



Instructions Manual

C20T

**Auto Floor Scrubber with Traction Drive, 20”
Cleaning Path**



Model 641746



AVAILABLE EXCLUSIVELY FROM GLOBAL INDUSTRIAL
GLOBALINDUSTRIAL.COM

US: 1-800-645-2986

Canada: 888-645-2986

WARNINGS

PLEASE READ THE INSTRUCTIONS CAREFULLY PRIOR TO USING THIS PRODUCT.


 **WARNING** - to reduce the risk of fire, electrical shock, and/or injury/damage to persons or property:

- DO NOT operate the machine unless trained and authorized
- This unit must be plugged into 3-Prong grounded outlet
- Flammable materials can cause an explosion or fire. DO NOT use flammable materials in tank or as cleaning agent in machine.
- Flammable materials or reactive metals can cause explosion or fire. DO NOT use to clean up flammable or combustible spills
- Always turn off and unplug the machine prior to assembling, performing routine maintenance, or when not in use.
- This machine is intended for commercial and indoor use.
- DO NOT operate the unit if the cord/plug is damaged.
- DO NOT place objects on the unit or allow objects to obstruct the inlets or outlets.
- To reduce the risk of electric shock, DO NOT expose unit or power cord to moisture.
- DO NOT attempt to fix the machine by yourself. All repairs must be made by authorized personnel.
- DO NOT modify the machine.
- DO NOT touch moving parts. DO NOT wear loose fitting clothing while using or servicing the machine.
- Empty the Solution and Recovery tank before storing the machine.
- Always empty Recovery tank before filling solution tank
- Store the machine indoors only.
- DO NOT operate on inclines.
- DO NOT use an extension cord
- DO NOT use your fingers to remove debris from the squeegee blades as injury may occur.
- Foam must not enter the float shut-off screen, or damage can occur to the vacuum motor. Foam will not activate the machine's float shut-off device.

TECHNICAL SPECIFICATIONS

Clean width	20"
Squeegee Width	30.7"
Work capacity	24218 sq. Ft/hr.
Pressure on the brushes	62.95lbs/100 lbs.
Brush RPM	220
Brush motor	24V/550W
Suction motor	24V/390W
Traction motor	24V/180W
Drive speed	0-2.8 miles/h
Solution tank	14.6 gallon
Recovery tank	17.2 gallon
Machine dimensions (Excluding squeegee)	51" x 21.65" x 40.6 "(L x W x H)
Battery	2 x 120Ah
Battery weight	85.8lb x 2
Machine weight	276 lbs.

ORDER YOUR CLEANING CHEMICALS & PADS

CLEANING CHEMICALS				PADS (Case of 5)
				
Floor Cleaner Model	Floor Stripper Model	Multi Purpose Cleaner/ Degreaser	Heavy-Duty Cleaner/ Degreaser Model	

MACHINE COMPONENTS



1) Recovery tank cover	8) Head assembly	15) Power button	22) Float shut off
2) Solution tank cap	9) Recovery tank drain	16) Touch panel	23) Suction body
3) Recovery tank	10) Water level indicator	17) Emergency stop	24) Suction motor
4) Solution tank	11) Vacuum hose	18) Left drive switch	25) Power plug
5) Pad Driver/Brush	12) Squeegee assembly	19) Right drive switch	26) Battery
6) Wheel	13) Squeegee lever	20) Primary filter	
7) Rubber skirt	14) External charging port	21) Vacuum hole	

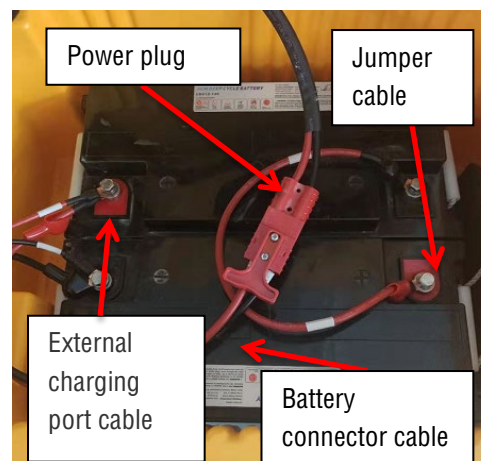
MACHINE SET UP

Package Contents:

- | | |
|----------------------|---|
| 1. Machine | 4. Battery |
| 2. Squeegee Assembly | 5. Charger |
| 3. Pad Driver | 6. Jump cable & battery connector cable |

Connecting the batteries

1. Connect the batteries in series using the jumper cables supplied to the poles “+” and “-”.
2. Connect the battery connector cable to the terminal poles “+” and “-”, red to “+”, black to “-”



Machine set-up prior to each use

- 1) Connect the 24V battery
- 2) Check that squeegee assembly is properly installed
- 3) Check that Pad Driver is properly installed
- 4) Ensure the working surface can support the weight of the machine
- 5) Always close Recovery Tank cover fully before use

Charging the batteries

1. First turn off the power of the machine;
2. Connect the charger output line to the external charging interface
3. Connect the charger to the power supply.
 - Red ON or Flashes = Fault
 - Yellow On = Charging
 - Yellow Flashes = No connection
 - Green On = Full Charge



WARNING

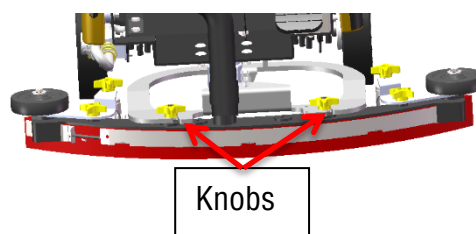
- **RISK OF EXPLOSION:** Keep sparks and fires away from the batteries at all times. Batteries emit hydrogen gas and an explosion or fire can occur. Avoid short circuits.
- Leave the battery compartment open while charging.
- Use only approved chargers with the following specifications
 - Automatic shut off circuit
 - Output current of 10-20 amps
 - Deep cycle charging
 - Output voltage of 24 volts
- Do not place battery charger on wet surface or in a puddle when operating charger.
- Battery acid is highly caustic, always wear protective gloves and eye protection.
- Do not tilt battery as otherwise acid may flow out of the vent openings.

CAUTION

For the best performance, keep batteries charged at all times. Do not let them sit in a discharged condition. Wear eye protection.

SQUEEGEE INSTALLATION

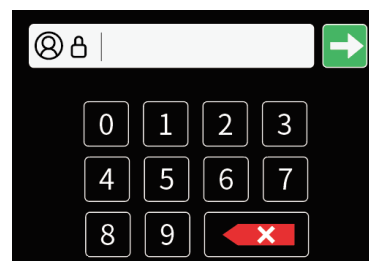
1. Disconnect the power.
2. Loosen the 2 knobs on the squeegee assembly.
3. Connect the vacuum hose to the Vacuum hole in the squeegee assembly.
4. Align the knobs with the slots and tighten the knobs.



POWERING ON AND OFF

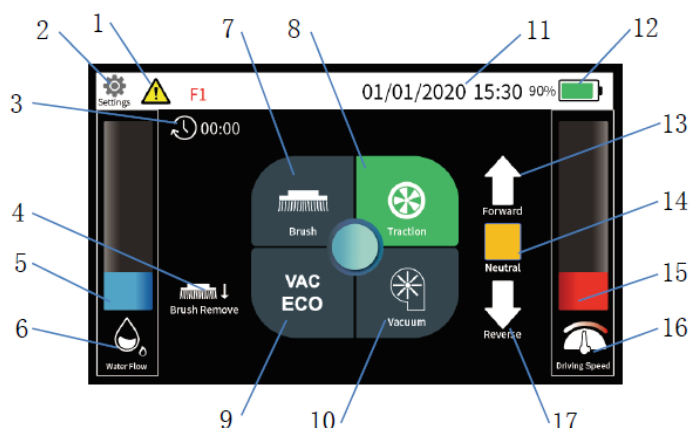
Pressing the power button for three seconds. The touch screen will turn on and a password screen will open.

