

# REPAIR GUIDELINE

## Misting Fan\_FN1800E



*Update Date: 2022/04/08*

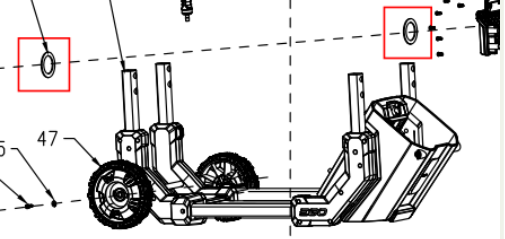
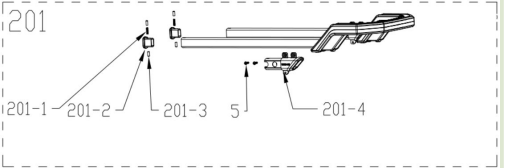

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# Troubleshooting

Problem	Possible Cause	Fault Position	Test & Solution
Fan fails to turn on or stops running.	Loosen connection of the wire harness inside or the defective PCBA.	Inside the bottom of the battery box.	Open the battery box bottom cover and check for any loosen wire connection. If not, replace the motor PCBA first to check if problem solved. Replace the BMS PCBA if necessary.
	The defective fan motor.	Inside the fan housing set.	To replace the fan motor, the connection between the fan motor and the motor PCBA should be disconnected. The connection lies in the channel of the battery box side cover.
The water pump stops working.	The water pump is defective.	Inside the battery box, beneath the battery side cover.	Replace the water pump assembly. There is two water tubes connected to the water pump. The water intake tube goes through the control panel housing, the battery box side cover into the battery box. The water outlet tube goes the battery box side cover, the right hinge, the front frame mesh and connected to the misting nozzles.
Water leakage.	Somewhere of the water tube of the pump assembly is broken.	Somewhere of the water tube.	

# Troubleshooting

Problem	Possible Cause	Fault Position	Test & Solution
Malfunction of the control interface.	PCBA failure	The control panel.	Replace the control PCBA behind the control panel.
Doesn't feel smooth when adjusting the fan angle.	The rubber damping ring is worn out or damaged.		Replace the two rubber damping rings.
Doesn't feel smooth when adjusting the telescopic handle.	Some small parts inside the telescopic handle assembly are worn out.		Disassemble the telescopic handle.. Replace the worn parts.
There is water leaking from behind the waterway set, where the water outlet tube connected and the nozzles are seated.	The waterway set are broken.		Replace the waterway set



# Tool List For Repair

NO.	Tool List	SPEC	Remark
1	Torx screwdriver	T10, T20	
2	Hex wrench	4mm	
3	Open spanner		To loosen or fasten the hex connector connecting to the waterway set and the outlet tube from the water pump motor.

# How to Disassemble the Misting Fan

1. Before disassembling the misting fan, there are some parts which are very easy to replace.

» misting nozzles

» carry handle



Carry Handle

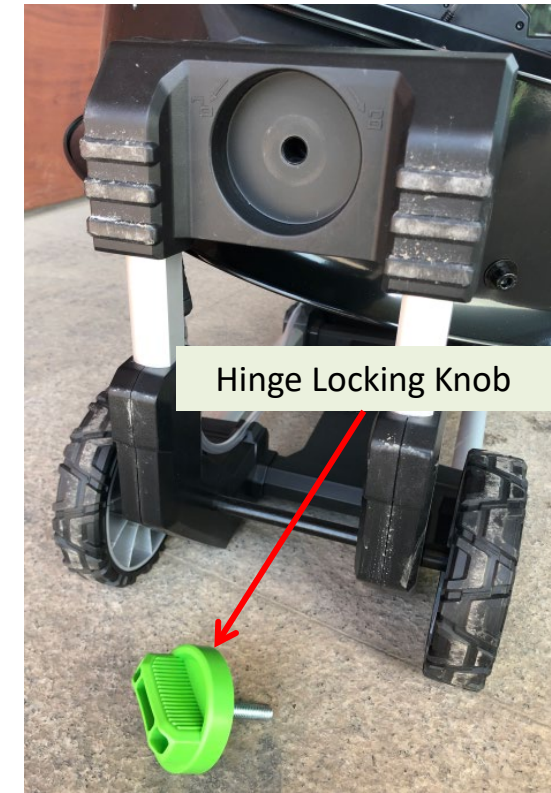


# How to Disassemble the Misting Fan

1. Before disassembling the misting fan, there are some parts which are very easy to replace.

» filter assembly

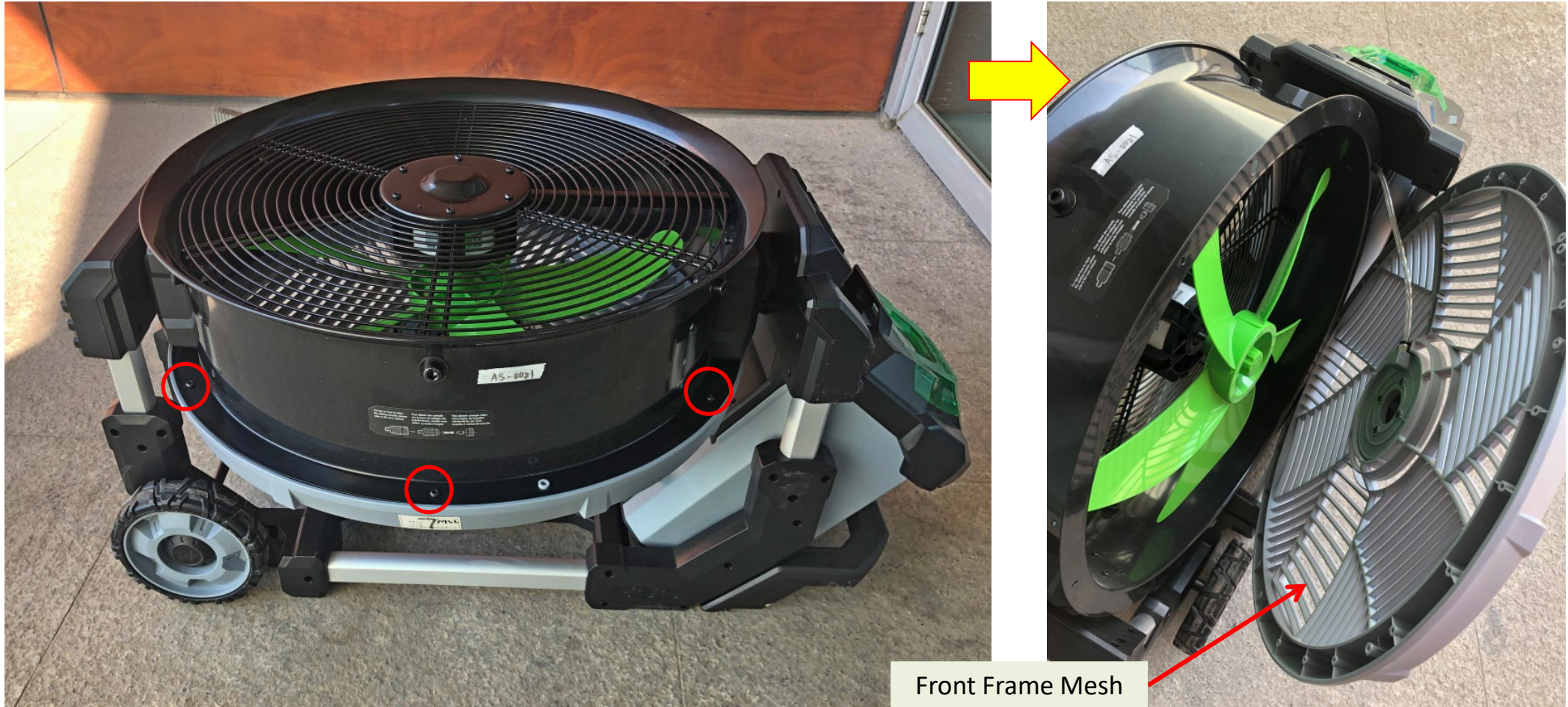
» hinge locking knob





# How to Disassemble the Misting Fan

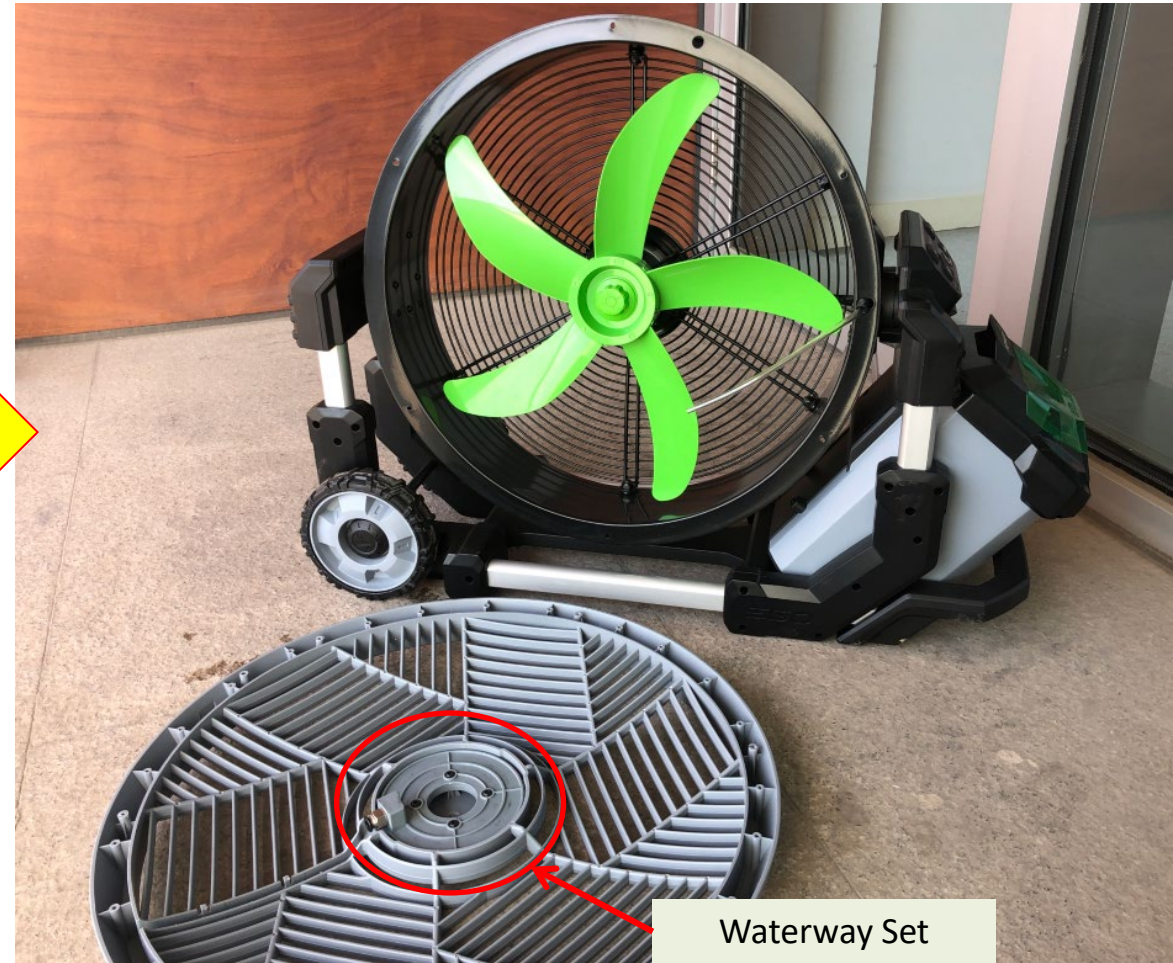
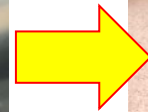
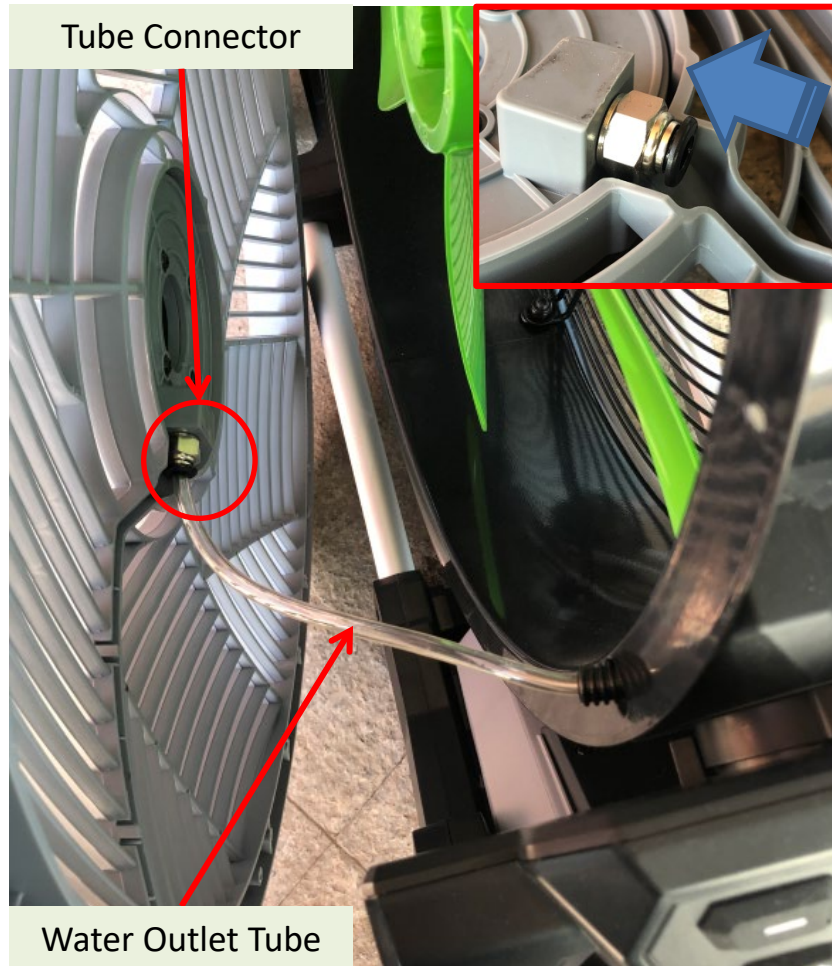
2. Turn the fan angle at 90° as shown below, at which the screws for fastening the front frame mesh is easy to reach and loosen.





# How to Disassemble the Misting Fan

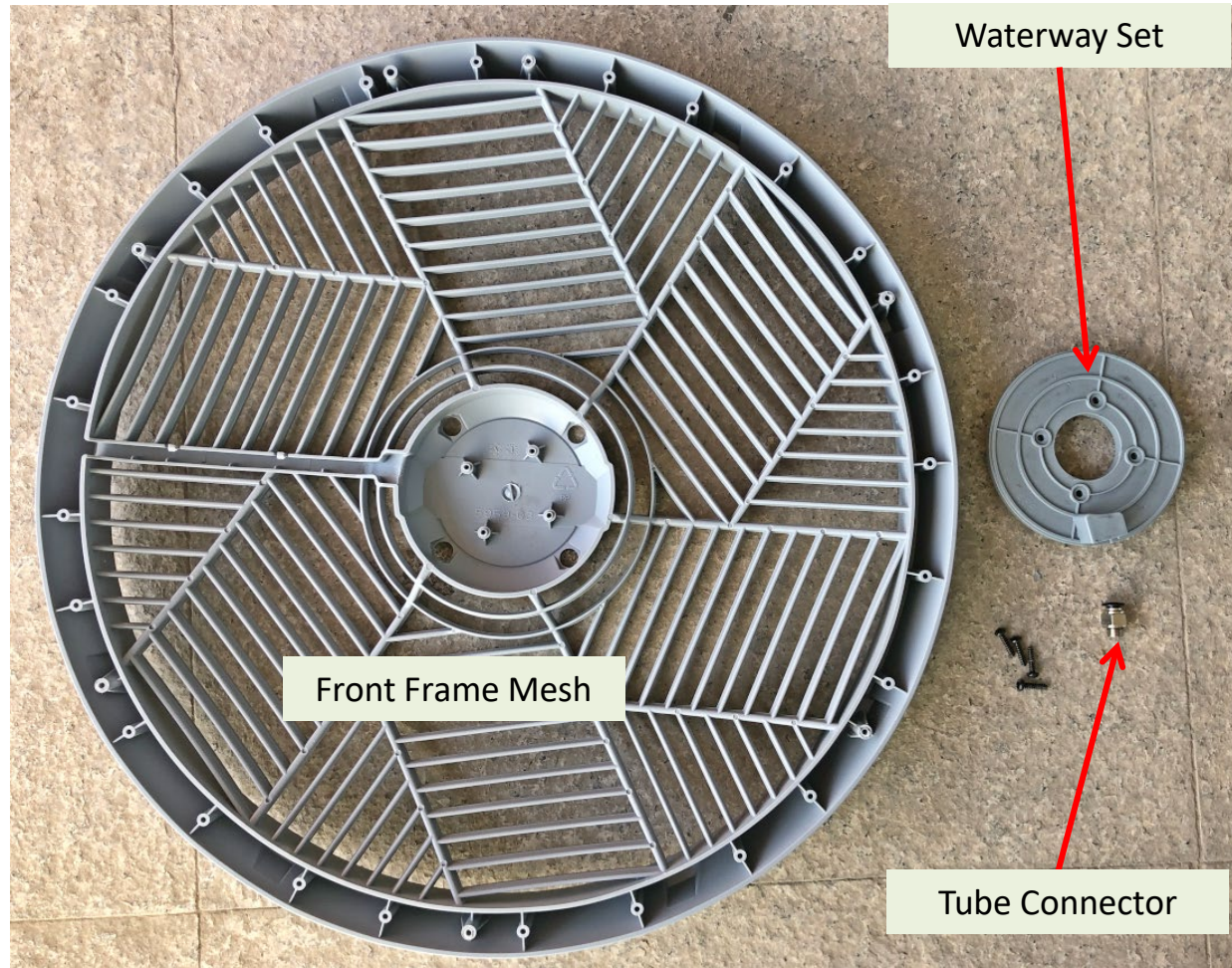
3. The water outlet tube is connected with the waterway set by a tube connector. Depress the black button and pull out the tube to disconnect each other and take off the front frame mesh from the fan housing.





# How to Disassemble the Misting Fan

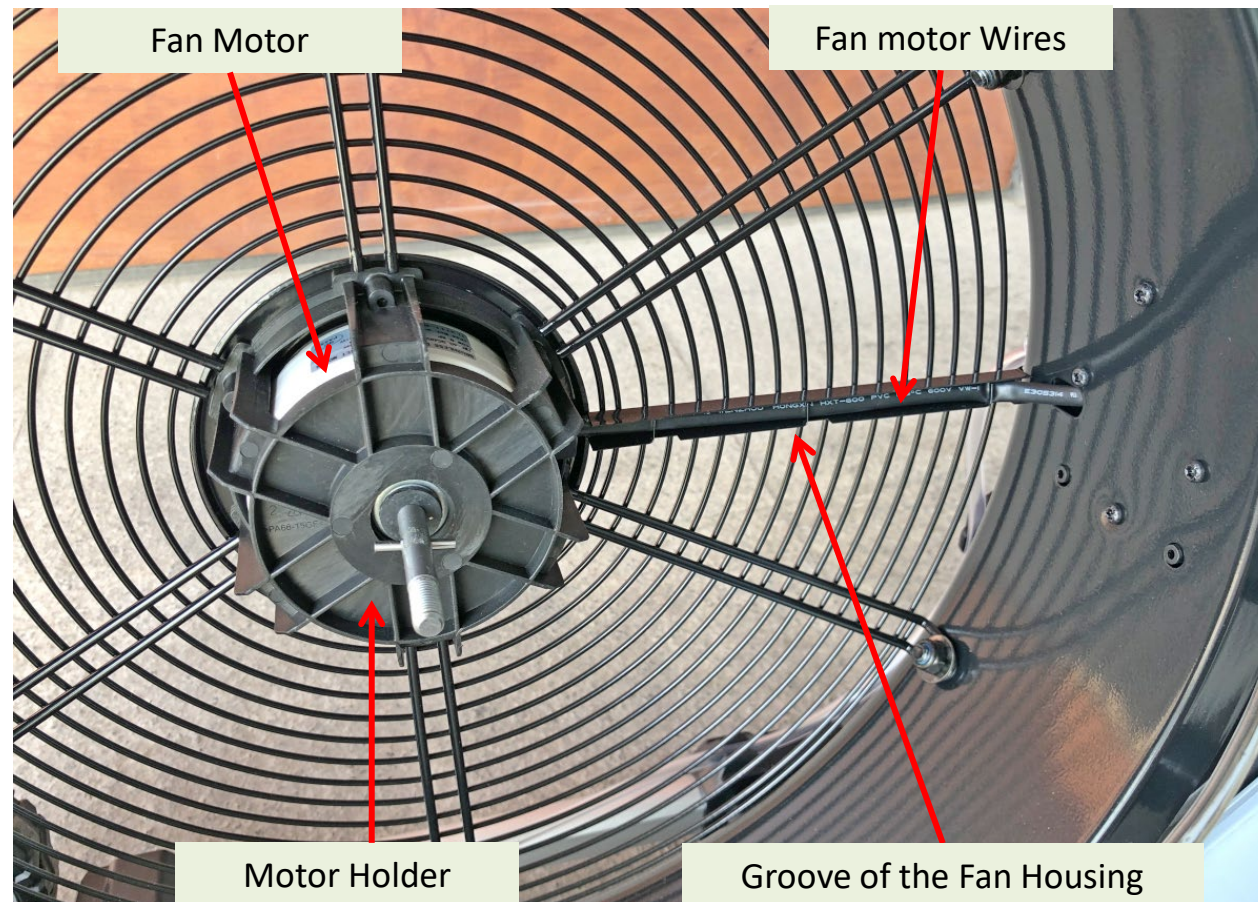
4. Parts that can be replaced after the front frame mesh is taken off from the fan housing.





