

Cinderella[®]

TROUBLESHOOTING MANUAL



Version 3.3.

Troubleshooting manual

Last update: 11-6-2020

Motion versions: 01/2014 - 06/2019

Contents

1.0. Operational messages	5
1.1. Message schedule	5
1.2. Other sound/ light signals	6
2.0. Temperature problems.....	7
2.1. Overheating	7
Toilet battery is not directly connected to main power	7
Thermocouple cable is too loose	7
Adjust thermocouple.....	7
2.2. Heat leakage	8
Check the nut to the locking spring	8
Check if the edges of the ash container are still flat.....	8
Check if the catalytic converter housing is aligned with the incineration chamber	9
3.0. Bad incineration	10
3.1. Restricted air flow	10
Check the catalytic converter.....	10
Check the Exhaust fan.....	10
Check the gas burner fan.....	10
3.2. Bad gas/oxygen mixture.....	11
Inspecting/cleaning the gas burner fan	11
Inspecting the burner assembly.....	11
4.0. Opening/closing hatch incineration chamber	12
4.1. Loose bolt motor arm	12
Tighten the bolt.....	12
4.2. Bended micro switch	12
Adjust the motor arm.....	13
4.3. Damaged motor shaft.....	14
4.4. Broken welds motor arm.....	14
4.5. Stiff rolling roller.....	14
Cleaning the roller	14
4.6. Loose motor	15
4.7. Underpowered motor.....	16

Software upgrades 16

Upgrading with a Pick it..... 16

5.0. Ignition problems 18

5.1. Disfunctional spark plug..... 18

5.2. Gas supply problem..... 19

5.3. Ignition problems after circuit board and/or ignition box repair 20

1.0. Operational messages

NB: The toilet is reset by holding down the start button for 8 seconds, then a long beep is heard, and the button can be released.

1.1. Message schedule

Error	Red	Yellow	Green	Sound	Measures
Exhaust fan error	Flashes		Flashes	10 bleeps	<ol style="list-style-type: none"> 1. Reset the toilet by holding the "start button" down for approx. 8 sec. to a long "beep" sound is heard. 2. Restart incineration. If the error persists, check 3.1.2.
Gas fan error	Flashes	Flashes	Flashes	10 bleeps	<ol style="list-style-type: none"> 1. Reset the toilet (see above). 2. Restart incineration. If the error persists, check 3.2.1.
Error with gas burner after 3 ignition attempts. temperature monitor triggered.		Flashes		Continuous bleep	<ol style="list-style-type: none"> 1. Check if the gas is connected and the valve is open. 2. Check to see if the thermo switch has been tripped and reset if necessary. 3. Reset the toilet and re-start incineration (see above). If the error persists, check 2.0.0.
Hatch failure	Flashes			10 bleeps	<ol style="list-style-type: none"> 1. If the toilet is hot: Open and then re-close the toilet lid without loading a new bowl liner then press the "start" button. If this does not help, open the lid, put in new bowl liner, pour three cups of water into the bowl liner, close the lid and press the "start" button again. If that still does not clear the error, wait until the toilet is cool (the fan has stopped). When the toilet is cool: Open toilet lid and press the "start" button. This will put the toilet into cleaning mode, the bowl hatch and the incineration chamber hatch will open and remain open allowing for manual clearing of the material that is causing the "jam".
Ash container in wrong position.	Flashes	Flashes		3 bleeps	<ol style="list-style-type: none"> 1. Wait for the toilet to cool (fan has stopped), then reposition the ash container.

Toilet lid is open. Error with t.	Flashes				1. Close toilet lid.
		Flashes	Flashes	Continuous bleep	1. Reset the toilet. If the error persists, change the thermo switch.
Thermo switch released, incinerations stops.		Flashes		Continuous bleep	1. Check thermo switch. If triggered, you can hear and feel it.
Ash container clearing alert, reminder.	Flashes	Flashes		3 beeps	1. Empty the ash container. 2. Do not shut off the power.
Ash container is emptied without power on the toilet.	Flashes Red + yellow flashes alternately	Flashes Red + yellow flashes alternately		Continuous bleep	1. If these errors occur, the ash container is taken out without power on the toilet. 2. Turn power on. 3. Take out the ash container. 4. Wait ten seconds. 5. Put ash container back. 6. Reset toilet.
No lights, no sound when opening the toilet lid.					1. Check the caravans main switch and/or battery voltage. 2. Check that the toilet main switch is turned on. 3. If the error persists, check circuit board 9.0.0. of the repair manual .
Burnt smell outside the toilet					1. Rinse catalytic converter. Attach bundled winter "chimney".


1.2. Other sound/ light signals

>11,5 V = the normal operating voltage (green led stays on).

<11,0 V = low voltage (green led flashes continuously).

