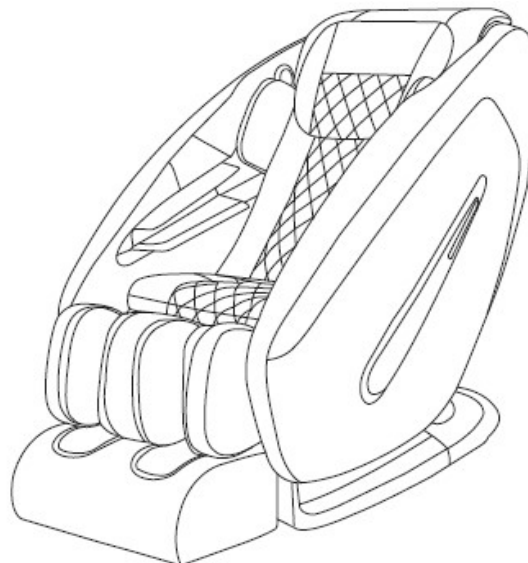
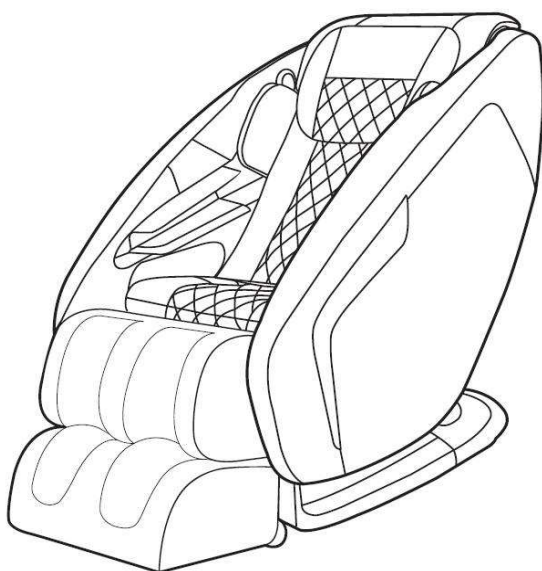


Titan Pro Ace II & Titan Pro Commander Maintenance Manual



目录 Table of contents

1. 产品预防措施进行检查和维修 Precautions for inspection and repair.....	3
2. 产品规格说明 Product specification	4
3. 布线图 Wiring diagram	4
4. 按摩椅电机 Massage chair motors.....	5
5. 气压按摩 Air massage.....	10
6. 气压气路图解 Air valve diagram	11
7. 按摩椅故障检测表 Massage chair trouble lists	12
8. 更换零部件注意事项 Replacement parts notes	16
8.1 更换 A 板注意事项 Precautions for Replacing the “A” Board (Massage mechanism PCB)	16
8.2 更换 B 板注意事项 Precautions for Replacing the “B” Board (Bottom box PCB/Main board)	19
8.3 更换手控注意事项 Precaution for remote control replacement.....	22
8.4 更换气泵注意事项 Precaution for air pump replacement.....	23
8.5 更换变压器注意事项 Precaution for transformer replacement.....	24
8.6 更换气阀注意事项 Precaution for air valve replacement.....	25
8.7 拆后盖方法 Precaution for backrest rear cover disassemble	26
8.8 更换靠背、美腿电动推杆注意事项 Precautions for backrest actuator and footrest actuator.	28
8.9 更换美腿注意事项 Legrest (Footrest)replacement precautions.....	30
8.10 维修用的工具包 REPAIR KIT.....	31
8.11 工具清单 Tool lists.....	31

1. 产品预防措施进行检查和维修 Precautions for inspection and repair

检查: Inspection

- 确认机器的电源线是连接好的

Verify that the power cord is tightly connected on the machine.

- 小心避免电击

Be careful to avoid electric shock.

维修: Repair

- 维修前需先关闭电源供电

Power off the supply before repair work begins.

- 维修过程中保持整洁

Keep things tidy and in order during repair work.

- 当更换多个部件时，确定损坏的部件和重新使用的部件

When changing more than one part, identify the parts that are damaged and reuse the serviceable parts.

- 在拆除装配过程中，不损坏其他部件和PCB

During the dismantling or assembling process, do not damage other parts and PCB.

- 小心提防松动或断开连接的连接器再进行修理

Be on the alert for loose or disconnected connectors during repair.

- 装配完成后不要留下螺丝或其他部件

Do not leave any screws or other foreign objects in the unit after it is assembled.

- 维修完成后，确认产品是否恢复正常工作

Carry out test operation of the machine after the repair work is done.

- 维修工作最好在地毯上进行，防止产品划伤或弄脏

It is preferable to perform the repair work on a carpet to prevent scratching or dirtying the unit.

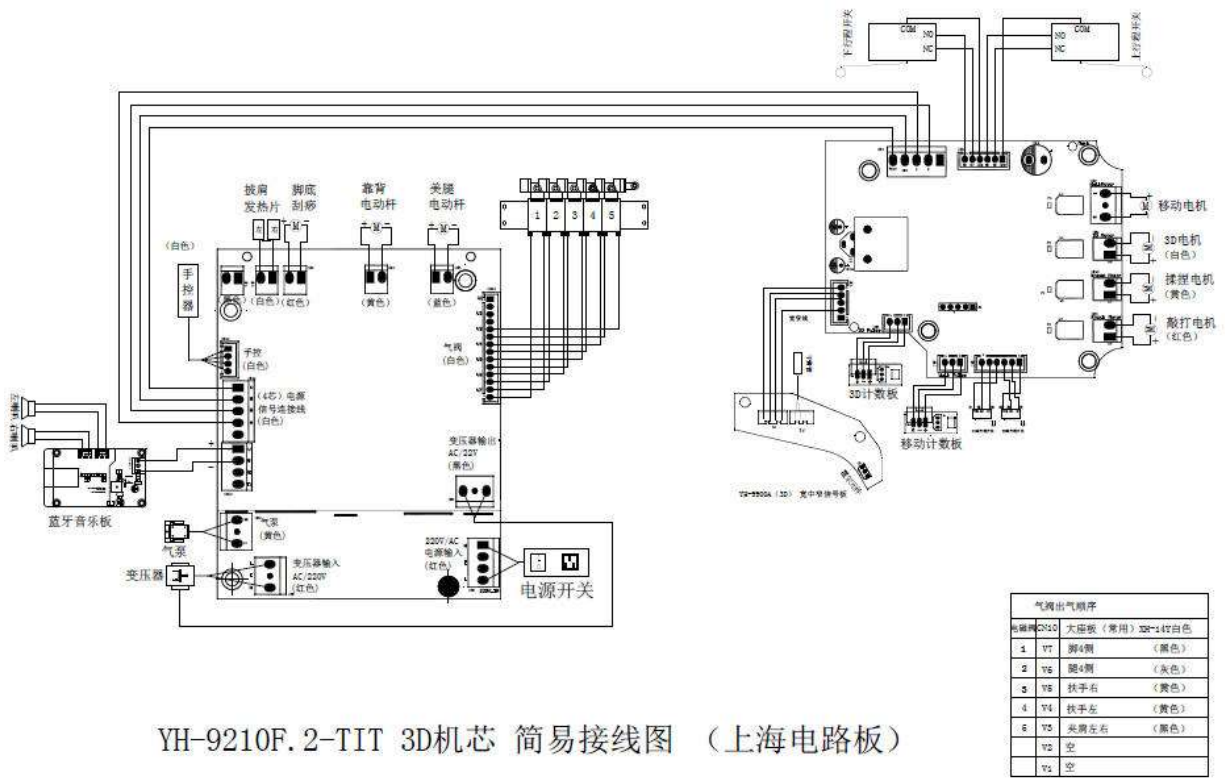
- 维修完成后清理工作现场

Clean the workplace after repair work is completed.

2. 产品规格说明 Product specification

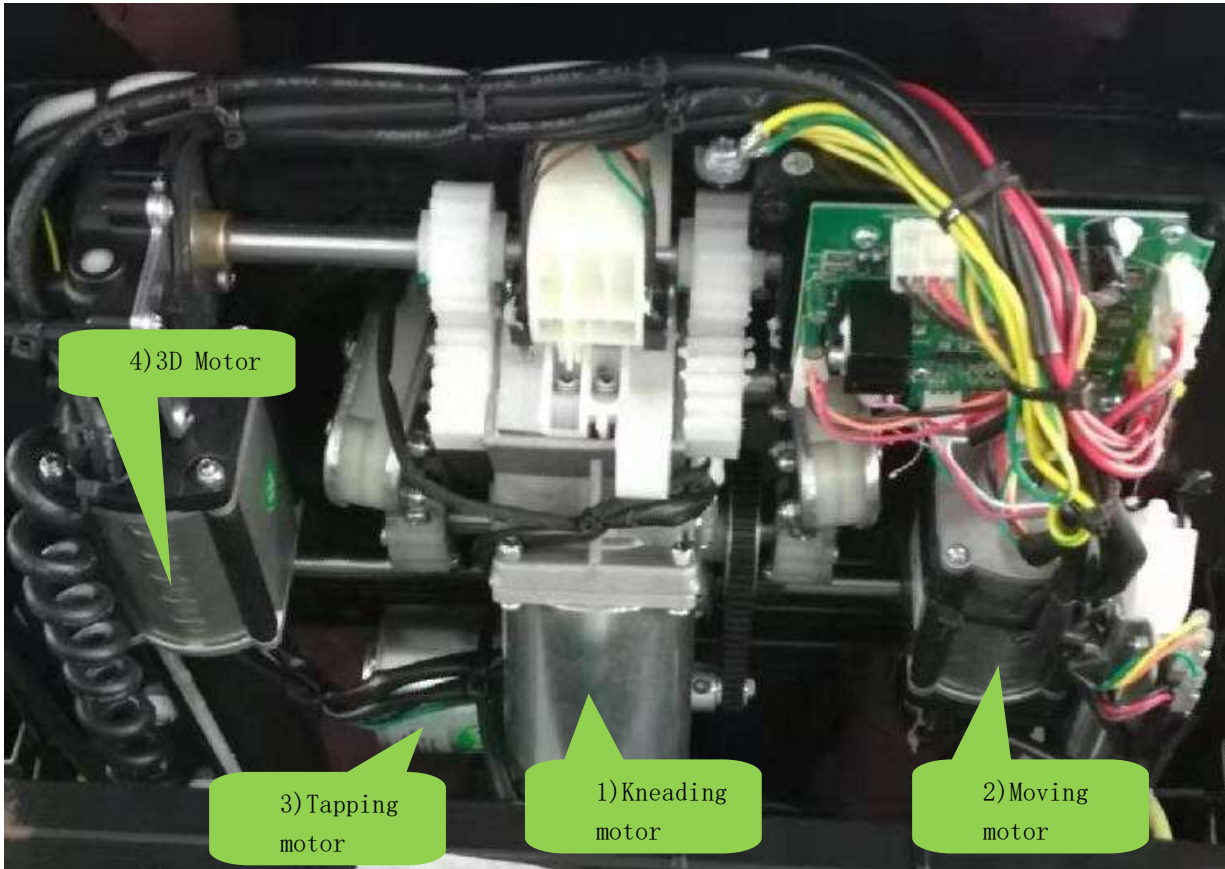
Product name	Massage chair
Model	Titan Pro Ace II/ Titan Pro commander
Factory model	YH9210F.2/YH9210F.3
Power supply	120V 60Hz
Rated power	150W
Rated working time	15min

