

REPAIR GUIDELINE

Lawn Mower_LM2000E

EGO™
POWER BEYOND BELIEF.™



Version: 1

Date: 03/12/2015

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Troubleshooting

- **Following the following steps below to test the ON/OFF function before any other tests.**
 - 1) Fully extend the side rails and lock the two green clamps.
 - 2) Turn the handle and lock it into one of the operating positions.
 - 3) Insert a full charged battery pack, push the battery pack until you hear a “click”.
 - 4) Insert the safety key, press and hold the key.
 - 5) With the safety key depressed, pull the bail switch upward to the handle and release the safety key to start the mower.

Troubleshooting

Problem	Possible Cause	Fault Position	Indicator/ Headlight Display			Test & Solution
			LED on battery pack	Power indicator on mower	Headlight	
Fail to start	The side rails are not fully extended and locked by the green clamps	Side Rails	GREEN	OFF	Can be turned on	Fully extend the side rails and lock the clamps, then test again.
	3-pin plug disconnection from PCB	PCBA				Open the housing cover, check the 3-pin plug.
	Disconnection of the limit switch (micro switch in the side rail)	Limit Switch				Open the right beam housing, check the micro switch.
	The battery pack was not pressed in place	Battery Compartment	OFF	OFF	Can't be turned on	Press until the battery pack snaps into the compartment.
	Disconnection of the terminals that connect the battery to main PCB	Terminals between battery and PCBA				Take out the battery compartment, check the three terminals. If loosed, remove the terminals, clamp them, then plug them onto the contacts.

Troubleshooting

Problem	Possible Cause	Fault Position	Indicator/ Headlight Display			Test & Solution
			LED on battery pack	Power indicator on mower	Headlight	
Fail to start	The main switch in the switch box cover doesn't work. Or the switch actuator slides to the underside of the switch	Switch Box Covers	OFF	OFF	Can be turned on	Pull the switch lever, if there is no activating sound of the switch, means the switch actuator had slide to the underside of the switch. Open the switch box cover, check the main switch and switch actuator; replace the switch box covers and re-install if the switch actuator slides to the underside of the switch.
	PCBA is broken	PCBA in the housing cover				Open the housing cover, replace the PCBA
	The position switch doesn't work	Position Switch				Open the housing cover, check the position switch and replace if damaged.
	Fuse is broken	Fuse in the housing cover	OFF	OFF	Can't be turned on	Open the battery compartment and replace the fuse.

Troubleshooting

Problem	Possible Cause	Fault Position	Indicator/ Headlight Display			Test & Solution
			LED on battery pack	Power indicator on mower	Headlight	
Tool Displays Overload Failure	Main PCB damaged (Hall component is broken on PCB)	PCBA	GREEN	Blinking in orange	Can be turned on	Open the housing cover, replace the PCB Assembly.
	Magnet ring damaged	PCBA				Open the housing cover, replace the motor Assembly.
	Motor is blocked	Motor				Remove the battery pack from the mower, turn over the mower on its side, turn the blade with hand to verify if the motor can be rotated freely. If blocked, open the housing cover and replace the motor Assembly.
	TVS on PCB is broken	PCBA	GREEN	Green or blink in orange	Can be turned on	Open the two green clamps and retract the side rails; then turn on the mower following the standard steps to see if the motor can be started. If yes, stop the mower, remove the battery and replace the main PCB. If not, refer to the previous troubleshooting.

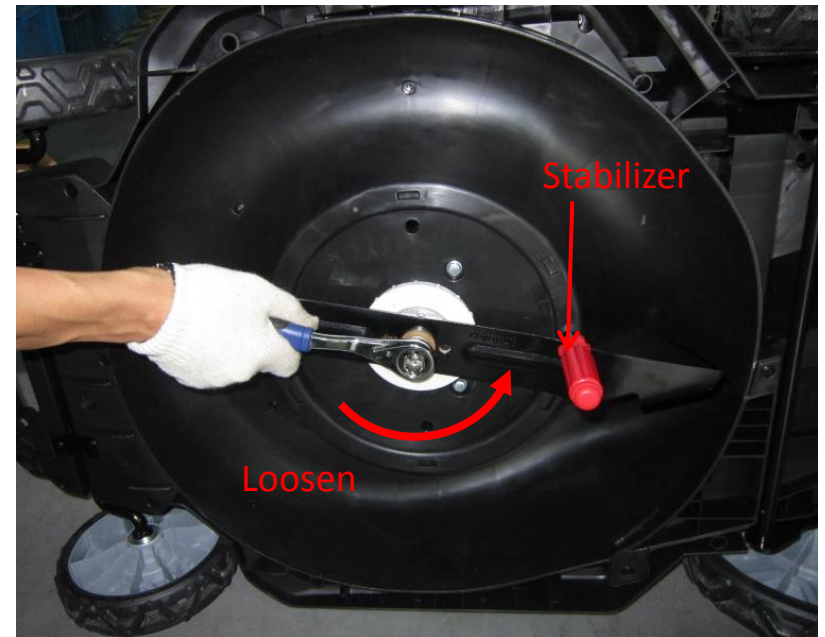
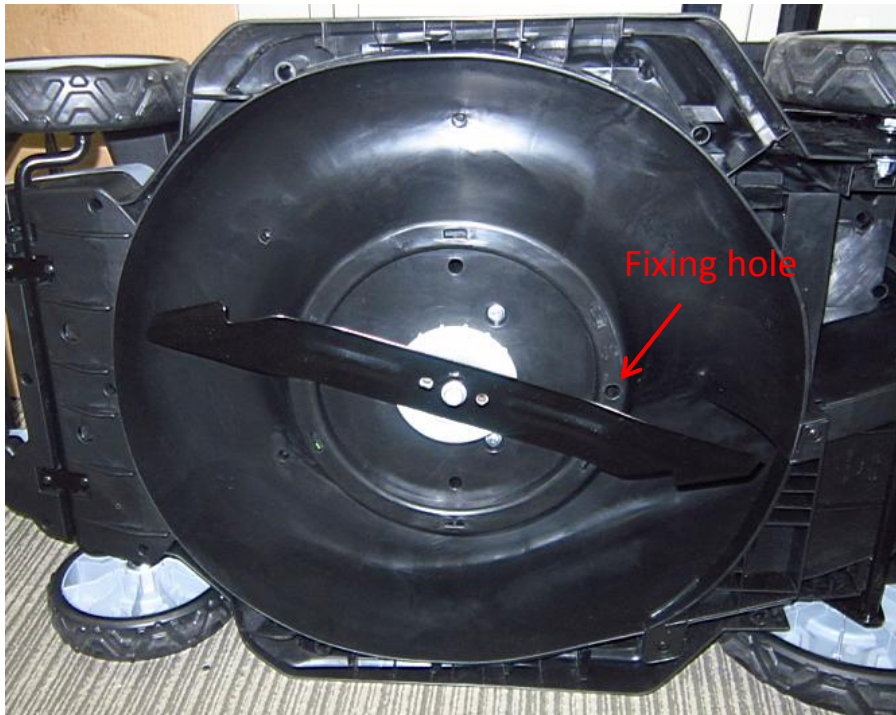
Tool List For Repair

NO.	Tool List	SPEC	Remark
1	Magnetic bits	#1 phillips	
		#2 phillips	Remove the deep screw in the deck
2	Socket	13mm	For front/rear wheel bolt
		14mm	For blade bolt
3	Flat head screwdriver	head width: 3mm	Loosen/tighten the terminal screws for motor cables
4	Torque Wrench	14mm	Tighten the blade bolt.
5	Metal rod or manual screwdriver		Act as a stabilizer when disassembling the blade.
6	Electric Soldering Iron		
7	Steel cable		Remove or assemble the big spring
8	Heat shrinkable sleeves		
9	Diagonal Pliers		
10	Scissors		To remove the shrinkable sleeve

PART 1: BLADE REMOVAL & INSTALLATION

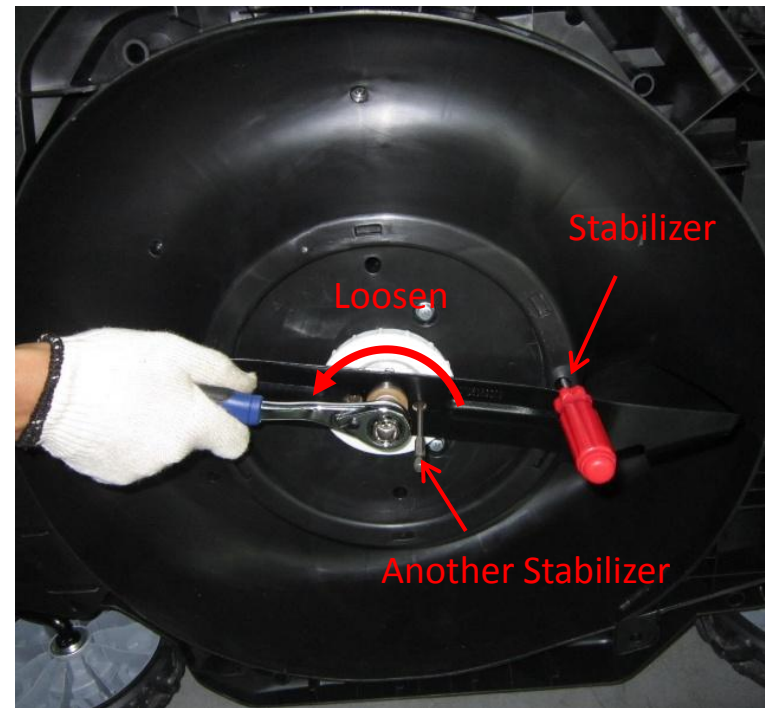
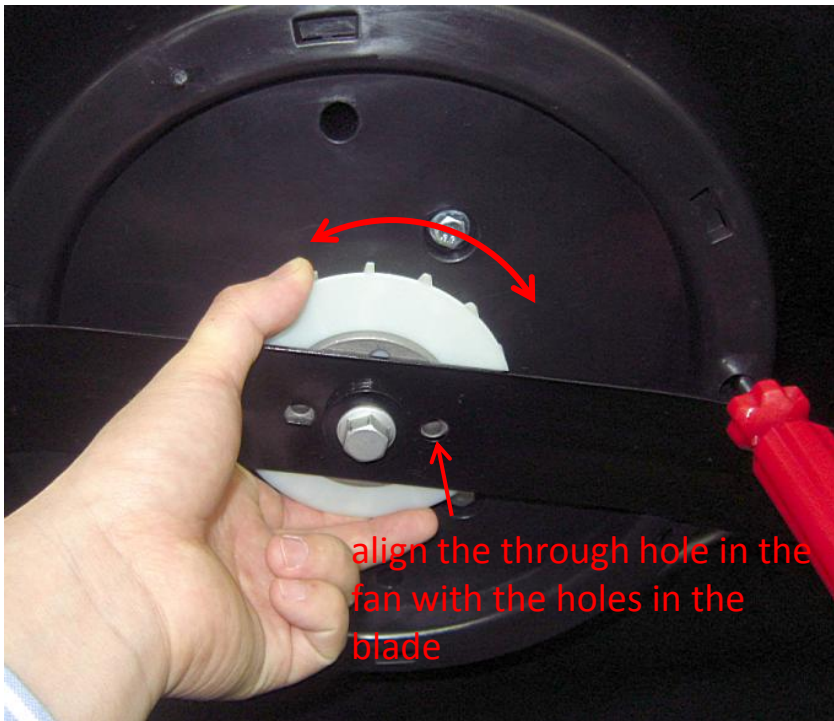
Blade Removal

1. Stop the motor and remove the safety key and battery pack from the mower.
2. Turn the mower on its side.
3. While wearing protective gloves, place a metal rod (e.g., a manual screwdriver) into the fixing hole to act as a stabilizer.
4. Use an adjustable or a 14mm wrench to turn the blade bolt counterclockwise to loosen it.



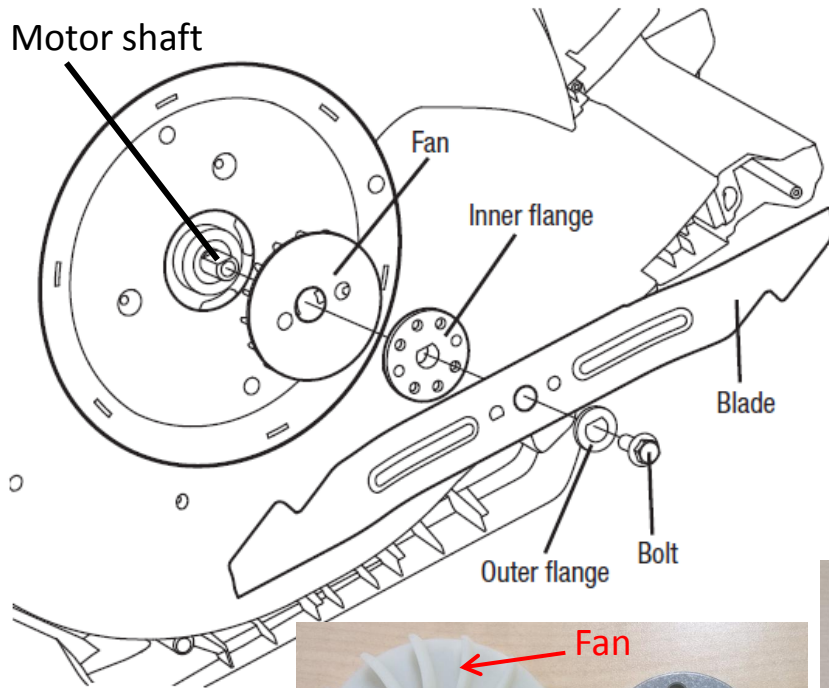
Blade Removal

5. If the bolt rotates with the motor shaft when loosening the bolt, turn the fan by hand to align the through holes in the fan with the holes in the blade, place another metal rod (e.g., a long bit) into the aligned holes to act as another stabilizer.
6. Then, continue using the 14mm wrench to turn the blade bolt counterclockwise to loosen it completely.

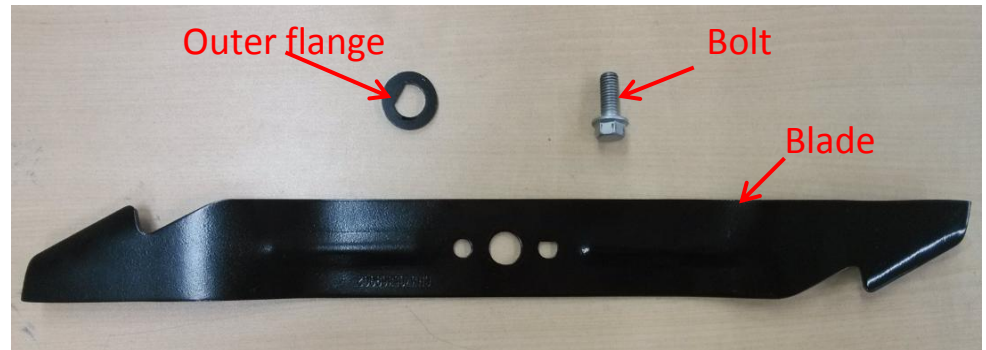
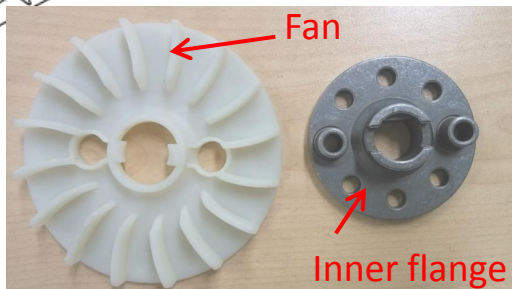


Blade Removal

7. Remove the bolt, the outer flange and the blade. Replace any parts of them if they are broken or worn.
8. Take off the inner flange and fan from the motor shaft if any parts of them are broken or worn.

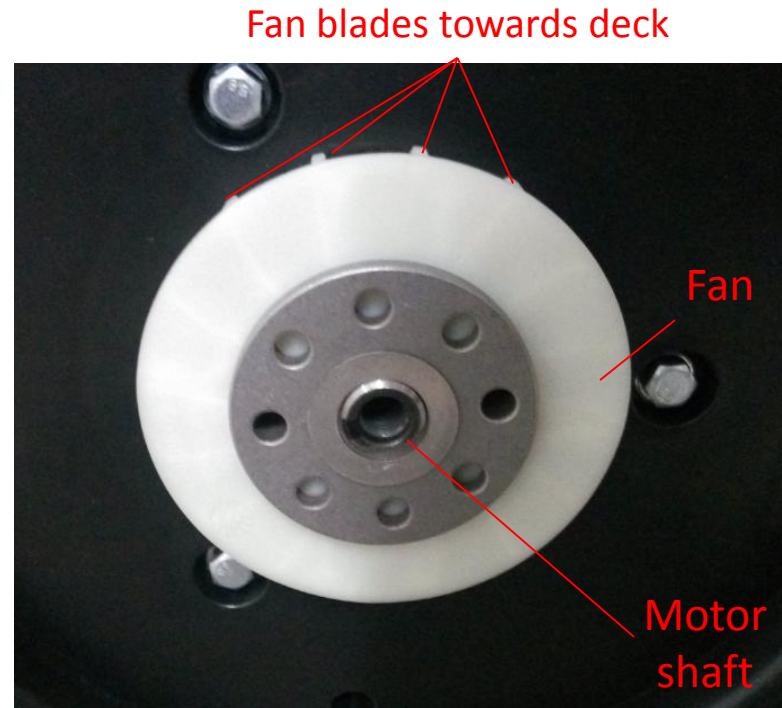
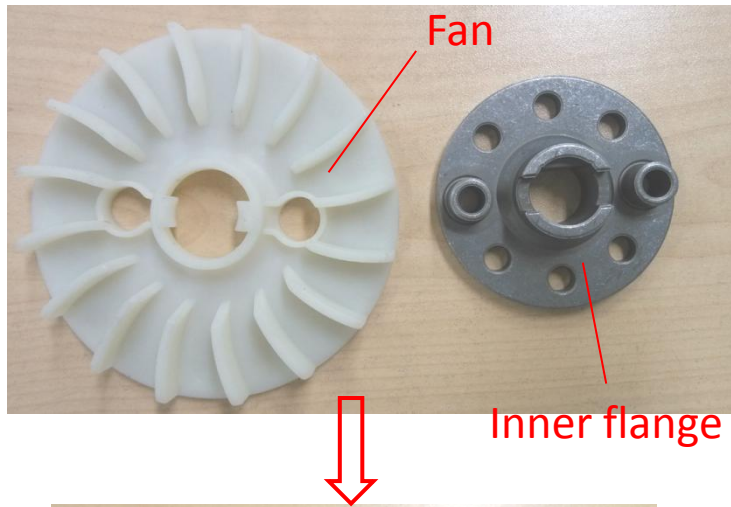


Description	Part Number	SPEC
Bolt	5640226000	---
Outer flange	5650510000	---
Blade	3705369000	---
Inner flange	3520852000	---
Fan	3127847000	---



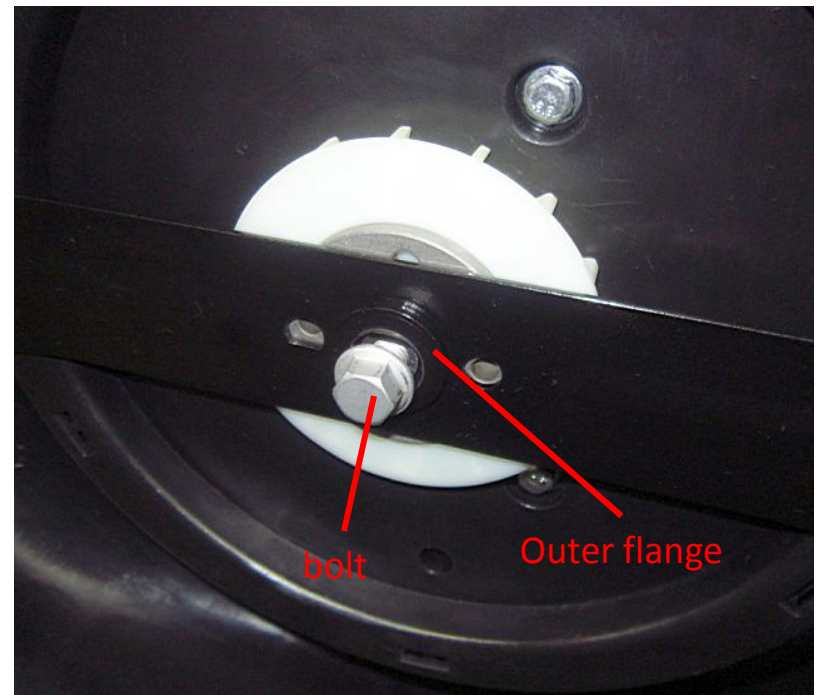
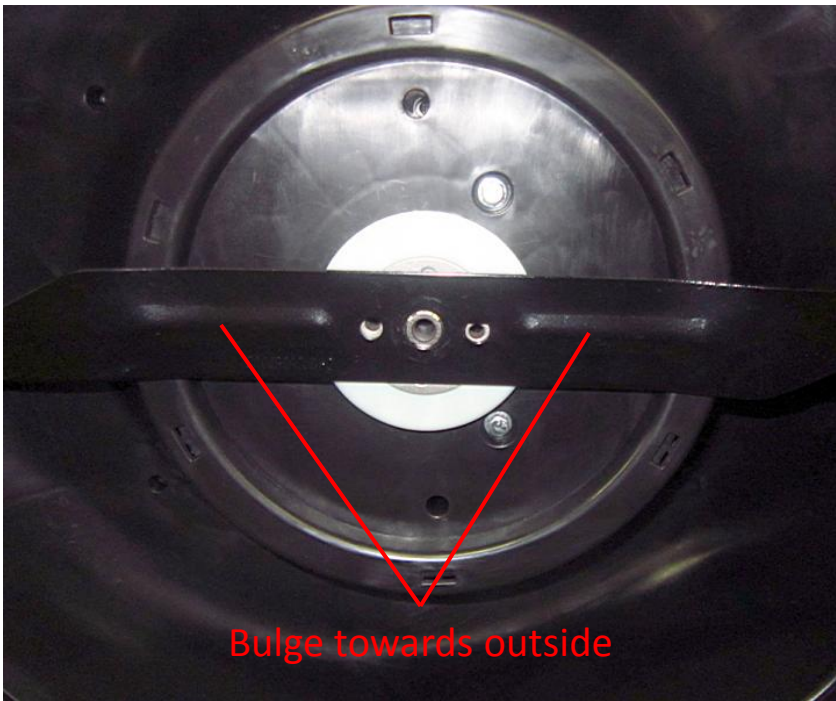
Blade Installation

1. Fix the inner flange into the fan.
2. Mount the fan and the inner flange onto the motor shaft with the fan blade towards the deck.



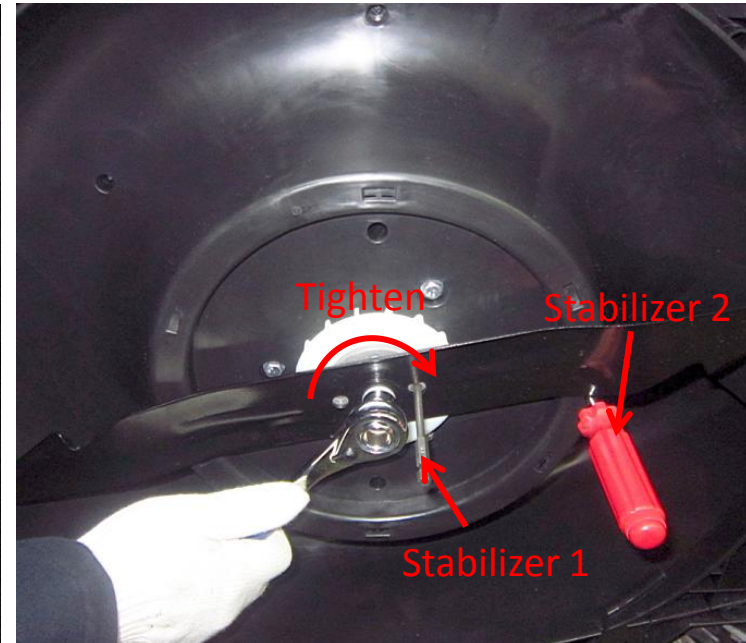
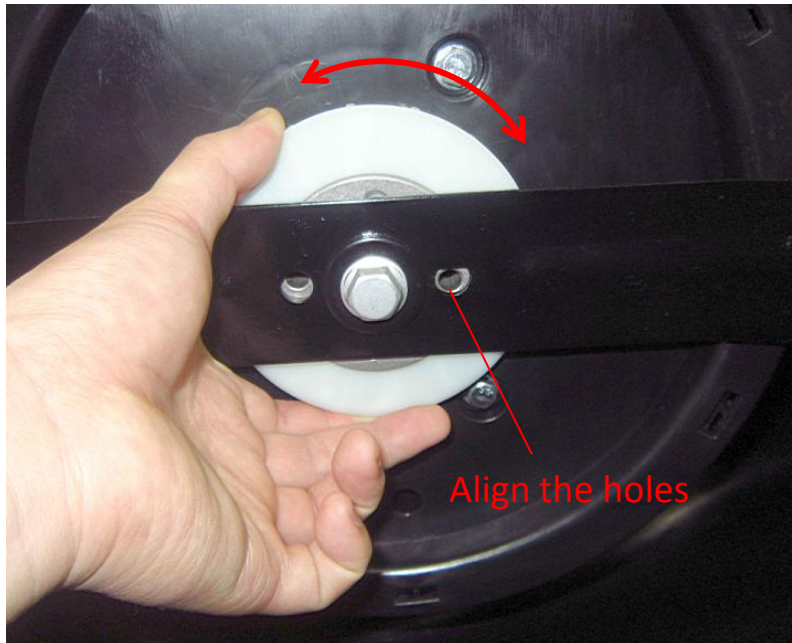
Blade Installation

3. Mount the blade onto the inner flange with the recess toward the mower.
4. Mount the outer flange to the motor shaft; Mount the bolt into the shaft and pre-tighten it clockwise by hand.



Blade Installation

5. Turn the fan by hand to align the holes in the blade with the through holes in the fan.
6. Place a metal rod (e.g., a long bit) into the aligned holes to act as a stabilizer. Place another metal rod (e.g., a manual screwdriver) into the fixing hole on the deck to act as another stabilizer.
7. Use a 14mm torque wrench to tighten the bolt clockwise. The recommended torque for the blade bolt is 49-59Nm.

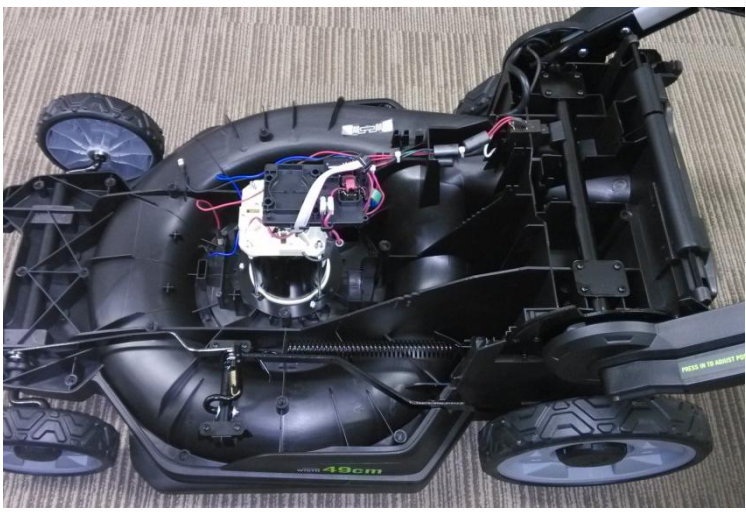


PART 2.1: HOUSING COVER ASSEMBLY

PART 2.1: Disassemble/Assemble the Housing Cover Assembly



Description	Part Number	SPEC
Housing Cover Assembly	2823666000	---



PART 2.1: Disassemble/Assemble the Housing Cover Assembly

The following parts can be replaced only when the housing cover is removed from the mower.

Description	Part Number	SPEC
DC Motor ASSY	2823675000	---
PCB Assembly	2830052000	
Rear Cover	3126689000	
Resistor	4970295000	
Handle Assembly	2824112000	
LED Light Assembly	2823665000	
Front Axle Set	2823957000	
Front Connecting Rod Set	2823773000	
Height Adjusting Bar ASSY	2823763000	
Rear Axle Set	2823956000	
Rear Connecting Rod Set	2823774000	
Position Switch	4870501000	

Housing Cover Assembly Replacement

Disassembly

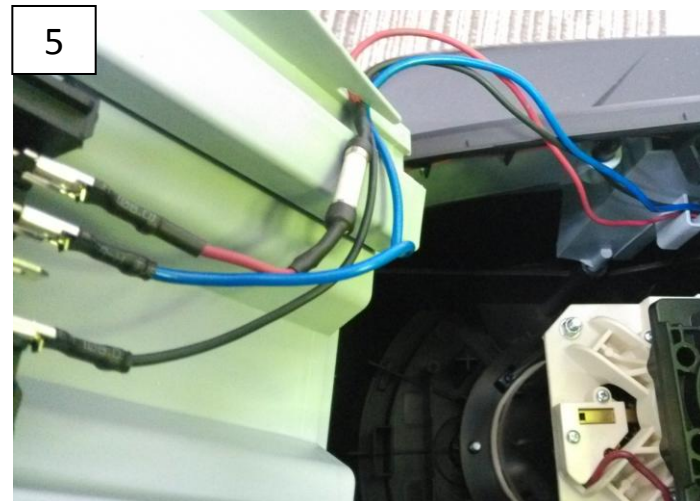
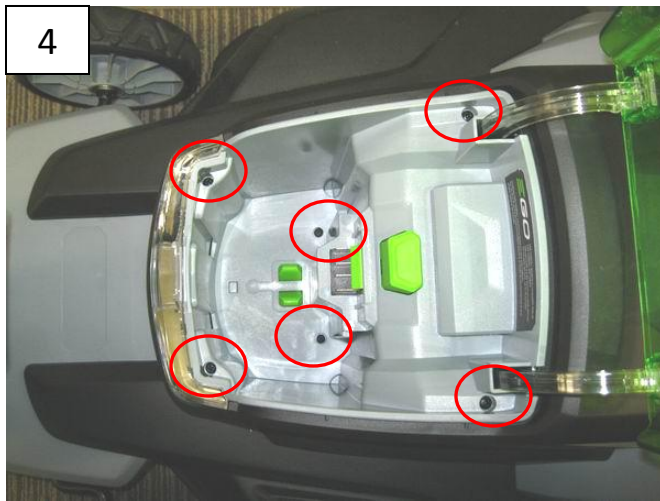
1. Move the height adjustment lever to setting 3 (Fig. 1); remove the two screws in the lever and pull the lever from the shaft (Fig. 2&3).



Description	Part Number	SPEC
Height adjustment lever (Including screws)	2823707000	---

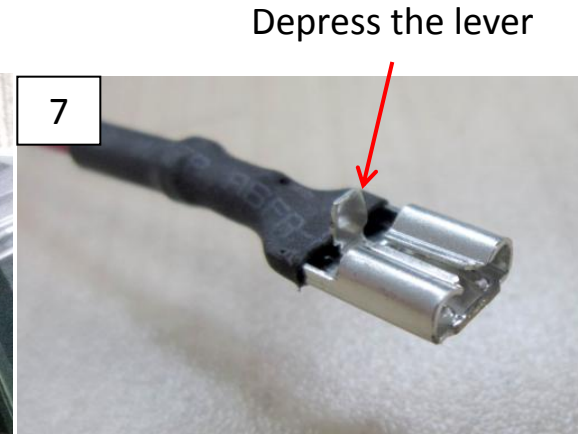
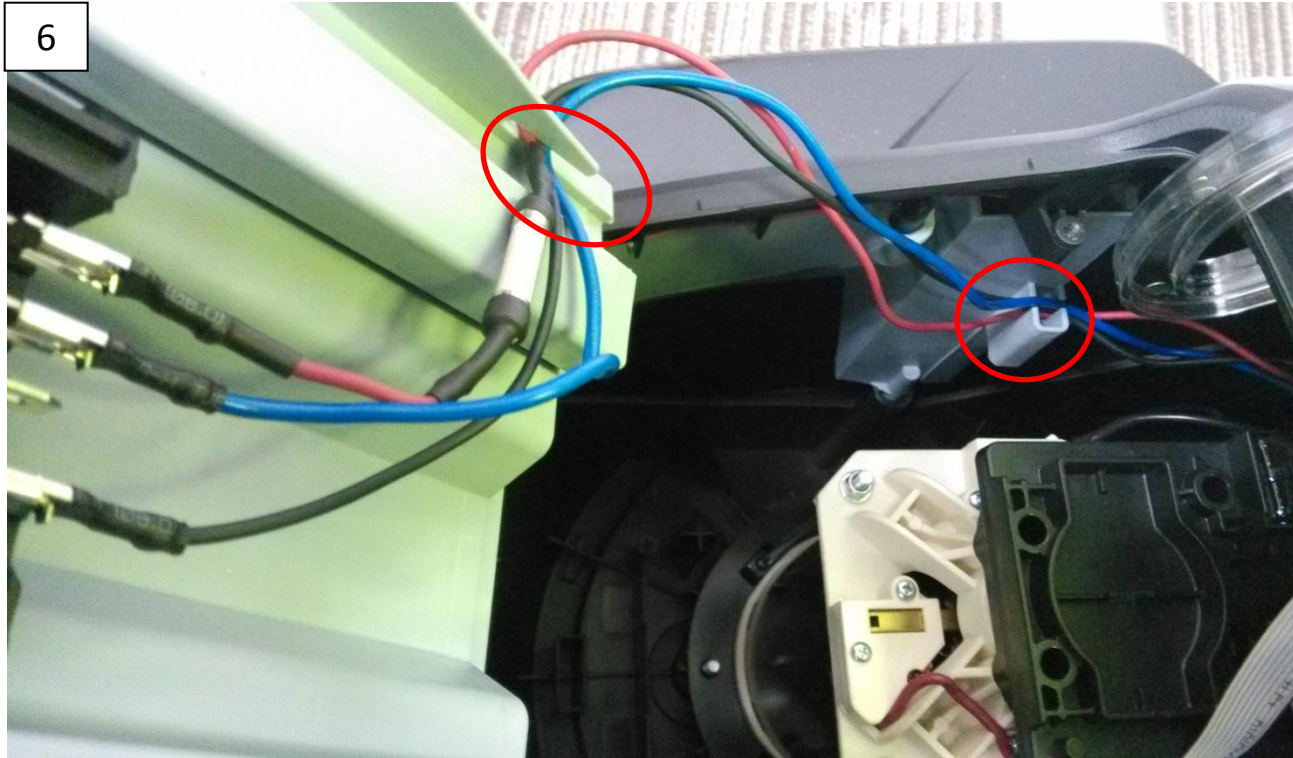
2. Remove the battery case

- a) Loosen and remove the six tapping screws (Fig. 4)
- b) Take out the battery compartment carefully from the mower (Fig. 5). Unclip the wires from mower housing (Fig. 6).
- c) Unplug the three connectors from the battery case by depressing the lever on the connector (Fig. 7).
- d) Take out the battery case from the housing cover assembly (Fig. 8).