<10,5 V = the minimum allowed battery voltage (green led flashes continuously).

<9,5 V = critically low voltage (10 long beeps). After which the toilet is immediate shut down. (10 beeps and shutdowns directly).



WARNING

It is important to react immediately if there are any irregularities in smell, poor incineration or other malfunctions to avoid consequential damages and unnecessary repair costs.

2.0. Temperature problems

2.1. Overheating

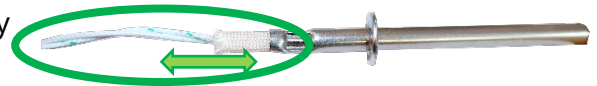
Toilet battery is not directly connected to main power

In case of a moving object (caravan, camper, boat, etc..). The toilet battery could be connected with the main power switch of the vehicle. This should not be the case because everything turns off, the incineration cycle stops, the exhaust fan stops. The temperature can increase dramatically. The temperature will rise and it shuts thermo switch down for the next use. It then turns off without failure message.

Solution: Inform the customer. The main power must be kept on, while the toilet is cooling down. Connect the toilet directly to the main power supply so it keeps on, even when the power of the vehicle is turned off.

Thermocouple cable is too loose

The cable of the thermocouple could be slightly pulled out.



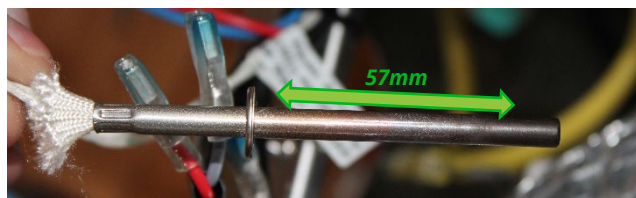
This can be happened due to the heat in the toilet. Heat can cause a melted white tube.

Solution: Follow 5.1.0. "Thermocouple" **Maintenance manual.**

Adjust thermocouple

The temperature is not at the right height in the incineration chamber. Measure if it is 15 mm above the star lock on the thermocouple. If it has not 15mm above the star lock the temperature is not at the right height.

Solution: Adjust the star lock to 57mm.



2.2. Heat leakage

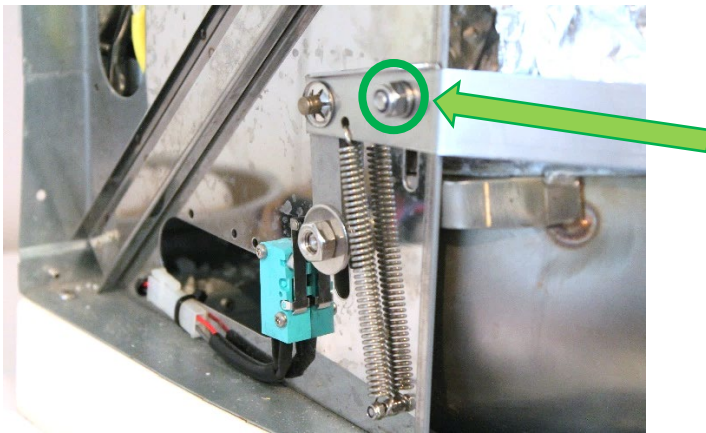
Sometimes the toilet shows signs of heat leakage. This means that the incineration chamber is not completely heat tight and the ash container isn't sealed properly.

Solution: Check that the locking spring is correctly mounted and that it secures the ash container to the toilet. (2.1.0.). Check if the edges of the ash container are still flat (2.2.0.). Check if the catalytic converter fits well into the incineration chamber (2.3.0.).



Residual waste due to bad incineration.

Check the nut to the locking spring



If the nut is loose and unaligned adjust the locking spring to the top of the slit and fasten it.

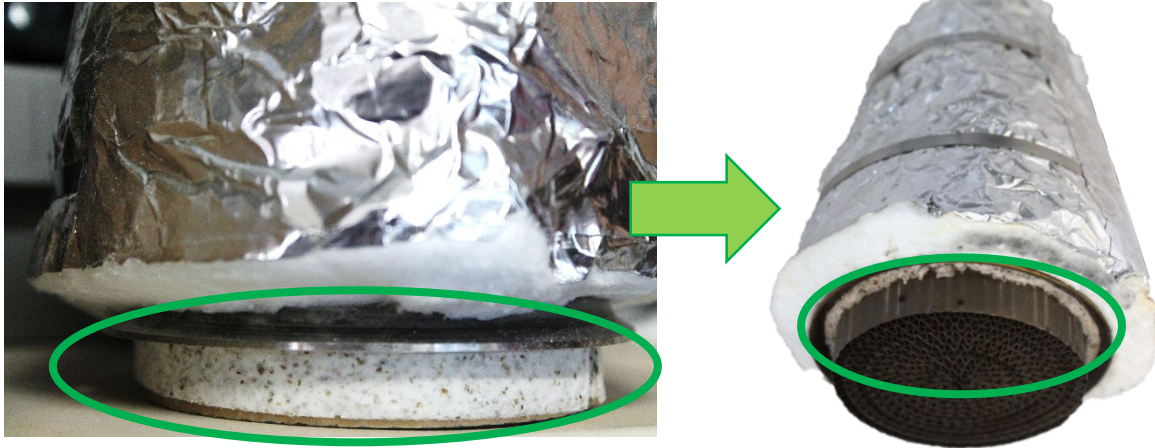
Check if the edges of the ash container are still flat

