



福建怡和电子有限公司

FUJIAN YIHE ELECTRONICS CO.,LTD

# 产品维修手册

## Maintenance Service Manual

产品型号/MODEL: YH-9730L-TIT

TIAN EPIC 4D

适用电压规格/ voltage specification:



# 一、产品故障列表 Trouble List

如下为常见的故障现象及维修方法。

**Common Troubles and Maintenance Methods are listed as below:**

故障序号 NO	现象 phenomenon	描述 Description	维修方法 maintenance method
01	开机无功能 No function	A. 控制器无反应 Remote no function ①、保险丝烧掉 Fuse melts (电源盒处和中心板上 (in the Power Source Box and main PCB) ②、电源电路接触不良。Power supply circuit Poorly connected ③、电源板坏 POWER PCB Failed ④、中心板坏 Main PCB failed	①、更换保险丝 Replace Fuse ②、更换电源盒 Replace Power Box ③、更换电源板 Replace POWER PCB ④、更换中心板 Replace main PCB
		B. 控制器有反应: ①、上下行程光电坏。 Up or Down Stroke Photoelectricity was failed ②、中心板坏掉 Main PCB failed ③、开机直揉捏其他按键无效 kneading all the time from powerand no response with other button	①、更换行程光电 Replace stroke photoelectricity ②、更换中心板 Replace main PCB ③、宽度检测板坏, 更换宽度检测板 Replace Width Inspection Board
02	宽中窄不能切换 the Width switchover isn` t change	①、中心板宽度检测端子线材接触不良。The terminals of Width Inspection on main PCB with wires were poorly connected ②、机芯宽度检测板端子线材接触不	①、②点将端子接插到位或是更换线材 Plug the terminals well or replace the wires ③、更换宽度检测板 Replace Width Inspection

		<p>良。The terminals of Width Inspection on mechanical with wires were poorly connected</p> <p>③、宽度检测板坏。 Width Inspection failed</p> <p>④、中心板坏 Main PCB failed</p>	<p>④、更换中心板 Replace the main PCB</p>
03	<p>不行走 NO Rolling</p>	<p>①、端子或是线材接触不良 Terminals or Wire Poorly Contact</p> <p>②、上、下行程光电组件坏。 UP/ Down-stroke Photoelectricity Subassembly Failed</p> <p>③、行走电机坏 Rolling Motor Failed</p> <p>④、中心板坏 Main PCB failed</p>	<p>①、将端子接插到位或是更换线材。 Plug the terminal well or replace the wires</p> <p>②、更换上、下行程组件 Replace UP/Down-Stroke Subassembly</p> <p>③、更换机芯。 Replace gear box</p> <p>④、更换中心板 Replace main PCB</p>
04	<p>不揉捏 No kneading</p>	<p>①、中心板端子没插到位或是线材接触不良。The terminals on main PCB and wires are poorly connected</p> <p>②、揉捏电机坏 Kneading motor failed</p> <p>③、中心板坏 Main PCB failed</p>	<p>①、将端子接插到位或是更换线材。 Plug the terminal well or replace the wires</p> <p>②、更换机芯 Replace gear box</p> <p>③、更换中心板。 Replace main PCB</p>
05	<p>不敲击 No tapping</p>	<p>①、中心板端子没插到位 The terminals on main PCB and wires are poorly connected</p> <p>②、敲击电机坏 Tapping motor failed</p> <p>③、中心板坏掉 Main PCB failed</p>	<p>①、将端子接插到位 Plug the terminal well</p> <p>②、更换机芯 Replace gear box</p> <p>③、更换中心板 R Replace main PCB</p>

## 二. 故障检修流程图 Troubleshooting Process

在修理或者替换零配件过程中注意下面几点: Pay attention to the following points in the process of repairing or replacing spare parts:

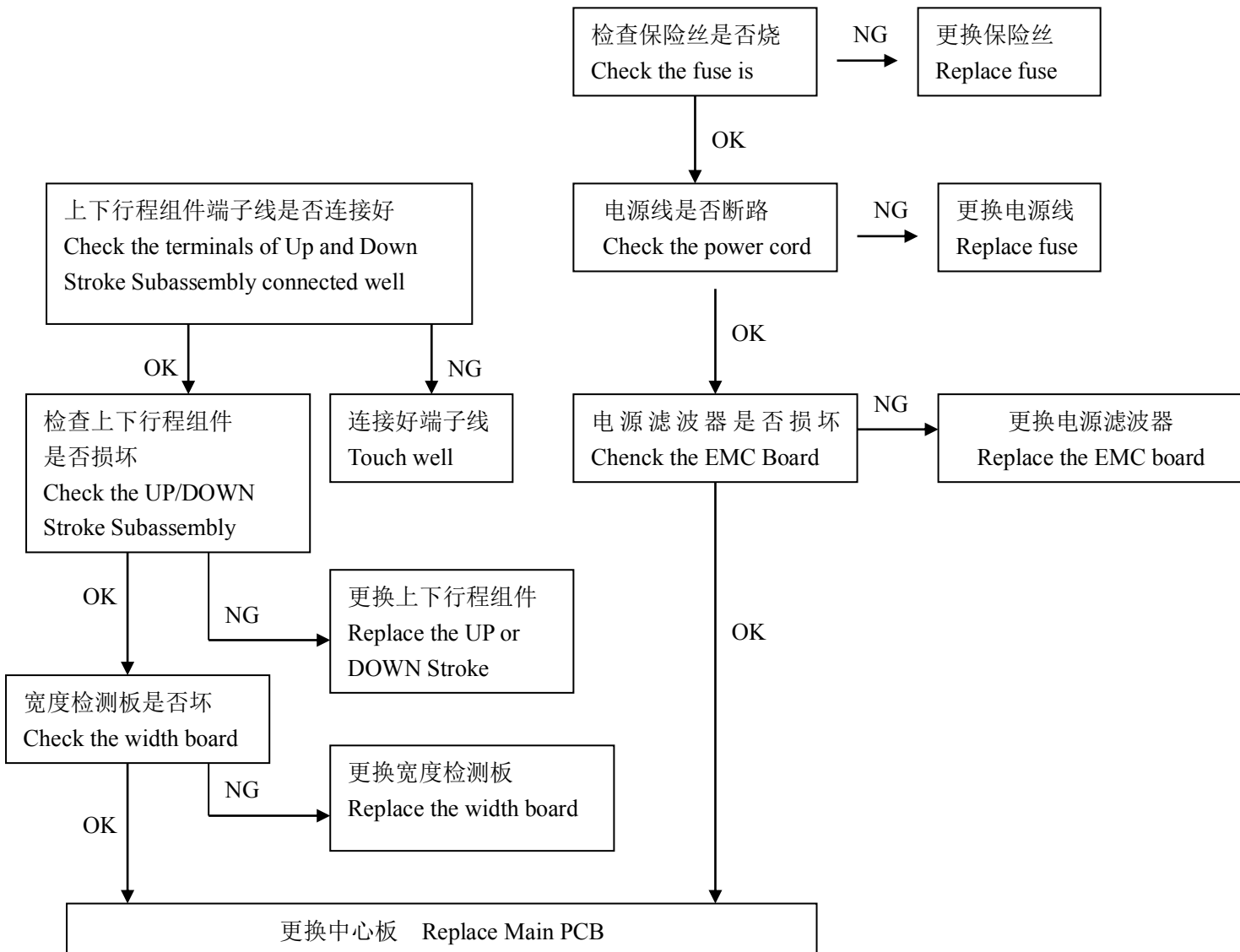
- A. 在拆卸连线, 移动连接器, 或者替换部件前一定要断开电源线插头。
- B. 因为半导体(像集成电路, 或者其它的)很容易被静电损坏, 所以当要触摸 PCB 前, 请确保你的身体和大地有连线(佩带静电手环), 或可以将手放在地端, 以释放身体上所带的静电。

Notes for repairing chair or replacing parts:

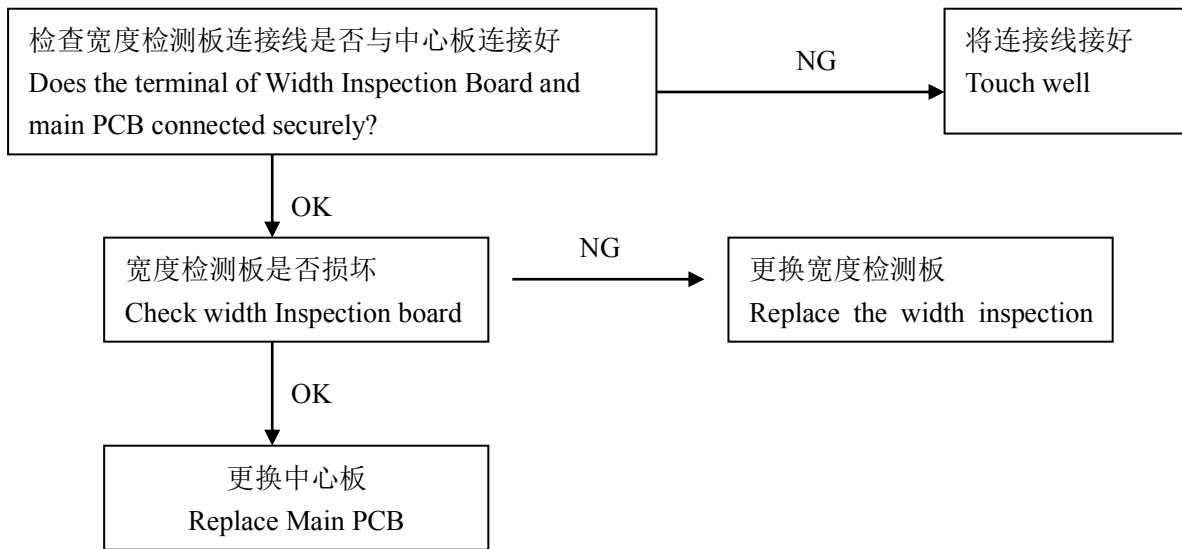
- A. Make sure the power is off when you tear down the wires, move terminals or replacing parts.
- B. The semiconductors (like IC or something else) will easily be damaged by static.

So you touch the PCB before, please make sure your body is connected with the ground.

