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EC-7512A massage chair service guide

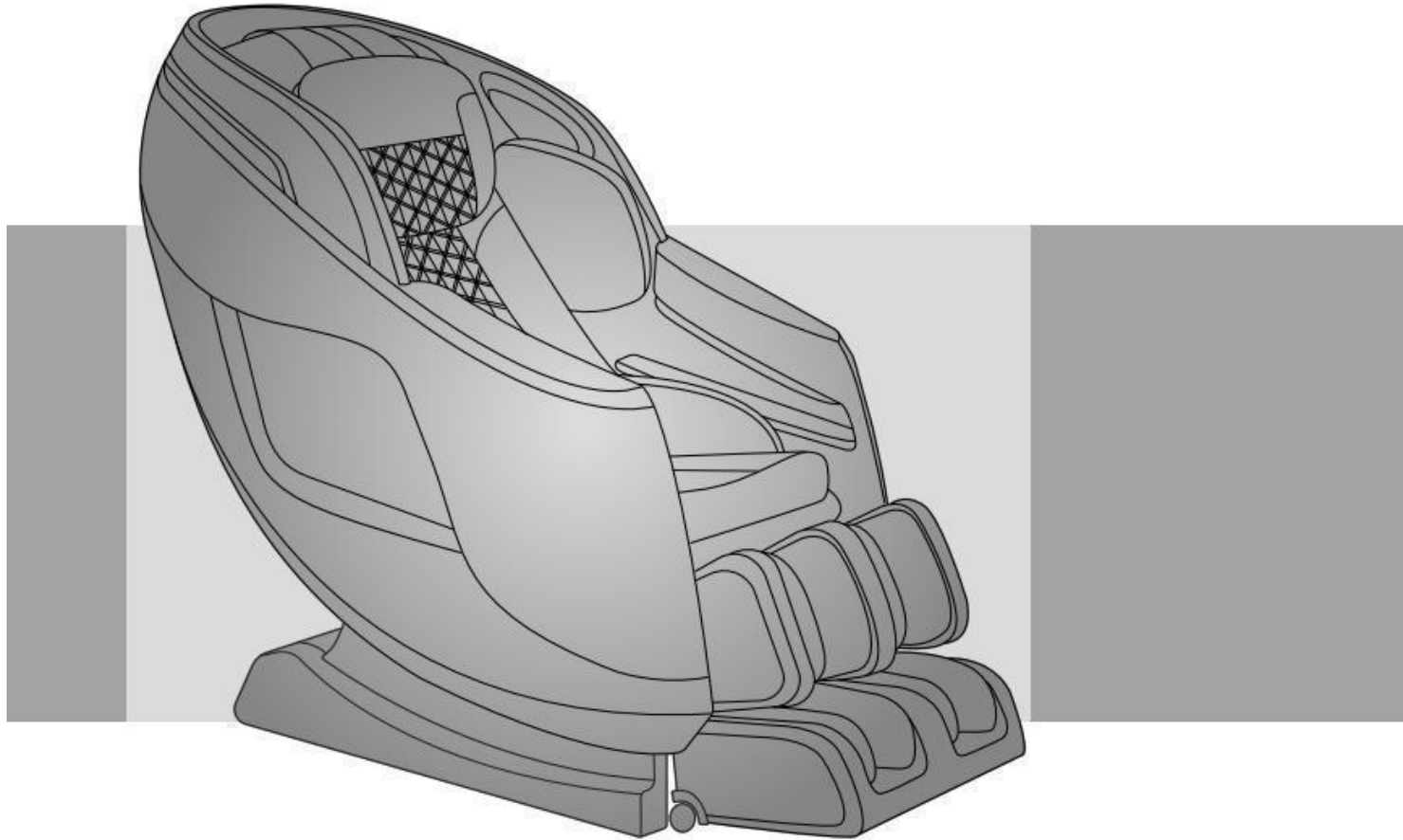




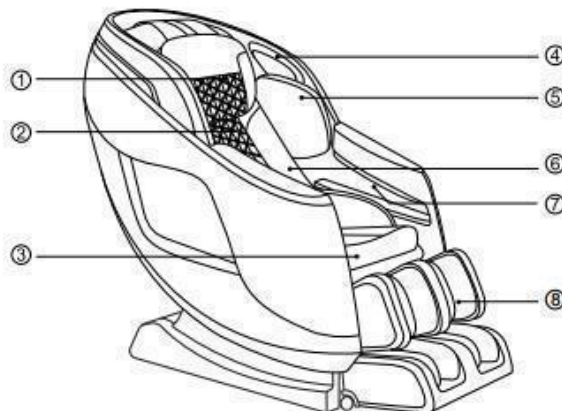
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- 二、 Massage chair tools and use**
- 三、 Circuit working principle**
- 四、 Massage chair removal instructions**
- 五、 Massage chair fault judgment**



一、产品介绍

Front



① Pillow Pad

② Backrest Pad

③ Seat Cushion

④ LED Light

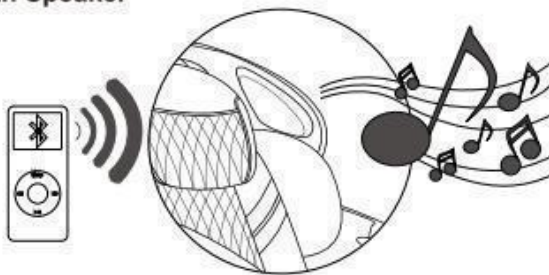
⑤ Shoulder side massage section

⑥ Waist massage section

⑦ Hand and arm massage section

⑧ Legrest

Bluetooth Speaker



NOTE:

The bluetooth speaker can only connects with one bluetooth device at a time.
Please turn off your bluetooth device after using so that other users can enjoy it as well.



一、产品介绍

| Description | Specifications |
|-----------------------------|------------------------------------|
| Model No. | Os Pro-3D Sigma |
| Rated Voltage | 110-120V~ |
| Rated Frequency | 60Hz |
| Rated Power Consumption | 135W |
| Rated Time | 15 minutes |
| Dimensions(L x W x H) | Upright: 63"x31.3"x49.4" |
| | Reclined: 74"x31.3"x39.2" |
| Weight | Gross Weight: Approx 275.6lbs |
| | Net Weight: Approx 234.1lbs |
| Length of Wire | Controller wire: 59.0" |
| | Power supply wire: 70.9" |
| Usage Condition | Environment temperature: 32°F~95°F |
| | Contrasting humidity: 20-80RH |
| Storage Condition | Storage temperature: 23°F~95°F |
| | Storage humidity: 20-80RH |
| Safety Feature | Equipped with overheated and power |
| Maximum body weight of user | 220 lbs |



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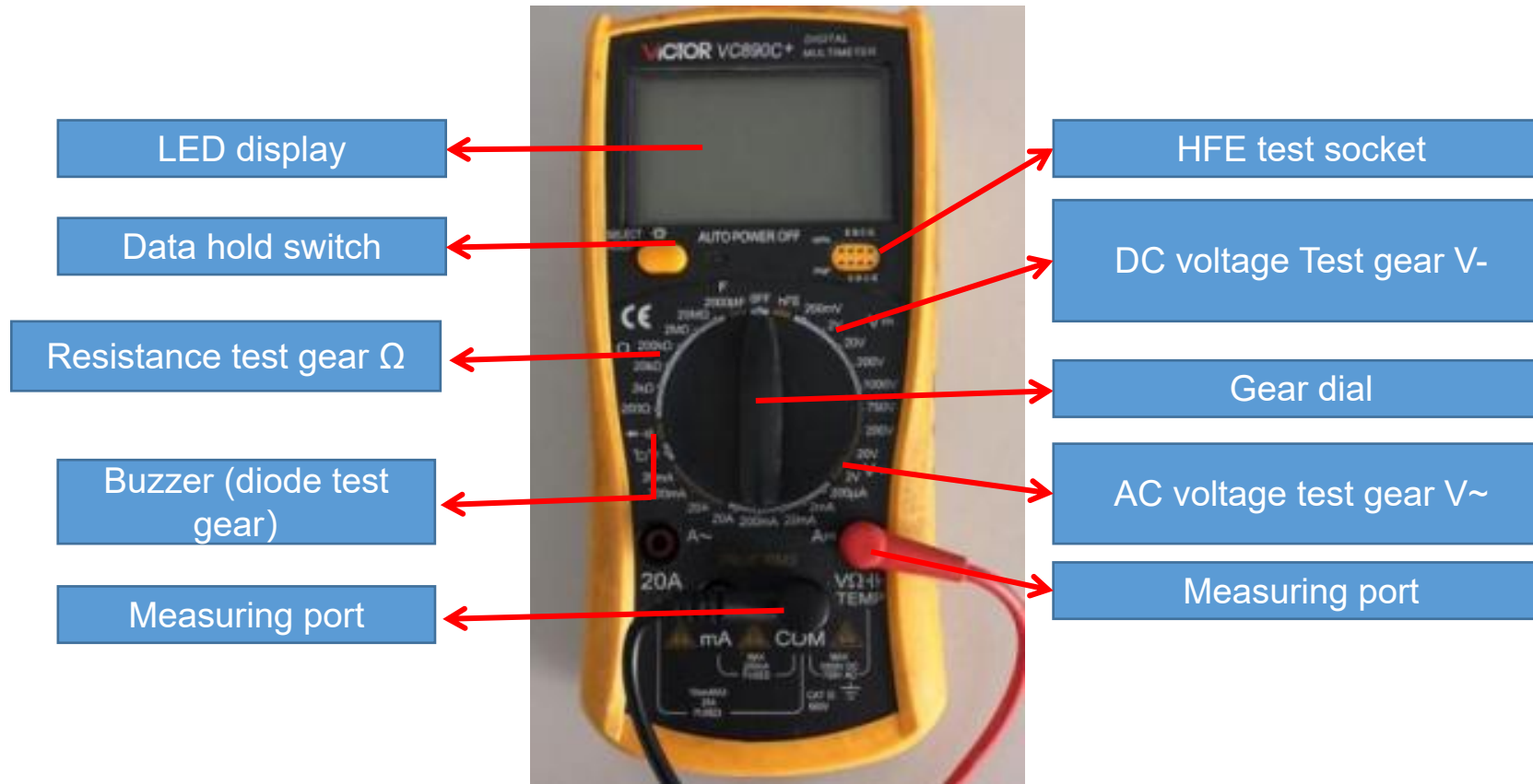
二、Massage chair tools and use

1.tools

| | | | | | |
|--|--|---|--|--|--|
|  |  |  |  |  |  |
| Screwdriver size 1,2,3 | Diagonal cutter and long nose pliers | Soldering Kit | Spanner tools Kit | Test pen | Allen Key set |
|  |  |  |  |  |  |
| Ratchet Tools Set | 24V/DC power | Electric Driver | electrical adhesive tape | Cable Ties | WIRE ONECTORS |



2.Usage of multimeter





2.1、 Function of the test gears

Data hold switch: Memorize the measured data for comparison.

Buzzer (diode test gear) : Measure the quality of diode, the on-off and alarm function of circuit

Resistance gear test gear: Measure the quality and value of resistance

DC voltage Test gear V-: Measure DC voltage

AC voltage test gear V~: Measure AC voltage

VΩ / COM: VΩ Red pen port (+ pole) during test, black pen port (- pole) during com test

Note: when carrying out resistance or voltage test, it is necessary to select a suitable range. If the range is too small to be measured, and the range is too large, the test error range is large; if the voltage is not known, it is necessary to select a range measurement with a large windlass.

2.2、 On / off measurement of lines



open circuit

As shown in the left picture, first set the multimeter to the buzzer and power it
When the switch is on, the multimeter will display "0."; then contact the two probes with the ends of the red wire
At this time, the multimeter still shows "1." there is no change, which means there is an open circuit in the middle of the wire, that is, the line is open.



close circuit

As shown in the picture on the left, if the multimeter shows the number of ". 002" or ". 00n" and gives an alarm, it means that the wire is connected.

2.3、 Measurement of AC voltage



As shown in the picture above: measure the household plug-in board power supply (220V), select the range of 750, and the test result shows "224", indicating that the actual voltage of this group of sockets is 224v at the moment (the switch is pressed down, so there is power, and the light is on).



As shown in the above picture: measure the power supply (220V) of our household plug-in board, select the range of 750, and the test result is displayed as "001", indicating that the actual voltage of this group of sockets is 0V at the moment (the switch is not pressed down, so there is no power, and the light is not on).

2.4、 Measurement of dc voltage



As shown in the figure above: the test result shows "1.58", indicating that the voltage at both ends of the battery has 1.58V, and the red watch pen is connected to the battery's "+" pole, while the black pen is connected to the electromagnetic "-" pole.



As shown in the figure above: the test result shows "-1.58", indicating that the voltage at both ends of the battery has 1.58V, and the red watch pen is connected to the battery "-" pole, and the black pen is connected to the electromagnetic "+" pole.