When the problems persist after fastening the nut, it's possible that the ash container isn't completely flat. Put the ash container upside down on a flat surface. If there's space between the surface and the ash container, the ash container is not completely flat. See if it can be fixed by cleaning the edges or that the ash container is deformed.

Important note: Deformed ash containers should always be replaced. Replacement instructions can be found in the **repair manual**.

Check if the catalytic converter housing is aligned with the incineration chamber

If the catalytic converter shows signs of heat leakage, be sure that the catalytic converter fits well into the incineration chamber. Cut away the insulation on the part that inserts into the incineration chamber. Also check if the catalytic converter is clean, if not clean it following 4.1.0. "Rinsing the catalytic converter"



3.0. Bad incineration

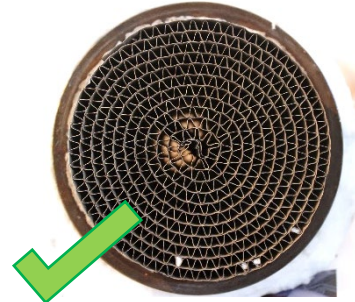
3.1. Restricted air flow

With restricted air flow the temperature in the incineration chamber is too low, which results in improper incineration process.

Solution: Check if the catalytic converter is clean. Check if the exhaust fan is clean. Check if the gas burner fan is clean.

Check the catalytic converter

Check if the catalytic converter does not look corroded or clogged up. In case of a filthy catalytic converter, clean it following 4.1.0. "Rinsing the catalytic converter" of the **maintenance manual**.



Check the Exhaust fan

Inspect the fan. The wheel shouldn't be clogged up. In case of a filthy fan, clean it following 8.1.0. "Cleaning the exhaust fan" of the **maintenance manual**.



Check the gas burner fan

Follow 3.2. "Inspecting/cleaning the gas burner fan".

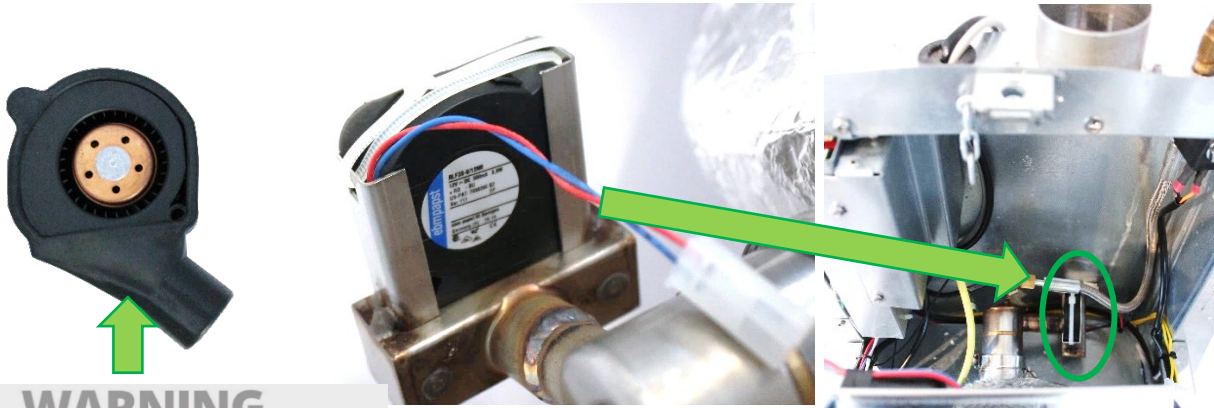
3.2. Bad gas/oxygen mixture

Important note: Always check 3.1. first in case of a bad incineration.

Sometimes the incineration mixture is not optimal. This results in an incomplete burning process, with too low burning temperatures.

Solution: Inspect and clean the gas burner fan. If the gas burner fan is in good shape, check if the gas supply is working correctly.

Inspecting/cleaning the gas burner fan

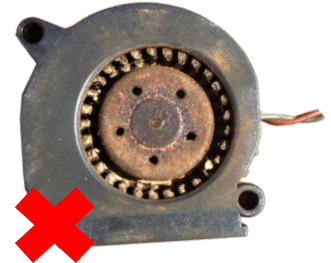


WARNING

It is possible to have another (rubber) housing for the fan. But the cleaning procedure is the same.

