

REPAIR GUIDELINE

Blower_LB6000



Version: 2
Revise Date: 2019/3/1

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Troubleshooting

Problem	Possible Cause	Fault Position	Test & Solution
Won't turn on	PCBA is damaged	PCBA in the housing	Test the PCBA according to the procedure in the diagnosing section, if it is broken, replace the PCBA.
	Bearings on the motor shaft are worn and being stuck.	Motor in Ducted Assembly	Use a stick to stir the fan from the air inlet, if the fan is not able to move, meaning the bearings are stuck. Replace the duct assembly.
	Motor is broken	Motor in Ducted Assembly	Measure the resistance between any two of the three cables of the motor by using a multimeter. If the resistance is infinite, replace the motor and ducted assembly.
The switch is not operable, always keeps ON. The blower cannot be shut off.	The switch contacts are stuck inside.	Switch in the handle housing	Insert a good battery, if the blower will run immediately regardless of the switch is on or off , replace switch assembly in the handle housing.

Troubleshooting

Problem	Possible Cause	Fault Position	Test & Solution
Press the boost button/depth adjusting knob when the blower runs, the air velocity and the volume doesn't change	PCBA or switch assembly is broken	PCBA in the duct housing or switch in the handle housing	Following the procedure in the diagnosing section to test the PCBA, If it is broken, replace PCBA. If PCBA works fine, test the switch and replace the switch assembly if it is not working.
The air velocity and the volume are decreased compared with normal use	The fan in the duct is over-worn	Fan in Ducted assembly	Open the housing set, take off the fan baffle and check the fan. If the fan is over-worn, replace the motor and ducted assembly.

Tool List For Repair

NO.	Tool List	SPEC	Remark
1	Torx screwdriver	T15	
2	Philips	PH2	
3	Socket wrench	10mm	
4	Multimeter		
5	Capacitor discharging fixture		

How to disassemble the blower

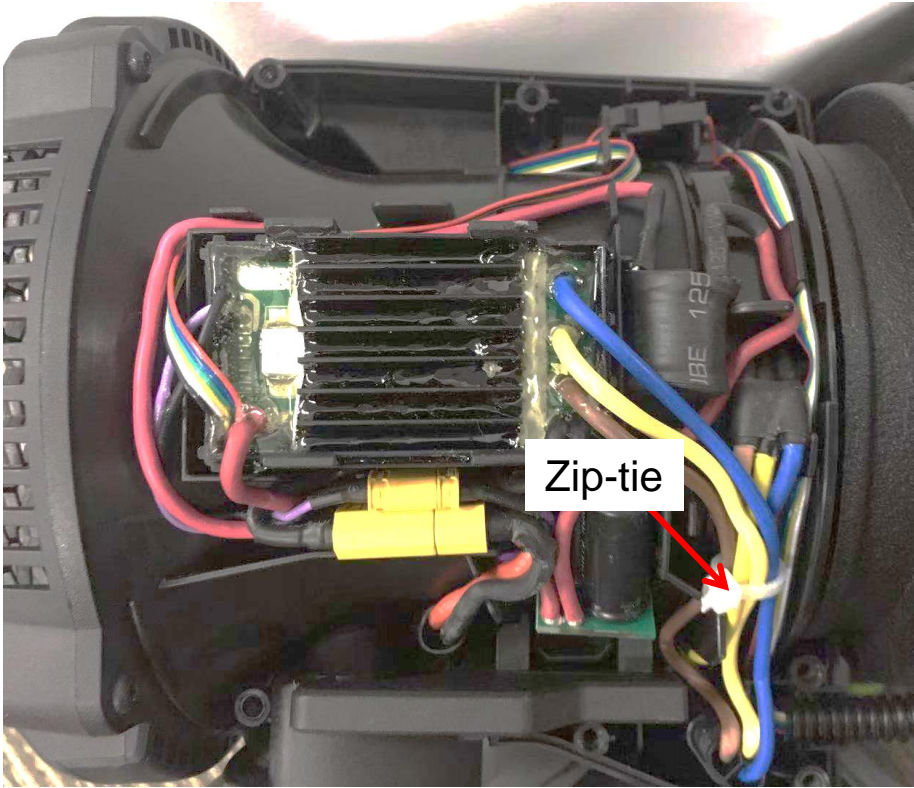
1. Stop the motor and remove the battery pack from the blower.
2. Loosen and remove the 7pcs screws to remove the right housing.



Description	Part Number	Quantity
Tapping screw	5610294001	7

How to disassemble the blower

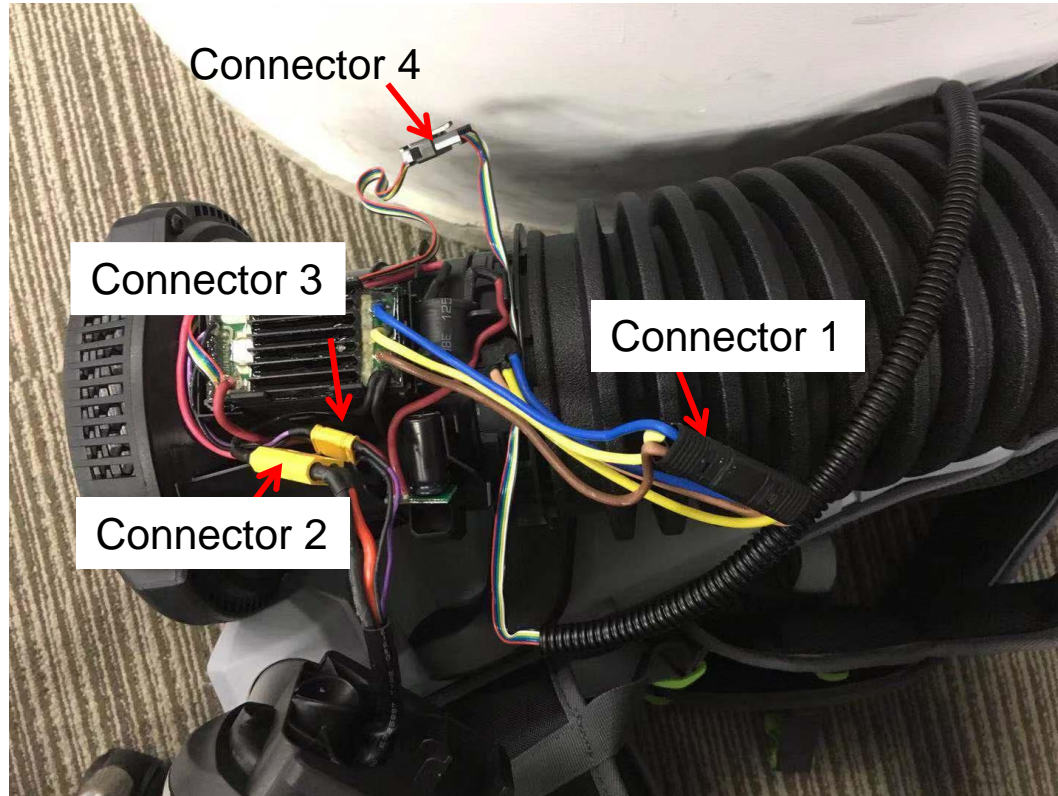
3. Remove the left housing and cut the zip-tie. If the housing set was broken, replace it with a new one.



Description	Part Number	Quantity
L R Housing Set	2824817001	1

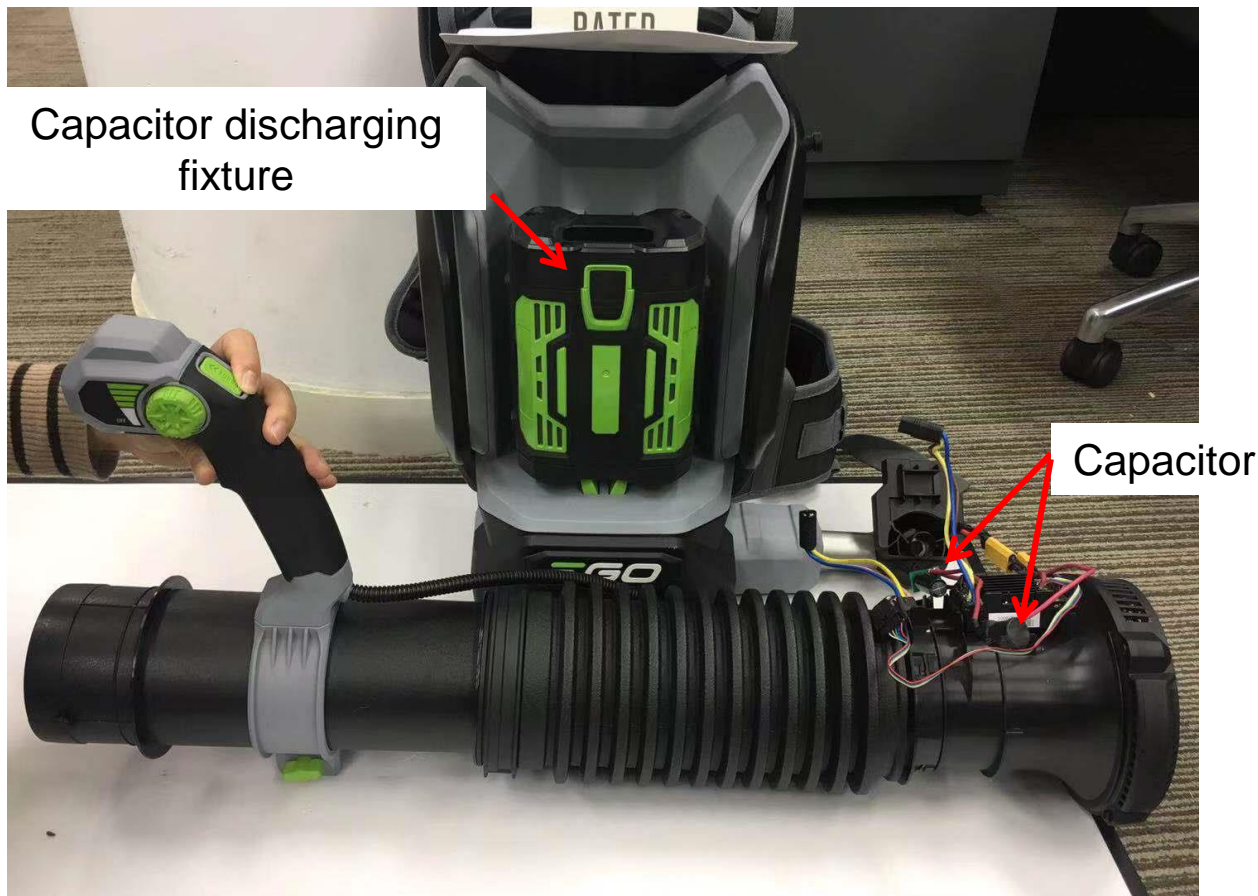
How to disassemble the blower

4. Disconnect 4 connectors.



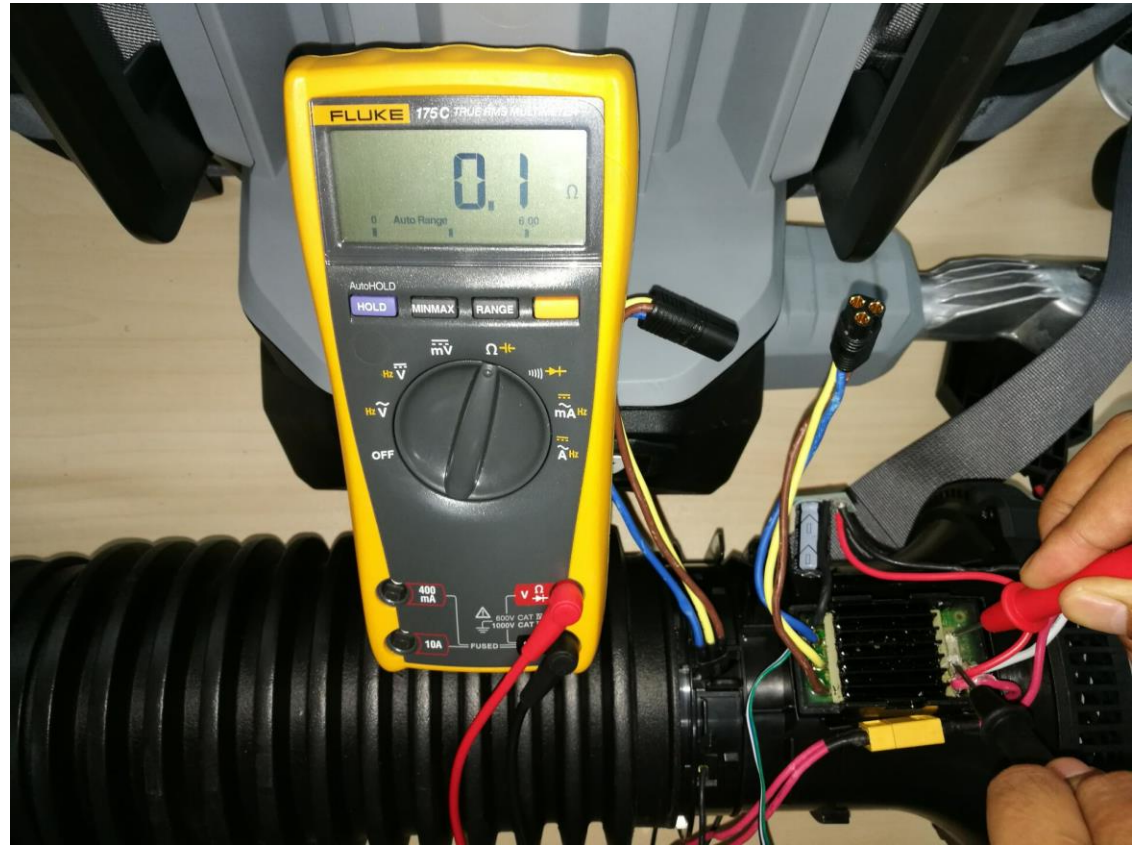
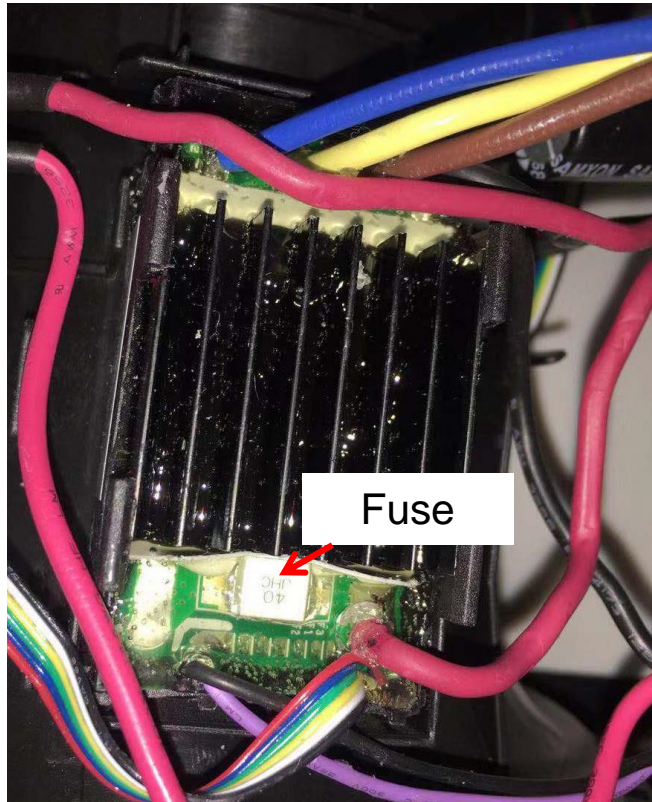
How to disassemble the blower

5. Test the PCBA to judge if it is broken.
 - 1) Discharge the capacitor that is connected in the PCBA
 - a) Insert the discharging fixture
 - b) Press the switch trigger and hold for about 10s to discharge the capacitor



How to disassemble the blower

2) Measure the Fuse in the PCBA



How to disassemble the blower

- a) Set the multimeter function to “Resistance measuring” .
- b) Pierce one pen pin of the multimeter into the sealing glue and force the pin contacting onto one end of the fuse, then pierce another pen pin into the sealing glue and contacting onto the other end of the fuse.
- c) If the resistance is below 1 Ω , means a good fuse, go to the next testing step; otherwise means a broken fuse.
- d) If the fuse is broken, follow the procedure “How to replace the PCBA” to replace a new PCBA.

