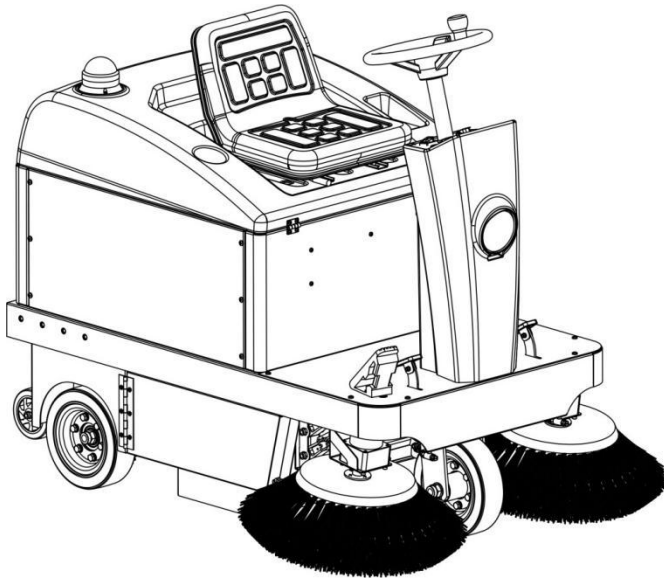


Driving Sweeper-X2

User Manual



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Part 1 Product Parameters

No.	Item	Value	Unit	Note
1	Sweeping Width	1050	mm	
2	Work Efficiency	6900	m ² /h	
3	Climbing Ability	>15% (8.5°)		
4	Main Brush Length	500	mm	
5	Storage Battery	48	V	4*12V 52Ah
6	Continuous Working Time	3-4	h	Working hours are different for different temperatures and working conditions.
7	Dustbin Capacity	80	L	
8	Side Brush Diameter	500	mm	
9	Driving Power (Motor)	500	w	
10	Operating Power (Motor)	500+115+90*2	w	Main Brush+Fan+Side Brush
11	Radius of Turning Circle	1045	mm	Spot Turn
12	External Dimensions	1550*1150*1350	mm	Length x Width x Height (No Scaffolding)
13	Maximum Operating Speed	6	km/h	
14	Maximum Travelling Speed	7	km/h	
15	Filtering Area	4.2	m ²	

16	Net Weight	340	kg	
17	Sweeping Efficiency	$\cong 90\%$		
18	Main Color of Vehicle	Blue Black		
19	Water Tank Volume	45	L	

Part 2 Important Safety Notes

- ★ Unplug the battery wiring and charger plug before repairing the machine.
- ★ Never use the broken power line to charge the battery. Do not modify the plug.
- ★ If the power line of the charger is damaged or broken, it must be replaced by the manufacturer or its maintenance agent or personnel with the same qualification to avoid danger.

To ensure safety:

1. Do not operate the machine under the following circumstances:

-Without training and authorization.

-Do not read and understand the operation manual.

-After consuming alcohol or drugs.

-Brake failure.

-The filter is not installed, or the filter is blocked.

-In a dusty environment without turning on the vacuum fan.

-The machine is not under normal operating conditions.

-Stay in an area where flammable vapor/liquid or flammable dust exists.

-Stay in an area where it is too dark to safely view the controls or operate the machine, unless the working lights or headlights are turned on.

-Stay in an area where there may be falling objects, unless a ceiling is installed.

2. Before starting the machine:

-Inspect the machine to see if there is liquid leakage.

Part 2 Important Safety Notes

Make sure all safety devices are in place and work normally.

-Check whether the brakes and steering devices work normally.

-Adjust the seat and fasten the seat belt (if equipped).

3. When using the machine:

-Only use according to the instructions in this manual.

-Use the brakes to stop the machine.

-Do not sweep burning or smoking residues, such as cigarettes, matches or hot ash.

-Walk slowly on slopes and smooth surfaces.

-Do not sweep on the slope with a gradient of more than 15%/8.5°. Do not transport on the slope with a gradient of more than 21.3%/12°.

-Please slow down when turning.

-When the machine is running, make sure that the whole body of the operator is in the console.

-Always pay attention to the surroundings when operating the machine.

-Be careful when reversing the machine.

-Be careful when emptying the dustbin.

-Keep children and unauthorized persons away from the machine.

-Do not carry passengers on the machine.

-Be sure to comply with safety and traffic regulations.

-Report machine damage or malfunction immediately.

Part 2 Important Safety Notes

4. Before leaving or repairing the machine:

- Park the machine on a horizontal surface.
- Turn off the machine and take down the key.

