

REPAIR GUIDELINE

String Trimmer_ST1300E



Version: 1

Issue Date: 02//2016

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Troubleshooting

Problem	Possible Cause	Fault Position	Test & Solution
Not feed line	Poor cutting line	Trimmer line	Replace the cutting line. (e.g. 2 mm nylon line)
Fail to start	The cables that connect to motor are loosed or fallen off from motor.	Motor	Open the motor housing, check the cable connection with motor.
	Motor is burned	Motor	If the cables are well connected, check the motor and test with a new motor.
	PCBA is broken	PCBA in rear housing	If the cables are well connected, and motor is functional, replace the PCBA in the rear housing.
The battery pack is not stayed/locked on the trimmer properly; or hard to remove from the trimmer.	The locking mechanism is worn.	Rear housing	Replace the rear housing set.
The motor speed varies up and down when the trimmer works.	Motor was burned due to overload	Motor	Replace the motor

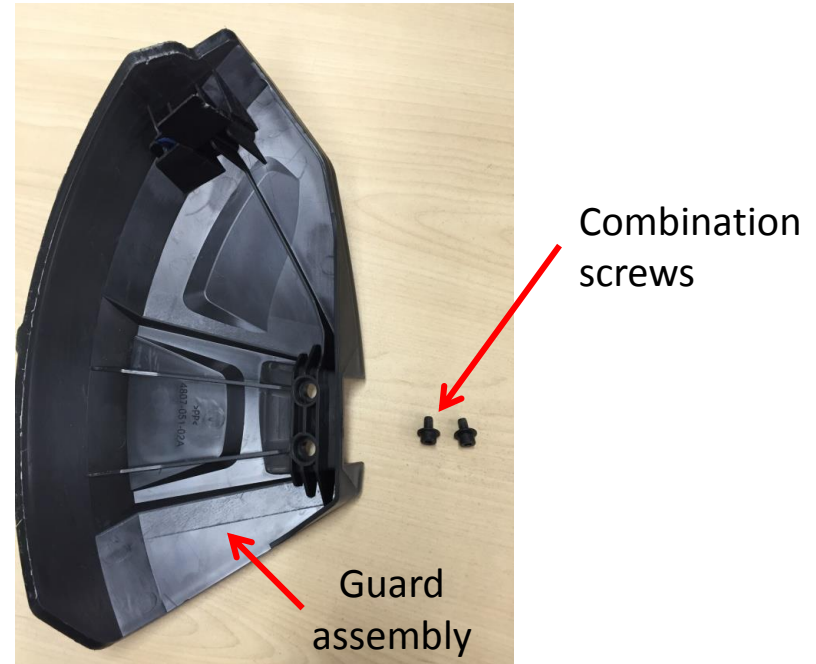
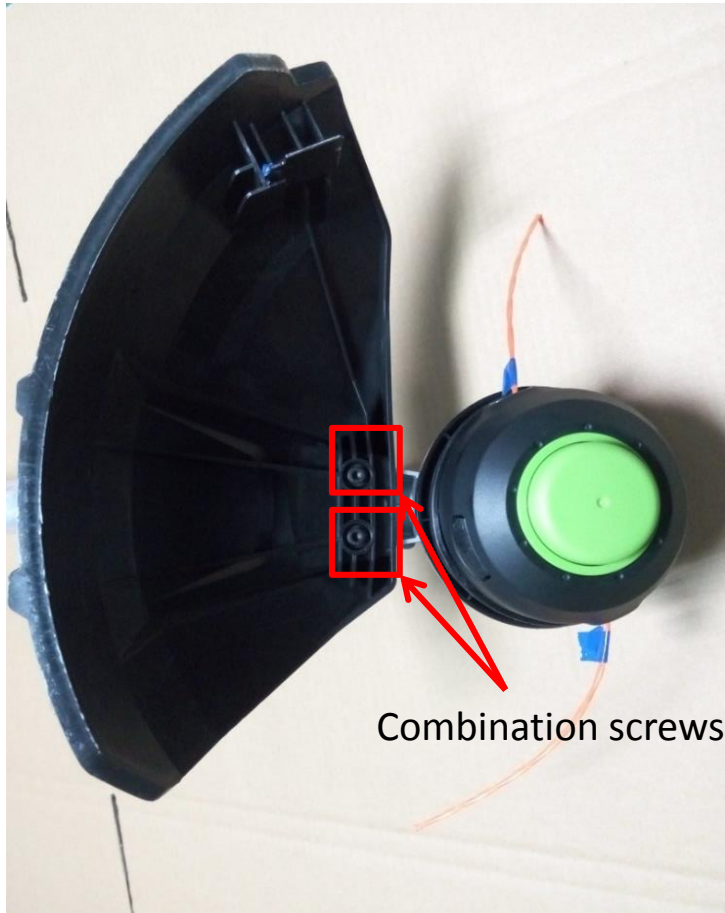
Tool List For Repair

NO.	Tool List	SPEC	Remark
1	Magnetic bits	#1 , #2 phillips	
2	Socket wrench	13mm	
3	Hex wrench	M5	
4	Electric soldering iron		
5	Heat gun		
6	Heat shrinkable sleeves		
7	Scissor		To remove the shrinkable sleeve

Part 1: Replace the Motor Assembly

Replace the Motor

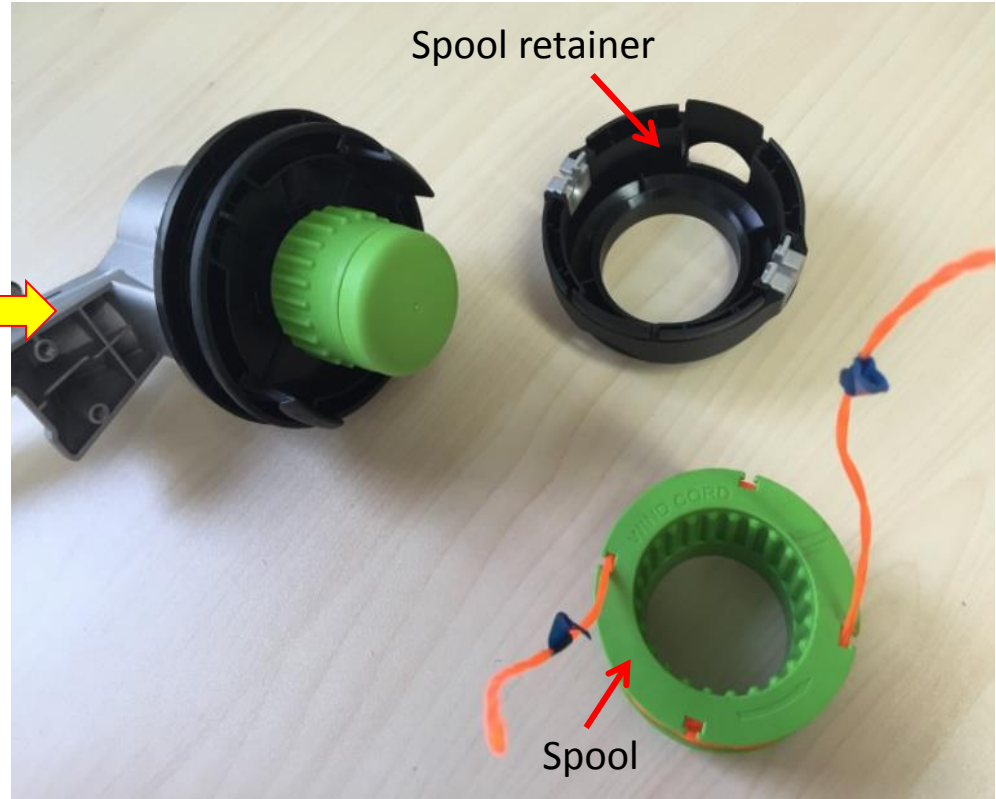
1. Stop the motor and remove the battery pack from the string trimmer.
2. Loosen the two combination screws in the guard with the M5 hex wrench, remove the guard from the shaft base.



Description	Part Number
Guard assembly	2824273001
Combination screws	5620526001

Replace the Motor

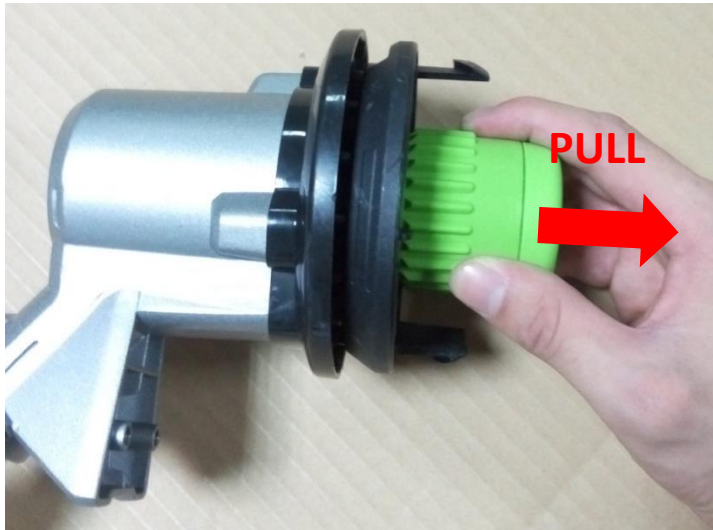
3. Press the two release tabs on the trimmer head base, pull the spool and spool retainer out.



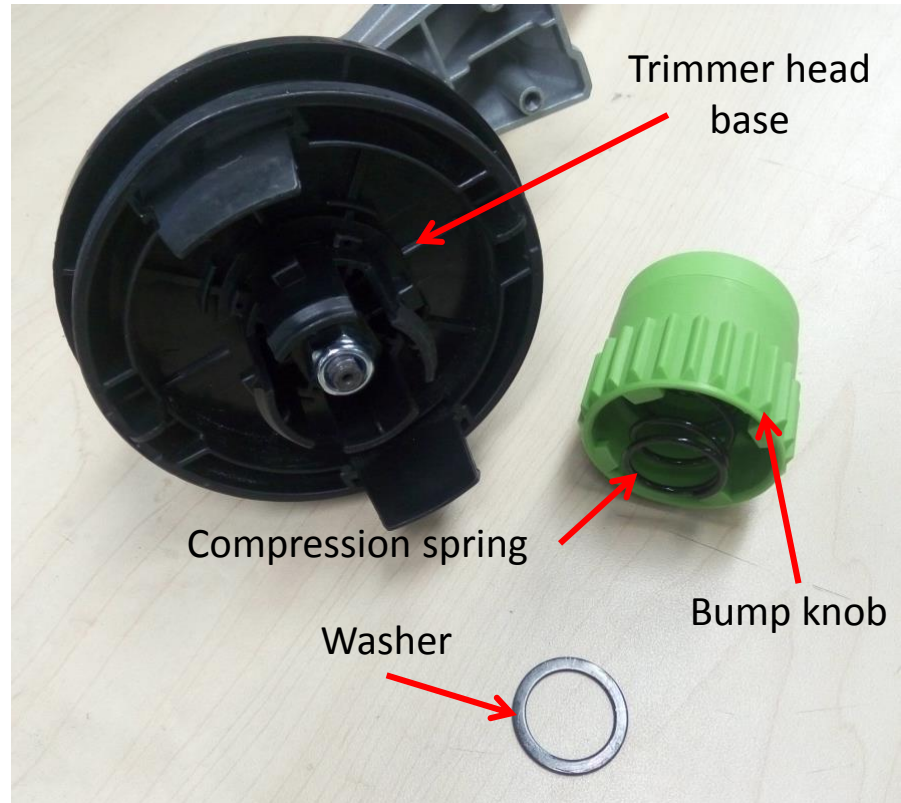
Description	Part Number
Spool	2824055002
Spool Retainer	2824019002

Replace the Motor

4. Hold the bump knob and pull it straight out. Remove the bump knob, compression spring and washer from the trimmer head base.

