

Service
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Philips Consumer Lifestyle

Service Manual

PRODUCT INFORMATION

- This product meets the requirements regarding interference suppression on radio and TV.
- After the product has been repaired, it should function properly and has to meet the safety requirements as officially laid down at this moment.

TECHNICAL INFORMATION

- Colour : Deep Black & Copper Chrome
- Battery type : Li-Ion
- Battery voltage : 14.8 V
- Charging time : 4 hour(s)
- Stand-by power consumption : 0.65 W
- Runtime : 120 min.

Usability

- Threshold climbing : 13 mm
- 24-hour scheduling
- Infrared sensors
- Types of Floors : Carpet, Hardfloor
- Smart detection system : 22 sensors

Nozzles and accessories

- 1 x Exhaust filter, AC power adaptor, Side brushes (2 pairs), Mopping pads

Dimensions & weight

- Dimensions : 60.1 x 330 mm
- Product weight : 1.53 kg
- with packaging : 2.9 kg

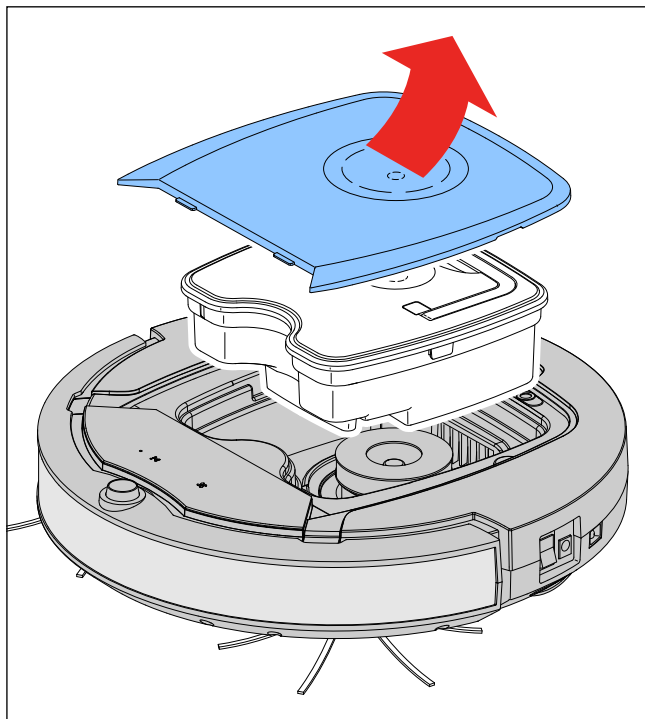
Accessories included

- Docking station

OPTIONAL (accessories)

- No specific issues

- First make sure that the appliance is unplugged.
- To empty and/or replace the Dustbin assy, the Top Cover has to be removed (see picture).



- Turn the appliance upside down .
- The brushes can easily be pulled out and replaced, after hearing the < click> the brush is placed in a correct way.
- Remove the battery cover by sliding it outwards, the battery can now be removed or replaced.
- To open the appliance:
First remove the cover of the Bumper assy by removing the 4 screws **A**, **be aware** to unplug the wire.
Remove the Upper housing by removing the 8 screws **B**, one screw is positioned in the battery compartment, here also **be aware** to unplug the wire. (see exploded view)
- To replace the Fan motor:
Turn the Bottom housing upside down and remove the 2 screws **F**, unplug the connector. Now the Fan motor can be replaced and re-connected.
- To replace the inner parts of the Bumper assy:
Lift the Main PCB by removing the 4 screws **C**, now you can replace the Bumper bracket and Bumper PCB by removing the 2 screws **D** and unplugging the connector to the Bumper PCB.
The Bumper PCB is clamped onto the Bumper bracket.
- To replace the left or right Wheel assy:
Turn the appliance upside down, remove the cover by removing screw **G**, disconnect the wire and replace the Wheel assy.

REPAIR INSTRUCTION

Display Error codes:

E1	Wheels stuck 滚轮卡住
E2	Top cover or dust container not placed properly 顶盖或集尘桶未放好
E3	Bumper stuck 缓冲装置卡住
E4	Robot lifted up from floor 从地板提起了智能自动真空吸尘器
E5	Colour of floor too dark 地板颜色太暗
E6	Battery not inserted properly / Charging error (switch is off) 电池未装好 / 充电错误 (开关已关闭)

REPAIR INSTRUCTION

FC8820/01

IR Sensors calibration for replacing PCBA

Purpose: IR Sensors have to be calibrated if replacing PCBA. In order to avoid to move backward and abnormally.

Calibration Steps:

Step 1: Power off device and short calibration enable pin to ground pin with jumper(wire) shown as Fig. 1 and Fig. 2.

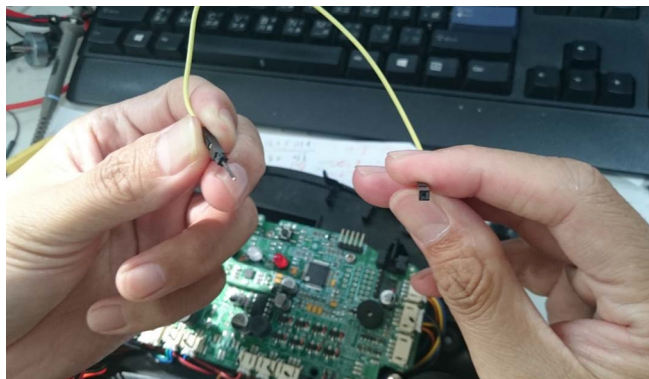


Fig. 1

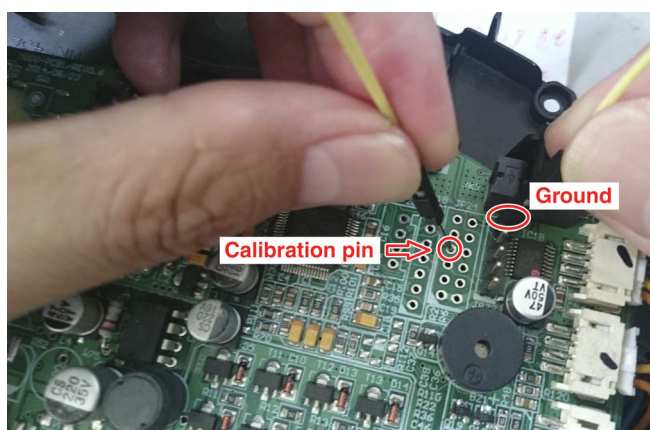
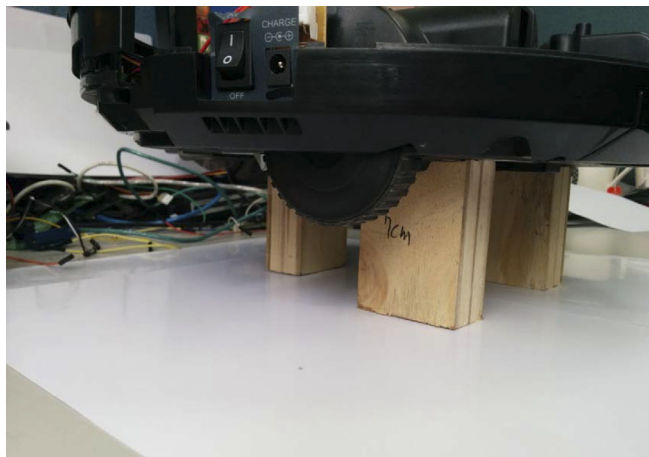


Fig. 2

Step 2: Put robot 7 cm height above calibration surface (AA papers).



