SERVICE MANUAL FOR:
RUN 4.1-IWM-MP/AP
Ogawa - ACTIVO_TREKPRO_T8-1

Fold Up: Manual fold up with soft drop.
Swing Arm Suspension: Yes
Music Kit: Yes, MP3 input
Bluetooth: Bluetooth 3.0+Bluetooth 4.0 BLE for AP type model
Motion Control: Yes
Hand Pulse Sensor: Yes
Wireless Pulse Sensor: Polar 5.5KHz Receiver and chest belt transmitter not include/optional
Power Requirement: 230vac ± 5% 50/60Hz 5Amps
Emergency Stop: Pull down the emergency stop key (lanyard)
Speed Range: 1~18 km/h in 0.1km/h increments
Incline Range: 12 levels
Console: LCD display with blue back light
18kph/11mph Model: ***LCD48 IWM MP/AP for RUN4.1***
Drive Motor: DC motor 4800rpm DC180V Model: ***GMD105-04-1B***
Drive Motor Control Board: AC220v 8A Fuse:T10A/220v Model:***GMC-TD30A-220V***
Incline Relay Board: ***PWM-SD-TR100-V9***
Transformer: Primacy: AC220v Second: AC12v/2000mA 17v/250mA
Model***: AYY57-1220017025E***
Elevation Motor: A220v model: ***EL-EMO-JS09-31-230***

Parts List

Part No.	Part name	Quantity
101	Console housing-upper	1
102	Console housing-lower	1
103	Safety Key fix plate	1
104	Safety Key base	1
105	Safety Key	1
106	Loud speaker	2
107	Computer fixed frame	1
109	Pad soft cushion	1
110	iPad protection frame	1
112	Box holder-upper-Left	1
113	Box holder-upper-Right	1
114	Box holder-lower-Left	1
115	Box holder-lower-Right	1
116	Front handlebar assembly sets	1
117	Console tube assembly sets-Left	1
118	Console tube assembly sets-Right	1
119	Handle pluse cover sets	2
201	Upright tube	2
202	Handle bar cover-Left	2
203	Handle bar cover-Right	2
204	Upright tube lower cover	2
205	Handle Bar	2
207	Motion control sensor	2
208	Handlebar cover insert	2
301	Base Frame	1

Part No.	Part name	Quantity
302	Elevation support Frame	1
303	Elevation support Frame cover-Upper	2
304	Elevation support Frame cover-Lower	2
305	089 Spring 2.0X ∮ 14X4	1
306	Base Frame Rubber adjustment Cushion–Rear 36X10-M8X25	2
307	Elevation support Frame ring cover-Left	1
308	Transport wheel Bracket	1
309	Elevation support Frame ring cover-Right	1
310	Transport wheel	3
311	Foot lock plastic cover	1
312	Base frame transport wheel cover –Front	2
314	Base Frame Rubber Cushion	4
315	Soft drop shock holder foot locker	1
316	Spring ∮ 2.0X 6 X16.5	1
318	Soft drop shock holder Nylon cover 22.5X28.2X22	1
319	Gas Shock	1
320	Soft drop Shock tube	1
321	Foot locker	1
322	Fold up support bushing ID10X22X26X15	2
324	Fold up support insert ID10XOD24X24.5	1
326	Fold up support	1
378	Dry bearing 14X15X1.0	4
401	Motor hood cover	1
402	Motor cover –Bottom	1
403	Motor Front Cover	1

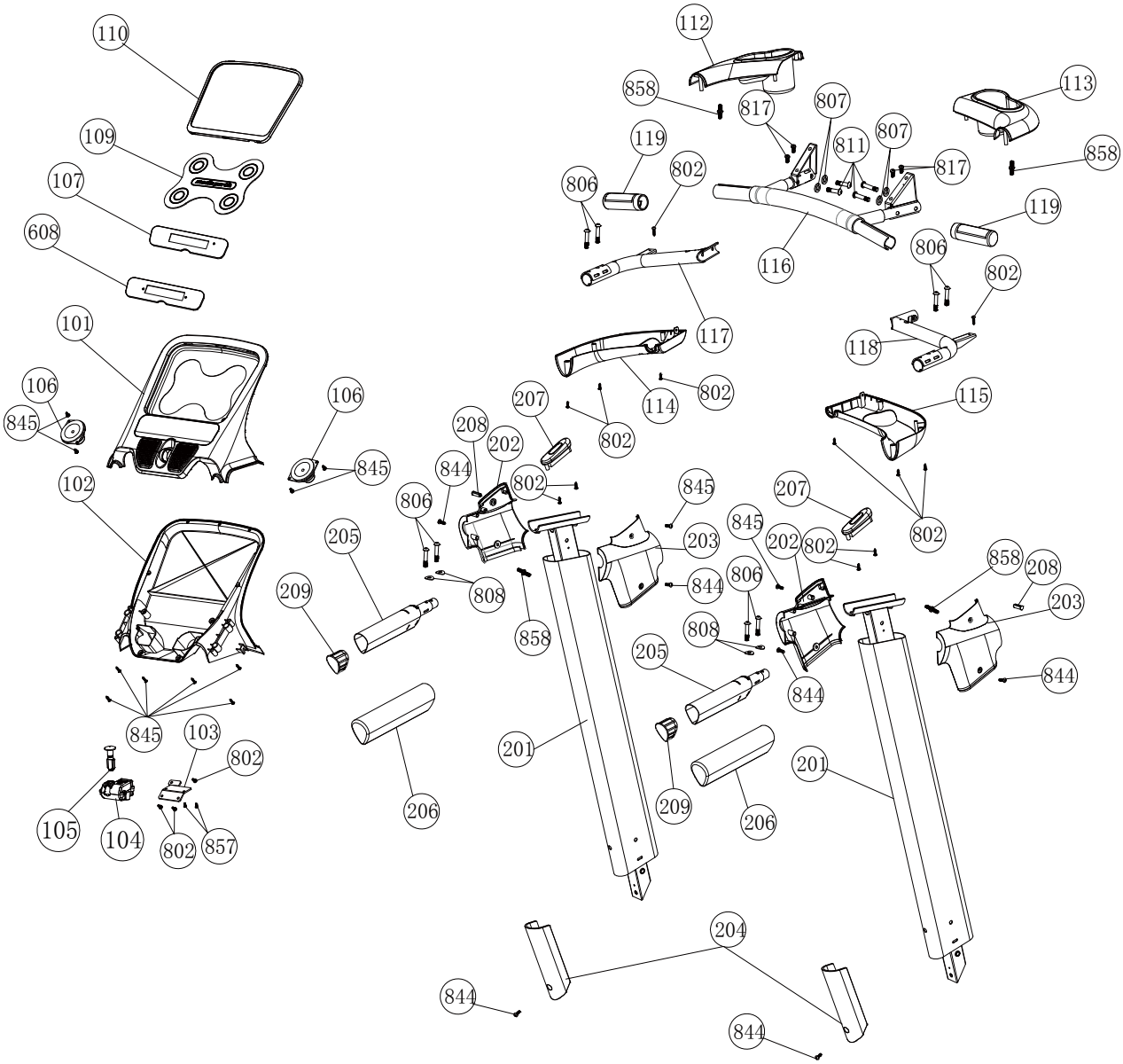
Part No.	Part name	Quantity
404	Motor hood decorate strip-Left	1
405	Motor hood decorate strip-Right	1
406	Motor hood vent cover	1
408	Motor	1
409	Motor holder	1
410	Driving belt	1
412	Elevation motor gear sleeve assembly	1
416	Power switch board	1
501	Running belt	1
502	Running deck	1
503	Side rail	2
504	Side rail decorate strip	2
505	Side rail rear cap-Left	1
506	Side rail rear cap-Right	1
507	Side rail guider	10
601	Elevation motor	
602	Motor control board	1
603	Transformer	1
618	8 PIN cable-Upper 750mm	1
617	8 PIN cable-Upper 2250mm	1
612	Blue/Grey 2 cables-Upper 750mm	1
613	Blue/Grey 2 cables-Lower 2250mm	1
610	Single wire-red-150mm	2
611	Single wire-white-150mm	1
607	Grounding wire-450mm	1

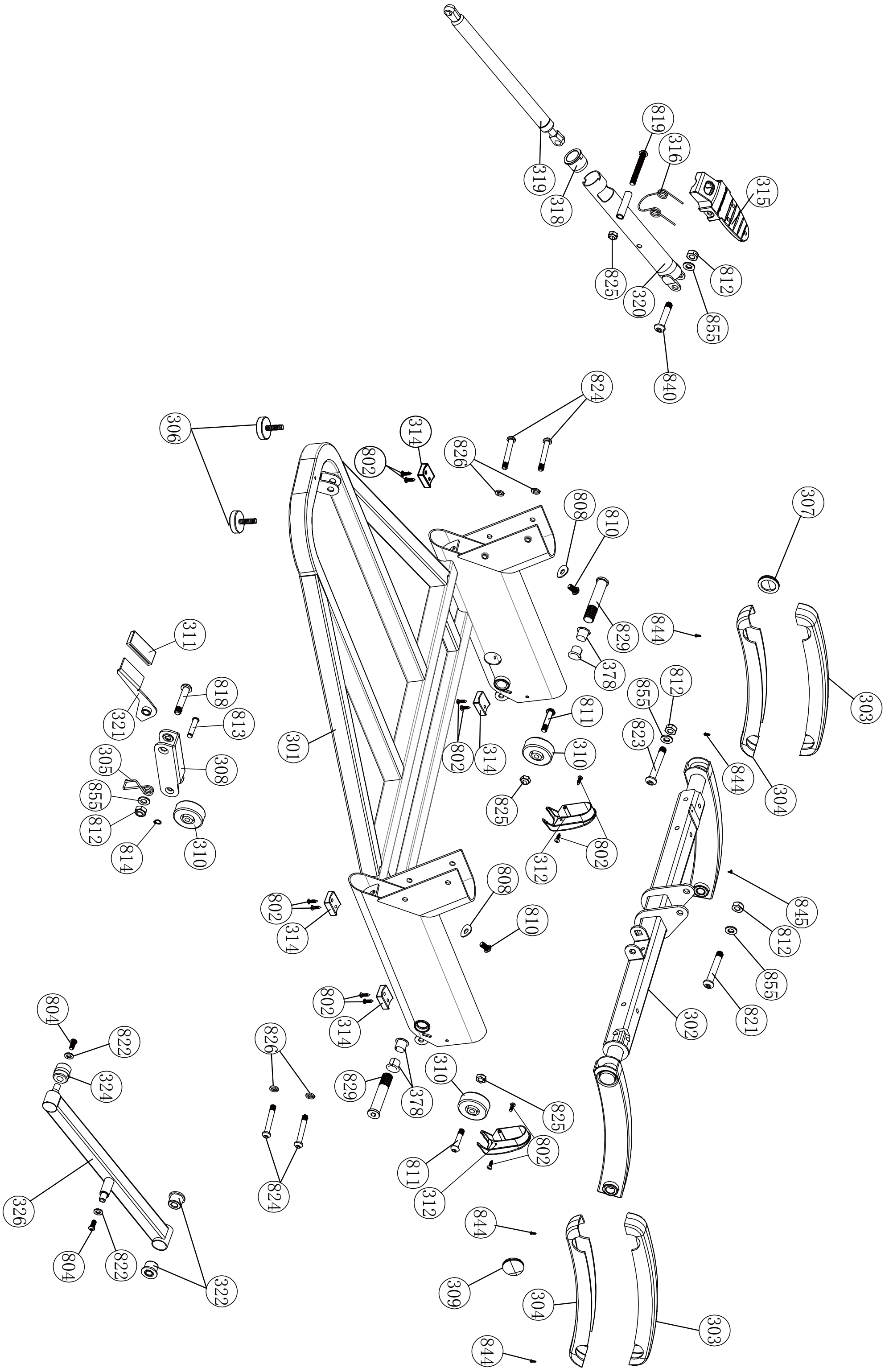
Part No.	Part name	Quantity
604	Handle pluse sensor wire-600mm	2
616	6PIN cable-220mm	1
609	Motion control sensor wire-red 600mm	1
608	Motion control sensor wire-black 600mm	1
614	Grounding wire-300mm	1
604	Elevation control board	1
605	Electric Protector	1
606	Electric Outlet	1
607	Power Switch	1
608	Computer assembly	1
701	Main frame	1
703	Rear Roller Tube+Shaft	1
704	Front Roller Tube+Shaft	1
705	Rear Caster	2
706	Nylon25.6X25X41.6XR17	4
707	Ruber cushion with shaft	2
708	Elevation support tube fix holder	2
709	Main frame cross bar	2
710	EVA foam 15XL450XT3.0	2
711	EVA foam 25XL300XT3.0	7
802	M4X15 Screw	44
804	M6X17 Screw/Washer	2
806	Button head inner hexagon M8X42	8
807	Spring washer $\oint$ 8X 14 X2	10
808	Curve washer $\oint$ 8.5X20.5X2	6

