# Hand Push Floor Scrubber

# OWNER'S GUIDE



Shanghai Jianghuai Environmental Equipment Co.,LTD

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Before the first use of equipment ,please read equipment operating .

When ordering replacement parts,pls kindly check the Parts manual that came with the machine. Before matching the accessories, please make sure your machine model and serial number. You can connect us by by telephone or mail. If you can and then do the following, you will be able to get the best results at the lowest cost:

- operating the machine carefully
- Pls maintenance the machine regularly according to the Maintenance Instructions of operating guide
- Pls maintance with the same level of accessories or using the original accessories.

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Machine Information		
Please fill in at installation for	r future reference.	
Model number-		
Machine No		
Machine Options-		
Sales Manager-		
Tel -		
Client No		
Installation Date-		

# Catalogue

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# **Precautions**

This machine is suitable for industrial and commercial purposes, specifically for cleaning interior hard floors.

Please use the recommended scouring pads , brushes, and commercially floor cleaners which is applicable to this machine .

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

The following are explained for the safety alert symbol and "For security purposes" title:



Warning: for warning serious injury or death risks or unsafe operation.

FOR SAFETY: To identify actions that must be followed when using the machine in order to guarantee safety.

Failure to comply with these warnings may result in: personal injury, electrocution, fire, or explosion.



WARNING: Fire or explosion hazard

— Do not use flammable liquids; Do not operate the machine near or flammable liquids, gases or combustible dust workplace .

This machine is not equipped with an explosion proof motor. If you use the machine in a place with flammable gas, liquid or flammable dust may be in start-up and during the operating of the electric motor will produce a spark, may cause a flash fire or explosion.

- Do not pick up flammable materials or reactive metals.
- Battery release hydrogen. Keep away from sparks or open fire.
   Battery compartment shall be kept open while charging.

Warning: Risk of electric shock. Before maintancing the machine, pls disconnect the battery cable.

Warning: When the rotating brush running, do not touch it. Turn off the power before servicing the machine.

The following situation would be dangerous to the operator or equipment : For security purposes

- 1. Do not operate the machine:
- Contact with flammable liquids or near flammable gases,

It could cause an explosion or flash fire situation.

- Unless you have been trained and authorized to operate the machine.
- Unless you have read and understood the Operator's Manual
- If not in the case of correct operation.
- 2. Before starting the machine:
- Make sure that all safety devices are on positioning and operating properly.
- 3. When using the machine:
- Go slow on inclines and slippery surfaces.
- Wearing non-slip shoes.
- Please slow down when turning.
- When the Machinery Breakdown or faulty operation pls immediately report.
- Do not let children play on or near the machine.
- Follow mixing and handling instructions on chemical containers.
- 4. Before leaving and maintancing the machine:
- Park the machine on a stable surface.
- Turn off the machine.
- 5. When maintancing the machine:

- Avoid to move the accessories. Do not wear loose T-shirt, shirt or cuff.
- —Before operating the machine, disconnect the battery cable.
- Wearing protective gloves and eye protection when handling batteries or battery cable.
- Avoid contact with battery acid fluid.
- Do not high pressure spraying or hosed this machine.
- Use manufacturer supplied or approved replacement parts.
- All repairs must be performed by qualified Maintenance staff.
- Do not modify the original design of the machine.
- 6. When moving the machine:
- Pls turn off the machine.
- Do not carry the machine when equipped with batteries.
- Pls handle the machine with others assistance.
- When unloading machine from a truck or trailer, use the recommended loading
   floor. Use the rope to fix the machine on a truck or trailer.
- Put the brush head down to the lowered position.

# **Machine operating instructions**





### **Machine Installation**

Open packaging machines

1.Pls check carefully to confirm that if there is a case of damage on the machine box.

If it is damaged pls response to us immediately.

2. Check the cargo contents list ,if any missing items, please contact us.

#### Freight contents:

- 12V Two batteries-Standard
- 24V Charger Standard
- A set of Battery cable Standard
- One Squeegee blade Standard
- One brush ─Standard
- One needle plate—Standard
- Other accessories Optional

3 Before disassemble the packing of machine, pls remove the machine fixed shipping fixture and rope on the warehouses. With assistance, unloading the machine carefully from the warehouse.