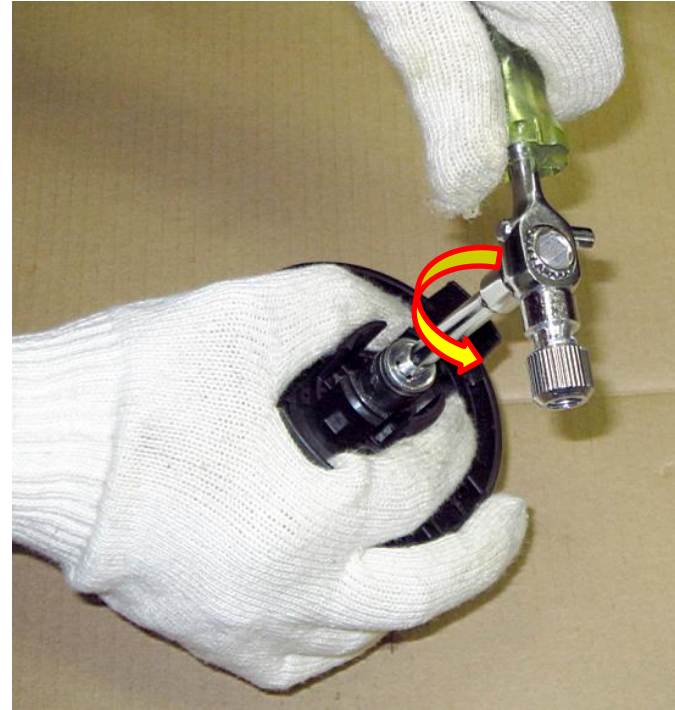


Description	Part Number
Bump Knob	2824022001
Compression Spring	3660582001
Washer	5650349002



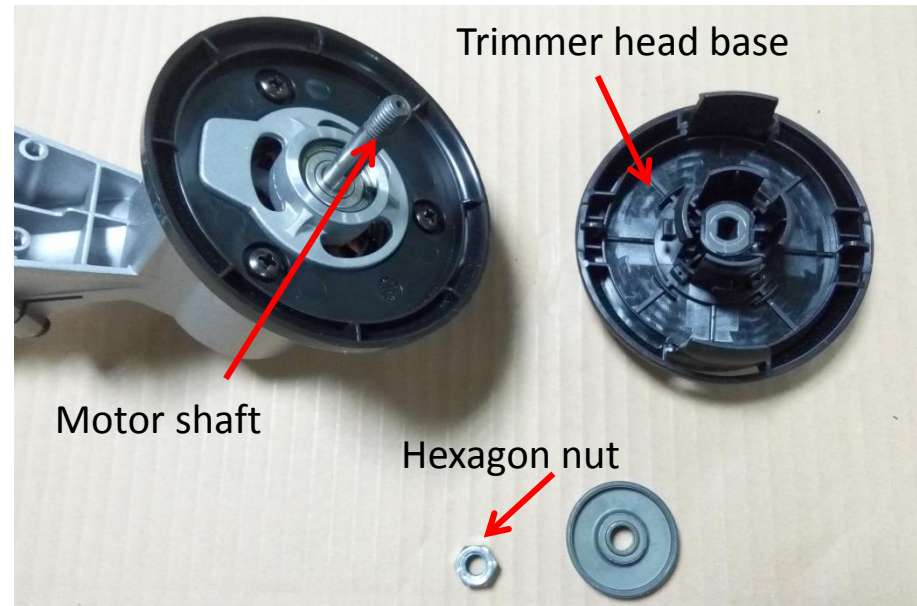
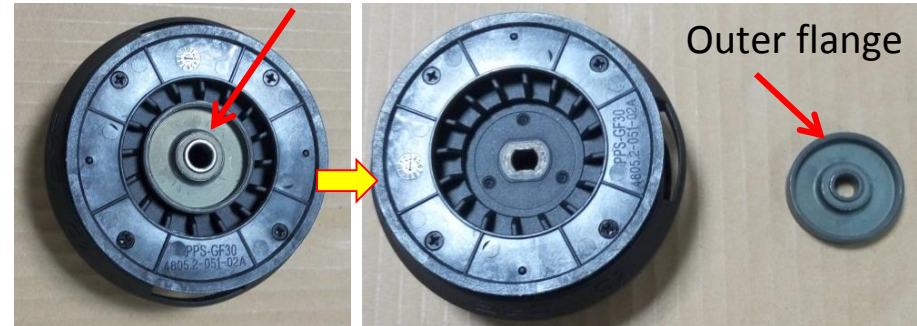
Replace the Motor

5. Wear gloves and hold the trimmer head base with one hand, use a 13mm manual socket wrench to turn the hexagon nut counterclockwise to loosen it.



Replace the Motor

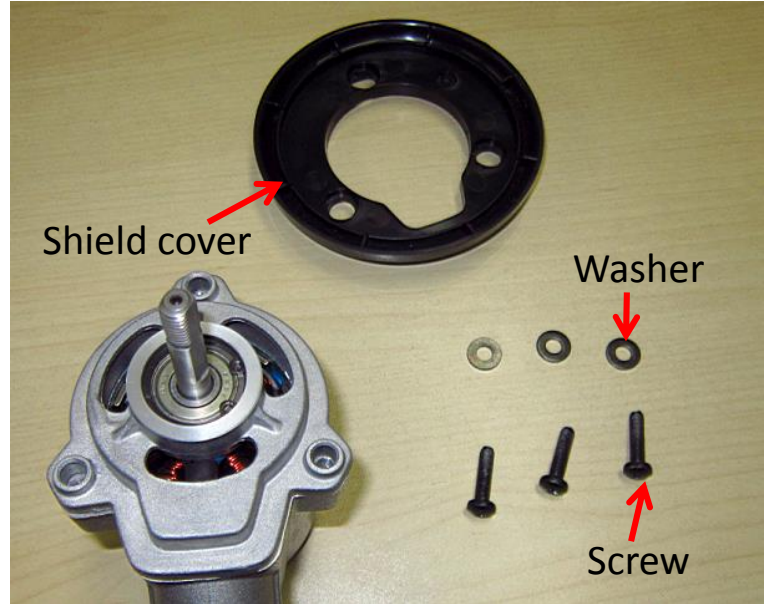
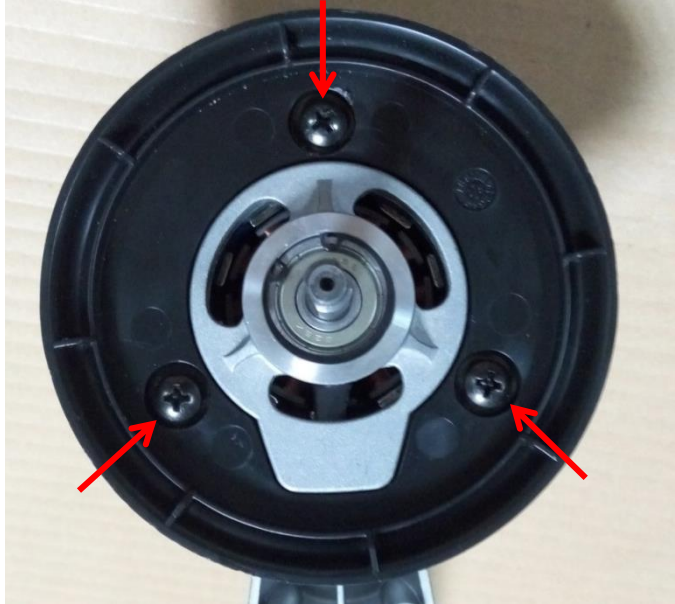
6. Hold the trimmer head base and pull it straight out from the motor shaft, remove the flange from the base.



Description	Part Number
Outer Flange	3520800001
Hexagon Nut	5630271001
Trimmer Head Base	2824082003

Replace the Motor

7. Loosen the three screws on the shield cover, remove the shield cover from the motor assembly.

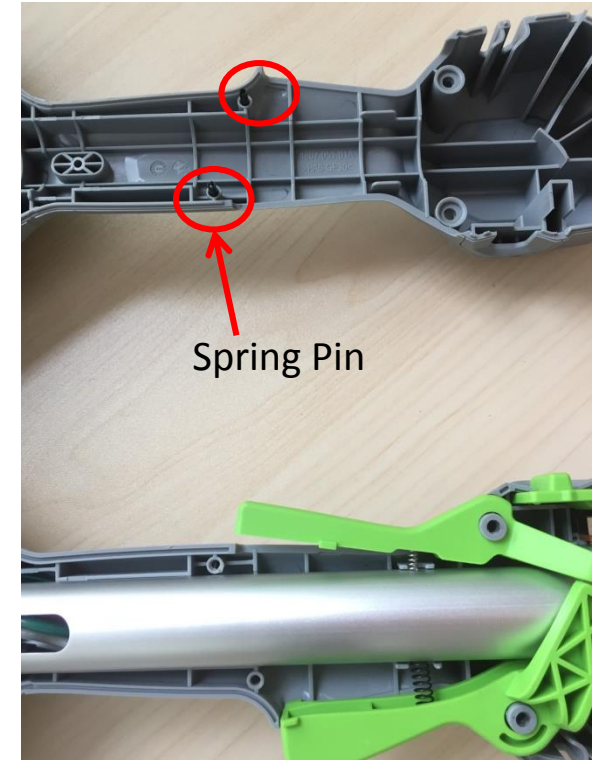


Description	Part Number	Including
Trimmer Head Set	2824421001	Spool, spool retainer, bump knob, compression spring, washer, trimmer head base, hexagon nut
Shield Cover	3127655001	
Screw	5610059007	
Washer	5650396003	

Replace the Motor

- Loosen the eleven screws in the rear housing set, open the housing.

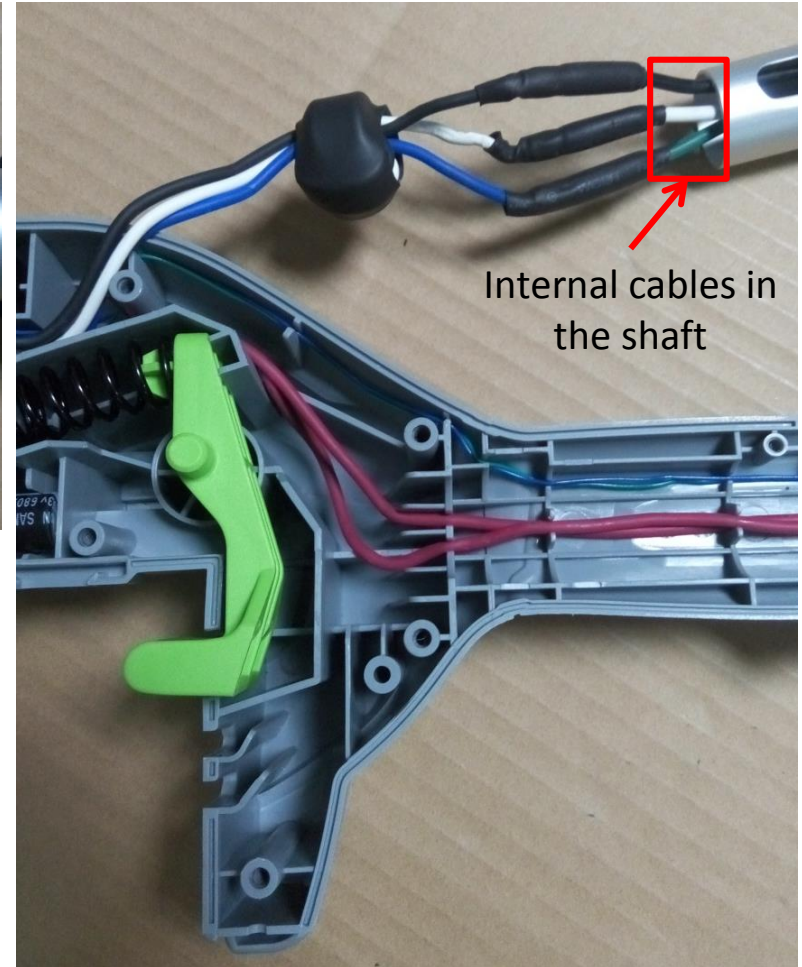
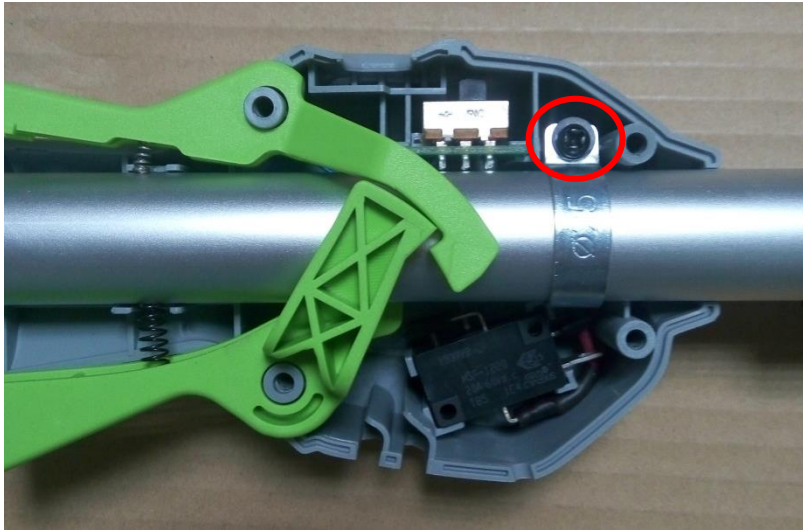
NOTICE: During opening, the two spring pins may be remained in the right housing. If the rear housing set need replacing, take down the pins and assemble them to the new housing.