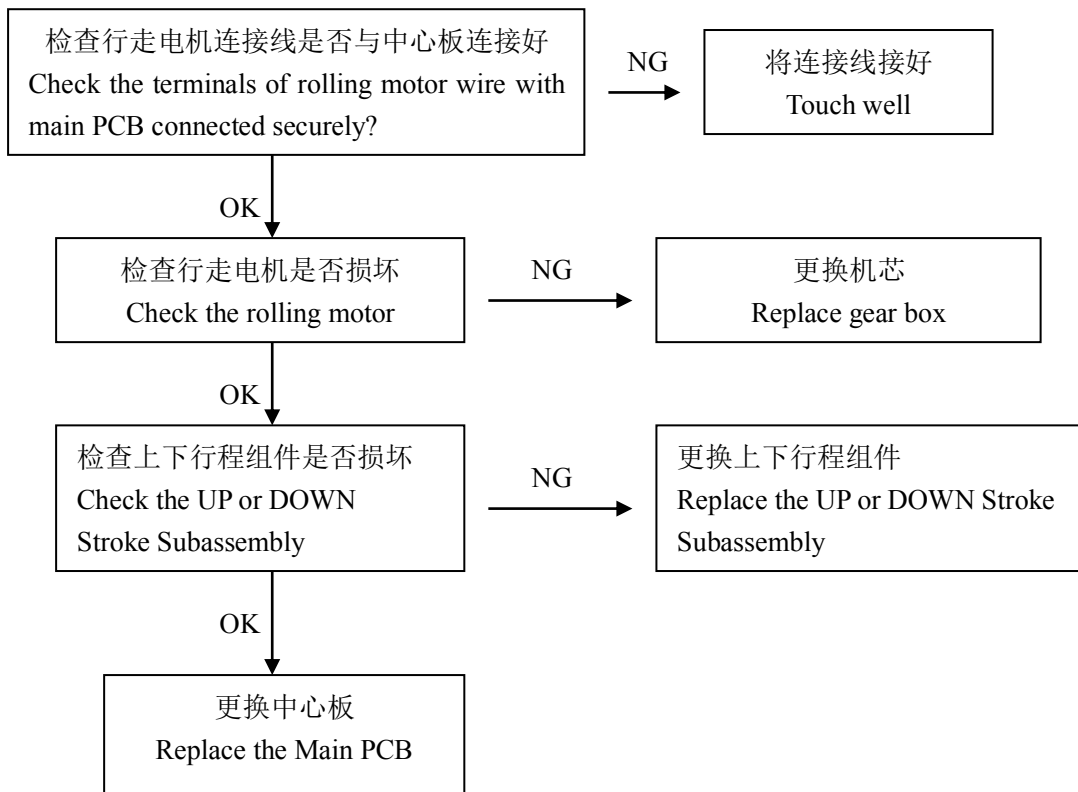
### 1、开机无功能/ No function



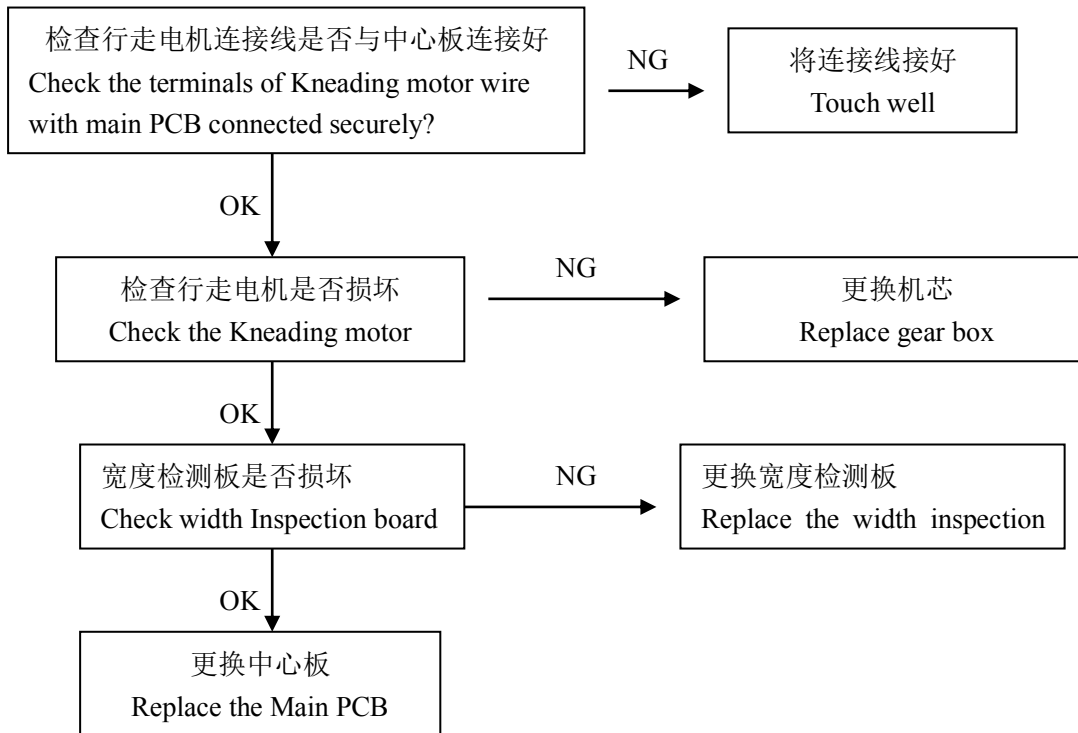
## 2、机芯宽中窄不能切换 No width switchover



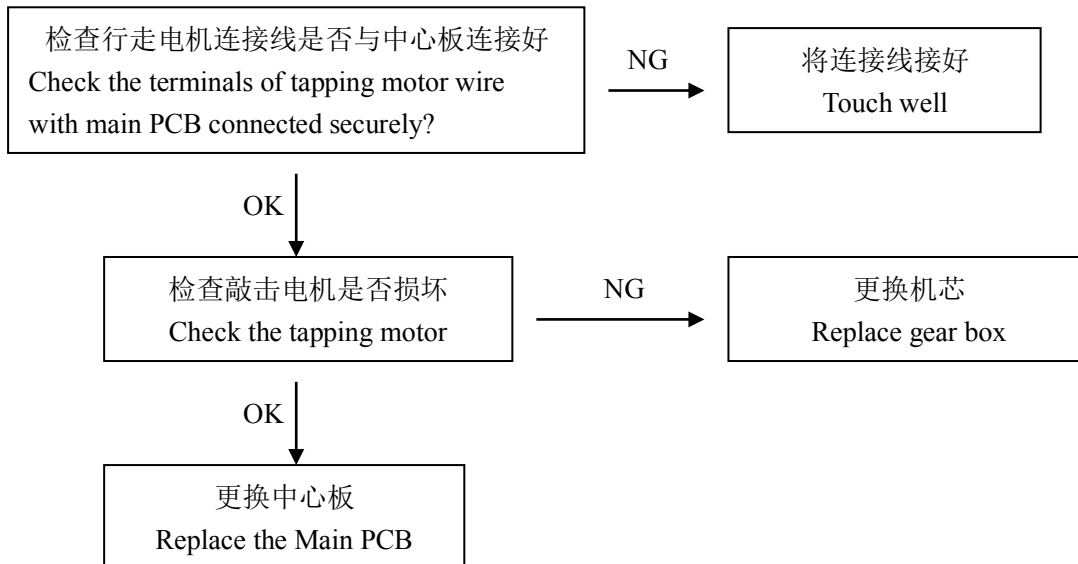
## 3、不行走/ NO ROLLING



#### 4、不揉捏/ NO KNEADING



#### 5、不敲击/ NO TAPPING



## 工具列表 Tools List

			
<p>十字螺丝刀 Screwdriver size 1,2,3</p>	<p>老虎钳 尖嘴钳 Diagonal cutter and long nose pliers</p>	<p>斜口钳 Diagonal pliers</p>	<p>扳手 Spanner tools Kit</p>
			
