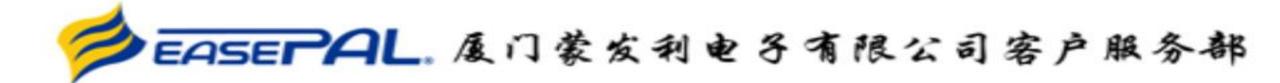


### EC-8638 massage chair service

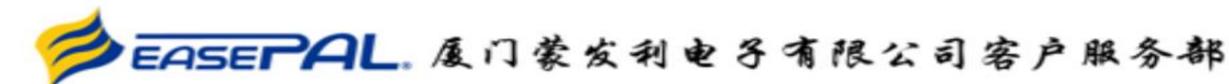




### **Table of Contents**

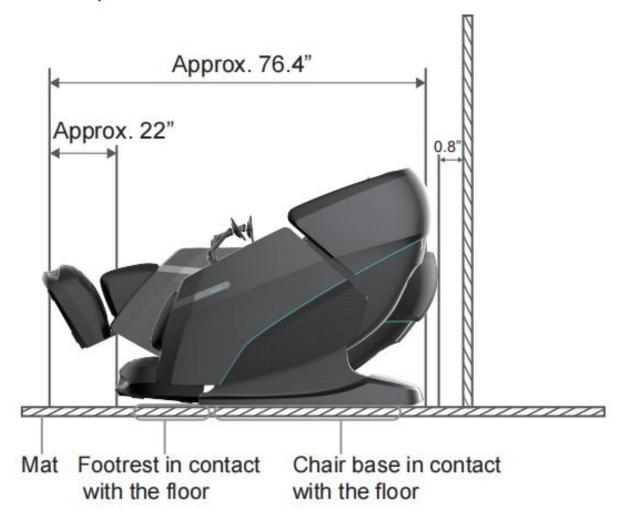
- —, Product introduction
- 二、Massage chair tools and use
- 三、Circuit working principle
- 四、Massage chair removal instructions
- 五、Massage chair fault judgment

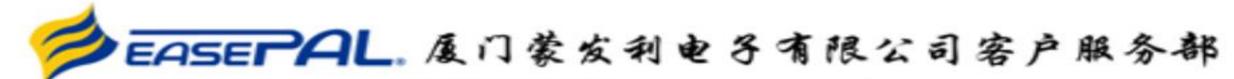




### —, Product introduction

#### 1. Place Position:

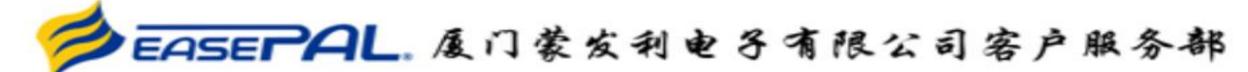




#### 2. Product Specifications:

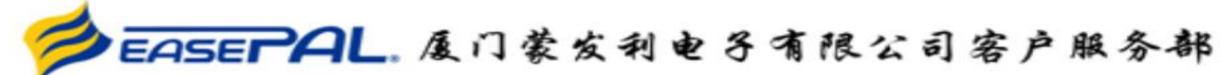
Product Name	4D-Escape Duo
Rated Input	110 - 120V~ 60Hz
Rated Current	2.55A
Working Time	Min. 3 minutes Max. 30 minutes
Extension of Footrest	Approx 7.1"
Dimension (L x W x H)	Upright: 63.8"x 31.4"x 48.7"
	Recline: 76.4"x 31.4"x 31.2
Dimensions of Packing (L <sup>+</sup> W <sup>+</sup> H)	Box 1: 58.5"x 33.5"x 51.0"
	Box 2: 22.4"x 20.9"x 25"
N.W.	Main Unit: 251.3 lbs
	Footrest: 58 lbs
g.w.	Box 1: 302 lbs
	Box 2: 66.1 lbs
Weight of Chair	Approx 311 lbs
Usage Condition	Environment Temperature: 32°F - 104°F
	Contrasting Humidity: 20% - 80%RH
Storage Condition	Storage Temperature: 23°F - 95°F
	Storage Humidity: 20% - 80%RH
Maximum Weight of User	280 lbs