Note: If you do not use the loading floor, do not directly promote the machine to avoid Machinery Breakdown.

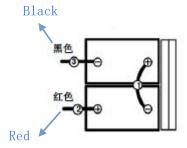
Note: To avoid machine damage, please unload the machine from the warehouse and then install the battery.

### **Install battery**

WARNING: Fire or explosion hazard. Battery release hydrogen. Keep away from sparks or open fire. The battery cover shall be kept open while charging.

- 1 Park the machine on level ground, and take out the key.
- 2 Lift the water tank so that the battery compartment is exposed can be touched.

Carefully install batteries in the battery compartment gates, and in accordance with the shown below



Connect the battery positive cable machine

Note: Do not throwing the battery to the battery compartment, to prevent damage to the battery and the machine.

4 Before connect the battery, make sure whether the electrodes and electrical terminals are clean. As required using an electrode cleaning fluid and a wire brush.

Description: Apply in a thin layer of metal-free lubricant or spray protection on the wiring connections to avoid battery corrosion.

5. After installing the battery, pls check the power scale of battery gauge. Depending on the battery needs to charge.

### **Working methods of Machine**

Manual control valve to adjust the amount of water on the ground through adjusting the cleaning solution (water and detergent). Brush use the mixed detergent and water solution to clean the floor. While the machine forward, the squeegee suck the sewage into sewage tank.

## Information of Brush and scouring pad

To ensure the best performance, Please use the correct brush type for cleaning. We recommend the use of brushes and scouring pads as follows:

#### Soft nylon brush (white) -

Recommendations for cleaning coating ground floor without injury. Clean without leaving scratches.

#### Polishing Pad (White) -

For maintaining a high degree of light slip or polishing the floor.

#### crash pad (Red) —

It used to wipe dirt slight ground without injury

#### Gravity folded pads (Black) —

Removing the thick coating or substrate forcefully or scrubbing strongly

#### Machine installation

1. Park the machine on level ground and remove the key.

- 2. The squeegee lift lever down to a lower position.
- 3. The vacuum suction pipe connected to the squeegee assembly.

Check the squeegee blades and make appropriate adjustments.

### **Brush / scouring pad Installation**

Description: It is recommended to use brushes and scouring pads, refer to the manual "Brush and scouring pad Information" one.

- 1. Park the machine on level ground and remove the key.
- 2. Slam brush lift pedal, so that the brush head is raised off the ground.
- 3. First scouring pad is set with the needle seat, and then install the driver disk. Tighten the central lock will be fixed scouring pad.
- 4. Insert the needle/brush installed column bolt on motor drive tray card clasp, press the brush plate of the motor switch.
- 5. To dismount the hub and brush, brush lift pedal slam, so the head is raised off the ground, press the brush motor switch plate.

### **Machine operation**

FOR SAFETY: Before operating manual has not been read and understood. Do not operate the machine.

WARNING: Fire or explosion hazard. Do not located near or flammable liquids, gases or combustible dust place to operate the machine

## **Preflight Checks**

- □Clean the dust on the ground.
- □Check battery power scale gauge. (Refer to the battery charge gauge)
- □Check the wear condition of scouring pad / brush.
- □Check the wear condition of squeegee blade, and adjust the angle.
- □Determine the recovery tank is empty,and clean floating filter has been installed.

□Check the wear condition of brush.

**Operating machine** 

1. Key to turn on the main power supply to (I) position.

2. The squeegee lift lever to pull down, so that the squeegee assembly lowered to the ground.

3. On the brush head lifting pedal, make the brush head fell to the ground.

4. Open the water control knob.

5. Press the brush plate motor switch, then press the suction motor switch.

6. Motor drive models: The speed control knob to your desired cleaning speed

Note: We recommend the use of 45-60 meters per minute cleaning speed.

**During operation of the machine** 

WARNING: Fire or explosion hazard. Do not pick up flammable materials or reactive metals.

