

# REPAIR GUIDELINE

Line trimmer \_STX3800



*Version: 1*

*Issue Date: 01/11/2019*

# Table of Contents

---

| NO. | Contents   | Page  |
|-----|--|-------|
| 1   | Troubleshooting                                    | 3-4   |
| 2   | Tool list  | 5     |
| 3   | Part 1: Replace the Housing Assembly and Gear Case | 6-26  |
| 4   | Part 2: Measure the Motor Assembly and PCBA        | 27-32 |
| 5   | Part 3: Replace the Motor Assembly and PCBA        | 33-51 |
| 6   | Part 4: Replace the Shaft and Tube Assembly        | 52-55 |

# Troubleshooting

| Problem   | Possible Cause   | Fault Position | Test & Solution  |
|---|--|----------------|--|
| The motor speed varies up and down when the line trimmer works. | Motor was burned due to overload                                       | Motor          | Replace the motor  |
| Not working   | The cables that connect to motor are loose or disconnected from motor. | Motor          | Open the motor housing, check the cable connection with motor.   |
|   | Motor is damaged   | Motor          | If the cables are well connected, diagnose the motor and test with a new motor.                        |
|   | PCBA is broken   | PCBA           | If the cables are well connected, and motor is functional, diagnose the PCBA and replace if necessary. |
| Noise   | Lack of grease in gearbox  | Gear case      | Add grease   |

# Troubleshooting

| Problem              | Possible Cause                           | Fault Position         | Test & Solution                                   |
|----------------------|--|------------------------|---|
| Not feeding line     | Poor cutting line                        | Trimmer line           | Replace the cutting line. (e.g. 2.4mm nylon line) |
|                      | Trimmer head is broken                   | Trimmer head           | Replace the trimmer head                          |
|                      | Too much dust in trimmer head            | Trimmer head           | Clean the trimmer head                            |
| Hard to wind up line | Spool and lower housing assembly is worn | Lower housing assembly | Replace the spool or lower housing assembly       |
| Not cutting the line | Blade on the guard assembly is worn      | Guard assembly         | Replace the blade or guard assembly               |

# Tool List For Repair

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

# **Part 1: Replace the Housing Assembly and Gear Case**

# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

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

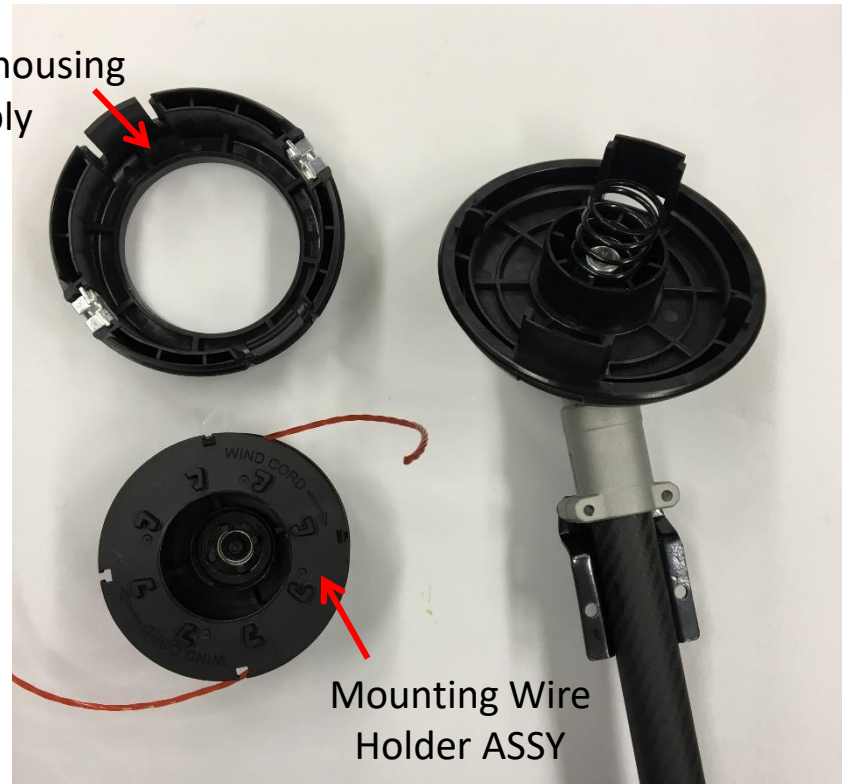
STX3800 LINE TRIMMER

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 set          | 2825606001  | 1    |

Lower housing assembly





# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

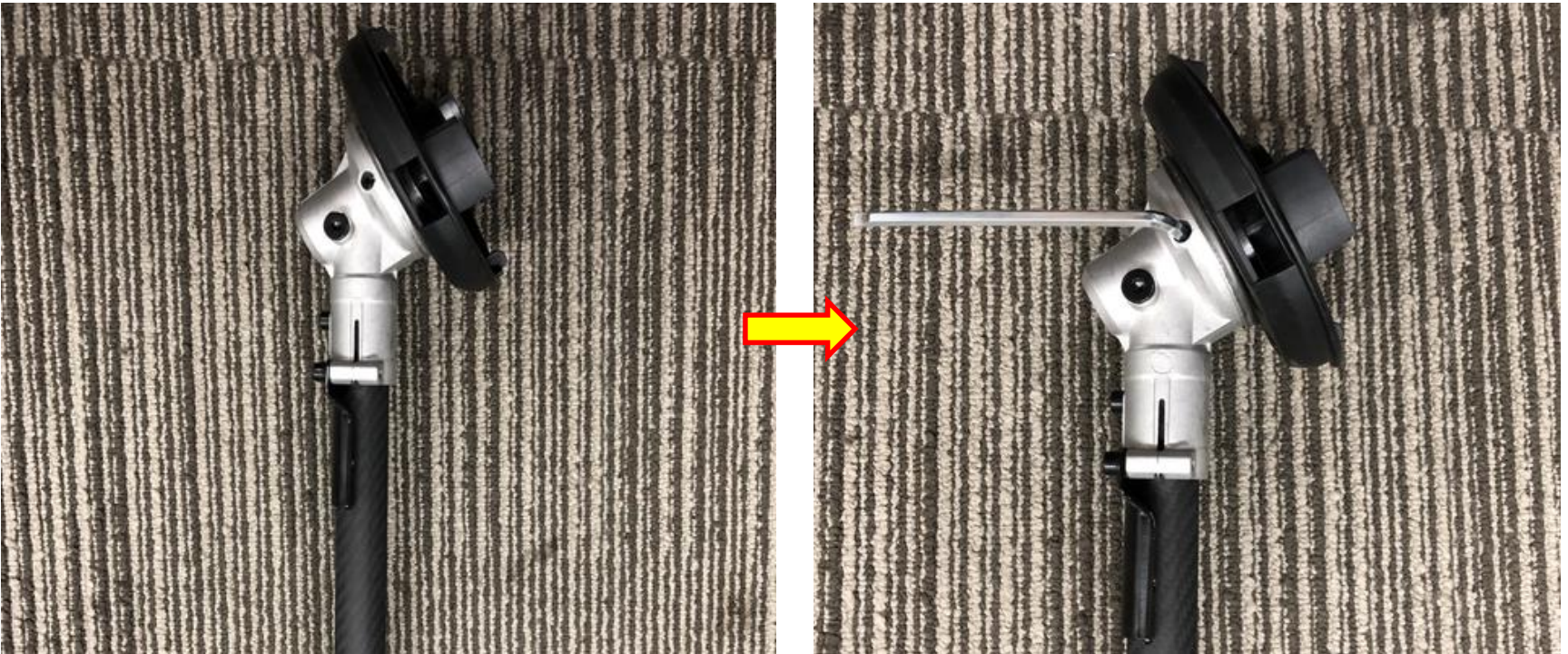
3. Take the spring out of the upper housing assembly.



# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

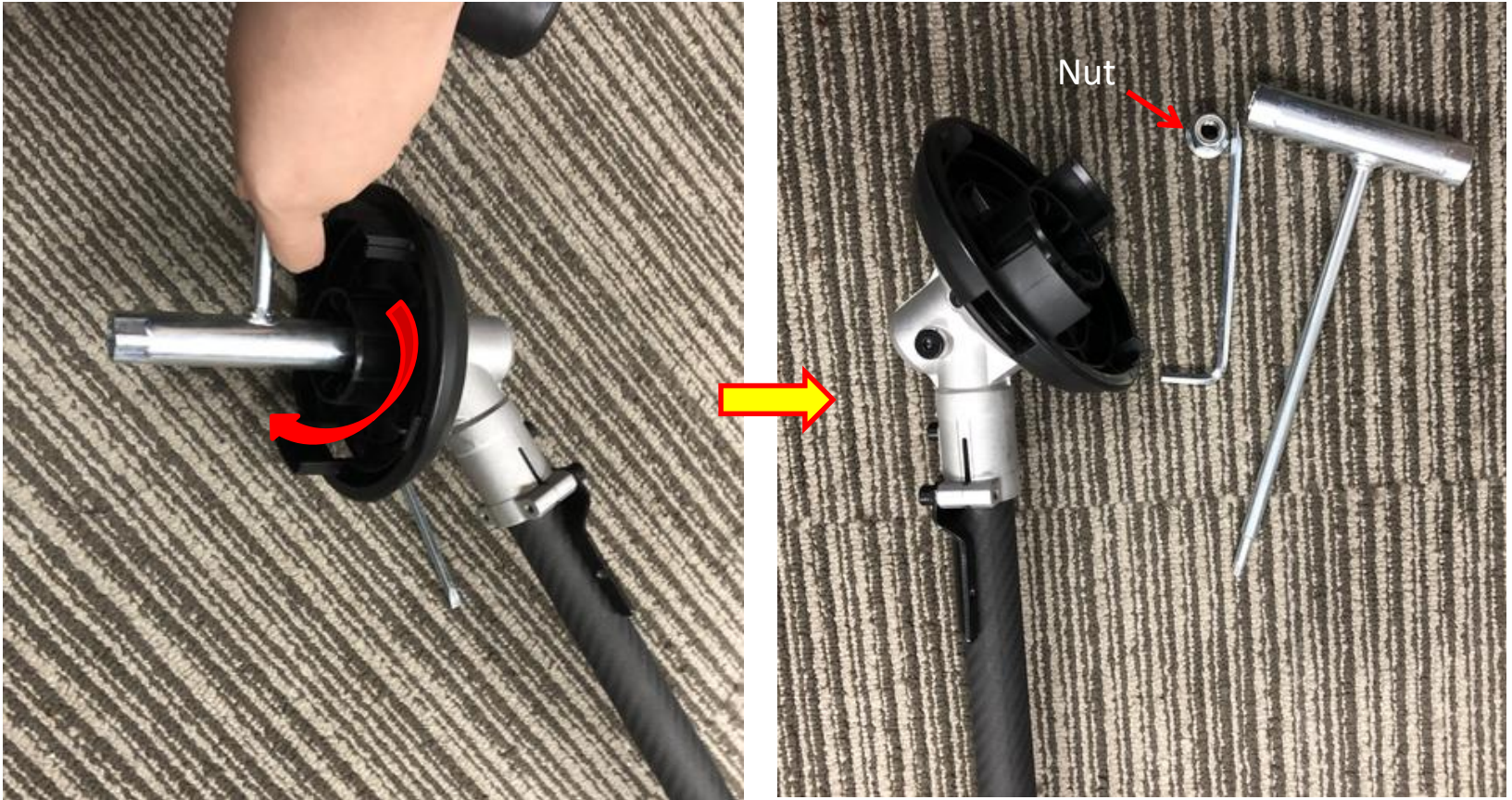
4. Rotate the upper housing assembly to align the slot in the flange with the hole in the gear case.
5. Insert the hex wrench into the aligned holes to act as a stabilizer.



# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

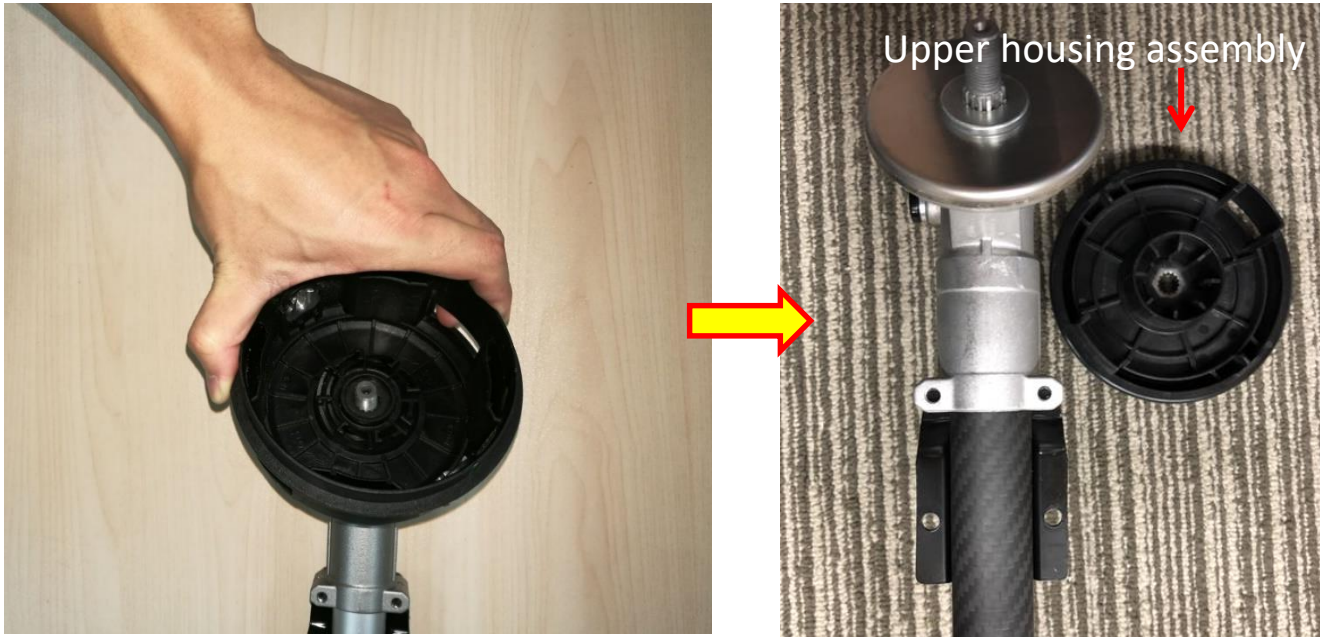
6. Loosen the nut with socket wrench clockwise to remove it from the shaft.



# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

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

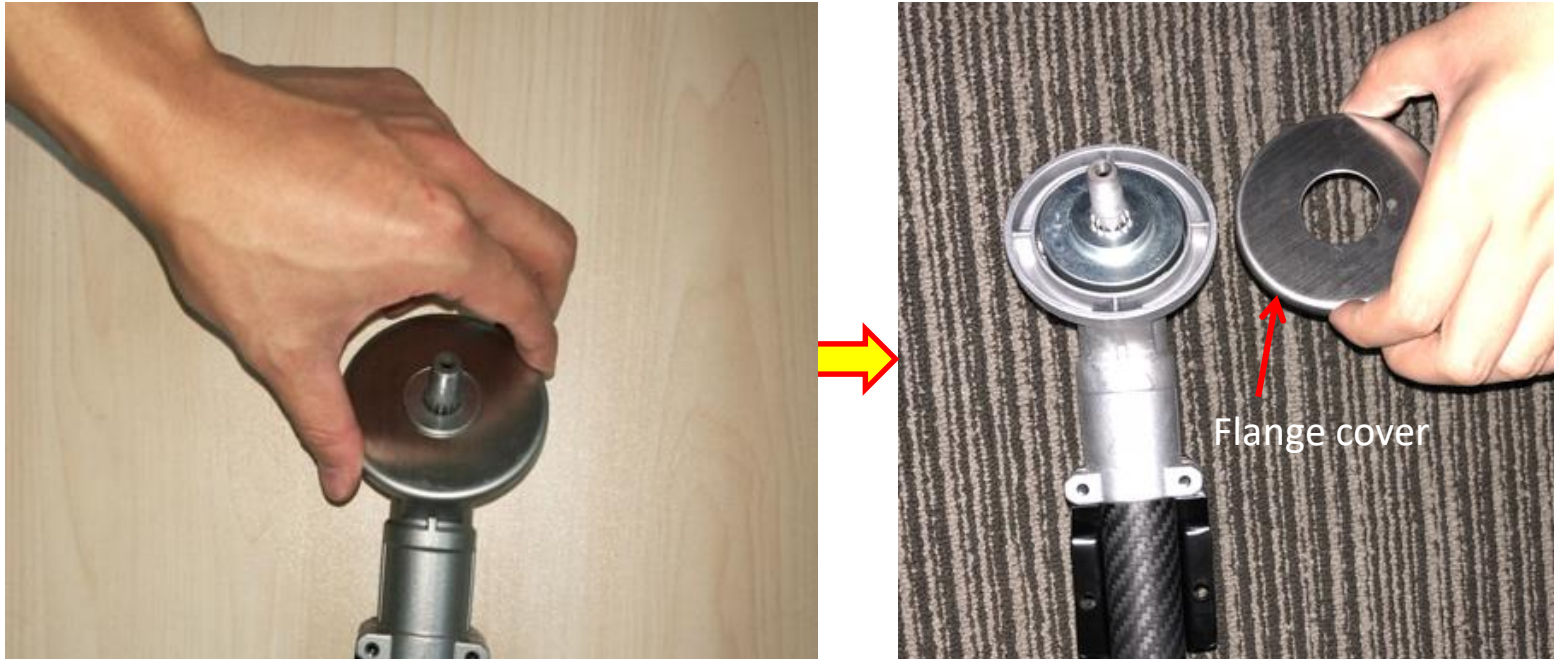


| Description   | Part Number | Qty. |
|---------------|-------------|------|
| Upper housing | 3402942001  | 1    |

# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

8. Take the flange cover out of the shaft.

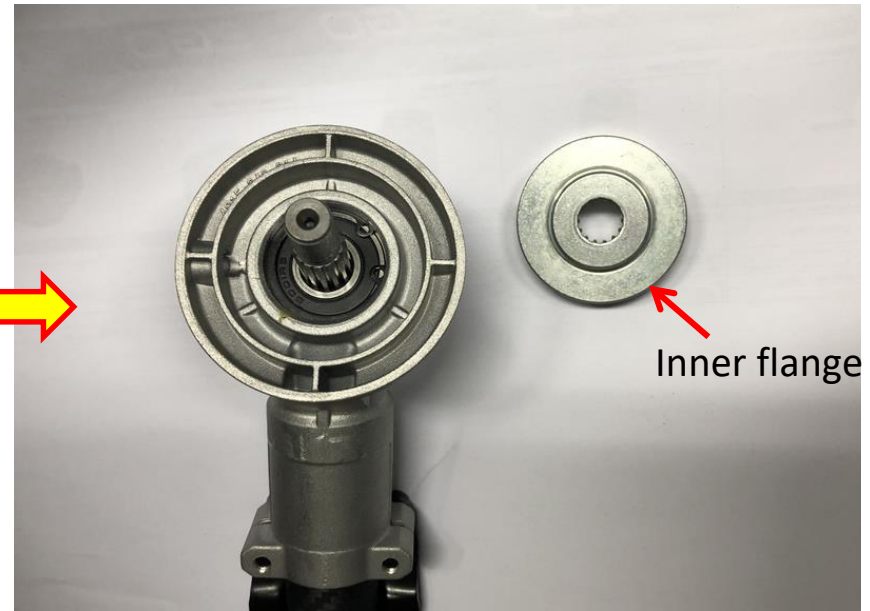


| Description  | Part Number | Qty. |
|--------------|-------------|------|
| Flange cover | 3706103001  | 1    |

# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

9. Take the flange out of the shaft.



| Description  | Part Number | Qty. |
|--------------|-------------|------|
| Inner flange | 3552509001  | 1    |

# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

10. Loosen 3 screws to remove the fixing board.

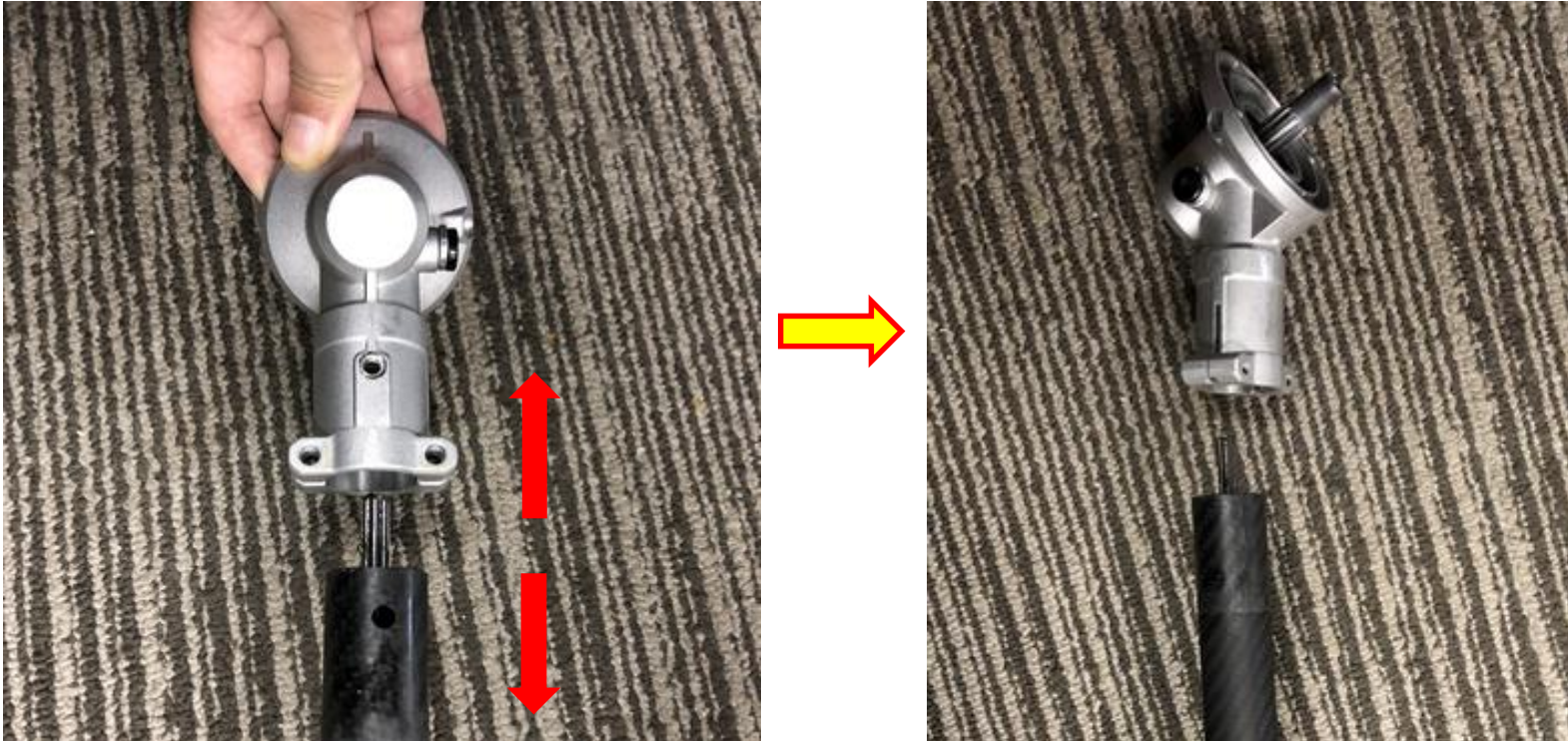


| Description | Part Number | Qty. | Description  | Part Number | Qty. |
|-------------|-------------|------|--------------|-------------|------|
| Screw 1     | 5620213003  | 1    | Washer       | 5650598001  | 2    |
| Screw 2     | 5620216006  | 2    | Fixing board | 3705417001  | 1    |

# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

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



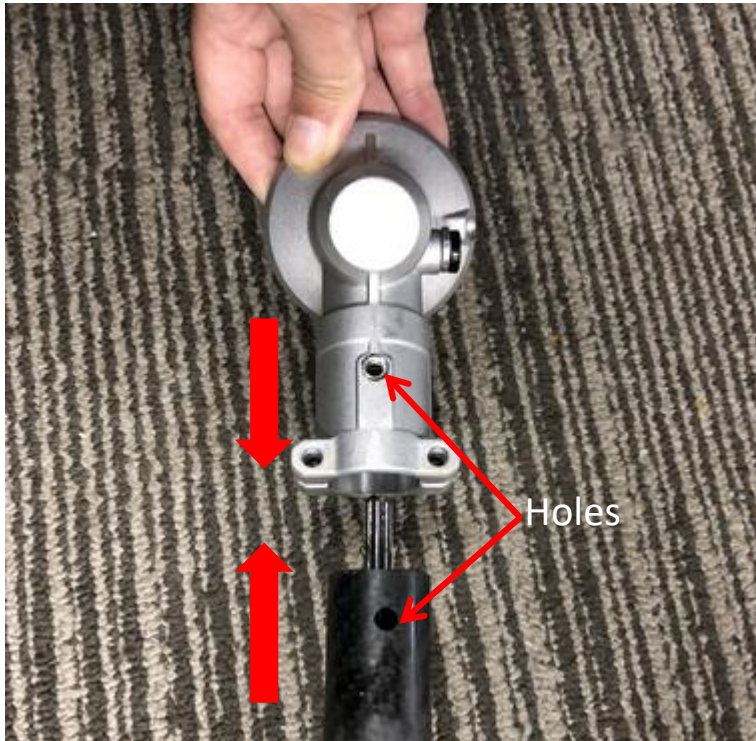
| Description        | Part Number | Qty. |
|--------------------|-------------|------|
| Gear case assembly | 2825611001  | 1    |



# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

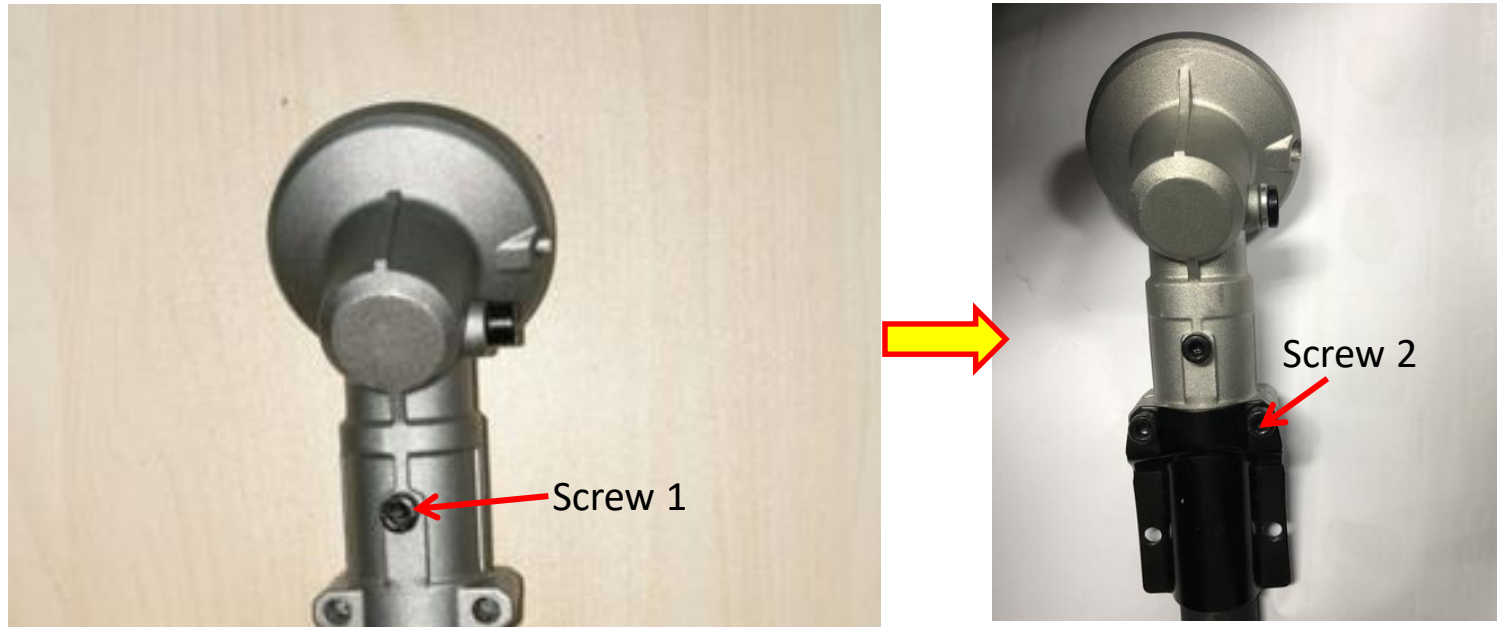
12. With the hole in the gear case aligned with the hole in the tube, reassemble them into place.



# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

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

STX3800 LINE TRIMMER

15. Mount the flange onto the shaft.



# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

16. Mount the flange cover onto the shaft.



# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

17. Mount the upper housing assembly onto the shaft.



# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

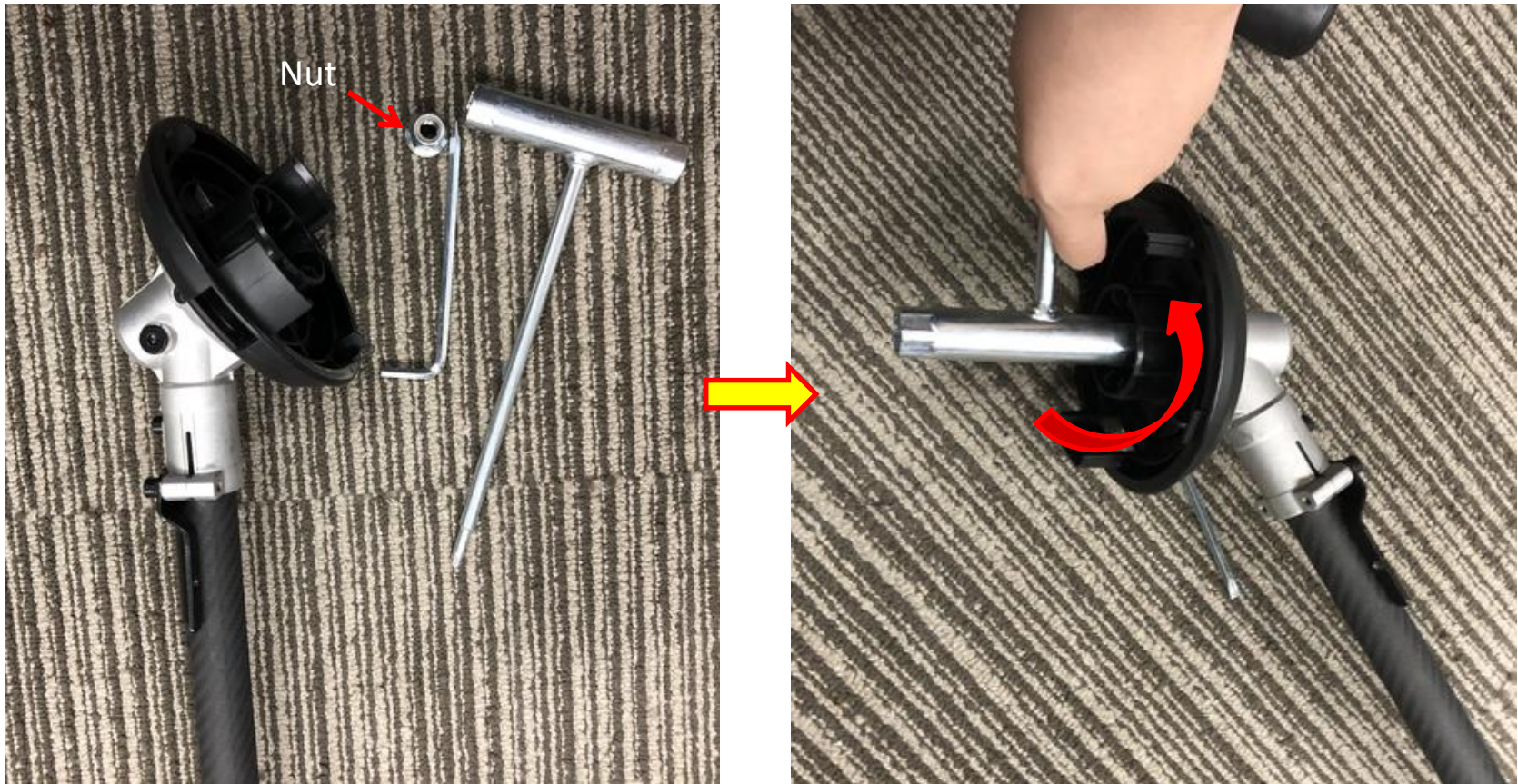
18. Rotate the upper housing assembly to align the slot in the flange with the hole in the gear case.
19. Insert the hex wrench into the aligned holes to act as a stabilizer.



# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

20. 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

STX3800 LINE TRIMMER

21. Mount the spring onto the upper housing.

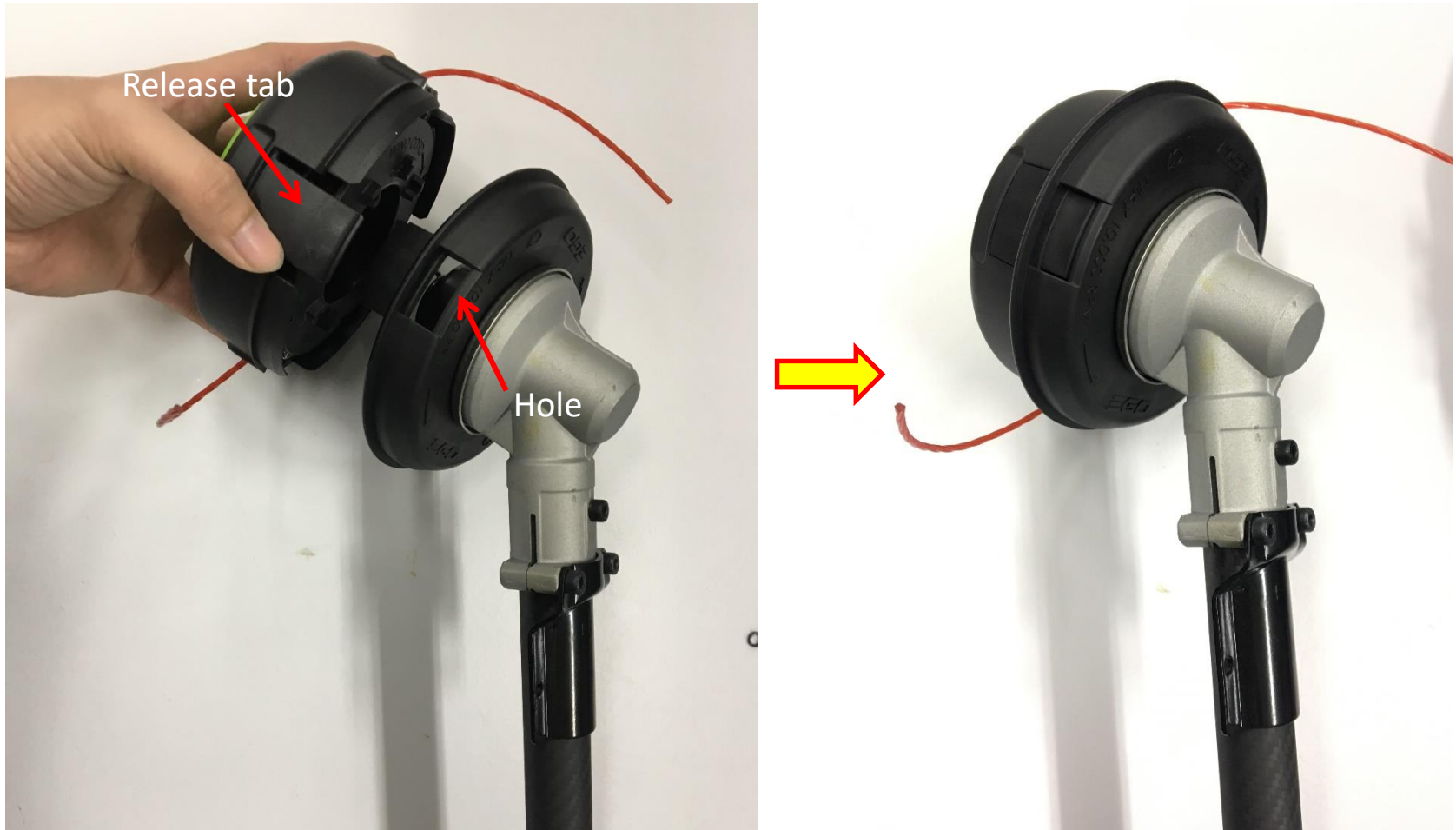




# 1. Replace the Housing Assembly and Gear Case

STX3800 LINE TRIMMER

22. 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

STX3800 LINE TRIMMER

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



## **Part 2: Measure PCBA, Motor and Internal Wire Assembly**

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

STX3800 LINE TRIMMER

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**

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

STX3800 LINE TRIMMER

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.



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

STX3800 LINE TRIMMER

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

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

STX3800 LINE TRIMMER

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**

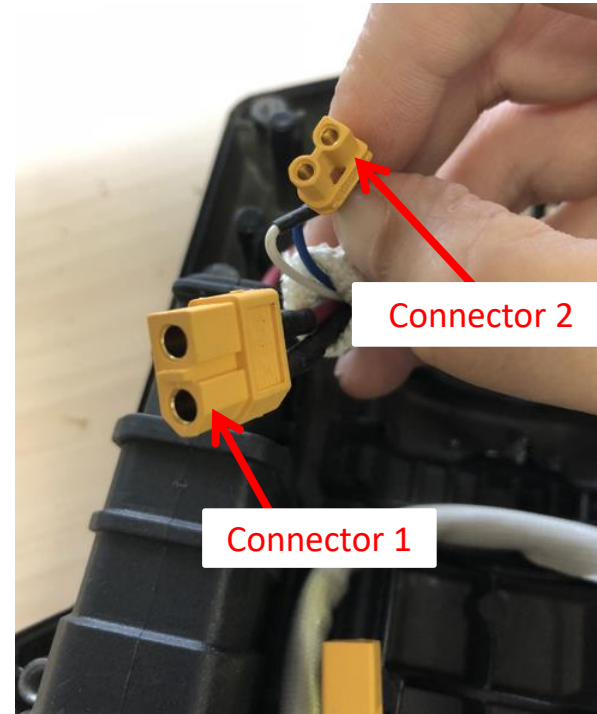
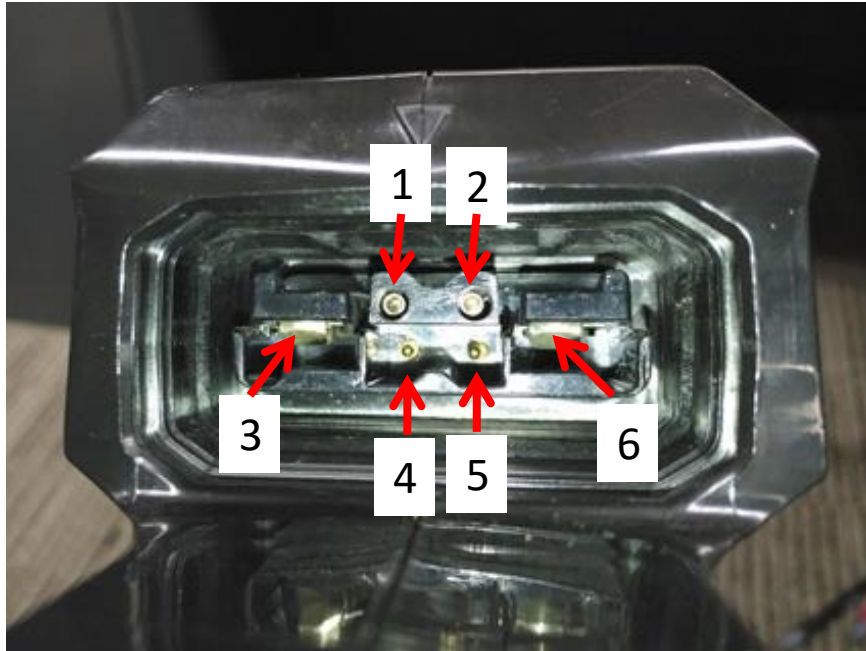
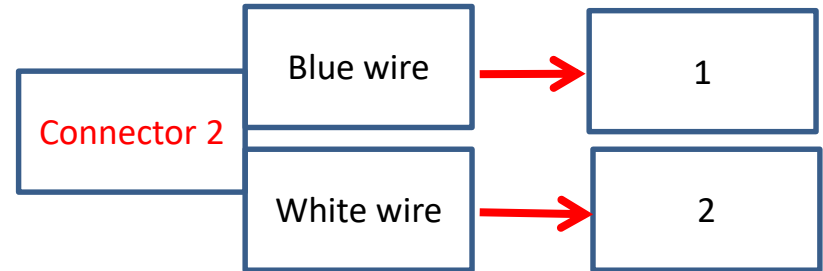
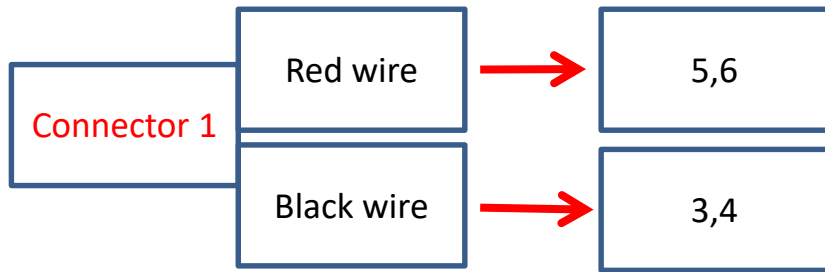


**Motor Measurement**

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

STX3800 LINE TRIMMER

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.



**Internal Wire Assembly Measurement**

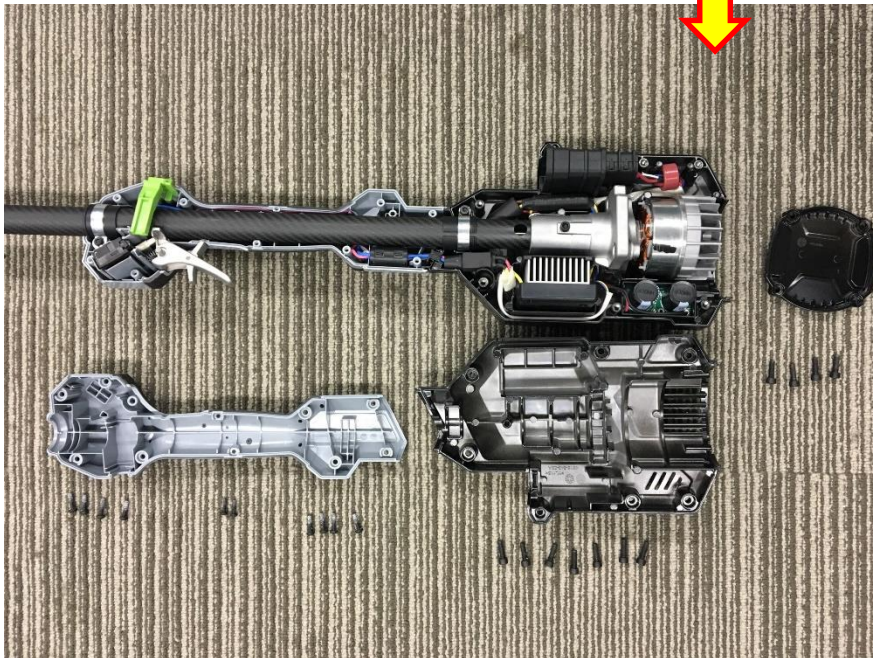
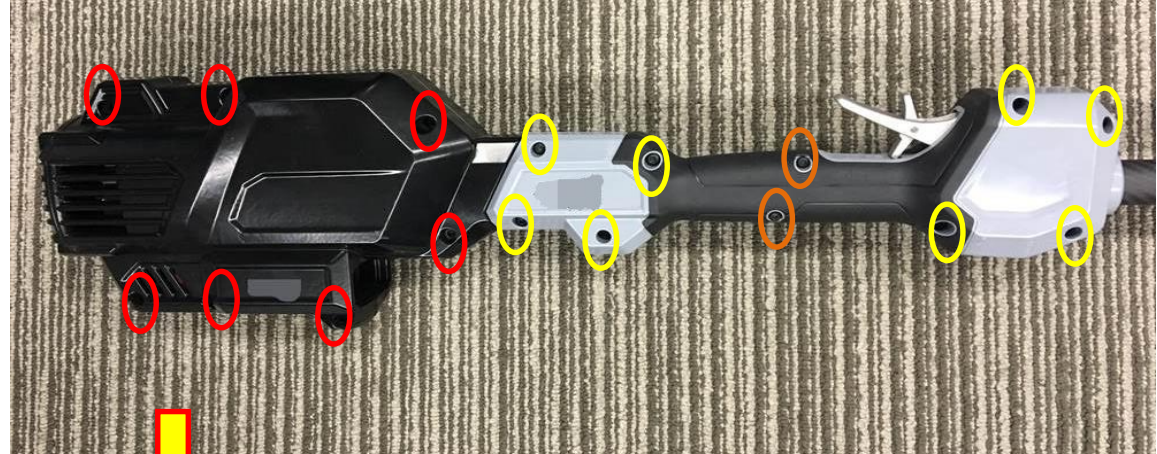


