert the charging plug and connect charger. Follow instructing from charger for charging times and cautions. (see fig. #8)

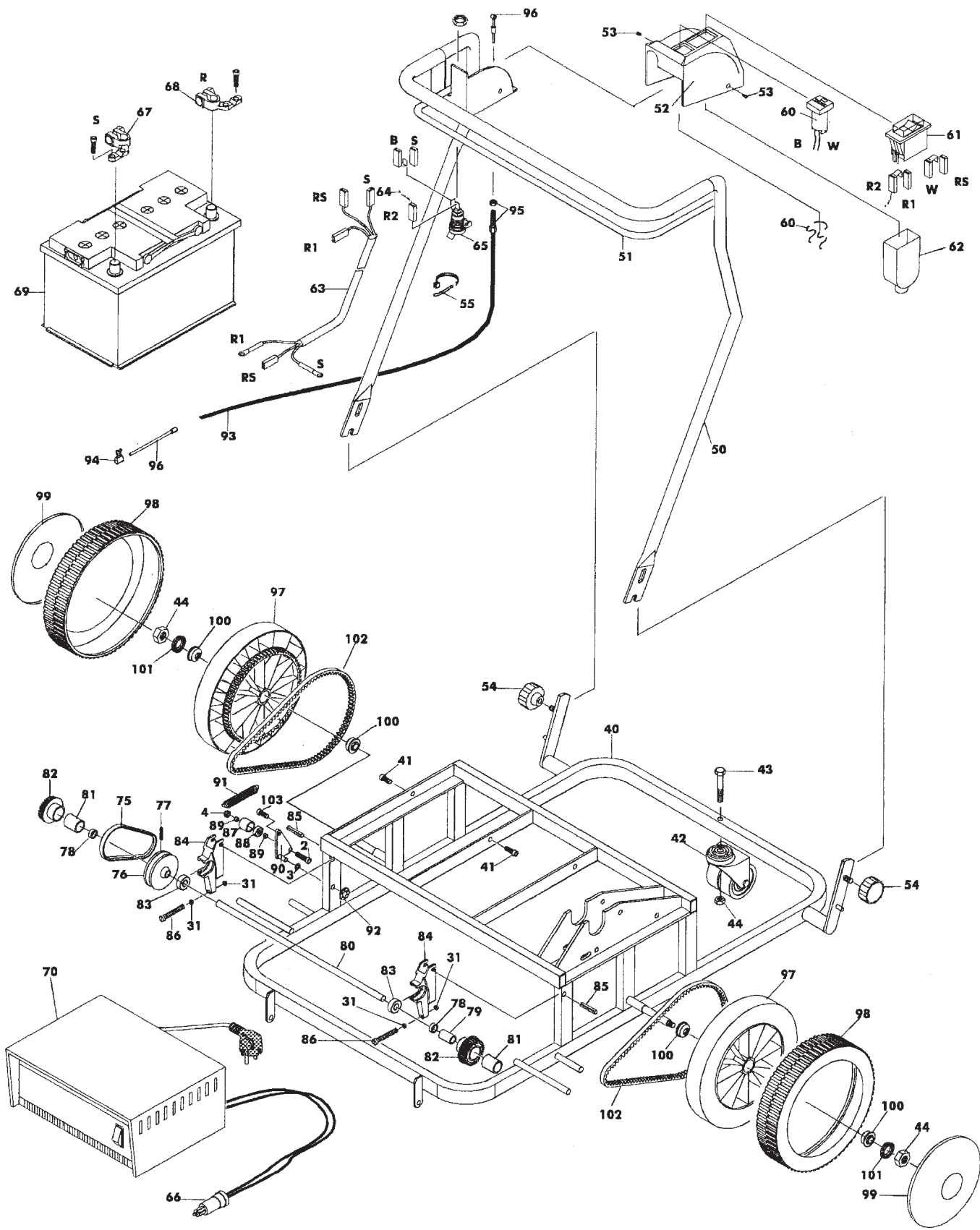


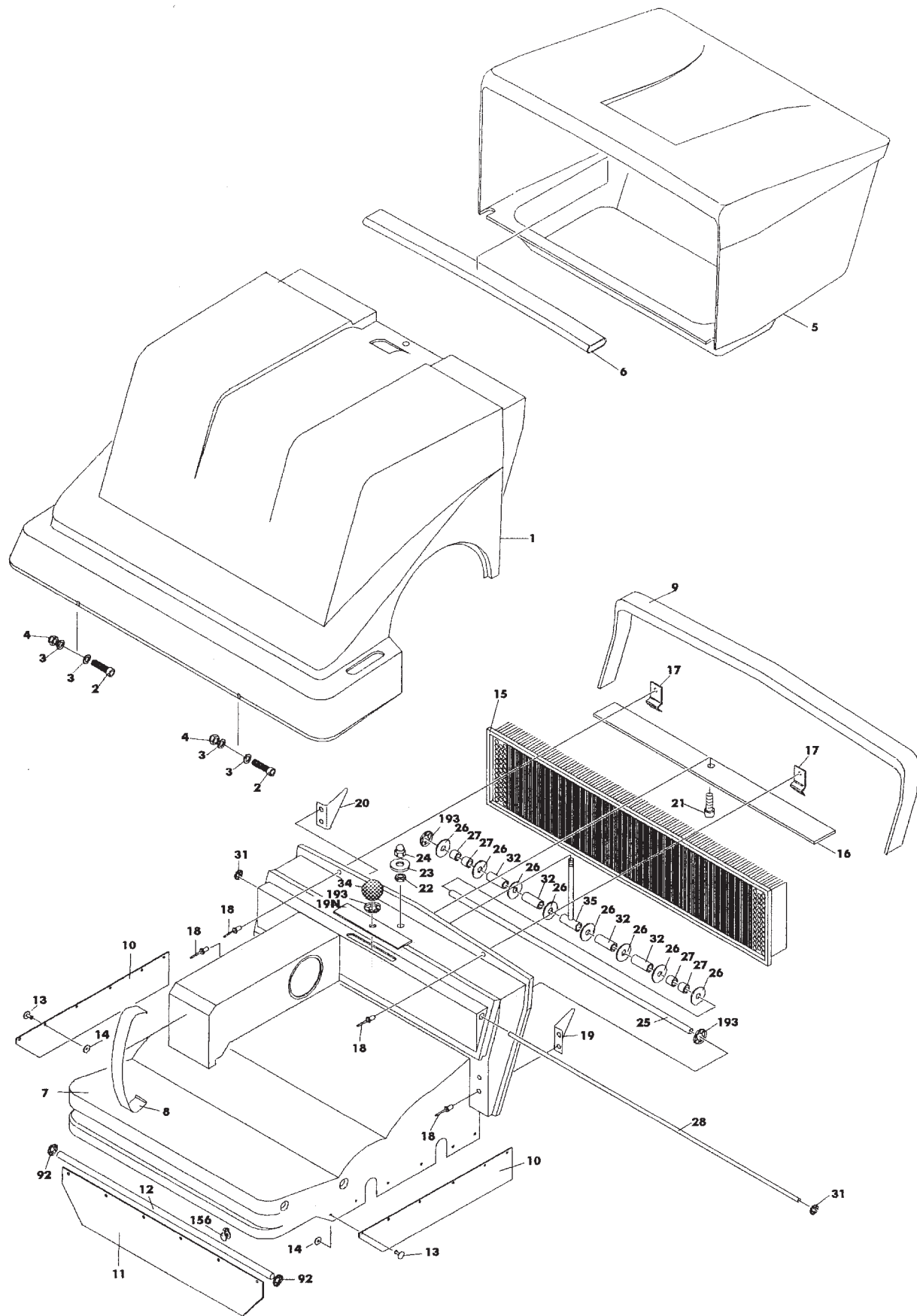
ref#	part #	desc
1		Bonnet
2		Screw
3		Washer
4		Nut
5		Dirt collector
6		Reinforcement tube
7		Roll cover
8		Tension Band
9	PS901	Profiled gasket
10	PS902	Gasket, lhs + rhs
11	PS903	Gasket
12		Shaft
13	PS904	Rivet
14		Washer
15	PS905	Filter
16	PS906	Fixing sheet
17		Plate spring
18		Rivet
19		Filter protection plate lh
19N		Rubberplate
20		Filter protection plate rh
21		Screw
22		Nut
23	PS907	Washer
24	PS908	Nut
25		Tube
26	PS909	Washer/ Rubber
27	PS910	Spacer
28		Axle
31		Locking washer
32		Spacer
34	PS911	Handle
35		Lever
40		Frame
41	PS912	Screw
42	PS914	Caster
43		Screw
44		Nut
50		Steering handle
51		Accelerator
52		Coverage
53		Screw
54	PS915	Fixing handle
55		Wire fixing
60		Battery-control
61	PS916	Switch/ fuse
62	PS917	Protection
63	PS918	Cable-set
64		Wire
65	PS920	Connector socket
66	PS921	Plug
67		Terminal -
68		Terminal +
69		Battery, 12 V
70	PS922	Battery-charger
75	PS923	V-Belt, 10x475
76		Pulley

