

# REPAIR GUIDELINE

## Brush Cutter \_BCX3800



*Version: 2*

*Issue Date: 23/05/2019*

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# Troubleshooting

Problem	Possible Cause	Fault Position	Test & Solution
The motor speed varies up and down when the brushcutter works.	Motor was burned due to overload	Motor	Replace the motor
Not working	The fuse is broken	Fuse in PCBA assembly	Replace the PCBA with a new one
	PCBA is broken	PCBA in the housing assembly	Replace the PCBA with a new one
	Motor is burned	Motor	If the cables are well connected, check the motor and test with a new motor
Noise	Lack of grease in gearbox	Gear case	Add grease
Excessive vibration	Unbalanced/ Eccentric blade	Blade	Replace or fit blade correctly.

# Troubleshooting

Problem	Possible Cause	Fault Position	Test & Solution
<b>With Trimmer Line</b>			
Not feeding line	Poor cutting line	Trimmer line	Replace the cutting line. (e.g. 2.4mm nylon line)
Hard to wind up line	Support of the lower housing assembly is worn	Lower housing assembly	Replace the lower housing assembly
Not cutting the line	Blade on the guard assembly is worn	Guard assembly	Replace the guard assembly
<b>With 3-teeth Blade</b>			
Blade worn	Overload or wear and tear	Blade	Replace it with a new one
Excessive vibration	Unbalanced/ Eccentric blade	Blade	Replace or fit blade correctly.

# Tool List For Repair

NO.	Tool List	SPEC	Remark
1	Socket wrench	15mm	
2	Phillips	PH2	
3	Torx screwdriver	T-15&T-20	
4	Hex wrench	5mm, 4mm	

# **Part 1: Replace the Housing Assembly and Gear Case (With trimmer line)**

# 1. Replace the Housing Assembly and Gear Case

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1. Loosen 2 screws to disassemble the guard assembly, if the guard assembly is broken, replace it with a new one.



Description	Part Number	Qty.
Tapping screw	5620216006	2
Spring Washer	5650015012	2
Guard assembly	2825603001	1

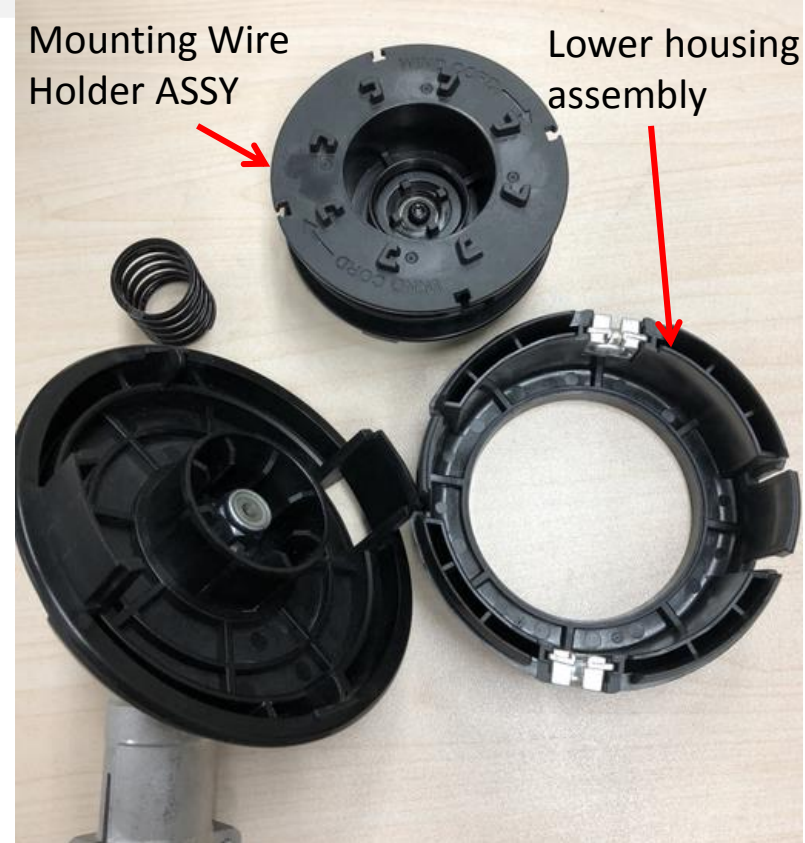
# 1. Replace the Housing Assembly and Gear Case

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2. Press the release tabs to remove the lower housing assembly & mounting wire holder ASSY.



Description	Part Number	Qty.
Mounting Wire Holder ASSY	2825610001	1
Lower housing assembly	2825608001	1
Cutting head ASSY	2825606001	1





# 1. Replace the Housing Assembly and Gear Case

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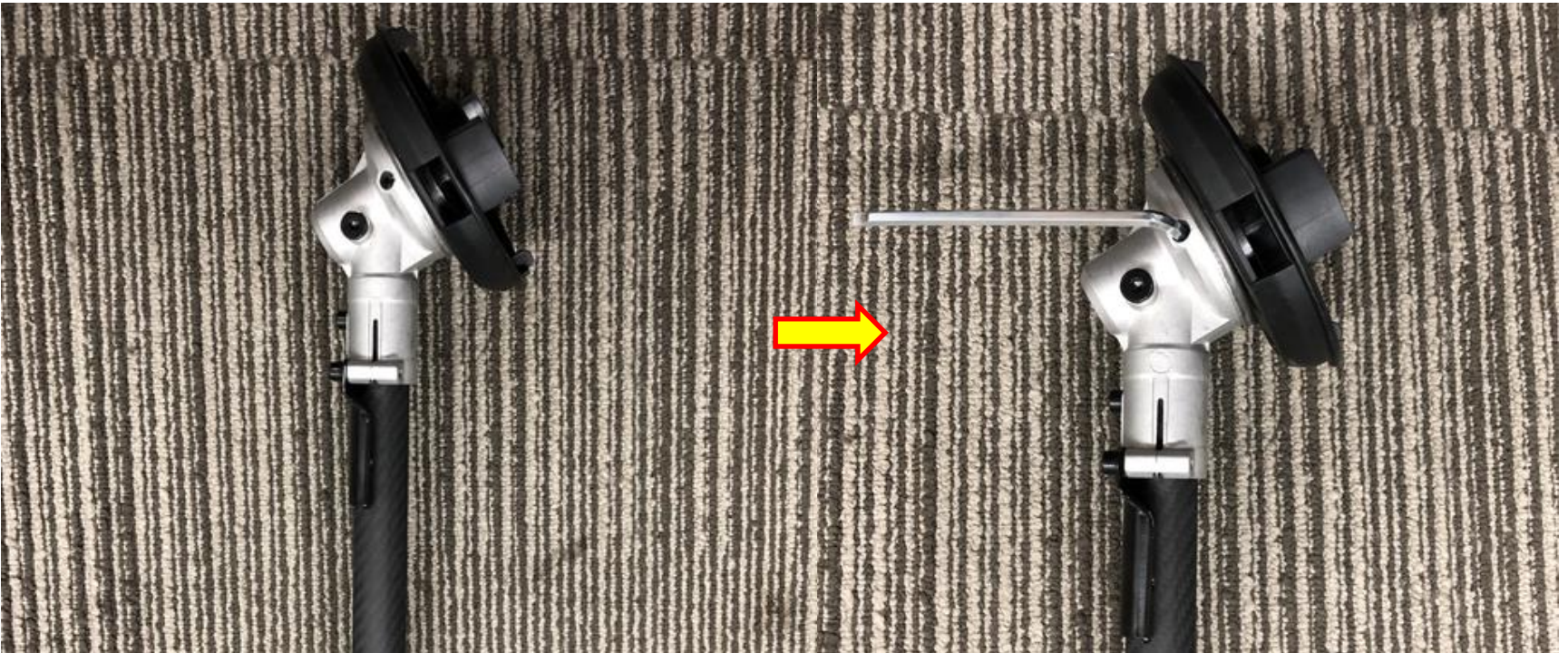
3. Take the spring out of the upper housing assembly.



# 1. Replace the Housing Assembly and Gear Case

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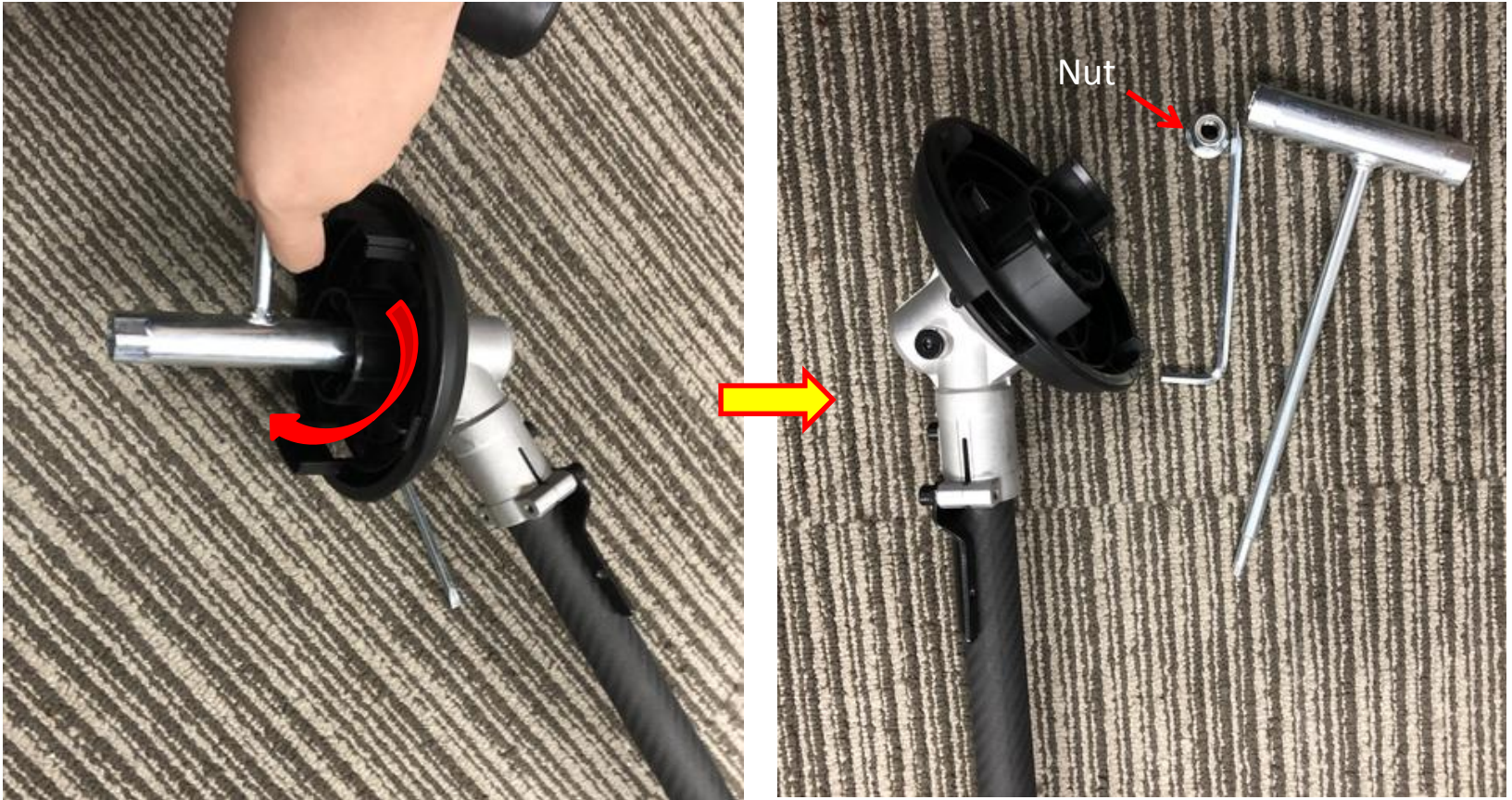
4. Rotate the upper housing assembly to align the slot in the flange with the hole in the gear case.
5. Insert the hex wrench into the aligned holes to act as a stabilizer.