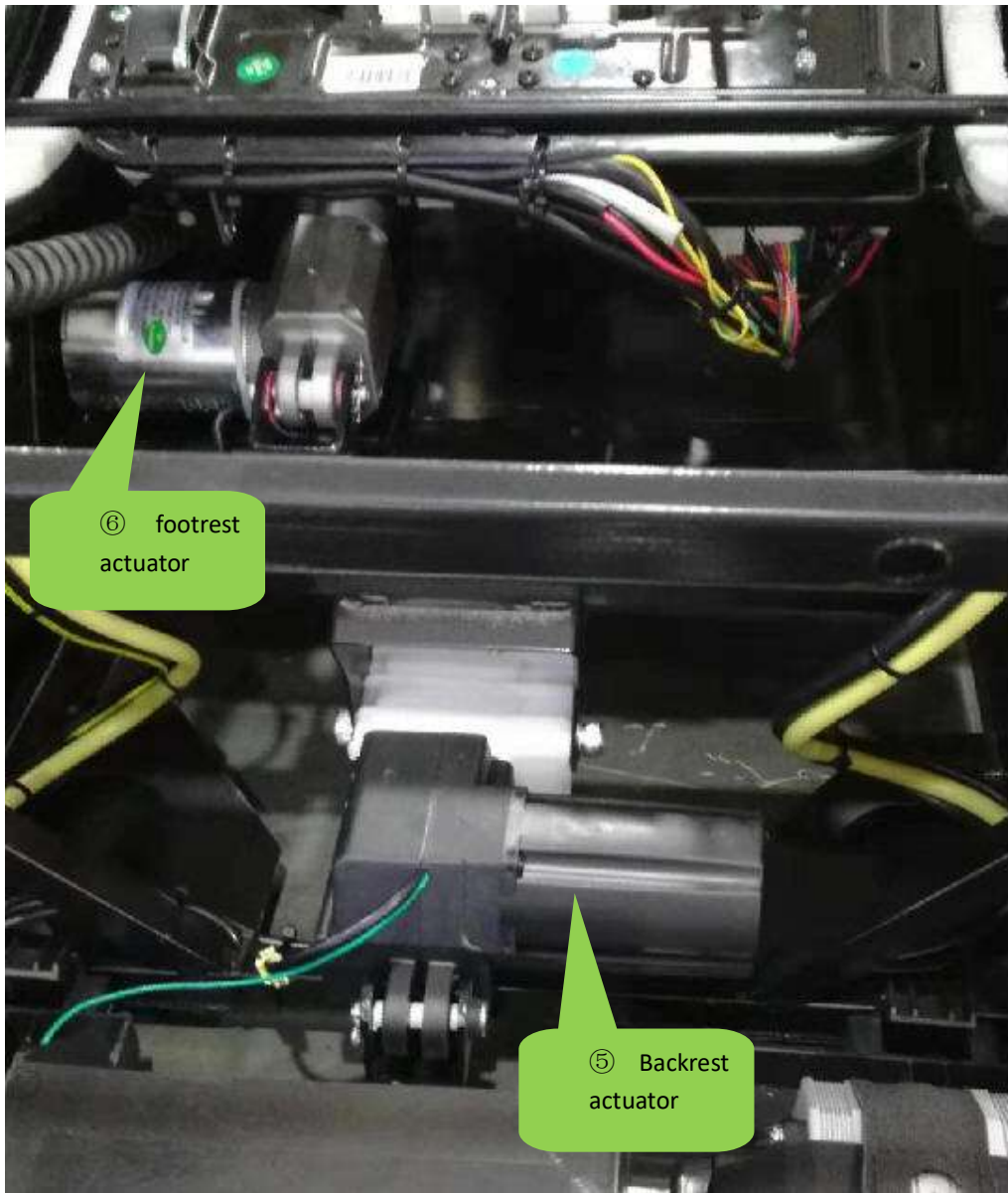
3. 布线图 Wiring diagram



4. 按摩椅电机 Massage chair motors

Titan Pro Ace II / Commander total 7 motors

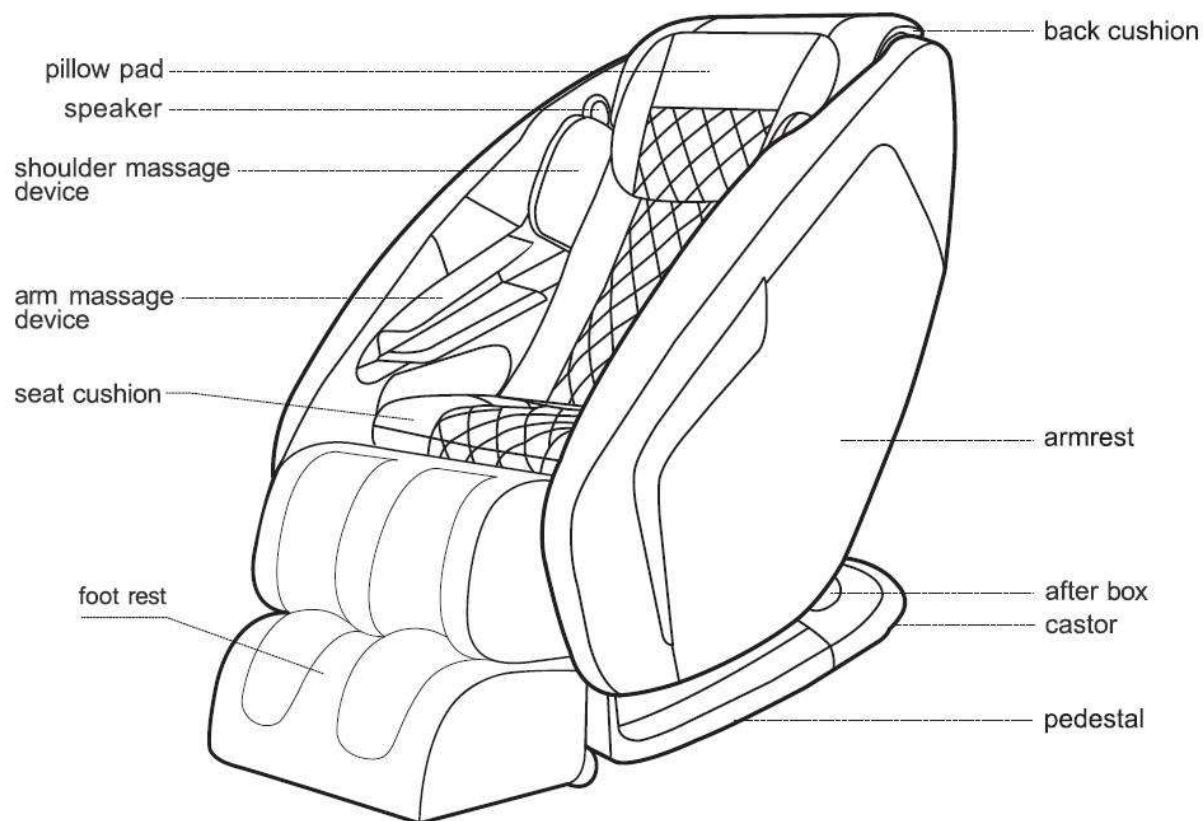




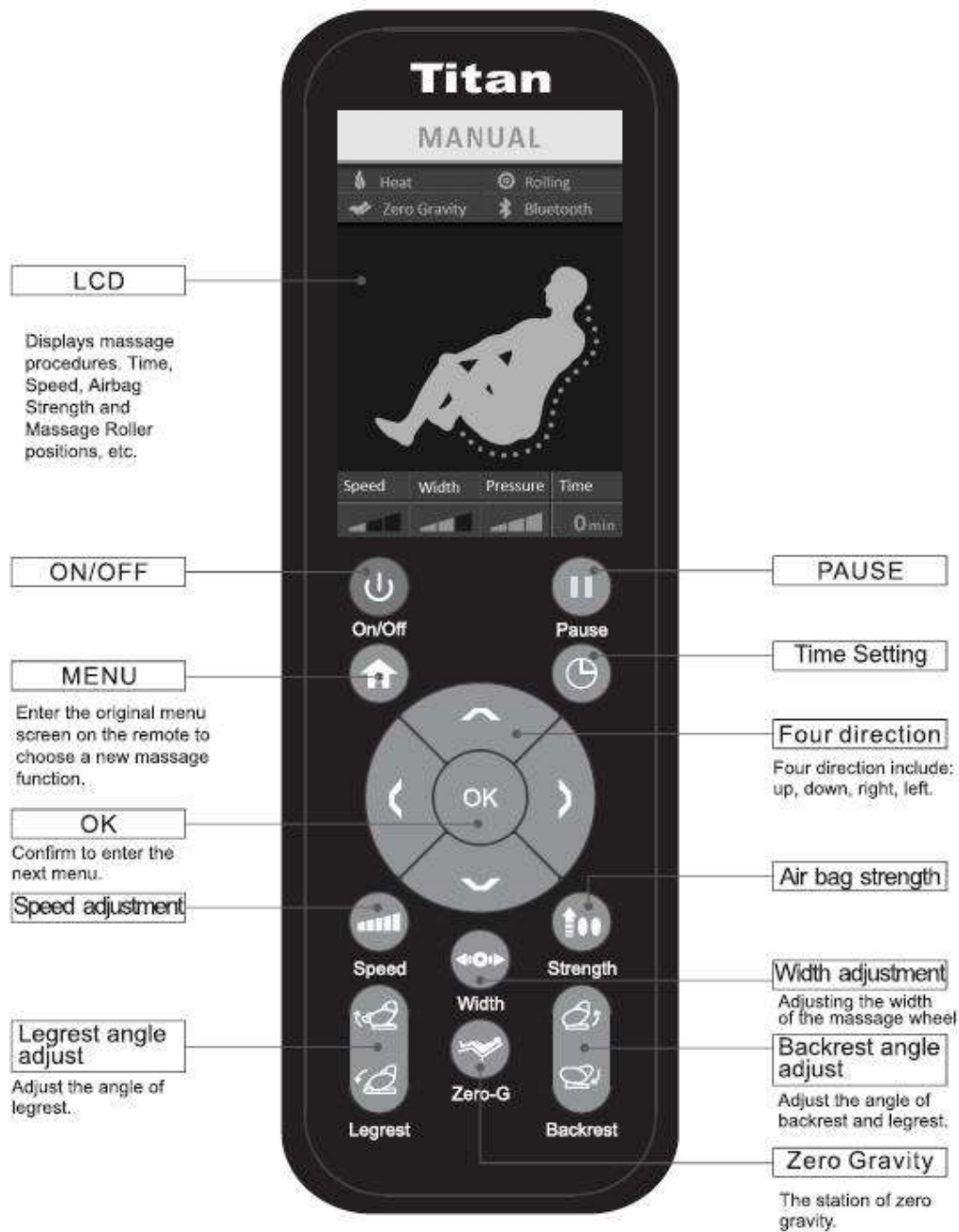


⑦Foot roller
motor

Name of each part



Remote controller

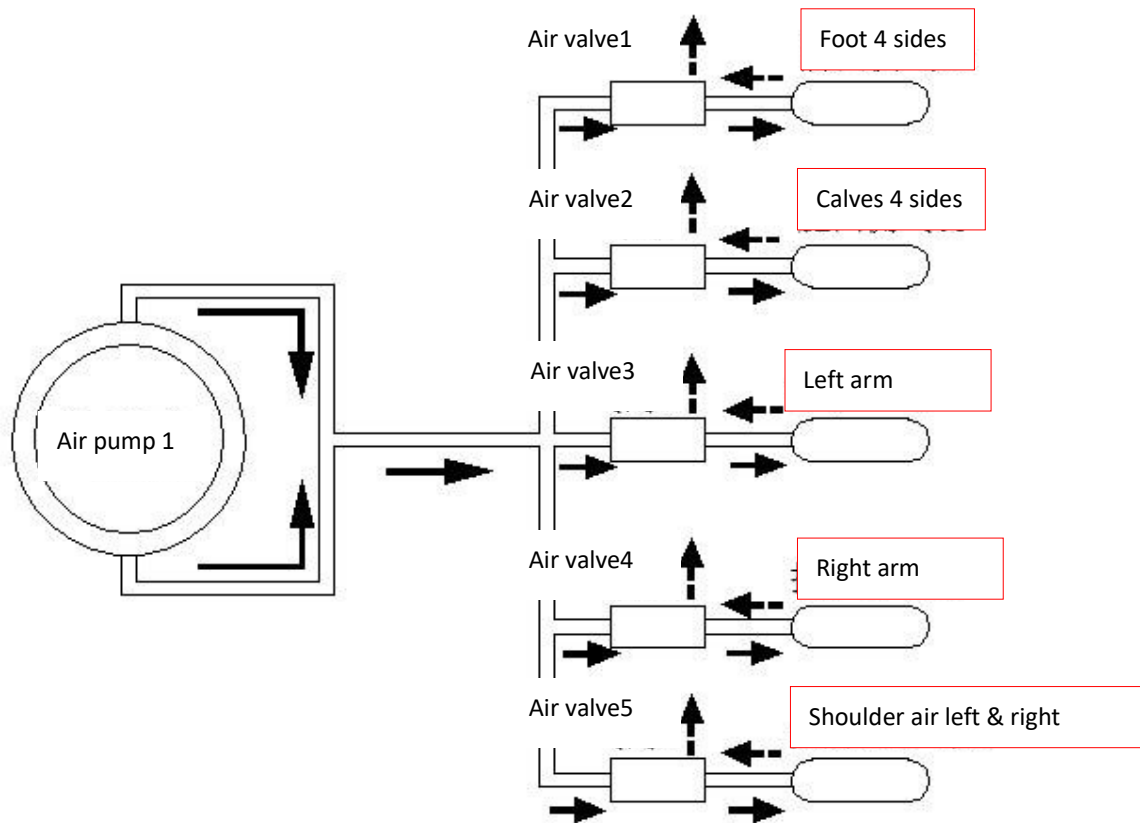


5. 气压按摩 Air massage

- ① 夹肩左右 Shoulder air-Left &right
- ② 扶手右 Arm air -right
- ③ 扶手左 Arm air-left
- ④ 小腿四侧 Calves air -4 sides
- ⑤ 小腿四侧 Foot air-4 sides



6. 气压气路图解 Air valve diagram

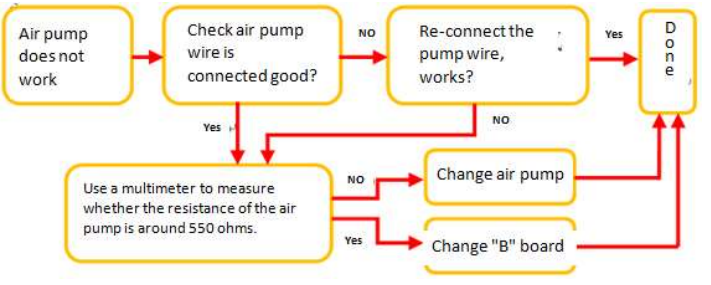
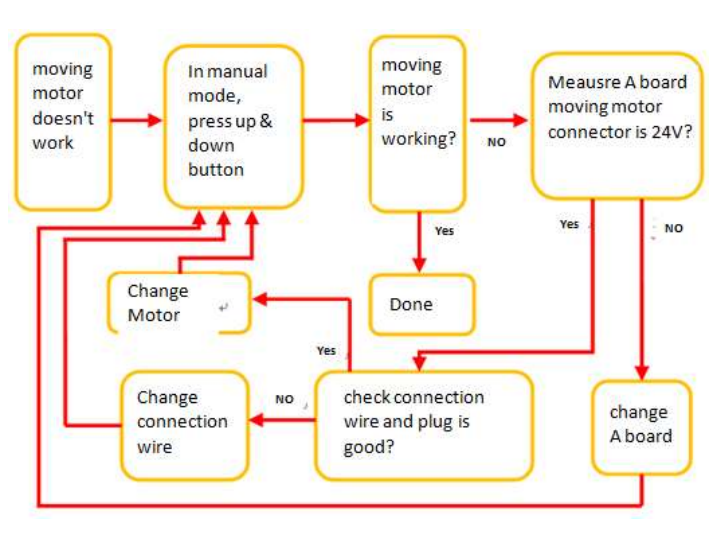
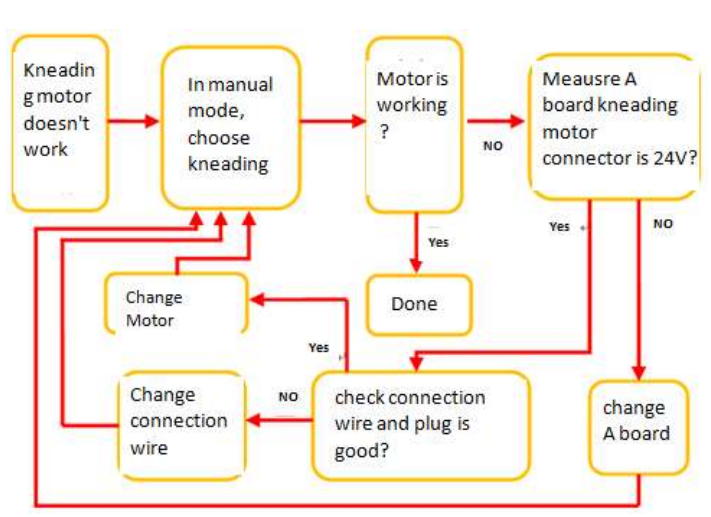


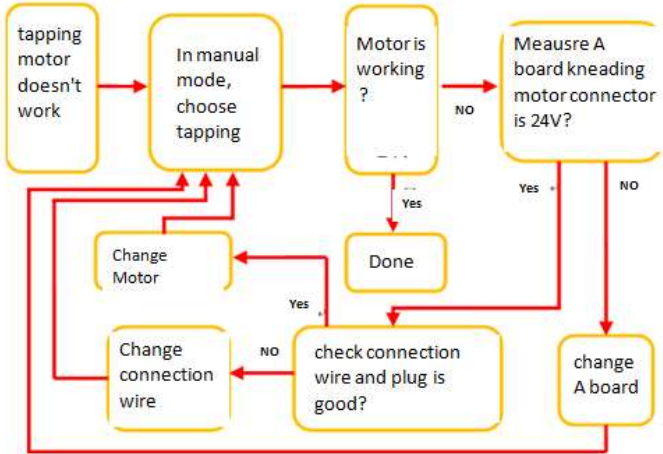
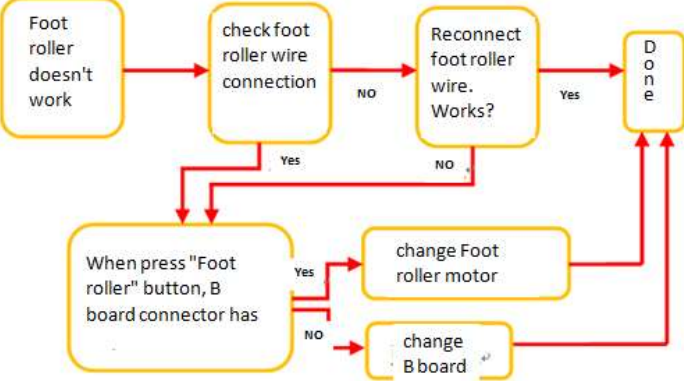
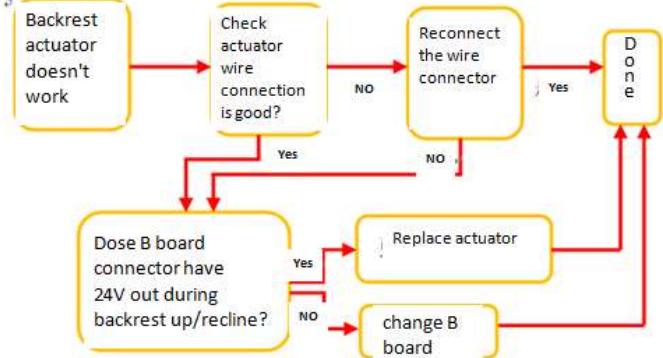
7. 按摩椅故障检测表 Massage chair trouble lists

"A" board= Massage mechanism PCB

"B" board= Bottom box PCB (Main board)

Phenomenon	Fault area	Cause	Maintenance steps and methods
The whole machine can't work	1. fuse 2. switch 3. Transformer plug 4. Hand control plug 5. "B" board (Bottom box PCB)	1. Fuse bad 2. Power switch is broken 3. Transformer plug, hand control plug are not plugged in or off 4. "B" board damaged	<pre> graph TD Start[Chair doesn't work] --> Switch[Power on switch] Switch --> Light[Power light on or not] Light -- No --> Plug[Change fuse or re-insert the plug] Plug --> Switch Light -- Yes --> Transformer[Transformer has 20V out or not] Transformer -- No --> Connector[Re-insert the transformer connector] Connector --> Switch Transformer -- Yes --> ChairWork[Chair works or not] ChairWork -- Yes --> Done1[Done] ChairWork -- No --> ReplaceB[Replace bottom box PCB] ReplaceB --> Start </pre>
The hand controller does not work or cannot be displayed	1. Hand controller 2. Hand control plug 3. "A" board (Mechanism PCB)	1. The hand controller is damaged 2. The hand controller plug is not plugged in 3. "A" board damaged	<pre> graph TD Start[Remote doesn't work or display] --> TrunOn[Trun on remote] TrunOn --> Beep[Beep sound or not] Beep -- No --> Reconnect[Re-connect remote wire or replace remote] Reconnect --> TrunOn Beep -- Yes --> BodyIcon[Human body icon display?] BodyIcon --> Buttons[Buttons are working?] Buttons -- Yes --> Done2[Done] Buttons -- No --> ChangeRemote[Change remote] ChangeRemote --> TrunOn BodyIcon --> ReplaceA[Replace "A" board] ReplaceA --> Start </pre>
Turn on the power massage chair and start the massage	1. "A" board (Mechanism PCB)	1. "A" board broken	Change "A" Board (mechanism PCB)

