

Predator Automatic Scrubber

OPERATORS MANUAL AND PARTS LIST

Model PAS28R



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

IMPORTANT SAFETY INSTRUCTIONS

All operators must read, understand and practice the following safety instructions. They will be repeated occasionally throughout this manual, and additional cautions may be added for specific causes.

INTRODUCTION

These Operating Instructions pertain to the operation of the PAS28R Ride-On Automatic Scrubber.

If you have any questions about the operation, maintenance or use of the PAS28R please contact the technical service department.

The Operating Instructions must be read and observed by anyone using or operating the PAS28R.

All Operating Instructions must be followed to maintain the machine according to warranty guidelines. Adhere to all safety instructions carefully.

SAFETY INFORMATION

The PAS28R is designed and built in accordance with standard safety regulations. However, physical danger to the operator or third parties or the impairment of the machine, or other objects

may arise during operation.

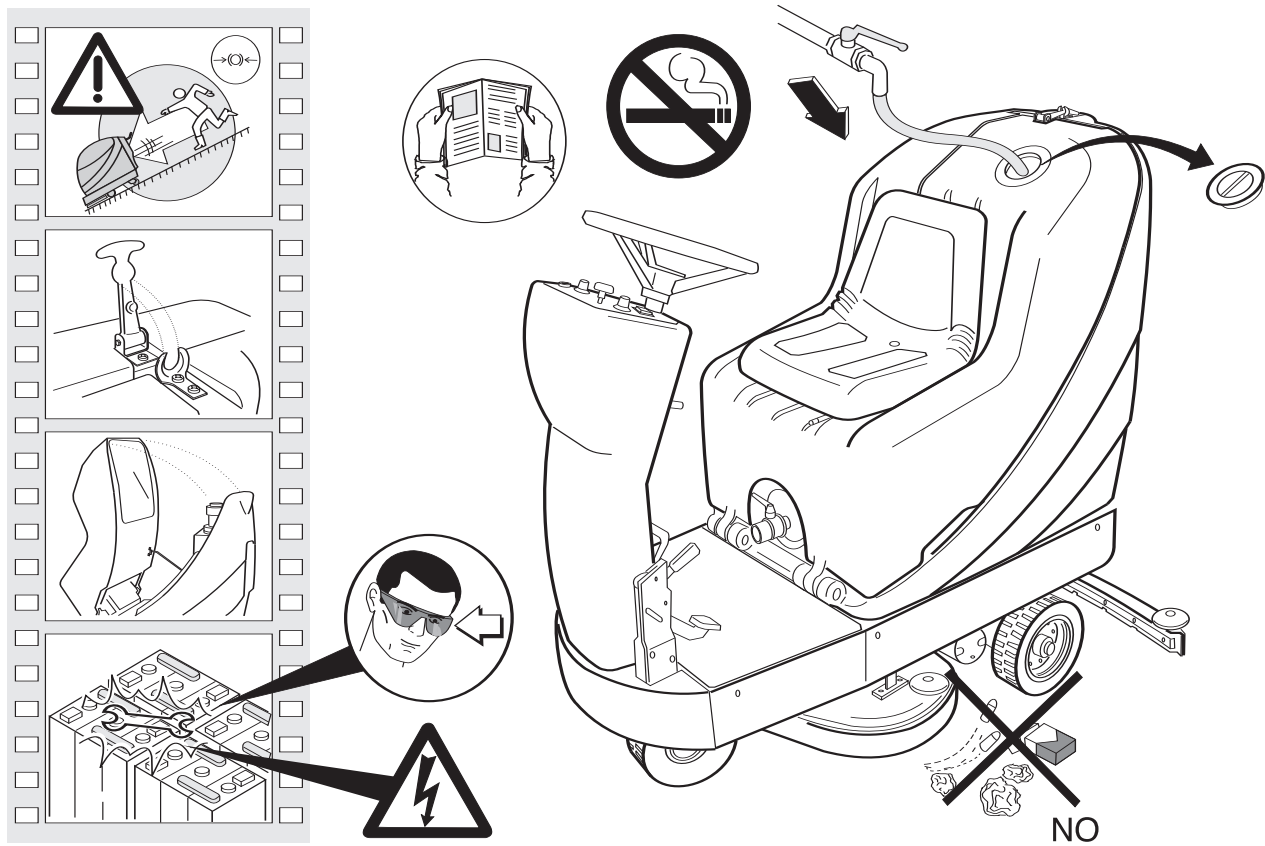
Always use the PAS28R in a perfect operating condition and in accordance with general rules of operational and personal safety, and always observe these Operating Instructions!

Eliminate malfunctions that may impair operational safety immediately!

Ensure that the Operating Instructions manual is always available and is legible. Replace any torn or missing pages.

In addition to the Operating Instructions, observe the generally applicable legal or other binding guidelines for accident prevention and environmental protection!

Do not leave any objects of any kind on the floor as they may be thrown at high speed by the brushes.



Keep feet and hands clear of the moving brushes.

Ensure that the main power key switch is in the OFF position and that the batteries are disconnected before carrying out any maintenance and/or filling the tanks with detergent and/or changing the brushes.

Do not modify or reconstruct the PAS28R in any way.

If the cleaner is left unattended, remove the key from the main power switch.

Do not leave the cleaner unattended particularly if children or unauthorized personnel are present.

Do not use or install the cleaner in places where inflammable gasses or liquids are present.

Do not use inflammable liquids or chemicals with this cleaner.

This machine must only be used on flat and level surfaces.

Take great care not to drag or overturn objects or shelves with the protruding parts of the machine, in particular the floor squeegee.

Always use manufacturer's original replacement parts.

Perform all prescribed maintenance as stated in the Operating Instructions.