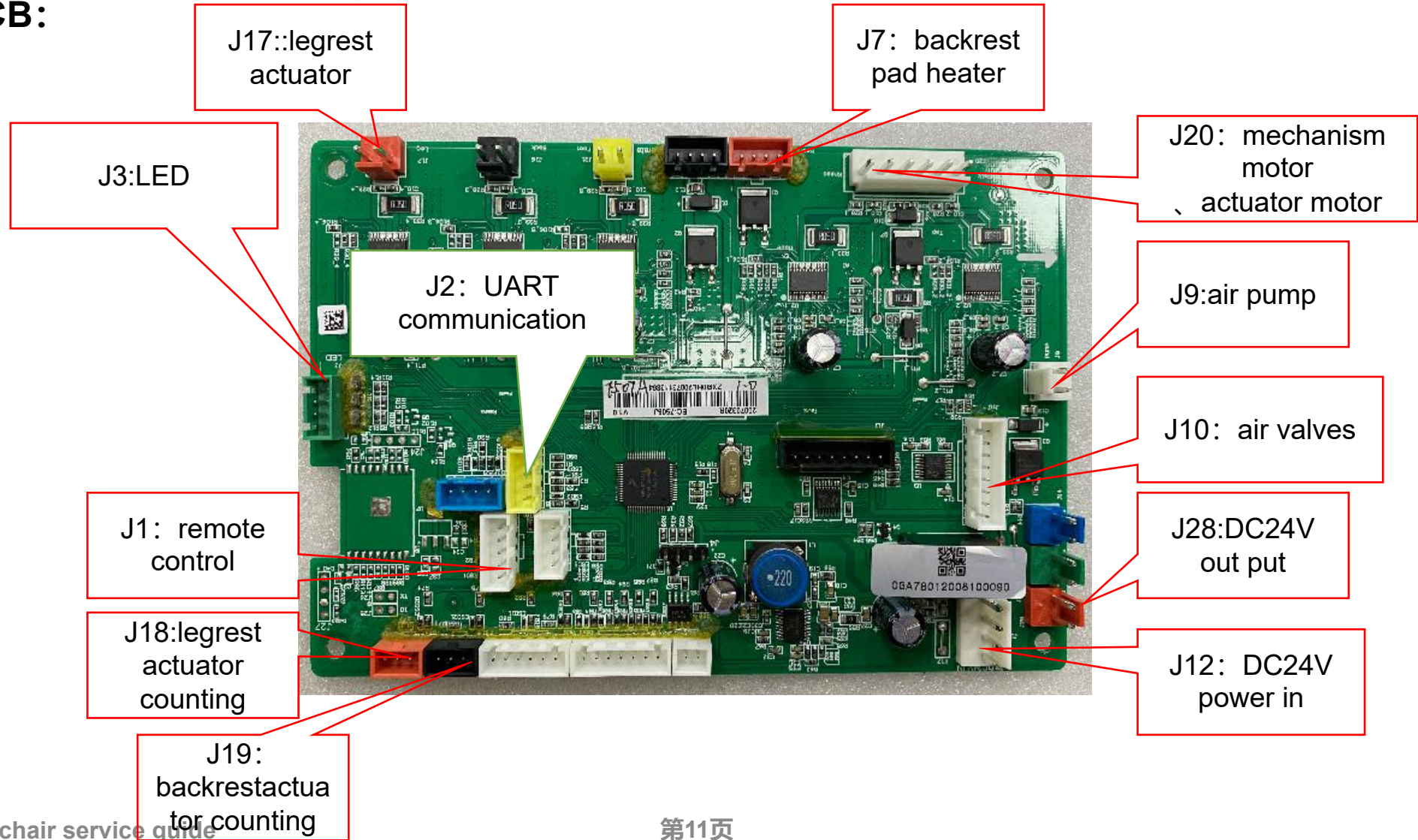


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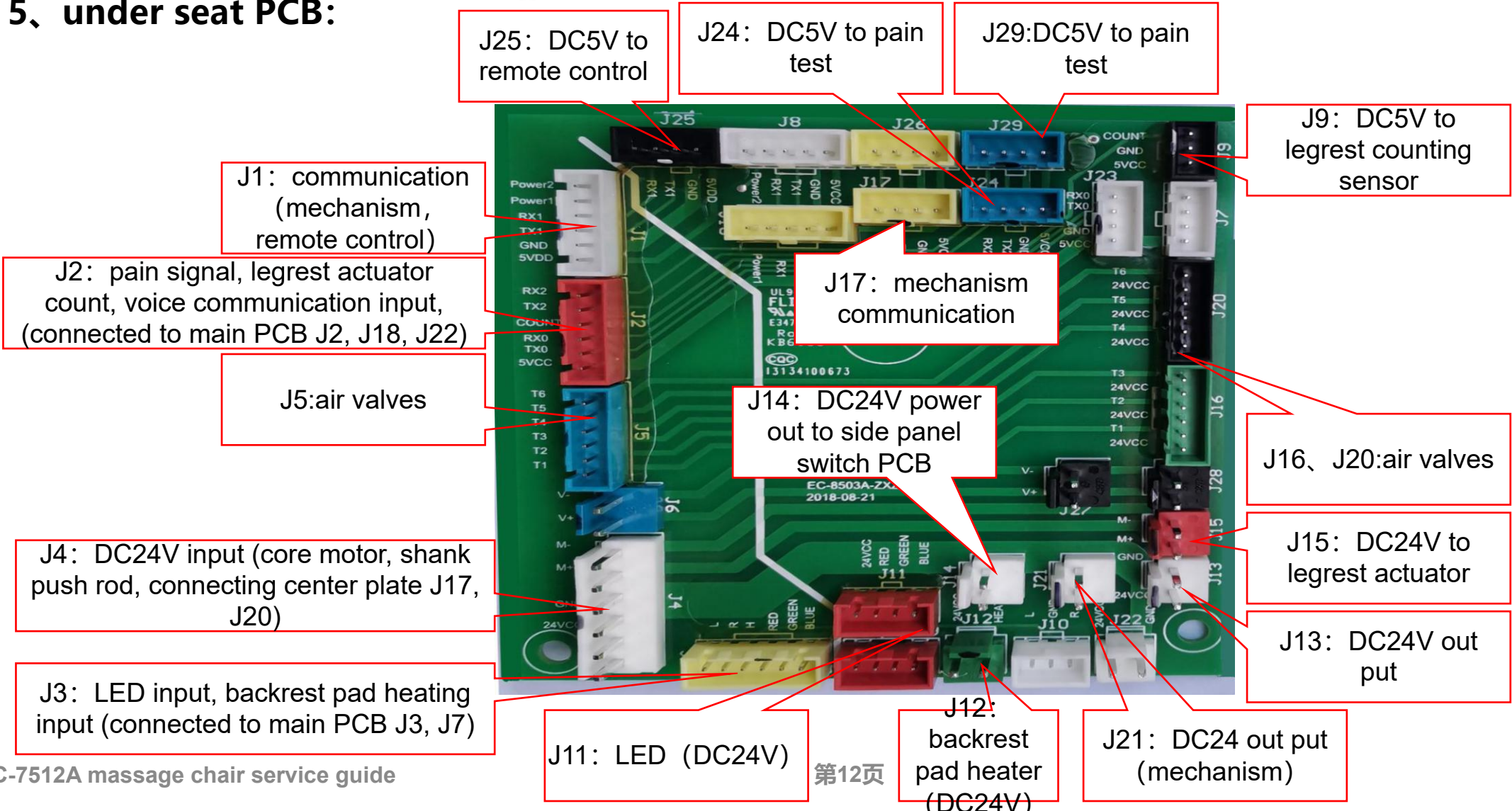
三、Circuit working principle

1、main PCB:





5、 under seat PCB:





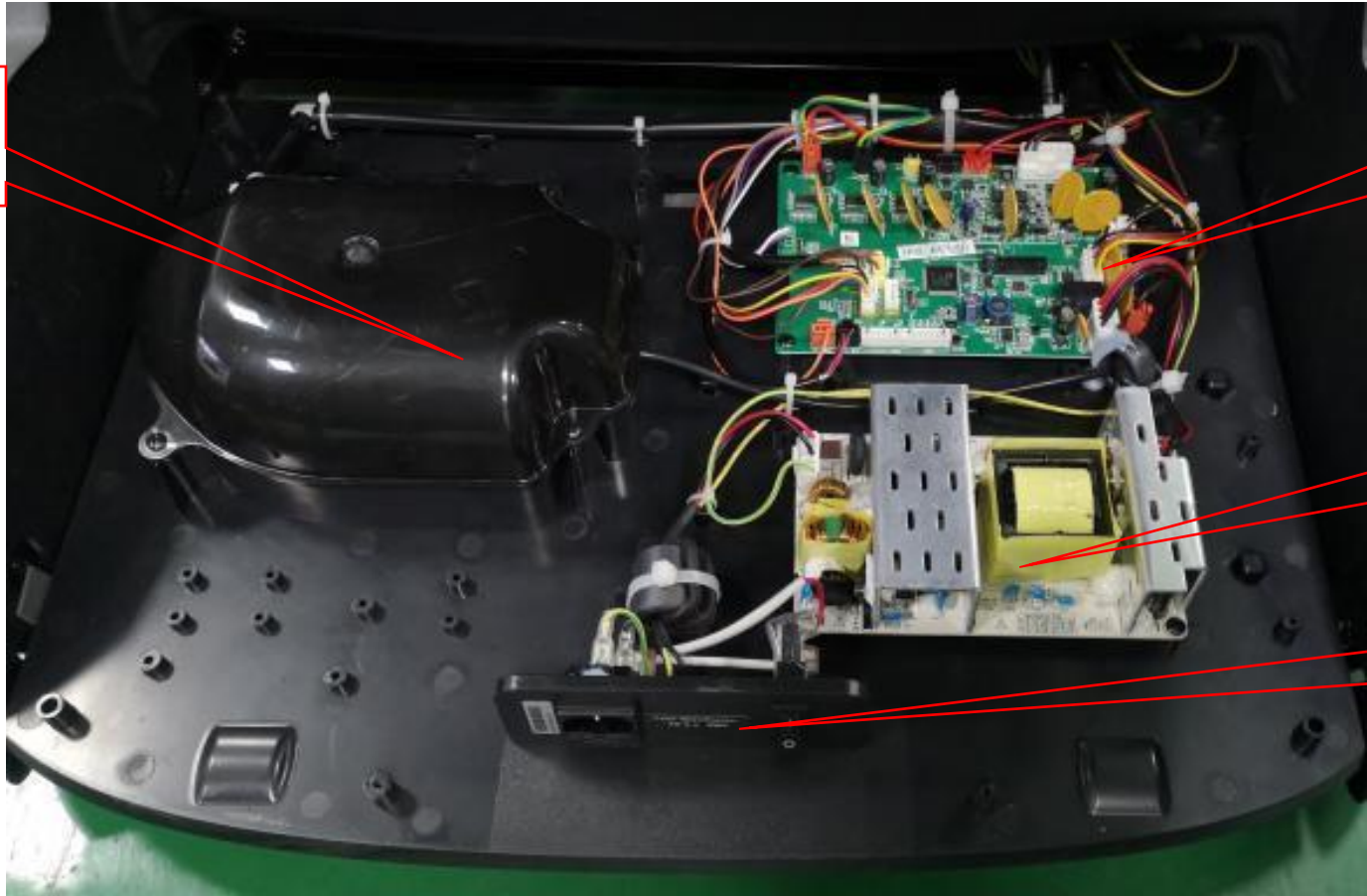
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四、Massage chair removal instructions

1、main PCB box:

air pump



main PCB

power PCB

power switch



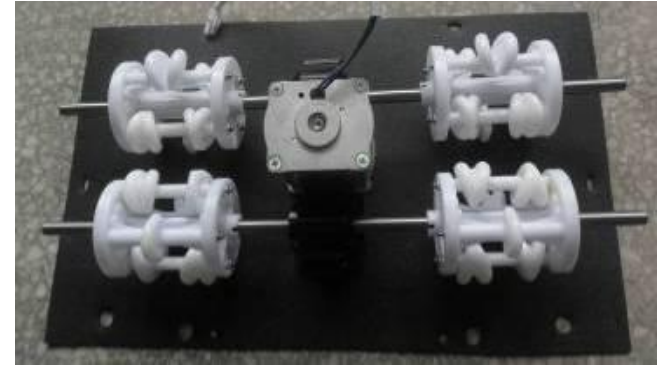
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2、legrest:



upper legrest



foot Massage



lower legrest



Calf telescopic
motor assembly



Leg hardware

3.1、disassembly of the pillow



unzip the zipper



remove the pillow



3.2、disassembly of backrest pad



unzip the zipper



unzip the zipper



cut cable tie, reemoveheat shrinkable sleeve



discontent the terminal



backrest pad



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3.3、disassembly of the heater