Air pump does not work	1. air pump 2. B board 3. Air pump cable	1. Air pump is broken 2. B board damage 3. The air pump cable is not plugged in.	 <pre> graph LR A[Air pump does not work] --> B[Check air pump wire is connected good?] B -- Yes --> C[Re-connect the pump wire, works?] B -- No --> D[Use a multimeter to measure whether the resistance of the air pump is around 550 ohms.] C -- Yes --> E[Done] C -- No --> D D -- No --> F[Change air pump] D -- Yes --> G[Change "B" board] F --> E G --> E </pre>
Mobile motor does not work	1. A board 2. Moving motor 3. Mobile motor connection cable	1. A board damage 2. Mobile motor damage 3. The mobile motor connection is broken or the plug is not connected.	 <pre> graph LR A[moving motor doesn't work] --> B[In manual mode, press up & down button] B --> C[moving motor is working?] C -- Yes --> D[Done] C -- No --> E[Meausre A board moving motor connector is 24V?] E -- Yes --> D E -- No --> F[change A board] F --> D D --> G[Change Motor] D --> H[check connection wire and plug is good?] H -- Yes --> G H -- No --> I[Change connection wire] I --> G </pre>
Kneading motor does not work	1. A board 2. Kneading motor 3. Kneading motor cable connection	1. A board damage 2. Kneading motor damage 3. Kneading motor connection is broken or the plug is not connected	 <pre> graph LR A[Kneading motor doesn't work] --> B[In manual mode, choose kneading] B --> C[Motor is working?] C -- Yes --> D[Done] C -- No --> E[Meausre A board kneading motor connector is 24V?] E -- Yes --> D E -- No --> F[change A board] F --> D D --> G[Change Motor] D --> H[check connection wire and plug is good?] H -- Yes --> G H -- No --> I[Change connection wire] I --> G </pre>

Tapping motor does not work	1. A board 2. Tapping motor 3. Tapping motor cable connection	1. A board damage 2. Tapping motor damage 3. Tapping motor connection is broken or the plug is not connected	 <pre> graph TD Start([tapping motor doesn't work]) --> Step1[In manual mode, choose tapping] Step1 --> Step2{Motor is working?} Step2 -- Yes --> Done1([Done]) Step2 -- NO --> Step3{Measre A board kneading motor connector is 24V?} Step3 -- Yes --> Step4[change A board] Step3 -- NO --> Step5[check connection wire and plug is good?] Step5 -- Yes --> Done1 Step5 -- NO --> Step6[Change connection wire] Step6 --> Step1 Step4 --> Step1 </pre>
Foot roller does not work	1. Foot roller motor 2. B board 3. Foot roller motor wire connection	1. Foot roller motor is broken 2. B board is broken 3. Foot roller motor wire connection loose	 <pre> graph TD Start([Foot roller doesn't work]) --> Step1[check foot roller wire connection] Step1 -- NO --> Step2[Reconnect foot roller wire. Works?] Step2 -- Yes --> Done1([Done]) Step2 -- NO --> Step3{When press "Foot roller" button, B board connector has} Step3 -- Yes --> Step4[change Foot roller motor] Step3 -- NO --> Step5[change B board] Step4 --> Done1 Step5 --> Done1 </pre>
Backrest electric push rod does not work	1. Backrest actuator 2. B board 3. Actuator connection wire	1. Actuator is broken 2. B board is broken 3. Actuator connection wire is loose	 <pre> graph TD Start([Backrest actuator doesn't work]) --> Step1[Check actuator wire connection is good?] Step1 -- NO --> Step2[Reconnect the wire connector] Step2 -- Yes --> Done1([Done]) Step2 -- NO --> Step3{Dose B board connector have 24V out during backrest up/recline?} Step3 -- Yes --> Step4[Replace actuator] Step3 -- NO --> Step5[change B board] Step4 --> Done1 Step5 --> Done1 </pre>

Air pressure message does not work or abnormal	1. 气管 2. 电磁阀 3. B 板	1. 气管折死 2. 电磁阀损坏 3. B 板损坏	<pre>graph TD; Start[Air message doesn't work] --> Q1{Check air pump is working?}; Q1 -- NO --> A1[Repair the air pump per instructions]; Q1 -- Yes --> Q2{Check air tube is over twisted?}; Q2 -- NO --> Q3{Check solenoid valve pin connection loosened?}; Q2 -- Yes --> A2[Clear up the air tube]; Q3 -- Yes --> A3[Reconnect solenoid valve pin]; Q3 -- NO --> A4[change solenoid valve]; A2 --> J1(()); A3 --> J1; A4 --> J2(()); A5[change B board] --> J2; J1 --> End[Done]; J2 --> End;</pre> The flowchart outlines the troubleshooting steps for an air pressure message issue. It begins with the problem statement 'Air message doesn't work'. The first step is to 'Check air pump is working?'. If the answer is 'NO', the instruction is to 'Repair the air pump per instructions'. If 'Yes', the next step is 'Check air tube is over twisted?'. If 'NO', the next step is 'Check solenoid valve pin connection loosened?'. If 'Yes', the instruction is to 'Reconnect solenoid valve pin'. If 'NO', the instruction is to 'change solenoid valve'. If the answer to 'Check air tube is over twisted?' is 'Yes', the instruction is to 'Clear up the air tube'. From 'Clear up the air tube', the flow goes to a junction point. From 'Reconnect solenoid valve pin', the flow also goes to this junction point. From 'change solenoid valve', the flow goes to another junction point. From 'change B board', the flow also goes to this second junction point. Both junction points lead to the final state 'Done'.
---	------------------------------------	--	---

8. 更换零部件注意事项 Replacement parts notes

8.1 更换 A 板注意事项 Precautions for Replacing the "A" Board (Massage mechanism PCB)

1) 关闭电源开关并拔掉电源插头 Turn off the power switch and unplug the power plug

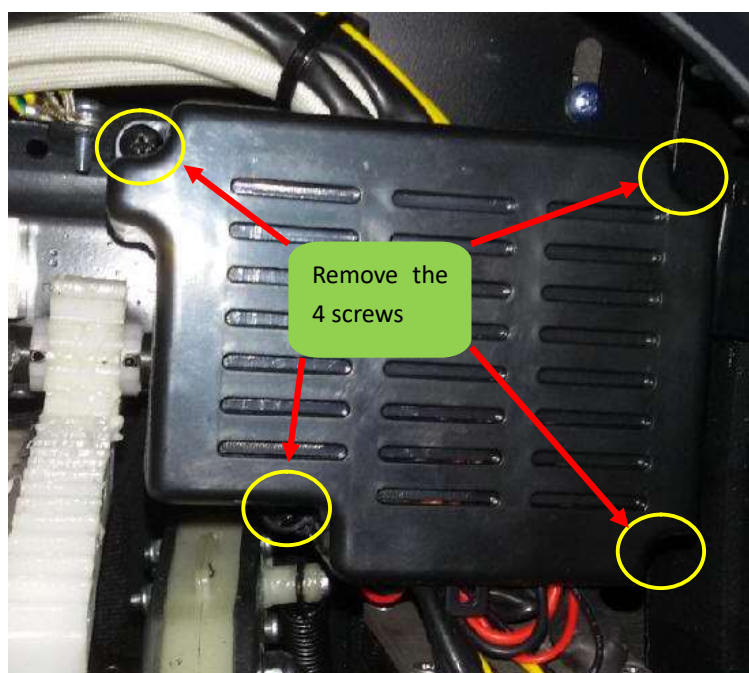
2) 拆后盖: 拆后盖时要先拆下面的螺钉 Remove the backrest rear cover: Remove the screws below when removing the back cover



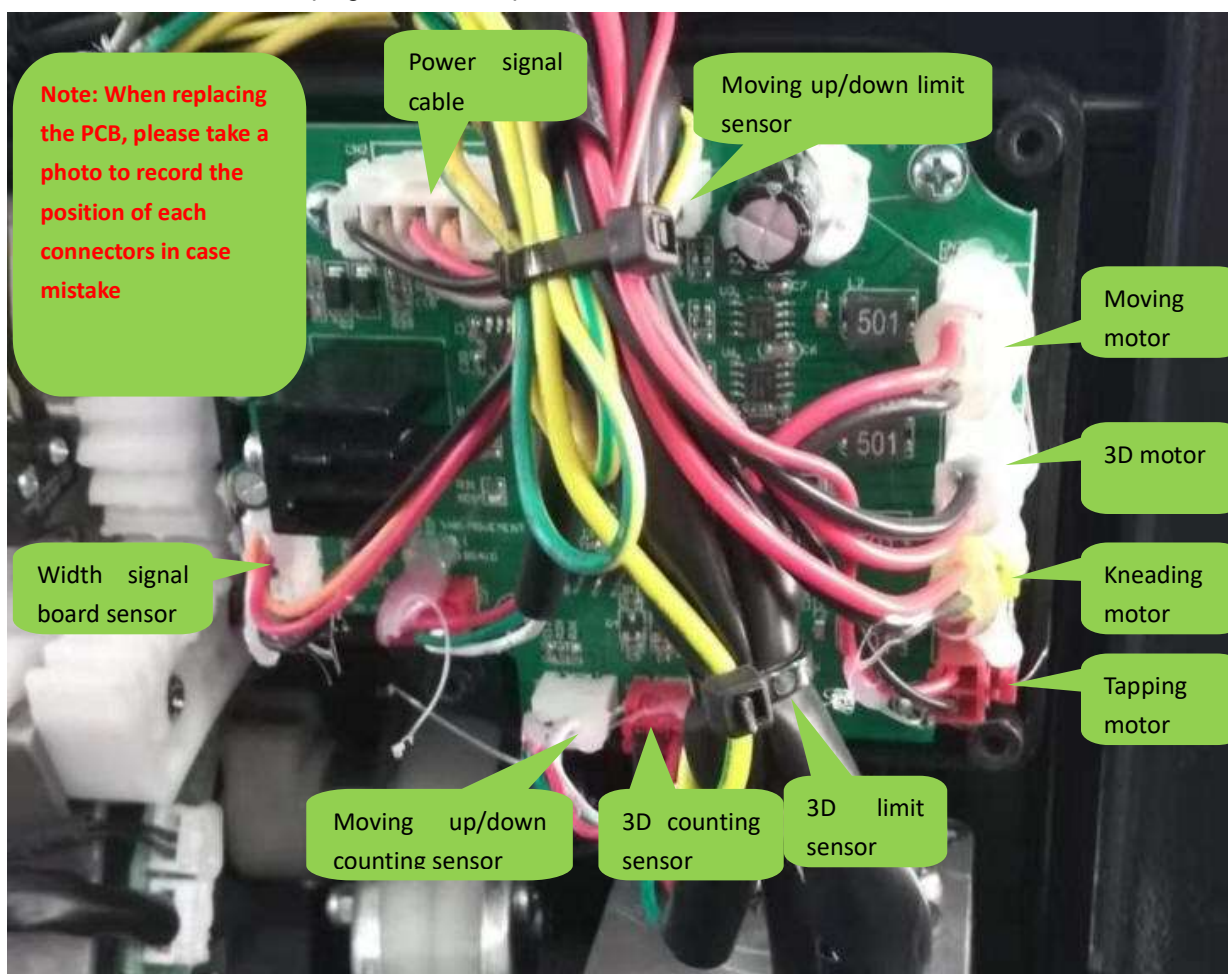
3) 拆后效果 After removing backrest rear cover picture



4) 拆电路板盒上盖。Remove the mechanism PCB box



5) 拔下所有电路板插线。Unplug all board strips.