How to disassemble the blower

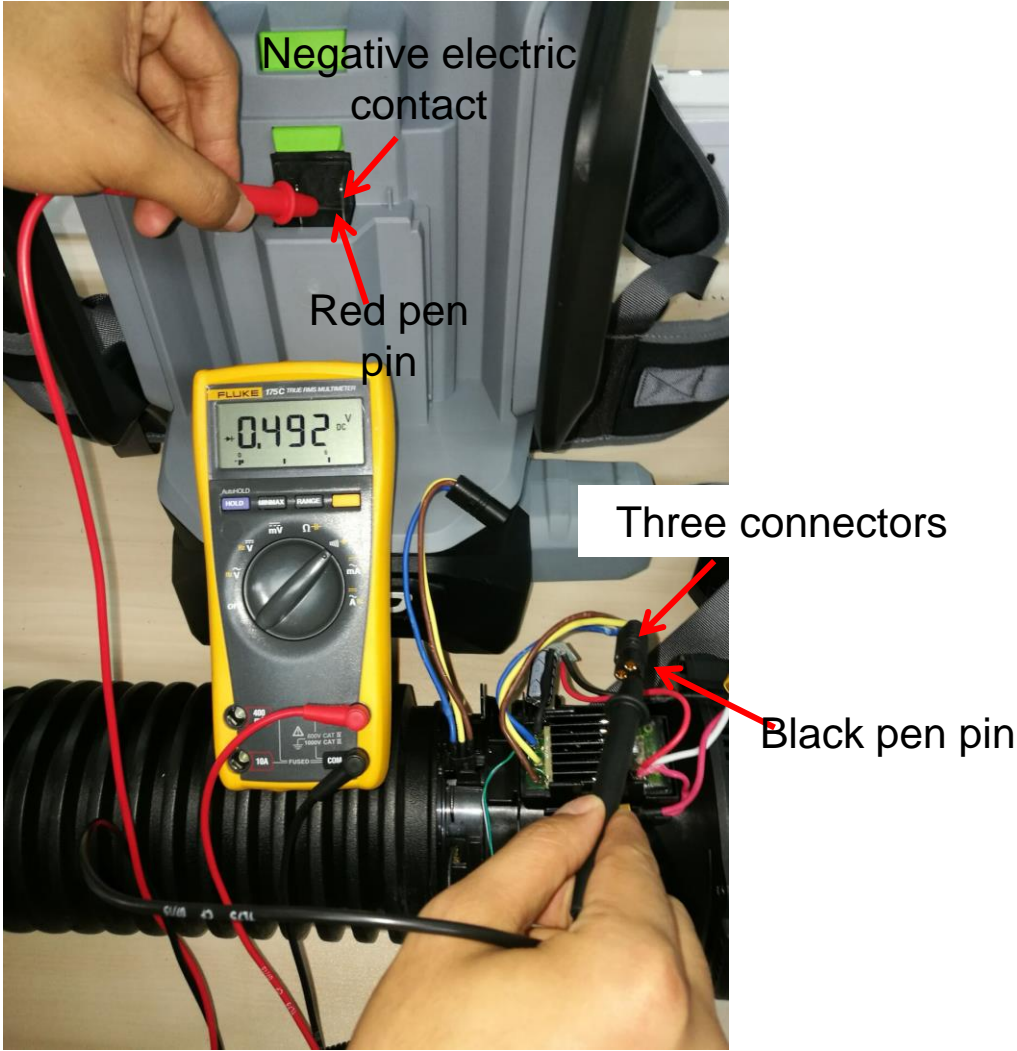
3) Measure the MOSFET in the PCBA (Step 1)



- a) Set the multimeter function to “Diode measuring” .
- b) Contact the red pen pin to the negative electric contact.
- c) Contact the black pen pin to the three connectors separately and measure the voltage.
- d) If the LCD displays 0.45~0.55V for each measurement, go to the next testing step, otherwise means the PCBA is broken. Follow the procedure “How to replace the PCBA” to replace a new PCBA.

How to disassemble the blower

Figure showing how to measure the MOSFET in the PCBA (Step 1)



How to disassemble the blower

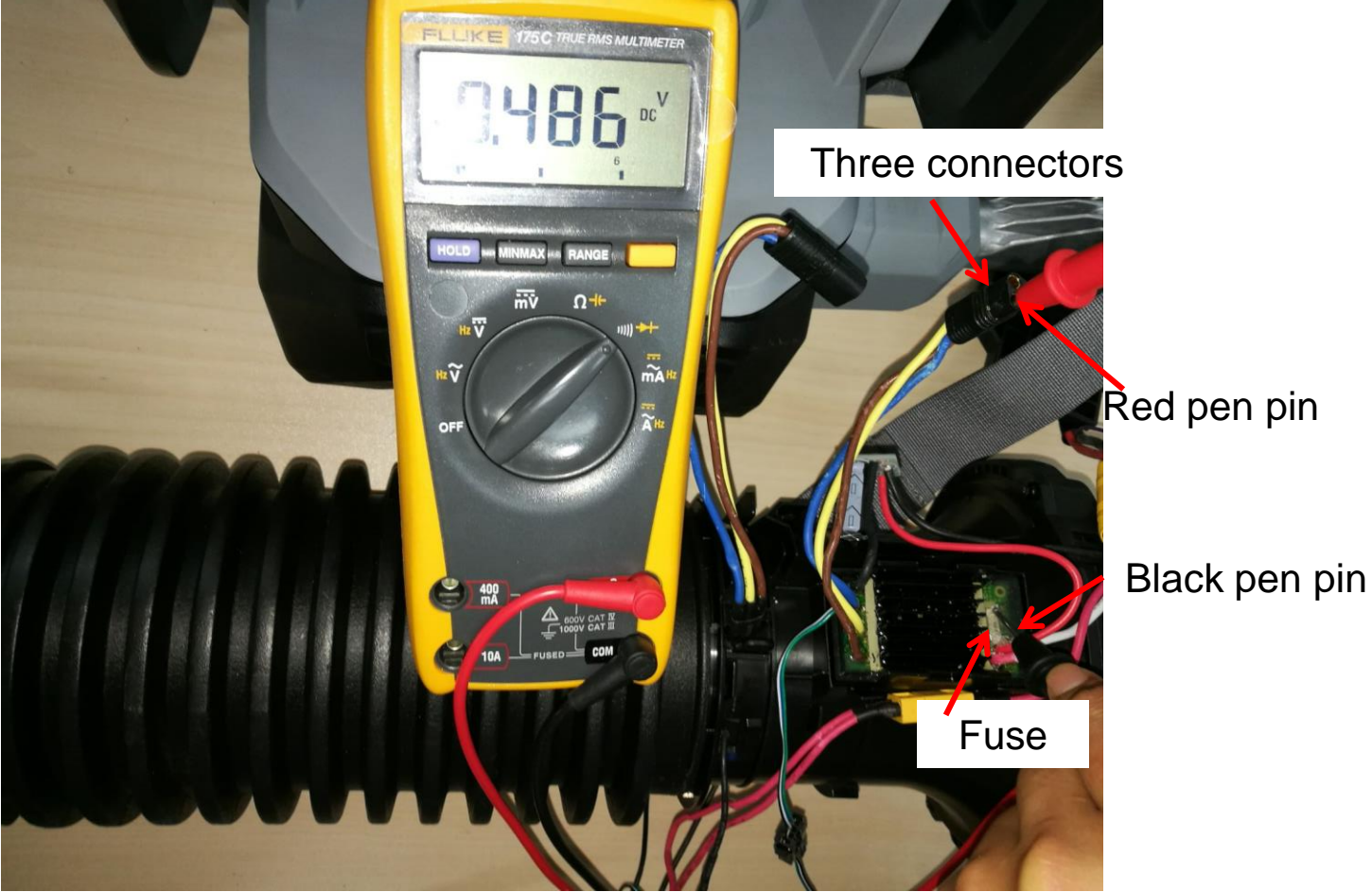
4) Measure the MOSFET in the PCBA (Step 2)



- Keep the multimeter function setting at “Diode measuring”.
- Pierce black pen pin of the multimeter into the sealing glue and force the pin contacting onto one side of the fuse.
- Contact the red pen pin to the three connectors separately and measure the voltage.
- If the LCD displays 0.45~0.55V for each measurement, go to the next testing step, otherwise means the PCBA is broken. Follow the procedure “How to replace the PCBA” to replace a new PCBA.

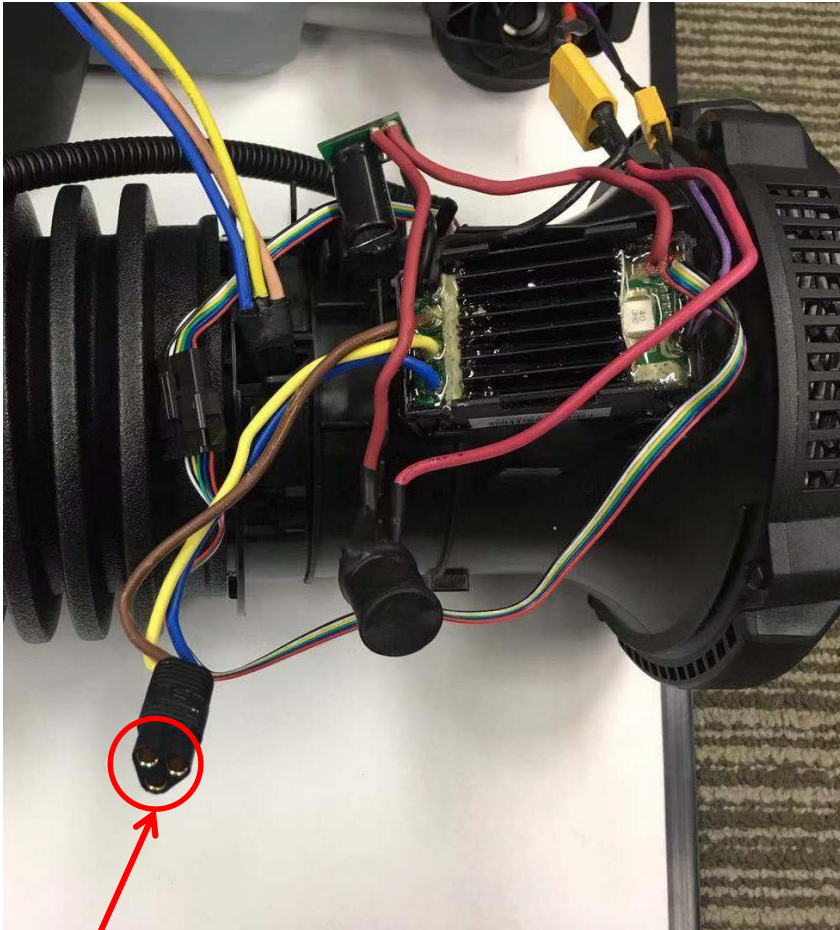
How to disassemble the blower

Figure showing how to measure the MOSFET in the PCBA (Step 2)



How to disassemble the blower

6. Test the motor assembly to judge if it is open-circuit.

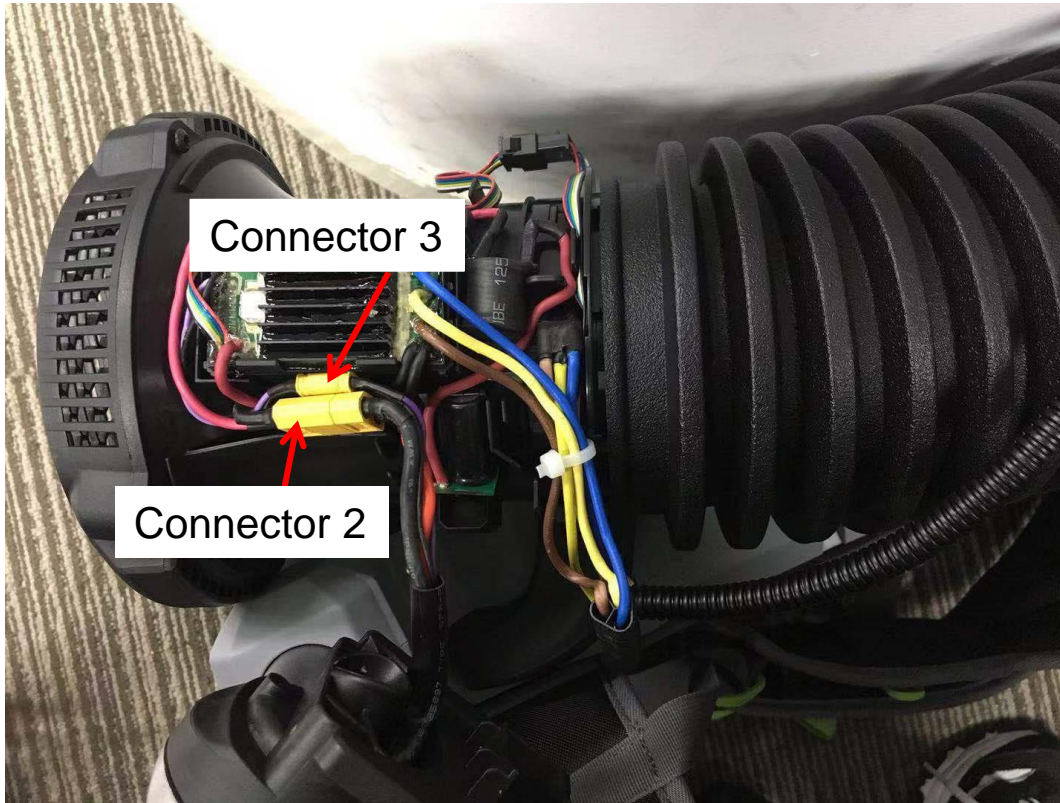


Measure the resistance between any of the two connectors

- a) Set the multimeter function to “Resistance measuring” .
- b) Measure the resistance between any of the two connectors.
- c) If any of the measurements is infinite, means the circuit between the two connectors is open circuit, the motor is damaged. Follow the procedure “How To replace the motor and dusted assembly” to replace a new one. Otherwise go to the next testing step.

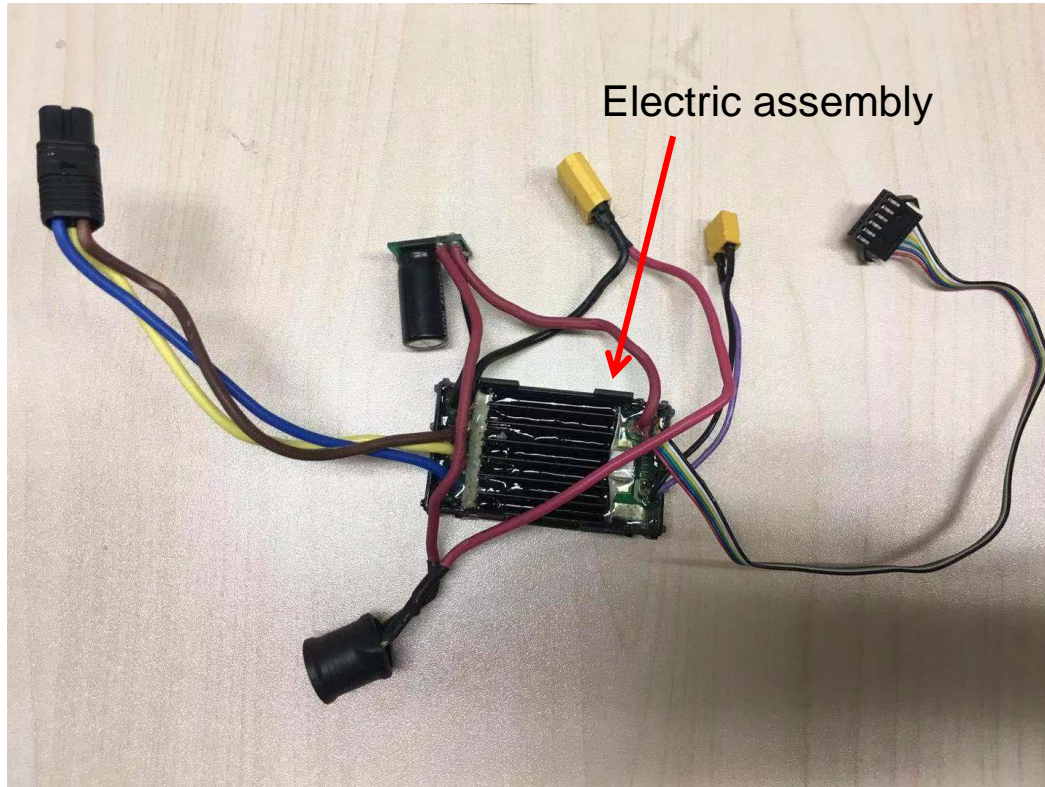
How to replace the PCBA

1. Disconnect connector 2, connector 3.



How to replace the PCBA

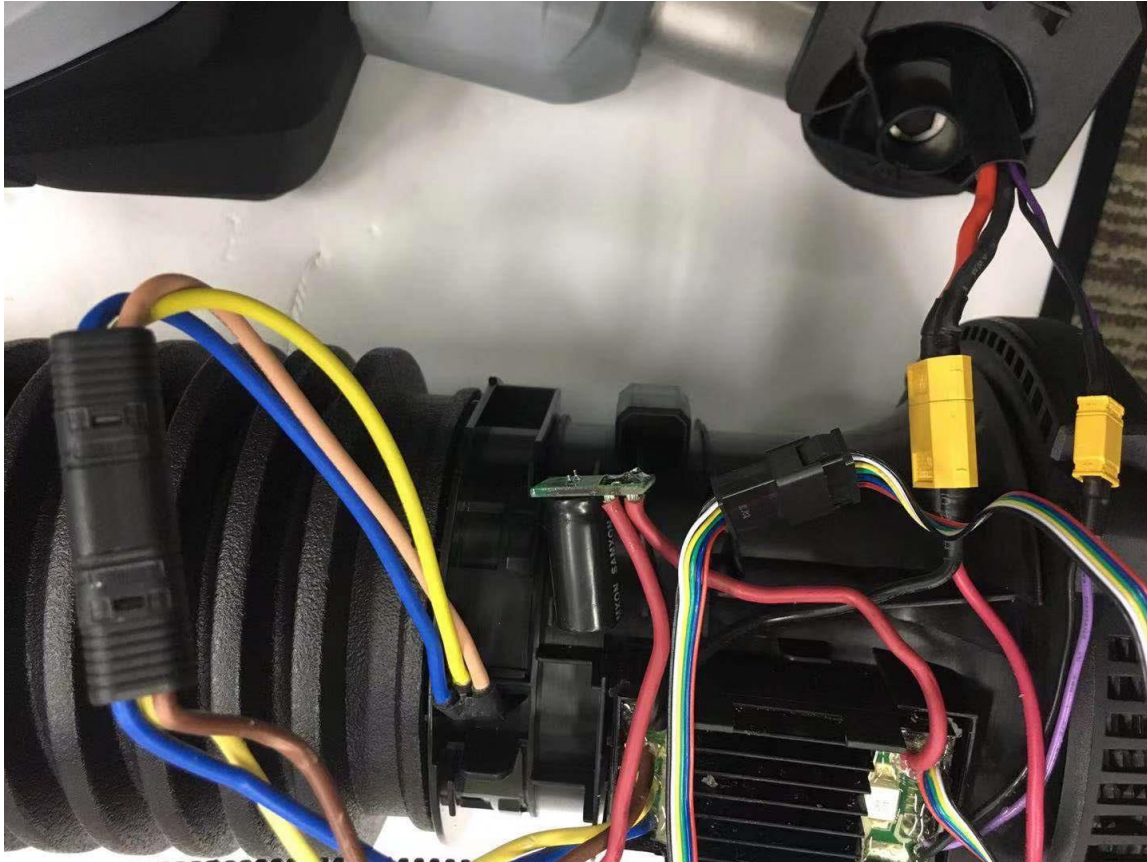
2. Take the PCBA out.