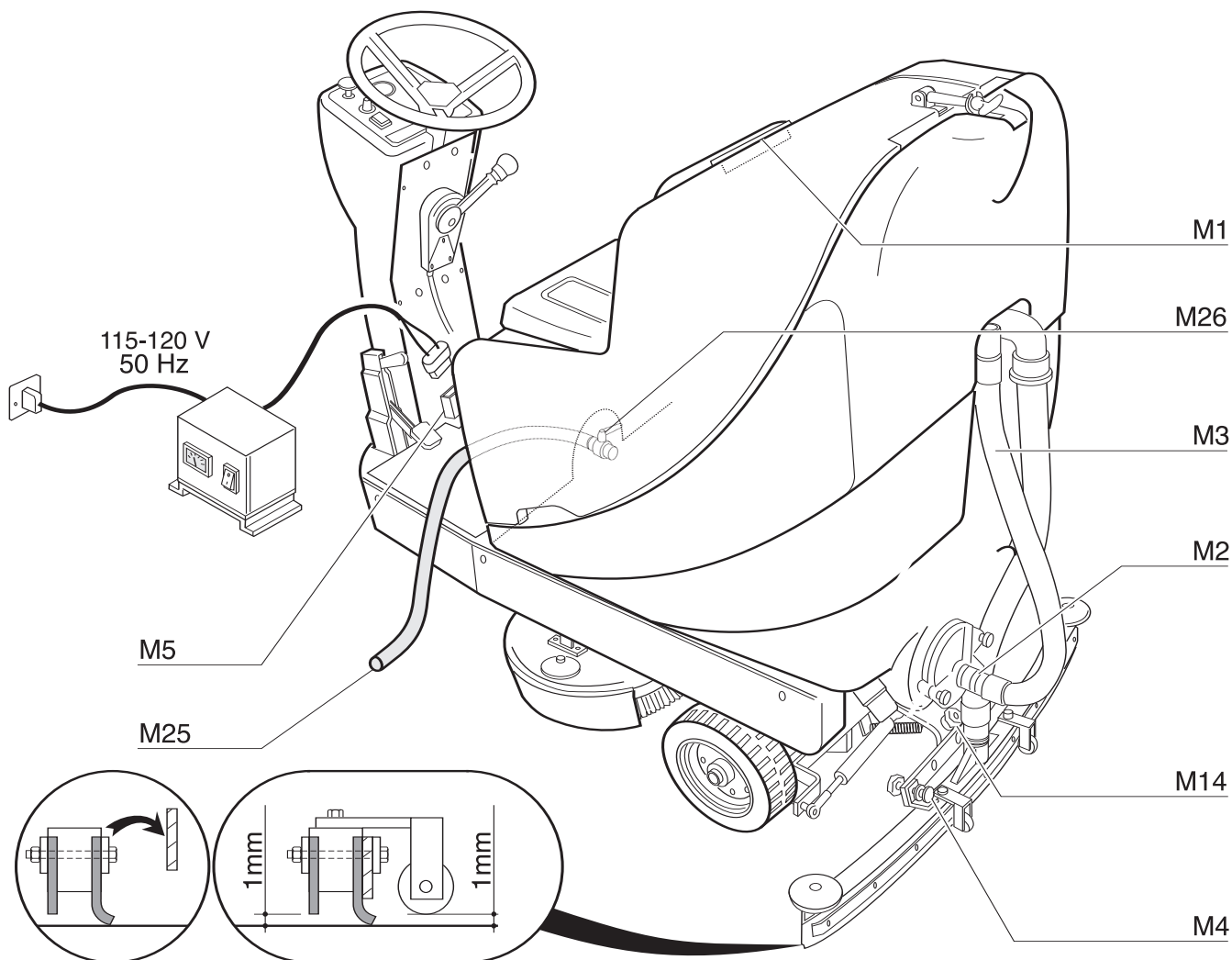
Be sure to dispose of materials as well as replacement parts in a safe and environmentally acceptable way.

Prevent use by unauthorized persons by removing the ignition key after use.

When working near the batteries, use protective glasses and clothing. Remove any metal objects.

Do not rest metal tools or equipment of any type on batteries.

Recharging the batteries produces exposure gas. DO NOT smoke, light flames or make sparks.



Ensure that the charger is switched off before disconnecting it from the batteries.

Recharge the batteries in a well ventilated area and with the cover fixed in the open position.

Do not draw current from the batteries with make-shift connectors, clips or contacts.

Park the cleaner on a flat and level floor and engage the parking brake.

The PAS28R will not function without an operator sitting on the seat.

Do not wet electrical components with water or any other liquid.

The PAS28R generates a sound pressure level in a warehouse environment of less than 80 dB. However, in other surroundings, this level may be exceeded. The customer must provide appropriate protection as well as notices to promote their use and periodic hearing examinations.

The operator must not wear clothing with sleeves, laces or belts; he must not approach the machine with bare or wet feet.

Do not operate the machine in bare feet, with sandals or any kind of open footwear,

CORRECT APPLICATION

The PAS28R is designed exclusively for commercial applications of scrubbing, cleaning and washing level floors.

Any other use or application of this equipment is incorrect. The manufacturer does not accept responsibility for any damage caused to persons or to property, or the machine itself, if it is not used in the way described here or if the safety and maintenance instructions are not followed.

All operators must read and adhere to operating instructions and safety issues in this manual. All operators must have specific professional training or experience in using machines of this type.

SET-UP

Before attempting to adjust or prepare the machine or to fill the tanks, make sure that the power supply is disconnected.

DETERGENT TANK

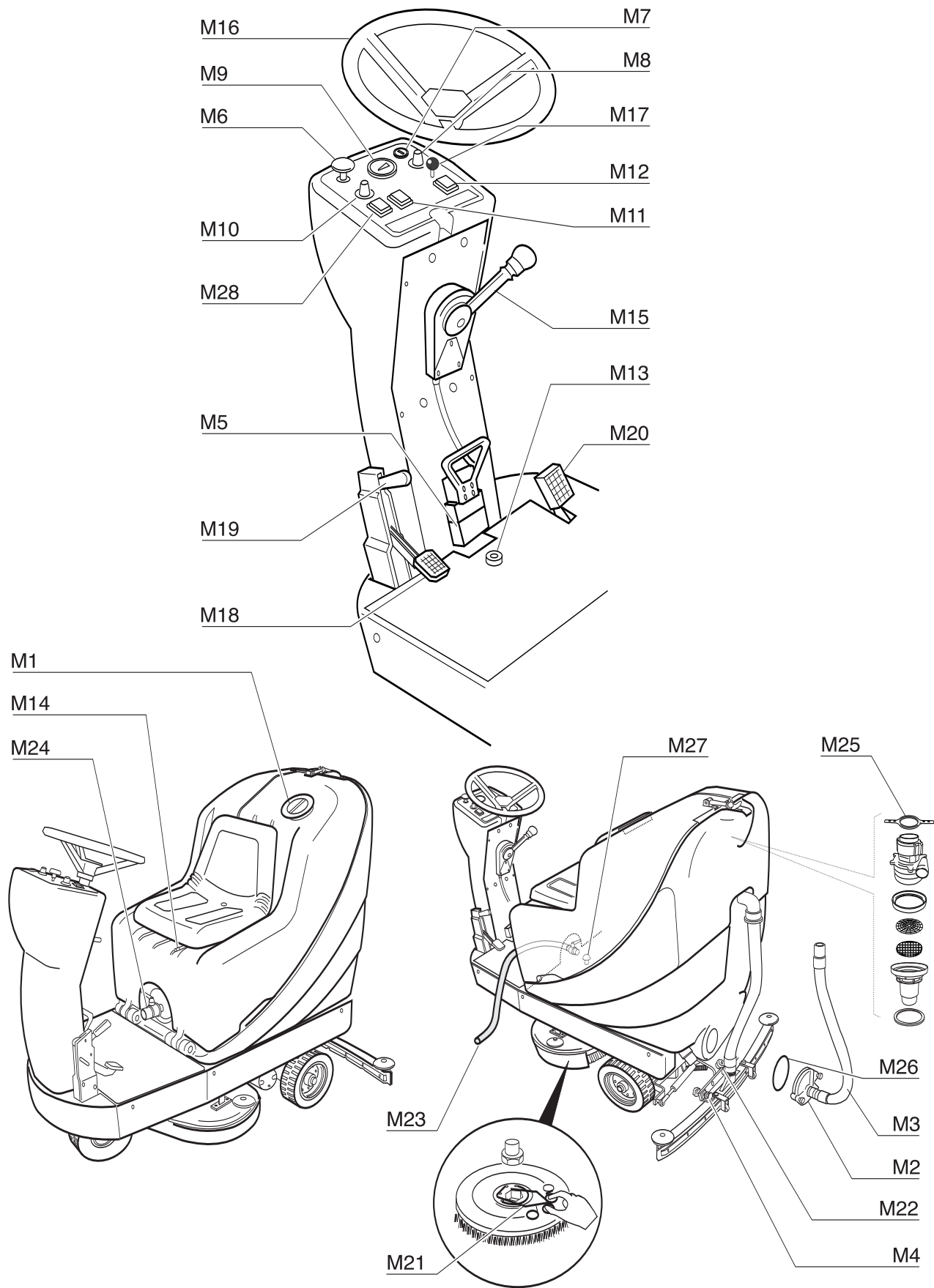
The detergent tank is easily accessible from both sides of the machine. It can be filled from either side through the plug M1. In order to completely drain the detergent tanks, connect the hose M23 to the drainage tap M24.

