Shanghai Rongtai Health Technology co., LTD

RT-6890 Maintenance Guide

Service Department

07/16/2021

Massage Chair Maintenance Guide
RT-6890

Shanghai Rongtai Health Technology Co., Ltd.

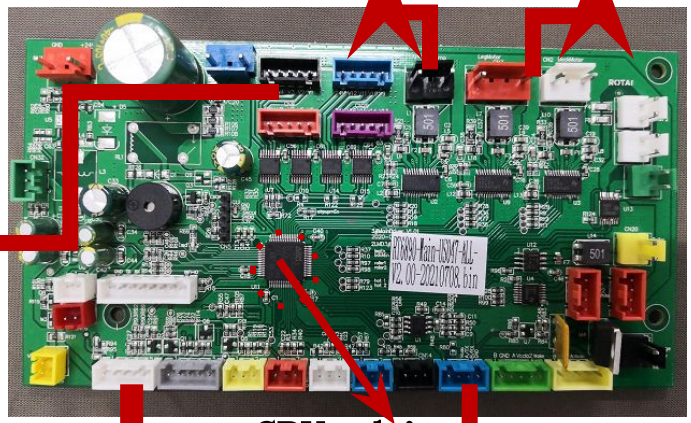
2021-07-16

目录/Contents

Massage Chair Control Principle

Air pump

Actuator

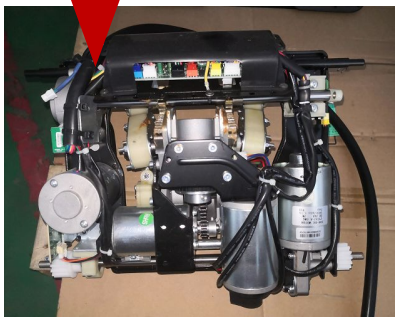


Air valve

CPU chip

User connecting PCB

Mechanism



Remote controller

RT-6890 Maintenance Guide - Inner structure & installation

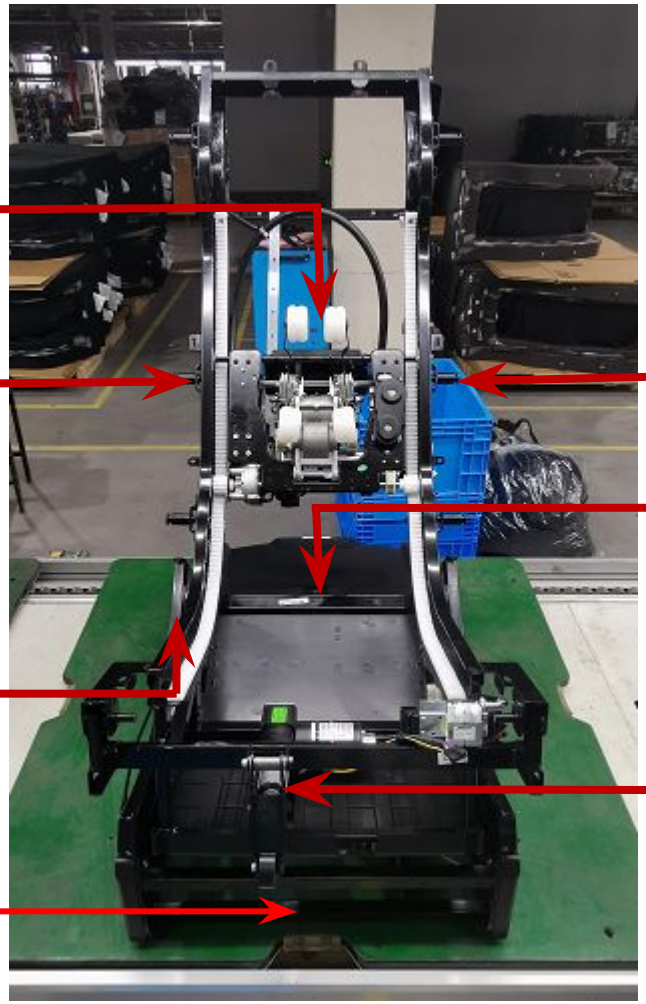
1. Inner Structure Diagram

2. Mainboard Diagram

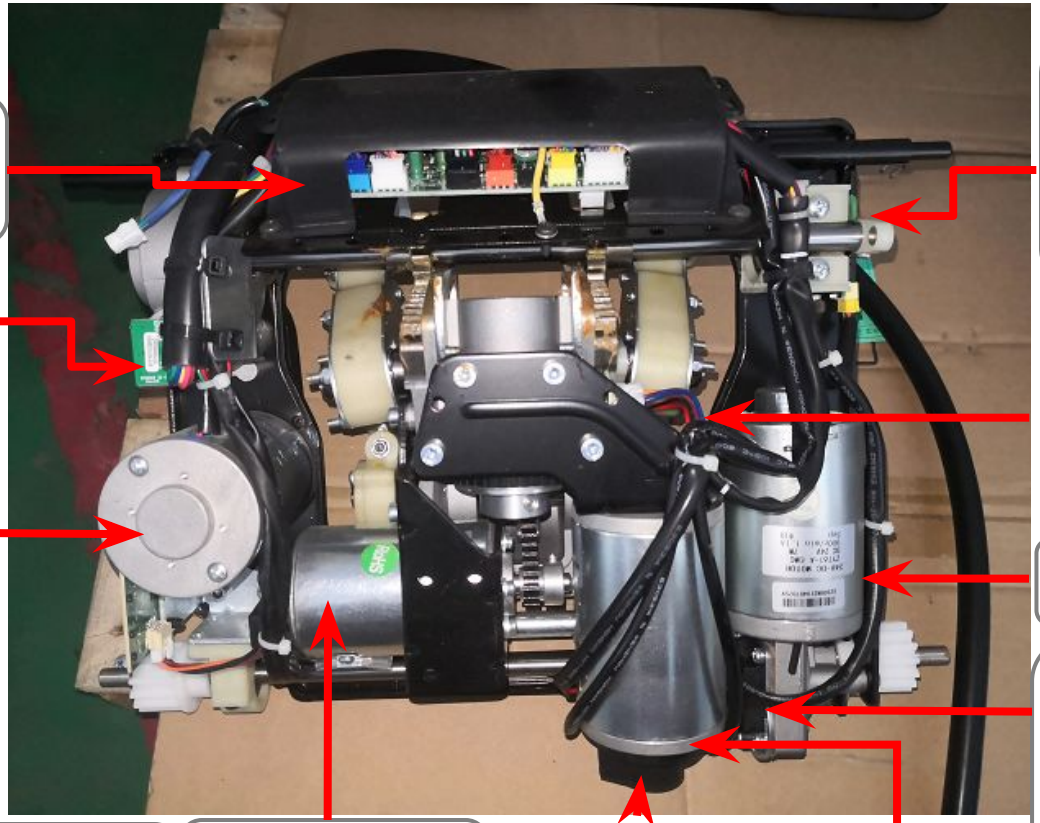
3. Air Valve Diagram

4. Part Removal Guide and Video

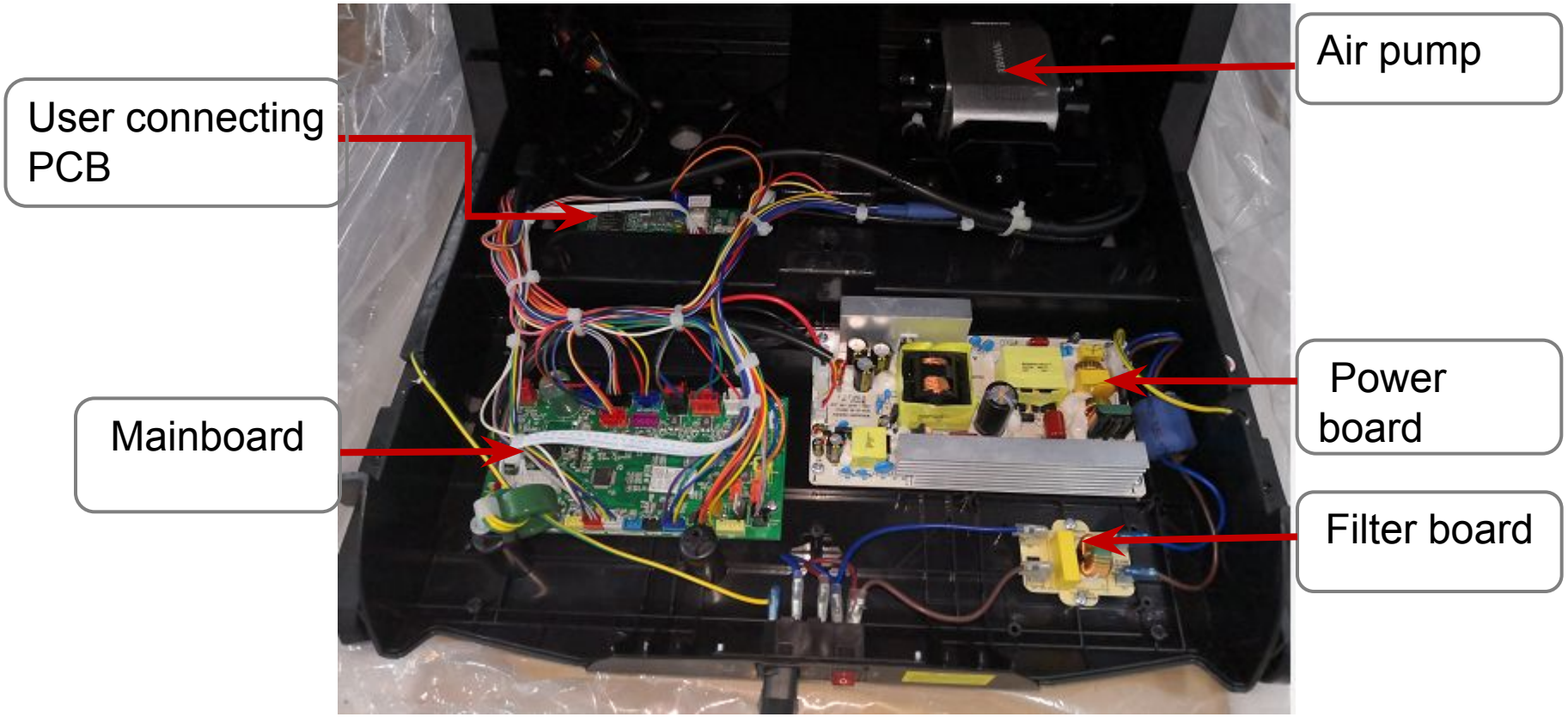