The fan of the exhaust on the backside of the incineration chamber. Check the wheel if the fan turns freely and is not clogged up with dirt.

For cleaning instructions follow the **maintenance manual**.



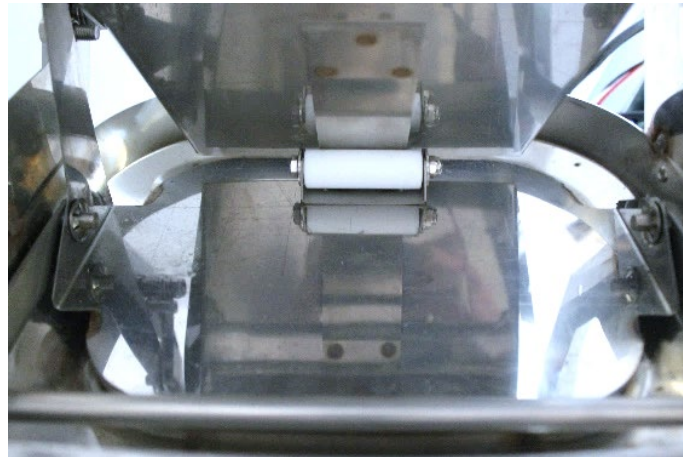
Inspecting the burner assembly

Important note: Only inspect the burner assembly if all other solutions did not help.

It is possible that the burner assembly is clogged up with dirt. For cleaning instructions follow the **maintenance manual**.



4.0. Opening/closing hatch incineration chamber

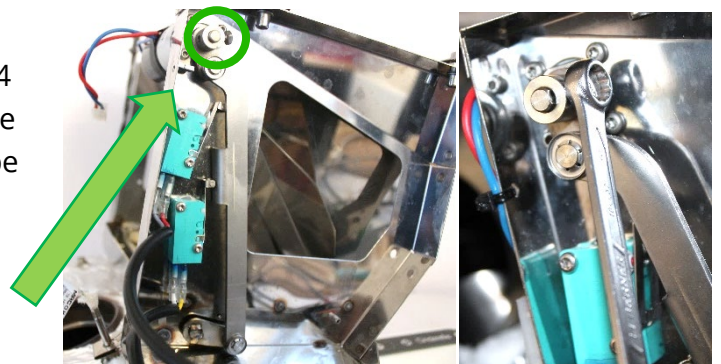


4.1. Loose bolt motor arm

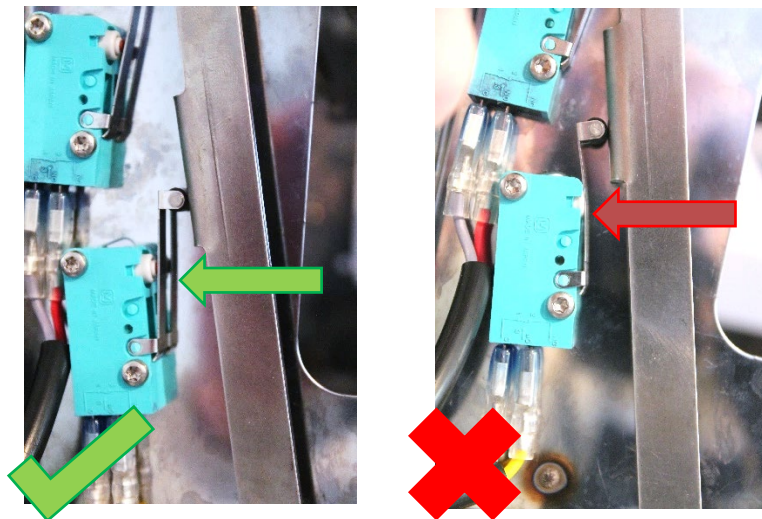
In earlier models there are m4 screws. The m4 screws are at higher risk of getting out of place with the motor shaft. The m4 screws should be replaced out of precaution.

Tighten the bolt.

Tighten the bolt.