Description	Part Number	Qty.
Tapping Screw	5610032004	11
Spring Pin	5670011001	2
Rear Housing Set	2824291001	1

Replace the Motor

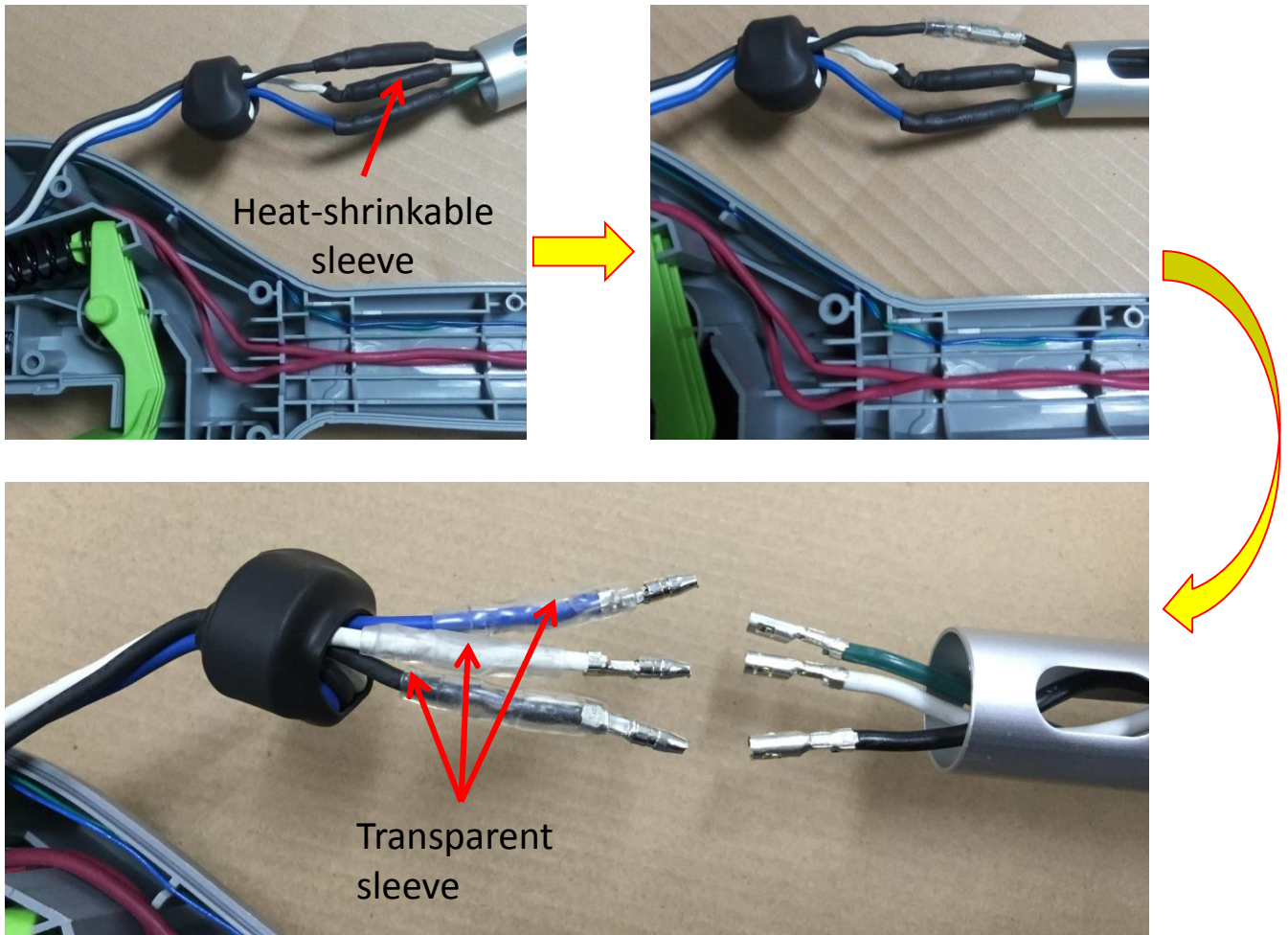
9. Loosen the locking screw on the fixing ring, take out the shaft from the housings.



Description	Part Number	Qty.
Fixed Ring	3705178001	1
Plain Washer	5650005002	1
Tapping Screw	5610032004	1
Internal Cable Assembly	4860300002	1

Replace the Motor

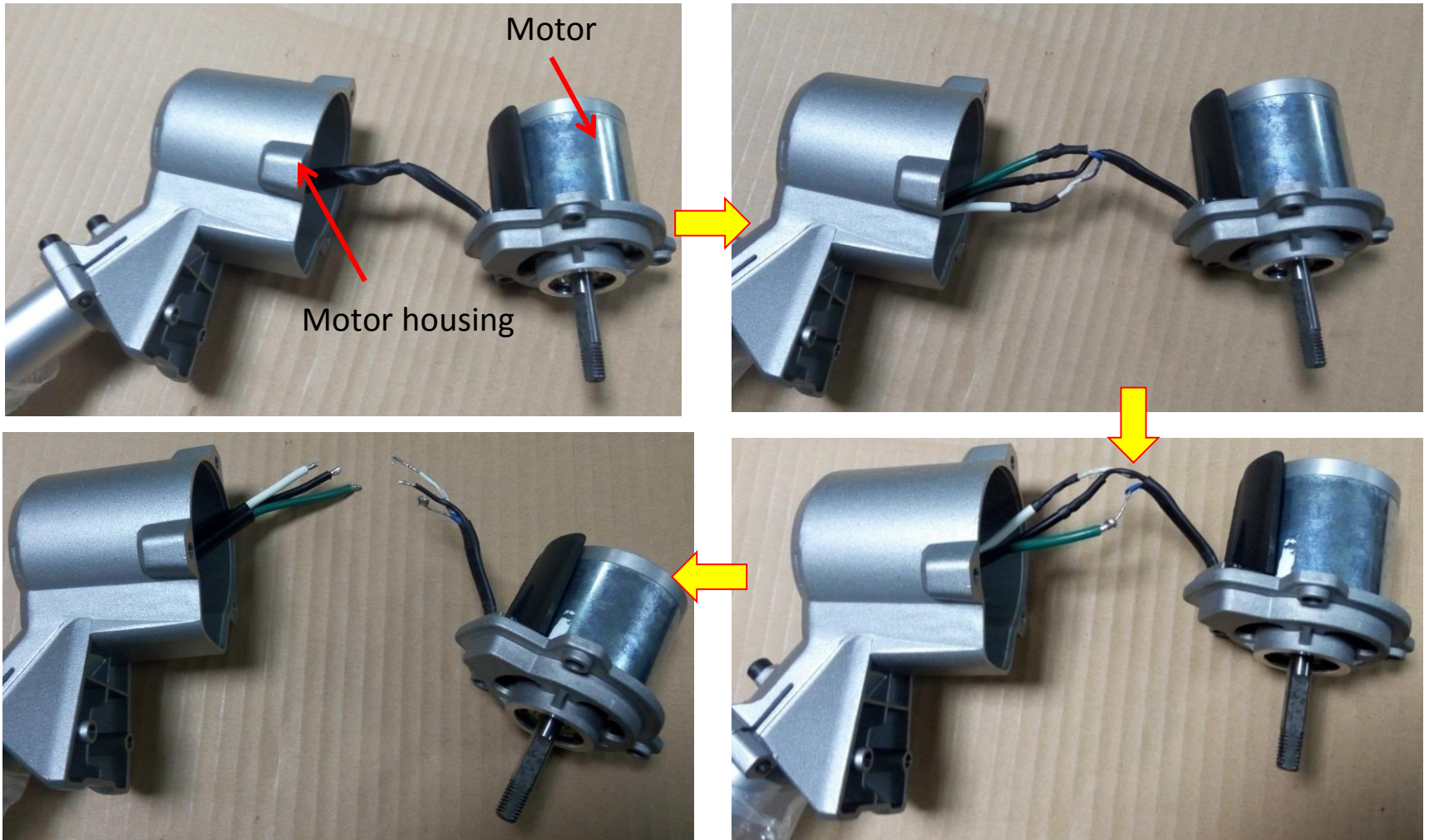
10. Remove the heat-shrinkable sleeves from the connectors with a scissor.
11. Move the transparent sleeves aside, and pull the connectors to separate.



Replace the Motor

12. Take out the motor from the motor housing.

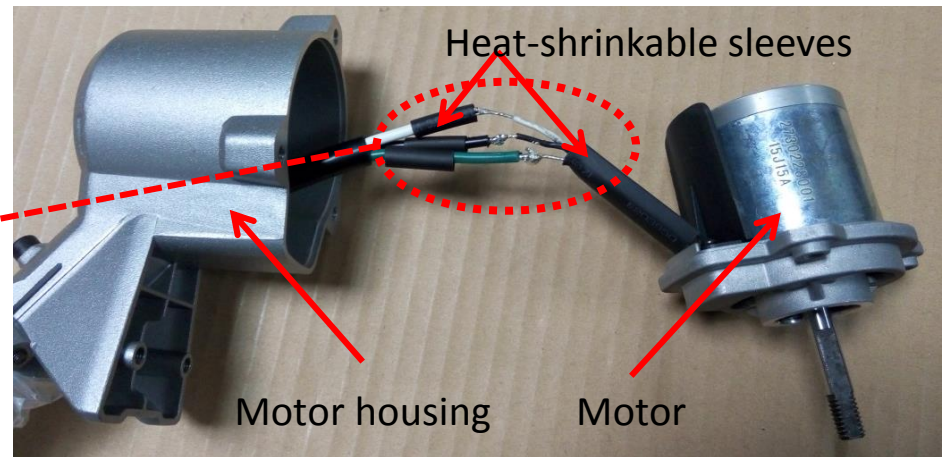
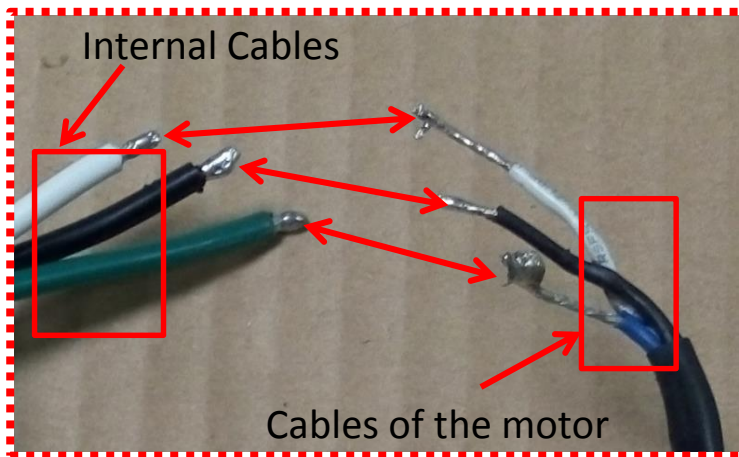
13. Remove the heat-shrinkable sleeves from the cables and disconnect the cables.