Description	Part Number	Quantity
Electric assembly	2830389001	1

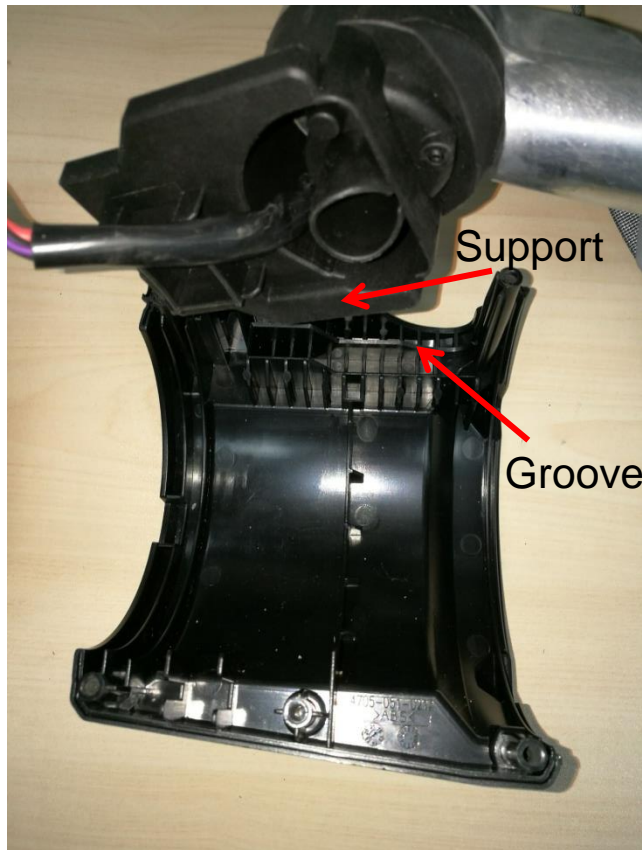
How to replace the PCBA

3. Replace the PCBA with a new one and then connect the four connectors.



How to replace the PCBA

4. Put the support into the groove of the left housing to assemble them together.

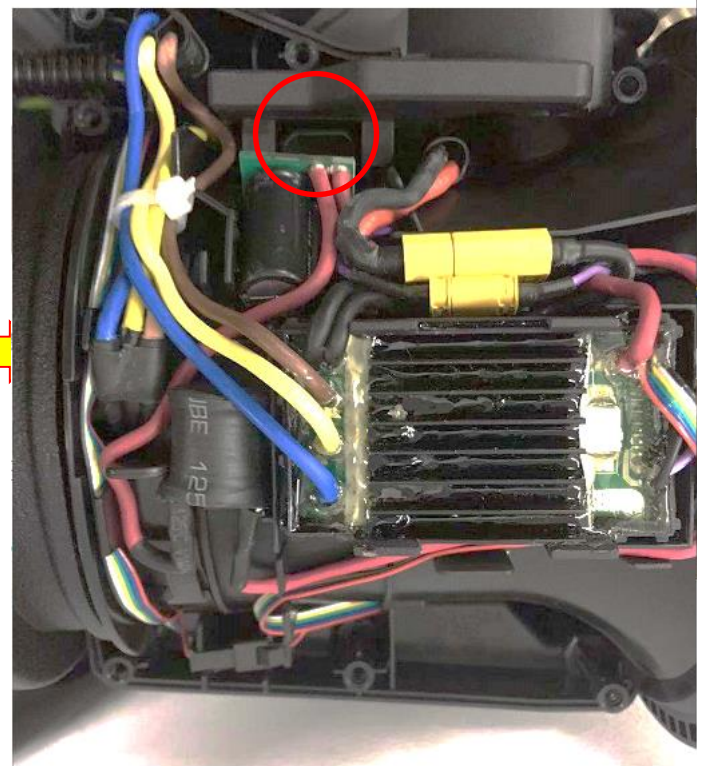
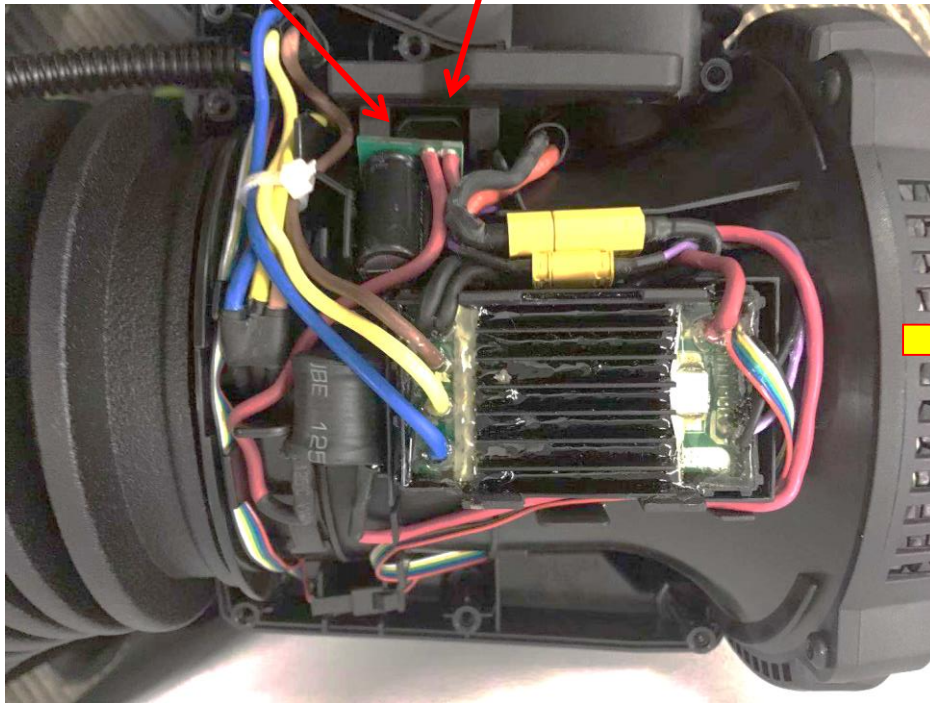


How to replace the PCBA

5. Align the location block on the ducted assembly with the groove on the support to position the ducted assembly.

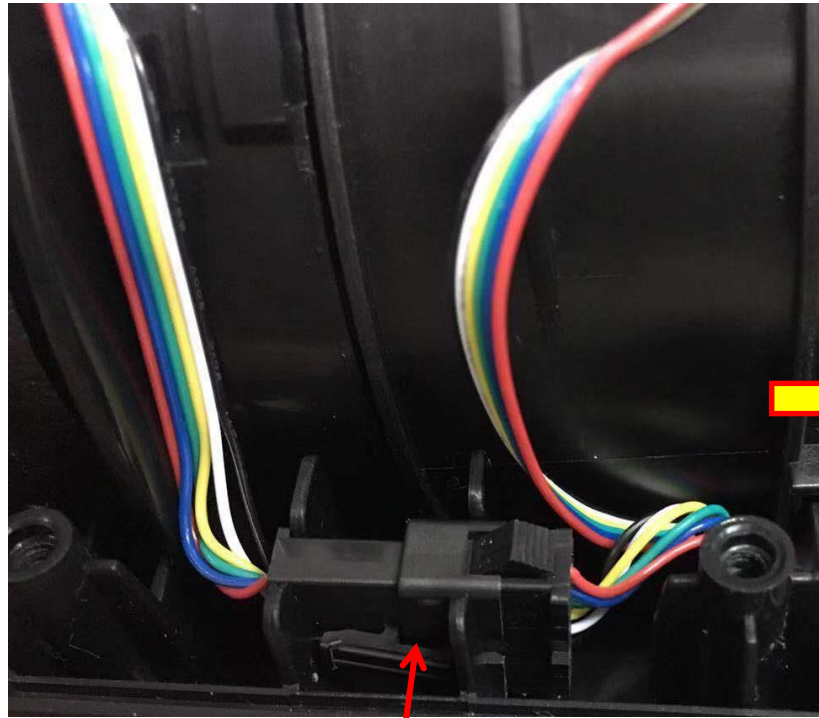
Location block

Groove

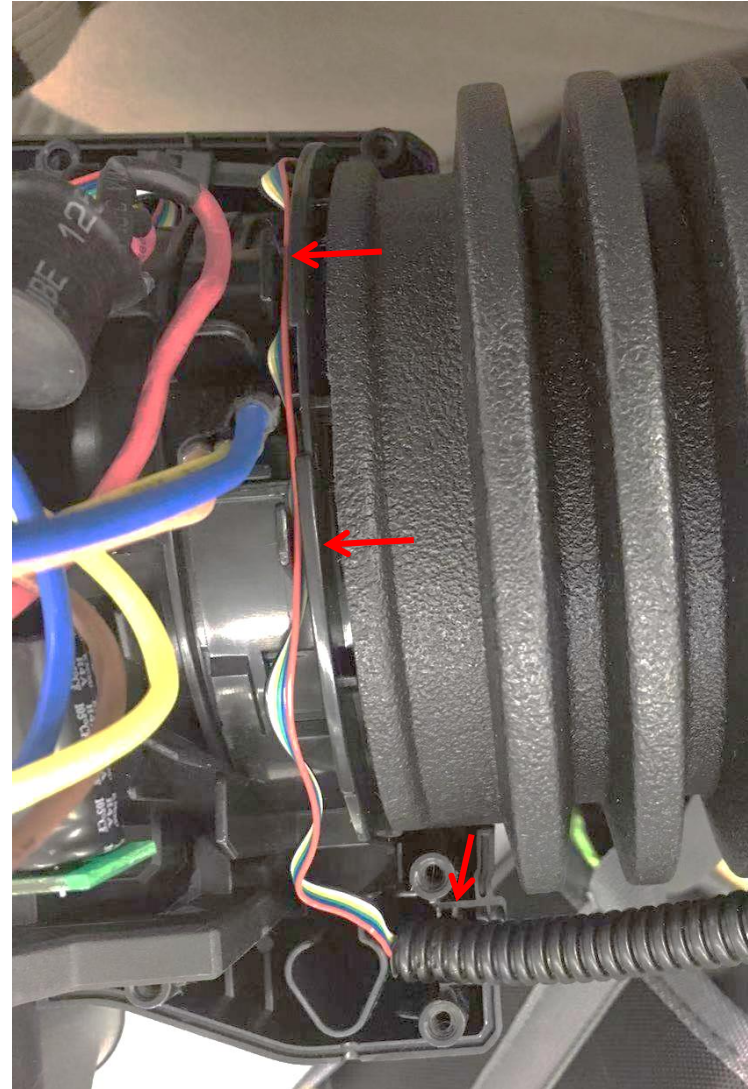


How to replace the PCBA

6. Put connector 4 into the slot and align the thin flat cables into its groove.

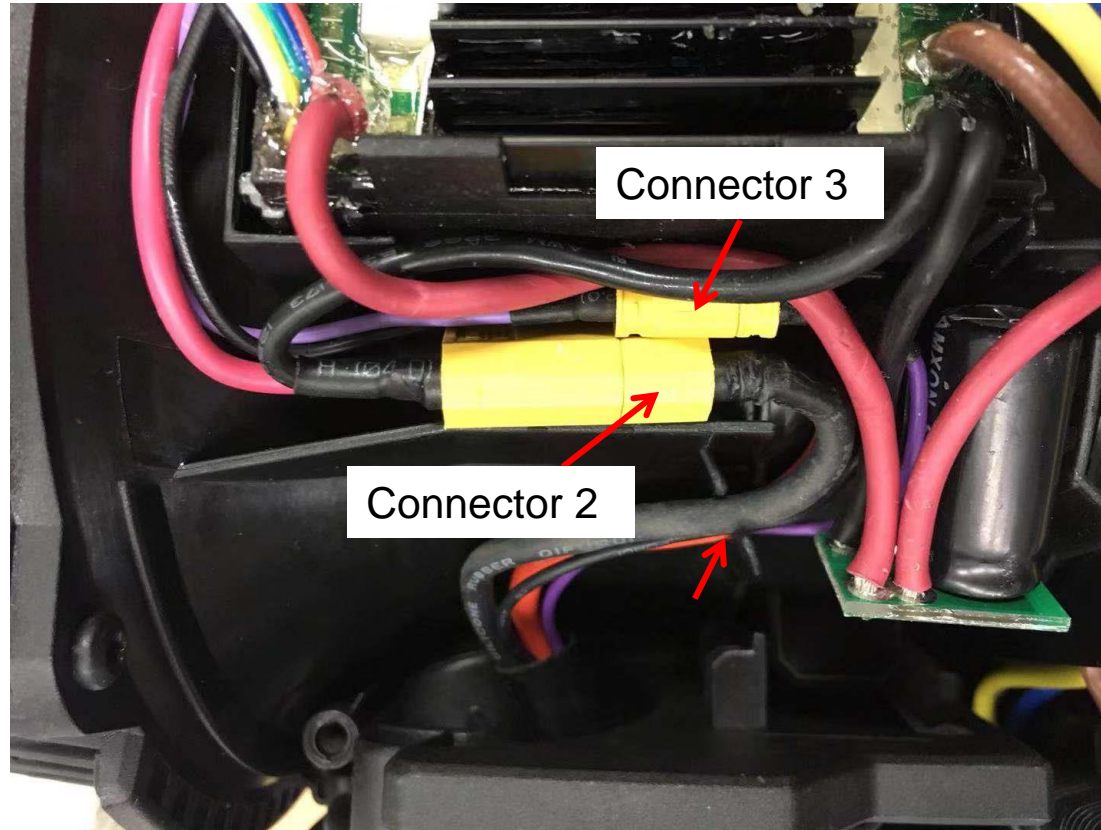


Connector 4



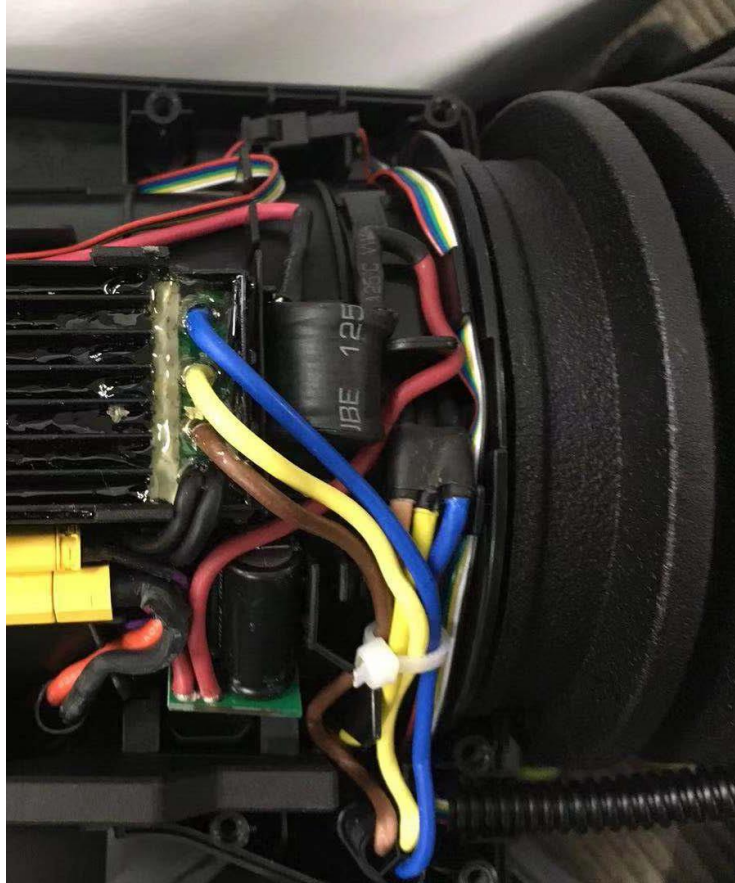
How to replace the PCBA

7. Align the red, purple and two black cables into the groove and put connector 2 and connector 3 into the right position.