4.2. Bended micro switch




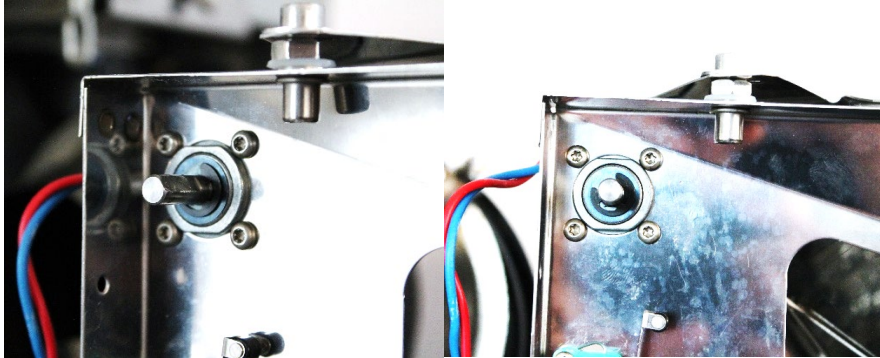
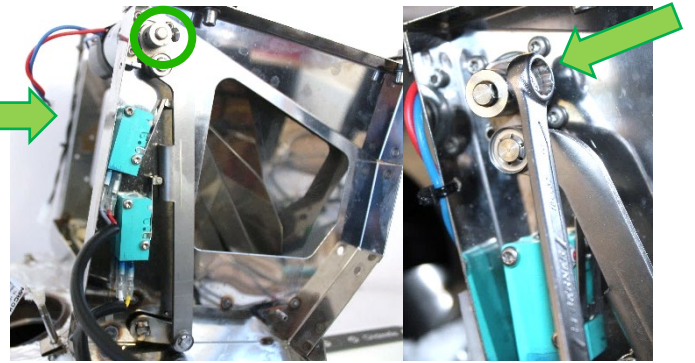
With a bended micro switch the motor arm stops too late and that could lead to a dysfunctional hatch or a broken micro switch.

Solution: To fix this problem the motor arm needs to be adjusted. Check after adjusting if the micro switch is working correctly, if does not work correctly, replace it.

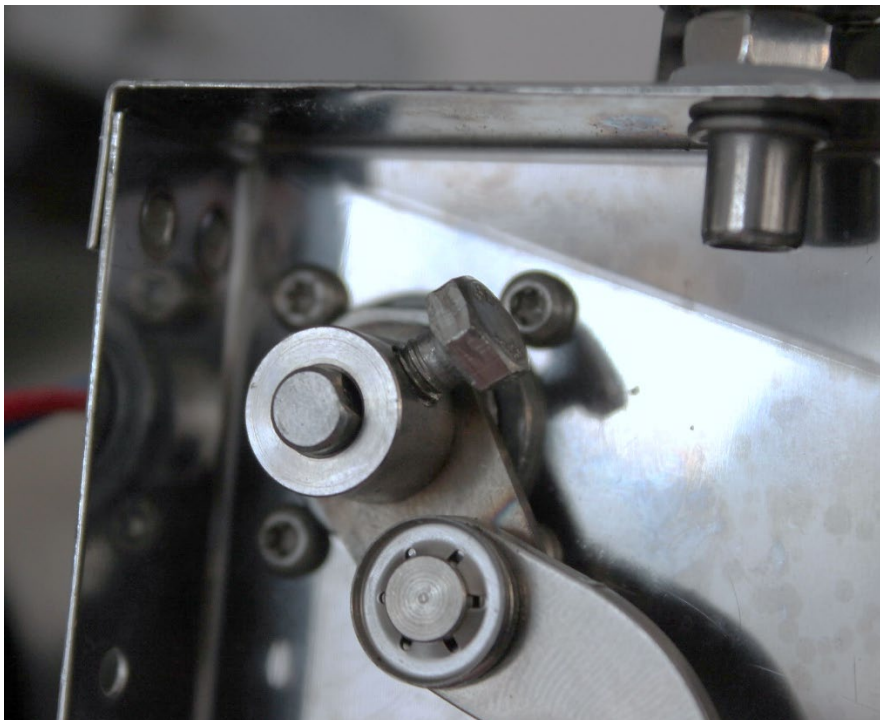
Replacement instructions are in the **repair manual**.

Adjust the motor arm

1. Unscrew the top screw.
2. Shift the motor arm out of the shaft. 
3. Check if the shaft is in good shape. (4.3. "Damaged motor shaft")
4. Adjust the motor arm, so the screw is at the same place as the flat part of the shaft. The shaft should be facing slightly upwards as pictured below.

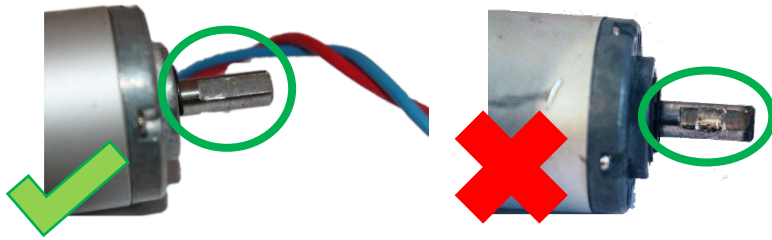


5. Test if the motor arm will not bend the micro switch.
6. Screw back the top screw.



4.3. Damaged motor shaft

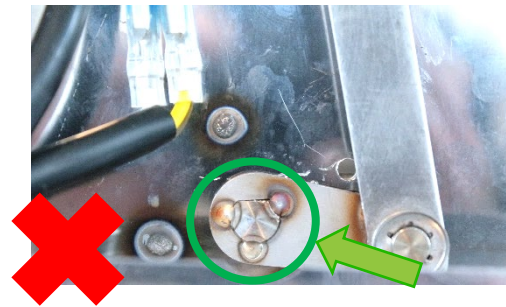
Solution: in case of a damaged shaft immediate replacement is needed. Replacement instructions can be found in the **repair manual**.