5. When repairing the machine:

- All work must be carried out in an environment with good lighting conditions and high visibility.
- Keep the work area fully ventilated.
- Avoid moving parts. Do not wear loose clothes or jewelry. Tie up the long hair.
- Stunk the machine tires before lifting the machine.
- The machine can only be jacked at the designated position of the machine. Use the supporting frame to support the machine.
- Use a crane or jack that can support the weight of the machine.
- Never push or tow the machine when there is no operator in the seat to operate it.
- Use the brake continuously when pushing or towing the machine on a slope.
- Do not turn on the sprinkler or flush the machine with water pipes near the electrical components.
- The charger must be disconnected before operating the machine.
- Do not pull the charger wire to unplug it. Hold the end of the plug and pull out the plug.
- Do not use incompatible battery chargers, which may cause battery damage and fire.
- Check whether the charger wire is damaged.

Part 2 Important Safety Notes

-When the charger is running, do not unplug the DC power line of the charger from the socket of the machine. Arc discharge may occur. If it is necessary to suspend charging during charging, please unplug the AC power line first.

-Avoid contact with battery acid.

-Keep metal objects away from the battery.

-Use a non-conductive battery removal device.

-When lifting the battery, use a crane and suitable auxiliary equipment.

-The battery must be installed by trained personnel.

-Observe the site safety guidelines on battery disassembly.

-All maintenance work must be conducted by trained service technicians.

-Do not modify the original design of the machine.

6. When loading/unloading the machine to/from the truck or trailer:

-Use slopes, trucks or trailers that can support the weight of the machine and operators.

-Empty the dustbin before loading the machine.

-Do not drive on slippery slopes.

-Be careful when driving on the ramp.

-Do not load/unload the machine on the slope with a gradient of more than 21.3%/12.

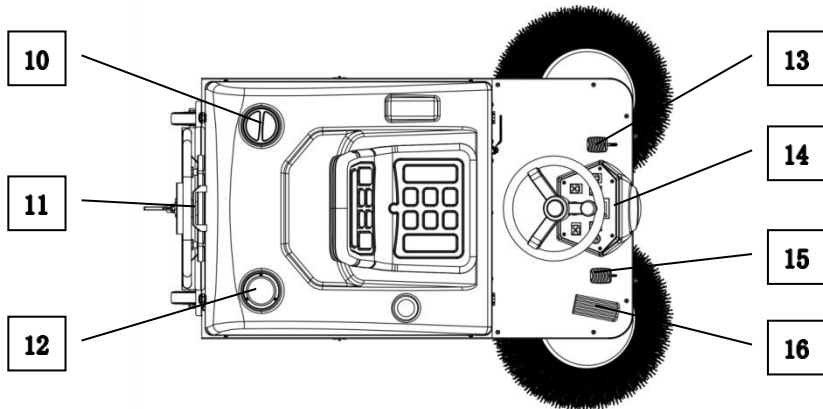
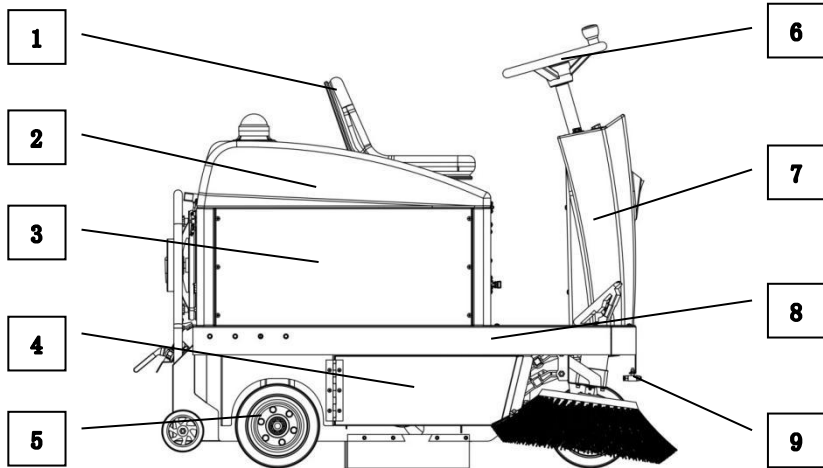
-Turn off the machine and take down the key.