unzip the zipper



discontent terminals, remove heater



heater



3.4、disassembly of side panel



unzip the zipper



remove 2 screws



remove 2 screws



remove 6 screws

1



remove the screw of right side panel

2



unzip the zipper

3



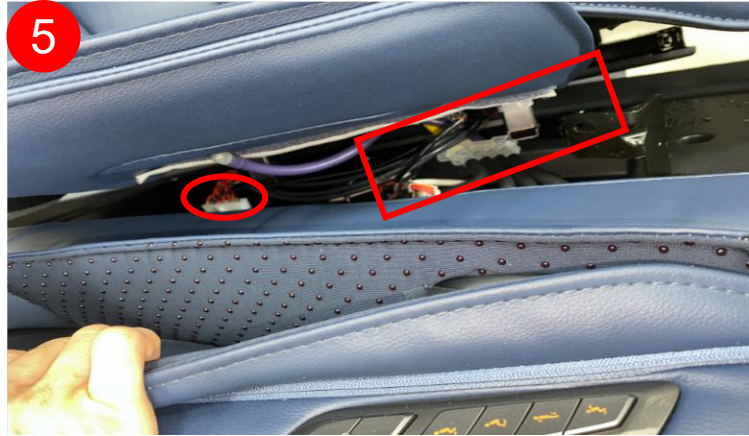
remove the screw

4



lift up side panel

5



cut cable, discontent terminal and air hose

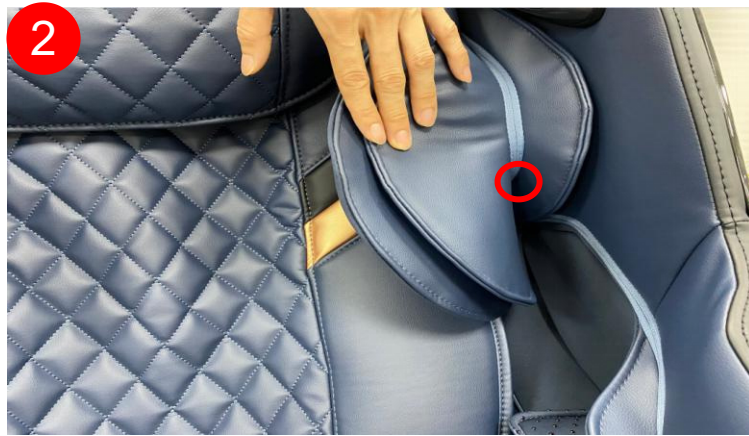
6



Unplug the rear horn terminal and remove the right side panel assembly



remove the screw of right side panel



unzip the zipper



remove the screw



lift up side pane



cut cable, discontent terminal and air hose



Unplug the rear horn terminal and remove the left side panel assembly

3.5、disassembly of inner right side panel



cut cable tie



discontent 2 terminals



discontent the air hose



remove 8 screws,
remove air valves



unzip the zipper



the cloth cover pin can be
directly pulled out



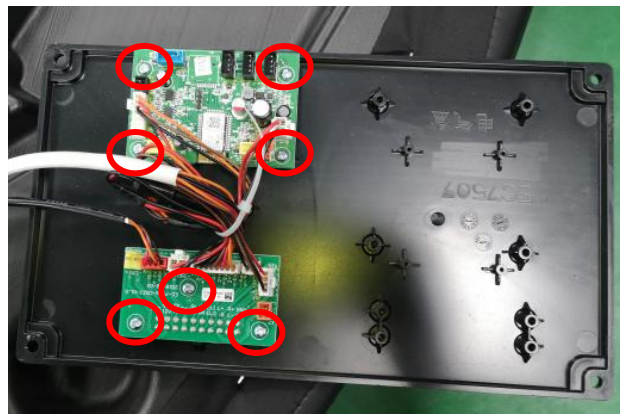
remove 4 screws



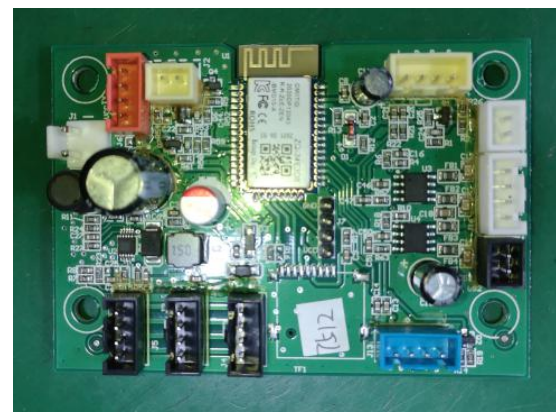
remove 4 screws
and remove air bag



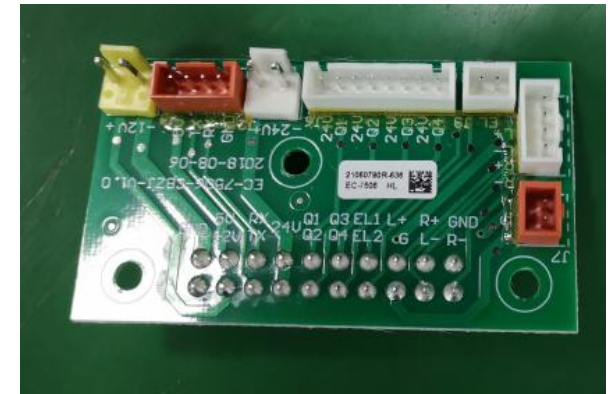
remove 4 screws



disconnected the terminals



disassemble Bluetooth PCB



disassemble adapter plate



Pry off the key board assembly along the edge



remove 4 screws



disconnected the terminal and remove the control



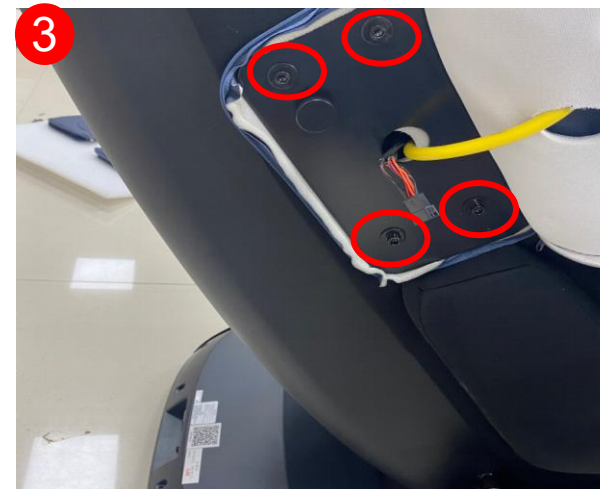
3.6、disassembly of shoulder air bag



unzip zipper, discontent air hose



unzip zipper, discontent air hose



remove 4 screws, remove right shoulder unit



remove 4 screws, remove left shoulder unit



shoulder unit



remove the screws and remove air bag



3.7、disassembly of remote control



cut cable tie, discontent the terminal



remote control



3.8、disassembly of the side seat



disconnect air hose



remove 2 screws, remove left side seat



disconnect air hose



remove 2 screws, remove right side seat



open the cover



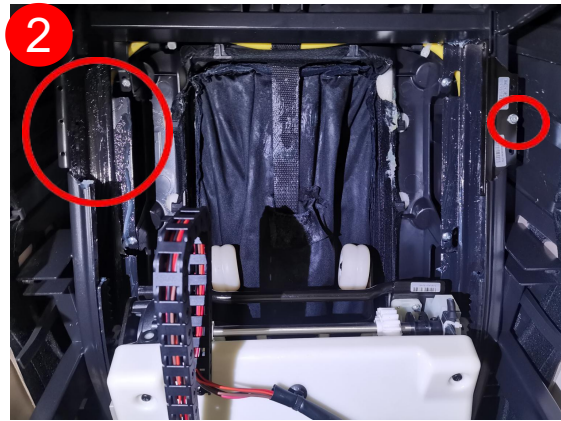
Remove the two flaps to replace the left and right side airbags and leather covers



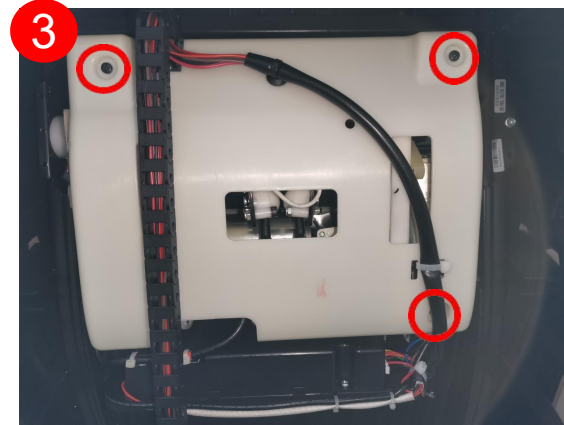
3.9、disassembly of mechanism



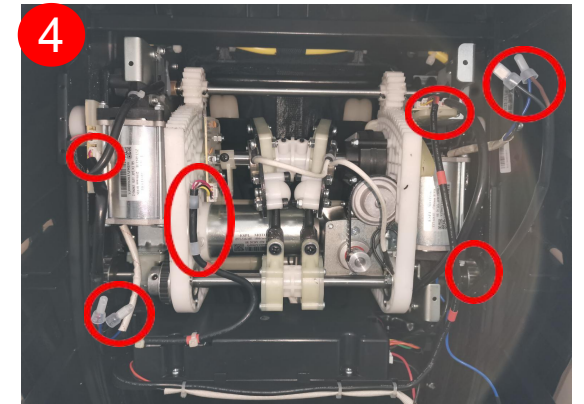
remove rear cover



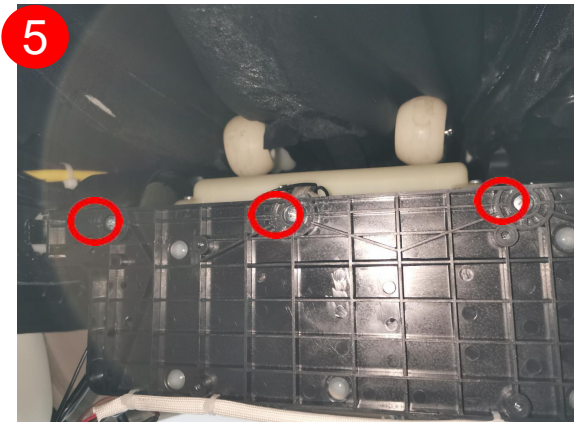
move down mechanism
Remove the one flap (Leave a screw fixing the flap here)



move mechanism to Topmost, remove the 3D movement cover



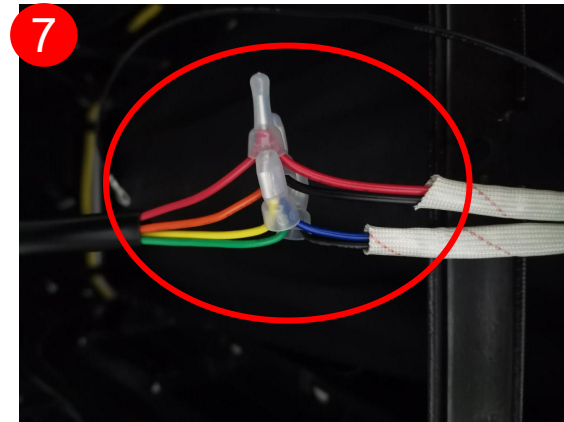
discontnet the terminals



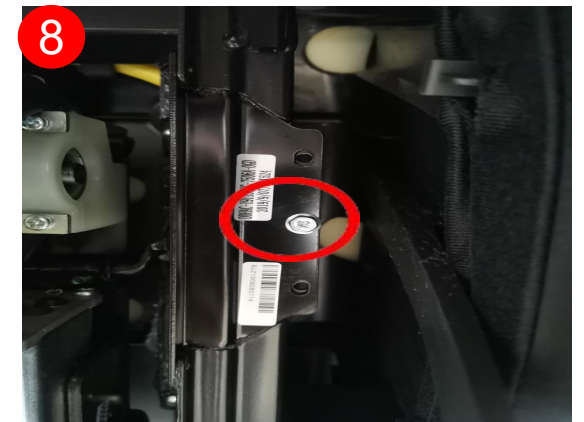
remove 3 screws



cut the heat shrinkable sleeve



discontnet the terminals



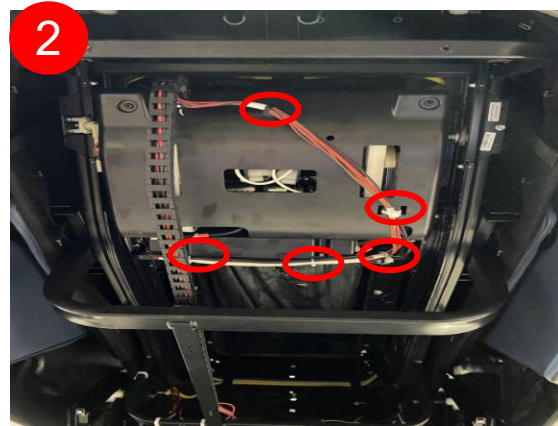
Press the movement, remove one screw 1, remove the right baffle (pay attention to the movement falling) and take out the movement assembly



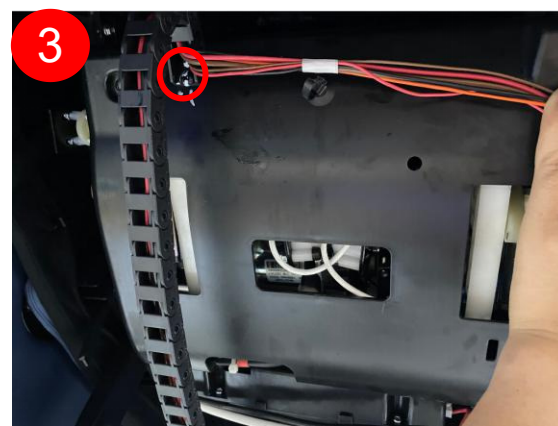
4.0、disassembly of backrest cable



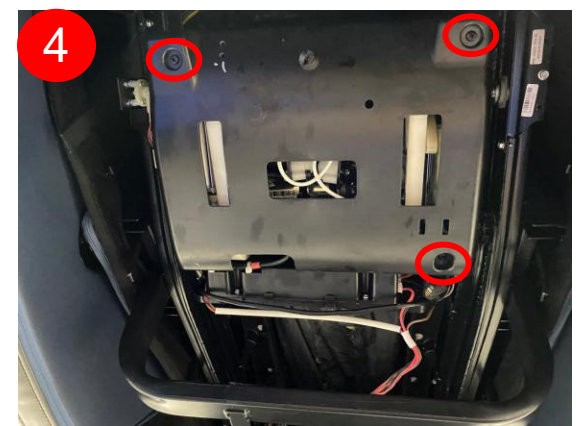
remove rear cover



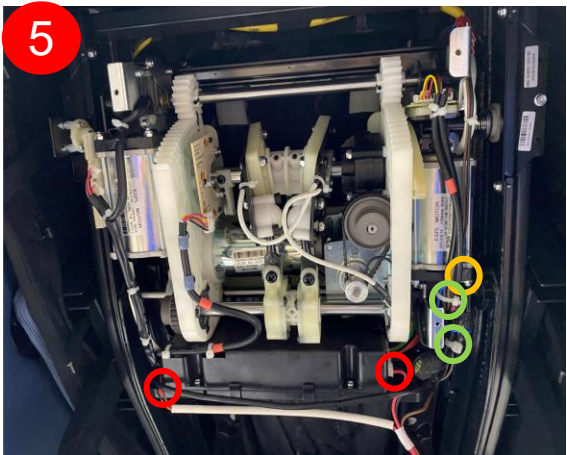
cut 5 cable tie



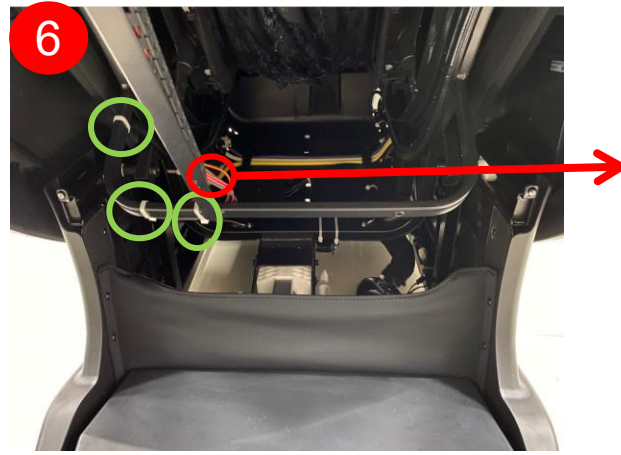
remove 2 screws



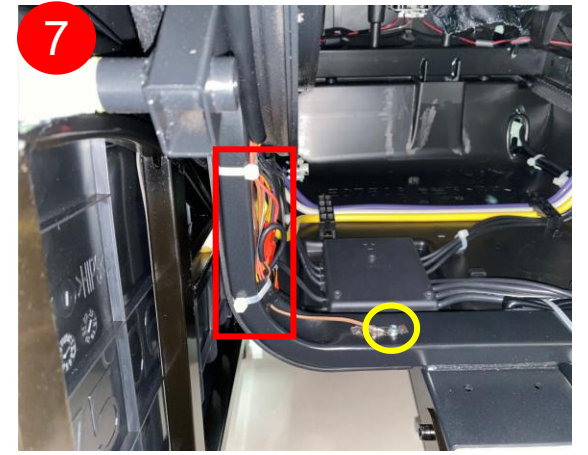
remove 3 screws and cover



Pull out the red marked terminal, cut off the green marked buckle, and remove the Yellow marked ground screw
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Cut off the buckle marked in green and remove the two screws marked in red