Before filling the tank with the correct amount of diluted detergent, empty the waste collection tank as described under the heading Waste Tank.

The capacity of the detergent tank is 20 gallons. Only use the quantities and dilution ratios recommended by the detergent supplier and use only non-foaming detergents.

Operators should become familiar with all components of the PAS28R.

M1	Detergent intake plug
M2	Dirty water rapid drainage
M3	Dirty water rapid pipe
M4	Floor wiper adjustment knobs
M5	Battery charger connector
M6	EMERGENCY button
M7	Start-up key switch
M8	Speed regulator, from 1 to 10
M9	Battery charge gauge
M10	Brush START regulator, from 1 to 10
M11	Aspirator start switch
M12	FORWARD/REVERSE control switch
M13	Horn
M14	Seat position adjustment lever
M15	Floor-wiper level
M16	Steering wheel
M17	Detergent supply tap
M18	Brake and parking brake
M19	Parking brake locking lever
M20	Accelerator
M21	Brush engagement spring
M22	Floor-wiper pressure knob
M23	Detergent rapid drainage pipe
M24	Detergent rapid drainage pipe
M25	Motor stop ring
M26	Exhaust gasket
M27	Detergent filter
M28	Brushes pilot light



WASTE TANK

The waste tank should be emptied after each use to prevent the dirt to settle.

1. Detach the hose M3 at the top
2. Open the rapid drainage plug and collect the dirty water and chemical residue in a container conforming to the environmental protection rules prescribed by the country of use.

WIPER BLADE

The wiper blade finishes the drying operation. It is very important that it be in the correct position. When cleaning shiny or smooth floors and when there are joins between tiles it is recommended to not use the rear (lowest) rubber wiper.

1. Level the wiper using the knob M4 so that the black rubber strip approximately 1mm from the floor.

Installing and Recharging the Batteries:

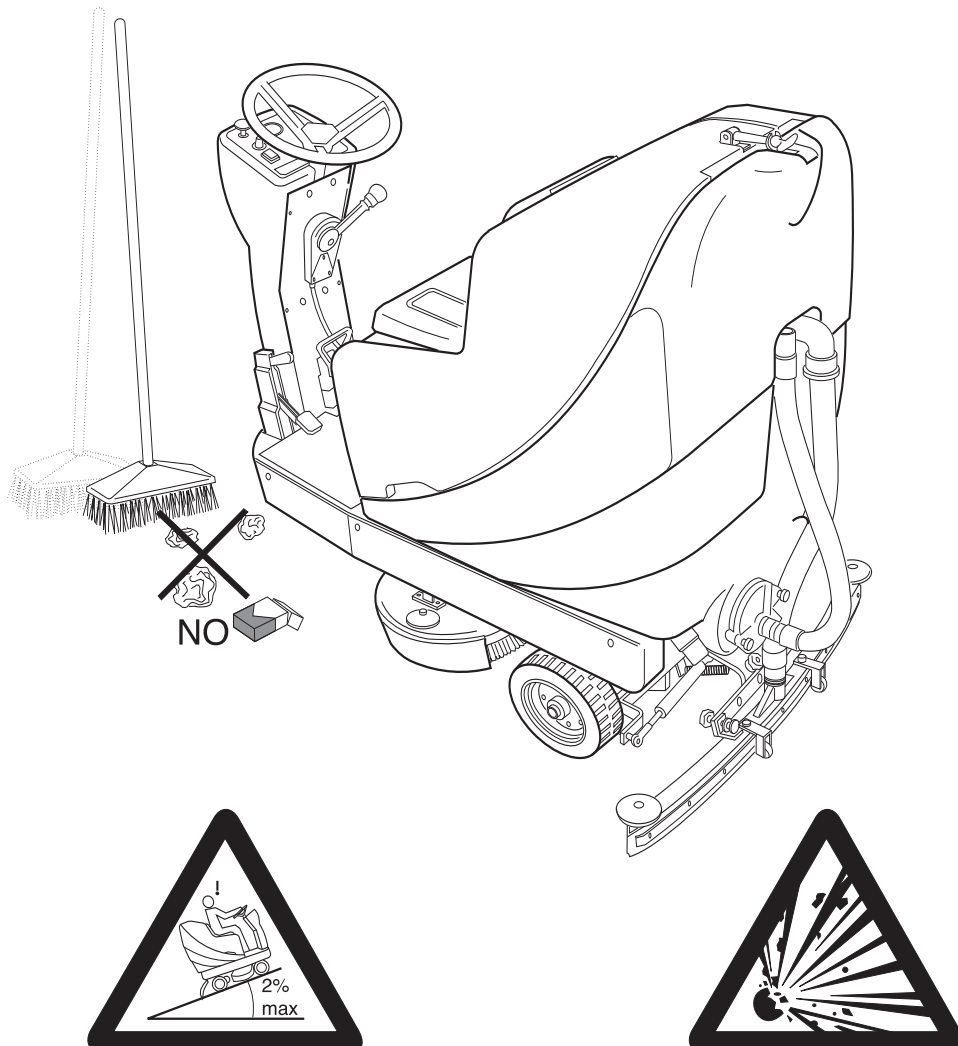
WARNING: The battery acid may give off harmful fumes. When working near the batteries use protective glasses and clothes.

WARNING: DO NOT place any metal tools of any kind on the batteries.

WARNING: Make sure the battery charger is turned off before disconnecting. Recharge the batteries in a well ventilated area and keep the cover open.

The batteries are located in the battery compartment under the cover.

1. Apply a coating of grease (Vaseline) to the battery terminals.
2. Connect the batteries as shown on page 13.
3. Make sure the terminals are securely tightened.
4. Use the cable supplied to connect to the mains supply.
5. Make sure the supply voltage is the same as indicated on the battery charger itself.
6. To charge the batteries connect the connector M5, which comes directly from the battery compartment, to the battery charger connector.
7. The charger will automatically regulate the charging current and will turn itself off when the batteries are recharged.



USING THE PAS28R

Loose debris and substantial dirt should be cleared from the area to be scrubbed with a sweeper or broom prior to using the auto scrubber. This will prevent the scrubber intake circuit from immediately choking and allow the detergent to work effectively.