1. Press the password on the LED panel, initial password: 0000. Then press enter to log in
2. If needed, press backspace to delete or re-enter the password. When the password is incorrect, a pop-up will notify you the entered password is wrong. If the wrong password is entered five times, the system will be locked for 300 seconds.
3. If don't remember the password, please contact Global Industrial at 1-800-645-1232
4. Press the power button for 3 seconds to turn off the machine.



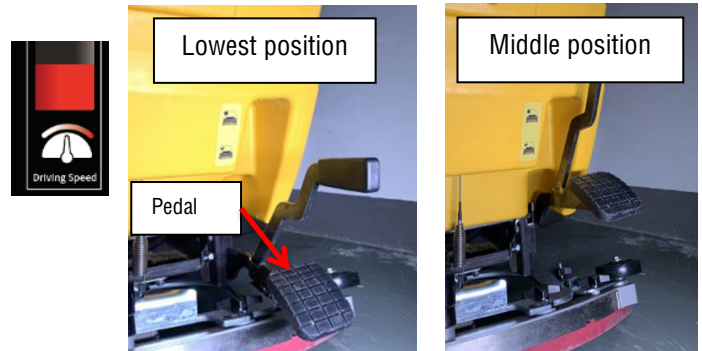
LED CONTROL PANEL

- | | |
|---|-----------------------------------|
| 1. Fault/Error display | 10. Vacuum on and off button |
| 2. Setting button | 11. Date and time display |
| 3. Running time display | 12. Remaining battery |
| 4. Automatically brush disassembly button | 13. Forward button |
| 5. Water volume display | 14. Empty gear button |
| 6. Water volume switch button | 15. Drive speed display |
| 7. Brush on and off button | 16. Drive speed adjustment button |
| 8. Drive situation display | 17. Backward button |
| 9. Eco model button | |



PAD DRIVER/BRUSH INSTALLATION

1. Disconnect Power.
2. Place the Pad driver/Brush under the head assembly.
3. Lower the head assembly to the floor by stepping on the foot pedal and letting it rise to the middle position.
4. Line up three studs on the Pad driver/Brush to the holes on the head assembly and lock it by turning clockwise.
5. Lower the driving speed to the lowest by using the touch screen.
6. Press the drive button to make the Pad driver/Brush lock in completely.







SOLUTION TANK

1. Remove the solution tank cap and fill with clean water for regular cleaning surface. For deep and dirty surface, Contact Global Industrial (1-800-645-1232) for recommendations on proper Cleaning Solutions.
2. Check water level indicator for water level



OPERATION


Traction Drive - This machine is equipped with electronic traction control

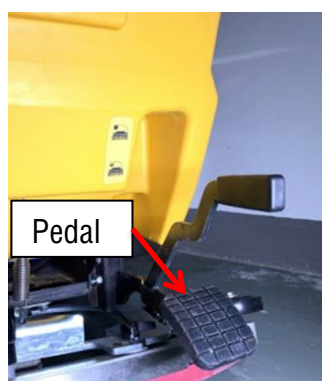
- Press the Driving Speed button  or slide your finger along the Driving Speed Display  to adjust the driving speed of the machine.
- Press the Forward button  to drive forward. Press the left and right drive switches to drive the machine.
- Put the machine in Neutral to switch between Forward or Reverse. Press the Neutral button to park the machine. Always leave the machine on Neutral when not using the machine to prevent accidents.
- Press the Reverse button  to drive backwards. The safety buzzer will go off. Press the left and right drive switches to drive the machine.
- To move the machine without the power on, locate the red brake lever by the wheel. Pull the brake lever clockwise to release the lock. **DO NOT leave the brake lever released during normal use. Always pull the brake level back counterclockwise to lock it before using the machine normally to prevent accidents.**
- Press the emergency stop button to quickly stop the machine. To deactivate the emergency stop and start the machine again, turn the emergency stop button clockwise.