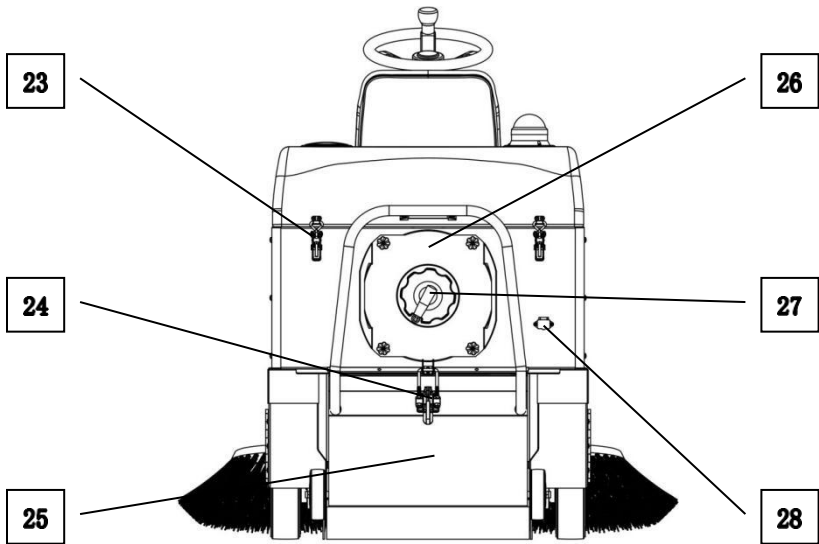
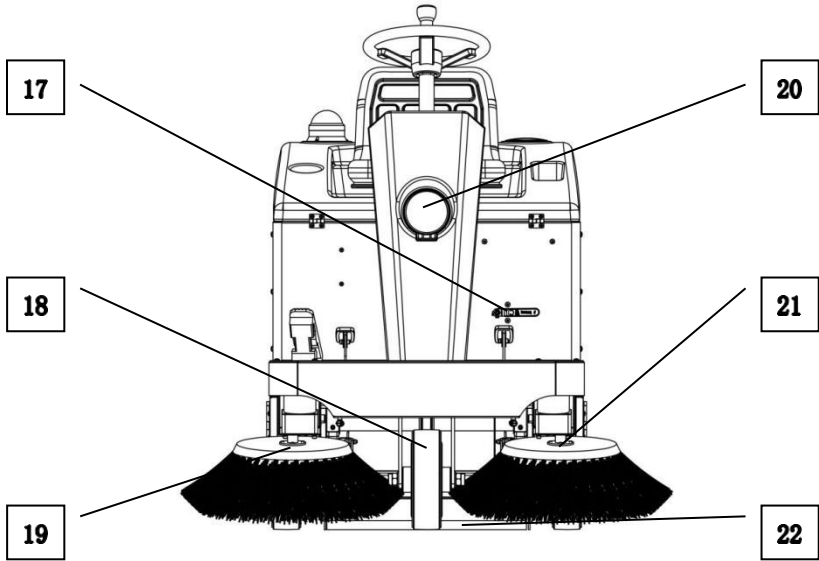
-Stuck the tires of the machine.

-Fix the machine on a truck or trailer.

Part 3 Basic Descriptions

1. Components of Machine





Part 3 Basic Descriptions

Figure Descriptions of Components

1	Seat	2	Water Tank
3	Side Plate	4	Service Side Door
5	Rear Wheel	6	Steering Control
7	Dashboard	8	Chassis
9	Sprinkler Head	10	Tank Cap
11	Tank Handle	12	Caution Light
13	Pedal for Large Garbage Collection	14	Operation Panel
15	Brake Pedal	16	Accelerator Pedal
17	Sprinkler Valve	18	Front Wheel
19	Right Brush	20	Headlight
21	Left Brush	22	Main Brush
23	Water Tank Buckle	24	Dustbin buckle
25	Dustbin	26	Filter Cover Plate
27	Dust Hand wheel	28	Charging Port

2. Dashboard Panel

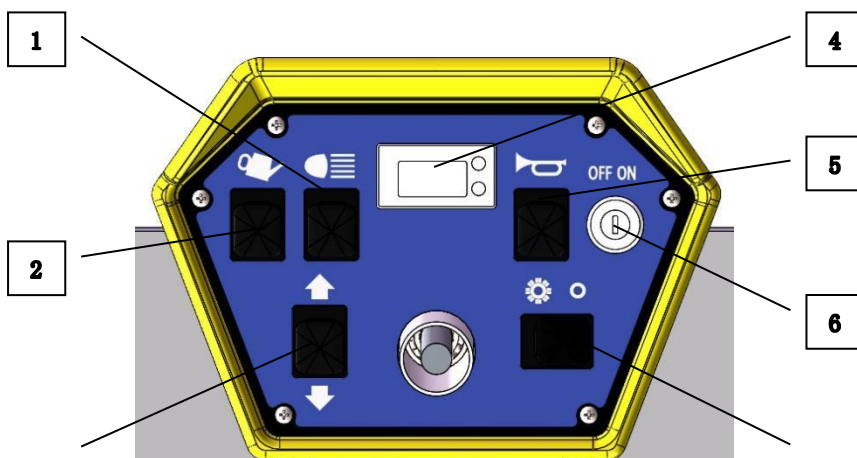


Figure Descriptions of Dashboard Panel

1	Headlamp Switch	2	Sprinkler Switch
3	Forward/Backward Changeover Switch	4	Coulombmeter
5	Horn Switch	6	Key Switch
7	Sweeping Switch		

Part 4 Basic Operations

1. Precautions Before Operating the Machine

Before sweeping, pick up wires, ribbons, strings, large pieces of wood or other things that may be entangled or caught in the brush.

