



**FAST
CLEAN**

OWNER'S MANUAL



Fury RSW/55

**Battery Powered Automatic
Indoor/Outdoor Rider Sweeper**

FAST CLEAN, INC.

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Before operation or use of this machine, please carefully read this manual.

When ordering the replacement parts, please refer to the spare and accessory parts manual attached to the machine. Before matching parts or accessories, please first determine your machine model and serial number. You can order parts and accessories from any authorized service center or dealer. This machine can provide excellent service. Please follow the instructions in the manual.

- Follow manufacturer’s instructions for operating the machine.
- Perform maintenance according to the maintenance instructions provided in the operation manual.
- Use the OE or same-grade parts for maintenance.

	<p>Please dispose of old machine components such as packaging material, battery, etc. and toxic liquid such as antifreeze and oil according to your local regulations on waste disposal and on environmental safety.</p>
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Machine Information (Please fill in for future reference.)

Model number-

Machine number-

Machine option-

Sales representative-

Tel. of sales representative-

Customer ID-

Installation date-

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Basic Precautions

This machine is intended for indoor or outdoor sweeping of hard floors or paved surfaces. Machine is not intended for use as a transport vehicle.

Not for use on wet surfaces. Do not attempt to drive the machine through standing water.

All operators must read, understand, and observe the following safety precautions and guidelines as set forth in this manual. Manufacturer assumes no responsibility for damage resulting from improper use of equipment.

Warning! Fire or explosion hazard:

The batteries release hydrogen. Please keep away from spark or open flame. The battery compartment should be kept open when charging.

Do not operate the machine where there are flammable liquids, vapors, or dust. Do not attempt to sweep up any burning or smoldering materials such as cigarettes, matches, etc.

Warning! This machine is not equipped with an explosion-proof motor. If it is used where there is flammable vapor, liquid, or dust, the electric motor may generate a spark while starting the machine. This may cause flash fire or explosion.

Warning! To avoid injury, turn off the power before performing routine maintenance on the machine. We also recommend disconnecting the battery wiring before performing any electrical maintenance.

Basic Safety Instructions

1. Before starting the machine, please ensure that all safety guards are in place and operating correctly.
2. Proceed slowly when operating on a slope or slippery surface, or when turning the machine.
3. Please discontinue use and have machine serviced if it is damaged or malfunctioning.
4. Do not leave machine unattended without first turning off the power.
5. Do not leave machine unattended on a sloping surface. Park machine on level ground and engage parking brake (if equipped).
6. Do not allow children on or around the machine
7. Always pay attention to your surroundings while operating the machine. Be aware of the location of other workers around you at all times.

Basic Maintenance Instructions

All maintenance must be carried out by trained, qualified personnel.

Do not modify the original design of the machine without consulting the manufacturer.

Use replacement parts provided or recognized by the manufacturer or local dealer.

Turn off machine and disconnect battery wiring before performing maintenance. Avoid moving parts. Do not wear loose clothing that may catch in the machine.

Do not touch motor or other parts of machine that may heat up during use, immediately after running the machine. Allow sufficient time for heat to dissipate before performing maintenance.

If performing maintenance on batteries, wear appropriate safety gear such as gloves, apron and safety glasses.

Avoid contact with battery acid as it is extremely corrosive. Wash immediately with soap and water if you do come in contact with battery acid.

Do not use pressure washer or steam cleaner to clean the machine. Do not flush the machine with water.

Unpacking the Machine

1. Carefully check to see if the machine or packaging is damaged. If there was damage incurred in shipping, please notify your carrier immediately.
2. Check the list of freight contents. If there is any missing item, please contact your distributor. Your crate should contain:
 - Main unit: 1 Fury RSW55 Sweeper
 - 8V batteries: 6 wet, maintenance free batteries
 - 48V/25A battery charger: 1 unit
 - Cylindrical sweeper brush: 1 brush
 - Side brooms: 2 brooms
 - Power keys: 2 keys
 - Owner's manual: 1 manual
 - Optional other accessories- purchased additionally
3. Before unpacking the machine, please remove all straps, ropes, and fasteners that attach the machine to the pallet.