## **Part 3: Replacing the Motor Assembly and PCBA**

### 3. Replace the Motor Assembly and PCBA

STX3800 LINE TRIMMER

1. Loosen Hexagon socket screws & 8 screws & 2 tapping screws to disassemble the housing assembly.



| Description          | Part Number | Quantity |
|----------------------|-------------|----------|
| Hexagon socket screw | 5620019004  | 11       |
| Screw                | 5620479001  | 8        |
| Tapping screw        | 5610305001  | 2        |

### 3. Replace the Motor Assembly and PCBA

STX3800 LINE TRIMMER

2. Loosen the screw on the fixed ring.
3. Take push button, the shaft and motor out its groove.



Push button

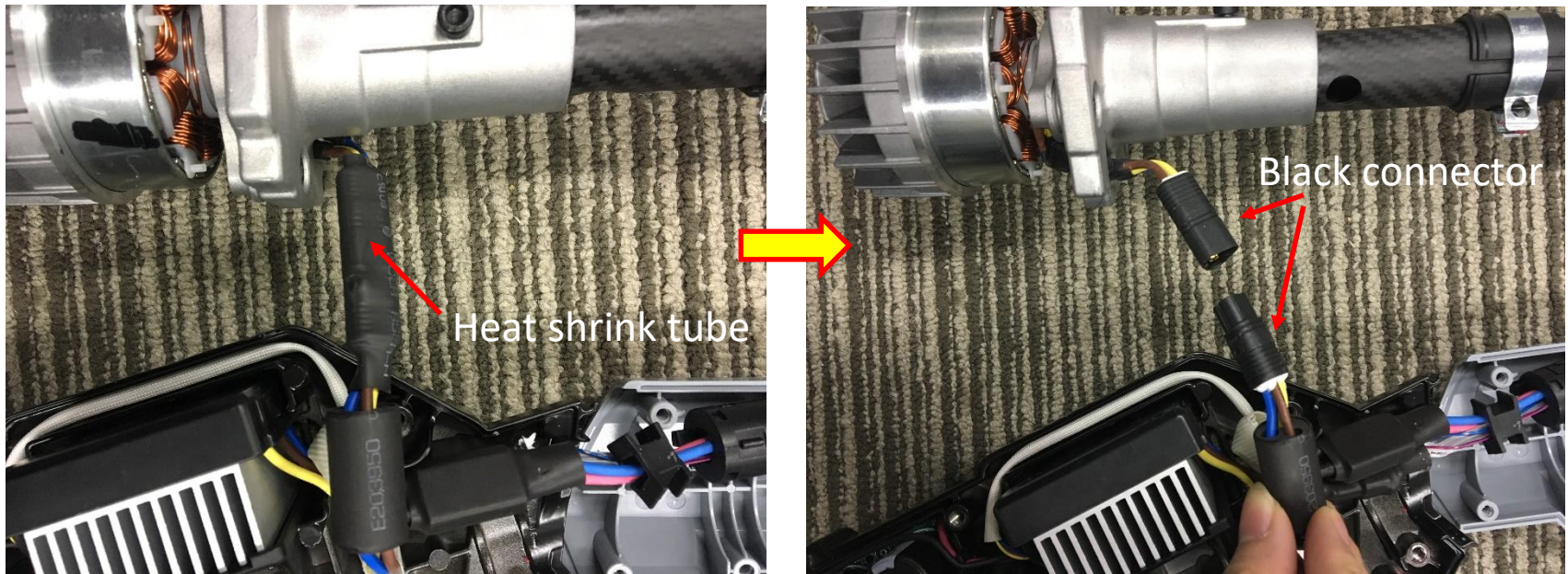


| Description   | Part Number | Quantity |
|---------------|-------------|----------|
| Tapping screw | 5620018005  | 1        |
| Washer        | 5650598001  | 1        |
| Screw         | 5620479001  | 1        |
| Push button   | 3130093001  | 1        |

### 3. Replace the Motor Assembly and PCBA

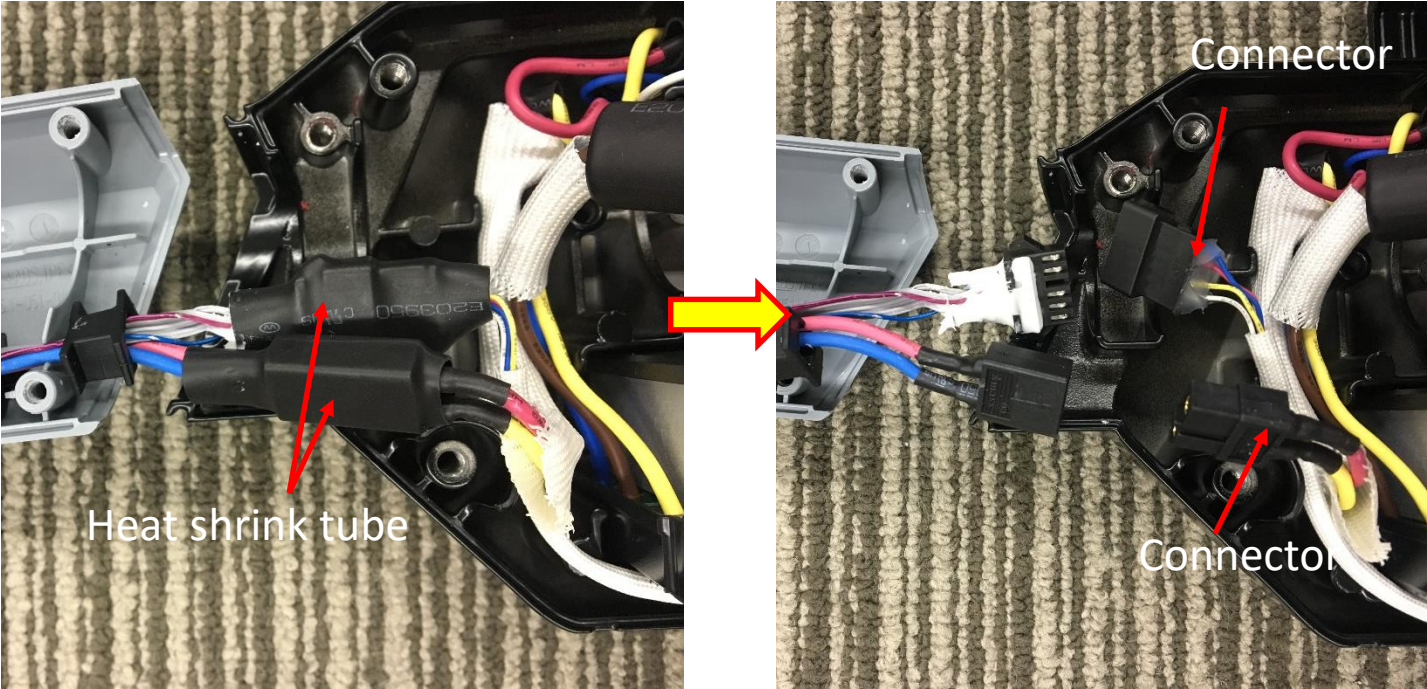
STX3800 LINE TRIMMER

4. Remove the heat shrink tube and disconnect the black connector to detach the motor and PCBA.



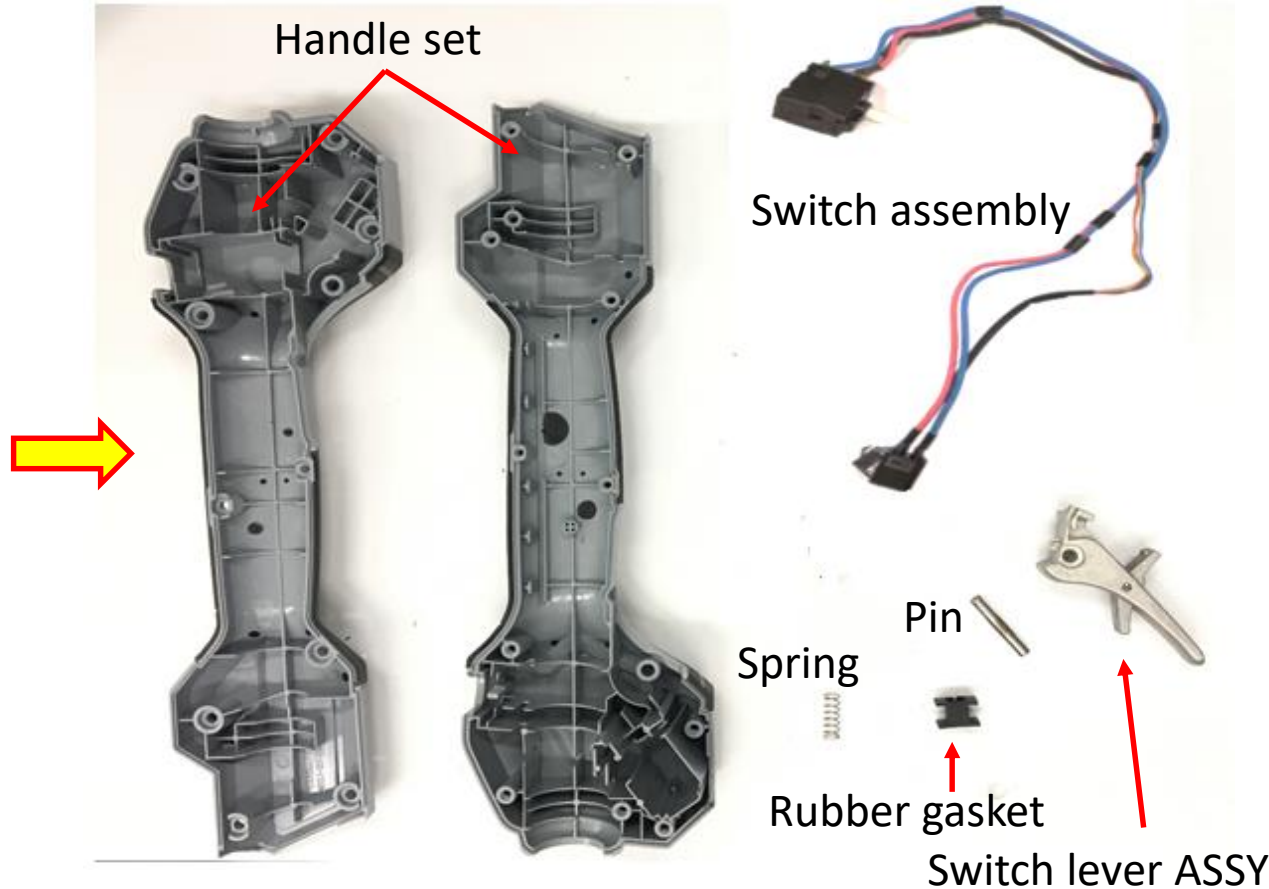
# 3. Replace the Motor Assembly and PCBA