IC: 7284A-ATS2853, 26141-WLT8016

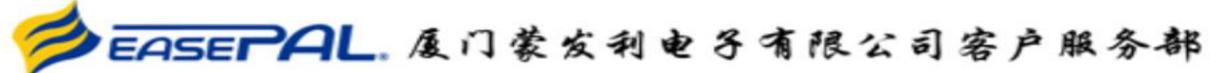


#### 3. External Side Structure:

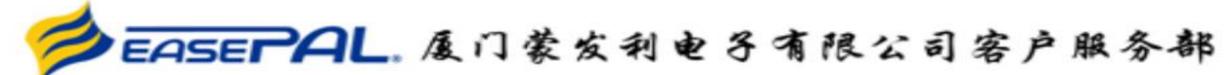












#### 4. Internal Structure:



33 Air Bags -Shoulders 2 Arms 22 Lumbar 4 Seatside 4 Seat 1

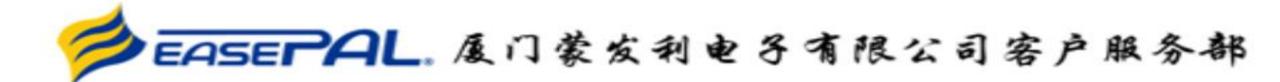
Calves - 8 Air Bags

Feet - 16 Air Bags

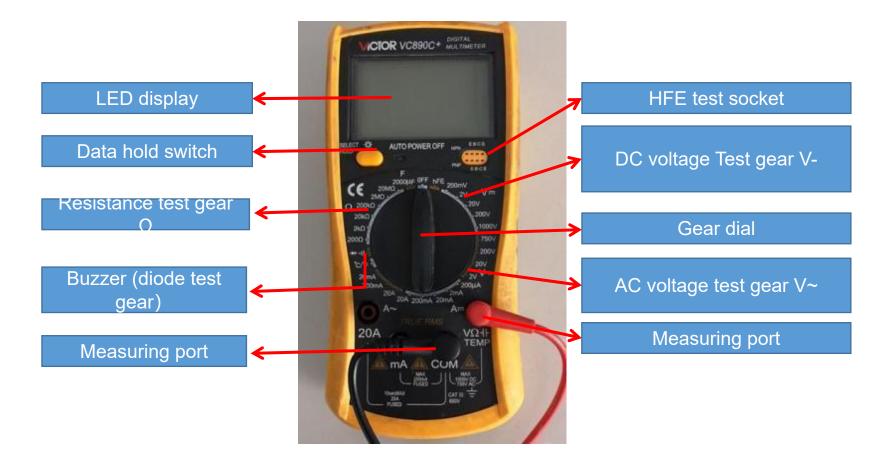
### ☐, Massage chair tools and use

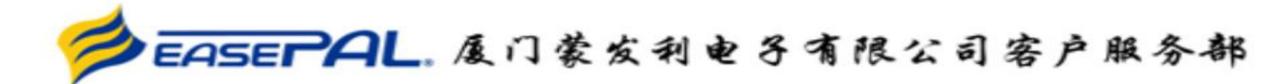
#### 1.tools





#### 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

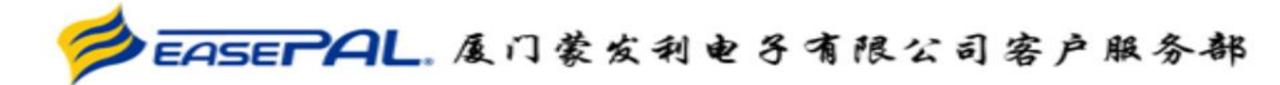
Resistance gear test gear: Measure the quality and value of resistance

DC voltage Test gear V-: Measure DC voltage AC voltage test gear V~: Measure AC voltage

 $\mathbf{V}\Omega$  /  $\mathbf{COM}$ :  $\mathbf{V}\Omega$  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





open circuit

As shown in the left picture, first set the multimeter to the buzzer and power it

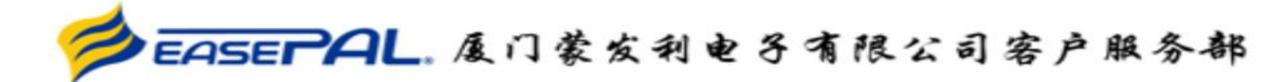
When the switch is on, the multimeter will display "0."; then contact the two probes with the ends of the red wire At this time, the multimeter still shows "1." there is no change, which means there is an open circuit in the middle of the wire, that is, the line is open.





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



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).