Drive as straight as possible. Avoid hitting the column or scratching the side of the machine. Overlap multiple sweep tracks with a width of several centimeters.

Avoid turning the steering wheel too violently when the machine is running. At this time, the machine responds very quickly to the movement of the steering wheel. Avoid sharp turns except in an emergency.

Adjust the machine speed and brush pressure according to the sweeping requirements. Use the appropriate brush pressure setting for the area to be swept.

If the sweeping performance is found to be poor, stop the operation, and consult the "Machine Troubleshooting" in this Manual.

After each use, perform the procedure in the "Maintenance" (Please refer to "Maintenance" in this Manual).

Drive the machine slowly on slopes. Use the brake pedal to control the speed of the machine when driving down the slope. Carry out the sweeping when the machine goes uphill, instead of going downhill.

To ensure safety: when using the machine, drive slowly on slopes and smooth surfaces.

Do not operate the machine in an area where the ambient temperature exceeds 43° C (110° F). Do not turn on the sweeping function in areas with ambient temperature lower than 0°C (32°F).

To ensure safety: when using the machine, do not sweep on the slope with a gradient of more than 15%/8.5°.



Part 4 Basic Operations

2. Check before operating the machine.

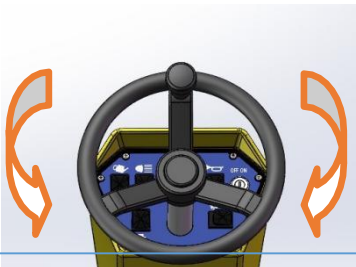

1. Check if there is liquid leakage.
2. Empty the dustbin and clean the filter.
3. Check whether the main brush is damaged or worn. Remove the entanglements on the main brush.
4. Check whether the side brush is damaged or worn. Remove the entanglements from the side brush.
5. Check whether the side flap around the main brush is damaged or worn.
6. Check whether the dustbin seal is damaged or worn.
7. Check the horn, headlight, taillight, safety light and backup alarm (if equipped).
8. Check whether the brake and steering device work normally.
9. Check whether the tires are damaged.
10. Check the maintenance records to determine the maintenance requirements.

Part 4 Basic Operations

3. Driving Operation


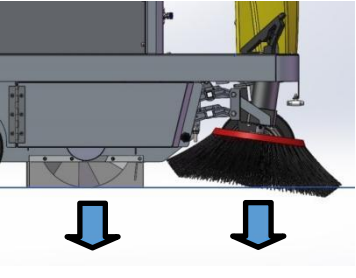
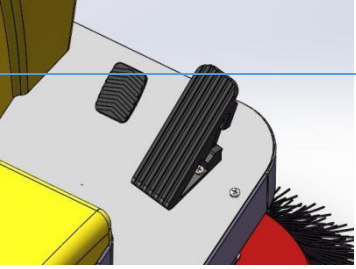
	<ol style="list-style-type: none">1. Insert the key into the key switch and turn the key to the ON position.
	<ol style="list-style-type: none">2. Move the seat adjustment handle, pull the seat back and forth, and adjust the seat to a suitable driving position.3. Hold the steering wheel with both hands.
	<ol style="list-style-type: none">4. Switch the forward/backward switch to the forward state. (Switch it to the backward state for reversing)
	<ol style="list-style-type: none">5. Slowly step on the accelerator pedal, and the machine starts to move gradually.6. When you need to slow down, step on the brake pedal.

Part 4 Basic Operations

	<p>7. When turning, turn the steering wheel in the corresponding direction.</p> <p>Note: Pay attention to pedestrians, vehicles and obstacles before turning, and do not turn until it is safe.</p>
	<p>8. When pedestrians, vehicles, etc. are in front, press the horn switch to remind pedestrians and vehicles in front to avoid collision.</p>
	<p>9. In the process of driving or sweeping, turn on the headlight for lighting when the environment is dark.</p>
	<p>10. After the machine stops driving, turn off all sweeping functions, turn off lights, turn the key switch to the OFF state, and turn off the machine.</p>

Part 4 Basic Operations

4. Sweeping Operation

	<ol style="list-style-type: none">1. Perform Steps 1-4 in driving operation.2. Turn the sweeping switch to the sweeping state.
	<ol style="list-style-type: none">3. Wait for the main brush and the side brush to all lower, and carry out sweeping after they touch the ground. (If the main brush and the side brush cannot touch the ground after they are all lowered, it means that the main brush or the side brush is seriously worn. Please make adjustment and replacement according to the adjustment or replacement instructions.)
	<ol style="list-style-type: none">4. Slowly step on the accelerator pedal, and the machine starts to move gradually. Control the direction of the machine. When sweeping continuously, the two sweeping tracks need to overlap by a few centimeters to avoid areas without sweeping.5. When there are obstacles, avoid collision or slow down in time.