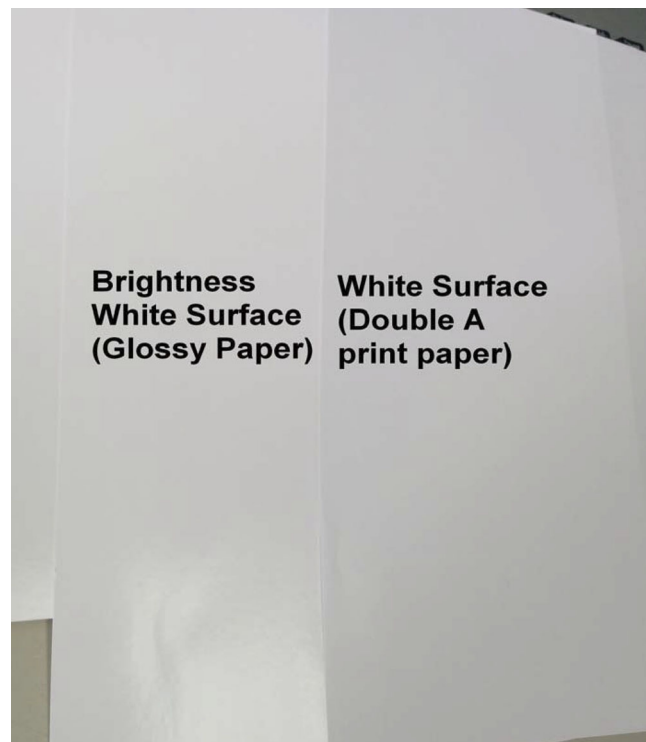
Step 3: Power on Robot cleaner wait 5 seconds. Then the calibration is done. After finished the calibration, remove the jumper(wire).

After calibration the robot need to be tested for the drop-down sensors: This can be done on a table. If the robot does not fall from the table the calibration was done in a proper way.

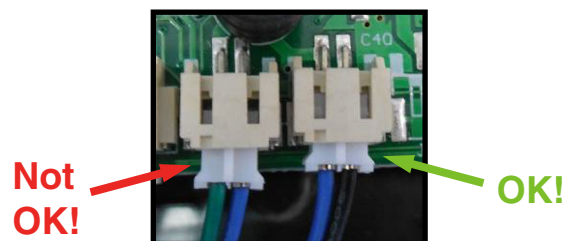
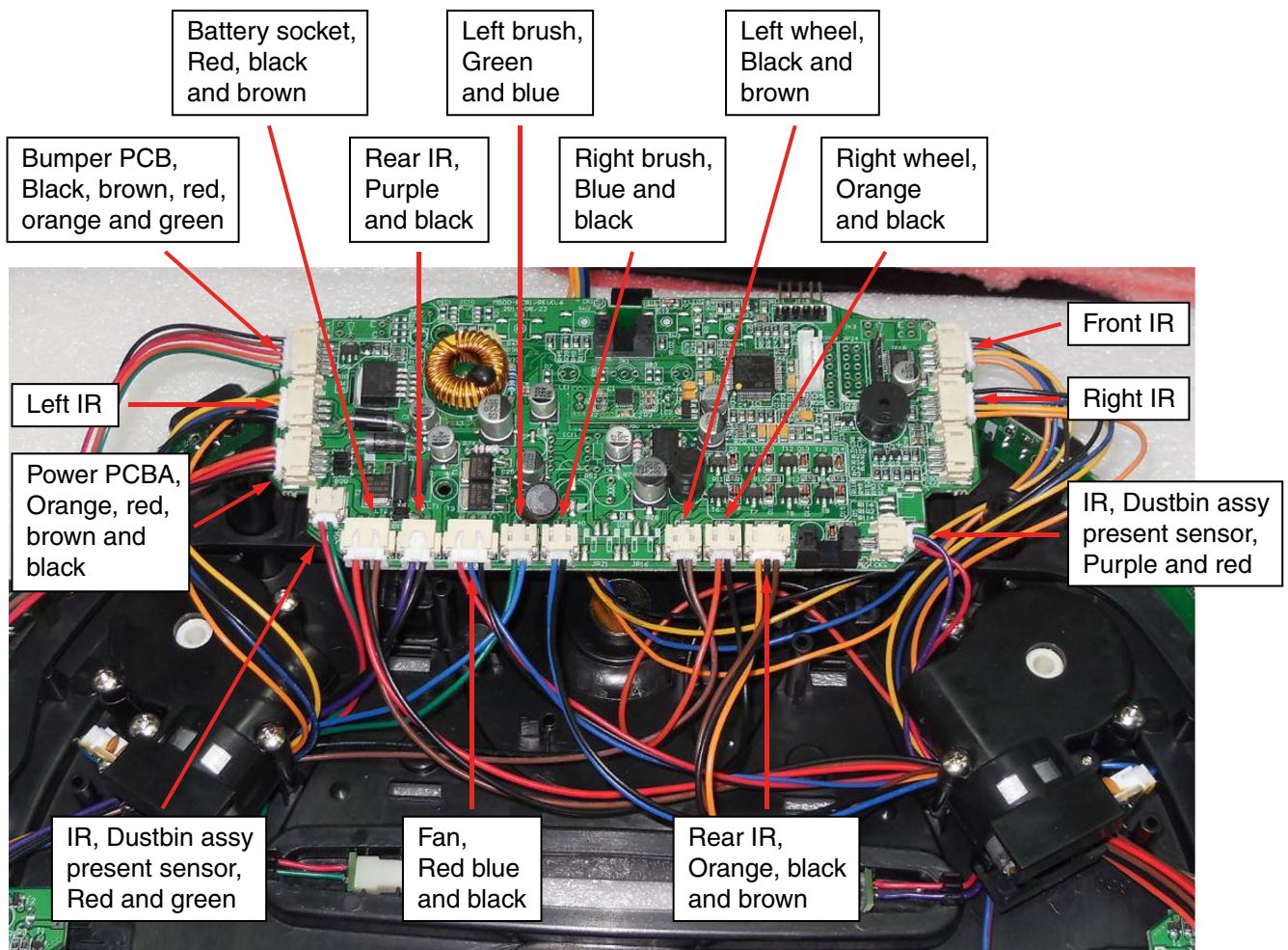
Remark:

Material for white color reference:

Using AA white paper or glossy paper as calibration surface.