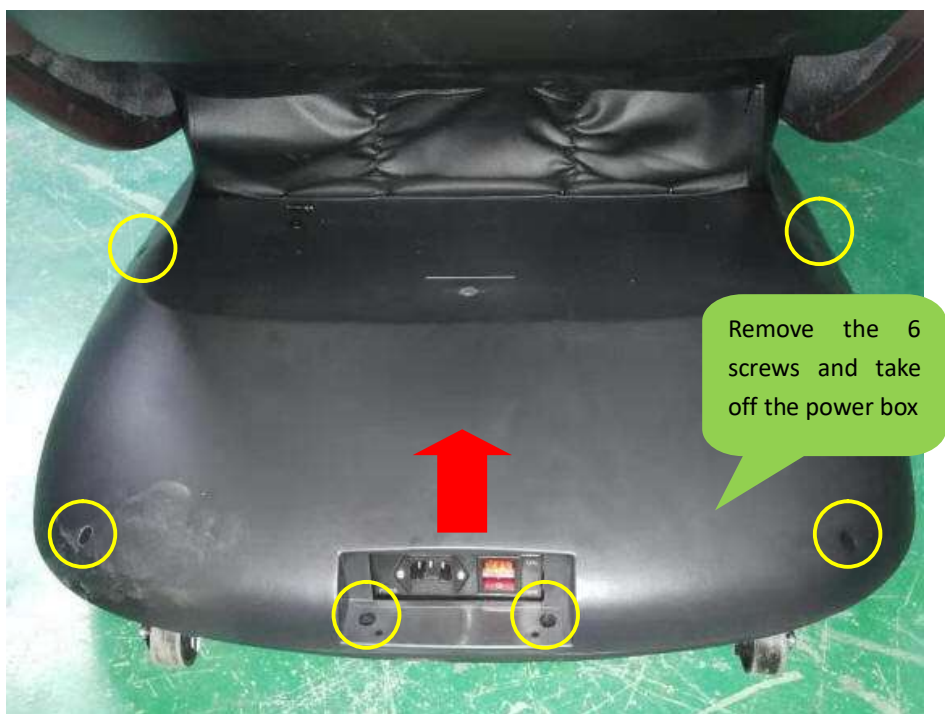


- 6) 更换新的电路板。Replace the new mechanism PCB.
- 7) 插上电源，开机试一下各个功能是否正常。Power on the chair and try to check if the functions are good.
- 8) 各功能正常后盖上电路板盒和后盖。Close the mechanism PCB box and the backrest rear cover.

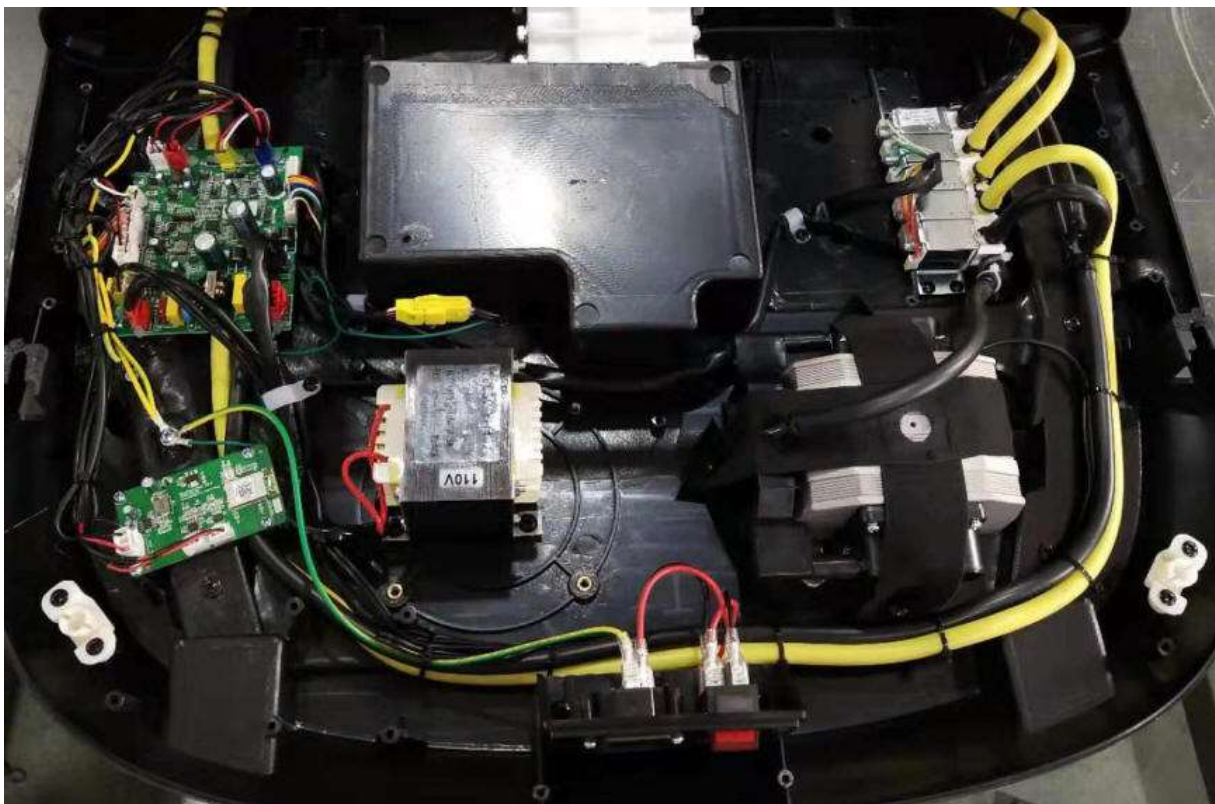
8.2 更换 B 板注意事项 Precautions for Replacing the “B” Board (Bottom box PCB/Main board)

- 1) 关闭电源开关并拔掉电源插头 Turn off the power switch and unplug the power plug
- 2) 拆尾箱上盖 Remove the top cover of power box

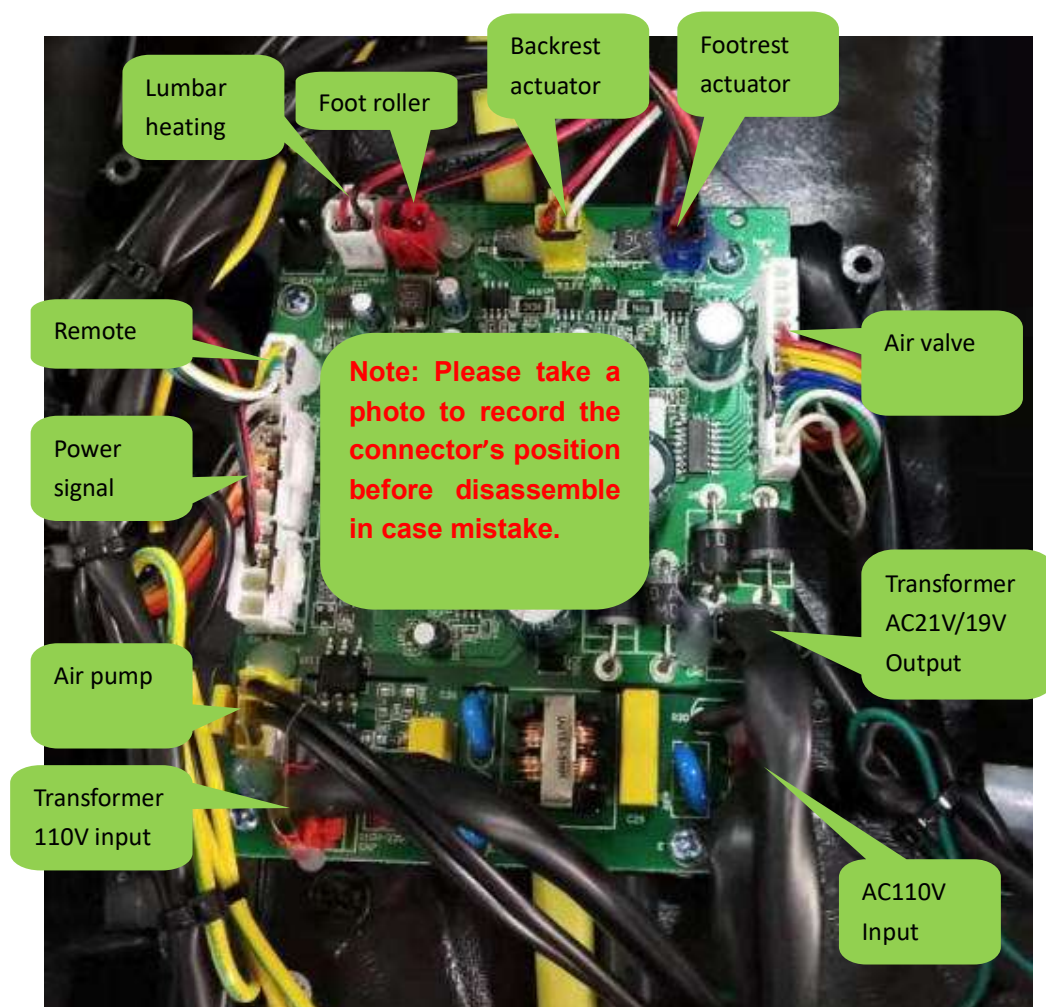




3) 尾箱内部图 Power box inside picture

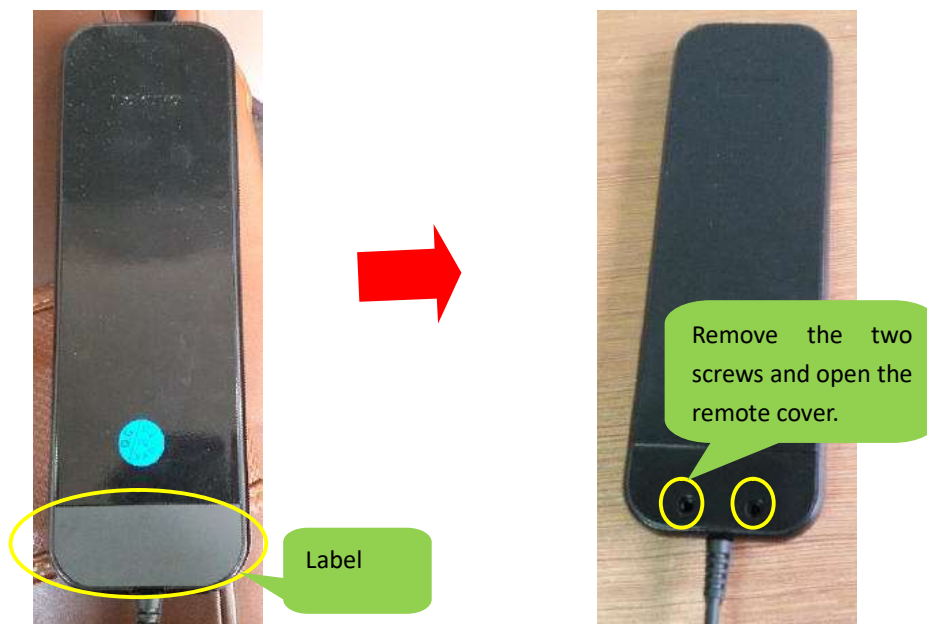


4) 拔掉所有连线，拆 B 板固定螺钉。Unplug all the cables and remove the screws.

