

EC-5653A 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、Product introduction

1、Appearance of the whole machine:



2、 position of air massage:



3、PRODUCTION SPECIFICATION:

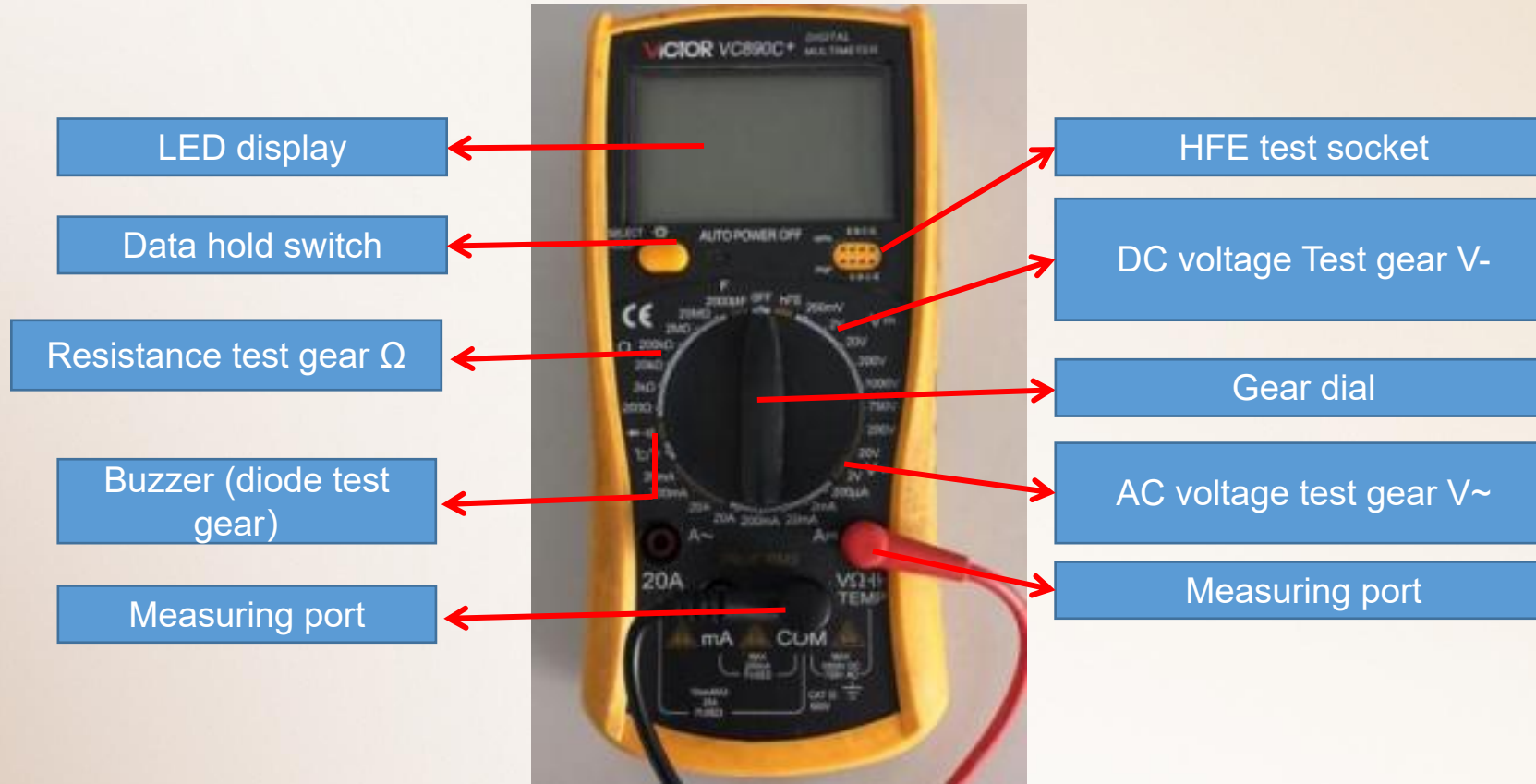
Description	Specifications
Model No.	3D 4000LE
Rated Voltage	110-120V~
Rated Frequency	60Hz
Rated current	1.5A
Timer	5/10/15/20/25/30 minutes
Package Dimension(L x W x H)	Product carton: 73.0" x 30.5" x 34.5"
Weight	Product gross weight: 213.9 lbs
	Product net weight: 180.8 lbs
Product Dimension	Upright: 57.9" x 29.5" x 43.7"
	Recline: 64.2" x 29.5" x 40.6"
Usage condition	Environment temperture: 50°F-104°F
	Contrasting humidity: 30-85RH
Storage condition	Storage temperture: 68°F-140°F
	Storage humidity level: 30-85RH
Safety feature	Equipped with overheated and power surge safety protection.
Using benefits	Increasing blood circulation; Relieving muscular fatigue

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.

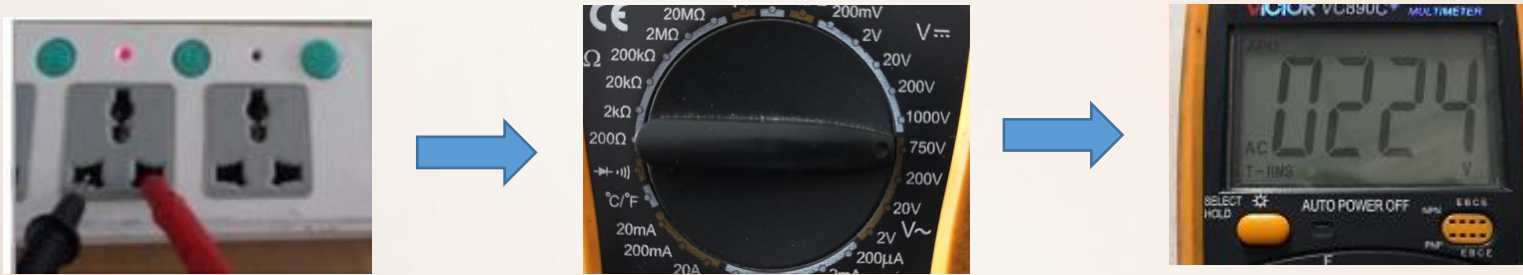


close circuit

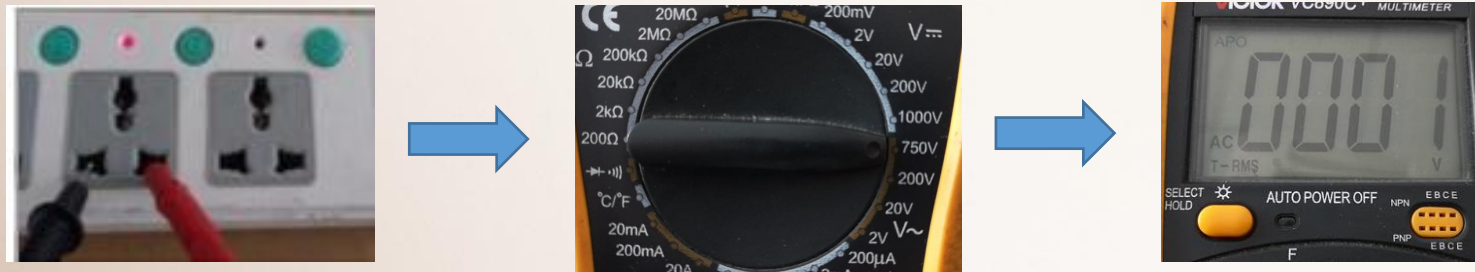


As shown in the picture on the left, if the multimeter shows the number of ". 002" or ". 00n" and gives an alarm, it means that the wire is connected.

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 voltag



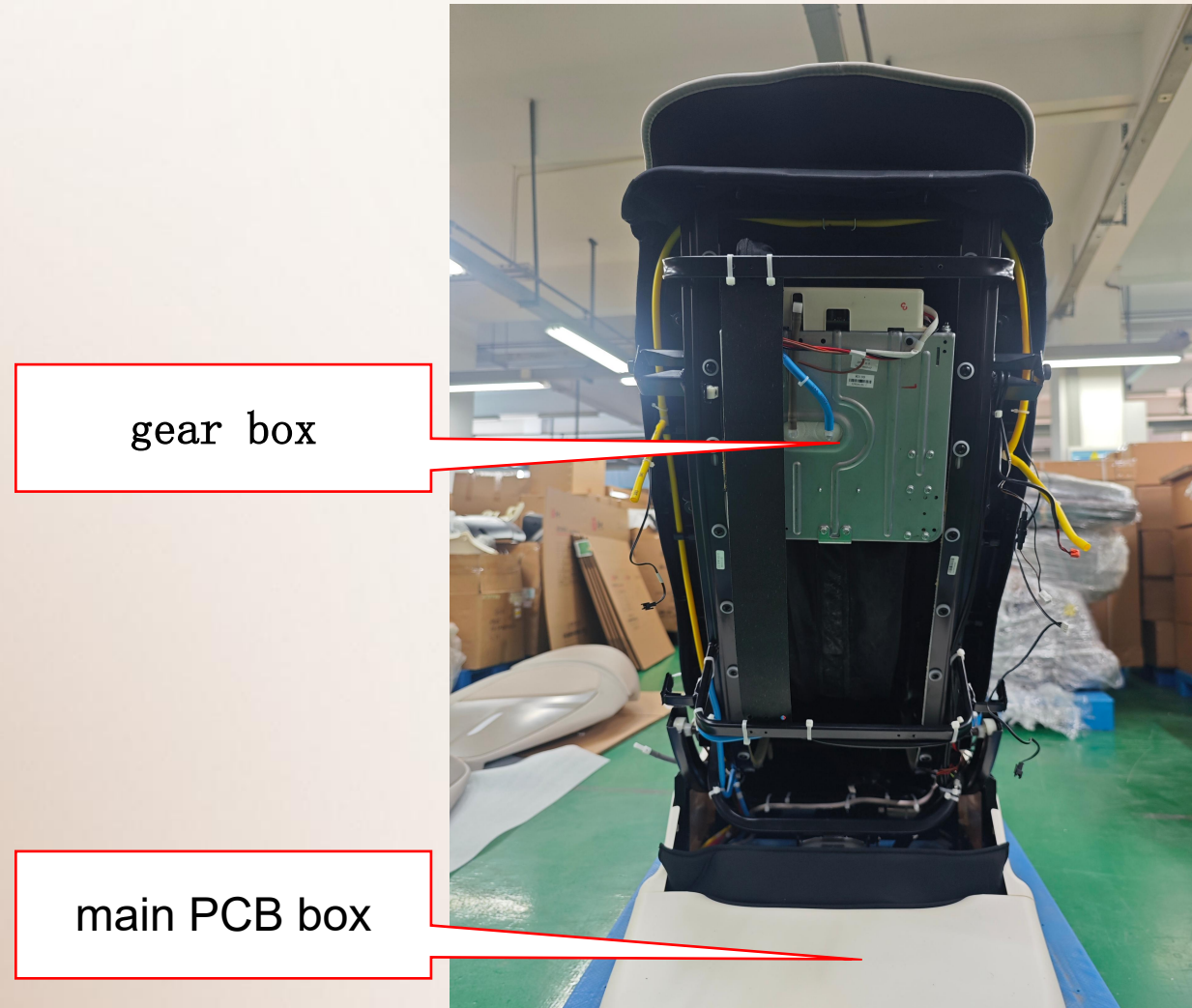
As shown in the figure above: the test result shows "1.58", indicating that the voltage at both ends of the battery has 1.58V, and the red watch pen is connected to the battery's "+" pole, while the black pen is connected to the electromagnetic "-" pole.



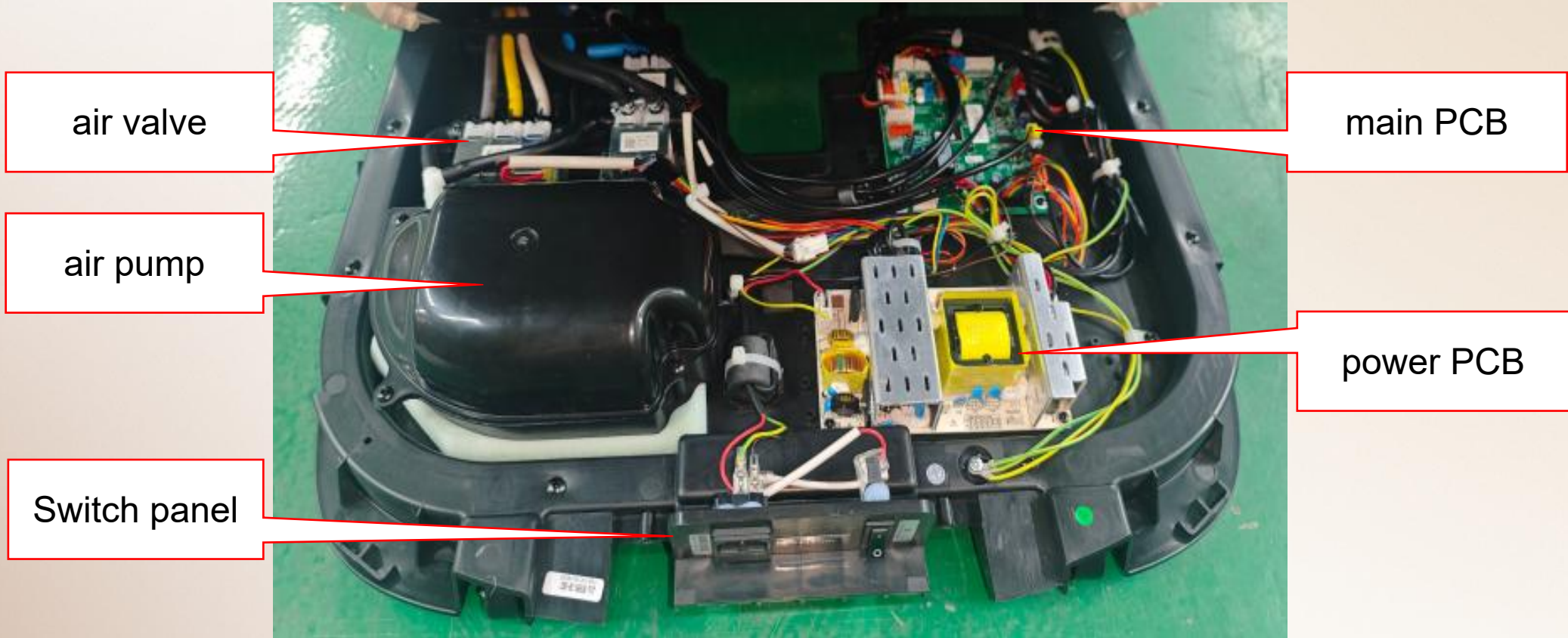
As shown in the figure above: the test result shows "-1.58", indicating that the voltage at both ends of the battery has 1.58V, and the red watch pen is connected to the battery "-" pole, and the black pen is connected to the electromagnetic "+" pole.