# How to Replace the Fan Motor

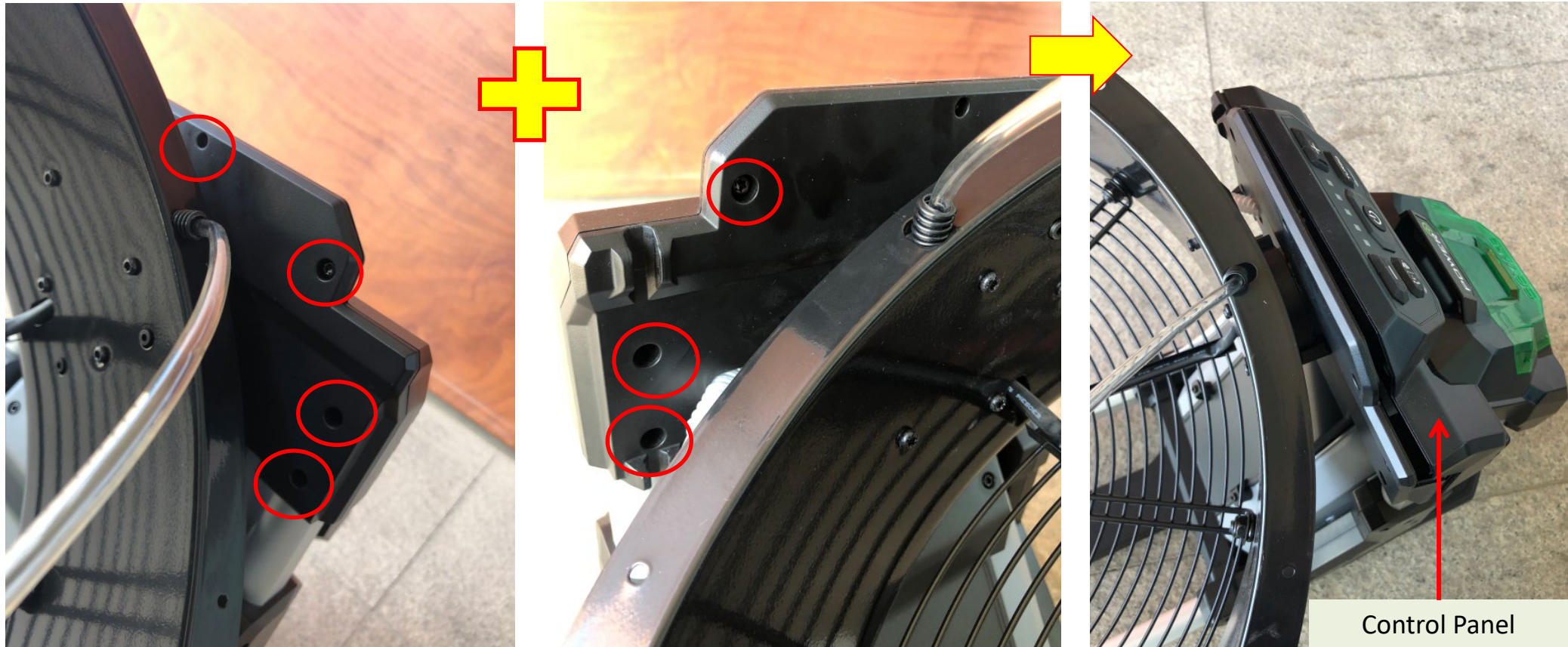
1. The fan motor is seated in the middle of the fan housing and supported by the motor holder. The motor wires go through the fan housing groove into the right hinge support, then into the control panel in where there is a connector to connect/disconnect the motor and its PCBA.





# How to Replace the Fan Motor

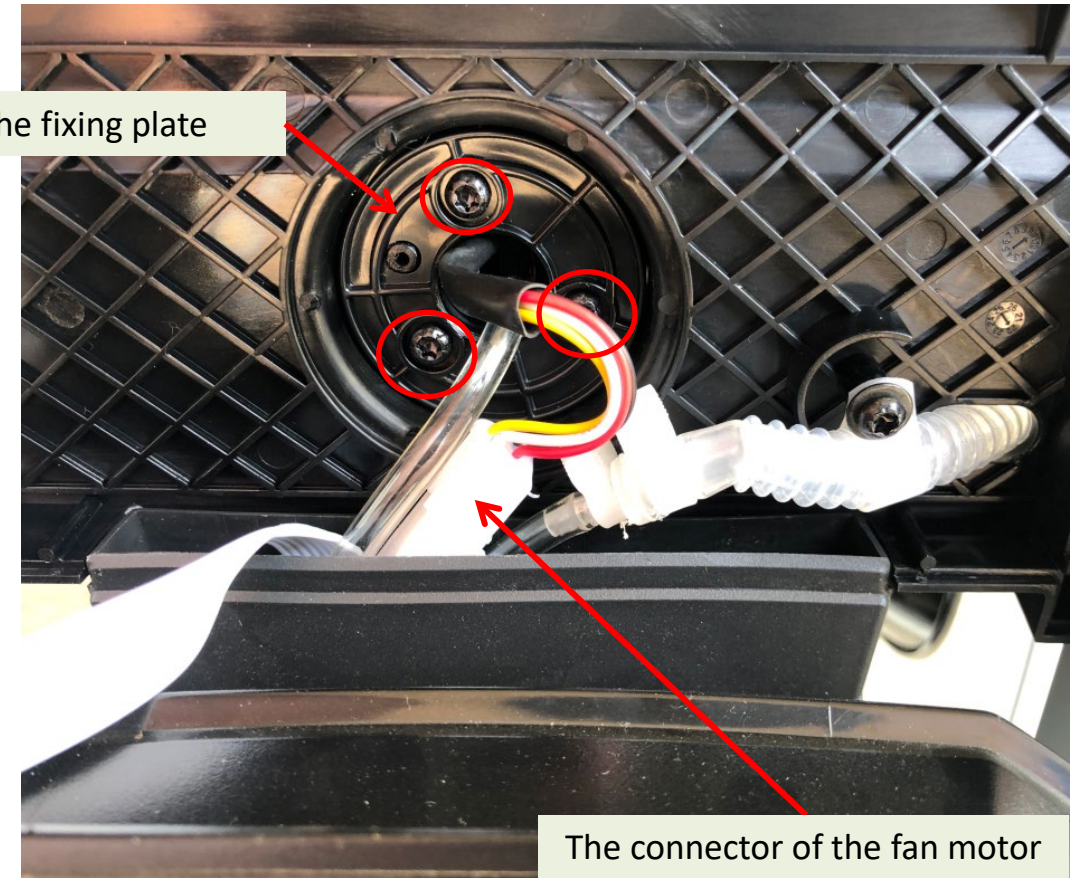
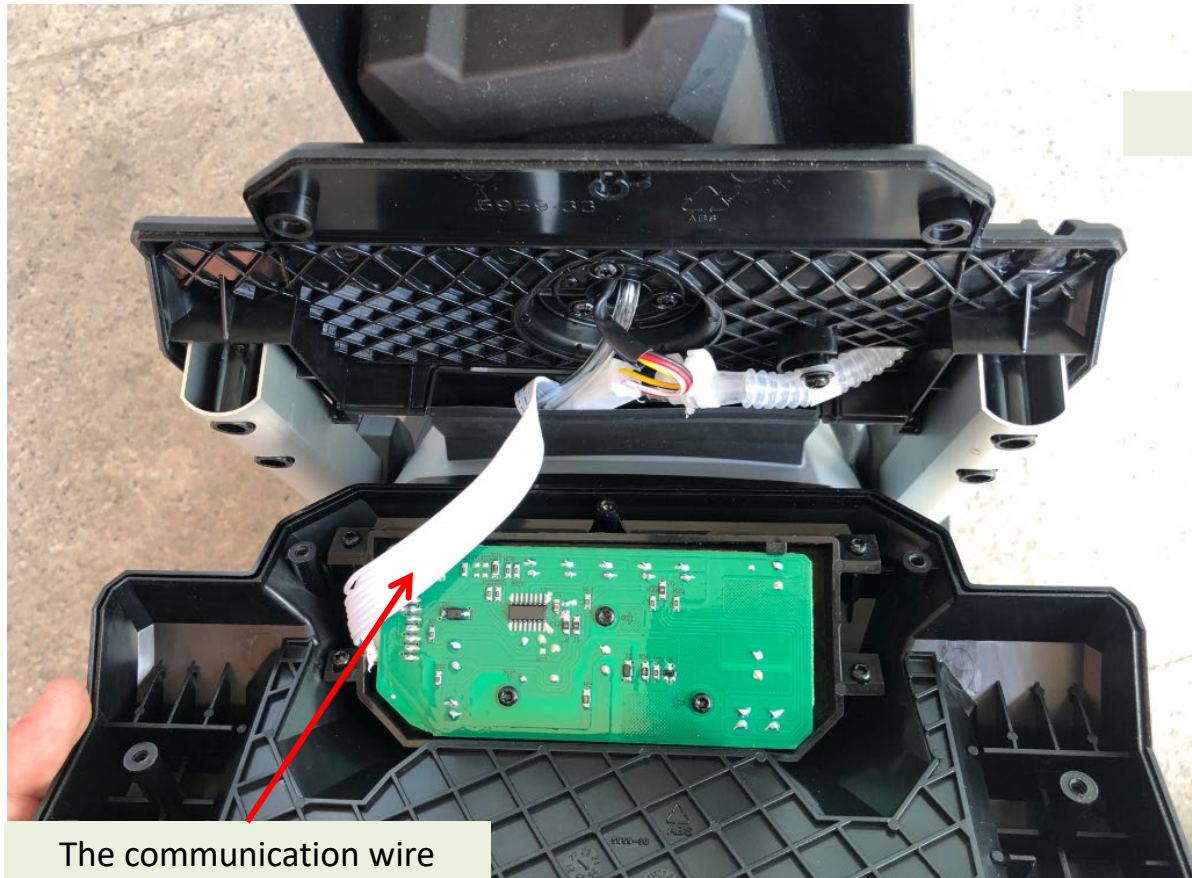
2. Adjust the fan angle to reach and loosen the locking screws of the control panel.





# How to Replace the Fan Motor

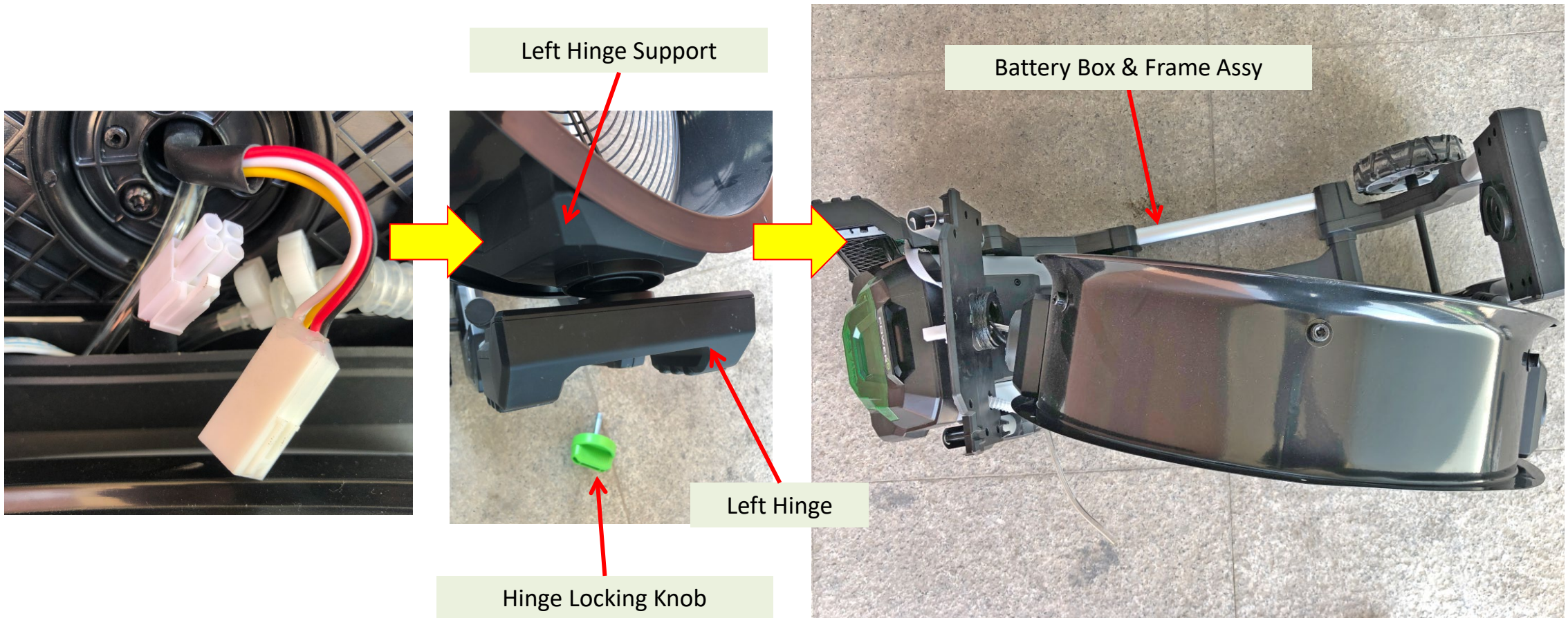
3. Open the control panel and be aware not to stretch the communication wire connecting the control panel and motor PCBA. Loosen the locking screws of the fixing plate.





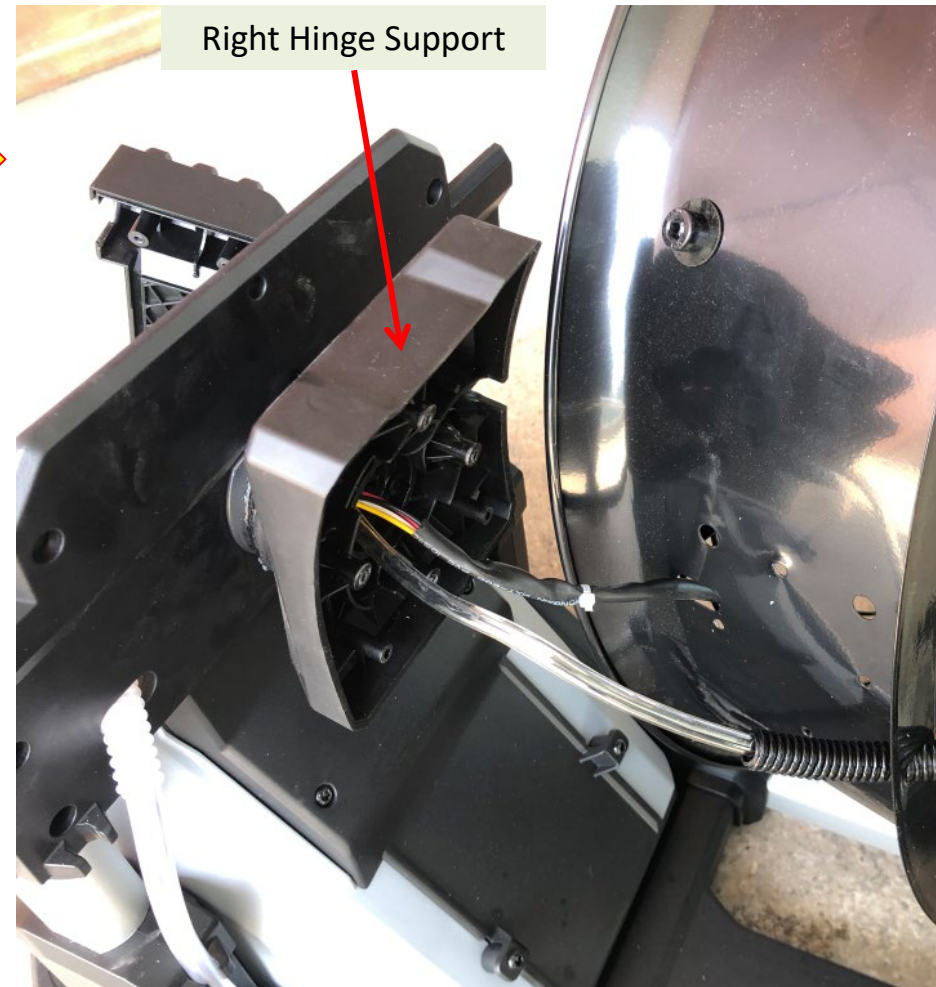
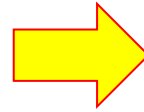
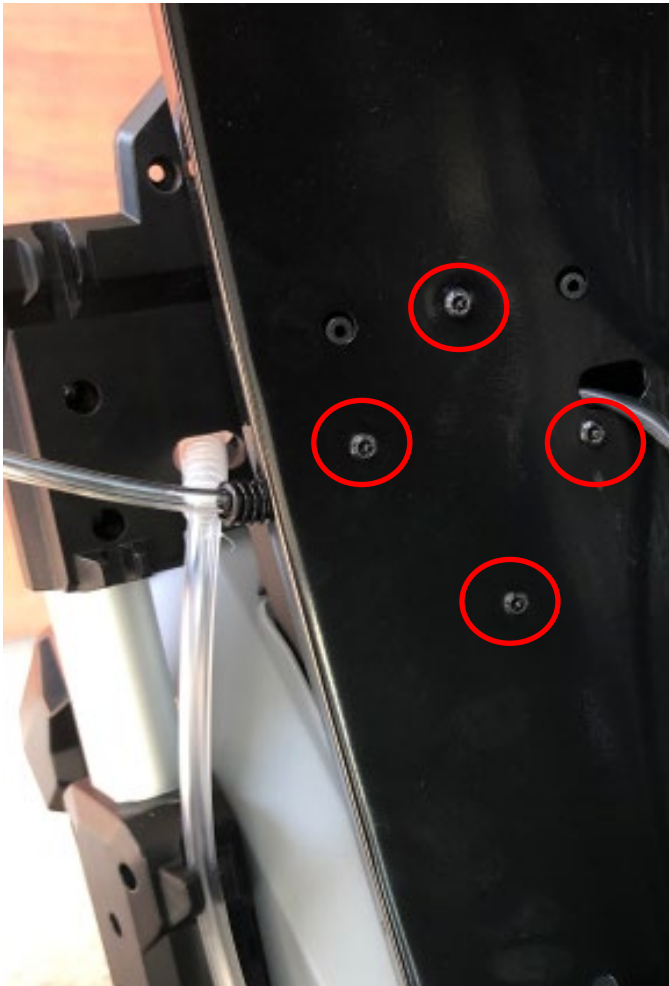
# How to Replace the Fan Motor

4. Disconnect the connector.
5. Loosen the hinge locking knob on the left hinge and then take the fan housing off from the battery box & frame assy.



# How to Replace the Fan Motor

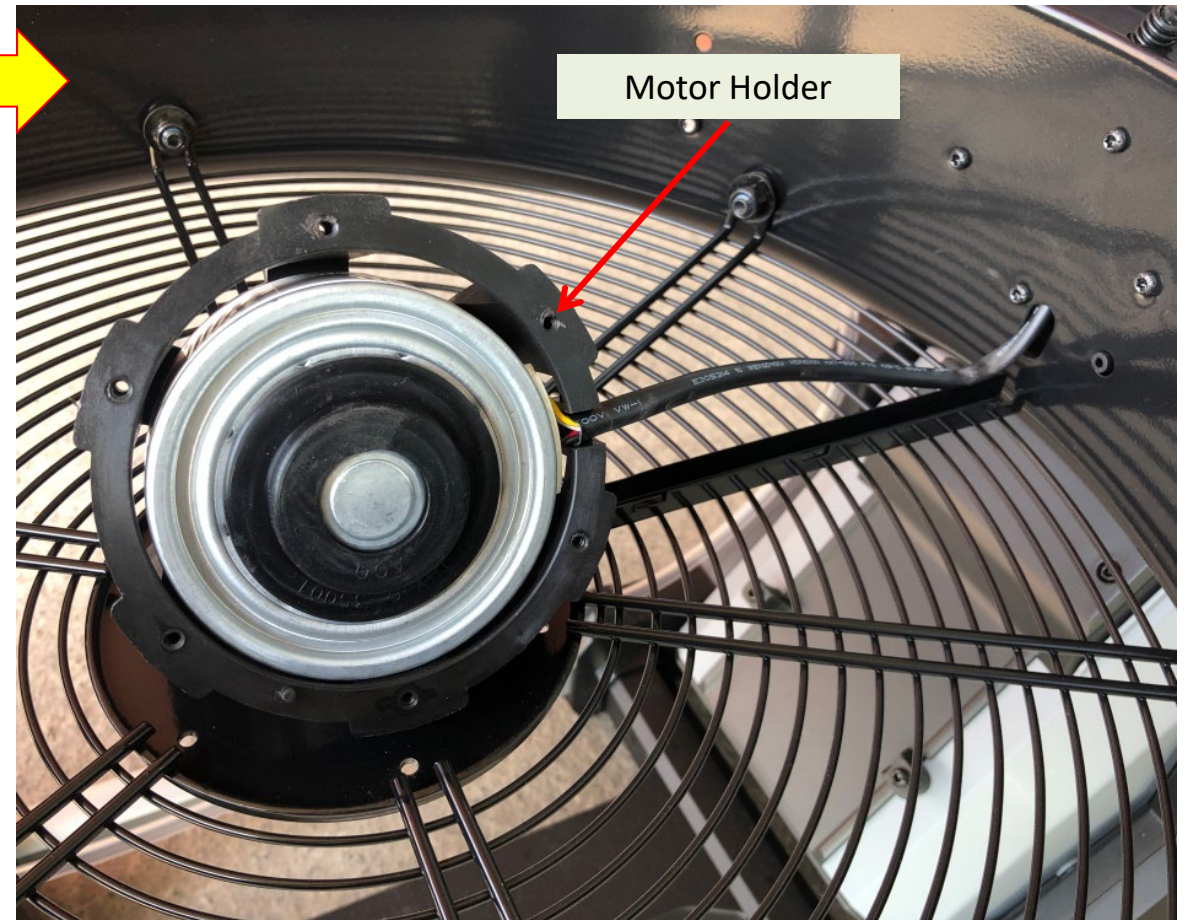
6. Loosen the locking screws of the right hinge support to remove the right hinge support from the fan housing.





# How to Replace the Fan Motor

7. Loosen the locking screws of the motor holder.
8. Carefully straighten the locking pawls in the fan housing groove and replace with a new fan motor.