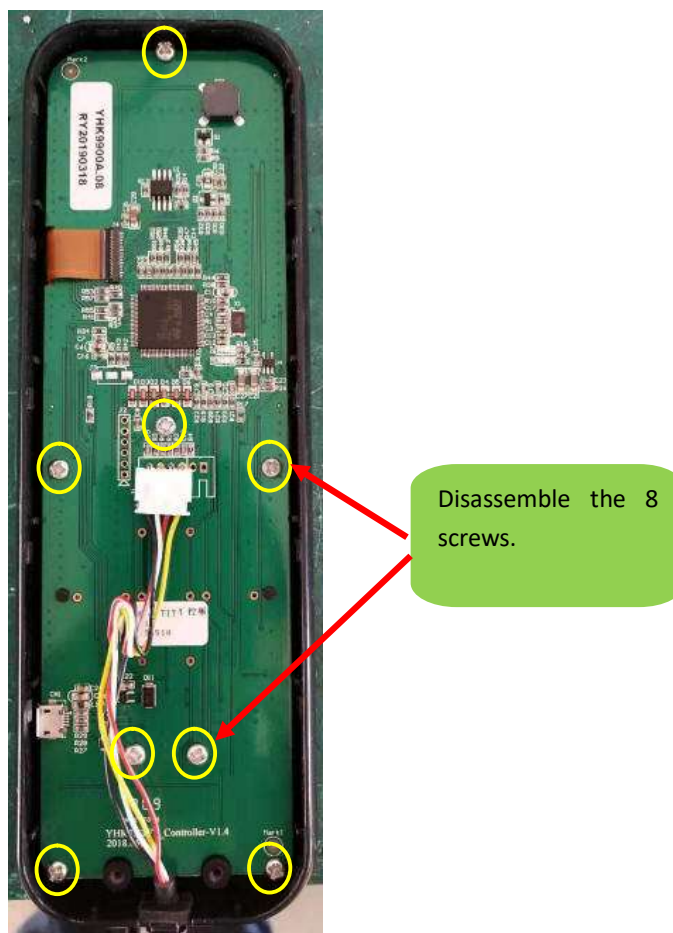


8.3 更换手控注意事项 Precaution for remote control replacement

1) 掀起手控后背标签，拆下标签下两个螺钉。Remove the back cover sticker and disassemble the two screws.

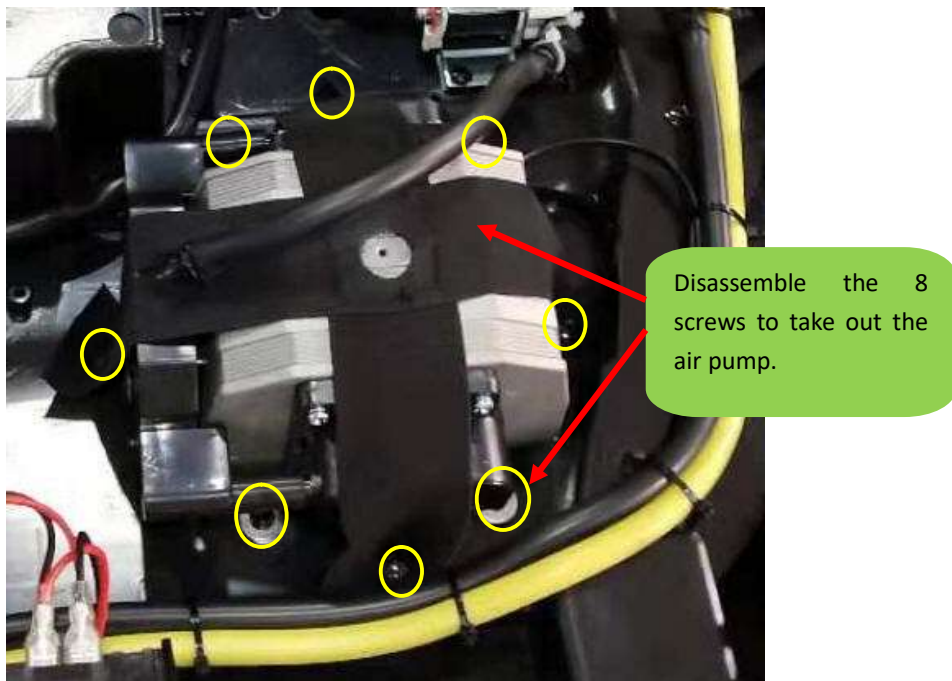


2) 拆手控电路板。Disassemble the remote PCB

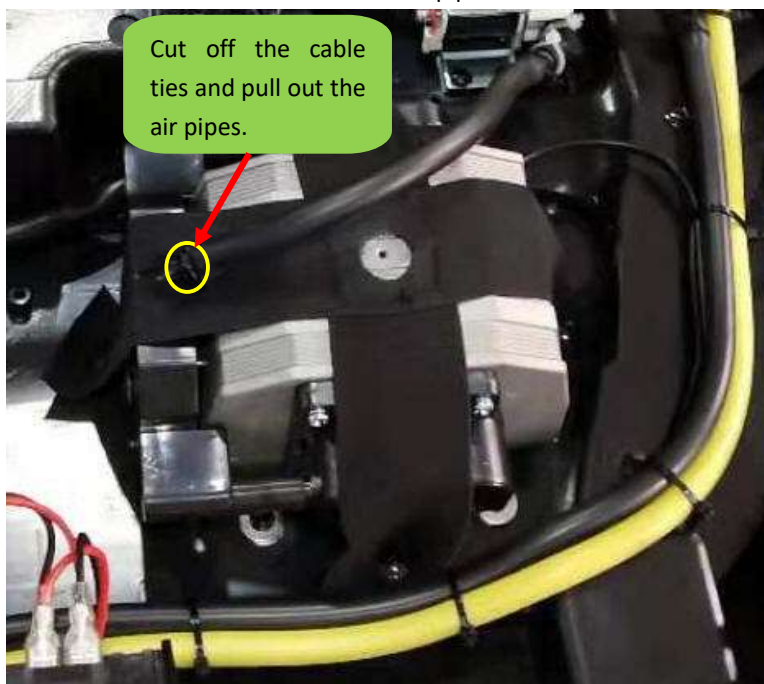


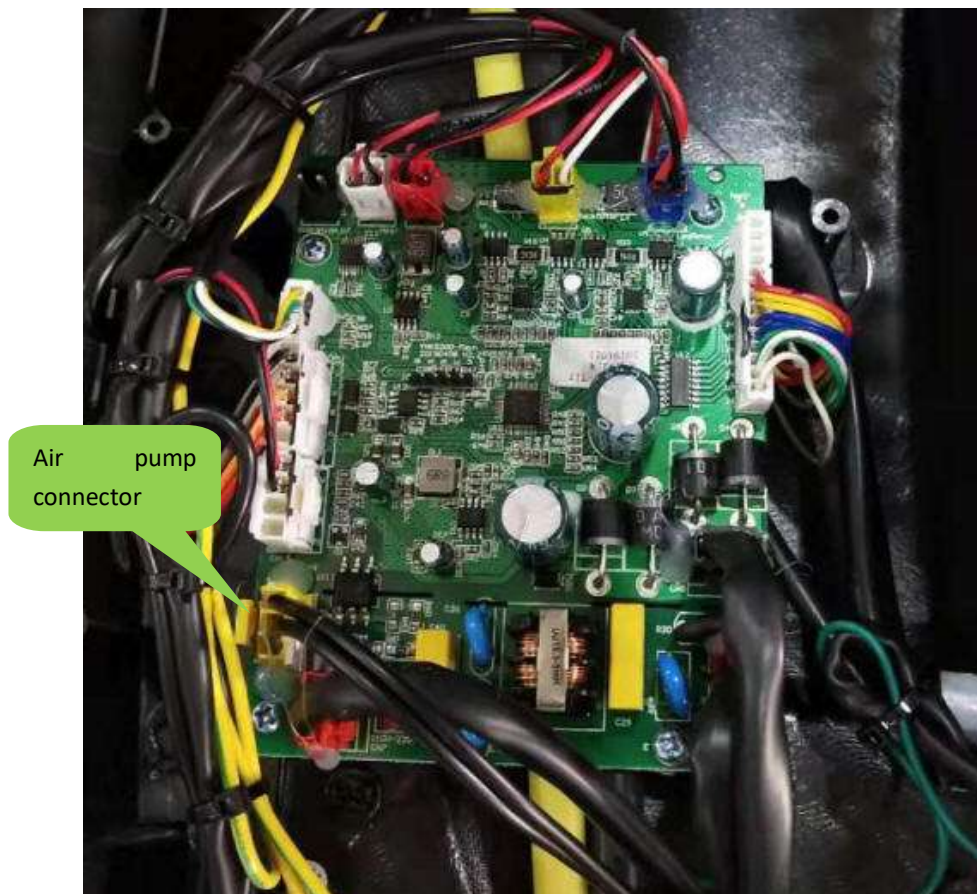
8.4 更换气泵注意事项 Precaution for air pump replacement

- 1) 先拆尾箱上盖，方法与更换 B 板时拆尾箱盖方法一样。Disassemble the power box cover-same steps as above 8.2.2
- 2) 拆气泵固定铁片。Disassemble the 8 screws (4 screws for each pump).



- 3) 拆气管及连线插头 Disassemble the air pipes.



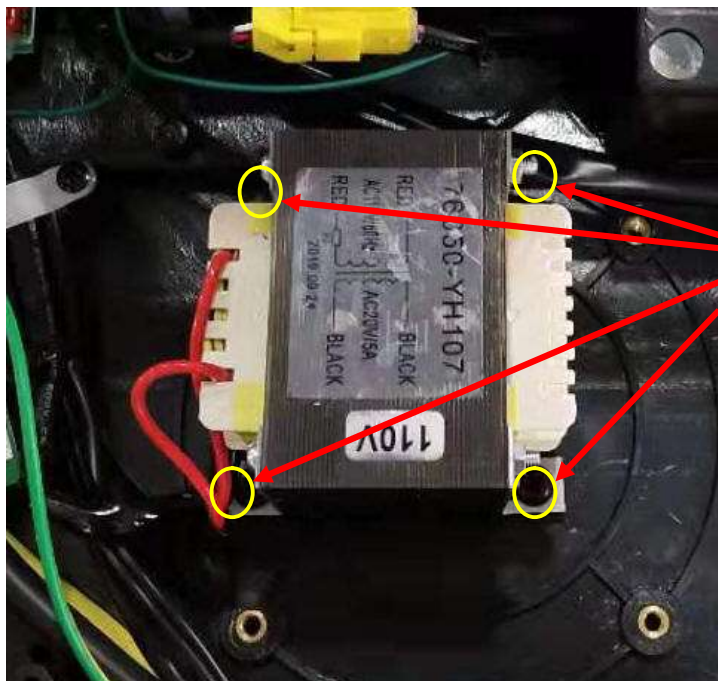


4) 更换新气泵，以上动作需要确认是否拔掉电源线！必须在无电的情形下操作。

Replace new air pump. All above operation must be done without electricity, please make sure the power cord is disconnected.