1. Each channel overlap 5 cm cleaning path.

2. The machine continues to avoid damage to the ground.

3. Such as squeegee absorbing water, the ground drag marks, wipe with a cloth tape to remove

garbage. Prior produce clean to prevent drag marks.

4. Do to the slope exceeds 5% (3°) slope to operate the machine.

FOR SAFETY: When using machine, on slopes and slippery surface of the ground, move slowly.

5. If too much foam, will recommend the use of anti-foaming agent solution was poured into

water tank.

Note: Do not allow foam to enter the filter, in order to avoid damage to the vacuum motor. Foam

will filter switch does not fail.

6. Use double cleaning method to clean heavily soiled areas. First squeegee lifted for cleaning, let

the impregnation solution 3-5 minutes, will lower the squeegee and clean again.7. Depending on

the need to replace or rotate scouring pad.

8. Observe the battery power consumption table (refer "Battery power table").

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9.check the remaining amount of liquid through water tank level gauge. Traditional laundry way: water consumption is 10L per 10 minutes.

- 10. When the water in box runs out, empty the water tank firstly and then re-inject the solution.
- 11. When staff leave the machine, place the machine parked on level ground and remove the key.
- 12. After cleaning, carry out daily maintenance procedures (see "Machine Maintenance").

### **Battery charge gauge**

Battery charge gauge displays the battery's power. When the batteries are fully charged, all the lights are on. With power consumption, the light will go out from right to left. To prolong battery life, do not let the light goes out less than the following electricity consumption.

Note: To extend battery life, be sure to use the machine total number of more than 30 minutes before the battery be charged.

#### **Tank Drain**

After using, the recovery of tank should be drained and cleaned. The tank should be cleaned regularly to remove any corroded areas. Handling the machine to the drainage location, turn off the power key, Drainage discharge follow instructions:

FOR SAFETY: Before leaving or servicing machine, stop on level surface and turn off machine and remove key.

- 1. According to the counterclockwise direction to unscrew the recovery tank drain cover, remove it.
- 2. Open the cover of tank and flush it.
- 3. Remove and rinse bits floating in the sewage tank filter.

### **Battery charge**

Note: To prolong battery life and ensure the best performance of the machine, the machine must be used more than 30 minutes to carry out the battery charge. Do not let the battery on a state of no power for long time. The following charging instructions are applicable to this machine comes with a charger. Be sure to use the following specifications of the charger, so as not to damage the battery.

Battery charger:

●Charger type: - Lead-acid battery charger

Output voltage: - 24 V

•Output electric current: - 15Am

Automatic power-off circuit

•Suitable for deep cycle type battery charge

1. Moving the machine to a well-ventilated place for charging.

**WARNING:** Fire or explosion hazard. Battery release hydrogen. Keep away from sparks or open fire. Shall be kept open while charging the battery compartment.

2. Park the machine on level ground, and turn key to the off position.

3. Before charging, check the electrolyte level in the battery unit

FOR SAFETY: When servicing machine, wear protective gloves and eye protection when handling batteries and battery connections. Avoid contact with battery acid fluid.

4. When charging, opening the side of water tank for ventilation.

5. The charger AC (alternating current) power cord into a properly grounded electrical outlet.

6. The charger's DC (direct current) cable into the rear of the recovery tank battery charging socket.

7. The charger will charging automatically and shut down automatically when they are filled.

**Explanation:** The machine will not operate when connected to the charger. Note: During charger, do not pull the charger DC line

Pull the socket out of the machine. In order to avoid arcing. Such as charging way must suspend charging Unplug the AC power cord.

**WARNING:** Fire or explosion hazard. Battery release hydrogen. Keep away from sparks or open fire. Shall be kept open while charging the battery compartment.

8. After charging, check the electrolyte surface height again.

#### **Machine Maintenance**

If you follow the maintenance procedures every day, every week and every month. the machine can be kept in the best working performance. Warning: Risk of electric shock. Before performing any maintenance disconnect the battery cable.