#### 1, main PCB:

J25: 24V power in

J26: 24V power out

J5: Projector-Lighting

J4: waist heater

J7: air inflation

J6: air inflation

J2: air pump

J28: backrest actuator

J20: Air valve

expansion board

863802401240083

J29: legrest actuator

J18: power PCB

E. Circuit working principle J11: legrest actuator counting

> J11: backrest actuator counting

J10: side panel power button

J14: pad controller

J3: 5V power out

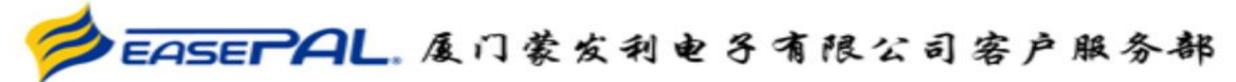
J16: voice

J21: pad controller

J19: Bluetooth

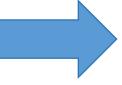
J1: LED

8638 massage chan service guide



### 3.1. Disassembly of the pillow:



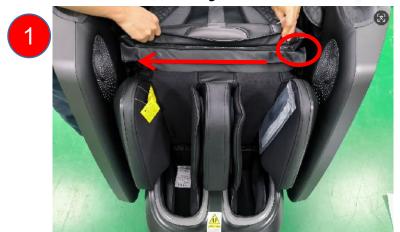




unzip the zipper

remove the pillow

#### 3.2. Disassembly of the backrest pad:



unzip the zipper



unzip the zipper 8638 massage chair service guide



unzip the zipper



unzip the zipper



discontent the terminals



unzip the zipper



discontent the air hose



remove backrest pad



unzip the zipper



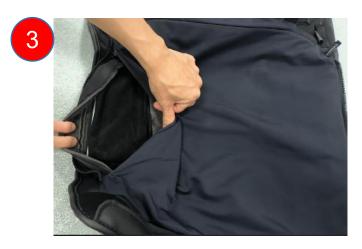
remove the seat heater



remove set air bag



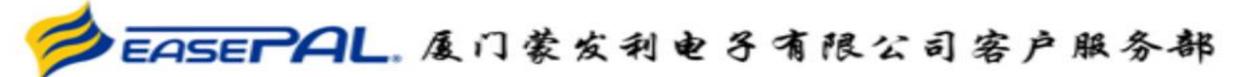
unzip the zipper



unzip the zipper



remove the waist heater



#### 3.3. Disassembly of the hood:



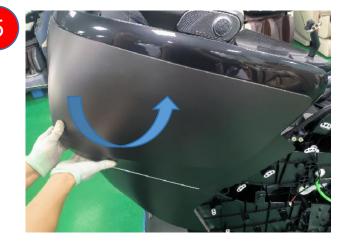
remove the screws



remove the rear cover



remove the barrier



prised the hood cover



remove 4 screws

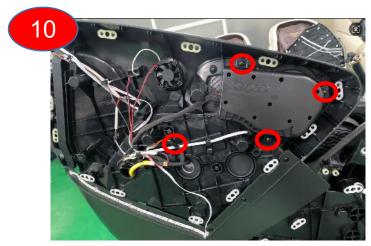


hood cover

8638 massage chair service guide



remove the screws



remove 3 screws, discontent the terminal



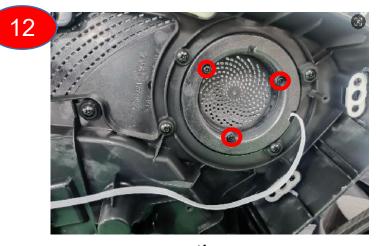
Separate decorative cover



remove the speaker



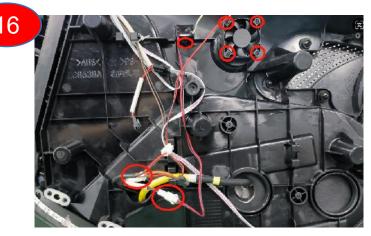
Lower right outer hood



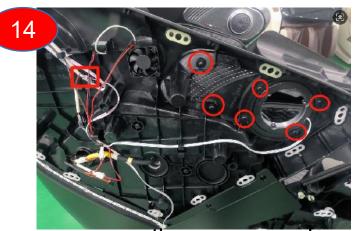
remove the screws



Remove the speaker cover



remove the screws and discontent the terminal



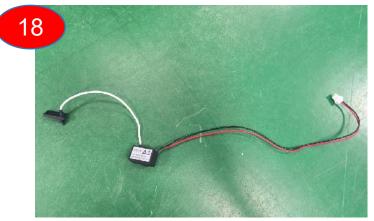
remove the screws and discontent the terminal