<p>电笔 Test pen</p>	<p>六角扳手 Allen Key set</p>	<p>内六角扳手 Ratchet Tools Set</p>	<p>24V/DC 电源 24V/DC power</p>
			
<p>电动螺丝刀 Electric Driver</p>	<p>90 度弯头电动螺丝刀</p>	<p>扎扣 Cable Ties</p>	<p>压线帽 WIRE ONECTORS</p>

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## 1、小腿的拆卸更换： Foot unit replacement

1-1、 将小腿与座架连接拉链拉开（图 1），小腿左右两边各有 2 颗螺丝（图 2），用十字螺丝刀和扳手将螺丝螺母卸下（图 3），即可将小腿与座架分离；

1-1. Pull the zipper connecting the calf and the seat frame (Figure 1), there are 2 screws on the left and right sides of the calf (Figure 2), and remove the screw nut with a Phillips screwdriver and wrench (Figure 3) to separate the lower leg from the seat frame;



图 1



图 2



图 3

1-2、 用斜口钳将固定小腿线束保护布套的扎扣剪掉，将保护布套拉开（图 4），将小腿电源线对插接头及气管接口拔掉（图 5），即可将小腿取下（图 6），小腿如果有损坏就可更换新的。

1-2. Use diagonal pliers to cut off the buckle that fixes the protective cloth sleeve of the calf wiring harness, pull the protective cloth cover apart (Fig. 4), unplug the calf power cord connector and the tracheal interface (Fig. 5), you can remove the calf (Fig. 6), and if the calf is damaged, it can be replaced with a new one.



图 4



图 5



图 6

**注意：在装回小腿时按上面的操作步骤逆向即可。**

Note: When putting the calf back in, follow the above steps backwards.

**工具：十字螺丝刀、扳手、斜口钳。**

Tools: Phillips screwdriver, wrench, bevel pliers.

## 2、披风的拆卸更换: Backrest pad replacement

2-1、将披风最上端粘毛扣掀开，拉链拉开（图 7），将电源连接线对接插头拔掉（图 8）

2-1: Open the top of the cushion, pull the zipper open (Fig. 7), and unplug the of the power cable (Fig. 8)



图 7

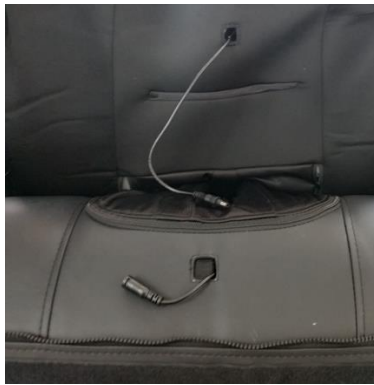


图 8

2-2、将披风座部前端背面拉链拉开，即可将披风取下（图 10），披风如果有损坏就可更换新的。

2-2. Remove the cushion by pulling the zipper on the seat (Figure 9&10), and replace the cushion with a new one if it is damaged.



图 9



图 10

**注意：**在装回披风时按上面的操作步骤逆向即可。

**Note:** When reassemble the back cushion, follow the above steps backwards.

## 3、中心板、蓝牙板、变压器、气泵、气阀、滤波板、灯带稳压板的拆卸更换: mainbaord, bluetooth board, swithing power board, air pump, air vavle, etc replacment

3-1、将固定中心盒的 5 颗螺丝卸下（图 11），将中心盒盖板向上掀开（图 12），

3-1. Remove the 5 screws that hold the power box (Figure 11), and lift the power box cover up (Figure 12)

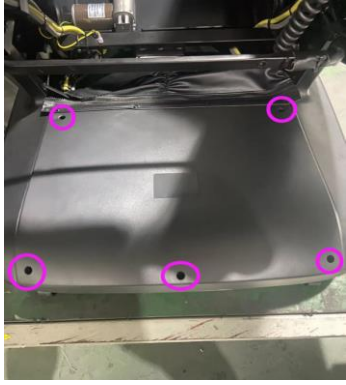


图 11



图 12

3-2、将中心板上各接线端子拔掉（图 13），将固定中心板的 4 颗螺丝（图 14）卸下，即可将中心板取下（图 15），中心板如果有损坏就可更换新的。

3-2. Unplug each terminal block on the mainboard (Figure 13), remove the 4 screws (Figure 14) that fix the mainboard, you can remove the mainboard (Figure 15), and if the Mainboard is damaged, it can be replaced with a new one.