### **Daily maintenance (after each using)**

- 1. Drain and clean the recovery tank
- 2. Detaching and rinse water tank located floating filter
- 3. Drain water tank, and depending on the need, Rinse the tank by less 60  $^{\circ}\mathrm{C}$  hot water.
- 4. Unloading take scouring pad / brush to clean. If worn, flip or replace scouring pad
- 5. Wipe the squeegee blade. The squeegee assembly placed in the raised position to prevent tape damage.
- 6. Check the wear condition of the squeegee blade edge of the strip. Subject to wear and tear, the strip two swap.
- 7. Multipurpose cleaner and a damp cloth to wipe the machine. FOR SAFETY: When cleaning up the machine, do not spray or high pressure water pipe flushing machines. In order to avoid failure of electronic components.
- 8. Check the wear condition of the head skirt, replace if loss or damage verdict.
- 9. Battery charge. In order to prolong battery life and ensure the best performance of the machine, you must use the time over in the machine over 30 minutes or more to carry out the battery charge.

### **Monthly maintenance (after using 80 hours)**

- 1. Removing the water tank and filter from the machine, then clean the filter. Make sure empty the water tank before removing the filter.
- 2. Clean the top surface of battery to avoid electrode corrosion (see "Battery Maintenance").
- 3. Check the battery wiring is loose or not.
- 4.Check and clean the seal of the recovery tank cover. If damaged please replaced it 5.Spray the silicone dry lubricant on all pivots and wheels. Then covered with a layer of waterproof lubricant oil, in order to maintain the smooth operation of the axle. 6.Check if the nuts and bolts on the machine are loose

#### 7.Check if the machine leaks out

### **Quarterly Maintenance**

Check the wear of drive motor (drive models), vacuum motor and brushes and motor brush every 250 hours. When the length of the carbon brush wear within 10 mm, the need for carbon brush. It needs to replace the carbon brush. If the machine need to repair, please please contact the authorized service center.

Warning: Electric Shock Risk. Please disconnect the battery wire before the maintenance machine.

### **Handling Machine**

When using the truck or trailer moving the machine, please be sure to follow these bundled programs:

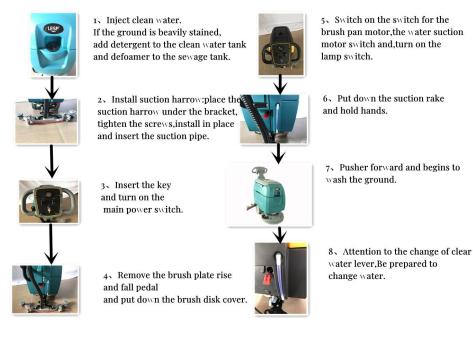
- 1. Raise the head to transport position.
- 2. Use the recommended loading floor to load machine.
- 3. The front of the machine adjoins to the front part of the truck or trailer. After the machine is put in place, lowing the head of brush and turning the key to the closed position.
- 4. Place obstacles in the rear of each drive wheel to prevent the machine slides.
- 5.Use the rope to fix the top of machine in order to prevent slanting. You must furnish the brackets in the truck or trailer's car plates. For security reason:

When moving the machine, use loading floor to load machine from the truck or trailer, and rope the machine to fix the car plate.

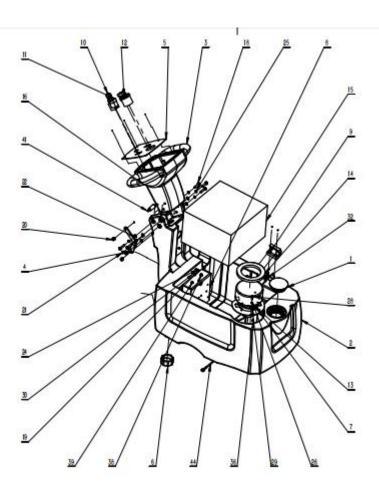
### **The Storage Of Machine**

- 1. Please charge the battery before storage. Do not store when the battery is flat.
- 2. Drain and rinse clean the flume box completely.
- 3. Please store the machine in a dry place, and the brush head should be kept in the rising position.
- 4. Open the sewage tank cover for ventilation. Note: Do not allow the machine to rain, please store in the interior.
- 5. If store the machine in the cold environment, please drain all the liquid inside the machine.