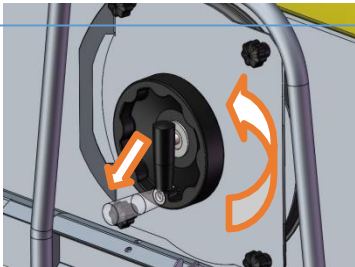
	<p>6. When a large piece of garbage is swept in, step on the large garbage collection pedal at the left foot, and the large garbage can be swept into the dustbin.</p>
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Part 4 Basic Operations



7. During the sweeping process, when there is more dust on the ground and it is necessary to turn on the sprinkler function, rotate the sprinkler valve from the vertical position to the horizontal position as shown in the figure.

8. Turn on the sprinkler switch on the panel to activate the sprinkler function.

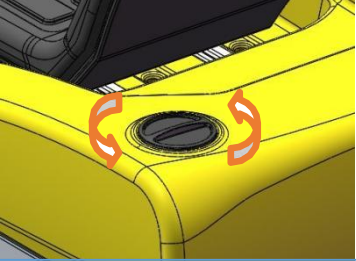


9. When there are relatively more dust in the sweeping process, it is necessary to clean the dust on the filter. Pull out the handle of the dust filter hand wheel in the direction of the arrow in the figure, then grasp the handle and rotate it for 3-5 times in the direction of the arrow in the figure, and reset the handle.

	<p>10. When the sweeping is finished, turn off the sprinkler switch, the sprinkler valve and the cleaning switch; Wait for the main brush and the side brush to be lifted, move the machine to the storage position, turn the key switch to the OFF state and turn off the machine.</p>
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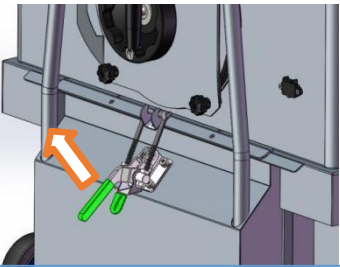
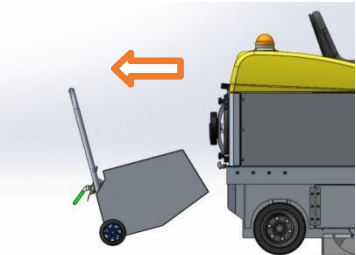
Part 4 Basic Operations

5. Water Tank Filling Operation

	<p>1. Turn the water tank cover counterclockwise and screw out the water tank cap.</p>
	<p>2. Insert the water injection pipe into the water inlet of the water tank, and open the water valve to add water.</p>
	<p>3. After adding water, close the water valve, pull out the pipe, cover the water tank cover and tighten it.</p> <p>Note: The water filling process needs to be attended by someone to prevent excessive water adding and water overflowing into the machine.</p>

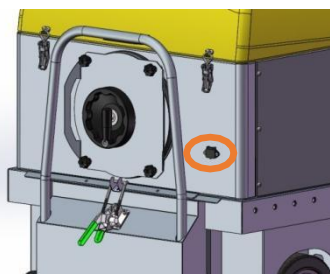
Part 4 Basic Operations

6. Dustbin Emptying Operation

	<p>1. Hold the handle of the dustbin buckle and lift it up to loosen the dustbin buckle.</p>
	<p>2. Pull out the dustbin backward, separate the dustbin from the machine, and dump the garbage into the garbage collection site.</p>
	<p>3. After dumping the garbage, insert the dustbin horizontally into the machine. After the dustbin completely enters, fasten the dustbin buckle, and pay attention to whether the small handle has locked the buckle.</p> <p>Note: When installing the dustbin, the dustbin should be installed in place. Check whether there is a gap between the dustbin and the sealing strip. The dustbin should be installed in place. Fasten the buckle if there is no gap.</p>

Part 4 Basic Operations

7. Charging Operation



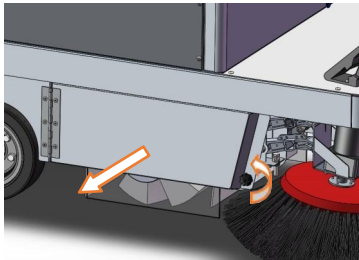
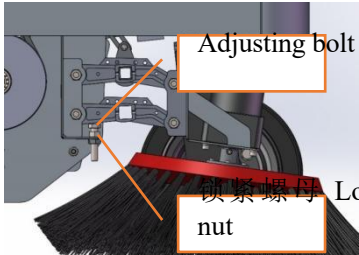

1. Open the protective cover of the charging port, insert the charger plug, connect the charger to the AC power supply, and start charging.

2. When the indicator light on the charger turns from red to green, it means that the electricity is fully charged, and then disconnect the charger.

Note: When the power is insufficient, please charge it in time. **Long-term battery loss will reduce the service life of the battery.** When charging, please connect the charger to the charging port of the machine first, and then connect the charger to the AC power supply; When stopping charging, please disconnect the charger from the AC power supply, and then unplug the charger from the machine. When pull out the plug, please hold the end of the plug and pull it out. Never pull the wire to take it out.