4.4. Broken welds motor arm

Some versions of the Motion are having point weldings on the motor arm. Those point weldings are at higher risk of breaking.

Solution: if the motor arm still has the point welds, replace or repair the motor arm out of precaution.



4.5. Stiff rolling roller

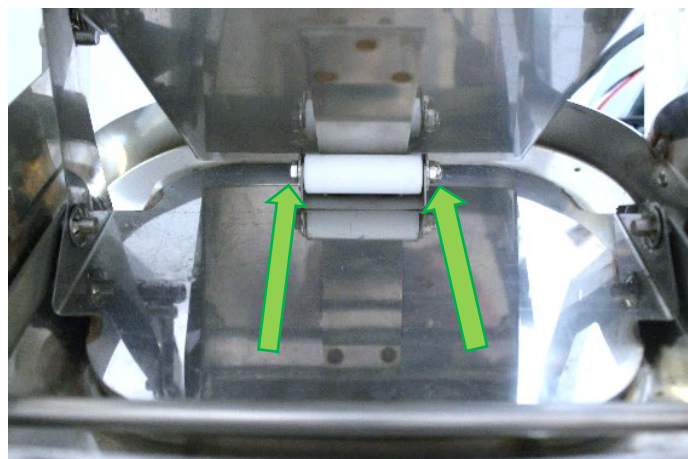
Sometimes the roller does not run fluent which results in a disfunctioning hatch.

Solution: clean the roller. If after cleaning the roller still does not run fluent, replacement is needed. Follow the instructions in the **repair manual**.

Cleaning the roller

Clean the roller.

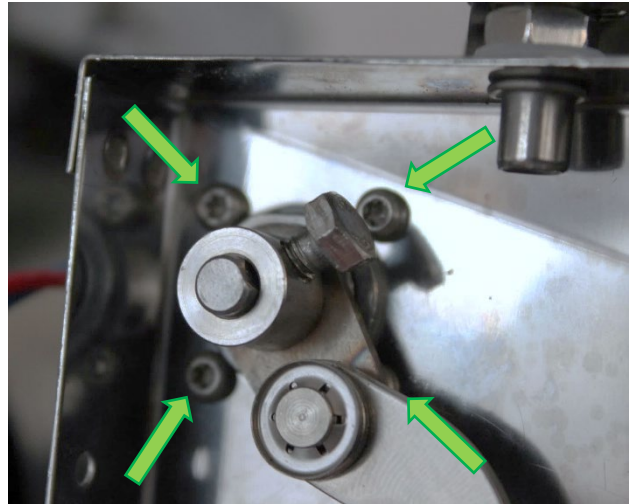
1. Unscrew the screws.
2. Take the roller out and clean it. Never use water, chemicals or other corrosive materials.



4.6. Loose motor

Check if the motor is tightened.

Solution: fasten the 4 torx screws that are holding the motor.



4.7. Underpowered motor

Signs of underpowered motor: hatch stays open after resetting and initiating a new flush.


Solution: if there are signs that the motor does not have enough power, this can be fixed by a software update. Order a “pick it” by Cinderella®, check which version is needed. This software update will increase the power input to the motor, which results in a more powerful motor.