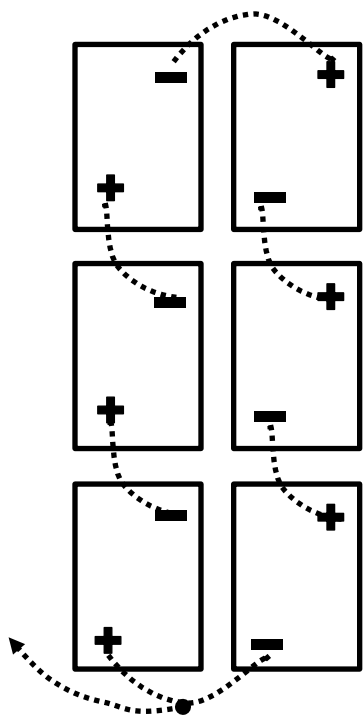
4. Carefully remove the machine from the pallet with the assistance of others. **Warning! Do not directly drive the machine off the pallet without using a ramp.** This could damage your machine.

Install the Batteries

Note: Please install the batteries after unloading the machine from the pallet. (See following).

Warning: Fire or explosion hazard. The batteries release hydrogen. Please keep away from spark or open flame. The battery compartment should be kept open when charging.

For safety: Please wear appropriate protective gear: safety glasses, apron and gloves when performing battery maintenance or wiring. Avoid contact with battery acid.



Park the machine on level ground and switch off main power (on steering column).

To access the batteries, tip whole top of machine back. (Please ensure dust bin and filter are clean first!)

Place batteries in the battery compartment and connect the wiring according to the diagram.

Note: Be sure the poles are properly connected.

Note: Place batteries carefully into the compartment so as to avoid damaging the batteries or the machine.

Before connecting the batteries, please ensure whether the electrodes and terminals are clean. Use terminal cleaning fluid and wire brush as required.

Paint a thin layer of metal-free lubricating oil or protective spray on the connected wiring to avoid battery corrosion.

The battery power gauge displays the remaining charge of the batteries.

If equipped with digital gauge (0-100%). To extend the battery life, it is best to recharge the batteries when the power gauge is less than 50%. Do not let the batteries run completely out of charge.

If equipped with lights or digital bar gauge: When the battery is fully charged, all indicators are on. As power is consumed, the indicator lights go out from right to left. To extend the battery life, it is best to recharge the batteries as soon as all the indicator lights have gone out.

Battery Charging

Do not keep the batteries in an uncharged state for a long time. Letting the batteries run completely down may damage them. The following instructions apply to the specific charger for this machine. Be sure to use the proper charger for this machine in order to avoid damaging the batteries.

Specification of battery charger:

- Type of charger: for lead-acid maintenance free batteries
- Output voltage - 48V
- Output Current - 25A
- Intended for deep cycle batteries

When servicing the machine, wear appropriate safety gear such as gloves, apron and goggles.

Warning: Battery acid is highly corrosive. Avoid contact with battery acid.

1. Move the machine to a well-ventilated area for charging.
2. Park the machine on level ground and turn the key to the OFF position. Engage parking brake (if equipped).
3. Before charging, check the electrolyte level of each battery unit (if using non-standard batteries that are not maintenance free).
4. When charging, open the battery compartment for ventilation.
5. Insert the AC power cord of the charger into outlet or other power source.
6. Insert the DC cable of the charger into the battery charging port at the back of the machine.
7. The charger will automatically begin charging, and will automatically turn off when batteries are fully charged.

Note: The machine will not be operable when the charger is connected. Note: If you must discontinue charging before the charging is completed, do not unplug the DC

cable of the charger from the socket first. To avoid electric arc discharge, please unplug the AC power cord first.

8. After charging, check the electrolyte level of batteries again (if using non-standard non-maintenance-free batteries).

Warning: Do not place metal tools, shavings, or debris on batteries as this could cause a spark.

- Check the condition of the side brooms and main sweeper brush. Replace if they are worn out or damaged. Adjust lower if they do not meet the ground. (See "Maintenance – Side Brooms" for details).
- Check for entangling objects wound around or stuck in the main brush or side brooms. Remove such items.
- Check that there is water in the dust suppression spray system. If it is empty or nearly empty, add water through the port at top left in back.
- Check that the dust bin is empty. Check for blockages.
- Check that filtration system has been shaken/cleaned.