Replace the Motor

14. Replace with a new motor. The motor housing can be replaced as well if it is broken or worn.
15. Place new heat-shrinkable sleeves through the cables. Connect the cables by electric soldering iron.

Correct connection: Black to black, white to white, green to blue.



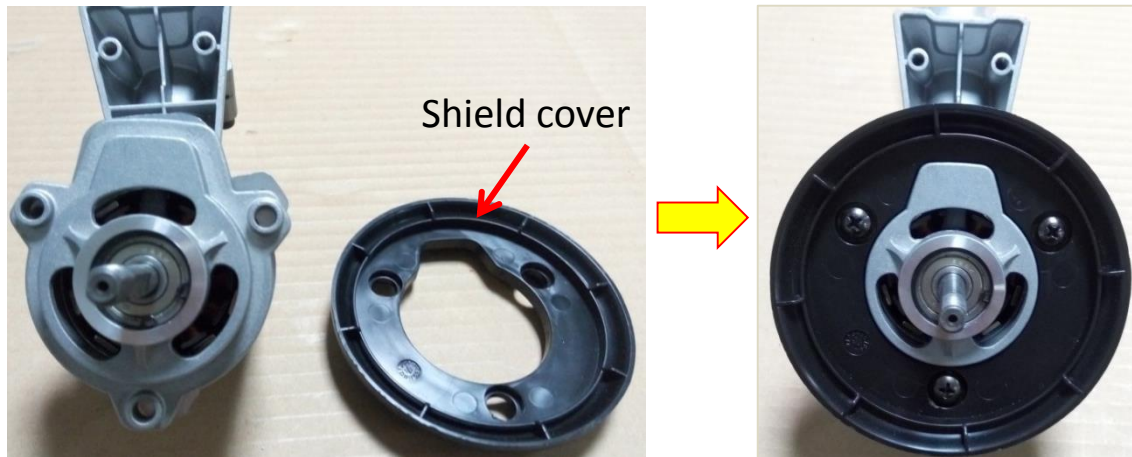
Description	Part Number	Qty.
Motor Housing	3421371001	1
DC Motor	2730228001	1

Replace the Motor

16. Move the heat-shrinkable sleeves to cover the soldering points and use a hot air gun to shrink the sleeves.



17. Position the motor into the motor housing. Mount the shield cover on the motor assembly and lock it with three screws and washers.

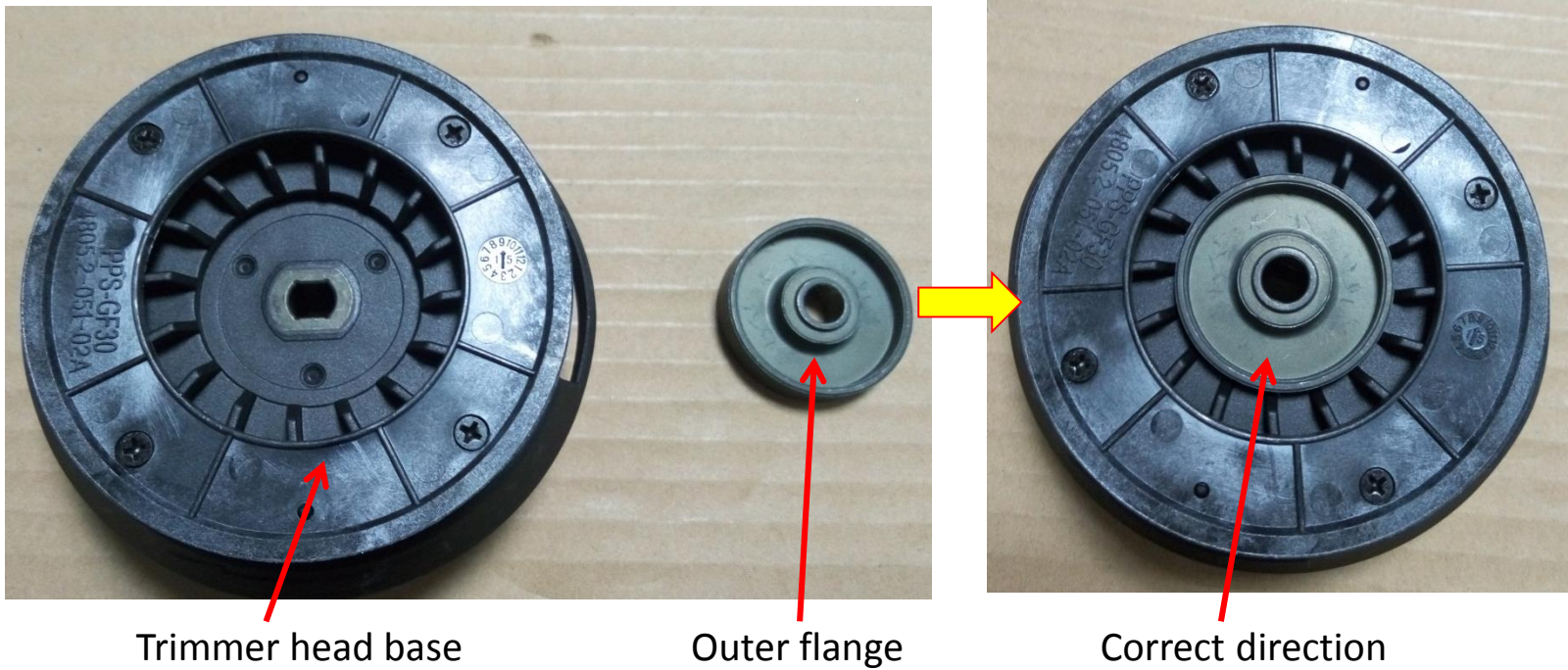


Replace the Motor

18. Assemble the trimmer head set onto the motor shaft.

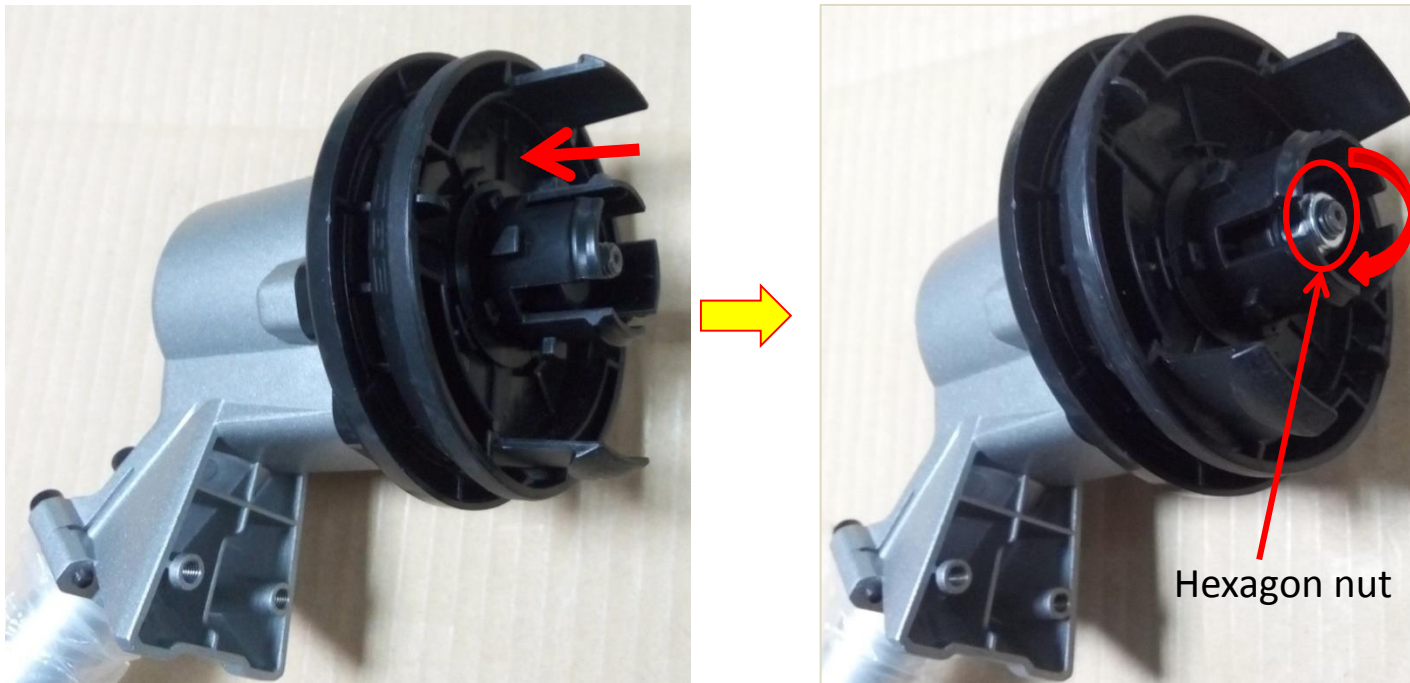
a) Position the flange into the trimmer head base;

NOTICE: the flat surface of the flange should be rested on the trimmer head base.



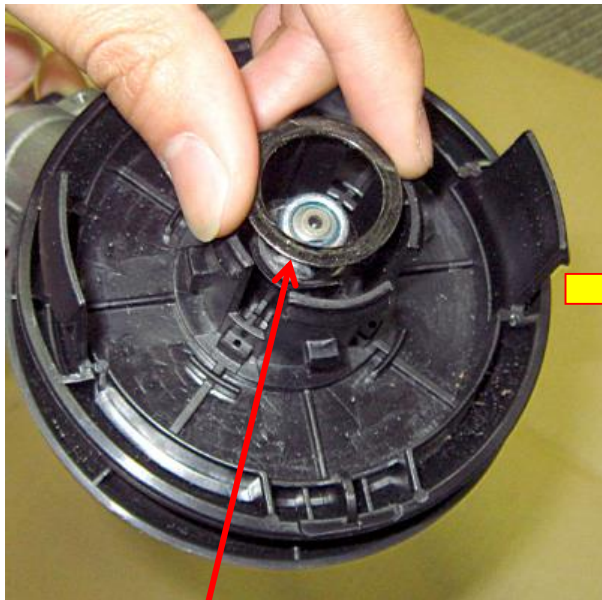
Replace the Motor

- b) Mount the trimmer head base together with the flange onto the motor shaft, lock the base with the hexagon nut.



Replace the Motor

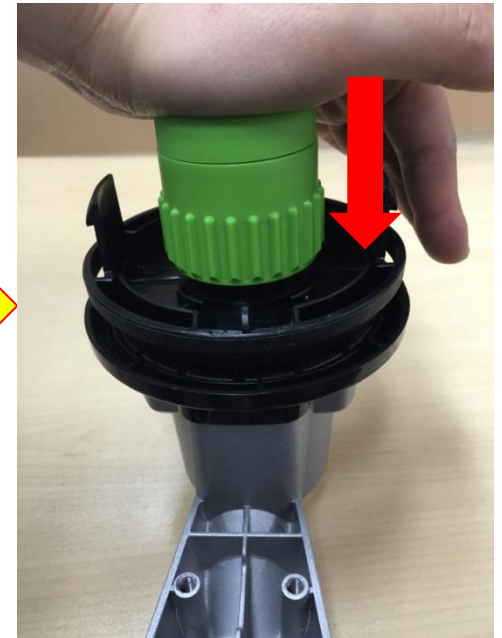
- c) Mount the washer into the trimmer head base.
- d) Align the ribs in the bump knob with the slots in the trimmer head base, fix the bump knob onto the base.
- e) Press the bump knob until it is fully slid in position and locked on the base.



Washer



Align the ribs with slots in the base



Replace the Motor

f) Put the spool in the spool retainer and mount the spool retainer to the trimmer head base.