Part No.	Part name	Quantity
809	Round head cross- screw M3X8	2
810	Button head inner hexagon M8X18	4
811	Button head inner hexagon M8X36	6
812	Locknut M10	6
813	§ 8X36 Bolt	1
814	M8 C-clip	1
815	M5X14 screw/washer	2
817	Round head cross- screw M5X14	8
818	Inner hexagon M10X52	1
819	Button head inner hexagon M8X65	1
821	Button head inner hexagon screw M10X67	1
822	Washer § 6X13X1.5	2
823	Button head inner hexagon M10X58	1
824	Button head inner hexagon M8X52	4
825	Locknut M8	5
826	Washer § 8X17X1.5	10
827	Inner hexagon M8X20X20	4
828	M10X116 Bolt	1
829	Flat head inner hexagon M14X80X24.5	2
830	M8X48X10 Bolt	1
831	OD8XM8X85X20 Bolt	1
832	Washer § 8X26X3	2
833	8X26X11 rubber bushing	1
834	Inner hexagon M8X12X12	2
835	M4X19 screw	16

Part No.	Part name	Quantity
836	Cross-screw M8X25	4
837	Inner hexagon M6X70	1
838	Inner hexagon M6X55	2
839	Washer § 6X13X1.5	17
840	Button head inner hexagon M10X38X10	4
841	Shrapnel 21X13X0.7	2
844	M4X15 screw	10
845	M4X12 screw	27
848	Cross-screw M8X30	10
849	4.2X16 Screw	2
852	Outer hexagon screw M5X15	2
855	Washer § 10X20X1.5	7
856	Thin Nut M5	4
857	Cross-screw M4X12	2
858	Plastic insert	4
901	Hardware Kit	1