Machine Diagram

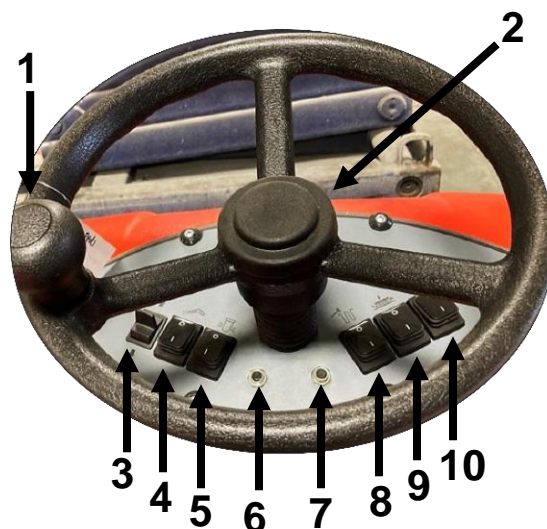


1. Warning Beacon
2. Operator Seat
3. Dust Bin (on back)
4. Charging Port (on back)
5. Rear Wheels
6. Main Sweeper Brush & Dust Suppression Water Tank
7. Steering Wheel
8. Control Panel
9. Power Switch (Key)
10. Battery Compartment (under seat)
11. Dust Board Pedal Raise/Lower (allows sweeping up of larger debris)
12. Brake Pedal
13. Acceleration Pedal
14. Front Wheel
15. Dust Suppression Spray Nozzles
16. Side Brooms

Checklist Before Running the Sweeper

- Check the battery power. Charge batteries if power is below 80%. New batteries take about 10.5 hours to charge.

Control Panel



1. Steering
2. Battery Power Gauge (behind steering wheel)
3. Forward/Reverse Switch
4. Water Spray Switch (allows nozzles to spray water around area of side brooms to reduce dust)
5. Backup Warning Beeper
6. Dust Board Raise/Lower Motor Breaker
7. Main Brush Breaker
8. Dust Vibration Switch (activates vibration of dust filter to shake dust out of filter)
9. Side Broom Switch (activates side brooms)
10. Main Brush and Vac Switch (turns main brush and vac system on/off)

Starting the Machine

1. Turn the main power key to the ON position.
2. Press the forward/reverse switch.

3. Turn on side brooms and main sweeping brush. This will cause side brooms and main brush to lower into working position. This will also activate the vac system.

4. Push the accelerator pedal to drive the sweeper forward or backward. (Activate warning light/backup beeper when the machine is in reverse).

5. Push the brake pedal to stop the machine.

Important: If there is abnormal noise or operation of the sweeper, immediately park the machine on level ground, turn off the power, and inspect for problems. Contact your local service center.

Note: It is recommended to keep driving speed between 3 to 4 miles per hour.

Operating the Machine

1. This machine should be operated only by trained professionals who are familiar with its operations.

2. Do not leave the machine running while unattended.

3. Always be aware of your surroundings and the location of other workers in your area when you are operating the machine.

4. **Warning! Rollover hazard:** Do not drive the sweeper on an incline greater than 20%.

5. **Warning:** Do not drive the sweeper through standing water.

6. **Warning:** Do not attempt to sweep up ropes, belts, metal wires, or other items which could easily entangle the sweeping brushes and damage the machine.

7. **Warning:** Do not attempt to sweep up flammable, combustible, or burning materials, or reactive metals.

8. Please adjust driving speed to working conditions. Slow down in congested areas or when turning. Also slow down when operating on a sloping or slick surface.

9. While operating the sweeper, vibrate the dust filter every 30-40 minutes for a duration of 2 minutes in order to clear it out and ensure optimal cleaning efficiency. (Exception: during the first week when breaking in a new machine, vibrate the dust filter every 15 minutes). Park the machine, and turn off side brooms and main brush during this operation.

10. In order to prolong the life of the side brooms, do not run them unless you are sweeping along a wall or other large obstacle. The main brush and vac will be sufficient for cleaning large open areas.

11. If you stop the machine during cleaning, immediately turn off the main brush and side brooms. Allowing them to continue to run while machine is stationary could abrade floors and wear down the brushes.