Housing Cover Assembly Replacement

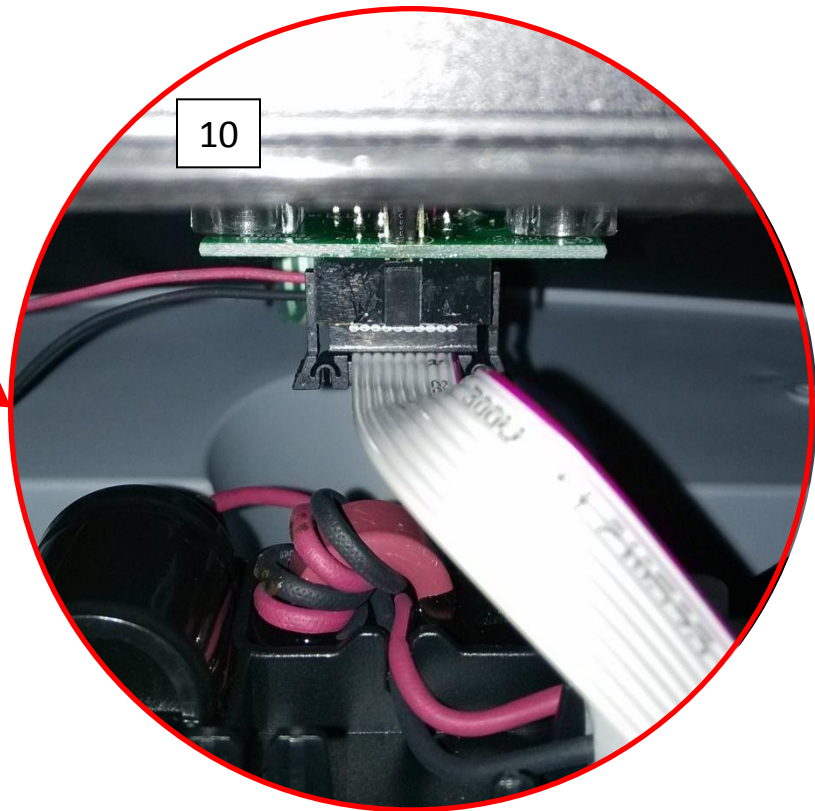
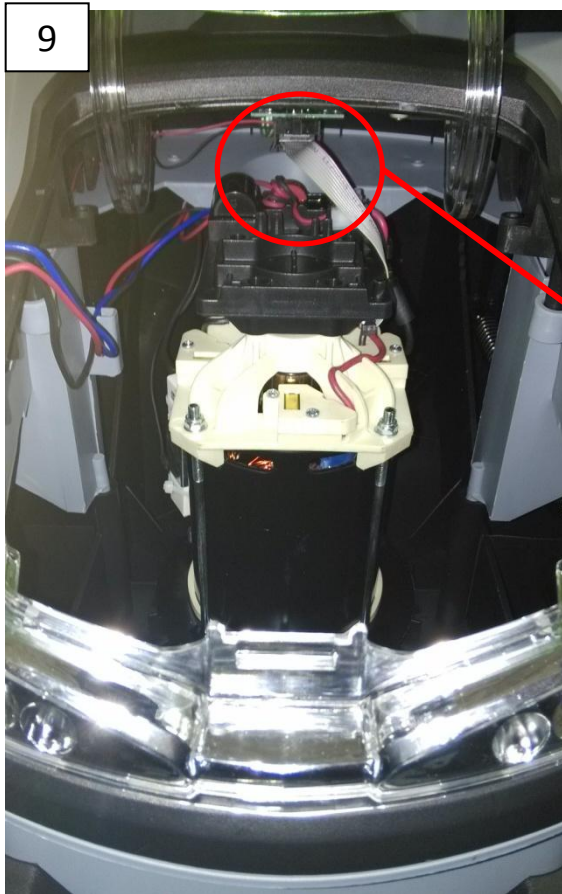
Disassembly



Description	Part Number	SPEC
Tapping Screw	5610042000	ST4.2x19-F-H
Battery Compartment Assembly	2823667000	---

3. Disconnect the flat flexible cable (FFC)

- a) The FFC and the plug is located at back of the power indicator, it can be unplugged from the opening of the battery compartment (Fig. 9).
- b) Press the sides of the connector and remove the plug from the socket (Fig. 10).



Housing Cover Assembly Replacement

Disassembly

4. Loosen and remove the screws

- a) Fold the handle (Fig. 11); Remove the 2 screws in the back of the mower housing (Fig. 12).



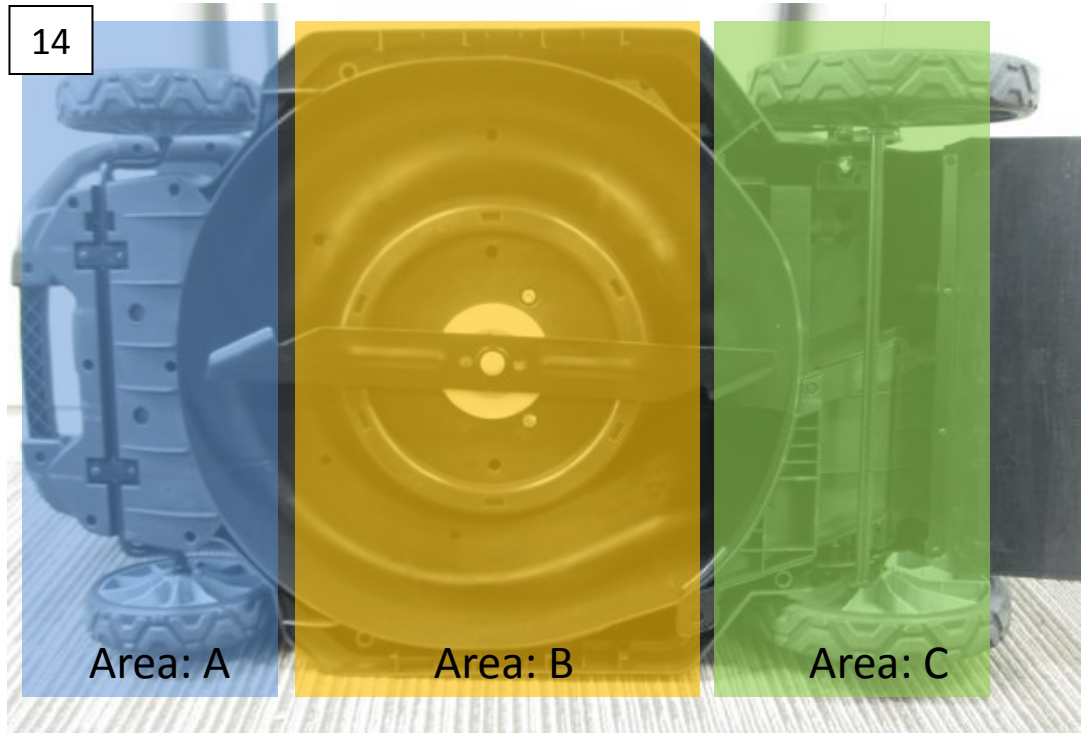
Description	Part Number	SPEC
Tapping Screw	5610042000	ST4.2x19-F-H

Housing Cover Assembly Replacement

Disassembly

4. Loosen and remove the screws

- b) Turn the mower on its side (Fig. 13).
- c) Remove the 22 screws (separated in the three areas in the mower deck (Fig.14)

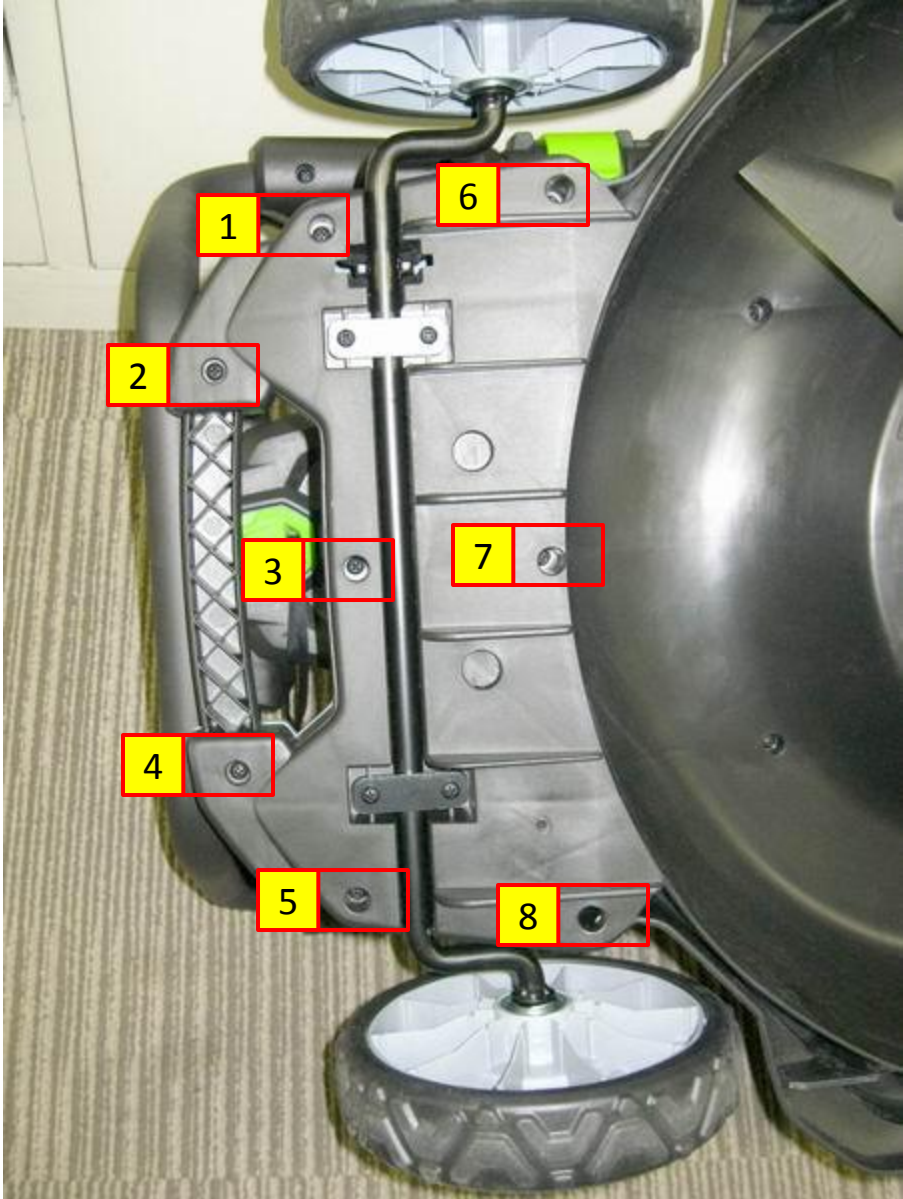


Description	Part Number	SPEC
Tapping Screw	5610042000	ST4.2x19-F-H

Housing Cover Assembly Replacement

Disassembly

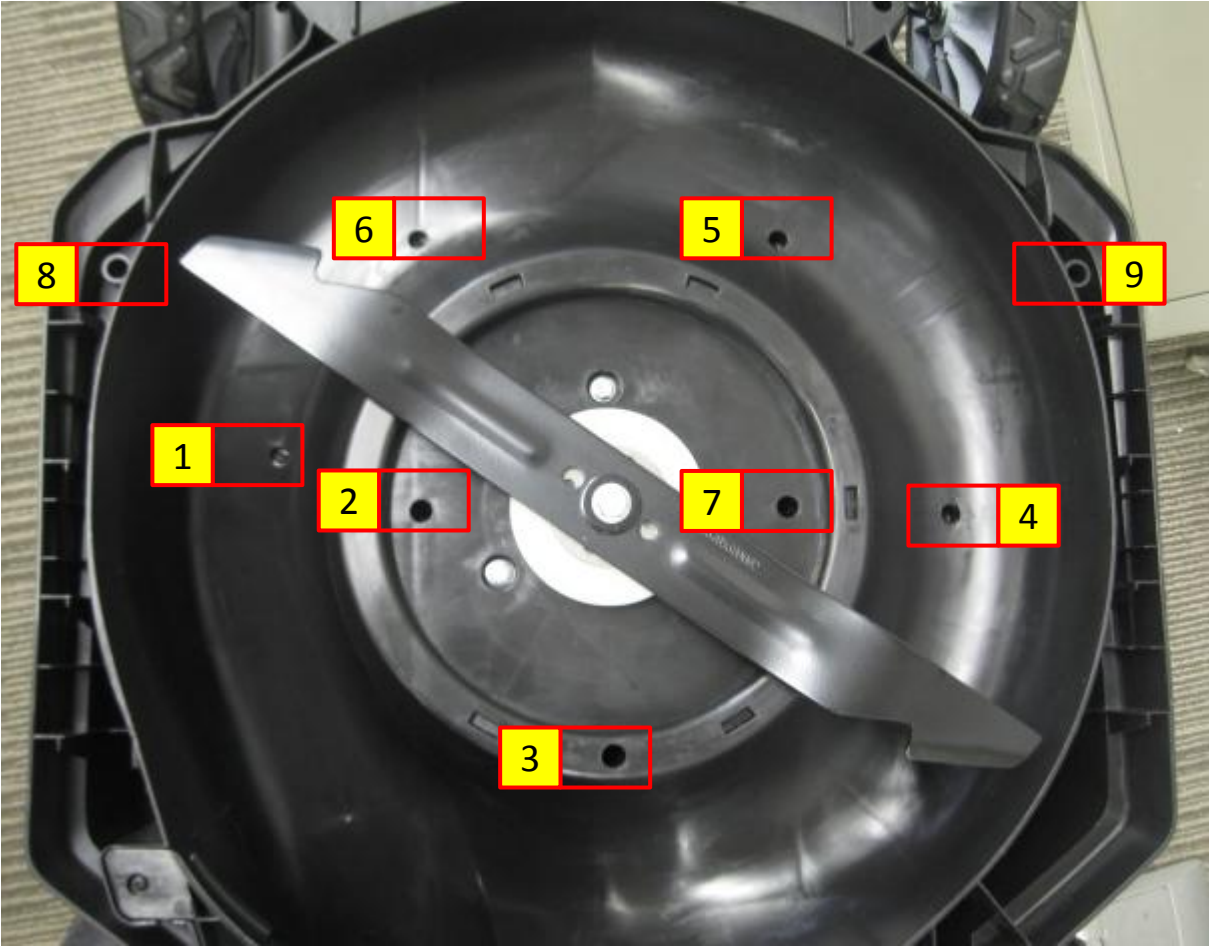
Screws in area A (8 pcs):



Housing Cover Assembly Replacement

Disassembly

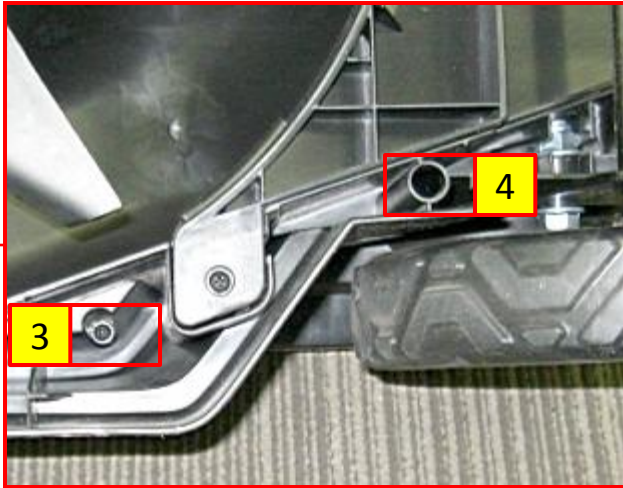
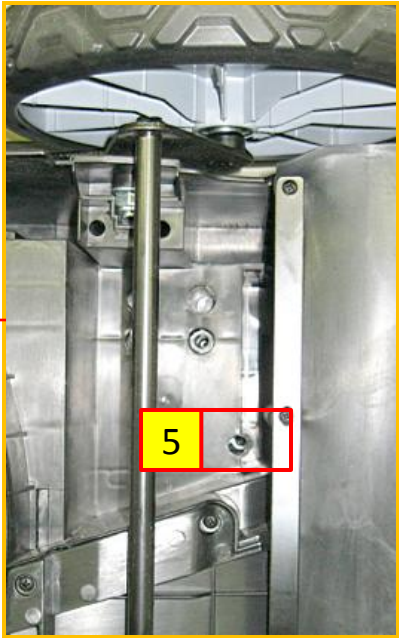
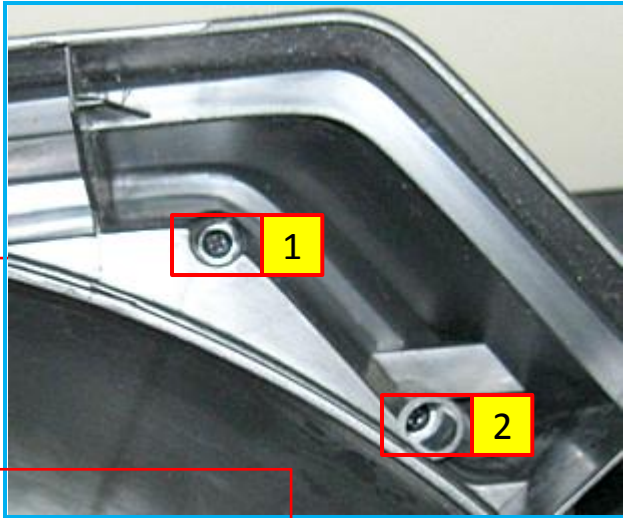
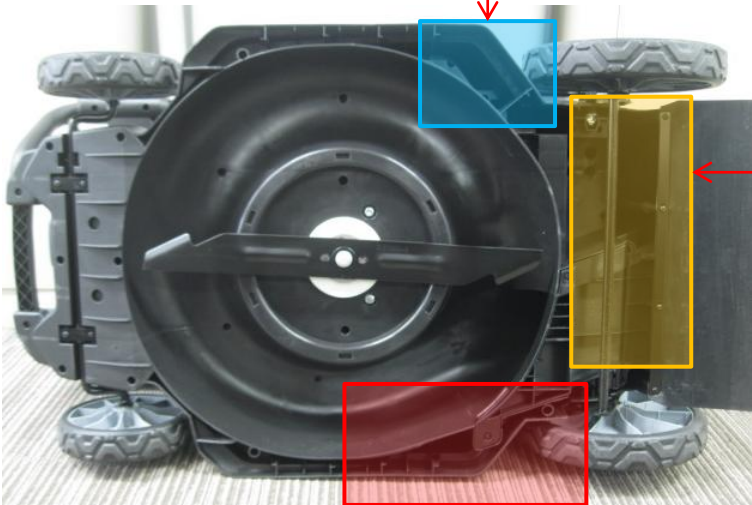
Screws in area B (9 pcs):



Housing Cover Assembly Replacement

Disassembly

Screws in area C (5 pcs):



Housing Cover Assembly Replacement

Disassembly

5. Take away the housing cover assembly from the mower deck
 - a) Turn the mower back and fold the handle to the grass bag removal position (Fig. 15)
 - b) Lift the housing cover assembly and separate it from the mower deck (Fig. 16).
 - c) Turn the housing cover assembly and take it forward away from handle (Fig. 17)



Description	Part Number	SPEC
Housing Cover Assembly	2823666000	---



Housing Cover Assembly Replacement

Assembly

1. Mount the housing cover assembly to the mower deck
 - a) Fold the handle to the grass bag removal position (Fig. 18)
 - b) Hold the housing cover assembly, turn it and pass it through the handle (Fig. 19)
 - c) Pull the cutting height adjusting bar and make it come through the depth stop plate (Fig. 20)
 - d) Align the housing cover assembly with the lower deck and press it in place. Make sure the screw domes will NOT crush or press the cables inside. You can install the battery case and plug the connectors to test the function first before locking all the screws.



Housing Cover Assembly Replacement

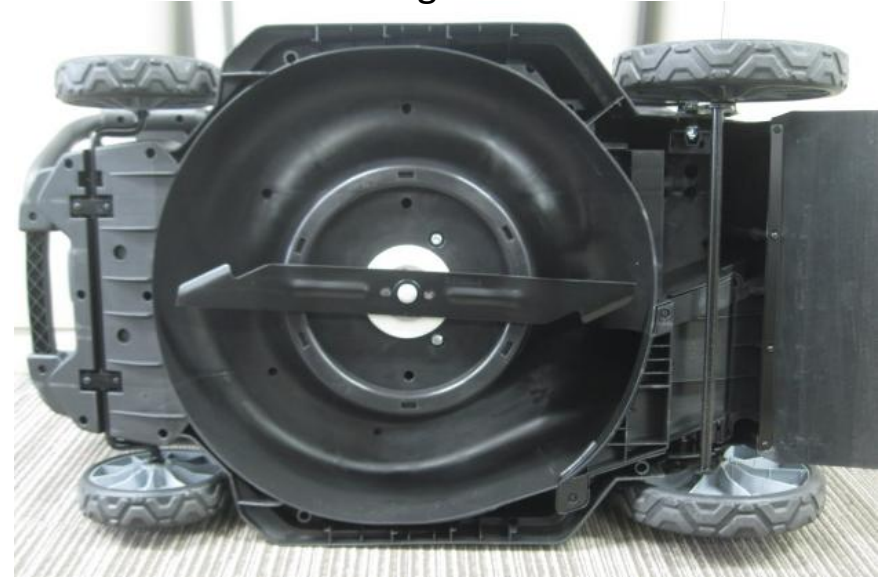
Assembly

2. Lock the housing cover assembly to the deck with screws

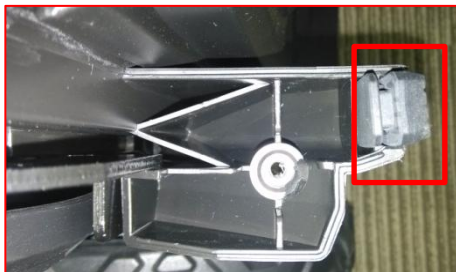
a) Lock the back of the housing cover assembly with 2 screws (see slide 7)

b) Fold the handle, turn the mower on its side. Lock the housing cover assembly to the deck with 22 screws (see slides 9 to 11).

NOTE: Don't forget to assemble the rubber gasket between the housing cover and the deck.



Rubber Gasket

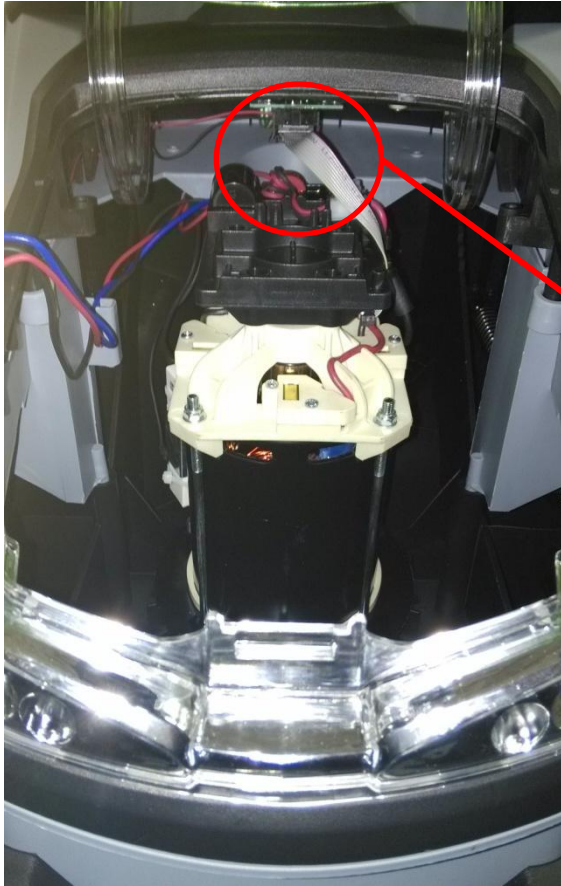


Description	Part Number	SPEC
Tapping Screw	5610042000	ST4.2x19-F-H
Rubber Gasket	3127738000	---

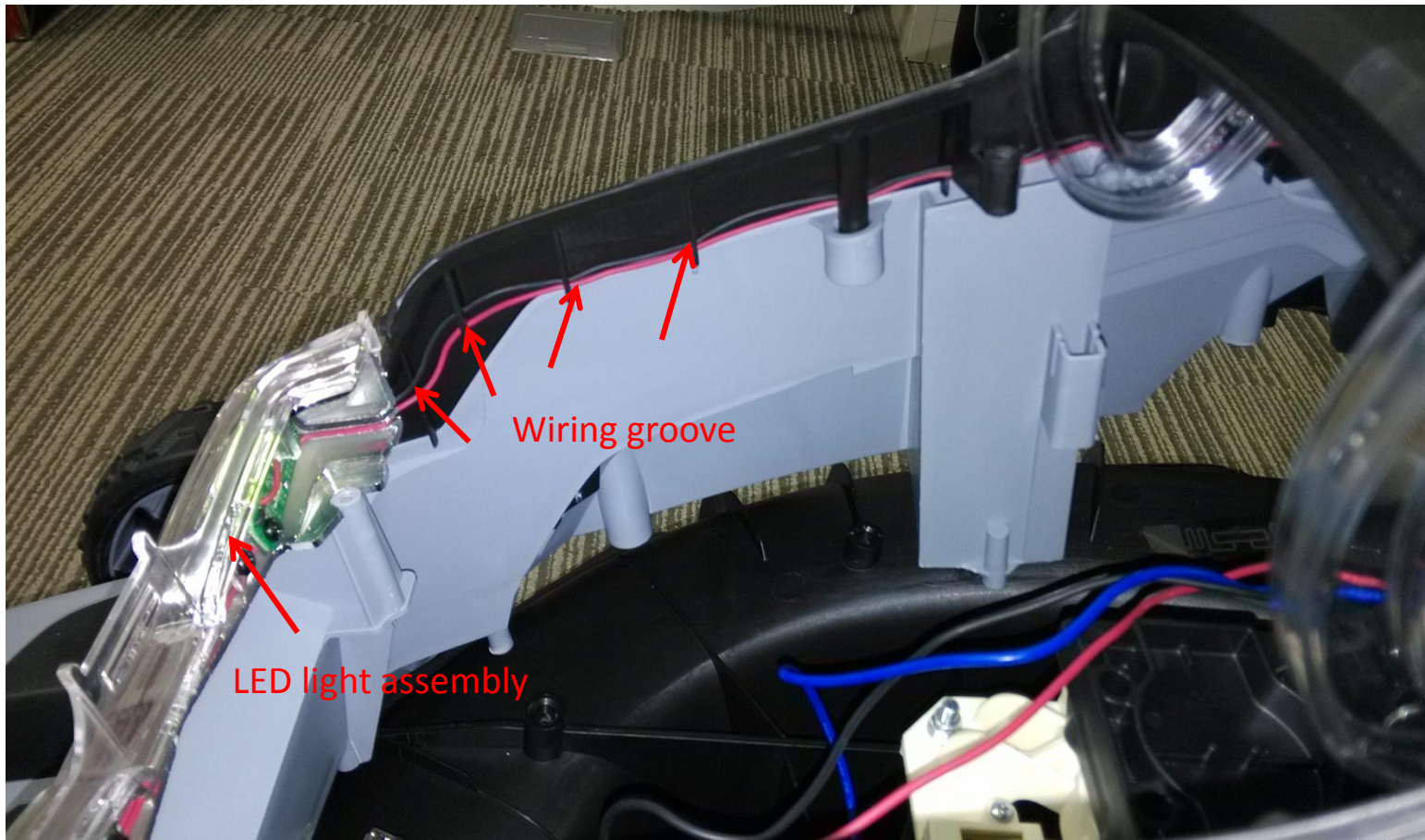
Housing Cover Assembly Replacement

Assembly

3. Connect the FFC to socket in the housing cover assembly.

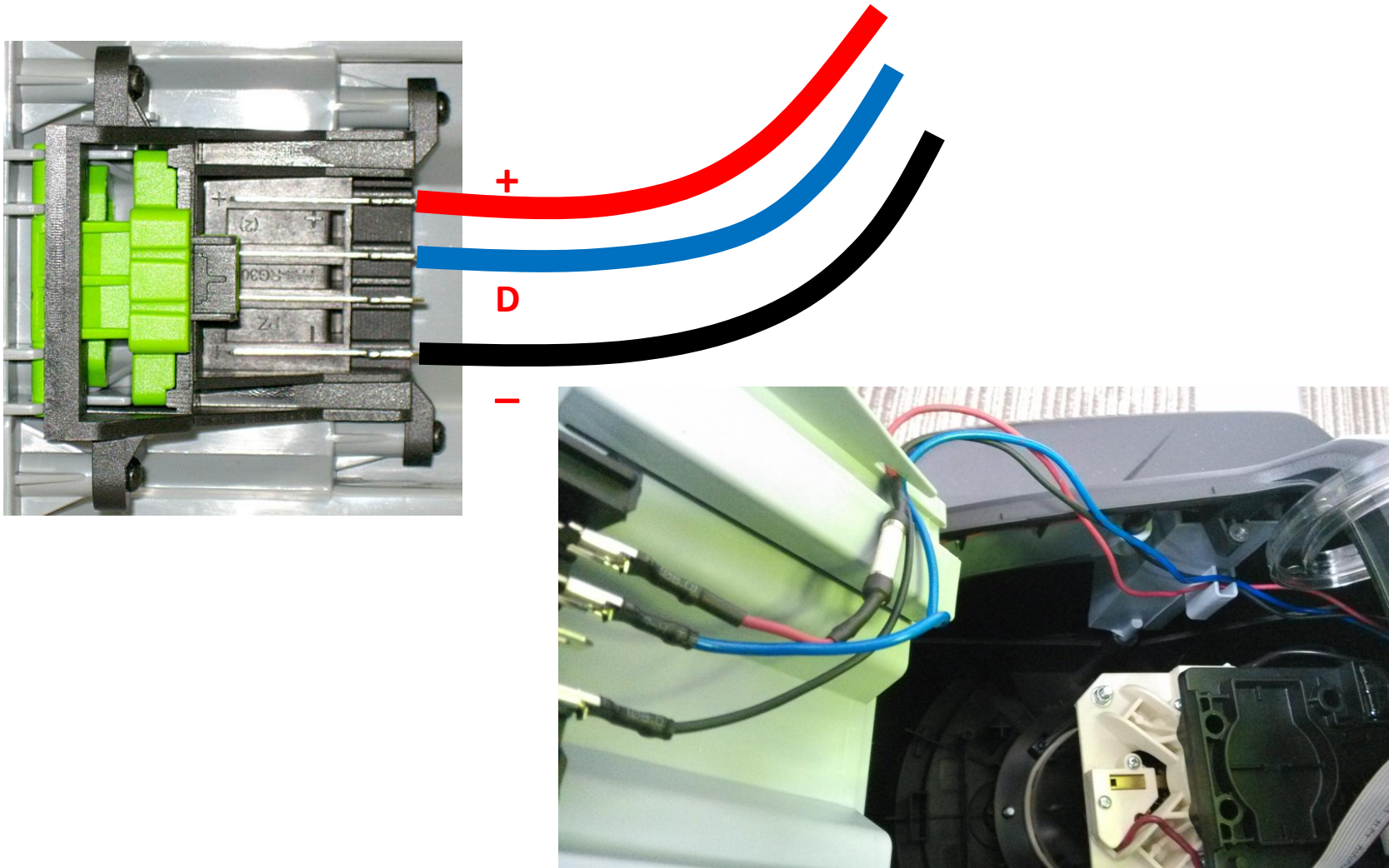


4. Position the LED light assembly (if it came out from the housing cover)
 - a) Put the LED light assembly to the mounting location
 - b) Align the cables to the wiring groove



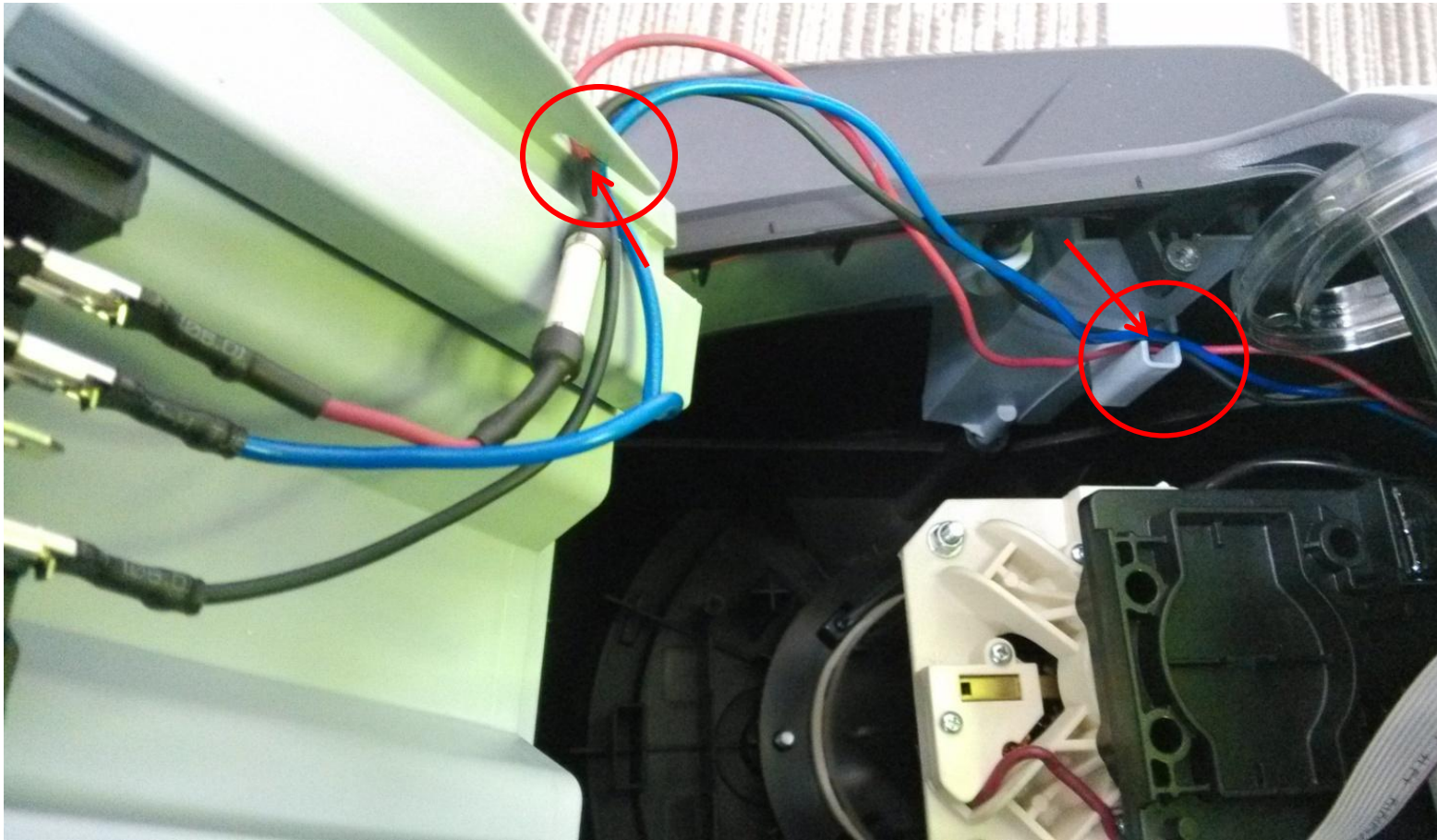
5. Install the battery compartment

- a) Plug the three connectors to the electric contacts on the battery compartment.