Using the Pad Driver/Brush

The pedal can adjust the Pad Driver/Brush to 3 different levels.

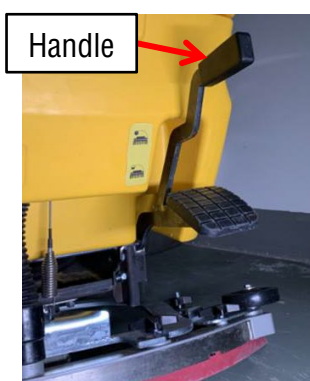
1. To lift the Pad Driver/Brush off the floor, step on the pedal to set it to the lowest position.
2. To use the brush, step on the pedal to loosen it and let it rise to the middle position. This will place the brush onto the floor and apply 77 lbs. of pressure. Press the Brush button  on the touch screen to turn on the brush motor. The brush motor will automatically rotate when the machine is moving forward or backwards. Press the Brush button to turn off the brush motor.
3. To increase the pressure of the Pad Driver/Brush to the maximum of 110 lbs., first adjust the Star Nut located on the front of the machine above the Pad Driver/Brush. Turn the Star Nut counter-clock wise until the spacing between the Star Nut and the round black nut is at least 0.4" (10 mm). Tighten the black round nut by rotating it clockwise. Then set the pedal to the highest position by pulling the handle up.



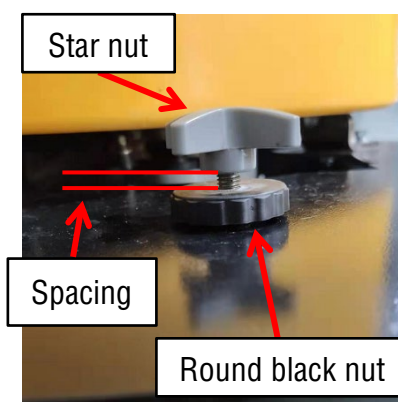
Lowest position



Middle position



Highest position



WARNING: It is necessary to hold the machine body with both hands while the brush pressure is increased to prevent accidents. Press the emergency stop button in case of emergency.

Removing the Pad Driver/Brush

Lift the brush off the ground by stepping on the pedal and pushing it to the lowest position.

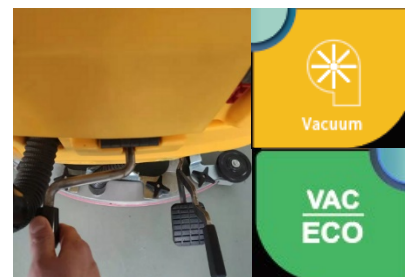
Press and hold the auto brush disassembly button  for 5 seconds. The brush motor will begin the brush disassembly process.

Using the Vacuum:

- Lower the lever of the squeegee assembly.
- Press the Vacuum button on the touch screen to activate the vacuum. Pressing the Vacuum button again will turn it off within 10 seconds.

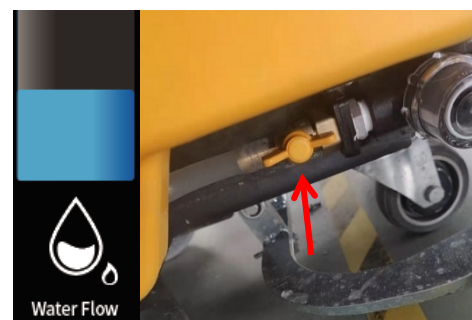
Energy Saver Mode:

- Press the VAC ECO button to reduce the power consumption and the noise level of vacuum motor. Press the VAC ECO button again to deactivate the Energy Saver mode.



Water Flow:

- Press the Water Flow button or slide your finger along the Water Display Section to set the water flow to 1 of the 6 levels.
- The solenoid valves and pumps start when the brush motor starts.
- You can also adjust the water flow with the ball valve.

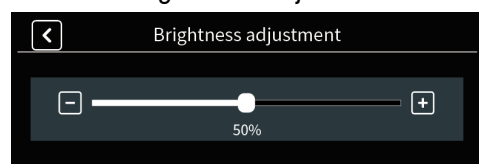


Settings

Press the Settings button to adjust or view any of the below features.