12. Push the pedal to raise the dust board when sweeping up debris larger than 2" in height (leaves, crushed pop cans, paper, etc.). **Important:** Do not attempt to run the sweeper over immovable obstacles higher than 2".

13. If excessive dust is generated during sweeping (even after the filter has been vibrated and cleaned), turn on the dust suppression system which will spray water around the side brooms to help reduce dust.

14. While sweeping, periodically check to see if the dust bin is full, and dump it if necessary. Always empty the dust bin when finished sweeping.

15. To dump the dust bin, unlatch it in back, pull up handle, and slide bin out of housing. Take dust bin to trash container and shake or vac out. Do not blow or hose out. Replace dust bin and slide forward until the rear edge meets the hook and seals properly. Relatch. (See "Maintenance – Dust Bin" for details).

16. When finished sweeping, raise the side brooms and turn off the main brush and vac. Always store the machine with brushes raised, as this will prolong their usefulness.

17. Follow routine daily maintenance procedures after using the machine.

Important: Maintenance, overhaul or repair work should be done only by a trained professional or an authorized service center.

Warning: Risk of electric shock. Disconnect the battery cables before performing any electrical maintenance.

Maintenance – Side Brooms

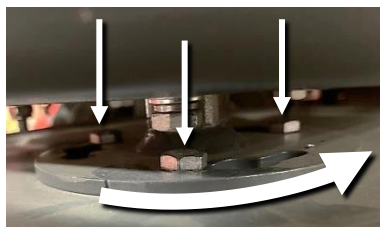
Before and after using the sweeper, inspect the side brooms for wear. When the side brooms become worn, the bristles will not properly make contact with the ground, and your sweeper will not be able to clean properly.

Side brooms can be adjusted lower so that the bristles will make contact with the ground. To lower the side brooms, please observe the following procedures:

1. **Important:** Be sure power is off before performing any maintenance on the machine!
2. Rotate the star-shaped nut clockwise to lift the side brooms as far as the front bar allows.
3. Rotate the star-shaped nut counterclockwise to lower the side brooms.
4. If side brooms are fully lowered and still do not meet the ground, or if bristles are too deformed to clean properly, it is time to replace the side brooms.

To install new side brooms, please observe the following procedures:

1. **Important:** Be sure power is off before proceeding!
2. Unscrew the 3 bolts around the side broom axle. (See photos below).



Top Side of Left Broom



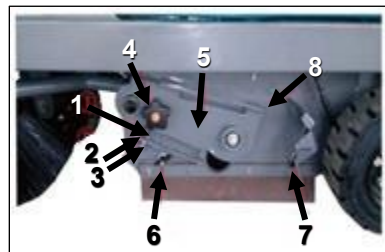
Underside of Broom

3. Remove the right hand broom by turning it clockwise, and the left hand broom by turning it counterclockwise. Brooms should pop off easily.
4. Take out the fixed bolts of the old brooms, and place them into the new brooms.
5. Put new brooms on by turning them opposite from before (counterclockwise on right and clockwise on left).
6. Screw in the 3 bolts around the broom axle.
7. Follow the previous set of instructions for adjusting the broom height.

Maintenance – Main Brush

When the main brush wears down, the bristles will not properly make contact with the ground, and your sweeper will not be able to clean properly. You will notice when it is time to adjust the height of the main brush because the sweeper will leave debris or lines of dust on the ground.

To adjust the main brush lower, please observe the following procedures:



1. **Important:** Be sure power is off before performing any maintenance on the machine!
2. Take off the cover panel on left side of machine near the floor by removing the wingnuts.
3. Unscrew fastening nut as shown in photo at bottom left (2).
4. Rotate the nut (2) counterclockwise until the bristles of the main brush are making contact with the ground (about 1”).
5. Fasten the nuts (2 & 3).

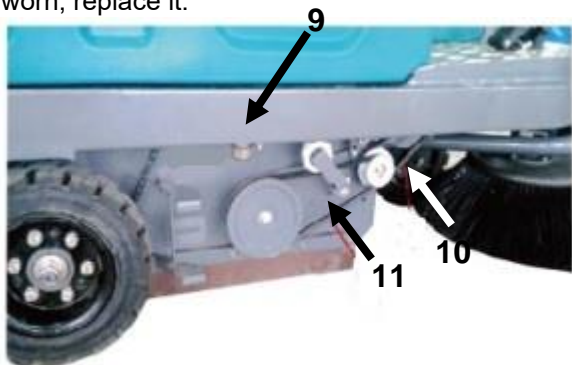
If the main brush is worn out, please observe the following procedures to replace it.