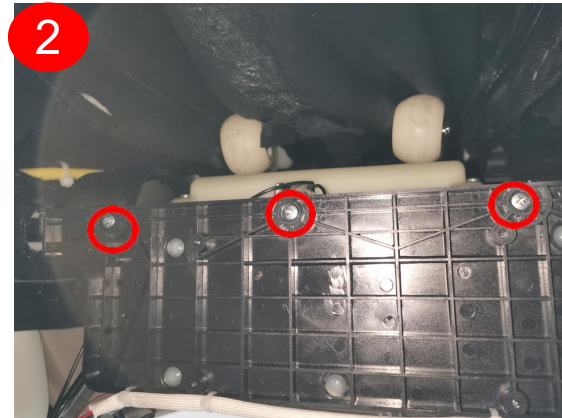
Cut off the buckle, pull out the terminal (marked in red), remove the ground screw marked in yellow, and take out the back stringing



4.1、disassembly of 3D PCB



remove rear cover



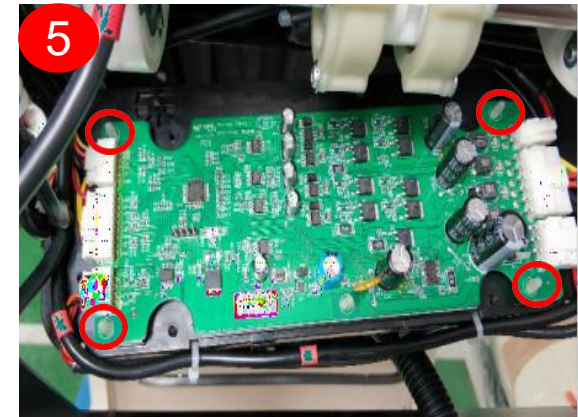
remove 3 screws



cut cable tie



remove the cover



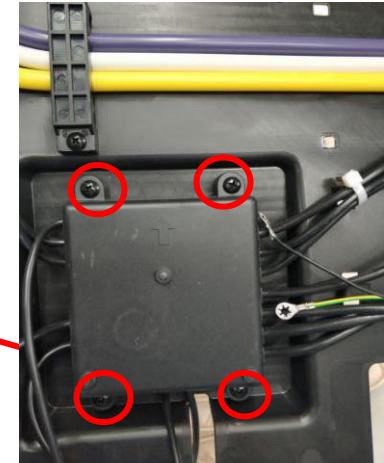
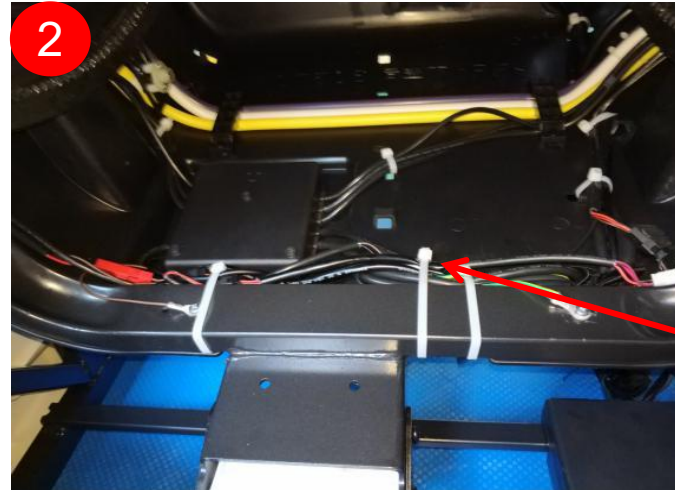
remove 3D PCB



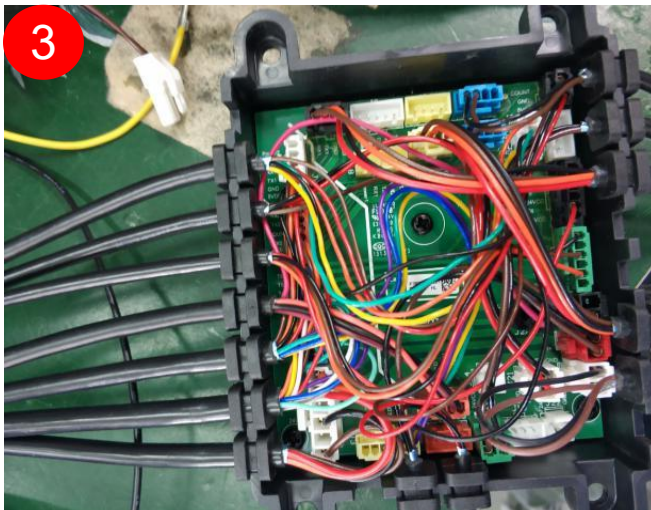
4.2、disassembly of under seat PCB



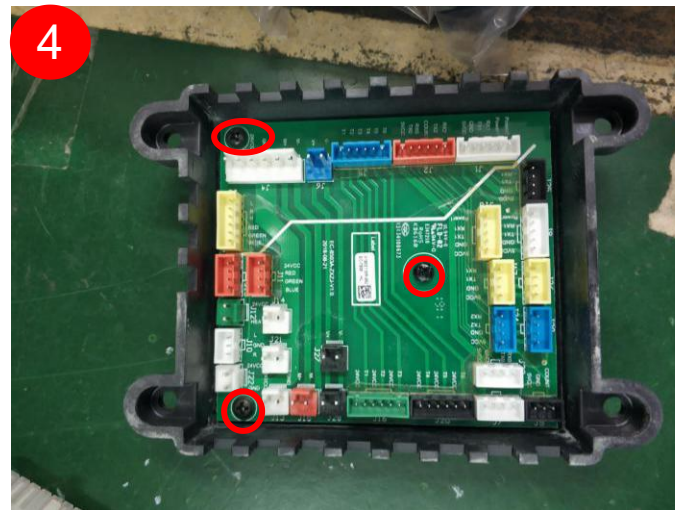
remove rear cover



remove 4 screws and take down the cover



discontent all terminals



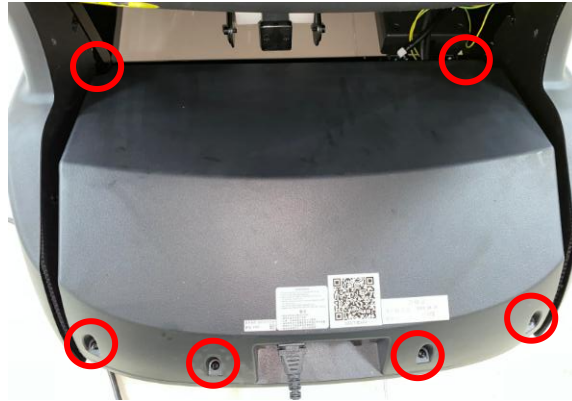
remove 3 screws and remove the PCB



4.3、disassembly of inner main PCB box



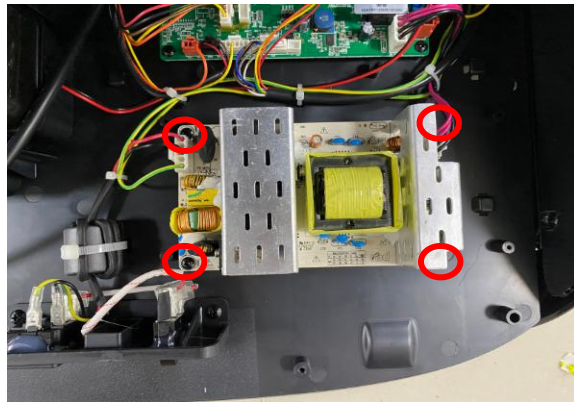
disassemble the cloth block



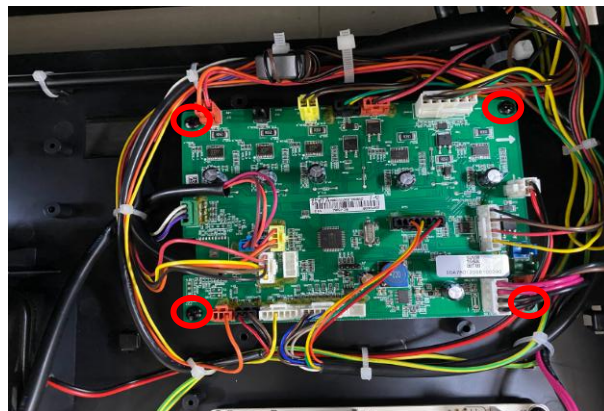
remove the cover



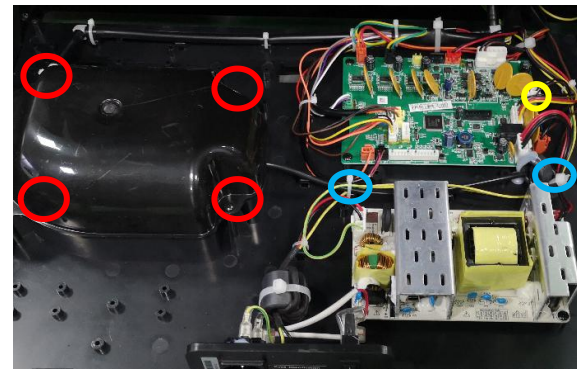
disassemble WIFI PCB



disassemble power PCB



disassemble main PCB



remove the cover nad
discontent terminal



remove 2 screws, cut cable
tie, remove air pump



4.4、disassembly of legrest unit



unzip the zipper



remove the stopper



Remove the calf assembly in the direction of the arrow

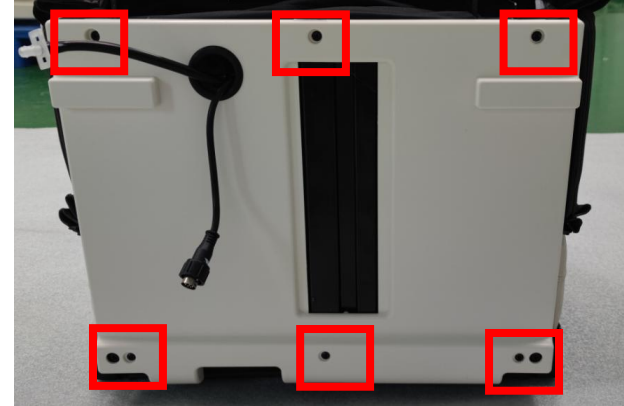


Pull out the terminal and air hose, pull out the pin and pin shaft, and take out the leg assembly



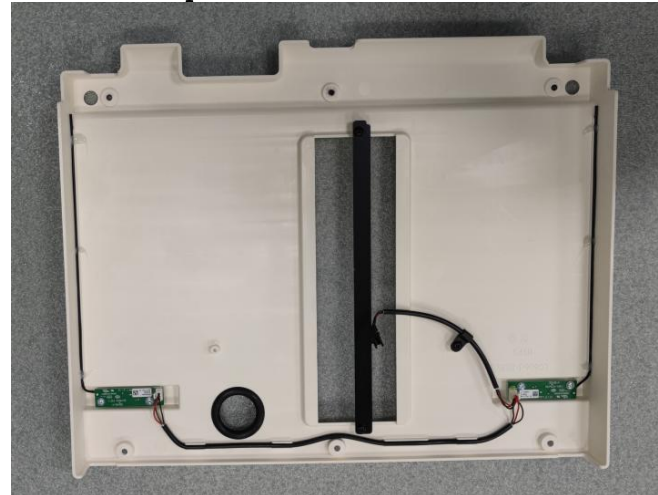
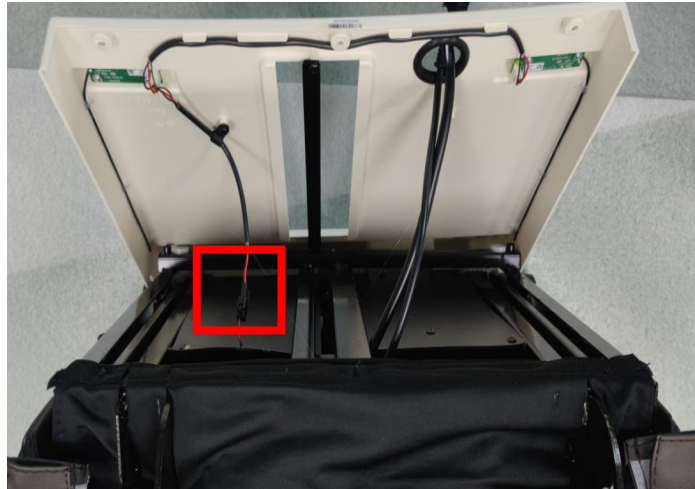
4.5、Disassembly of upper leg assembly