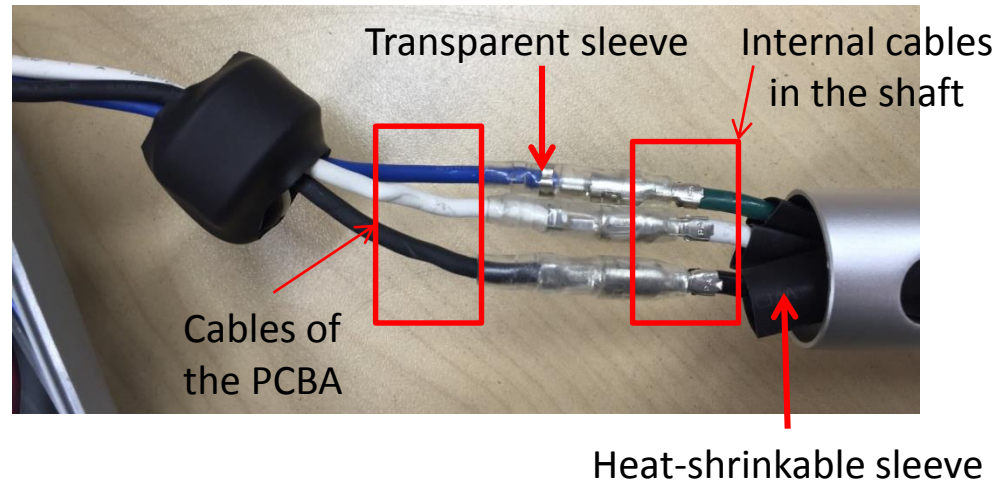
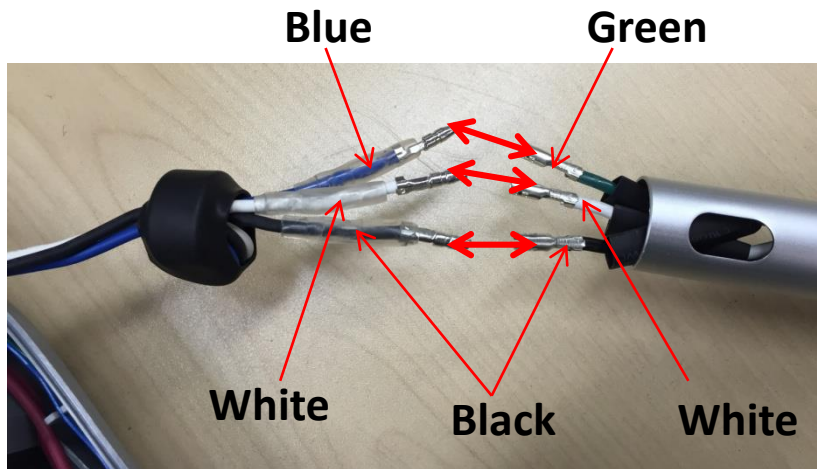
Replace the Motor

19. Assemble the connectors in the rear housing.

a) Plug the three connectors and make sure they are fully insert in place.

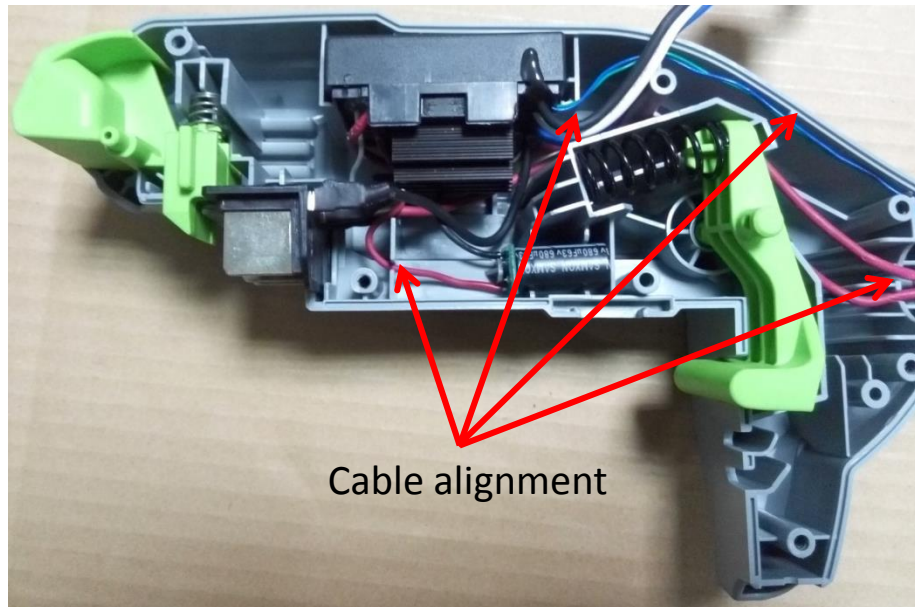
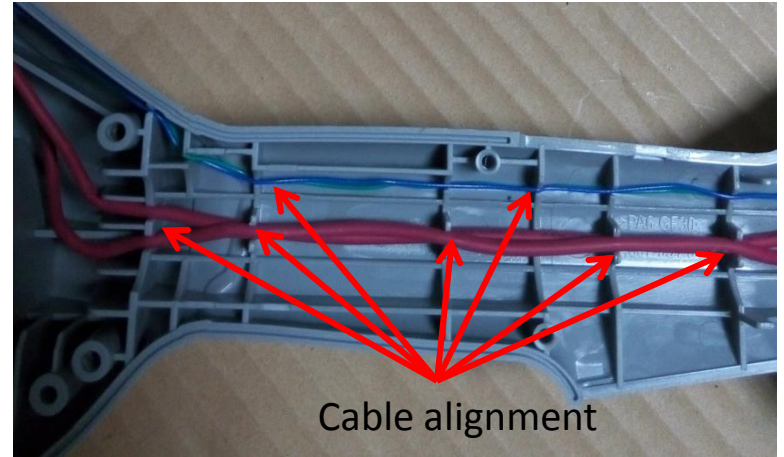
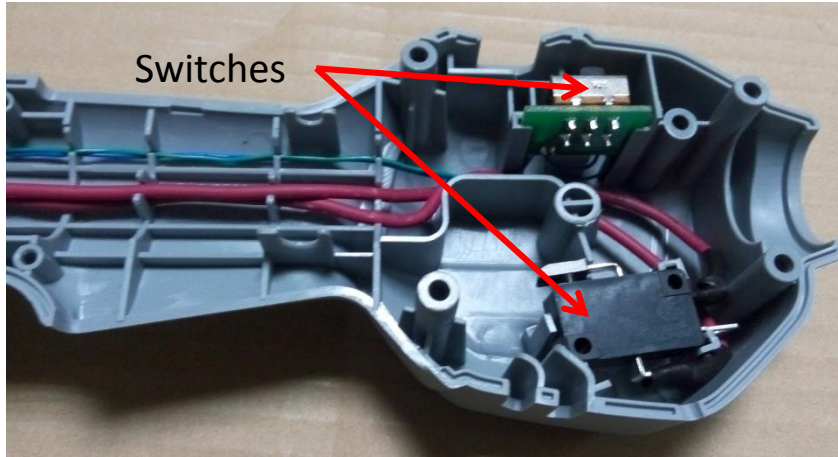
Correct connection: Black to black, white to white, green to blue.

b) Move the transparent sleeves and the heat-shrinkable sleeves to cover the connectors and use a hot air gun to shrink the sleeves.



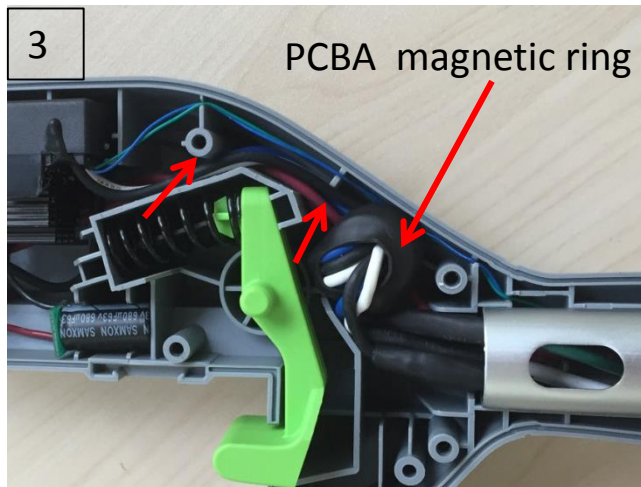
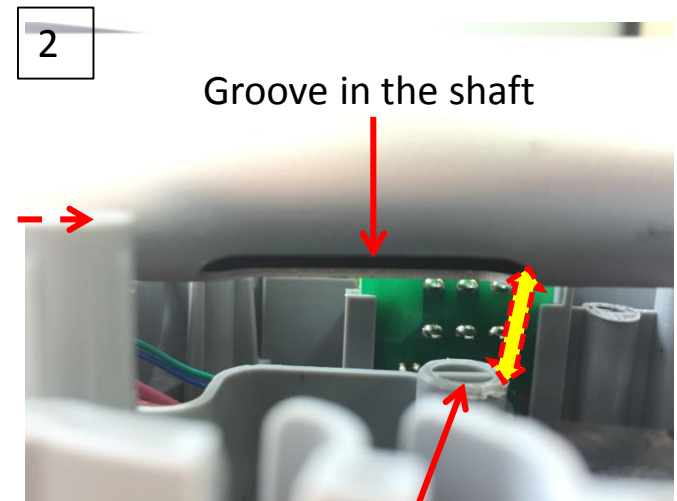
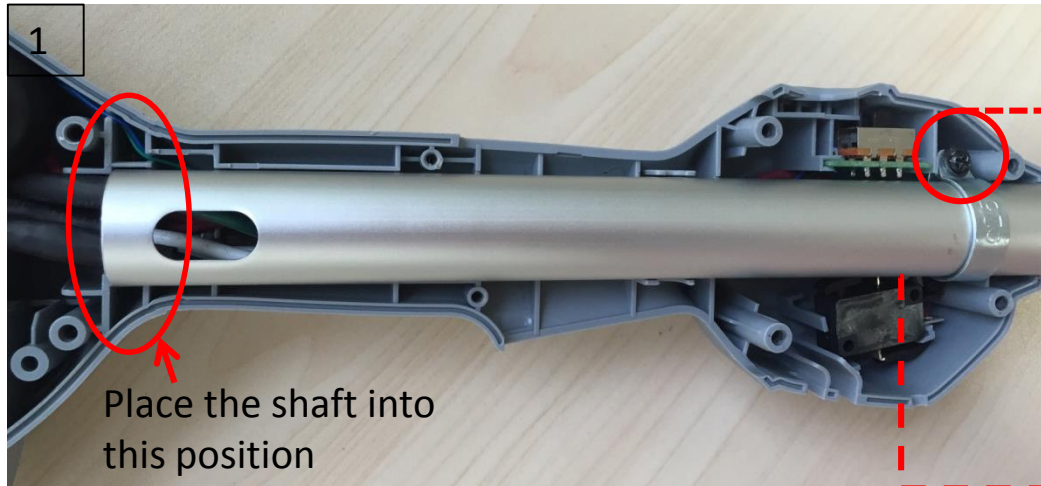
Replace the Motor

20. Fix the switches into the housing and align the cables in the grooves.



Replace the Motor

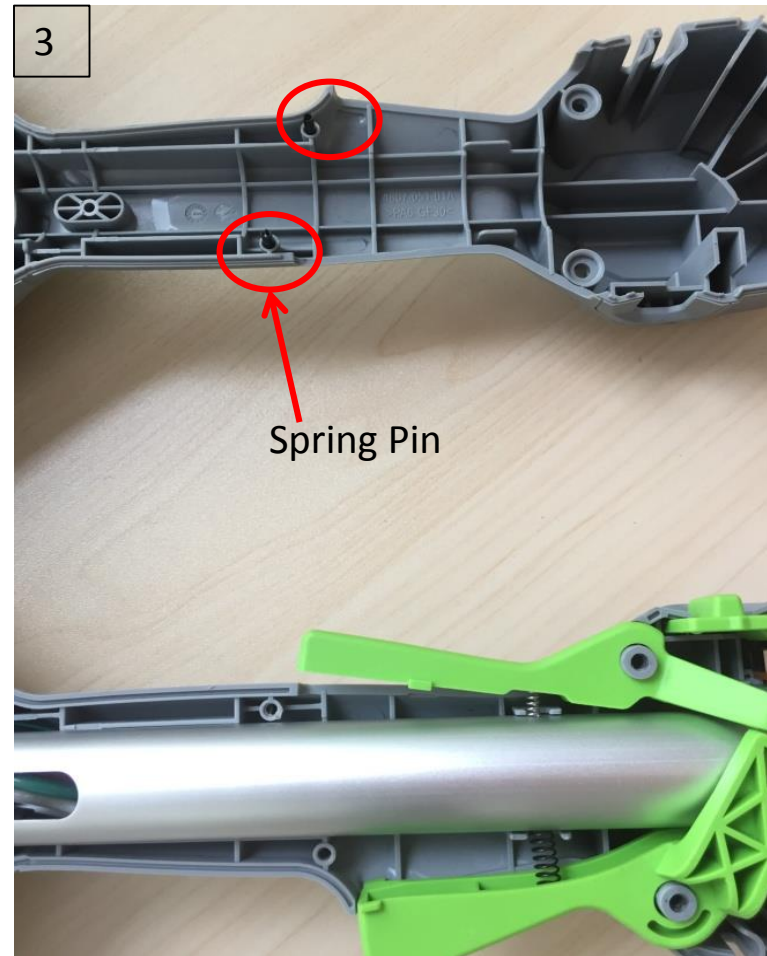
21. Align the locating pole on the left rear housing with the groove in the shaft(Fig. 2) so as to place the shaft into its position(Fig. 1). Lock the shaft by the fixed ring with tapping screw and plain washer.
22. Insert the PCBA magnetic ring into the groove(Fig. 3) .