1. Take off the cover panel on left side of machine near the floor by removing the wingnuts.
2. Unscrew the nut (4).
3. Take out main brush plug (1).
4. Pull up the rocker arm (5).
5. Remove fastening nuts on bottom (6 & 7).
6. Remove the fender (8).
7. Remove the main sweeper brush.
8. Install the new sweeper brush. Adjust to make both ends the same height, and make sure the bristles make proper contact with the ground.
9. Reverse steps 1-6 in order to finish.

Warning: if you reverse the main electrodes when wiring batteries, this could cause the main brush to operate in reverse. Be sure to reconnect everything properly. If your main brush is rotating the wrong way, check the battery wiring!

Maintenance – Main Brush Drive Belt

After 100-150 hours of use, the drive belt for the main brush should be checked. If the belt is too loose, tighten it according to the following instructions. If it is severely worn, replace it.



1. Open the side door on the right.
2. Take out the bolts (9).
3. Tighten the belt tensioner (10). If adjusting, then put bolts back in, and close the side door. If replacing, loosen the belt tensioner, and proceed to step 4.
4. Take out the old driving belt. (11)
5. Install the new driving belt.
6. Replace bolts.
7. Close the side door.

Warning! Do not put too much tension on the drive belt, or this will cause too much pressure on the bearings.

Maintenance – Dust Suppression Sprayer

Empty water tank at least once a week and clean filter.

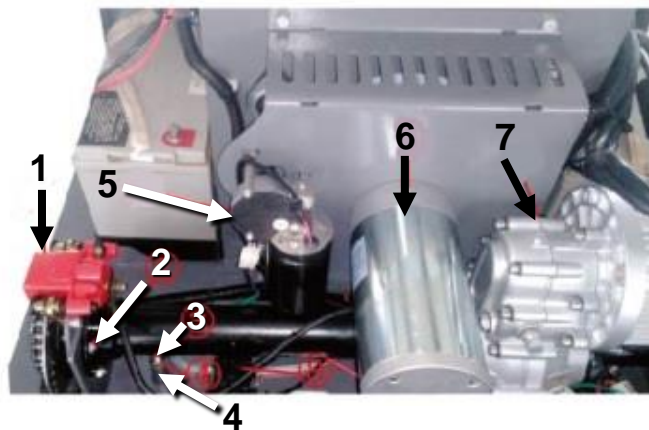
Periodically unscrew the water tank cap to observe the water level and check for blockages. (See #9 at right).

Water tank should hold enough water to spray for one run time (about 7 hours).

Maintenance – Internal Drive System (See photo on top right):

The main drive system of the Fury RSW55 includes the motor, gap bridge differential gear case, and clockwise/ counter-clockwise change-over switch, which causes the sweeper to run forward or backward. The accelerator pedal controls the speed of the machine (0 - 3.7 mph).

1. Brake cylinder (one on each side of machine)
2. Screws holding in drive chain
3. Bolt to tighten drive chain
4. Screw
5. Dust filter vibration motor
6. Vac motor
7. Drive motor and differential gear case



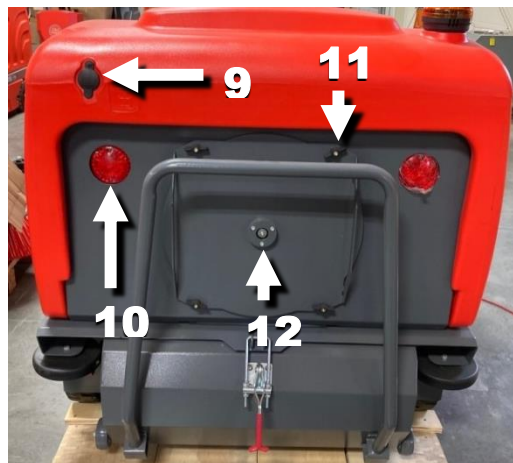
Adjustment of Drive Chain (as shown in the photo above):

After 100-150 hours of use, please check the tightness of the drive chain. If it is too loose or frictions with the baseboard, tighten it according to the following procedure:

1. Open the Drive System enclosure under the seat.
2. Take out the four screws (2).
3. Take out the screw (4).
4. Tighten the drive chain by turning the bolt (3) counterclockwise.
5. Replace the screws (2, 4)

Warning: Do not adjust the drive chain too tightly or this will put too much pressure on the bearings. Adjust the chain on both sides of machine simultaneously.