a. remove the legrest



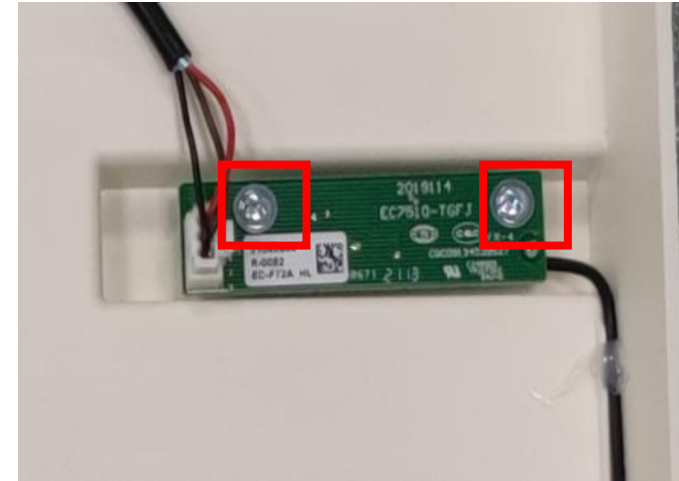
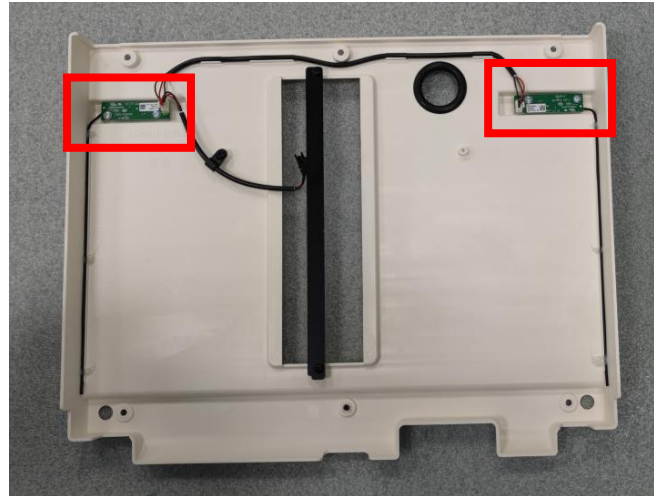
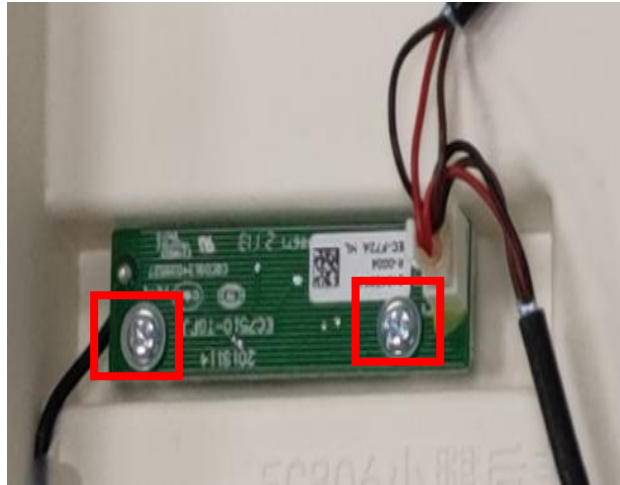
b. Lift the lower leg to this position and unzip

remove 6 screws

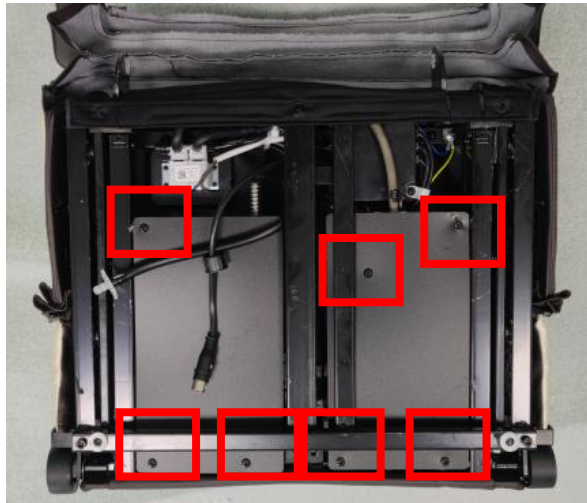


disconnected the terminal

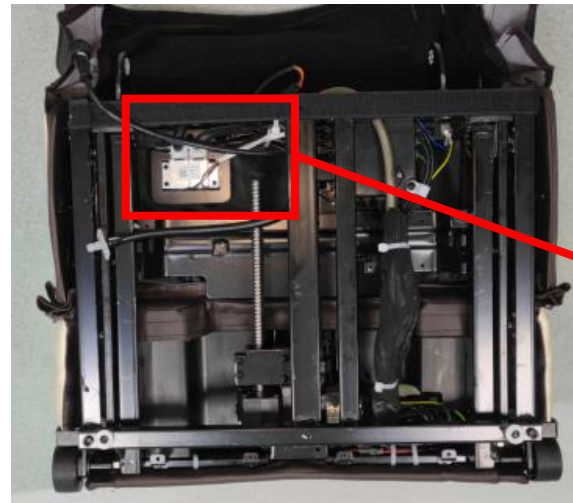
remove the cover



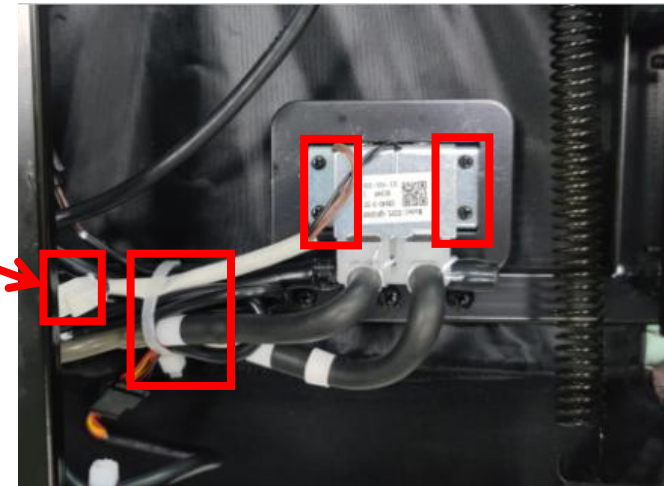
c. remove 2 screws

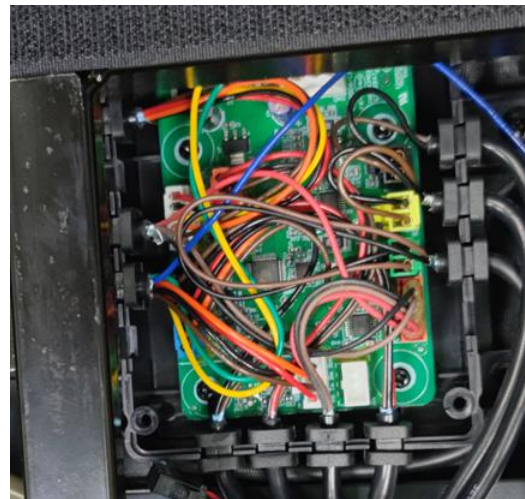
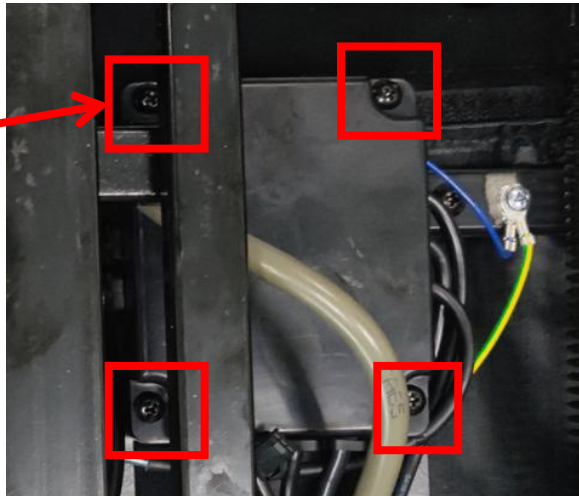
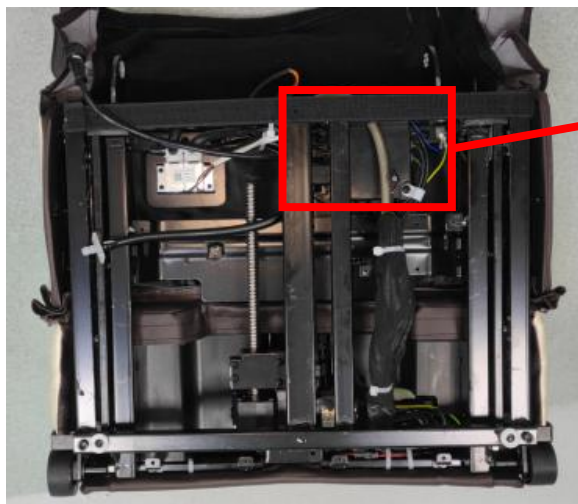


d. remove 8 screws



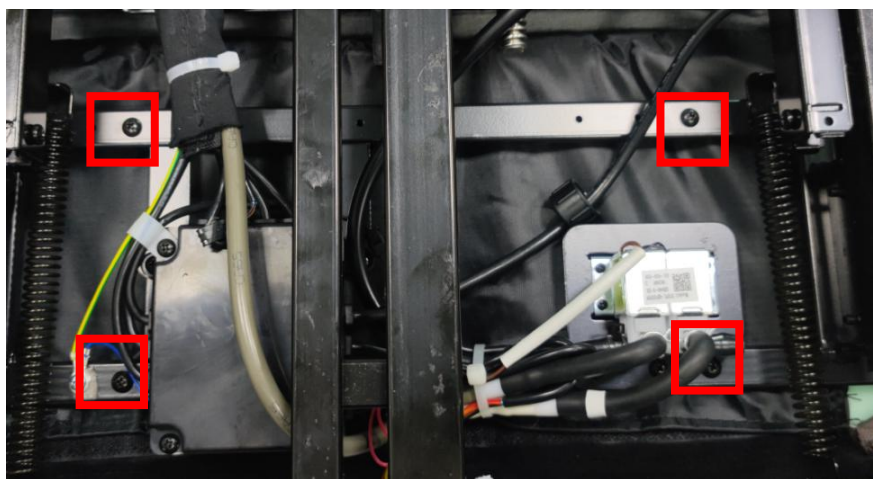
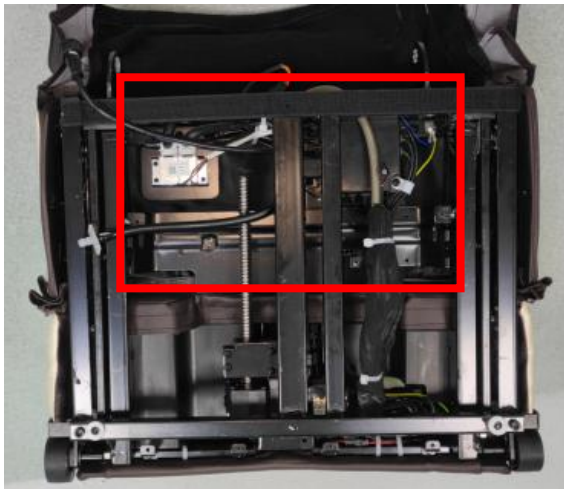
e. disconnected air hose and terminal, remove 4 screws, remove air valves





f. remove 4 screws

disconnected all terminals, remove 4 screws, remove legrest PCB

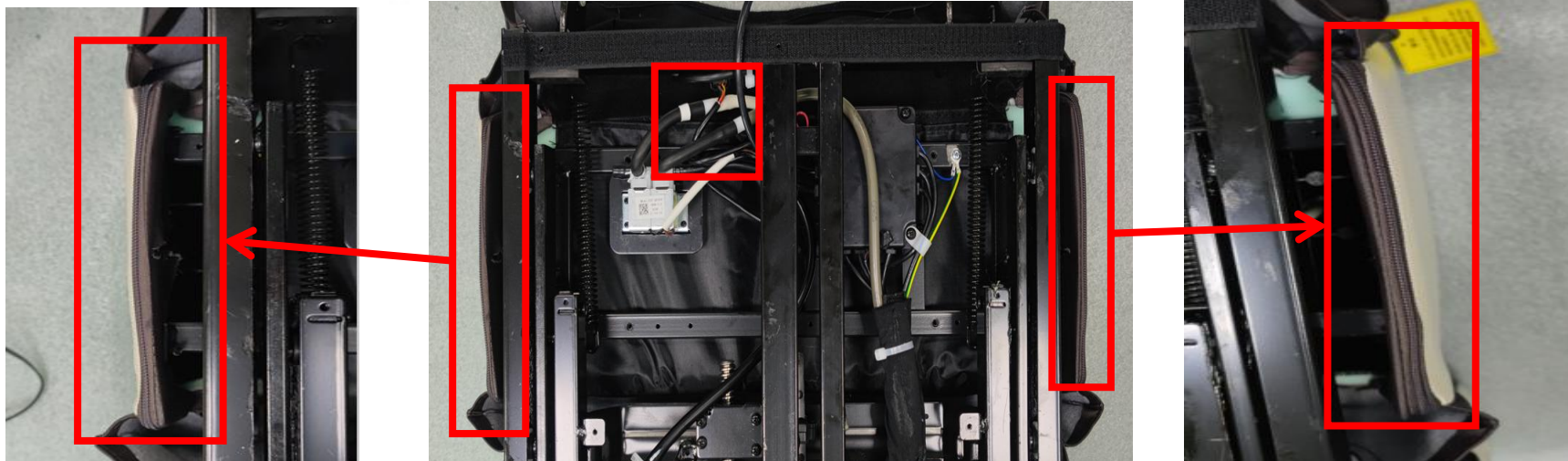


g. remove 4 screws



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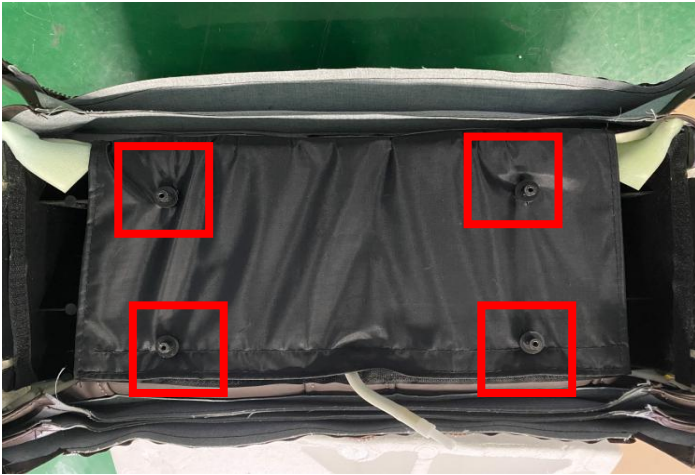
disconnected air hose and terminal, unzip the zipper