### **Operational steps**



Clean water tank system



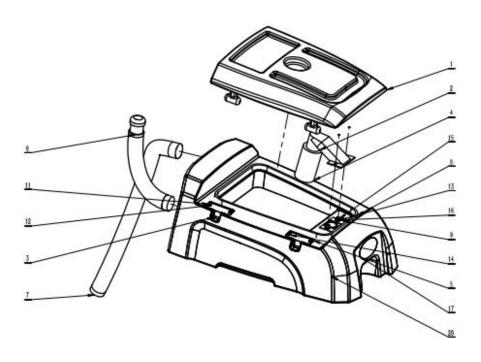
serial number	part number	name
1	B010110	water filler cap
2	B010095	Clear water tank 460
3	B010099	handle 460
4	A010097	Lifting rocker arm
5	A010098	control panel
6	B010109	Drain cover
7	A010096	Motor fixing plate
8	A010099	Electrical installation plate
9	G010105	Hinge 65x65
10	E010112	key switch
11	E010110	rocker switch

12	E010111	battery indicator
13	E010101	Water suction motor 24V 500W
14	G010119	Motor sealing ring Φ150xΦ105x 13
15	E010116	Battery 24V80Ah
16	F010100	Control Panel Tab 460
17	G010112	Hexagonal half tooth M8×60
18	G010150	Outer hexagon M8×35
19	G010132	Outer hexagon M8×25
20	G010108	Self-locking nut M8
21	G010110	Self-locking nut M6
22	G010104	Flat washer M8X16X1.5
23	G010109	Hex Nut M6
24	G010158	Hex Nut M8
25	G010103	Spring pad M8
26	G010126	Spring pad M6
27	G010121	Spring pad M5
28	G010117	Hexagon socket head screw M6×16
29	G010117	Flat washer M6x18×1.6
30	G010100	Cross recessed pan head screw M5×12
31	G010101	Plastic flat pad M5
32	G010106	Hexagon countersunk head M6×20
33	G010113	Liquid level display tube φ10xφ13x240
34	G010114	plastic elbow
35	G010115	Rubber sealing plug
36	G010116	Cross recessed pan head tapping screw ST4.
		2×13
37	G010120	Flat pad φ5x10x1
	l .	1

38	E010105	Overload protector 45A
39	E010106	Overload protector 25A
40	A010121	Sewage pipe hook
41	G010107	Bakelite handle M8X40
42	G010160	cable tie holder
43	G010138	Flat washer M8x24×2
44	C010105	Water tank cable 350

# Sewage tank

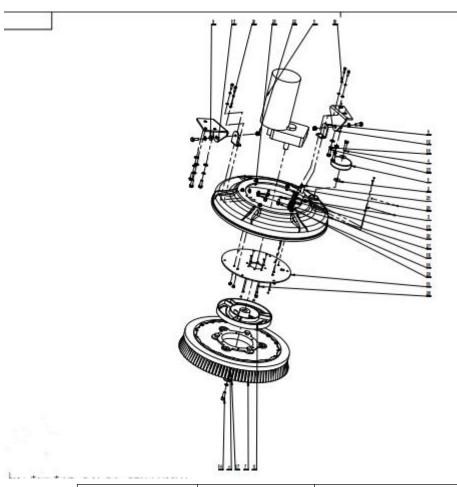
# system



Srial number	Part number	Name
1	B010097	Tank cover 460

2	B010111	Main body of suction part
3	B010096	Wastewater tank 460
4	G010122	Suction filter
5	A010115	Recovery tank cover connector
6	B010105	Sewage pipe <b>Φ</b> 38*400 (01+09)
7	B010106	Sewage suction pipe <b>Φ</b> 38*800 (01+07)
8	G010125	Water tank cover seal
9	G010123	Suction port gasket
10	G010127	Clamp 33-57
11	G010100	Cross recessed pan head screw M5×12
12	G010121	Spring pad M5
13	G010126	Spring pad M6
14	G010120	Flat pad \$\phi 5x10x1\$
15	G010117	Hexagon socket head screw M6×16
16	G010118	Flat washer M6x18×1.5
17	F010101	logo
18	G010132	Outer hexagon M8×25
19	G010158	Hex Nut M8
20	G010119	Motor sealing ringΦ150xΦ105x13