Maintenance – Dust Board



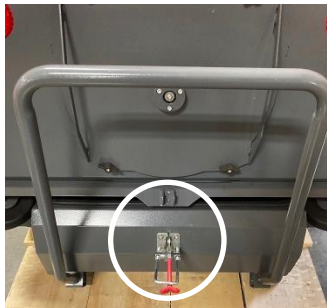
9. Water Tank Fill Cap
10. Tail Reflectors
11. Dust Filter Fastener Wing Nuts (to remove Filter)
12. Filter Shaker Bearing

The dust filter prevents debris from escaping during sweeping. To replace a damaged dust filter, remove the wing nuts (11) and take out the old filter. Install the new filter in the same position (approx. 1/8" from the ground).

Maintenance – Dust Bin



Latched



Unlatched

In order to dump the dust bin, please do the following:

1. Park the sweeper on level ground and turn off the power with the switch on the main column.
2. Unlatch the bin from its housing (see photos above).
3. Use handlebar to back dust bin out of housing.
4. Simply roll the dust bin to waste disposal/maintenance area, turn over, and shake out or vac out. **Important: Do not blow or hose out the dust bin.**
5. Return clean dust bin to its housing, push forward as far as possible, then refasten latch. **Note:** latching the dust bin will pull it into place and lock it in.



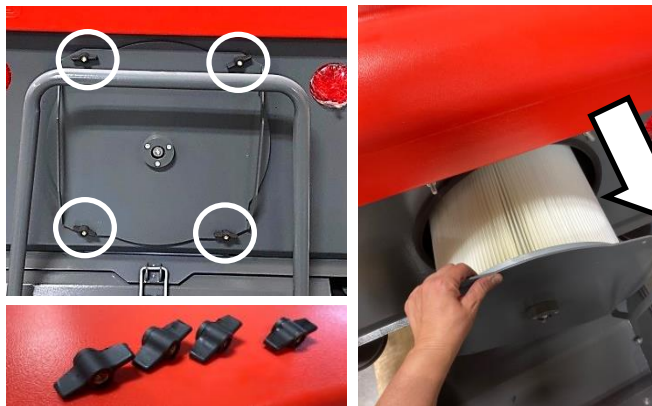
Maintenance – Dust Filter

Note: Do not run the vibration procedure longer than the recommended 2 minutes. If the dust filter is especially dirty or clogging frequently, remove it and tap it lightly over a trash bin, or use a vacuum.

Note: Do not use a hose, pressure washer, compressed air, or blower to clean the inside of the dust bin or dust filter. Depending on use of machine, wear and tear on the filter, and frequency of vibration cleaning of filter, the dust filter may need to be replaced at around 250 hours. Consult your local service center if you have questions.

In order to clean or change the dust filter, please proceed as follows:

1. Park the sweeper on level ground, and turn off the power with the switch on the main column.
2. Unscrew the wing nuts as shown in photo below.
3. Carefully slide the dust filter out of its housing.



4. Shake or vac out the filter. Do not use blower or water!
5. Inspect the condition of the seal ring around the filter core and replace if necessary.
6. Replace the filter in its housing. Note: you must line the filter up precisely in order for it to slide into proper place.
7. Once filter is in place, the screws will fit through the holes on the dust cover. Replace the wing nuts on the screws and tighten properly.

Storing the Machine

1. Charge the batteries before storing. If the machine is to be stored unused for long periods of time, set up a schedule to regularly recharge the batteries, as batteries will slowly lose charge over time even when not in use. Do not allow batteries to run completely out of charge, as this could permanently damage them.
2. Thoroughly empty the dust bin and clean the dust filter with brush or vac.
3. Raise the brushes, engage parking brake (if equipped), and turn off power. Store the machine in a dry place. Do not store machine outside.
4. If the sweeper will be stored in a very cold place, remove all liquids from the machine or add antifreeze.