Wiring diagram



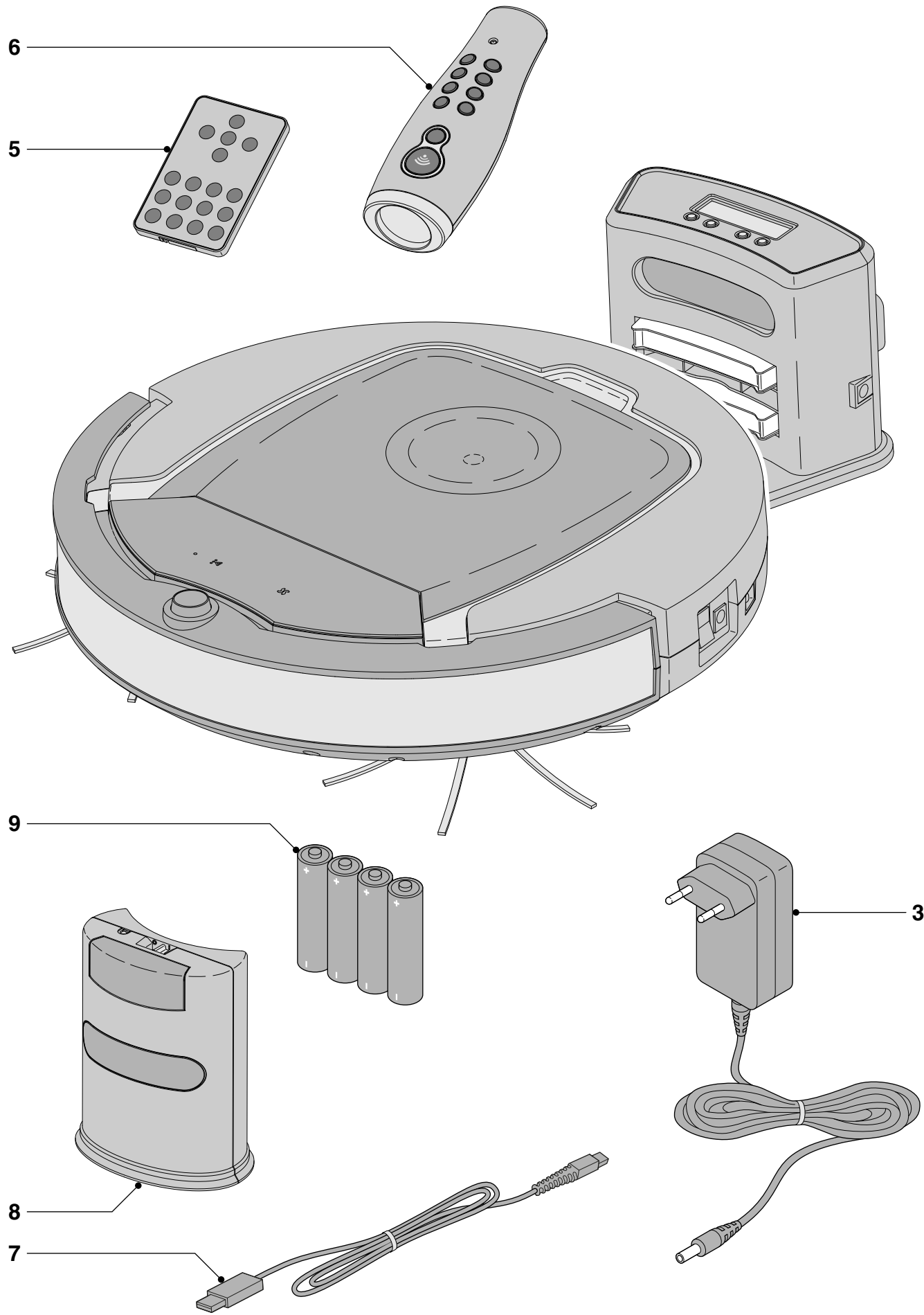
Troubleshooting:

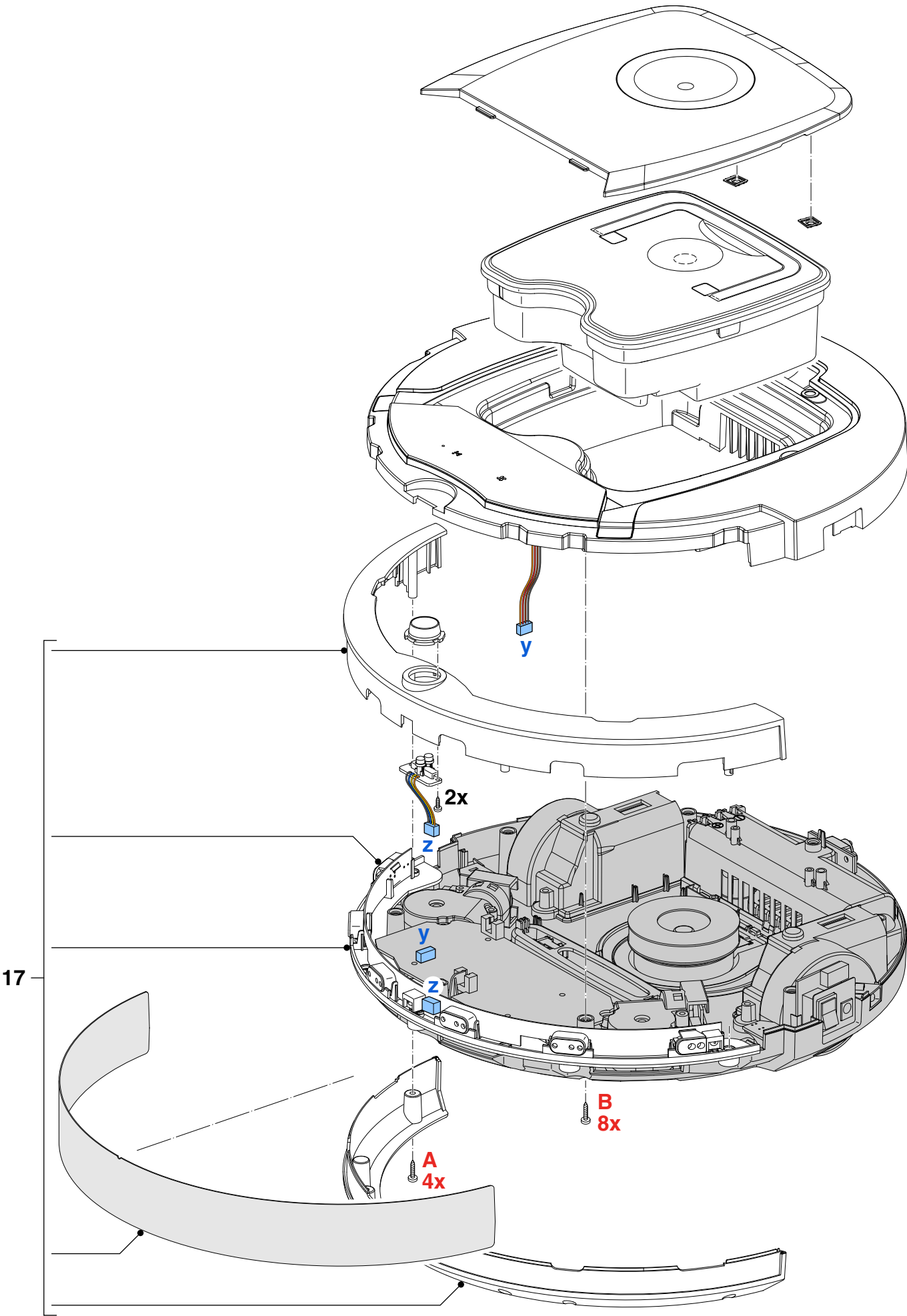
Problem	Cause	Solution
1. The robot does not charge.	a. Power Switch is off.	<ul style="list-style-type: none"> When charging the robot the Power switch should be "on", otherwise the robot will not be charged.
2. The robot does not charge, warning indicator is blinking and an alarm signal is given.	a. Power Switch is off.	<ul style="list-style-type: none"> When charging the robot the Power switch should be "on", otherwise the robot will not be charged.
3. The robot does not start cleaning when I press the on/off button.	a. The rechargeable battery is empty. b. The battery is dead. c. The small plug is still inserted in the socket on the robot and the adapter is still inserted in the wall socket.	<ul style="list-style-type: none"> Charge the rechargeable battery (See User Manual: chapter "Preparing for Use", section "Charging"). When battery is measured $< 8\text{ V}$, the battery should be replaced by a new one. The robot does not work on mains power. It only works on its rechargeable battery and always has to be disconnected from the mains before use.
4. The robot does not work and warning indicator flashes quickly.	a. The dustcontainer lid is not present or is not closed properly. b. Frontwheel is jammed with hair or other dirt.	<ul style="list-style-type: none"> When the dustcontainer lid is not present or is not closed properly, the robot does not work as a safety precaution. Make sure you place the dust container lid on the robot properly. Clean the Frontwheel (see User Manual, chapter "Cleaning and Maintenance").
5. On/off indicator lights up continuously red when the robot is switched on.	a. The battery is low. b. One or both wheels are stuck. c. One or both side brushes are stuck. d. The bumper is stuck. e. You lifted the robot while it was switched on.	<ul style="list-style-type: none"> Charge the rechargeable battery (See User Manual, chapter "Preparing for use", section "Charging"). Press the Power switch to switch off the robot. Remove the fluff, hair thread or wire that is caught around the wheel suspension. Clean the side brushes (see User Manual, chapter "Cleaning and maintenance", section "Cleaning the side brushes"). Press the Power switch to switch off the robot and check if the bumper can freely move without friction. Press the Power switch to make it resume cleaning in the wanted spot.
6. The robot does not clean properly.	a. The bristles of one or both side brushes are crooked or bent. b. The filter in the dustcontainer is dirty. c. The suction opening in the bottom is clogged.	<ul style="list-style-type: none"> Replace the side brushes (See User Manual, chapter "Replacement: section "Replacing the side brushes"). Clean the filter in the dust container with a brush with soft bristles (See User Manual, chapter: Cleaning and maintenance", section Emptying and cleaning the dust container). If brushing does not help to clean the filter, replace the filter with a new one. Clean the suction opening (See User Manual, chapter "Cleaning and maintenance", section "Cleaning the suction opening").
7. The battery can no longer be charged or runs empty very fast.	a. The rechargeable battery has reached the end of its life.	<ul style="list-style-type: none"> Replace the rechargeable battery (See User Manual, chapter "Replacement", section "Replacing the rechargeable battery").