1	Brightness adjustment	>
2	Running time	>
3	Historical fault query	>
4	Language management	>
5	Date & Time	>
6	Power-on password	>
7	Service hotline	1 800 645 1232

1. Press Brightness adjustment to change the brightness of the screen.



2. Press Running time to check the total running time of the machine and its motors.

	Running time
Brush motor	245h 30min
Vacuum motor	245h 30min
Drive motor	245h 30min
Total running time	245h 30min
Single running time	245h 30min

3. Press Historical fault query to see all the past errors that have occurred on this machine.

Error code	Error description	Error time
F1	Ems active	
F2	Brush Error	
F3	Vacuum Error	
F4	Brush Open	
F5	Vacuum Open	

Search bar: Error code

Keypad: 0-9, Q, W, E, R, T, Y, U, I, O, P, A, S, D, F, G, H, J, K, L, Z, X, C, V, B, N, M, [Red X]

Buttons: Delete, 1, 2, 3, ...

Press the search button to enter an error code and check the date and time it occurred.

4. Press Language management to change the language

5. Press Date & Time to change the date or time.

Press the right arrow button next to “Date” to change the date. Press the Save button to set the date.

Press the right arrow next to “Time” to change the time.

Press the button next to the “24-Hour Time” to toggle between 12-hour or 24-hour display.

Press to set the time.

Language management

Language: English

Date & Time

Date: >

Time: >

Date & Time

Date

23	10	2019
24	/	11 / 2020
25	12	2021
26	01	2022

Save

Date & Time

Time

24-Hour Time

9	35
10	: 36 AM
11	: 37 PM
12	: 38

Save

Date & Time

Time

24-Hour Time

9	35
10	: 36
11	: 37
12	: 38

Save

6. Press Password to change the login password used to access the machine

- To change the password, input the same password twice and press Save.
- Note that the default password is “0000”.
- To disable passwords, leave the password field blank and press Save. The next time the machine is rebooted, the machine will enter the warning page instead of the lock screen.

Password change

Power-on password

Change: Enter 4 digit alphabetic login password

Re-enter: Enter 6 digit alphabetic login password

Sure

Keypad: 0-9, [Red X]

MACHINE STORAGE

1. Store the machine indoor in a dry location.
2. Always store the machine with the squeegee and pad/driver raised off the floor. Step on and set the foot pedal to the lowest position.
3. Always drain the solution and recovery tank fully before storing, especially when storing in a cold location.

BATTERY MAINTENANCE

1. Keep the top of the battery and the terminals free from corrosion. A mix of baking soda and water solution helps keep the batteries corrosion free. **DO NOT ALLOW THE BAKING SODA/WATER SOLUTION TO ENTER THE BATTERY CELLS.**
2. Use a wire brush with the baking soda solution to properly clean the battery posts and connections.
3. Check battery connections for wear and loose terminals. Replace if necessary.

Disposal

:

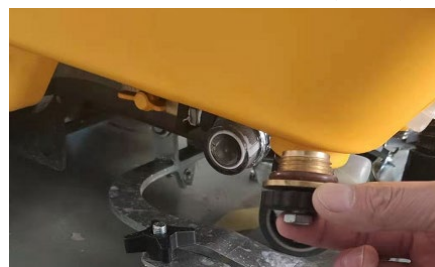
- Old batteries must be disposed of in compliance with the local specific regulations.
- Never dispose of old batteries with municipal waste.

DAILY MAINTENANCE

WARNING

Before performing any maintenance on the machine, make sure that the power is turned off or the batteries are disconnected. Repairs are to be completed by authorized service centers only. Any repairs by unauthorized persons will void warranty.

1. Wipe the whole machine with clean/damp cloth
2. Empty the solution tank by opening the solution drain plug located on the bottom.