三、Circuit working principle

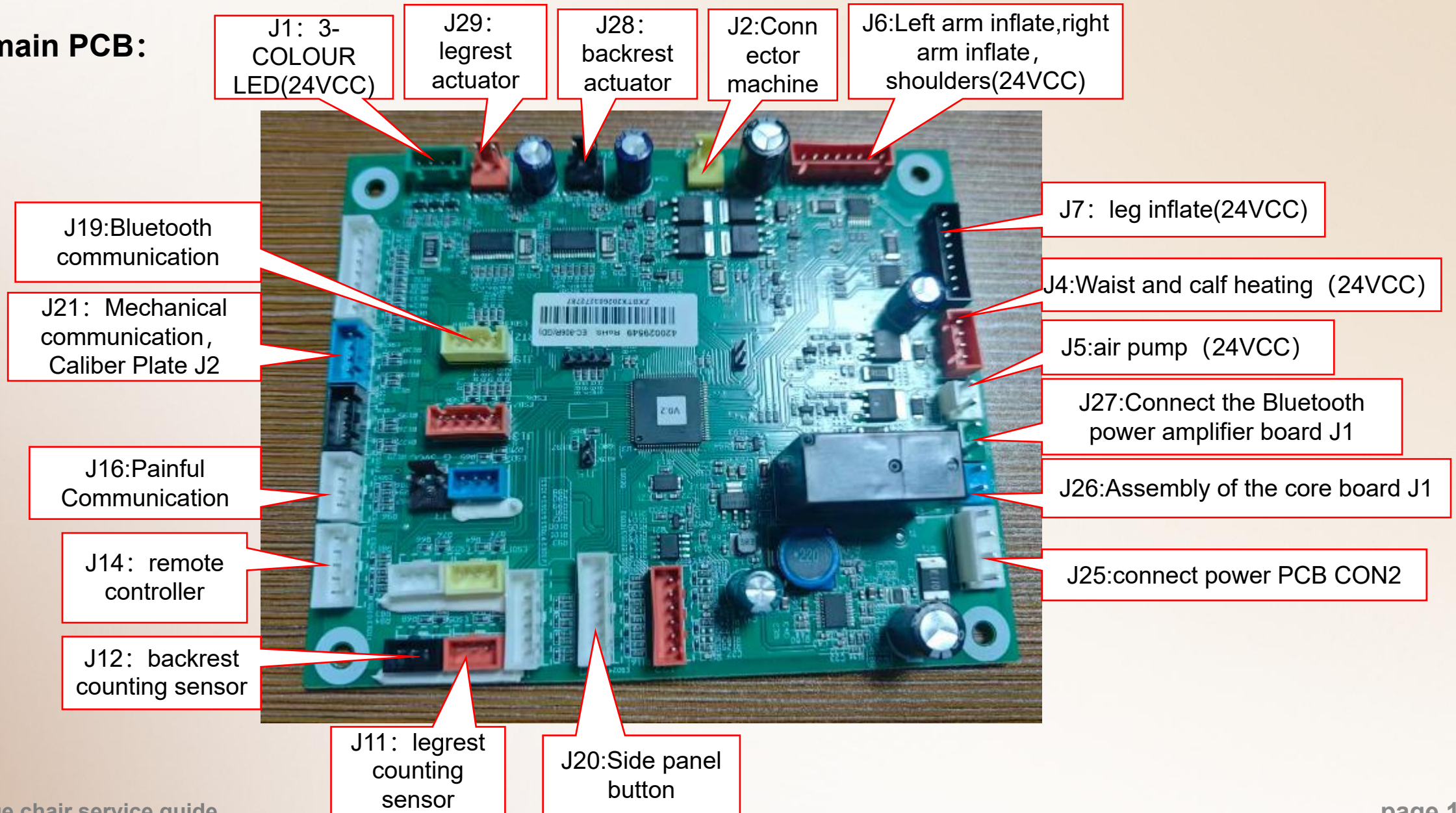
1. Internal structure diagram (overall):



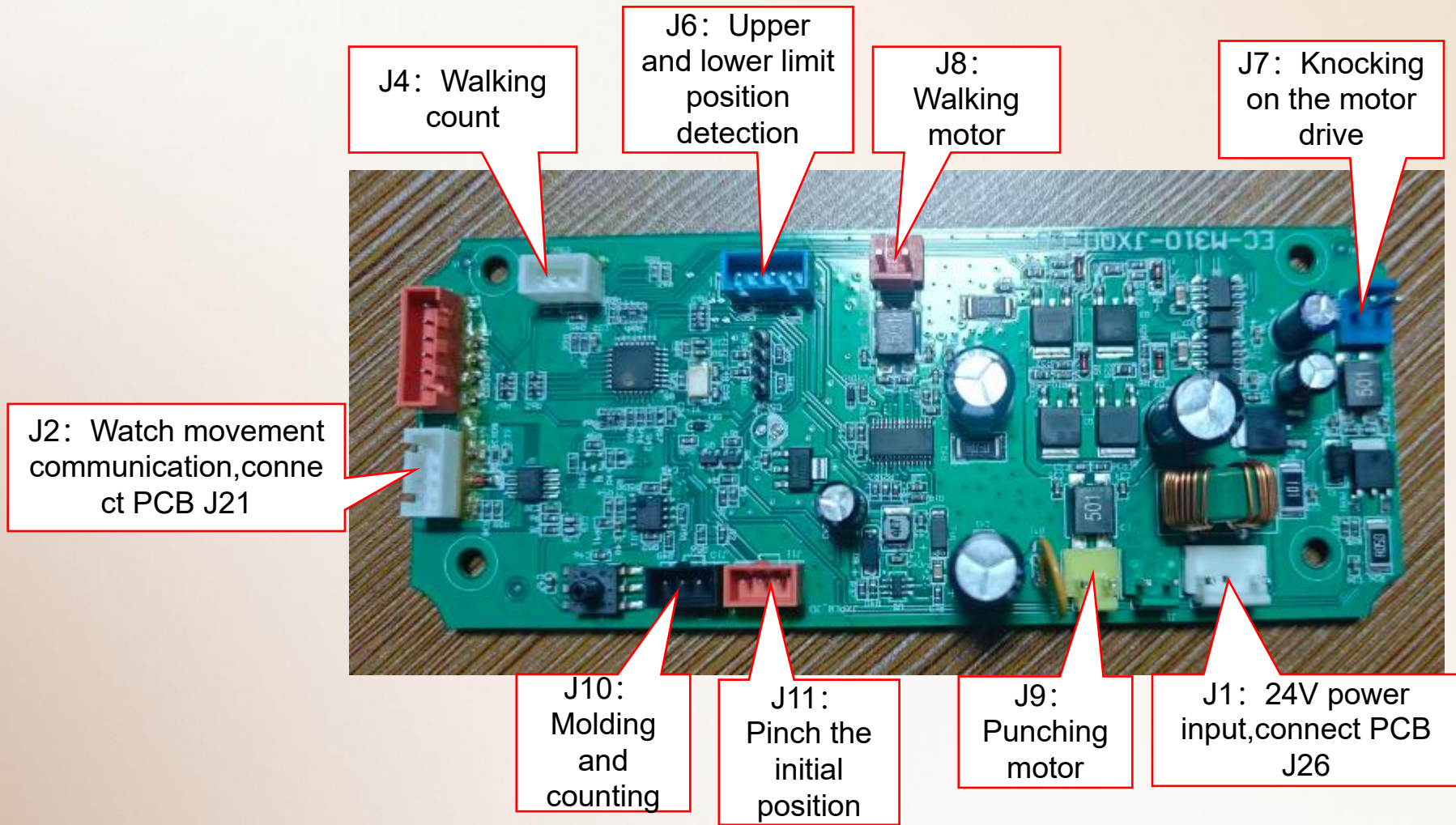
2.Internal structure diagram (main PCB box) :



3、 main PCB:



4、 GEAR BOX PCB:



四、Massage chair removal instructions

1、disassembly of the pillow:



A.unzip the zippe

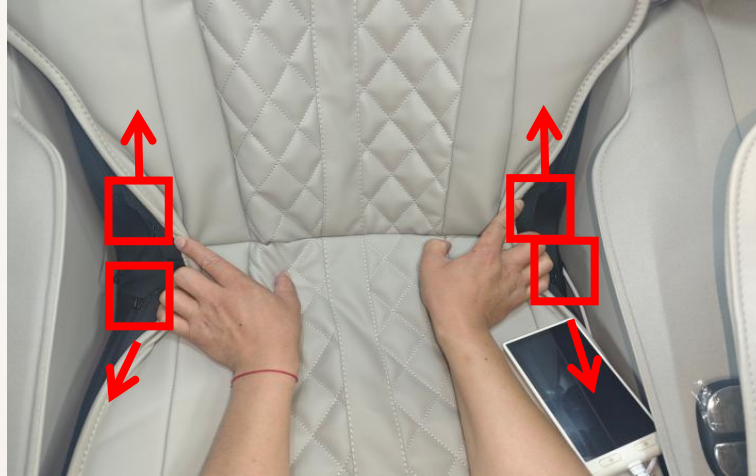


pilliw

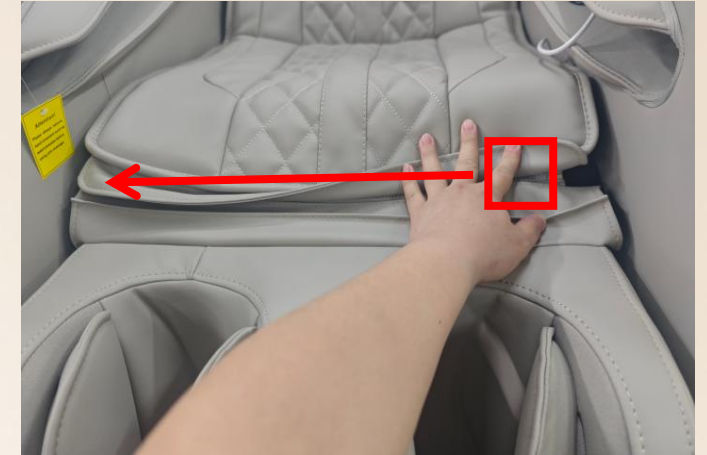
2、disassembly of backrest pad:



A.unzip the zipper



B.unzip the zipper



C.unzip the zipper



D.unzip the zipper



E.Cut off the cable ties

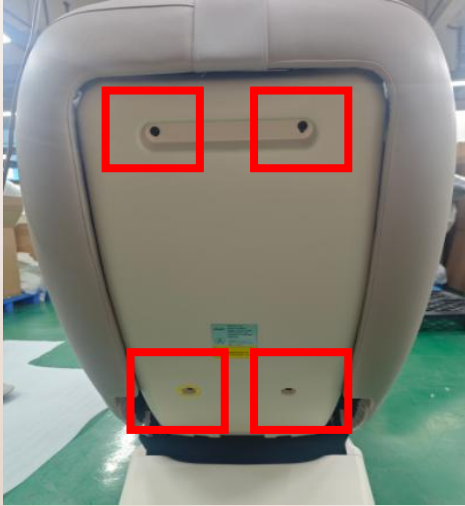


backrest pad

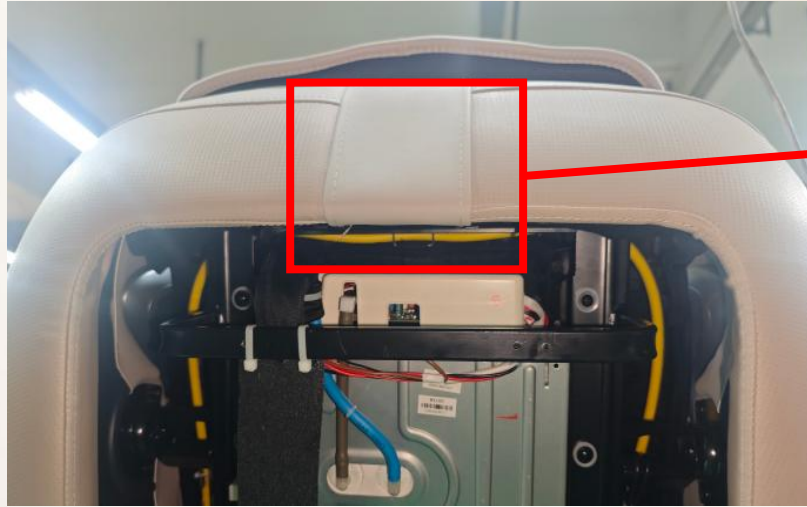


backrest pad

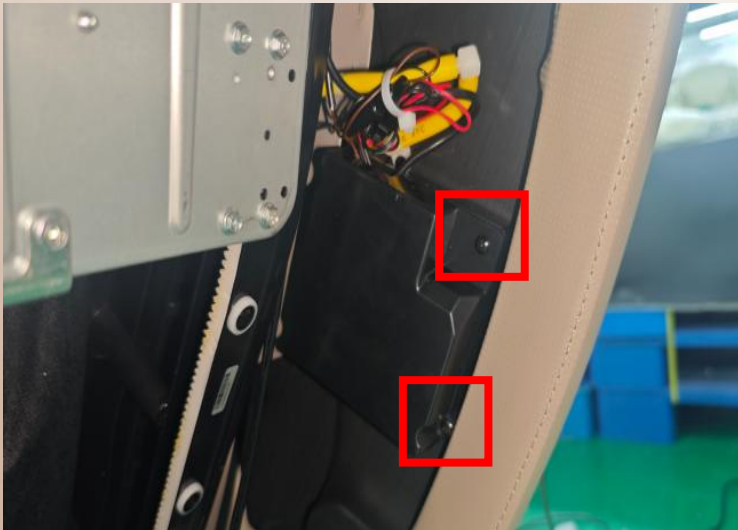
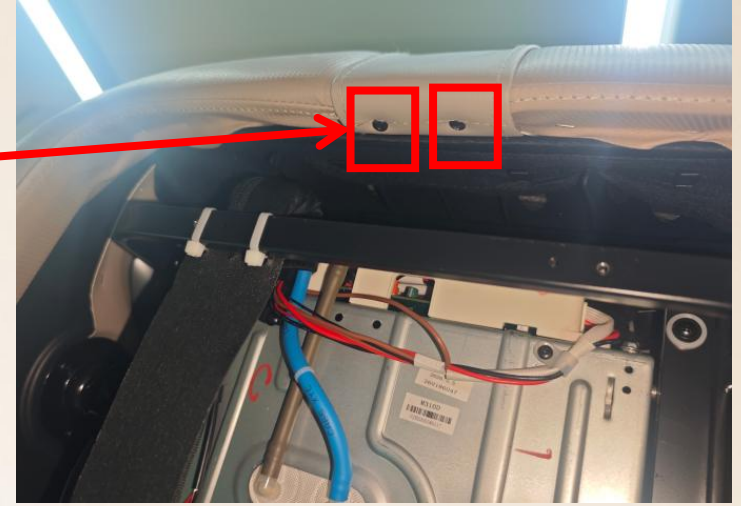
3、 disassembly of Bluetooth PCB:



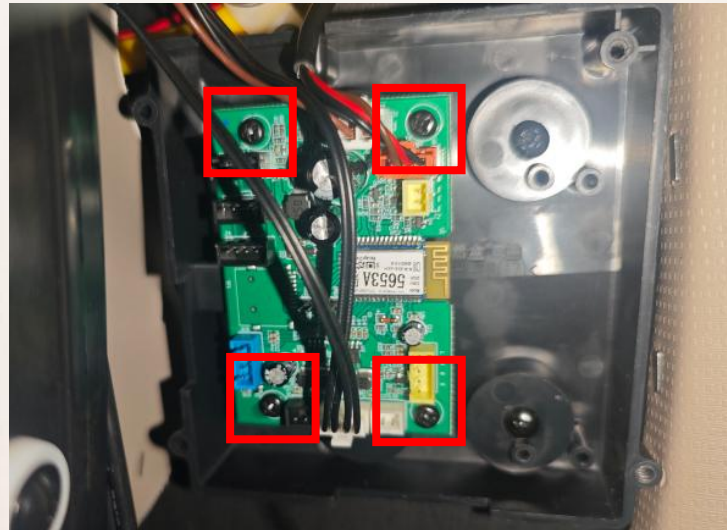
A.remove 4 screws



B.remove 2 screws



C.remove 2 screws

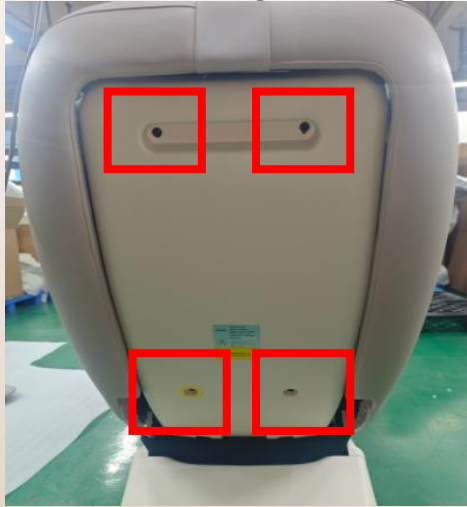


D.remove four screws and remove all the terminals.