# 1. Replace the Housing Assembly and Gear Case

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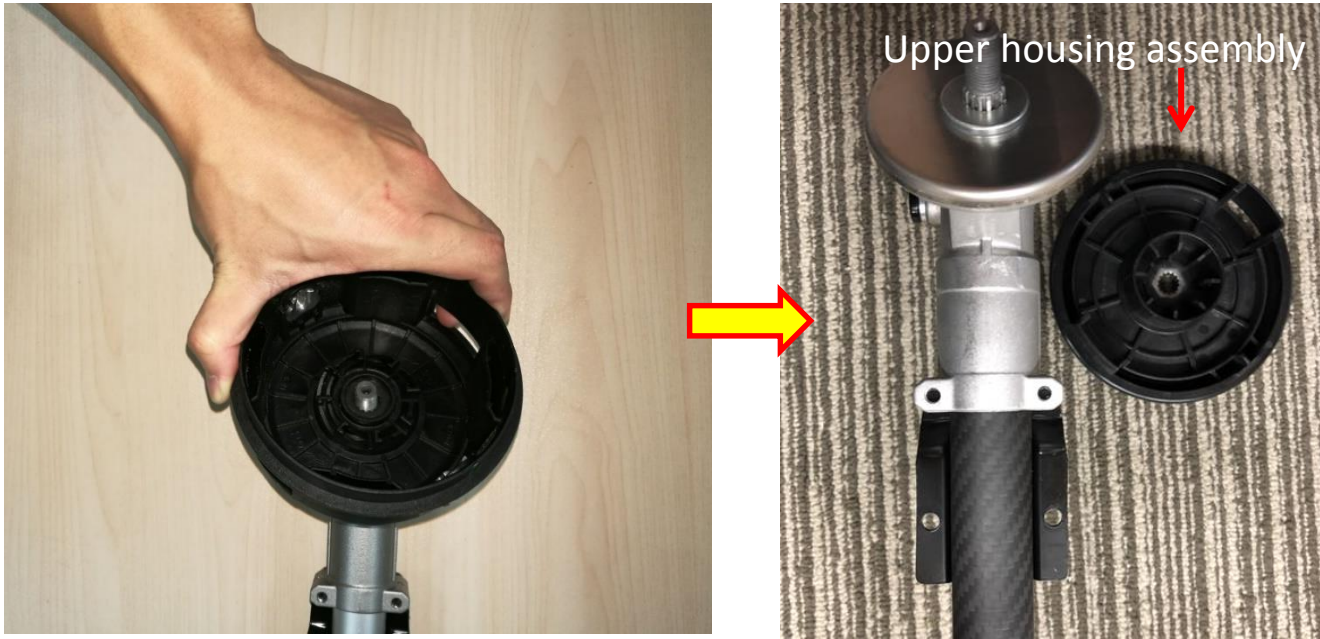
6. Loosen the nut with socket wrench clockwise to remove it from the shaft.



# 1. Replace the Housing Assembly and Gear Case

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7. Take the upper housing assembly out of the shaft.



Description	Part Number	Qty.
Upper housing assembly	3402942001	1

# 1. Replace the Housing Assembly and Gear Case

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8. Take the flange cover out of the shaft.

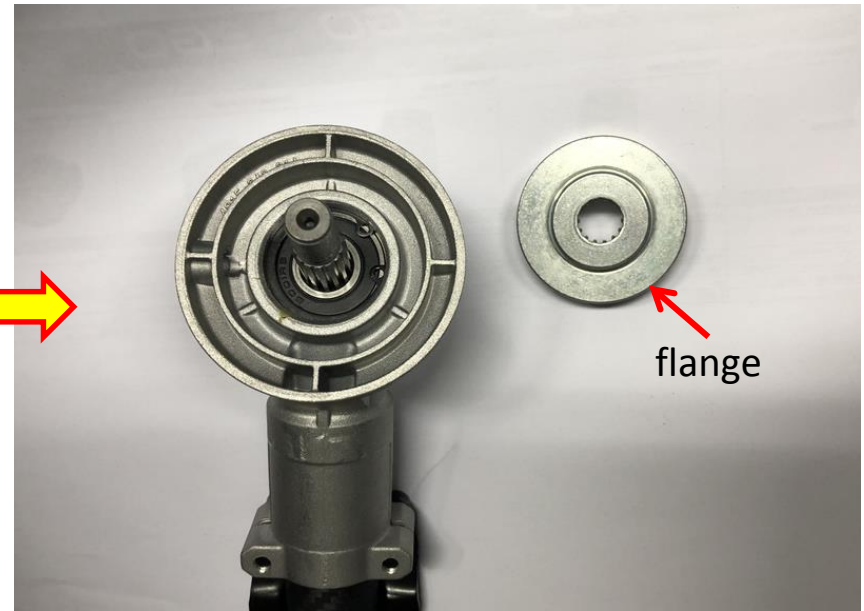


Description	Part Number	Qty.
Flange cover	3706103001	1

# 1. Replace the Housing Assembly and Gear Case

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9. Take the flange out of the shaft.



Description	Part Number	Qty.
Inner flange	3552509001	1

# 1. Replace the Housing Assembly and Gear Case

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10. Loosen 3 screws to remove the fixing board.



Description	Part Number	Qty.	Description	Part Number	Qty.
Screw 1	5620213003	1	Washer	5650598001	2
Screw 2	5620216006	2	Fixing board	3705417001	1

# 1. Replace the Housing Assembly and Gear Case

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11. Pull the connecting tube with one hand and pull the gear case with the other hand to separate them from each other.



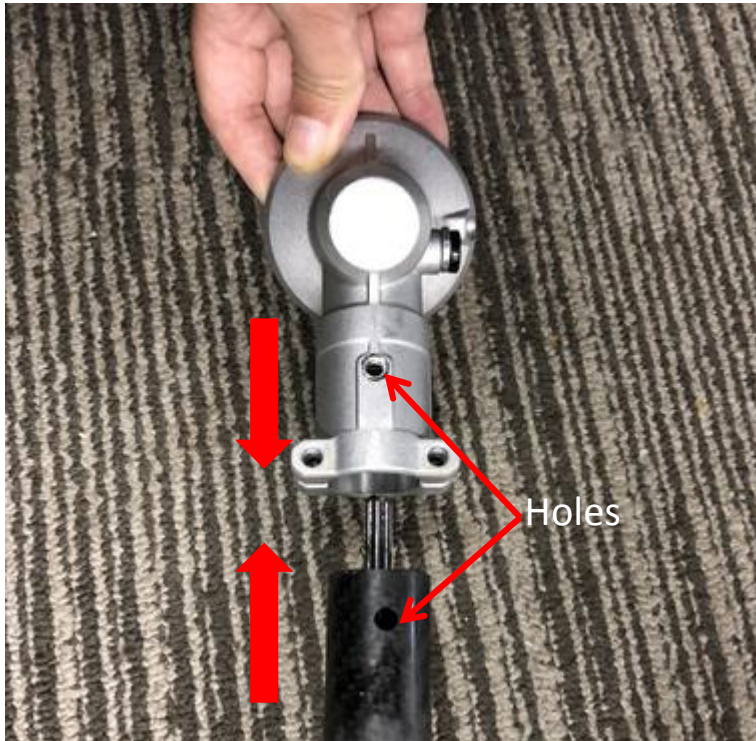
Description	Part Number	Qty.
Gear case	2825611001	1



# 1. Replace the Housing Assembly and Gear Case

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12. With the hole in the gear case aligned with the hole in the tube, reassemble them into place.

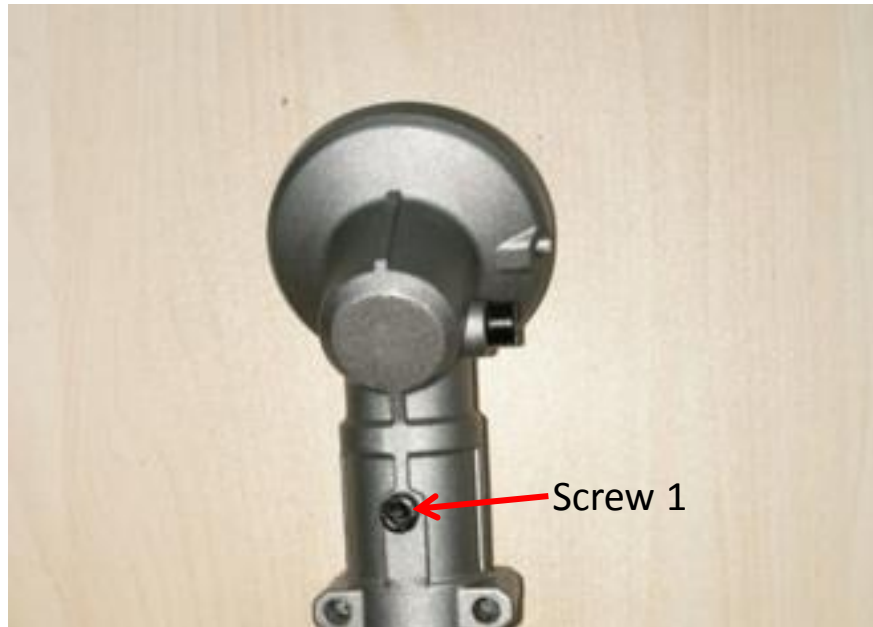


# 1. Replace the Housing Assembly and Gear Case

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13. Tighten the gear case with the connecting tube with screw.

14. Tighten the fixing board with the gear case with screws.



# 1. Replace the Housing Assembly and Gear Case

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15. Mount the flange onto the shaft.



# 1. Replace the Housing Assembly and Gear Case

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16. Mount the flange cover onto the shaft.



# 1. Replace the Housing Assembly and Gear Case

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17. Mount the upper housing assembly onto the shaft.