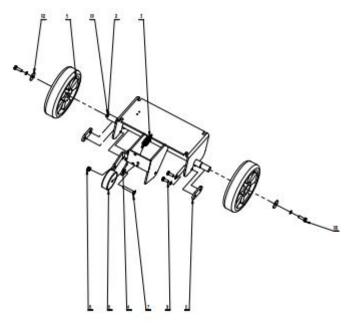
# **Brush disk system**



serial number	part number	name
1	B010113	Machine head anti-collision wheelΦ100x20
2	G010138	Flat washer M8x24×2
3	G010124	Large washer 5x15x1.5
4	G010150	Outer hexagon M8×35
5	E010113	Brush motor 24V 550W Φ18
6	C010117	Brush disc lock
7	B010112	17 inch brush plate
8	A010095	nose support
9	C010103	Copper sleeve Φ8xΦ12x8/Φ16x2
10	B010098	Brush plate motor fixing plate
11	A010092	Brush plate motor fixing plate

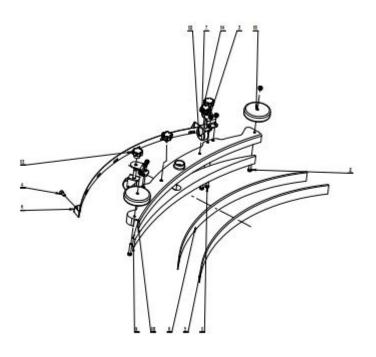
12	A010093	nose support left
13	A010094	nose support right
14	G010136	Hexagon socket head screw M8×25
15	G010134	Hexagon socket head screw M5×16
16	G010117	Hexagon socket head screw M6×16
17	G010133	Large gasket M8X32×3
18	G010103	Spring pad M8
19	G010121	Spring pad M5
20	G010126	Spring pad M6
21	G010135	Self-locking nut M5
22	G010108	Self-locking nut M8
23	G010132	Outer hexagon M8×25
24	G010120	Flat pad φ5x10x1
25	G010104	Flat washer M8X16X1.5
26	G010137	Flat pad φ6x12x1
27	G010100	Cross recessed pan head screw M5×12
28	E010103	Solenoid valve 24V
29	A010106	Solenoid valve bracket
29	A010106	Solenoid valve bracket

**Chassis system** 



serial number	part number	name
1	A010122	Axle fixing plate
2	C010100	Caster connecting shaft
3	C010106	Tension spring Φ2*Φ18*70
4	A010100	base frame
5	G010131	Bearing caster <b>Ф2</b> 00X50
6	G010128	Driven casters Φ75X25
7	G010129	Hexagonal countersunk head half tooth M8×50
8	G010129	Self-locking nut M8
9	G010130	Outer hexagon M8×20
10	G010132	Outer hexagon M8×25
11	G010103	Spring pad M8
12	G010133	Large gasket M8X32×3

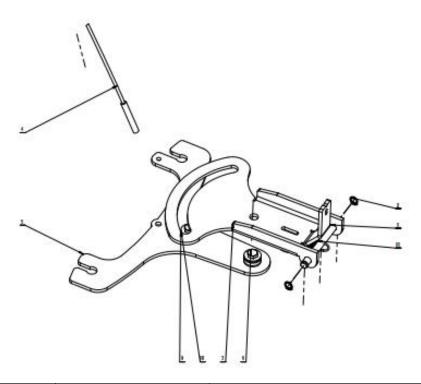
# Suction raking system



serial number	part number	name
1	G010130	Outer hexagon M8×20
2	GB/T 5783-2000	Hexagon head bolt M8×45
3	G010108	Self-locking nut M8
4	GB / T 70.1-2008	Hexagon socket head screw M8×16
5		Front rubber strip 848X45X4
6		Main body steel bar
7		Universal wheel bracket
8		Rear rubber strip 855X52X5
9		Meniscus 756