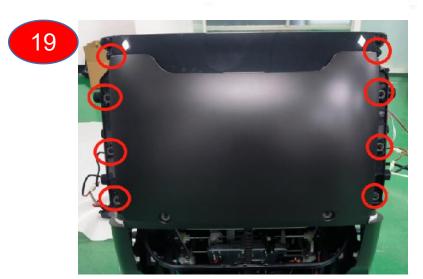
remove the fan



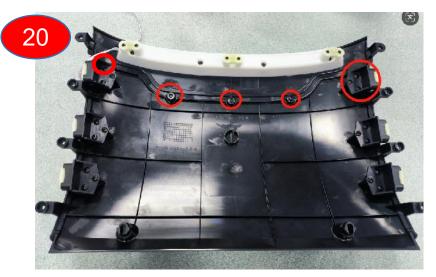
remove the trim and LED



remove the negative ion generator



Remove the screws



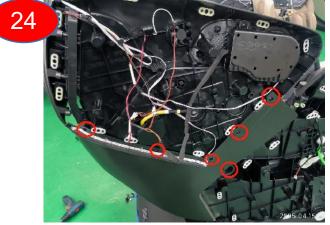
Remove the screws



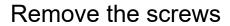
Separate the LED



Separate the middle hood cover



remove the screws

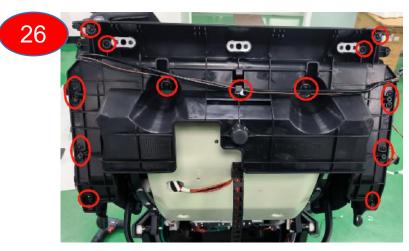




Remove the trim panel



remove 2 screws



Remove the screws



unzip the zipper



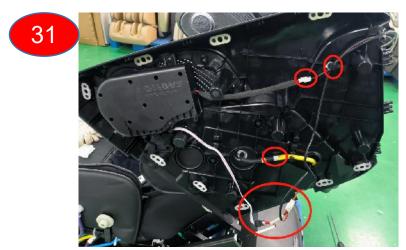
Remove the middle hood inner cover



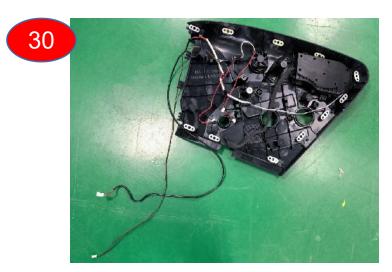
remove 2 screws



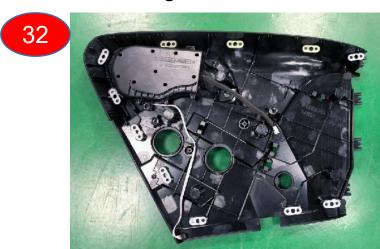
discontent the terminals and air hose



discontent the terminals and air hose



remove the right inner hood cover



remove the left inner hood cover

#### 3.4. Disassembly of the gear box:



remove the screws



remove the rear cover



remove the barrier



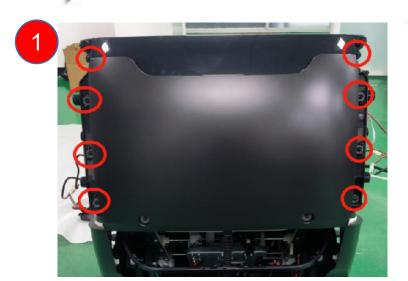
prised the hood cover 第25页



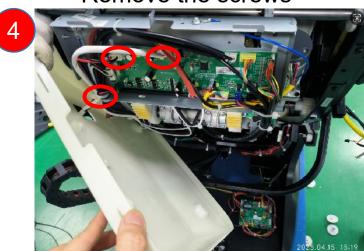
remove 4 screws



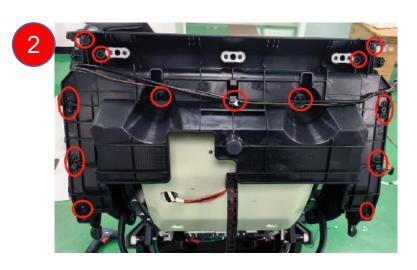
hood cover



Remove the screws



discontent the terminals and cut the cable tie



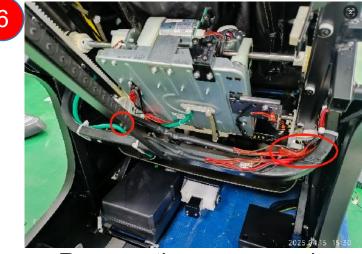
Remove the screws



Remove the screws



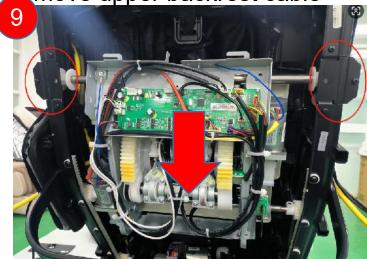
Remove the screws



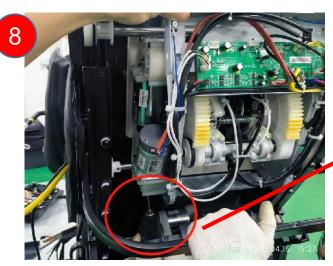
Remove the screws and remove the terminals



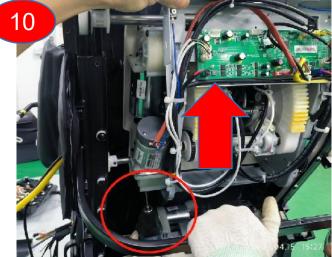
remove upper backrest cable



gear box go down and remove 2 baffles both side



Rotate the rolling motor with a small Phillips screwdriver

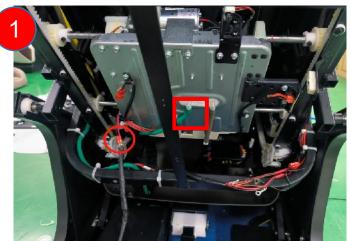


gear box go up





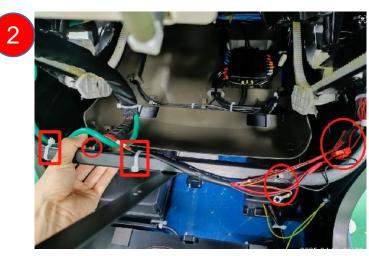
remove upper gear box



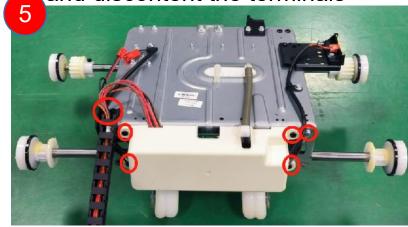
discontent the air hose, Red terminal connected to 24VDC



remove lower gear box



cut cable tie, remove the screws and discontent the terminals



remove the screws



unzip the zipper



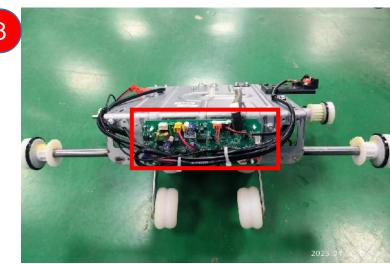
discontent the terminal of the cable tie



remove lower backrest cable



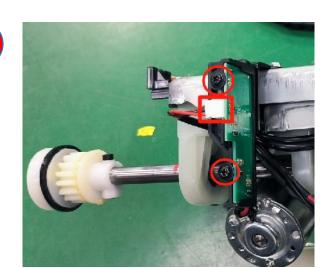
remove collision detection board



discontent the terminal, remove he gear box PCB



remove the screws, discontent the terminal



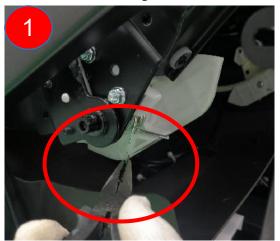
remove the screws, discontent the terminal





remove up&down limitsesor

### 3.5. Disassembly of the Transfer track:



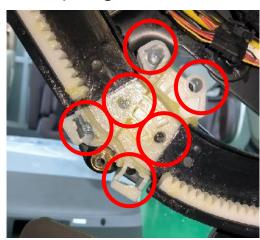
clamp the spring open with apointed nose pliers