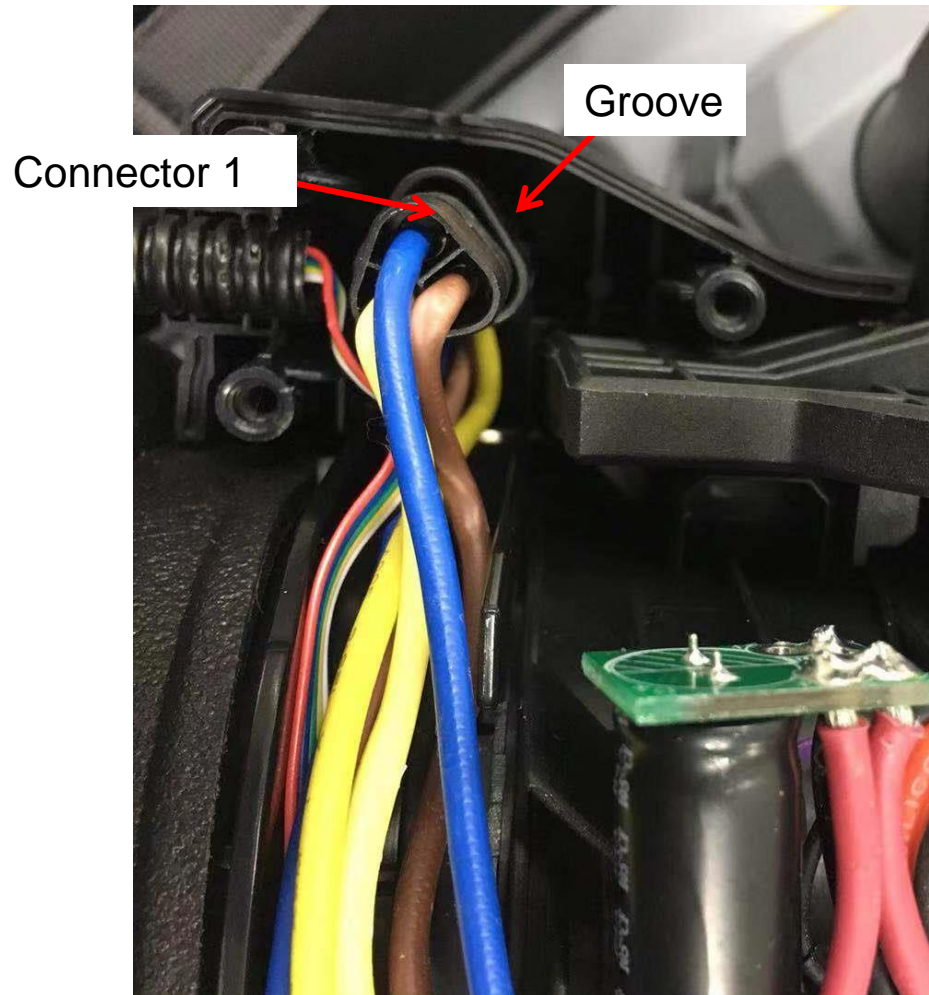
How to replace the PCBA

8. Fix the cables with zip-tie.



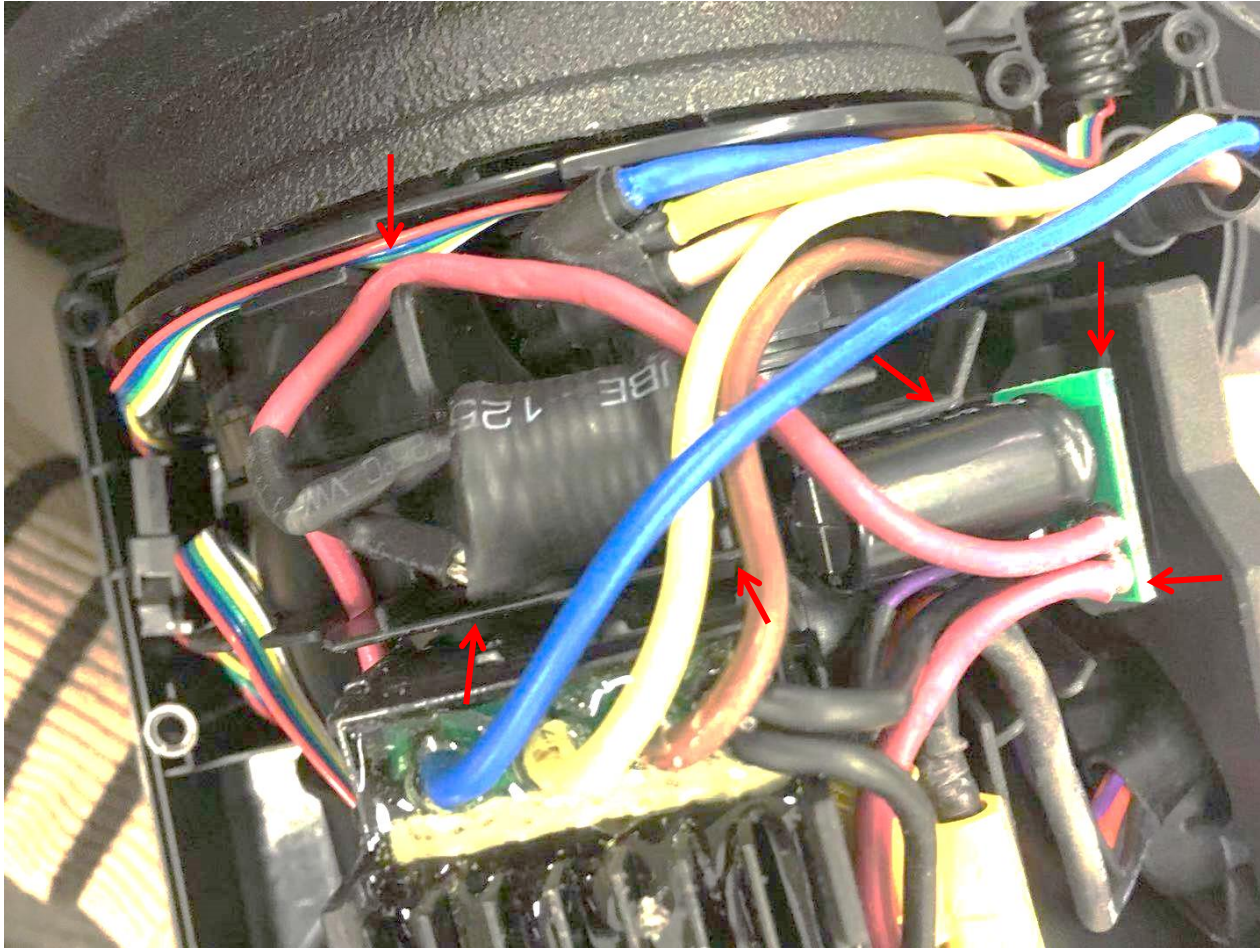
How to replace the PCBA

9. Insert connector 1 into the groove in the left housing.



How to replace the PCBA

10. Align the red cable connected with the capacitor into the groove and put the capacitor into its right position.



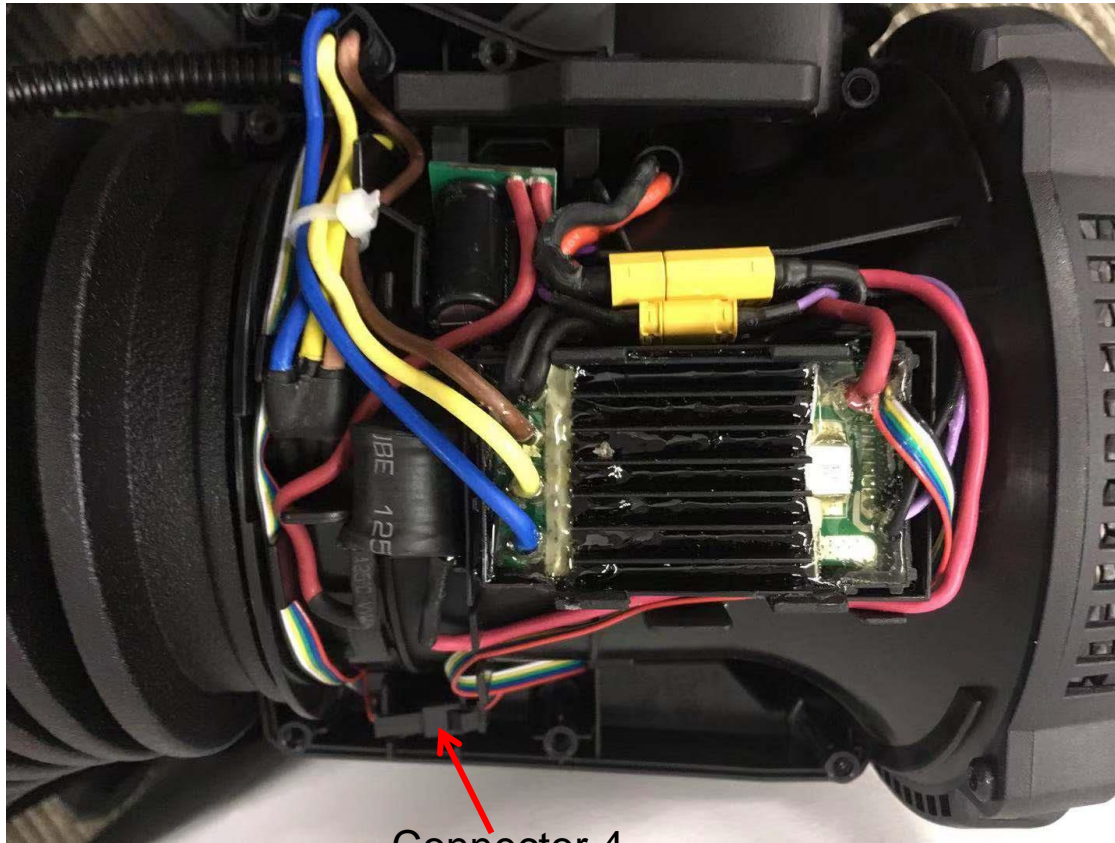
How to replace the PCBA

12. Mount the right housing onto the left housing and tighten the screw1# to assemble the housing.



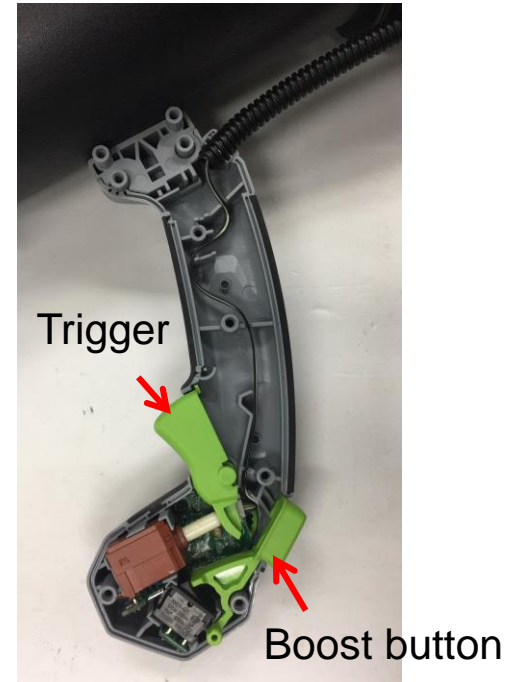
How to replace the switch assembly

1. Disassemble the housing set as shown in the “How to disassemble the blower” and disconnect connector 4.



How to replace the switch assembly

2. Remove the 8 screw1# and open the handle housing. If the trigger, boost button was broken, replace it with a new one.

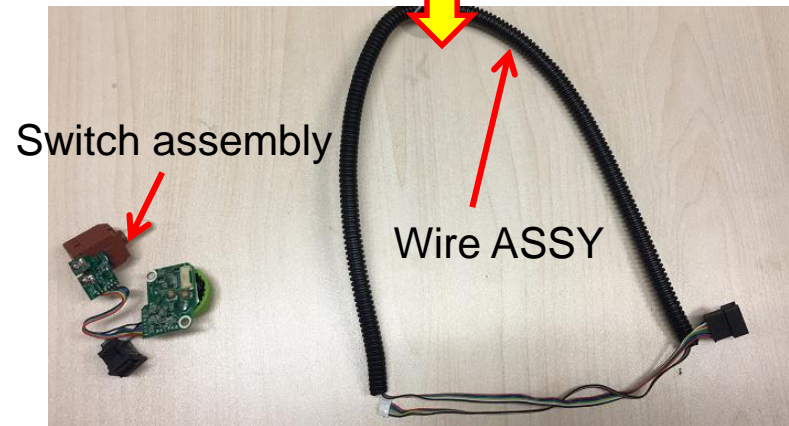
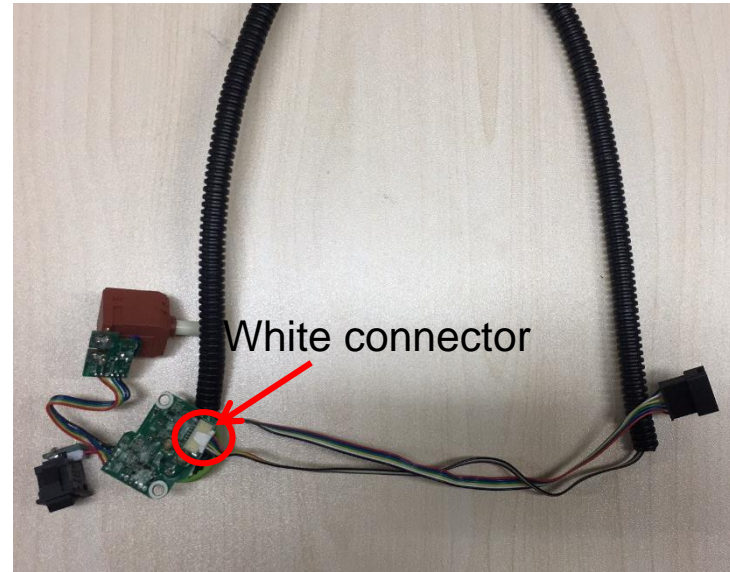
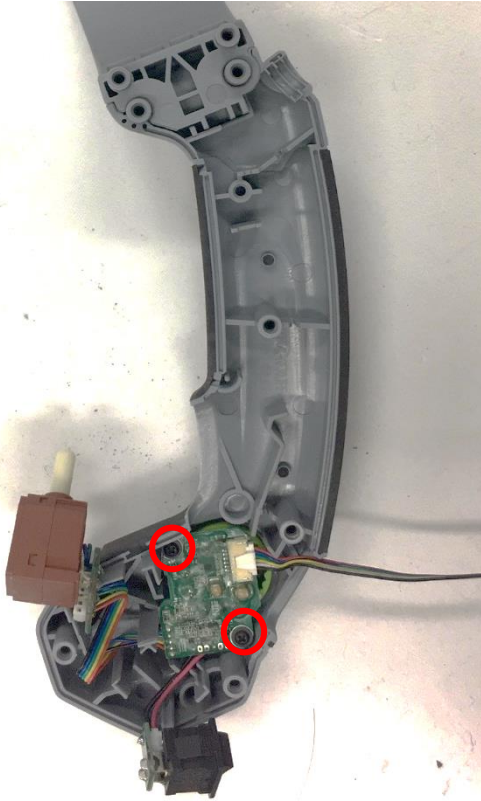


Description	Part Number
Handle housing	3900013001
Screw1#	5610294001

Description	Part Number
Trigger	3129247001
Boost button	3129246001

How to replace the switch assembly

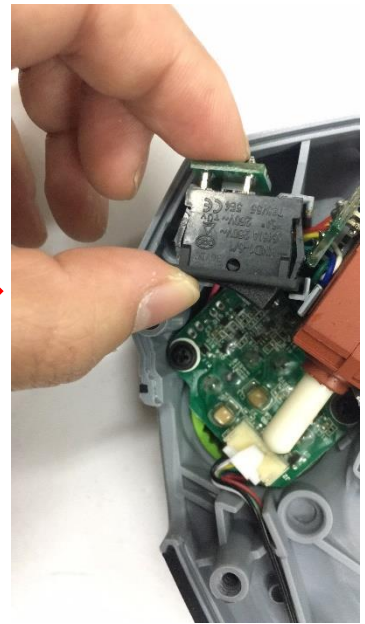
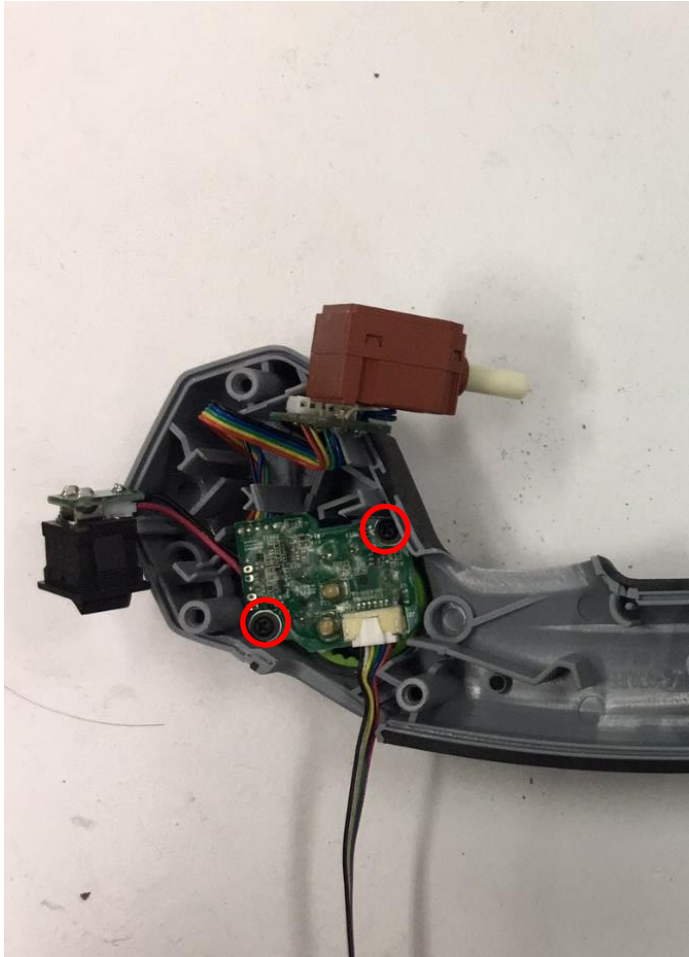
3. Loosen the 2 screw2# and disconnect the white connector.