Replace the Motor

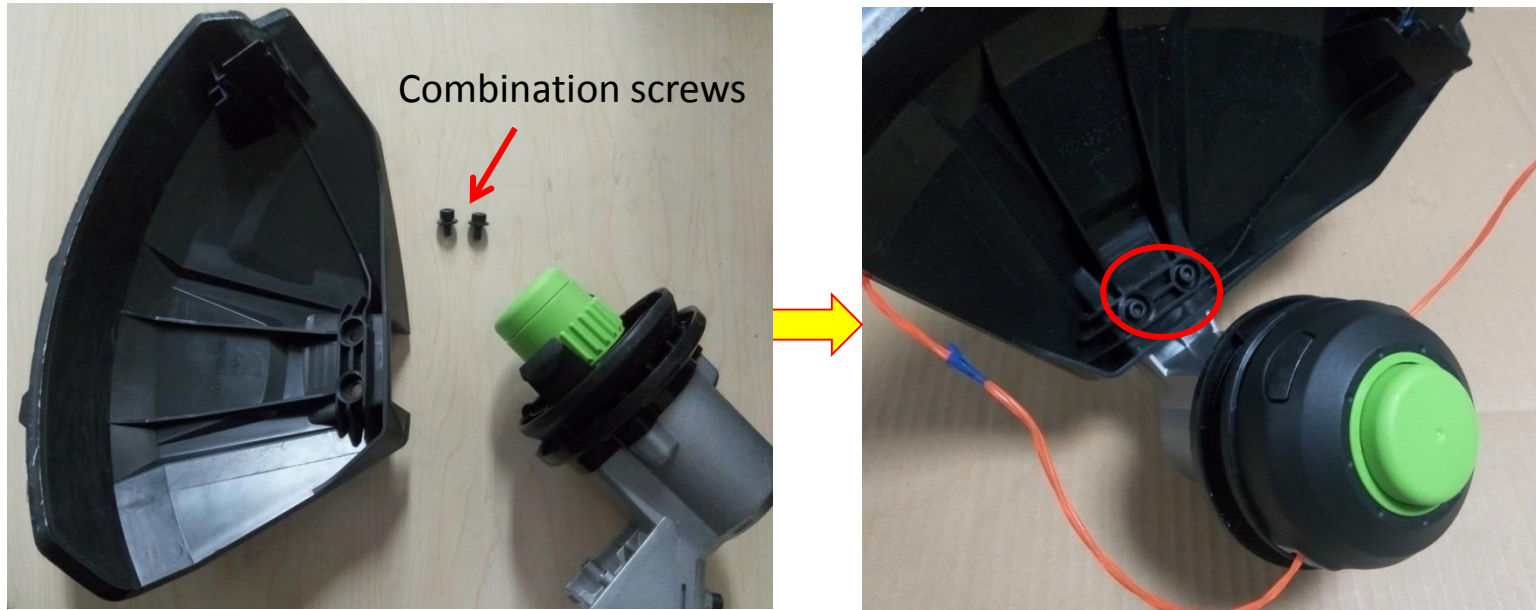
23. Close the rear housing, lock the housings with the eleven tapping screws.

NOTICE: Mind the two spring pins(Fig. 3). They are may be remained in the right housing. In case they drop during disassembling, insert them into the holes either in the right or the left housing.



Replace the Motor

24. Mount the guard assembly onto the shaft base and lock it with two combination screws.

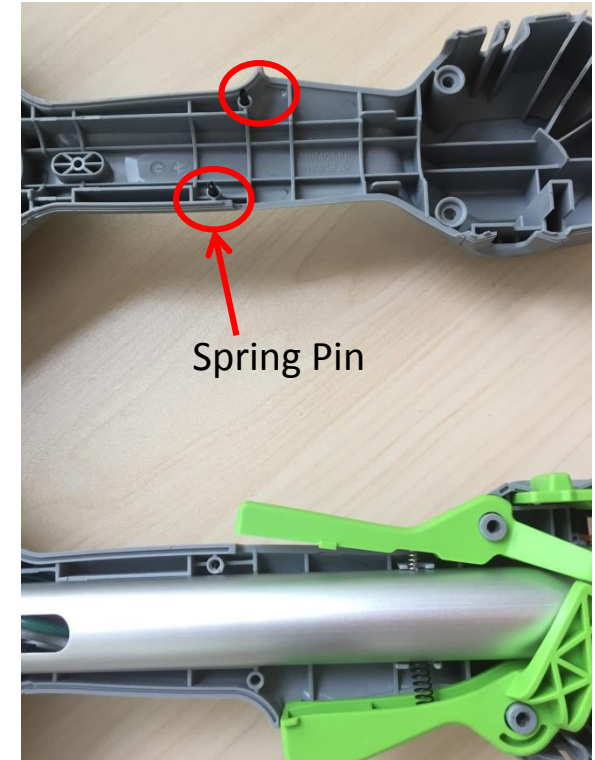
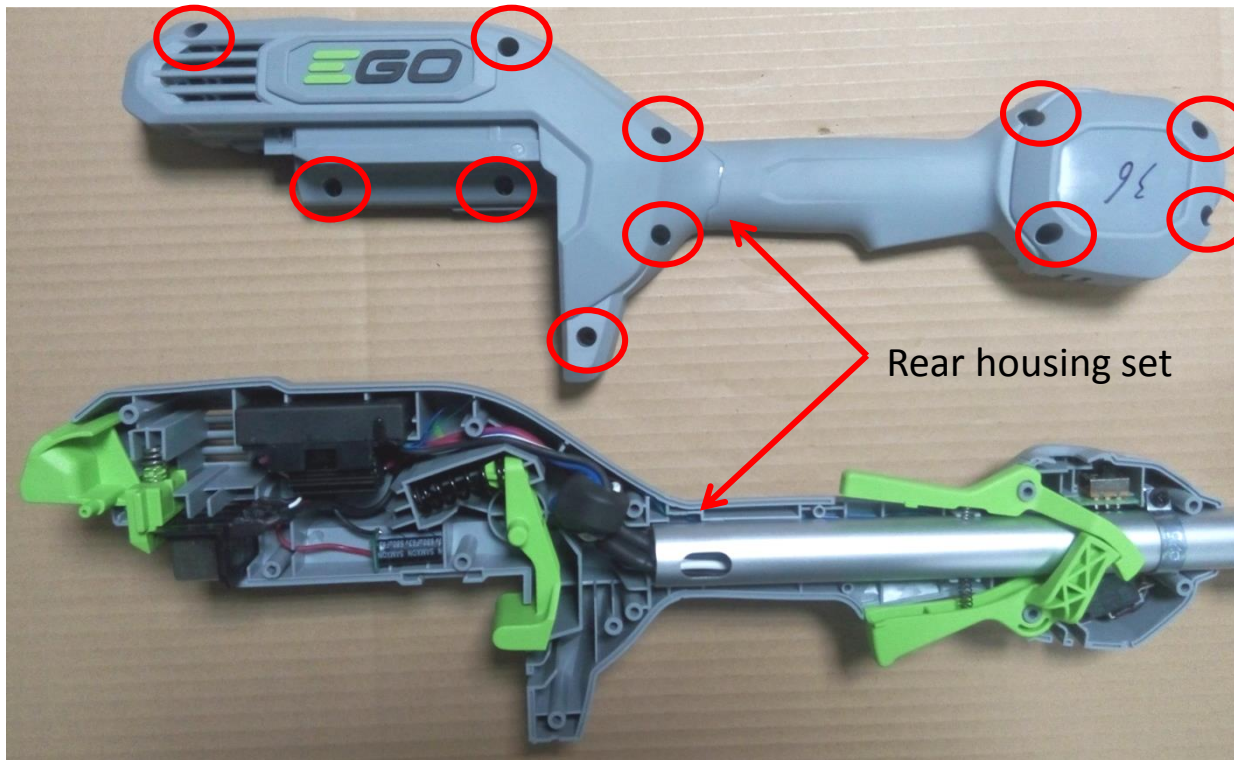


Part 2: Replace the PCBA

Replace the PCBA

1. Loosen the eleven screws in the rear housing set, open the housing.

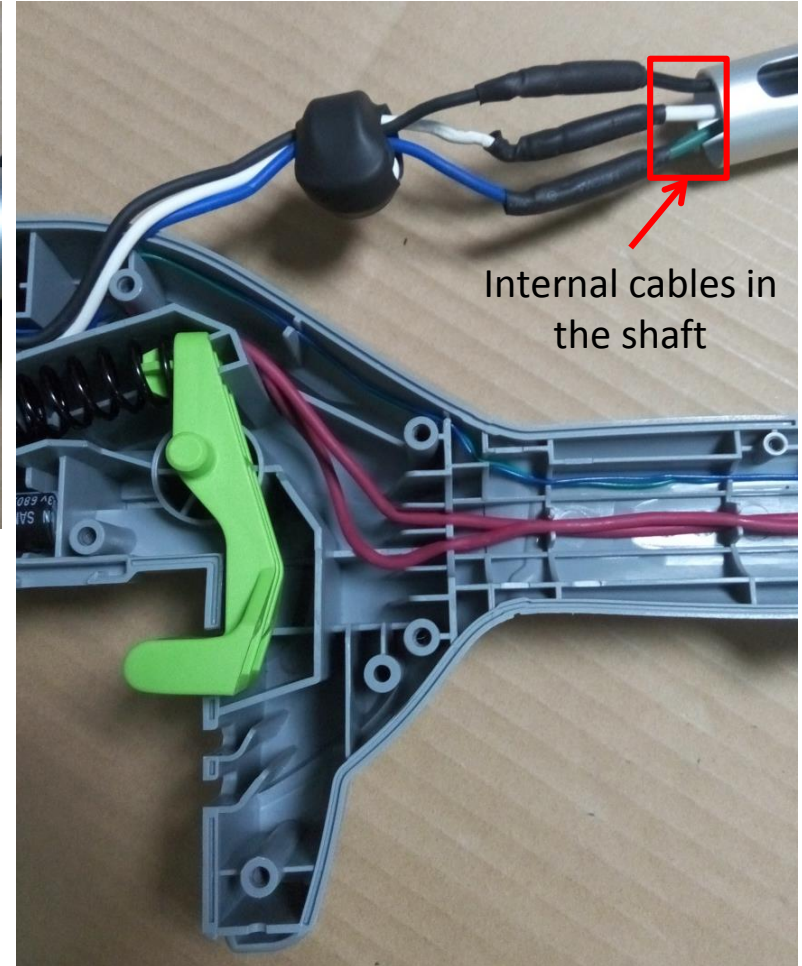
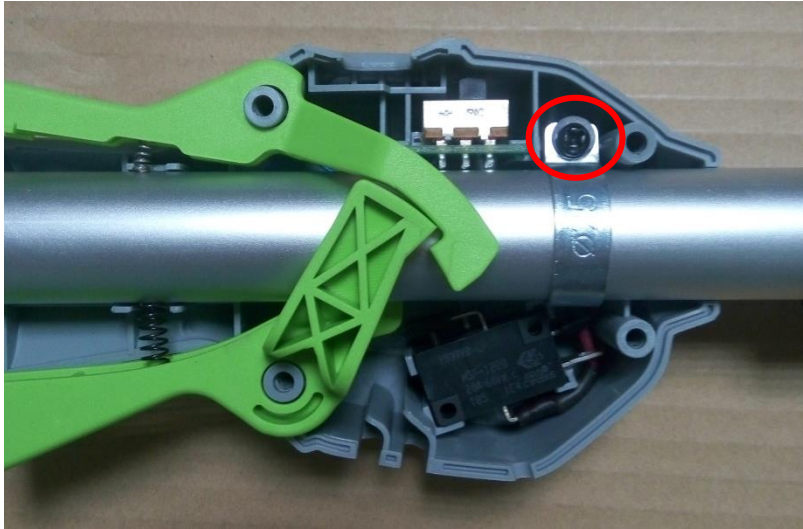
NOTICE: During opening, the two spring pins may be remained in the right housing. If the rear housing set need replacing, take down the pins and assemble them to the new housing.