# 1. Replace the Housing Assembly and Gear Case

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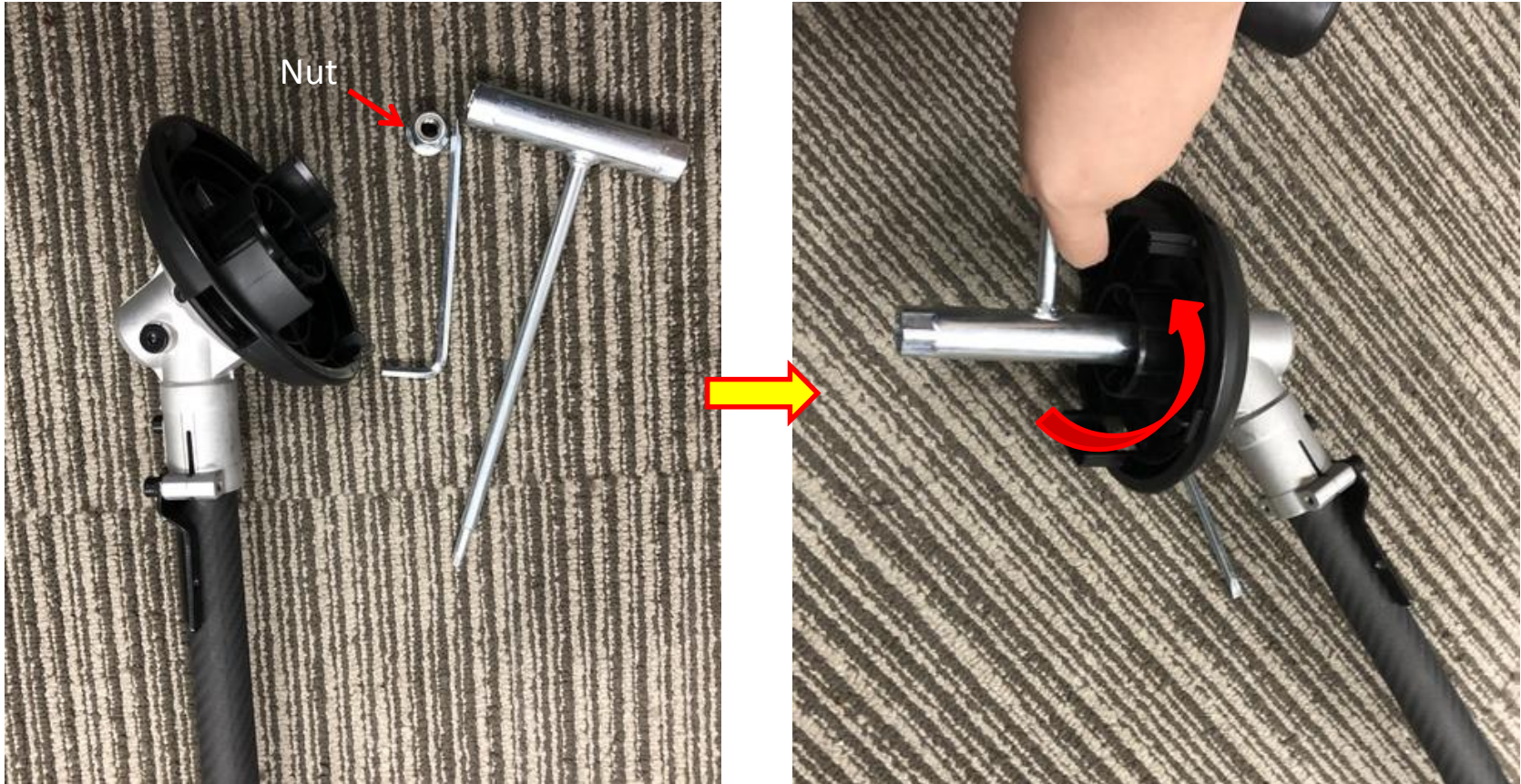
18. Rotate the upper housing assembly to align the slot in the flange with the hole in the gear case.
19. Insert the hex wrench into the aligned holes to act as a stabilizer.



# 1. Replace the Housing Assembly and Gear Case

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22. Mount the nut onto the shaft and tighten it with multifunction wrench anticlockwise.



Description	Part Number	Qty.
Nut	5630292001	1

# 1. Replace the Housing Assembly and Gear Case

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23. Mount the spring onto the upper housing assembly.





# 1. Replace the Housing Assembly and Gear Case

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24. Align the release tabs on the lower housing assembly with the holes on the upper housing assembly to assemble them together.



# 1. Replace the Housing Assembly and Gear Case

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25. Assemble the guard assembly with the fixing board with screws & washer.



## **Part 2: Replacing the Connecting Tube**

## 2. Replacing the Connecting Tube

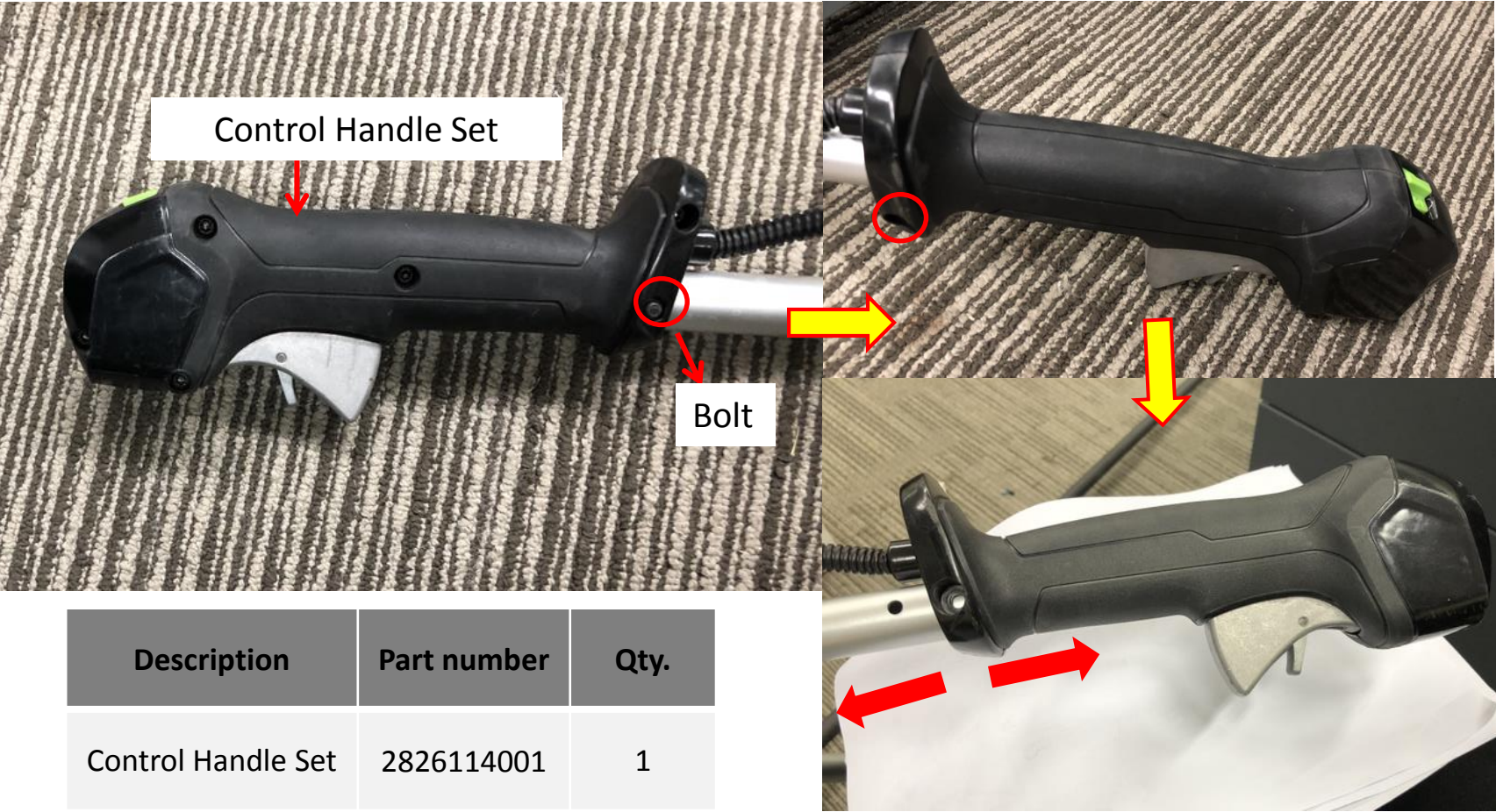
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1. Stop the motor and remove the battery pack from the line trimmer.
2. Rotate the wing bolt counterclockwise to separate the handle cover ASSY from the bottom support and put the connecting tube aside.



# 2. Replacing the Connecting Tube

3. loosen the 1 bolt to pull out the control handle set from connecting tube.



Description	Part number	Qty.
Control Handle Set	2826114001	1

## 2. Replacing the Connecting Tube

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- Loosen screws on the connecting tube base set and disassemble them. Replace the connecting tube with a new one.



Description	Part Number	Qty.
Handle Cover ASSY	3900008001	1

## 2. Replacing the Connecting Tube

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5. Align the mounting hole on control handle set with the hole on connecting tube and tighten the screw



## 2. Replacing the Connecting Tube

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7. Rotate the wing bolt to connect the shaft base set with the connecting tube base set.





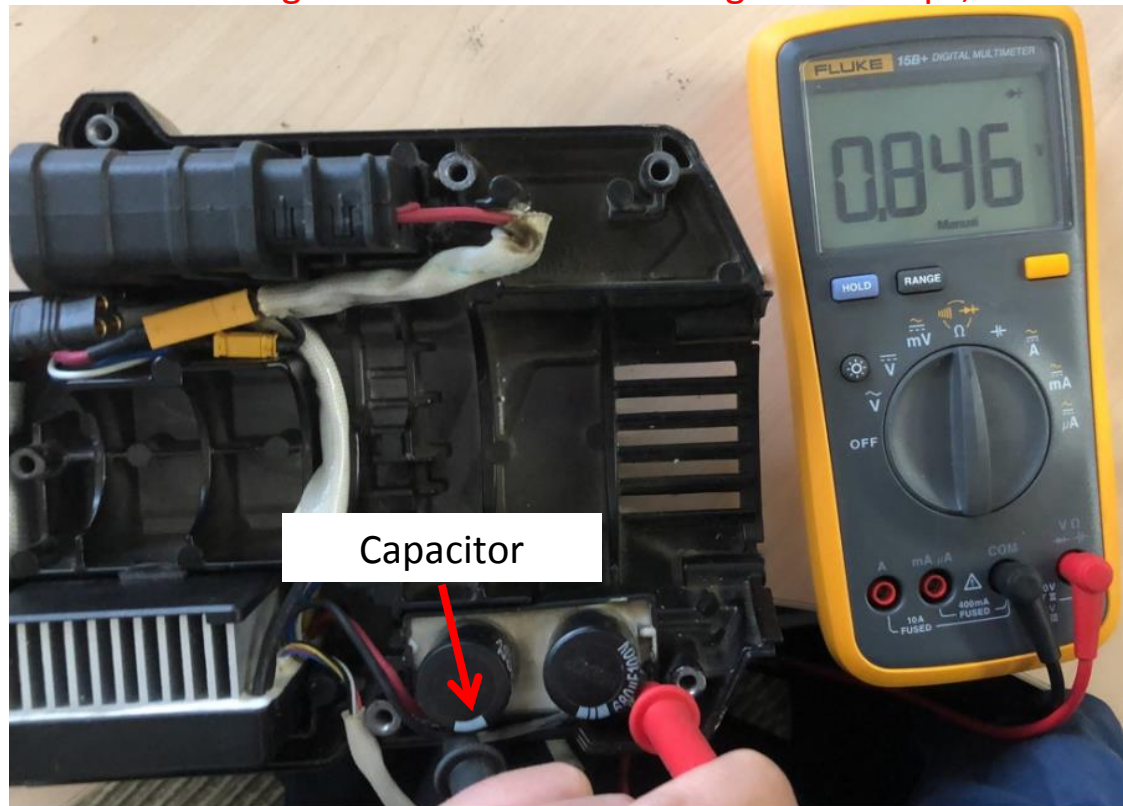
# **Part 3: Measure PCBA, Motor and Internal Wire Assembly**

### 3. Measure PCBA, Motor and Internal Wire ASSY

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1. Following the instructions for “**Replacing the Motor Assembly and PCBA**” to Separate the PCBA.
2. Find the capacitor in the PCBA and set the multimeter function to “Diode measuring”.
3. Contact the red pen pin to the negative electric contact (the joint that connects to black wire).  
Contact the black pen pin to the positive electric contact (red wire).