Description	Part Number	Quantity
Switch assembly	2830309001	1
Wire ASSY	4860515001	1
Screw2#	5620176002	2

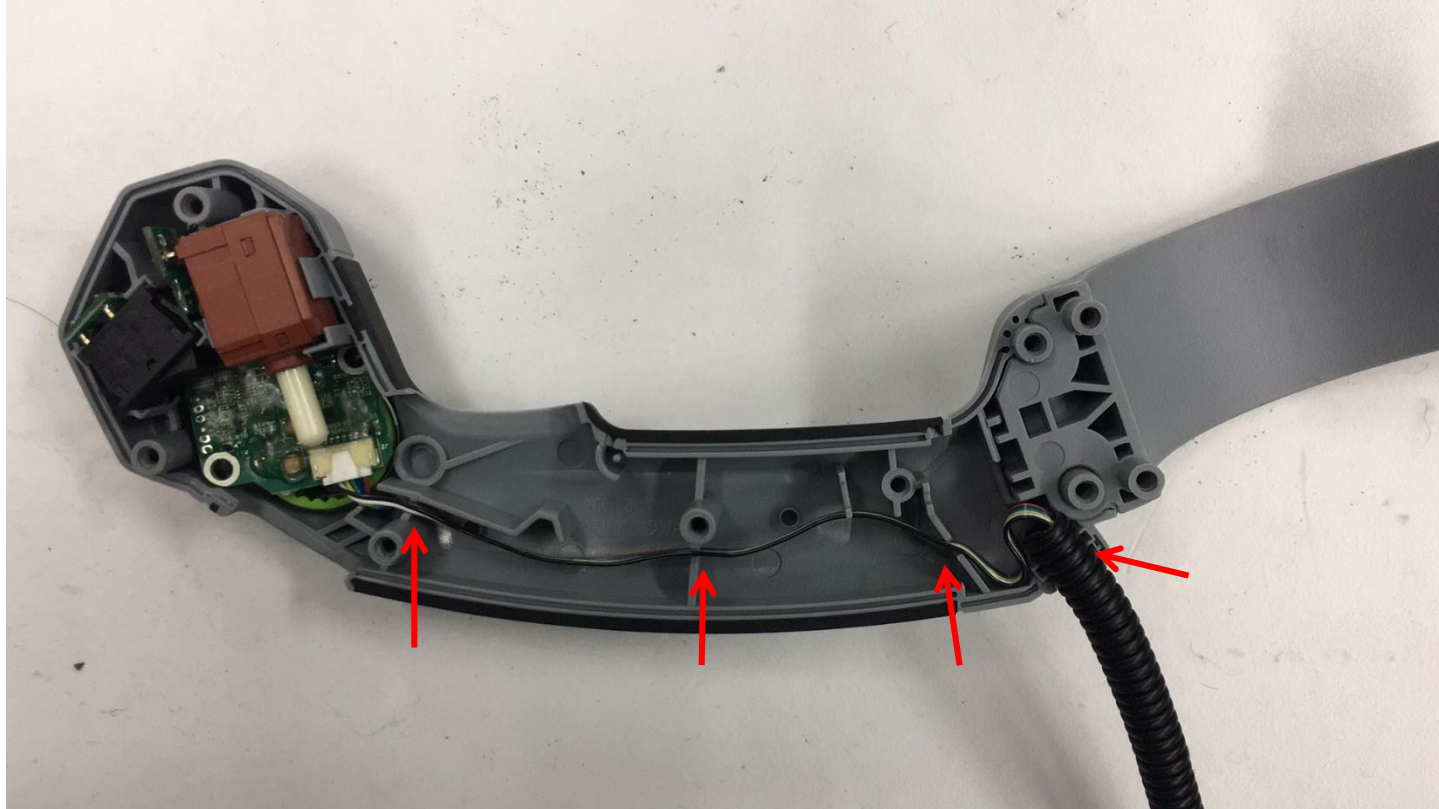
How to replace the switch assembly

4. Align the switch assembly with the hole and tighten the 2 screw2#.



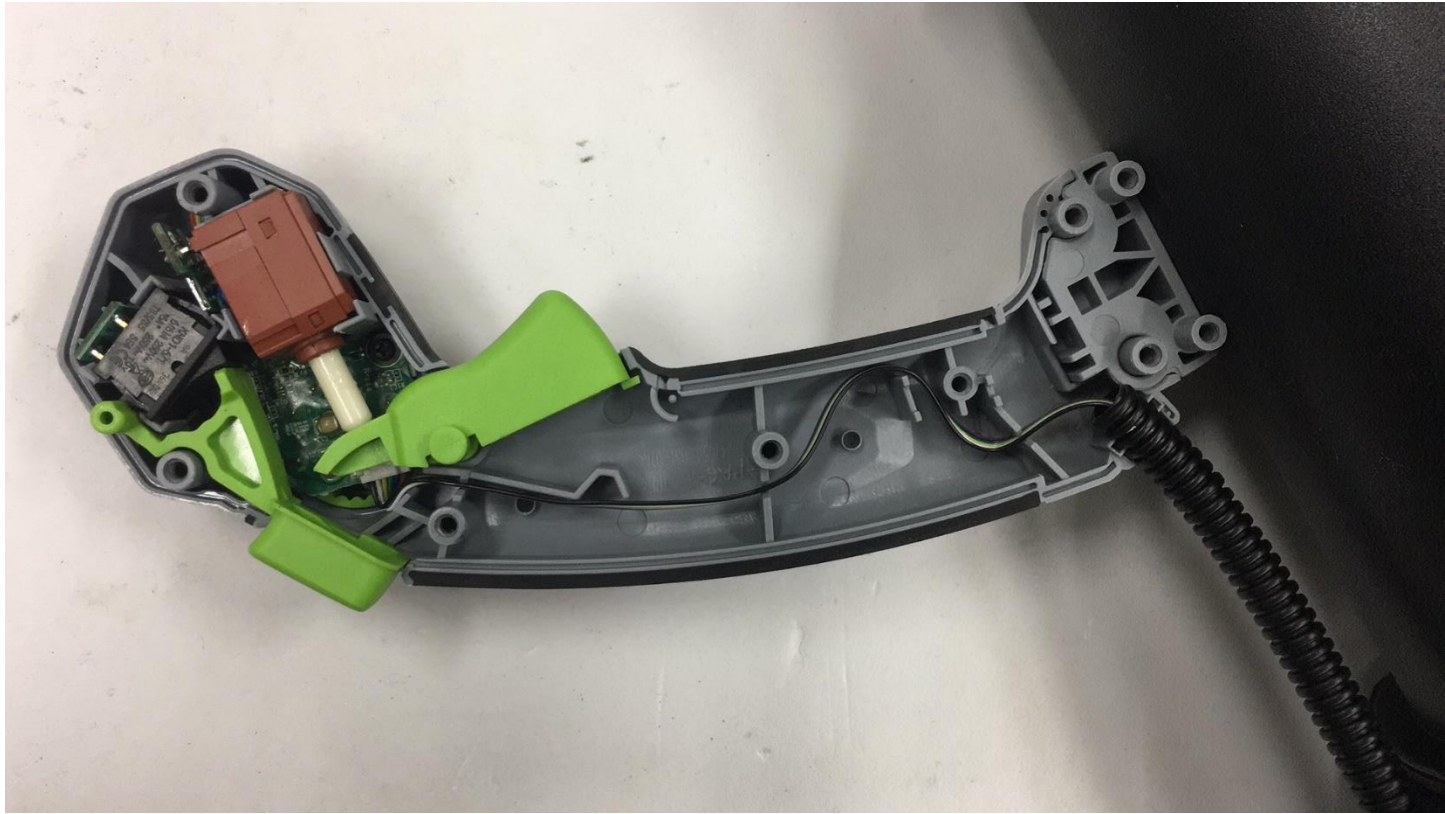
How to replace the switch assembly

5. Align the cables into the groove.



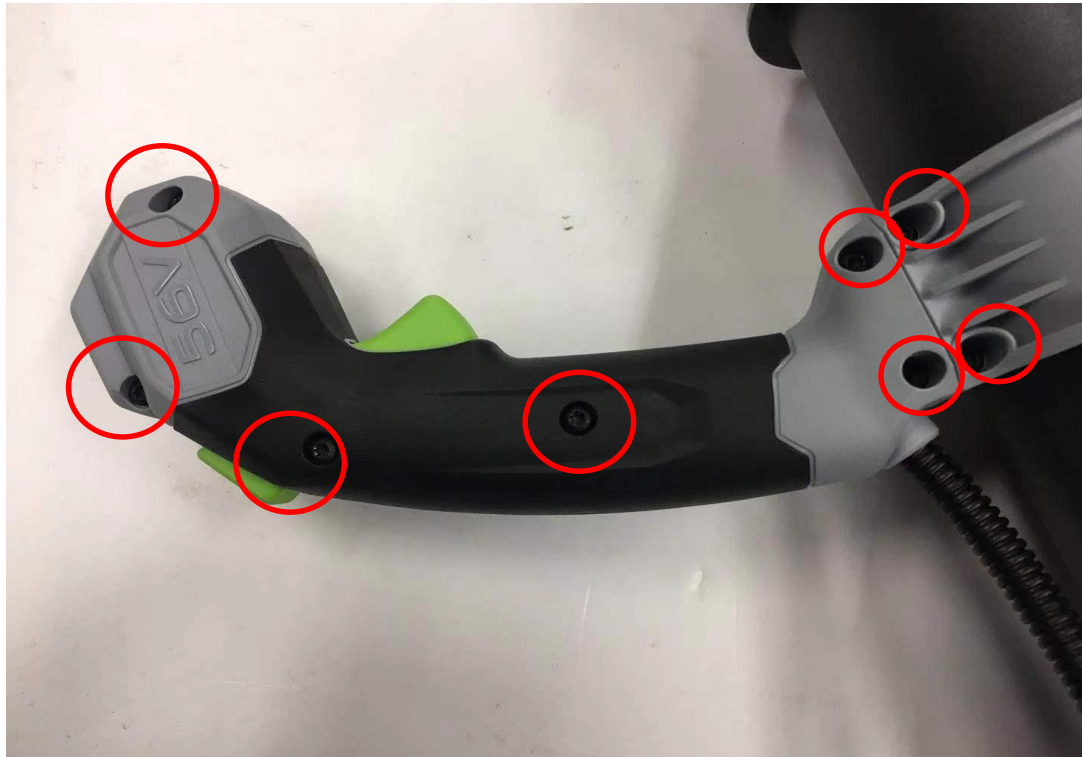
How to replace the switch assembly

6. Mount trigger and boost button.



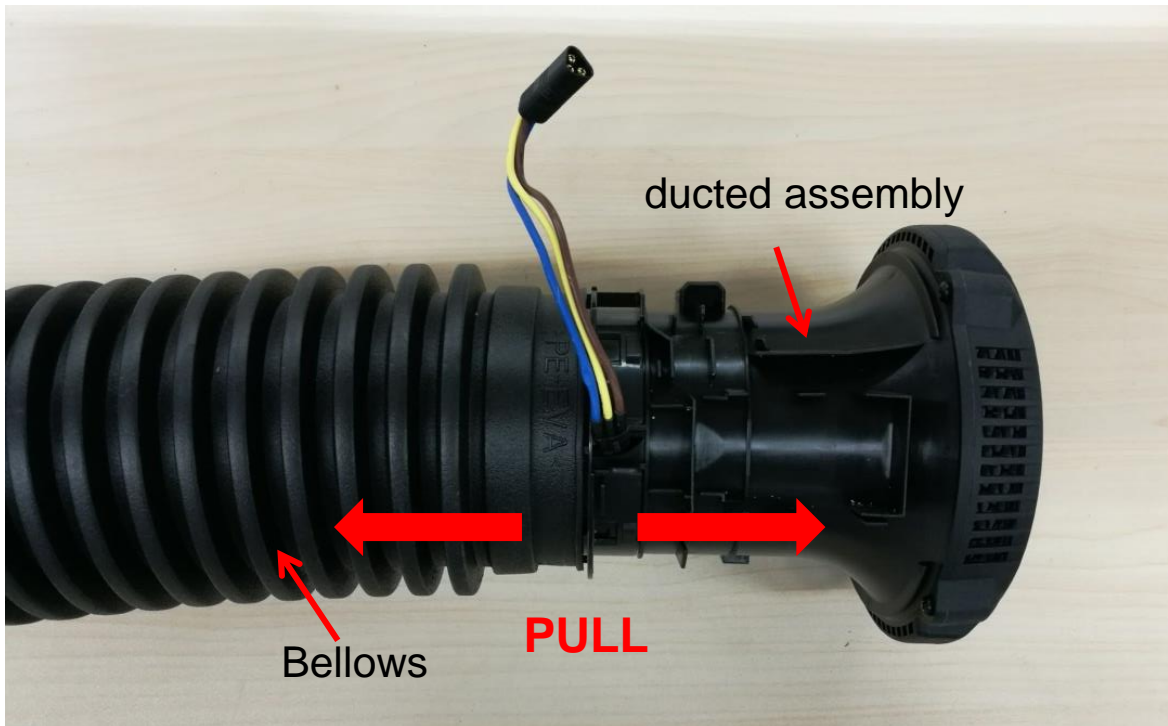
How to replace the switch assembly

7. Align the right handle housing with left handle housing and close them, lock them with 8 screw1#.
8. Align the cables and assemble the housing as shown in the “How to replace the PCBA” section.



How to replace the motor and ducted assembly

1. Disassemble the housing set and remove the PCBA as shown in the “How to disassemble the blower” and “how to replace the PCBA” section.
2. Pull the ducted assembly and the bellows to separate them from each other.



How to replace the motor and ducted assembly

3. Remove the 4 pcs screw1# to disassemble the fan baffle from the ducted assembly.
4. Replace the ducted assembly with a new one, if the fan baffle was broken replace it with a new one then assemble the ducted assembly with fan baffle with the 4 screw1#.



Description	Part Number	Quantity
ducted assembly	2825848001	1
Fan baffle	3128343001	1

How to replace the motor and ducted assembly

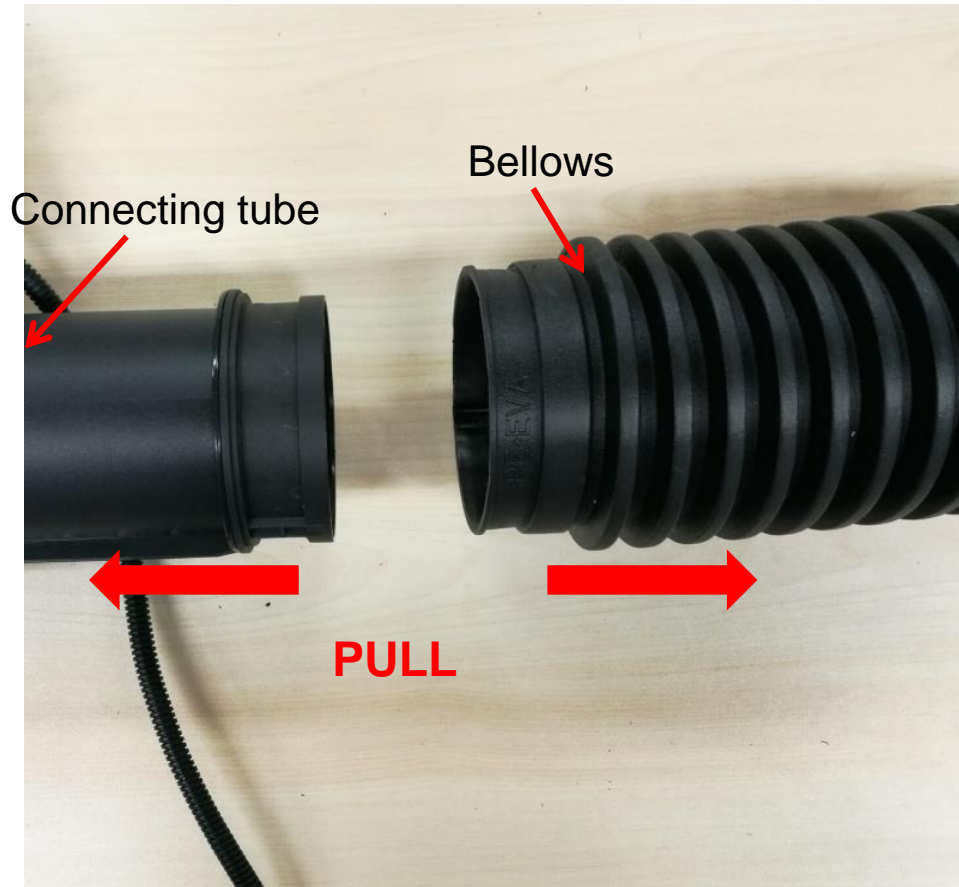
5. If the bellows was broken, loosen the screw3# on the lock ring and remove them. If the lock ring was broken, replace it with a new one.