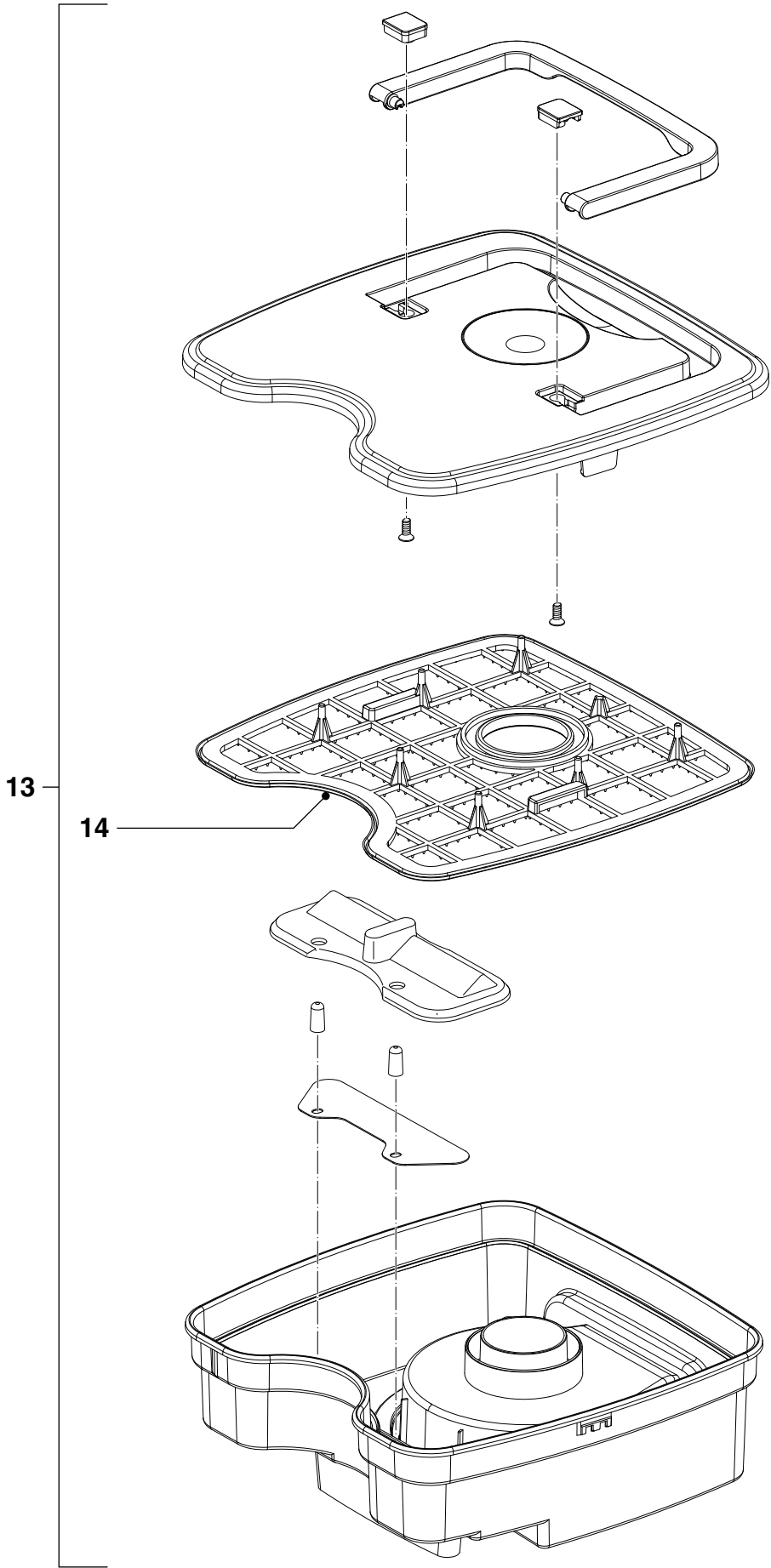
Problem	Cause	Solution
8. The robot does not clean and warning indicator lights up continuously.	a. The dust container is not present.	• Place the dust container in the dust container compartment properly. Make sure you close the dust container cover properly.
9. The dustcontainer indicator is blinking.	a. Dustcontainer is full or clogged.	• Clean the suction opening and clean the dustcontainer.
10. The robot runs backwards when switched on and warning indicator is blinking.	a. Cliff sensor or Front bumper-sensor triggered.	• Start calibration procedure (see separate chapter). If problem still occurs after calibration procedure, the pcb bumper need to be replaced.
Remark In case of straight line driving issues.	a. Wheels are slipping.	• Check and clean the wheels and both side brushes. After cleaned them, the robot will drive better in a straight line.

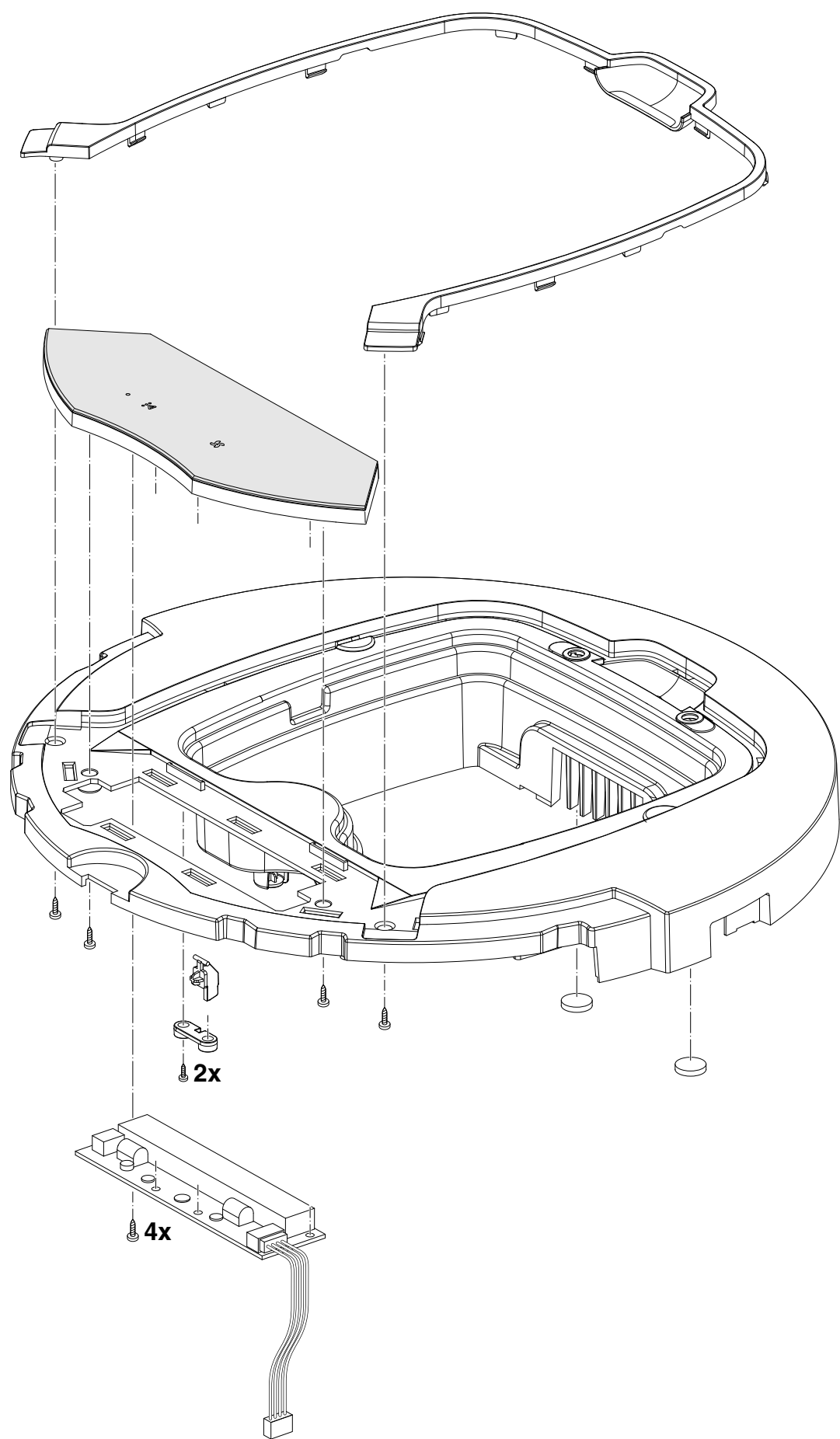
Error code	Cause	Solution
E1	a. Wheels stuck.	• Remove the robot from the obstacle and press the on/off button to resume cleaning.
E2	a. Top cover or dust container not placed properly.	• Place the dust container in and the top cover on the robot properly. The error code disappears from the display automatically.
E3	a. Bumper stuck.	• Remove the robot from the obstacle. The error code disappears from the display automatically.
E4	a. Robot lifted up from floor.	• Put the robot back on the floor to make the error code disappear.
E5	a. Colour of floor too dark.	• Place the robot on a lighter area of the floor. Clean the drop-off sensors.
E6	a. Battery not inserted properly. b. Charging error.	• Read the instructions in "Inserting the rechargeable battery into the robot" in chapter "Before first use". • Check if the power switch is in "on" - position when the robot is on the docking station.