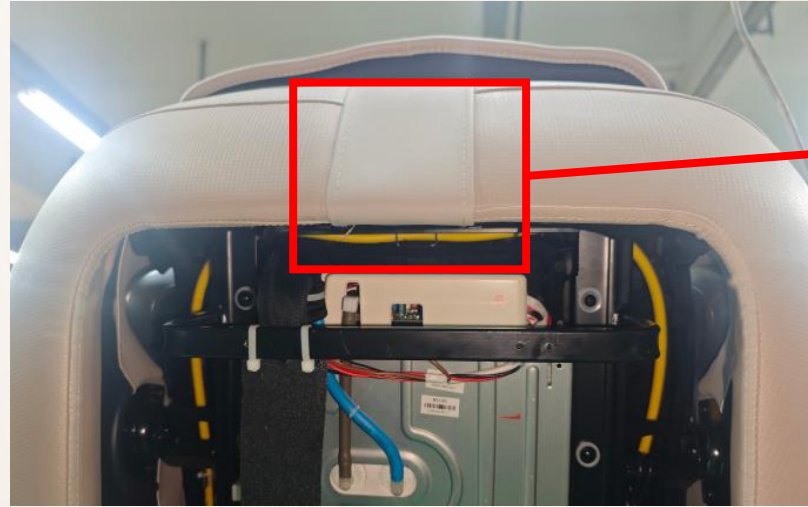


Bluetooth PCB

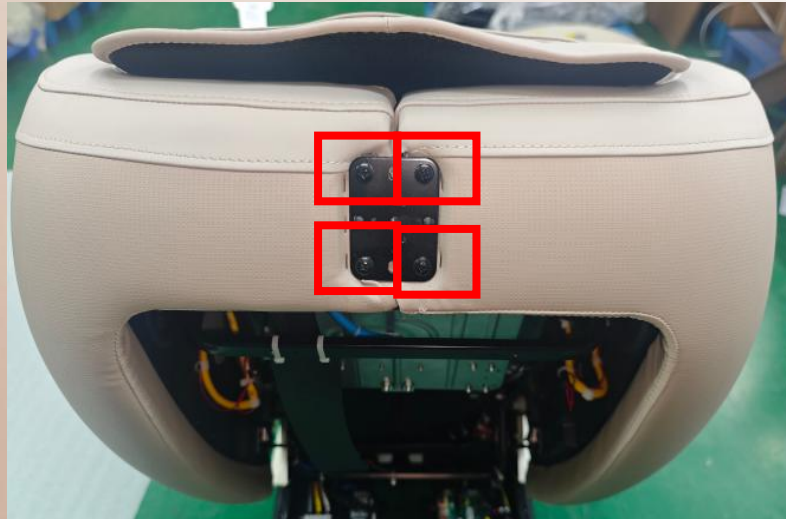
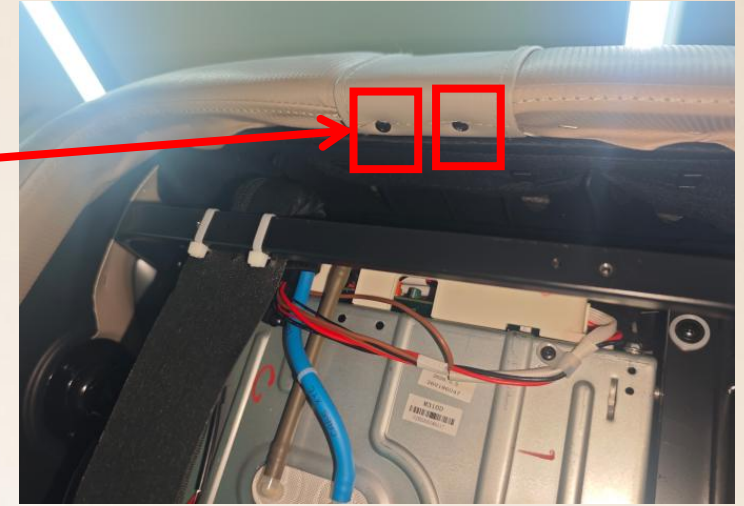
4、 disassembly of right side panel:



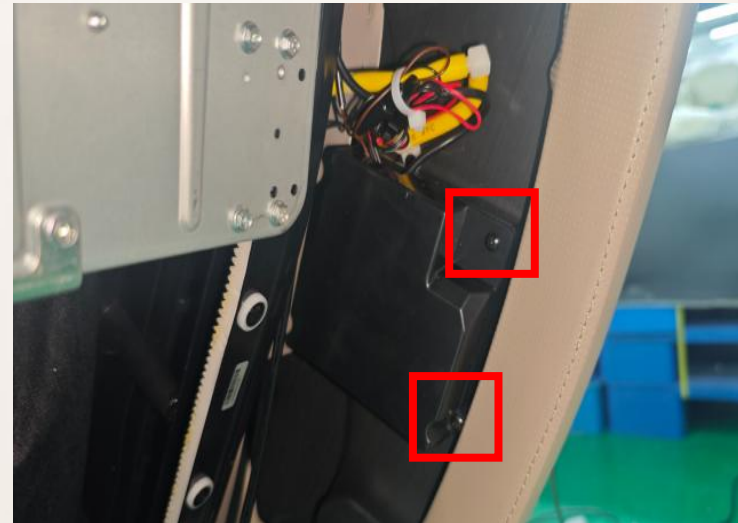
A.remove 4 screws



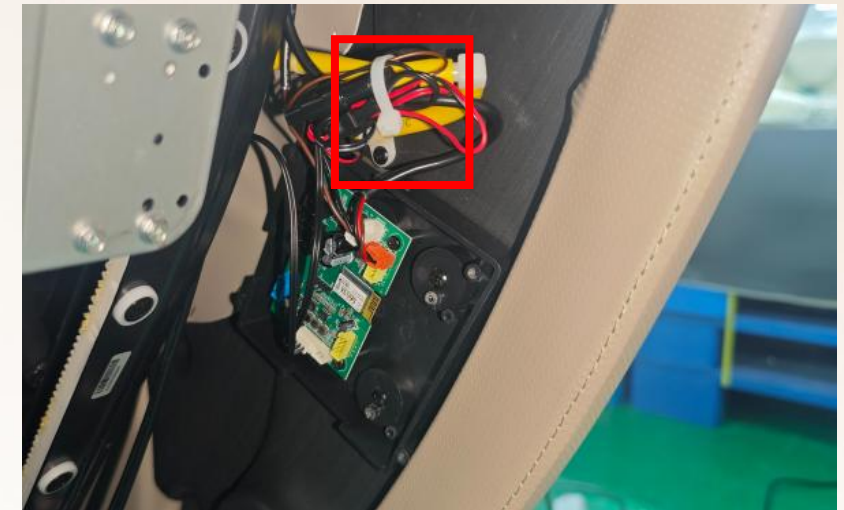
B.remove 2 screws



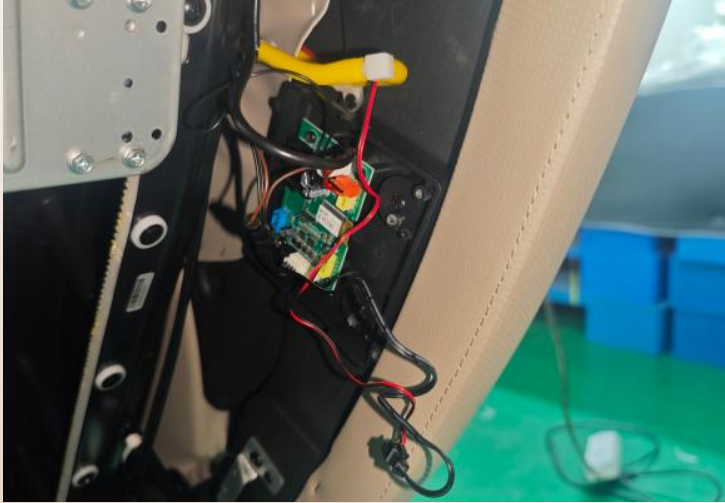
C.remove 4 screws



D.remove 2 screws



E.Cut off the tape clips



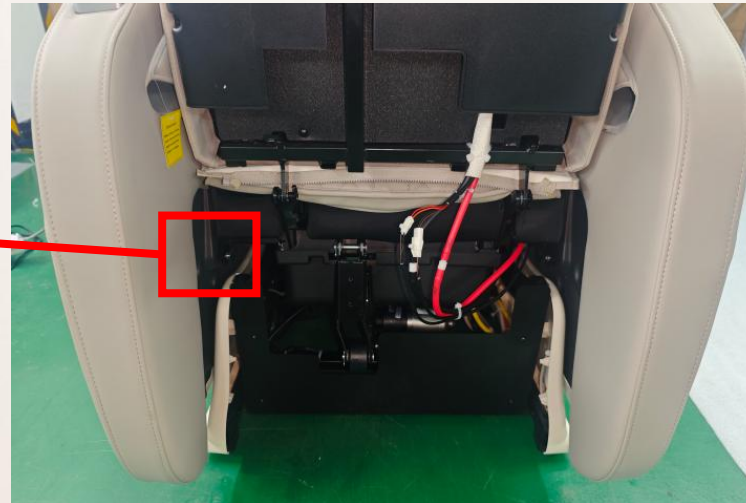
F. remove all the terminals.



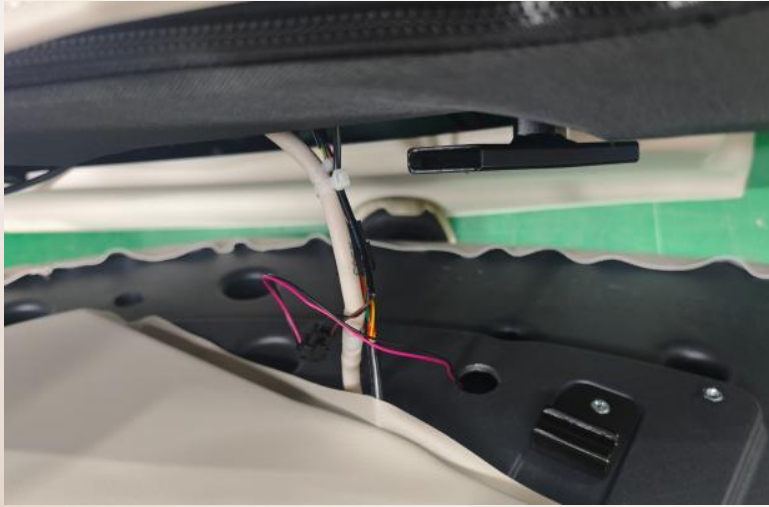
G.Lift the lower leg



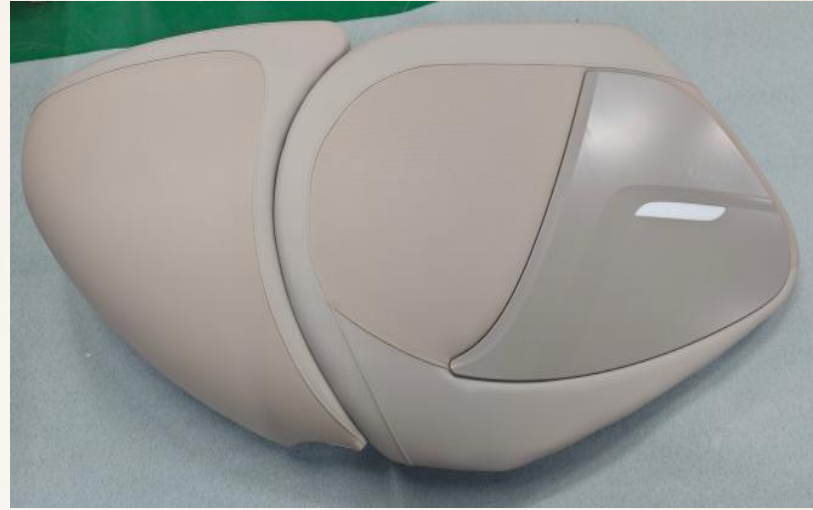
G.remove 1 screws



H.First, lift the side panel upwards, and then remove the side panel from the rear.

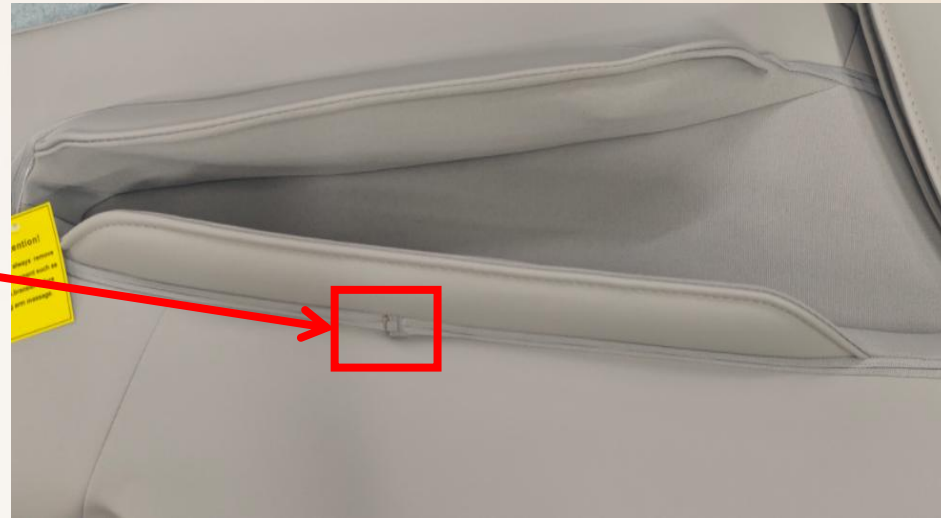
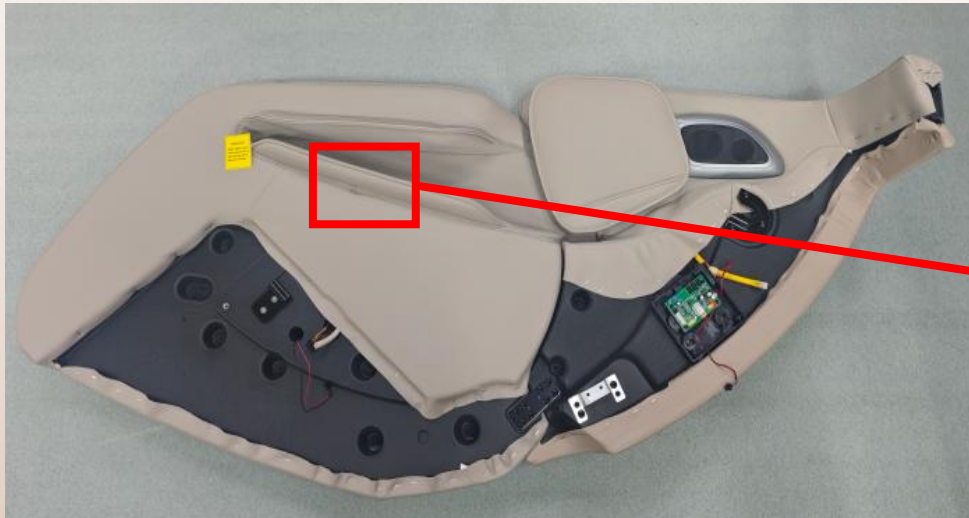


I. Disconnect the connection line and remove the air hose.



right side panel

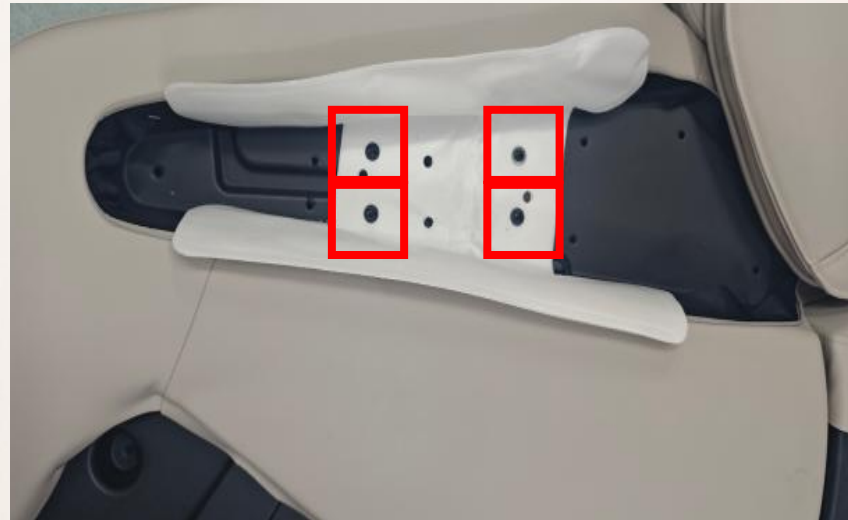
5、 disassembly of inner right side panel:



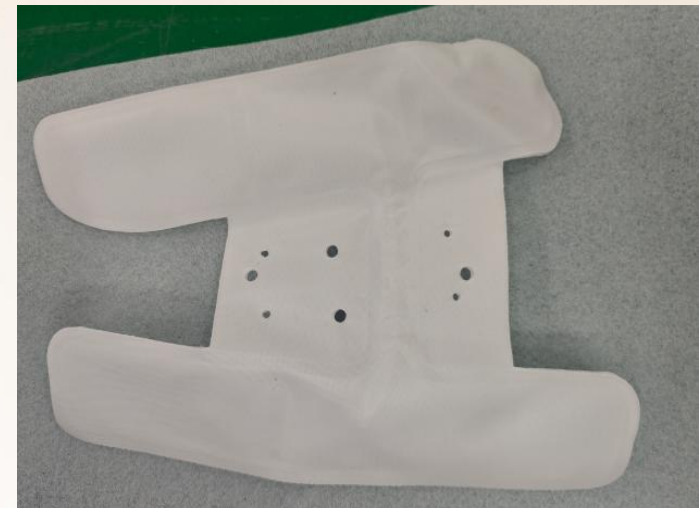
A.unzip the zipper



B. open the armrest cover



C. remove 4 screws

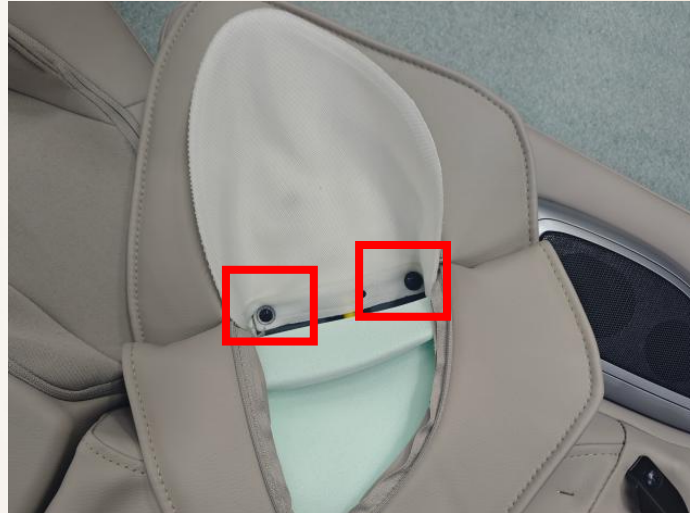


right armrest airbag

G . remove 5 screws



D.unzip the zipper



E. remove 2 screws



F.Cut off the tape clips



right shoulder airbag



G.pry open the horn decoration



H. remove 2 screws



1. remove 3 screws

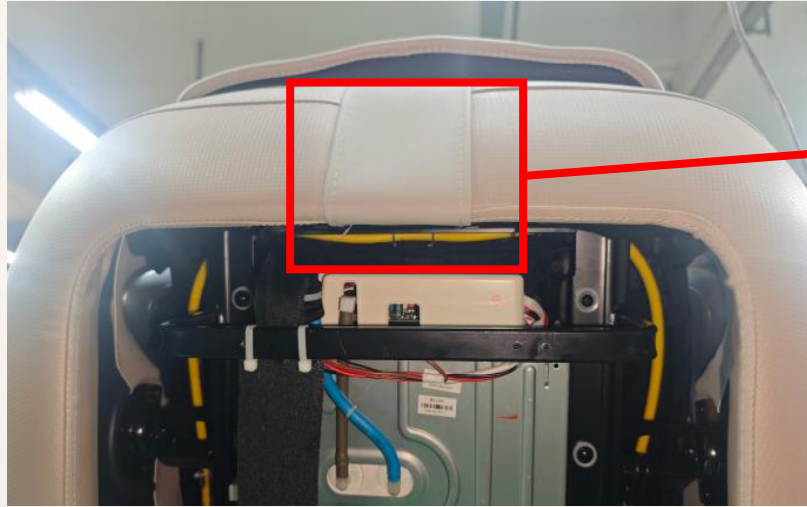


horn

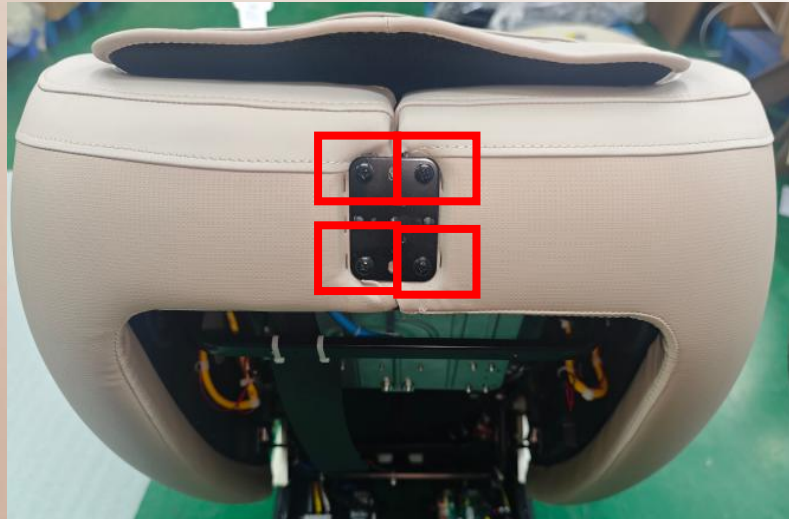
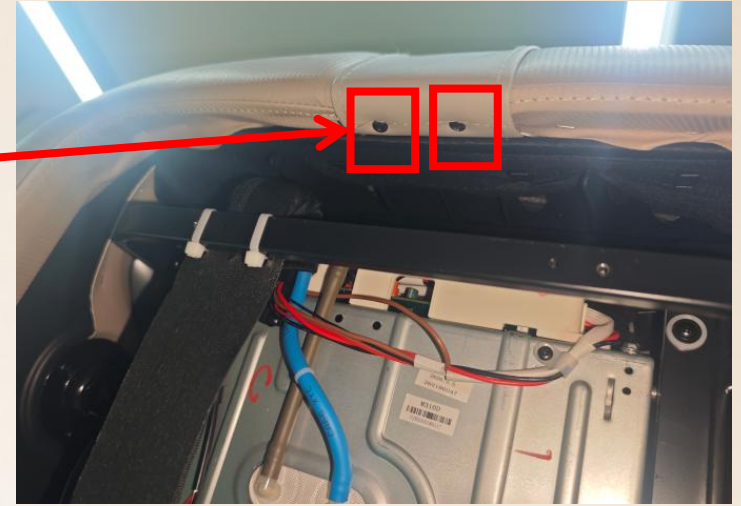
6、 disassembly of left side panel:



A.remove 4 screws



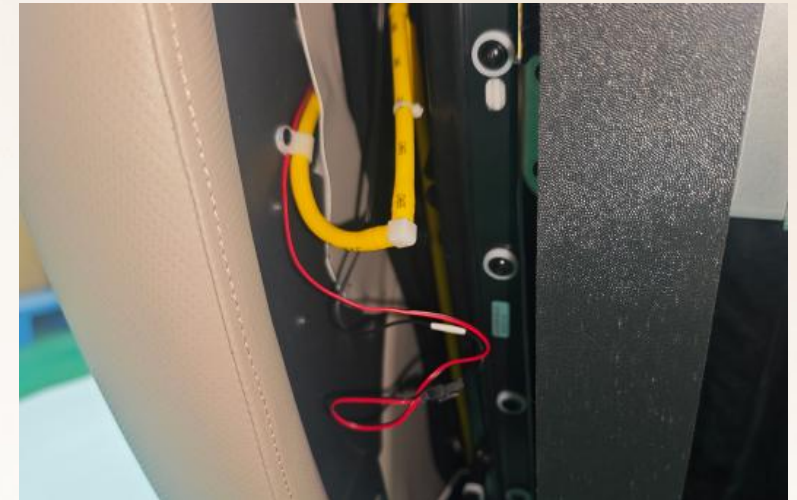
B.remove 2 screws



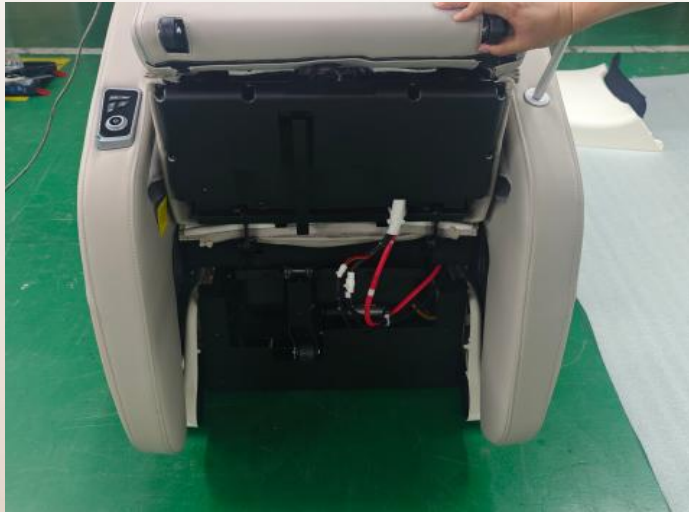
C.remove 4 screws



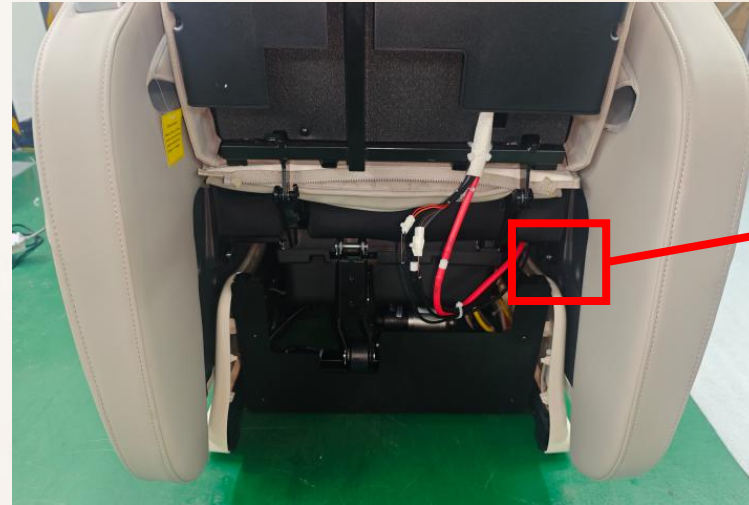
D.Cut off the tape clips



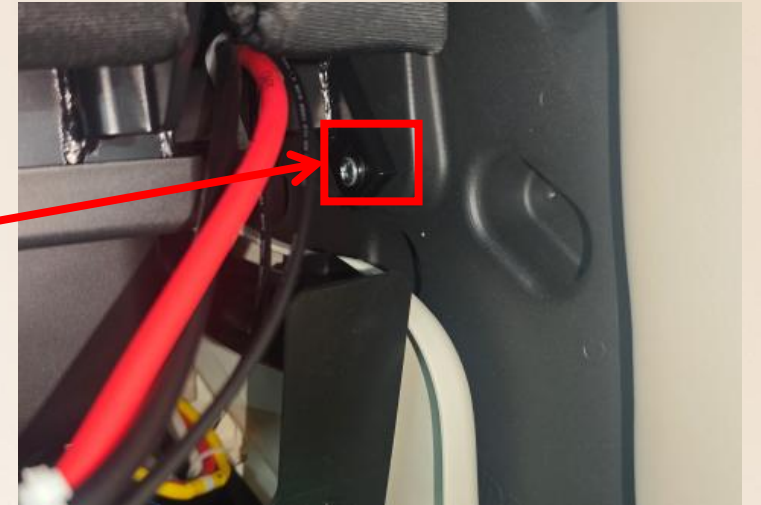
E.disconnect the connection lines and the air hose



F.Lift the lower leg



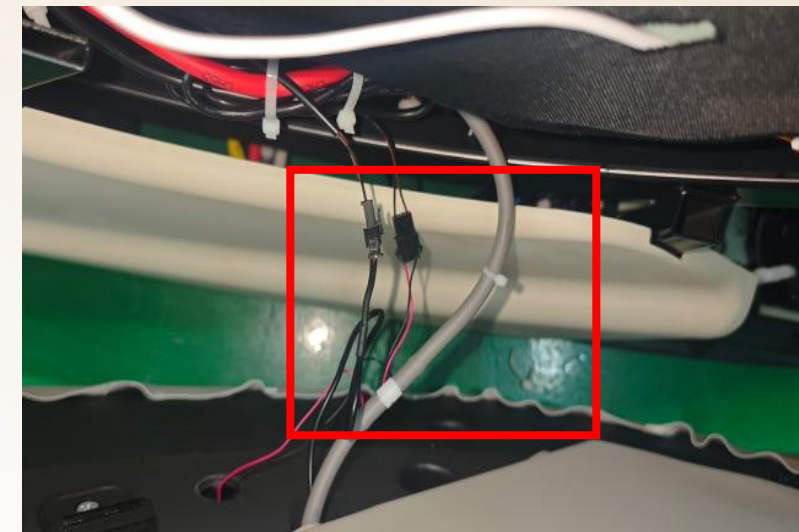
G.remove 1 screws



H.First, lift the side panel upwards, and then remove the side panel from the rear.



I.Cut off the tape clips

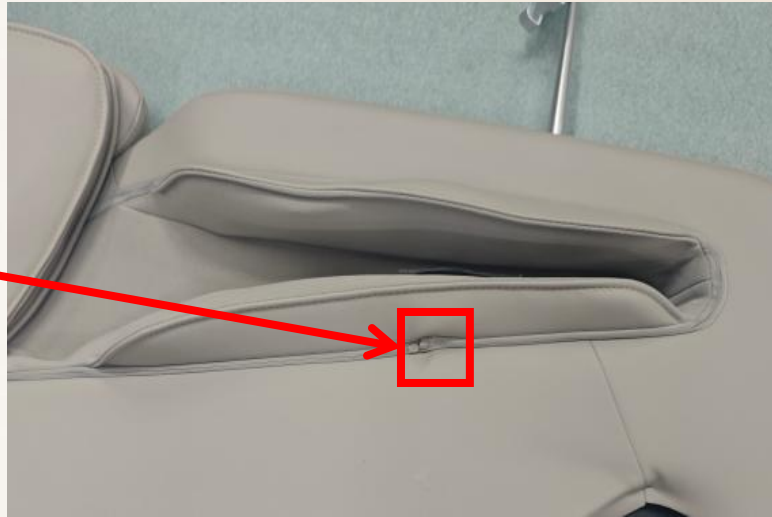
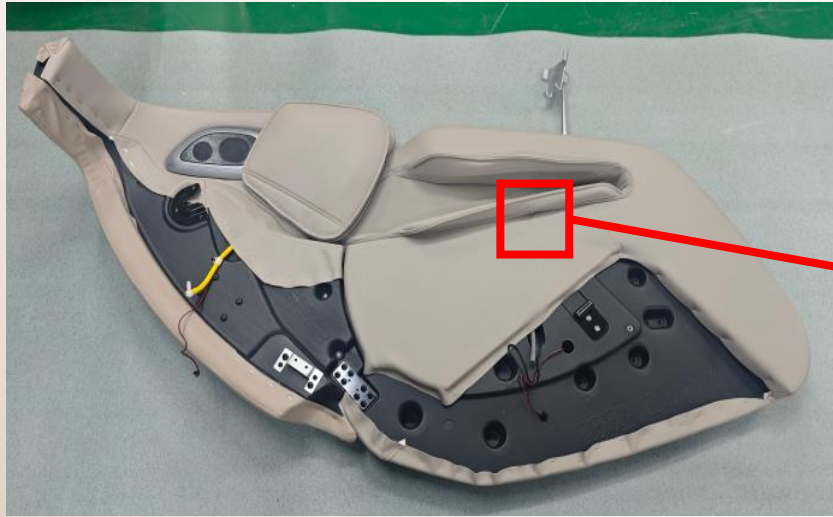


J.disconnect the connection lines and the air hose



left side panel

7、 disassembly of inner left side panel:



A.unzip the zipper



B. remove 4 screws



C.Disconnect the connection line



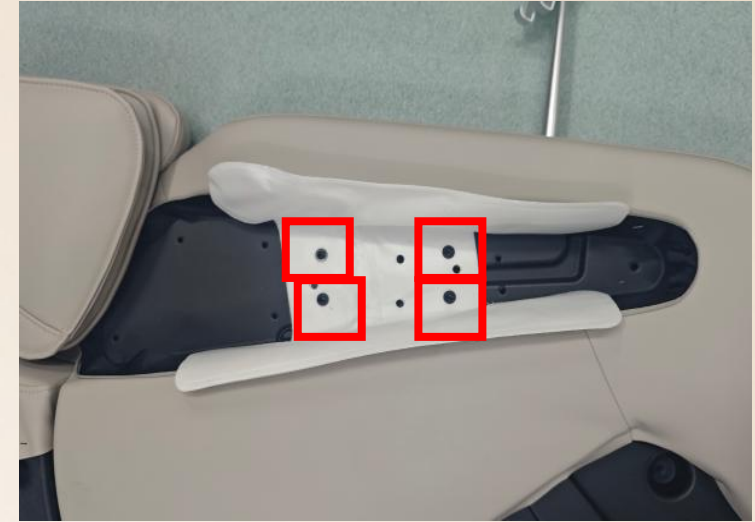
Pain detection



D. open the armrest cover



Left armrest cover pouch



E. remove 4 screws



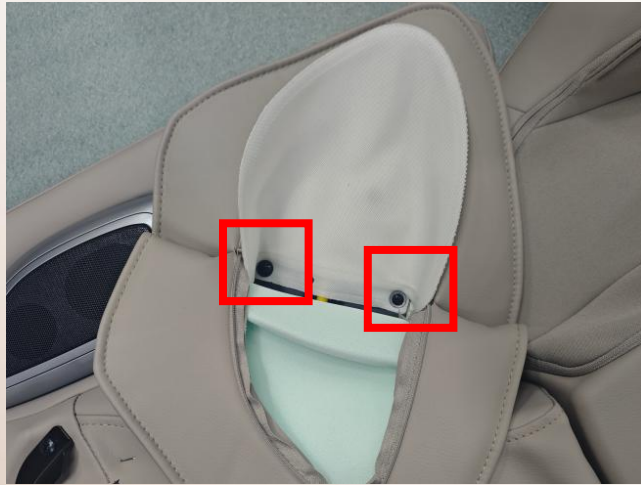
F. remove the air hose



left armrest airbag



G.unzip the zipper



H. remove 2 screws



I. remove the air hose



left shoulder airbag



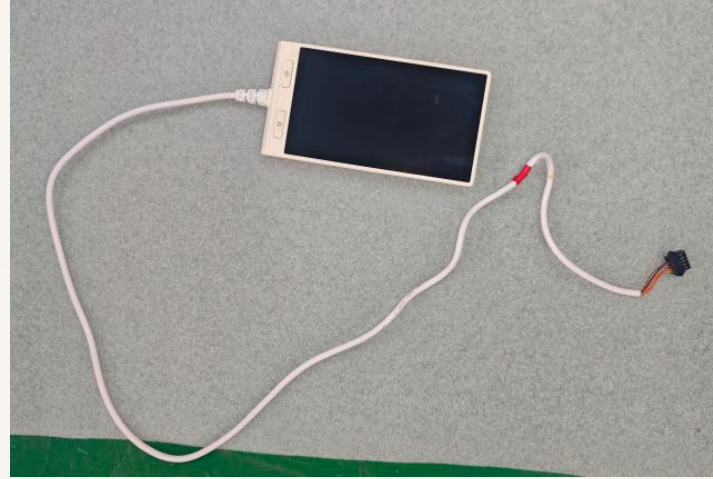
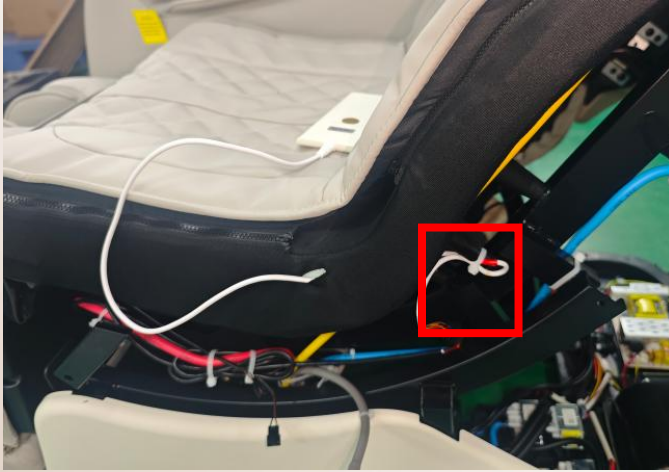
J. rotate the controller bracket
counterclockwise



remote control holder

8、 disassembly of remote controller :

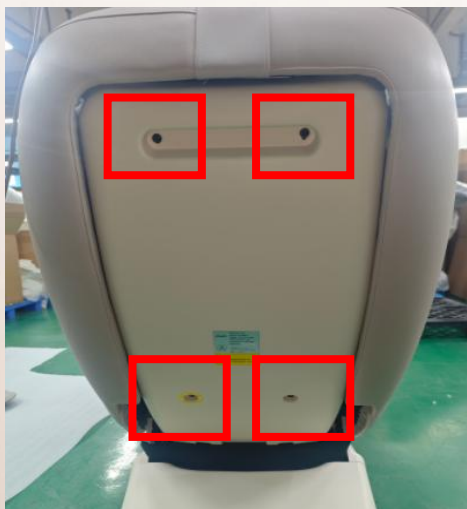
A. disassembly of left side panel (reference 6 disassembly of left side panel)



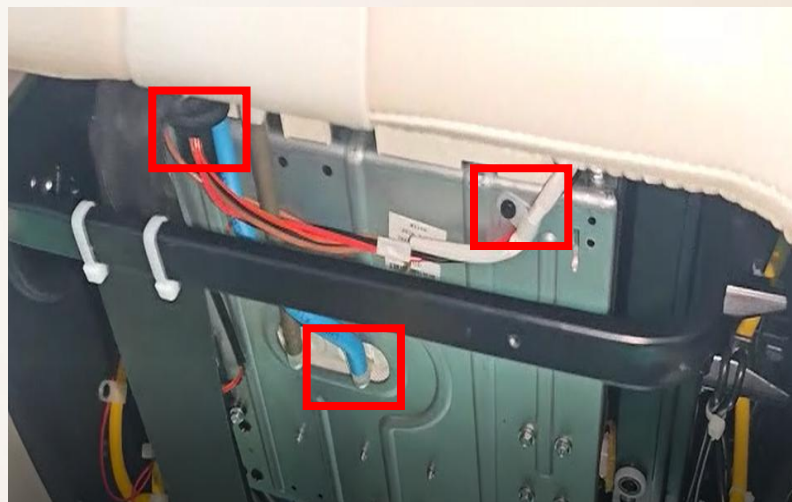
B. Cut off the cable ties and disconnect the connection wires.

remote controller

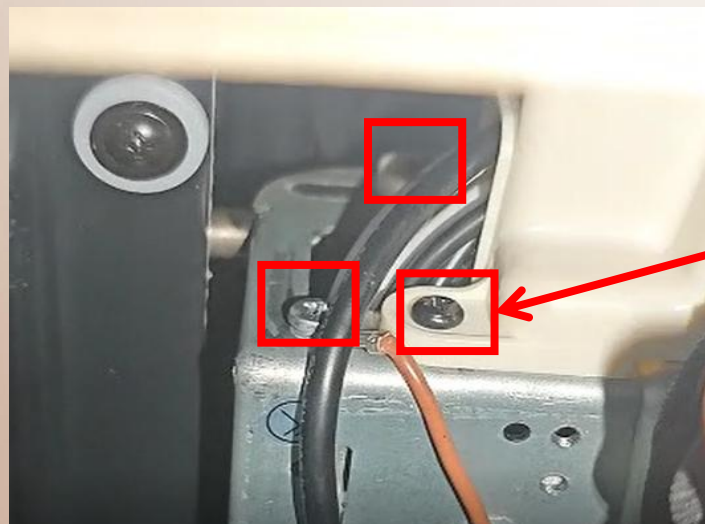
9、 disassembly of backrest cable:



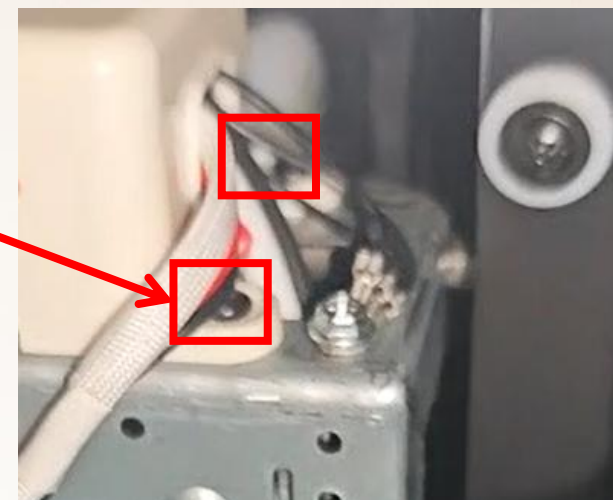
A.remove 4 screws



B.Remove the three fixed screws and unscrew the air hose.

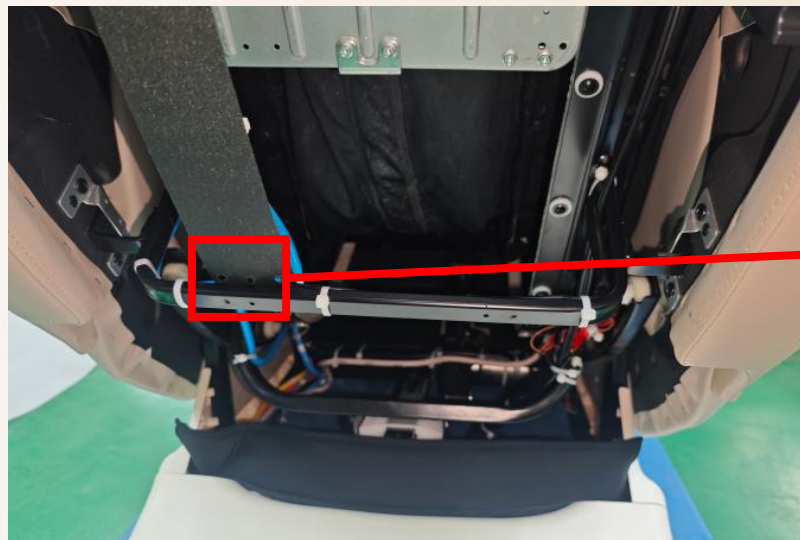


C.remove 5 screws ,remove the top cover

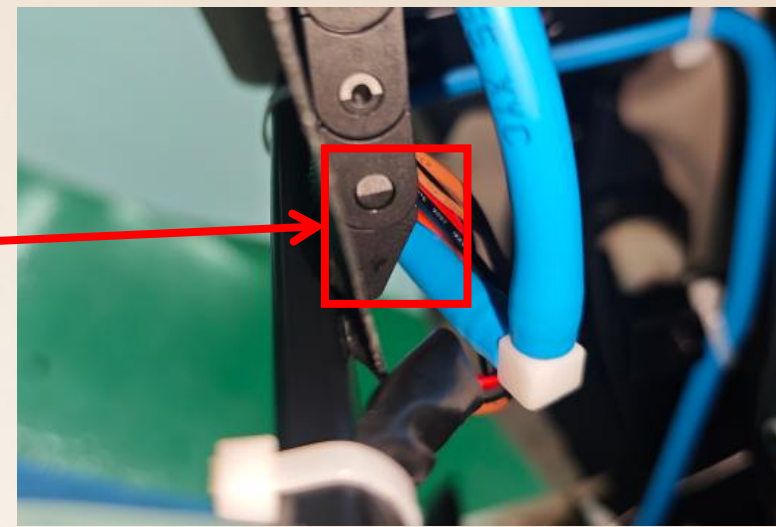




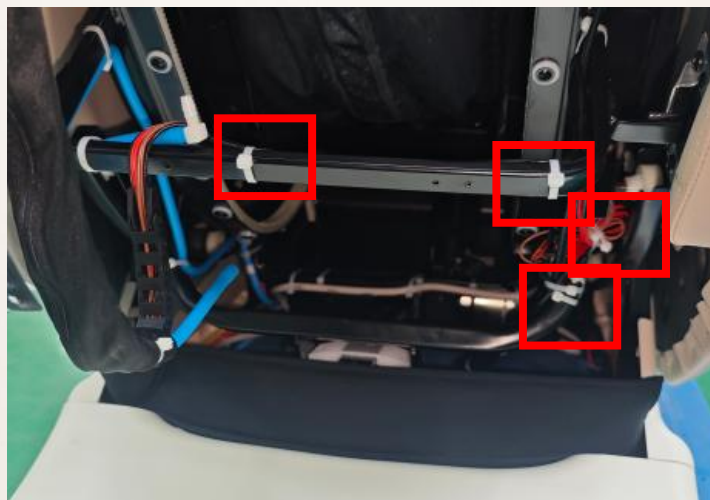
D.remove the terminal.



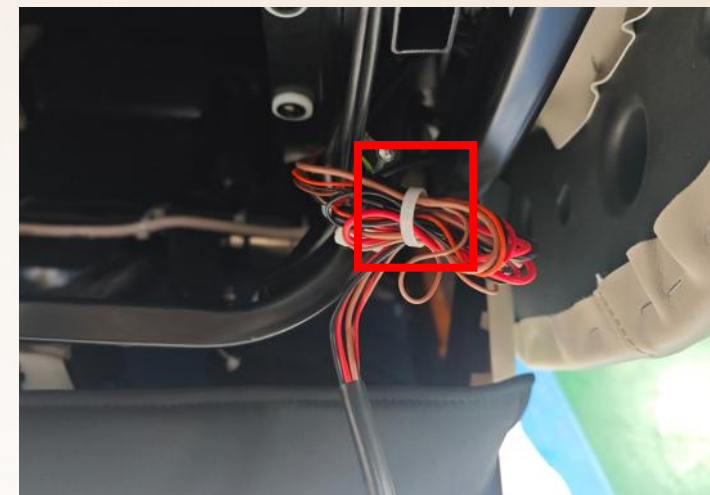
E.remove 1 screws.



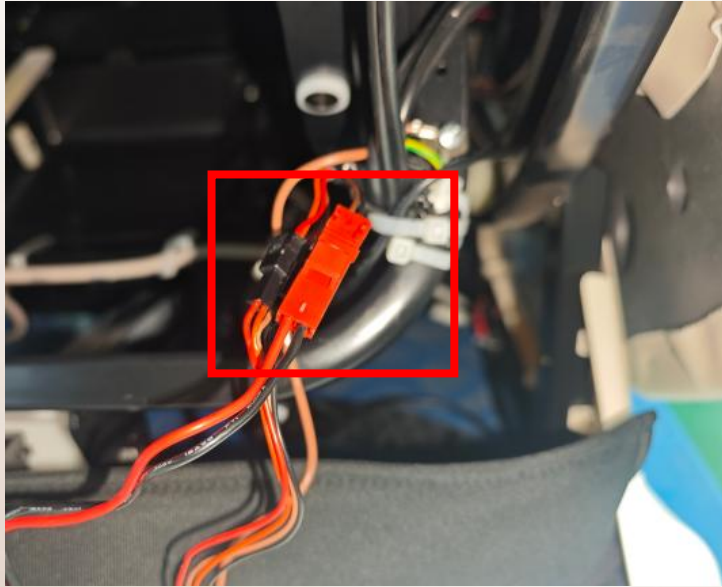
F.remove the air hose.



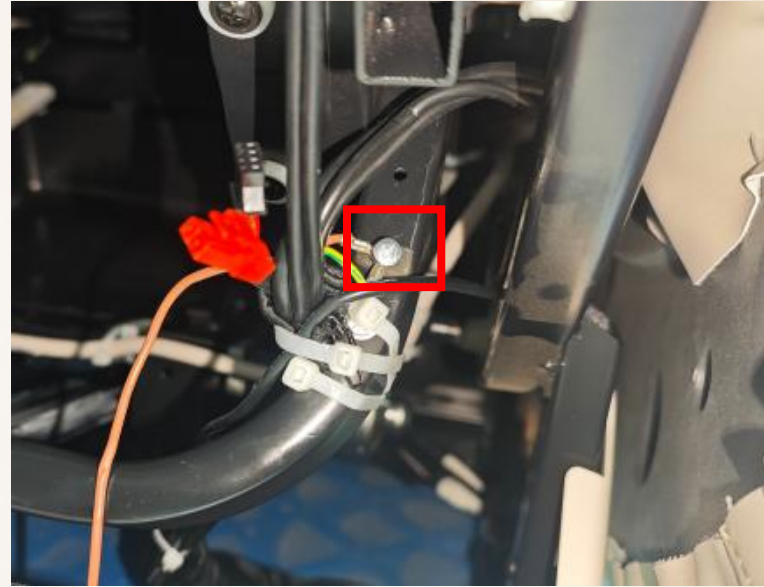
G.cut off the tape clips.



