



CSR53 Floor Sweeper Instruction Manual

We aim to provide safer, higher-end and more user-friendly cleaning equipment with the help of the newest technology and innovative ideas.

Preface

This instruction manual contains all the information that you need to use and maintain the machine. Please read it carefully before getting started. Only with correct operation and regular maintenance can the machine be kept in its best working condition.

This instruction manual is an important part of the product and should be kept together with the machine.

In this manual we use illustrations to show the components and functions of the machine. It is possible that some of them contain details that are slightly different from those of yours. However, all the instructions presented here still apply to your product and should be followed strictly during the operation.

Some components of the product may be harmful or dangerous and we have tried our best to include them in this manual. **It is the user's obligation to pay special attention to them during the work.** However, since it is impossible for us to point out all potential dangers, we expect you to be extremely cautious during the work to protect the machine, yourself and other people in the working area.

Only accessories from the original manufacturer can be used on the machine. Using accessories from other sources may lead to low working efficiency or even accidents in extreme cases.

We usually modify or improve our products to meet the latest market demand. However, this is **NOT** suitable for machines that have been sold. We will **NOT** be responsible for any injury or loss caused due to the user's improper operation either.

If you have any question, complaint or suggestion, please feel free to contact us and we will be at your service with all our knowledge and enthusiasm.

We wish you a pleasant experience with our product!

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Components



① Steering wheel

② Headlight

③ Side brush

④ Spray bar

⑤ Seat

⑥ Water tank

⑦ Anti-slippery tire

⑧ Alarming light

⑨ Tail light

⑩ Debris hopper

⑪ Controlling panel

⑫ Baffle lifting pedal

⑬ Inspection hole

Technical parameters

Category	Parameter	Category	Parameter
Cleaning width (In)	53	Suction motor (Hp)	0.39
Trash bin capacity (Gal)	32	Tracking motor (Hp)	1.34
Charging time (h)	8-10	Moving speed (mph)	0 - 6.2
Working time (h)	2-3	Grade ability (%)	15
Battery capacity (V/Ah)	48/67	Package weight (lb.)	1258
Rolling brush motor (Hp)	0.94	Product size (In)	63 * 53.1 * 51.2
Side brush motor (Hp)	0.12 * 2	Package size (In)	76 * 43.3 * 59

Chapter 1 General description

1.1 Contents and purposes

- Potential risks concerning the use of the machine are listed in the following sections. Since most accidents take place when safety rules are ignored, it is necessary that you read them carefully and take precautions before getting started. The best guarantee against any accident is a careful and cautious user, which might be better than other precautions available. When using the machine, pay special attention to the people in the working area, especially children.

1.2 General instructions

- Before any maintenance and repair, turn off the power and remove the key from the general switch.
- The machine can only be operated by qualified personnel. Children and disabled people are strictly forbidden to use it.
- Keep the battery away from sparks, flames and smoke.
- Do **NOT** use the machine in places with dangerous, flammable or explosive gases, liquids or water vapor.
- The machine can be used to clean regular garbage. It must **NOT** be used to clean silk ropes, belts, high-temperature sundries, accumulated water, or flammable, toxic and harmful materials, so as to avoid entanglement and burning of the brushes.
- Keep loose clothing, hair, fingers and other parts of your body away from the air vent and any moving part of the machine.
- Turn off the power when you are not using the machine.
- Do **NOT** use the machine in slopes with an inclination greater than 15 degrees.
- Do **NOT** smoke when charging the battery.
- An area can be swept a couple times back and forth if there is too much trash.
- The machine should be stored at a temperature between 14 °F and 104 °F.
- The temperature of the working area should be between 14 °F and 104 °F, and the humidity should be between 30% and 95%.
- Do **NOT** use the machine as a means of transportation.
- When the machine is not moving, stop the brushes from turning to avoid damaging the floor.
- In the event of a fire, use a **POWDER** extinguisher rather than water.
- Please perform regular maintenance to keep your machine functioning properly.
- If you need to replace some wearable parts, you can purchase them from the original manufacturer or an authorized distributor.