1. Inner Structure Diagram



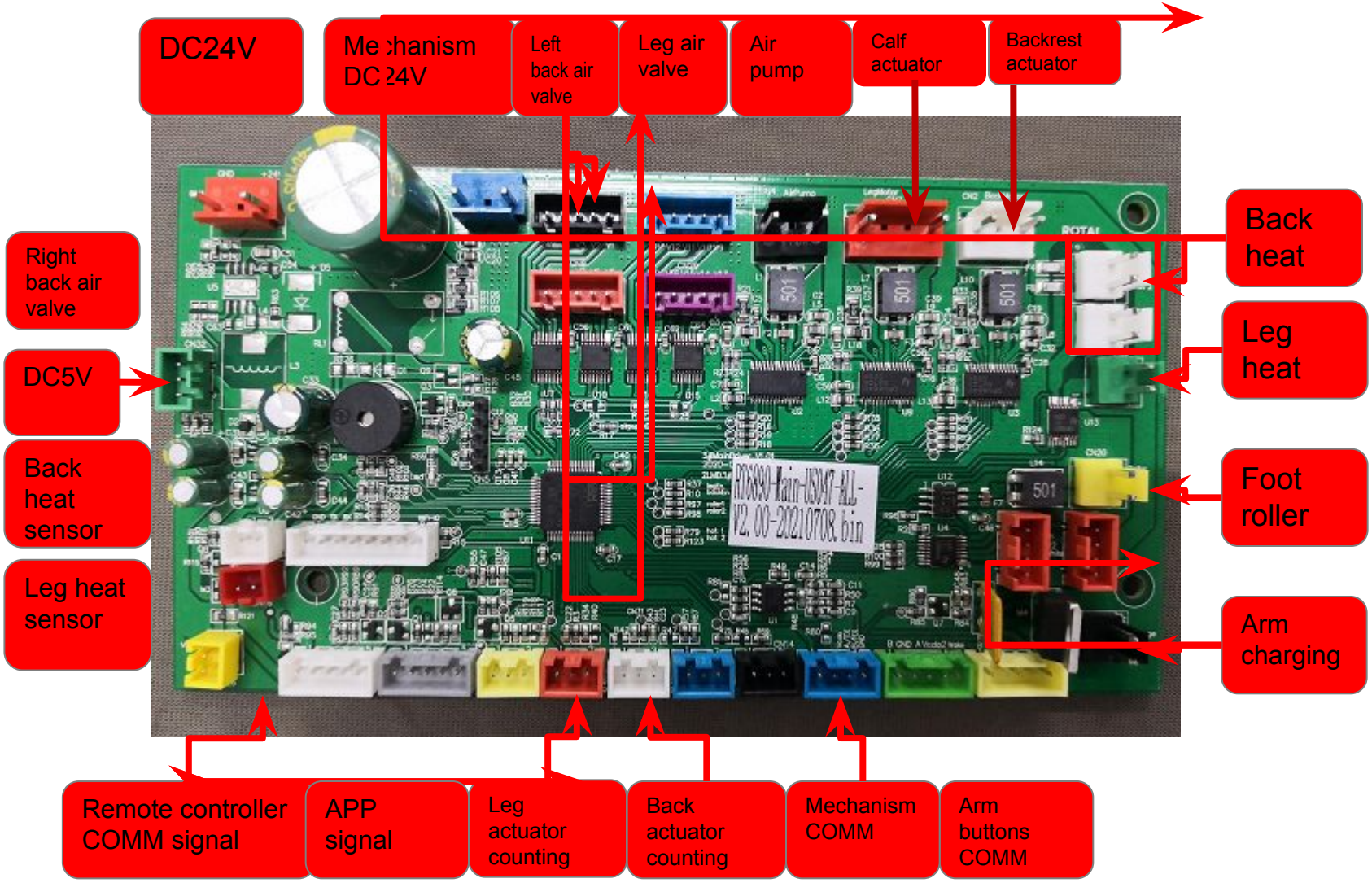
1.2 Mechanism's Structure



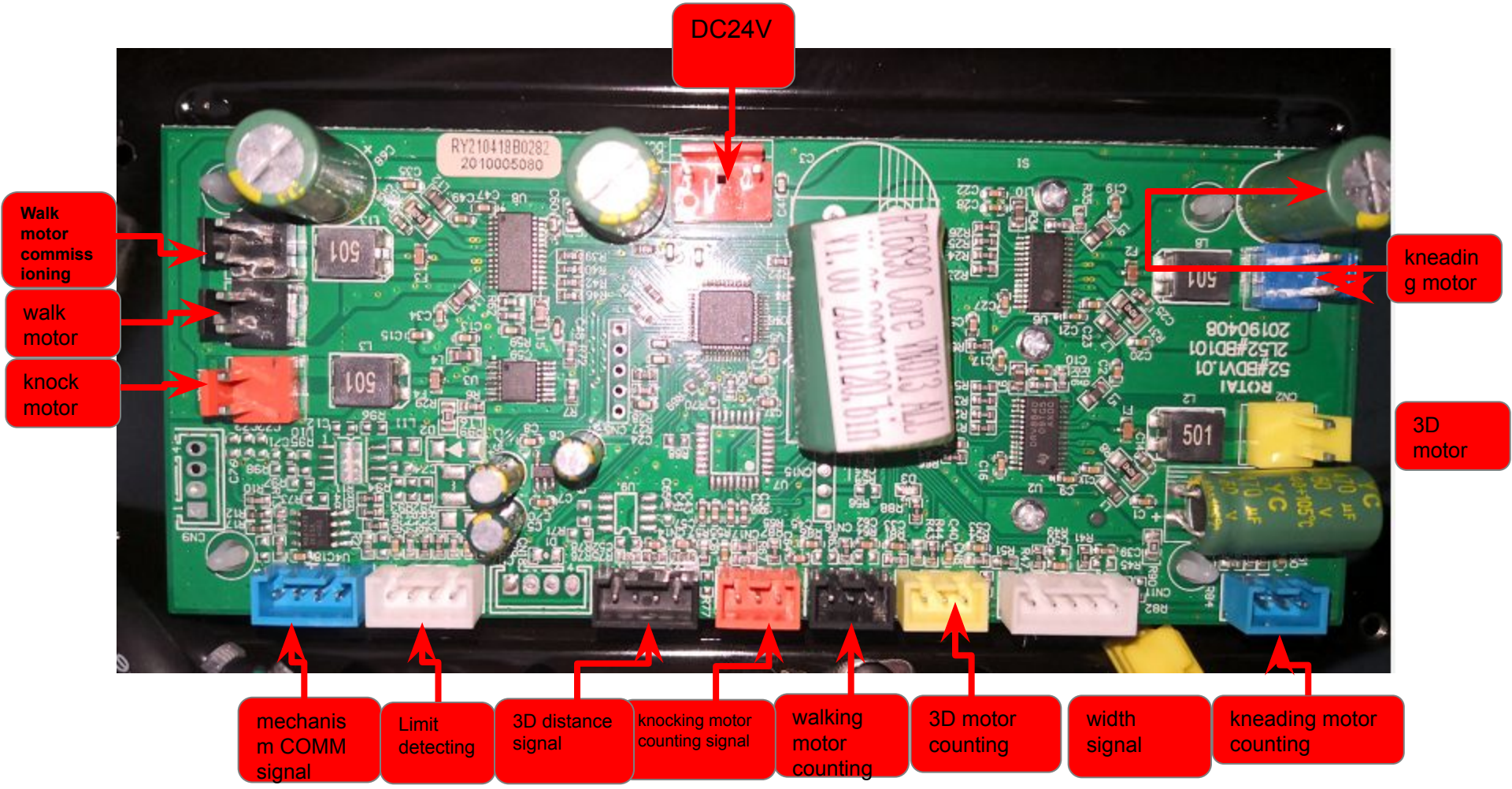
1.3 Power Box Inner Diagram



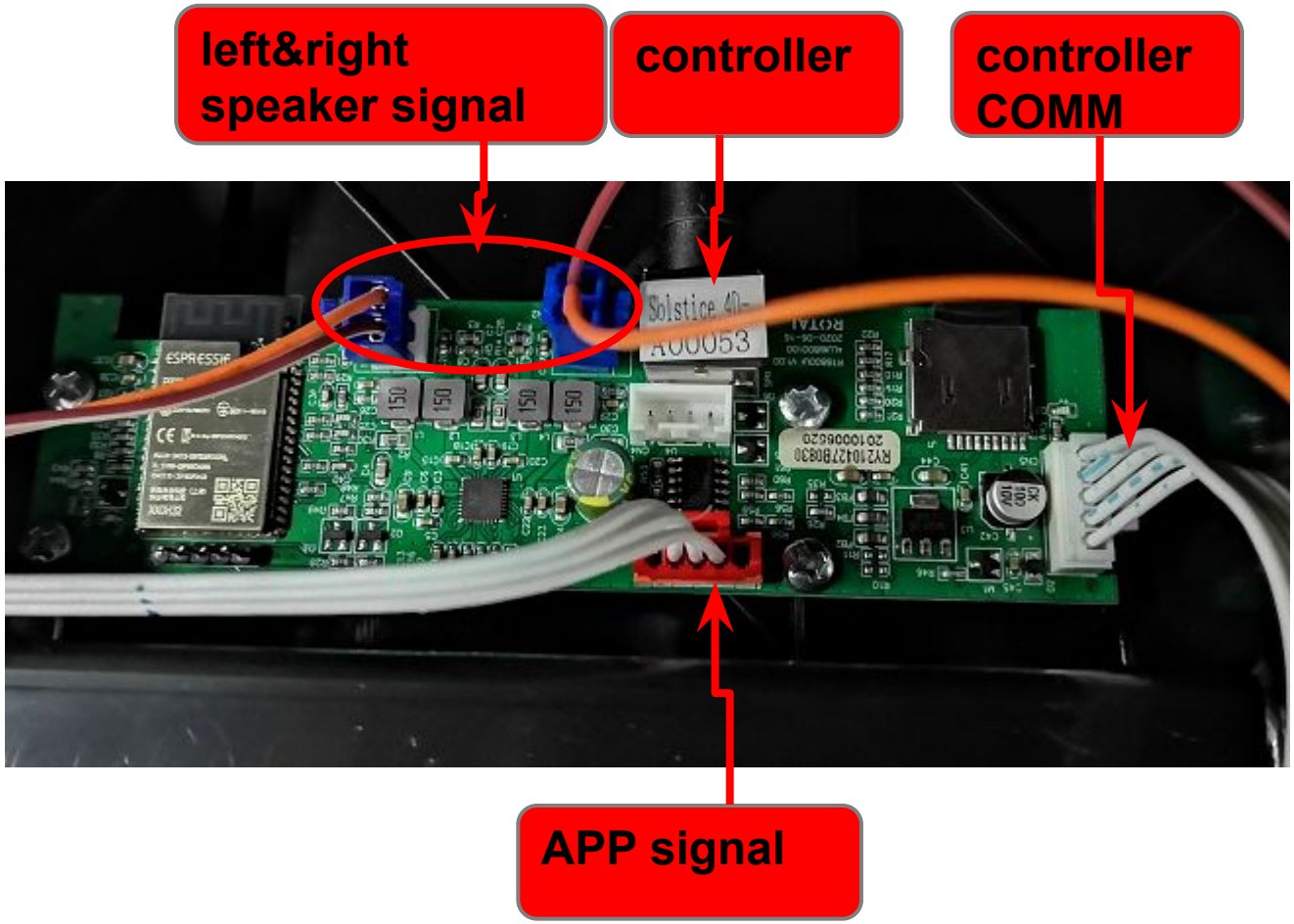
2.1 Mainboard Diagram



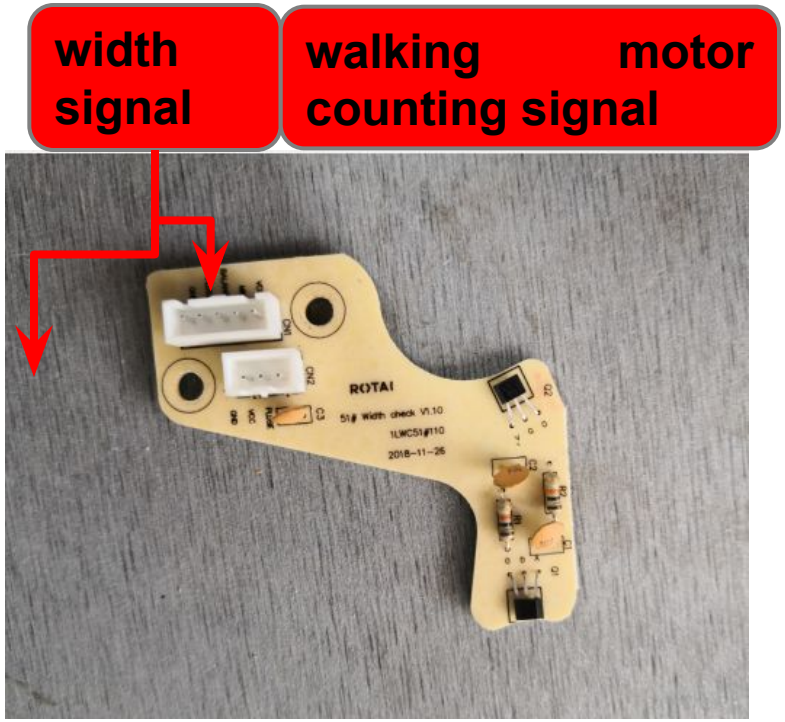
2.2 Mechanism Mainboard Diagram



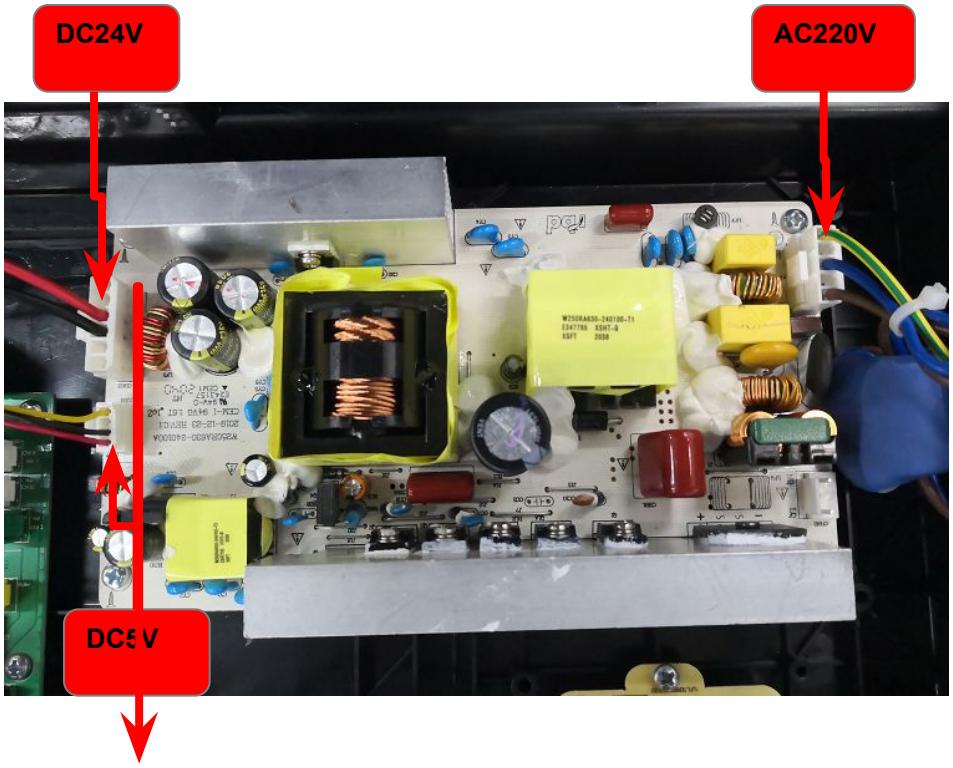
2.3 User connecting PCB Diagram

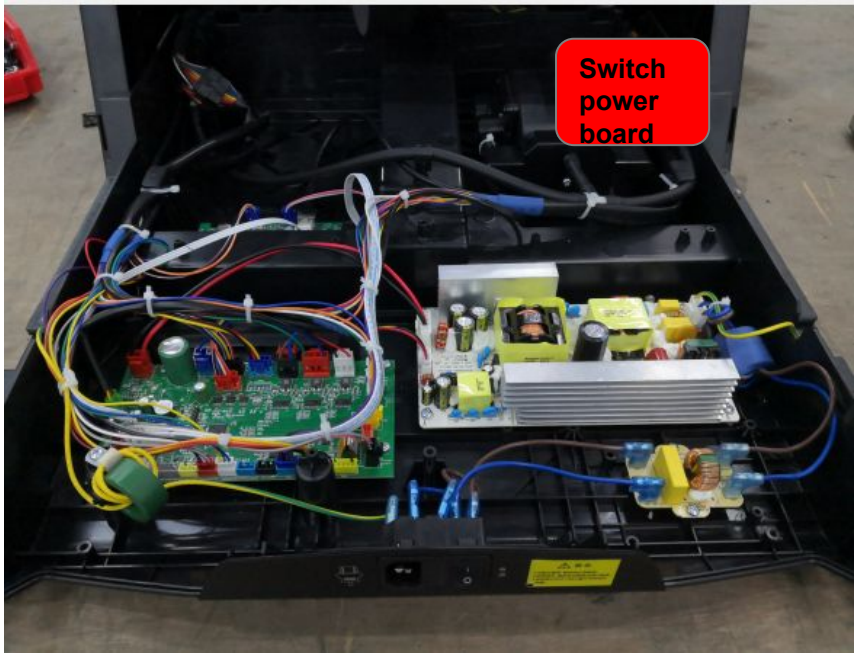


2.4 Width Detection Board Diagram

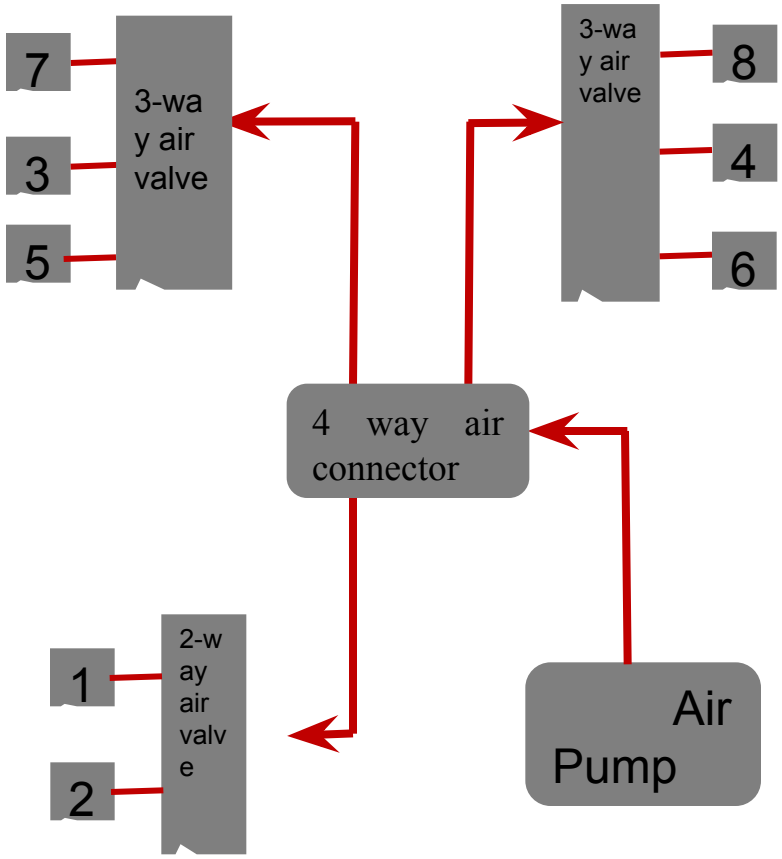


2.5 Switch Power Board Diagram





3. Air Valve Diagram



1: legrest airbag
2: legrest airbag
3: right armrest airbag
4: left armrest airbag
5: right armrest airbag