5. Install the battery compartment

- b) Align the cables to the wiring groove .

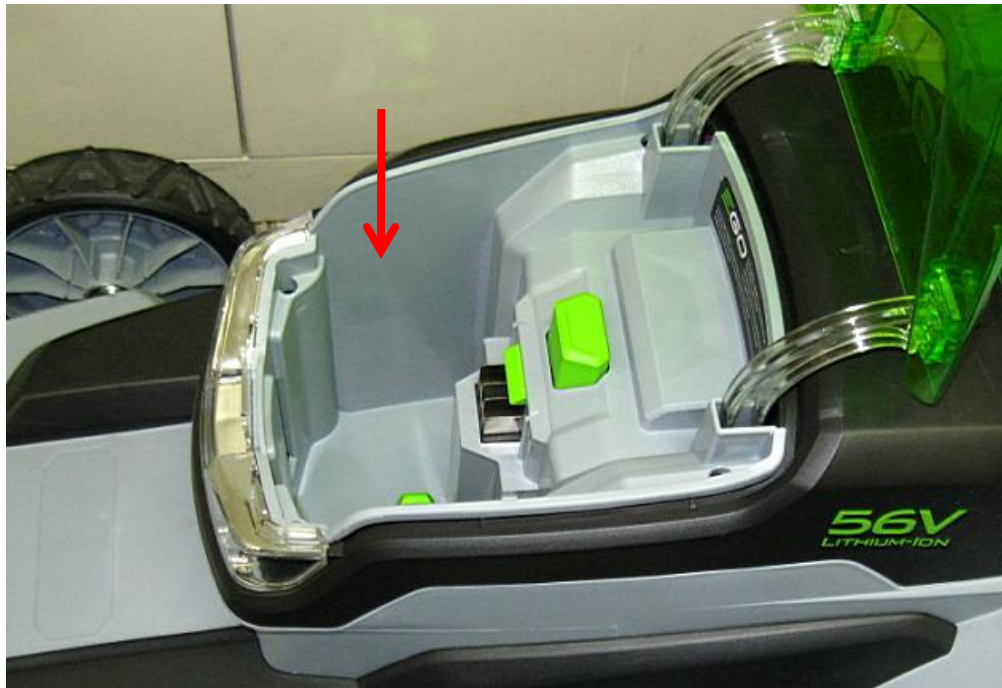


Housing Cover Assembly Replacement

Assembly

5. Install the battery compartment

- c) Insert the battery compartment into the housing cover.
- d) Lock it with six tapping screws.



Description	Part Number	SPEC
Tapping Screw	5610042000	ST4.2x19-F-H

Housing Cover Assembly Replacement

Assembly

6. Fix the height adjustment lever and lock with 2 tapping screws.



PART 2.2: BATTERY COVER ASSEMBLY

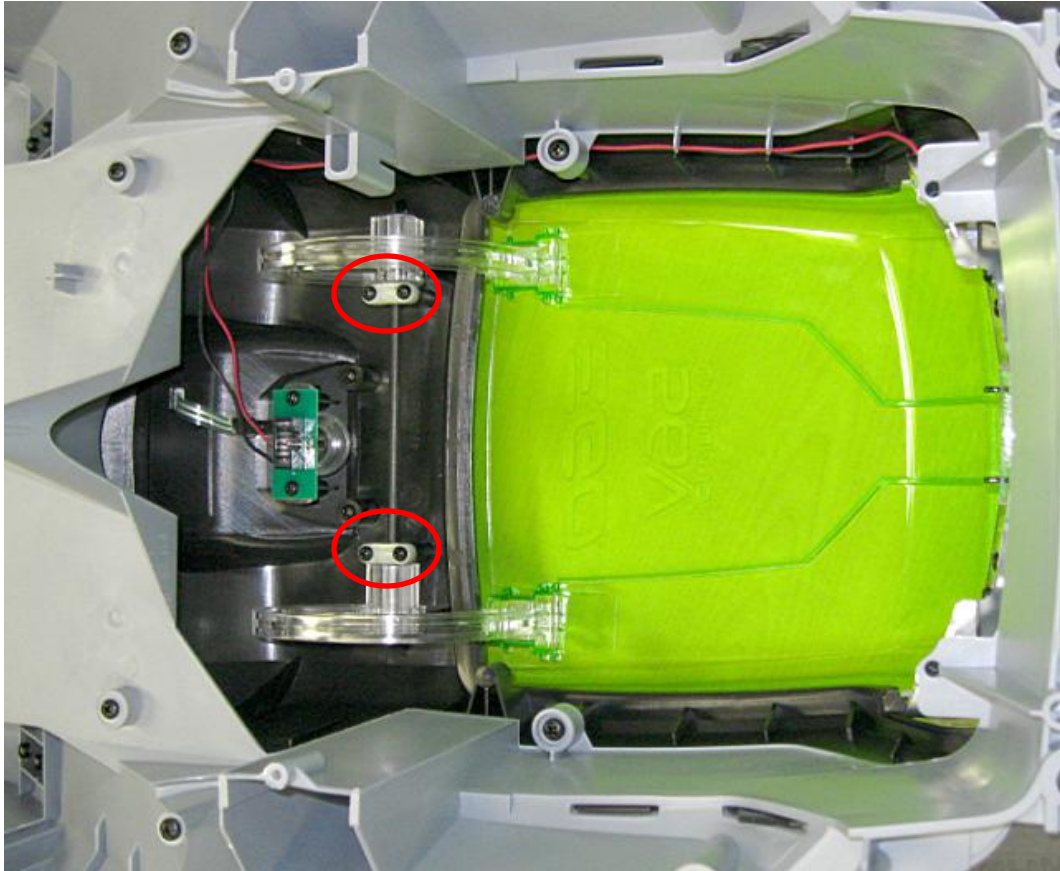
PART 2.2: Disassemble/Assemble the Battery Cover Assembly



Description	Part Number	SPEC
Battery Cover Assembly	2823661000	---

Battery Cover Assembly Replacement

1. Detach the housing cover assembly from the mower (see Part 2.1)
2. Turn over the housing cover assembly, loosen and remove the four screws and clamps.



Description	Part Number	SPEC
Tapping Screw	5610032000	ST4x16
Clamp	3122798000	---

Battery Cover Assembly Replacement

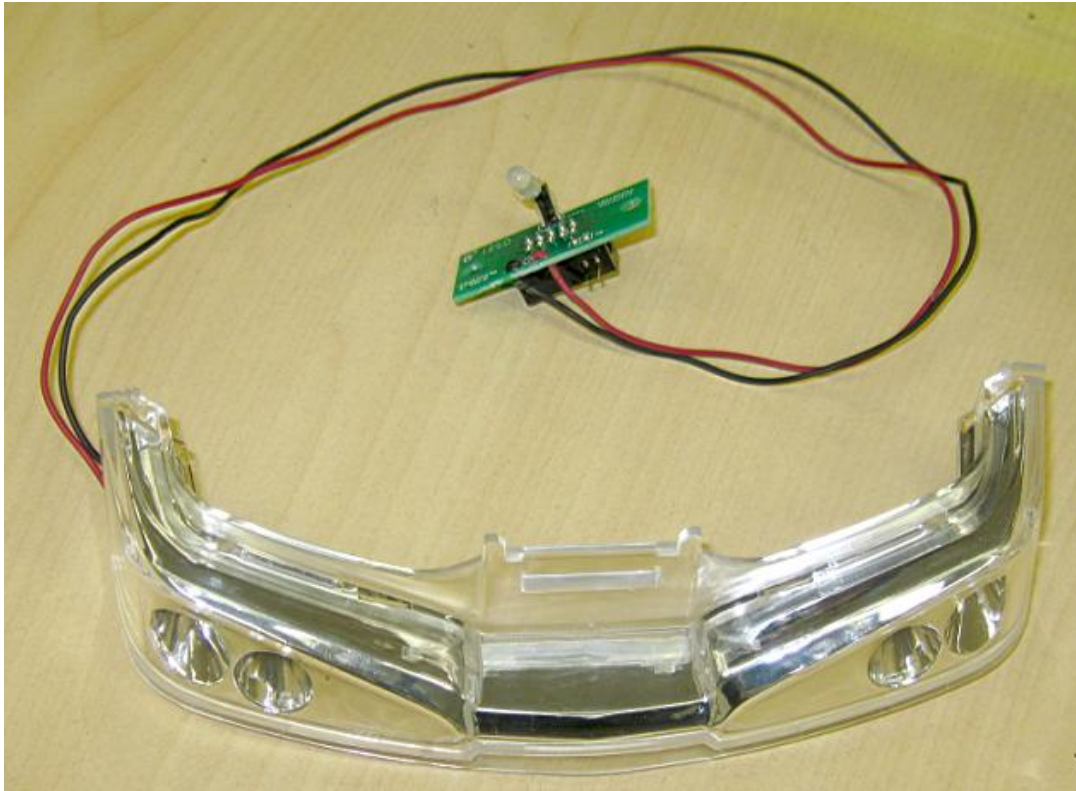
3. Take out the battery cover from the opening of the battery compartment (Fig. 1)
4. Draw the shaft out from the battery cover assembly (Fig. 2)
5. Replace with a new battery cover assembly; Fix the new one to the housing cover in reverse order.



Description	Part Number	SPEC
Shaft	5670343000	$\phi 5 \times 167$
Battery Cover Assembly	2823661000	---

PART 2.3: LED LIGHT ASSEMBLY

PART 2.3: Disassemble/Assemble the LED Light Assembly



Description	Part Number	SPEC
LED Light Assembly	2823665000	---

LED Light Assembly Replacement

1. Detach the housing cover assembly from the mower. (see Part 2.1)
2. Move the LED light aside; loose and remove the two screws in the front of the housing cover.



Description	Part Number	SPEC
Tapping Screw	5610042000	ST4.2x19-F-H

LED Light Assembly Replacement

3. Loose and remove the five screws in the back of the housing cover.



Description	Part Number	SPEC
Tapping Screw	5610042000	ST4.2x19-F-H

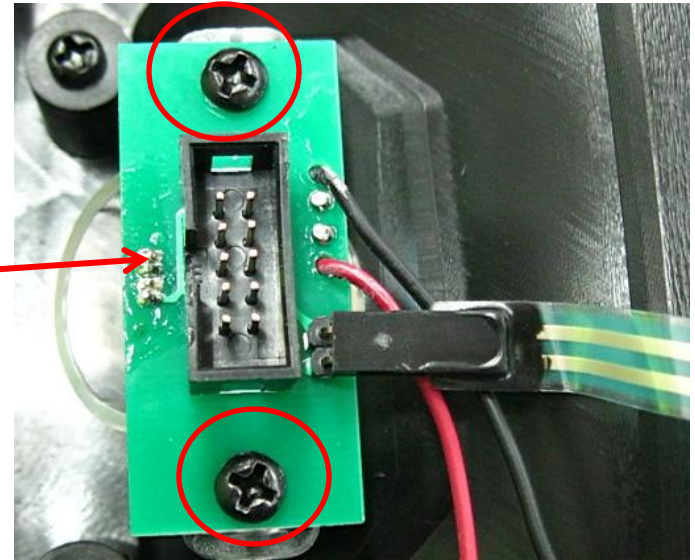
LED Light Assembly Replacement

4. Remove the battery cover, battery cover frame and LED light assembly together from the housing cover.



LED Light Assembly Replacement

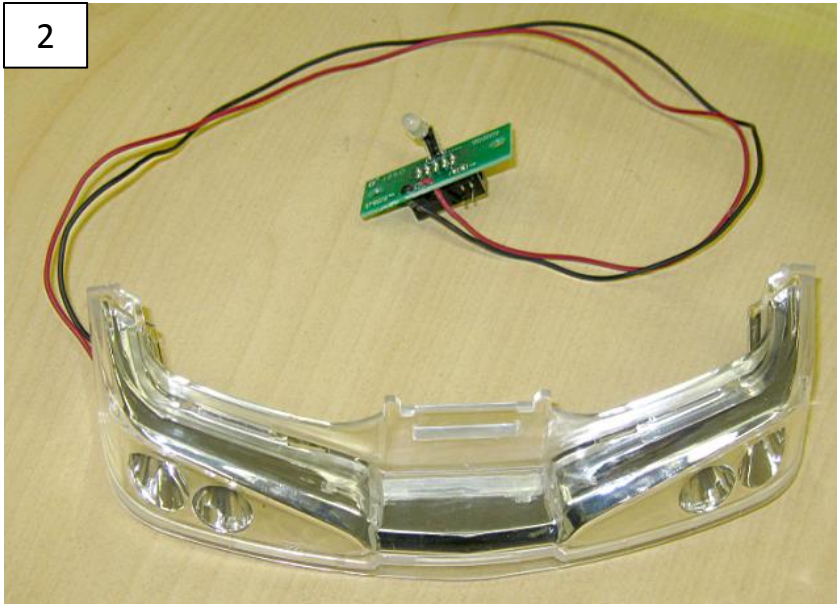
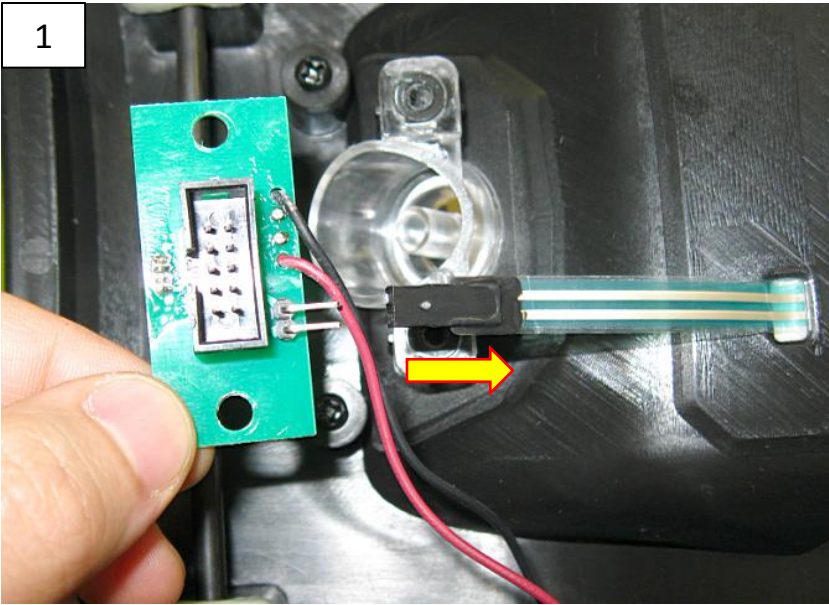
5. Remove the two screws to detach the PCB from battery cover frame (red circle indication).



Description	Part Number	SPEC
Tapping Screw	5610032000	ST4x16

LED Light Assembly Replacement

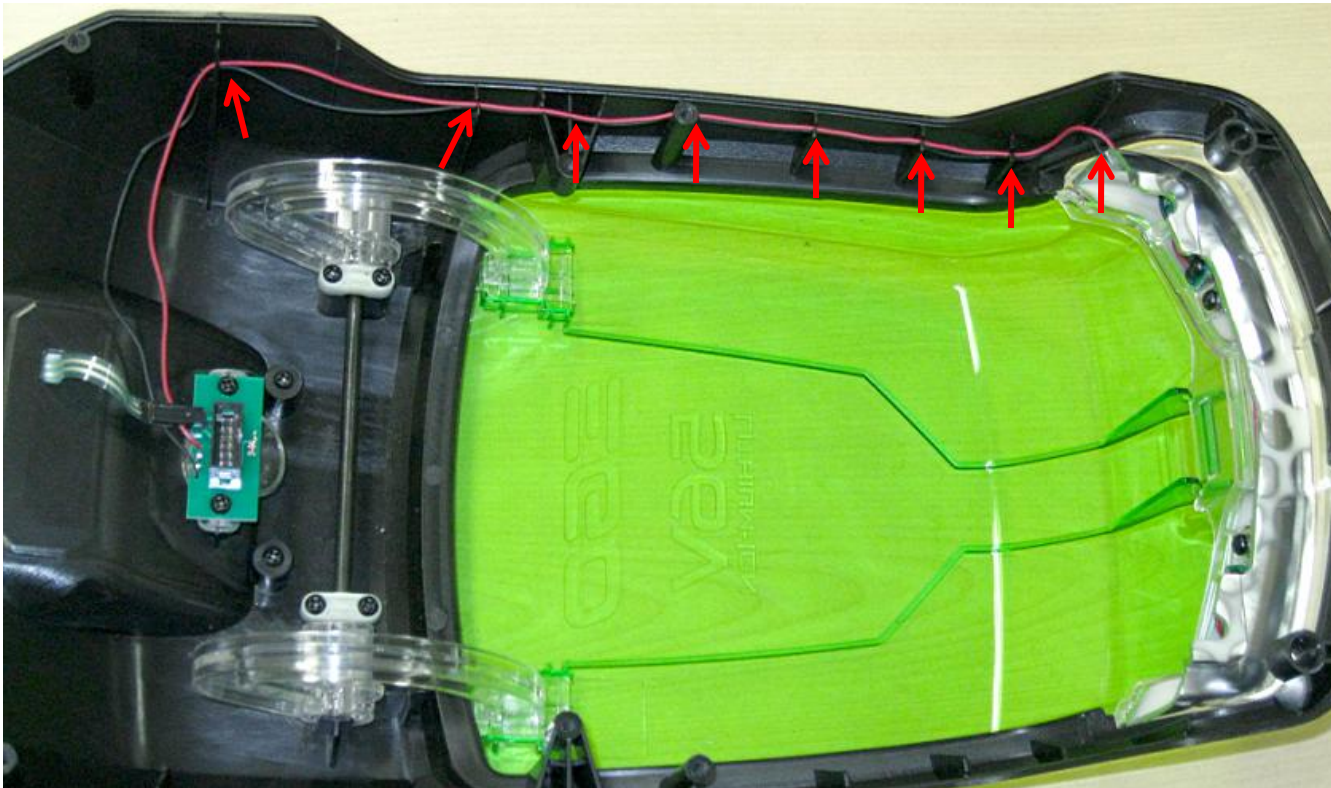
- 6. Pull the socket from the plug on PCB. (Fig. 1)
- 7. Remove the LED light assembly from the battery cover frame. (Fig. 2)



Description	Part Number	SPEC
LED Light Assembly	2823665000	---

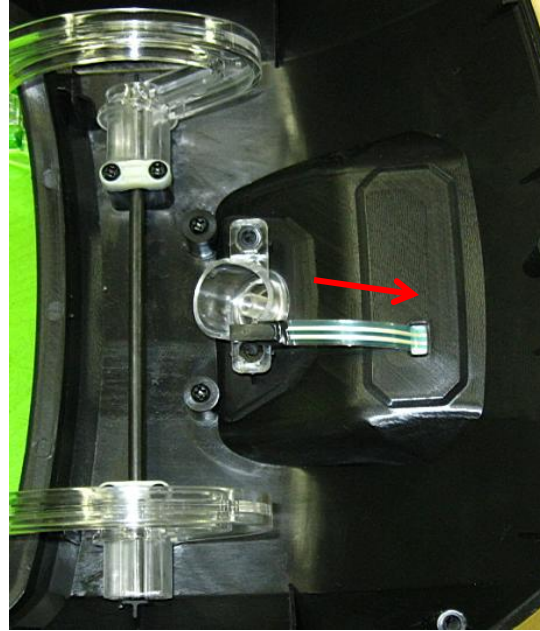
LED Light Assembly Replacement

8. Replace with a new LED light assembly.
9. Mount the new LED light assembly to the battery cover frame in reverse order. Note to align the cables in the grooves of the frame, see the figure shown below.
10. Fix the battery cover frame to the housing cover and locked with 7 screws, see slides 3-4.



LED Film Switch Replacement

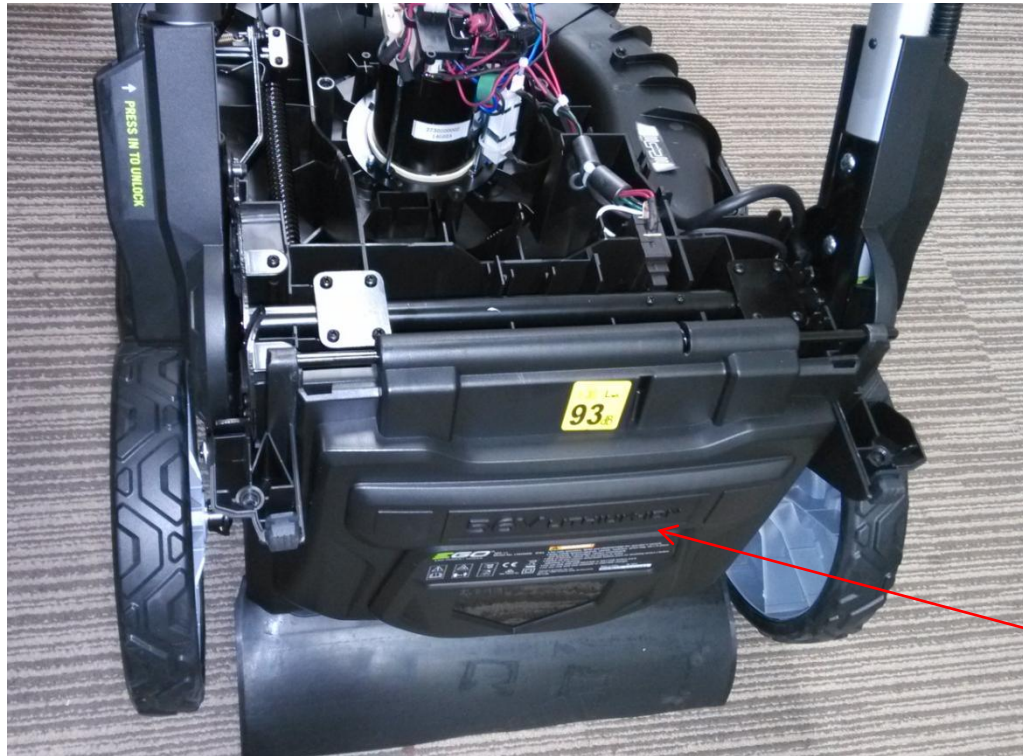
- The LED Film switch button can be replaced during this process following the figures shown below.



Description	Part Number	SPEC
Film Switch	4870499000	---

PART 2.4: REAR COVER

PART 2.4: Disassemble/Assemble the Rear Cover



Rear Cover

Description	Part Number	SPEC
Rear Cover	3126689000	---

Rear Cover Replacement

1. Detach the housing cover assembly from the mower (see Part 2.1)
2. Pull out the shaft from right side (Fig. 1)
3. Take down the rear cover and shaft (Fig. 2)



Description	Part Number	SPEC
Shaft	5670345000	Φ7x 345

Rear Cover Replacement

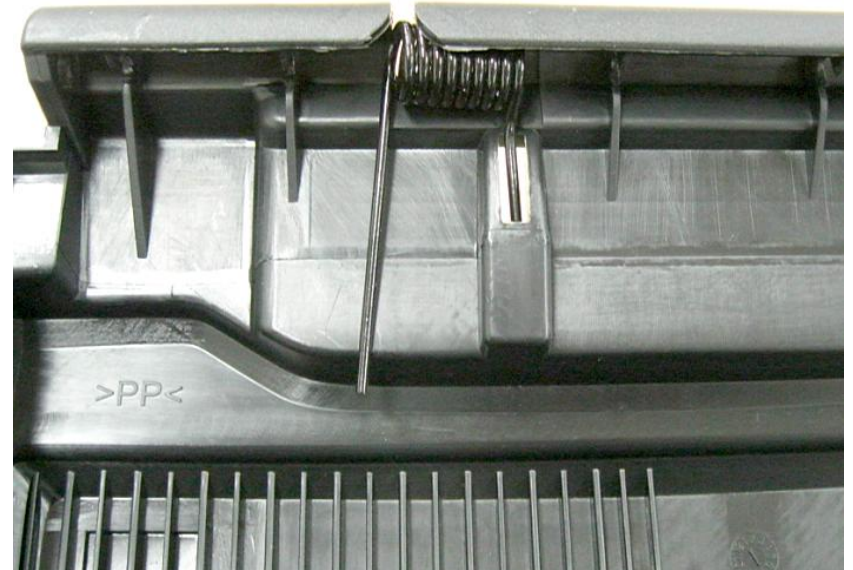
4. Remove the spring from the rear cover.
5. Replace with a new rear cover or torsion spring.



Description	Part Number	SPEC
Torsion Spring	3660559000	15.2x22.4
Rear Cover	3126689000	---

Rear Cover Replacement

6. Insert the short foot of the torsion spring in the groove of rear cover.



Rear Cover Replacement

7. Position the rear cover and torsion spring to the deck, pull the foot of the torsion spring and make it resting on the groove of the deck.



Rear Cover Replacement

8. Insert the shaft through the hole and push it in position.



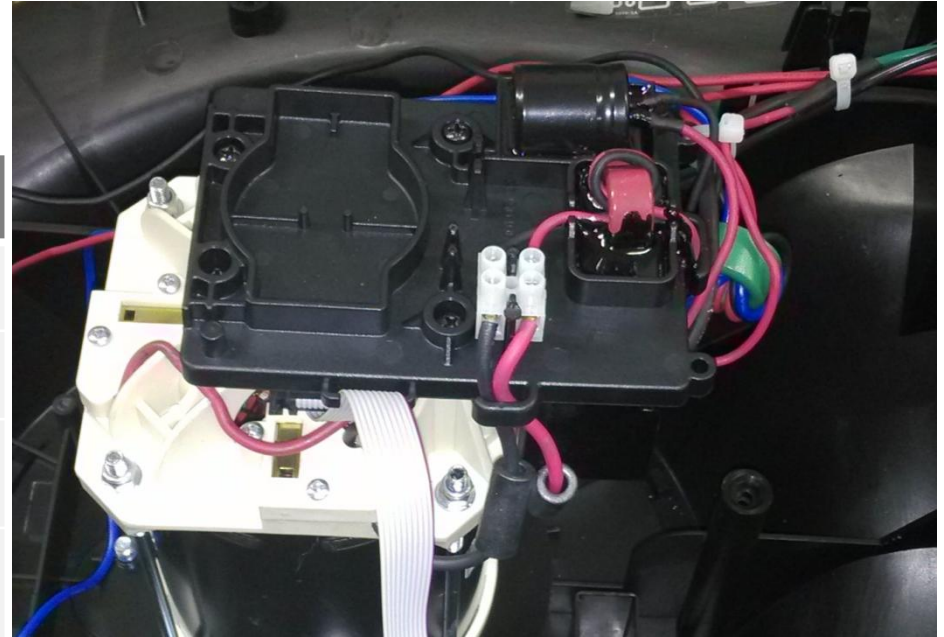
Align the shaft to the fixing hole and push in position.

PART 2.5: PCB ASSEMBLY

PART 2.5: Disassemble/Assemble the PCB Assembly

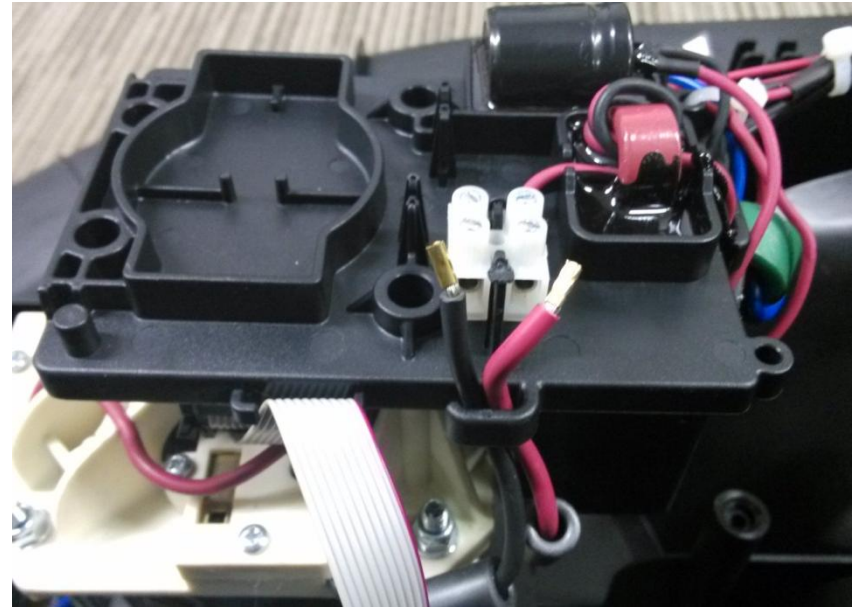
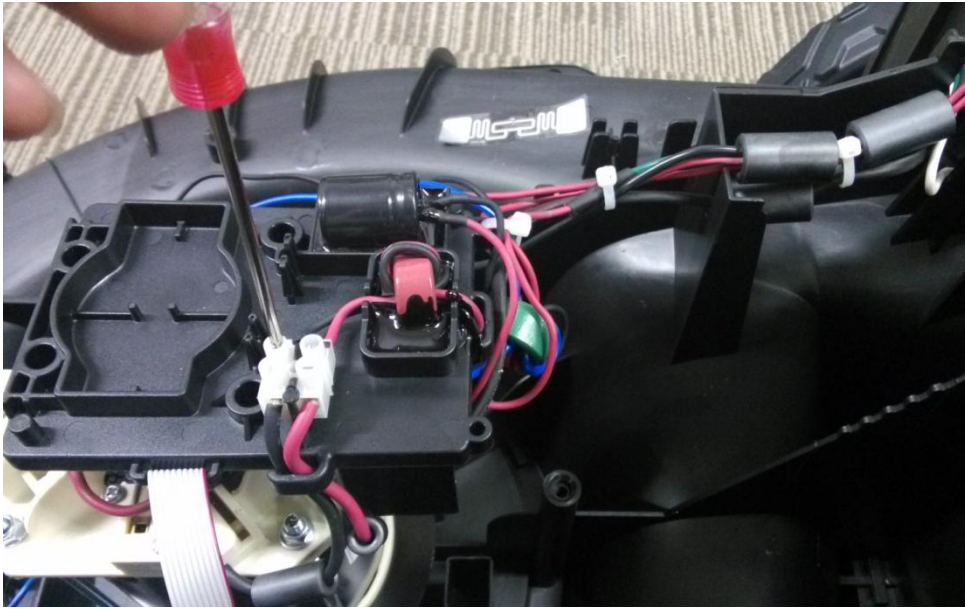
- The following relevant parts can be replaced when replacing the PCB Assembly:

Description	Part Number	SPEC
PCB Assembly	2830052000	---
10-pin cable	4930490000	---
Resistor	4970295000	0.5ohm \pm 10% 60W
Push switch	4870501000	25A 50VDC 1E4 TUV/CE ,25A 60VDC 1E4 UL/CUL



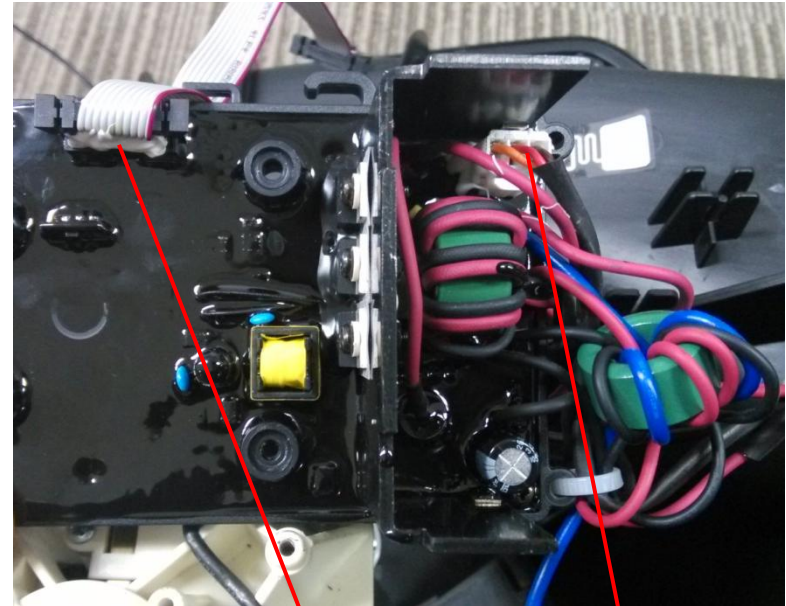
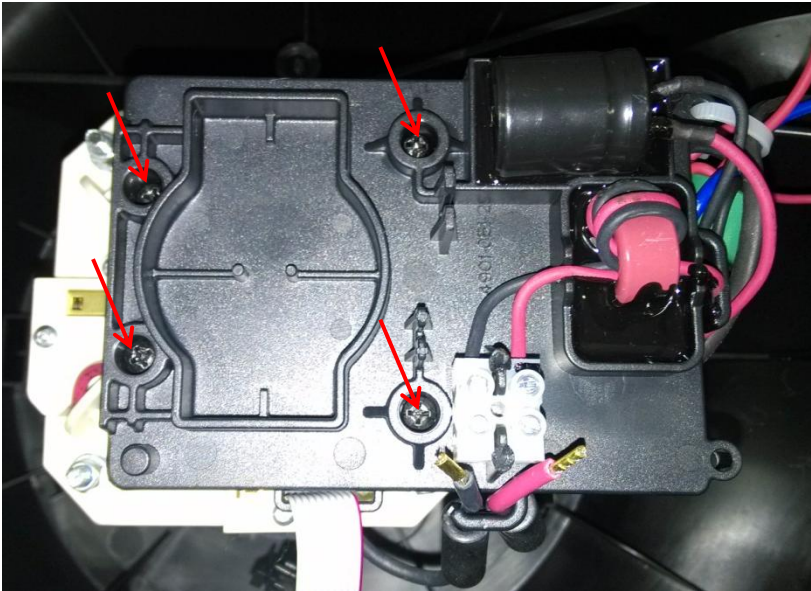
PCB Assembly Replacement

1. Detach the housing cover assembly from the mower (see Part 2.1)
2. Loosen the locking screws in the terminal to disconnect the two motor cables.