- To make sure that the machine is in the proper operating and safety condition, the user or service center must abide by what is stated in Chapter III and Chapter V.
- Special attention should be given to the disposal process of the machine. If any hazardous substances do not meet the required standards, they must be transported to a designated service center for proper treatment.
- **1.3 Safety requirements for batteries**
- The battery must **NOT** be in a low voltage state; charge the battery **as soon as possible** when the voltage is below **42 V**;
- To avoid electric leakage, keep the battery dry and clean;
- Do **NOT** put metallic objects (such as tools) on the battery to prevent it from being short-circuited and burned;
- The charging room should be well ventilated;
- When the key is in the position “ON”, do **NOT** install or remove the battery;
- Before installing or removing the battery, disconnect first the negative wire (-) and then the positive wire (+). When rewiring, pay special attention to the positive and negative terminals of the battery, as wrong connection would probably damage electrical components;
- Avoid direct contact between the positive and the negative electrodes, because it would cause a large current short circuit, high heat or even a fire.



1.4 General safety requirements

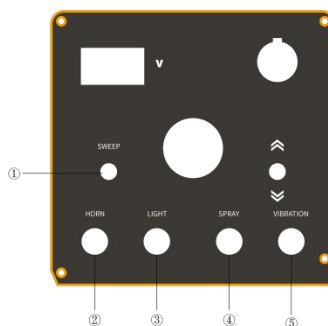
- In addition to what is mentioned in this manual, the general safety requirements must also be observed. Even if you have used a similar product before, we recommend that you read this manual carefully so that you can save much time as well as take precautions to protect the machine and yourself. It is vital that you become familiar with all the accessories and components before turning on the machine. Read our instructions carefully so that you will not be confused when you get started.

Chapter 2 Operating the machine

2.1 Buttons and pedals of the machine

2.1.1 Key controlling buttons of the machine

- ① sweep
- ② horn
- ③ light
- ④ spray water
- ⑤ vibration



Attention:

1. The sweeping button has three gears:
2. **The front gear:** the main brush, the side brushes and the suction motor all started to work; the main brush and the side brushes are lowered and the machine is ready for work.
3. **The middle gear:** the main brush, the side brushes and the suction motor are stopped; the main brush and the side brushes are not lifted, and the operator can adjust the height of the brushes.
4. **The restart gear:** the main brush and the side brushes are lifted.

Sprinkler valve: before turning on the sprinkler, make sure that the sprinkler valve is open; when the sprinkler is turned off, close the valve to prevent splashes/leaking.

- ① Accelerating pedal
- ② Brake pedal
- ③ Front baffle lifting pedal
(step on this pedal when you need to remove large garbage)



2.1.2 Adding water to the water tank

- Before using the machine, add clean water to the clean water tank. Pay attention to the water quality so that the waterway will not be blocked.

2.2 Operating the machine

2.2.1 Before the operation

- Before getting started, make sure that no doors or covers are open and the garbage can is correctly closed. If the machine does not work after being transported, go over chapter 4 in this manual to find out the problem.

2.2.2 Power display

- Insert the key in the steering wheel console and turn the start switch clockwise to the "ON" position. The current voltage of the battery will be displayed in three seconds. If the voltage is lower than 42 V, charge the battery first.

2.2.3 Starting the machine

- Be seated on the driver's seat.
- Step on the brake pedal and turn the start key to the "ON" position.
- Move the machine to the work area using the steering wheel & pressing the accelerating pedal. Push the forward/backward toggle forward and the machine will move forward. Pull the toggle backward and the machine will move backward.
- The moving speed can be adjusted from 0 to the maximum value by pressing the accelerator pedal.
- Press the sweeping button to start work, and use the steering wheel, accelerator pedal and forward/backward toggle to move the machine.
- The garbage can must be closed during the sweeping work.
- The sweeper applies automatic and one-button operation. When the sweeping button is turned on, all motors (including the main brush motor, side brush motor, and ventilator motor) will automatically start, and the main brush and side brushes will automatically descend.

2.2.4 Stopping the machine

- Release the accelerator pedal to stop the machine.
- Press the stop button and all sweeping functions are stopped, and the main brush and side brushes are raised.
- Turn the key to the "OFF" position.

2.3 Cautions during the operation

2.3.1 General instructions

- When the brushes are rolling, do **NOT** leave the machine in the same place for a long time, because this would leave unnecessary marks on the ground.
- If you need to remove large light garbage, you can lift the front baffle so that the garbage can be recycled into the garbage can. Note that when the front baffle is lifted, the suction efficiency of the machine will be reduced.
- In order for the machine to achieve its best cleaning effects, the filter screen should be vibrated regularly: stop the machine, press the dust-vibrator button to start the dust-vibrator motor and keep it operating for one minute.
- During the work, the filter screen should be vibrated every 30 minute on average (depending on the working area)
- The machine cannot collect garbage when the filter screen is blocked or the garbage can is filled. Do **NOT** use the machine on the damp ground to prevent the filter screen from being damaged.
- The garbage can must be discharged every time when the work is finished.