Part 5 Maintenance

1. Adjust the height limit of side brush.

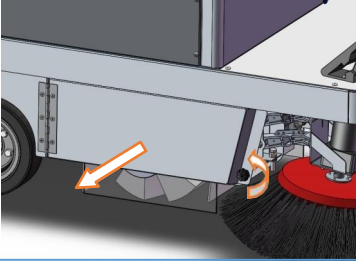
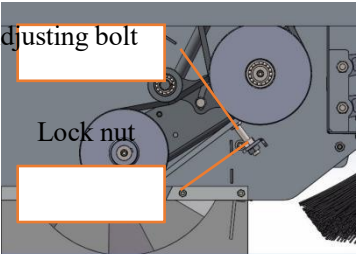
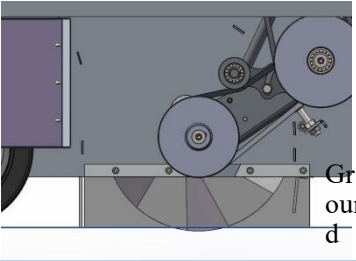
	<ol style="list-style-type: none"> 1. Turn the sweeping switch to the sweeping state, wait for the side brush to reach the lowest point, and turn off the key switch. 2. Unscrew the star-shape handle in the direction indicated by the arrow. 3. Open the service side door.
 <p>Adjusting bolt</p> <p>锁紧螺母 Lock nut</p>	<ol style="list-style-type: none"> 4. Loosen the lock nut. 5. Screw the adjusting bolt to adjust the side brush to a suitable height.
 <p>地面 Gr oun d</p>	<ol style="list-style-type: none"> 6. As shown in the figure, adjust the side brush so that most of the front bristles touch the ground, and the rear bristles are suspended at an appropriate height. 7. Tighten the lock nut. 8. Close the service side door and screw on the star-shaped handle.

	<p>9. Turn on the key switch and turn the sweeping switch to the OFF state.</p>
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Note: When the side brush is replaced or worn out, please adjust the side brush. The adjustment process should be carried out on a flat ground.

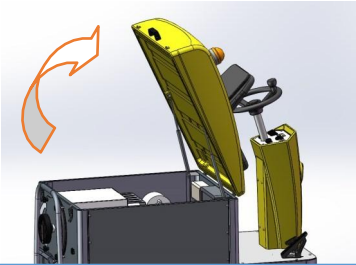
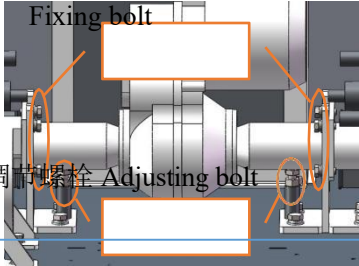
Part 5 Maintenance

2. Adjust the height limit of the main brush

	<ol style="list-style-type: none">1. Turn the sweeping switch to the sweeping state, wait for the side brush to reach the lowest point, and turn off the key switch.2. Unscrew the star-shape handle in the direction indicated by the arrow.3. Open the service side door.
 <p>Adjusting bolt</p> <p>Lock nut</p>	<ol style="list-style-type: none">4. Loosen the lock nut.5. Screw the adjusting bolt to adjust the main brush to a suitable height.
 <p>Ground</p> <p>d</p>	<ol style="list-style-type: none">7. As shown in the figure, adjust the main brush so that most of the front bristles touch the ground, and the rear bristles are suspended at an appropriate height.7. Tighten the lock nut.8. Close the service side door and screw on the star-shaped handle.
	<ol style="list-style-type: none">9. Turn on the key switch and turn the sweeping switch to the OFF state. <p>Note: When the main brush is replaced or worn out, please adjust the main brush. The adjustment process should be carried out on a flat ground.</p>

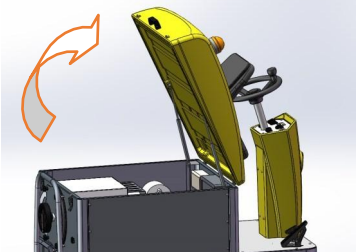
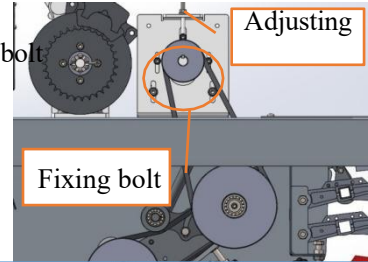
Part 5 Maintenance