5. Remove the two heat shrink tubes and disconnect the two connectors.



### 3. Replace the Motor Assembly and PCBA

6. Remove all the switches as well as their cables from the handle set, replace the damaged part.

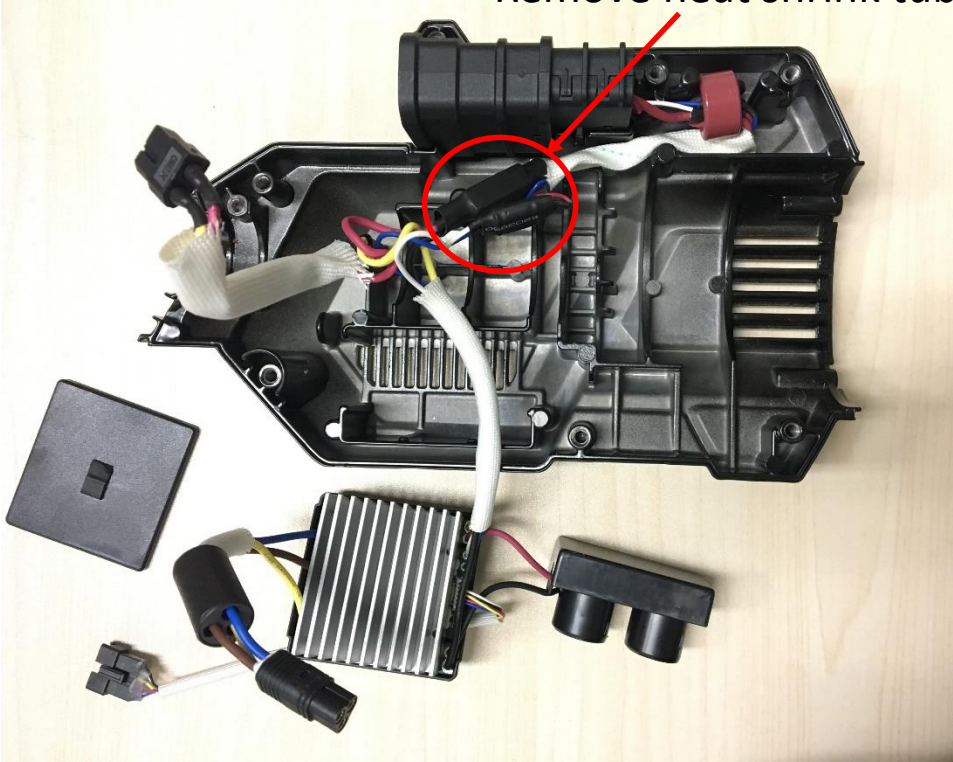


| Description     | Part Number | Spec. | Description       | Part Number | Spec. |
|-----------------|-------------|-------|-------------------|-------------|-------|
| Handle set      | 3900163001  | -     | Pin               | 5670028002  | -     |
| Switch assembly | 4870685001  | -     | Rubber gasket     | 5650604001  | -     |
| Spring          | 5620479001  | -     | Switch lever ASSY | 2826345001  | -     |

# 3. Replace the Motor Assembly and PCBA

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

Remove heat shrink tubes



| Description  | Part Number | Qty. |
|--------------|-------------|------|
| PCB assembly | 2830332002  | 1    |

# 3. Replace the Motor Assembly and PCBA

STX3800 LINE TRIMMER

- 8. Take the internal wire ASSY away. If the internal wire ASSY is damaged, replace it with a new one.

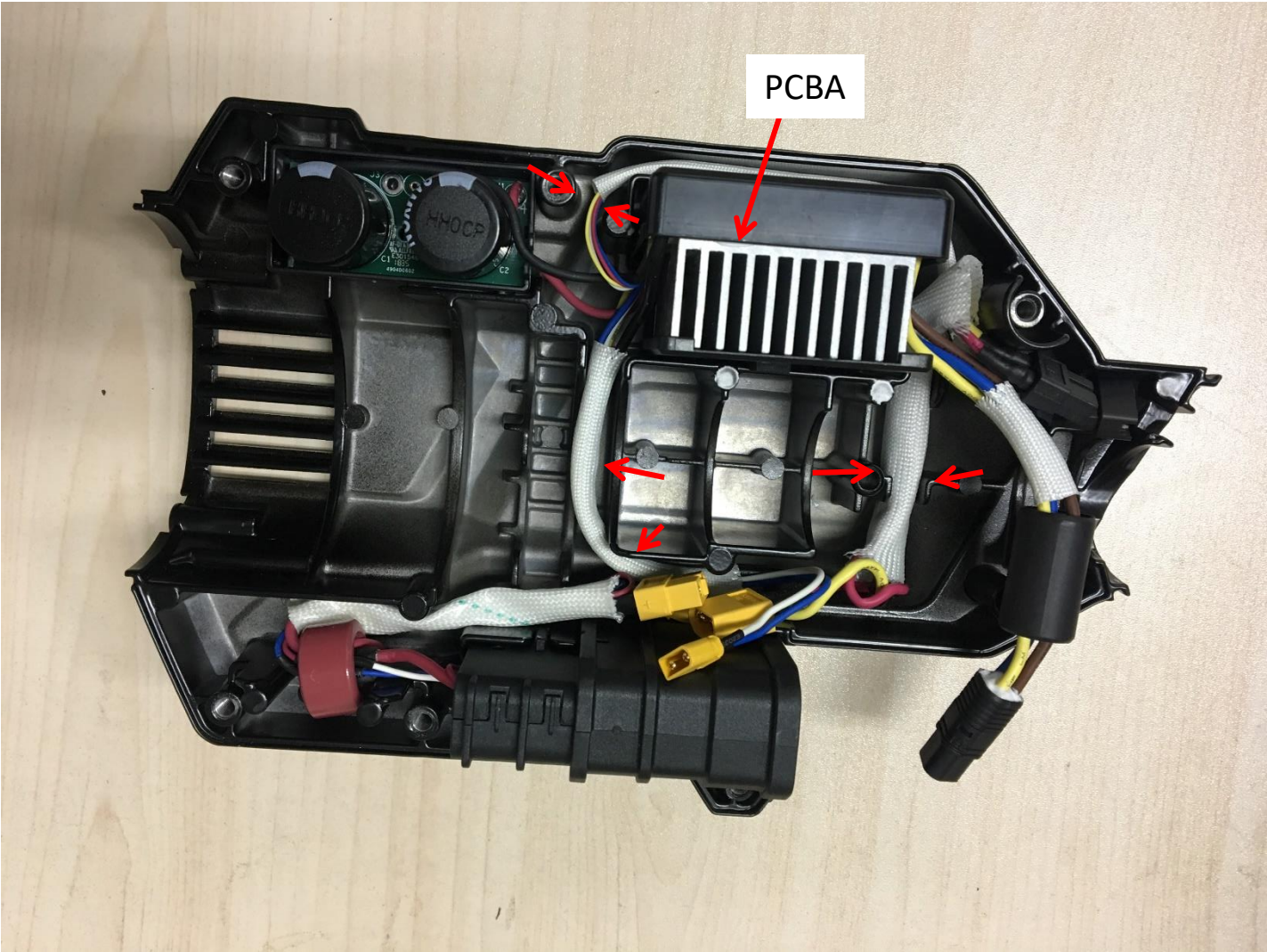


| Description        | Part Number | Qty. |
|--------------------|-------------|------|
| Internal wire ASSY | 4860525002  | 1    |



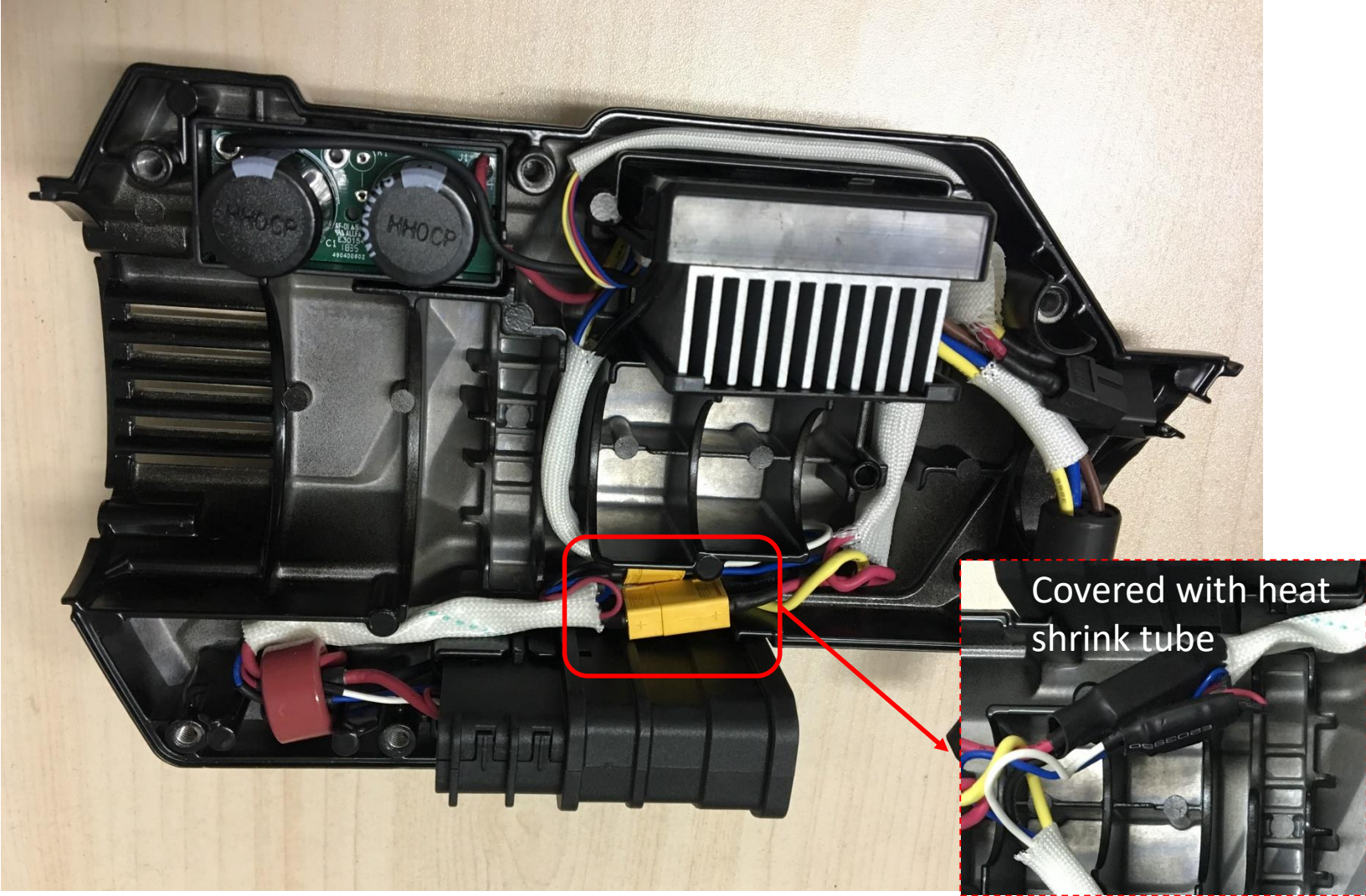
# 3. Replace the Motor Assembly and PCBA

- 9. Align the wires into its groove and mount the PCBA into the housing.