remove 2 screws both side



remove upper legrest



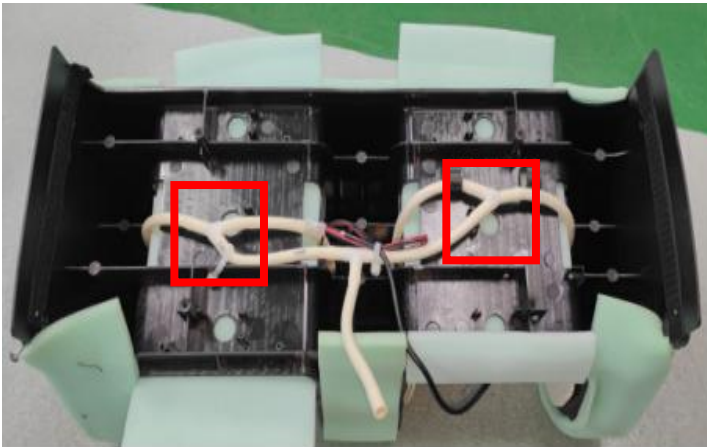
h. Remove the 4 fixed support sleeves



remove the upper legrest cover



upper legrest cover



i. disconnected air hose

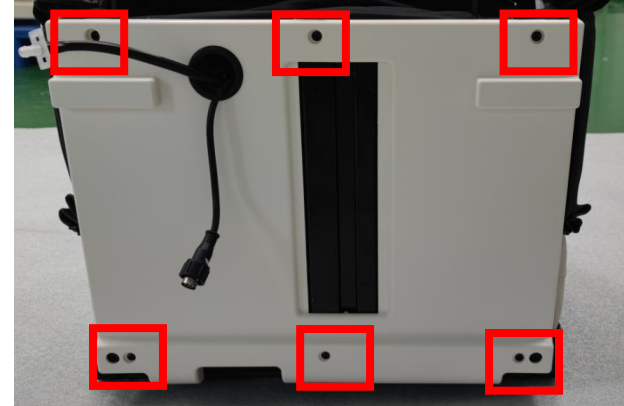


remove air bag



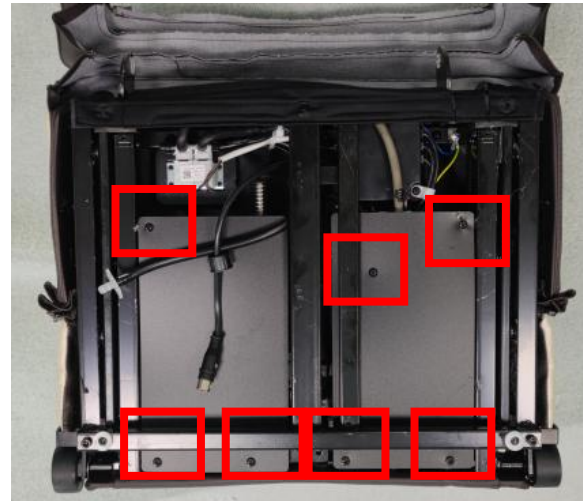
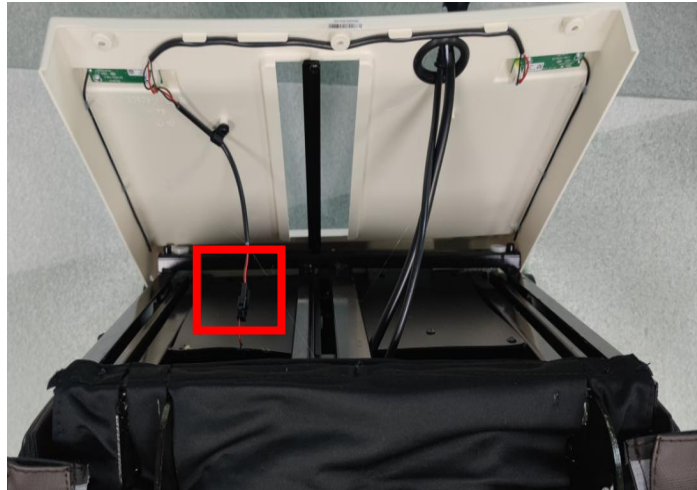
4.6、Disassembly of lower leg assembly

a. Remove the lower leg assembly



b. unzip the zipper

remove 6 screws

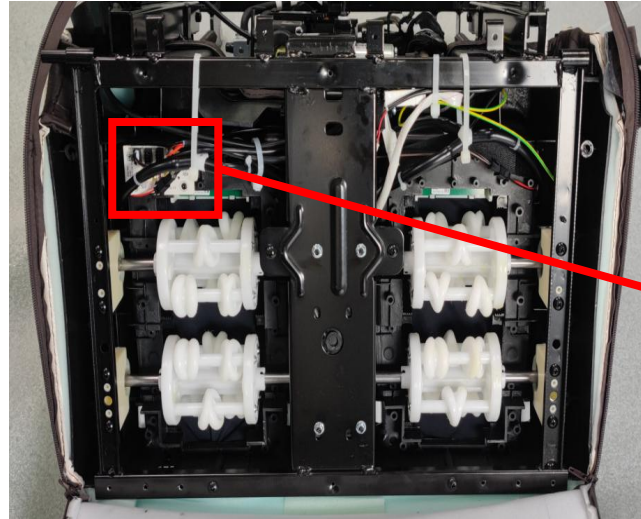


disconnected the termin

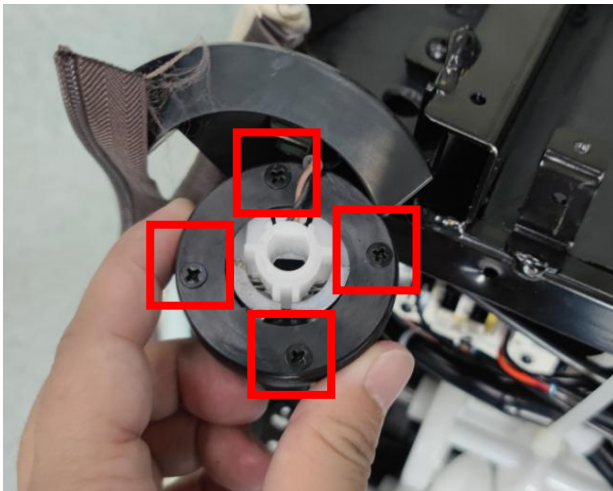
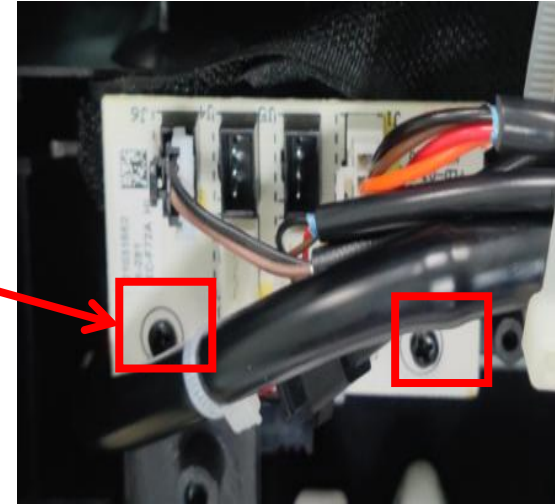
c. remove 8 screws