**Notice:** When the voltage is below 1V and buzzing sound stops, the discharging has finished.



**PCBA Measurement**

### 3. Measure PCBA, Motor and Internal Wire ASSY

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4. Contact the red pen pin to the contact with black wire of the yellow connector (connect to the internal wire assembly) and the black pen pin to the three contactors of the black connector (connect to the motor).

**Notice :** If the LCD displays 0.45~0.55V for each measurement, means a good upper MOSFET, go to the next testing step; otherwise means a broken PCBA, replace a new PCBA.



### 3. Measure PCBA, Motor and Internal Wire ASSY

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5. Contact the black pen pin to the contact (connect to the yellow line) of the black connector and red pen pin to the three contacts of the black connector (connect to the motor).

**Notice :** If the LCD displays 0.45~0.55V for each measurement, means a good upper MOSFET, go to the next testing step; otherwise means a broken PCBA, replace a new PCBA.



PCBA Measurement

### 3. Measure PCBA, Motor and Internal Wire ASSY

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1. Following the instructions for “**Replacing the Motor Assembly and PCBA**” to Separate the PCBA.
2. Set the multimeter function to “Resistance measuring”.
3. Measure the resistance between any of the two contacts.

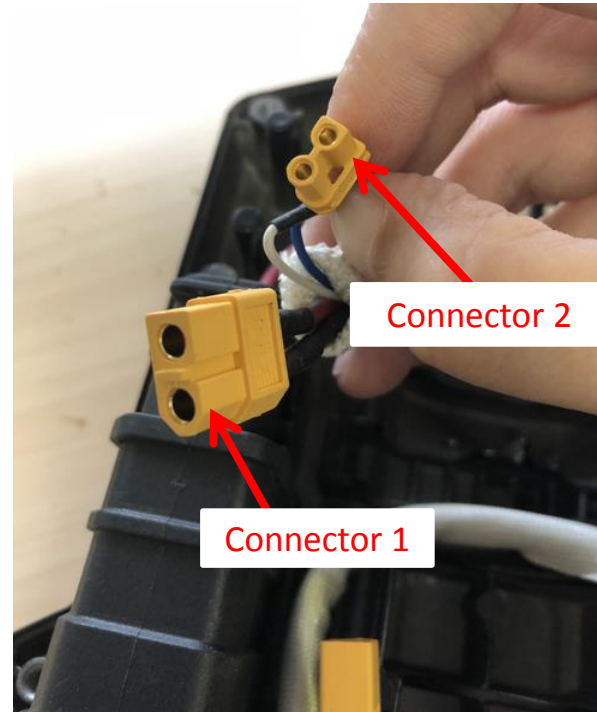
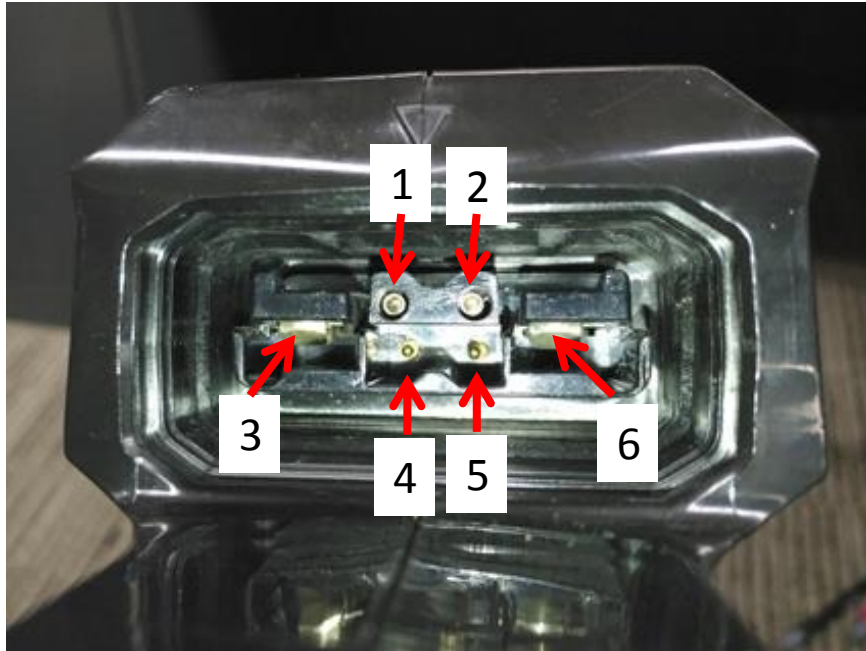
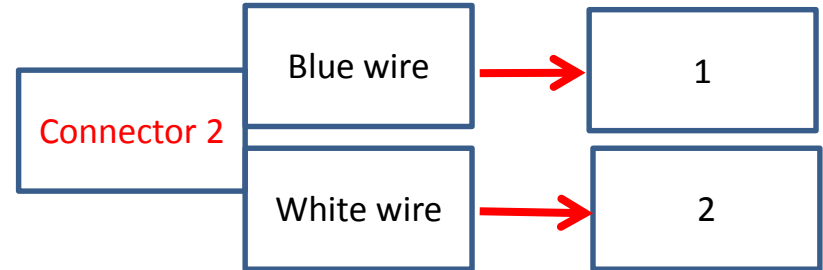
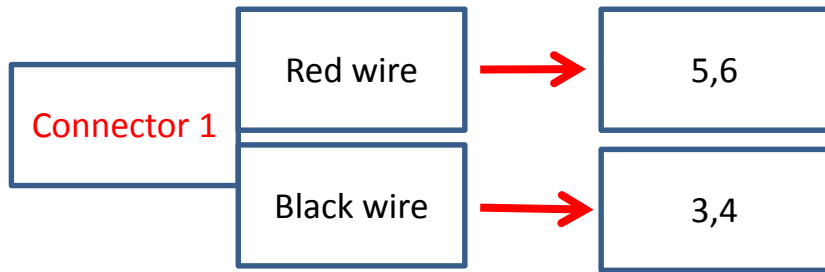
**Notice: If the resistance is not infinite, means a good motor. Otherwise, replace the damaged motor**



**Motor Measurement**

# 3. Measure PCBA, Motor and Internal Wire ASSY

- 1. There is 6 contacts in the socket. Contact the black pen pin to the 6 contacts and the red pen pin to their corresponding contacts of the two connectors.