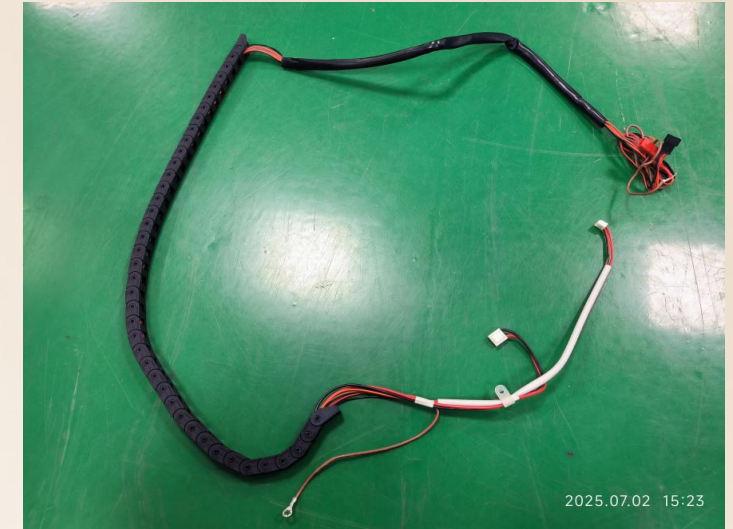
H.cut off the tape clips.



I.disconnect the connection line



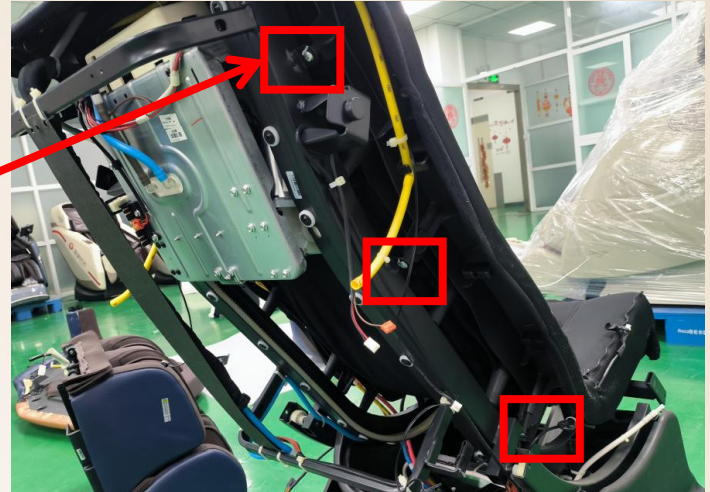
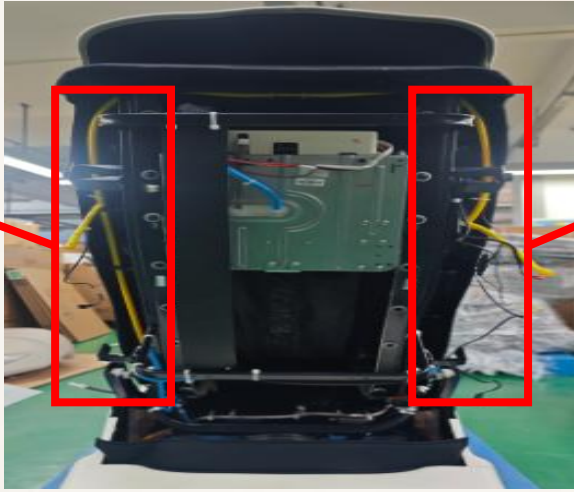
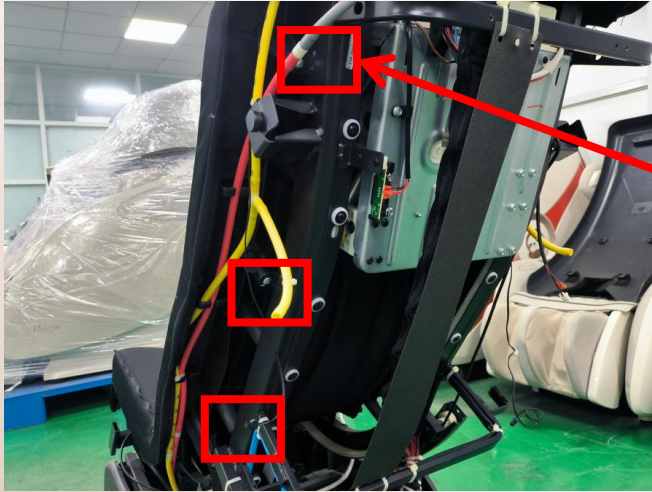
J.Remove the ground wire screw



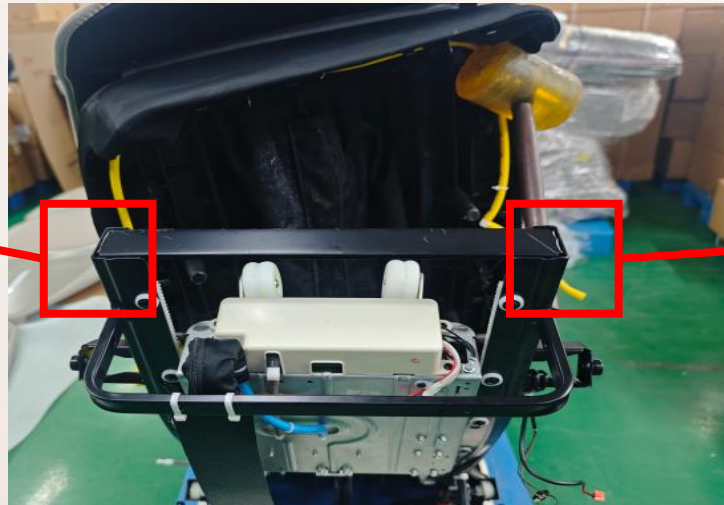
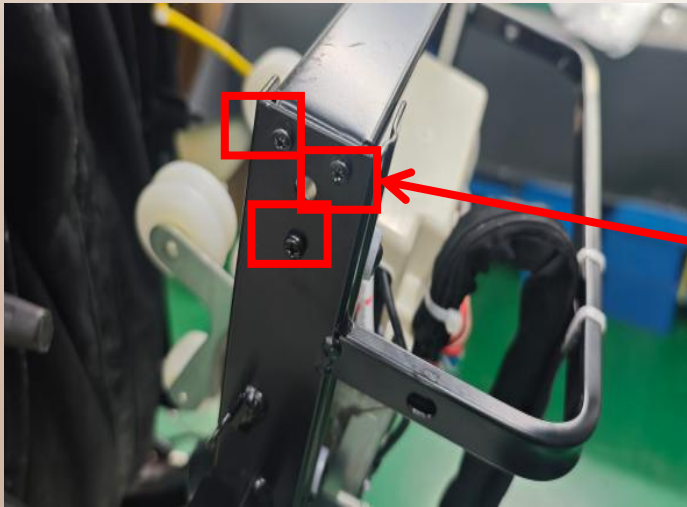
backrest canble

10、 backrest cable:

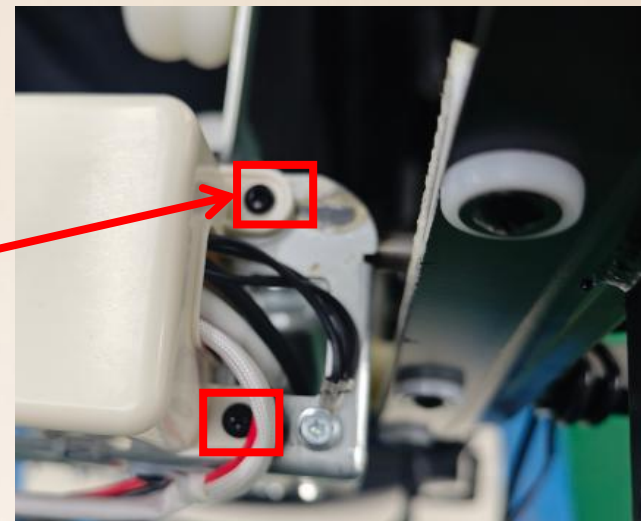
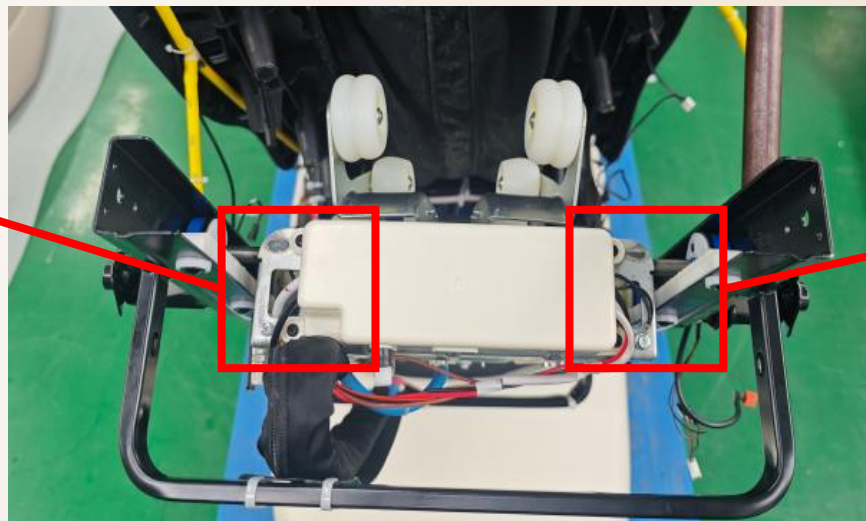
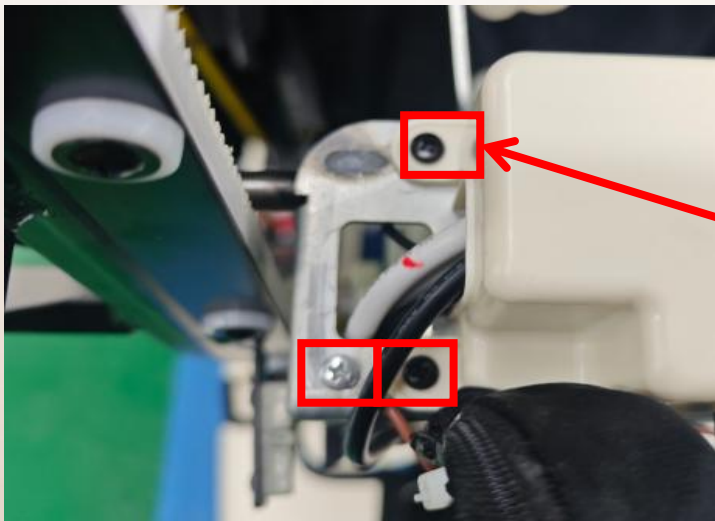
A. disassembly of Left and right side panel assemblies (reference to steps 3 and 6.)



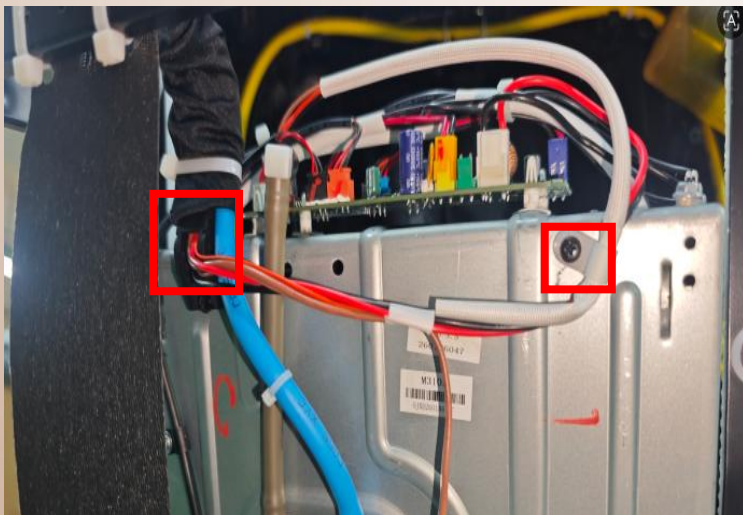
B.remove 6 screws.



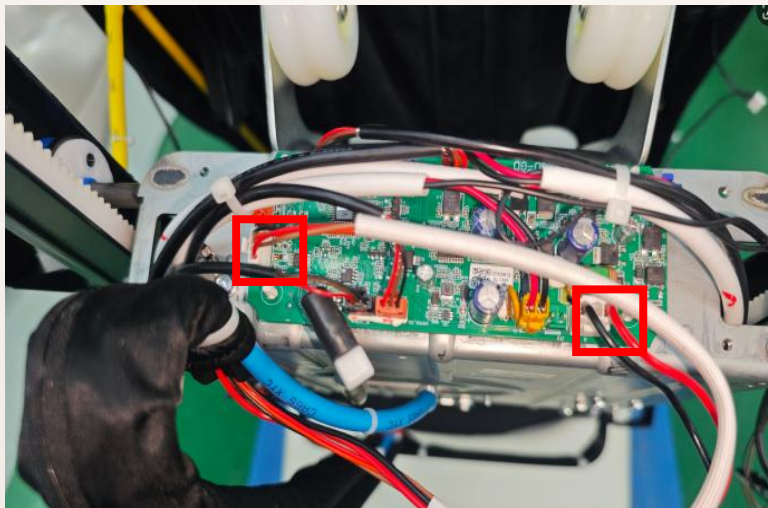
C.remove 6 screws.



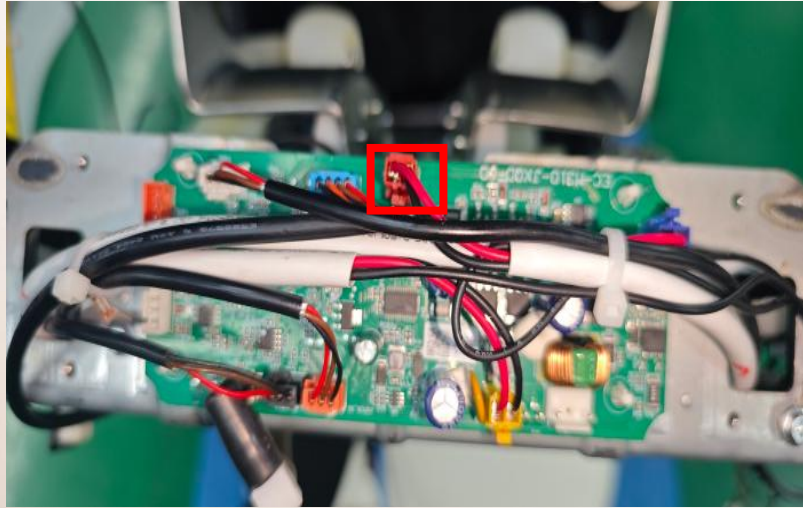
D.remove 5 screws and top cover



E.remove 3 screws.



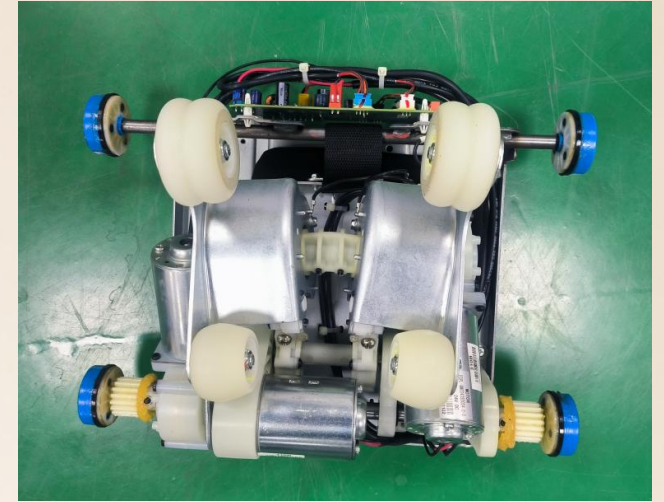
F.remove the terminals



G.locate the walking terminal and use a 24V power supply to move the mechanism upwards.