6: left armrest airbag
7: right shoulder airbag
8: left shoulder airbag

4.1.Footrest Installation Guide and Video

1.Take the legrest unit

2.Connect the air hoses and plug connectors

3.Attach the footrest to the chair body

4.Attach the footrest clip

4.2 Shoulder Assembly Removal Guide and Video

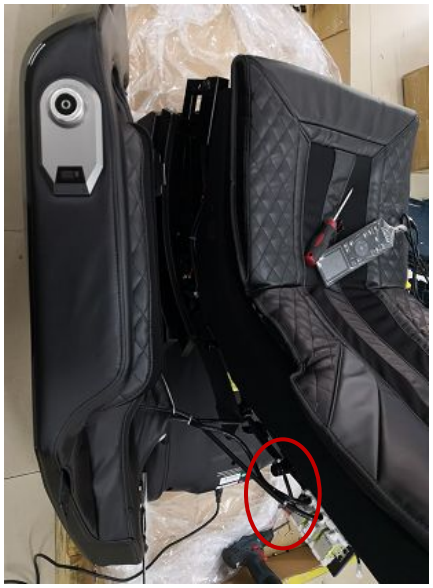
1. Unscrew the 4 bolts on the back cover.

2.Unscrew the 4 bolts fixing the shoulder unit

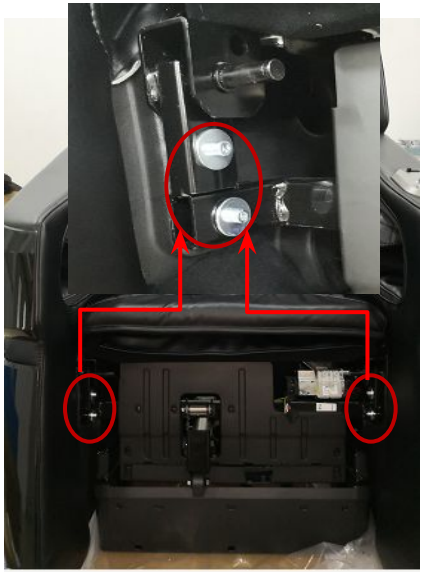
3.Unscrew the 2 bolts fixing the front part of shoulder unit

4.Unplug left & right shoulder air hose and speaker wire and connectors

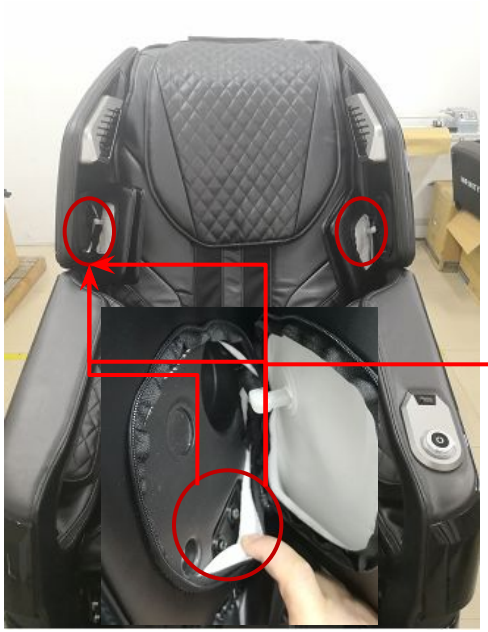
4.3 Armrest Installation Guide