Parts Explosive Drawing

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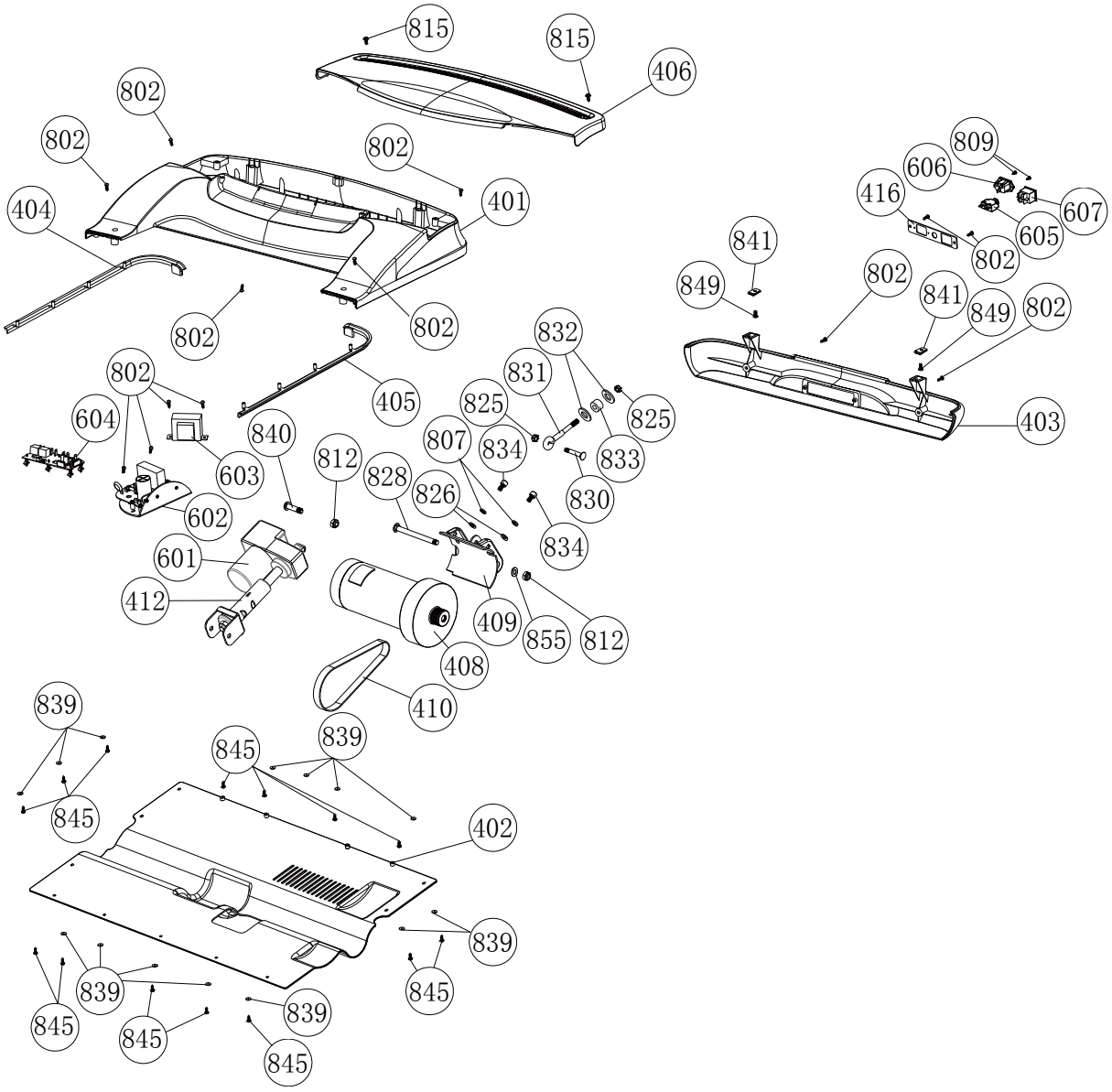
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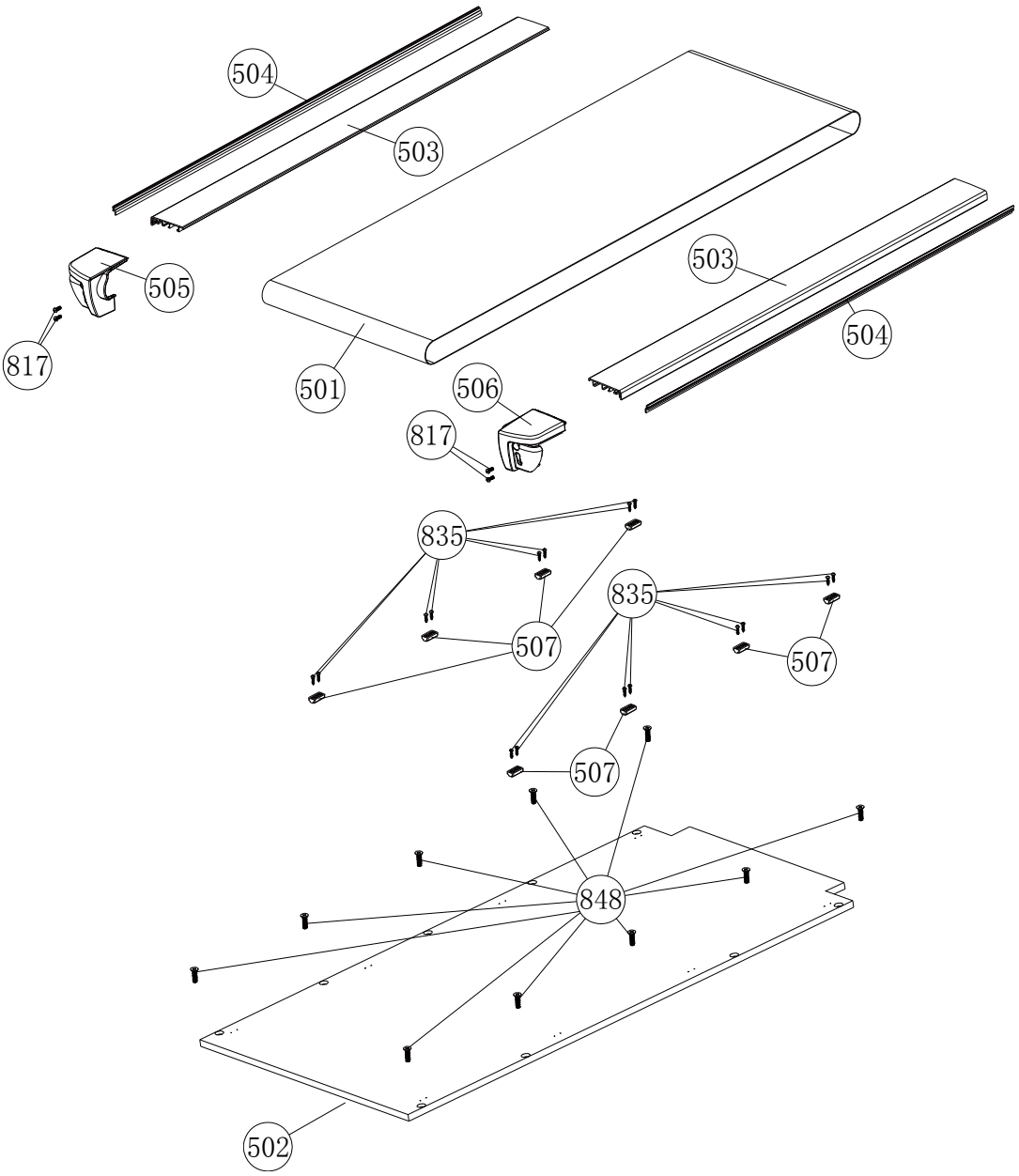
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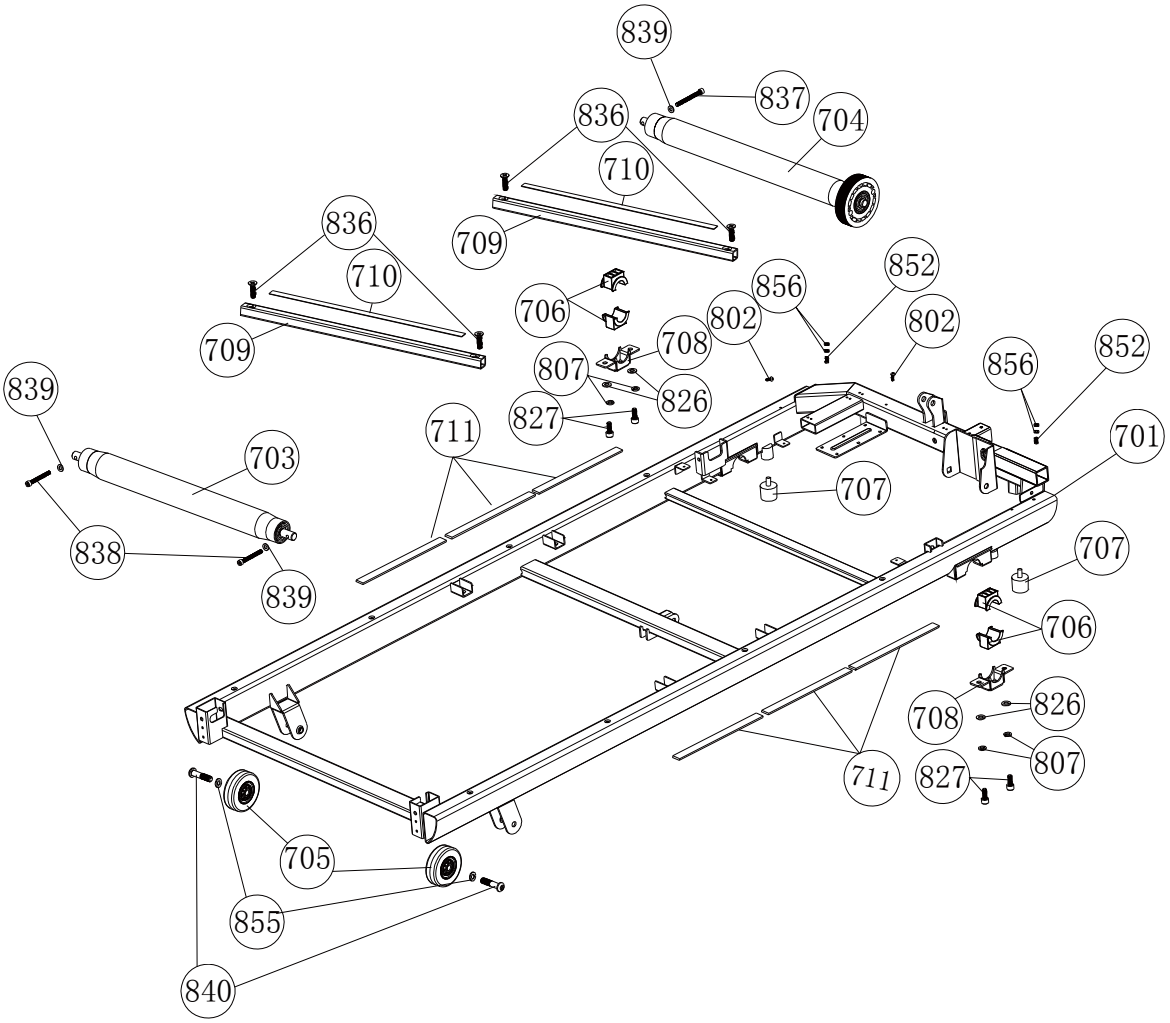
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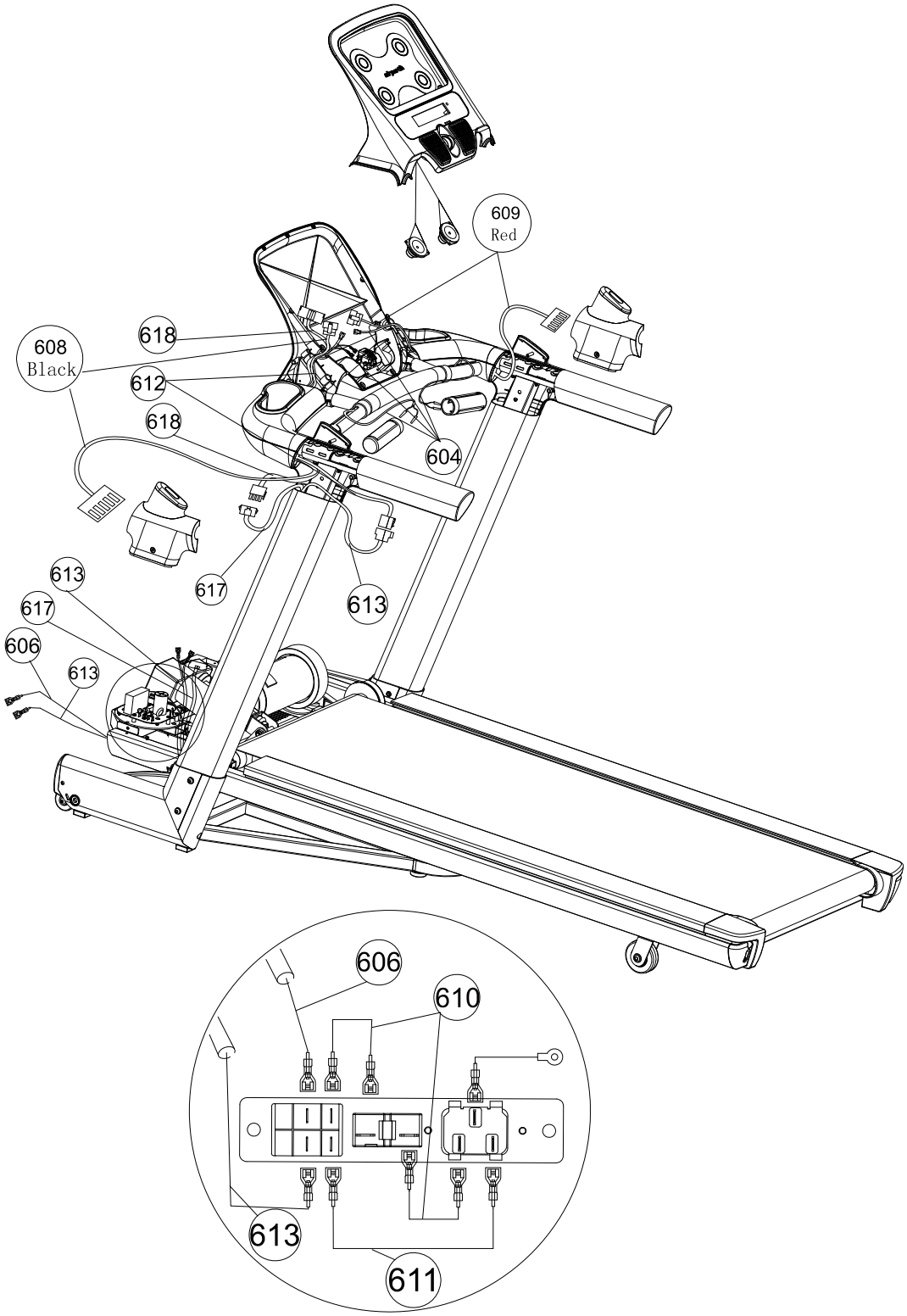
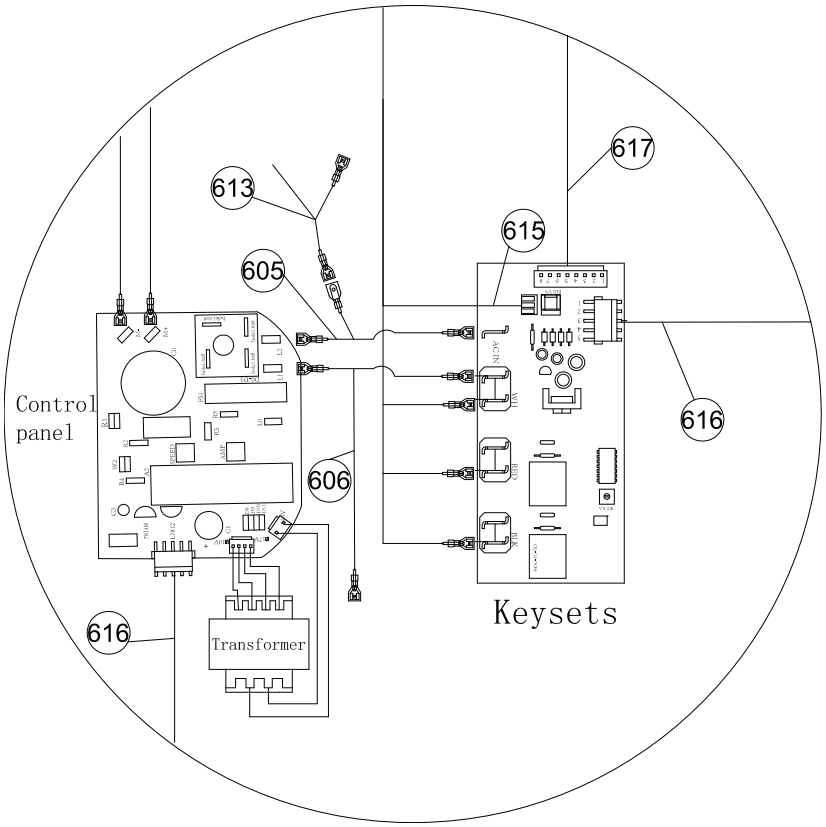
Wire Diagram

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Control
panel
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Keysets
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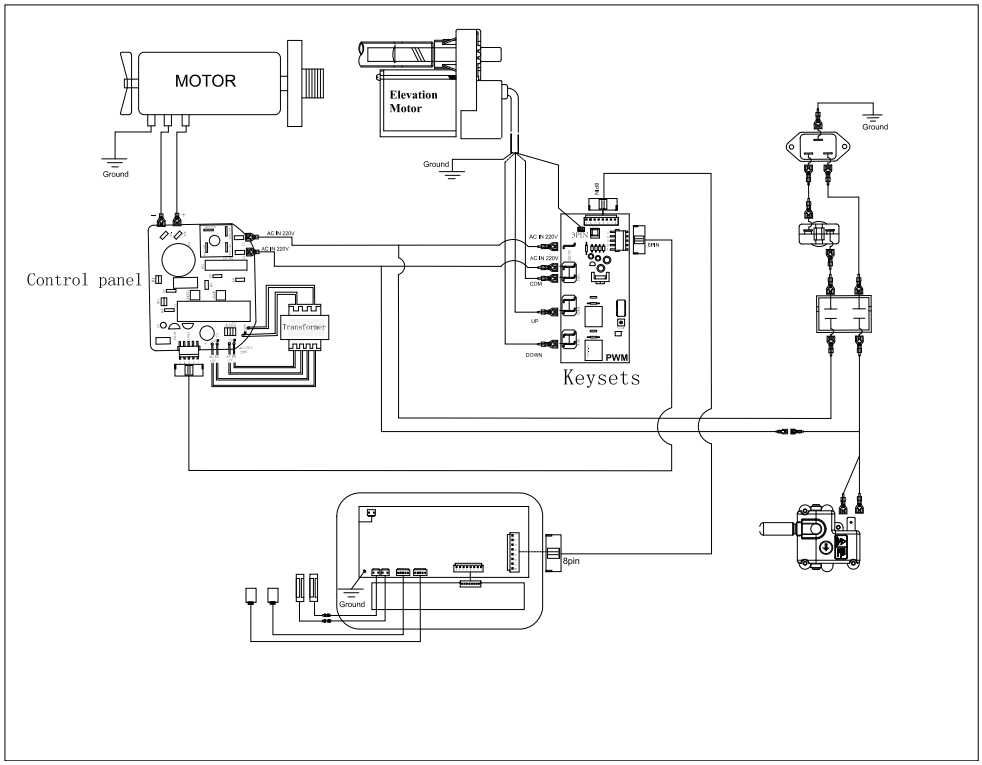
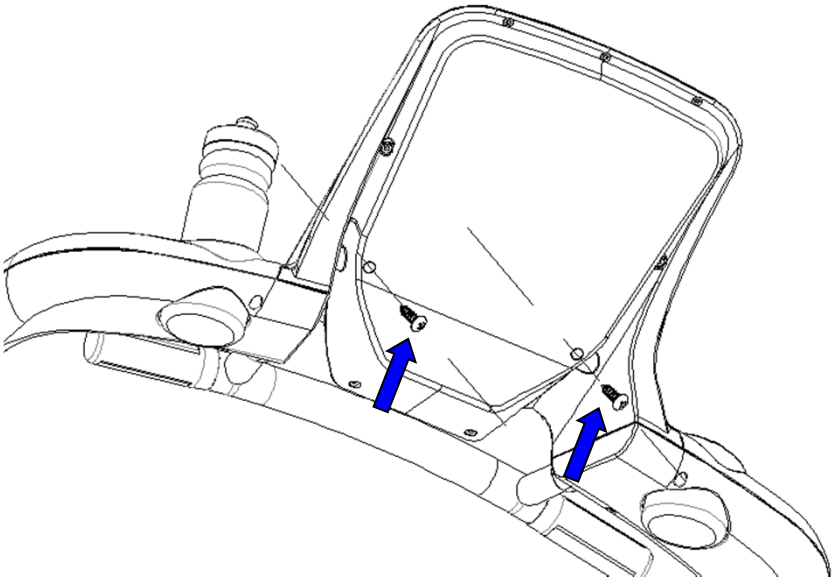
Transformer