3. Adjust the height of the rear axle

	<ol style="list-style-type: none">1. Loosen the two buckles connecting the water tank with the rear panel.2. Hold the handle of the water tank and open the water tank in the direction indicated by the arrow.
 <p>Fixing bolt</p> <p>调节螺栓 Adjusting bolt</p>	<ol style="list-style-type: none">3. Loosen the fixing bolt of the rear axle on the left and right sides.4. Screw the adjusting bolt to adjust the rear axle to an appropriate height.
	<ol style="list-style-type: none">5. Tighten the fixing bolt of the rear axle on the left and right sides. <p>Note: When the drive chain of the rear wheel is replaced or worn out, the height of the rear axle should be adjusted.</p>

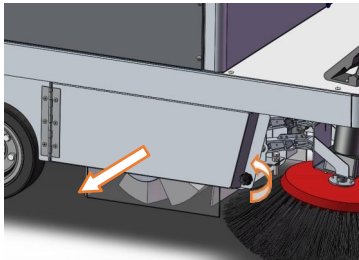
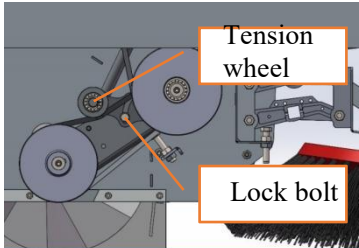
Part 5 Maintenance

4. Adjust the height of main brush motor

	<ol style="list-style-type: none">1. Loosen the two buckles connecting the water tank with the rear panel.2. Hold the handle of the water tank and open the water tank in the direction indicated by the arrow.
	<ol style="list-style-type: none">3. Loosen the fixing bolt of the four main brush motors.4. Screw the adjusting bolt to adjust the main brush motor to an appropriate height.
	<ol style="list-style-type: none">5. Tighten the fixing bolt of the four main brush motors. <p>Note: When the motor belt of the main brush is replaced or worn out, the height of main brush motor should be adjusted.</p>


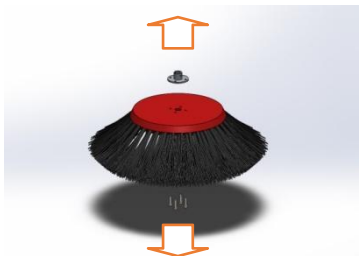
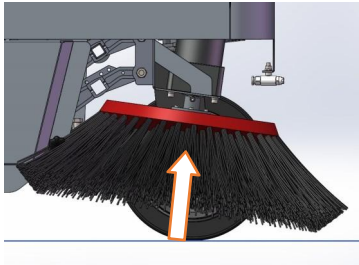
Part 5 Maintenance

5. Adjust the tension wheel of the main brush belt

	<ol style="list-style-type: none">1. Unscrew the star-shaped handle in the direction indicated by the arrow.2. Open the service door on the right side.
	<ol style="list-style-type: none">3. Loosen the lock bolt.4. Press down the tension wheel to make the main brush belt have a certain tension.5. Tighten the lock bolt.
	<ol style="list-style-type: none">6. Close the service door on the right side and screw on the star-shaped handle. <p>Note: When the main brush belt is replaced or worn, the tension wheel of the main brush belt should be adjusted.</p>

Part 5 Maintenance

6. Replace the side brush

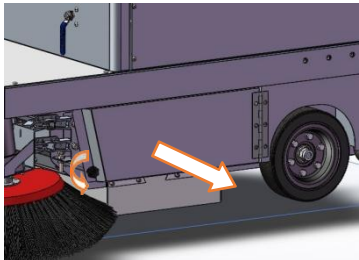
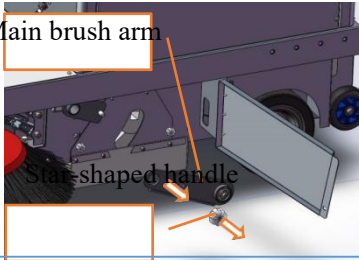
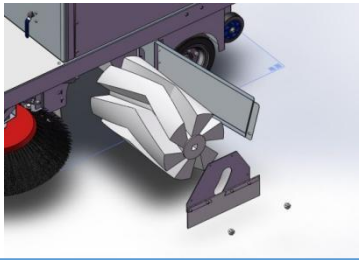
	<ol style="list-style-type: none">1. Loosen the fixing bolt on the connecting flange of the side brush, as shown in the circle.2. Hold the side brush plate with both hands and press down forcefully to separate the side brush from the motor shaft.
	<ol style="list-style-type: none">3. Remove the bolt between the side brush and the connecting flange under the side brush plate to separate the side brush from the connecting flange.4. Replace the new side brush.
	<ol style="list-style-type: none">5. Install the bolt between the side brush and the connecting flange.6. Grasp the brush plate with both hands, align it with the brush motor shaft and lift it up. Then, adjust the brush angle to align the flat key direction of the brush motor shaft with the key groove direction of the shaft hole in the connecting flange.

	<p>7. After putting the side brush in place, tighten the fixing bolt on the connecting flange of the side brush.</p>
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Note: Adjust the height limit of the side brush after replacing the side brush.