1. Connect the arm button plugs and the arm air hose(match the numbers).



2. Attach the armrest onto the chair body, screw on the front fixing bolts

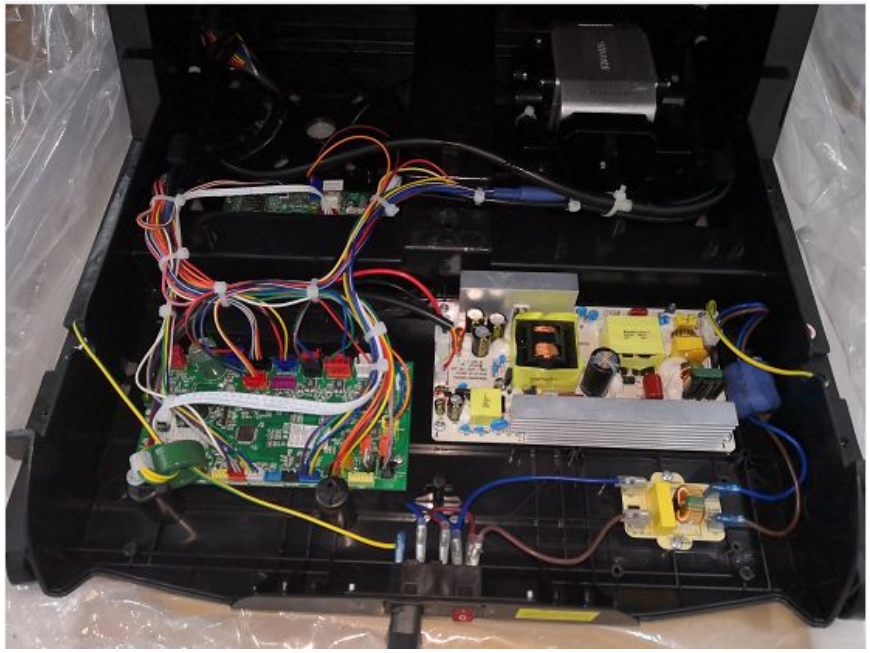


3. Screw on the upper bolts (beneath the shoulder cushion cover)

4. Screw on the back bolts (in the backrest)

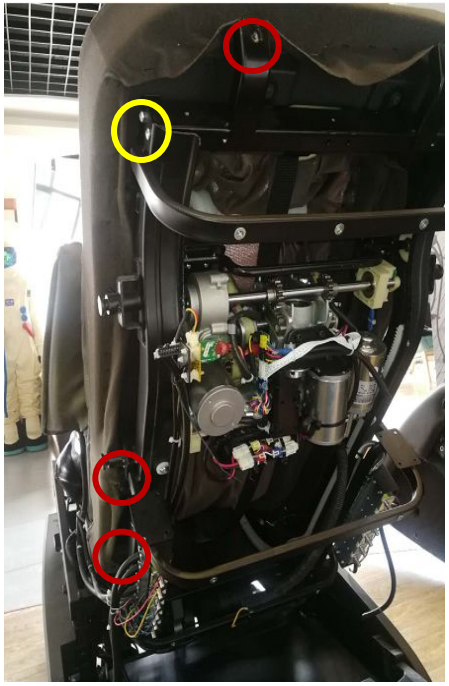
4.4 Power Box Removal Guide and Video

1. Unscrew these 3 bolts



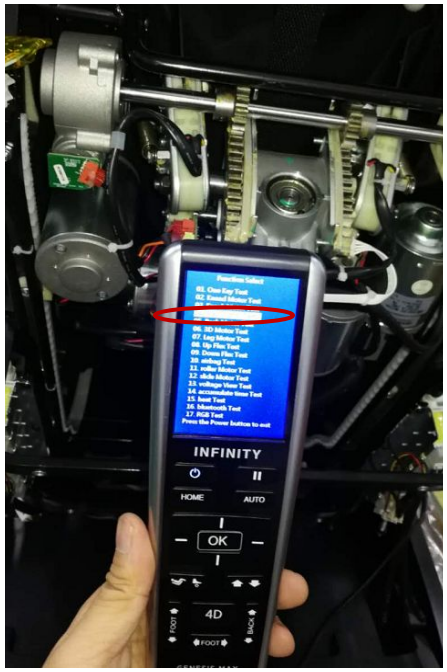
2. You may replace: mainboard pcb, user connecting pcb, power board pcb and filter board

4.5 Mechanism Removal Guide and Video



1. Unscrew 8 bolts (4 red circled-same on the other side). Unscrew 2 side bolts (1 yellow circled-same on the other side).