Description	Part Number	Quantity
Lock ring	3128545001	1
Screw3#	5610224002	1

How to replace the motor and ducted assembly

6. Separate the connecting tube and bellows, then replace the bellows with a new one.



Description	Part Number	Quantity
Bellows	3128519001	1

How to replace the motor and ducted assembly

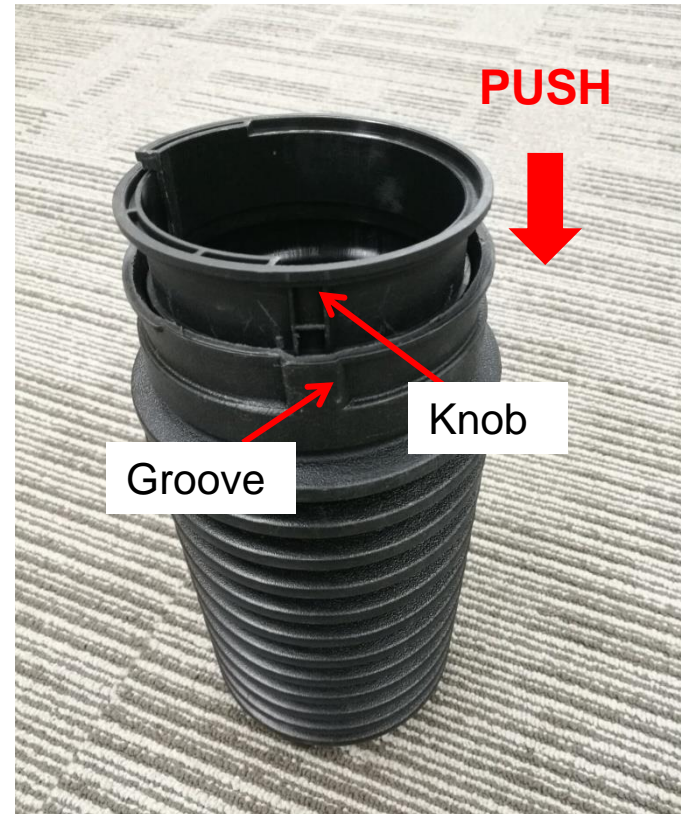
7. Remove the holding ring from the connecting tube.



Description	Part Number	Quantity
Holding ring	3705237001	1

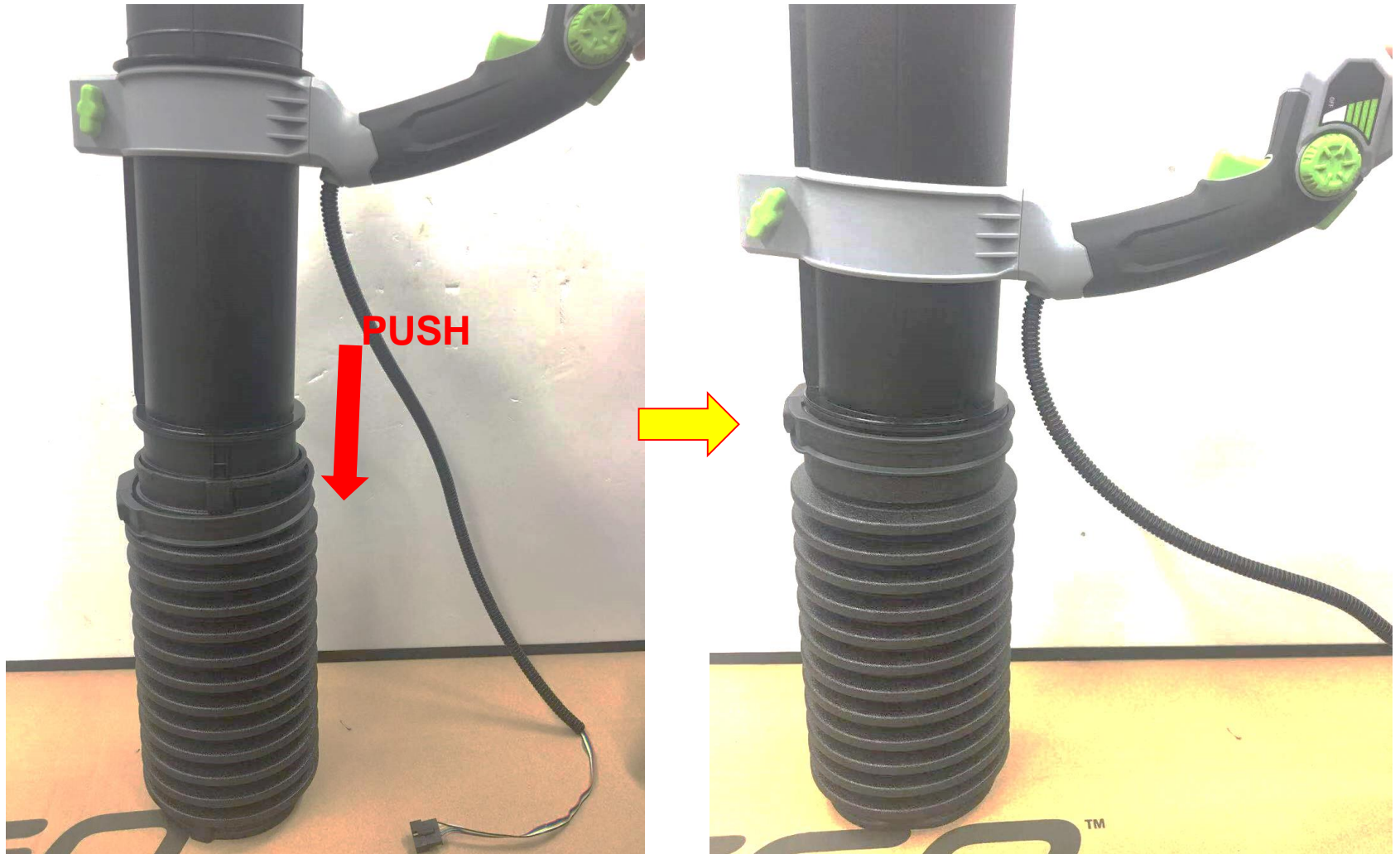
How to replace the motor and ducted assembly

8. Squeeze one side of the holding ring to make part of the two sides overlap each other meanwhile align the knob on the holding ring with the groove on the bellows, then push the holding ring to place it into position.



How to replace the motor and ducted assembly

9. Push the connecting tube into the bellows.



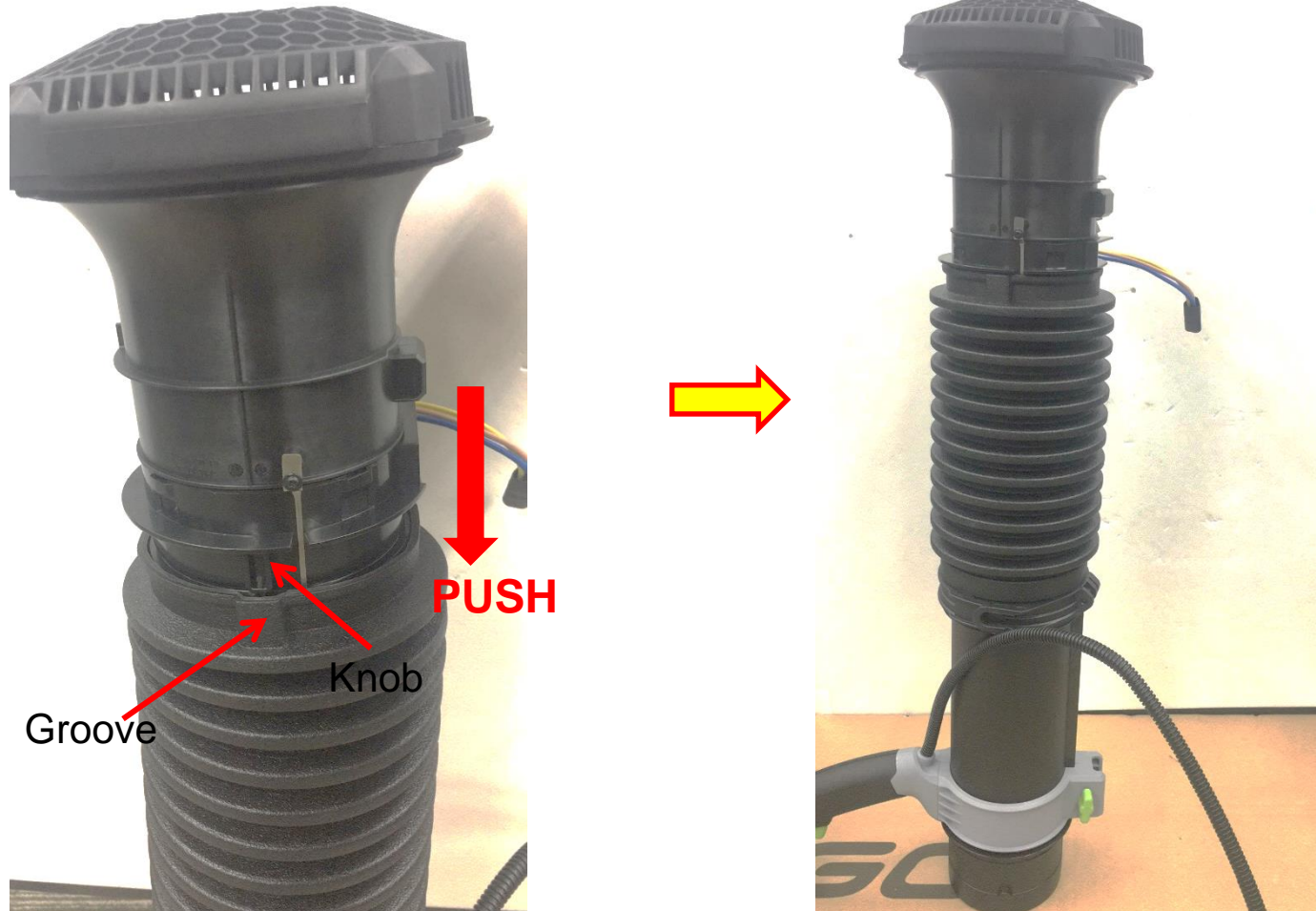
How to replace the motor and ducted assembly

10. Tighten the lock ring with the screw3#.



How to replace the motor and ducted assembly

11. Align the knob on the ducted assembly with the groove on the bellow and then push the ducted assembly into the bellows.



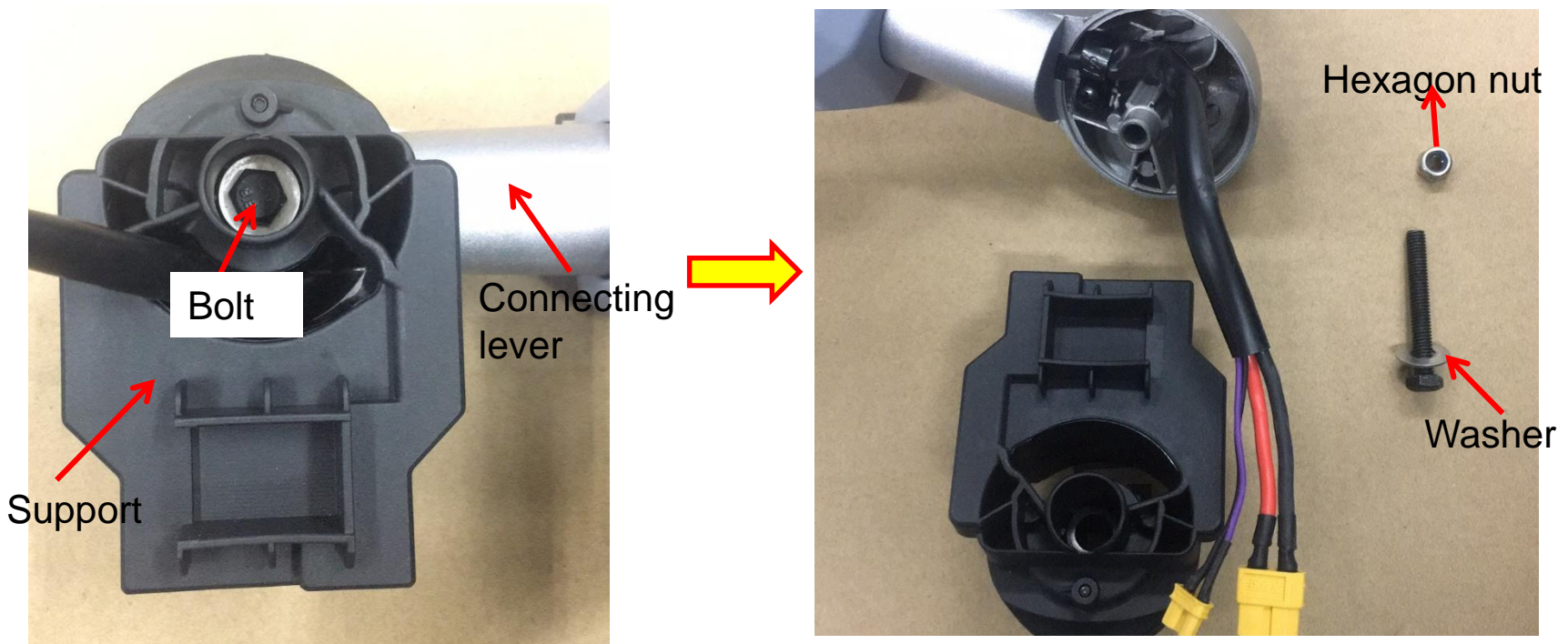
How to replace the motor and ducted assembly

12. Assemble the PCBA and the housing as shown in the “How to replace the PCBA” section.



How to replace the connecting lever

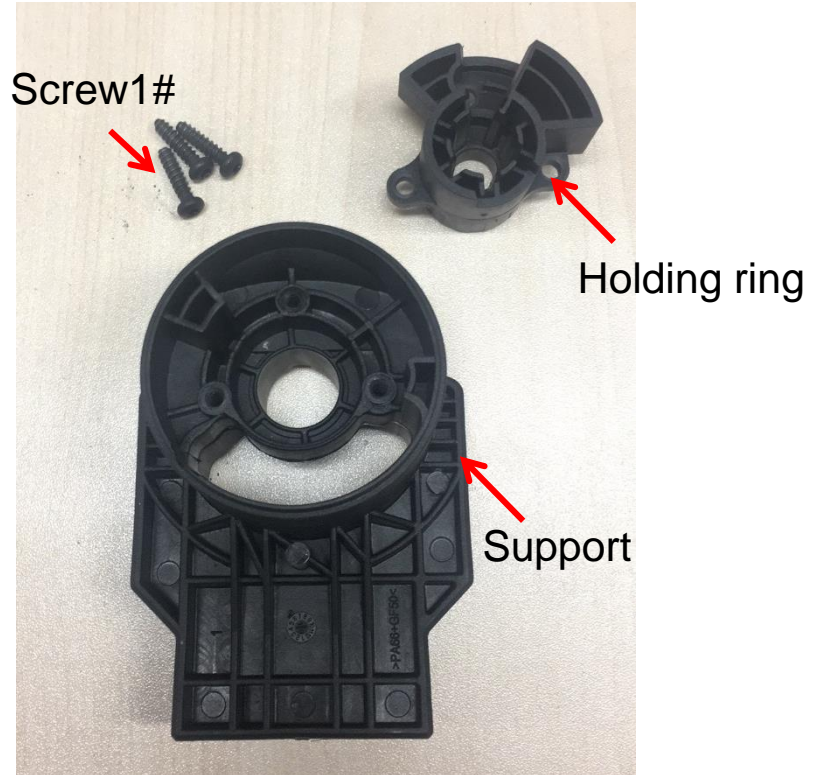
1. Open the housing set and disconnect connector 2 and connector 3 as shown in the “How to disassemble the blower” and “how to replace the PCBA” section.
2. Loosen the bolt to separate the support from the connecting lever.