Description	Part Number	Qty.
Tapping Screw	5610032004	11
Spring Pin	5670011001	2
Rear Housing Set	2824291001	1

Replace the PCBA

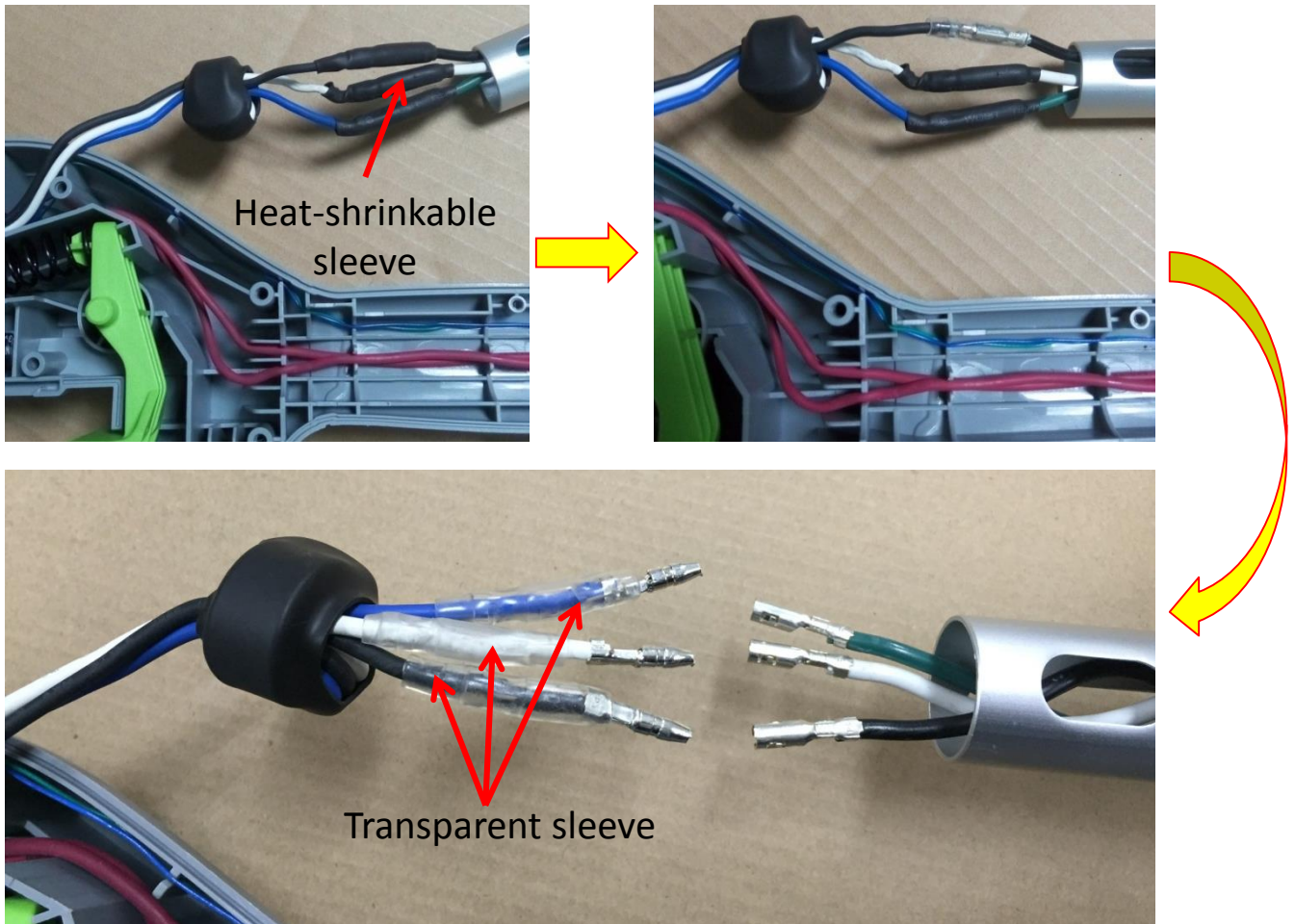
- Loosen the locking screw on the fixing ring, take out the shaft from the housings.



Description	Part Number	Qty.
Fixed Ring	3705178001	1
Plain Washer	5650005002	1
Tapping Screw	5610032004	1
Internal Cable Assembly	4860300002	1

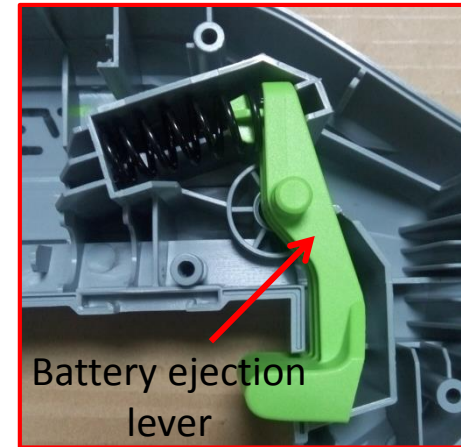
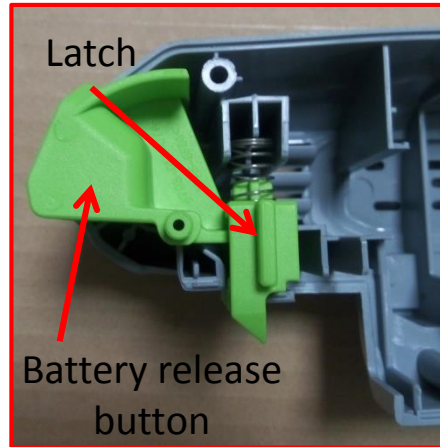
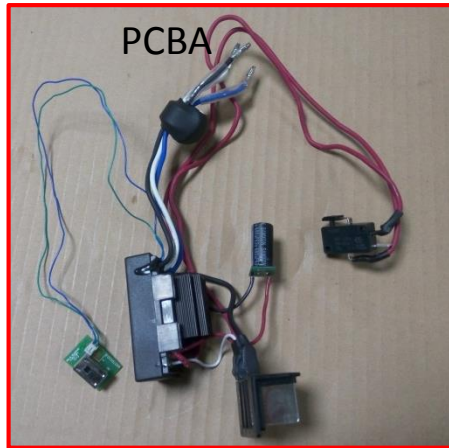
Replace the PCBA

3. Remove the heat-shrinkable sleeves from the connectors with a scissor.
4. Move the transparent sleeves aside, and pull the connectors to separate.



Replace the PCBA

5. Take out the PCBA from the housing. Replace it with a new PCBA.
6. The battery release button, latch, battery ejection lever, housings can be replaced if they are broken or worn.



Description	Part Number
PCBA	2830117001
Battery Release Button	3127201001
Latch	3127202001
Battery Ejection Lever	3127206001
Rear Housing Set	2824291001

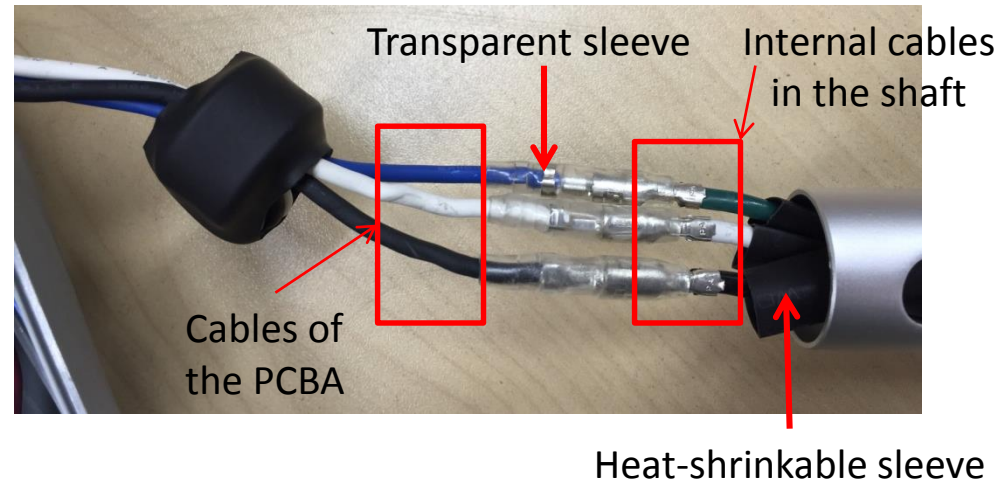
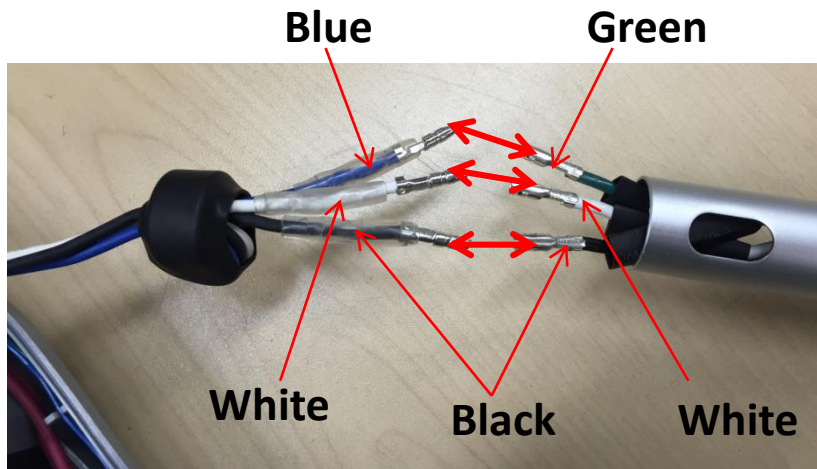
Replace the PCBA

7. Assemble the connectors in the rear housing.

a) Plug the three connectors and make sure they are fully insert in place.