Pos	Service code	Description	Remark
1	4322 006 67931	Suction motor assy D	
2	4322 006 22931	Recharable battery 2800 mAh - 14.8 V	Li-Ion
3	4322 006 09981	Switching adaptor 30 V - 1000 mA	Euro plug
4	4322 006 23131	Docking station C	
5	4322 006 21331	Remote control B	
6	4322 006 25391	Pointer	
7	4322 006 00161	USB cable	FC8820
8	4322 003 47011	Virtual wall	
9	4322 006 08891	AA batteries (4x)	
10	4322 004 25961	Side brush	
11	4322 006 67941	Side brush motor assy Left	
12	4322 006 67951	Side brush motor assy Right	
13	4322 005 36671	Dustbin assy C	
14	4322 004 94172	Filter Hawk C	
15	4322 005 36691	Left big wheel assy M600 A	
16	4322 005 36701	Right big wheel assy M600 A	
17	4322 005 36721	Front bumper assy B	
18	4322 006 25401	Power PCBA	
19	4322 003 06221	MOP holder	
	4322 004 94141	MOP papers	
21	4322 006 25881	Main PCB	FC8820
22	9965 100 72846	Bumper PCB	



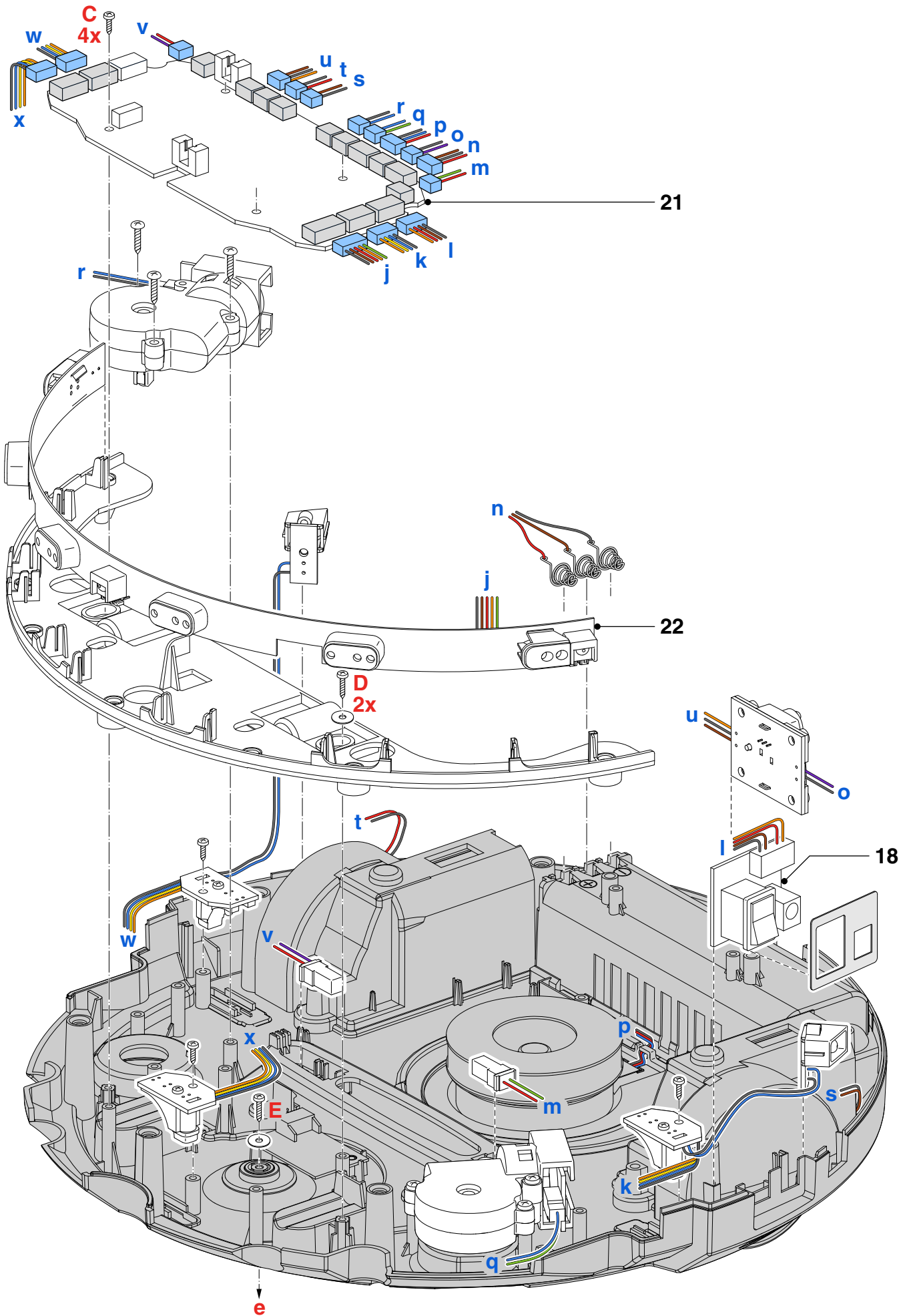


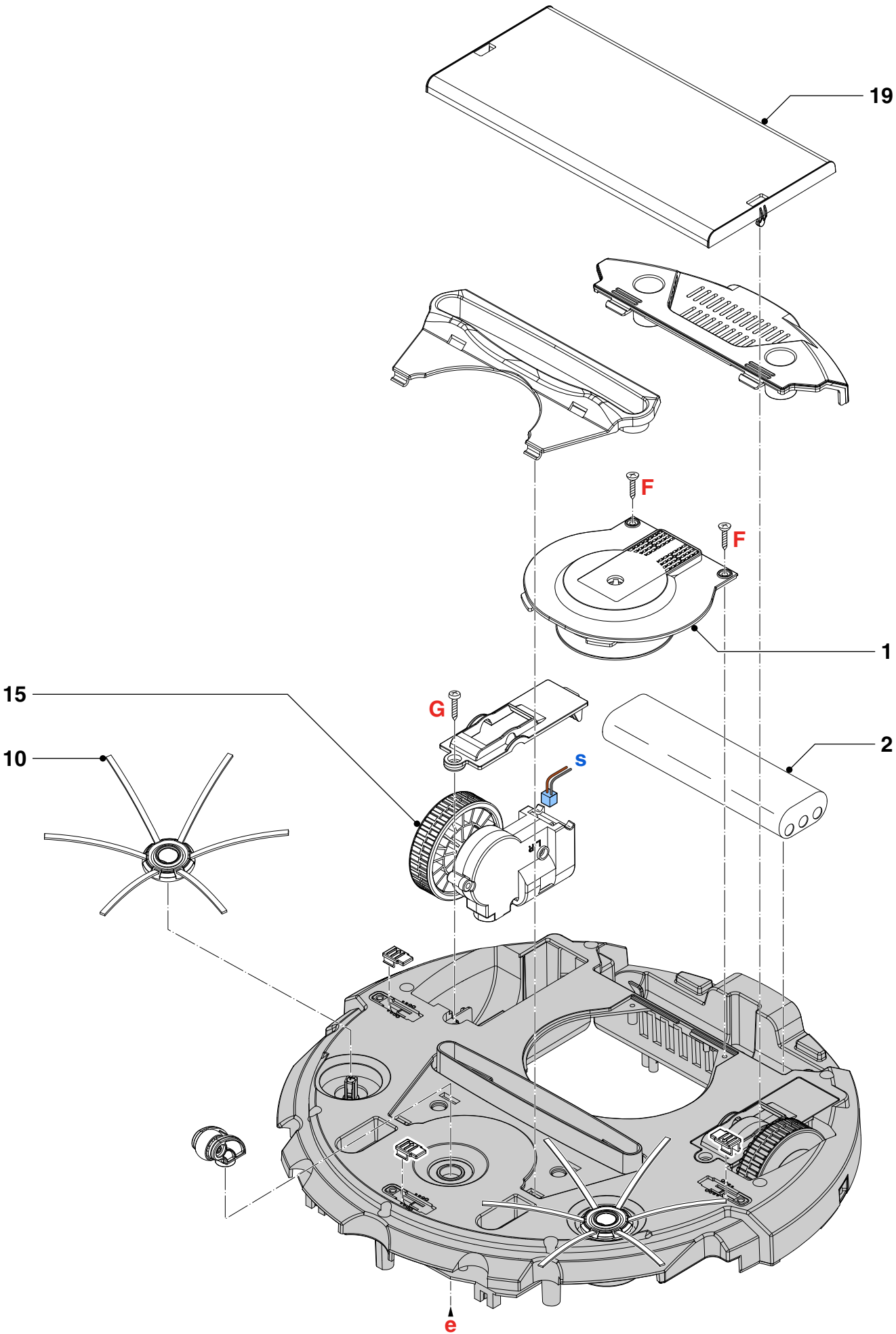




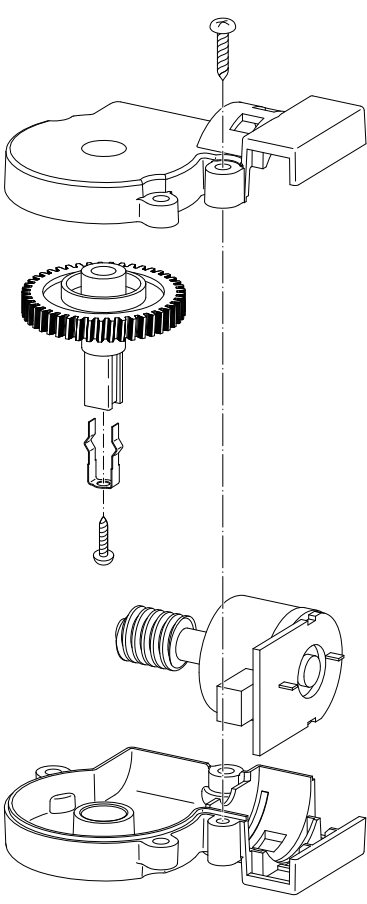
EXPLODED VIEW

FC8820/01

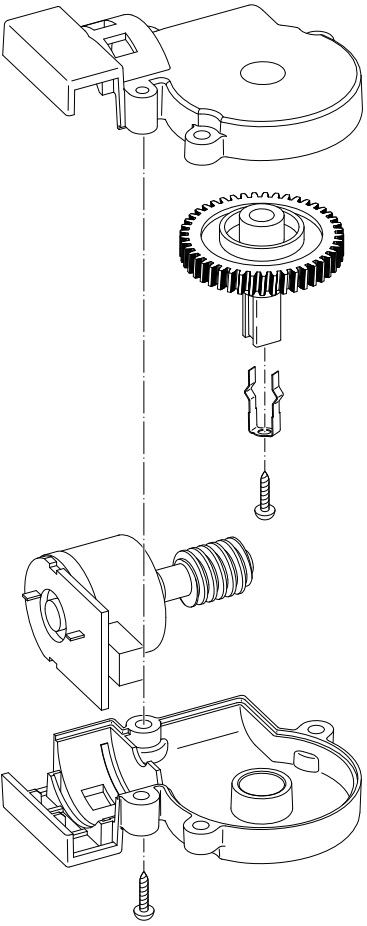


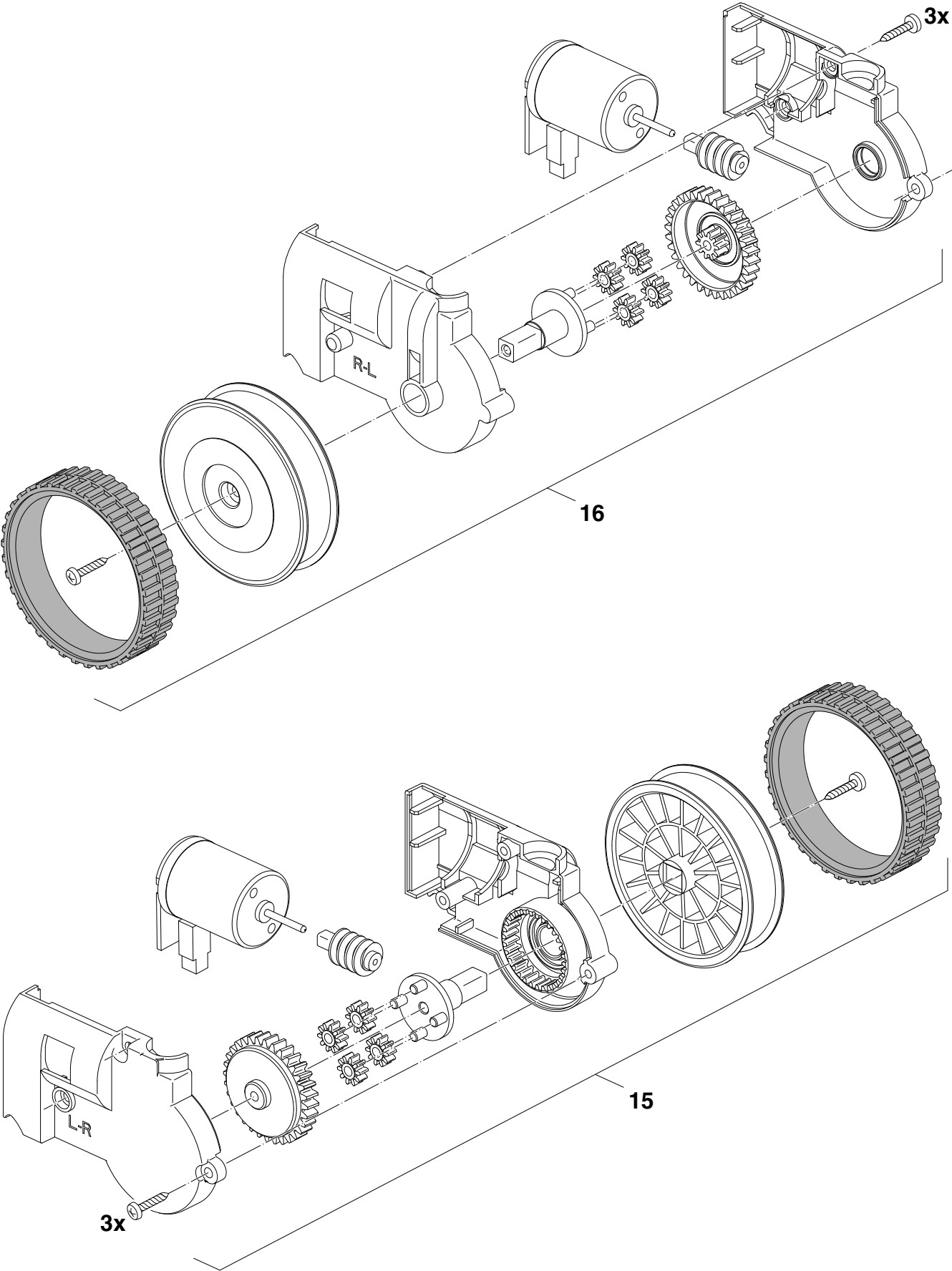