PCB Assembly Replacement

3. Remove the four screws in PCB, then take the PCB apart from the motor.
4. Turn over the PCB and disconnect the 3-pin plug and 10-pin plug from PCB.



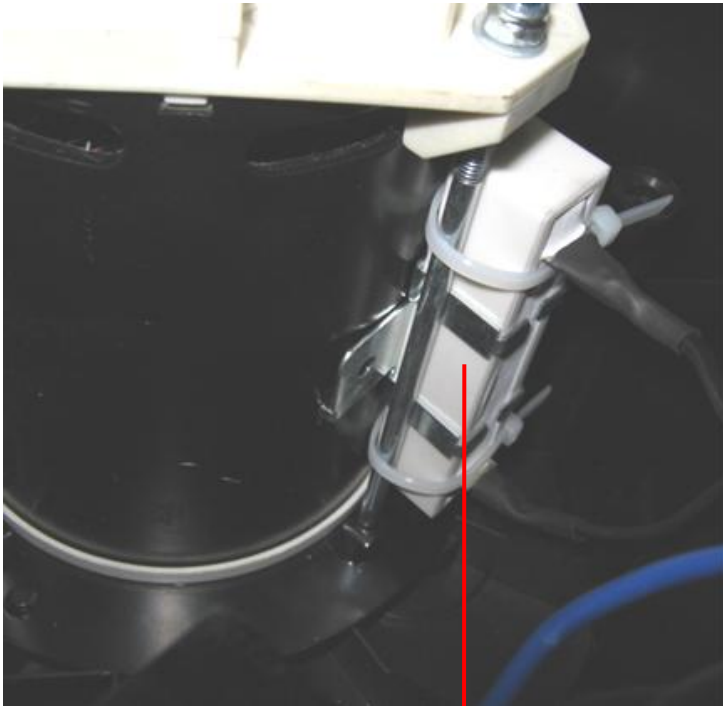
10-pin plug

3-pin plug

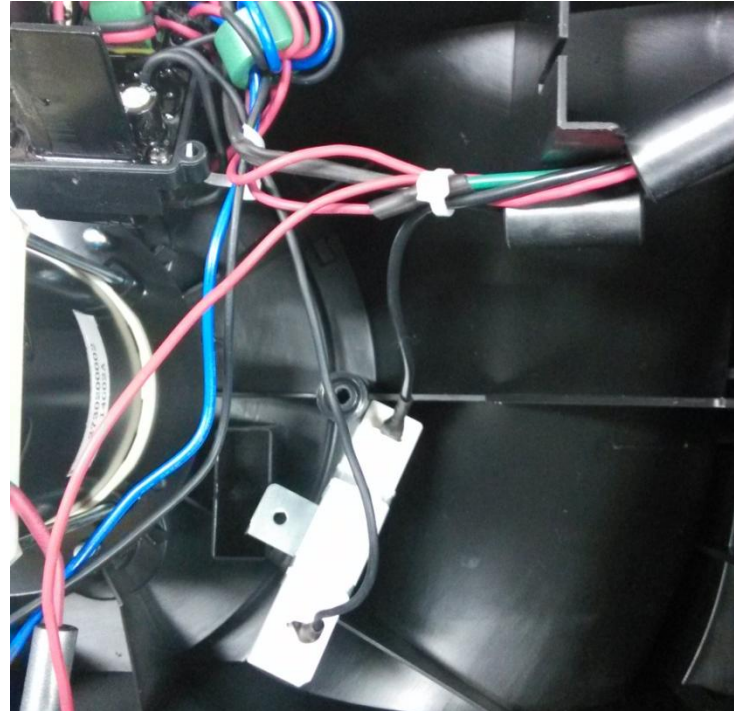
Description	Part Number	SPEC
Tapping screw	5610024000	ST3.5x16
10-pin cable	4930490000	---

PCB Assembly Replacement

5. Cut off the zip ties with diagonal pliers to remove the big resistor from the motor body.

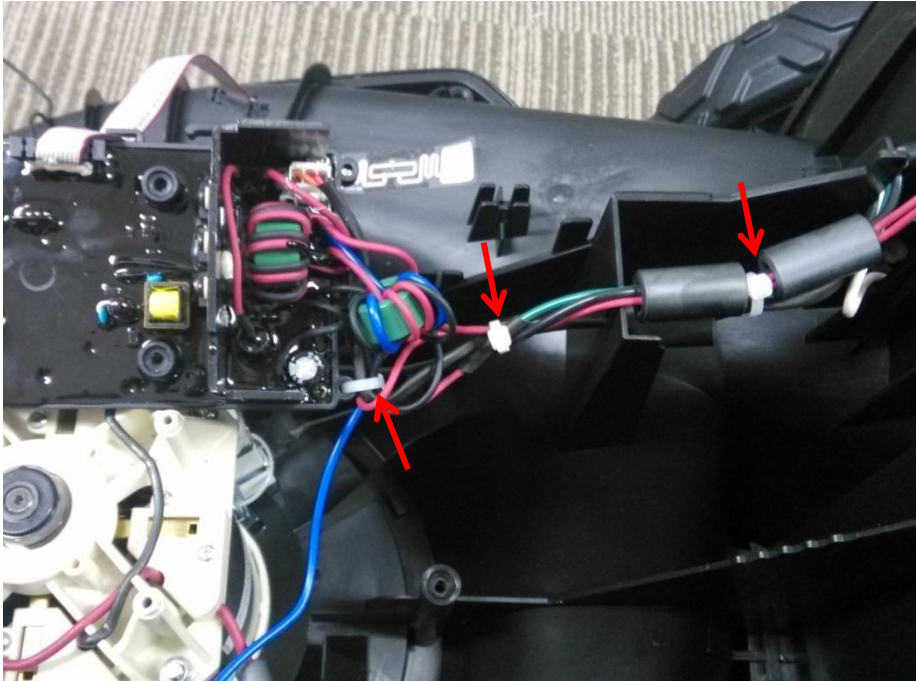


Resistor



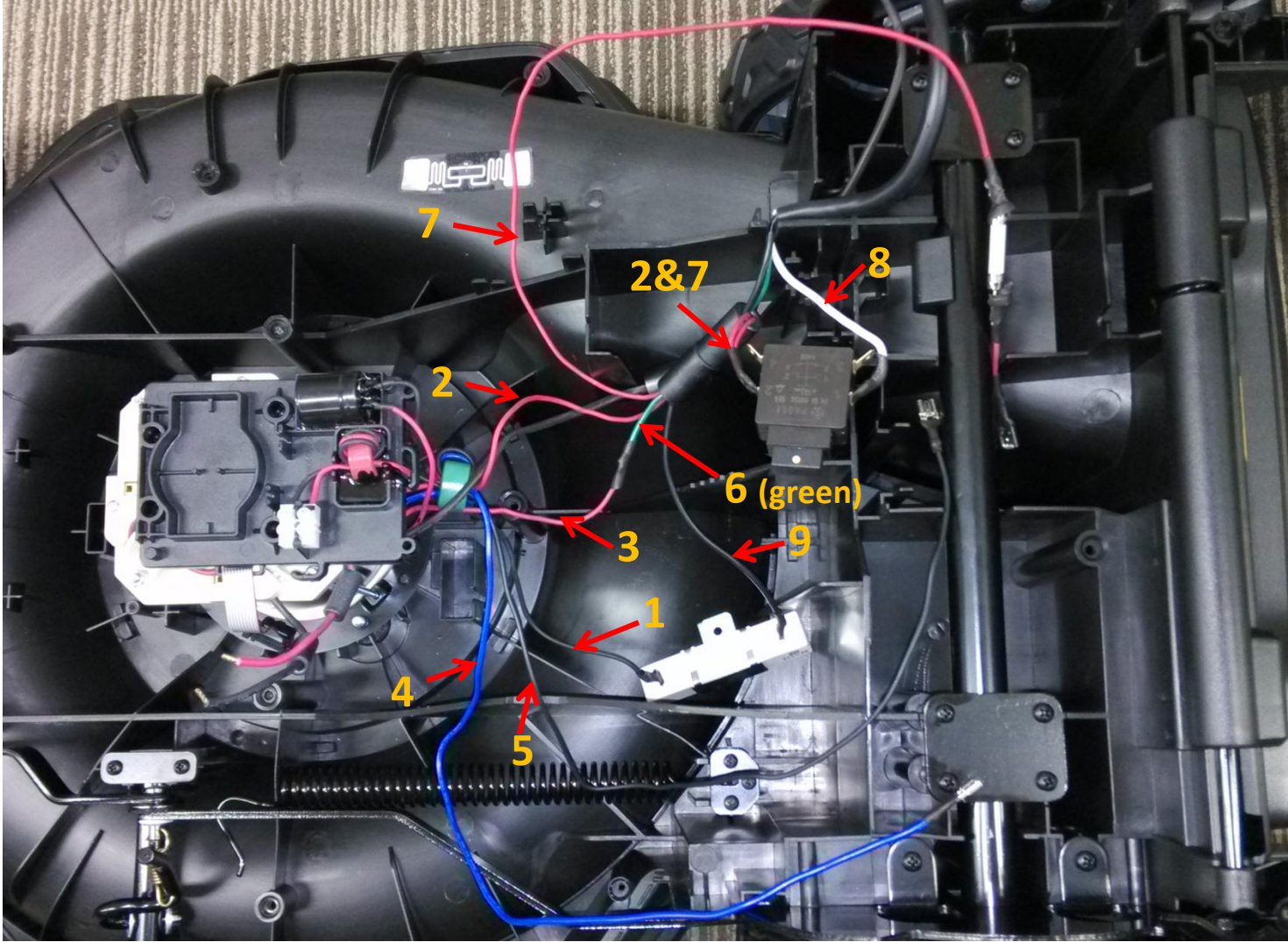
PCB Assembly Replacement

6. Cut off the zip ties on the cables with diagonal pliers to release the cables.



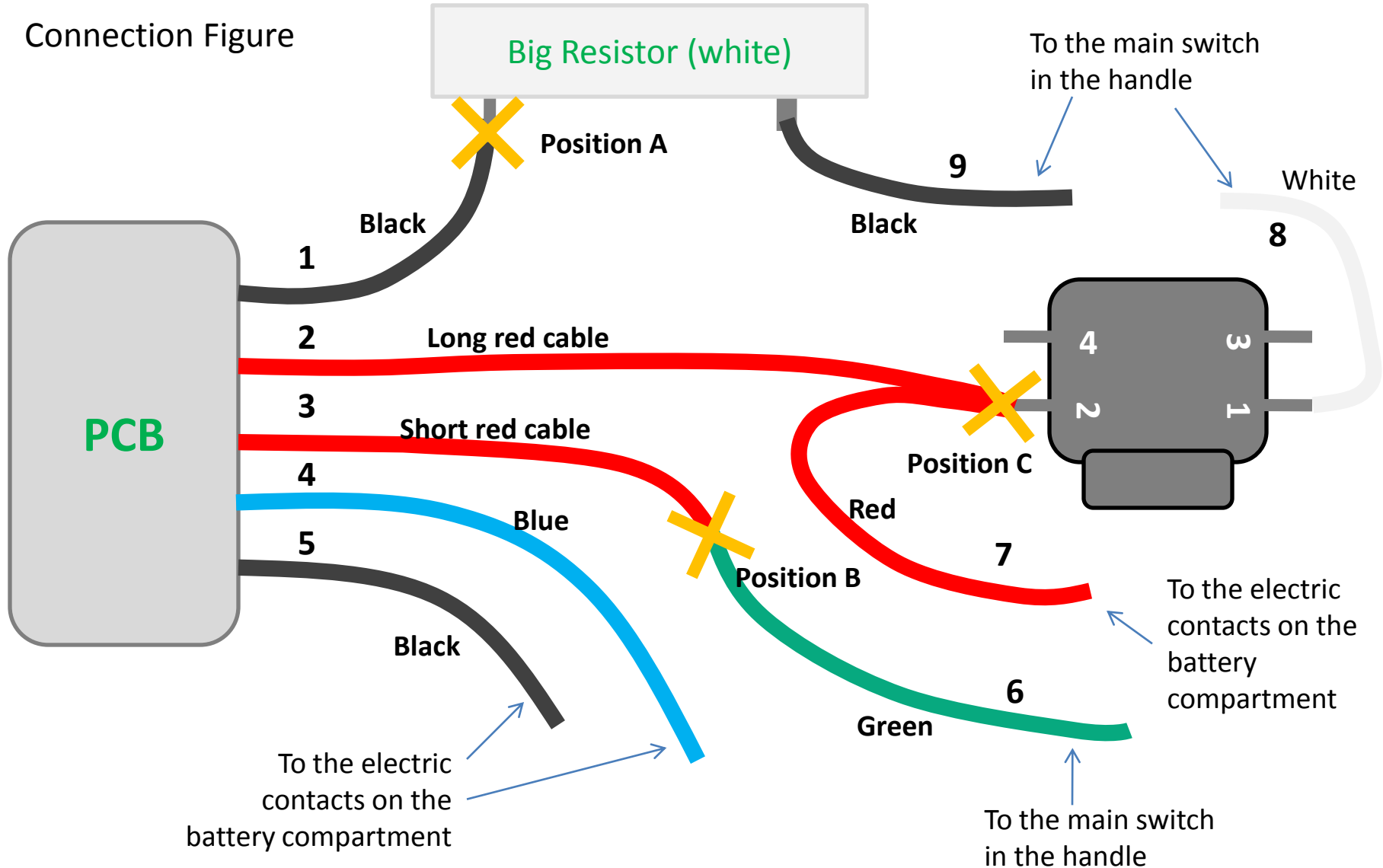
PCB Assembly Replacement

Numbering the cables:



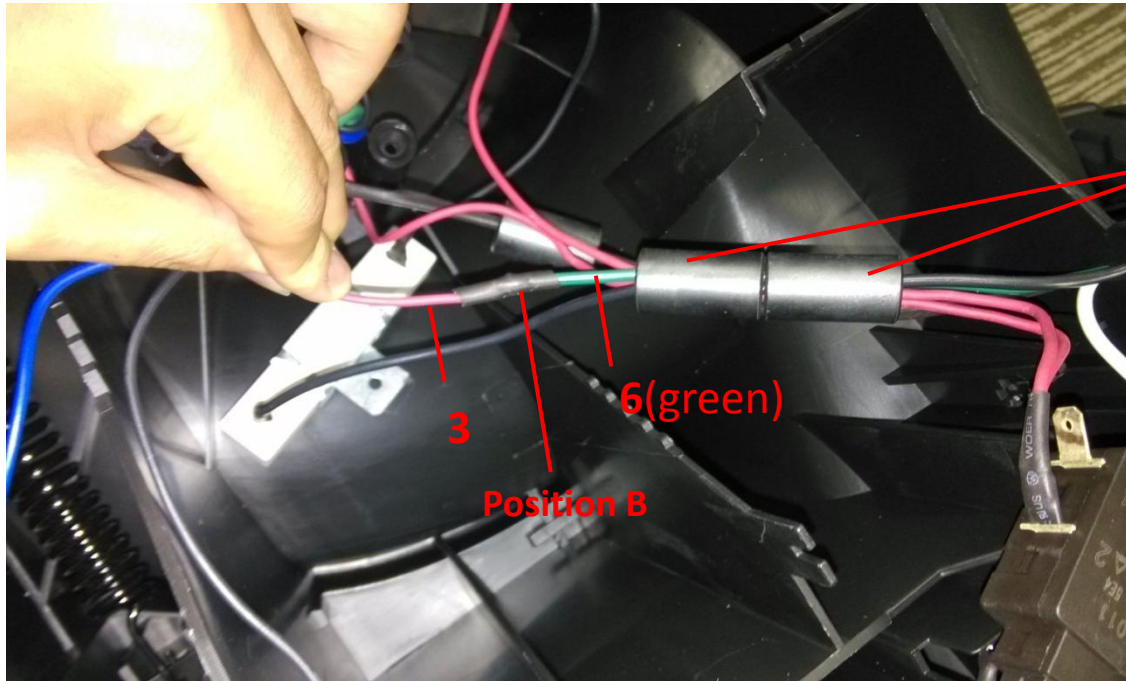
PCB Assembly Replacement

Connection Figure



PCB Assembly Replacement

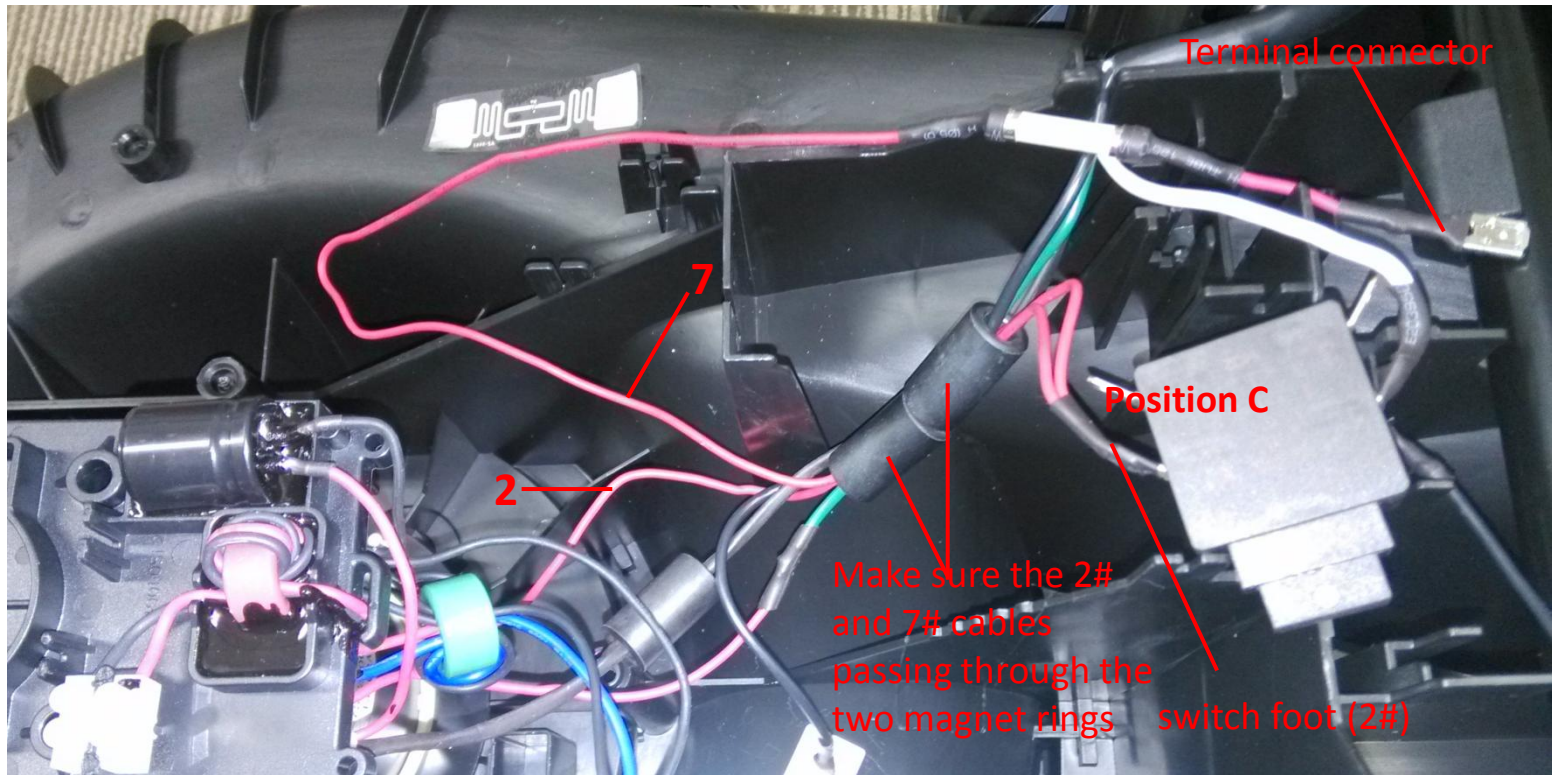
7. Remove the heat-shrinkable sleeves on the cables at position A, Position B and Position C;
8. Disconnect the cable connection with soldering iron.
9. Replace with a new main PCBA if it is broken.
10. Place a new heat-shrinkable sleeve through the green cable and solder the green cable(6) to the short red cable of new PCB (3), use a hot air gun to shrink the sleeve.



Make sure the green cable(6) passing through the two magnet rings

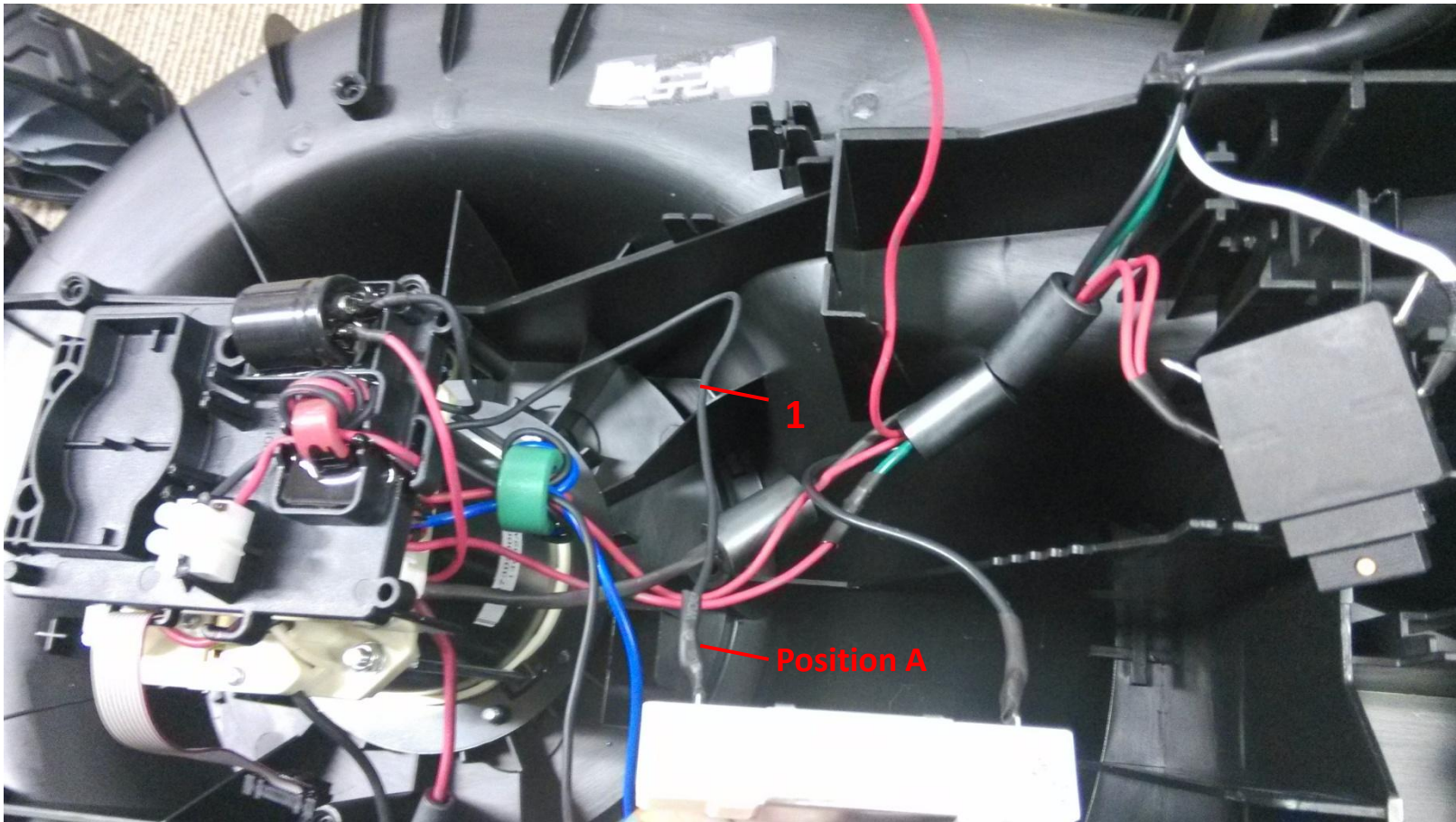
PCB Assembly Replacement

11. Place the previous red cable (7#, with terminal connector) and the long red cable (2) of the new PCB together through the two black magnetic rings; put a heat-shrinkable sleeve through the two cables, then solder them to the switch foot (2). Use a hot air gun to shrink the sleeve.



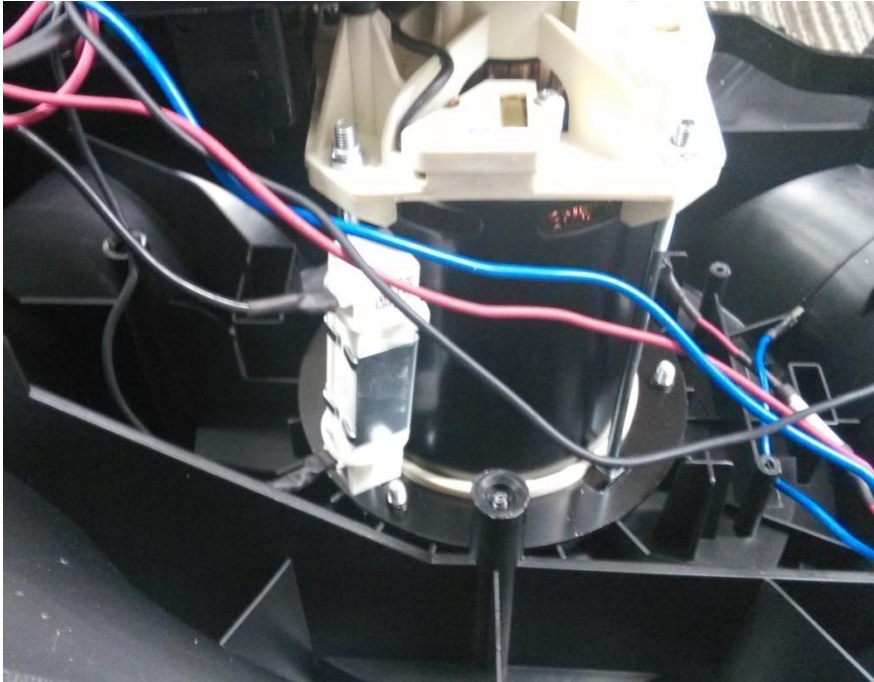
PCB Assembly Replacement

12. Place a new heat-shrinkable sleeve through the short black cable (1) of new PCB and solder the cable to the big resistor, use a hot air gun to shrink the sleeve.



PCB Assembly Replacement

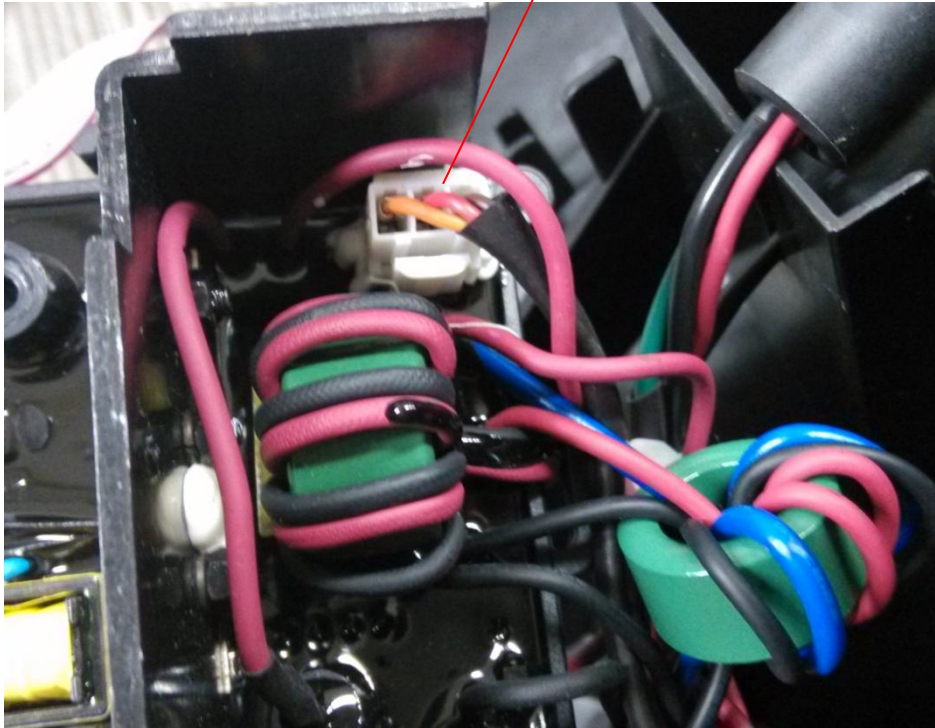
13. Fix the big resistor to the motor body and fix it with two zip ties ; cut the excess.



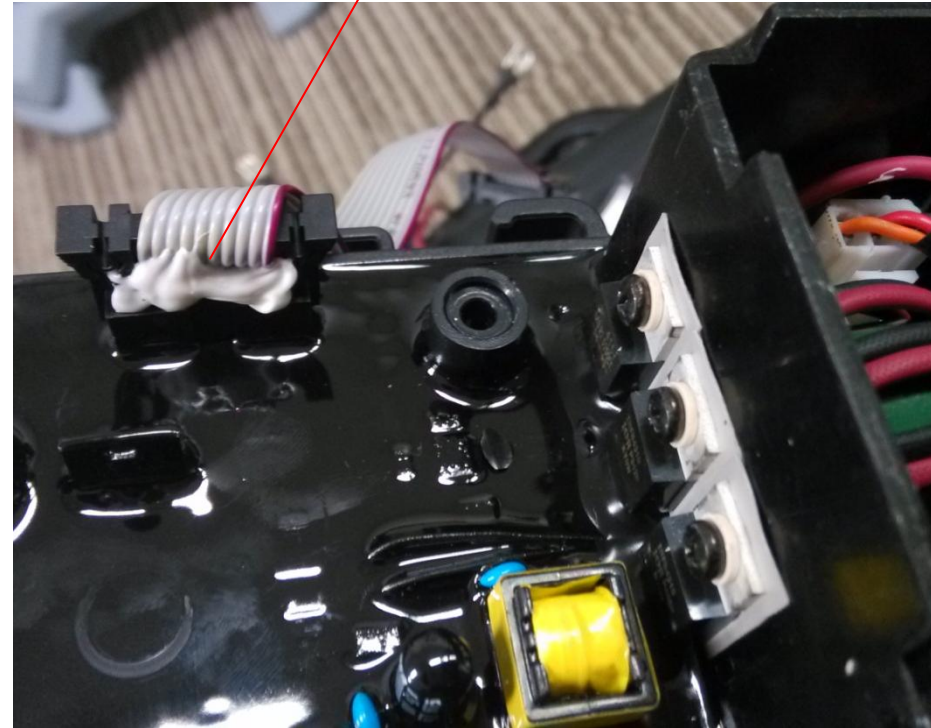
PCB Assembly Replacement

14. Mount the 3-pin plug and 10-pin plug on the terminals of the new PCB
15. Apply some silicon glue around the plug.

3-Pin plug

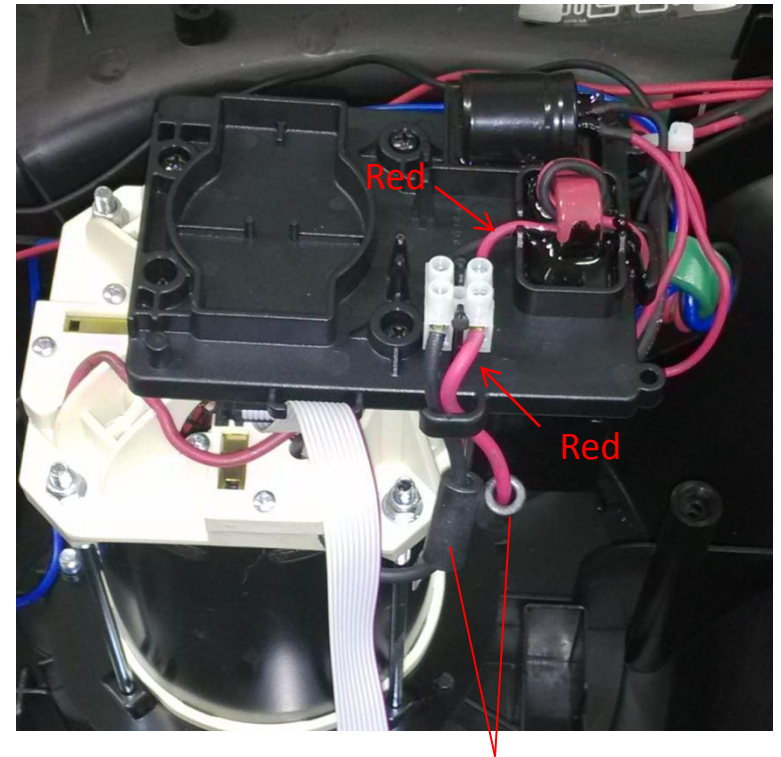
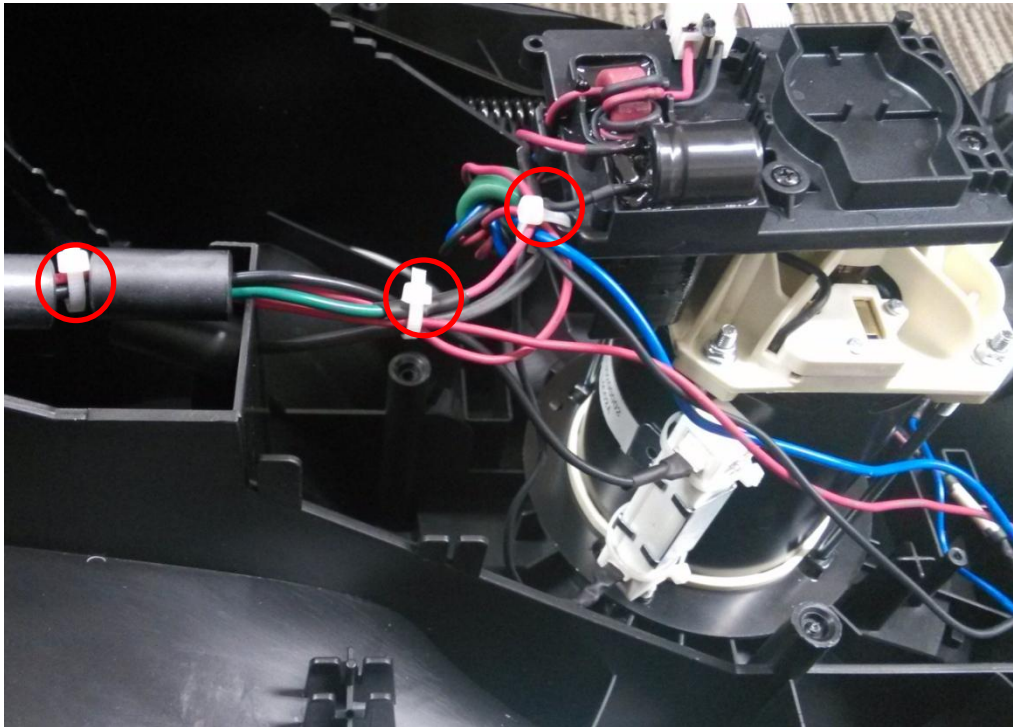