2. Take off the Upper Limit Sensor Detection Board, but do not unplug it.



3. Enter background mode and choose walk motor test to run the mechanism until it stops at the top position.

4. Cut the cable tie, unscrew the bolt and unplug it, then take out whole Mechanism.

4.6 Shoulder Assembly Cover Removal Guide

1.Use slotted screwdriver gently pry up the speaker outer cover, unzip the shoulder airbag

2. Remove these 2 screws

3.Pull and take off the cover.

4.7 Armrest Plastic Decor Cover Removal Guide

1.Part the cloth, and remove these 3 bolts

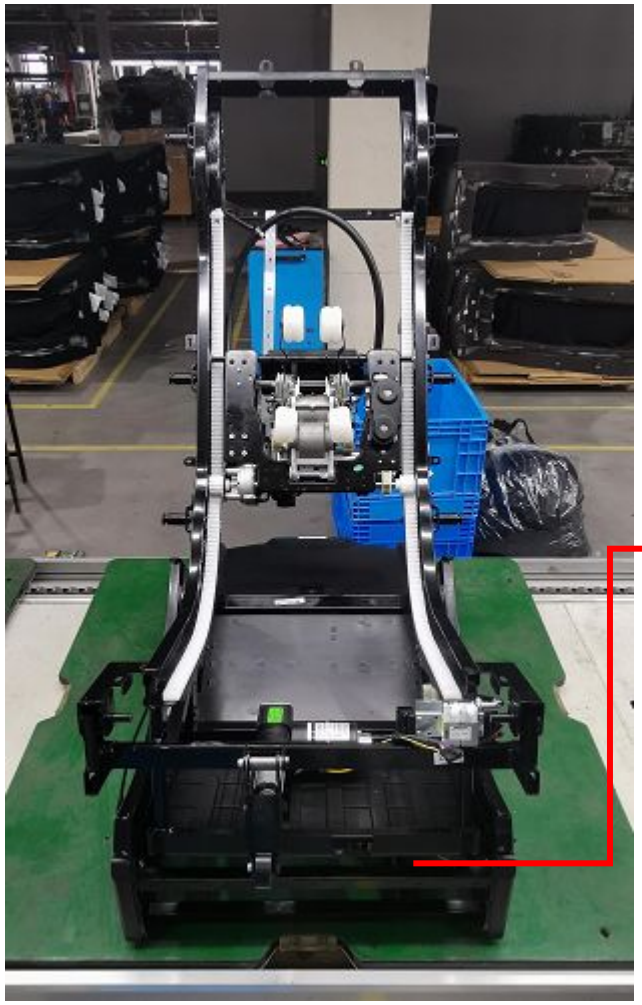
2.Pull to take off the plastic decor cover

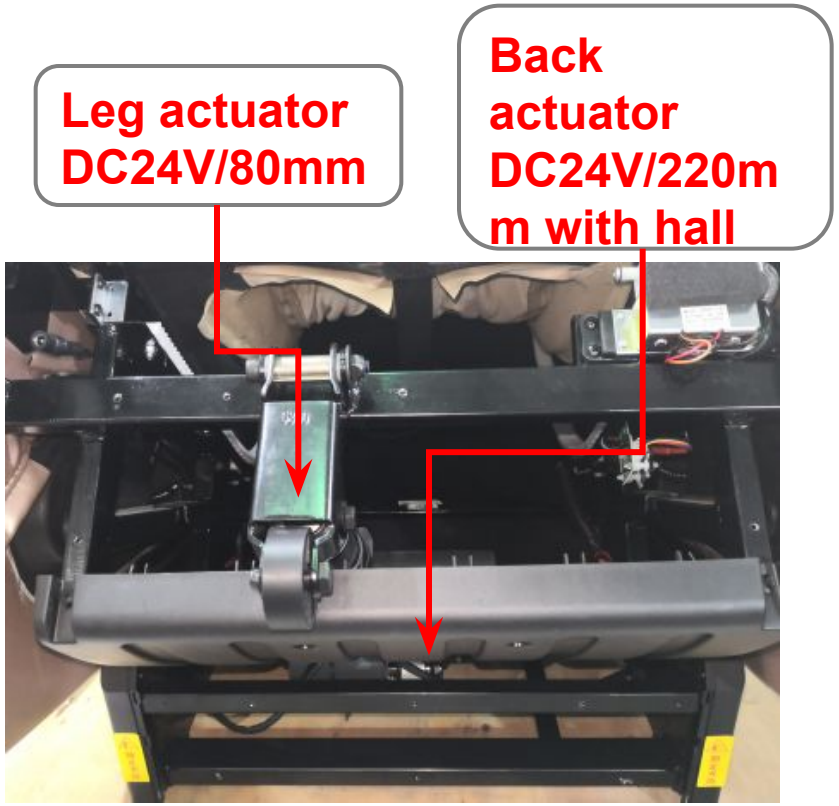
4.8 Armrest Inner Plastic Decor Part Removal Guide

1.Pull to take off
the inner decor part

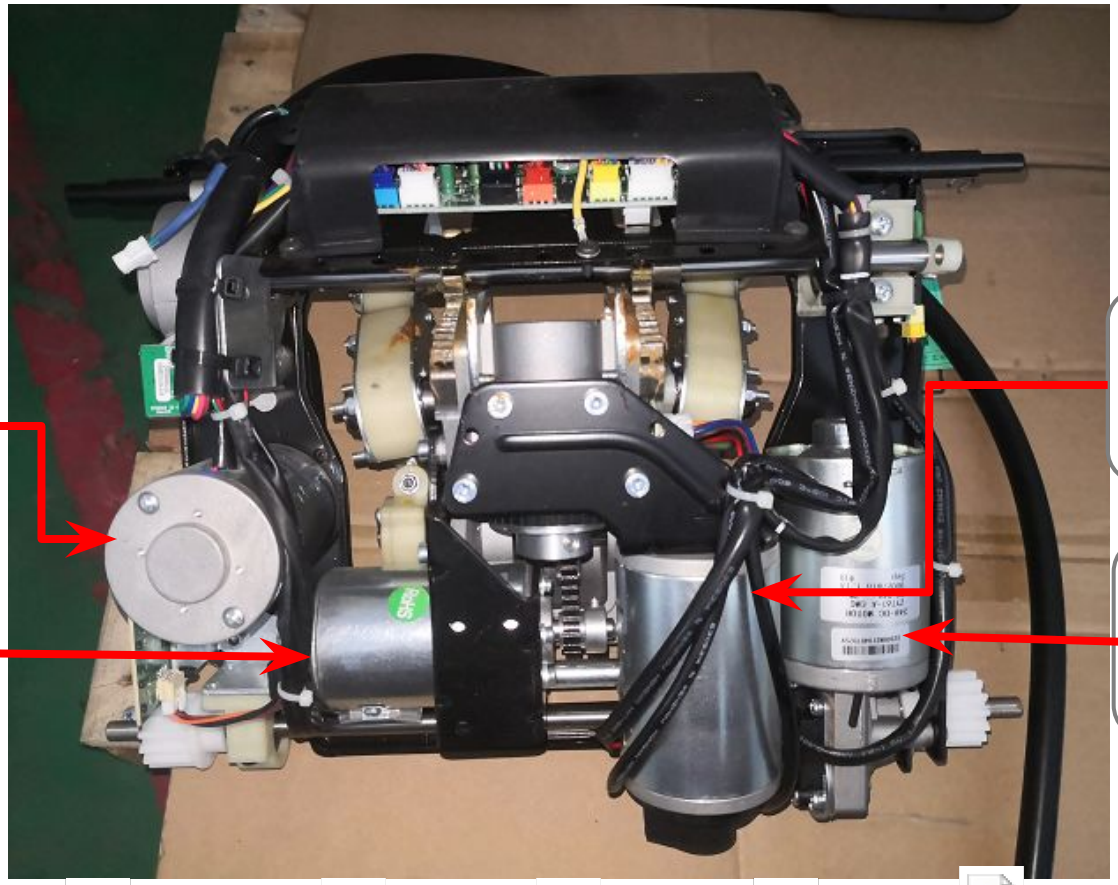
1.Removed inner decor part

4.9 Actuator Removal Guide





4.10 Mechanism Motor Removal Guide & Video



3D motor (yellow connector)

Knocking motor (red connector)

Kneading motor (blue connector)

Walking motor (black connector)