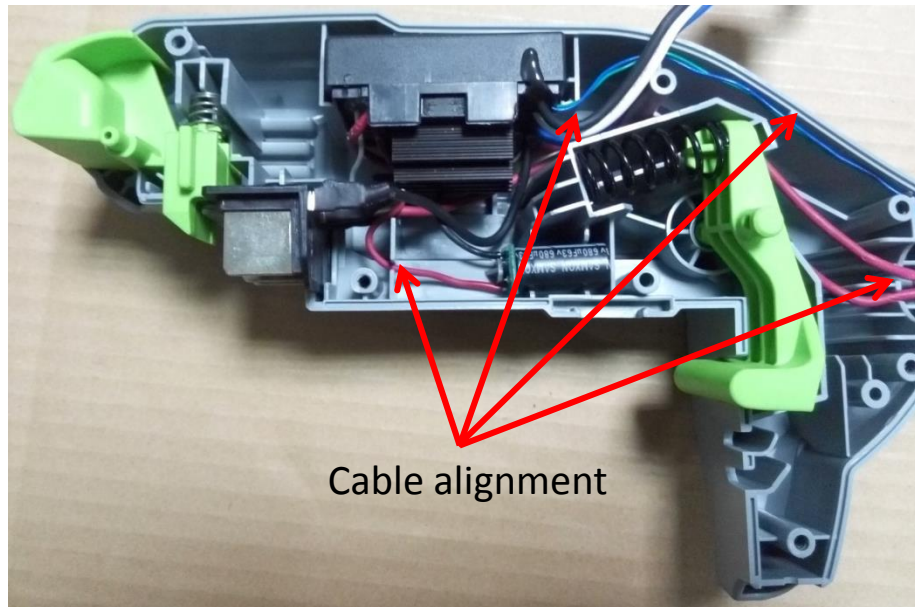
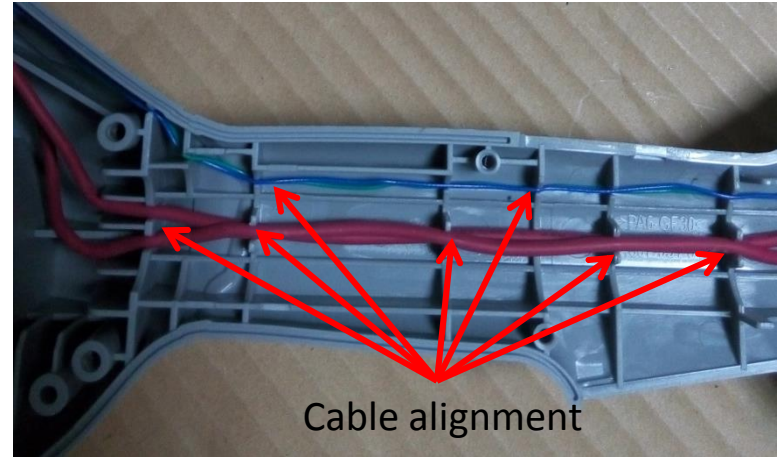
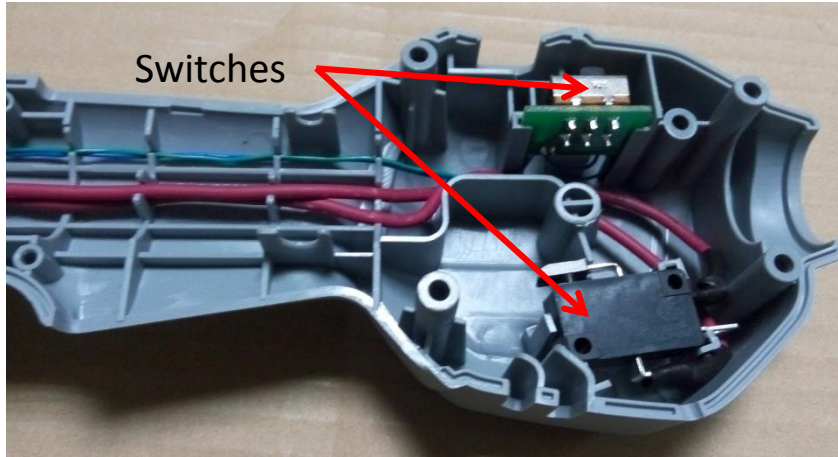
Correct connection: Black to black, white to white, green to blue.

b) Move the transparent sleeves and the heat-shrinkable sleeves to cover the connectors and use a hot air gun to shrink the sleeves.



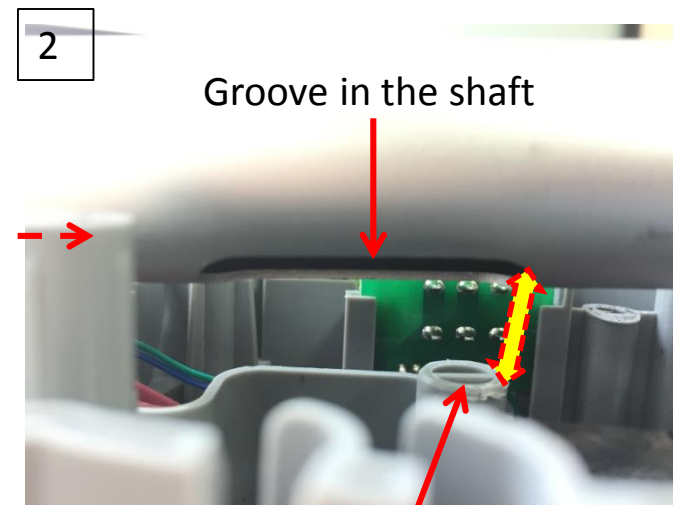
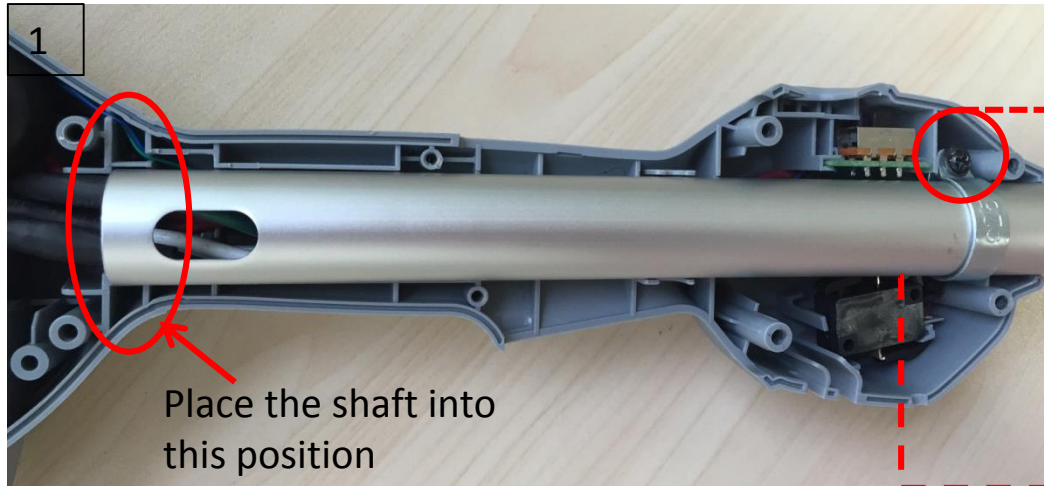
Replace the PCBA

8. Fix the switches into the housing and align the cables in the grooves.

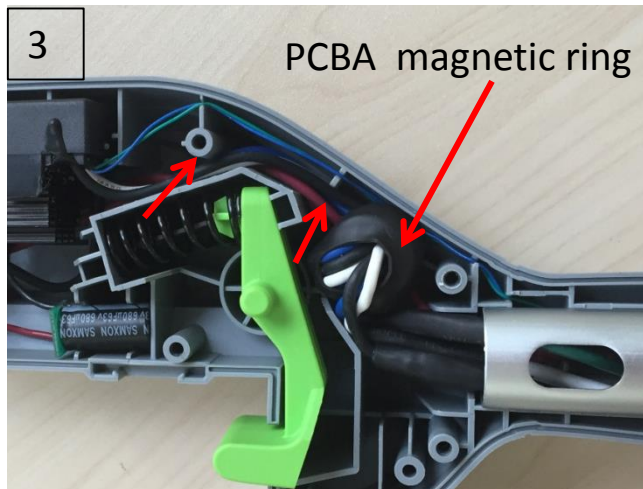


Replace the PCBA

- Align the locating pole on the left rear housing with the groove in the shaft(Fig. 2) so as to place the shaft into its position(Fig. 1). Lock the shaft by the fixed ring and the tapping screw..

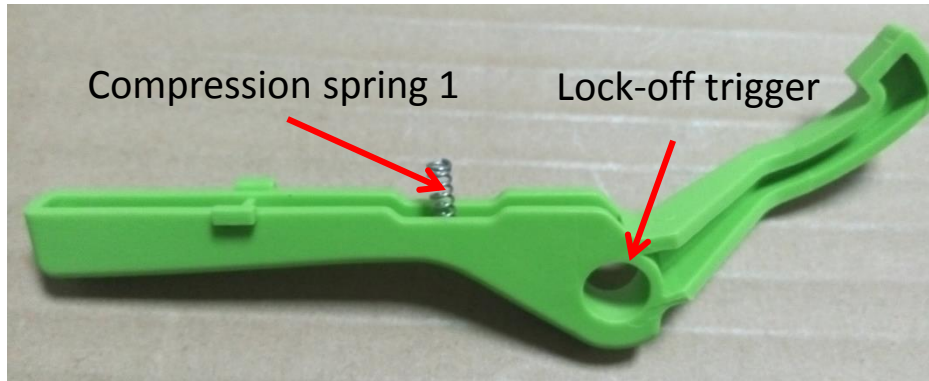


- Insert the PCBA magnetic ring into the groove(Fig. 3).



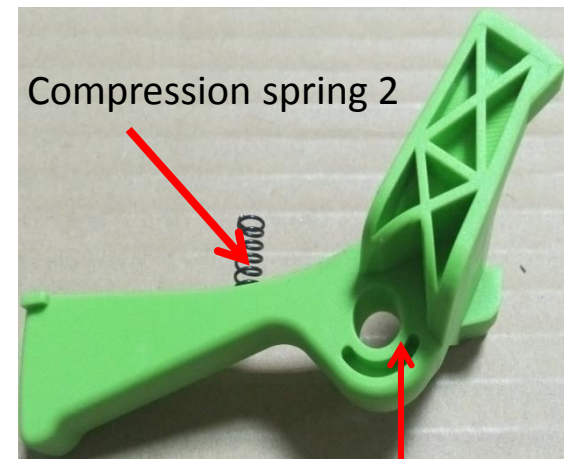
Replace the PCBA

11. Replace the lock-off trigger, switch trigger or speed adjustments switch if they are broken.



Speed adjustment switch

Description	Part Number	Qty.
Lock-off Trigger	3128088001	1
Compression Spring 1	3660453002	1
Compression spring 2	3660075001	1
Switch Trigger	3128086001	1
Speed Adjustment Switch	3128087001	1



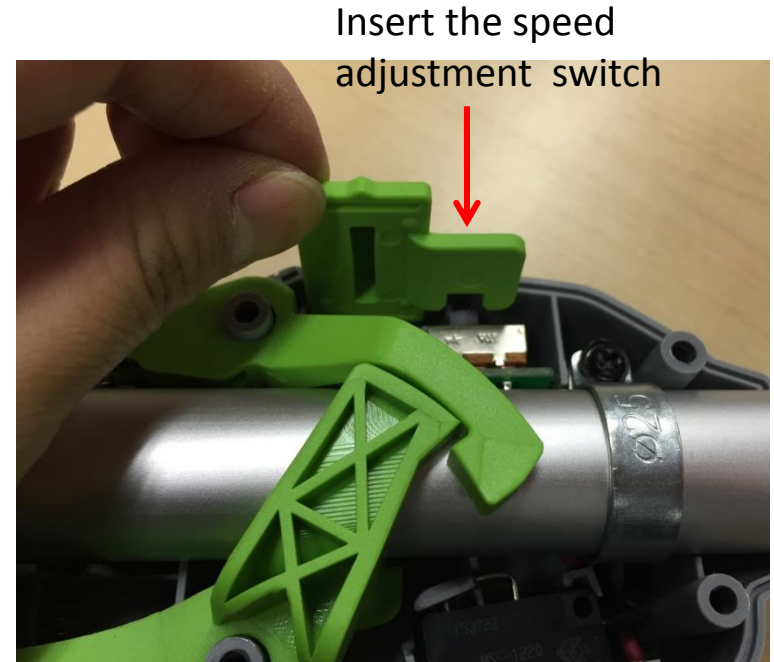
Switch trigger

Replace the PCBA

10. Mount the lock-off trigger and switch trigger into the handle housing by aligning their fixing holes with the fixing poles in the handle. Make sure they are pushed into place.
11. Insert the speed adjustment switch into the handle housing slot as shown.
12. Position the shaft in the rear housing, lock it by the fixed ring with the tapping screw.



Align holes with fixing pole



Replace the PCBA

13. Close the rear housing, lock the housings with the eleven tapping screws.

NOTICE: Mind the two spring pins(Fig. 3). They are maybe remained in the right housing. In case they drop during disassembling, insert them into the holes either in the right or the left housing.