2.3.2 Discharging the garbage can

- Release the pedal to stop the machine.
- Open the buckle of the garbage can.
- Pull the garbage can downward, drag it out and take out the garbage.
- Put the garbage can back in the machine and fasten the buckle.

2.3.3 Push the machine

- Please push the machine when it is turned off or in the event of a malfunction.
- Make sure that the speed is not greater than 3 mph.

2.3.4 Storage of the machine

- If the machine won't be used within 30 days, please disconnect the battery and store it in a clean and dry place. Batteries need to be charged regularly once a month to avoid deep discharging which would result in battery failure.

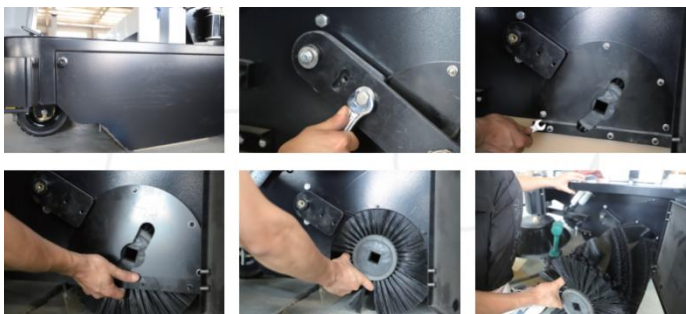
Chapter 3 Regular inspection and replacement of damaged parts

3.1 Regular inspection

Regular inspection items		Time interval (h)				
		4	50	100	200	500
1	Battery power					
2	Carbon brushes of the motors					
3	Is the main brush entangled?					
4	Are there particles and/or crystals in the water tank?					
5	Buttons on the control panel and electronic components					
6	Are the brushes worn?					
7	Is the filter blocked?					
8	Does the sprinkler joint leak?					

3.2 Replacement of the main brush

- Before replacing the main brush, place the machine on the flat ground and make sure that it is powered-off.
- Open the right board of the machine, use an open-end wrench to remove the rocker arm of the main brush, the sealing plate and the fixing nuts of the baffle bracket.
- Take out the old brush and replace it with a new one (first install the sealing plate nuts, then the baffle bracket nuts and finally the rocker arm nuts).
- Turn on the sweeping button and check whether the main brush works normally; if not, use the rocker arm to adjust it.



3.3 Replacement of the side brushes

- Before replacing the side brushes, place the machine on the flat ground and make sure that it is powered-off.
- Use an Allen wrench to loosen the bolts of the side brushes, and press the side brushes with your hands, and then the side brushes can be removed.
- Push up the flange keyway of the new side brush, fasten it on the side brush motor, tighten the screws and make sure that the side brushes do not fall out when your hands leave them.



3.4 Removal and installation of the garbage can

- Make sure that the machine is powered-off.
- Open the buckle of the garbage can, pull the garbage can downward, drag it out and take out the garbage.
- Align the mouth of the empty garbage can with the sweeper, and slowly push it forward.
- Fasten the buckle.



3.5 Charging and Maintenance of the batteries

The sweeper is powered by four batteries of 12 V and the total system voltage is 48 V. The instructions below should be followed when maintaining the batteries.

- During the work, the battery voltage will gradually decrease; when the last bar of the voltmeter is flashing, please charge the batteries immediately.
- When dealing with the batteries, please wear gloves to avoid direct contact with acid substances.
- Check regularly whether the battery cables are worn or loose, and replace them when necessary.
- The ends of the batteries should be kept clean, and there should be no dust on the battery surfaces, or the batteries may be burned.

Alerts

- In order for the batteries to have a long service life, charge them immediately after using the machine; deep discharge is strictly prohibited, as it would reduce the capacity of the batteries and shorten their service life.
- To charge the batteries correctly, follow these instructions: Begin by inserting the charger into the battery box, then connect it to the outlet. Once the batteries are fully charged, unplug the charger from the outlet, and finally, disconnect it from the machine.
- if the machine will not be used for a long period of time, please fully charge the batteries, & disconnect the battery cords/lines to avoid power loss. Batteries should be charged monthly to avoid deep discharging which would result in battery failure.