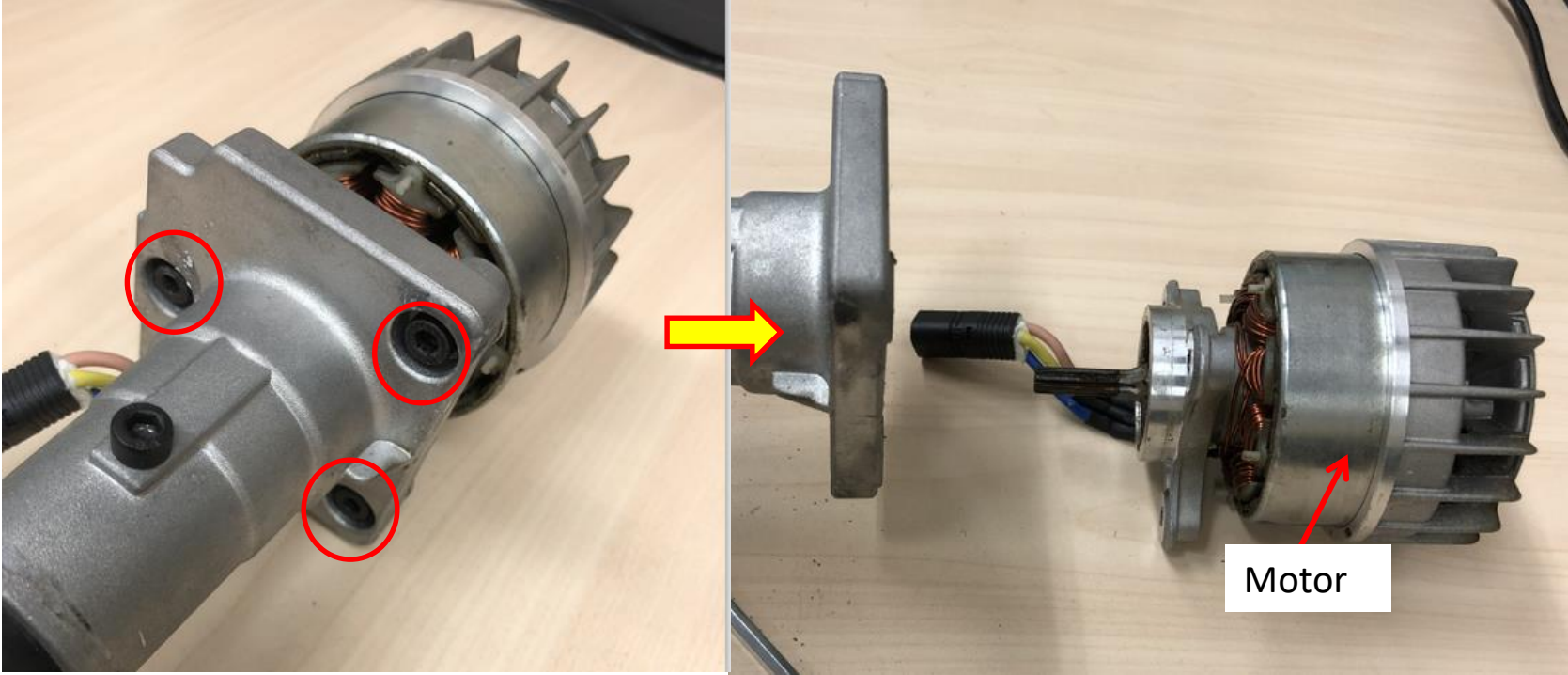
# 3. Replace the Motor Assembly and PCBA

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



# 3. Replace the Motor Assembly and PCBA

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

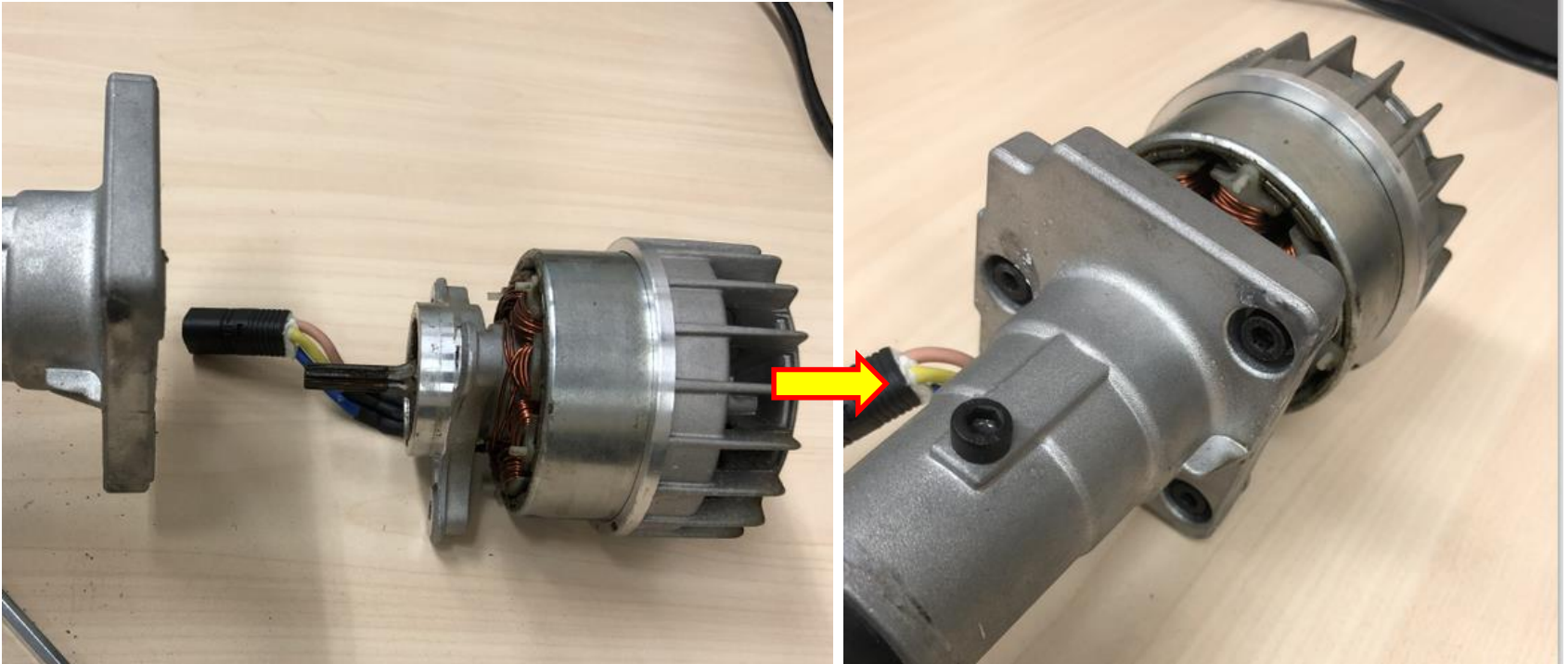


| Description   | Part Number | Qty. |
|---------------|-------------|------|
| Tapping screw | 5620018005  | 3    |
| Motor         | 2730271001  | 1    |

### 3. Replace the Motor Assembly and PCBA

STX3800 LINE TRIMMER

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



### 3. Replace the Motor Assembly and PCBA

STX3800 LINE TRIMMER

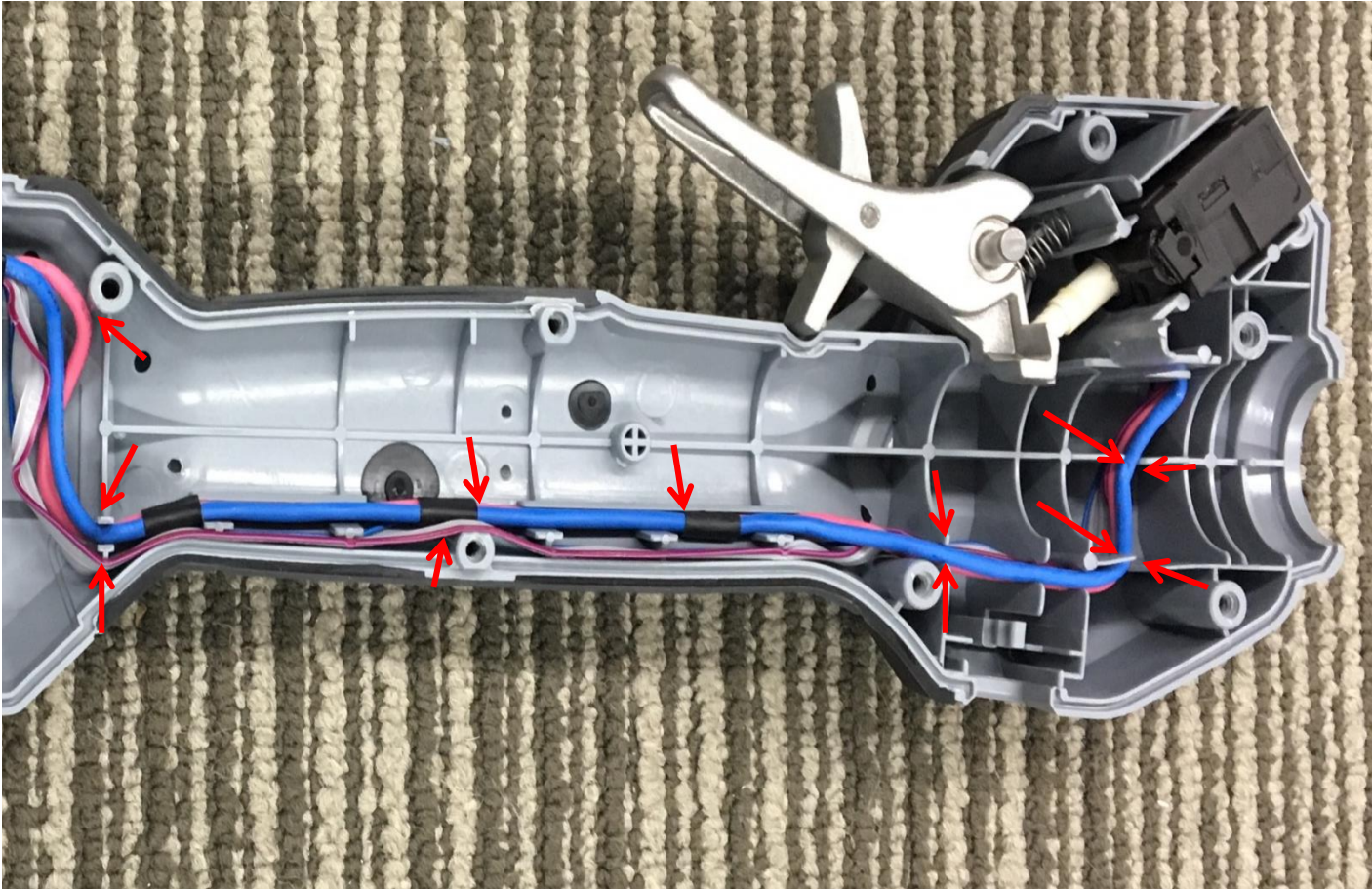
13. Replace the gear case assembly with a new one and assemble the gear case assembly with the shaft assembly with screw.



### 3. Replace the Motor Assembly and PCBA

STX3800 LINE TRIMMER

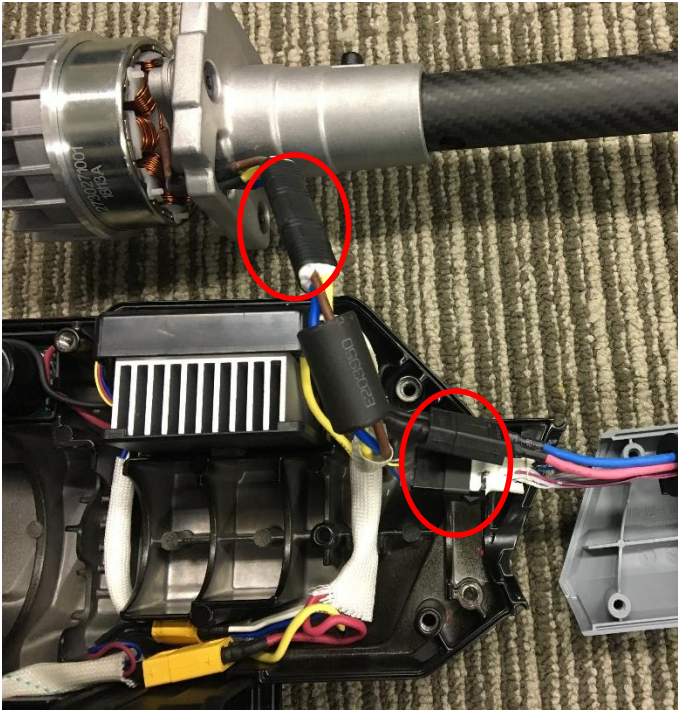
14. Assemble the handle set and align the wires.