H.remove the gear box



gear box

11、 disassembly of main PCB box:



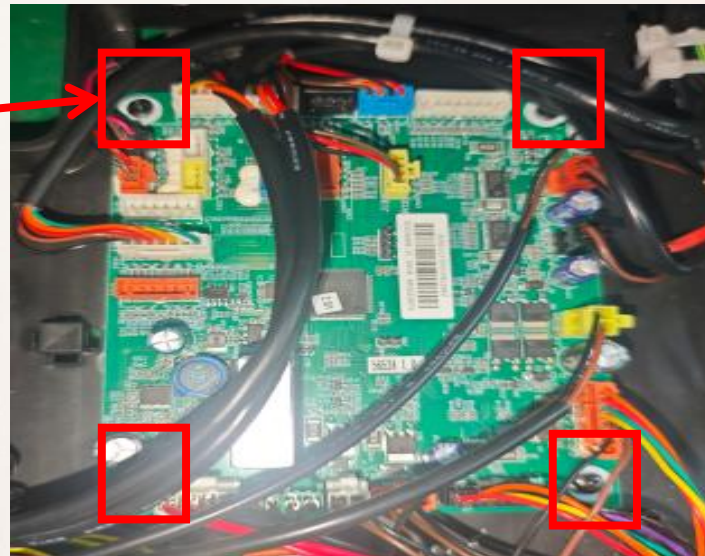
A.remove 2 screws, open themain PCB box



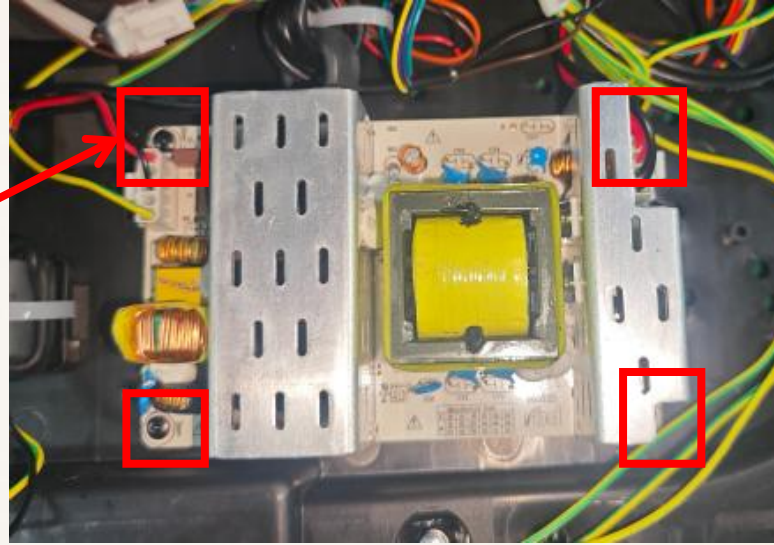
main PCB box cover



B.disconnect the terminals, remove 4 screws

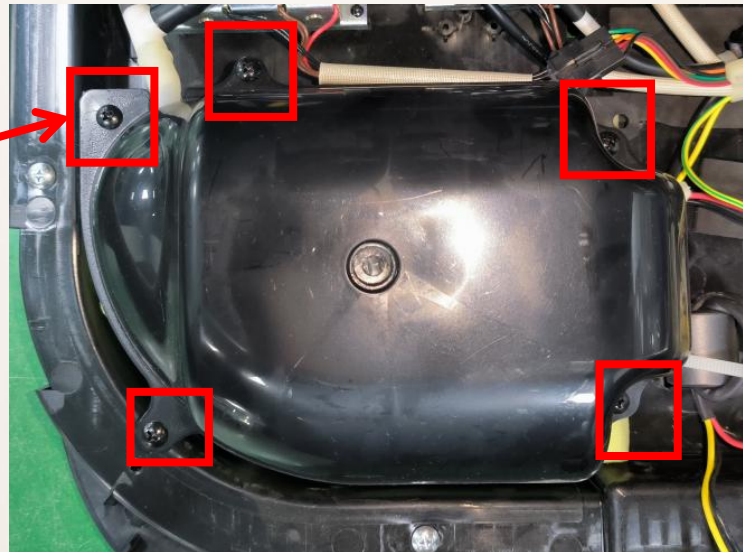


main PCB

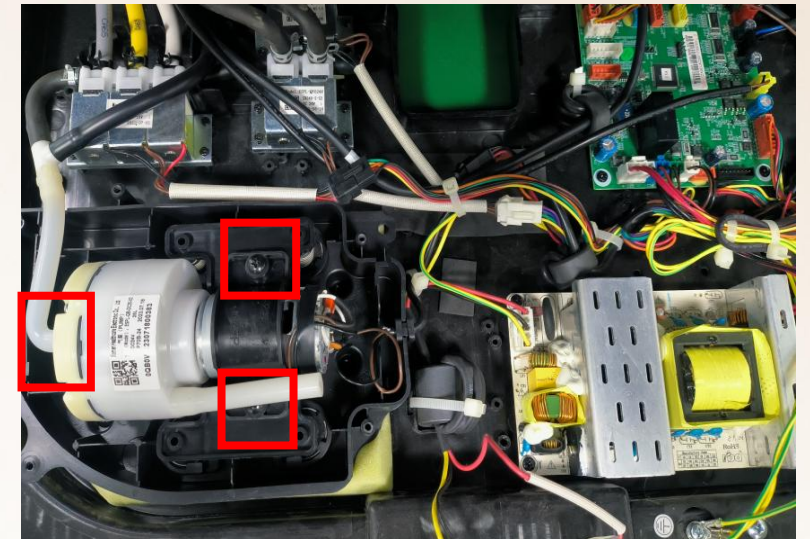


C.disconnect the terminals, remove 5 screws

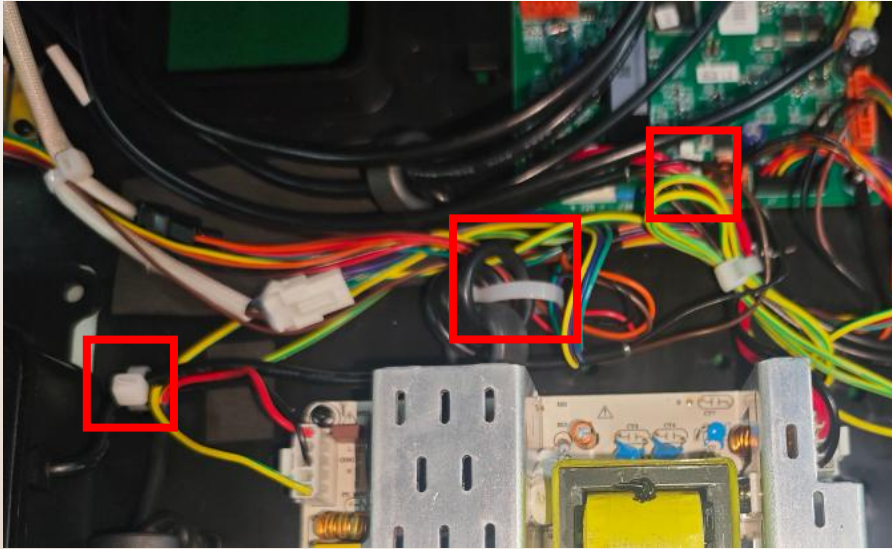
power PCB



D.remove 3 screws.



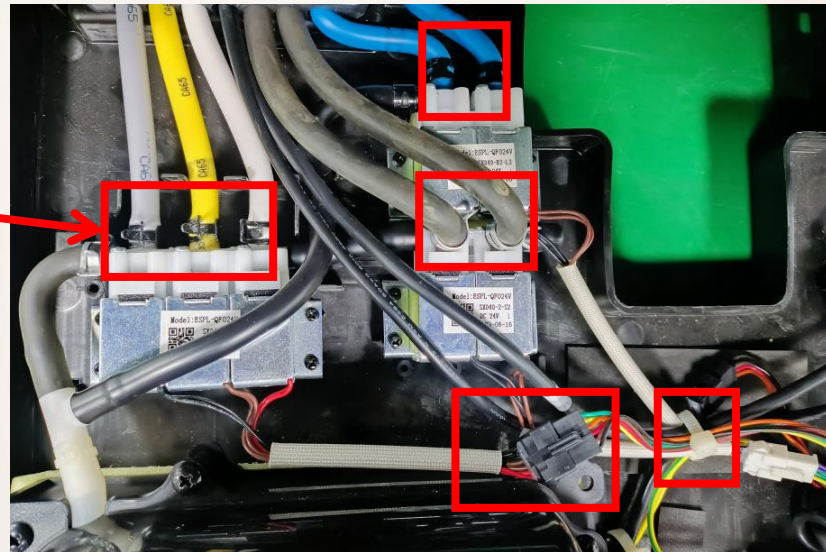
E.Remove two screws and unscrew the air hose.



F. cut off the cable ties and remove the terminals.



air pump



G. disassemble the air valve, unplug the air pipe and terminals, and remove the 4 screws

12、 disassembly of the legrest:



A.remove the DK card slot



B.move legrest to the right

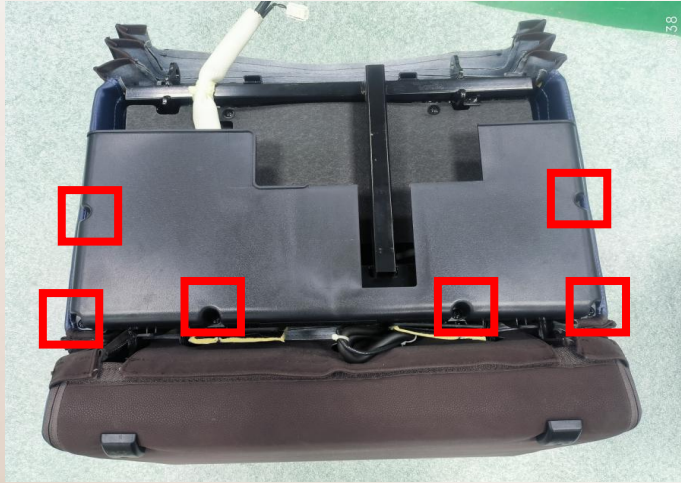


C.disconnect the air hose and wiring terminal

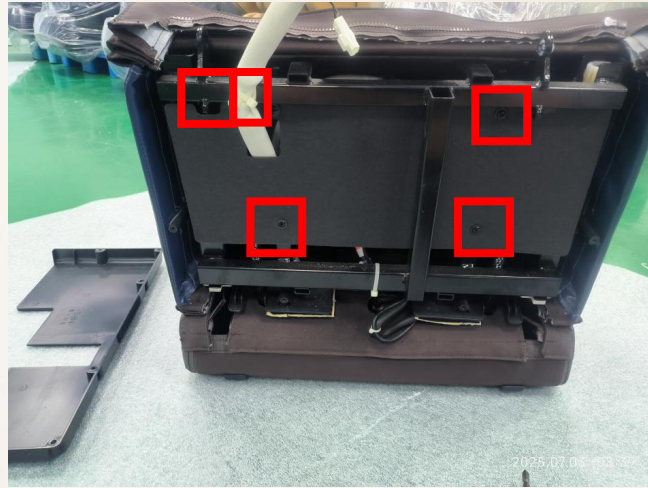


legrest

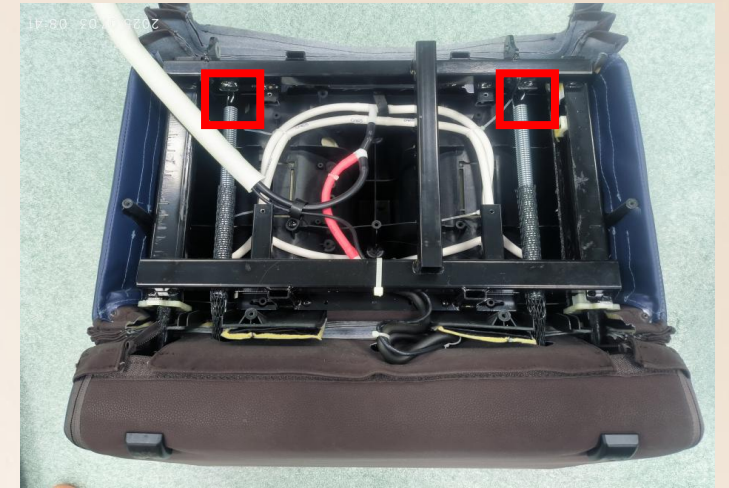
13、 Internal disassembly instructions for the calf assembly:



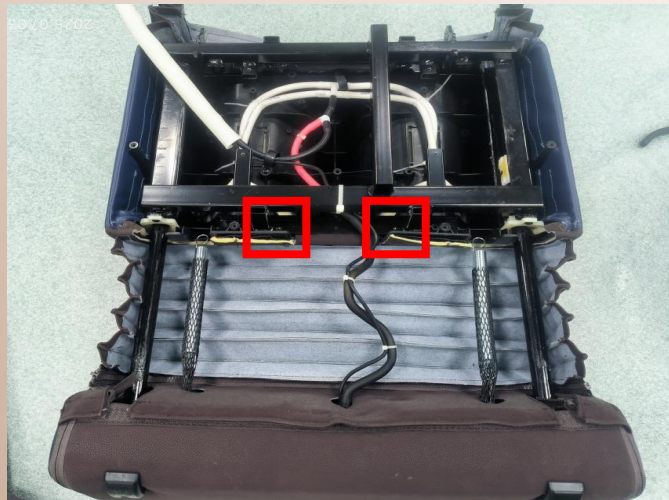
A.remove 6 screws



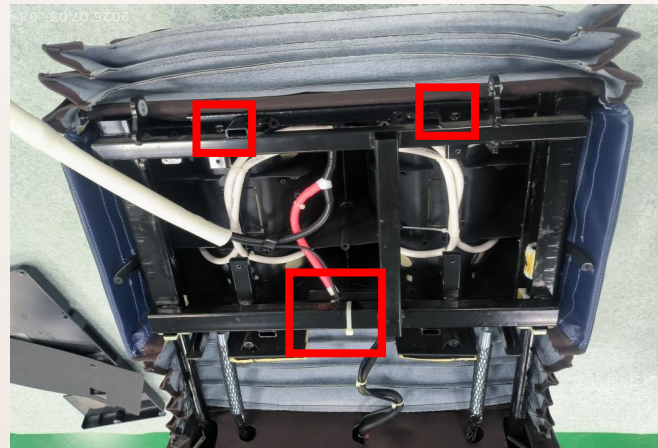
B.remove 4 screws, cut the cable tie, remove the baffle