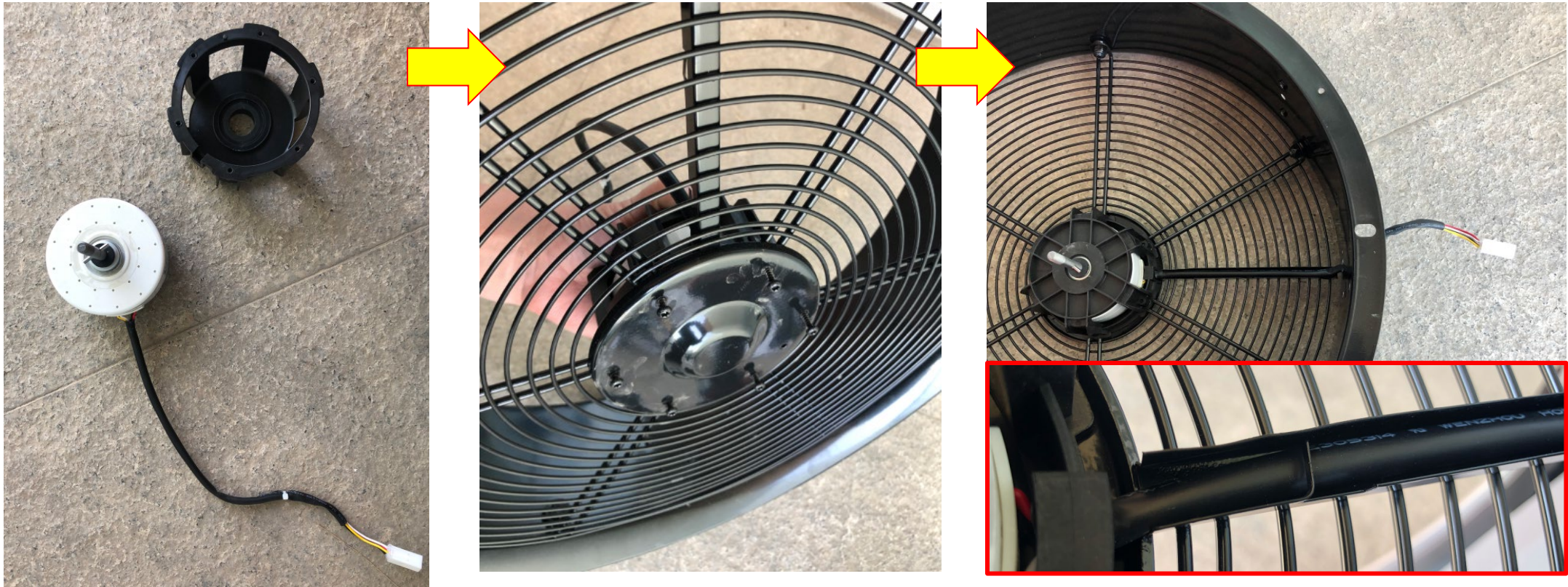




# How to Replace the Fan Motor

9. Mount the motor into the motor holder.

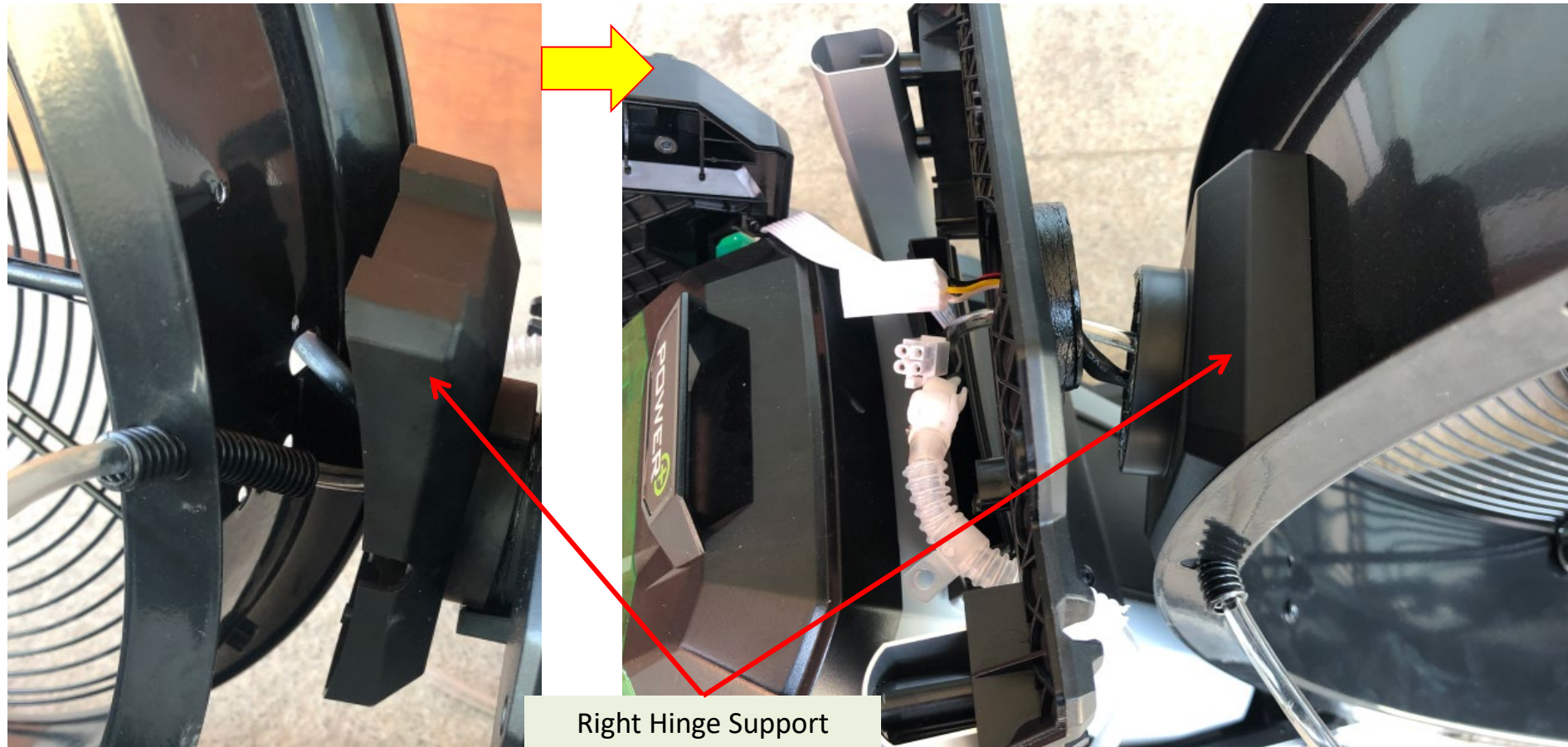
10. Fasten the locking screws of the motor holder and carefully bend the locking pawls in the fan housing groove to locate the motor wires.





# How to Replace the Fan Motor

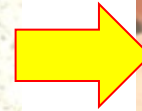
11. Mount back the right hinge support and make sure that the motor wire goes through the right hinge support into the control panel.



# How to Replace the Fan Motor

12. Re-connect the motor wire connector. Fasten the locking screws of the fixing plate.

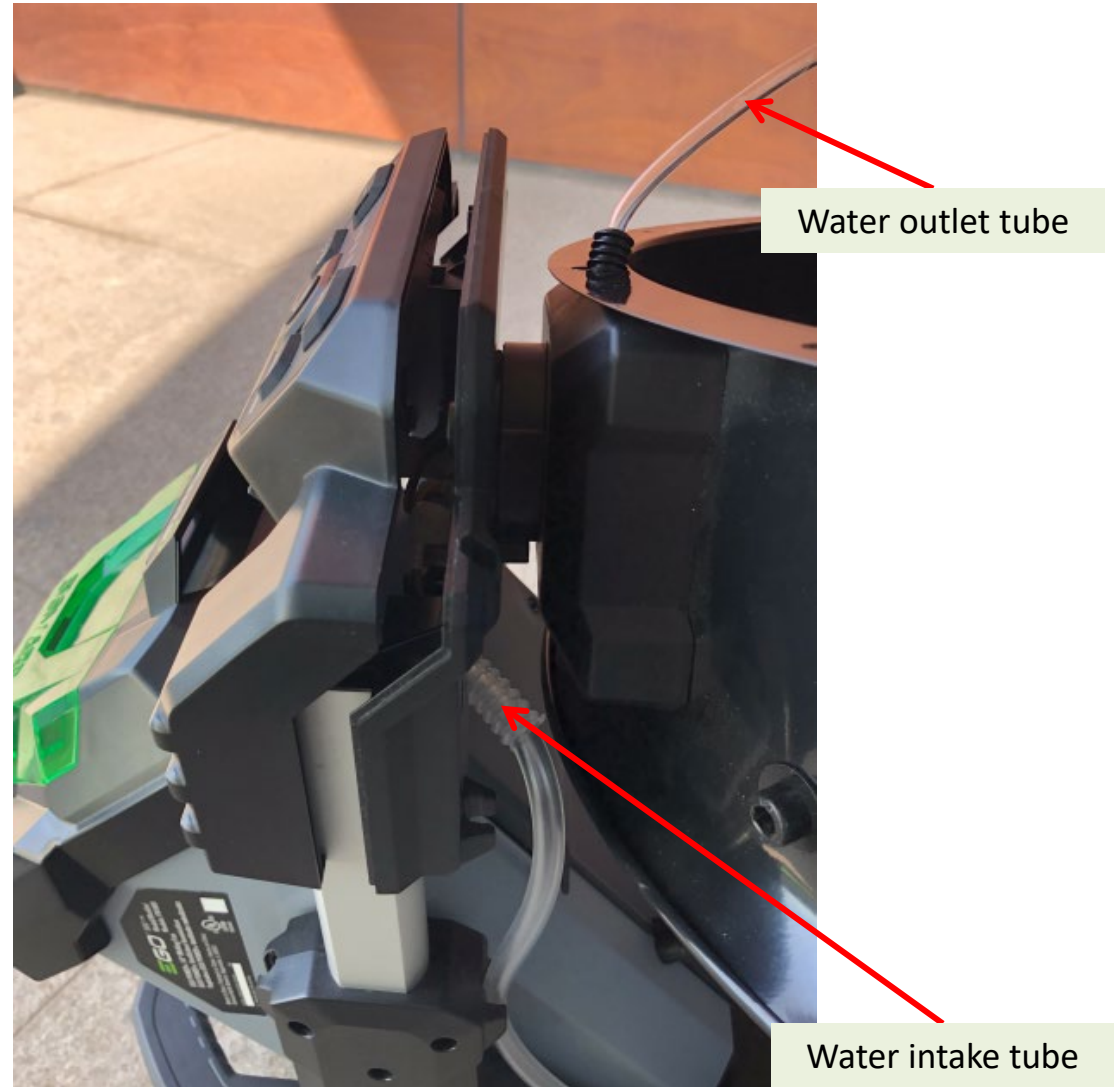
13. Reassemble the control panel.





# How to Replace the Water Pump Motor Assy

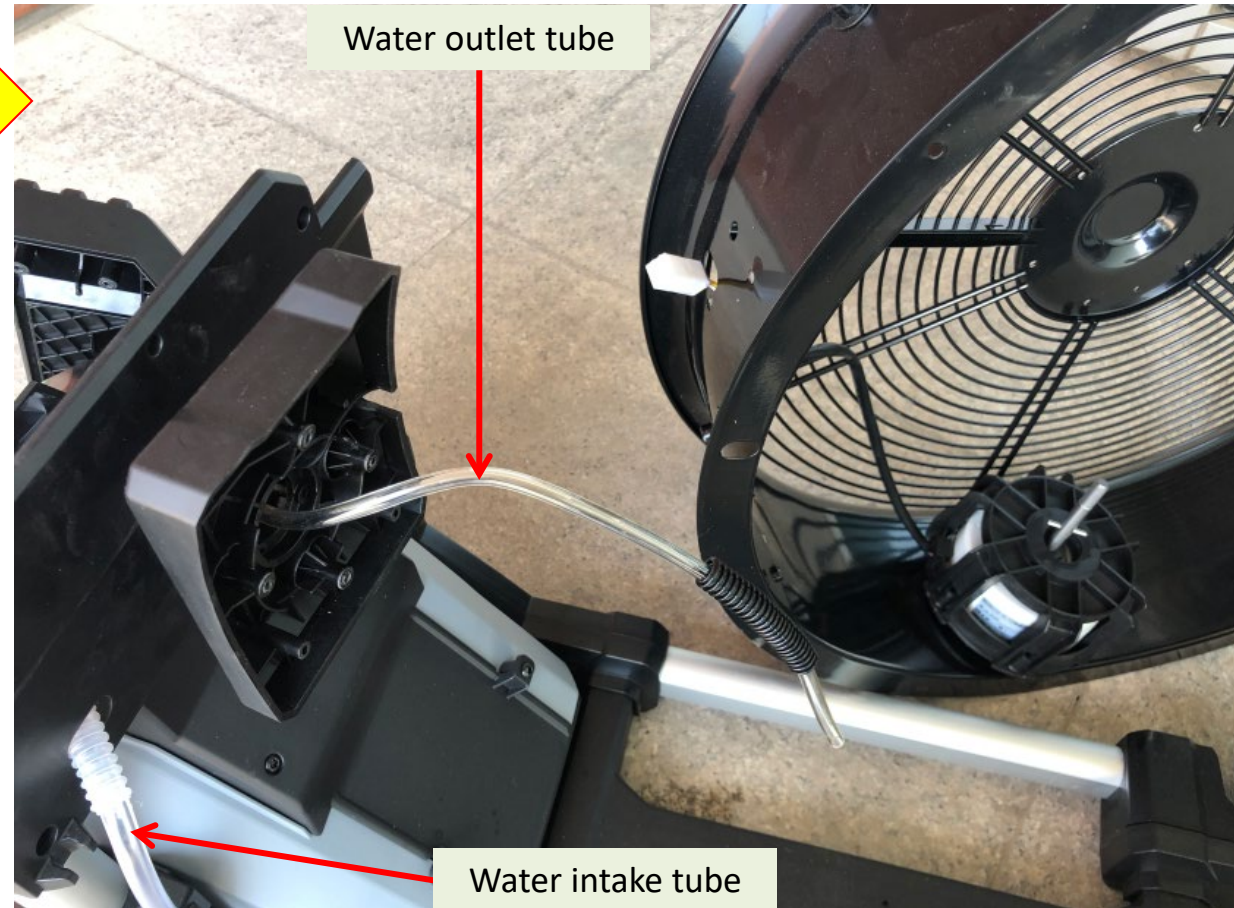
1. The water pump motor assembly includes the water intake tube, water outlet tube and the water pump. The water pump is behind the battery box side cover. The water intake tube goes through the channel of the battery box side cover into the control panel and then connected with a filter outside. The water outlet tube also goes through the channel of the battery box side cover into the control panel, then the right hinge support, the front frame mesh and connected with the tube connector of the waterway set.





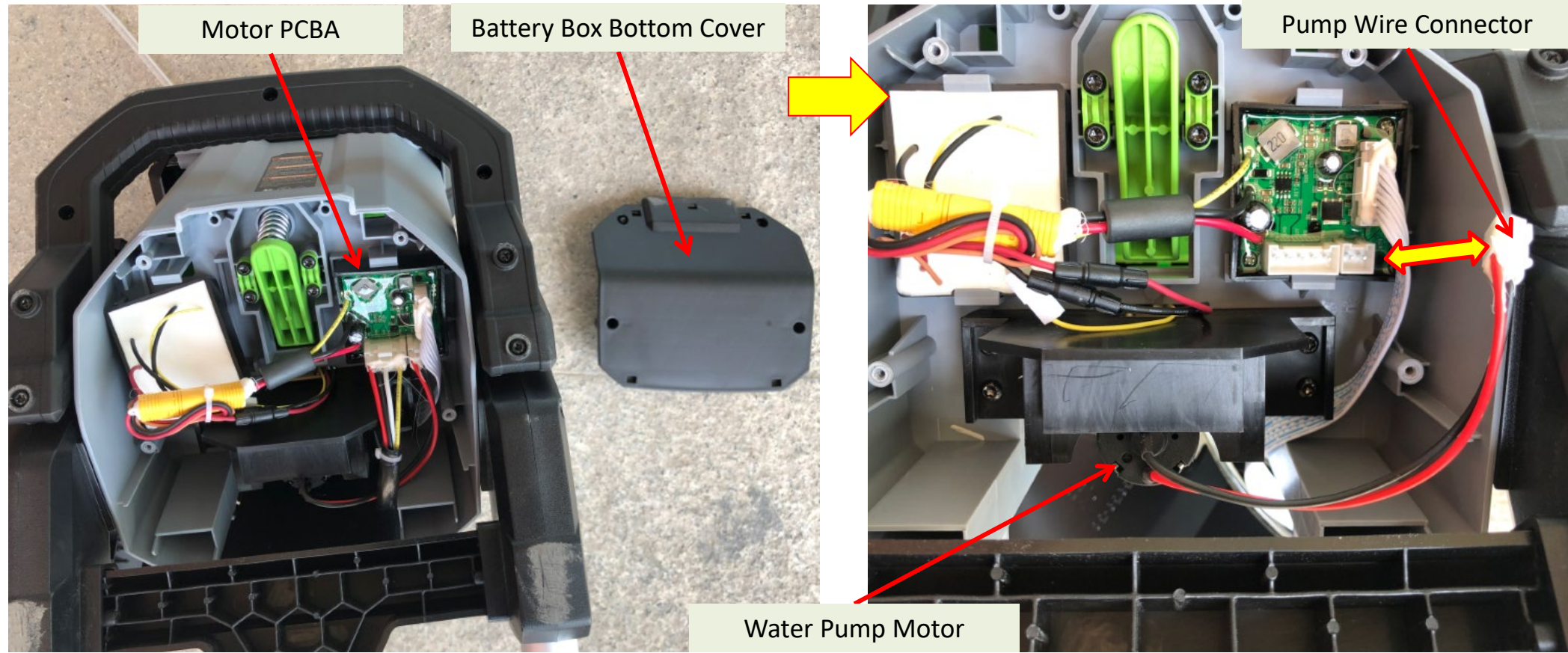
# How to Replace the Water Pump Motor Assy

2. To replace the pump motor assembly, take off the front frame mesh from the fan housing. Disconnect the water outlet tube from the connector.
3. Open the control panel and remove the right hinge support from the fan housing.



# How to Replace the Water Pump Motor Assy

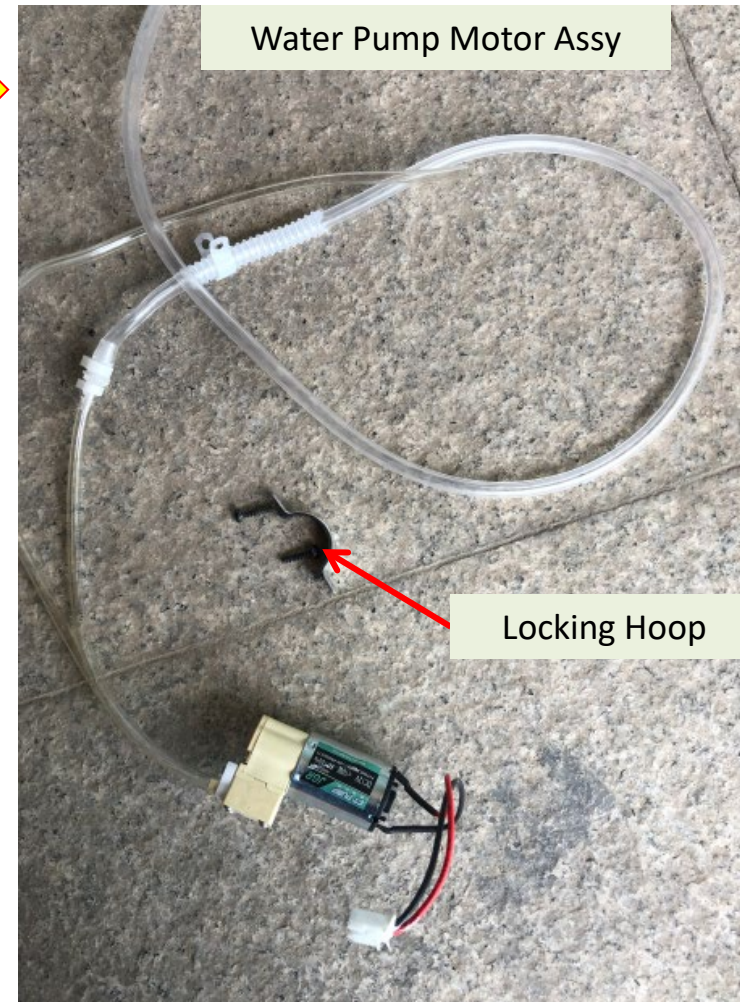
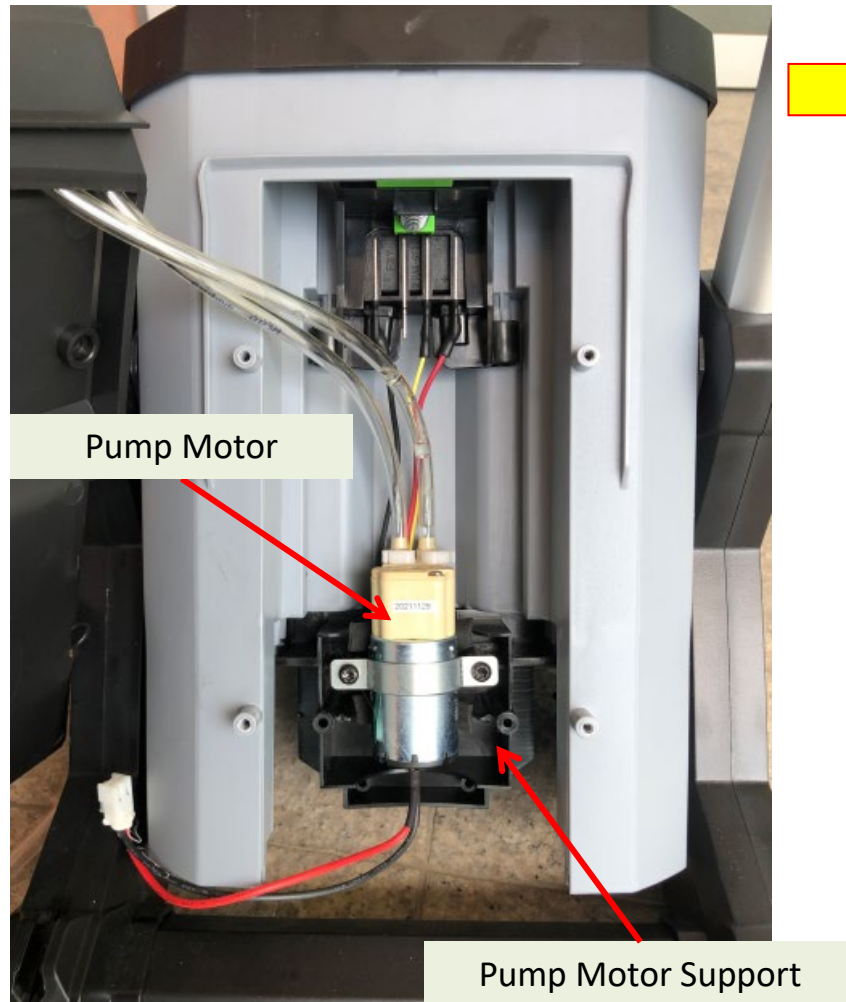
4. Open the battery box bottom cover to find the pump wires which is connected to the motor PCBA. Disconnect the pump wire from the motor PCBA.