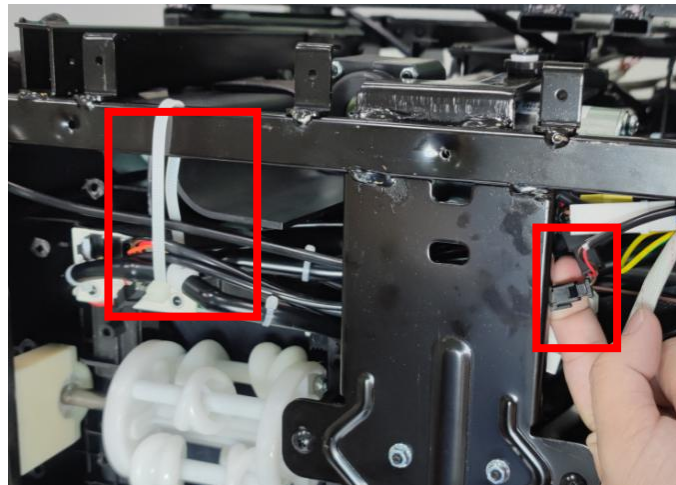
f. remove 5 screws



g. disconnected the terminals, remove 2 screws

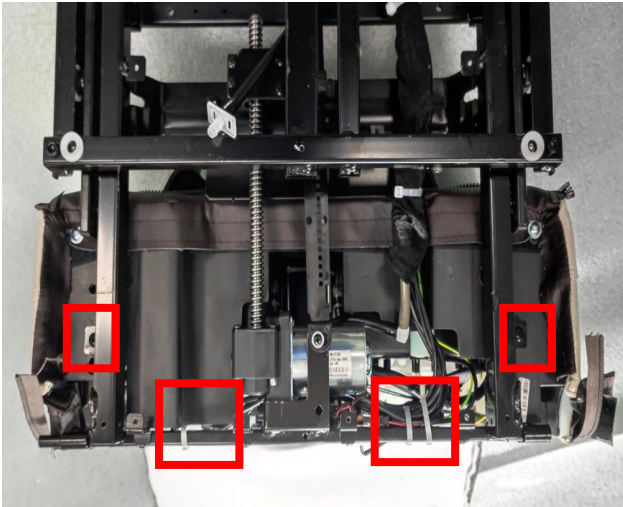


h. remove 4 screws

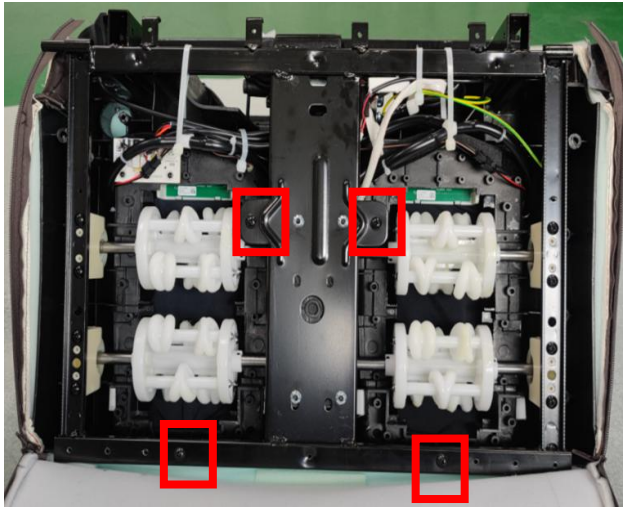


cut the cable tie,
disconnected terminals

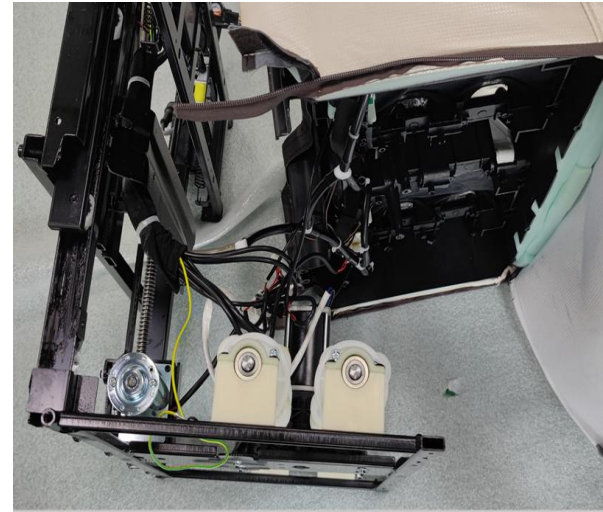




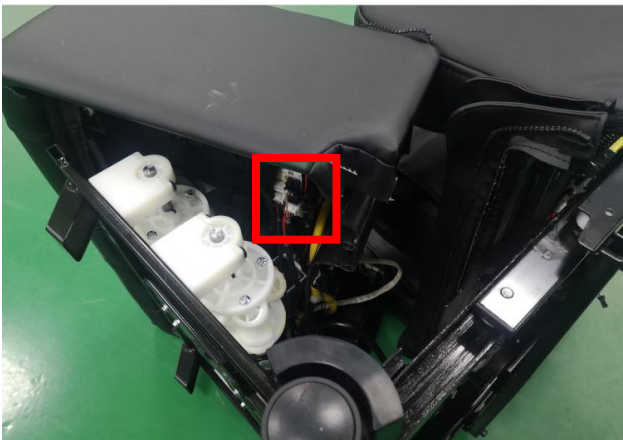
i.remove 2 screws, cut cable tie



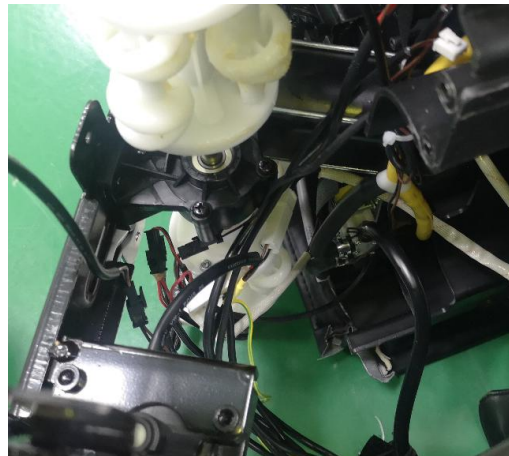
remove 4 screws



Lift the lower leg



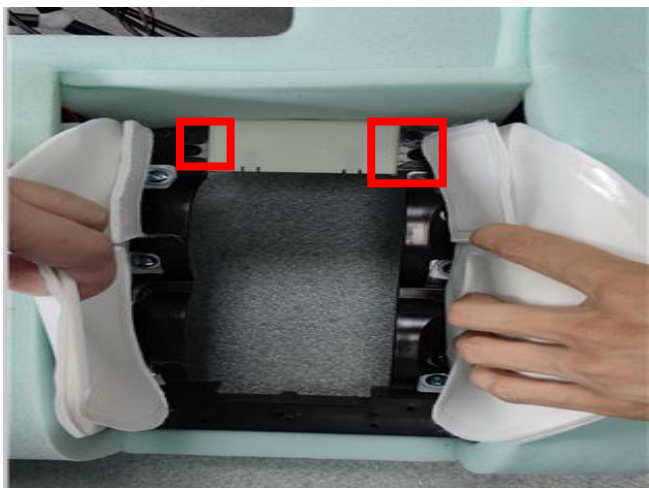
j.disconnect the terminals



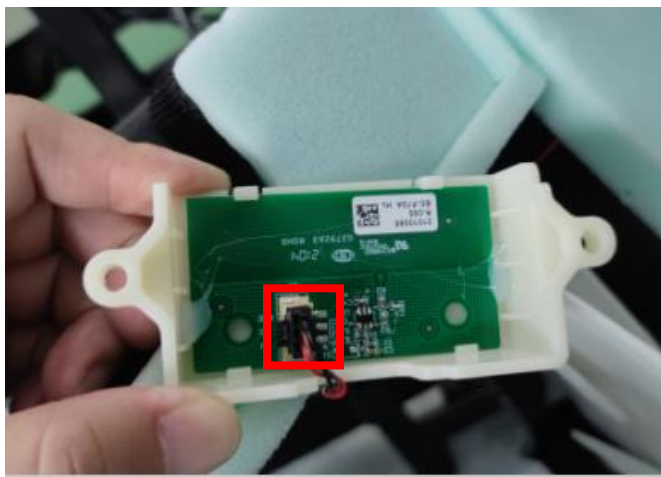
disconnect terminals and air hose



Detach the lower leg



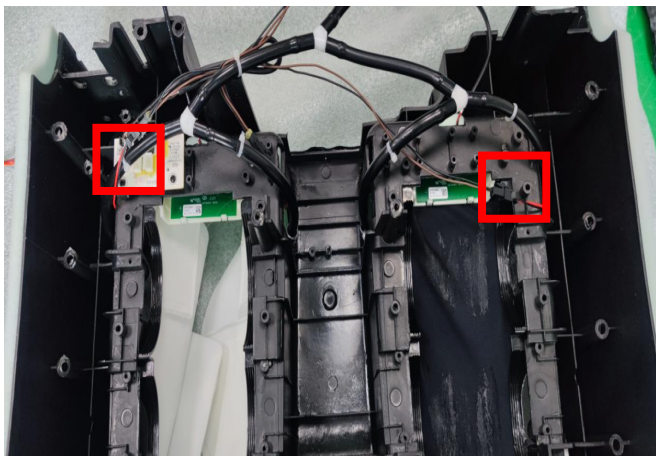
k.remove 2 screws



disconnected terminal



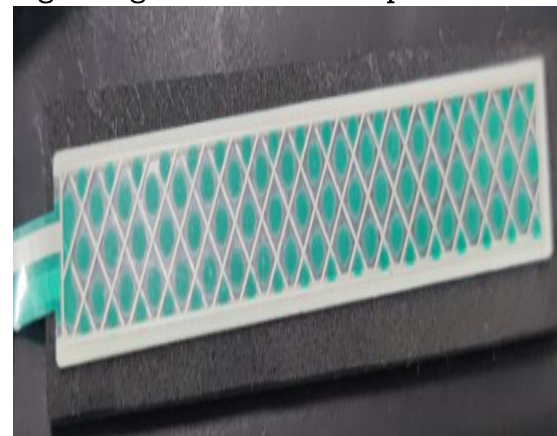
Leg length detection pcb



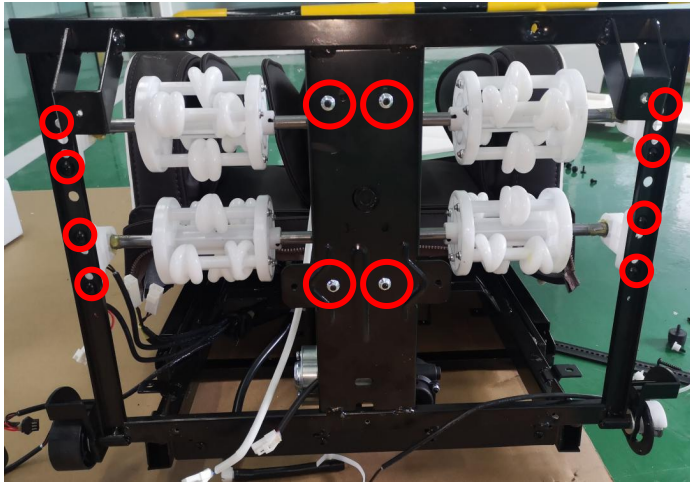
l.disconnect terminals



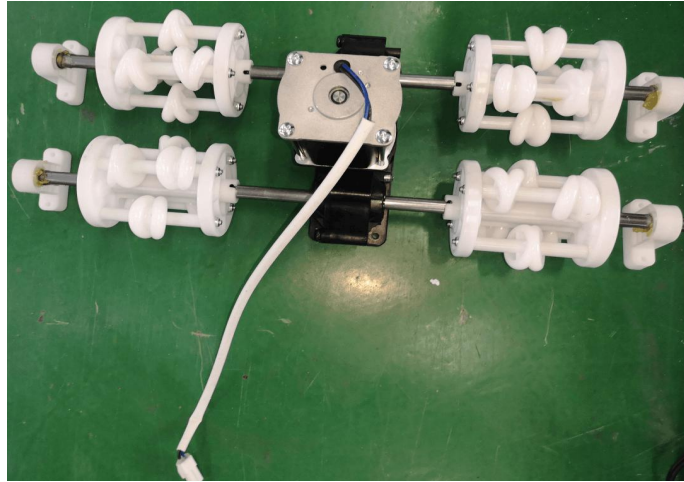
remove the Anti pinch membrane switch



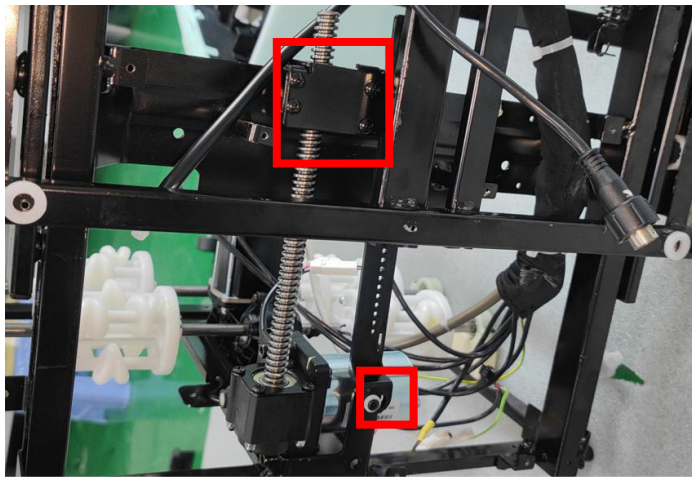
Anti pinch membrane switch



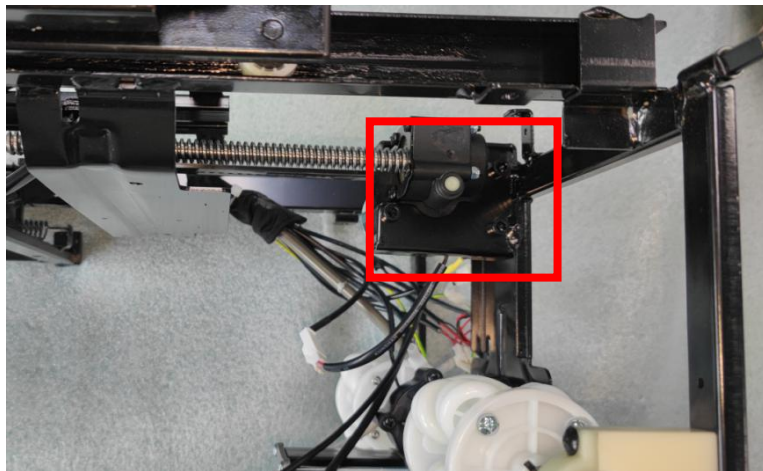
m. remove 12 screws



remove foot massage



n. remove 5 screws



remove 3 screws

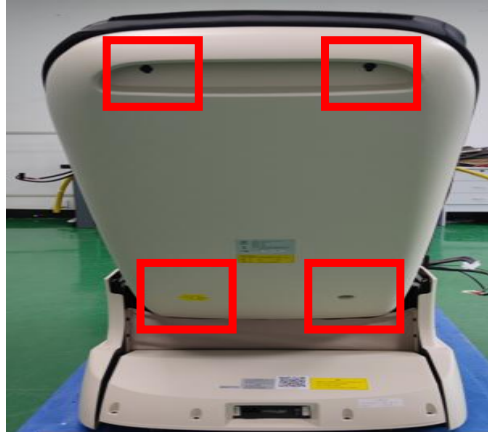


remove leg telescopic motor assembly

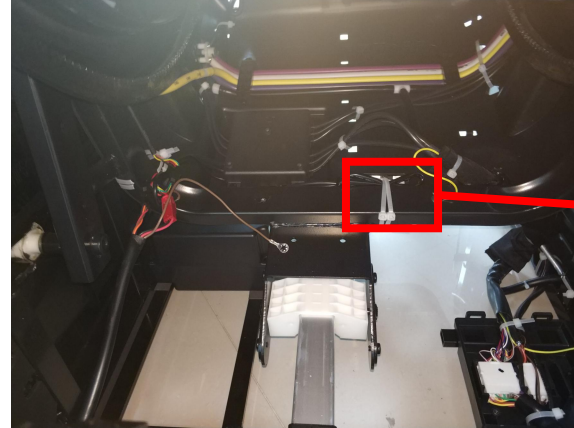


4.7、Disassembly of legerst actuator

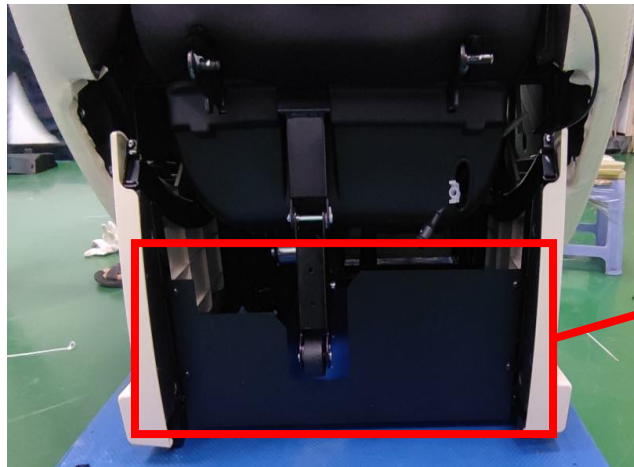
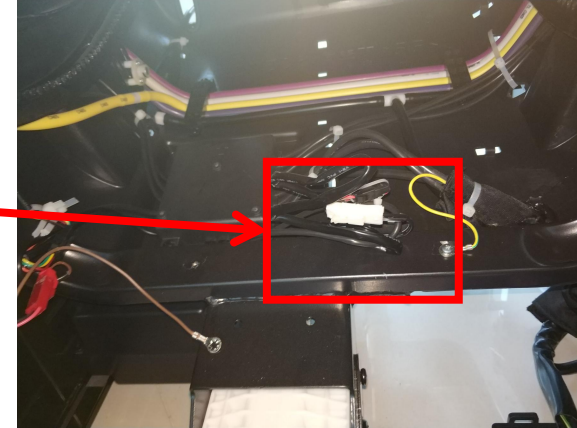
a. Remove the legerst



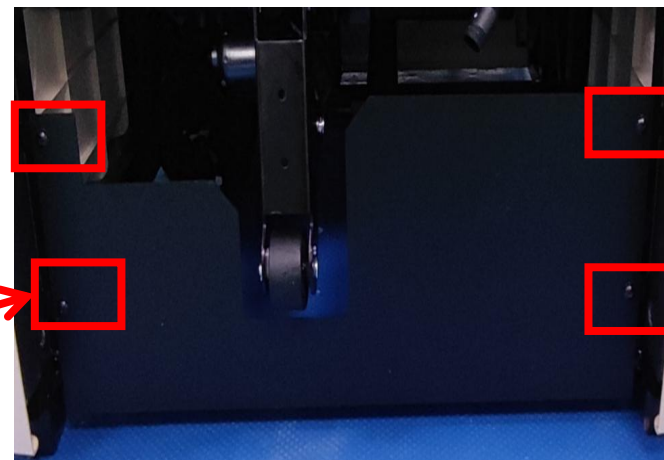
b.remove 4 screws



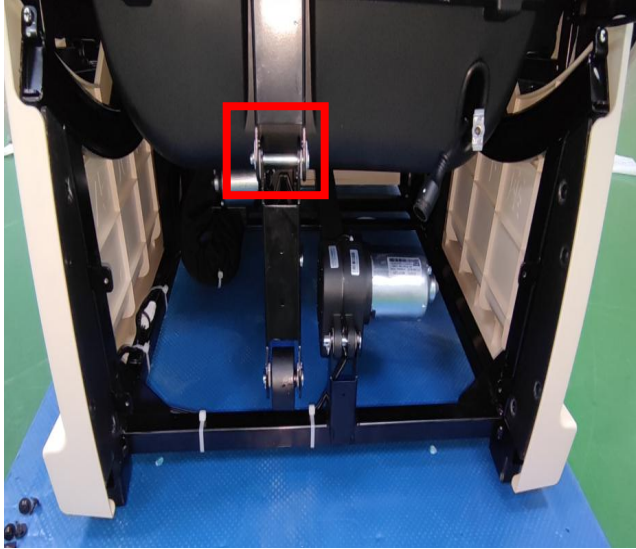
c. cut cable tie and disconnected the terminals