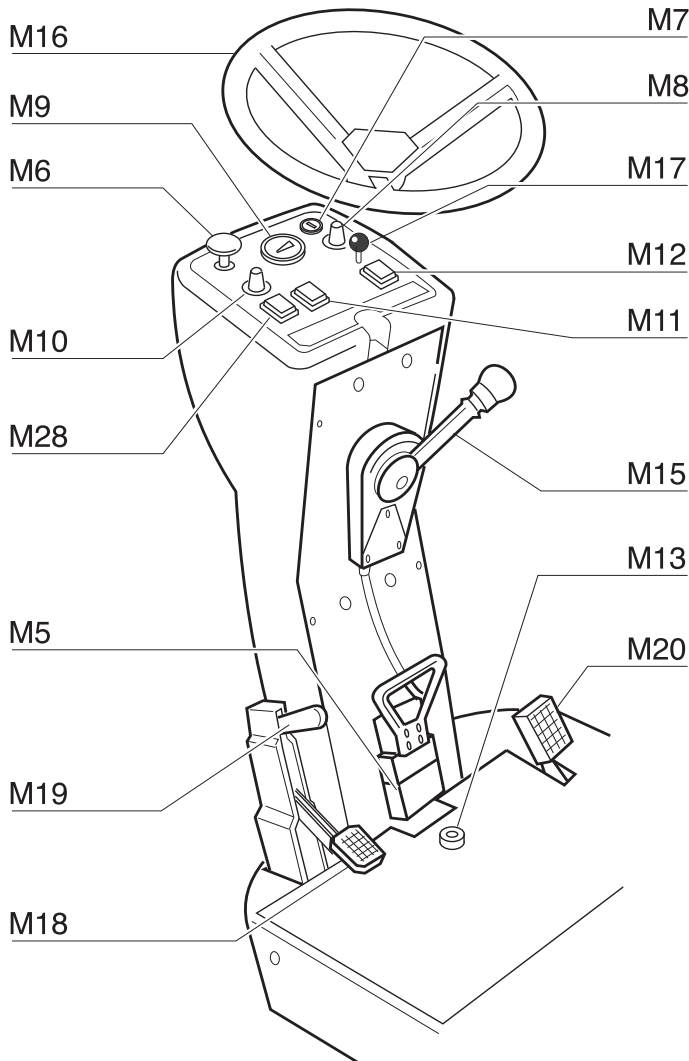
Certain floors or environments require particular attention or even a second pass with the cleaner. In this case, you should make a pass with the wiper raised and the brush in the working position. The detergent will have additional dwell time and provide additional cleaning power. The second pass should be made with the brush and wiper lowered and at a slower speed.

1. Switch off the battery charger and disconnect it from the machine.
2. Adjust the seat position to suit individual requirements. The machine will not turn on until an operator is seated.
3. Select the direction with the switch M12 and grip the steering wheel M16.
4. Insert the key switch M7 to enable the electrical circuits.
5. Lower squeegee blades M15

6. Engage brush rotation with the regulator M10 and the aspirators with the switch M11.
7. Gradually open the detergent supply tap M17 according to the operation speed.
8. Engage FORWARD or REVERSE gear with the lever M12 and gradually depress the accelerator pedal M20. When REVERSE gear is engaged a BEEP signal is emitted.
9. With the accelerator pedal fully pressed the regulator M8 can be adjusted so as to achieve a constant speed, avoiding the formation of rings on the floor.
10. Adjust the brush pressure with the regulator M10.
11. The instrument M9 allows the battery charge level to be read.
12. When necessary or to warn of danger use the horn M13.
13. To stop the machine gradually press the brake pedal M18.
14. Always engage the parking brake by pressing the pedal M18 and actuating the lever M19.
15. Remove the key M7.

WARNING: In the case of problems or short-circuits press the EMERGENCY button M6 and contact the service center.

WARNING: When the machine is abandoned it switches off automatically.



OK



NO

MAINTENANCE

DETERGENT TANK:

Drain the tank after each use.

1. Fit the tube M23 into the rapid drainage tap M24.
2. Open the tap.
3. Remove the flange M2 and clean the internal filter M27.
4. Rinse and clean the tank.

BATTERIES.

Keep the batteries clean and dry with antistatic cloths.

WARNING: The battery acid may give off harmful fumes.

When working near the batteries use protective glasses and clothes.

WARNING: DO NOT place any metal tools of any kind on the batteries.

WARNING: Make sure the battery charger is turned off before disconnecting. Recharge the batteries with the cell plugs removed in a well ventilated area and keep the cover open.

FLOOR WIPER

1. Inspect and clean the floor wiper after each use and make sure to restore it to its working condition.
2. If the drying action is not perfect after cleaning the wiper assembly, remove and replace any worn rubber blades.

BRUSH

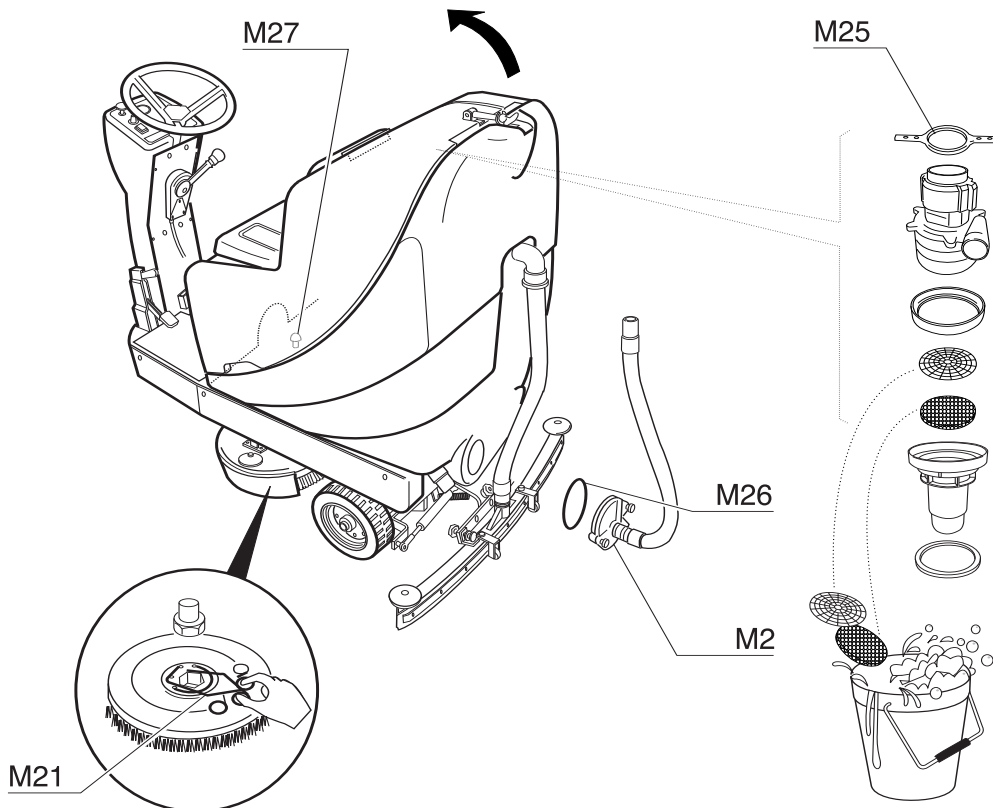
Inspect brush to ensure it is in working order.