# How to Replace the Water Pump Motor Assy

5. Open the battery box side cover to find the water pump motor. Loosen the screws to remove the water pump motor from the support and replace with a new one.



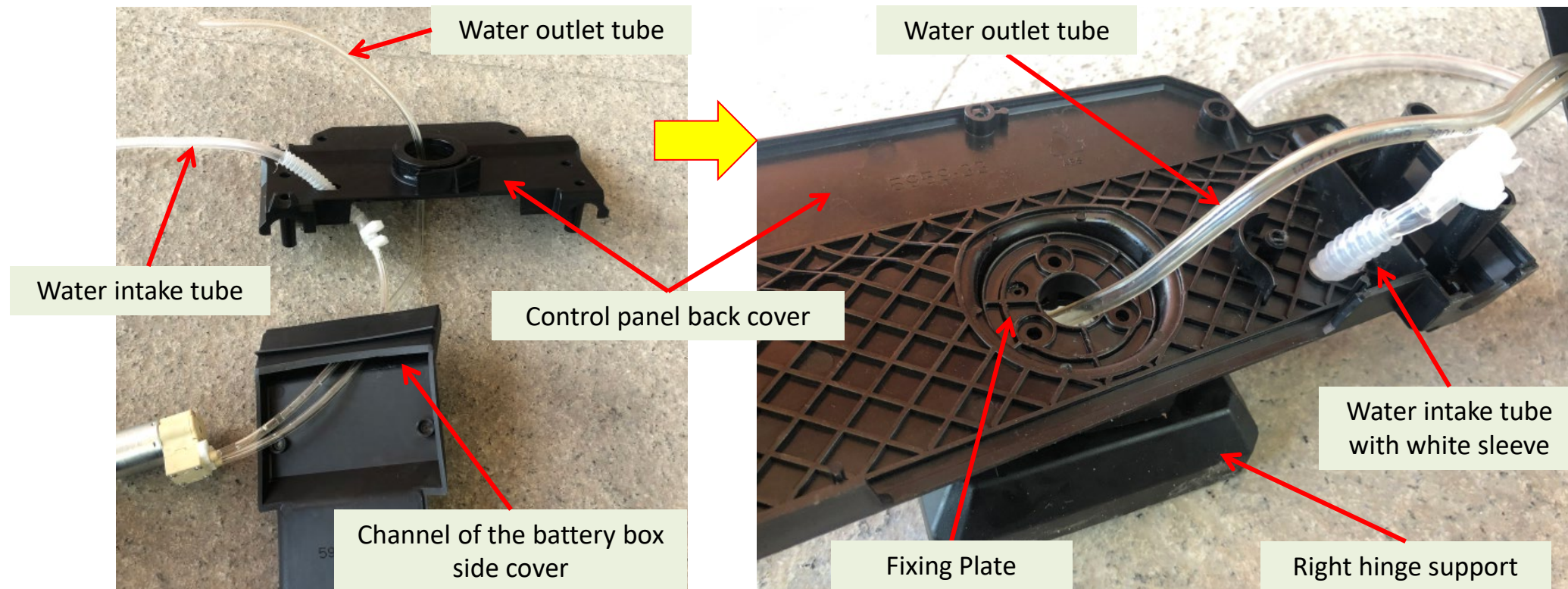
# How to Replace the Water Pump Motor Assy

6. To re-assemble the water pump motor assembly, arrange the water tubes first:

» both intake and outlet tubes needs to go through the channel of the battery box side cover;

» outlet tube goes through the fixing plate, then through the control panel back cover to the right hinge support;

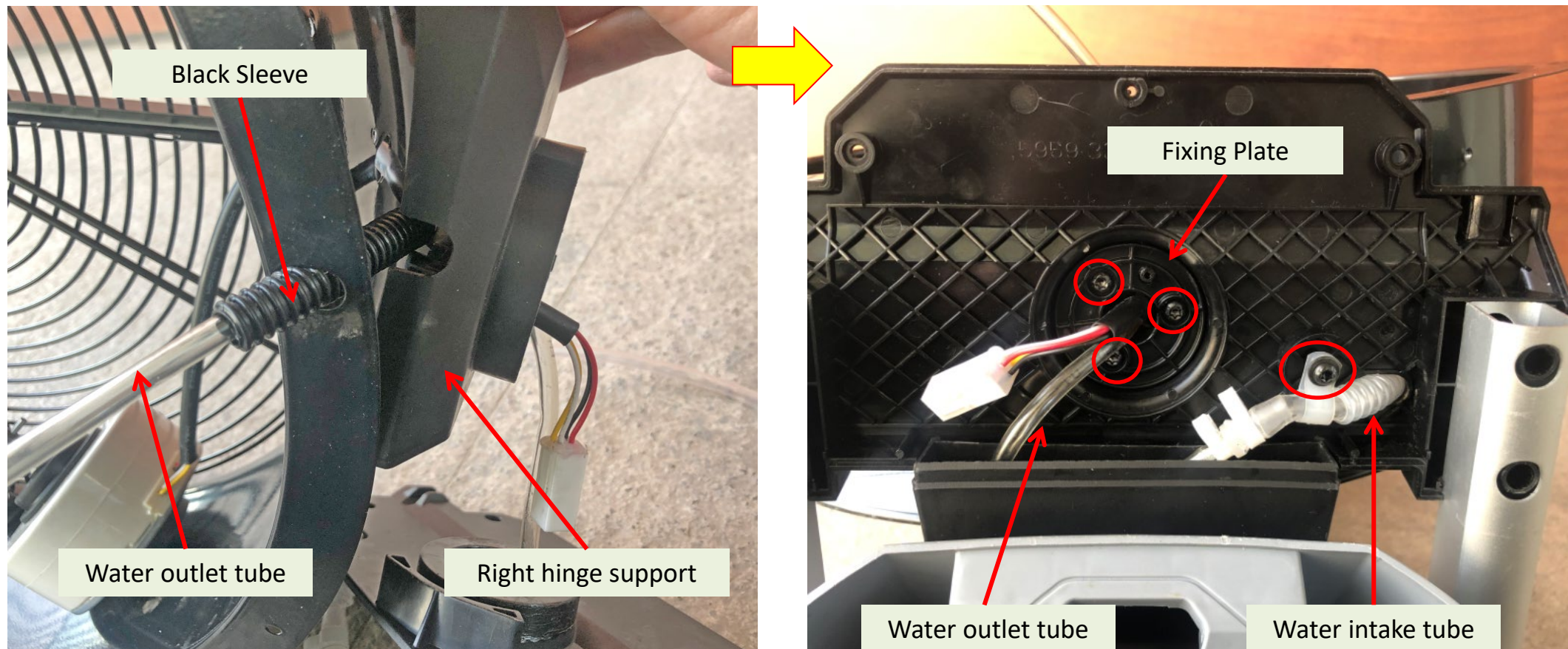
» intake tube goes out the control panel back cover and protect it with the white sleeve;





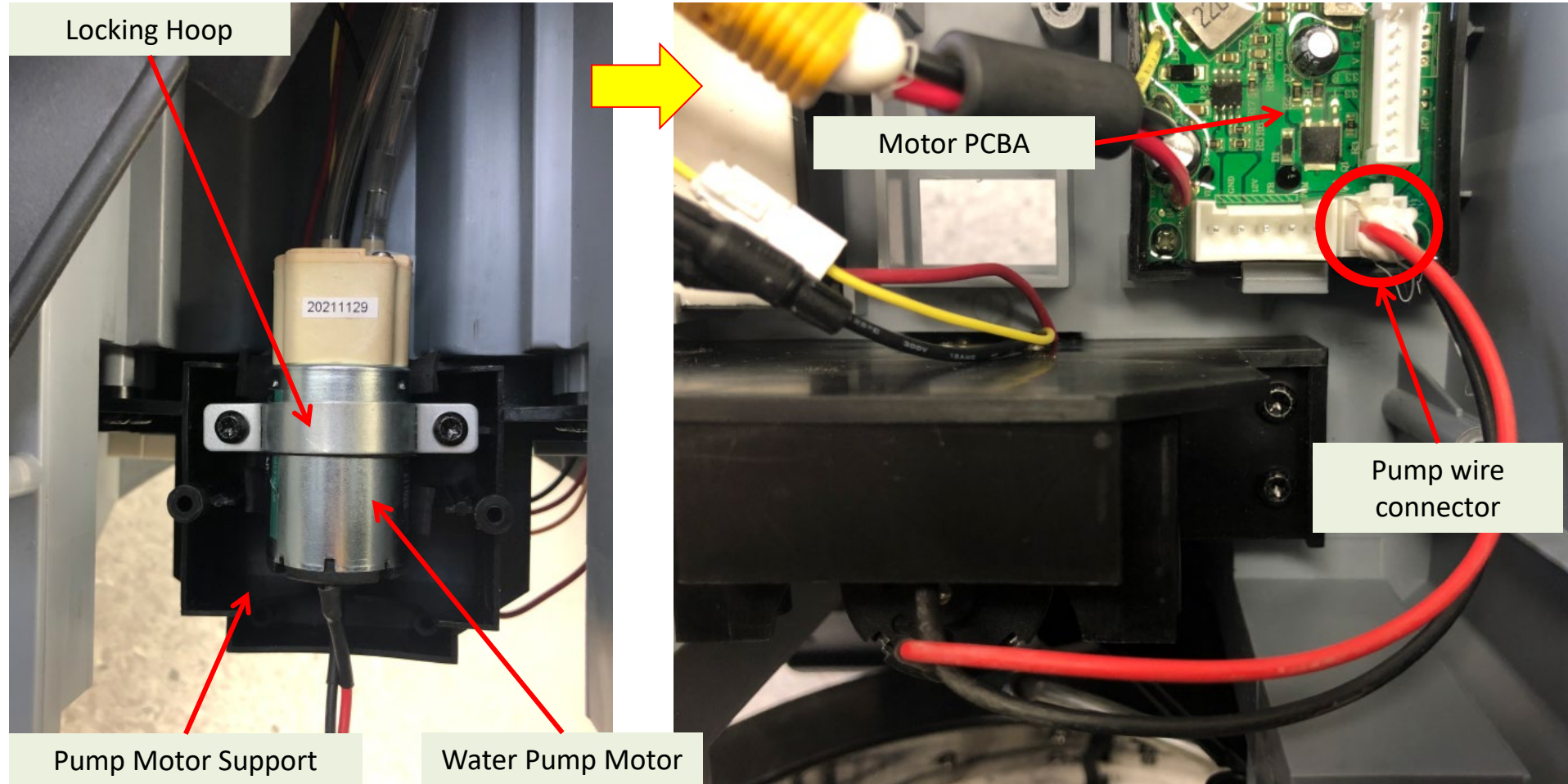
# How to Replace the Water Pump Motor Assy

7. Arrange the water outlet tube goes through the fan housing and protect the tube with the black sleeve. Fix the right hinge support to locate the water outlet tube.
8. Lock the fixing plate and water intake tube by fastening the screws.



# How to Replace the Water Pump Motor Assy

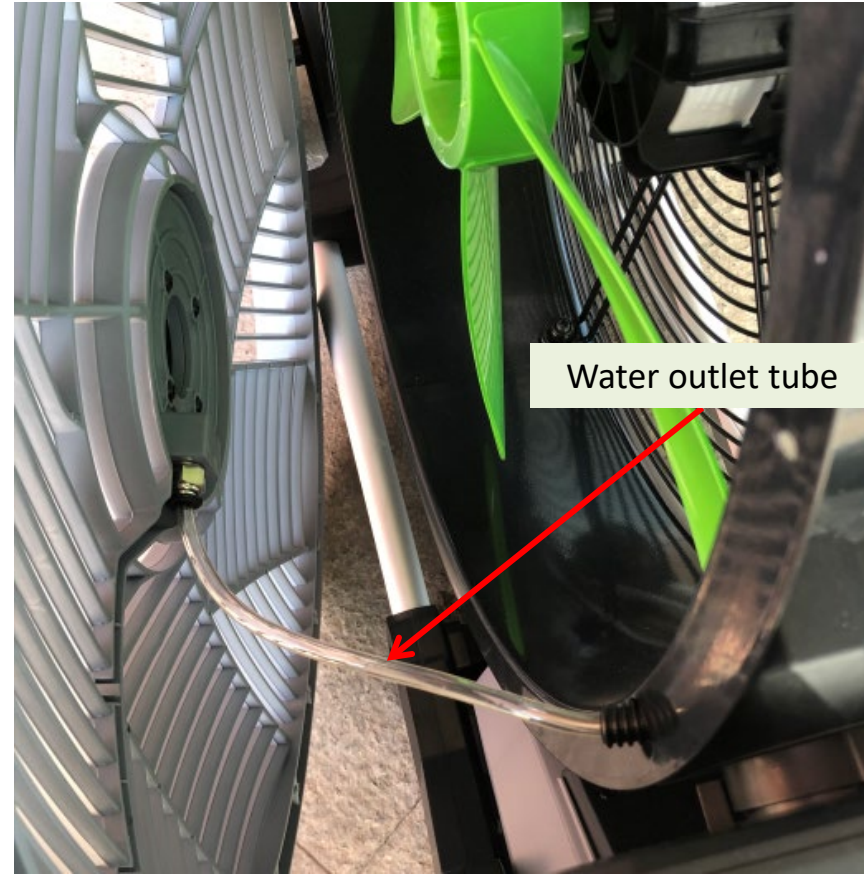
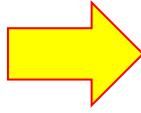
9. Locate the water pump motor on the support and fix it with the locking hoop.
10. Re-connect the pump wire to the motor PCBA.





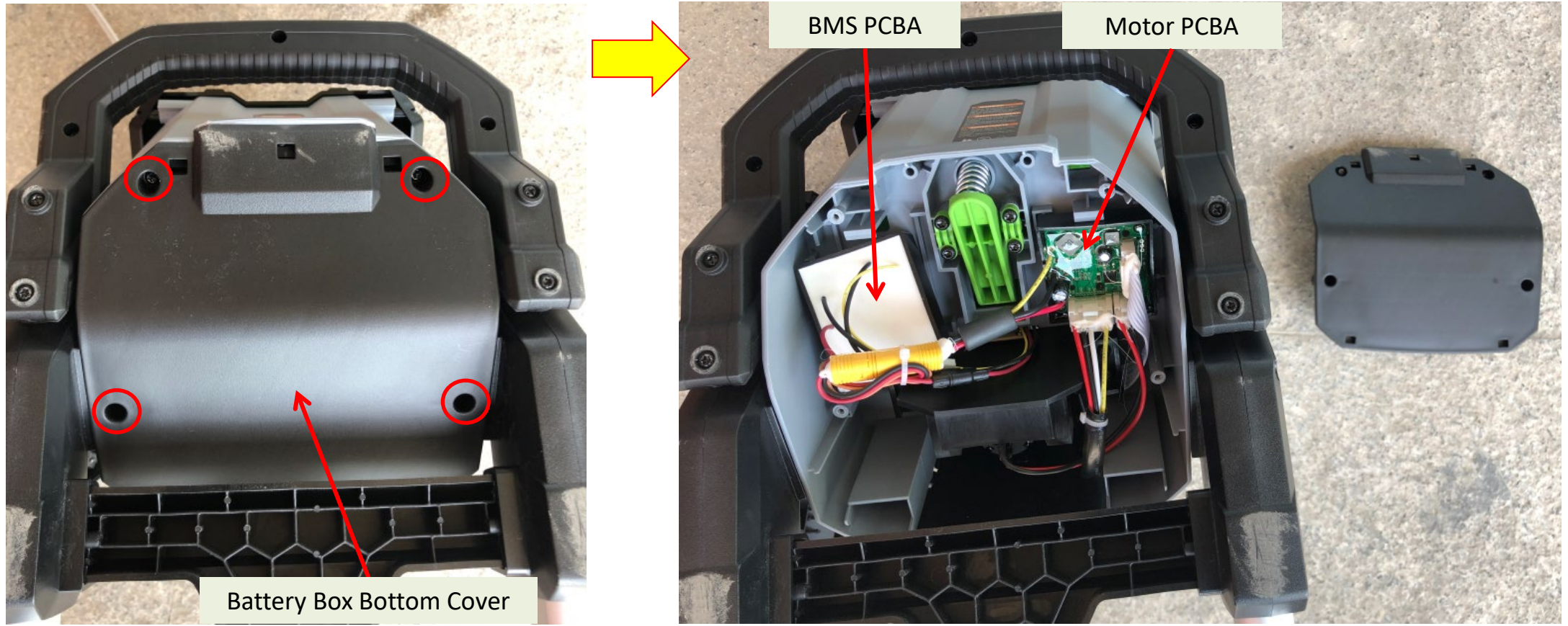
# How to Replace the Water Pump Motor Assy

11. Re-assemble the bottom and side cover of the battery box.
12. Connect the water outlet tube with the connector and close the front frame mesh.



# How to Replace the Motor PCBA and BMS PCBA

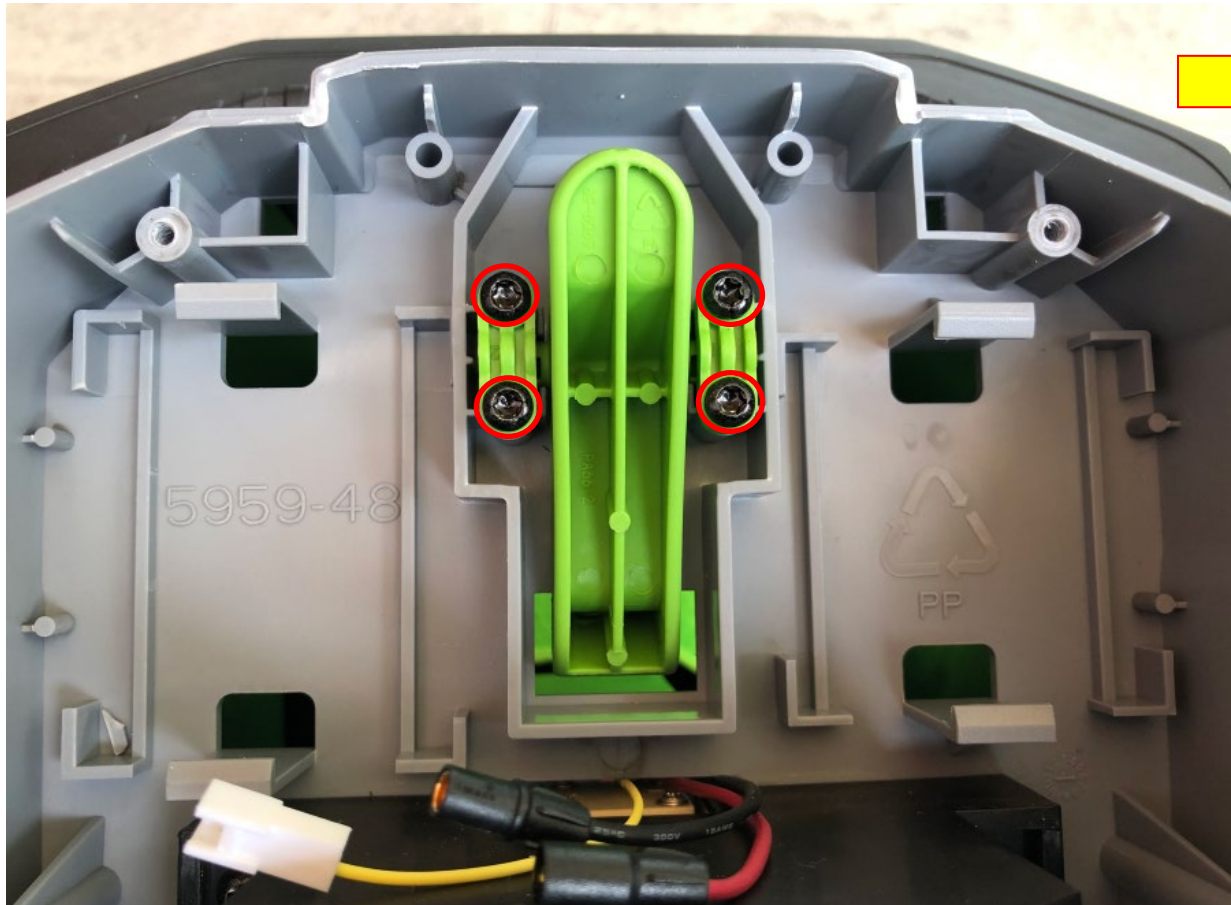
1. Turn the misting fan up side down and loosen the locking screws of the battery box bottom cover.
2. Take off the bottom cover and the motor PCBA and BMS PCBA is shown as below.





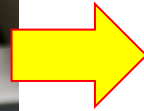
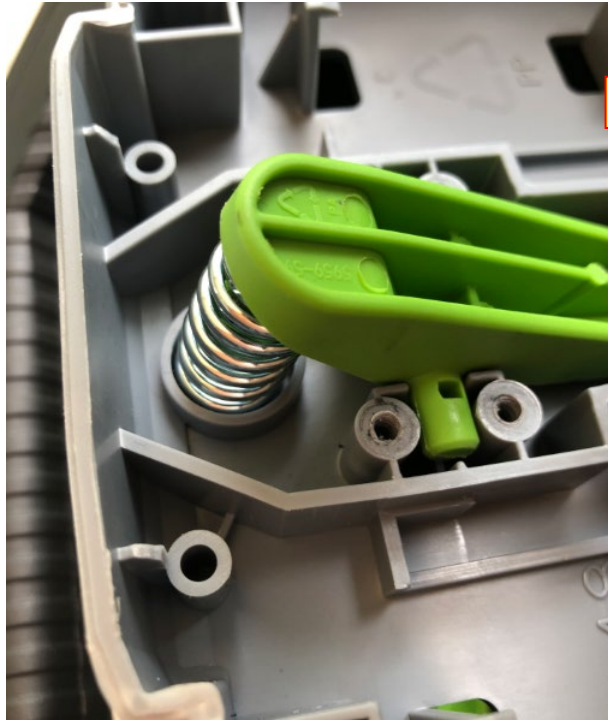
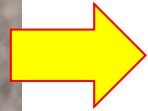
# How to Replace the Motor PCBA and BMS PCBA

3. Disconnect all wire connectors and take off the motor PCBA and BMS PCBA from the battery box.
4. Loosen the locking screws of the battery ejecting mechanism as shown below. Replace any part as necessary.