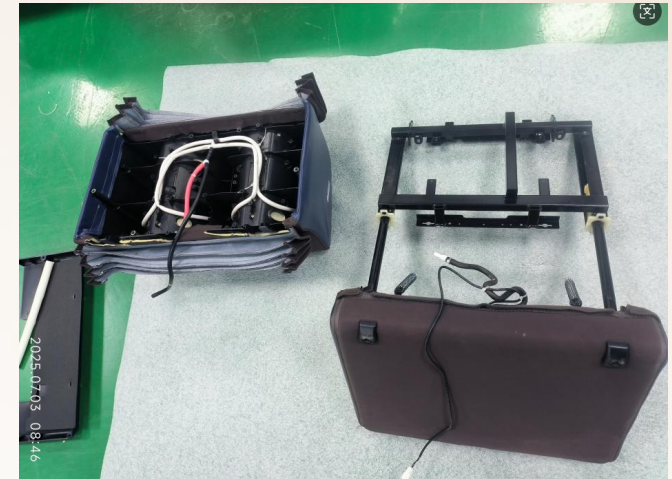
C.pull out the spring



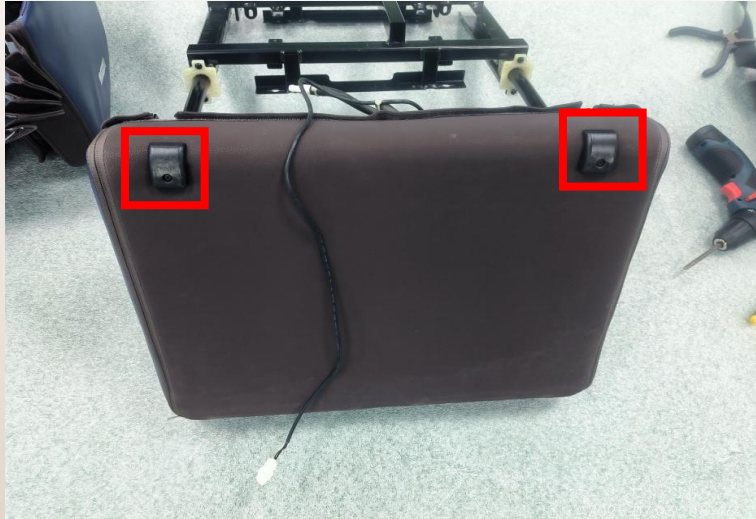
D.remove 2 screws



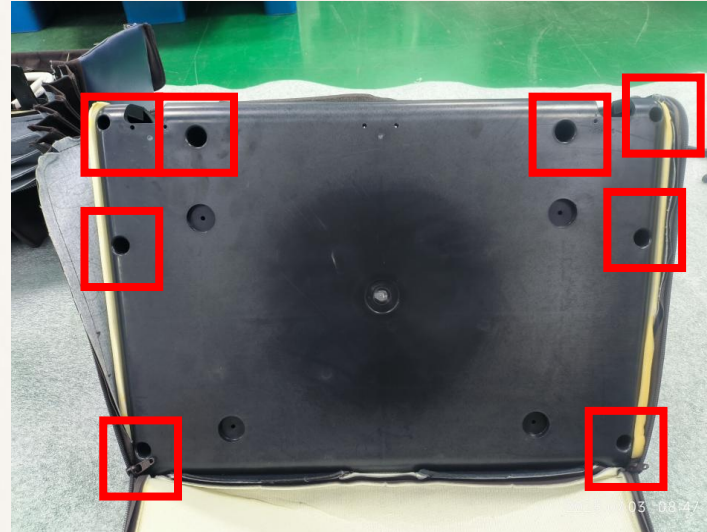
E.remove 2 screws, cut off the cable tie, and pull out the air hose



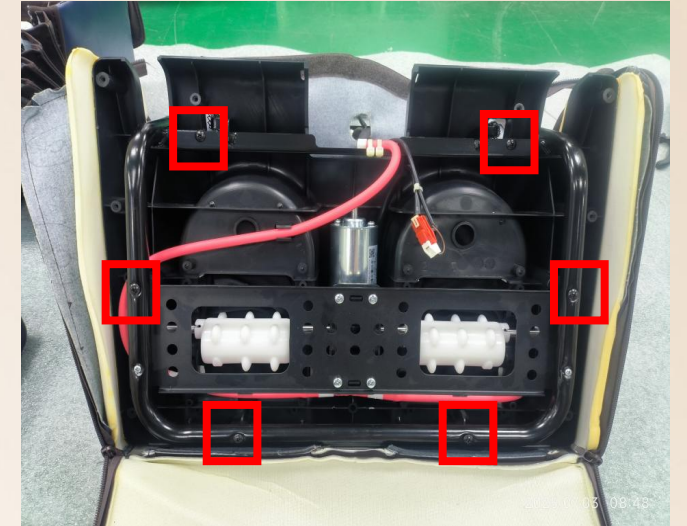
F.Separate the upper leg component (this side can remove the upper leg leather cover or upper leg airbag)



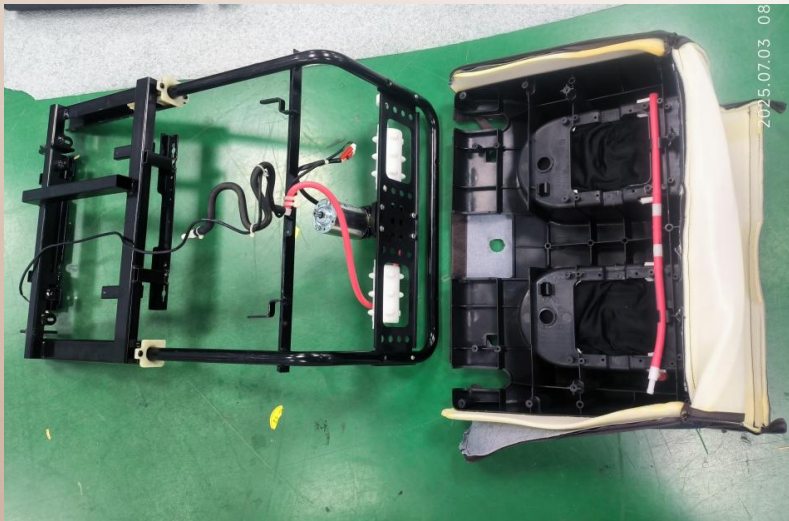
G.remove 2 foot pads and unzip the zipper



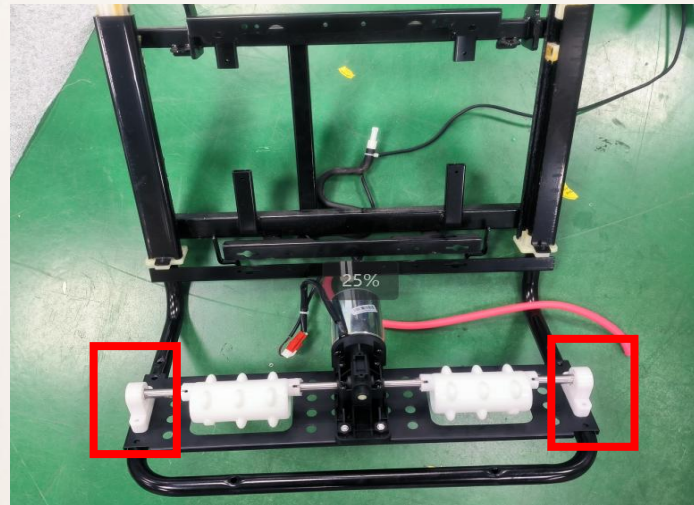
H.remove 8 screws, remove the bottom cover



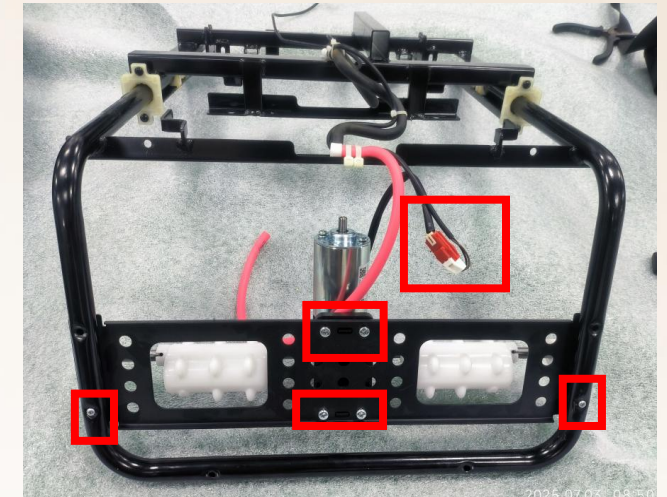
I.remove 6 screws



J.Separate the lower leg (this side can be disassembled with a lower leg leather cover or airbag)



K.remove the screws

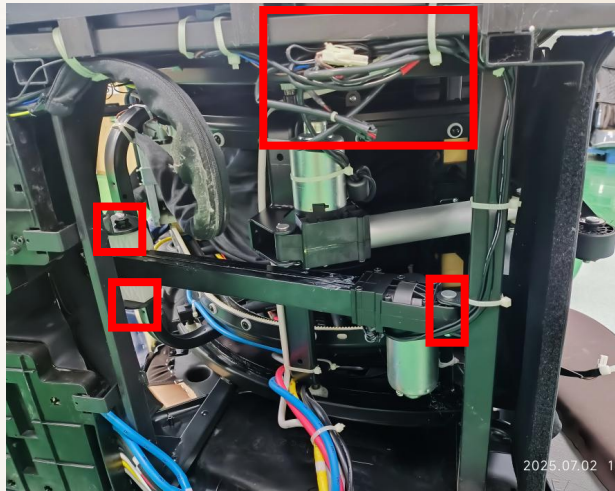


L.remove 6 screws, unplug the wiring terminals, and dismantle the foot roller

14、disassembly of backrest actuator:



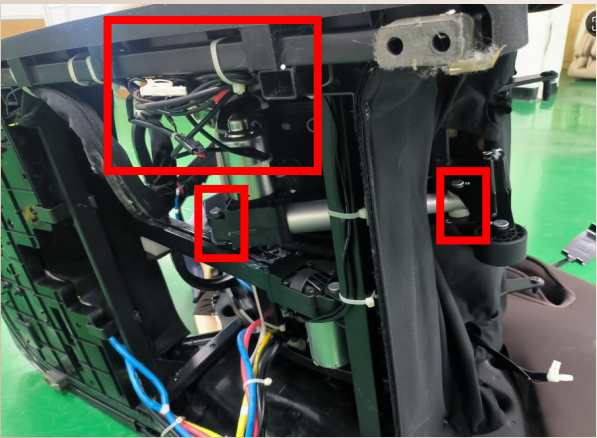
A. Flip over massage chair



B. remove the screw and pin shaft that fix the push rod, and unplug the wiring terminal



backrest actuator



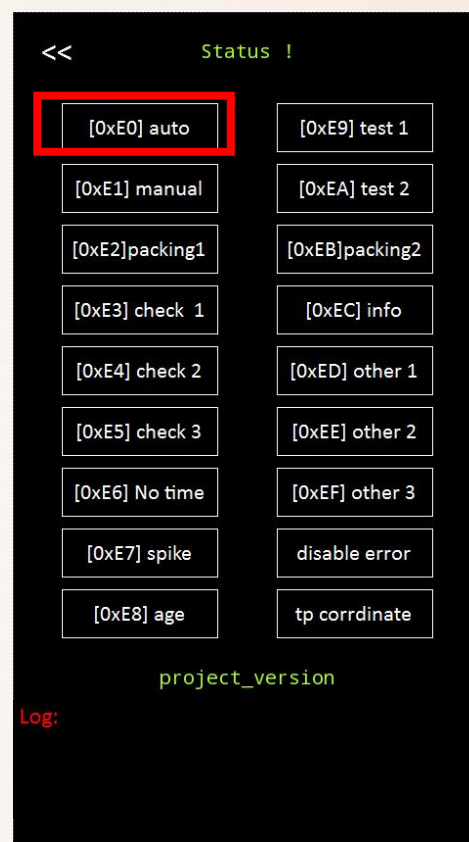
C. remove the pin shaft that fixes the front and rear ends of the actuator, and unplug the wiring terminal



legrest actuator

五、Message chair fault judgment

Turn on/turn off: Press and hold the settings for 4 seconds to enter the password screen. Enter 0592 and you will enter the engineering mode interface.



Fault number	Fault description	Possible causes	Elimination method	Remarks
1	The remote control detects that the button has been pressed for more than 40 seconds.	There is a key card slot.	Check the buttons of the manual controller	Real-time detection
2	The hand controller failed to successfully communicate with the central panel for more than 4 seconds.	The connection of the remote control is disconnected.	Replace the connection of the manual controller	Real-time detection
3	Both the upper and lower limit position sensors are functioning properly.	<ol style="list-style-type: none"> 1. The upper and lower limit position sensors are faulty. 2. The connection wires of the back frame have come off. 	<ol style="list-style-type: none"> 1. Replace the upper and lower limit position sensors. 2. Check the connection of the bracket signal lines. 	Real-time detection
4	When the movement of the mechanism is activated, an abnormality in the walking count is detected.	<ol style="list-style-type: none"> 1. The back frame signal has poor contact with the plug-in line. 2. The travel counter sensor is faulty. 	<ol style="list-style-type: none"> 1. Check if the back frame signal plug is properly inserted. 2. The travel counter sensor is faulty. 	When the movement has the walking function and is activated, it will conduct real-time detection.

5	The side panel detected that the button was pressed for more than 45 seconds.	There is a key card slot.	Check the side panel buttons	Real-time detection
9	The 5S clock failed to detect the rotation count signal of the kneading motor.	<ol style="list-style-type: none"> 1. Width detection board is damaged. 2. Width board connection is abnormal. 3. Squeezing motor is broken or the belt has come off. 	<ol style="list-style-type: none"> 1. Replace the width detection plate 2. Replace the signal lines of the rear frame 3. Replace the motor 	When entering the self-check mode, the detection is carried out.
10	The 5S clock did not detect the wide-width signal.	<ol style="list-style-type: none"> 1. Width detection board is damaged. 2. Width board connection is abnormal. 3. Squeezing motor is broken or the belt has come off. 	<ol style="list-style-type: none"> 1. Replace the width detection plate 2. Replace the signal lines of the rear frame 3. Replace the motor 	When entering the self-check mode, the detection is carried out.
13	Both the upper and lower limit position sensors are functioning properly.	<ol style="list-style-type: none"> 1. The upper and lower limit position sensors are faulty. 2. The connection wires of the back frame have come off. 	<ol style="list-style-type: none"> 1. Replace the upper and lower limit position sensors. 2. Check the connection of the bracket signal lines. 	When entering the self-check mode, the detection is carried out.

14	The upper limit sensor signal was not detected within 40 seconds.	<ol style="list-style-type: none"> 1. The upper limit position sensor is faulty. 2. The connection line of the back frame has come off. 3. The walking motor is faulty or there is a broken wire. 	<ol style="list-style-type: none"> 1. Replace the limit sensor board 2. Check the connection of the frame signal lines 3. Replace the walking motor or rewire 	When entering the self-check mode, the detection is carried out.
15	When the movement of the mechanism is activated, an abnormality in the walking count is detected.	<ol style="list-style-type: none"> 1. The back frame signal has poor contact with the plug-in line. 2. The travel counter sensor is faulty. 	<ol style="list-style-type: none"> 1. Check if the back frame signal plug is properly inserted. 2. The travel counter sensor is faulty. 	When entering the self-check mode, the detection is carried out.
16	The upper limit position sensor detected the signal, and within 2 seconds after that, it also detected the signal from the lower limit position sensor.	The lower (upper) limit position sensor is faulty.	<ol style="list-style-type: none"> 1. Replace the lower (upper) limit sensor plate 2. Check the connection of the lower (upper) limit sensor wire 	When entering the self-check mode, the detection is carried out.

17	The lower limit sensor signal was not detected within 40 seconds.	<ol style="list-style-type: none"> 1. The lower limit position sensor is faulty. 2. The connection line of the back frame has come off. 3. The walking motor is faulty or there is a break in the connection line. 	<ol style="list-style-type: none"> 1. Replace the limit sensor board 2. Check the connection of the frame wire 3. Replace the faulty walking motor or the connecting wires 	When entering the self-check mode, the detection is carried out.
18	The lower limit position sensor detected the signal, and within 2 seconds, it also detected the signal from the upper limit position sensor.	Upper (lower) limit position sensor is faulty	<ol style="list-style-type: none"> 1. Replace the upper (lower) limit sensor plate 2. Check the connection of the upper (lower) limit sensor wires 	When entering the self-check mode, the detection is carried out.
19	The push rod of the lower leg was activated for 2.5 seconds but no counting signal was detected. (Or no push rod position signal was detected after 40 seconds.)	<ol style="list-style-type: none"> 1. The motor of the lower leg pusher is broken. 2. The connection wire of the lower leg pusher motor has come off. 	<ol style="list-style-type: none"> 1. Replace the motor of the lower leg push rod. 2. Check the connection of the lower leg push rod motor. 	When entering the self-check mode, the detection is carried out.
21	The communication between the movement plate and the center plate failed after more than 6 seconds.	The connection lines of the movement board are disconnected.	Replace the connection lines of the movement plate	real-time detection

25	The back push rod was activated for 2.5 seconds but no counting signal was detected. (Or no push rod position signal was detected after 40 seconds.)	1. The motor of the back push rod is broken. 2. The connection wire of the back push rod motor has come off. 3. The connection wire for the count of the back push rod has come off.	1. Replace the back push rod motor 2. Check the connection of the back push rod motor 3. Check the connection of the back push rod counter	Self-checking is activated and begins the detection process.
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EC5653A错误代码.

xls