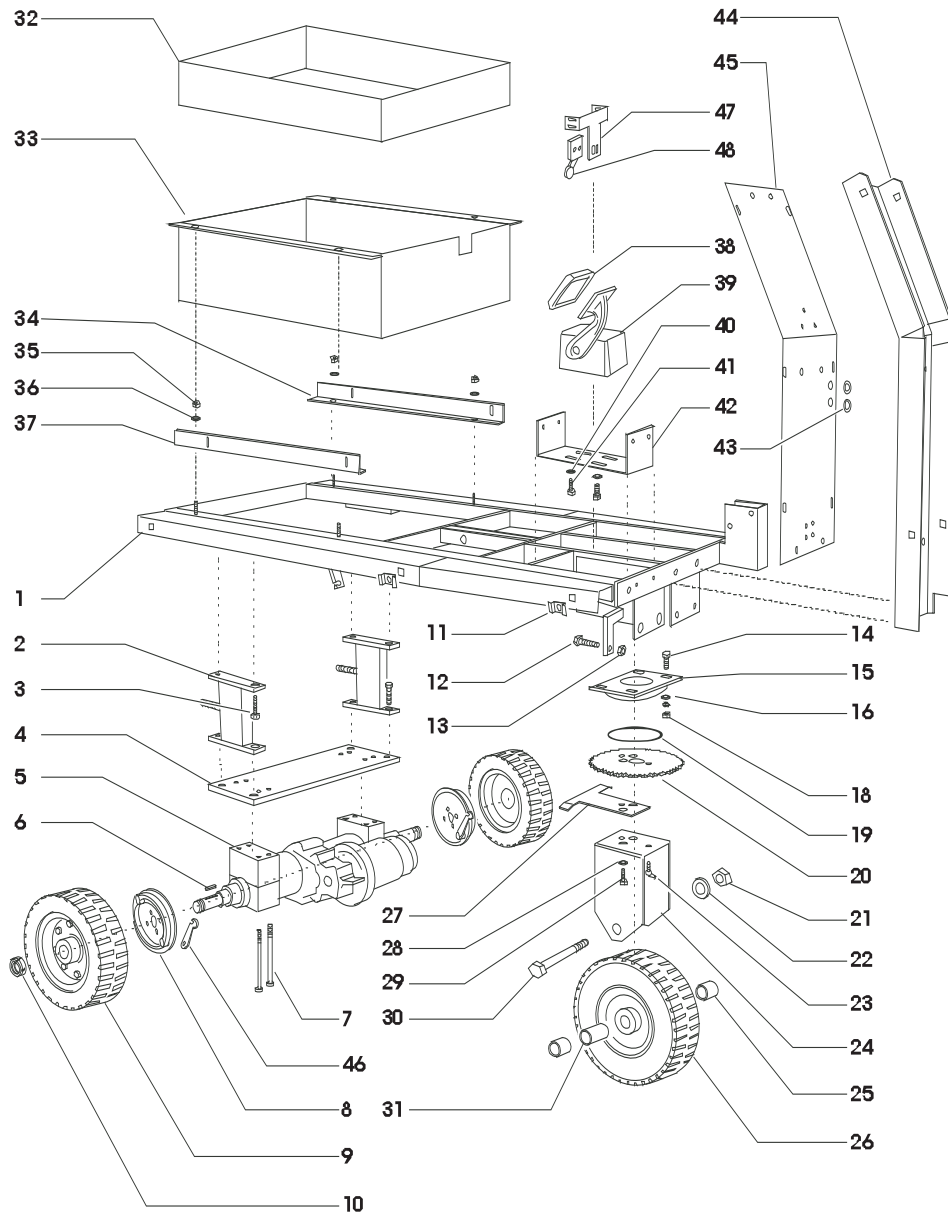
1. To remove a worn brush:
2. Lift brushes with the regulator M10 and switch off the machine.
3. Remove the key M7 from the control panel.
4. Turn the brush, to be removed, by hand until the coils of spring M21 are accessible.
5. By closing together the coils of spring M21 with your fingers (as if you were closing a pair of scissors) the brush will free itself.

WASTE TANK

Clean the waste tank after each use.

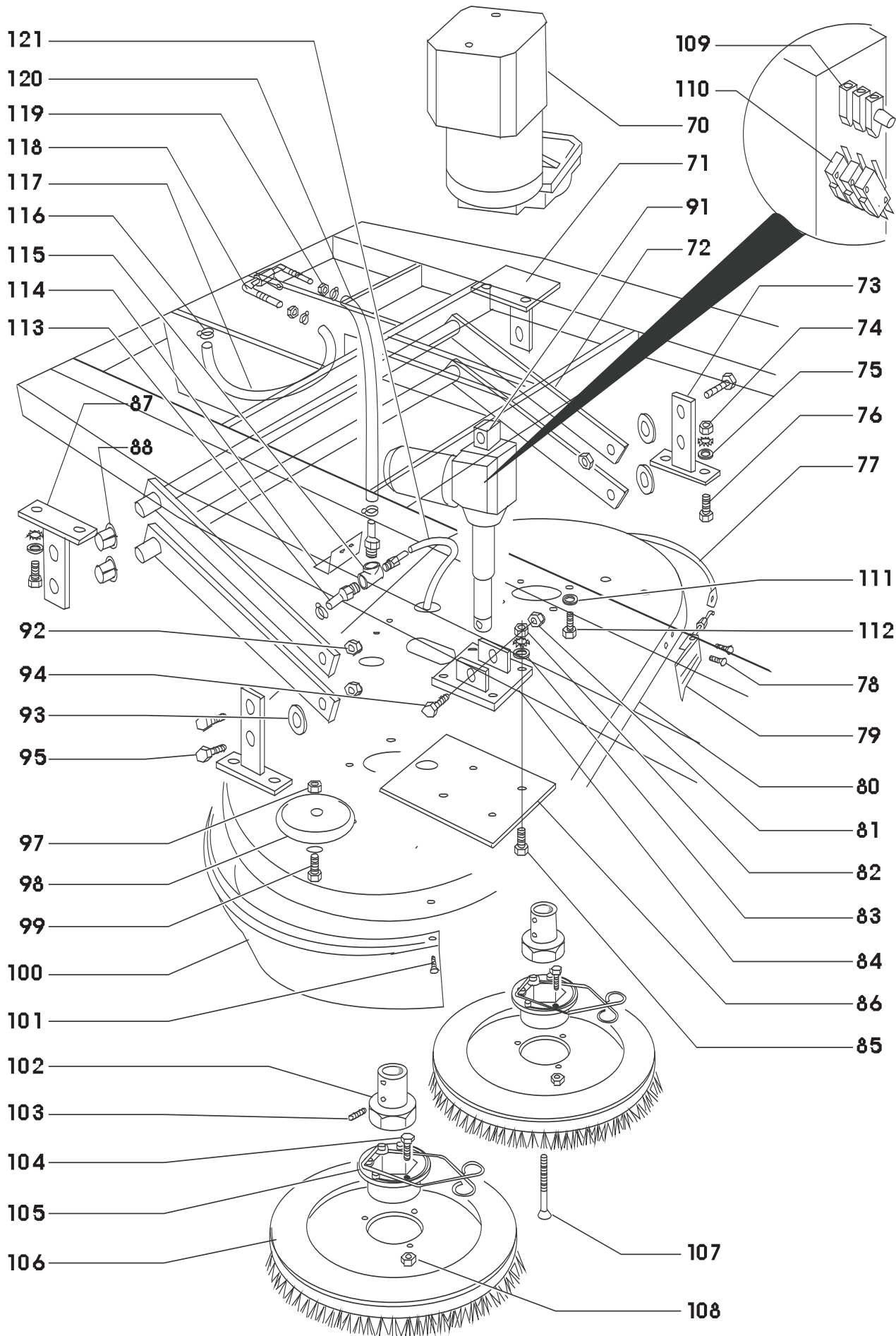
1. Shut off the machine.
2. Remove the M25 motor lock ring and lift off the suction motor from its seat.
3. Carefully clean the filter, net and sponge, and remove the direct accumulated in the tank by water jetting.
4. To ease the operations, detach the discharge assembly M2 by unscrewing the lateral knobs.
5. Carefully clean the housing of the bi-angular bearing M26.
6. Reassemble.