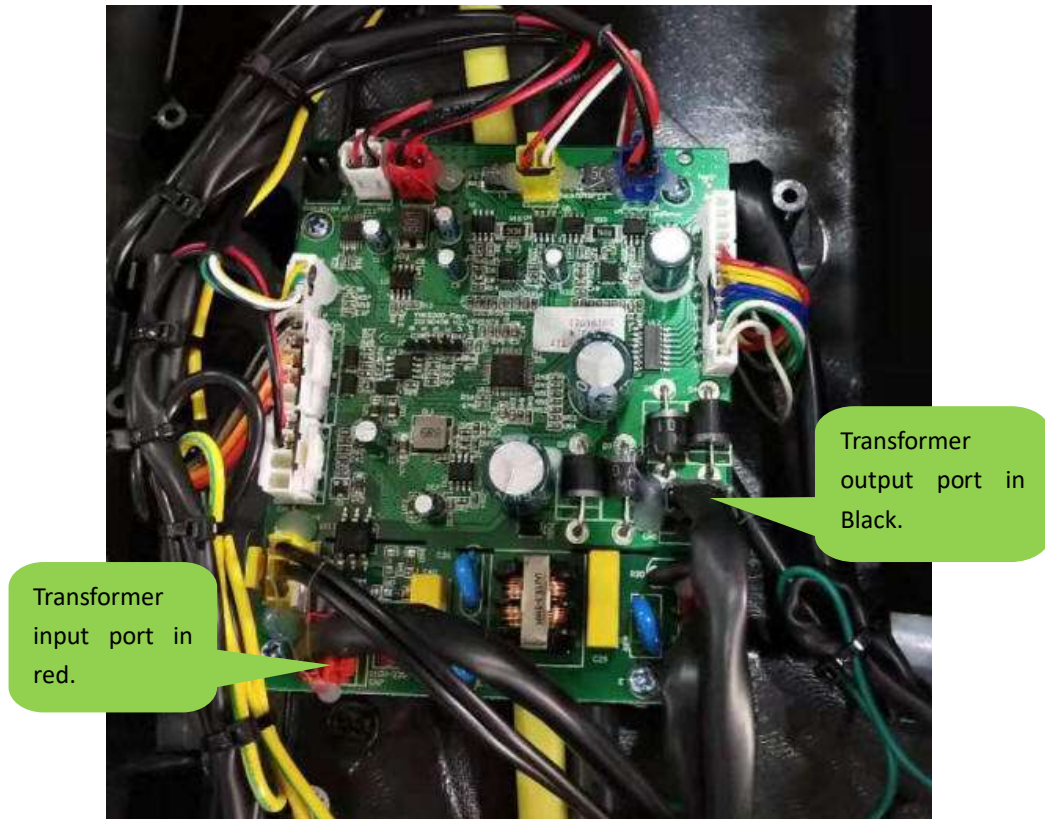
8.5 更换变压器注意事项 Precaution for transformer replacement

1) 关闭电源，按下图拆掉固定螺钉。Turn off the power. Disassemble the screws as below picture.



4 screws are here. Please pay attention the transformer input is 110V before reassemble.

2) 更换变压器时注意输入与输出不能插反。Please pay attention to the Input and output ports. They can't be connected in reverse.



8.6 更换气阀注意事项 Precaution for air valve replacement

- 1) 更换气阀注意气管顺序不能乱。The air pipes order must not be wrong.
- 2) 气阀位于尾箱内 Air valve located inside power box



8.7 拆后盖方法 Precaution for backrest rear cover disassemble

1) 拆后盖时要先拆下面的螺钉 Disassemble the 4 screws on the backrest rear cover.

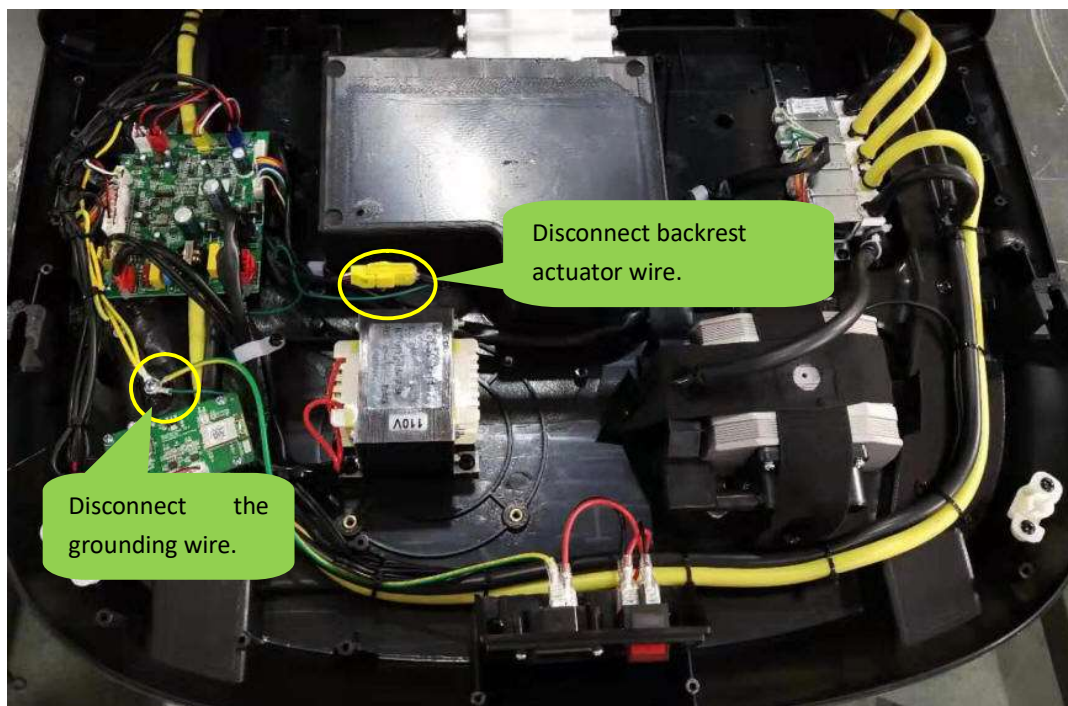


3) 拆后效果 Backrest rear cover disassembled picture

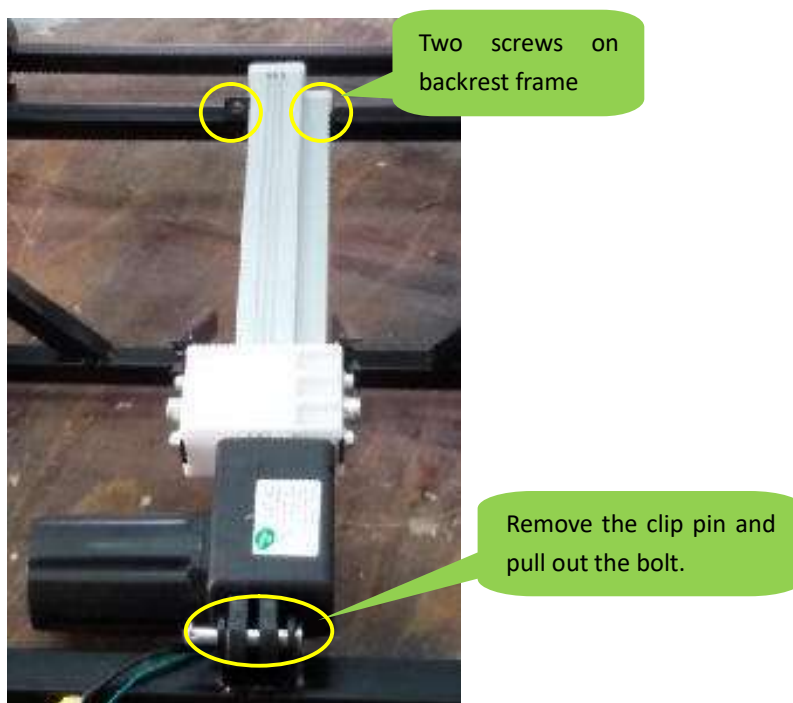


8.8 更换靠背、美腿电动推杆注意事项 Precautions for backrest actuator and footrest actuator.

- 1) 确认是否拔掉电源线，必须在无电的情形下进行以下操作。Please make sure the power cord is disconnected. All operations must be without electricity.
- 2) 拆尾箱盖，方法同更换主板时一样。Disassemble the power box cover, same as 8.2.2
- 3) 拔掉推杆对插线和接地线。Disconnect the backrest actuator wire and grounding wire.



- 4) 拆下推杆插梢及靠背架的两个固定螺丝。Disconnect the bolt and two screws.



5) 卸下旧电动推杆。Remove the old backrest actuator

更换时必须有一个协助扶住按摩靠背，避免因拆除旧推杆后靠背失去支撑使整个靠背架向后或者向前倾斜！

ATTN: When remove the backrest actuator, the other person should hold up the backrest in case of the backrest fall down due to the backrest lose support

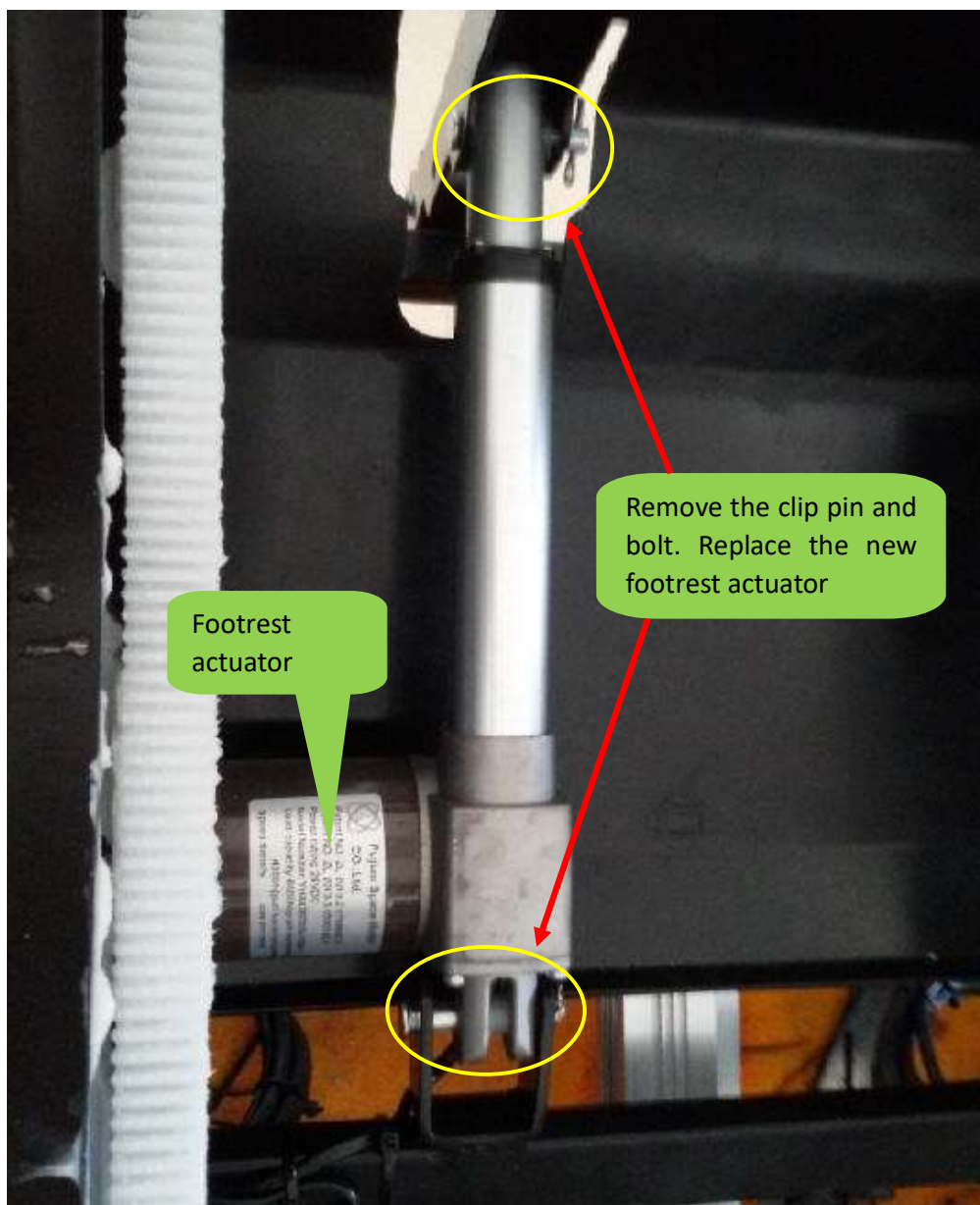
6) 在确保按摩椅靠背有人稳定扶着情形下，先拆座垫下销轴，换上新电动推杆再重新装回销轴及卡销。