□□□□□□□□ □.mp4

□□□□□□□.mp4

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□3D□□□□□ □.mp4

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Troubleshooting

1.Remote controller does not start

2.Kneading motor does not work

3.Knocking motor does not work

4.Walking motor does not work

5. 3D vertical motor does not work

6.The fuse blown

7.Back recline actuator does not work

8. Part or a certain airbags fail to inflate

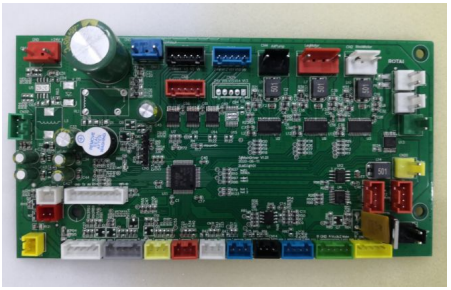
9. All airbags fail to inflate

10. Mechanism lost control

11. Foot roller does not work

1. Remote Controller Does Not Start





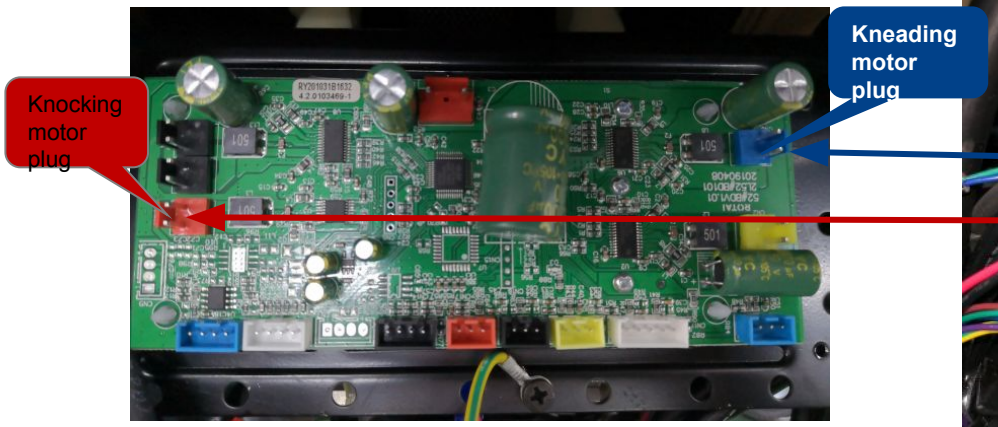
Analysis of causes:

1.Remote controller is damaged
2. 5V power supply board is damaged
3.The main board is damaged
4.User connecting pcb is damaged
5.Remote plug-in unit cable is damaged

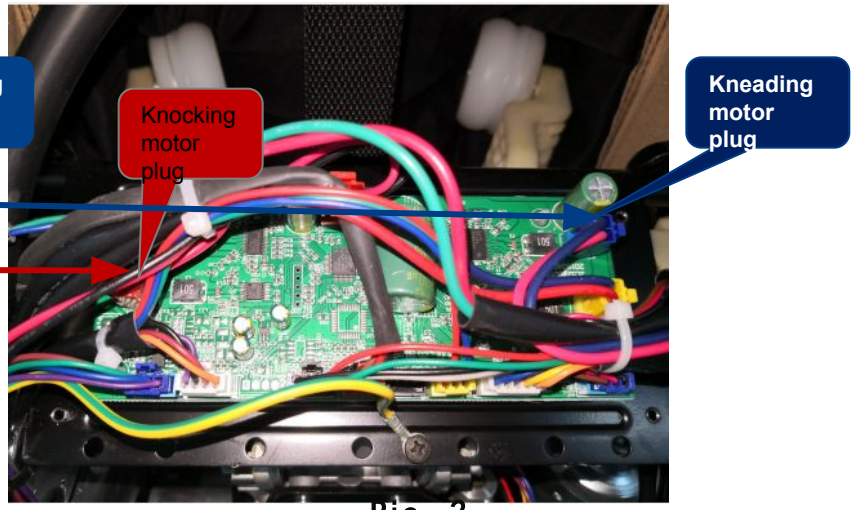
Method of exclusion:

1. Replace the remote controller.
2. Check if the power board indicator light is on. If off,then replace the 5V power board.
3. Check if the mainboard indicator light is on. If off,then replace the mainboard.
4. If the mainboard indicator is on, check the User Connecting PCB with a multimeter for DC5V output,if there is no DC5V output, the User Connecting Board is damaged and need to be replaced
5. If no one above fix the problem, then replace a remote plug-in unit case with cable.

2. Kneading Motor Does Not Work



Pic. 1



Pic. 2

Analysis of causes:

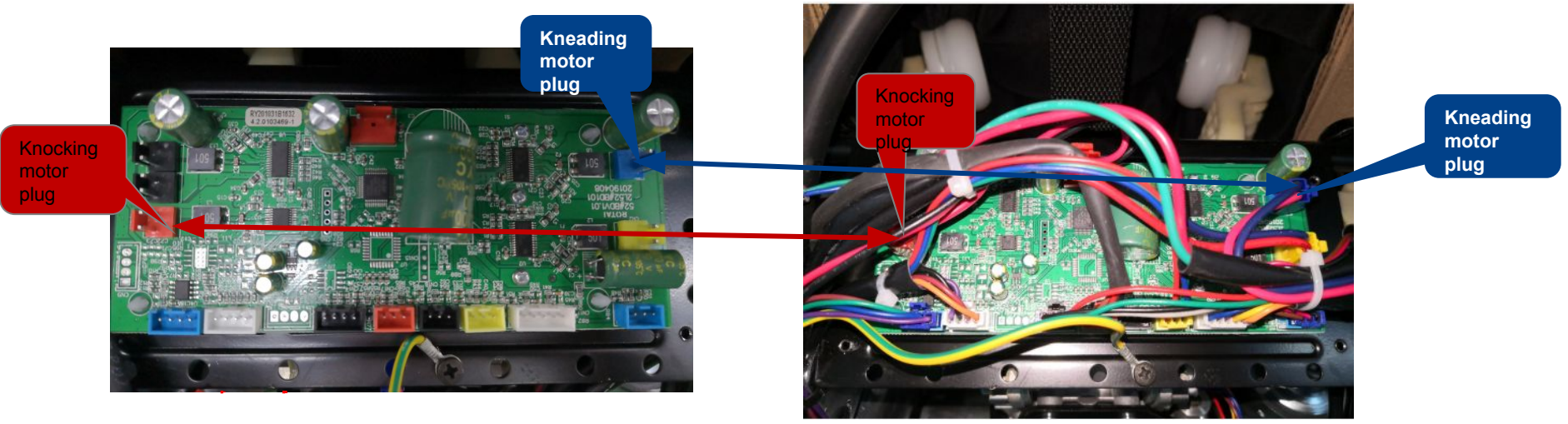
1.Motor is damaged
2.Mainboard is damaged
3.Loose/broken connection cable

Method of exclusion:

1 Select MANUAL mode---> SYNC massage. Find the mechanism kneading motor plug (blue) and connect it to knocking motor plug (red). If the kneading motor works, the mechanism mainboard is faulty and need to be replaced.

2.If the kneading motor still does not work, the kneading motor is faulty or the connection cable is broken(You can use a multi-meter to check the cable).

3. Knocking Motor Does Not Work



Analysis of causes:

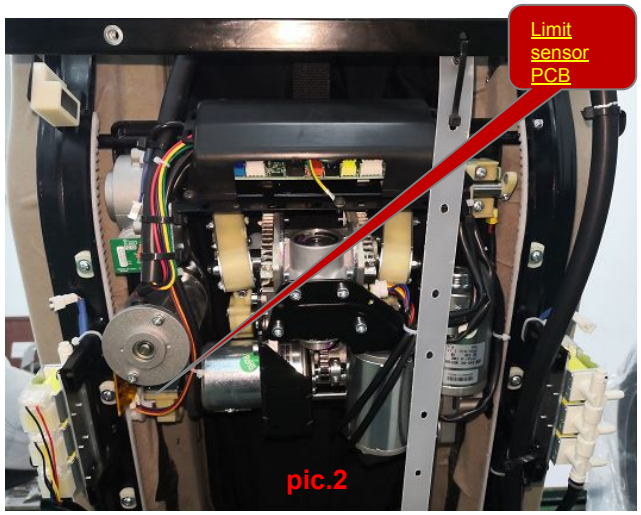
1.Motor is damaged
2.Mainboard is damaged

Method of exclusion:

1.Select MANUAL mode---> SYNC massage. Find the massage mechanism knocking motor plug (red) and connect it to kneading motor plug (blue). If the knocking motor works, the mechanism mainboard is faulty and need to be replaced.

2.If the knocking motor still does not work, the knocking motor is faulty,replace the knocking motor with a new one .