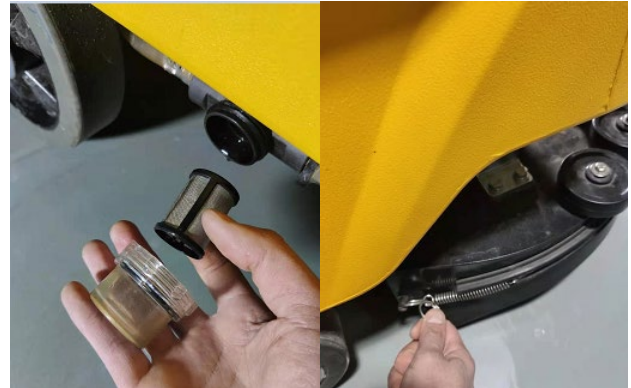


3. Drain and rinse out recovery tank with clean water.
4. Clean the vacuum filter by removing the vacuum intake cap. Remove the Pad Driver/Brush and Squeegee assembly and clean with clean water.



MONTHLY MAINTENANCE

1. Flush out solution tank with clean water.
2. Remove the clear cap and the solution tank filter. Clean the filter with clean water.
3. Clean rubber skirt on the brush head assembly by removing the spring lock.
4. Motors should be checked every 250 hours. Turn on/off both Pad/Brush and Vacuum motor to ensure the motors are working properly.



SQUEEGEE RUBBER BLADE REPLACEMENT

1. Remove the squeegee assembly from the unit (refer to squeegee assembly installations).
2. Unlock the spring lock and slide out the blades. Replace with new blades and re-assemble.



TROUBLESHOOTING

PROBLEM	Cause	Solution
No power	<ul style="list-style-type: none"> • Not connected to the power. 	<ul style="list-style-type: none"> • Connect to the battery.
Little or no water yield	<ul style="list-style-type: none"> • Water flow tap closed. • Clogged solution tank filter. • Empty solution tank. 	<ul style="list-style-type: none"> • Open water flow tap. • Clean solution tank filter. • Fill the solution tank.
Poor water pickup	<ul style="list-style-type: none"> • The suction hole of squeegee is blocked. • The squeegee blade is worn. • The suction squeegee is not installed correctly • The suction hose is abraded or loose. • The suction hose is blocked. • The cap of the drain pipe is loose. • The cover of drain tank is opened. • The drain tank is full. • Vacuum motor is loose. 	<ul style="list-style-type: none"> • Clean the squeegee with damp towel. • Replace the squeegee blade. • Make sure the suction squeegee is installed correctly. • Replace the suction hose or re-install the suction hose and tighten it. • Check the hose and remove the blocked things. • Tighten the cover of the drain pipe. • Make sure the cover of the drain tank is closed and sealed. • Empty the drain tank. • Tighten the mounting screws of the motor. Overtightening the screws can damage the motor.

TROUBLESHOOTING ERROR CODES

Error code	Problem	Solution
F01	Emergency Stop Alarm Triggered	Release the emergency stop, then reset the controller
F02	Eeprom Failure 1	Rewrite the configuration parameters, then restart.
F03	Low Battery Voltage	1. Charge the batteries, then restart the controller 2. Replace the controller
F04	High Battery Voltage	If the batteries volts are higher than what is set, wait until the volts recover to normal status then restart the controller
F05	Pre-Charging Failure 1	1. Check drive motor/electromagnetic brake to make sure no short circuit 2. Replace the controller
F06	Key Switch Voltage Failure	Make sure no wiring issue
F07	Controller Self-Checking Error	Replace the controller
F10	Traction Motor MOS Tube Failure	1. Make sure no water entered into the brake, then restart 2. Make sure no wiring issue of the drive motor (if it is short-circuited with batteries) 3. Replace the controller
F11	Brush Motor MOS Tube Failure	1. Make sure no wiring issue of the brush motor (if it is short-circuited with the batteries) 2. Replace the controller
F12	Vacuum Motor MOS Tube Failure	1. Make sure no wiring issue of the vacuum motor (if it is short-circuited with the batteries) 2. Replace the controller
F13	Brush Up/Down Motor MOS Tube Failure	1. Make sure no wiring issue of the brush Up/Down motor (if it is short-circuited with the batteries) 2. Replace the controller
F14	Squeegee Up/Down Motor MOS Tube Failure	1. Make sure no wiring issue of squeegee UP/Down motor (if it is short-circuited with the batteries) 2. Replace the controller
F16	Error: Traction Motor Short Circuit	1. Check the wiring of the drive motor 2. Replace the controller
F18	Error: Brush Motor Short Circuit	1. Check the wiring of the brush motor 2. Replace the controller
F19	Error: Vacuum Motor Short Circuit	1. Check the wiring of the vacuum motor 2. Replace the controller