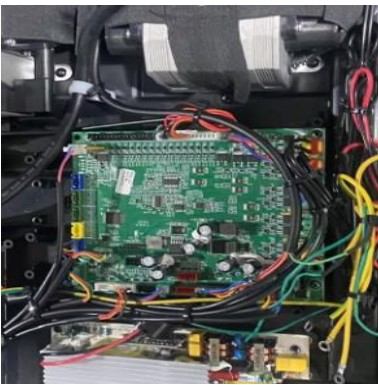


图 13

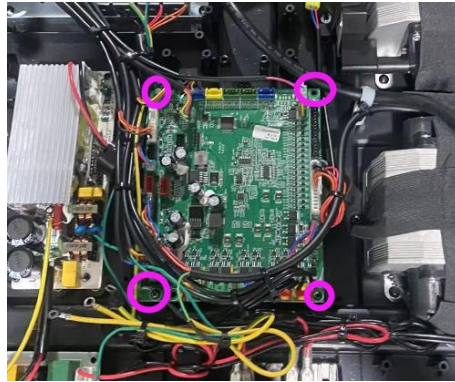


图 14



图 15

3-3、将蓝牙板上各接线端子拔掉（图 16），将固定蓝牙板的 2 颗螺丝（图 17）卸下，即可将蓝牙板取下（图 18），蓝牙板如果有损坏就可更换新的。

3-3. Unplug each terminal block on the Bluetooth board (Figure 16), remove the 2 screws (Figure 17) that fix the Bluetooth board, you can remove the Bluetooth board (Figure 18), and if the Bluetooth board is damaged, it can be replaced with a new one.



图 16

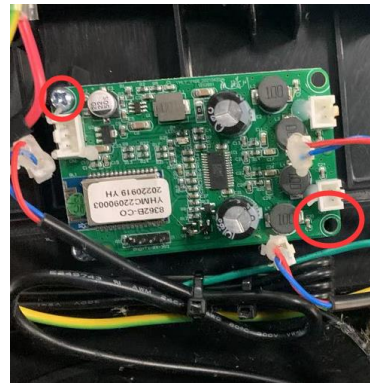


图 17



图 18

3-3、用斜口钳将固定电源板线束的扎扣剪掉，将中心板上电源板对插端子拔掉（图 19），将固定电源板的 4 颗螺丝（图 20）卸下，即可将电源板取下（图 21），电源板如果有损坏就可更换新的。

3-3. Remove the power strip by cutting off the buckle that holds the wiring harness of the **switching power board** with diagonal pliers, unplug the power board to the plug terminal on the main board (Figure 19), remove the 4 screws (Figure 20) that fix the power board, and replace the switching power board with a new one.

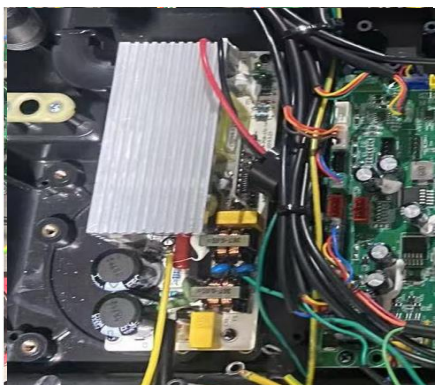


图 19

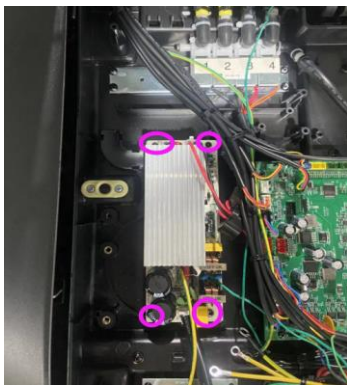


图 20

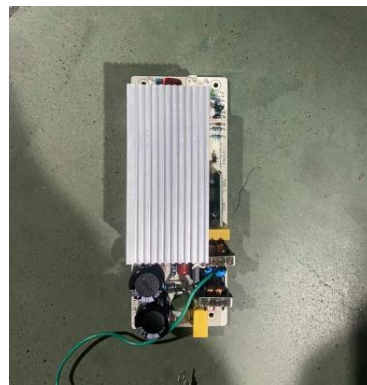


图 21

3-4、用斜口钳将固定气泵线束的扎扣剪掉，中心板上气泵对插端子拔掉，将固定气泵的 4 颗螺丝、固定伸缩带的 4 颗螺丝、固定气管的 1 颗螺丝卸下，将气管连接拔掉（图 22），即可将气泵取下（图 23），气泵如果有损坏就可更换新的。

3-4. Use diagonal pliers to cut off the fastener that fixes the air pump wiring harness, pull out the plug terminal of the air pump on the mainboard, remove the 4 screws that fix the air pump, 4 screws that fix the telescopic belt, and 1 screw that fixes the air pipe, and unplug the air pipe connection (Figure 22), then the air pump can be removed (Figure 23), and the air pump can be replaced with a new one if it is damaged.