4. Walking Motor Does Not Work



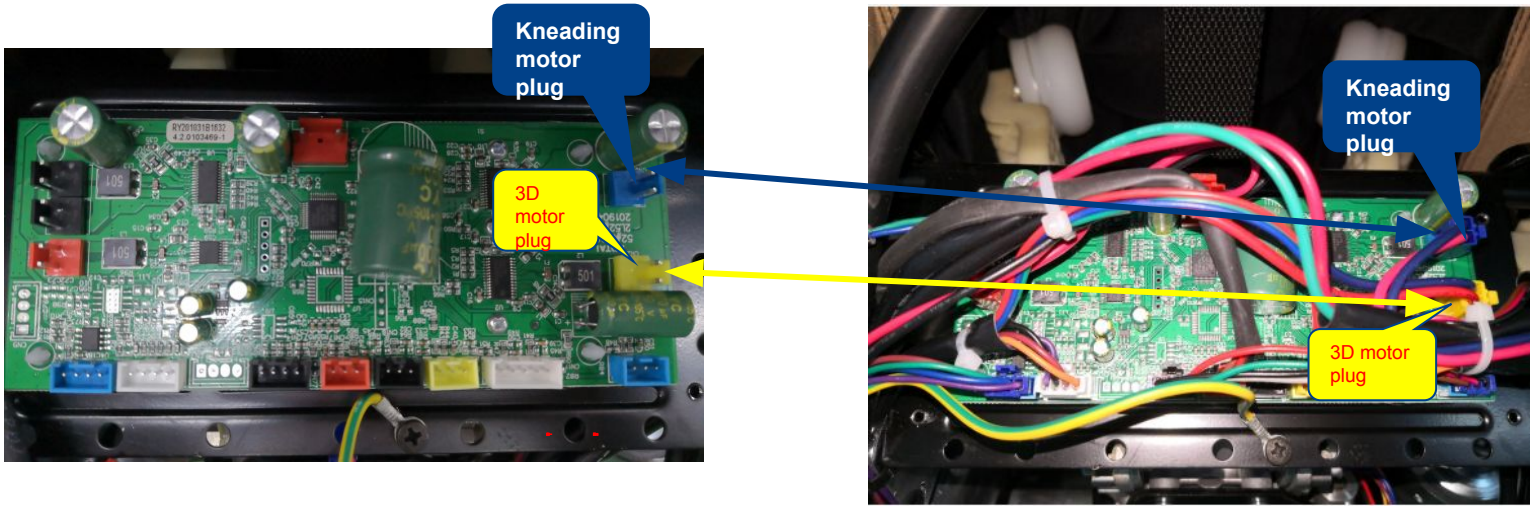
Analysis of causes:

1.The walking motor is damaged
2.Connection cable is damaged
3.One of the limit sensor PCB is damaged
4.The main board is damaged

Method of exclusion:

1.Select MANUAL mode,SYNC massage then POINT mode, press and hold the “up” or “down” button to check if there is double beeping sound from remote controller.
UP : if there is NO double beeping sound, the UP limit detecting board is damaged or its cable is loose, check or replace with a new one;
Down : if there is NO double beeping sound, the down limit detecting board is damaged or its cable is loose, check or replace with a new one;
2.If both have double beeping sound, the limit detecting signal is good, then unplug mechanism motor plug (black) and connect it with knocking motor plug (red) to check if motor works. If no, then replace with a new motor;
3.If motor moves, then plug the motor back to its original position. Find the walking motor plug on mainboard, switch walking motor plug and kneading motor plug. If motor moves then replace main board, if not, the motor cable is loose or broken, replace with a new cable.

5. 3D Vertical Motor Does Not Work



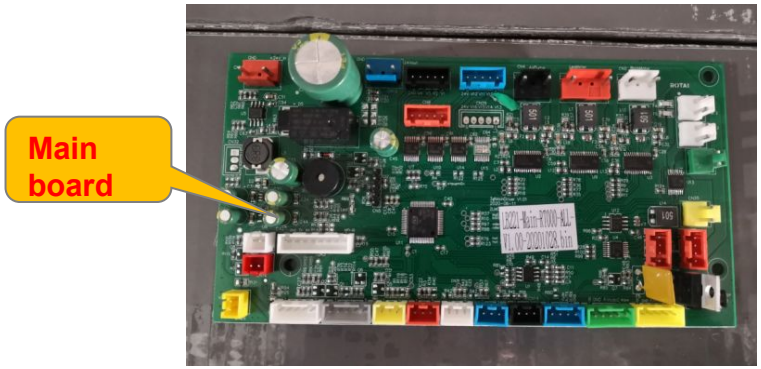
Analysis of causes:

1.Motor is damaged
2.Mainboard is damaged
3.Limit detecting board is damaged
4.Back connecting cable is damaged

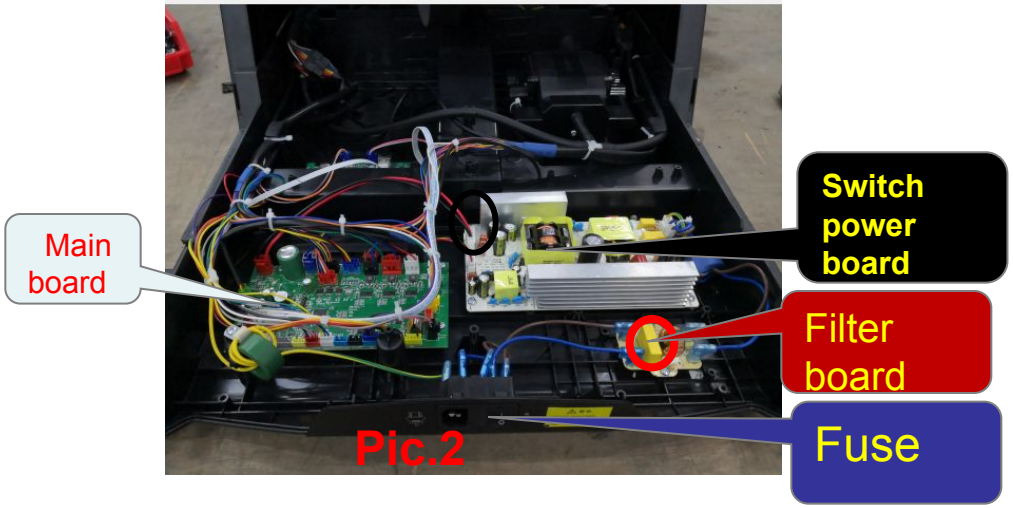
Method of exclusion:

1.Select MANUAL mode, KNEADING massage. Find the massage mechanism 3D motor plug and switch it with kneading motor plug. If motor does not work ,replace with a new motor.
2.If it works, replug the motor to original position, open the power box, insert the yellow (vertical 3D motor) plug into the blue socket; If it does not work, replace the connecting cable or the poor connected pin (use multi-meter to test it).
3. If it works, then check the vertical 3D motor 5V voltage (red,yellow wire around 5V, yellow,blue wire around 4.5V, yellow green around 4.5V). If output voltage is normal, then replace limit detecting board. If no voltage, check the 3D interface board output voltage is normal or not, if its not normal, check the connecting cable pin or replace a new back connecting cable. If its normal, the mainboard is damaged, replace with a new mainboard.

6. The Fuse Is Blown



Pic.1



Pic.2

Analysis of causes:

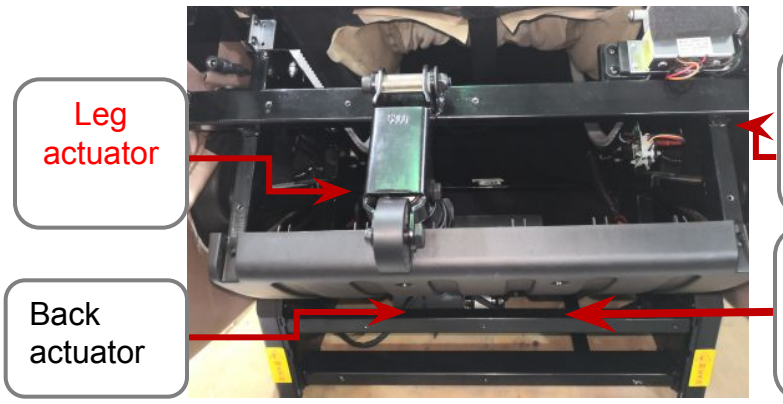
1.Damaged fuse
2.Filtering board is short circuited
3.Switch power board is short circuited
4.Mainboard is damaged or short circuited
5.A certain load is short circuited.

Tips: Switch power board or filter pcb short circuited are the main reason for blown fuses.

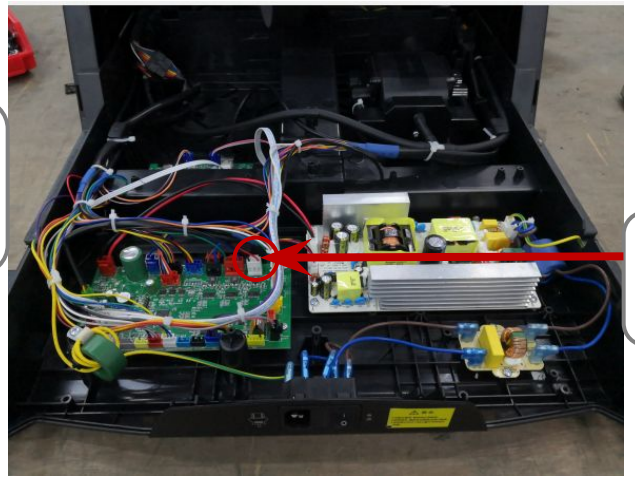
Method of exclusion:

1.Replace the fuse with the same type if the voltage fluctuations cause the fuse to burn out(5A).
2.If the fuse continues to burn out, unplug the red plug in Pic.2 and power on, if fuse burns again then replace a filter board. If fuse doesn't burn, power off and re-plug the red plug, then unplug the black color plug and power on, if fuse burns out, it means that the switch power board is short circuited, just replace with a new one. If not, power off and re-plug the black color plug , then unplug the rest of plugs on the mainboard and power on; if fuse burns out, replace with a new mainboard;
3.If not, re-plug all plugs one by one to check which load is short circuited. Replace with a new one upon confirmation of the short circuited parts.