# How to Replace the Motor PCBA and BMS PCBA

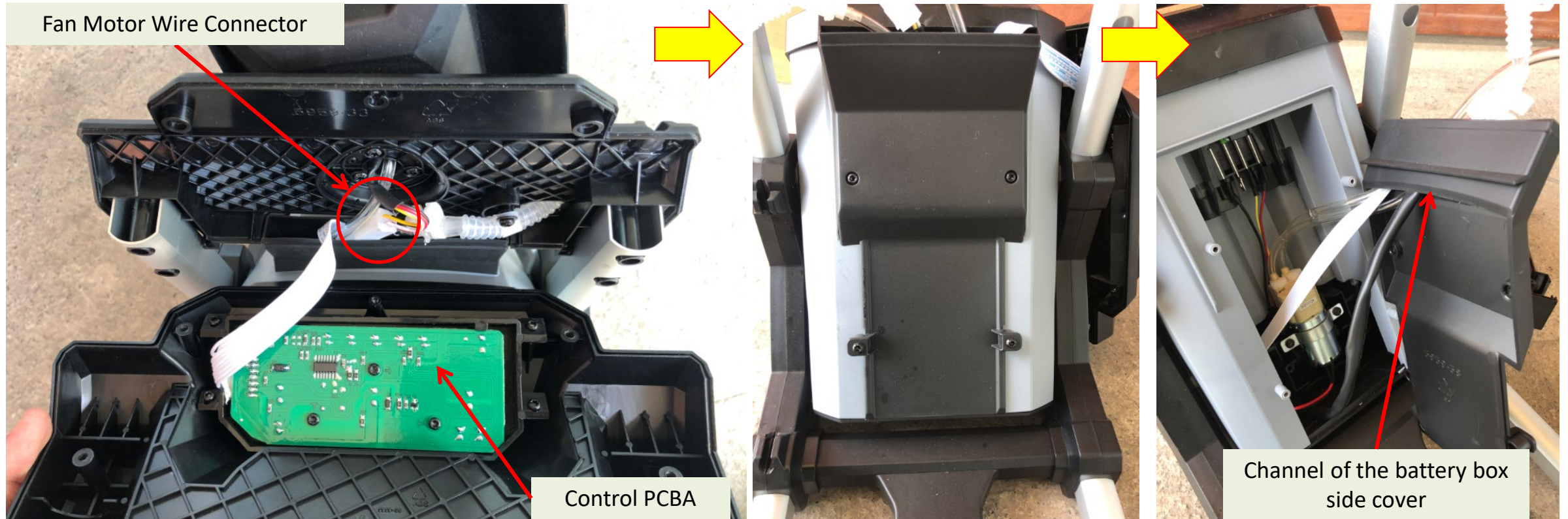
5. Re-assemble the battery ejecting mechanism.





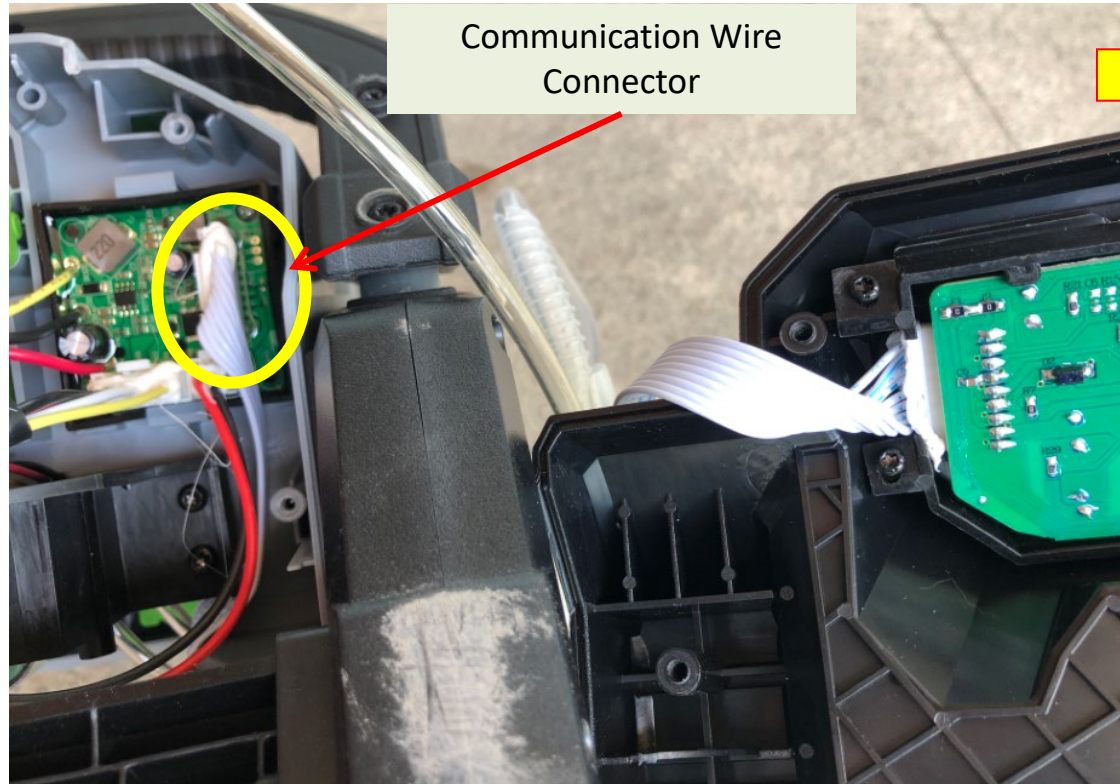
# How to Replace the Motor PCBA and BMS PCBA

6. Open the control panel to expose the control PCBA and the fan motor wire connector.
7. Open the side cover of the battery box to expose the channel which the wires and tubes go through.



# How to Replace the Motor PCBA and BMS PCBA

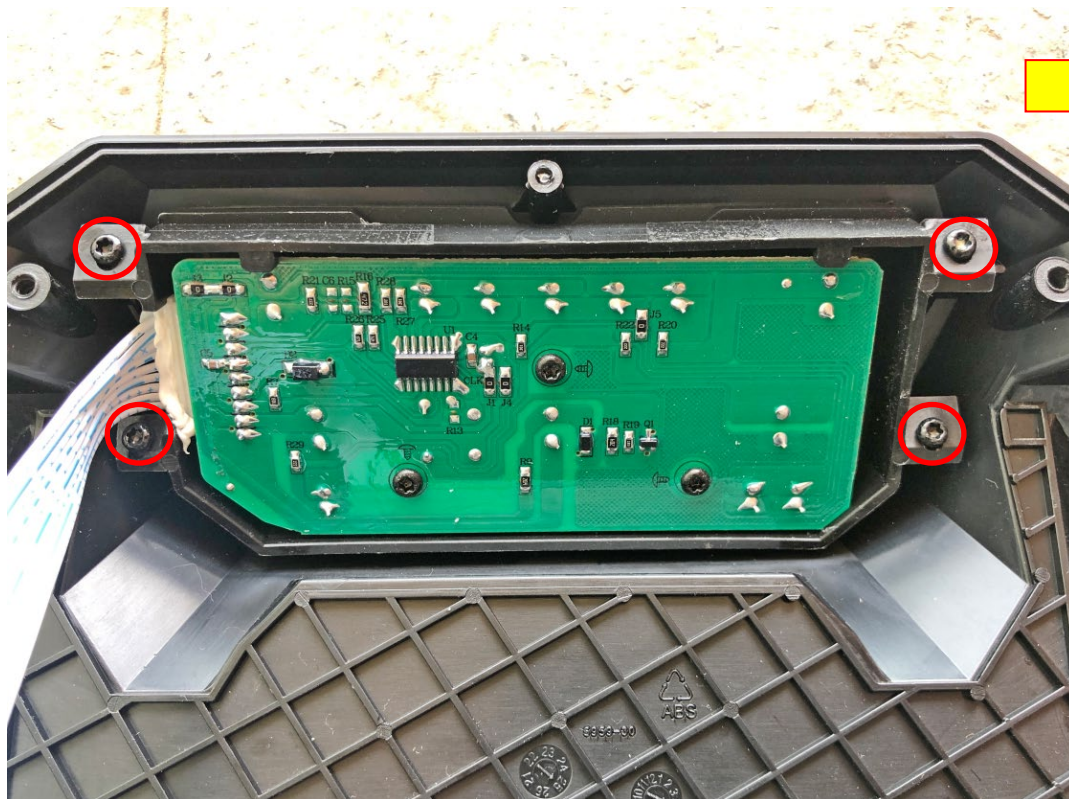
8. When the communication wire is disconnected from the motor PCBA, the control PCBA can be taken off from the frame.





# How to Replace the Motor PCBA and BMS PCBA

9. Loosen the locking screws to disassemble the control PCBA as shown below. Replace any parts as necessary.

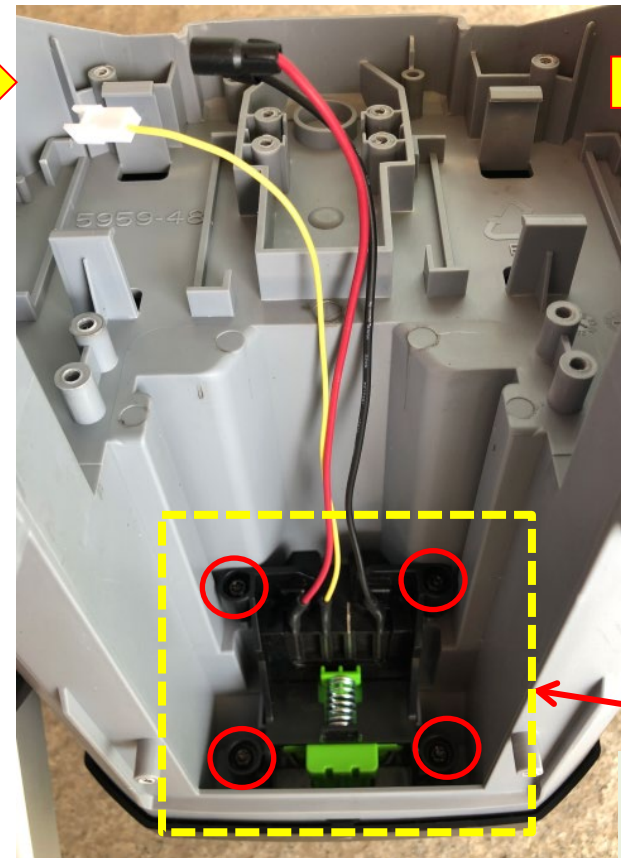
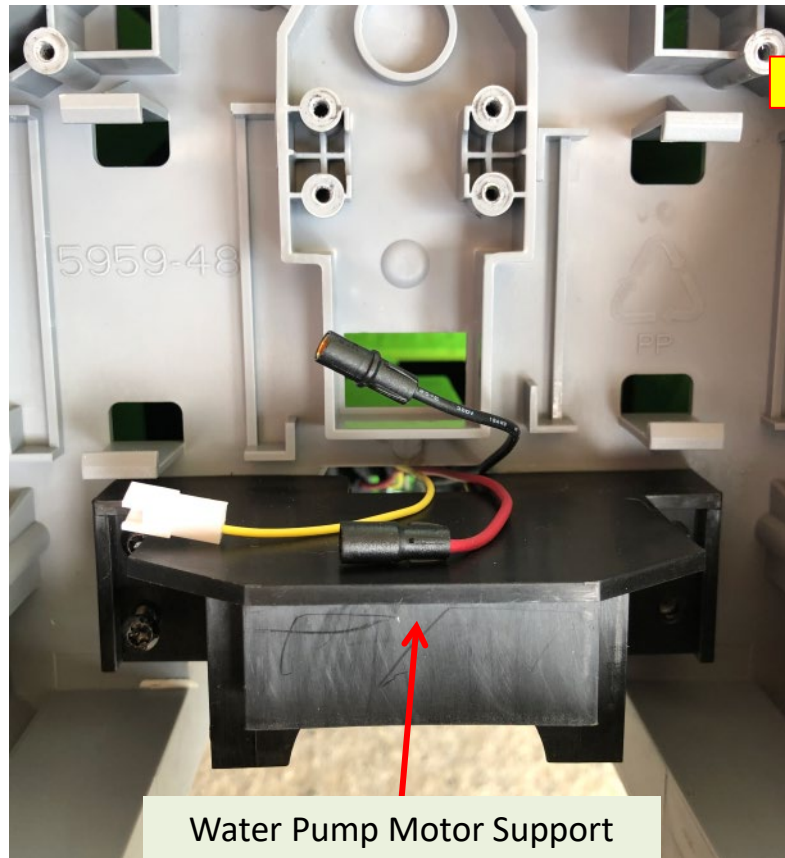




# How to Replace the Motor PCBA and BMS PCBA

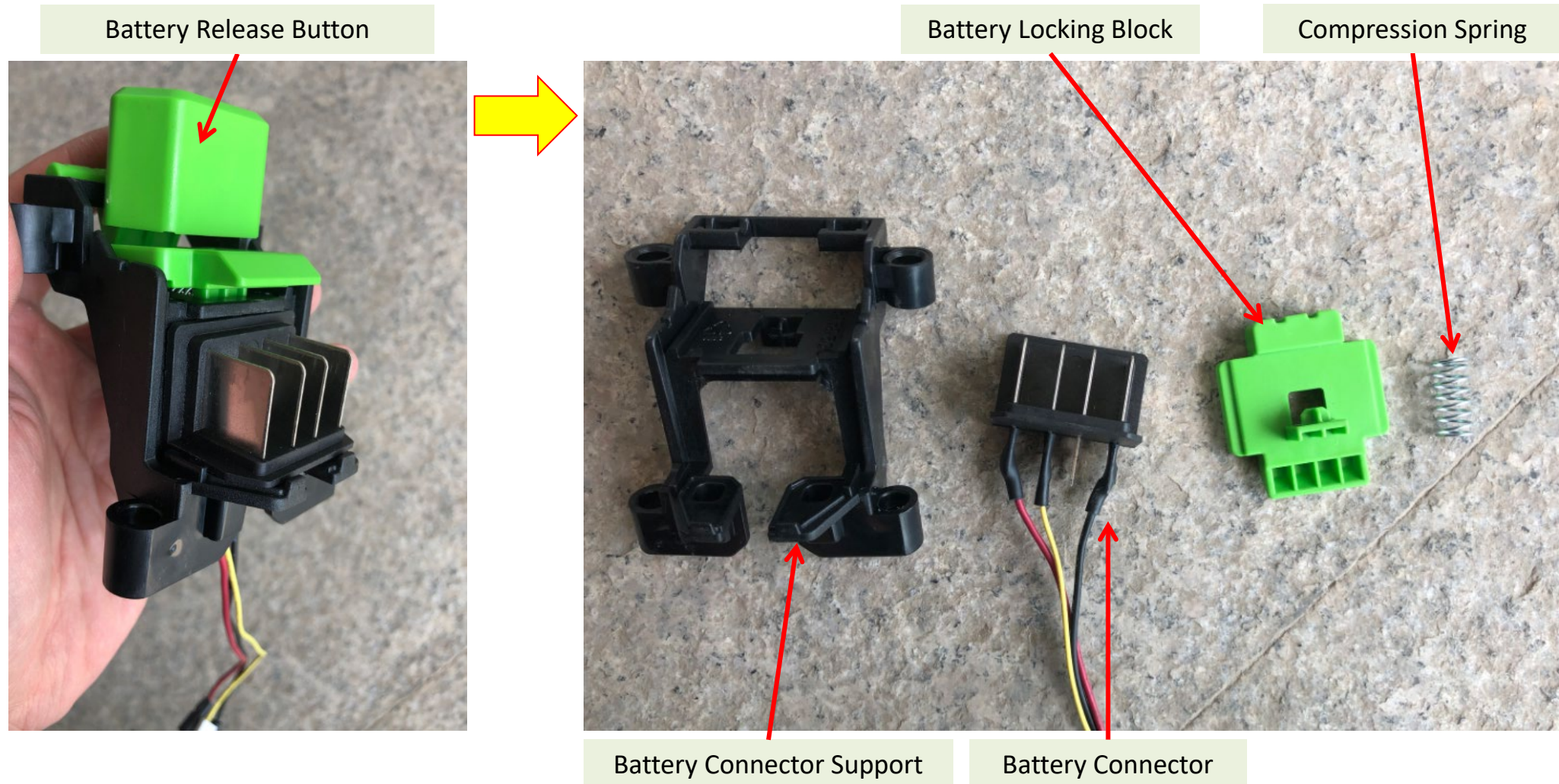
10. Take off the water pump motor support to get a better view of the battery connector assembly.

11. Loosen the locking screws to take off the battery connector and the battery lock & release mechanism.



# How to Replace the Motor PCBA and BMS PCBA

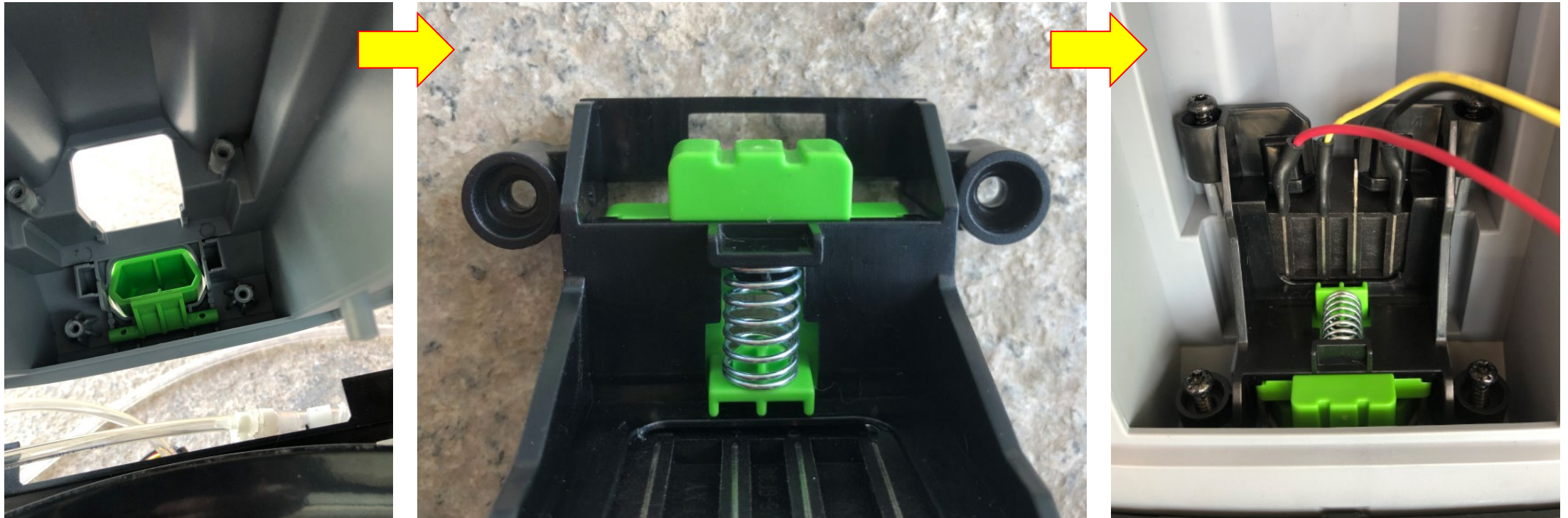
12. See the small parts of the battery lock & release mechanism as shown below. Replace any parts as necessary.