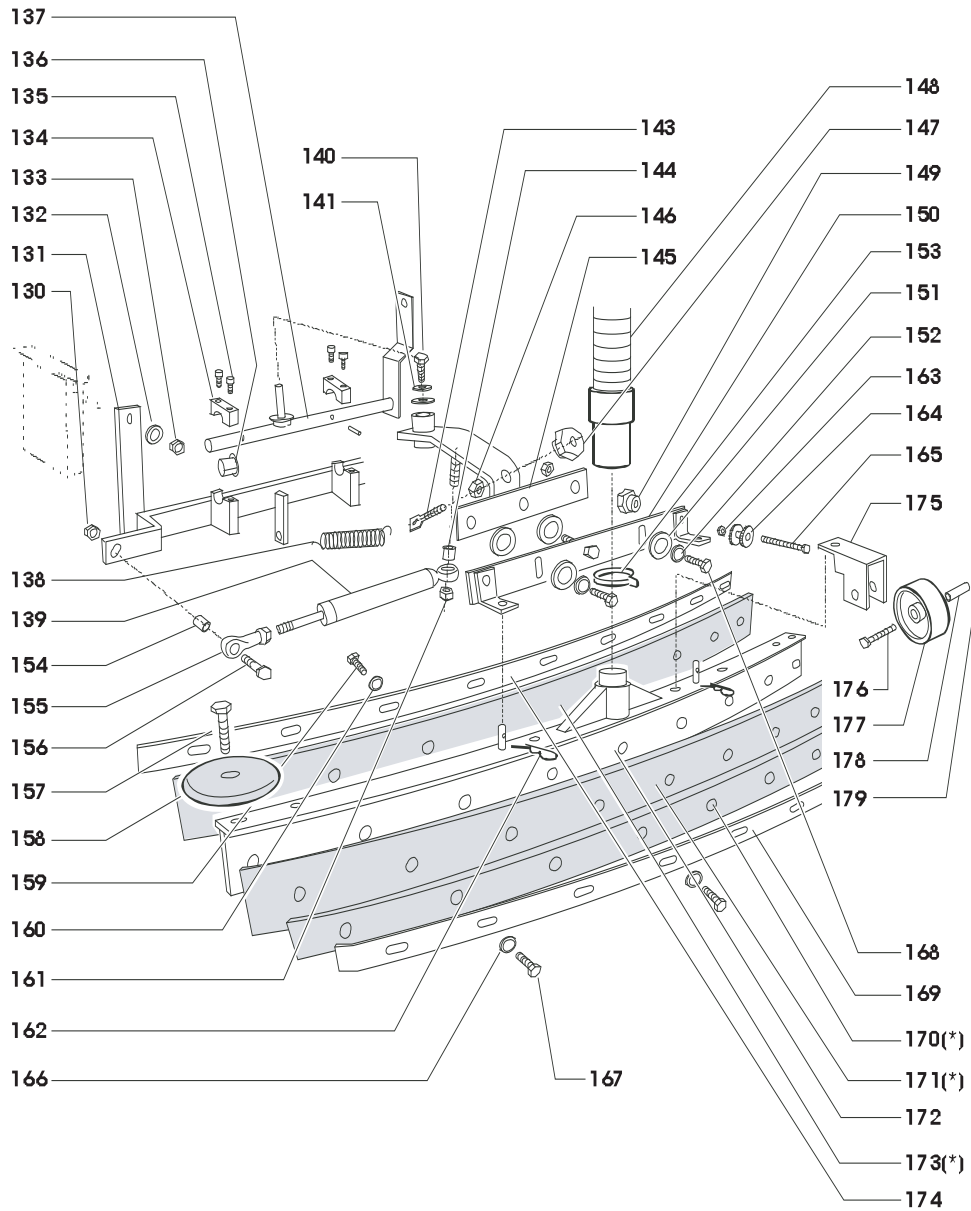




ref#	order	description
1	710.001	Frame
2	710.002	Support
3	PAS190	Screw
4	710.004	Plate
5	710.005	Reducer motor
6	710.006	Tang
7	710.007	Screw
8	1000.027	Brake
9	710.009	Wheel
10	710.010	Ring nut
11	430.063	Cage nut
12	PAS223	Screw
13	PAS937	Nut
14	PAS190	Screw
15	710.015	Nut
16	PAS137	Washer
18	PAS937	Nut
19	710.019	Seal
20	710.020	Crown wheel
21	710.021	Nut

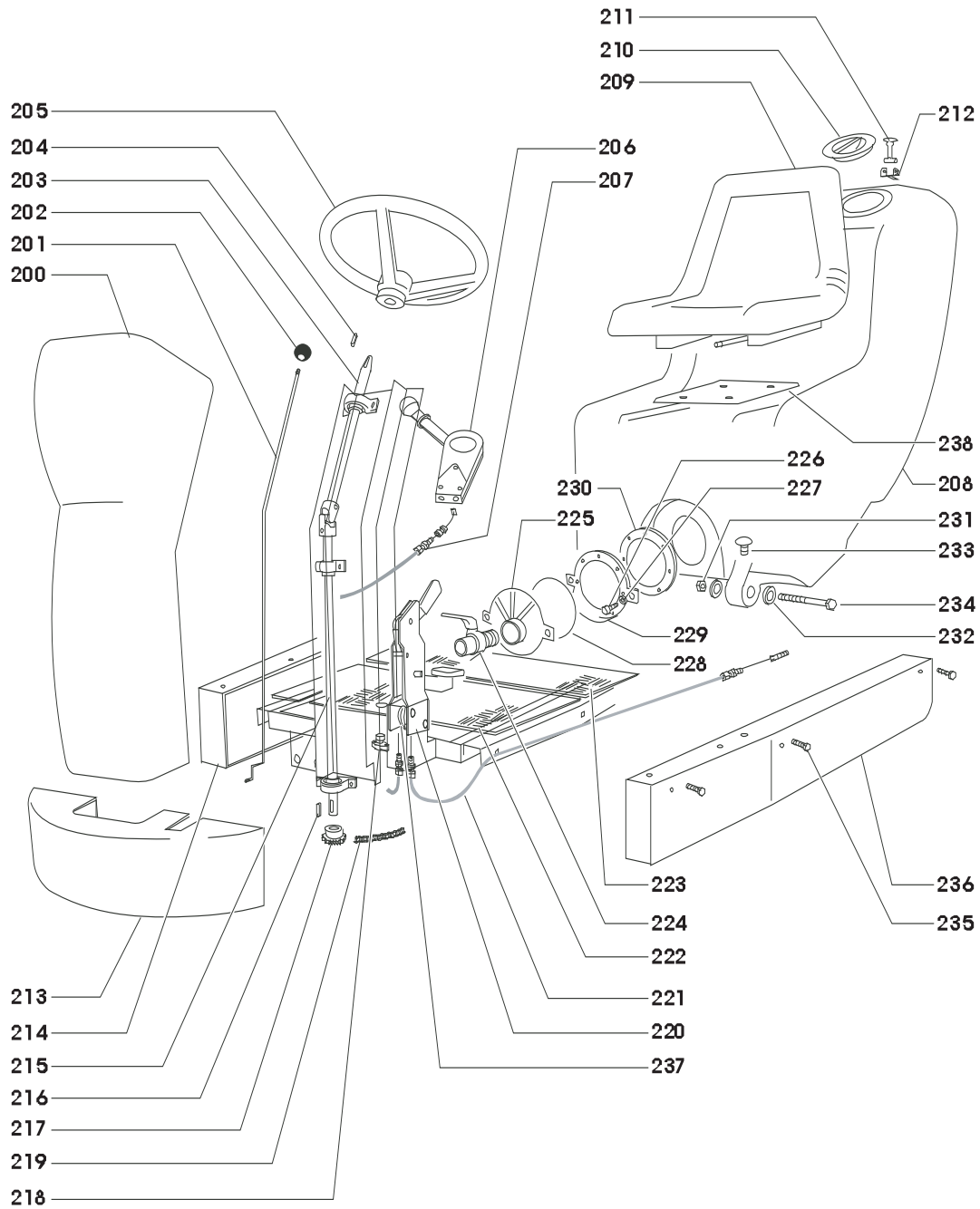
ref#	order	description
22	710.022	Washer
23	710.023	Greaser
24	710.024	Support
25	710.025	Spacer
26	710.026	Wheel
27	710.027	Plate
28	710.028	Washer
29	710.029	Screw
30	710.030	Screw
31	710.031	Spacer
32	710.032	Vat pe
33	710.033	Vat
34	710.034	Stop strip
35	PAS176	Nut
36	PAS188	Washer
38	PAS14	Rubber
39	PAS451	Accelerator
40	710.040	Washer
41	710.041	Screw
42	1000.063	Support