7. Back Recline Actuator Does Not Work (Same Troubleshooting Method For Leg Actuator)



pic.1



pic.2

Analysis of causes:

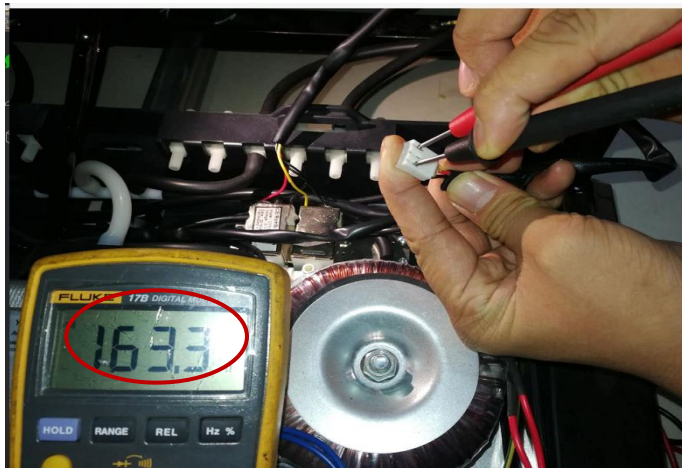
1. Backrest recline actuator is damaged
2. Mainboard is damaged
3. Backrest actuator connection wire is broken

Method of exclusion:

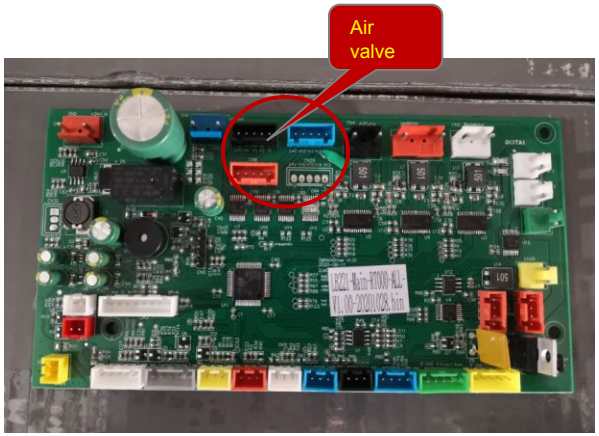
1.Exchange test method:plug the backrest actuator plug into the footrest lift actuator plug port,press the footrest up/down button,if the backrest can incline or recline,it indicates that the backrest actuator is good,then something went wrong with the mainboard or backrest actuator connection wire, replace with a new one.If the backrest actuator fails to function after replacement,the backrest actuator is faulty,replace with a new one.

2. You may also press the back up/down button at the remote controller to listen to the beeping sound. if single beeping is heard when pressing one of the button and double beeping sound is heard when pressing the other button, use the multimeter to test the mainboard socket for DC24V output voltage,if there is such output voltage, the back actuator is broken, if no, the mainboard or the connection wire is broken, check with a multimeter to confirm.

8.Part Or A Certain Airbags Fail To Inflate



Pic.1



Pic.2

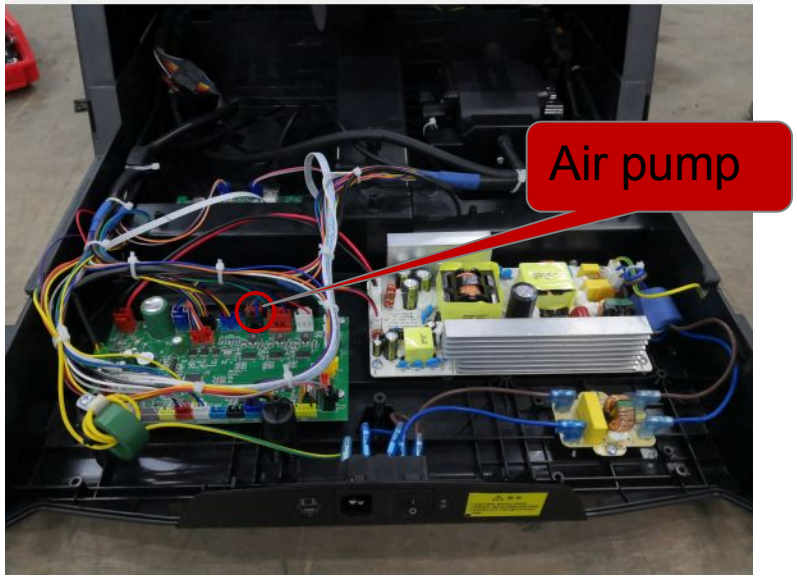
Analysis of causes:

1. Air hose folded or fell off
2. Air valve is damaged
3. Mainboard is damaged

Method of exclusion:

1. Check the air hose where the airbag is malfunction.
2. If air hose and airbags are good,use a multimeter Ω function to test air valve connector(Pic.1 take this 2 -way air valve for example),If the multimeter black probe and red probe,the black probe and yellow probe read between 160-170, air valve is good, otherwise the air valve is damaged.

9. All Airbags Fail To Inflate



Analysis of causes:

1. Mainboard is damaged
2. Air pump is damaged

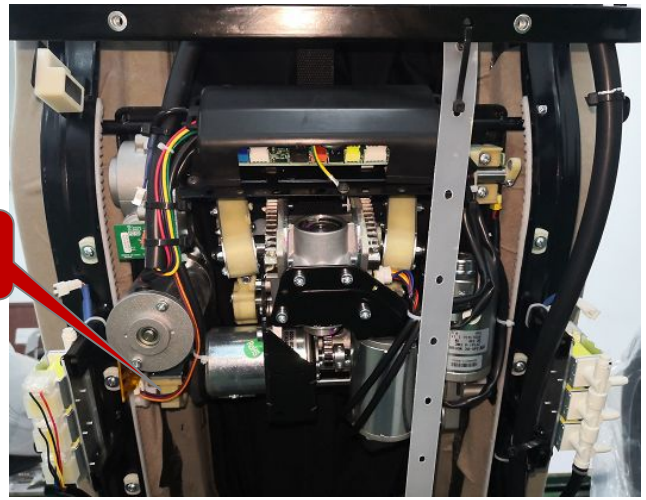
Method of exclusion:

1.Take the remote controller,choose the whole body air bag function under manual mode,check if the air pump works,if yes, check if the plug connector is loose or fell off,if no,the mainboard is faulty and need to be replaced.

2.If the air pump does not work,use the multimeter to test the air pump plug showed in above picture for DC24V voltage output,if no,the mainboard is faulty and need to be replaced,if yes,the air pump is faulty and need to be replaced .

10. Mechanism Lost Control

Pic.1



Pic.2

Analysis of causes:

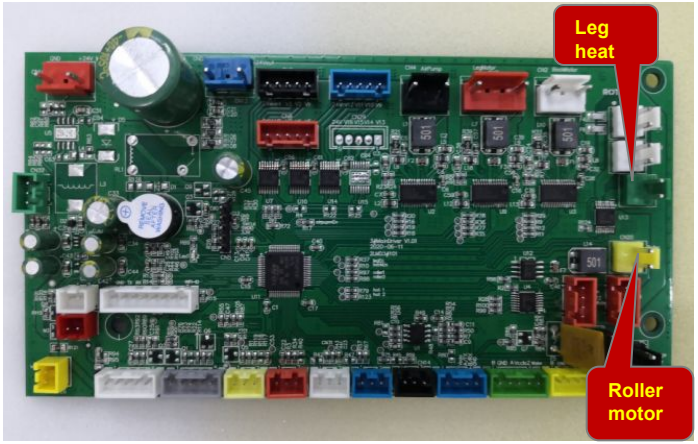
1. Limit sensor detection board is damaged
2. Mainboard is damaged
3. The wire which connects the mainboard and the limit sensor detection board is damaged or unsecured

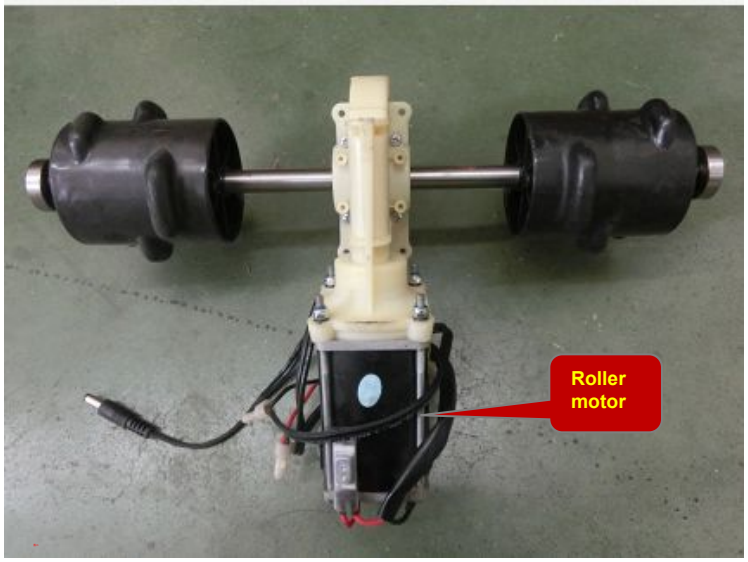
Method of exclusion:

1.Check if the plug is loose,the pin of the plug fell off,or the connection wire is damaged. If the mechanism overruns all the way up,replace the upper limit sensor detection board;otherwise replace the lower limit sensor detection board(check picture 2 for reference).
2.If problem remains after above limit sensor detection board replaced,replace the mainboard.

Troubleshooting

11. Foot Roller Does Not Work





Analysis of causes:

1. Damaged mainboard
2. Damaged foot roller motor
3. Cable between motor and mainboard is damaged.

Method of exclusion:

1.Start heating function, connect the roller motor plug with the heat connector to see whether the roller works. if yes,the mainboard is faulty and need to be replaced.
2.If no, test the motor resistance,if the resistance is not normal,the motor is faulty,replace with a new one.
3.
If the motor resistance is normal, use a multimeter to test connection wire from the motor to the mainboard.

Thank you