10-Pin plug



PCB Assembly Replacement

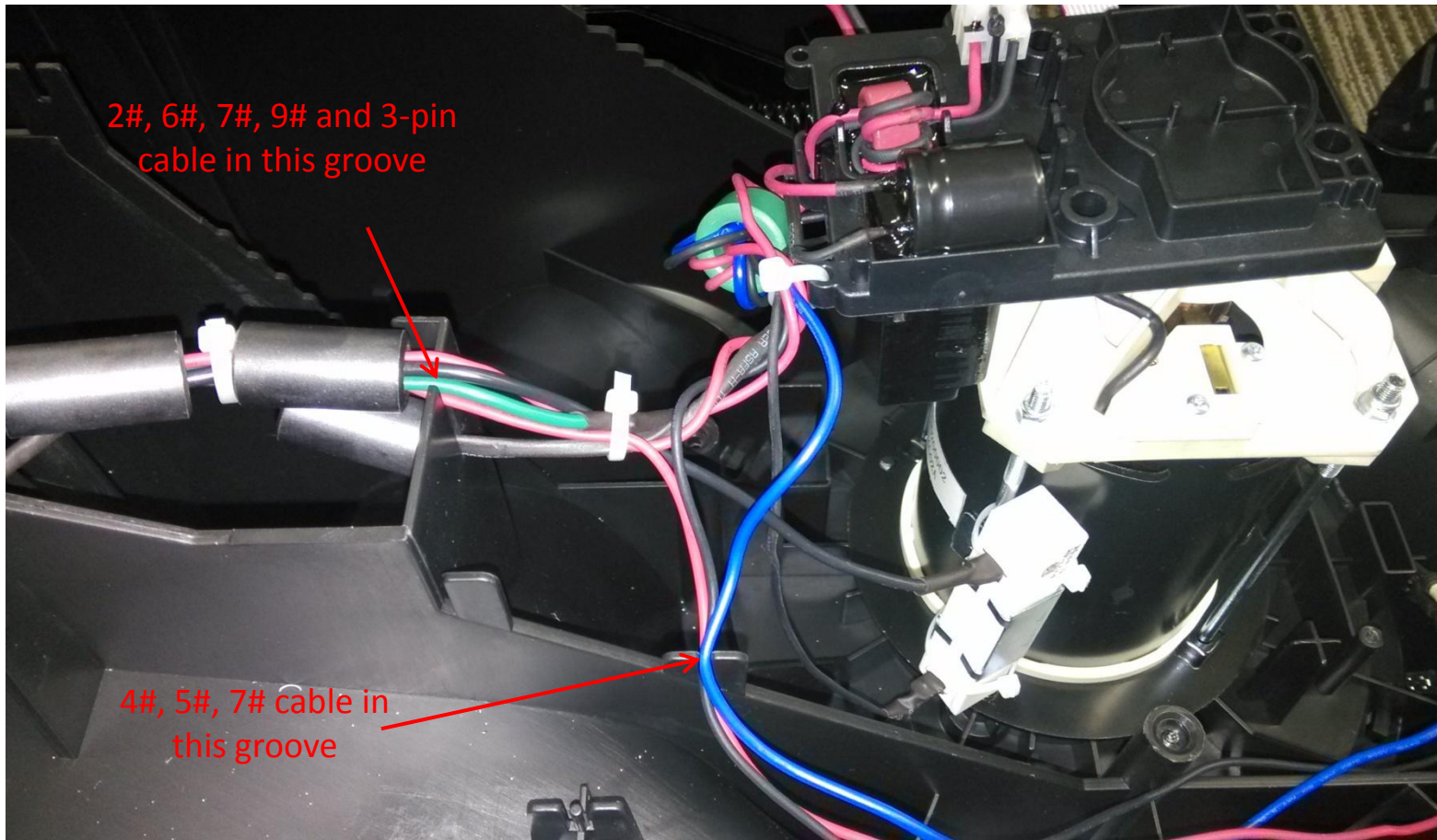
16. Mount the PCB onto the motor and lock it with four screws, fix the cables with three zip ties, cut the excess.
17. Pass the two motor cables through the magnet rings and fix them in the terminal (red cable to red cable, black cable to black cable); lock the cables by tightening the screws; align the motor cables to the wiring groove.



Magnet Ring

PCB Assembly Replacement

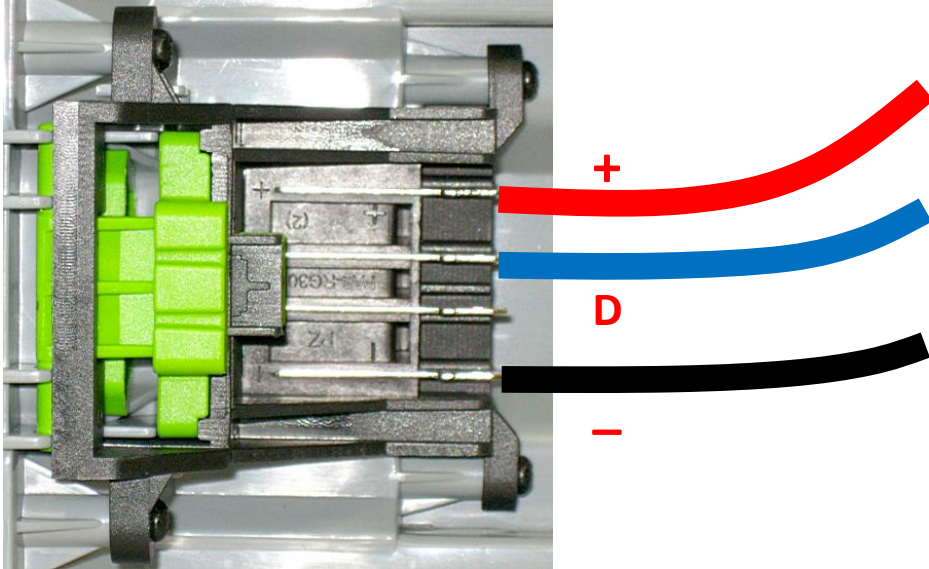
18. Align the cables in the grooves.



PCB Assembly Replacement

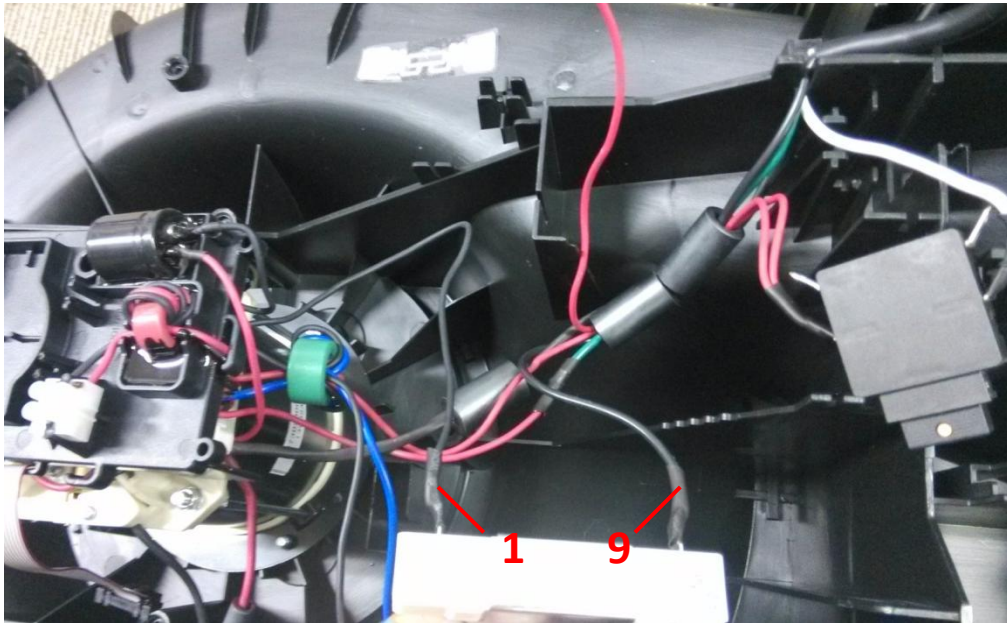
19. Test the new PCBA

- a) Plug the three connectors to the electric contacts on the battery case.
- b) Insert a full charged battery pack in to the battery case.
- c) Adjust the handle to the operating position and fully extend the side rails and lock with the side clamps.
- d) Turn on the mower and observe if the motor runs freely with correct direction.



To Replace the Resistor

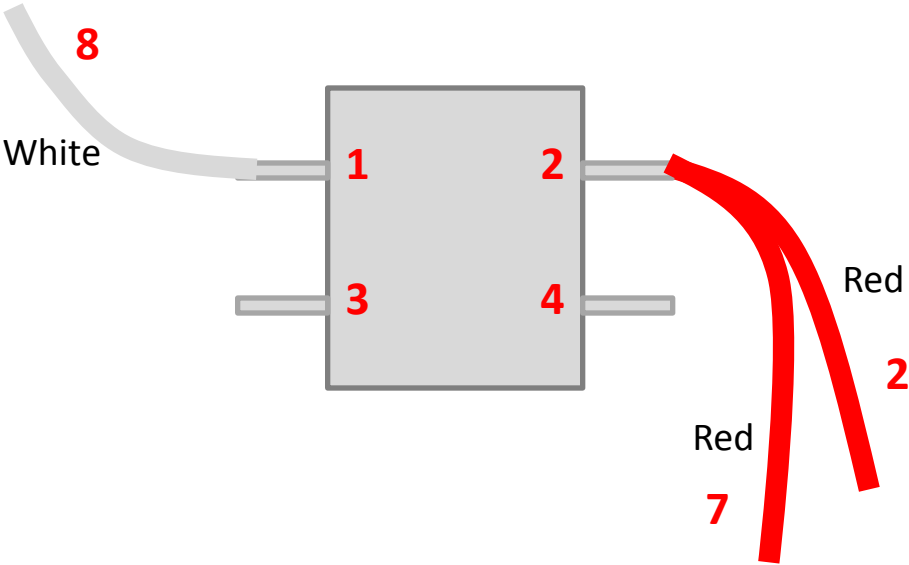
- The resistor can be replaced during the PCB assembly replacement. When the mower stops slowly without a brake. The cables may be disconnected from the feet of resistor or the resistor may be broken. Re-solder the cables or replace the resistor.
- To replace the resistor, solder the two cables (1#, 9#) from the damaged resistor and replace with a new one.



Description	Part Number	SPEC
Resistor	4970295000	0.5ohm \pm 10% 60W

To Replace the Position Switch

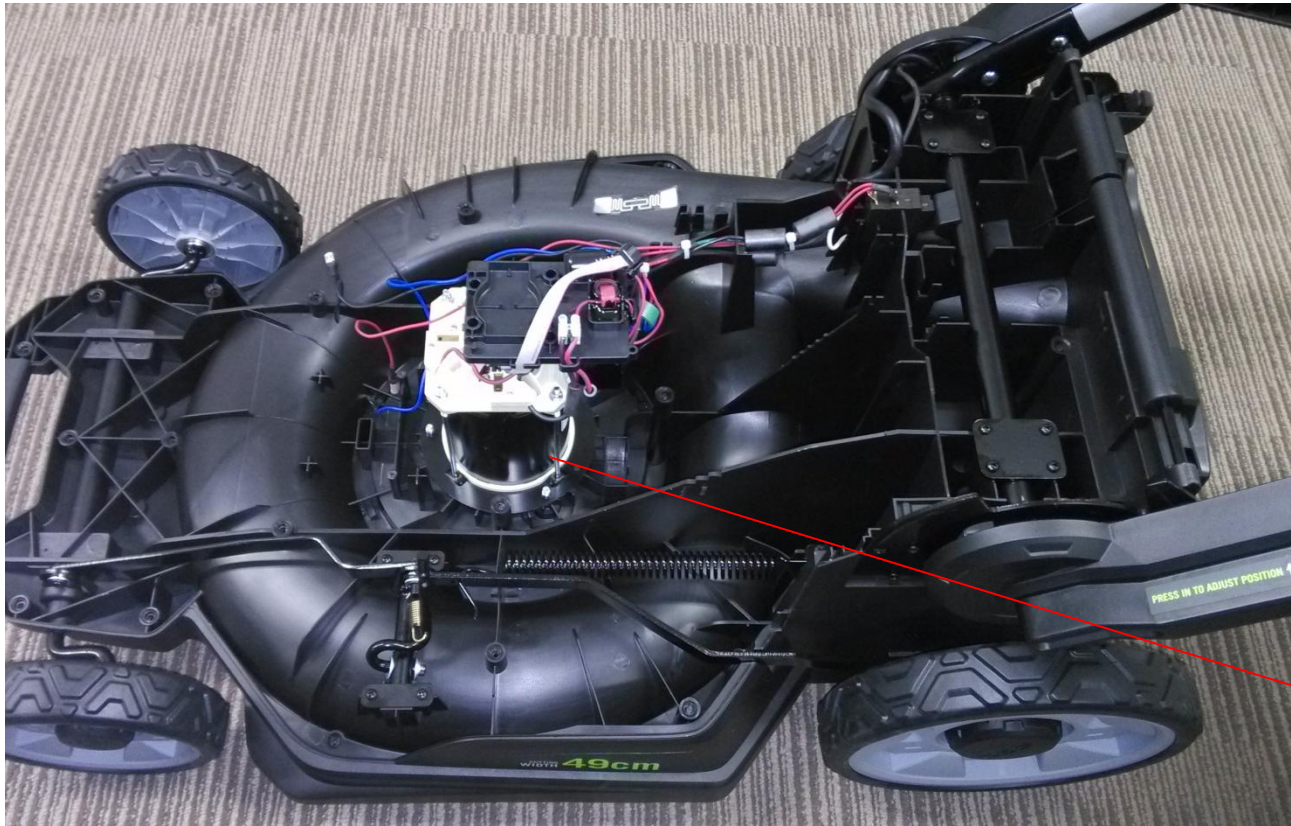
- To replace the switch, solder the white cable (8#), red cables (2#, 7#) from the broken switch and replace with a new one.



Description	Part Number	SPEC
Push switch	4870501000	25A 50VDC 1E4 TUV/CE ,25A 60VDC 1E4 UL/CUL

PART 2.6: DC MOTOR ASSEMBLY

PART 2.6: Disassemble/Assemble the Motor Assembly

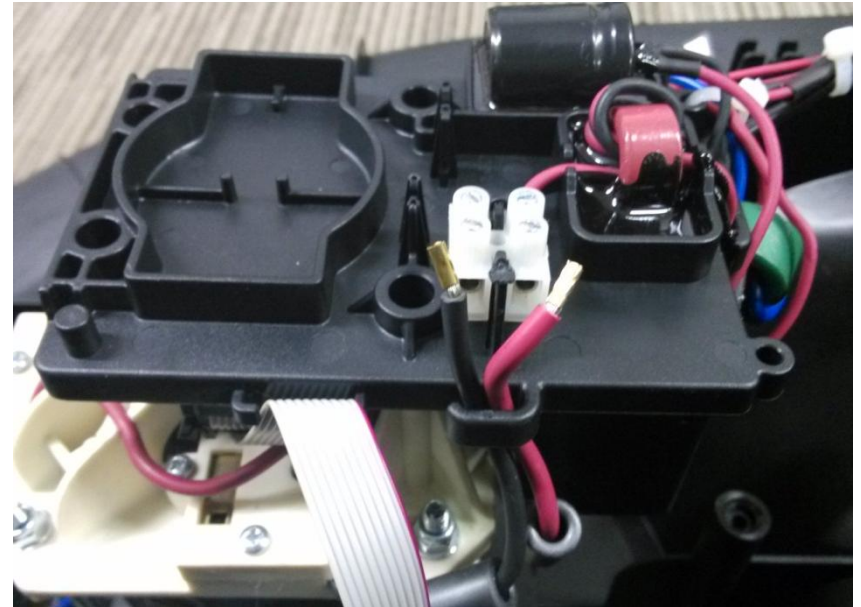
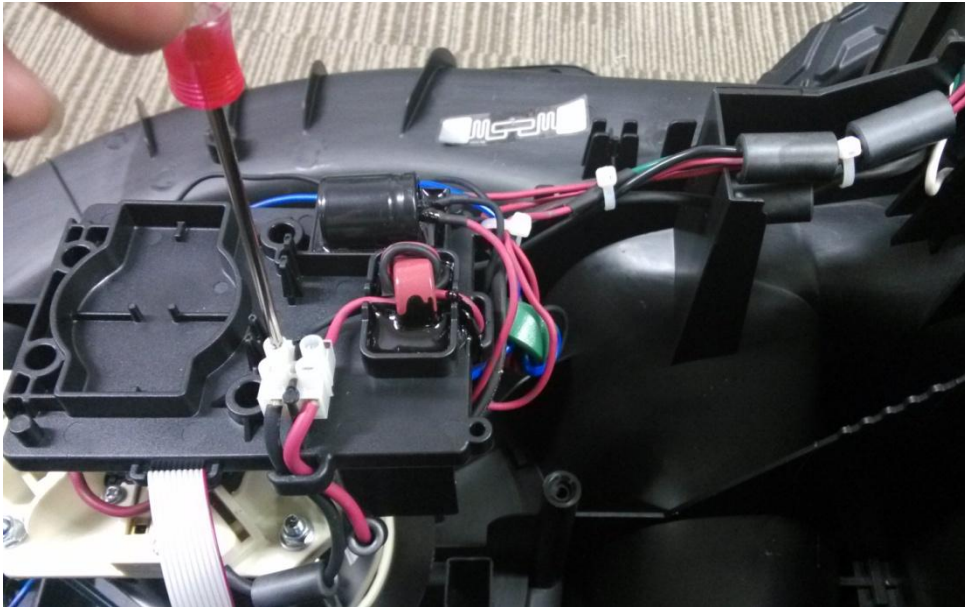


DC Motor Assembly

Description	Part Number	SPEC
DC Motor Assembly	2823675000	---

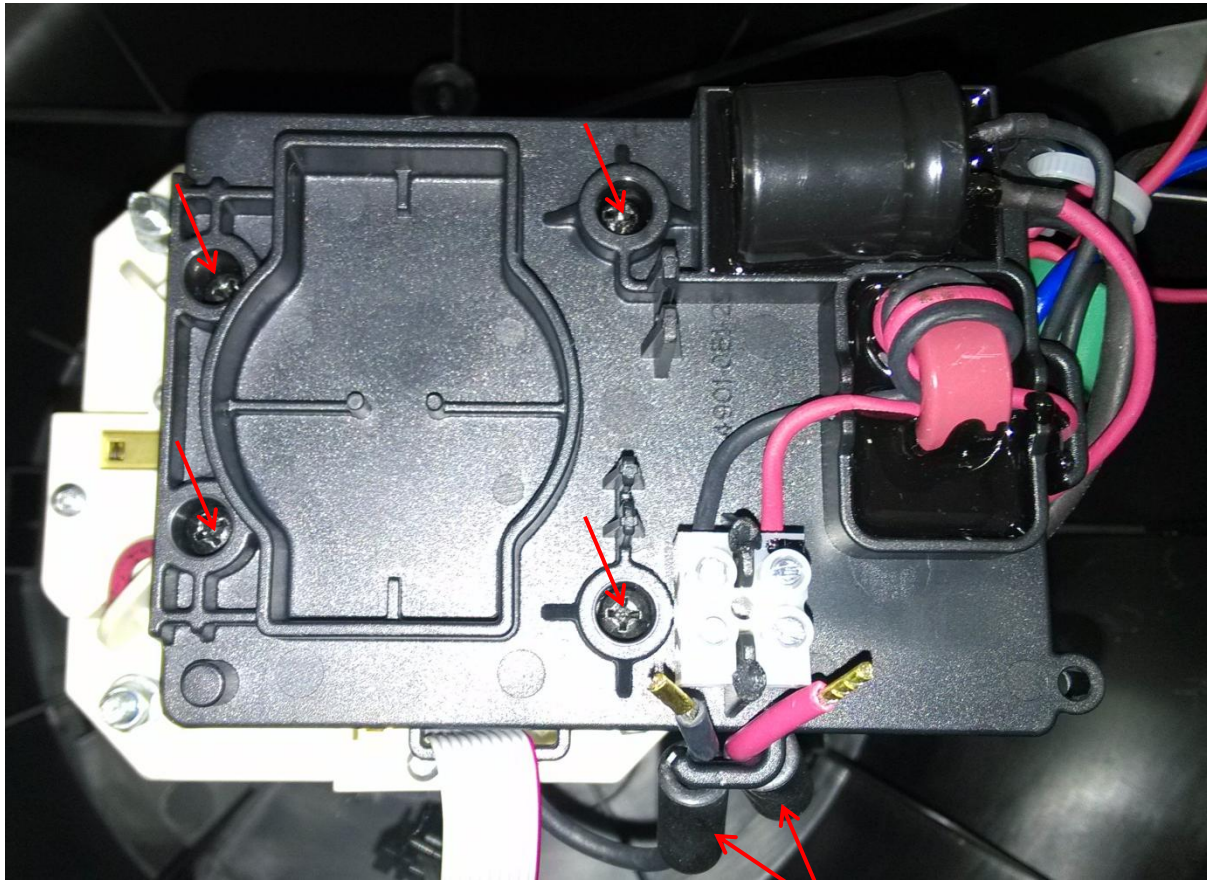
Motor Assembly Replacement

1. Detach the housing cover assembly from the mower (see Part 2.1)
2. Loosen the locking screws in the terminal to disconnect the two motor cables.
- 3. Test the motor by connecting the motor cables to a DC supplier (43VDC). If the motor doesn't run, replace the motor. Otherwise check other possible cause, e.g. PCBA.**
 - Warning: Before turning on the motor, clean the ground under the deck. Always keep your hands, feet away from the deck and blade.**



Motor Assembly Replacement

3. Remove the four screws in PCB, then take the PCB apart from the motor, take off the two magnet rings on the red and black cables.

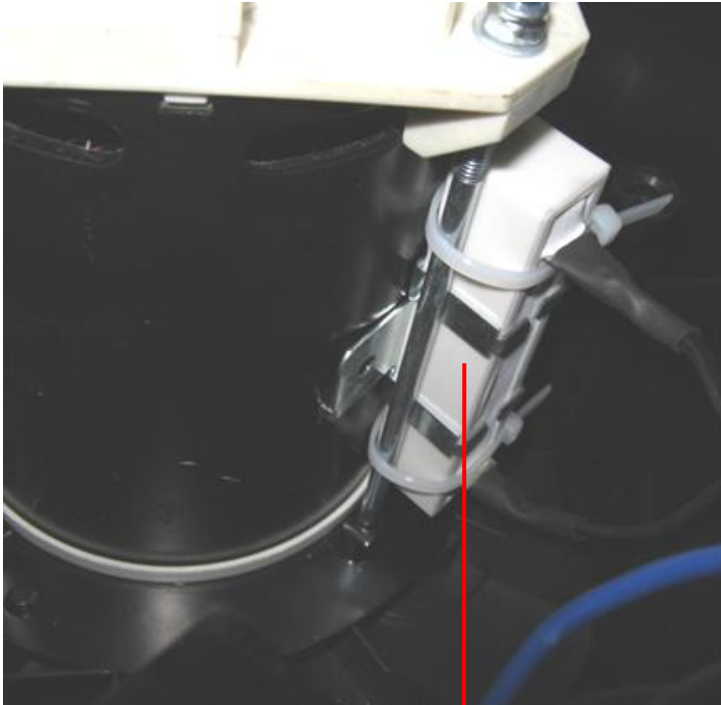


Magnet ring

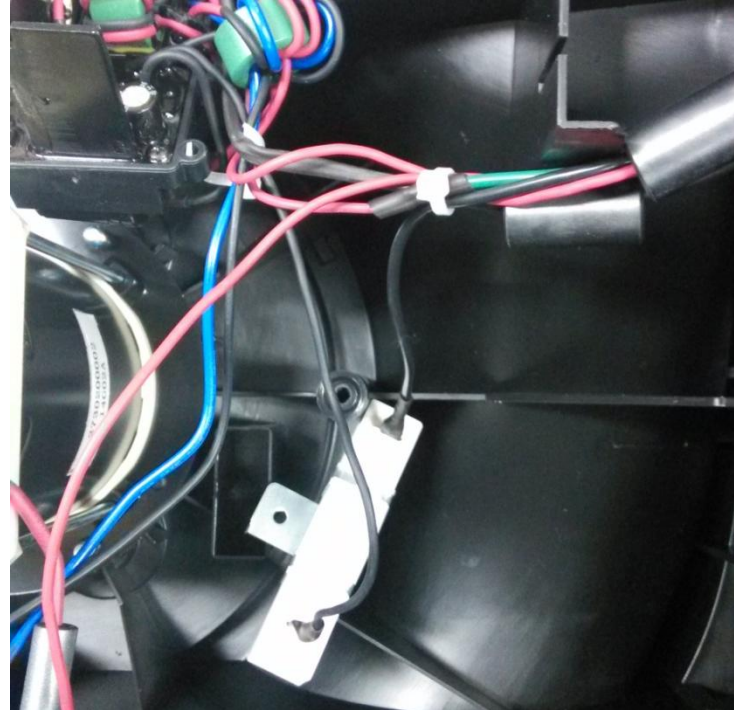
Description	Part Number
Magnet Ring	3680152000

Motor Assembly Replacement

4. Cut off the Zip Ties with diagonal pliers to remove the big resistor from the motor body.



Resister

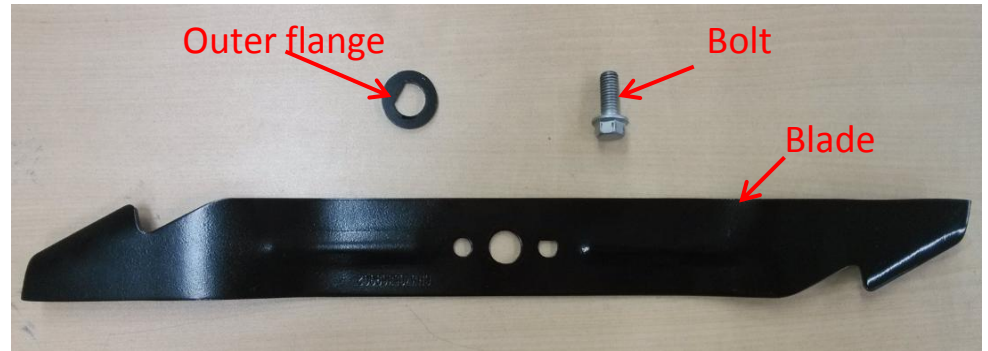
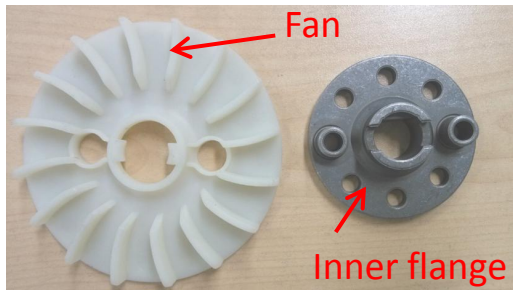


Motor Assembly Replacement

5. Turn the mower on its side.
6. See **Part 1 Blade Remove & Installation** to remove the bolt, the outer flange and the blade.
7. Take off the inner flange and fan from the motor shaft.

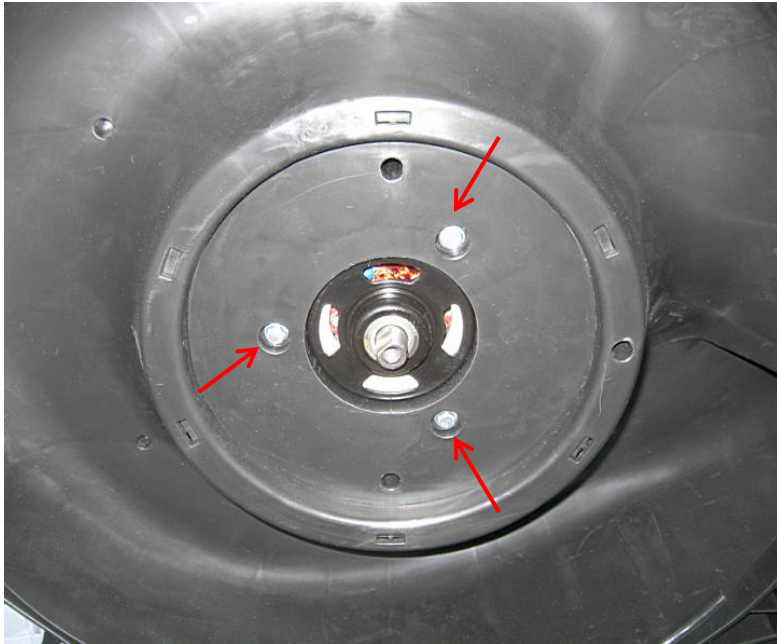


Description	Part Number	SPEC
Bolt	5640226000	---
Outer flange	5650510000	---
Blade	3705369000	---
Inner flange	3520852000	---
Fan	3127847000	---



Motor Assembly Replacement

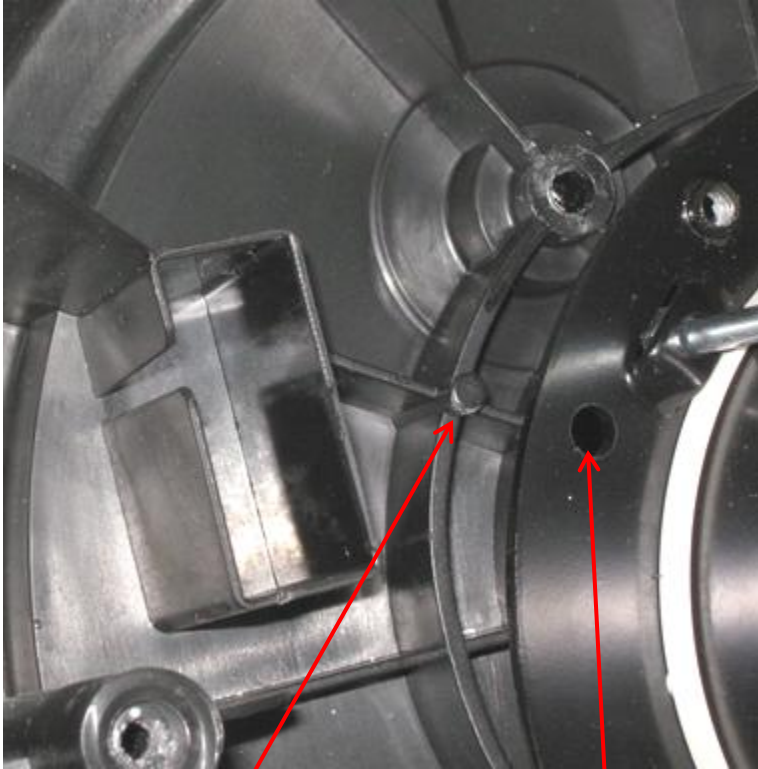
8. Place a Use a 10mm socket to loose the three bolts in the deck; grasp the motor when loosening the last bolt and prevent the motor from dropping.
9. Take the motor away from the deck.
10. Replace with a new motor.



Description	Part Number	QTY
Bolt and washer set	5640217000	3

Motor Assembly Replacement

11. Align the hole in the motor base with the knob on the deck, then position the motor on the deck .



Knob on the deck

Hole in the motor base



Motor Assembly Replacement

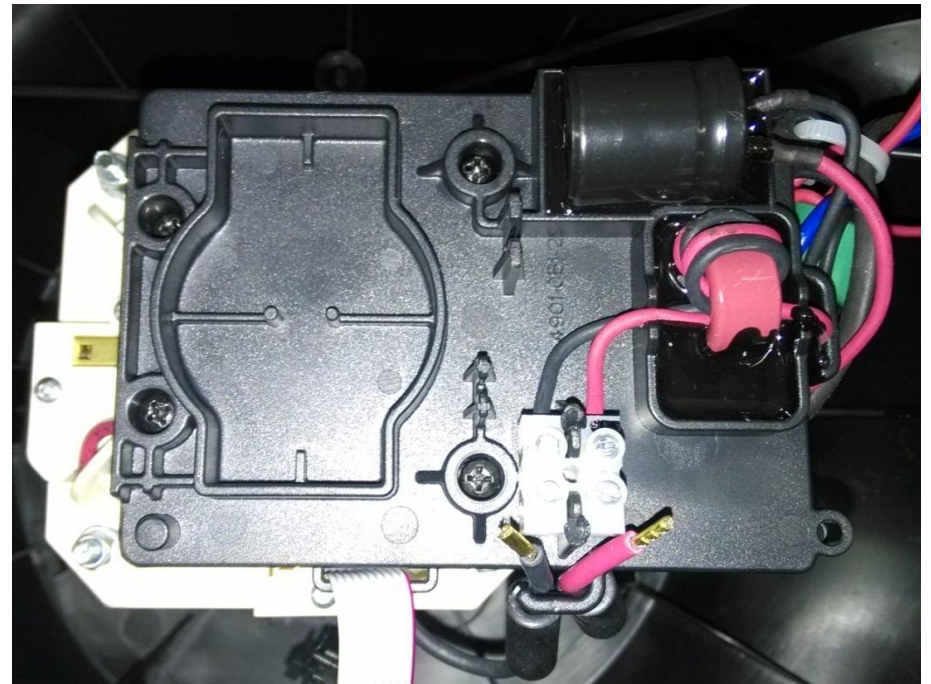
12. Put the spring washer, flat washer on the bolt in turn.
13. With one hand grasping and holding the motor, using a 10mm socket to lock the motor to the deck with these bolts.