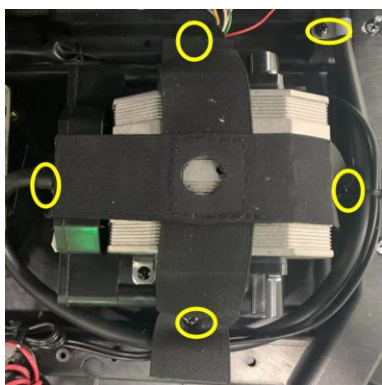


图 22

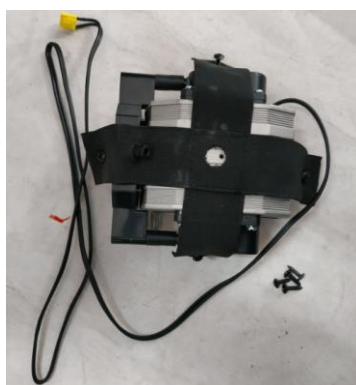


图 23

3-5、用斜口钳将固定气阀线束的扎扣剪掉，中心板上气阀对插端子拔掉，将固定气泵的 4 颗螺丝卸下，将气管连接拔掉（图 24），即可将气阀取下（图 25），气阀泵如果有损坏就可更换新的。

3-5. Use diagonal pliers to cut off the fastener that fixes the air valve harness, unplug the valve on the mainboard to the plug terminal, remove the 4 screws that fix the air pump, and unplug the air pipe connection (Figure 24), you can remove the air valve (Figure 25), and the valve pump can be replaced with a new one if it is damaged.

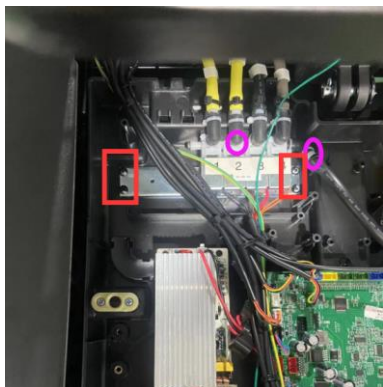


图 24



图 25

工具：十字螺丝刀、斜口钳。

Tools: Phillips screwdriver, bevel pliers.

#### 4、侧板的拆卸更换：Side panel replacement

4-1、用螺丝刀将固定后盖的 4 颗螺丝（图 30）卸下，即可后盖取下（图 31）；

4-1. Remove the 4 screws (Fig. 30) that fix the back cover with a screwdriver, and then remove the back cover (Fig. 31);



图 30

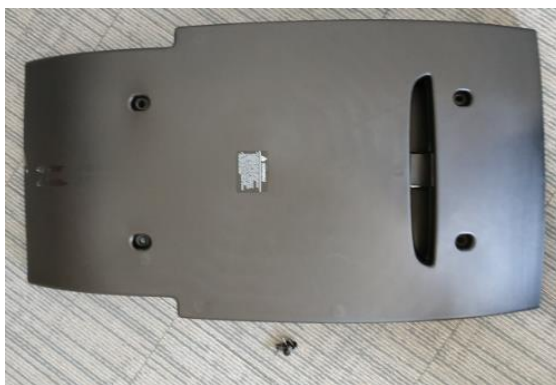


图 31

4-2、用斜口钳将蓝牙音箱电源线固定扎扣剪掉将，对插端子拨开（图 34），用斜口钳将气管固定扎扣剪掉，拔掉气管接头（图 32、34）；

4-2. Use oblique pliers to cut off the fixing buckle of the Bluetooth speaker power cord, unplug the plug terminal (Figure 34), cut off the air pipe fixing buckle with oblique pliers, and unplug the air pipe joint (Fig. 32, 34);



图 32



图 33



图 34

4-3、用内六角扳手将侧板前方固定螺丝卸下（图 35）；

4-3. Remove the fixing screw in front of the side panel with an Allen wrench (Figure 35);

左右螺丝同时拆了 2 边扶手同时往上提即可出来（图 36）

The left and right screws are removed at the same time, and the 2 armrests can be lifted up at the same time (Fig. 36).