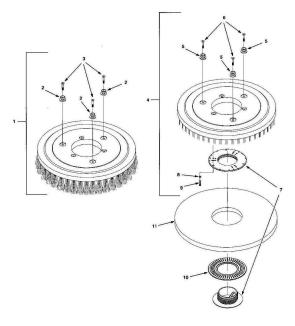
10	head body 460
11	Pickup head anti-collision wheelΦ100X25
12	Universal wheel Φ50
13	Flower Nut M8
14	Flower Nut M10x15

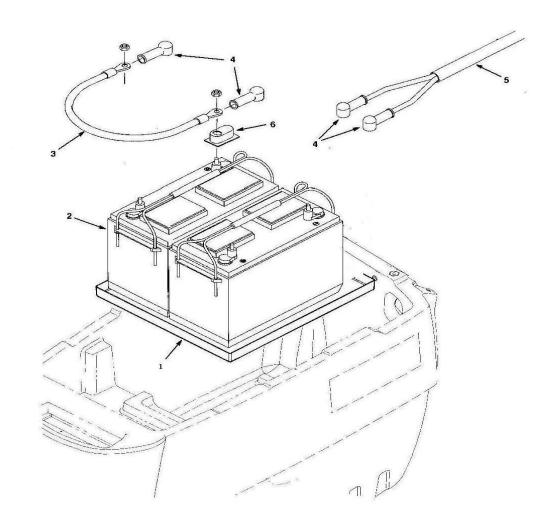
Suction grill support system



serial number	part number	name
1	C010101	Suction connecting shaft
2	G010139	Outer snap ring \$\phi9\$
3	A010101	top bracket
4	C010102	Pull the head
5	A010102	Bottom bracket
6	G010140	Outer hexagon M8×30
7	G010108	Self-locking nut M8
8	C010109	Copper sleeve Φ8xΦ12x9
9	G010141	Nylon Spacer 12x24x2
10	G010138	Flat washer M8x24×2
11	C010106	Tension spring Φ2*Φ18*70

# **BURSH**





Problem	Reason	Solution
	Battery no power	Charging the batteries
Th	Battery Fault	Replacing the battery
The machine can not operate	Loose battery cable	Tighten the battery cable
	Main fuse blown	Replace the fuse
	Brush lifted off the ground	Lower brush
	Battery charge gauge locked does not start	Charging the batteries
Brush motor does not work	Brush motor Circuit breaker	Reset the button of brush
	tripped	circuit breaker
	Brushes (up / down) switch failure	Please contact the service
	failure	center Please contact the service
	Motor carbon brush fray	center
	The squeegee is raised off the ground	Lower squeegee
	Vacuum motor fuse has blown	Replace the fuse
Vacuum motor does not work	Vacuum motor or wiring fault	Please contact the service center
	Motor carbon brush fray	Please contact the service center
	Solution tank filter or solution tube blockage	Cleaning solution tank filter
Small or anhydrous outflow	The flow rate of the flow control knob is set too low	Adjust the water flow control knob
	Release control knob screw	After lubricating the knob locking screw
	Sewage tank is full	Drain the recovery tank
	Squeegee blade fray	Replace the squeegee blade
Low recovery efficiency of	Suction tube blockage	Clear clogged debris
sewage	Sewage tank seal damage	Replace sealing strip
	Vacuum motor failure	Please contact the service center
	Battery defective	Replace battery
Running time shortened	Battery charge fault	Repair or replace battery charger

# **Hand Push Floor Scrubber**

Technical Specification	UNIT	SJ460
Voltage	V/AH	24/80
Brush motor	W	400
Water sucker motor	W	500
Cleaning width	mm	460
Suction width	mm	780
Cleaning efficiency	m2/h	1900
Brushing rotation speed	Rpm	185
Sucking power	Mbar	180
Clean water tank capacity	L	40
Sewage tank capacity	L	45
Machine weight (with battery)	Kg	120
Length ×width ×height	cm	108*50*107.5