## **Part 4: Replacing the Motor Assembly and PCBA**

# 4. Replace the Motor Assembly and PCBA

1. Loosen 11 tapping screws & 10 screws to disassemble the housing assembly.

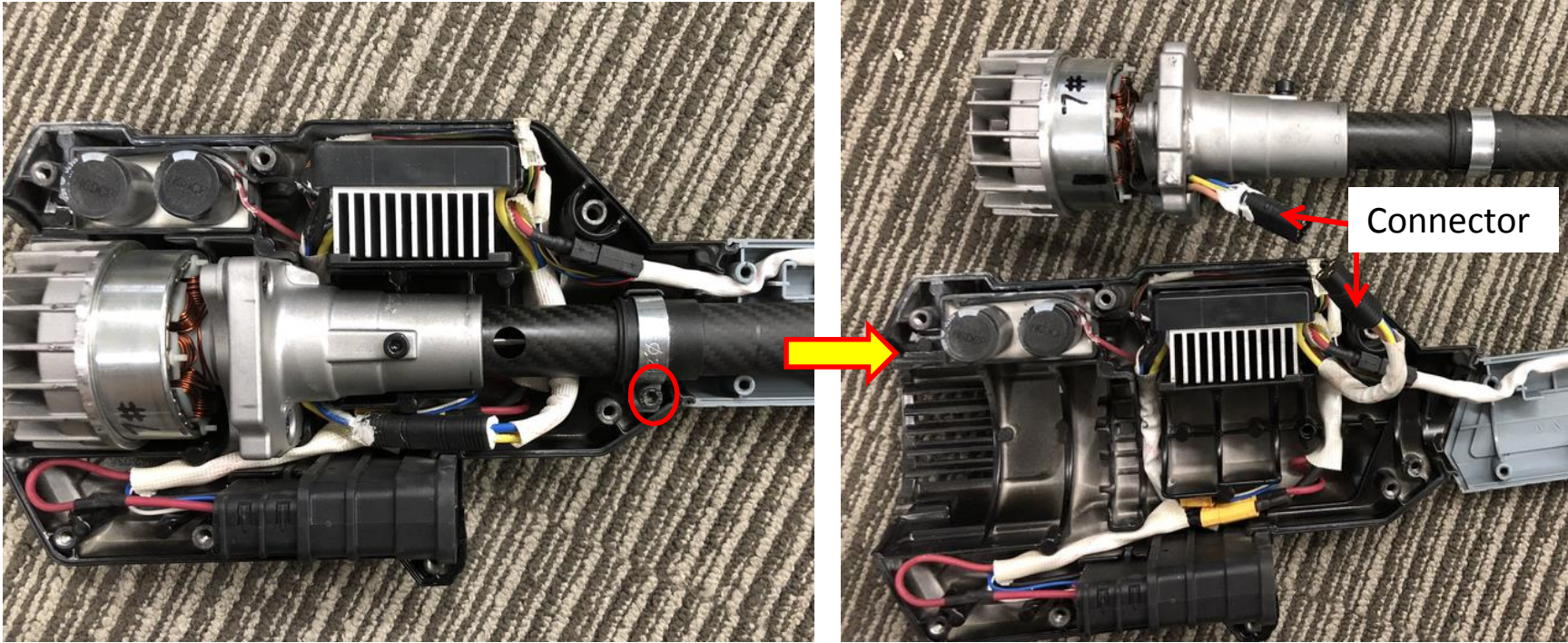


Description	Part Number	Quantity
Tapping screw	5620019004	11
screw	5620479001	10



# 4. Replace the Motor Assembly and PCBA

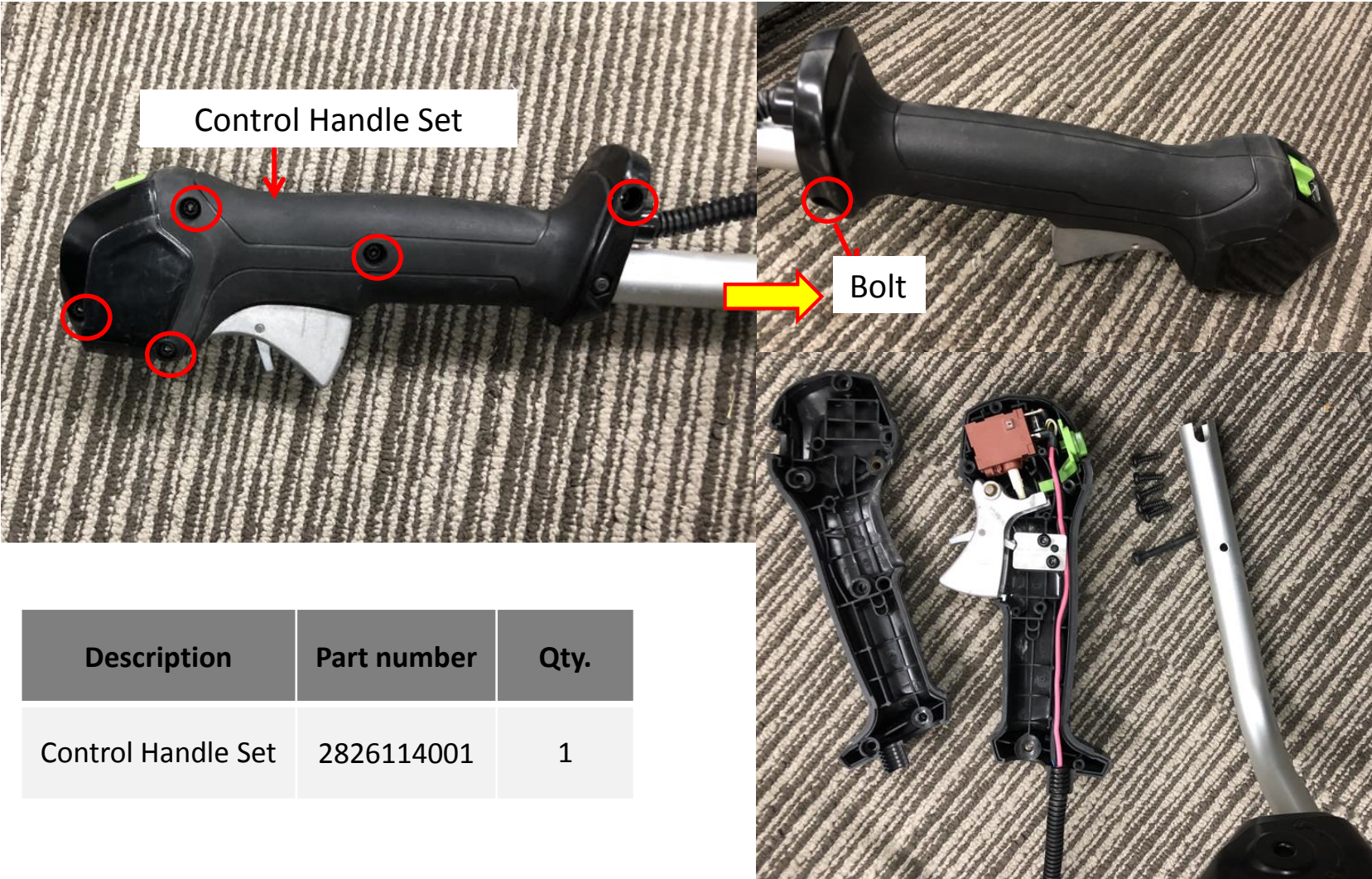
- 2. Loosen the screw on the fixed ring.
- 3. Take the shaft and motor out its groove and disconnect the connector.



Description	Part Number	Quantity	Description	Part Number	Quantity
Tapping screw	5620018005	1	Washer	5650598001	1

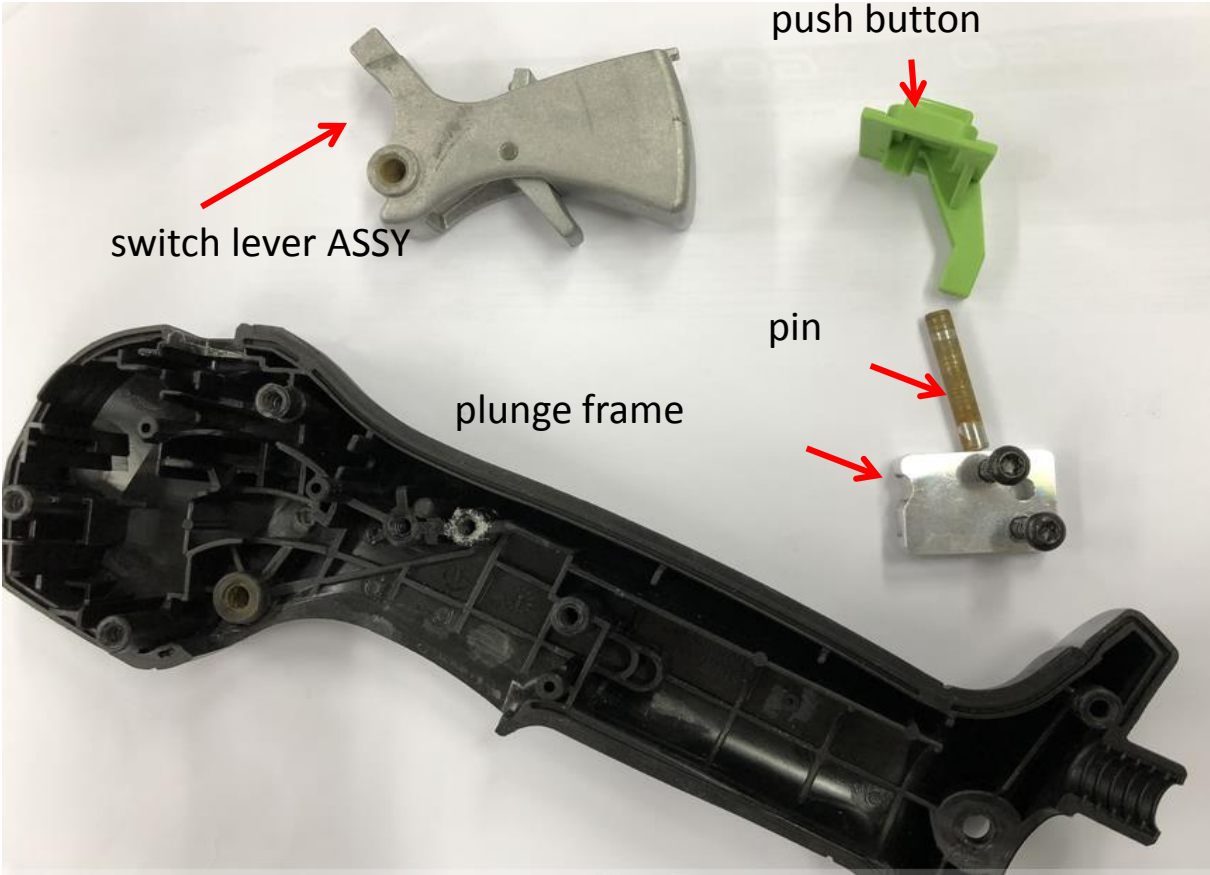
# 4. Replace the Motor Assembly and PCBA

4. loosen the 5 screws and 1 bolt on the Control Handle Set to open it. remove the push button, switch lever ASSY, plunge frame and pin. If any part broken, replace it.



Description	Part number	Qty.
Control Handle Set	2826114001	1

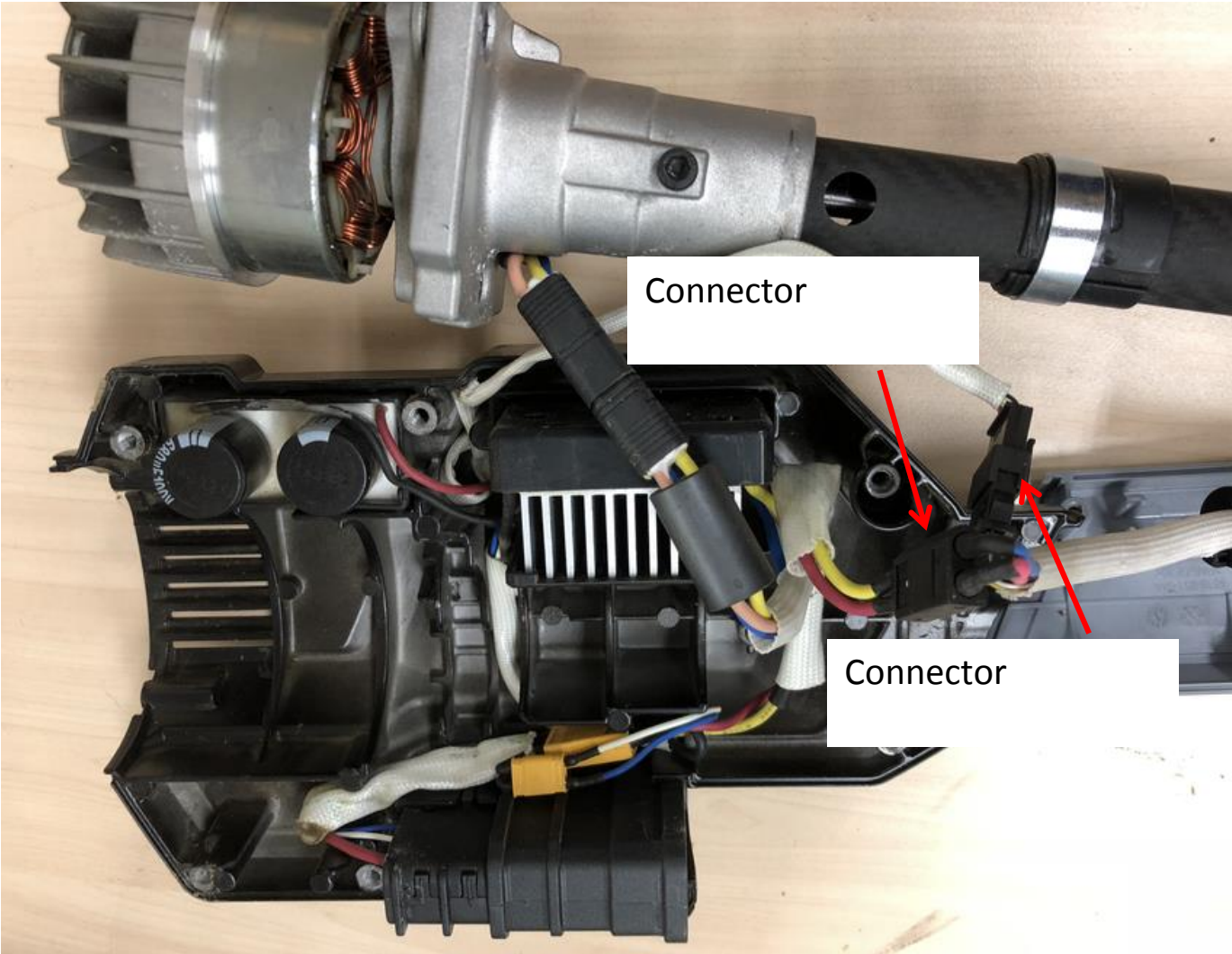
# 4. Replace the Motor Assembly and PCBA



Description	Part Number	Qty.	Description	Part Number	Qty.
switch lever ASSY	2825785001	1	push button	3129398001	1
plunge frame	3521123001	1	pin	5670028002	1