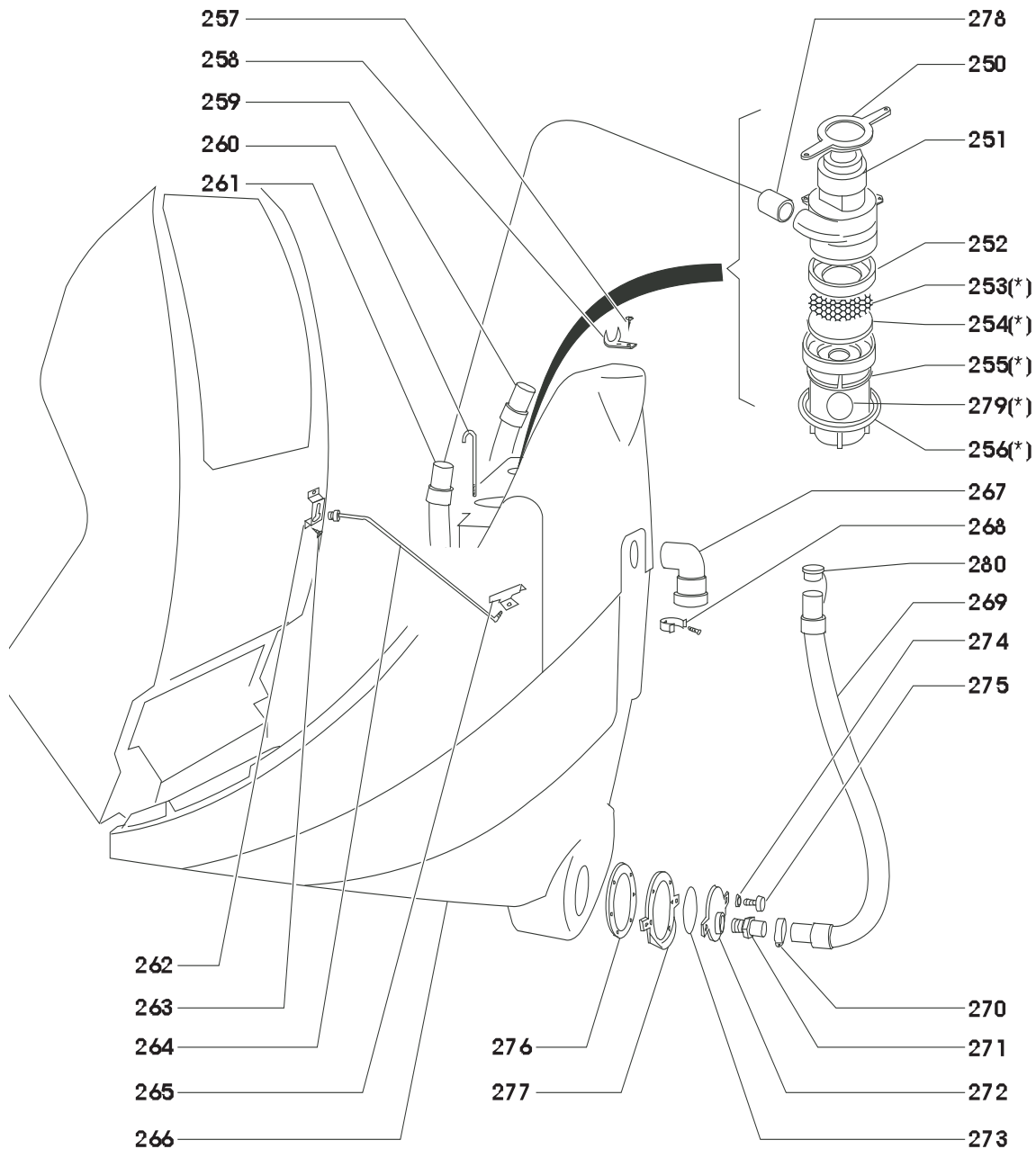
ref#	order	description
43	710.043	Rubber
44	710.044	Support
45	710.045	Plate
46	1000.020	Lever
47	710.047	Support
48	PAS416	Limit switch
70	PAS4	Geared motor
71	710.071	Support
72	710.072	Lever
73	710.073	Support
74	500.200	Nut
75	PAS137	Washer
76	PAS190	Screw
77	PAS108	Splash guard strip
78	501.047	Screw
79	PAS122	Hook
80	710.080	Plate
81	1000.131	Nut
82	PAS176	Nut
83	PAS188	Washer
84	710.084	Plate

ref#	order	description
85	PAS936	Screw
86	710.086	Plate
87	710.087	Support
88	710.088	Bushing
91	710.091	Actuator
92	500.200	Nut
93	710.093	Nylon washer
94	1000.129	Screw
95	PAS190	Screw
97	PAS924	Nut
98	PAS1	Buffer wheel
99	PAS223	Screw
100	430.018	Splash guard
101	PAS926	Screw
102	PAS5	Coupling
103	430.073	Dowel
104	PAS123	Screw
105	PAS6A	Support with spring
106	PAS67	Poly Scrub brush (2)
106	PAS68	Nylo Grit II brush (2)
106	PAS130	Strata Grit II brush (2)