Description	Part Number	Quantity
Bolt	5640243001	1
Hexagon nut	5630015001	1
Washer	5650419002	1

How to replace the connecting lever

3. Loosen the 3 screw1# and remove the holding ring.



Description	Part Number	Quantity
Screw1#	5610294001	3
Support	3128521001	1
Holding ring	3129351001	1

How to replace the connecting lever

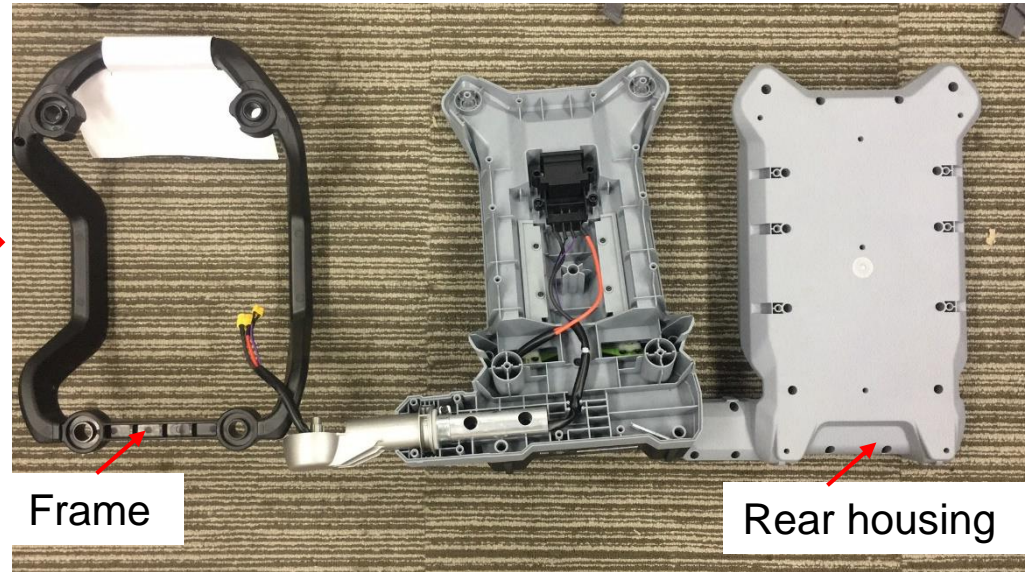
- Loosen the 8 pcs screw4# to disassemble the harness from the rear housing.



Description	Part Number	Quantity
Screw4#	5610298001	8
Harness	3800121001	1

How to replace the connecting lever

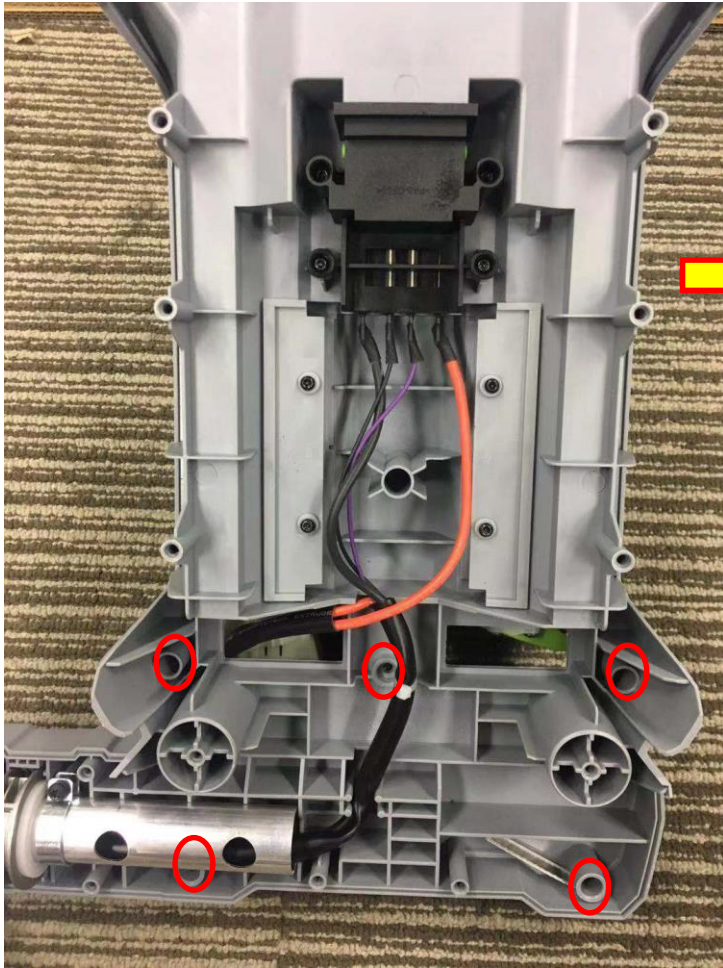
5. Loosen the 18 screw 5# to separate the rear housing from the front housing and take the frame away.



Description	Part Number	Quantity
Screw 5#	5620157006	18
Frame	3128357001	1
Rear housing	3128362001	1

How to replace the connecting lever

6. Loosen the 5 screw5# to separate the decorative cover from the front housing.



Description	Part Number	Quantity
Decorative cover	3322077001	1

How to replace the connecting lever

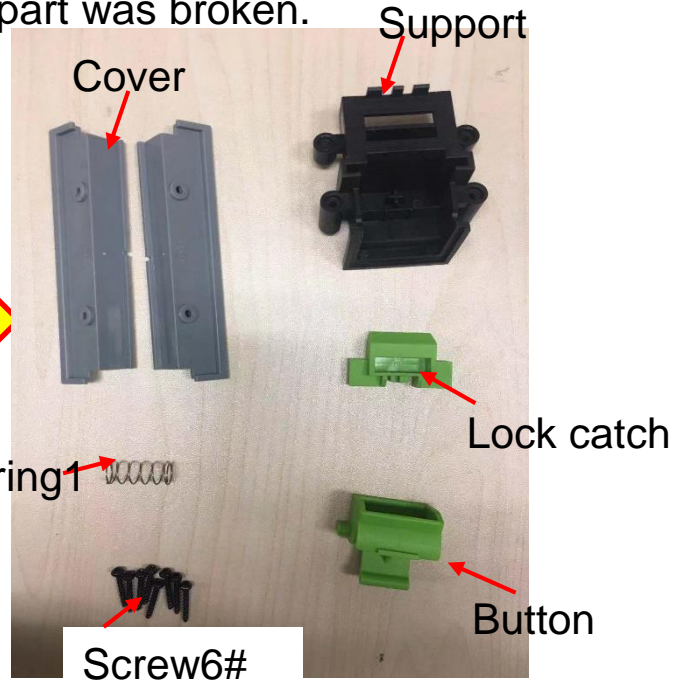
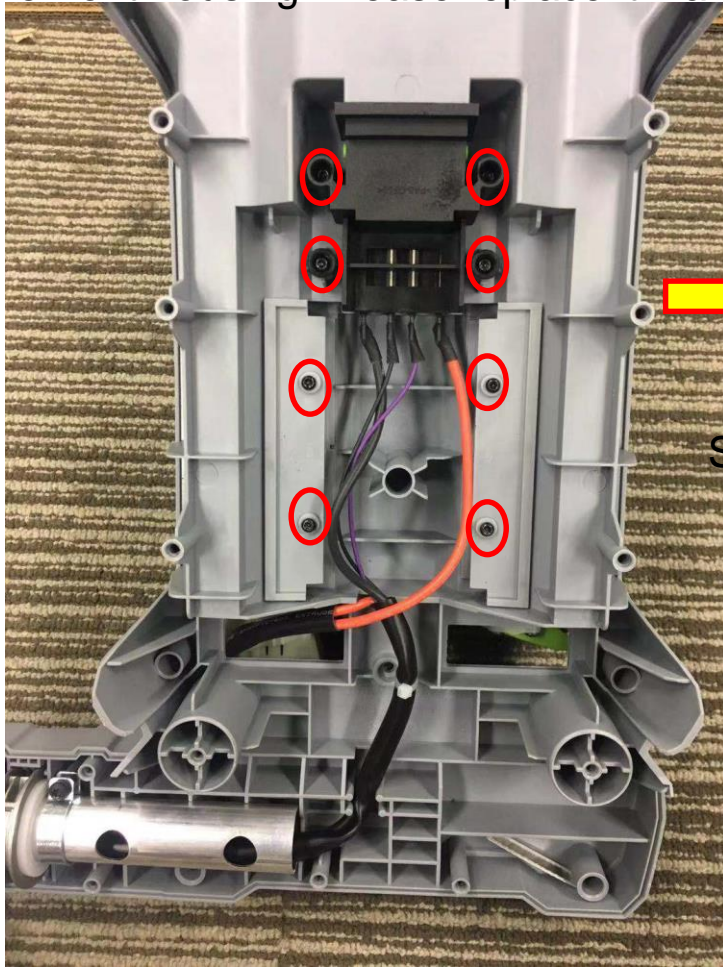
7. Loosen the screw5# on the fixed ring.



Description	Part Number	Quantity
screw5#	5620157006	1

How to replace the connecting lever

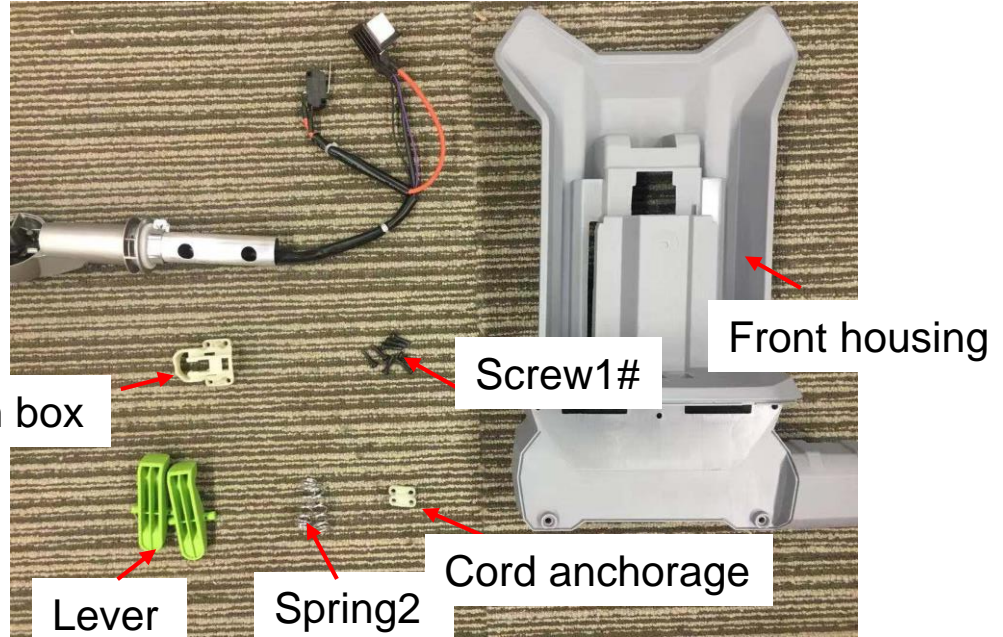
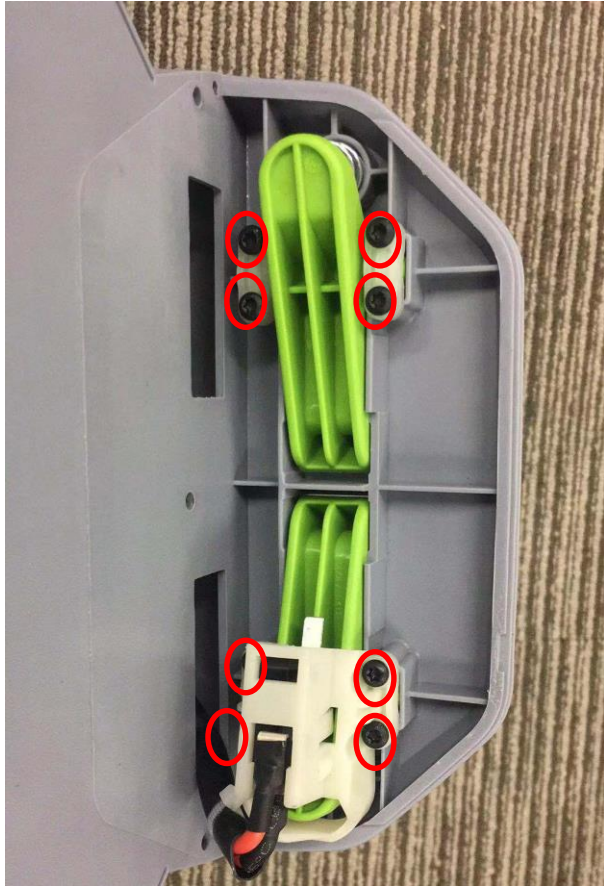
8. Loosen the 8 screw6# to separate the support, spring1, button, lock catch and cover from the front housing. Please replace it if any part was broken.



Description	Part Number	Quantity
Cover	3128361001	2
Support	3128359001	1
Lock catch	3127497001	1
Button	3127498001	1
Spring1	3660013003	1
Screw6#	5610274001	8

How to replace the connecting lever

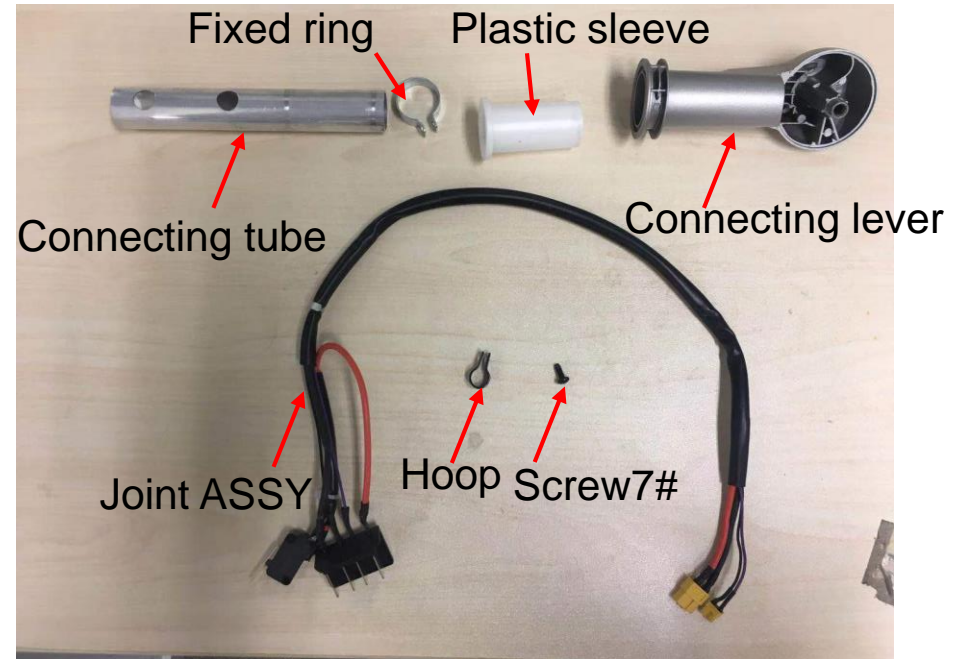
9. Loosen the 8 screw1# to separate the lever, switch box, spring2 and cord anchorage from the front housing. Please replace it if any part was broken.



Description	Part Number	Quantity
Screw1#	5610294001	8
Cord anchorage	3122798001	2
Spring2	3660306002	2
Lever	3126773001	2
Switch box	3129227001	1
Front housing	3128358001	1

How to replace the connecting lever

10. Loosen the screw7# on the hoop and pull the joint ASSY from the connecting lever.



Description	Part Number	Quantity
Screw7#	5610097002	1
Fixed ring	3705178001	1
Plastic sleeve	3128346001	1
Connecting lever	3421815002	1
Connecting tube	3706049001	1
Joint ASSY	2826056001	1
Hoop	3705237001	1

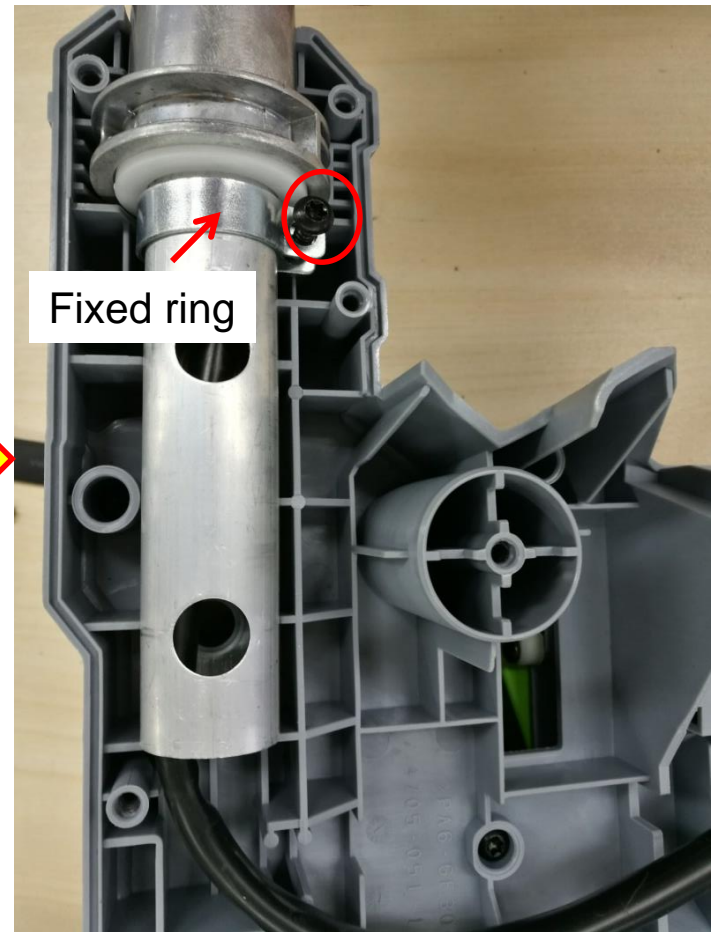
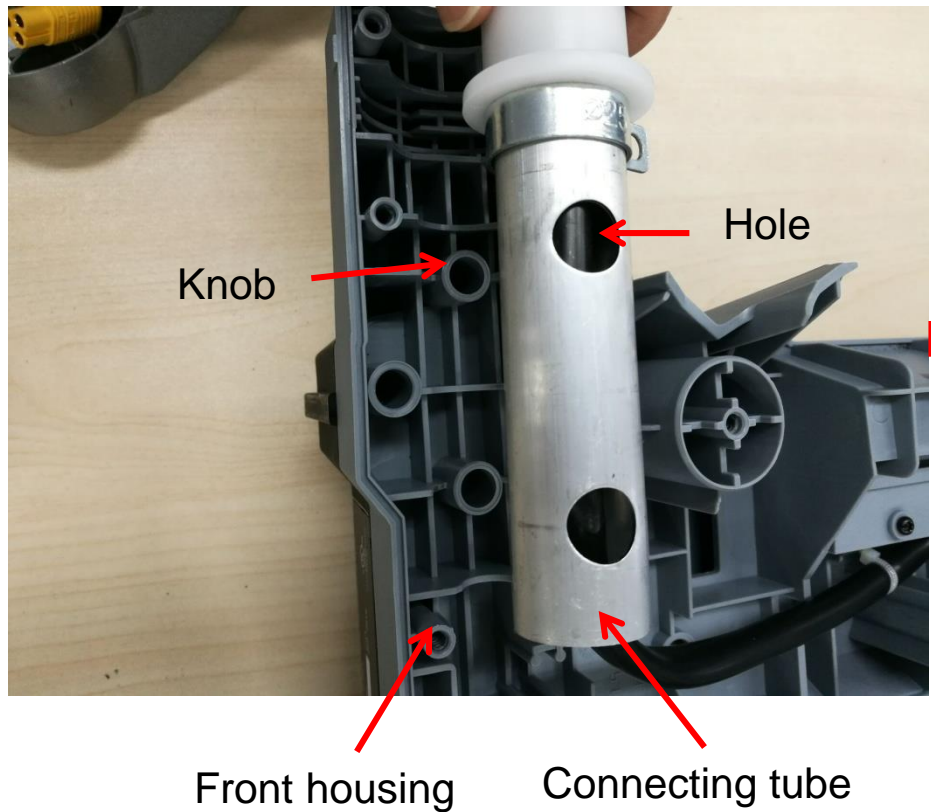
How to replace the connecting lever