Part 5 Maintenance

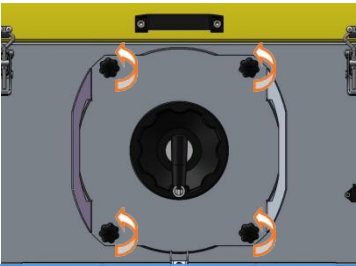
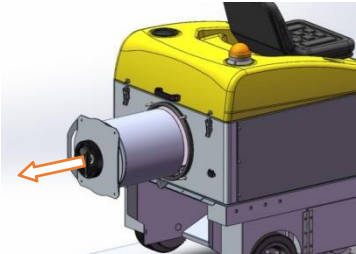
7. Replace the main brush

	<ol style="list-style-type: none">1. Unscrew the star-shaped handle in the direction indicated by the arrow.2. Open the service door on the left side.
	<ol style="list-style-type: none">3. Remove the star-shaped handle on the main brush arm.4. Pull out the main brush arm.
	<ol style="list-style-type: none">5. Remove the two star-shaped handles on the side cover plate of the main brush.6. Remove the side cover plate of the main brush.7. Pull out the main brush and replace it with a new one.
	<ol style="list-style-type: none">8. After replacing the new main brush, install the side cover plate of the main brush, two star-shaped handles, the main brush arm and the star-shaped handle of the main brush arm in turn. <p>Note: Adjust the height limit of the main brush after replacing the main brush.</p>

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Part 5 Maintenance

8. Replace the filter

	<ol style="list-style-type: none">1. Take out the dustbin.2. Unscrew the four star-shaped handles in the direction indicated by the arrow.
	<ol style="list-style-type: none">3. Hold the handle of the filter cover with both hands and take out the filter assembly.
	<ol style="list-style-type: none">4. As shown in the figure, remove the hand wheel, filter cover plate, filter flange and filter in turn.5. Replace the filter and install the filter flange, filter cover plate and hand wheel in turn.
	<ol style="list-style-type: none">6. Put the filter back into the machine and screw on four star-shaped handles.7. Put it back in the dustbin.

Part 6 Troubleshooting

Problem	Reason	Solution
Too much dust	The suction fan is off	Turn on the suction fan
	The filter is filter clogged	Clean or replace the dust filter
	The side flap of the main brush and the dust sealing device are worn, damaged or out of the adjustment range	Replace or adjust the side flap and dust sealing device
	The sealing device of the suction fan is damaged	Replace the sealing device of the suction fan
	Failure in the suction fan	Contact the after-sales service representative
Sweeping effect is not good	Brush bristles are worn	Adjust brush height/replace brush
	Garbage stuck in the main brush drive	Remove garbage from the main brush drive
	Failure in the main brush drive or the side brush drive	Contact the after-sales service representative
	The dustbin is full	Empty the dustbin
	Side flap of the large garbage collection is worn or damaged	Replace the side flap of the large garbage collection
	The seal strip of the dustbin is worn or damaged	Change the seal strip
	Failure in side brush drive	Contact the after-sales service representative
Failure in main brush drive	Contact the after-sales service representative	

Running time is reduced	The battery is not fully charged	Charge the battery until the charger automatically turns off
	The is damaged	Replace the battery
	Failure in battery charger	Replace the battery charger

Part 7 Routine Maintenance

1. The maintenance of the machine must be operated by professionals, and there should be regular maintenance (during maintenance, the equipment must be stopped; the power switch must be turned off, and the battery wire must be disconnected).
2. It is recommended to overhaul it thoroughly every six months so as to keep the machine in good condition,=; The machine must be overhauled by professional technicians every three years to ensure safety.
3. Personnel responsible for operating the machine need to receive timely training and make maintenance records.

Regular Maintenance Inspection		Operating Time/Hour				
		8	40	150	500	1500
1	Check the belt		√			
2	Check whether the main brush is entangled by ropes, etc.	√				
3	Check the filter dust	√				
4	Check whether the filter is blocked		√			
5	Check the wear of main brush and side brush		√			
6	Check the electrohydraulic of the battery		√			
7	Check the motor brush			√		
8	Check the side flap of the main brush	√				
9	Check the side flap of the large garbage collection			√		
10	Check the battery terminals and wiring				√	

11	Check the tires				√	
12	Check the suction fan motor					√

Part 8 Storage Instructions

Please take the following steps if you need to store the machine for a long time.

Note: keep the machine away from rain and keep it indoors.

Store the machine in a flat and dry place. Do not expose the machine to rain and snow. Store it indoors.

Charge the battery before storing the machine to prolong the service life of the battery. Recharge the lead-acid battery once a month. Charge the lithium-ion battery pack once a year.

Disconnect the battery before storage.

Store the machine in a dry place, and the head of the sweeping brush should be kept in the raised position.

Note: To prevent possible damage to the machine, please store the machine in an environment free of rodents and insects.