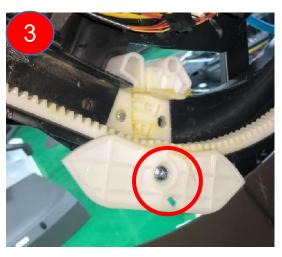
remove the track



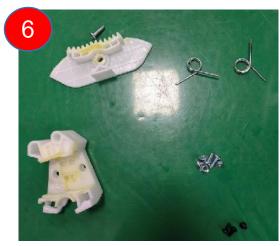
Spring released



remove 6 screws 第30页



remove the screws



Remove the guide rail adapter plate

### 3.6. Disassembly of the side panel:



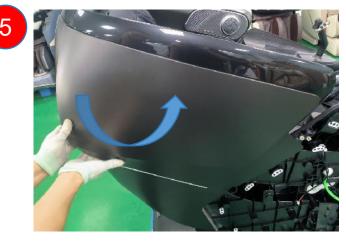
remove the screws



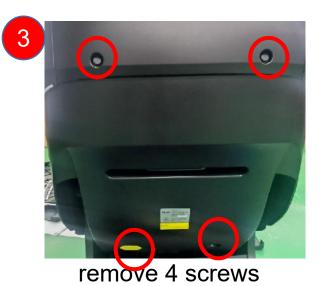
remove the rear cover



remove the barrier



prised the hood cover <sup>第31页</sup>



6

hood cover



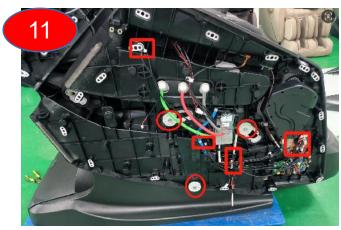
open the cover



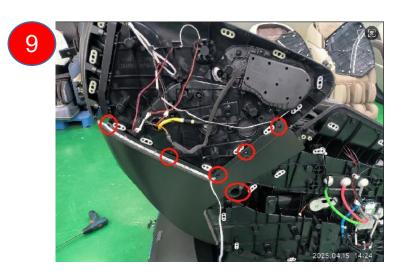
detach the decoration board



discontent the terminals



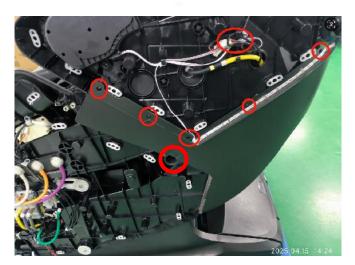
discontent the terminals and air hose, cut cable tie



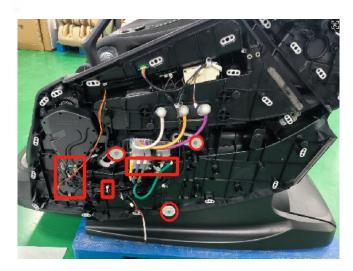
remove the screws



remove right side panel



remove the screws



discontent the terminals and air hose, remove the screws

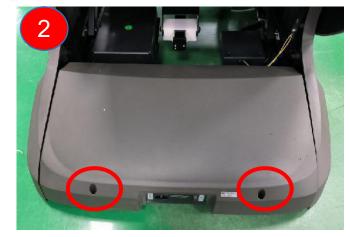


remove left side panel

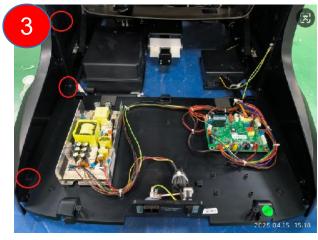
### 3.7. Disassembly of the lower side panel:



remove 4 screws



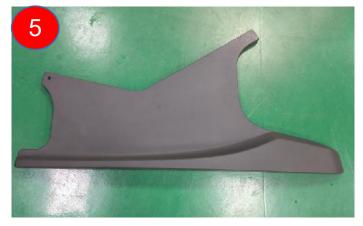
remove 2 screws



remove 3 screws



Slightly lift the massage chair to the side



remove lower side panel 第34页

### 3.8. Disassembly of the inner right side panel:



remove the screws, discontent the terminal and air hose



remove the screws, discontent the terminal



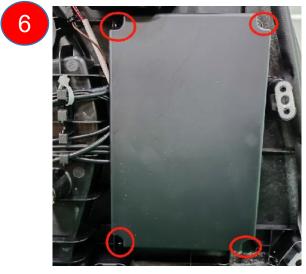
remove the 3-way air valves



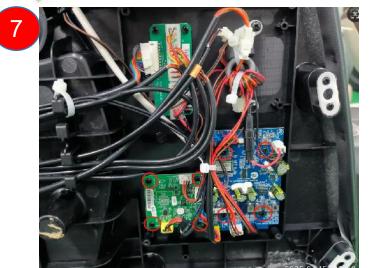
remove the speaker



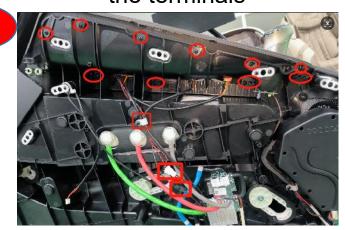
remove the 2-way air valves



remove the screws and remove the cover



remove the screws, discontent the terminals



remove the screws, discontent the terminals



remove voice PCB



discontent the terminals



remove Bluetooth PCB



remove the arm cover unit

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remove the screws



remove wireless charging unit



remove side panel button assembly



remove charging unit

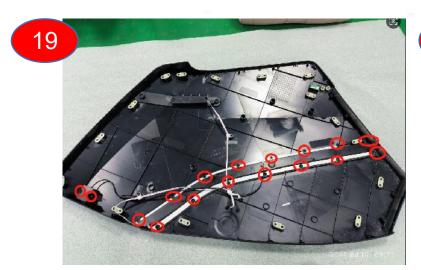


remove the screws



remove the Trim

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separate the cover



Spotlight

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### 3.9. Disassembly of the inner left side panel:



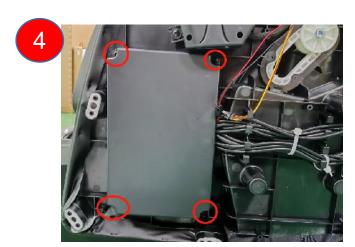
remove the screws



remove the USB charging PCB



remove the type-C charging PCB



remove the screws



remove the screws, discontent the terminals



extend PCB

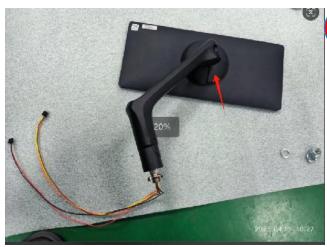


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discontent the terminal, remove the nut

10



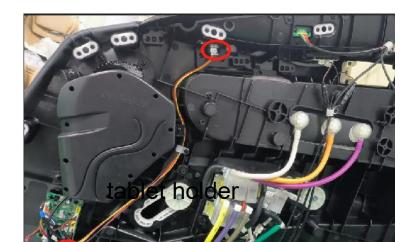
open the cover



remove the screws, discontent the terminal



8



tablet

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### 3.10. Disassembly of the side seat. shoulder:



remove 2 screws



remove 4 screws



side seat



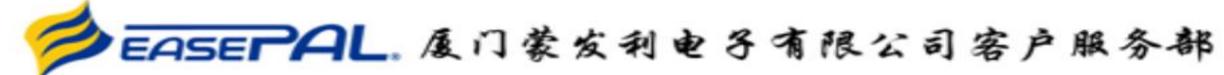
shoulder



separate the side seat



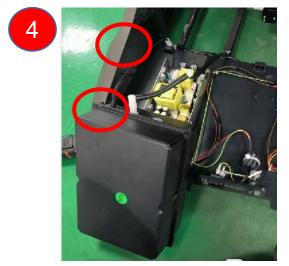
separate the shoulder



### 3.11. Disassembly of the air pump:



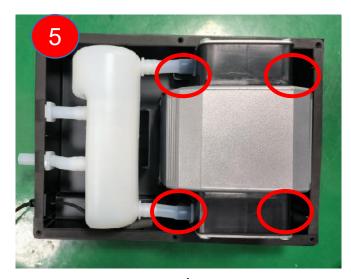
remove 2 screws



discontent the terminal and air hose



remove the cover



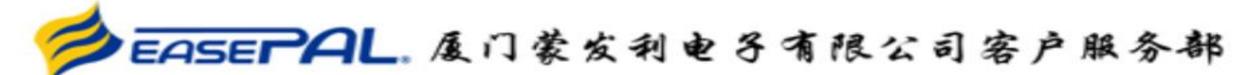
remove 4 screws



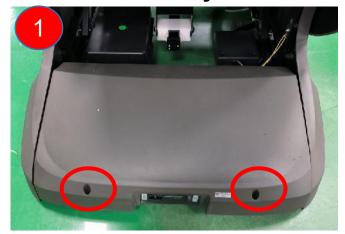
remove 2 screws



separate the air pump



### 3.12. Disassembly of the main PCB box:



remove 2 screws



main PCB



remove the cover



power PCB

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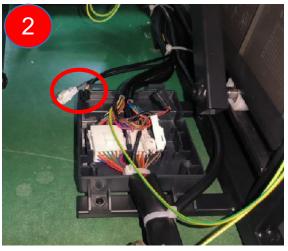
### 3.13. Disassembly of the backrest actuator



remove the cover



cut the cable tie



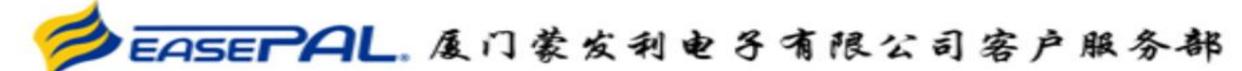
discontent the 2 terminals



Remove the front pin and rear screw 第44页



remove backrest actuator



### 3.14. Disassembly of the legrest actuator:



discontent the terminal, remove the pin both side



remove legrest actuator

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### 3.15. Disassembly of the legrest:



remove the screws



legrest



discontentthe terminal and air hose, remove 2 catch pins



remove the screws



Move the legrest to the right



discontent the terminal

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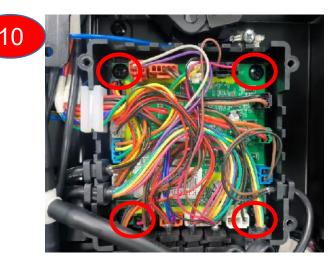
Anti pinch detection PCB



remove the screws



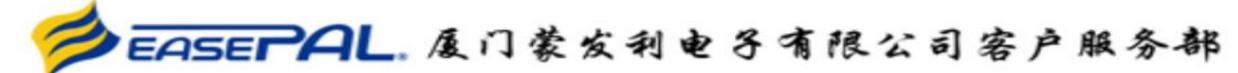
remove the screws



remove the screws, discontent the terminals



remove legrest PCB



### 3.16. Disassembly of under seat PCB:



unzip the zipper

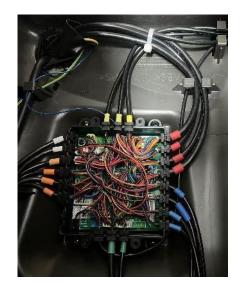


the position of under seat PCB

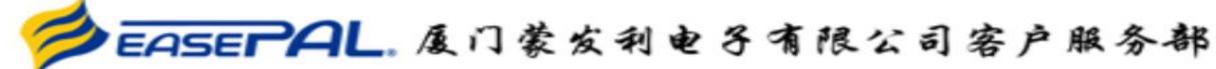


remove 4 screws





under seat PCB



### 五、Massage chair fault judgment

No.	phenomenon	problem description	steps of shooting the trouble	remark
1	Press and hold the POWER button on the side panel for more than 40 seconds	1. There is a button stuck		turn on the chair
02	remote control did not connected well	broken	1. replace remote control wire 2. replace remote control	turn on the chair
03	backrest signal is abnormity			turn on the chair
04	rolling signal is abnormity	lconnected	1. check the connector of backrest wire 2. rolling sensor broken	turn on the chair
05	Pside panel buttons stuck	1. Button stuck	1. check the button of side panel	turn on the chair