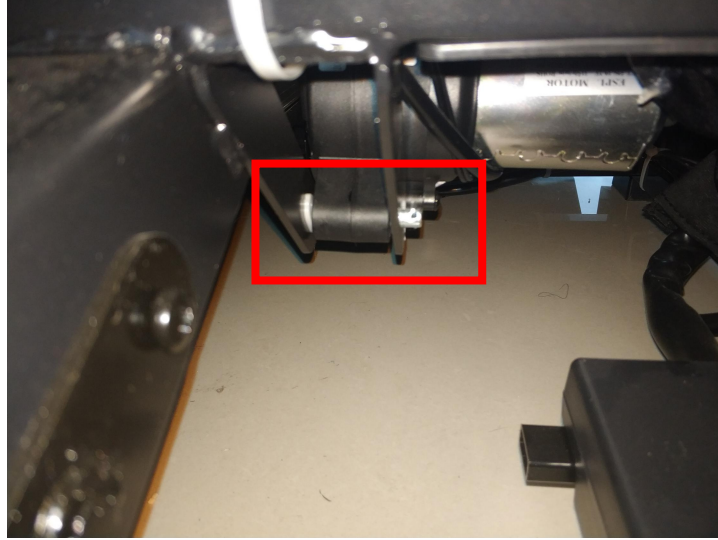
d. remove 4 screws



remove front board



e. remove the pin and shaft fixing legrest actuator

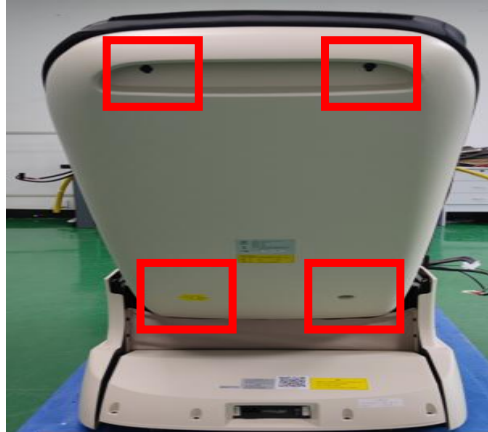


legrest
actuator

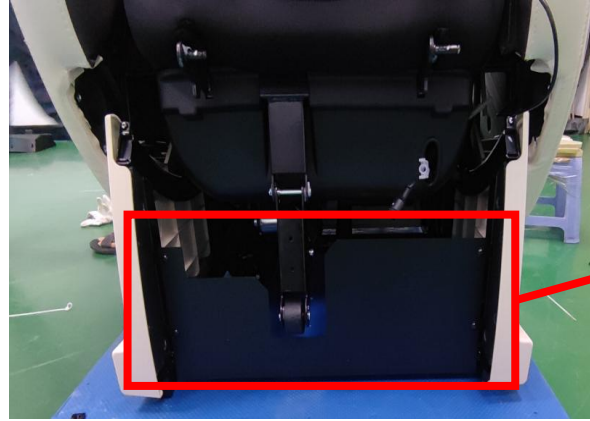


4.8、Disassembly of backrest actuator

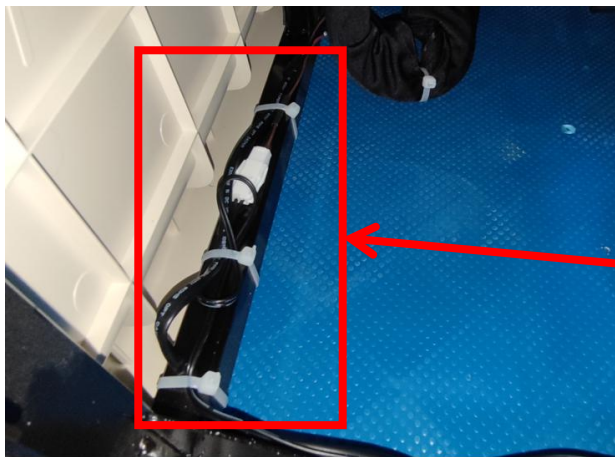
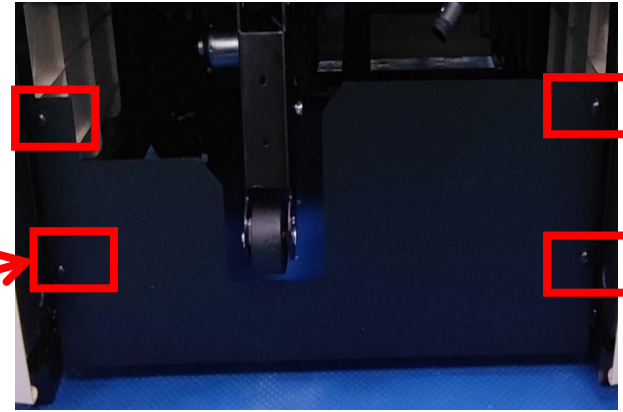
a. remove legrest



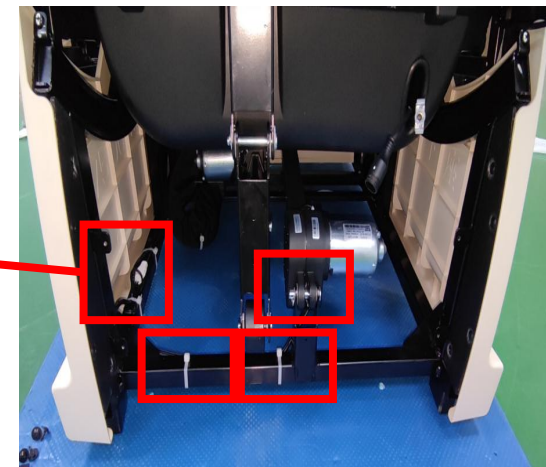
b. remove 4 screws

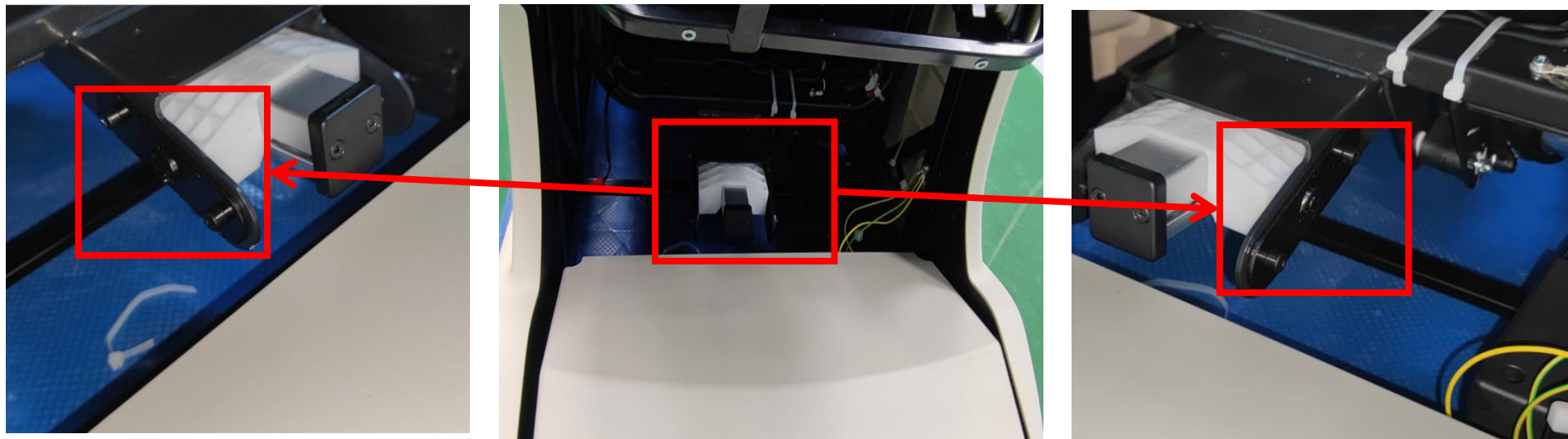


c. remove 4 screws



d. disconnected the terminal of backrest actuator, remove the pin and shaft





e. remove the screws



五、Massage chair fault judgment

| No. | phenomenon | problem description | steps of shooting the trouble | remark |
|-----|--|--|--|-------------------|
| 01 | remote control tested any key pressed more than 45 seconds | 1. one of the KEY has been blocked. | 1. check the key of the remote control | turn on the chair |
| 02 | remote control did not connected | 1. remote control wire is broken or the remote control is disconnected | 1. reconnecte the remote control or change the remote control wire. | turn on the chair |
| 03 | backrest signal is abnormity | 1. The connector of the backrest wire is not well connected 2. Backrest wire Broken | 1. check the connector of backrest wire 2. change the backrest wire | turn the power |
| 04 | rolling signal is abnormity | 1. The connector of the backrest wire is not well connected 2. rolling counting sensor broken | 1. check the connector of backrest wire 2. rolling counting sensor broken | turn on the chair |
| 05 | side panel tested any key pressed more than 40seconds | 1. one of the KEY has been blocked. | 1. check the key of the side panel | turn on the chair |



| | | | | | |
|----|--|--|---|--|----------------------------|
| 06 | | leg rest tested more than 4 seconds | 1.connector of leg rest wire not well 2.wire of leg rest broken | 1.check the connector of leg rest wire 2.change the wire of leg rest | turn the power |
| 07 | | tested more than 2 width inspection signal | 1.width inspection board is broken 2.width inspection wire is not well connected | 1.change width inspection board 2.change backrest wires | start the rolling function |
| 08 | | more than 5 seconds did not tested the wide signal | 1.width inspection board is broken 2.the wire connect to the width inspection board is disconnected 3.kneading motor is broken or kneading belt is lost | 1.change width inspection board 2.change backrest wires. 3.change kneading motor | enter auto-check model |
| 09 | | more than 5 seconds did not tested the middle signal | 1.width inspection board is broken 2.the wire connect to the width inspection board is disconnected 3.kneading motor is broken or kneading belt is lost | 1.change width inspection board 2.change backrest wires. 3.change kneading motor | enter auto-check model |
| 10 | | more than 5 seconds did not tested the narrow signal | 1.width inspection board is broken 2.the wire connect to the width inspection board is disconnected 3.kneading motor is broken or kneading belt is lost | 1.change width inspection board 2.change backrest wires. 3.change kneading motor | enter auto-check model |



| | | | | | |
|----|--|---|---|--|------------------------|
| 11 | | more than 10 seconds didn't tested kneading signal | 1.Main PCB is broken | 1.change PCB | enter auto-check model |
| 12 | | when not kneading but the width inspection signal still can be tested | 1.Main PCB is broken | 1.Change PCB | enter auto-check model |
| 13 | | tested signals from up & down limit sensor at the same time. | 1.up & down limit sensor are broken 2.backrest wire is disconnected. | 1.Change up & down limit sensor 2.check whether the backrest wire is well connected | enter auto-check model |
| 14 | | more than 40s didn't tested the signal from the up limit sensor | 1.upper limit sensor is broken. 2.backrest wires is disconnected 3.rolling motor is broken or rolling motor wire disconnected | 1.change upper limit sensor 2.check whether the backrest wire is well connected. 3.change rolling motor or rolling motor wire. | enter auto-check model |
| 15 | | height counting signal error | 1.the counting sensor of the rolling motor is broken 2.backrest wire is disconnected | 1.change the counting sensor of the rolling motor. 2.check whether the backrest wire is well connected. | enter auto-check model |



| | | | | | |
|----|--|--|---|--|------------------------|
| 16 | | after tested signal from up limit sensor then tested signal from down limit sensor in 2 seconds. | 1.down limit sensor is broken | 1.change down limit sensor 2.check whether the backrest wire is well connected. 3.change rolling motor | enter auto-check model |
| 17 | | more than 40s didn't tested the signal from the down limit sensor | 1.down limit sensor is broken 2.the backrest wire is disconnected. 3.rolling motor is broken or disconnected | 1.change down limit sensor 2.check whether the backrest wire is well connected. 3.change rolling motor | enter auto-check model |
| 18 | | after tested signal from down limit sensor then tested signal from up limit sensor in 2 seconds. | 1.upper limit sensor is broken. | 1.change upper limit sensor | enter auto-check model |
| 19 | | can't test signal from foot rest recline actuator | 1.foot rest recline actuator is broken 2.foot rest actuator motor wire is disconnected 3.the signal wire of foot rest actuator is disconnected. | 1.change foot rest recline actuator 2.check whether the foot rest recline actuator motor wire is well connected. 3.check whether the signal wire of foot rest actuator is well connected | enter auto-check model |



| | | | | | |
|----|--|---|---|--|------------------------|
| 20 | | test signals from front sensor and rear sensor at the same time. | 1. the 6 core signal wire is disconnected. 2. up & down limit sensor of the foot rest are broken | 1. check whether the 6 core signal wire is well connected. 2. change up & down limit sensor of the foot rest. | enter auto-check model |
| 21 | | didn't test signal from front sensor of the footrest more than 20 seconds. | 1. the down limit sensor of the foot rest is broken 2. foot rest extending motor is broken or disconnected | 1. change down limit sensor of the footrest 2. change the footrest extending motor or check whether the motor wire is well connected. | enter auto-check model |
| 22 | | After tested front sensor signal, then tested front sensor signal in 2.5 seconds. | 1. the upper limit sensor of foot rest is broken | 1. change the upper limit sensor of the footrest. | enter auto-check model |
| 23 | | didn't tested rear sensor signal in 20 seconds | 1. the upper limit sensor of foot rest is broken 2. foot rest extending motor is broken or the motor wire is disconnected. | 1. change upper limit sensor of the foot rest. 2. change foot rest extending motor | enter auto-check model |
| 24 | | After tested rear sensor signal, then tested front sensor signal in 2.5 seconds. | 1. the lower limit sensor of the foot rest is broken | 1. change footrest lower limit sensor | enter auto-check model |



| | | | | | |
|----|--|--|---|---|------------------------|
| 25 | | when start the backrest recline actuator, there is no counting signal for more than 2.5 seconds | <ol style="list-style-type: none"> 1.backrest recline actuator is broken 2.backrest recline actuator wire is disconnected 3.the signal wire of the backrest recline wire is disconnected | <ol style="list-style-type: none"> 1.change backrest recline actuator 2.check whether backrest recline actuator motor wire is well connected. 3.check whether the signal wire of the backrest recline actuator is well connected | enter auto-check model |
| 26 | | when start the zero-gravity actuator, there is no counting signal for more than 2.5 seconds | <ol style="list-style-type: none"> 1.Zero-gravity actuator is broken 2.zero-gravity actuator wire is disconnected. 3.the signal wire of zero-gravity actuator is disconnected | <ol style="list-style-type: none"> 1.change zero-gravity actuator 2.check whether zero-gravity motor wire is well connected. 3.check whether the signal wire of zero-gravity actuator is well connected | enter auto-check model |
| 27 | | The front and rear limit sensors are effective at the same time (3D mechanism) | <ol style="list-style-type: none"> 1. The front and rear limit sensors are broken 2. The terminal of telescopic limit detection line falls off | <ol style="list-style-type: none"> 1. Replace the telescopic limit sensor 2. Check the connection of telescopic limit detection line | turn the power |
| 28 | | The signal of telescopic limit sensor is not detected by 10s telescopic opening clock (3D mechanism) | <ol style="list-style-type: none"> 1. Front limit sensor broken 2. Poor contact of telescopic limit detection line 3. Telescopic motor broken or broken 4. The telescopic limit light baffle is loose | <ol style="list-style-type: none"> 1. Replace the telescopic limit sensor board 2. Check the connection of telescopic limit detection line 3. Replace the telescopic motor or wiring 4. Check the telescopic limit light shield | turn the power |



| | | | | | |
|----|--|---|--|---|-------------------|
| 29 | | Abnormal movement telescopic counting signal (3D mechanismt) | 1. The telescopic counting sensor is broken 2. Poor contact of telescopic counting line | 1. Replace the telescopic counting detection board 2. Check the connection of telescopic counting line | turn the power |
| 30 | | After the signal is detected by the telescopic limit sensor, the signal of the other telescopic limit sensor is detected within 2S (3D mechanismtnt) | 1. The telescopic limit sensor is broken | 1. Replace the telescopic limit sensor board 1. Replace the telescopic limit sensor board | turn the power |
| 31 | | side panel control did not connected | 1. side panel control wire is broken or the side panel control is disconnected | 1. reconnecte the side panel control or change the side panel control wire. | turn on the chair |