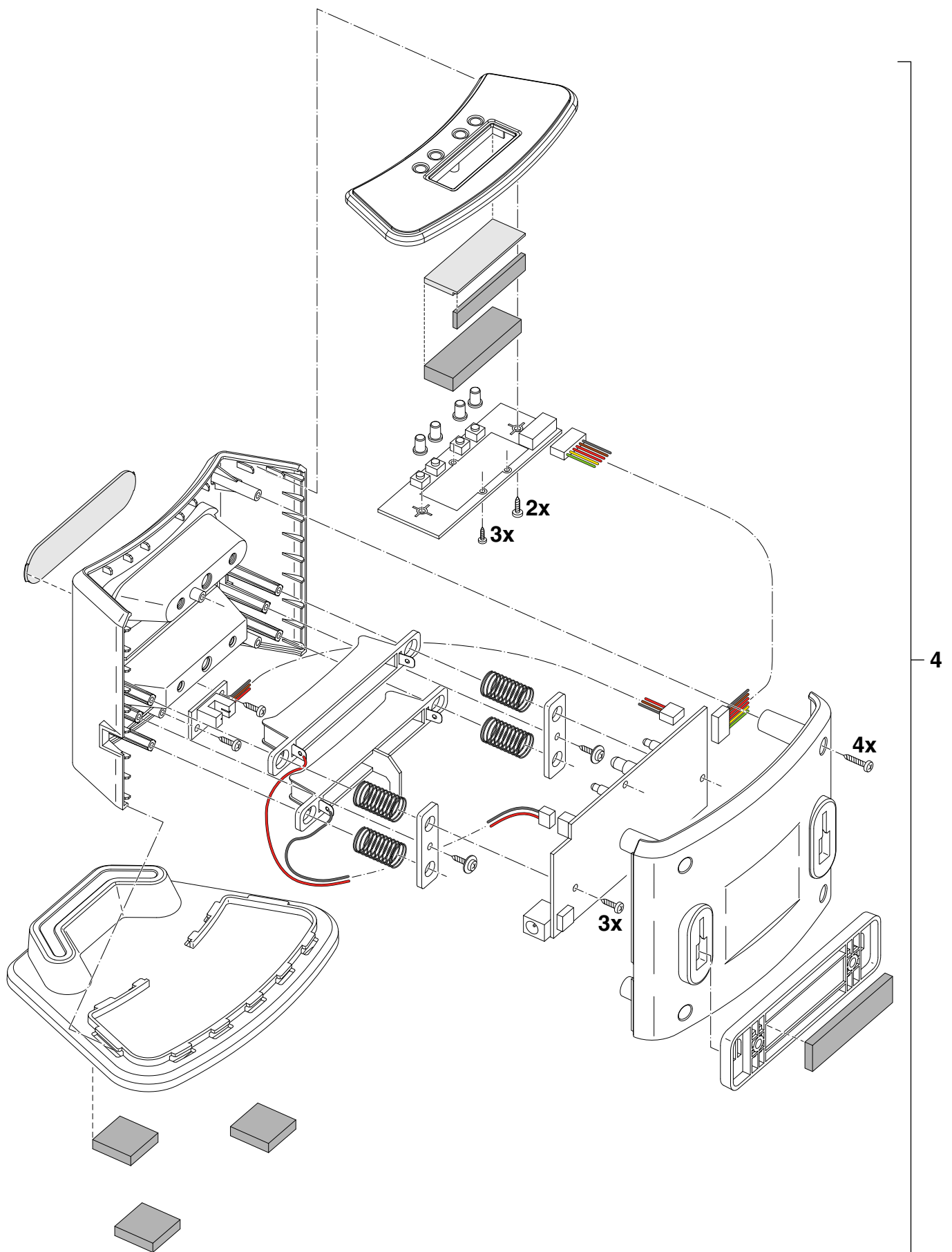
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Version history

15/03 Version 1.1 : FC8820/01 initial release.

15/07 Version 1.2 : In Parts List at Pos. 14, changed 4322 004 94171 into 4322 004 94172.

15/10 Version 1.3 : In Parts List at Pos. 21, changed 9965 100 72845 into 4322 006 25881.

Added on page 3: IR Sensors calibration for replacing PCBA.

Added on page 4: Wiring diagram.

16/01 Version 1.4 : Under Repair Instruction on page 5 and 6: Added Troubleshooting.

16/02 Version 1.5 : Added date to Version history.