# How to Replace the Motor PCBA and BMS PCBA

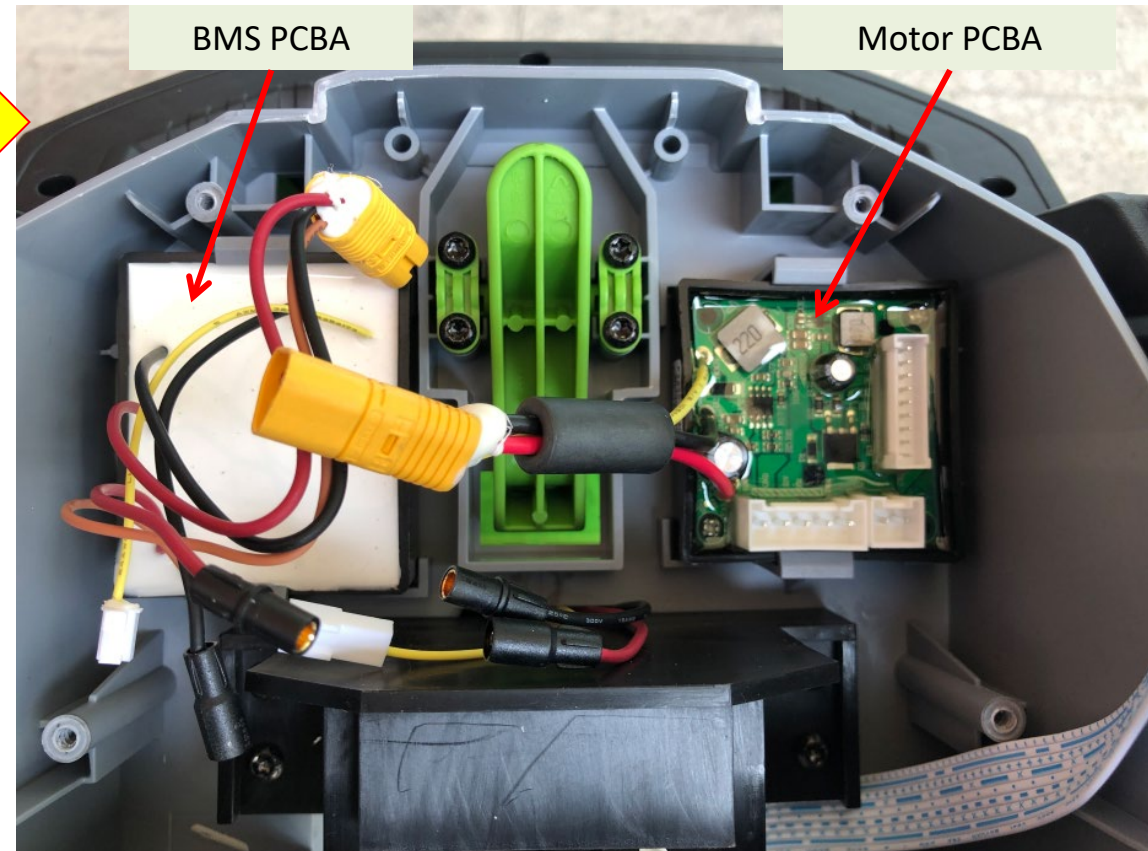
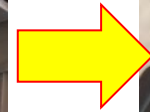
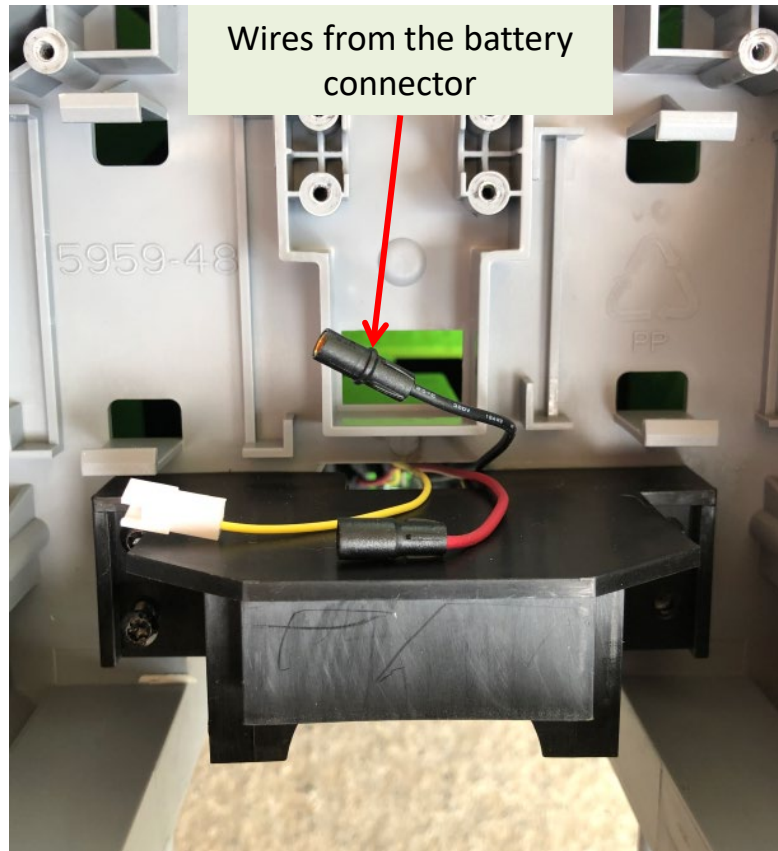
13. To re-assemble the battery connector, place the battery release button into the battery box. Pre-assemble the locking block, the compression spring and the battery connector support as one assy. Place the assy into the battery box and fasten the locking screws.





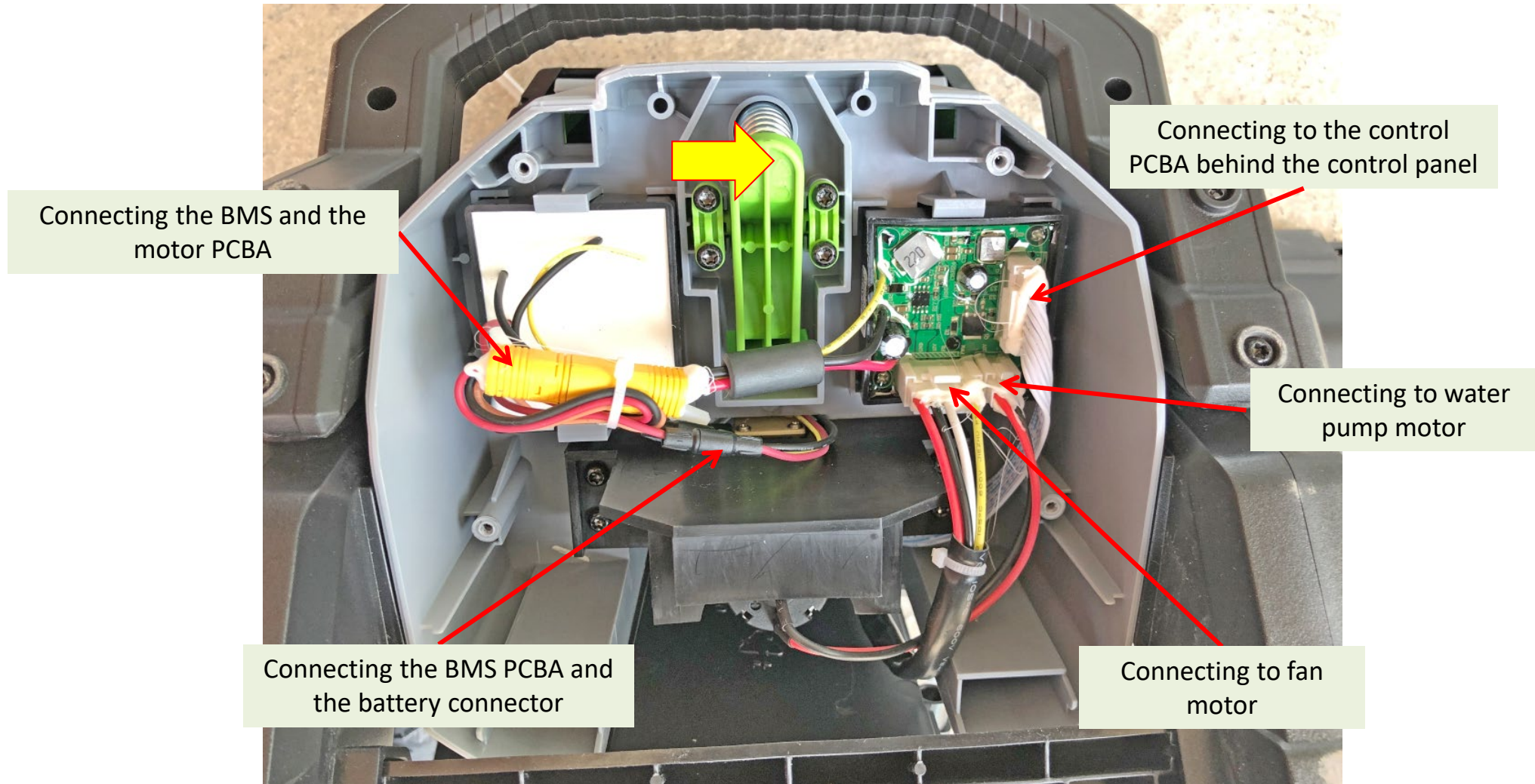
# How to Replace the Motor PCBA and BMS PCBA

14. Fasten the locking screws to locate the pump motor support, making sure that the wires from the battery connector goes through the slot behind the support.
15. Place the new motor PCBA and the BMS PCBA back into the battery box.



# How to Replace the Motor PCBA and BMS PCBA

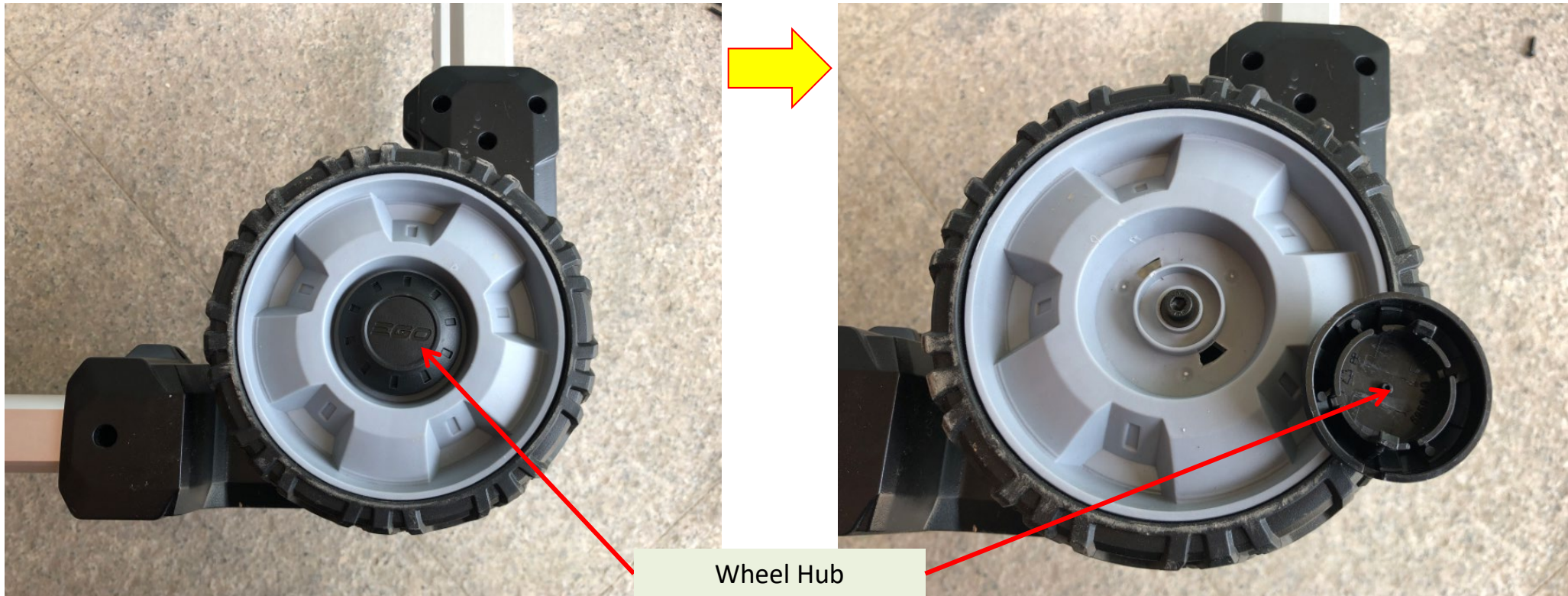
16. Re-connect all the wire connectors as shown below.





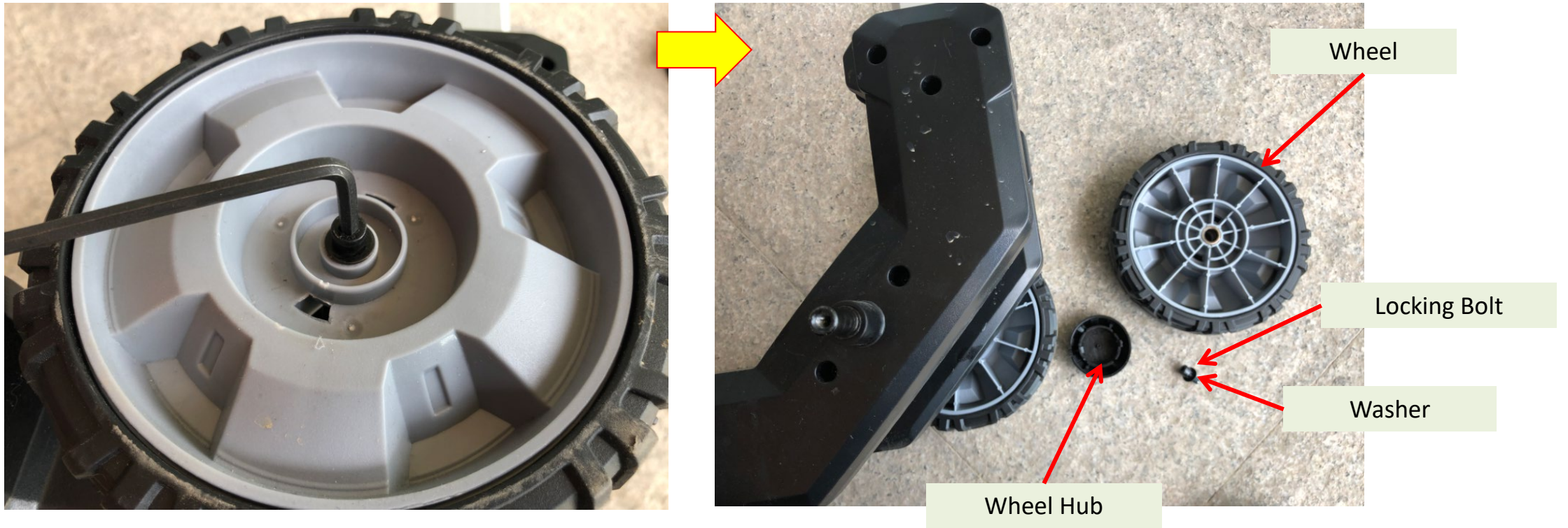
# How to Replace the Wheel

1. Lever the wheel hub off.



# How to Replace the Wheel

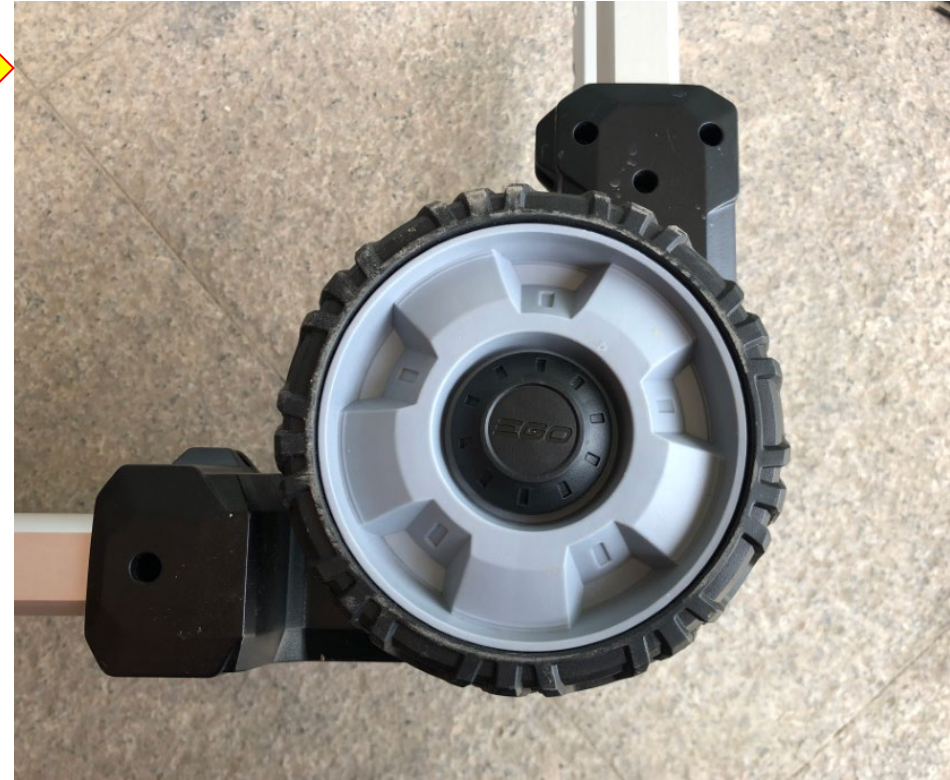
2. Loosen the locking bolt with a hex wrench. Then the wheel can be taken from the frame. Replace any parts as necessary.





# How to Replace the Wheel

3. Place the wheel back onto the frame.
4. Fasten the locking bolt and cover it with the wheel hub.



# How to Replace the Telescopic Handle Assembly

!! Note: It's not necessary to take the fan housing from the frame to replace the telescopic handle assembly.

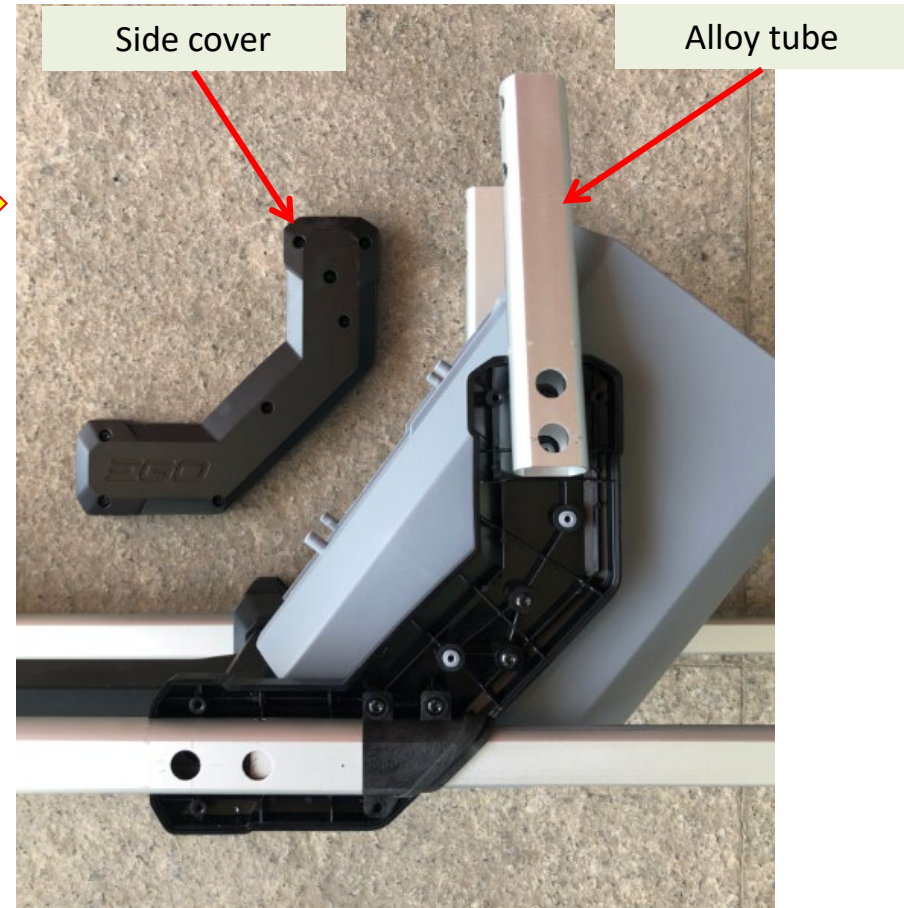
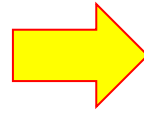
The pictures, without the fan housing, are just for clear view.





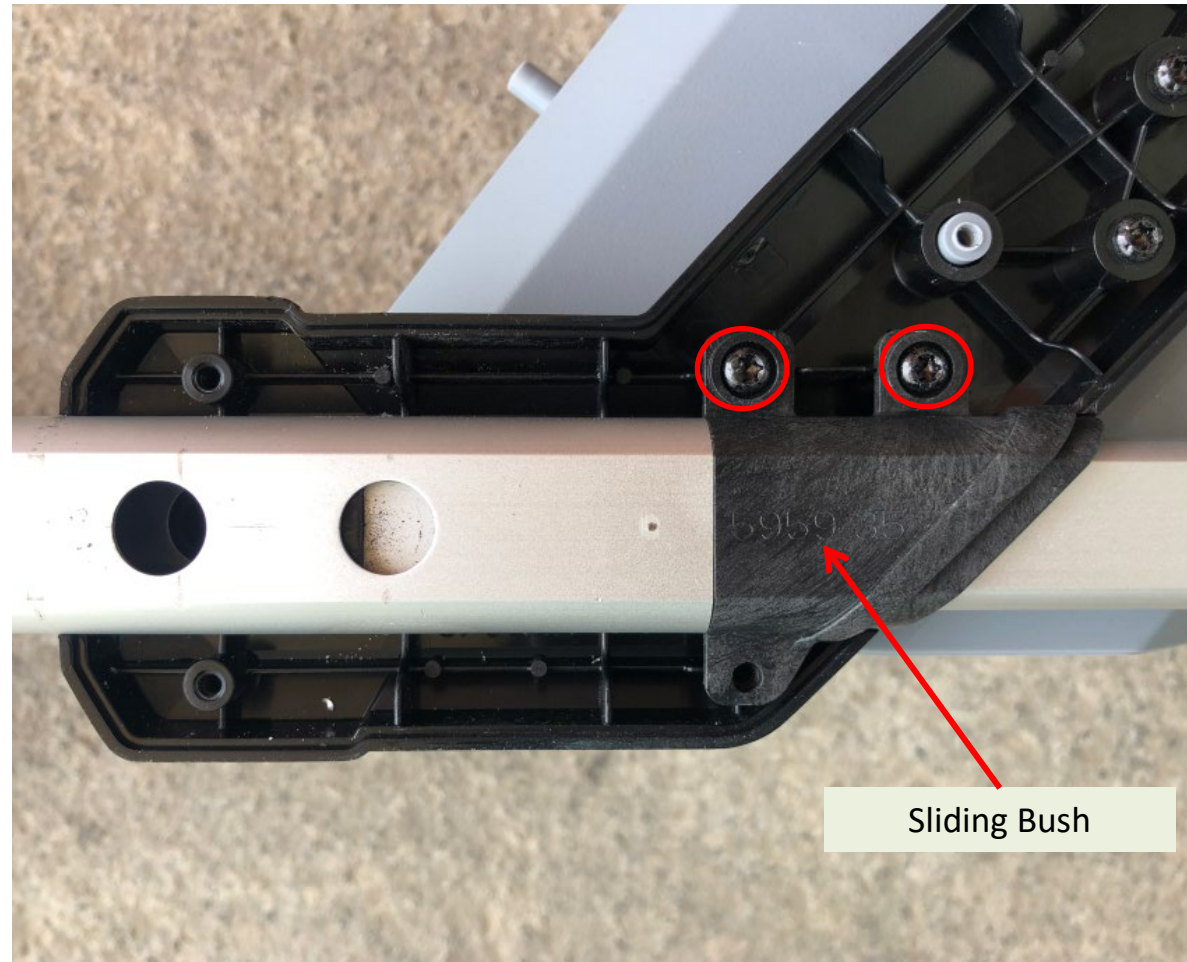
# How to Replace the Telescopic Handle Assembly