MOTOR
Elevation
Motor
Ground
Ground
Ground
Control panel
AC IN 220V
AC IN 230V
COM
UP
DOWN
PWM
OPEN
Transformer
Keysets
8pin
Ground

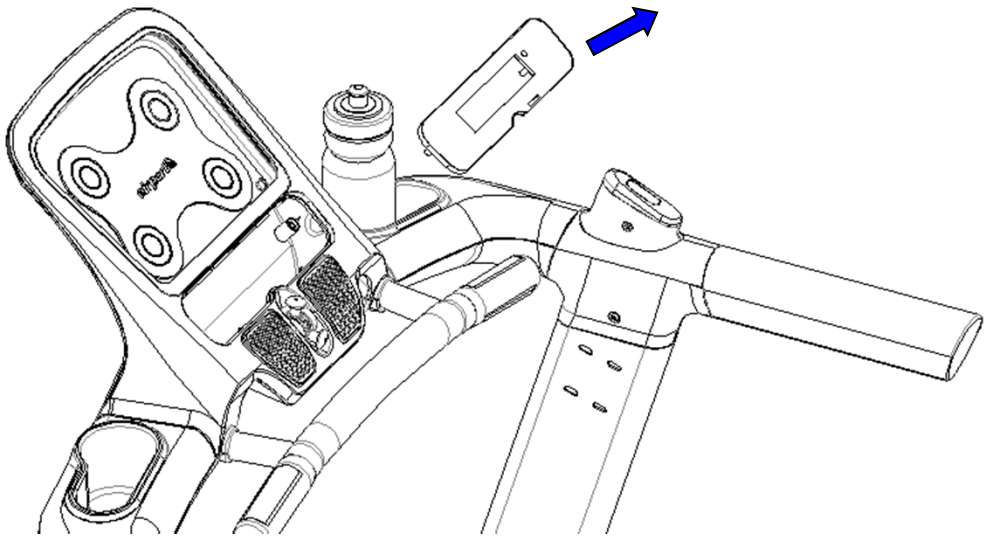
Tools require for service procedure

1. Digitize display multi meter
2. 17mm wrench 2pcs
3. 13mm wrench
4. 10mm wrench
5. Phillips screwdriver
6. 5mm Allen wrench
7. 6mm Hex. L-Shape wrench
8. 8mm Hex. L-Shape wrench
9. 5mm Hex. wrench with T hand bar
10. 6mm Hex. wrench with T hand bar
11. Long nose plier
12. Shorter Phillips screwdriver

Remove Computer for RUN4.1

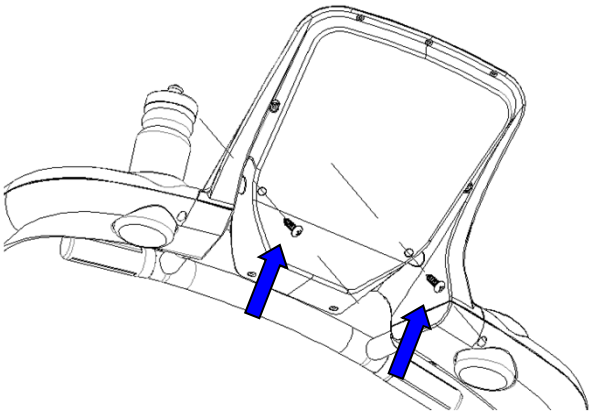


Step 1: Use Phillip screwdriver to open fix console PC board insert 2 screws.

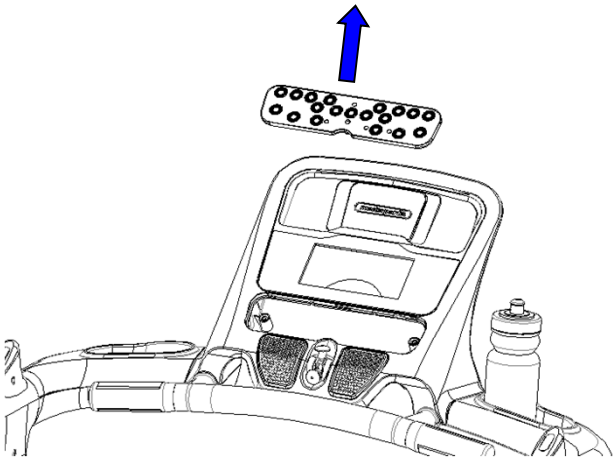


Step 2: Disconnect all connector on computer then remove the console PC board insert.

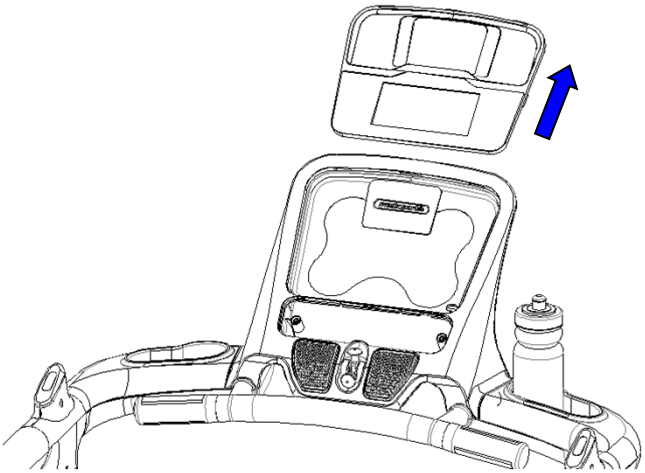
Remove Computer for RUN4.2



Step 1: Use Phillip screwdriver to open fix console buttons panel 2 screws.

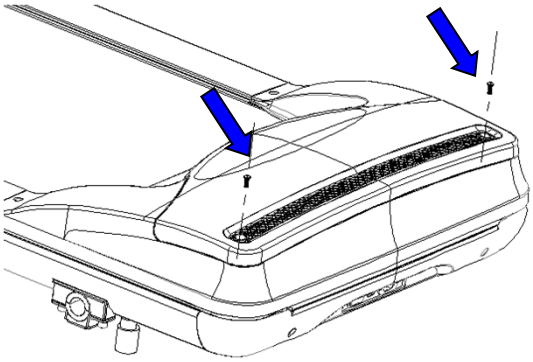


Step 2: Disconnect all connectors then remove buttons panel 2 screws.

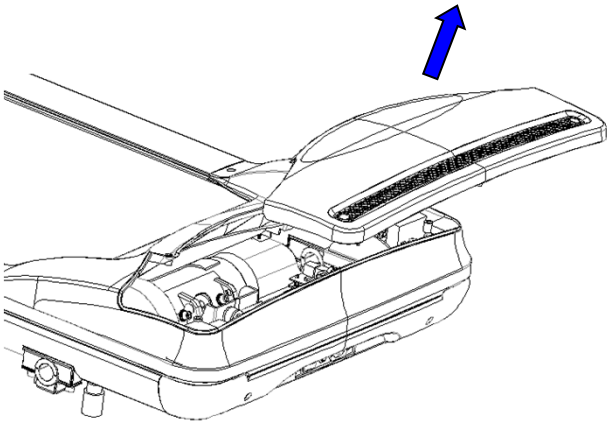


Step 2: Disconnect all connector on computer then remove the console display PC board insert.

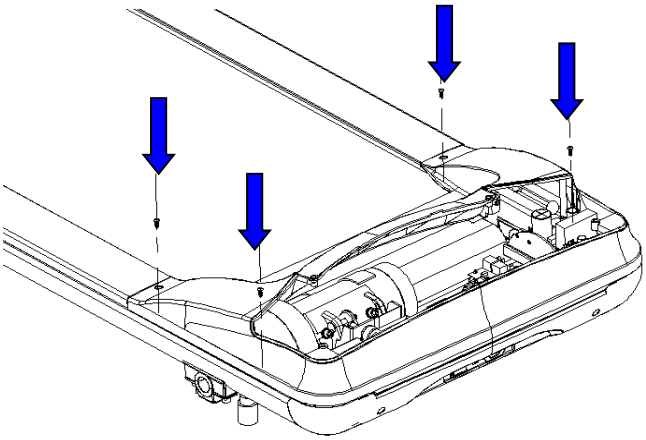
Remove Motor Hood



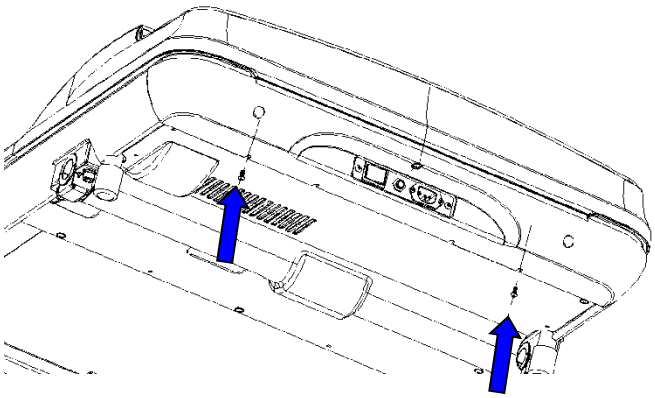
Step 1: Use Phillip screwdriver to open top motor hood vent cover 4 screws.



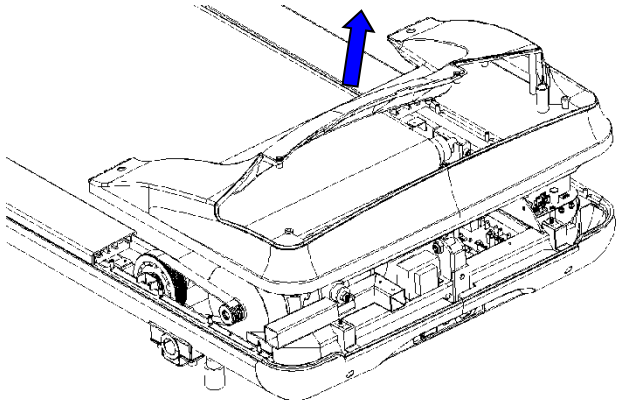
Step 2: Remove top motor hood vent cover.



Step 3: Use Phillip screwdriver to open near both side rail 2 screws and both side 2 screws on the motor hood cover.