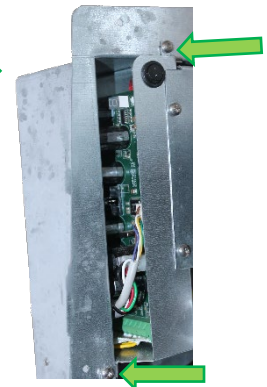


Software upgrades

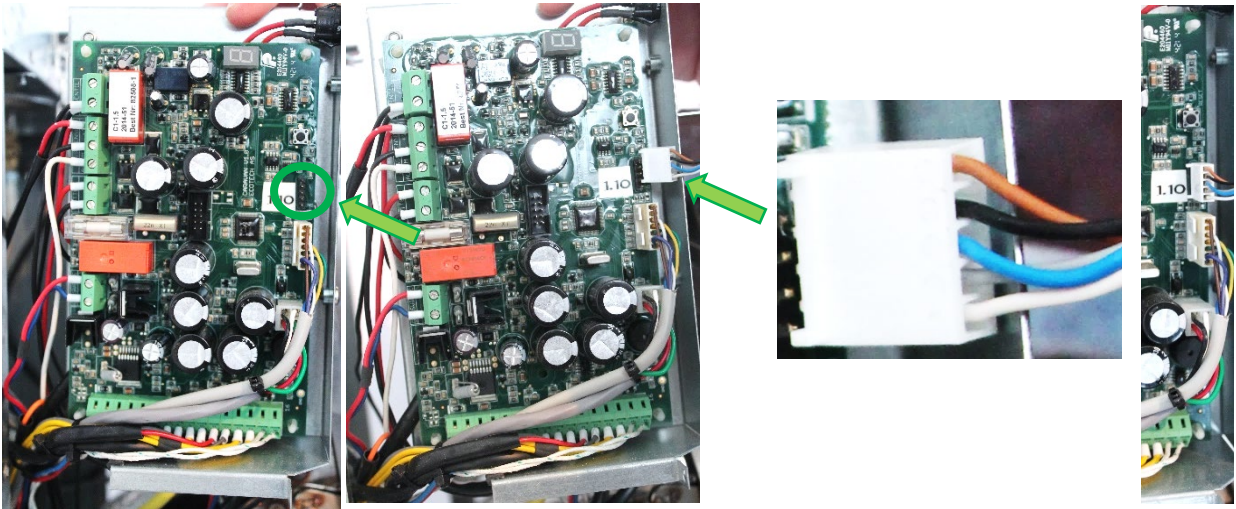
- V1.10 – V1.13 Upgrade with Pick it Motion to 1.15.
- > V1.17 Upgrade with Pick it Motion to 2.15.

Upgrading with a Pick it

1. Unscrew the circuit board. 
2. Tilt the circuit board out of the toilet, so that it is easy to plug a cable.
3. Connect cable to the software.



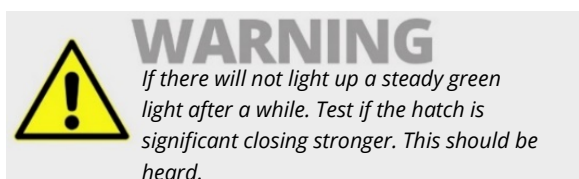
4. Plug the cable from the Pick it on to the circuit board. Put the white legs, from the cable pointed to the board. The brown cable should now be on top and the white cable should be on the bottom.



5. Turn on main power.
6. Now the Pick it should light up: the power light and the active light should start blinking. Push the button to start the upgrading progress.



7. All the lights will be activated during the programming sequence. Wait until the "active" light is blinking, and a steady green light on "power" and "status" will light up.



8. Turn off main switch, disconnect the Pick it.
9. Turn on main switch and try to flush.

Important note: *If it still doesn't work correctly repeat the progress. If the problem still occurs, be sure that the right update version is used.*

5.0. Ignition problems

When there are problems in lightning the flame. Test which part is causing the problem.

1. Put the toilet in service mode following 1.4. of the **maintenance manual**.
2. Lighten a piece of paper (for example a newspaper). Put the burning paper into the incineration chamber.
3. Take of the magnet (simulating that the lid is closed).
4. Initiate a burn.
5. Wait 3 min.
6. Take out the ash container to see if the toilet did burn.

If the toilet did not ignite there is a problem with the gas supply.

If the toilet did ignite there is a problem with the spark plug.

5.1. Disfunctional spark plug

A not working spark plug is often caused due to corrosion.

Solution: clean the spark plug. Follow the instructions in the **maintenance manual**. If the spark plug is damaged, replacement is needed.

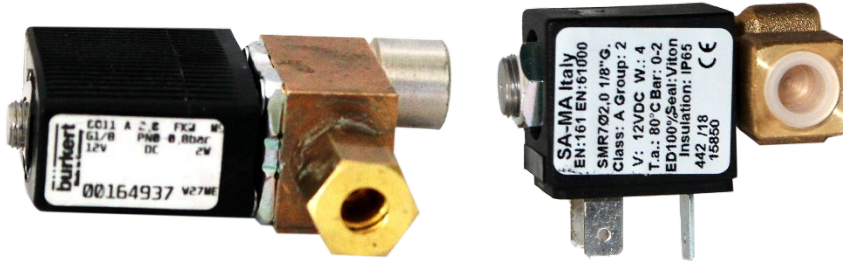


5.2. Gas supply problem

Check if the solenoid valves are working.