11. Insert the cables into the connecting lever then put the hoop onto the cables and tighten the hoop with the screw.



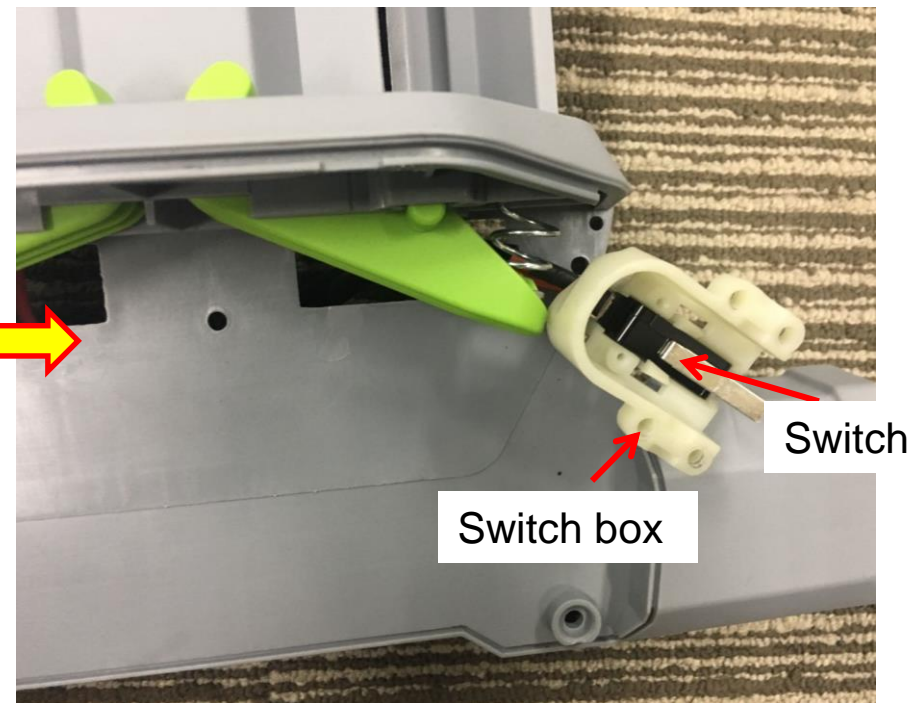
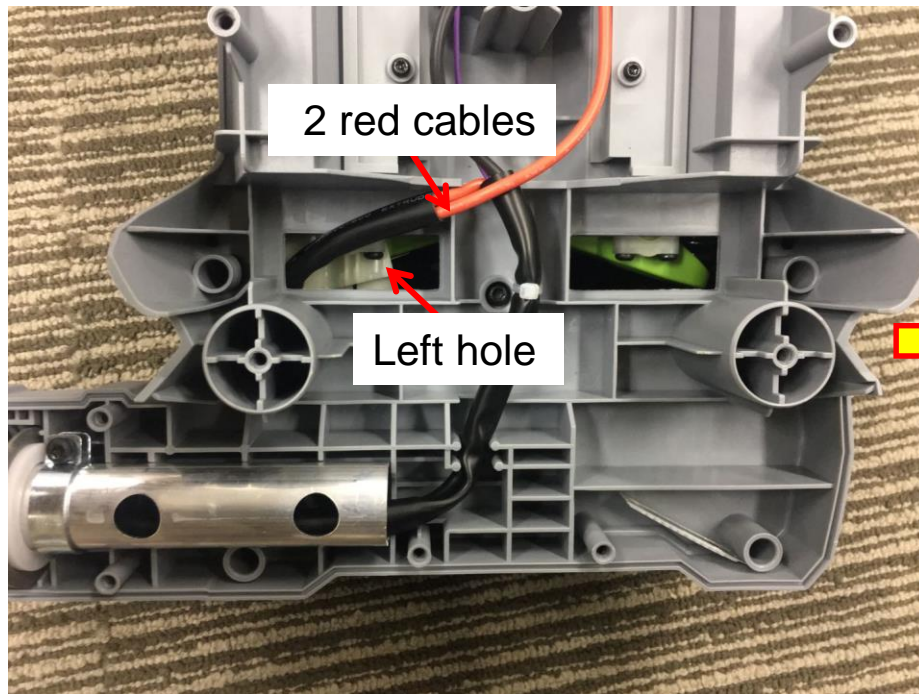
How to replace the connecting lever

12. Align the hole on the connecting tube with the knob on the front housing to put the connecting tube into its position.
13. Tighten the fixed ring with screw5#.



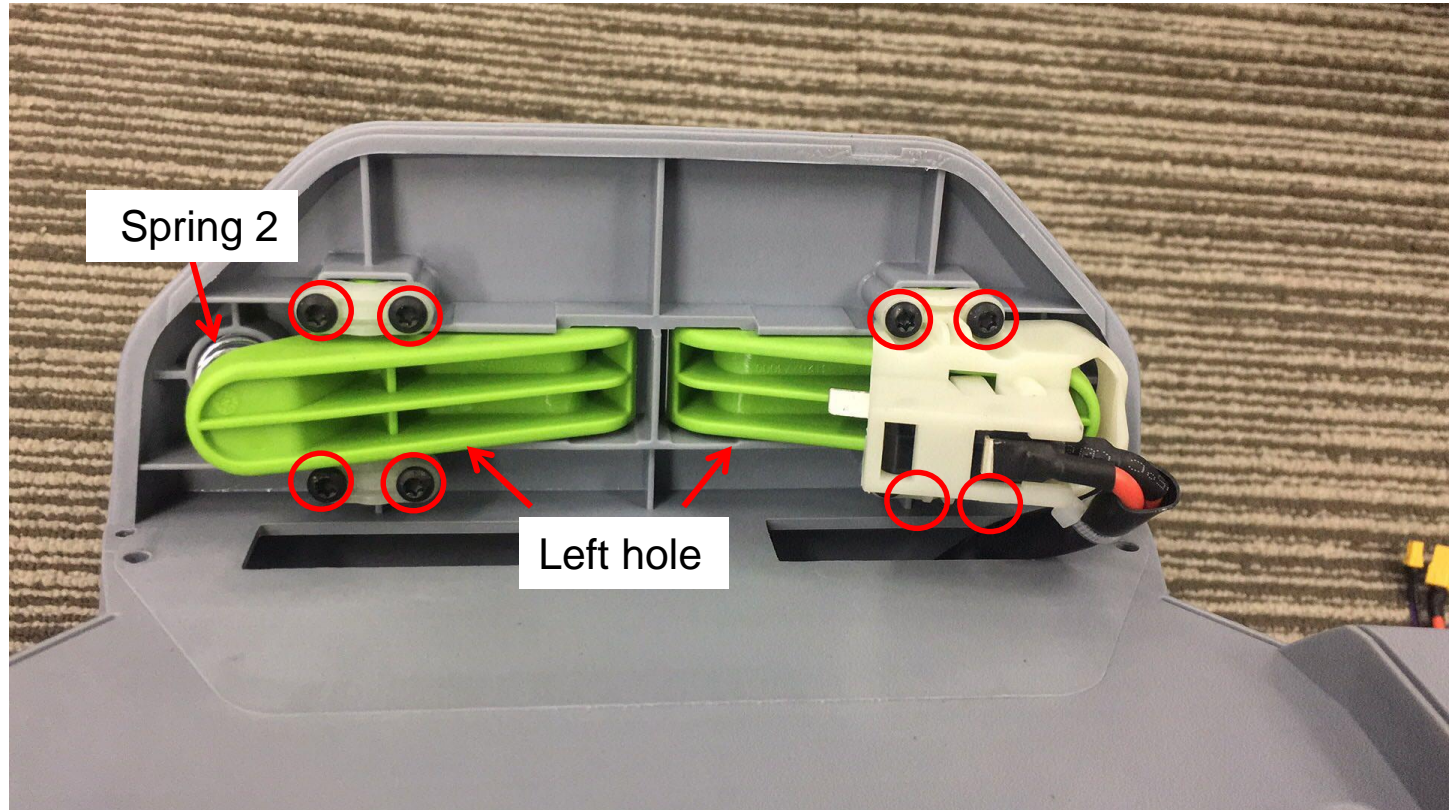
How to replace the connecting lever

14. Insert the 2 red cables into the left hole .
15. Put the switch into the switch box.



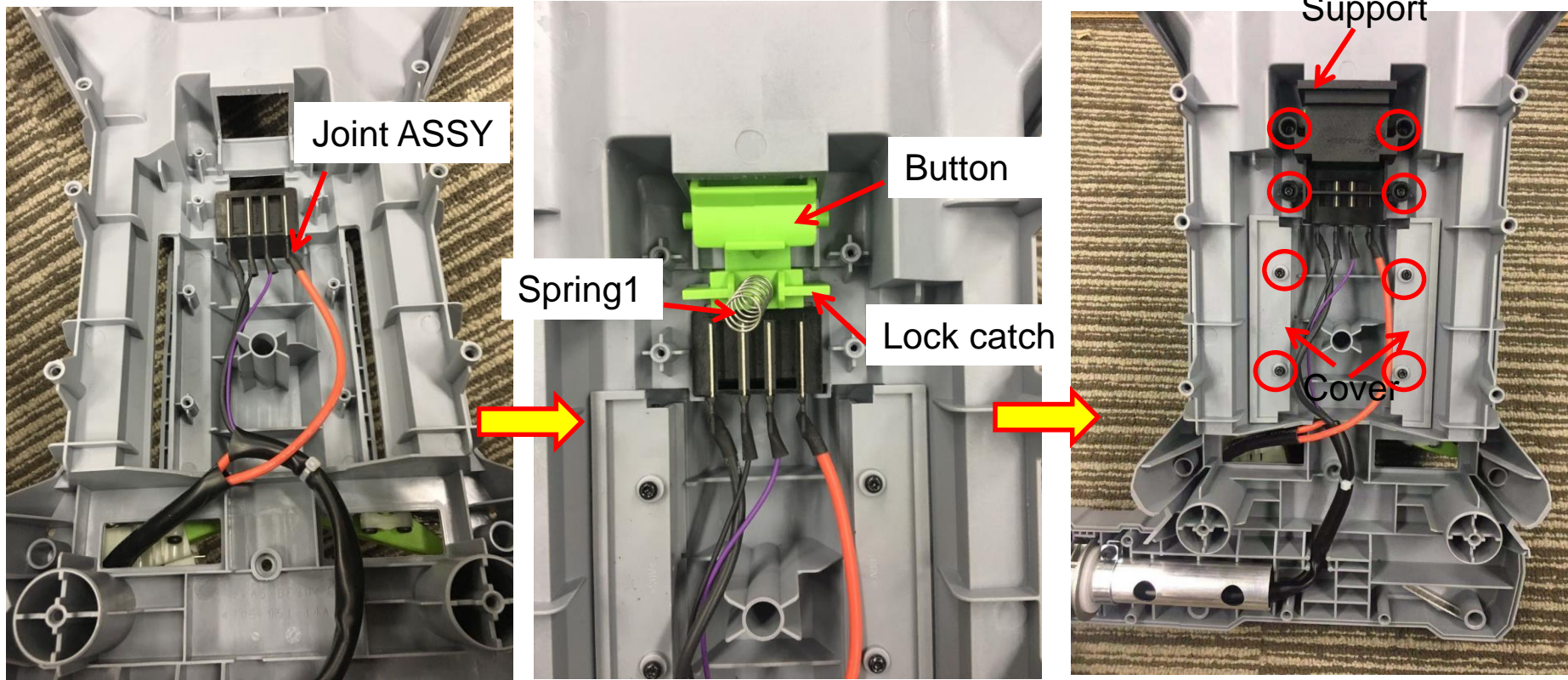
How to replace the connecting lever

16. Put the 2 levers and 2 spring2 into the groove and tighten the 8 screw1#.



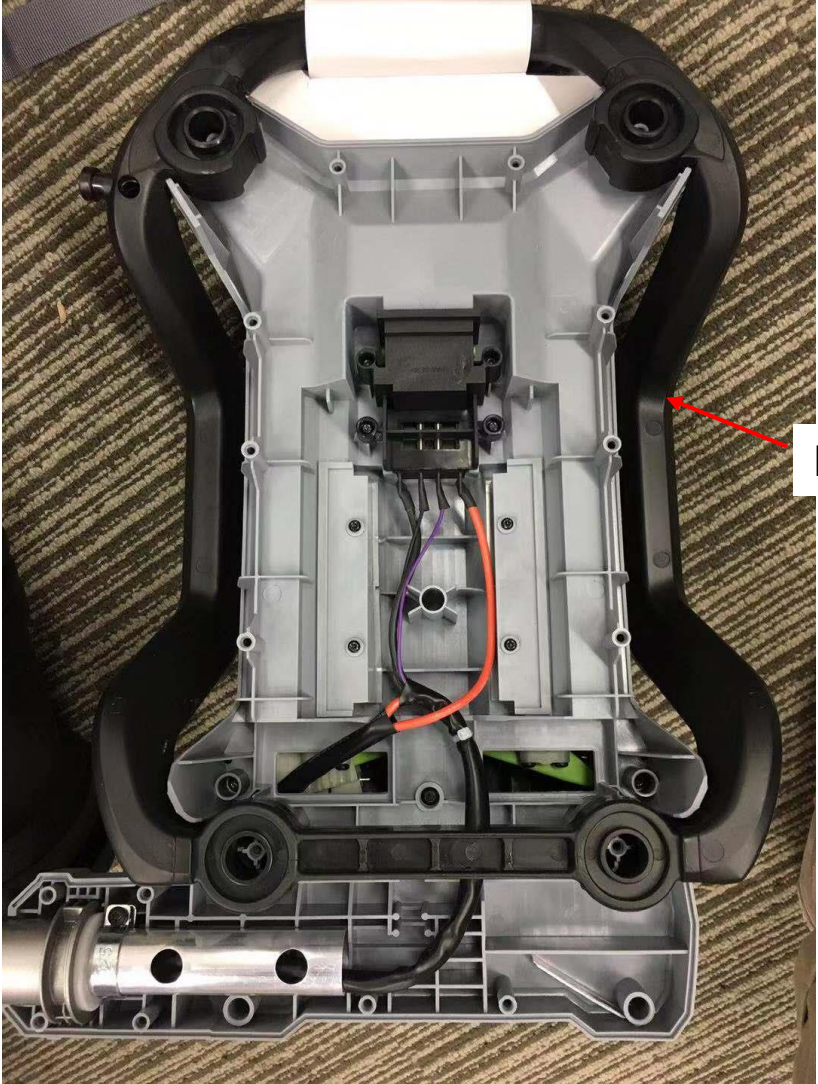
How to replace the connecting lever

17. Assemble the joint ASSY, button, lock catch, spring1, support and 2 covers following the pictures.
18. Tighten the 8 screw6#.



How to replace the connecting lever

19. Push the frame onto the front housing to assemble them.



Frame

How to replace the connecting lever

20. Assemble the rear housing with the front housing with screw5#.



How to replace the connecting lever

21. Mount the harness on the rear housing with the 8 screw4#.



How to replace the connecting lever

22. Mount the support onto the connecting lever and tighten it with the bolt.



How to replace the connecting lever

23. Connect connector 2 , connector 3 and assemble the housing assembly as shown in the “How to replace the PCBA” section.