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06	The communication between main PCB and the legrest PCB has exceeded 4S and has not been successful	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 3. replace legrest PCB	turn on the chair
07	kneading signal is abnormity	1. kneading motor is abnormity 2. 3D PCB is abnormity 3. counting senor is abnormity of kneading motor	2. change 3D PCB	turn on the chair
08	tapping signal is abnormity	1. tapping motor is abnormity 2. 3D PCB is abnormity 3. counting senor of tapping motor is abnormity	1. change tapping motor 2. change 3D PCB 3. change counting sensor of tapping motor	turn on the chair
09	Telescopic signal is abnormity	1.3D Telescopic motor is abnormity 2.3D PCB is abnormity 3.counting senor of 3D Telescopic motor is abnormity	1. change 3D Telescopic motor 2. change 3D PCB 3. change counting sensor of 3D Telescopic motor	turn on the chair
10	Abnormal heating sensor of upper mechanism	1. Abnormal heating drive circuit of the upper	1.replace upper mechanism PCB 2.replace the gearbox	turn on the chair

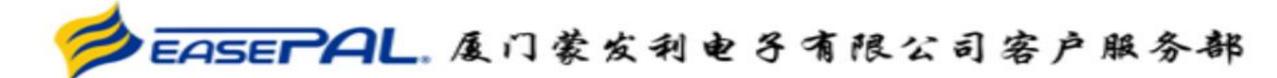
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12	The foot roller has been turned on for 10 seconds and the initial position has not been detected	<ol> <li>Abnormal foot roller motor</li> <li>The sensor of the foot rolling motor is broken</li> </ol>	<ol> <li>Replace the motor</li> <li>Check the foot roll sensor</li> <li>Testing wires</li> </ol>	turn on the chair
13	X-axis motor alarm	01: Overcurrent 04: Overvoltage 05: Undervoltage 06: Phase loss 07: Locked rotor 08: Over temperature 0B: Low pressure warning 0D: Hall stalling fault	1. Replace the motor 2. Testing wires	turn on the chair
14	Y-axis motor alarm	01: Overcurrent 04: Overvoltage 05: Undervoltage 06: Phase loss 07: Locked rotor 08: Over temperature 0B: Low pressure warning 0D: Hall stalling fault	<ol> <li>Replace the motor</li> <li>Testing wires</li> </ol>	turn on the chair
17	lowwer leg rest Telescopic signal is abnormity	1. Telescopic motor of lowwer leg rest broken 2. the wire broken 3. counting sensor broken	1. change the motor 2. check the wire well or not 3. change the counting sensor of upper legrest motor	turn on the chair
18	upper leg rest Telescopic signal is abnormity	1. Telescopic motor of upper leg rest broken 2. the wire broken 3. counting sensor broken	1. change the motor 2. check the wire well or not 3. change the counting sensor of upper legrest motor	turn on the chair

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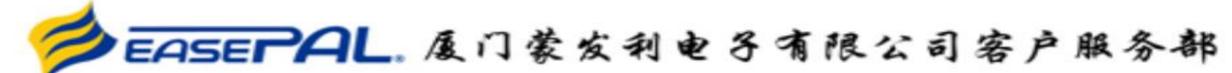
19	when start the leg rest actuator, there is no counting signal for more than 2.5 seconds (or 40 seconds did not test the actuator Reset signal)	1. leg rest actuator broken 2 leg rest actuator wire	1. change leg rest actuator 2. check the wire of the leg rest actuator	turn on the chair
20	X-axis motor loses communication		<ol> <li>Replace the motor</li> <li>Testing wires</li> </ol>	turn on the chair
21	Y-axis motor loses communication		<ol> <li>Replace the motor</li> <li>Testing wires</li> </ol>	turn on the chair
22	Z-axis motor loses communication		<ol> <li>Replace the motor</li> <li>Testing wires</li> </ol>	turn on the chair
24	The communication between the main PCB and the air valve control PCB has not been successful for more than 4 seconds	on the air valve control board  The plug line of the air  The control board is broken	1. Check if the signal plug of the air valve control board is properly plugged in 2. Replace the air valve control board and insert it线	turn on the chair

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25	when start the zero-G actuator, there is no counting signal for more than 2.5 seconds (or 40 seconds did not test the actuator Reset signal)	1. zero-G actuator broken	1. change zero-G actuator 2. check the wire of the zero-G actuator turn on the chair
26		<ol> <li>The telescopic sensor is broken or has wiring problems</li> <li>The telescopic motor is broken</li> </ol>	1. Replace the sensor 2. Detecting sensor wires 3. Replace the telescopic motor
27	failed to communicate for more than 10	<ol> <li>The wiring of the side panel controller is broken</li> <li>The side panel controller is damaged</li> </ol>	1. Check if the side panel controller is properly connected to the power cord 2. Replace the plug-in cable of turn on the chair the side panel controller 3. Replace the side panel controller
28	sensor is abnormal or the terminal is	1. The telescopic sensor is broken or has wiring problems 2. The telescopic motor is broken	1. Replace the sensor 2. Detecting sensor wires 3. Replace the telescopic motor
29		<ol> <li>The telescopic sensor is broken or has wiring problems</li> <li>The telescopic motor is broken</li> </ol>	1. Replace the sensor 2. Detecting sensor wires 3. Replace the telescopic motor