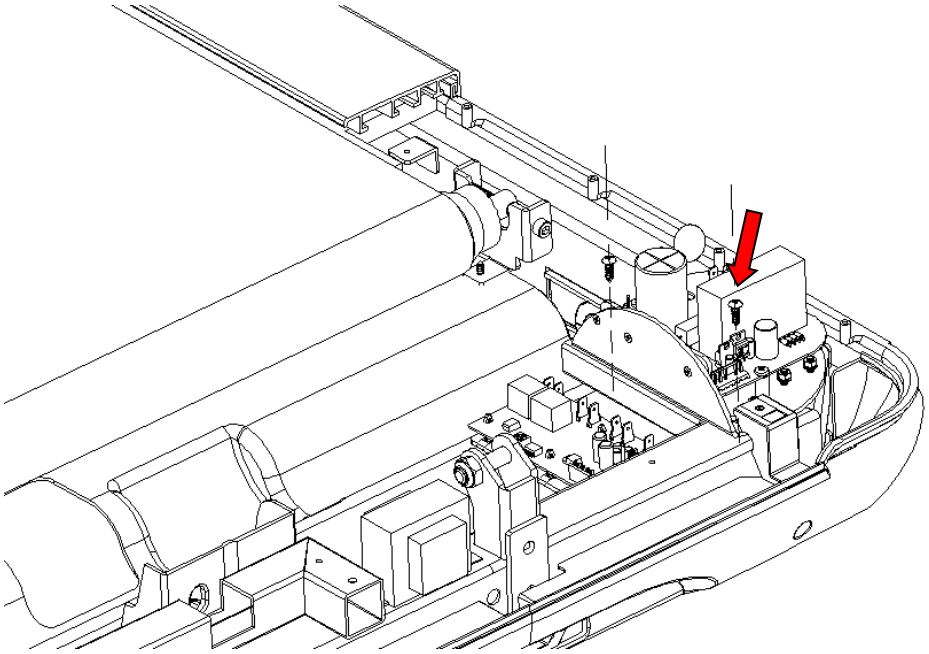
Step 4: Use Phillip screwdriver to open 2 screws on the front motor botton cover.



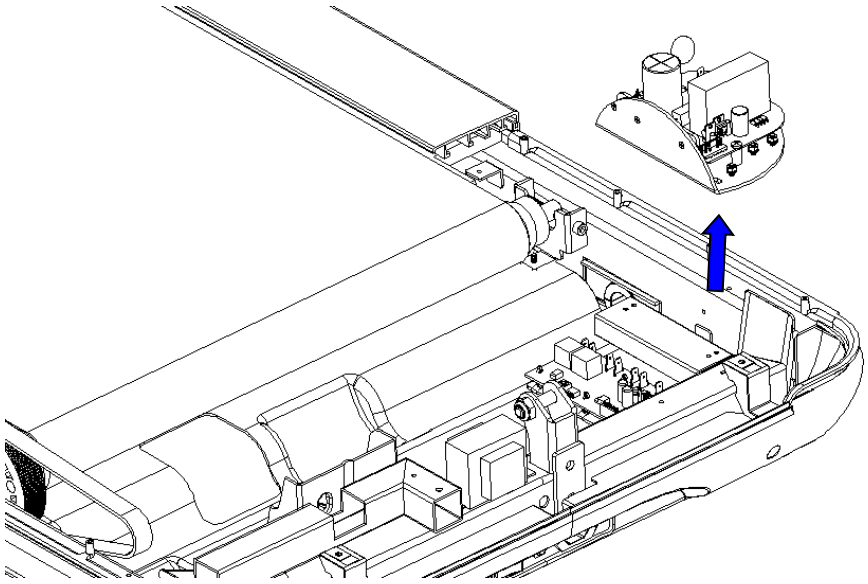
Step 5: Remove motor hood cover.

Remove Main Control Board

Step 1: Follow ***Remove Motor Hood*** instruction to remove the motor hood.



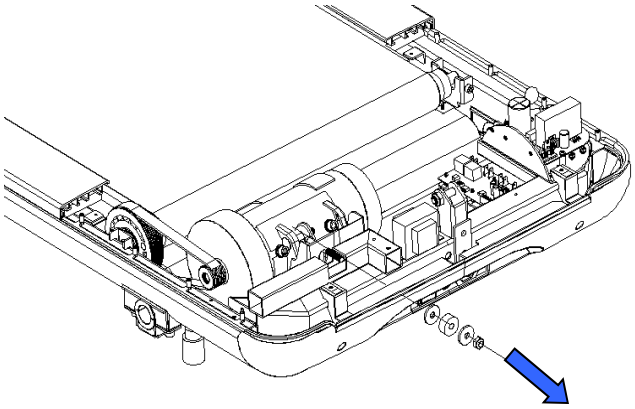
Step 2: Use Phillip screwdriver to open fix low control board 2 screws then disconnect all connector on low control board.



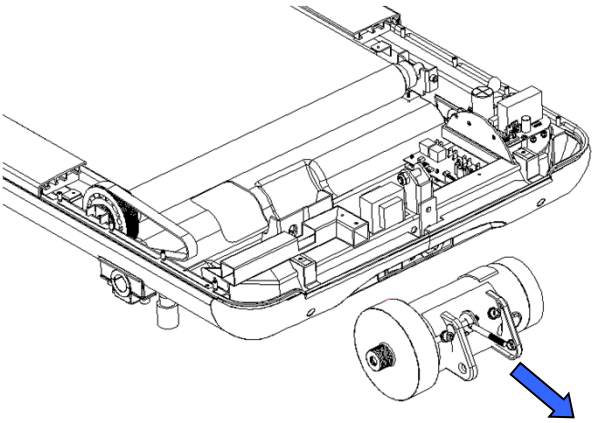
Step 3: Remove lower control board from frame.

Remove Drive Motor

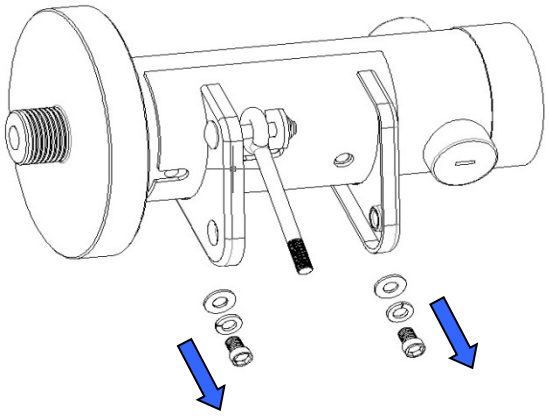
Step 1: Follow ***Remove Motor Hood*** instruction to remove the motor hood.



Step 2: Use 17mm wrench to open drive motor bracket tension nut, then remove washers and tension spring.



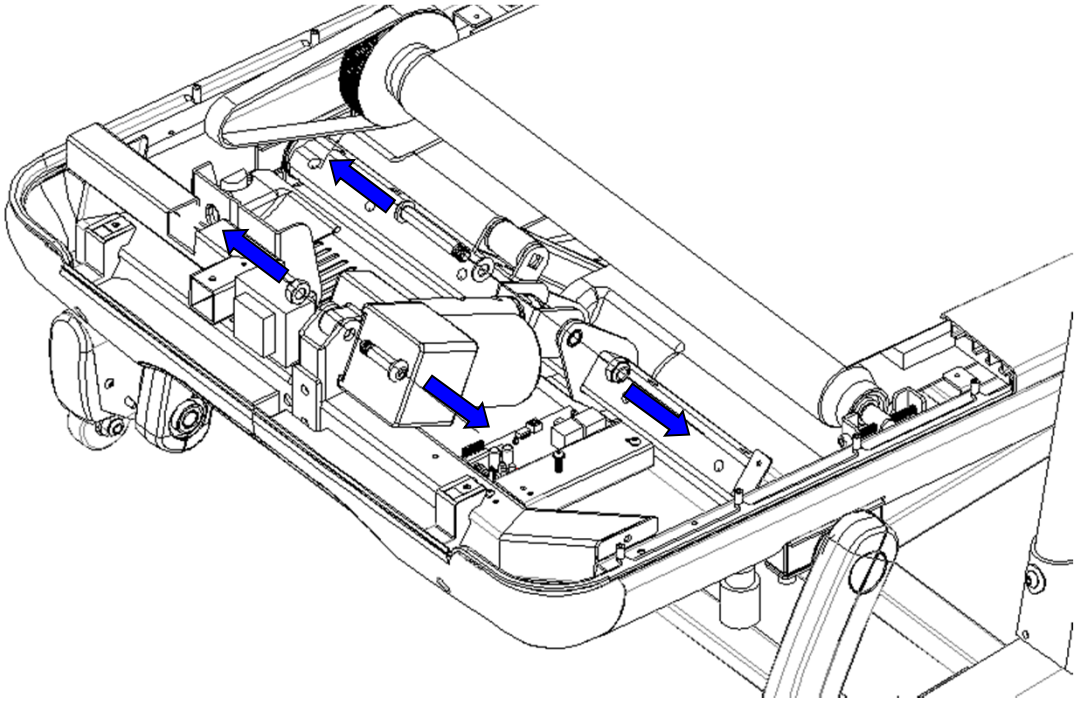
Step 3: Remove the Drive Motor and motor bracket set.



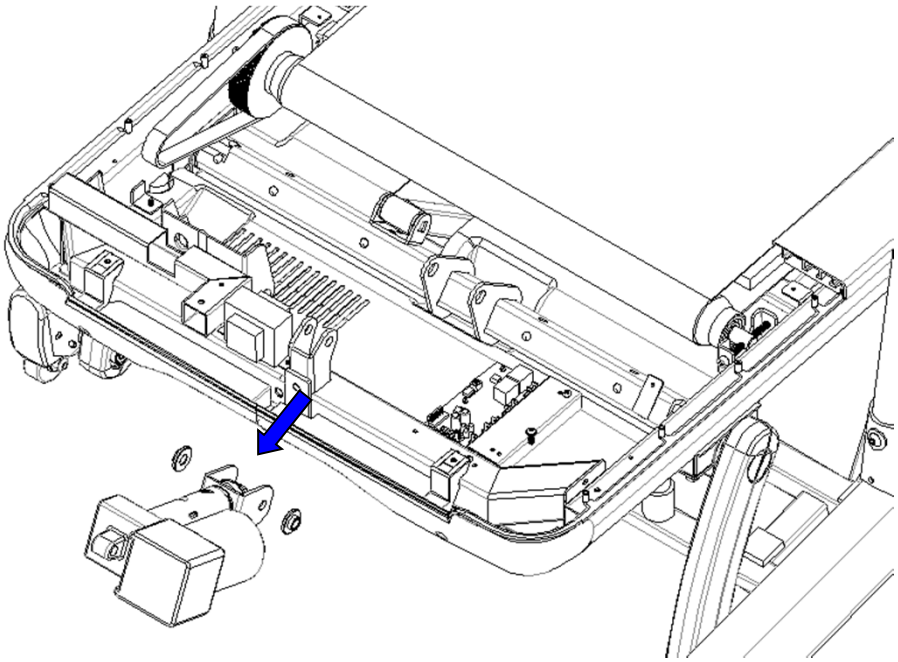
Step 4: Use 5mm Hex. L-Shape wrench to open Drive Motor bracket.

Remove Elevation Motor

Step 1: Follow ***Remove Motor Hood*** instruction to remove the motor hood.



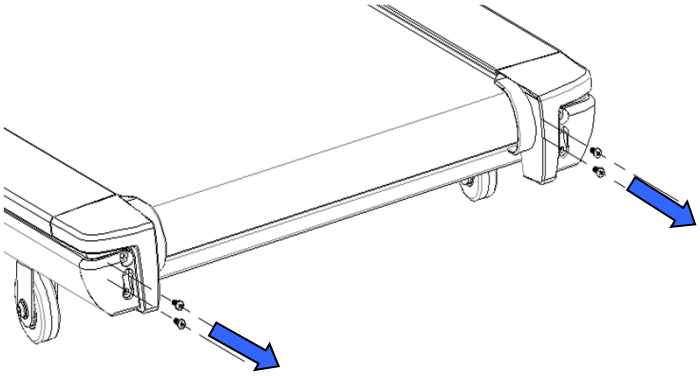
Step 2: Use 17mm wrench and 6mm Allen wrench to open fix elevation bolt and nut on the frame then open bolt and nut on the elevation frame.