Motor Assembly Replacement

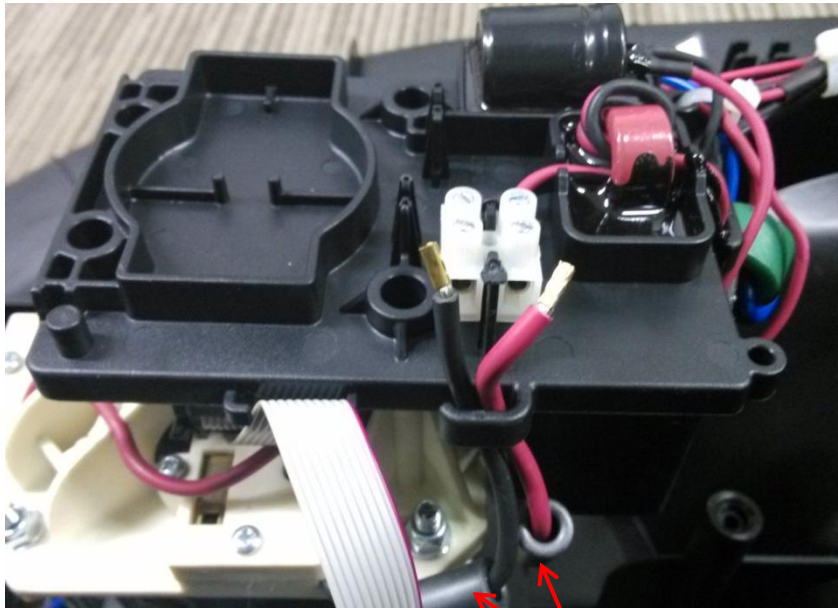
14. Mount the 3-pin plug on the terminals of the PCB and apply some silicon glue around the plug.
15. Fix the PCB on the motor with four screws.

3-Pin plug

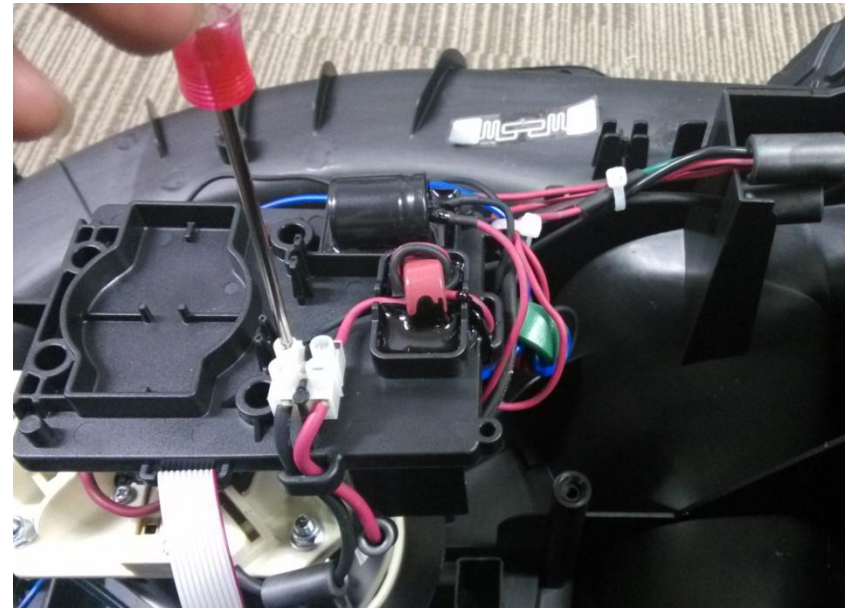


Motor Assembly Replacement

16. Place the two magnet rings through the red and black motor cables, connect the motor cables in the terminal and lock them by tightening the screws.(red cable to red cable, black cable to black cable)
17. Align the motor cables to the wiring groove.

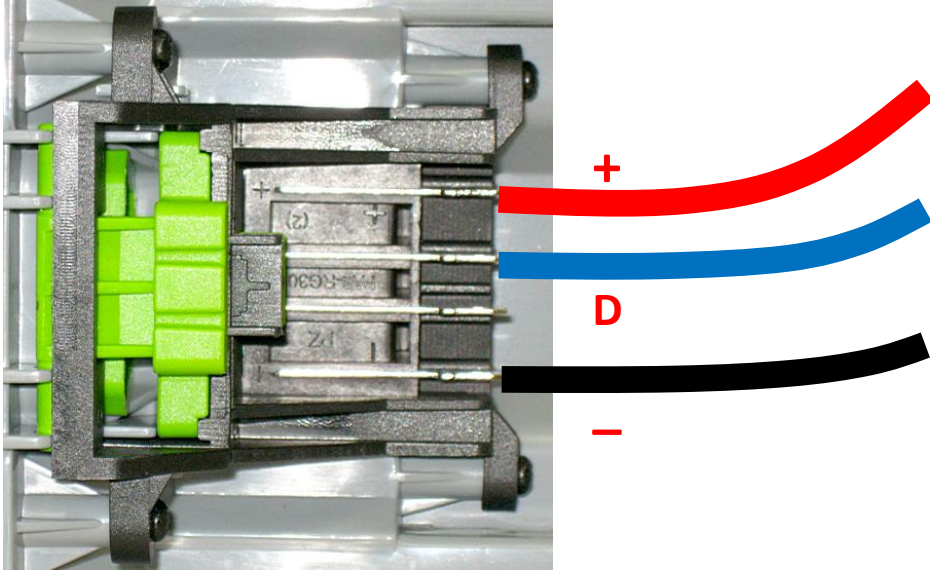


Magnet ring



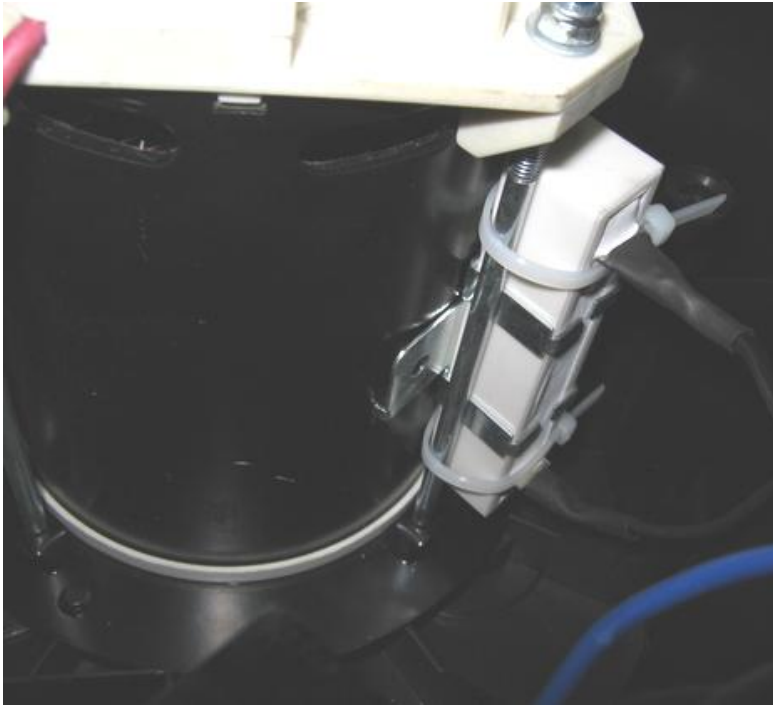
Motor Assembly Replacement

18. Test the new motor
 - a) Plug the three connectors to the electric contacts on the battery case.
 - b) Insert a full charged battery pack in to the battery case.
 - c) Adjust the handle to the operating position and fully extend the side rails and lock with the side clamps.
 - d) Turn on the mower and observe if the motor runs freely with correct direction.



Motor Assembly Replacement

19. Fix the big resistor to the motor body with two Zip Ties, and cut the excess.
20. Turn the mower on its side.
21. Install the blade, following **Part 1 Blade Remove & Installation**. The recommended torque for the blade bolt is 49-59Nm.



PART 3: BATTERY COMPARTMENT

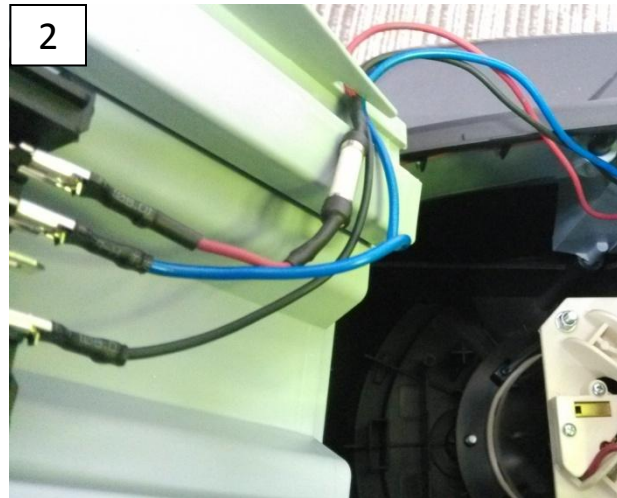
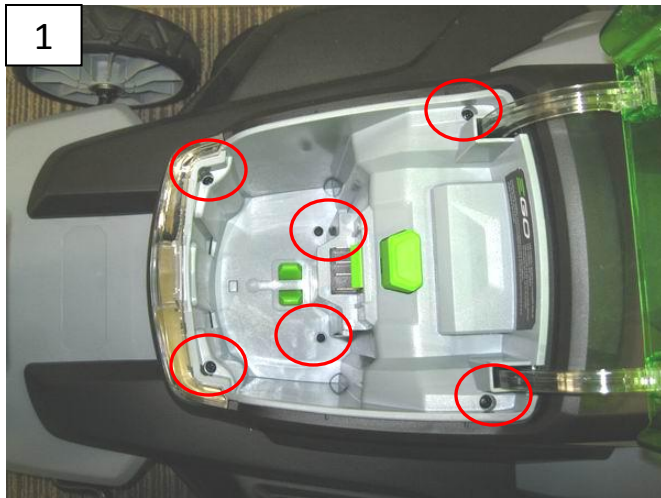
PART 3: Disassemble/Assemble the Battery Compartment Assembly



Description	Part Number	SPEC
Battery Compartment Assembly	2823667000	---

Battery Compartment Assembly Replacement

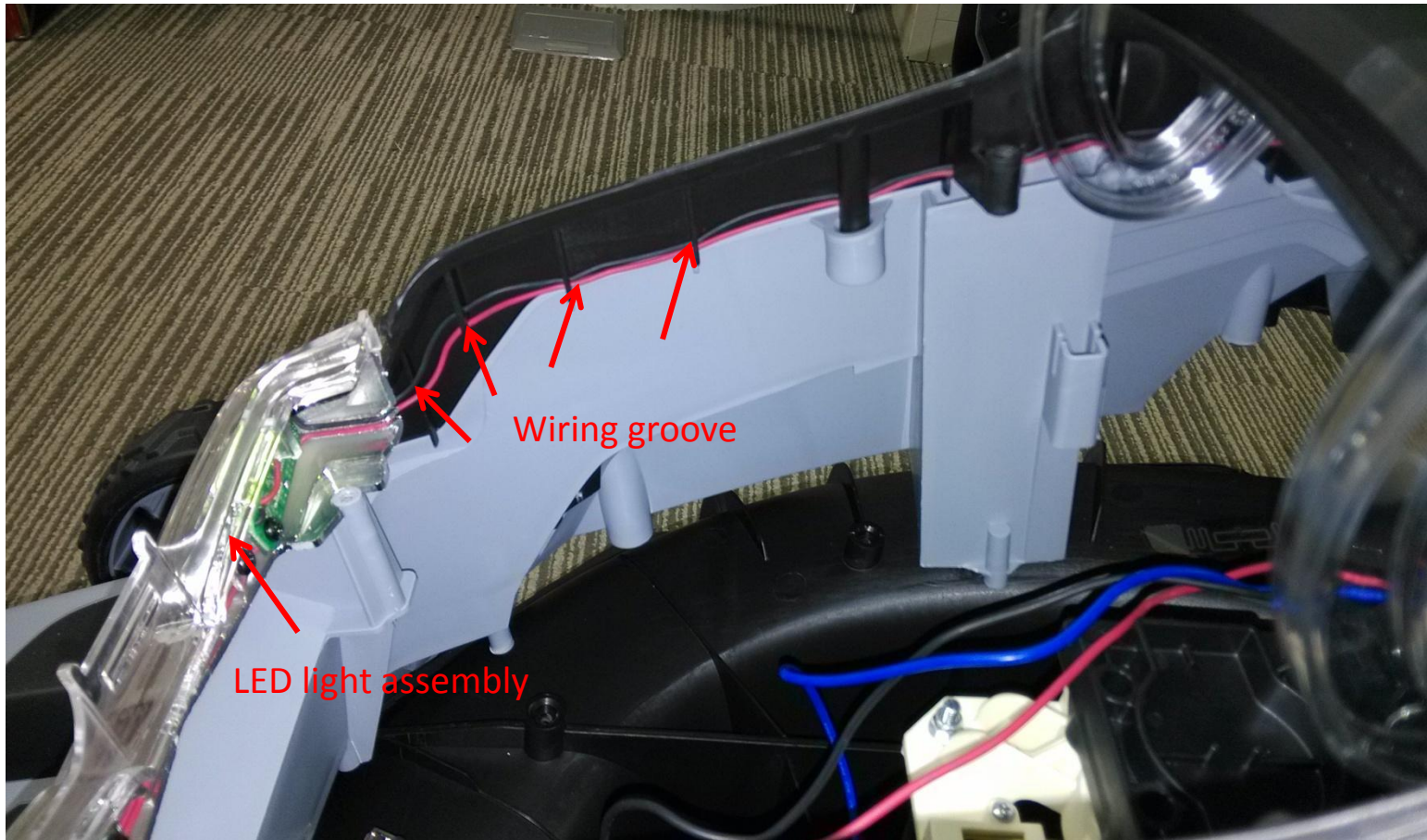
1. Loosen and remove the six tapping screws (Fig. 1)
2. Take out the battery compartment carefully from the mower and unplug the three connectors from the battery case. (Fig. 2)
3. The battery case assembly is detached as Fig. 3.



Description	Part Number	SPEC
Tapping Screw	5610042000	ST4.2x19-F-H

Battery Compartment Assembly Replacement

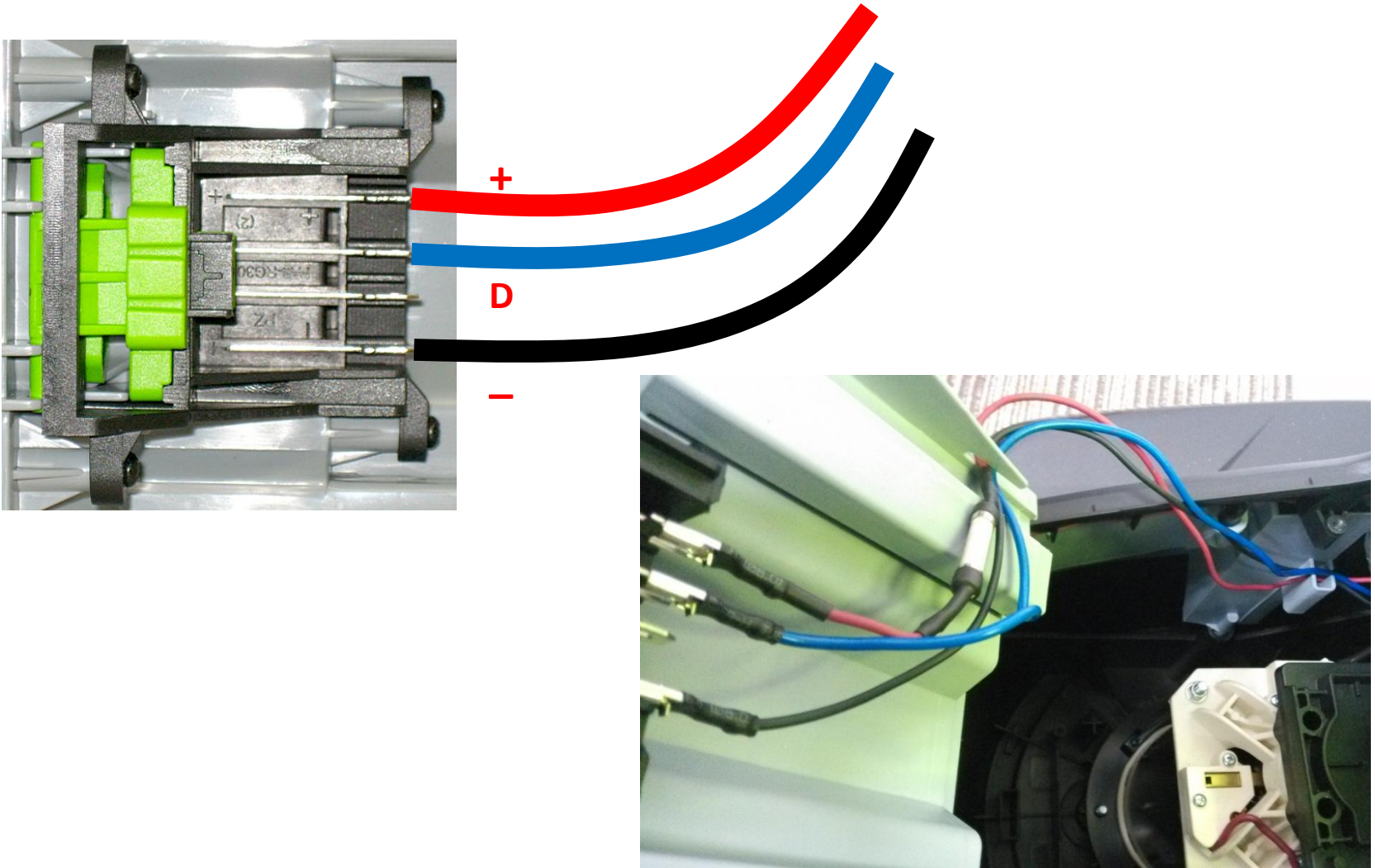
4. Replace with a new battery compartment assembly.
5. Position the LED light assembly (if it came out from the housing cover)
 - a) Put the LED light assembly to the mounting location



Battery Compartment Assembly Replacement

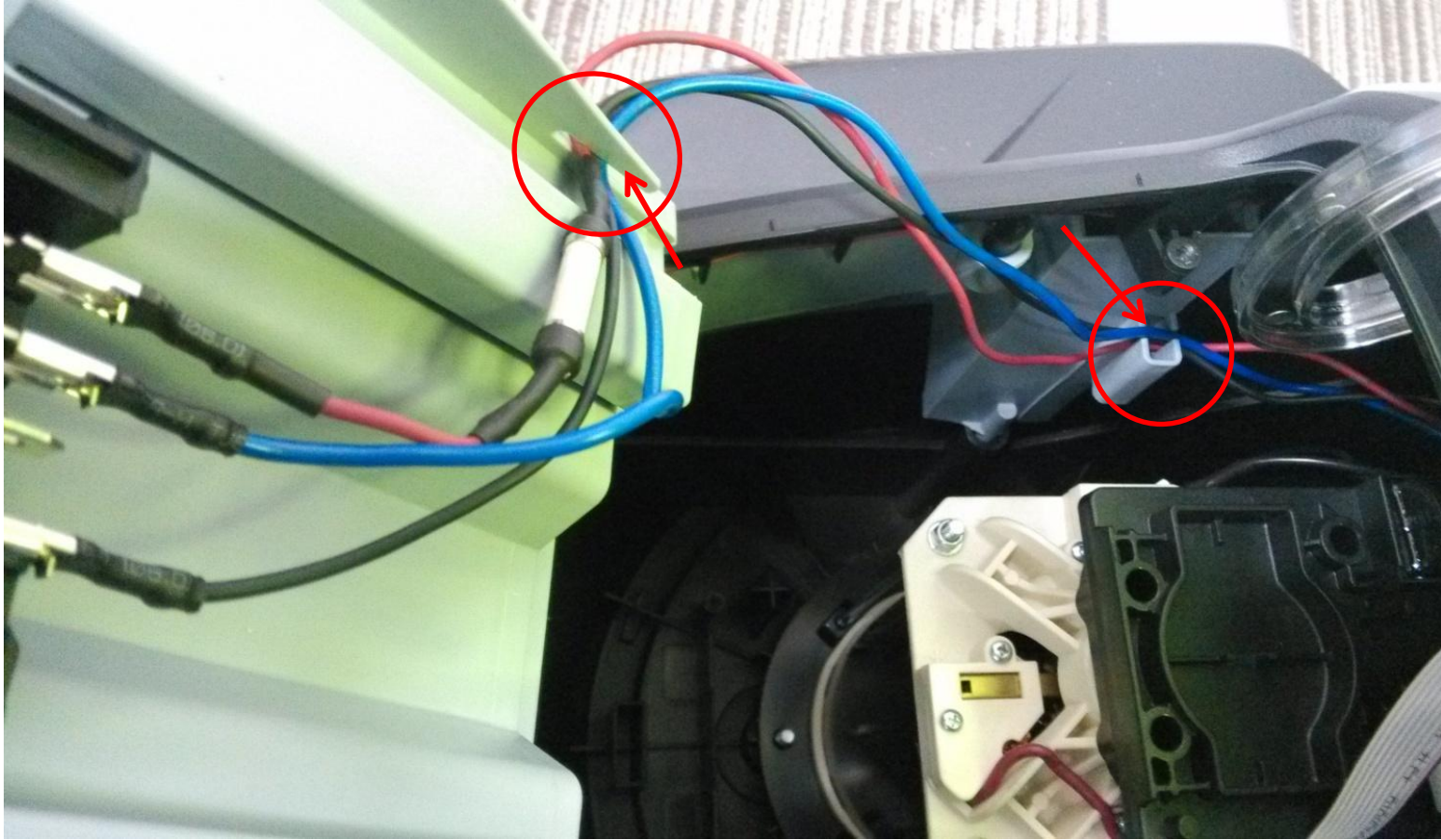
6. Install the battery compartment

- a) Plug the three connectors to the electric contacts on the battery compartment.



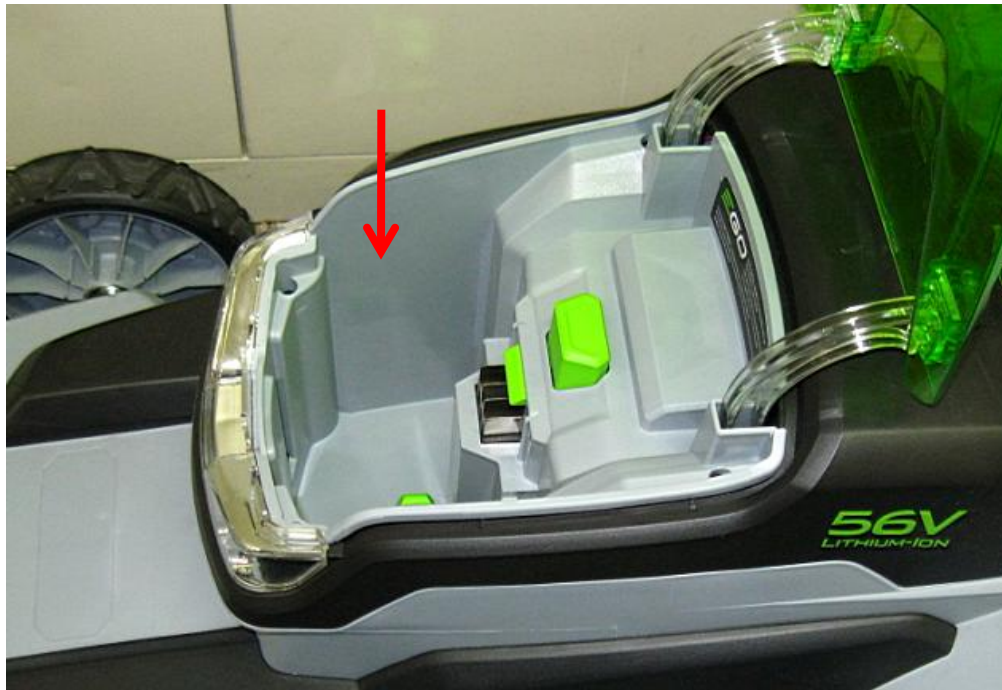
Battery Compartment Assembly Replacement

b) Align the cables to the wiring groove .



Battery Compartment Assembly Replacement

- c) Insert the battery compartment into the housing cover.
- d) Insert an EGO battery pack and test if the mower can operate properly.
- e) Lock it with six tapping screws.



Description	Part Number	SPEC
Tapping Screw	5610042000	ST4.2x19-F-H

PART 4: TOP HANDLE & SWITCH BOX COVER

PART 4: TOP HANDLE & SWITCH BOX COVER

- When open the switch box covers, the following relevant parts can be replaced:

Description	Part Number	SPEC
Main switch	4870501000	25A 50VDC 1E4 TUV/CE ,25A 60VDC 1E4 UL/CUL
Switch lever	3705372000	---
Top handle	2823782000	---
Top & bottom switch box cover	2824099000	---



Open the Switch Box Cover

1. Fold the handle to the grass bag removal position.
2. Remove the tapping screws (13 pcs) and hexagon socket screws (4 pcs) from the housing.



Description	Part Number	SPEC
Tapping Screw	5610032000	ST4x16
Hexagon Socket Screw	5610064000	M5x55

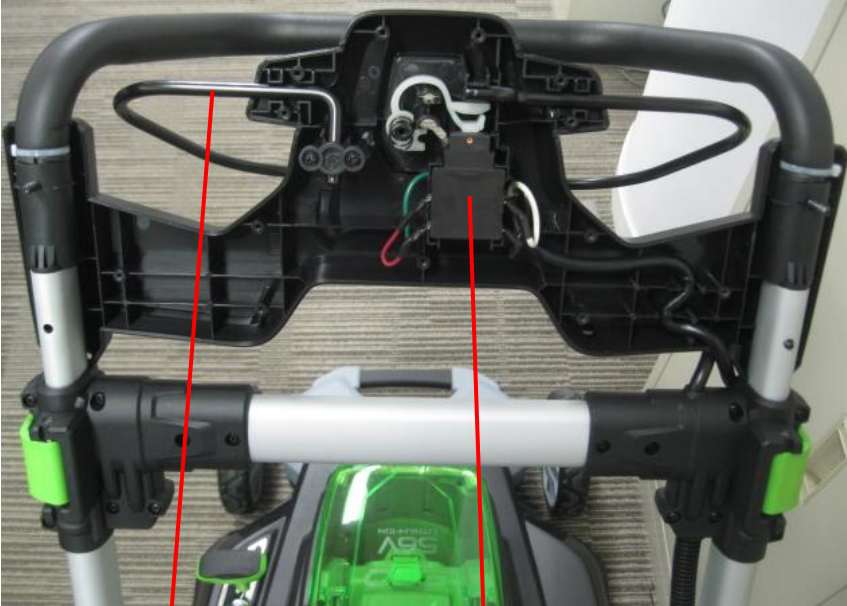
Open the Switch Box Cover

3. Remove bottom switch box cover gently from the top switch box cover to open them.



Top switch box cover

Bottom switch box cover

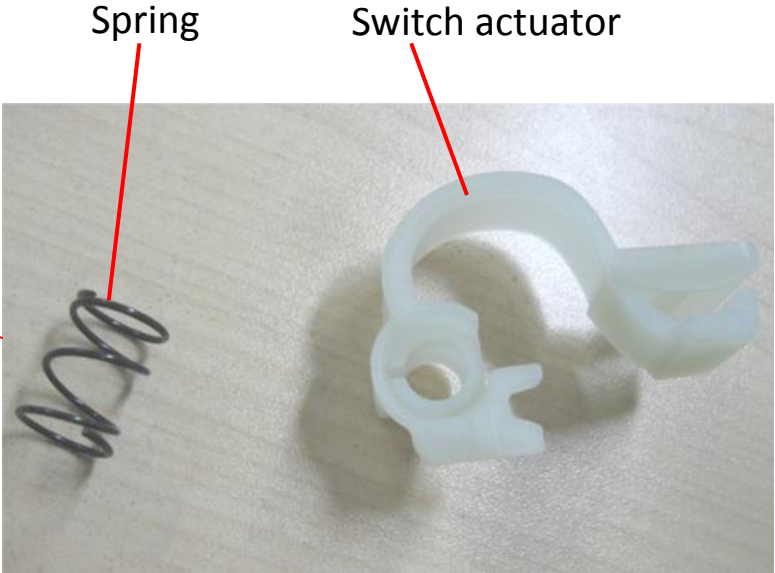
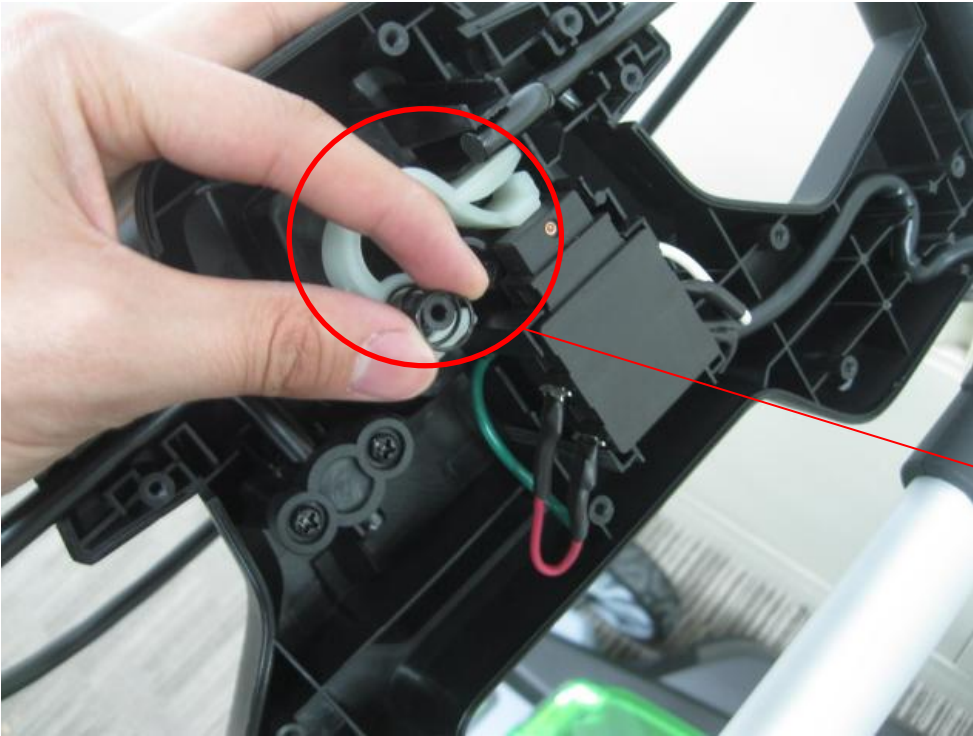


Switch lever

Main switch

Open the Switch Box Cover

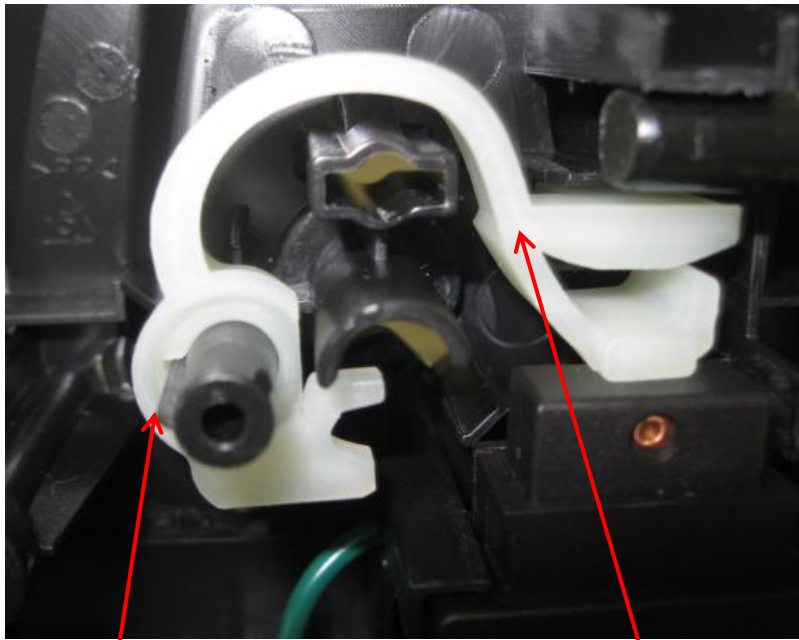
4. Take down the spring and switch actuator from the top switch box cover.



Description	Part Number	SPEC
Spring	3660599000	---
Switch Actuator	3127848000	---

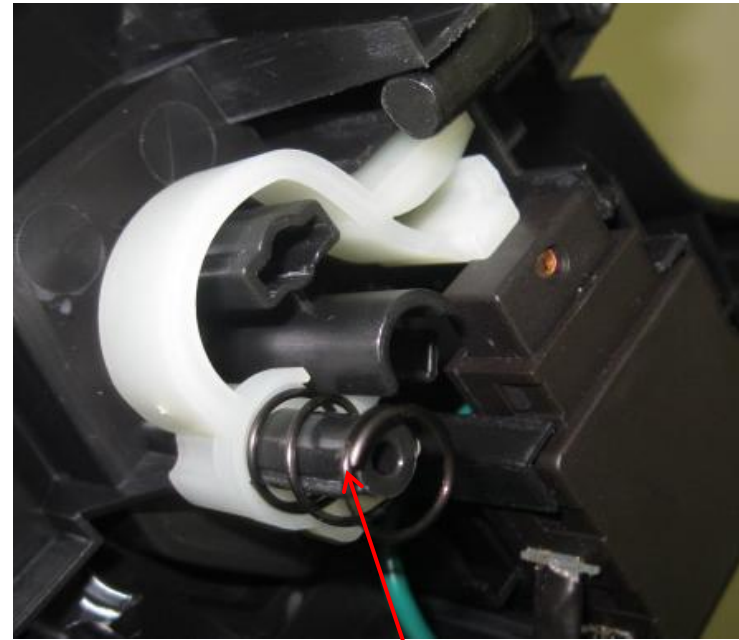
Close the Switch Box Cover

1. Align the groove in the switch actuator with the raised rib on the pole, mount the switch actuator to the top switch box cover.
2. Put the spring through the pole and mount it on the switch actuator.