1. Lay the frame down on the ground on its side.
2. Loosen the locking screws to take off the side cover and alloy tube.



# How to Replace the Telescopic Handle Assembly

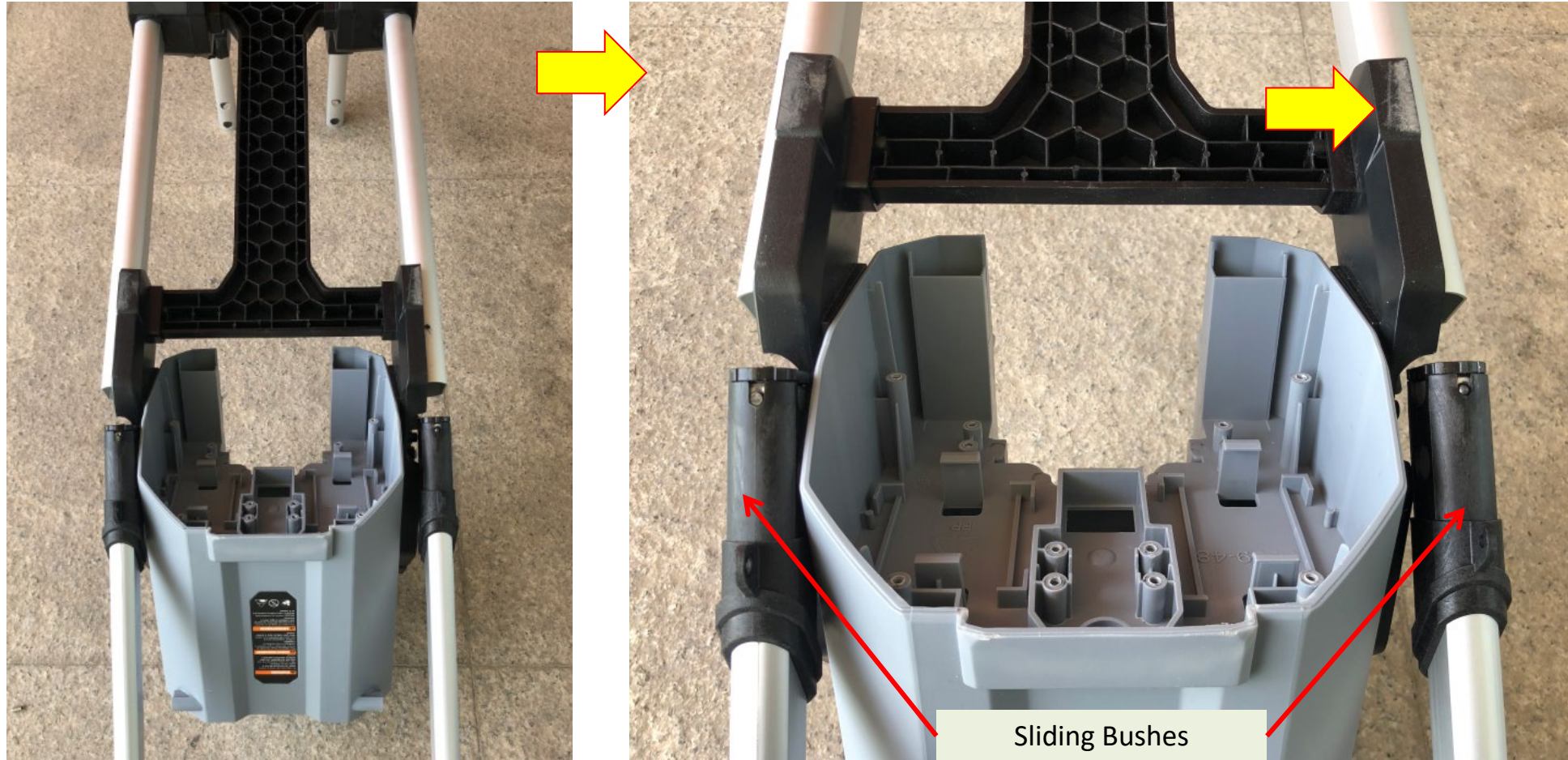
3. Loosen the locking screws on the sliding bush.
4. Repeat the first three steps on the other side.





# How to Replace the Telescopic Handle Assembly

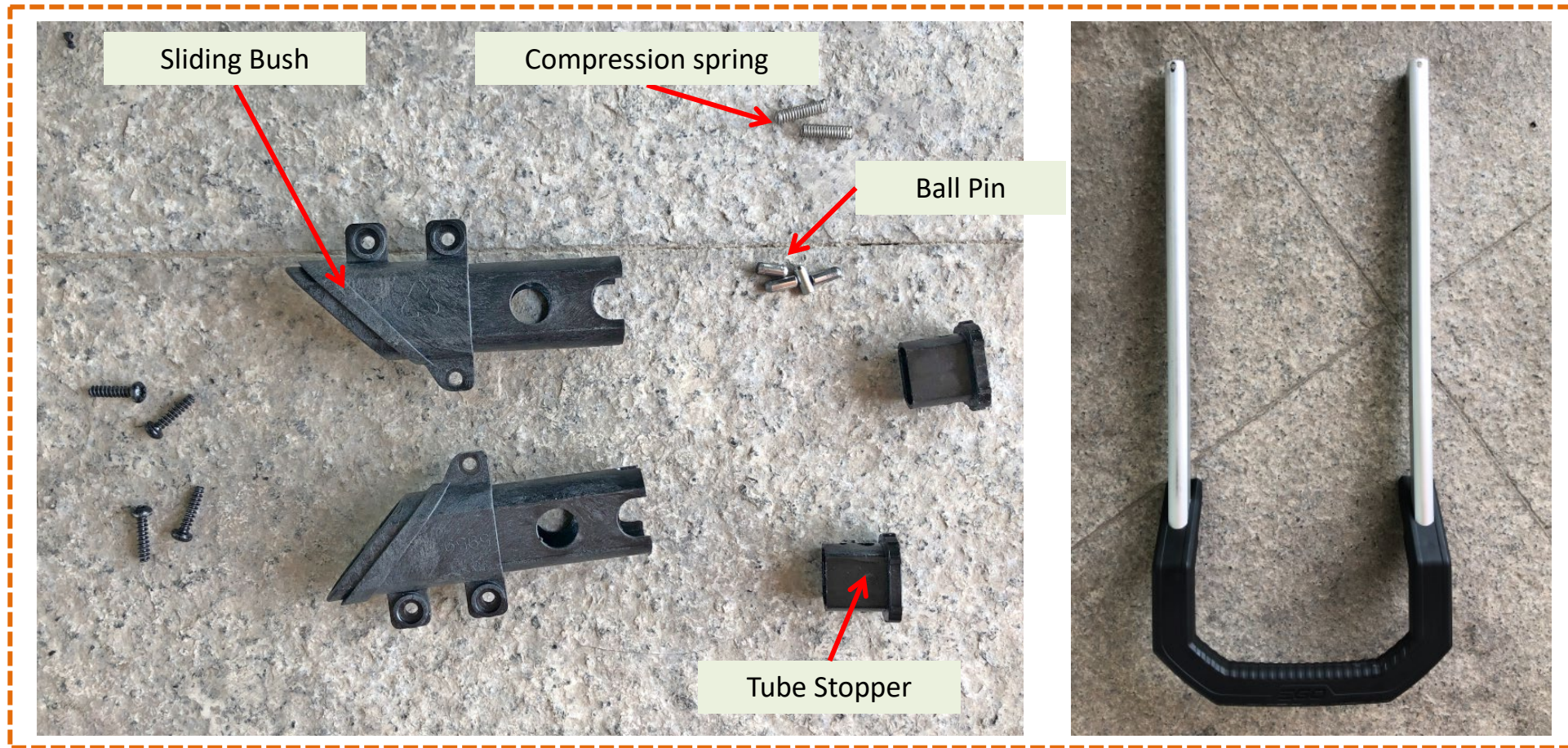
5. Turn the frame up side down as shown below.
6. Holding the sliding bushes on the two side and take the telescopic handle off the frame.





# How to Replace the Telescopic Handle Assembly

7. The telescopic handle assembly is shown as below. Replace any parts as necessary.

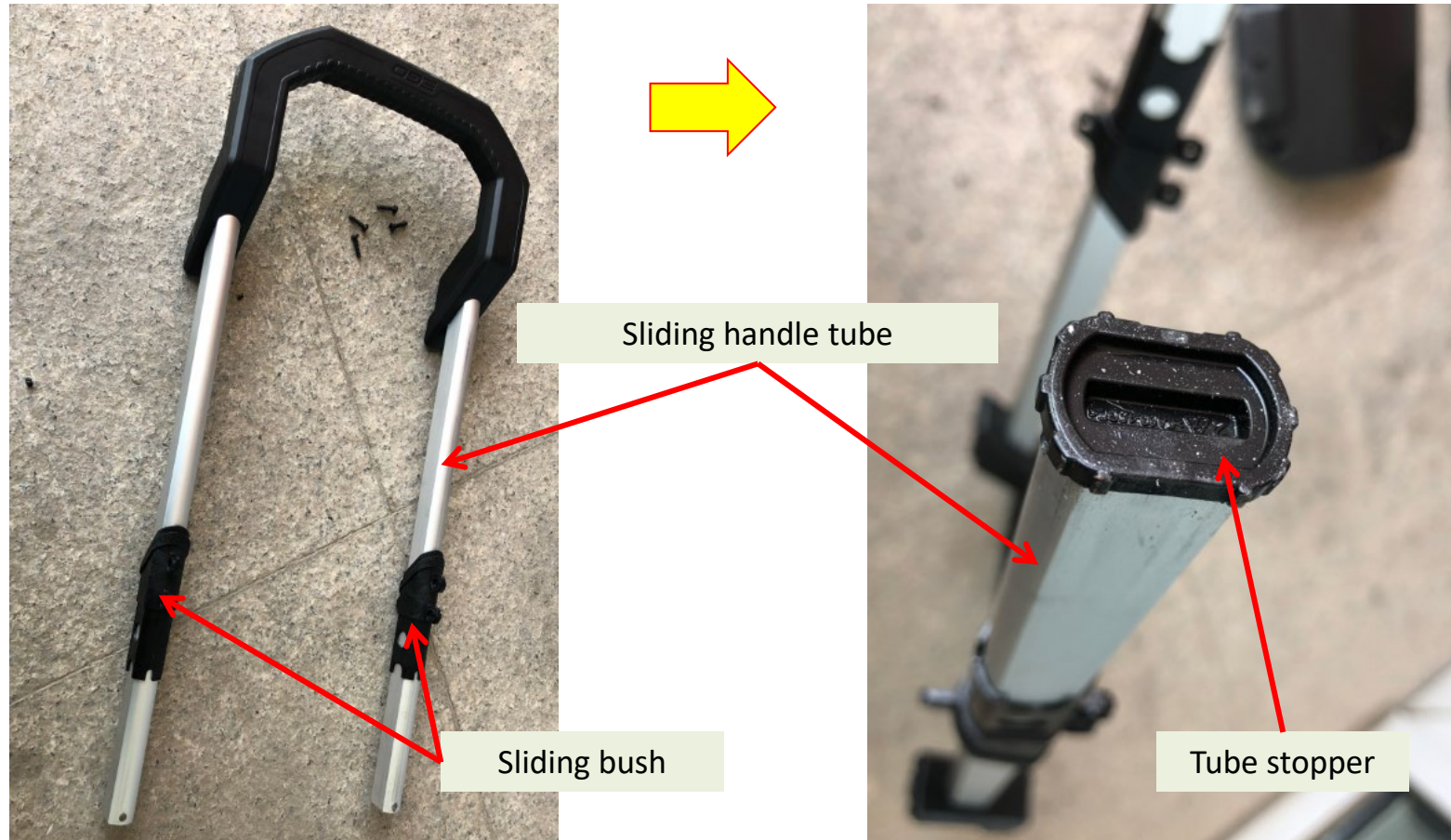


Telescopic Handle Assembly



# How to Replace the Telescopic Handle Assembly

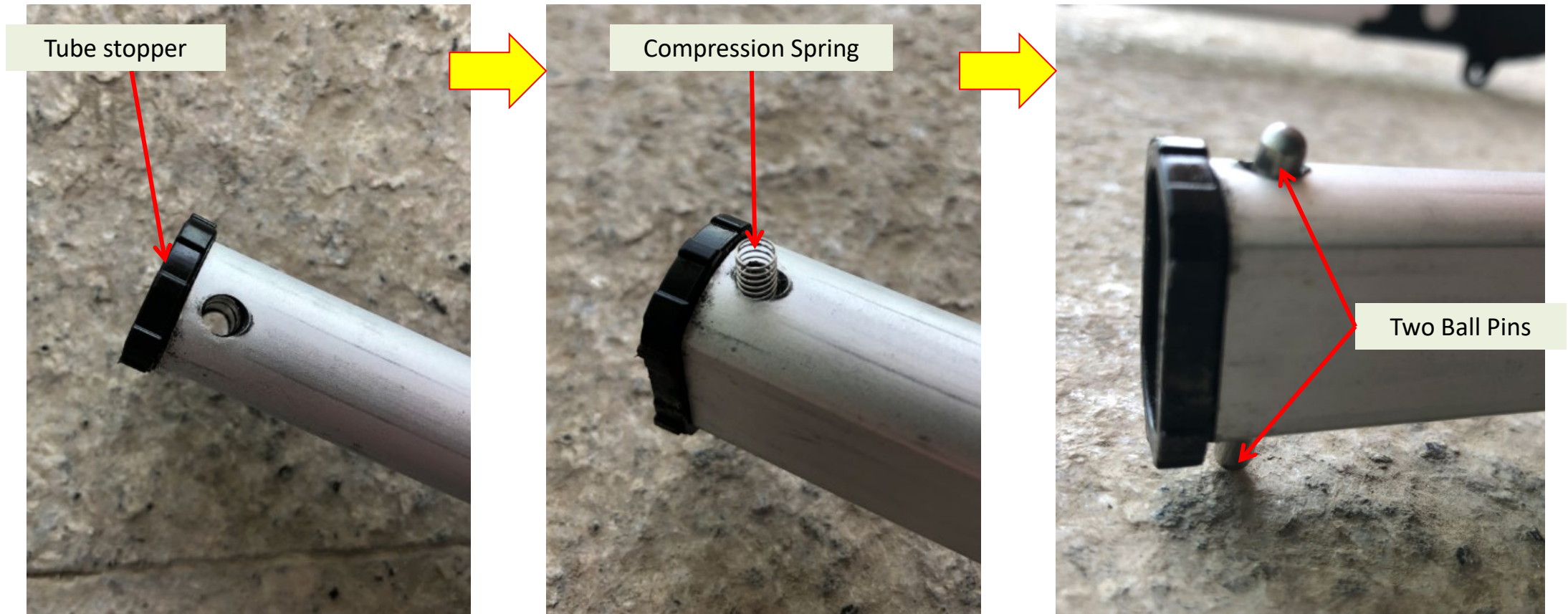
8. To re-assemble the telescopic handle, mount the sliding bush back on the sliding handle tube first.
9. Insert the tube stopper at the end of the sliding handle tube.



# How to Replace the Telescopic Handle Assembly

10. Align the hole in the tube stopper with the one in the sliding handle tube.

11. Insert the compression spring. With the compression spring depressed, mount the two ball pins into the hole. Keep the structure as assembled.





# How to Replace the Telescopic Handle Assembly

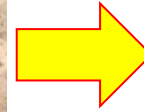
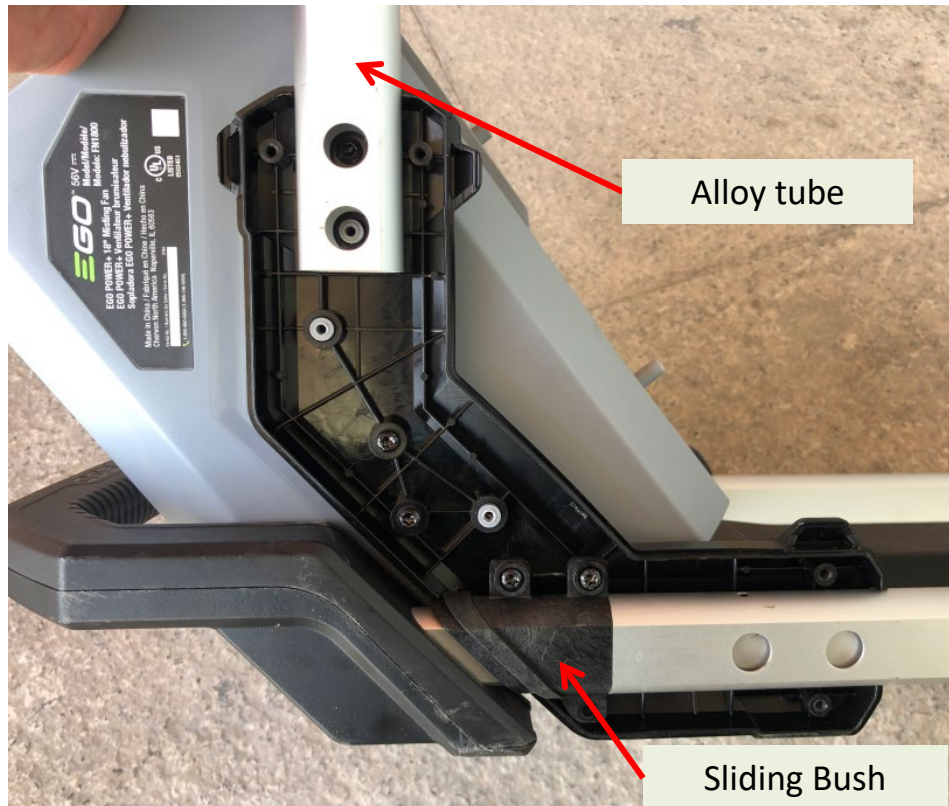
12. Insert the sliding handle tube with the compression spring and ball pins into the frame. When sliding the handle, the ball pins should pop into the locating holes in the frame tube at limited position.



# How to Replace the Telescopic Handle Assembly

13. Mount the sliding bush in place. Fasten the locking screws to fix it.

14. Mount the alloy tube and side cover and fasten the locking screws. Do the same on the other side to finish the telescopic handle assembly replacement.



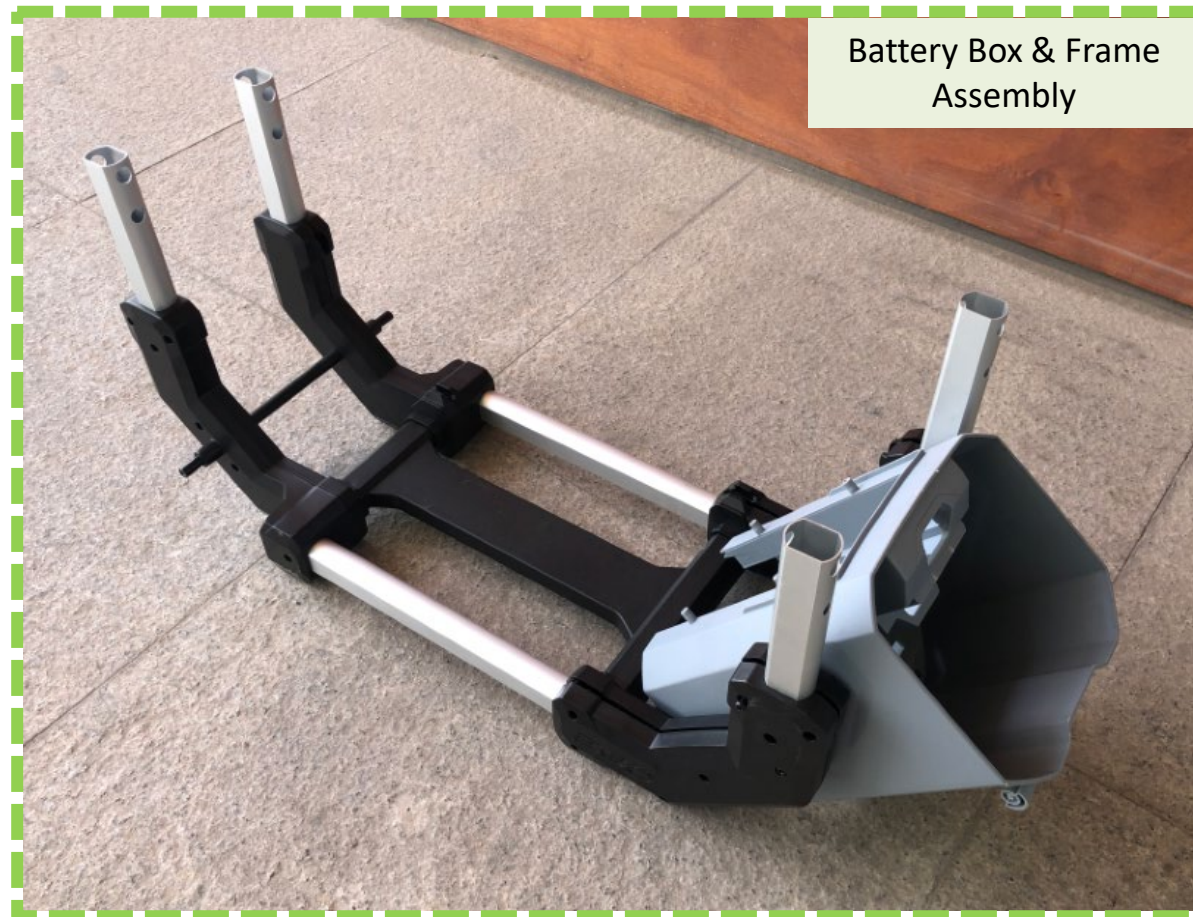


# How to Replace the Battery Box & Frame Assembly

!! Note: To replace the battery box & frame assembly, the misting fan is almost disassembled completely.

You will have to disconnect the water pumping connection, the PCBA connection, open the front frame mesh, the left hinge & right hinge support, the side and bottom cover of the battery box, and take off the telescopic handle assembly...