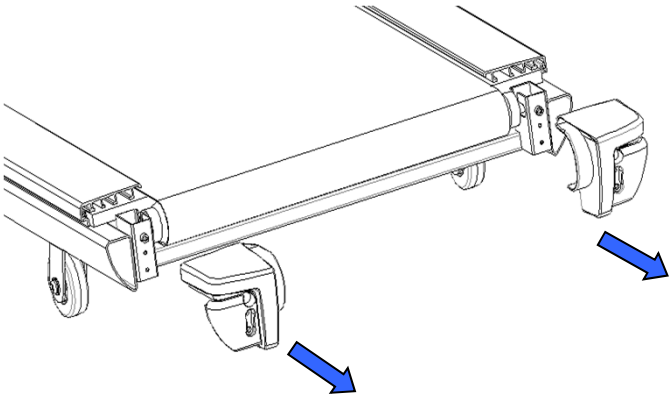
Step 3: Remove elevation motor set.

Remove Front and Rear roller

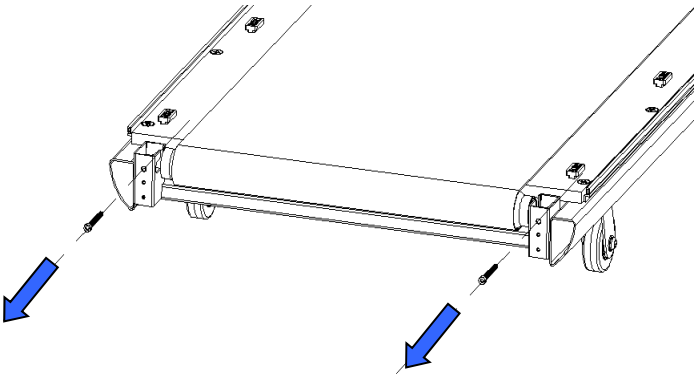
Step 1: Follow ***Remove Motor Hood*** instruction to remove the motor hood.



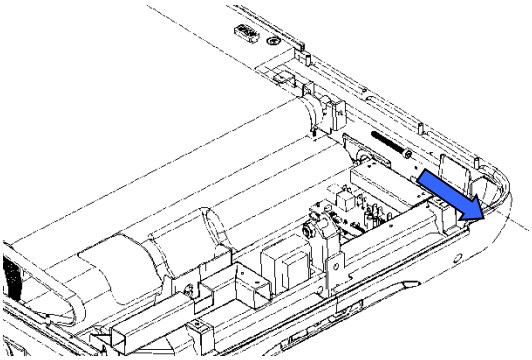
Step 2: Use Phillip screwdriver to open both side rail End covers then remove the cover.



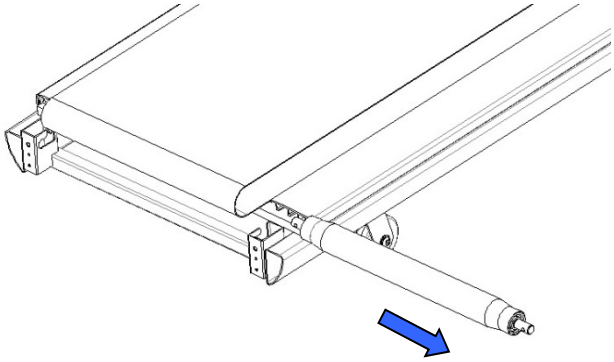
Step 3: Remove both end covers.



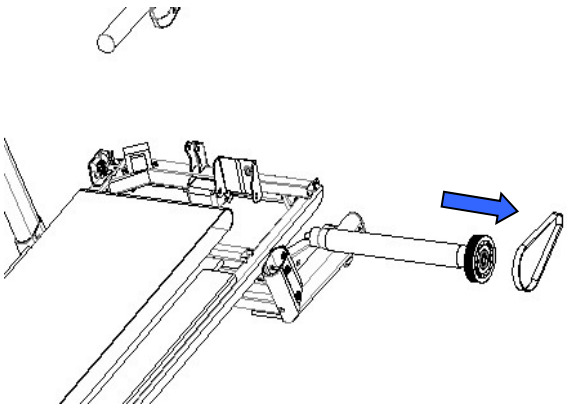
Step 3: Use 5mm Allen wrench to open fix rear roller 2 bolts.



Step 5: Use 5mm Allen wrench to open fix front roller 1 bolt.



Step 6: Remove rrear roller.

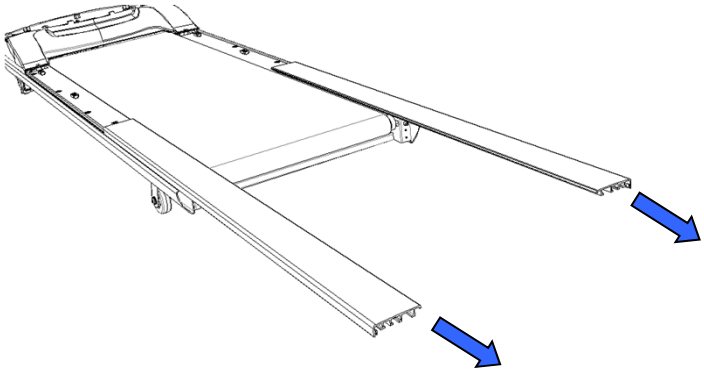


Step 4: Remove front roller.

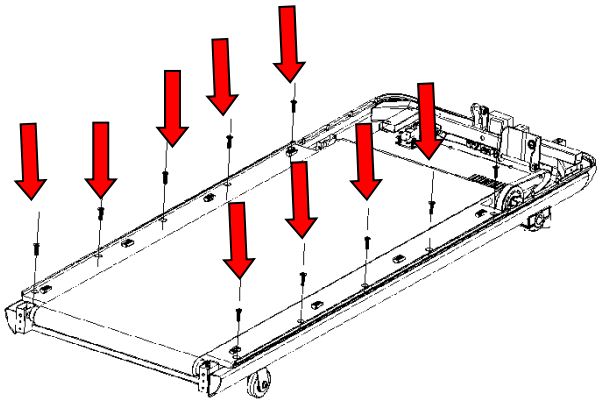
Remove Running Desk and Running Belt

Step 1: Follow ***Remove Motor Hood*** instruction to remove the motor hood.

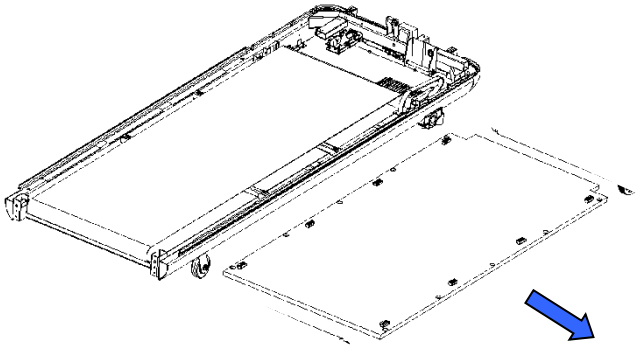
Step 2: Follow ***Remove Front and Rear roller*** instruction to remove front and rear roller.



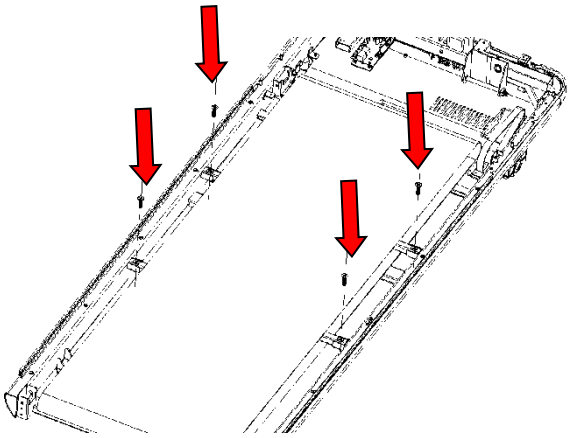
Step 3: Remove both side rail to frame end.



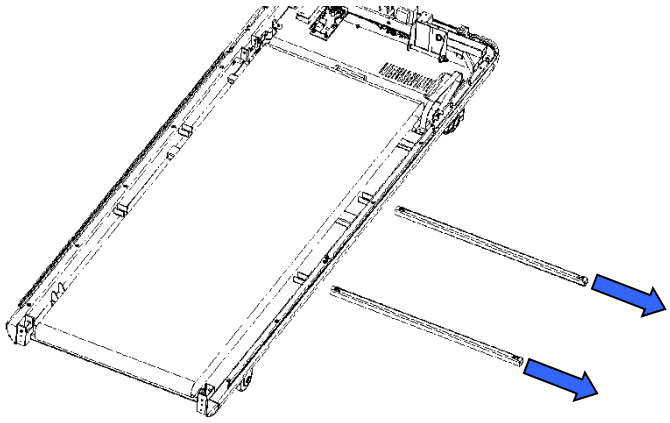
Step 4: Use Phillip screwdriver to open fix running desk 8 bolts



Step 5: Remove the running desk.



Step 6: Use Phillip screwdriver to open running desk support tube 4 bolts.



Step 5: Remove the running desk support tube the remove the running belt.

Lubricate Running belt and running desk

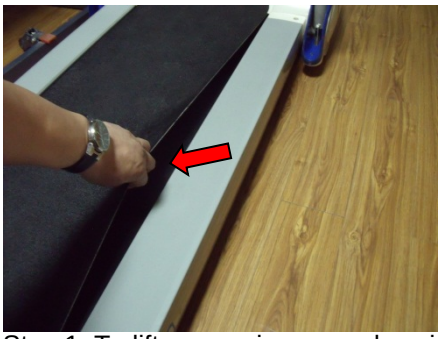
ATTENTION:

To lubricate between running belt and running desk in regular time and after running belt, running desk replacement, otherwise will cause driver DC motor and main control board burn out.

Regular maintain lubricate:

Every time maintain lubricate must additional silicon oil at least 20-25ml.

While treadmill used accumulate time 60-70 hour or every 3-4 months must do lubricate between running belt and running desk.



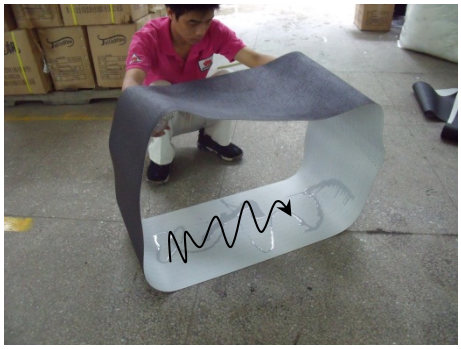
Step 1: To lift up running one edge side then spray in 10ml silicon oil.

Step 2: To lift up running another edge side then spray in 10ml silicon oil again.

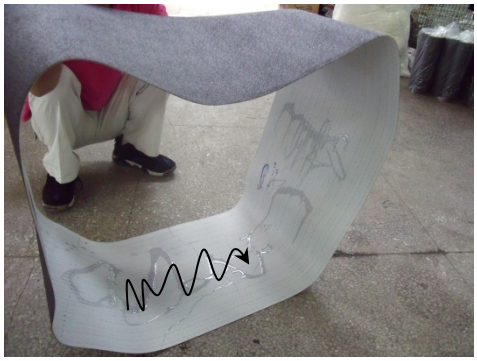
Lubricate after running belt replacement :

After replace running belt must additional silicon oil at least 40-50ml.