# 3. Replace the Motor Assembly and PCBA

STX3800 LINE TRIMMER

15. Connect the three connector and cover them with heat shrink tube, put the shaft with motor into the housing.



### 3. Replace the Motor Assembly and PCBA

STX3800 LINE TRIMMER

16. Tighten the 2 screws to fix the tube on the housing and handle set, assemble the switch lever assembly and push button on the handle set.

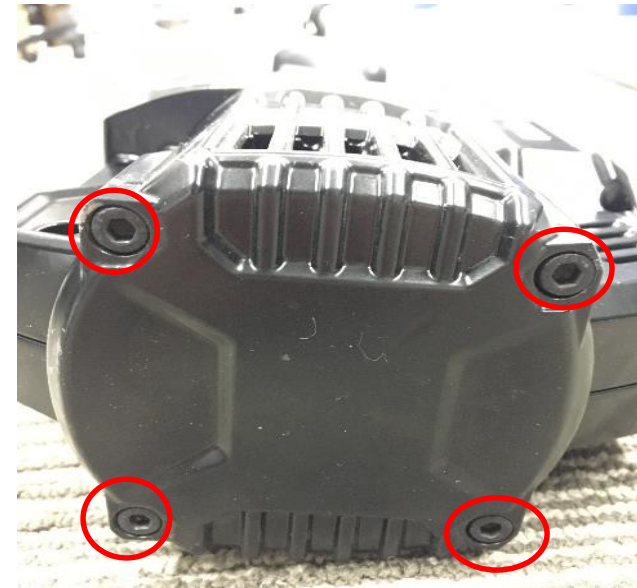
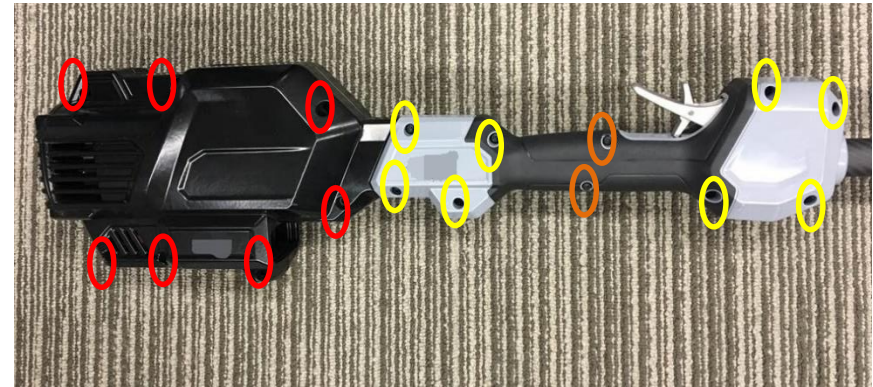




### 3. Replace the Motor Assembly and PCBA

STX3800 LINE TRIMMER

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



## **Part 4: Replacing the Shaft Assembly**

# 4. Replace the Shaft and Tube Assembly

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



| Description | Part Number | Qty. |
|-------------|-------------|------|
| Screw       | 5620213003  | 1    |

# 4. Replace the Shaft and Tube Assembly

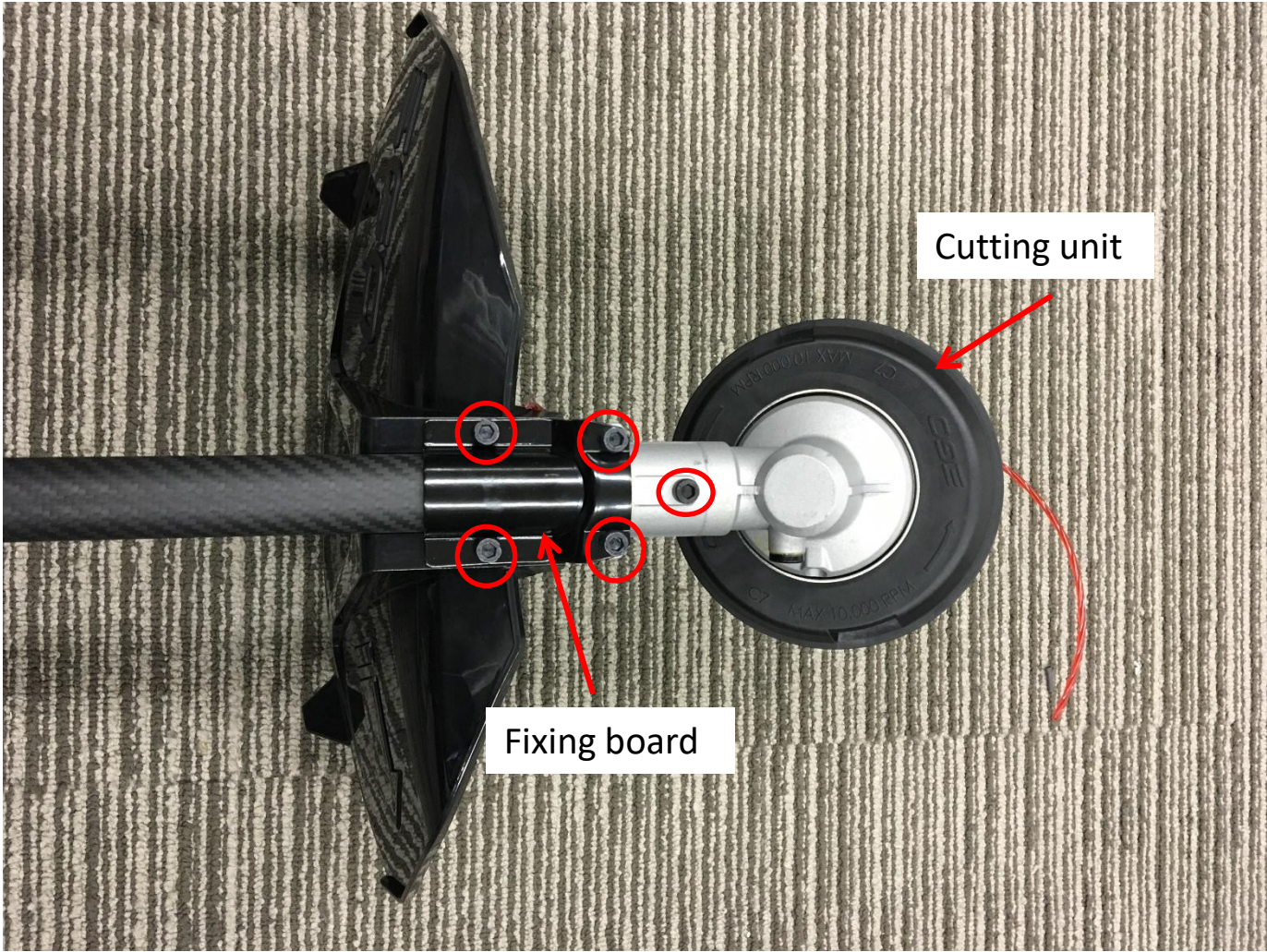
- 2. Remove the screw and take retaining ring from the shaft .



| Description    | Part Number | Qty. |
|----------------|-------------|------|
| Screw          | 5620213003  | 1    |
| Retaining ring | 3128598001  | 1    |

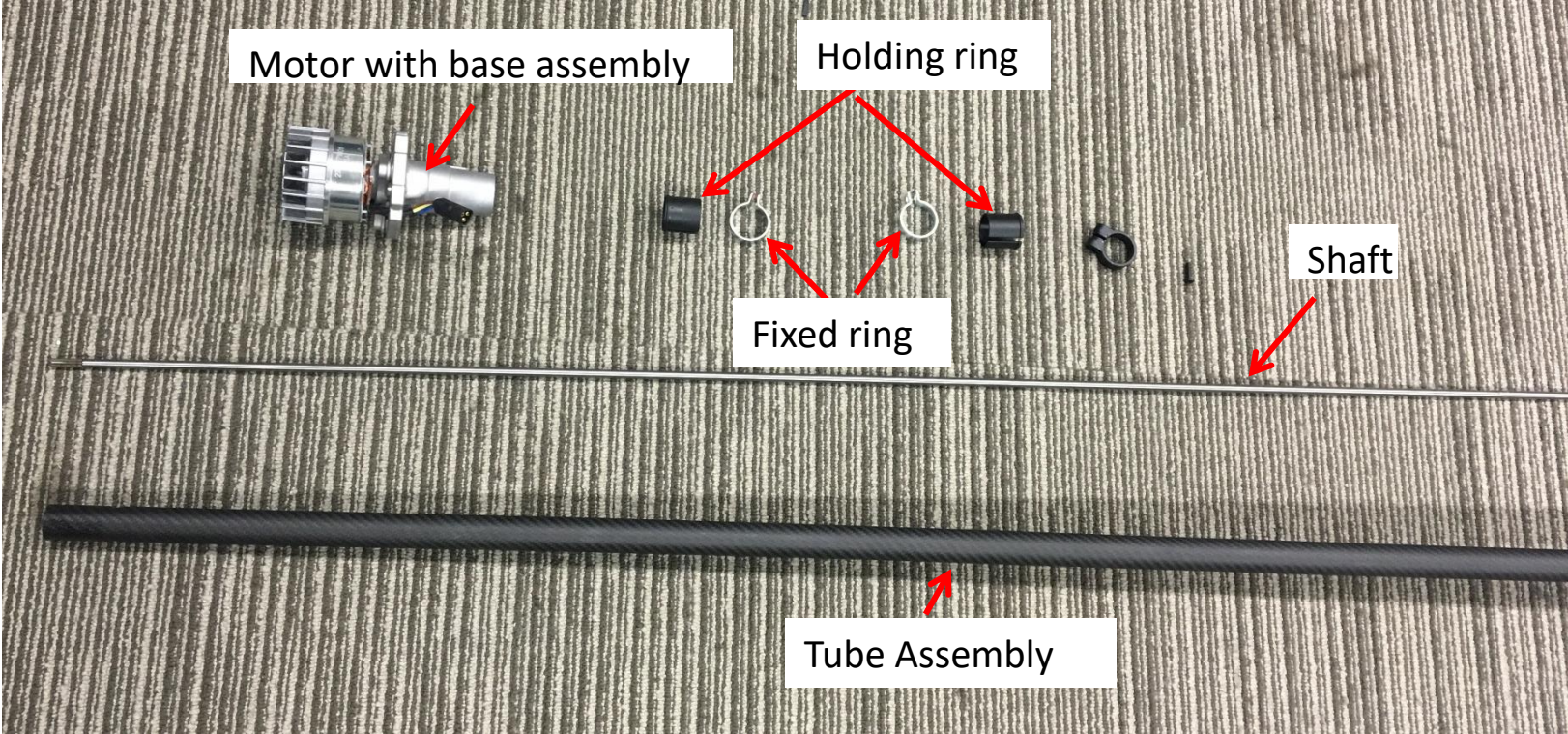
# 4. Replace the Shaft and Tube Assembly

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



# 4. Replace the Shaft and Tube 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 | 2826455001  | 1    |
| Holding ring  | 3129457001  | 2    |
| Fixed ring    | 3706559001  | 2    |

## 4. Replace the Shaft and Tube Assembly

STX3800 LINE TRIMMER

5. Insert the shaft into the tube ASSY, then assemble the cutting unit, fixing board, tubing clip set, fixing ring, gear case, housing assembly and handle lever set with mounting ASSY in sequence .

THE END