To get this:



# How to Replace the Battery Box & Frame Assembly

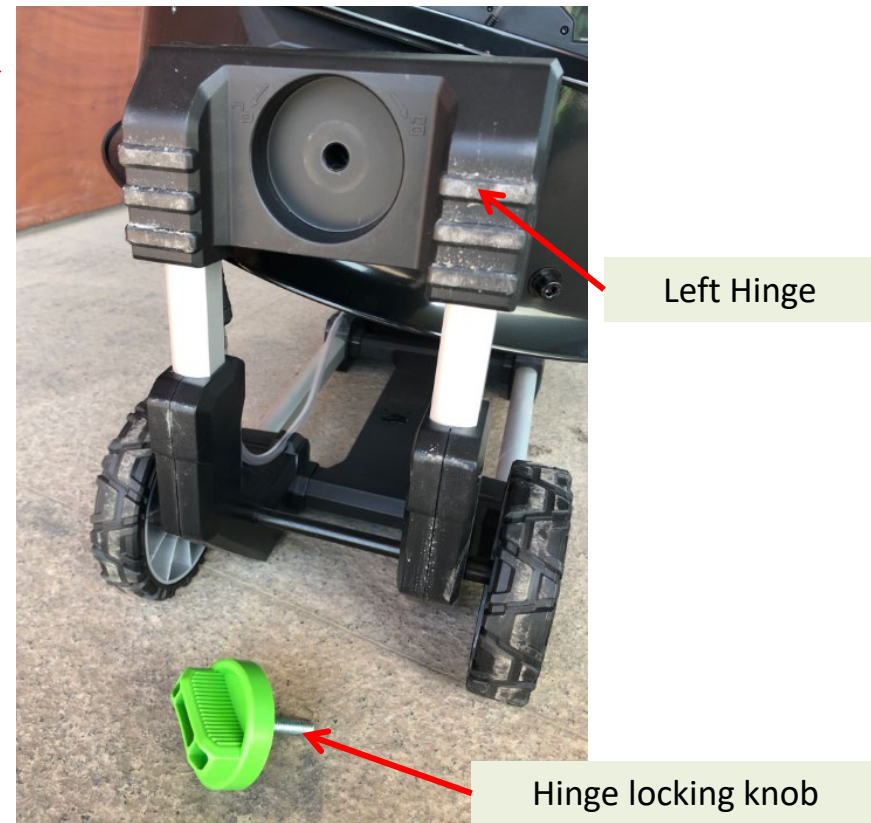
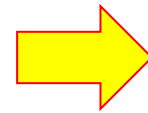
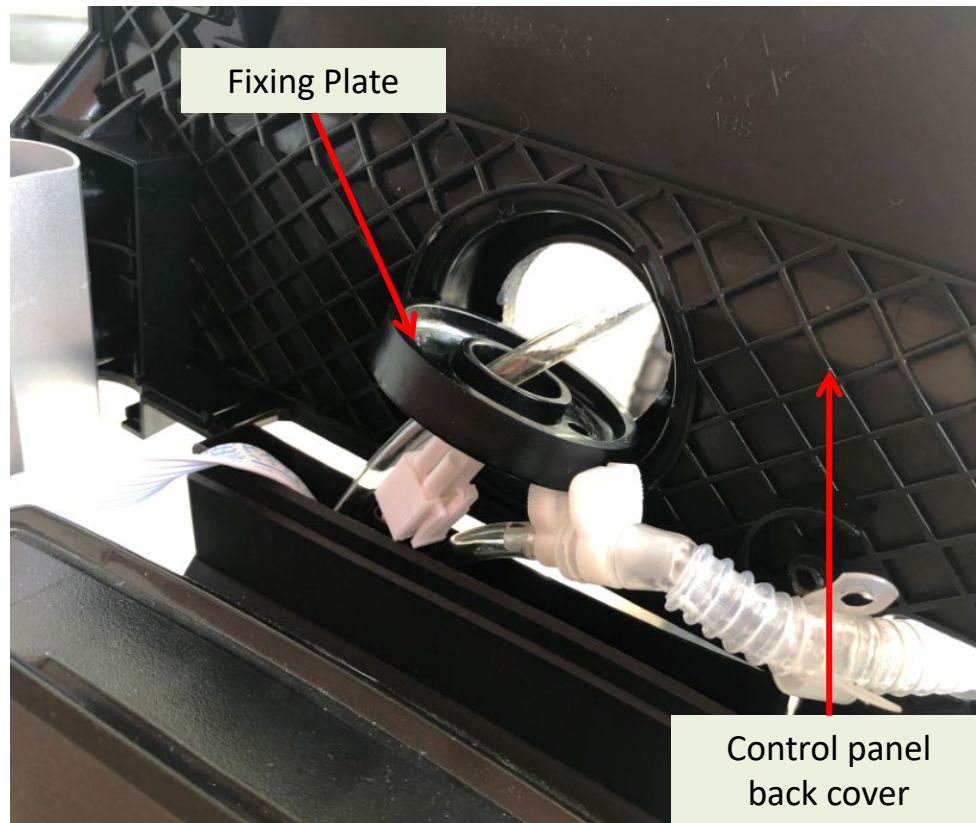
1. Disconnect the water outlet tube from the waterway connector, and take off the front frame mesh.
2. Loosen the locking screws and open the control panel.





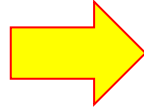
# How to Replace the Battery Box & Frame Assembly

3. Loosen the locking screws on the fixing plate to disconnect the right hinge support from the control panel back cover.
4. Loosen the hinge locking knob on the left hinge to disconnect the left hinge support from the left hinge.



# How to Replace the Battery Box & Frame Assembly

5. Take the fan housing, together with the left & right hinge support, from the frame.





# How to Replace the Battery Box & Frame Assembly

6. Replace the hinge support or the left hinge as necessary.

7. There is a rubber damping ring and a nut inside each hinge support as shown below. Replace if necessary.

Right hinge support



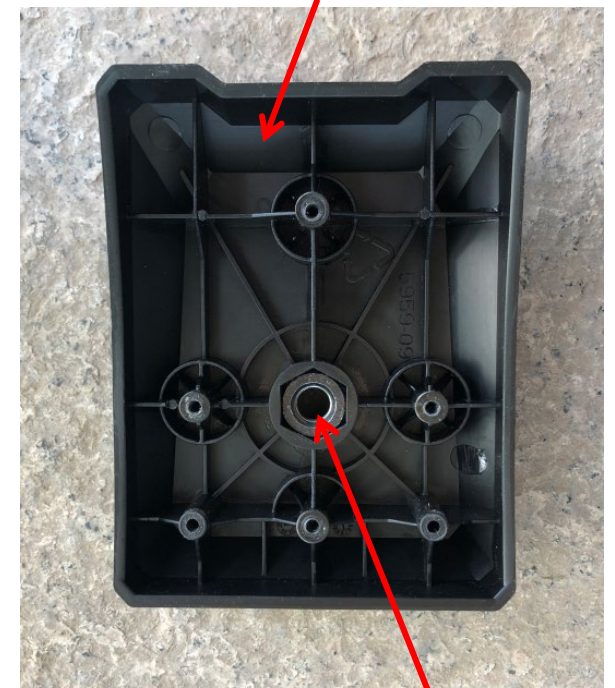
Rubber damping ring



Left hinge (back cover)



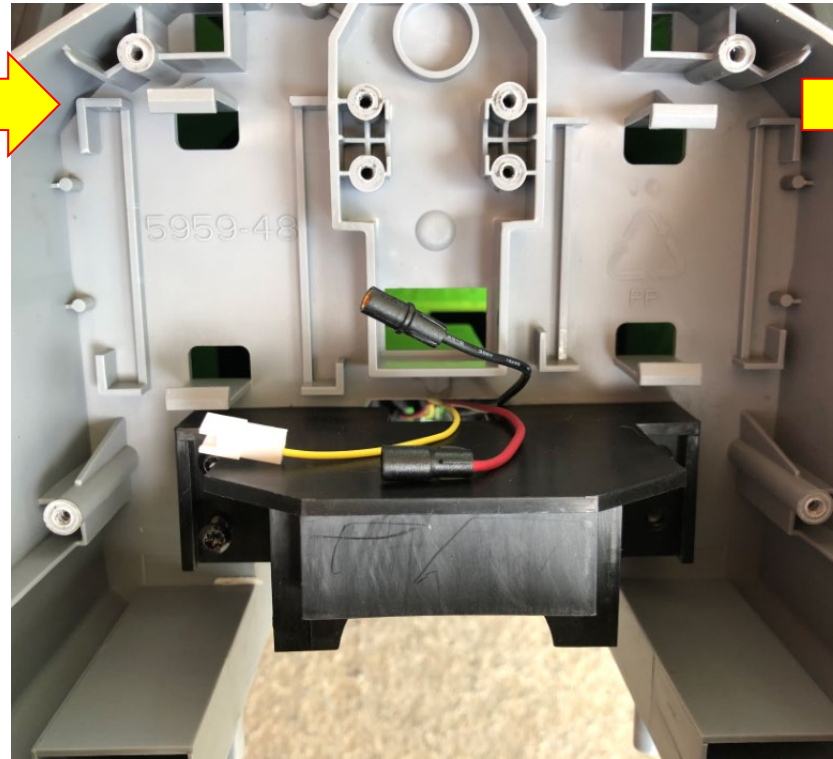
Left hinge (front cover)



Nut

# How to Replace the Battery Box & Frame Assembly

8. Open the side and bottom cover of the battery box. Disconnect all wire connectors.
9. Take off the PCBA and the motor support.
10. Take off the battery connector and battery lock & release mechanism.

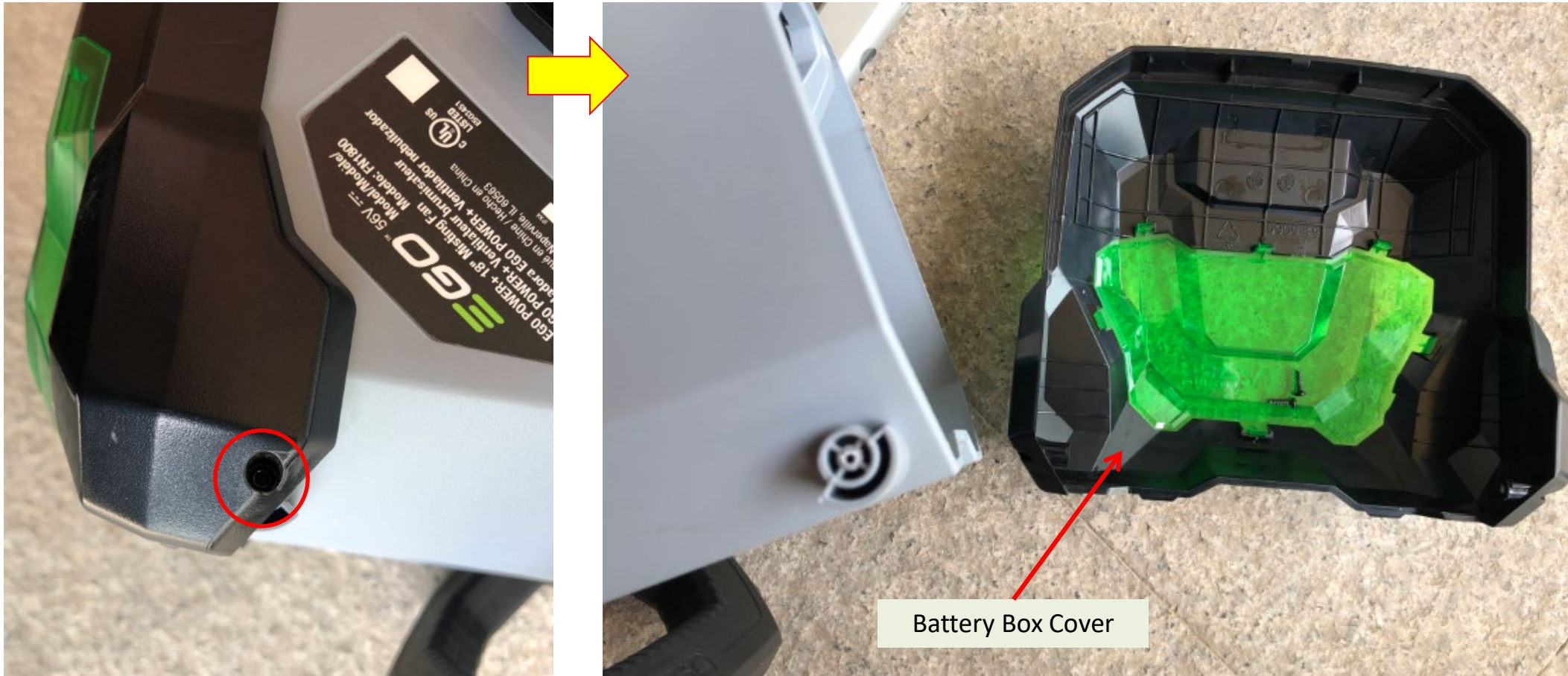




# How to Replace the Battery Box & Frame Assembly

11. There is a locking screw on each side of the battery box cover.

12. Loosen the screws and replace the cover if necessary.



# How to Replace the Battery Box & Frame Assembly

13. Disassemble the telescopic handle assembly from the battery box & frame, following the instructions in the “How to Replace the Telescopic Handle Assembly” section.



Telescopic handle assembly



Battery Box & Frame assembly

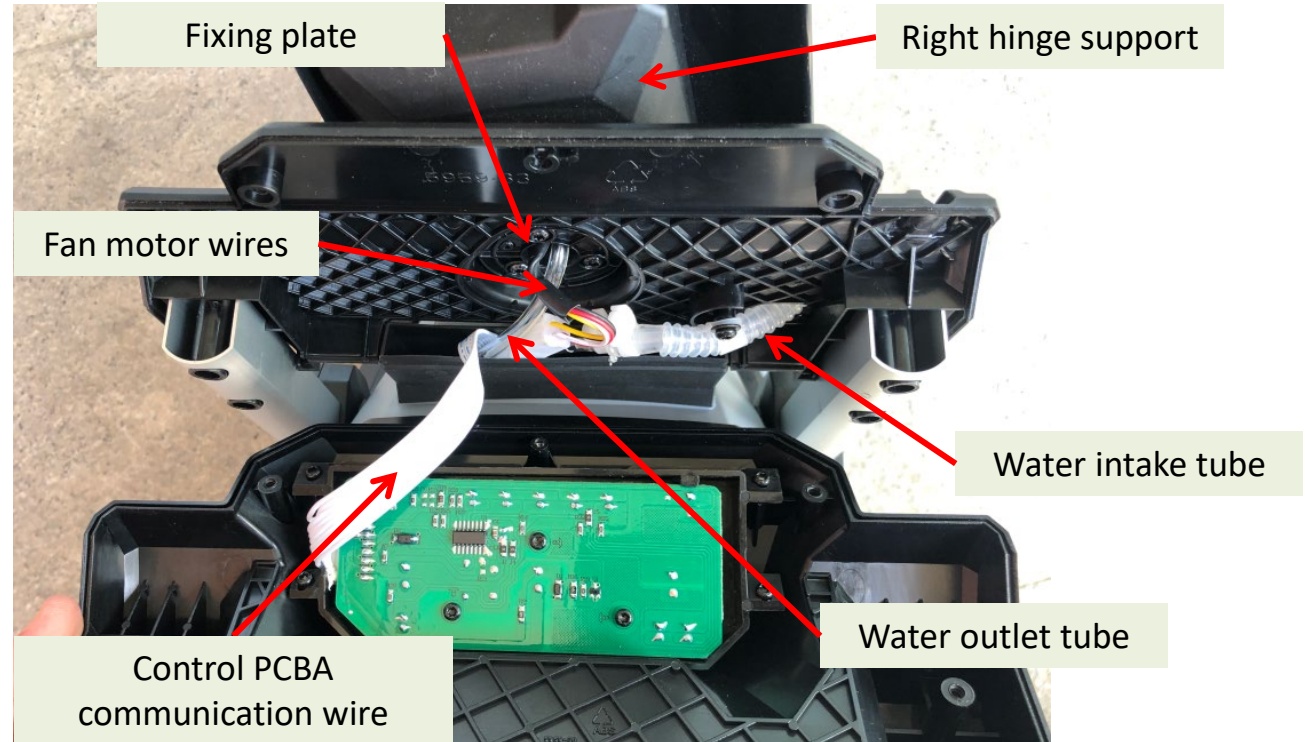
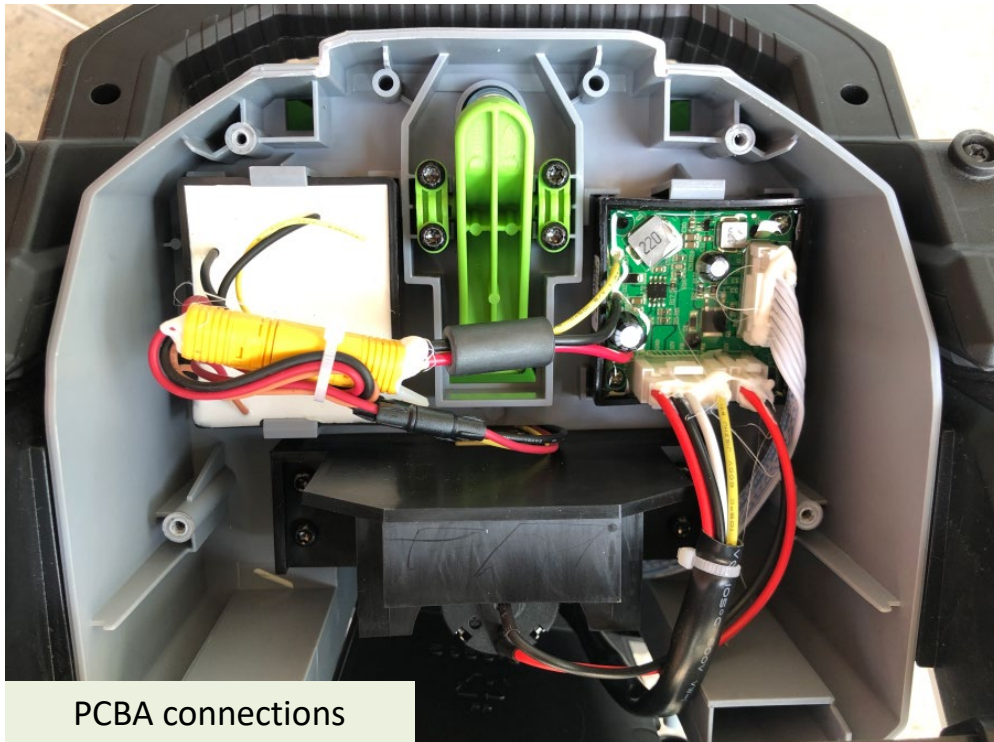


# How to Replace the Battery Box & Frame Assembly

14. Reverse the disassembling procedures to re-assemble the misting fan.

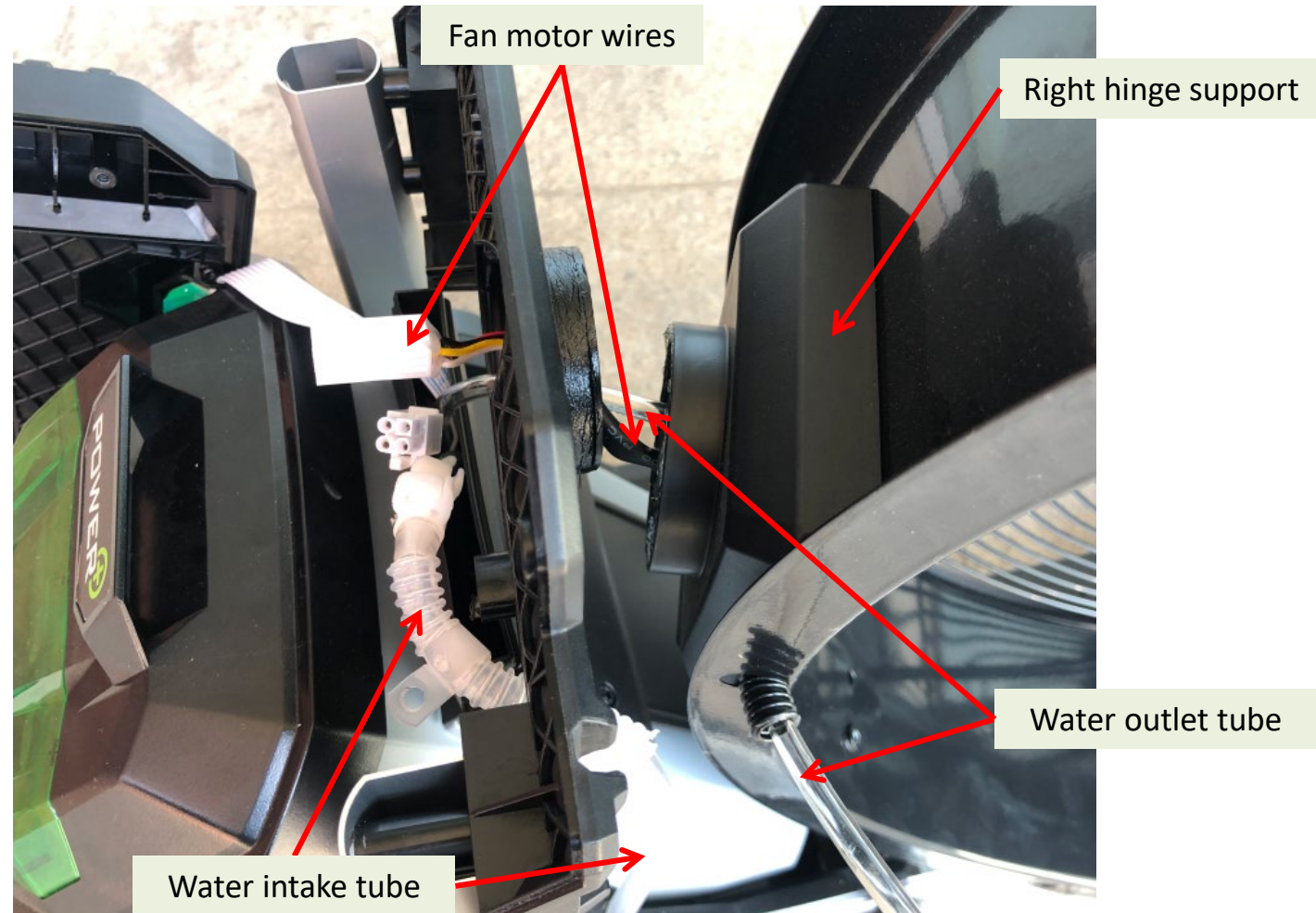
Note: The telescopic handle assembly doesn't need to be re-assembled to the frame first. Arrange the re-assemble procedure per your best convenience.

Note: Pay attention to the PCBA connections, the layout of the water pump intake/outlet tubes.



# How to Replace the Battery Box & Frame Assembly

Note: Pay attention to the layout of the water pump intake/outlet tubes and the fan motor wire through the right hinge.





# How to lubricate

1. There are several positions between the turning parts that needs to be lubricated.
  - » at the surface of the rubber damping ring of the right hinge support
  - » at the interface between the wheel and the locating pillar of the frame
  - » outside of the tube stopper and inside of the sliding bush (where touching the sliding tube)



THE END