Before install new running belt, put new belt on the ground then prop open belt, pour down 20-25ml silicon oil by “S” track, then do another inside belt at same way.



Step 1: pour down 20-25ml silicon oil by “S” track.



Step 2: Do another side at same way.

Lubricate after running desk replacement :

After replace running belt must additional silicon oil at least 20-25ml.

Before install new running desk, put new desk on the ground then pour down 20-25ml silicon oil by “S” track, then use a hairbrush to even wipe silicon oil on desk running face.

Step 1: pour down 20-25ml silicon oil by “S” track.

Step 2: Use hairbrush to even wipe silicon oil on desk running face.

Step 3: The desk after wipe silicon oil.

Install and adjust main control board

When install a new main control board must adjust ***SPEED*** and ***AMP*** both VR at main control board before calibration SPEED from computer service set operation.

Confirm the new control board voltage 230VAC correct. (see ***Fig.1***).

Before install a new main control board on unit frame, first adjust ***SPEED*** and ***AMP*** both VR (see ***Fig.2)***, all turn VR at middle. After complete install a new main control board include plugged all connector at main control board then switch power on treadmill and insert safety Key, and press START button set console speed at 0.8kph(0.5mph).

Use a VR adjuster turn ***SPEED*** VR to counter clockwise and use a RPM or SPEED meter to measure actual speed on running belt moving at same time, still running belt speed at 0.8kph(0.5mph).

After finished adjust ***SPEED*** VR then adjust ***AMP*** VR, it's for adjust torque while unit at 0.8kph(0.5mph) speed. When running belt moving at 0.8kph(0.5mph), first step two hands hold and firm at front handle bar or both side rail handle bar then move feet on running belt and a little bit to resist Running belt, if running belt stop then adjust ***AMP*** VR to counter clockwise a little bit, after adjust ***AMP*** VR then use foot test again, repeat this test action couple times, still running belt not stop from foot little force.

Attention:

If adjust ***AMP*** VR too much higher, when user workout at treadmill running belt will suddenly speed up at short time during every pace. ***Do not adjust AMP VR too much higher because it's will to bring DC driver short life.***

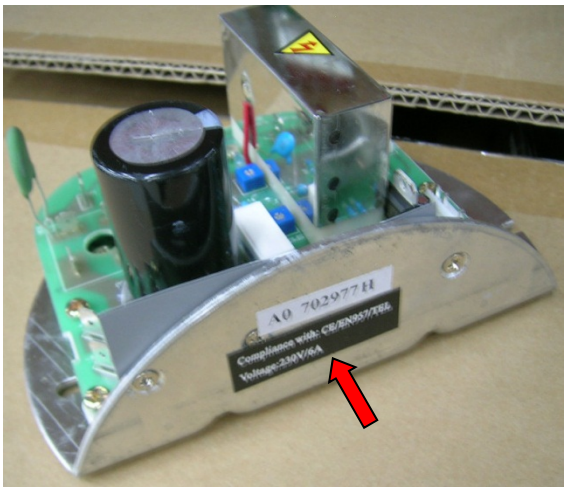


Fig.1

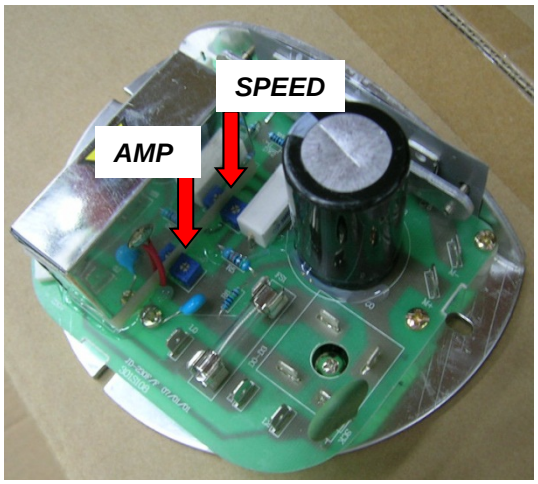


Fig.2

Install and adjust elevation motor

Before install a new elevation motor must confirm voltage and model correct from elevation motor label. (see ***Fig.1***).

When install a new elevation motor, first only fix new elevation motor rear body on unit main frame and connection all elevation motor wires on incline relay board. (see ***Fig.2***). Next step switch treadmill power on, insert safety key then press START button, elevation motor will Automatic turn to level "***0***" position.

Take elevation nut tube to turn in elevation spiral bar, still elevation nut tube top edge near Elevation motor body position.(see ***Fig.2***)

After complete elevation motor all install then follow service set instruction to calibrate incline.

Fig.1

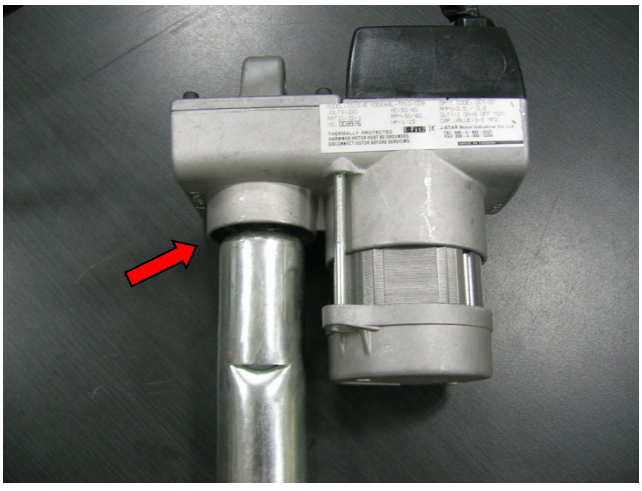


Fig.2

Error Code

Computer show “Err 2” while turn power on

Switch power on and press **INCLINE Up** + **INCLINE DOWN** + **STOP/ENTER** button and hold them, then pull on emergency stop switch, computer show “***1***” blinking, use **INCLINE UP** and **INCLINE DOWN** to select computer show “***2***” blinking, then press **START** button to enter the Incline Calibration Procedure.

Incline Level display shows “***0***”. Press Incline up and Down button to adjust the deck to horizontal position then press STOP/ENTER button to confirm the 0 level.

After set the 0 level, Incline Level display show “***12***” and the treadmill will automatically incline up. Waiting for treadmill incline stop, press Incline up and Down button to adjust incline level 12 correct position , then press STOP/ENTER twice to confirm the level 12 position and return computer power on status.

Computer show “  “ oil can or “Ser” for reset

Computer can display service maintain used mileage for service technical engineer check, this maintain mileage for cycle every ***300km(186ml)*** to remind unit owner to maintain treadmill on regular time. when showing maintain mileage can press SPEED DOWN button to reset.

Switch power on and press SPEED UP and DOWN button and hold them then insert safety key. Press INCLINE UP and DOWN button to select computer display show “***3***”, blinking then press START button, computer will display maintain mileage, press SPEED DOWN button can reset maintain mileage, then press ENTER button twice return to power on status.

Engineer mode Setting

Conversion console display in Metric(km) or English(ml)

Switch the power on, press and hold **START** button and hold them, then pull up the safety key, console will display “KM” or “ML”, use **START** button to select between “KM” and “ML”, then press **STOP/ENTER** to confirm and return power on status.

Enter the service Engineer Mode

Switch the power on, press and hold **INCLINE UP** and **DONW** and **STOP/ENTER** 3 buttons and hold them, then pull up the safety key to enter the ENGINEER MODE. Time/Distance display shows “***1***” and blinking.

Set and display the manufacture date and software version

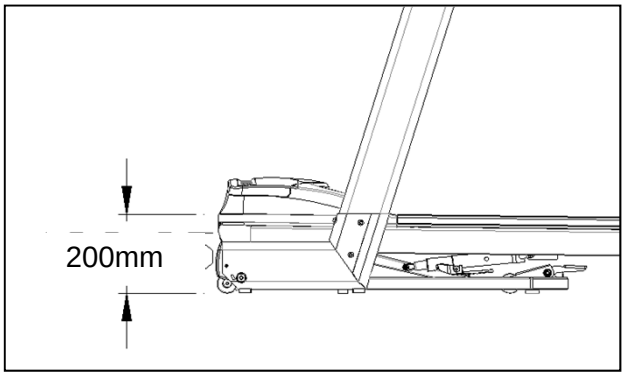
Press START button, Time/Distance display shows the manufacture YEAR, Heart Rate display shows manufacture MONTH, Calories display shows manufacture DATE. Speed display shows software version. The service engineer can adjust the manufacture date by pressing Incline Up and Down button follow the blinking display then press **STOP/ENTER** button after each adjustment to record the service date if necessary. After all the adjustment done, press **STOP/ENTER** button again to exit the Engineer Mode.

Incline Calibration

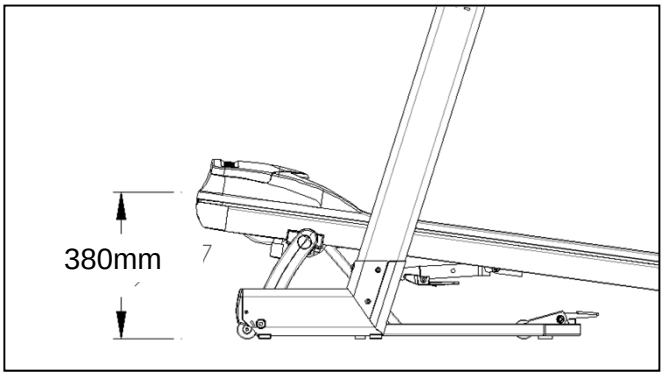
Enter Engineer mode.
Press **INCLINE UP** and **DOWN** button to select computer display shows “***2***” then press **START** button to enter the Incline Calibration Procedure.

Incline Level display shows “0”. Press **INCLINE UP** and **DOWN** button to bring the deck to horizontal position then press **STOP/ENTER** button to set the L0 level.

After set the L0 level, Incline Level display shows “12” and the treadmill will automatically incline up. Waiting for treadmill incline stop, press **INCLINE UP** and **DOWN** button to adjust incline L12 correct position , then press **STOP/ENTER** twice to set the L12 level and exit the engineer mode.



Incline level 1 position



Incline level 12 position

Speed Calibration

Enter Engineer mode.
Press **INCLINE UP** and **DOWN** button to select computer display shows "***3***" then press **START** button to enter the Speed Calibration Procedure.

Speed display shows "0.5"mph or "0.8"kph. Press **SPEED UP** and **DOWN** button to adjust the actual speed and measure the belt speed by speed meter then press **STOP/ENTER** button to set the lowest speed.

After set the lowest speed, Speed display shows "10"mph or "16"kph then treadmill speed will start increase. Wait till treadmill stop increase the speed, measure the belt speed by speed meter and press **SPEED UP** and **DOWN** to adjust the actual speed then press **STOP/ENTER** button twice to exit the Engineer mode.

SLEEP / DISPLAY Mode

When the power is ON the computer will automatically enter SLEEP MODE if it is left idle for 3 minutes without receiving any input. Press any button to return to POWER ON status when the computer is in the SLEEP MODE.

To cancel the SLEEP MODE feature using the DISPLAY MODE and always keep the console display on, pull out the safety key, press and hold the **SPEED UP** and **DOWN** buttons, insert the safety key to power on the treadmill. After one short beep sound the PULSE/INCLINE level display window show "***1***" and blinking. Press **START** button the TIME LED window will show "ON" (SLEEP MODE feature on) or "OFF" (SLEEP MODE feature off). Press the **INCLINE UP** and **DOWN** buttons to switch between "ON" and "OFF" then press **STOP/ENTER** to save the setting and return to POWER ON mode.