Machine Specifications

Specification	Unit	Fury RSW55
Voltage	V	24 (4 x 6V)
Battery Capacity	AH	100
Run Time	hrs	7 (approx.)
Cleaning Efficiency	ft ² /hr	53,800
Maximum Floor Grade	%	20
Sweeping Path	in	55
Dust Bin Capacity	gal	34.3
Drive Motor	hp	1.61
Main Brush Motor	hp	1.1
Side Brush Motors	hp	.13 (x 2)
Vac Motor	hp	.54
Lift Motors	hp	.13 (x 2)
Machine Weight (w/batteries)	lbs	1102
Machine Dimensions	in	55 x 39 x 63



Troubleshooting

The machine will not operate.	Batteries have no power.	Charge batteries.
	Batteries will not charge.	Replace batteries.
	Battery wiring is not connected.	Check battery wiring for loose connection. Tighten if needed.
The sweeper leaves out large leaves or large garbage.	Machine is moving too fast.	Slow down while sweeping.
	The brushes are not meeting the floor properly.	Adjust position of side brooms and main sweeper brush.
	Bristles on brush are deformed by wires or ropes wrapped around them.	Check side brooms and main brush for obstructions and remove them.
	The lifting mechanism of the front dust board does not work.	Repair the dust board, and step on the pedal to make it lift up or down.
The sweeper leaves dust on the ground or dust comes from the side dust board.	The filter is blocked.	Clean the dust filter. Check it for clogs.
The debris runs in front of the machine, but doesn't go into the debris hopper.	The front dust board cannot rise up.	Replace the front dust board. Step on the pedal to make it lift up.
The brushes wear out too rapidly.	The brush pressure is too high, or floors are very coarse.	Adjust brushes up to reduce pressure. (See Maintenance – Side Brooms and Maintenance – Main Brush).
The main brush makes a loud noise when working.	The brush is entangled by wires or ropes.	Remove the obstructions. If this does not help call service center.
The brush does not rotate when working.	Drive belt is damaged.	Replace drive belt.
	The bearing is damaged.	Replace bearing.
	The triangular belt is worn.	Replace triangular belt.
The brush and vac motor do not work.	The overload protection switch was bumped.	Press the overload protection switch.

The drive motor will not advance or back up when working.	Drive motor chain is broken.	Replace drive motor chain.
	The pedal governor is damaged.	Replace the pedal.
	The control switch is damaged.	Replace the switch.
	The controller is damaged.	Replace the controller.
The electrodynamic vibration equipment does not work.	Switch has malfunctioned.	Replace the switch.
	The fuse has burnt out.	Replace the fuse.
	Motor brush is damaged.	Replace motor brush.
	Bearing is worn out.	Replace bearings.
	Motor coil has burnt out.	Replace motor.
	Motor has been overloaded.	Contact your local service center.
The electrodynamic vibration is too large and the fuse sparks.	The electrodynamic vibration load is too large, fuse is malfunctioning, or there is a short circuit.	Contact your local service center.
The side brush or main brush works but does not rise or fall.	The overload protection switch is bumped, or the lifter is damaged.	Press the overload protection switch, or replace the lifting motor,
Run time has shortened.	Batteries have worn out.	Replace batteries.
	Battery charger has failed.	Replace charger or contact service center.

Maintenance and Check-up Schedule		Interval				
		8 hours	80 hours	150 hours	500 hours	1500 hours
1	Check the battery voltage					
2	Check the carbon brush of drive motor					
3	Check the carbon brush of fan					
4	Check the condition of main brush and side brooms					
5	Check the cleaning of the filter					
6	Check the dashboard					
7	Check the tension of the drive belt					

Warranty Card

(please fill out and return to dealer)

Name _____ **Phone #** _____

Address _____

City _____ **State** _____ **Zip** _____

Purchase Date _____ **Invoice #** _____

Model # _____ **Serial #** _____

Local Dealer _____ **Local Dealer City/State** _____

Warranty provided with purchase invoice.