Rib on the pole

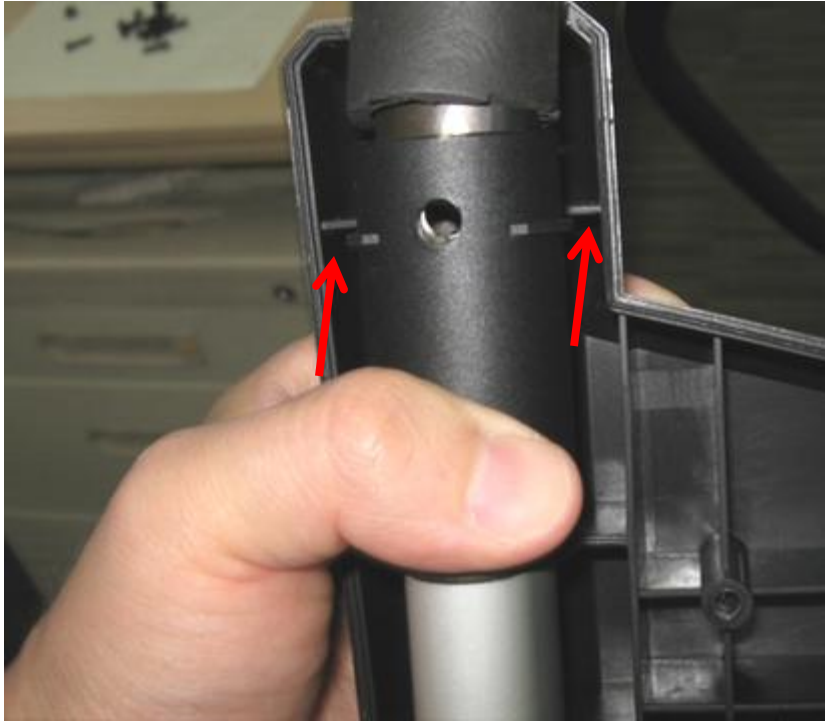
Switch actuator



Spring

Close the Switch Box Cover

3. Mount the top switch box cover to the handle, make sure the ribs on the handle locating between the ribs on the switch box cover.



Close the Switch Box Cover

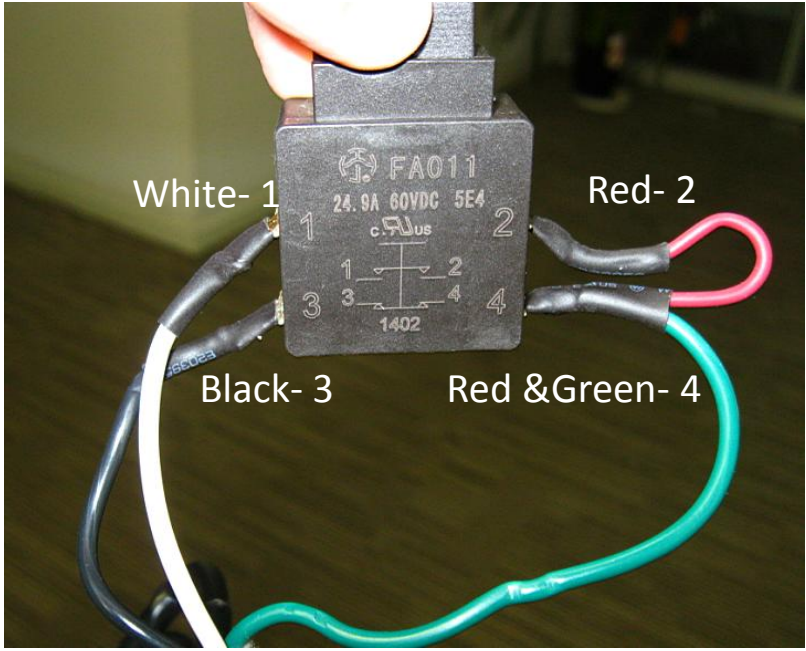
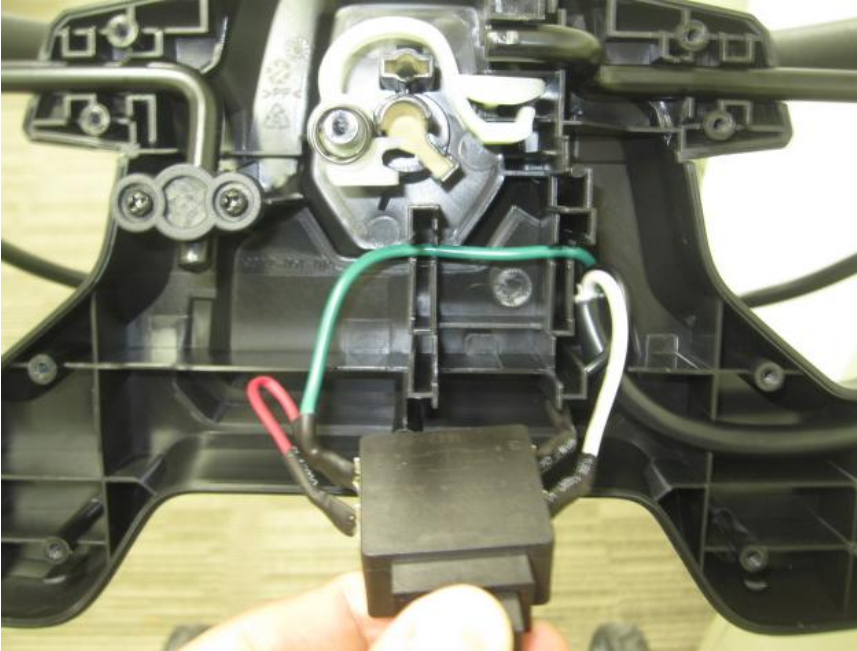
4. Check the cables and make sure they are aligned in the wiring grooves, then close the bottom cover.
5. Grasp the top and bottom cover with one hand, lock them with screws.



Description	Part Number	SPEC
Tapping Screw	5610032000	ST4x16
Hexagon Socket Screw	5610064000	M5x55

To Replace the Main Switch

- a) Take out the main switch from the top switch box cover.
- b) Replace with a new switch if it is broken.



Description	Part Number	SPEC
Switch	4870501000	---

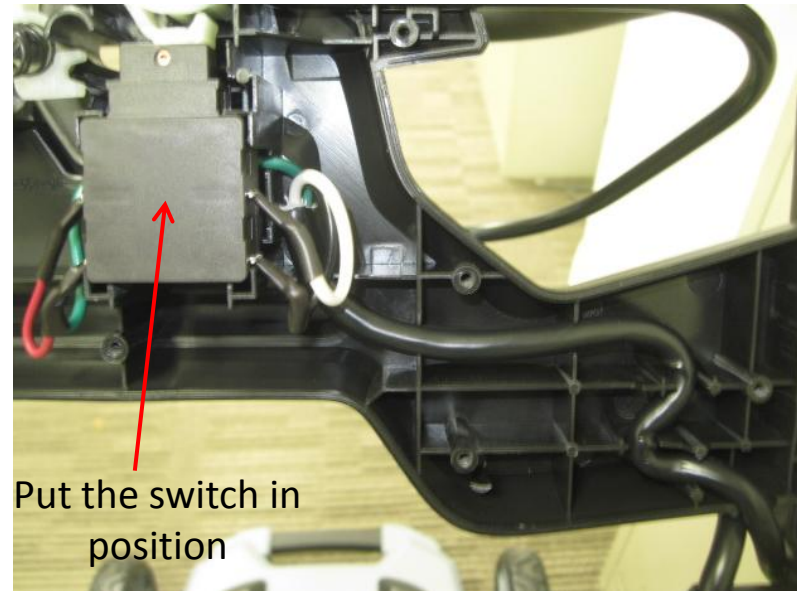
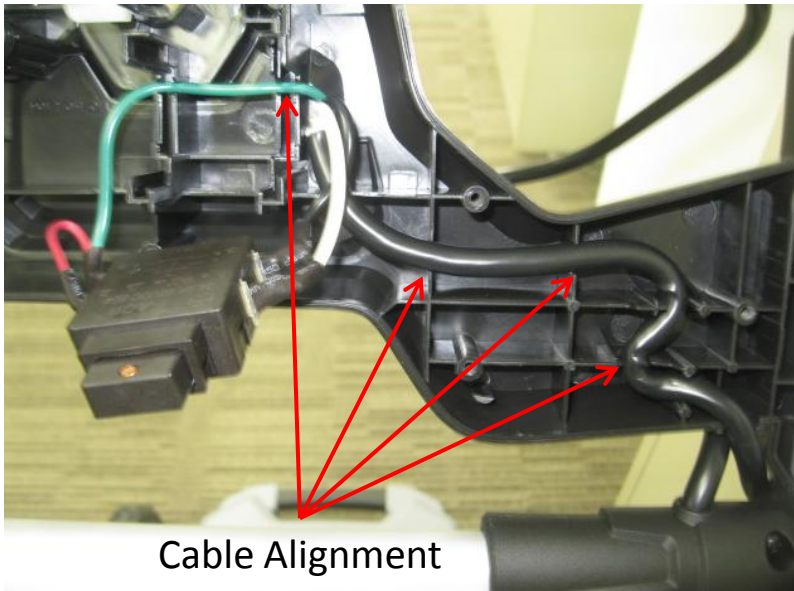
To Replace the Main Switch

c) Test the switch :

- Insert a full charged battery pack in to the battery case.
- Adjust the handle to the operating position and fully extend the side rails and lock with the side clamps.
- Press the trigger to check if the mower can be turned on properly.

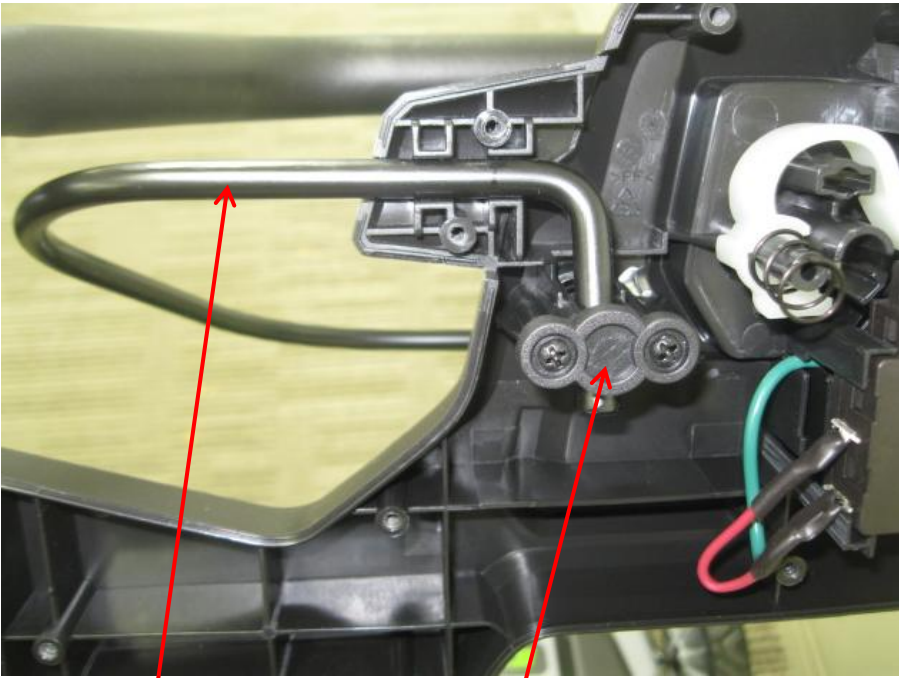
d) Align the green cable in the wiring groove, then put the main switch in the top switch box cover.

e) Align the cable in the wiring grooves.



To Replace the Switch Lever

- a) Loosen the two screws in the clamp and remove the clamp, spring and switch lever from the top switch box cover. Replace with a new switch lever if it appears any distortion or malfunction.



Switch lever

Clamp



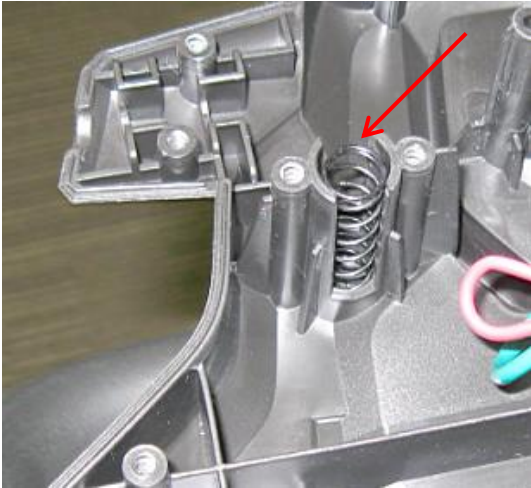
Spring

Switch lever

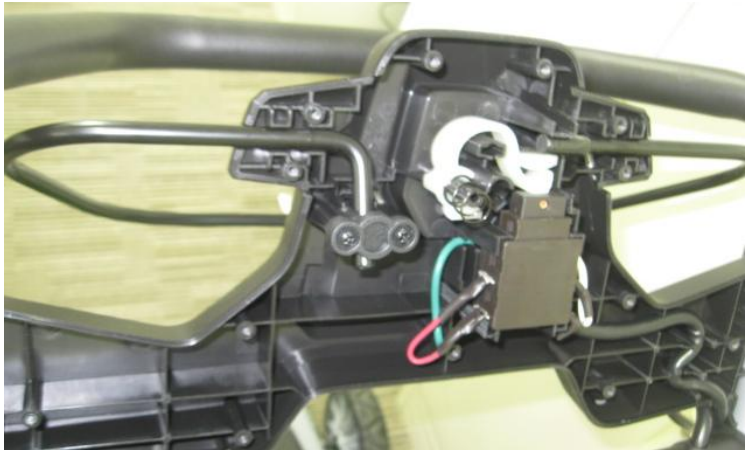
Clamp

To Replace the Switch Lever

- b) Put the spring in the hole, then mount the switch lever on the spring.
- c) Press the end of the switch lever with one hand, lock it with the clamp and screws.



Description	Part Number	SPEC
Switch lever	3705372000	---
Spring	3660562000	10.9x38
Clamp	3126763000	---
Tapping screw	5610032000	4x16



To Replace the Top Handle

- a) Pull the top handle and remove the handle from the plastic bushings in the two side aluminum tubes.
- b) Replace with a new one if it appears worn or broken.
- c) Insert the two sides into the plastic bushings and press them in place.



Description	Part Number	SPEC
Top handle	2823782000	---

To Replace the Top & bottom switch box cover

- a) Remove the main switch and cables from the top switch box cover.
- b) Remove the switch lever from the top switch box cover.
- c) Replace with a new set of covers.
- d) Refer to the previous slides to fix the main switch, switch levers in the top switch box cover.



Description	Part Number	SPEC
Top & Bottom switch box cover	2824099000	---

PART 5: HANDLE LOCKING CLAMP

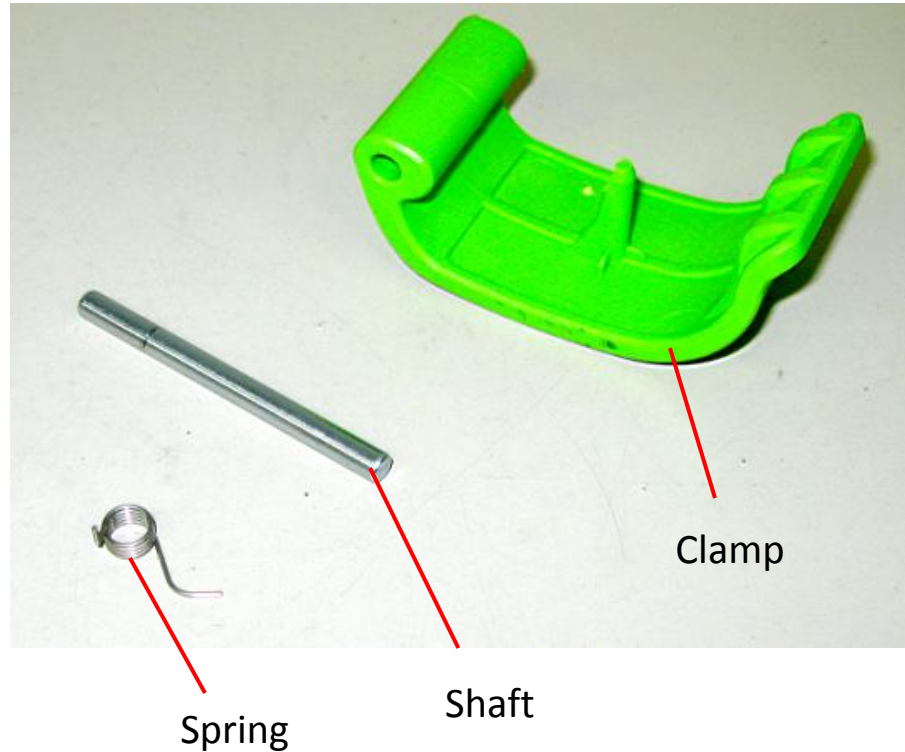
PART 5: Disassemble/Assemble the Handle Locking Clamp



Description	Part Number	Spec
Handle Locking Clamp Set	2823714000	---

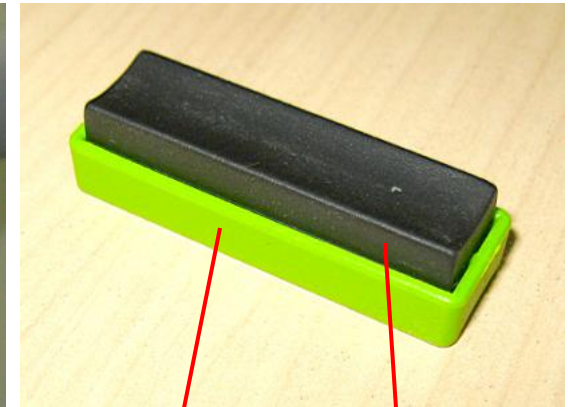
Handle Locking Clamp Replacement

1. Use a metal pole and a hammer to knock the shaft carefully and remove the clamp, shaft and spring from the tube.



Handle Locking Clamp Replacement

2. Move the handle downward to take out the rubber pad and rubber base.
3. Replace the broken or worn parts.



Rubber base

Rubber pad

Handle Locking Clamp Replacement

4. Put the rubber pad and rubber base into the cave, pay attention the rubber pad towards inside and the rubber base towards outside.



Handle Locking Clamp Replacement

5. Insert the short foot of the spring into the hole in the clamp, then mount the clamp to the joint.



Handle Locking Clamp Replacement

6. Insert the shaft and knock it with a hammer until the lower side is flush with the housing surface.
7. Test the clamp. The side rails should be locked stably by the two clamps. They shall not retract when applying pushing force on the handle.



Handle Locking Clamp Replacement

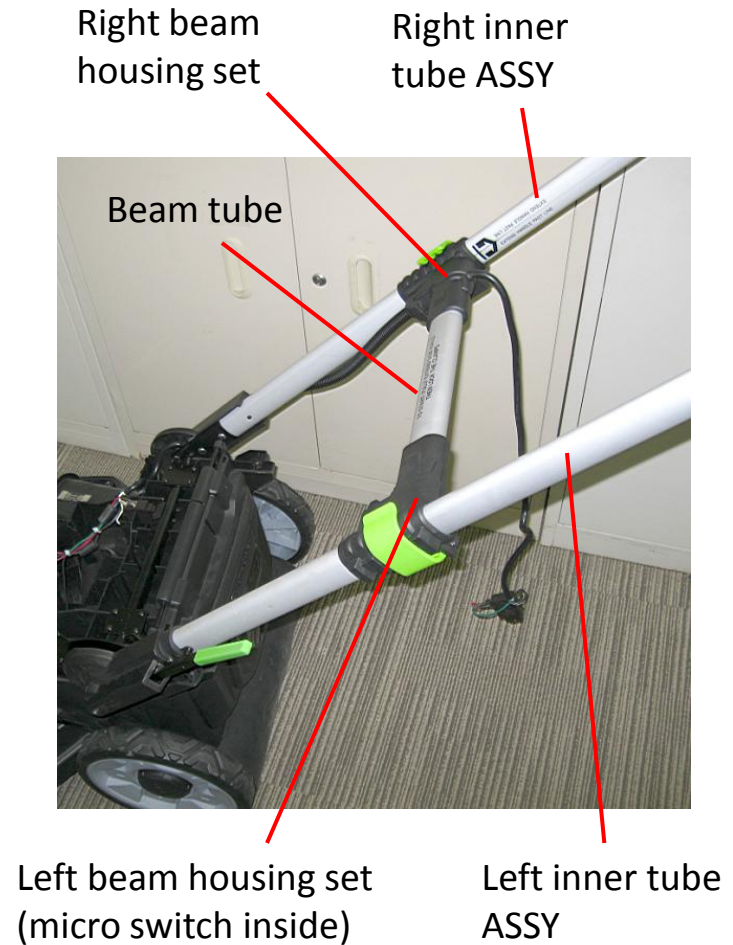
Description	Part Number	Picture
Handle Locking Clamp Set	2823714000	

PART 6: LEFT/RIGHT BEAM HOUSING

PART 6: Left/Right Beam Housing

- When open the left/right beam housing, the following relevant parts can be replaced:

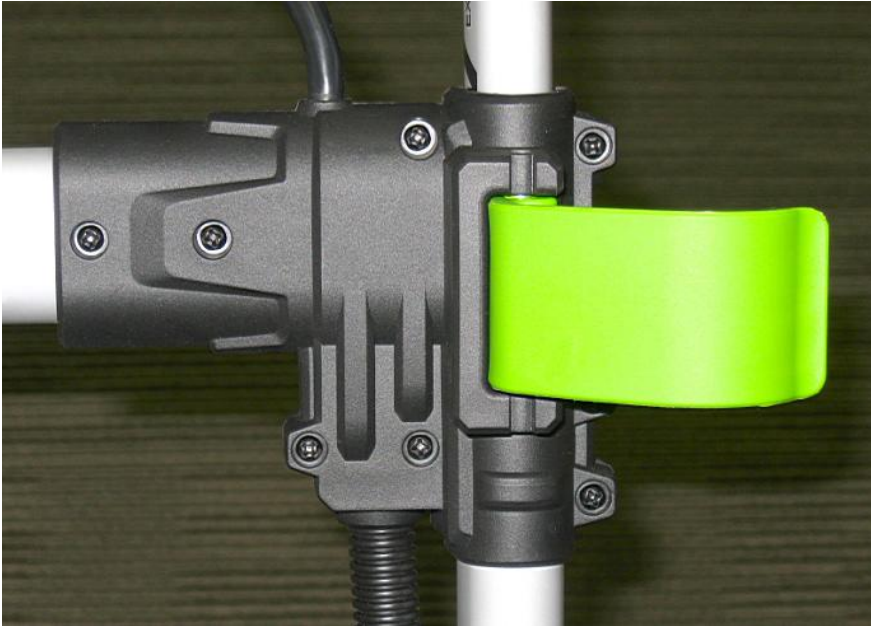
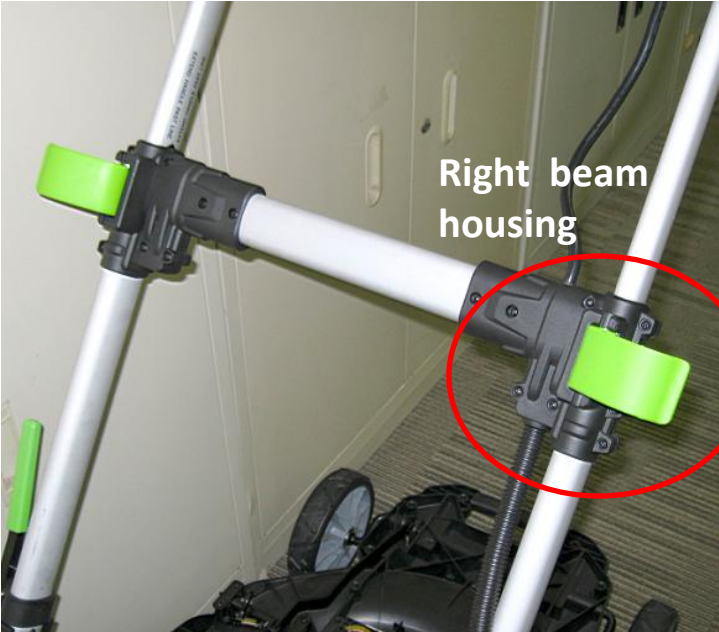
Description	Part Number
Micro switch	4870500000
Left beam housing set	2823783000
Right beam housing set	2823784000
Switch actuator	3126768000
Spring	3660287000
Left Inner Tube ASSY	2823082000
Right Inner Tube ASSY	2823781000
Beam tube	3705393000



Open the Right Beam Housing

- 1. Remove the 8 tapping screws to open the right beam housing

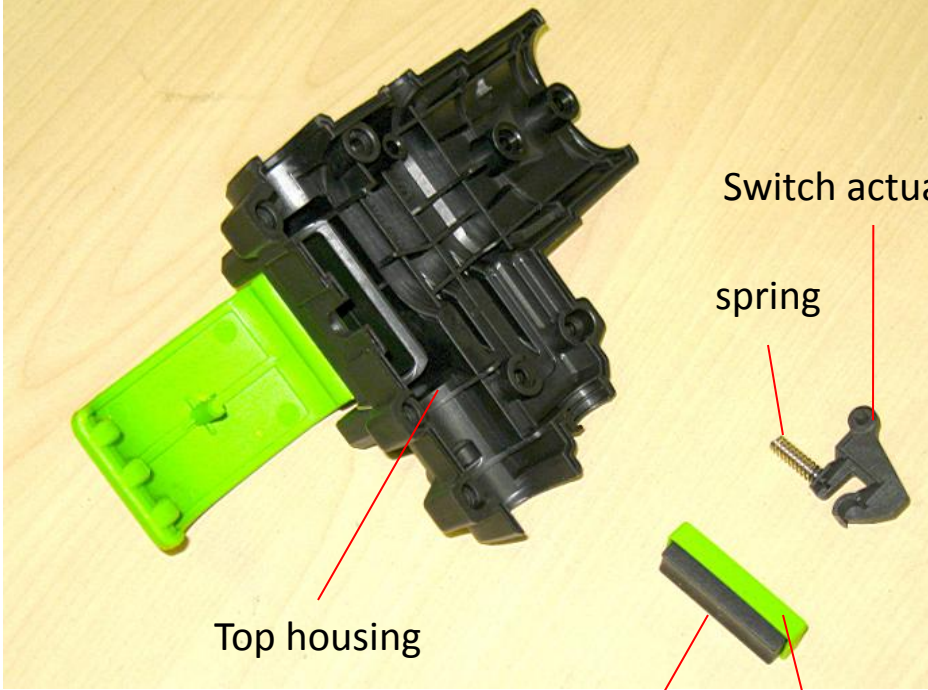
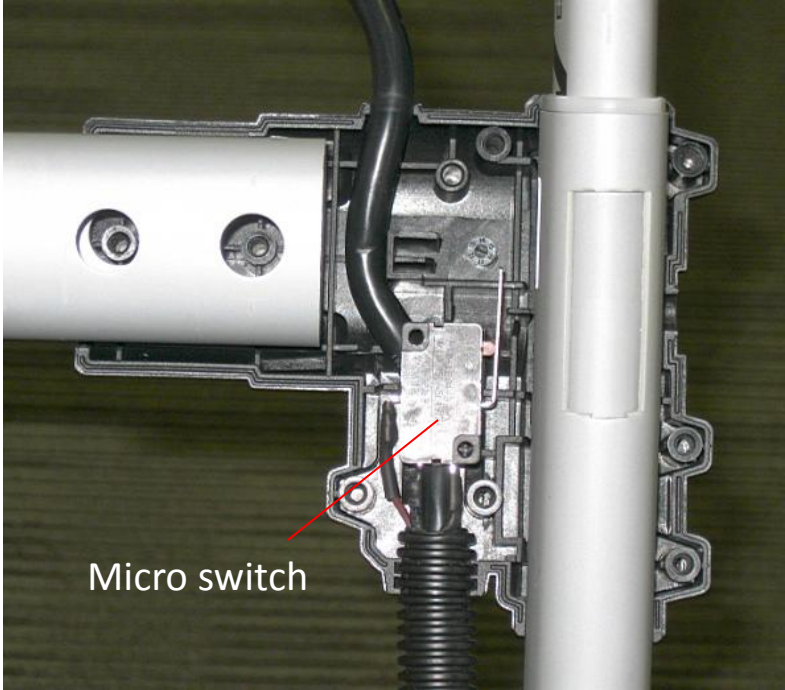
NOTE: The micro switch is located in the right beam housing.



Description	Part Number	SPEC
Tapping Screw	5610032000	ST4x16

Open the Right Beam Housing

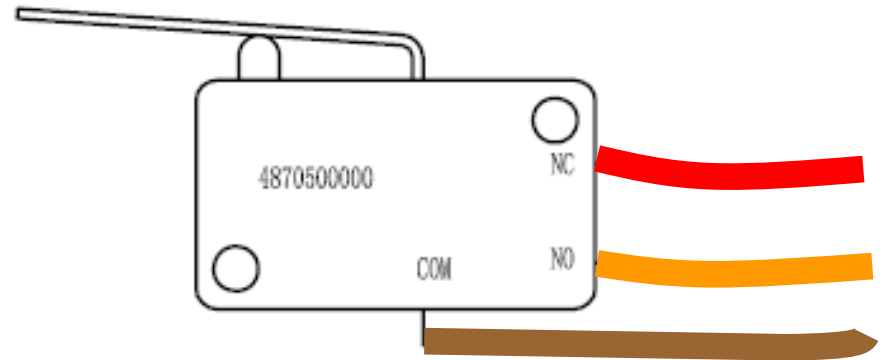
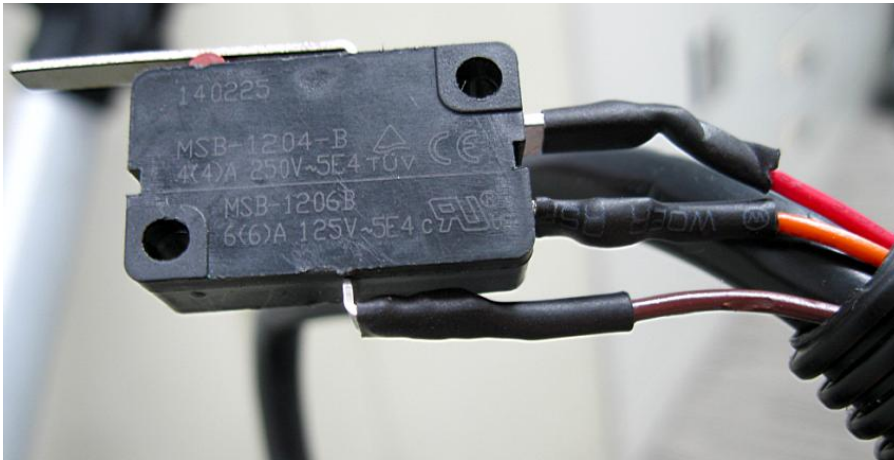
2. Take way the top housing, rubber pad and rubber base, switch actuator, spring(fixed on the switch actuator)



Description	Part Number	SPEC
Switch actuator	3126768000	
Spring	3660287000	

Open the Right Beam Housing

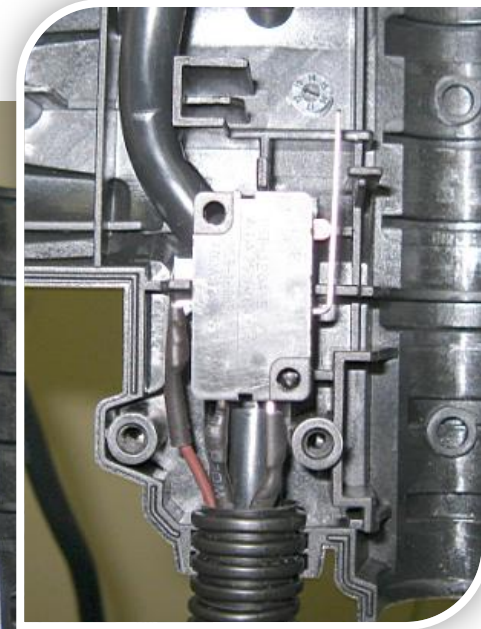
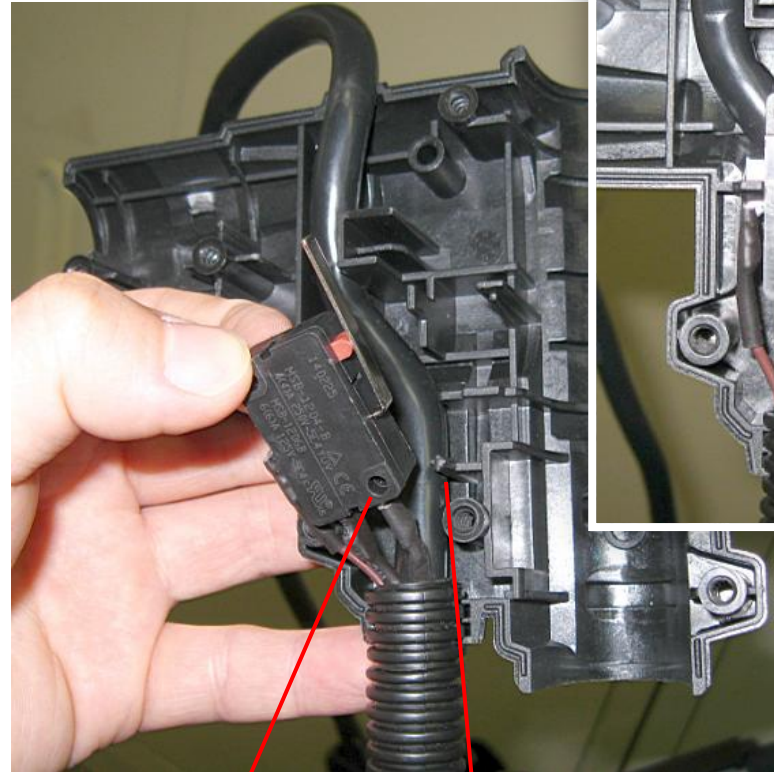
3. Take out the micro switch and cable from the bottom housing.
4. Replace with a new switch if it shows malfunction.
5. Test the micro switch.
 - Leave the trigger of the micro switch unpressed. Turn on the mower, the mower should be turned on properly.
 - Depress the trigger, the mower should stop running.



Description	Part Number	SPEC
Micro Switch	4870500000	4(4)A 250V~5E4 TUV/CE,6(6)A 125V~5E4 UL/CUL

Close the Right Beam Housing

1. Align the cable in the bottom housing; press the cable in place.
2. Align the locating hole with the locating pin on bottom housing, position the switch in position.