# 4. Replace the Motor Assembly and PCBA

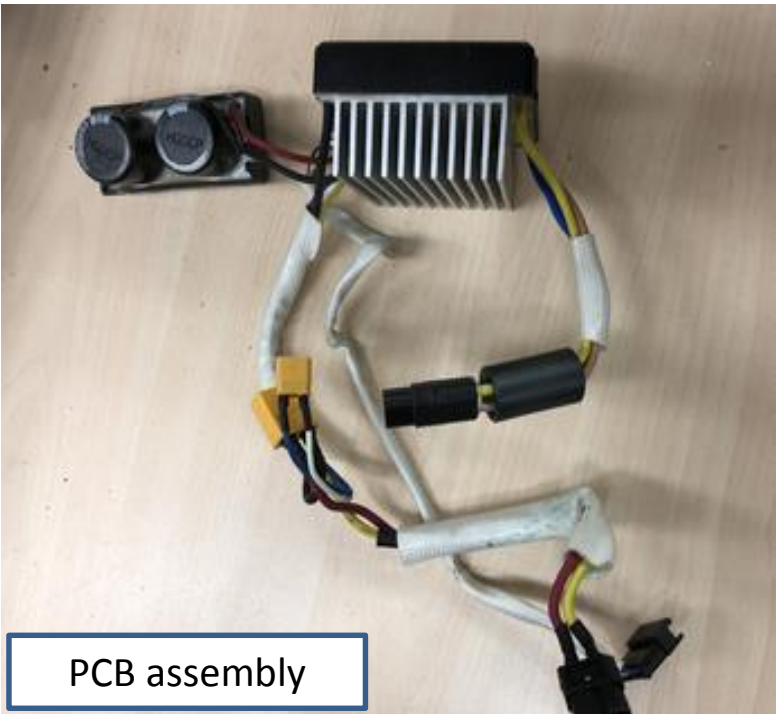
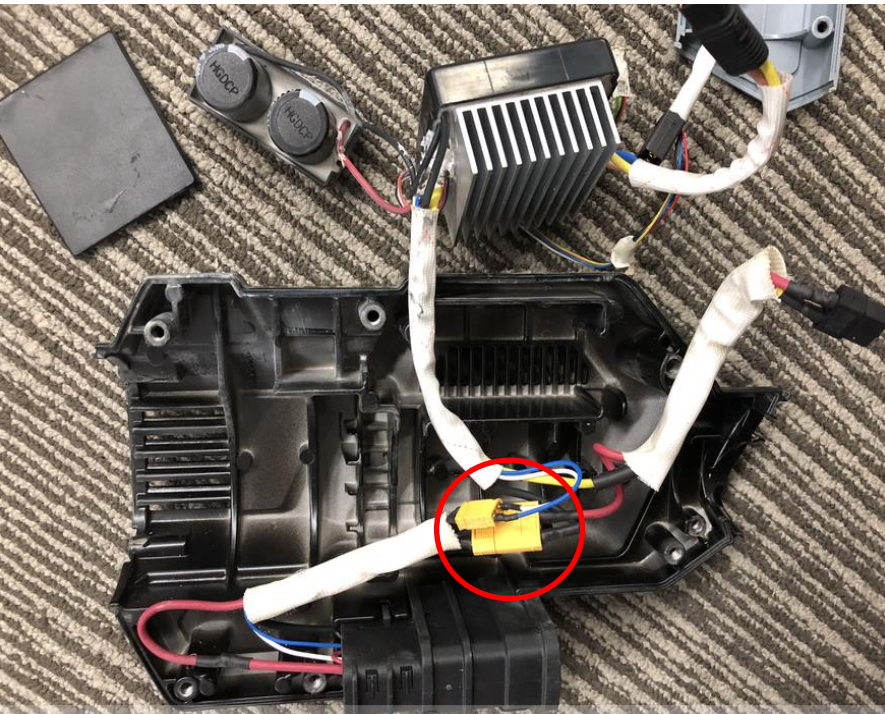
5. Disconnect the two connectors.



# 4. Replace the Motor Assembly and PCBA

6. Take the PCBA away and separate the two connectors from PCBA. If PCBA is damaged, replace it with a new one.

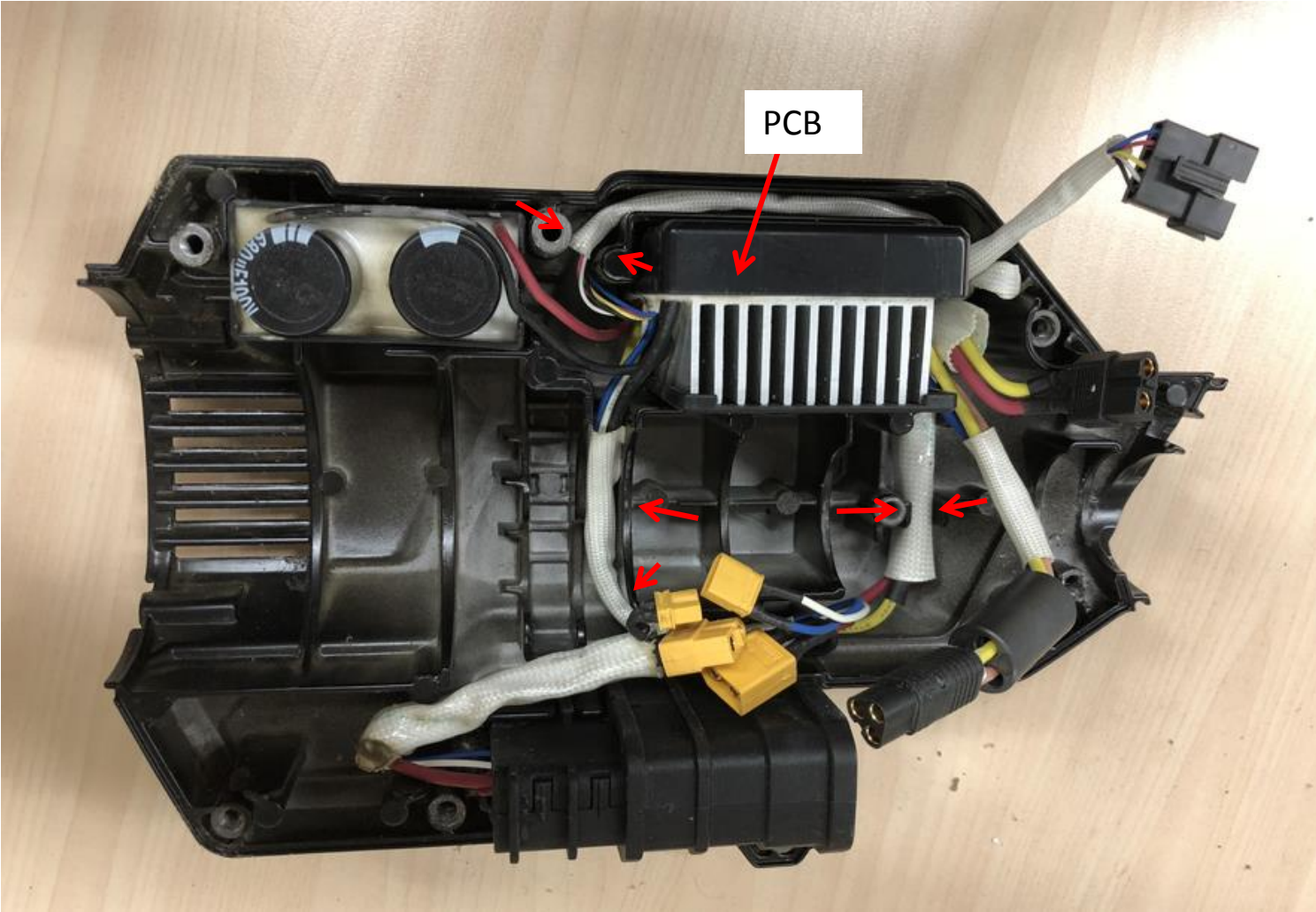
**Notice:** For the products (EST20180500001X-EST20181000900X), Switch Assembly should be replaced simultaneously with PCB assembly. Since the PCB & Switch assembly had been upgraded.



Description	Part Number	Qty.
PCB assembly	2830332001	1
Switch Assembly	2825816001	1

# 4. Replace the Motor Assembly and PCBA

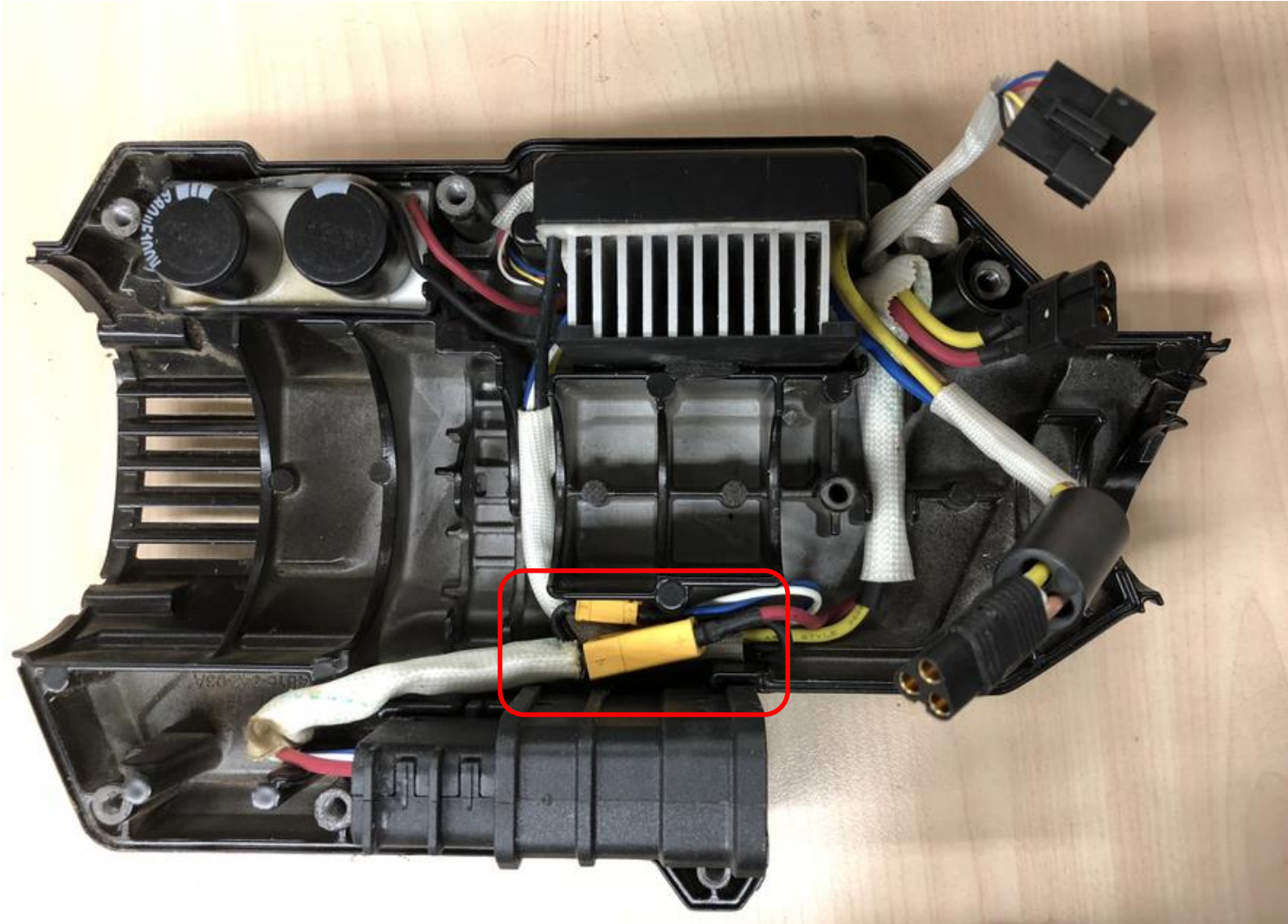
7. Align the wires into its groove and mount the PCBA into the housing.