Error code	Problem	Solution
F21	Error: Squeegee Up/Down Motor Short Circuit	1. Check the wiring of the squeegee Up/Down motor 2. Replace the controller
F22	Error: Controller Disconnection	Check if the CAN communication line is well connected.
F23	Accelerator Connection Failure	1. Check the pedal wiring 2. Replace the pedal 3. Replace the controller
F24	Warning: Do Not Step on The Accelerator to Start	1. Check the pedal wiring 2. Release the pedal and restart 3. Replace the pedal
F26	Temperature Sensor Failure	1. Controller temperature is too high or low 2. Replace the controller
F29	Error: Brush Motor Open Circuit	Check the wiring of brush motor, and restart the controller
F30	Error: Vacuum Motor Open Circuit	Check the wiring of vacuum motor, and restart the controller
F33	Error: Traction Motor Overload	Make sure no motor stall
F34	Error: Brush Motor Overload	Make sure no motor stall
F35	Error: Vacuum Motor Overload	Make sure no motor stall
F36	Error: Brush Up/Down Motor Overload	Make sure no motor stall
F37	Error: Squeegee Up/Down Motor Overload	Make sure no motor stall
F52	Warning: temperature of controller is too high	Controller temperature is too high, please check load
F55	Warning: No Clean Water	1. Add clean water 2. Check the wiring of water volume indicator 3. Replace the switch of water indicator
F56	Warning: Dirty Water Full	1. Drainage the dirty water 2. Check the wiring of water indicator switch 3. Replace the water indicator switch
F57	Warning: Pressure Switch Not Triggered	Check the wiring of pressure switch, and restart the controller
F82	Error: Electronic Brake Open Circuit	Check the wiring of brake, restart the controller
F83	Error: Electronic Brake Short Circuit	1. Check the wiring of electromagnetic brake 2. Replace the electromagnetic brake
F85	Speed Limiter Failure	Check the voltage of the speed limiter, and restart the controller
F86	Warning: Beeper Open Circuit	Check the wiring of horn

Error code	Problem	Solution
F92	Warning: Warning Light Open Circuit	Check the wiring of warning light
F93	Error: Warning Light Short Circuit	1. Check the wiring of warning light 2. Replace the warning light
F94	Warning: Solenoid Valve Open Circuit	Check the wiring of solenoid valve
F95	Error: Solenoid Valve Short Circuit	1. Check the wiring of solenoid valve 2. Replace the solenoid valve
F100	Warning: Front Light Open Circuit	Check the wiring of front light
F101	Error: Front Light Short Circuit	1. Check the wiring of front light 2. Check the driving circuit of the front light
F104	Warning: HCLO Open Circuit	1. Check wiring of HCLO module 2. Check whether the waterway is working properly
F105	HCLO Short Circuit Error	Check wiring of the HCLO module
F112	Warning: Controller Low Temperature	Restart the controller after the controller recover to normal temperature.
F120	Warning: HCLO Module usage time out	Replace the HCLO module, and clear the HCLO running time manually



GLOBALINDUSTRIAL.COM 1-800-645-1232

EXCLUSIVE DISTRIBUTOR OF CAT LICENSED FLOOR CARE EQUIPMENT.
© 2021 Caterpillar. All rights reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission. Global Industrial™ a licensee of Caterpillar Inc.