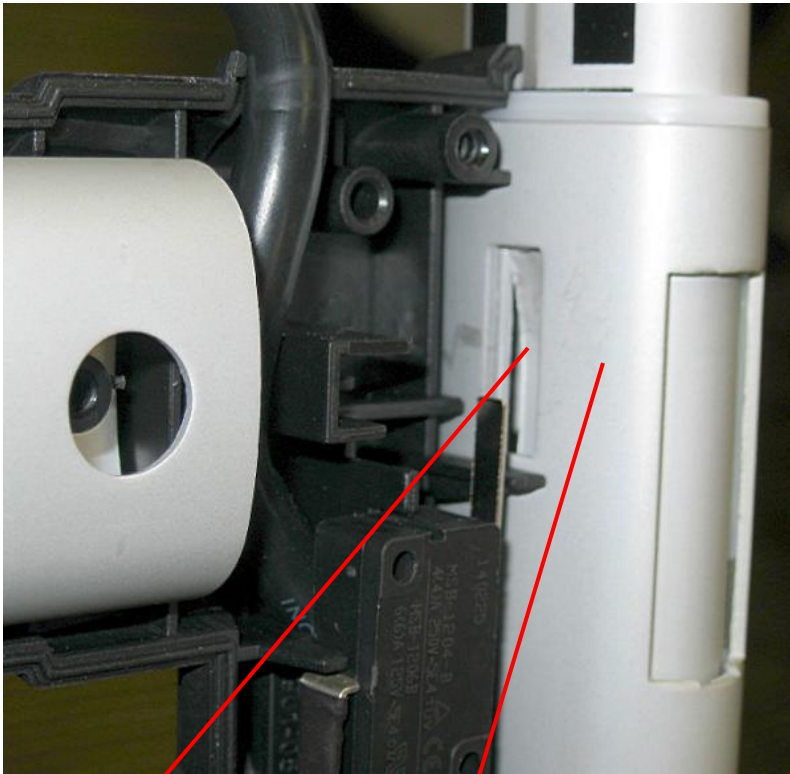
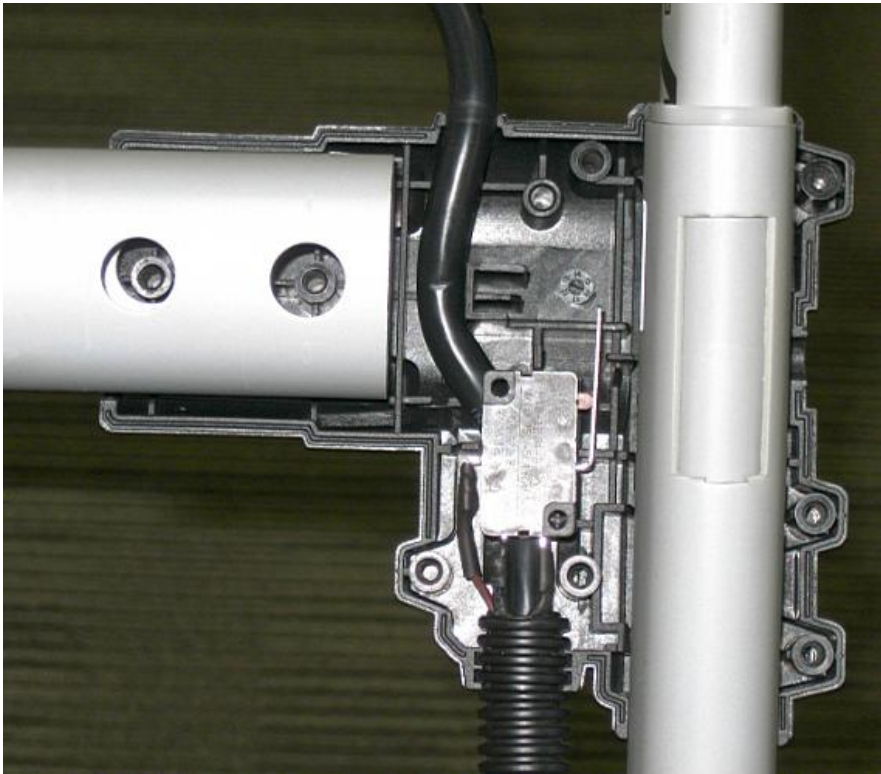


Locating hole

Locating pin

Close the Right Beam Housing

- 3. Mount the bottom housing onto the side rail and beam tube.
- 4. Fully extend the side rail to make sure the dent on the rail appears in the opening of the outer tube.



Dent in the opening

Outer tube

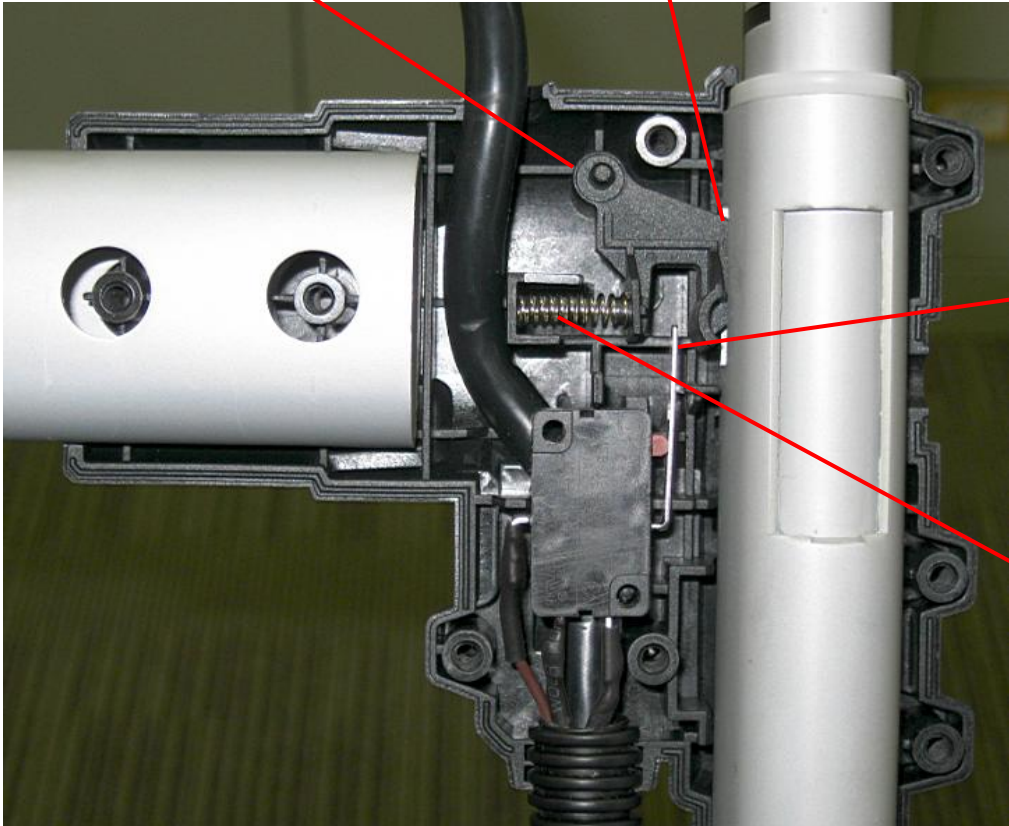
Close the Right Beam Housing

5. Fix the switch actuator into the bottom housing.

Description	Part Number
Switch Actuator	3126768000
Spring	3660287000

Locating pin into the locating hole in housing

This corner into the outer tube

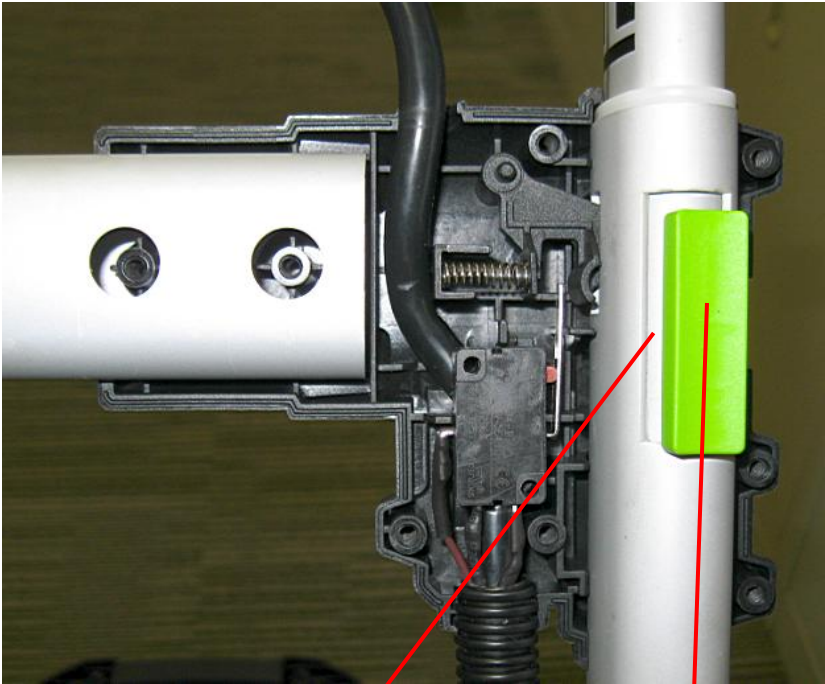


Switch lever in the groove of the actuator

Position the spring in locating groove

Close the Right Beam Housing

- 6. Attach the rubber pad and base on the rectangle groove in the outer tube.
- 7. Close the top housing and locked with 8 pcs tapping screws



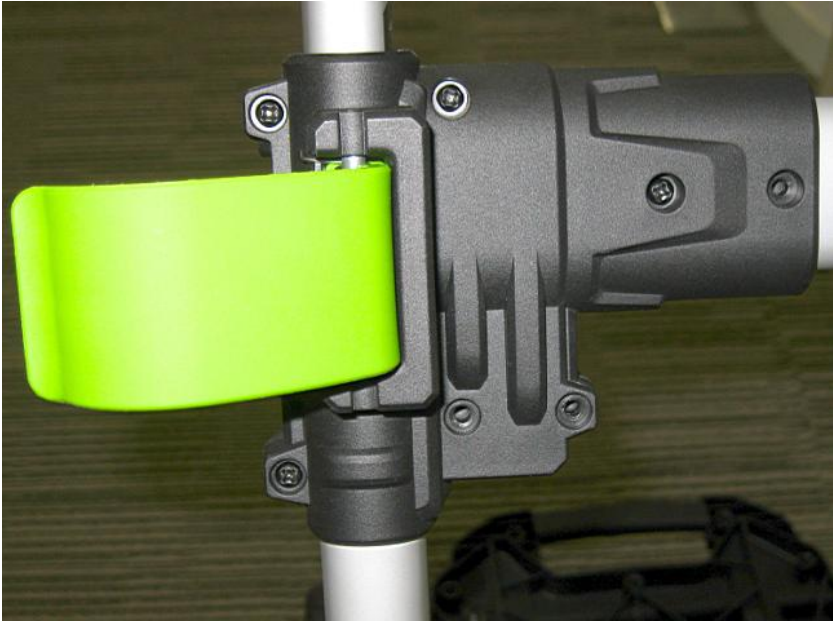
Rectangle groove

Rubber pad and base

Description	Part Number	SPEC
Tapping Screw	5610032000	ST4x16
Right Beam Housing Set	2823784000	

Open the Left Beam Housing

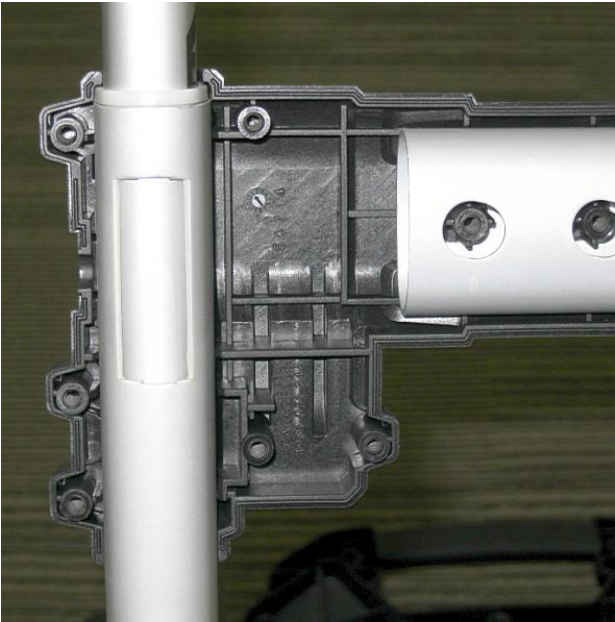
- 1. Remove the 8 tapping screws to open the left beam housing



Description	Part Number	SPEC
Tapping Screw	5610032000	ST4x16

Open the Left Beam Housing

- 2. Separate the top and bottom housing, remove the bottom housing from the side rail and beam tube.
- 3. Replace the left beam housing set if they appear any worn (Following Part 5 to fix the clamp to the new housings).



Description	Part Number	SPEC
Left beam housing set	2823783000	---
Handle Locking Clamp Set	2823714000	---

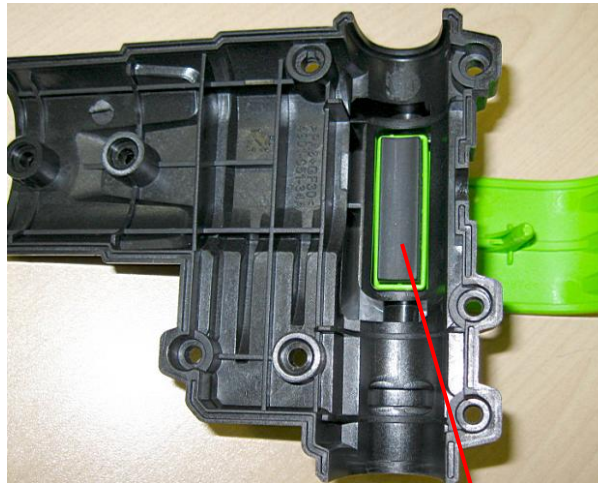
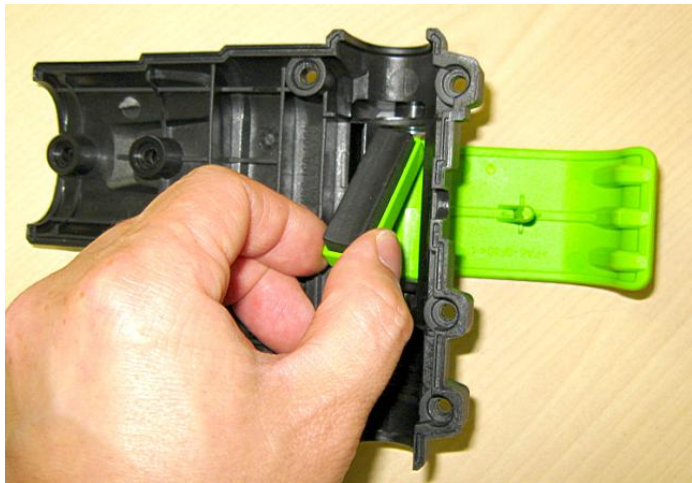
Close the Left Beam Housing

1. Mount the top housing onto the side rail and beam tube.
2. Turn the handle to let the handle be locked at any of the operating position.



Close the Left Beam Housing

3. Position the rubber pad and rubber base into the groove of bottom housing. Make sure the rubber pad pointing outside.
4. Close the bottom housing and locked with screws.



Rubber pad pointing
outside

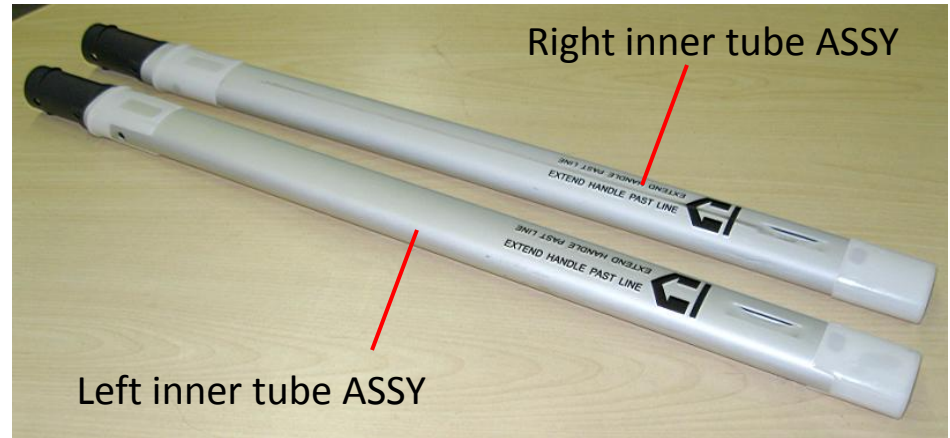
To Replace the Left/Right Inner Tube ASSY/Beam Tube

1. Remove the switch box covers (see Part 4)
2. Pull the top handle and remove the handle from the plastic bushings in the two side aluminum tubes (see Part 4)
3. Remove the left/right beam housing (see previous steps in this PPT)



To Replace the Left/Right Inner Tube ASSY/Beam Tube

4. Pull the left/right inner tube assembly from the outer tube.
5. Replace the bent, broken tubes.

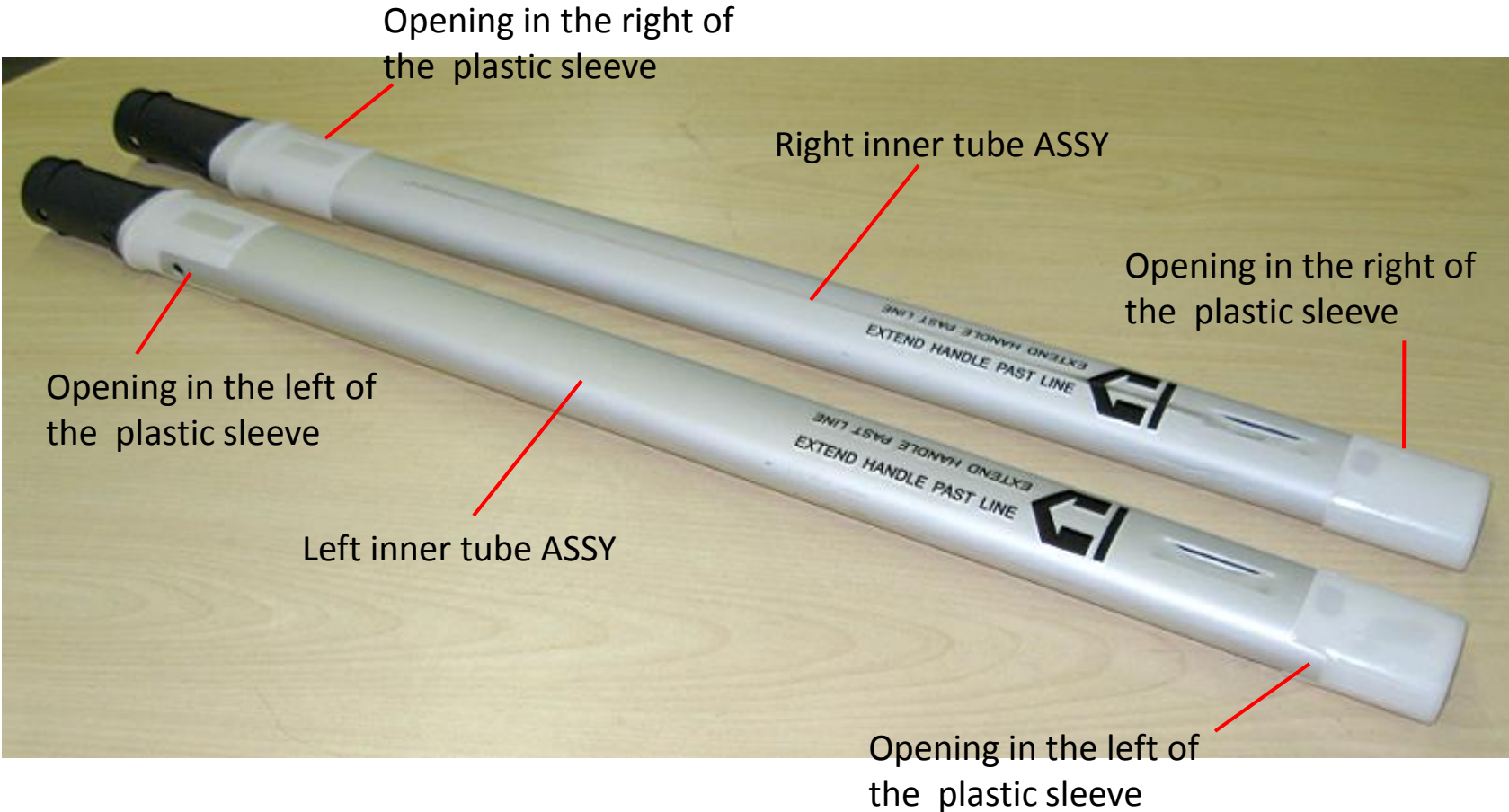


Description	Part Number
Left Inner Tube ASSY	2823082000
Right Inner Tube ASSY	2823781000

Beam Tube

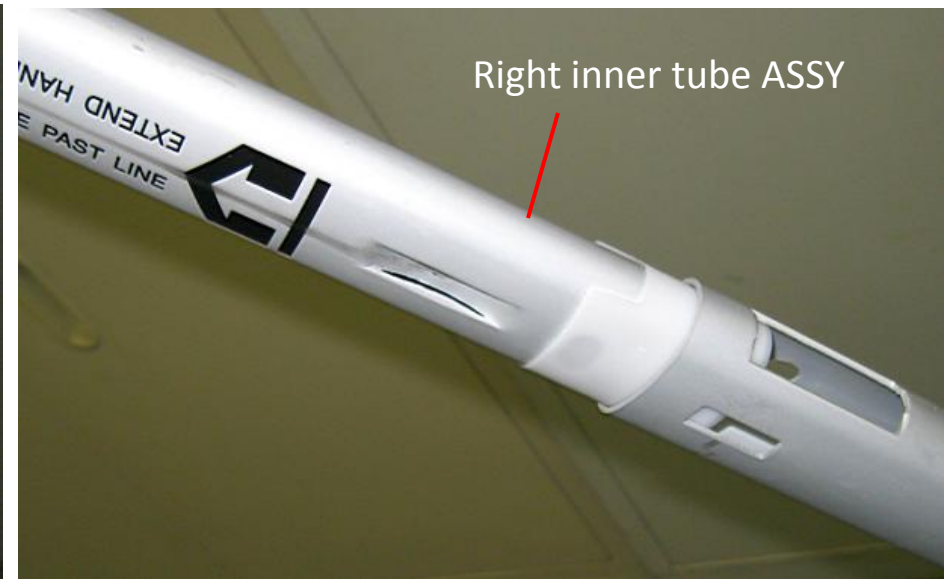
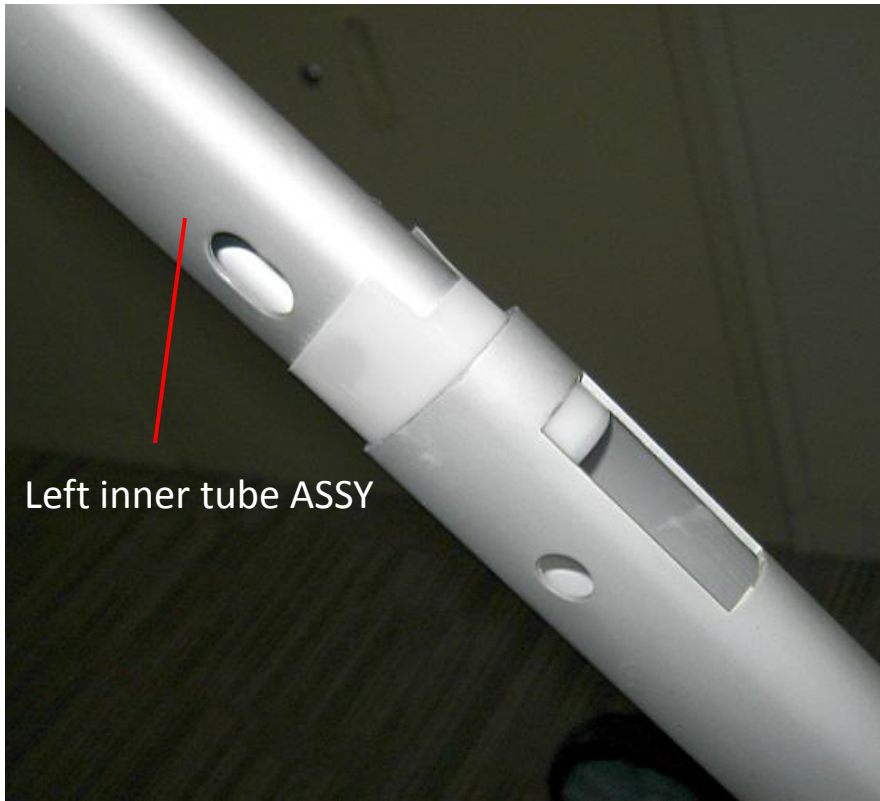
To Replace the Left/Right Inner Tube ASSY/Beam Tube

- 6. Insert the left/right tube assembly into the outer tube. Pay attention left and right inner tubes are not interchangeable, left inner tube should be fixed in the left outer tube, and right inner tube should be in the right outer tube.



To Replace the Left/Right Inner Tube ASSY/Beam Tube

7. Insert the left/right tube assembly into the outer tube. Pay attention left and right inner tubes are not interchangeable, left inner tube should be fixed in the left outer tube, and right inner tube should be in the right outer tube.



To Replace the Left/Right Inner Tube ASSY

8. Close the left/right beam housing (see previous steps in this PPT).



PART 7: QUICK ADJUST LEVER

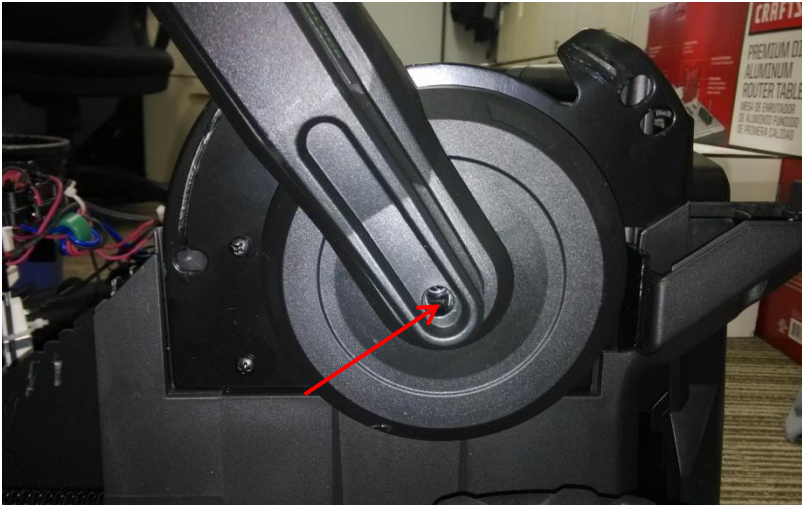
PART 7: Disassemble/Assemble the Quick Adjust Lever



Description	Part Number	SPEC
Handle Lever Set	2824092000	---

Quick Adjust Lever Replacement

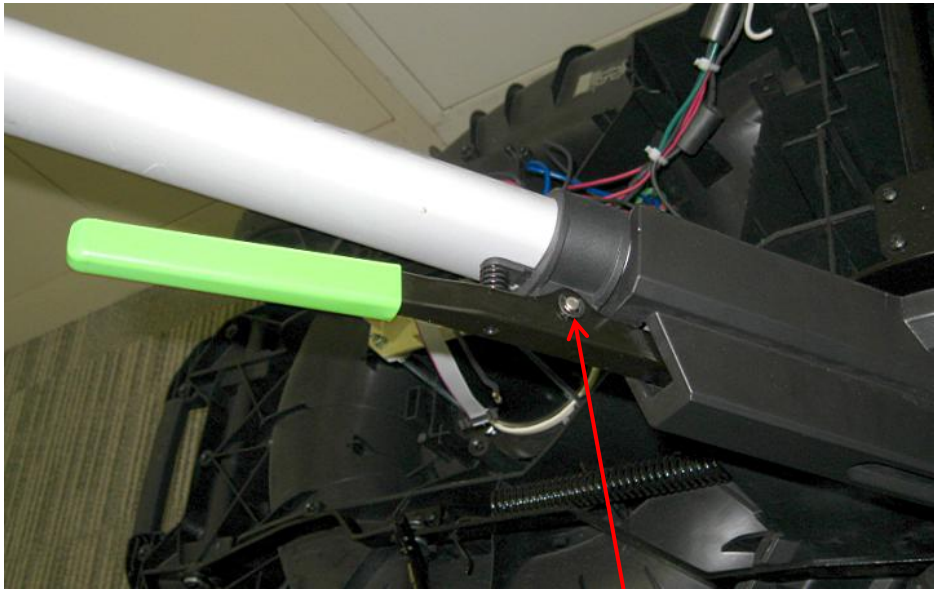
1. Remove the two tapping screws (one in the decoration cover, another in the inner side of the side tube).



Description	Part Number	SPEC
Tapping Screw	5610032000	ST4x16

Quick Adjust Lever Replacement

2. Remove the clamp ring;
3. Use your palm to press the lever and draw out the pin out of the lever.



Clamp ring



Pin

Quick Adjust Lever Replacement

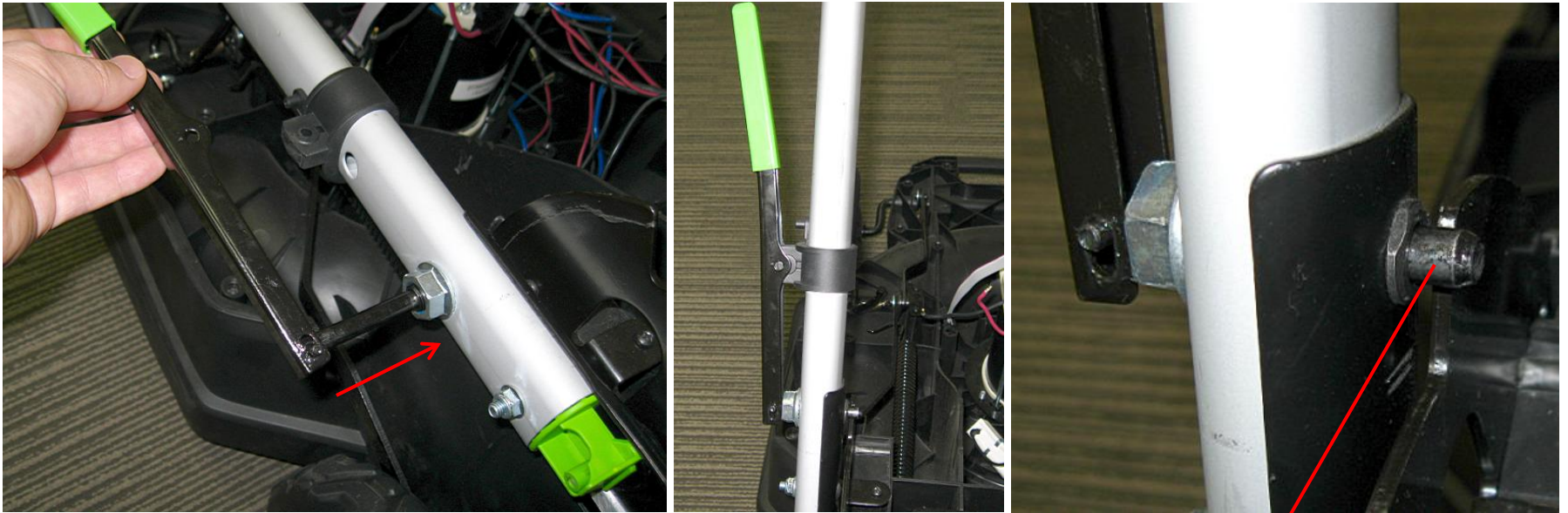
4. Remove the spring, adjust lever and decoration cover from the side tube.
5. Replace the damaged parts accordingly.



Description	Part Number	SPEC	Including
Handle Lever Set	2824092000	---	Quick adjust lever, decoration cover, spring, pin, clamp ring

Quick Adjust Lever Replacement

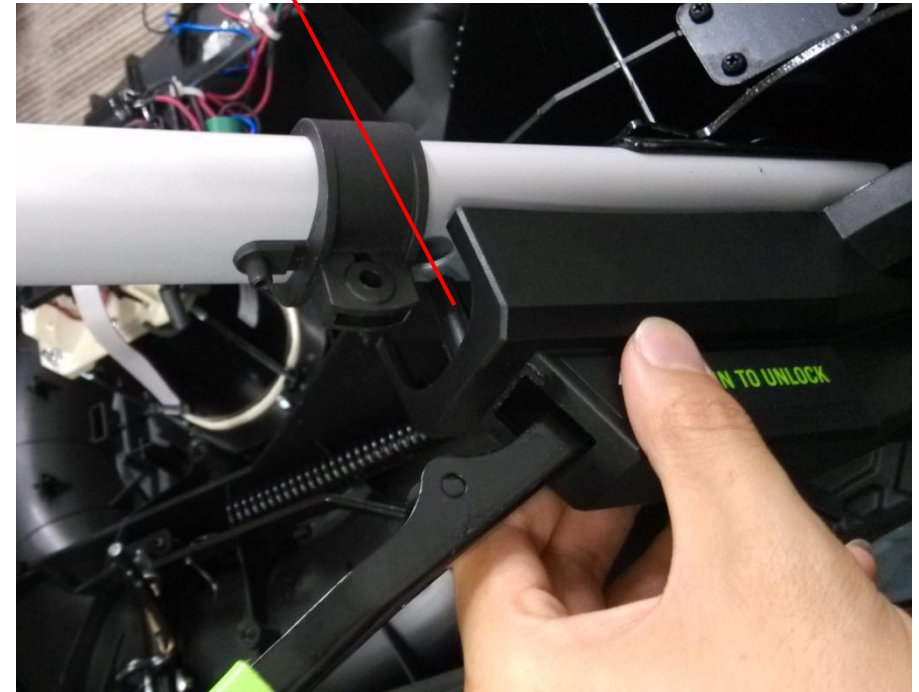
6. Align the locking pin with the bushing and fix it through the bushing.
7. Adjust the handle to “Grass bag removal position”; fully force the pin into the bushing and let the pin extend out of the side tube and lock the handle at the position.



Extend the pin out of the side pole and lock at the grass bag removal position

Quick Adjust Lever Replacement

8. Pass the adjust lever through the decoration cover;
9. Align the screw dome with the hole in side tube and mount the decoration cover to the side tube.



Quick Adjust Lever Replacement

10. Fix the spring between the adjust lever and the side tube.
11. Hold the tube and lever, depress the lever to align the hole in the lever with the hold in the plastic part.
12. Fully insert the pin and lock the pin with the clamp ring from the backside.



Clamp ring

Quick Adjust Lever Replacement

13. Lock the decoration cover with two tapping screws.
14. Test the lever function to check if it can lock the handle at different positions.