## 4. Replace the Motor Assembly and PCBA

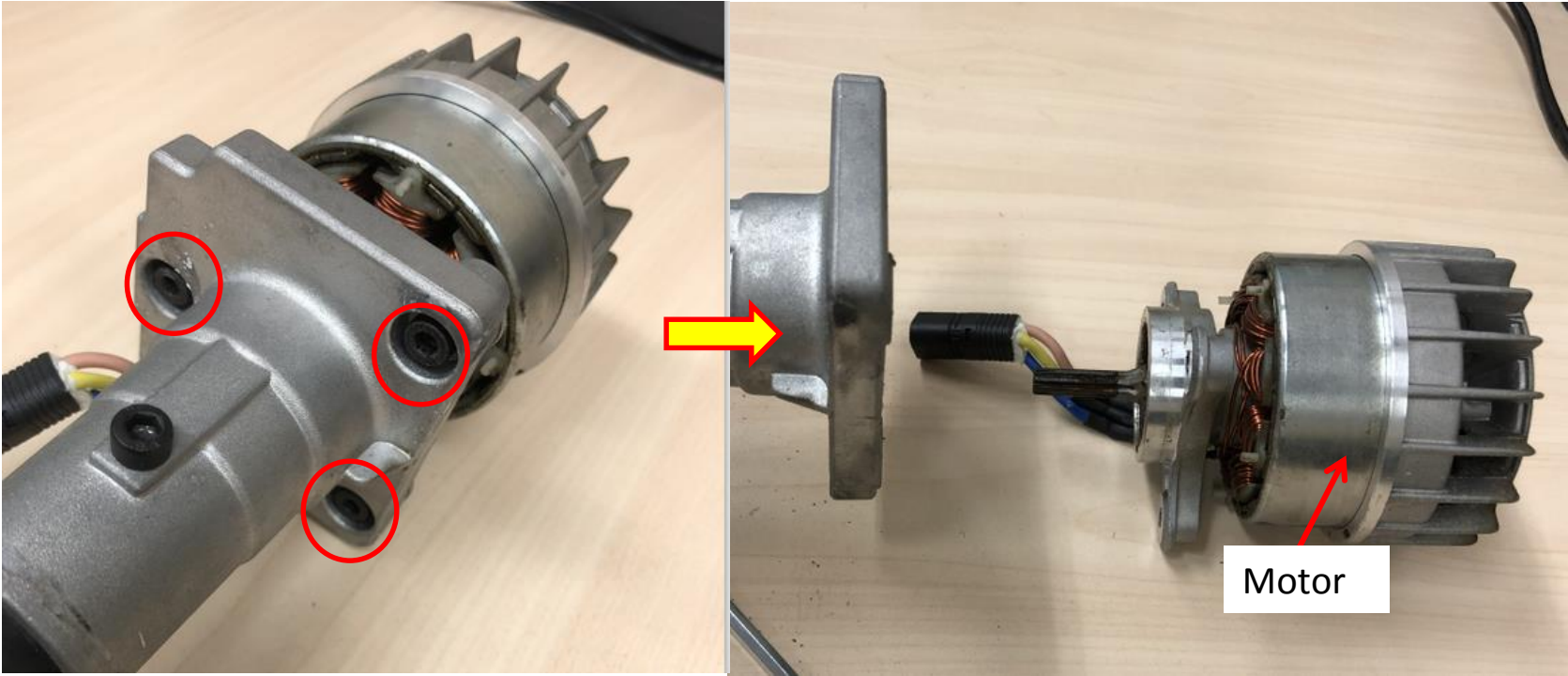
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8. Connect the two connectors(yellow in picture). Then align them into groove



# 4. Replace the Motor Assembly and PCBA

9. Loosen 3 screws to separate the motor from the shaft assembly.



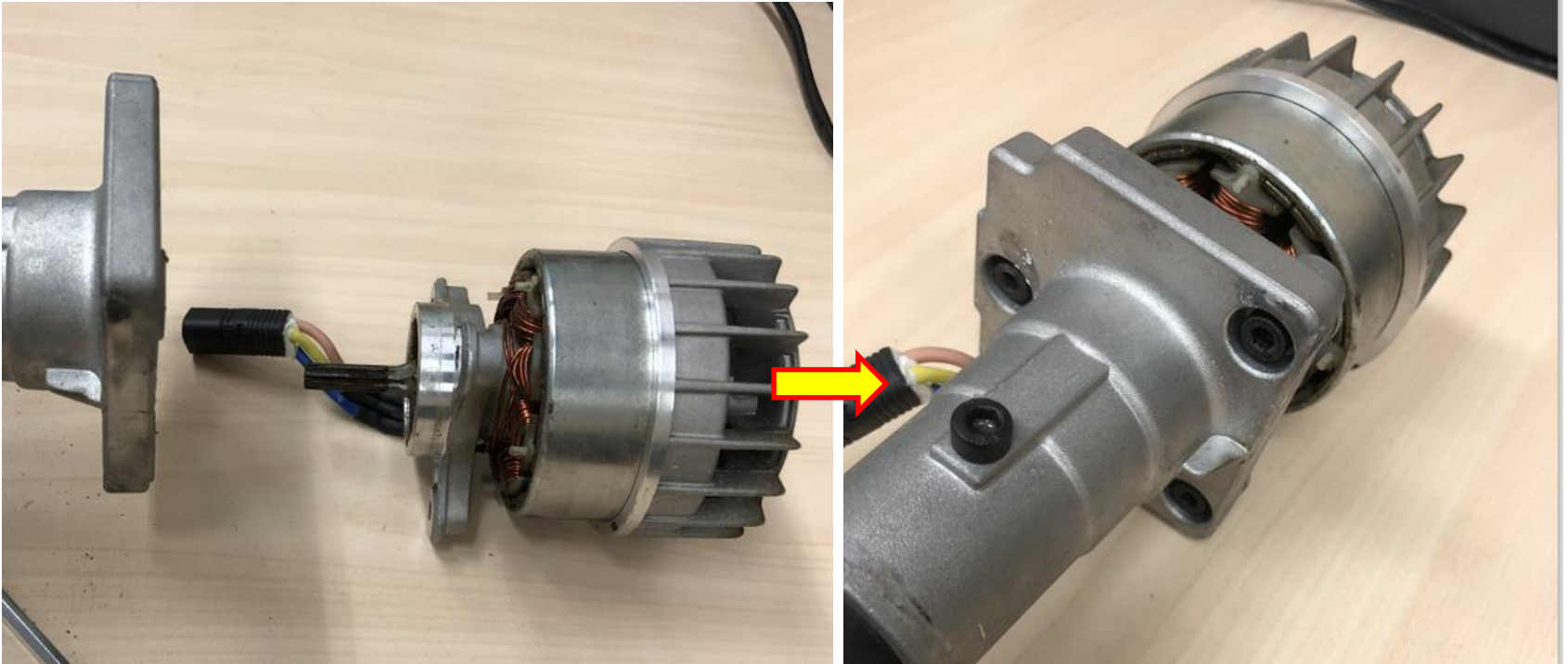
Description	Part Number	Qty.
Tapping screw	5620018005	3
Motor	2730271001	1



## 4. Replace the Motor Assembly and PCBA

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10. Replace the motor with a new one and then assemble the motor with the gear case assembly with screws.



## 4. Replace the Motor Assembly and PCBA

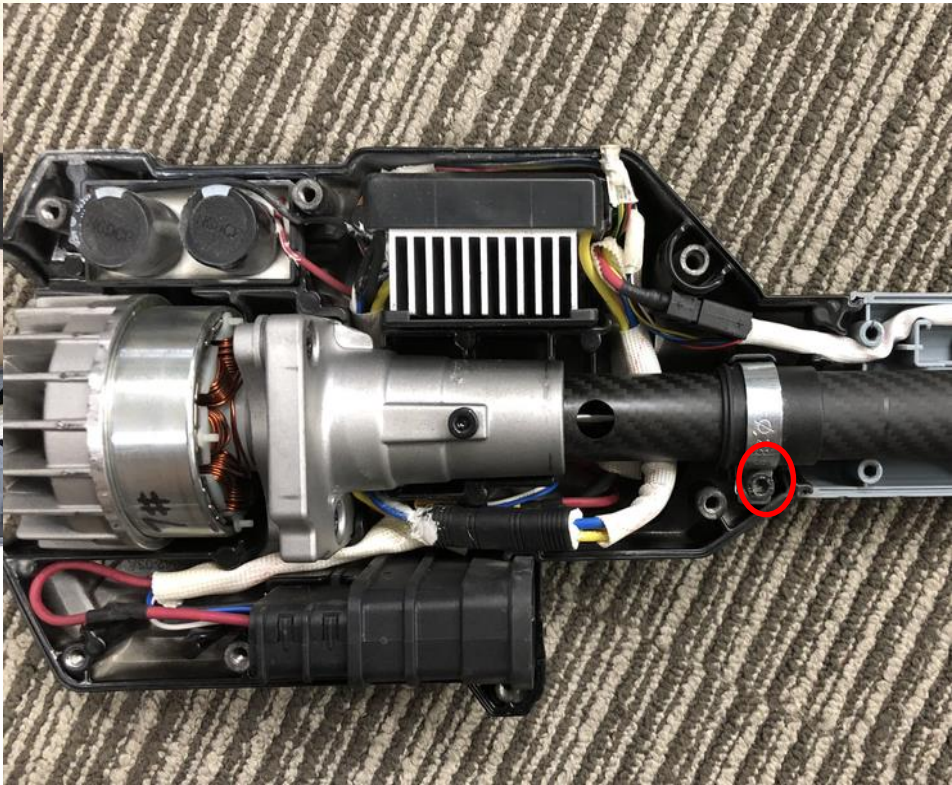
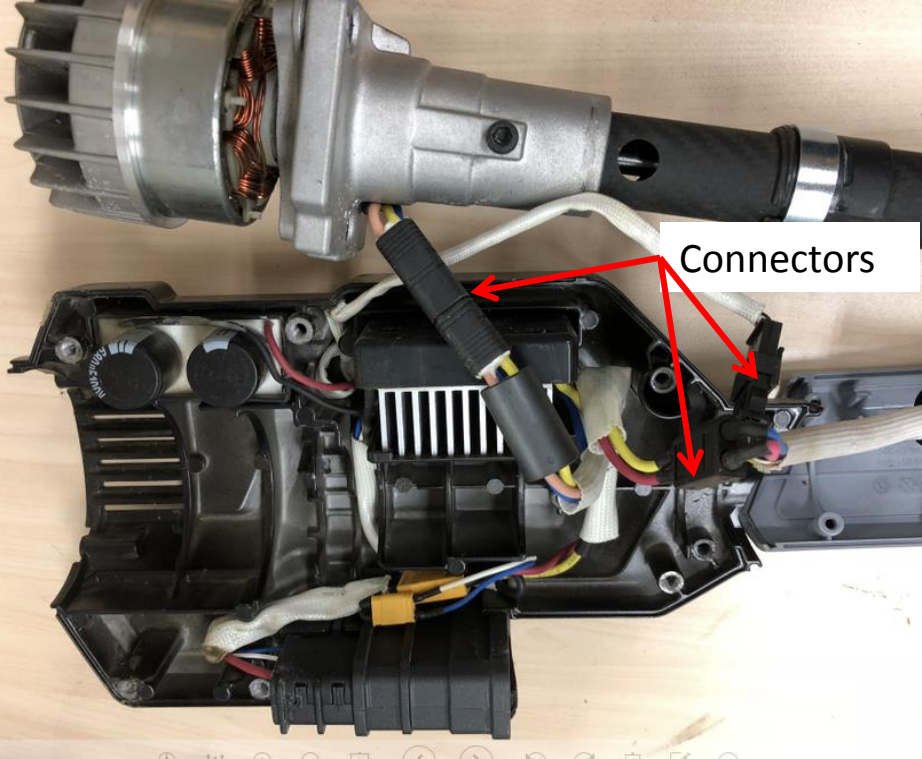
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11. Replace the gear case assembly with a new one and assemble the gear case assembly with the shaft assembly with screw.