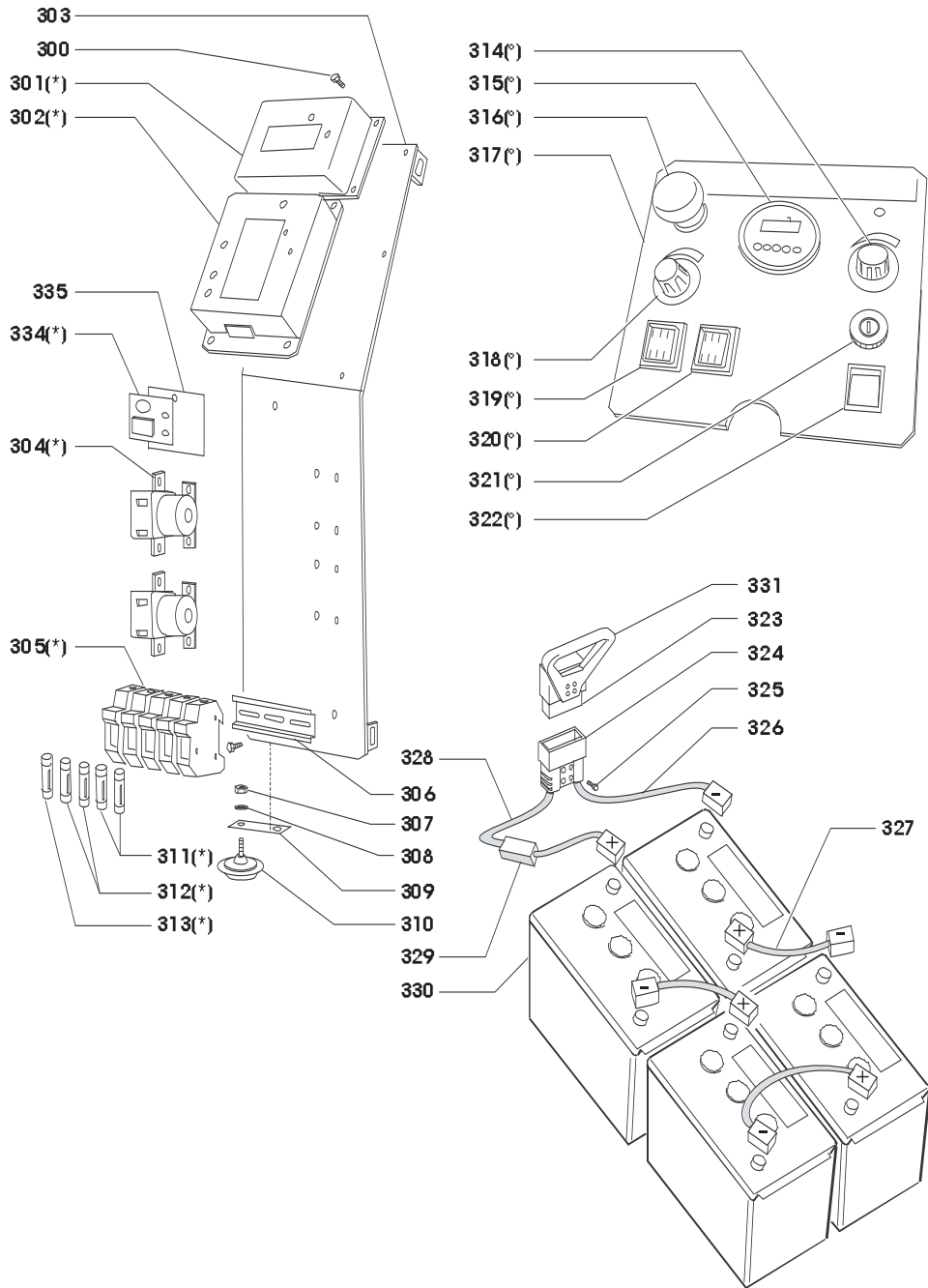
ref#	order	description
106	PAS94	Scrub Grit II brush (2)
106	PAS69	Pad driver (2)
106	PAS133	Powr Scuff brush (2)
107	PAS111	Screw
108	PAS149	Nut
109	PAS426	Cam
110	PAS427	Micro
111	PAS146	Washer
112	430.072	Screw
113	710.113	Hose fitting
114	710.114	Support
115	400.160.1	Water tap
116	1000.187	Hose collors
117	710.117	Rubber tube
118	PAS12	Water tap
119	PAS262	Nut

ref#	order	description
120	710.120	Rubber tube
121	710.121	Rubber tube
130	PAS937	Nut
131	710.131	Support
132	710.028	Washer
133	850.058	Nut
134	710.134	Support
135	710.135	Screw
136	710.088	Bushing
137	710.137	Lever
138	PAS31	Spring
139	PAS421	Piston
140	710.041	Screw
141	PAS188	Washer
143	PAS63	Pin
144	710.144	Spacer



ref#	order	description
145	710.145	Lever
146	PAS176	Nut
147	PAS64	Knob
148	710.148	Pipe
149	500.223.1	Knob
150	PAS214	Support
151	PAS212	Nylon washer
152	710.040	Washer
153	PAS191	Hose collors
154	710.154	Spacer
155	PAS422	Stop
156	PAS223	Screw
157	860.061	Screw
158	PAS1	Buffer wheel
159	PAS223	Screw
160	710.160	Washer

ref#	order	description
161	PAS924	Nut
162	PAS959	Split pin
163	PAS176	Nut
164	500.222.1	Regulator
165	710.165	Screw
166	710.166	Washer
167	PAS223	Screw
168	710.168	Screw
169	PAS261	Back strip
170	PAS144	Crepe rubber
171	PAS143	Crepe rubber
172	PAS77	Floor washing body
173	PAS145	Black rubber
174	650.178	Front streep
175	710.175	Support
176	710.176	Screw



ref#	order	description
177	710.177	Wheel
178	710.178	Spacer
179	430.311	N/A
(*)	PAS76	Rubber kit
200	710.200	Chest
201	710.201	Rod
202	PAS11	Knob
203	1000.072	Shaft
204	1000.069	Tang
205	1000.068	Steering wheel
206	710.206	Lever
207	710.207	Complete cable
208	710.208	Tank
209	1000.196	Seat
210	1000.194	Plug

ref#	order	description
211	710.211	Hook
212	710.212	Support
213	710.213	Shield
214	710.214	Casing
215	710.215	Shaft
216	1000.110	Tang
217	710.217	Pinion
218	710.218	Horn
219	710.219	Chain
220	PAS410	Support
221	710.221	Complete cable
222	710.222	Floor plate 1
223	710.223	Floor plate 1
224	PAS75	Solution valve
225	500.089.1	Movable flange

ref#	order	description
226	PAS74	Knob
227	PAS186	Washer
228	PAS441	Seal
229	PAS440	Fixed flange
230	PAS70	Seal
231	1000.184	Nut
232	1000.183	Washer
233	PAS3	Filter
234	710.234	Screw
235	710.235	Screw
236	710.236	Casing
237	710.237	Sheave
238	1000.196.2	Plate
250	PAS15	Lock ring
251	1924	Suction motor
252	PAS103	Seal
253	PAS79	Net
254	PAS107	Sponge
255	PAS85	Support
256	PAS103	Seal
257	PAS243	Screw
258	710.258	Support
259	710.259	Pipe
260	401.105	Tie rod
261	710.261	Pipe
262	510.118	Plate
263	710.263	Screw
264	510.264	Rod
265	510.116	Plate
266	710.266	Tank
267	1000.279	Curve
268	PAS38	Pipe strap
269	710.269	Pipe
270	710.270	Hose collors
271	500.089.1	Hose fitting
272	PAS442	Movable flange
273	PAS441	Seal
274	PAS186	Washer
275	PAS74	Knob
276	PAS70	Seal
277	PAS440	Fixed flange

ref#	order	description
278	PAS330	Sleeve
279	PAS210	Float level
280	PAS36	Plug
(*)	PAS17	Complete float level
300	1000.293	Screw
301	710.301	Jack card
302	710.302	Traction card
303	710.303	Plate
304	PAS57	Remote control
305	860.230	Fuse holder
306	1000.288	Slide
307	1000.301	Nut
308	1000.302	Washer
309	710.309	Square
310	1000.304	Horn
311	PAS118	Fuse
312	PAS118	Fuse
313	1000.344	Fuse
314	PAS450	Potentiometer
315	710.315	Battry charge level
316	710.316	Pushbutton
317	710.317	Electric panel
318	PAS55	Potentiometer
319	PAS454	Pilot light
320	PAS54	Switch
321	PAS53NS	Key switch
322	710.322	Switch
323	710.323	Fastener
324	710.324	Pin
325	1000.300	Screw
326	710.326	Cable
327	1000.338	Cable
328	710.328	Cable
329	710.329	Fuse
330	710.330	Hose battery425 ah
331	PAS446	Handle
334	710.334	Diode card
335	710.333	Plate
(*)	710.332	Electric plant
(°)	710.333	Panel plant



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