图 35



图 36

**注意：**在装回侧板时首先将侧板下方挂钩挂在座架上，上方挂钩卡入沟槽内，其余按上面的操作步骤逆向即可。左侧板更换方法与右侧板相同。

**Note:** When replacing the side panels, firstly hang the hook under the side panel on the seat frame, put the upper hook snapped into the groove, and the rest can be reversed according to the above operation steps. The left side panel is replaced in the same way as the right side panel.

**工具：**内六角扳手。

**Tool:** Allen wrench.

### 靠背推杆的拆卸更换: Backrest actuator replacement

5-1、靠背推杆的拆卸, (图 37) 首先将前上下挡板拆开, 14 颗螺丝松开后即可

5-1. Disassembly of the backrest actuator, (Figure 37) First disassemble the front upper and lower baffles, and loosen the 14 screws

5-2、用螺丝刀将固定推杆的 2 颗螺丝卸下, 拔掉波浪形开口销, 取下销轴 (图 38.39);

5-2. Remove the 2 screws that hold the actuator with a screwdriver, pull out the wavy cotter pin, and remove the pin shaft (Fig. 38.39);

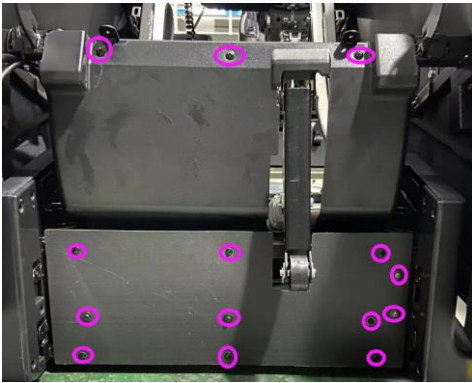


图 37

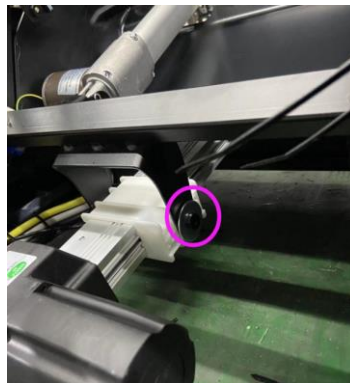


图 38

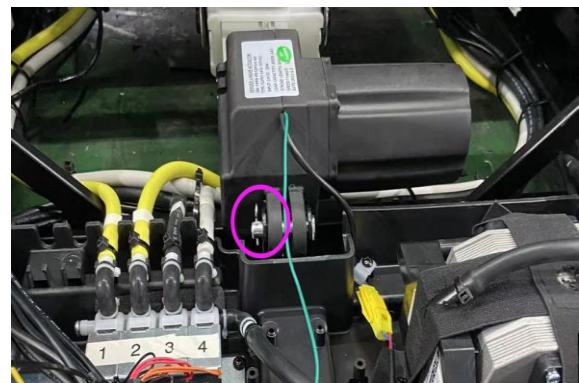


图 39

5-3、按照 3-1 的拆卸流程将中心盒盖板拆卸, 用斜口钳将固定线束的扎扣剪掉, 拔掉靠背推杆电源线接线端子, 用螺丝刀松开接地螺丝, 将接地端子取出, 即可将靠背推杆取下, 靠背推杆如果有损坏就可更换新的。

5-3. Disassemble the power box cover according to the disassembly process of 3-1, cut off the buckle of the fixed harness with diagonal pliers, unplug the power cord terminal of the backrest actuator, loosen the grounding screw with a screwdriver, take out the grounding terminal, you can remove the backrest actuator, and if the backrest actuator is damaged, it can be replaced with a new one.

注意: 在装回靠背推杆的操作步骤逆向即可。

**Note: Reverse the steps to replace the backrest actuator**

工具: 十字螺丝刀、六角扳手、斜口钳。

**Tools: Phillips screwdriver, hex wrench, bevel pliers.**

### 5、手控器的拆卸更换: Tablet controller replacement

6-1、在按摩椅左侧披风下方, 将手控器对插接头旋开 (图 40), 即可将手控器取下 (图 41), 手控器如果有损坏就可更换新的。

6-1. Under the backrest cushion on the left side of the massage chair, unscrew the hand control connector (Figure 40), you can remove the hand control (Figure 41), and if the hand control is damaged, it can be replaced with a new one.



图 40



图 41