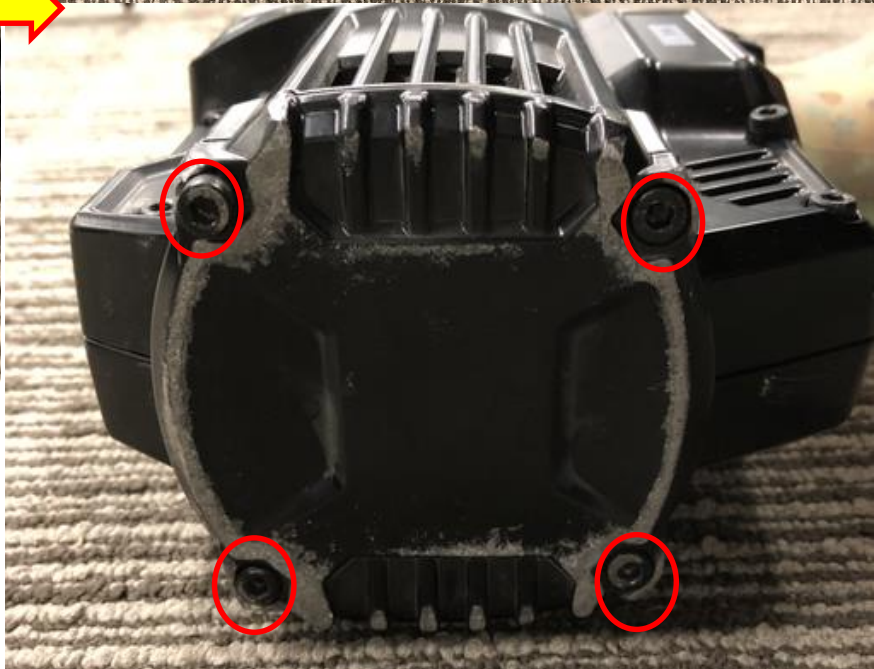
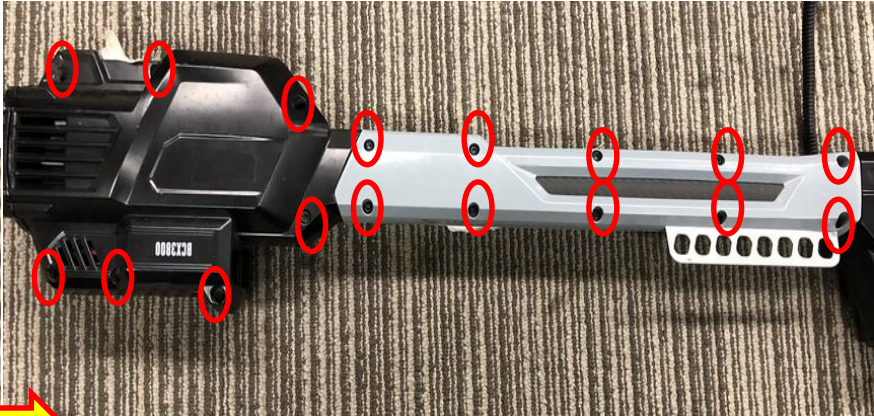
# 4. Replace the Motor Assembly and PCBA

13. Connect the three connector and put the shaft with motor into the housing, then tighten the screw.



# 4. Replace the Motor Assembly and PCBA

14. Assemble the housing assembly with 17 screws. Then assemble the Rear Cover with 4 screws.



## 4. Replace the Motor Assembly and PCBA

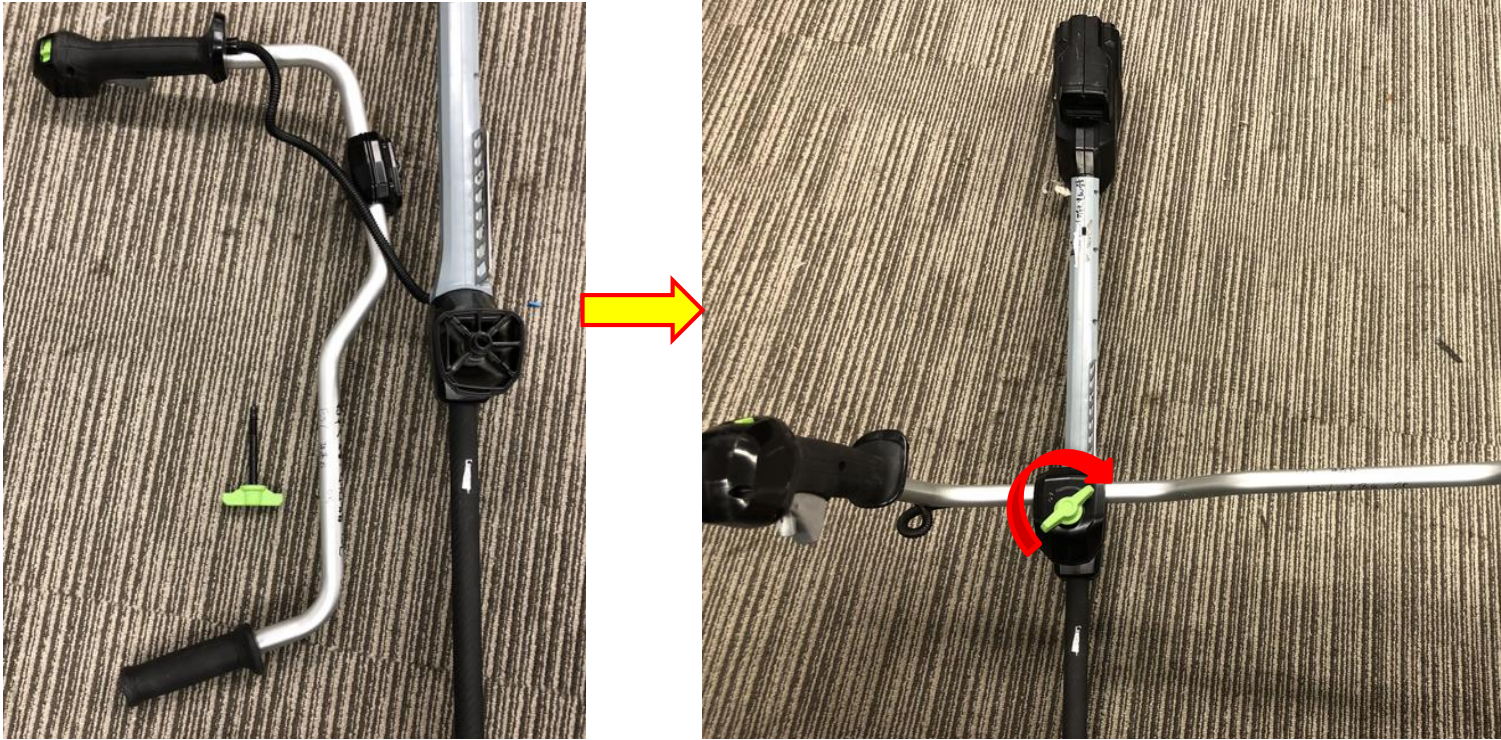
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15. Align the slot on the connecting tube with the rib on the housing, as well as aligning the location pole on the housing with the hole on the connecting tube to mount the control handle set onto the connecting tube.
16. Lock the control handle set with 5 screws and 1 bolt with its washer and nut. And assemble the handle cover ASSY



# 4. Replace the Motor Assembly and PCBA

- 7. Rotate the wing bolt to connect the shaft base set with the connecting tube base set if it had been disassembled.



## **Part 5: Replacing the Shaft Assembly**

# 5. Replace the Shaft Assembly

- 1. Loosen the screw to separate the motor & base assembly from the shaft.





## 5. Replace the Shaft Assembly

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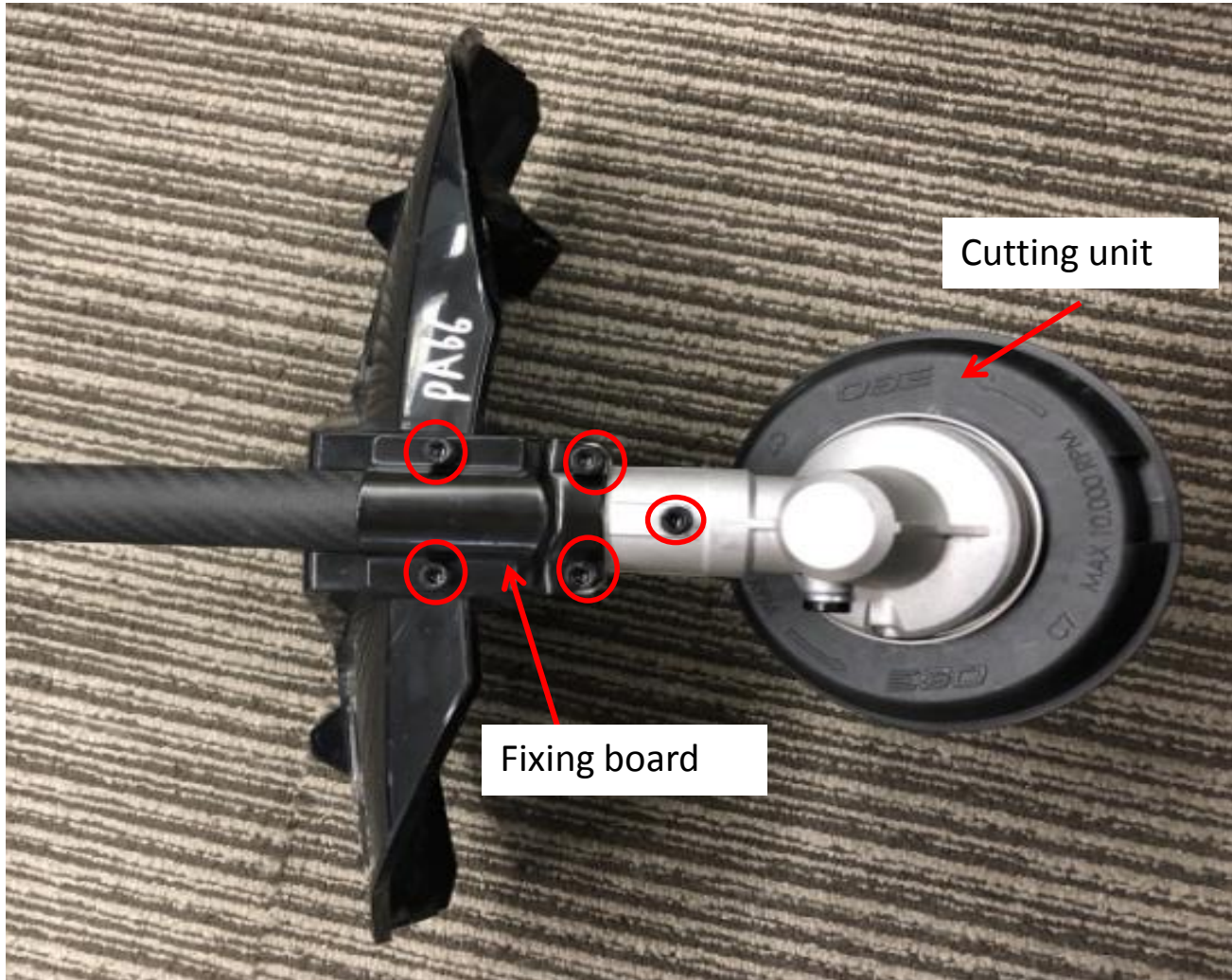
2. Remove the 4 screws and take bottom support & mounting Cover and fixing ring from the shaft .



## 5. Replace the Shaft Assembly

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3. Loosen the five screws to separate cutting unit fixing board & guard from the shaft.



# 5. Replace the Shaft Assembly

4. Pull out the shaft from the tube ASSY and replace the shaft or the tube ASSY with a new one.



Description	Part Number	Qty.
Shaft	2825589001	1
Tube Assembly	2825607001	1

## 5. Replace the Shaft Assembly

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6. Insert the shaft into the tube ASSY, then assemble the cutting unit, fixing board, tubing clip set, fixing ring, gear case, rear housing and bike-handle with mounting ASSY in sequence .

THE END