ref#	part #	desc
77		Headless screw
78	PS924	Spacer
79	PS925	Spacer
80		Shaft
81	PS926	Shell tape overr. clutch
82	PS927	Ratched wheel
83		Bearing
84	PS928	Support for shaft
85		Sleeve
86		Screw
87	PS929	Tightener
88	PS930	Bearing
89		Spacer
90		Support for tightener
91		Spring
92		Locking washer
93	PS931	Exterior cable
94	PS932	Binding screw
95	PS933	Adjustment screw
96	PS934	Cable
97	PS935	Wheel
98	PS936	Profile rubber
99	PS937	Hub cap
100	PS939	Bearing
101		Serrated lock washer
102	PS940	Toothed belt, 750 mm
103	PS941	Screw
110	PS942	Motor, 12 V, 250 W.
111	PS943	Motor support right
112	PS944	Motor support left
113	PS946	Screw
114	PS947	Ventilator
115	PS948	Adjustment sleeve
116	PS949	Shaft
117	PS950	Circlip
125		Washer
126	PS951	Ratched wheel 14 teeth
127	PS952	Ratched wheel 98 teeth
128	PS953	Ratched belt, 550 mm
129	PS954	Shaft
130	PS955	Pin
131	PS956	Bearing
132	PS957	Support
133	PS958	Ratched wheel
134	PS959	Adapter sleeve
135		Shaft
136		Nut
137	PS960	Washer, plastic
138	PS961	Slide bearing
139	PS962	Locking washer
140	PS963	Ratched belt, 600 mm
141	PS964	Ratched belt, 635 mm
142		Spring
143		Support of tightener
144		Screw
145		Spacer, steel
156		Clip

ref#	part #	desc
157	PS965	Ratched wheel 32 teeth
158	PS966	Pulley, sidebrush
159	PS967	Pin
160	PS968	Locking washer
161	PS969	Shaft
162	PS970	Bearing
163	PS971	Spacer
164	PS972	Brush roll half
165	PS973	Screw
166	PS974	Nut
167	PS975	Adjusting plate, right
168	PS976	Adjusting plate, left
169	PS977	Clip
170		Height adjustment
171	PS978	Clip, right
172	PS979	Clip, left
173	PS980	Screw
174	PS981	Adjustment handle
175	PS982	Pulley
176	PS983	Recirculating flap
180		Side brush
181	PS984	Pulley
182	PS985	Screw
183		Bearing
184	PS986	Spacer
185		Nut
186		Side brush holder, right
187		Side brush holder, left
188	PS987	V-belt
189		Adjustmentplate
190		Adjustment sleeve
191		Serrated lock washer
192		Washer
193		Locking washer
194		Washer
250		Clutch
251		Support for clutch
252		Circlip
253		Screw
254		Screw
255		Spacer
256		Support
257		Screw
258		Tube
259		Engine
260		Support
261		Screw
262		V-pulley
263		Headless screw
264		Shaft
265		Support
266		Bearing
267		Screw
268		Shaft
269		Screw
270		Wire
271		Switch







# Service and Troubleshooting

## Service Schedule

<b>Daily</b>	
Sweeping brush	check the height adjustment and if there are possibly stuck or rolled up objects
Vacuum: brush on top	clean / check for damage
<b>Monthly</b>	
Battery	check level of liquid and refill if necessary
Belt	check for defects and voltage
Sweeping roller and side brush	check for wear

## Troubleshooting:

<b>A.) the motor doesn't start</b>	
<b>possible reason</b>	<b>potential solution:</b>
<b>1.)</b> the battery is not charged	Charge the battery
<b>2.)</b> the overload protection jumps out	the drive is blocked or correct brush roller by removing the dirt container and removing objects from brushes
<b>3.)</b> interruption in the electrical line	check the line (see the wiring diagram) and repair the connection if necessary
<b>B.) the results of sweeping are not satisfactory</b>	
<b>possible reason</b>	<b>potential solution:</b>
<b>1.)</b> the dirt container is overfilled	empty the dirt container
<b>2.)</b> sweepings are caught in the sweeping brush	take out the dirt container and remove the object
<b>3.)</b> the roller RPM's are too low	charge the battery or check for brush blockage
<b>4.)</b> height adjustment of the sweeping brush is wrong	adjust the height in such a fashion that only the tips of the bristles touch the floor
<b>C.) the running time of the machine is insufficient</b>	
<b>possible reason</b>	<b>potential solution:</b>
<b>1.)</b> the battery has little power	check the battery and refill acid if necessary and charge, exchange battery if necessary
<b>2.)</b> the power consumption is too high	check the main brush for height adjustment and to see if they are blocked
<b>3.)</b> the battery is insufficiently charged	check to see if the battery and battery charger are functioning perfectly
<b>D.) the brushes do not rotate</b>	
<b>possible reason</b>	<b>potential solution:</b>
<b>1.)</b> the belt of the power transmission unit is defective / has slipped off	check all of the belts on the machine (7 pieces)
<b>2.)</b> sweepings are caught in the sweeping roller	the drive is blocked or correct brush roller by removing the dirt container and removing objects from brushes
<b>E.) the steering drive is not functioning / not properly</b>	
<b>possible reason</b>	<b>potential solution:</b>
<b>1.)</b> the tooth belt is defective / has slipped off	replace if defective and check all other belts
<b>2.)</b> the friction clutch is not engaging	adjust the setting mechanism on the handle console (part 95)
<b>F.) too much dust develops</b>	
<b>possible reason</b>	<b>potential solution:</b>
<b>1.)</b> the dust filter is clogged	tap out the filter; remove and replace if necessary
<b>2.)</b> the container is improperly inserted	put the container properly in place



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