30	the front signal and then detects the rear signal within 2.5 seconds	proken or nas wiring problems  2. The telescopic motor is	<ol> <li>Replace the sensor</li> <li>Detecting sensor wires</li> </ol>	turn on the chair
31	Ine leg extension push rod 205 did	proken or has wiring problems  2. The telescopic motor is	<ol> <li>Replace the sensor</li> <li>Detecting sensor wires</li> </ol>	turn on the chair



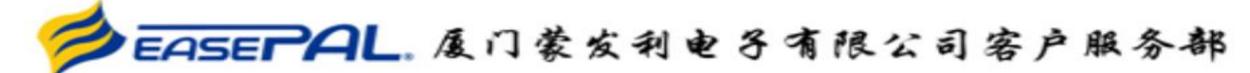
		Lower mechanism alarm number		
33	Abnormal collision signal (the collision signal on the PCB of the lower mechanism is triggered for more than 10 seconds when the upper mechanism is at the upper limit and the lower mechanism is at the lower limit)		<ol> <li>Replace the sensor</li> <li>Replace the docking cable</li> </ol>	turn on the chair
34	The communication between the PCB of the lower mechanism and the main PCB has not been successful for more than 4 seconds	11ne 2 The back frame is	<ol> <li>Check if the backrest cable is properly plugged in</li> <li>Replace the backrest cable</li> </ol>	turn on the chair
35	The upper and lower limit sensors of the lower mechanism are simultaneously effective	sensors of the lower mechanism are broken  2. lower backrest cable has	1. Replace the upper and lower limit sensors of the lower mechanism 2. Check the connection of the backrest cable of the lower mechanism接	turn on the chair
36	When the rolling function of the lower mechanism is activated, abnormal rolling counting is detected	mechanism	1. check backrest cable of lower mechanism well or not 2. The counting sensor of the lower mechanism is broken	turn on the chair

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37	The 5S clock of the lower mechanism did not detect a wide position signal	1. kneading motor is abnormity 2. 3D PCB is abnormity 3. counting senor is abnormity of kneading motor	2. change 3D PCB	turn on the chair
38	lower mechanism kneading signal is abnormity	1. kneading motor is abnormity 2. 3D PCB is abnormity 3. counting senor is abnormity of kneading motor	2. change 3D PCB	turn on the chair
39	The 40S clock of the lower mechanism did not detect the upper limit sensor signal	broken 2. The backrest cable connection falls off	1. Replace the upper limit sensor board 2. Check the connection of the backrest cable 3. Replace the rolling motor or wiring	turn on the chair
40	When the rolling function of the lower mechanism is activated, abnormal rolling counting is detected	<ol> <li>The backrest cable connection falls off</li> <li>The travel counting sensor is broken</li> </ol>	<ol> <li>Check if the backrest cable is properly plugged in</li> <li>The rolling counting sensor is broken</li> </ol>	turn on the chair
41	After the upper limit sensor of the lower mechanism detects the signal, the lower limit sensor signal is detected again within 2 seconds	1. The lower (upper) limit sensor is broken	1. Replace the upper limit sensor board 2. Check the connection of the upper limit sensor wire	turn on the chair

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42	The 40S clock of the lower mechanism did not detect the lower limit sensor signal	broken 2. The backrest cable connection falls off 3. The rolling motor is broken	1. Replace the lower limit sensor board 2. Check the connection of the back wirebackrest cable 3. Replace the faulty or wired rolling motor	turn on the chair
43			<ol> <li>Replace the upper limit sensor board</li> <li>Check the connection of the upper limit sensor wire</li> </ol>	turn on the chair
44	without detecting any change in air pressure	2. The air pressure sensor is	<ol> <li>Pressure holding valve</li> <li>Change the center board</li> <li>Check the tracheal connection</li> </ol>	turn on the chair
45	for 15 seconds, unable to maintain pressure Air leakage detected for 15 seconds,	and the pressure maintaining	<ol> <li>Check the tracheal connection</li> <li>Check the wiring</li> </ol>	turn on the chair
46	If the front and rear sensors of the leg scraping push rod are both at high level, it indicates that the sensor is abnormal or the terminal is disconnected	wiring problem	<ol> <li>Replace the sensor</li> <li>Detecting sensor wires</li> <li>Replace the scraping motor</li> </ol>	turn on the chair



47	Abnormal counting signal of leg scraping	is broken 2. The counting line for leg scraping has fallen off 3. Abnormal leg scraping	1. Replace the leg scraping motor 2. Check the wiring of the leg scraping motor 2. Replace the leg scraping sensor	turn on the chair
48	The leg scraping push rod did not detect the front sensor signal for 20 seconds	1. Scraping sensor broken	3 Replace the scraping	turn on the chair
49	The leg scraping push rod did not detect the rear sensor signal for 20 seconds	or wiring problem  2. Scraping motor is broken	3 Replace the scraping	turn on the chair
50	Abnormal pressure detection of calf air valve detection board	<ol> <li>The pressure sensor is broken or there is a wiring issue</li> <li>The detection board is damaged</li> </ol>	<ol> <li>Replace the sensor</li> <li>Detecting sensor wires</li> <li>Change the calf pressure detection board</li> </ol>	turn on the chair