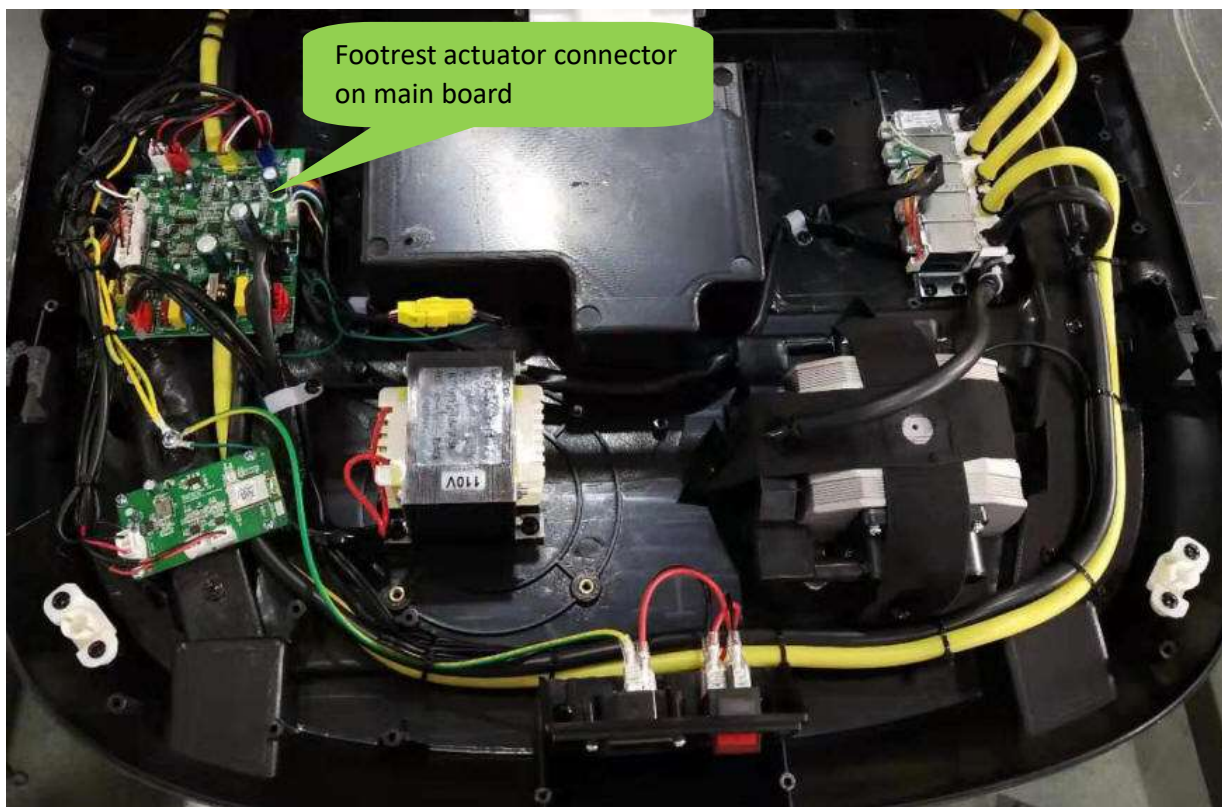
Under the condition that someone is holding the back of massage chair stably, then remove the bolt under the seat frame first, replace the new actuators and reinstall the bolt and clip pin.

7) 将电动推杆插头插到 B 板上，插好后注意先不要盖上尾箱盖，先通电检查是否正常，确认无误后再拔掉电源线，扎好线束，再盖上尾箱。

Connect the actuator wire to main PCBA corresponding sockets, power on the chair, and check if the function is good or not. Then use cable tie to fasten the cables and close the power box.

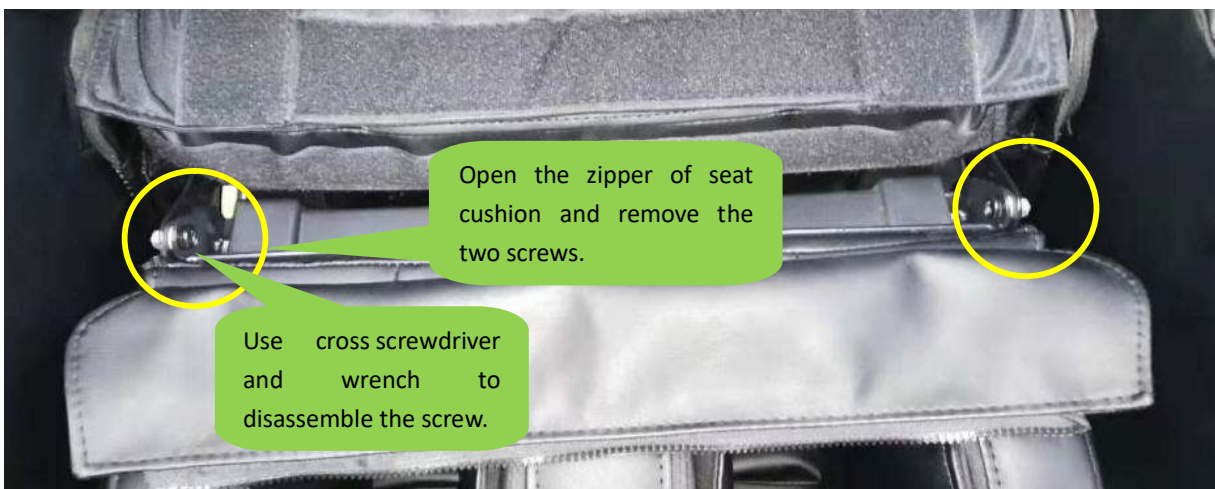
8) 更换美腿电动推杆 Footrest actuator replacement





8.9 更换美腿注意事项 Legrest (Footrest)replacement precautions

- 1) 卸下美腿固定片。Unzip the cover between the footrest and seat, then disassemble the two screws on both sides of footrest
- 2) 拔下气管及对插线插头。Disconnect the air pipes and wire connection.

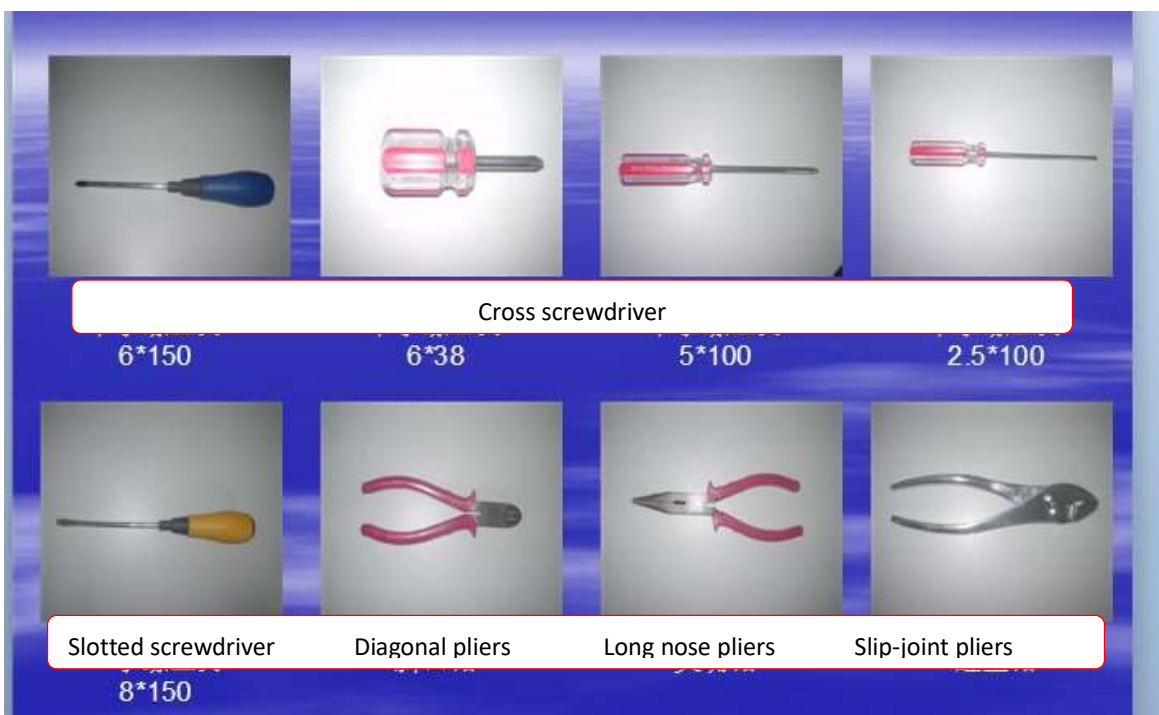


- 3) 更换新的美腿。Replace the new footrest (legrest)

8.10 维修用的工具包 REPAIR KIT

Tool name	Specification	Note
Cross screwdriver	6*150	Use for disassemble or assemble screws
Cross screwdriver	5*100	Use for disassemble or assemble screws
Cross screwdriver	6*38	Use for disassemble or assemble side panel cover screws or armrest screws
Cross screwdriver	2.5*100	Use for disassemble or assemble screws of speakers and solenoid valve
Slotted screwdriver	8*150	Use for disassemble or assemble screws
Diagonal pliers	6"	Use to cut cable tie
Long nose pliers	6"	Use to disassemble or assemble the snap spring
Wrench	5.5*7	Use to fix or disassemble M4 Nylon nuts.
Adjustable wrench	4"	Use to disassemble the tapping motor screw
Electric soldering iron	50W	Soldering different kinds of bunch
Allen wrench	3mm	Disassemble or assemble M4 hexagonal socket nut & screw
Steel ruler	200mm	Measuring the balance between the belt and the pulley
Multimeter		Measure the voltage
Slip-joint pliers		Disassemble or assemble the snap spring and fasten cable tie.
Scissor		Cut packing belt

8.11 工具清单 Tool lists





呆扳手5.5*7

Wrench



内六角扳手3mm

Allen wrench



活动扳手4"

Adjustable Wrench



钢尺20mm

Steel ruler



绷布夹具

N/A



万用表

Multimeter



剪刀

Scissor



电烙铁

Electric soldering iron



拔针5、4.5、3mm

N/A