3.6 Maintenance of the water valve filter element

- Remove the filter cover, take out the filter screen and wash it with clean water.



- Open the board of the machine and remove the fixing nuts of the baffle, and take out the filter element.



Chapter 4 Common problems and solutions

Problems	Causes		Solutions
The machine is out of power	The main fuse is blown		Replace the main fuse
	The batteries have no power output		Charge the batteries (Charge the batteries once a month if the machine is not going to be used for a long time)
			Replace the broken batteries
The machine moves abnormally	The driving motor runs well	The chains have fallen out	Reinstall the chains
		The gearbox is broken	Replace the gearbox
	The driving motor runs abnormally	The driving motor is broken	Replace the driving motor
		The driving motor controller is broken	Replace the driving motor controller
		The accelerator panel is broken	Replace the accelerator panel
The main brush does not work	The fuse is blown		Replace the fuse
	The belt of the main brush is broken		Replace the belt of the main brush
	The main brush motor is broken		Replace the main brush motor
The side brushes do not work.	The fuse is broken		Replace the fuse
	The side brush motor is broken		Replace the side brush motor
The brushes do not rise or fall	The fuse of the pushing rod is blown		Replace the fuse
	The relay is broken		Replace the relay
	The pushing rod motor is broken		Replace the pushing rod motor
The cleaning effects are not good	The brushes are worn		Replace the worn brushes
	The brushes are entangled		Remove the entanglements
	The baffle are worn		Replace the worn baffles
	The machines moves too fast		Reduce the speed
	The ventilator has a fault	The ventilator works	Start the dust-vibrating button
		The ventilator does not work	Replace the ventilator
Leaves or large garbage cannot be cleaned completely	The brushes are too high		Adjust the height of the brushes
	The brushes are entangled		Remove the entanglements
	The machines moves too fast		Reduce the speed
Dust or fine ashes cannot be cleaned completely	The filter element is blocked		Clean or replace the filter element
	The baffles are broken		Replace the broken baffles
The garbage moves forward	The front baffle is broken		Replace the front baffle
The brushes become worn very quickly	The brushes are pressed too tightly		Adjust the height of the brushes
	The ground is too rough		No solution available
The garbage can leaks	The sealing strip of the garbage can is broken		Replace the sealing strip of the garbage can
The batteries cannot be charged	The batteries are broken		Replace the broken batteries
	The charger is broken		Replace the charger
	The battery connecting cables are loose		Tighten the loose battery connecting cables
The batteries discharge too quickly	The batteries are not well charged		Charge the batteries
	The batteries are broken		Replace the broken batteries

Chapter 5 Maintenance

Regular maintenance is necessary in order for the machine to be in its best condition, as well as to extend its service life and ensure the operator's safety. The time interval of maintenance can be changed under certain circumstances, but this must be determined by a professional technician.

When performing maintenance, make sure that the machine is turned off and the key is removed from the switch.

5.1 Operating conditions

- Temperature: 14 °F ~ 104 °F
- Relative humidity: 5%~70%
- No electricity-conductive and explosive gases or dust are presented
- No corrosive gases or vapor are presented
- Well ventilated indoor environment

5.2 Maintenance timetable

Items	Upon receiving	Every 10 h	Every 50 h	Every 100 h	Every 200 h	Every 500 h
Height of the brush plates						
Are the brush plates entangled?						
Belt of the main brush						
Dust suction motor and filter element						
Baffles						
Dust-vibrator motor						
Are all nuts and screws tightened?						
Degree of wear of the brake						
Degree of wear of the brushes						
Are all the driving chains tightened?						

6.1 General description

- One-year warranty will be honored on the non-wearable parts. Users can easily purchase the wearable parts (e.g. side brush, main brush, sealing strip and etc.) on our website.
- The delivery receipt and purchase invoice are certificates for warranty and must be kept properly.

6.2 Cases not covered in the warranty

- The operator fails to perform maintenance according to the instruction manual, resulting in damage or failure.
- The surface and/or the structure of the machine are obviously damaged due to improper operation.
- Disassembly or modification not approved by the original manufacturer.
- Damage due to weather or force majeure.
- The warranty is expired or the machine has been used for more than 1,500 hours.

Warranty Card

User's name:		Tel:	
Address:		Bill No.	
Date of purchase:		Serial number:	
Type of product:		Date:	
Accessories to be replaced:			
Fault description:			