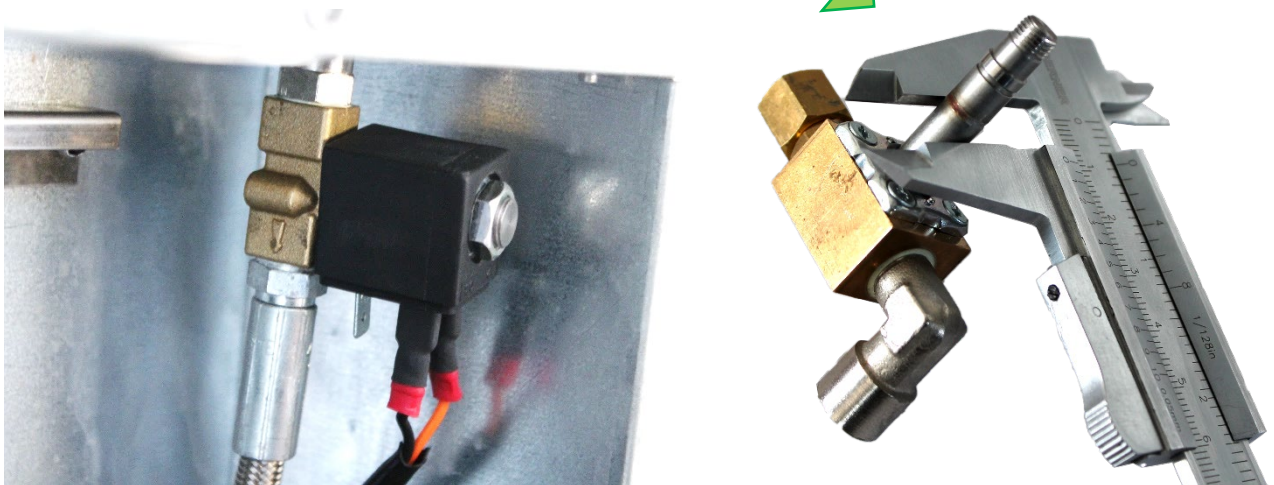
Important note: there are two types of solenoid valves.

Burkert valve and the SA-MA Italy valve.



To see which valve is needed. Measure the thickness of the axle.

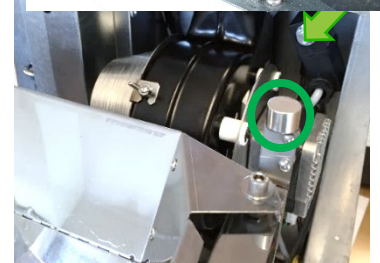
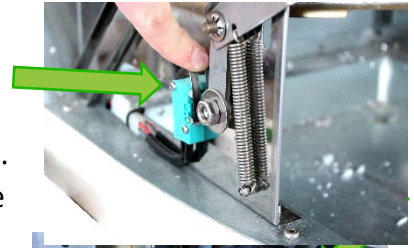
- Burkert valve – 8mm
- SA-MA Italy – 10mm



Check the solenoid valve: Applying a charge to the solenoid valve. There are two wires that are connected to the valve. Connect a multi meter to the solenoid's power source. Start by measuring the resistance of the coil, it should be around 30 ohms. Then try connecting a 12v battery, if the solenoid valve is working properly it should open with a click sound.

5.3. Ignition problems after circuit board and/or ignition box repair

1. Take out the ash container.
2. Hold the micro switch from the ash container (to simulate that the ash container is inserted).
3. Put a magnet on the hall sensor (simulate that the lid is closed).
4. Take the magnet of and put it back on the hall sensor (simulate opening and closing of the lid).
5. Initiate a burning.



6. Now there should be three clicking sounds experienced from the spark plug and then the toilet should give an error message.

Times measured motion software 1.15:

10 sec. after automatically opening and closing the hatch.

1. "click" with a fast "ticking" sound. (spark plug trying to initiate a burn.)

After 20 sec.

2. "click" with a fast "ticking" sound. (spark plug trying to initiate a burn.)

After 40 sec.

3. "click" with a fast "ticking" sound. (spark plug trying to initiate a burn.)

After 60 sec.

4. Continuous "beeping" sound. (Error message.)

Important note: stop the continuous "beeping" sound by holding the "start burning button" on the control panel for 10 seconds. Then loose the button and a long beep should be heard. Now the toilet is reset and the beeping stops.

When the described situation does not happen, there should be a problem with the ignition box/circuit board combination.

Times measured motion software 2.15:

The times will be published here when measured.

Solution circuit board/ignition box igniting problems.

Replaced Fenwal ignition box

Sometimes a replaced Fenwal ignition box does not communicate well with the circuit board of older software versions even if the software should be cooperating with the ignition box following 8.1.2. "Compatibility Circuit board software Vs. Ignition box" of the **repair manual**.

Send the separate replaced Fenwal ignition box back to Cinderella and ask for a new circuit board/ignition box combination as a package.

Other cases

Check if the right software/ignition box combination is used. 8.1. "Compatibility Circuit board software Vs. Ignition box of the **repair manual**.