Set console buzzer sound on/off

Power on and pull out the safety key, press and hold the **SPEED UP** and **DOWN** buttons, pull up the safety key to power on the treadmill. After one short beep sound the PULSE/INCLINE level display window show "***1***" and blinking. Press the **INCLINE UP** and **DOWN** buttons to select show "***2***" then press **START** button, computer will show "ON" or "OFF", press **INCLINE UP** and **DOWN** to select between on/off then press **STOP/ENTER** button twice return power status.

Check and reset maintain mileage

Computer can display service maintain used mileage for service technical engineer check, this maintain mileage for cycle every 300km(186ml) to remind unit owner to maintain treadmill on regular time. when showing maintain mileage can press **SPEED DOWN** button to reset.

Power switch on and press **SPEED UP** and **DOWN** button and hold them then pull up safety key. Press INCLINE UP and DOWN button to select PULSE/INCLINE level display window show "***3***", then press **START** button, computer will display maintain mileage, press **SPEED DOWN** button can reset maintain mileage, press **STOP/ENTER** button twice return to power on status.

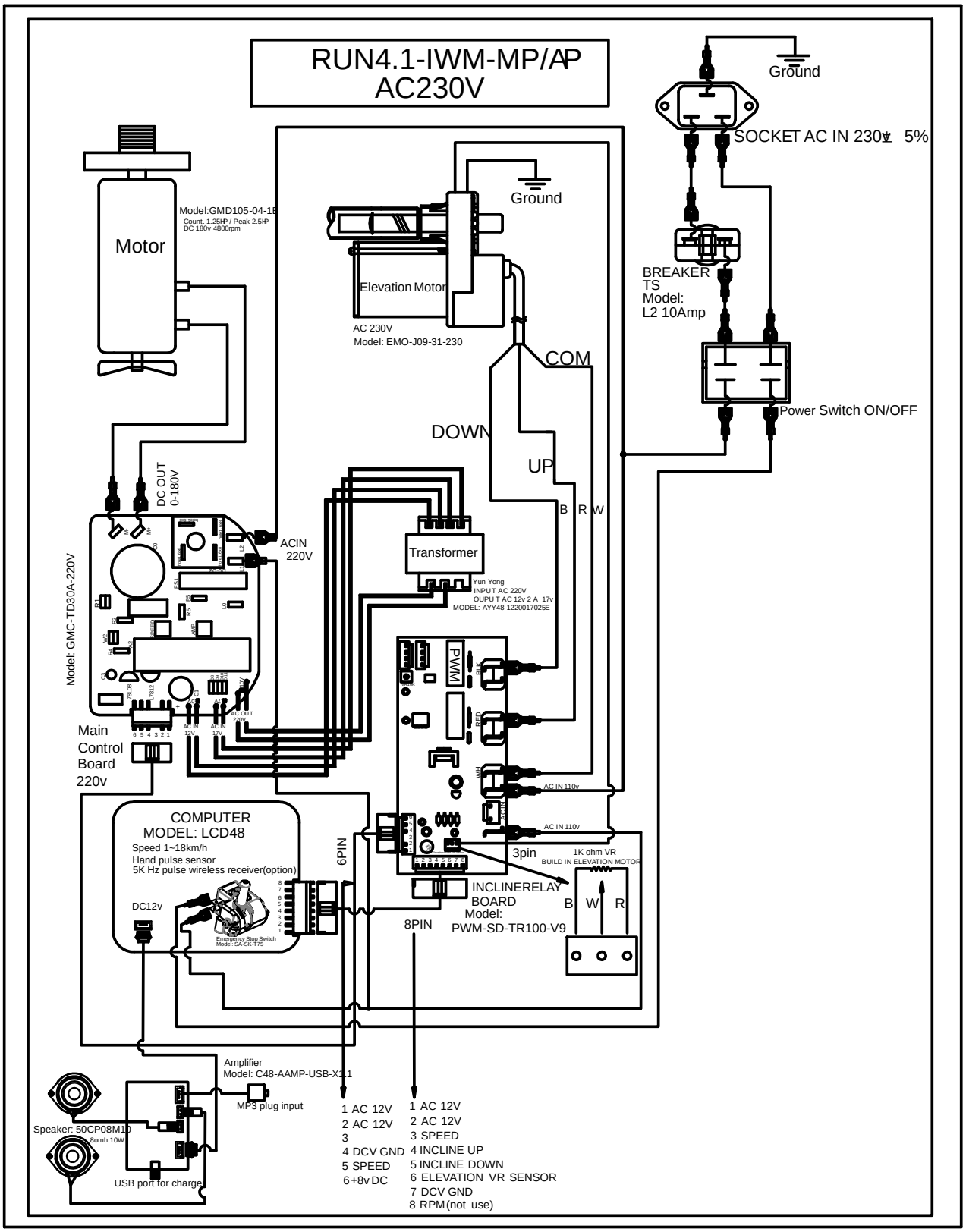
Display accumulate used mileage

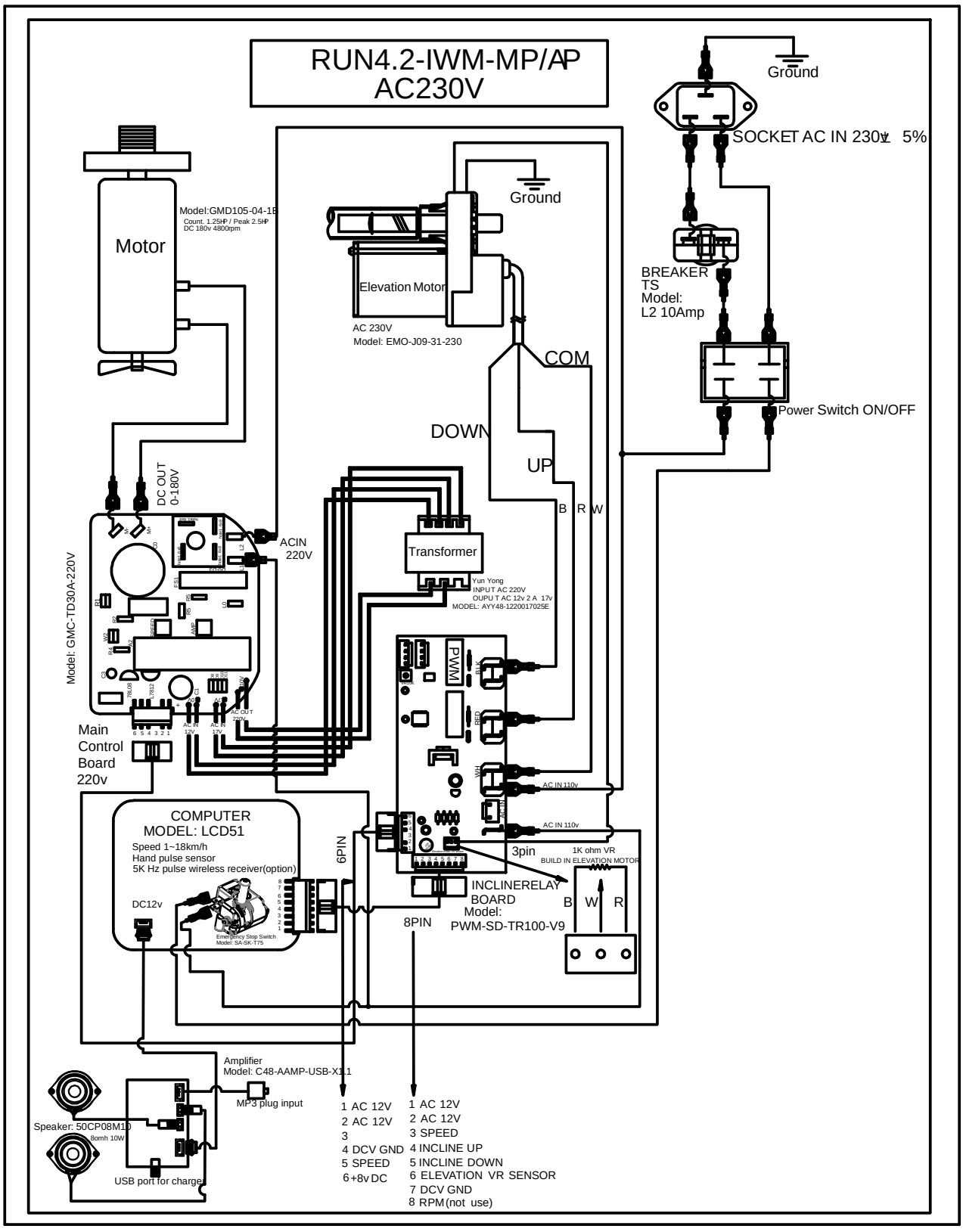
Power switch on and press **SPEED UP** and **DOWN** button and hold them then pull up safety key. Press **INCLINE UP** and **DOWN** button to select PULSE/INCLINE level display window show "***4***", then press **START** button, computer will display total used mileage, press **STO/ENTER** button twice return to power on status.

Display accumulate used hours

Power switch on and press **SPEED UP** and **DOWN** button and hold them then insert safety key. Press **INCLINE UP** and **DOWN** button to select PULSE/INCLINE level display window show "***5***", then press **START** button, computer will display total used hours, press **STOP/ENTER** button twice return to power on status.

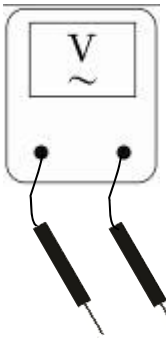
Treadmill circuit Diagram



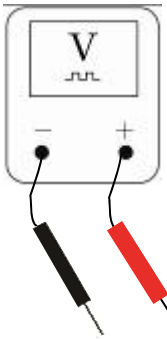

RUN4.2-IWM-MP/AP
AC230V
Ground
SOCKET AC IN 230V ± 5%
Motor
Model:GMD105-04-1B
Count. 1.25HP / Peak 2.5HP
DC 180v 4800rpm
Ground
Elevation Motor
AC 230V
Model: EMO-J09-31-230
BREAKER
TS
Model:
L2 10Amp
COM
DOWN
UP
B R W
Power Switch ON/OFF
DC OUT
0-180V
ACIN
220V
Transformer
Yun Yong
INPUT AC 220V
OUPUT AC 12v 2 A 17v
MODEL: AYY48-1220017025E
Model: GMC-TD30A-220V
PWM
AC IN 110v
AC IN 110v
Main
Control
Board
220v
COMPUTER
MODEL: LCD51
Speed 1~18km/h
Hand pulse sensor
5K Hz pulse wireless receiver(option)
DC12v
Emergency Stop Switch
Model: SA-SK-T75
6PIN
3pin
1K ohm VR
BUILD IN ELEVATION MOTOR
INCLINERELAY
BOARD
Model:
PWM-SD-TR100-V9
B W R
8PIN
Amplifier
Model: C48-AAMP-USB-X11
MP3 plug input
Speaker: 50CP08M10
8omh 10W
USB port for charge
1 AC 12V
2 AC 12V
3
4 DCV GND
5 SPEED
6 +8v DC
1 AC 12V
2 AC 12V
3 SPEED
4 INCLINE UP
5 INCLINE DOWN
6 ELEVATION VR SENSOR
7 DCV GND
8 RPM (not use)

Trouble Shooting

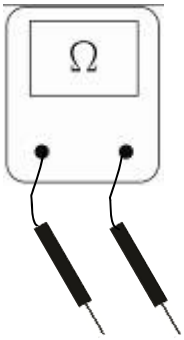
Electro-meter icon test instruction:



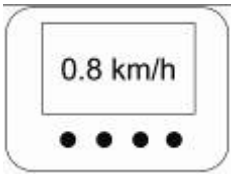
Test AC voltage



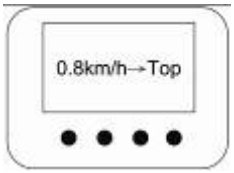
Test DC voltage



Test electric resistance

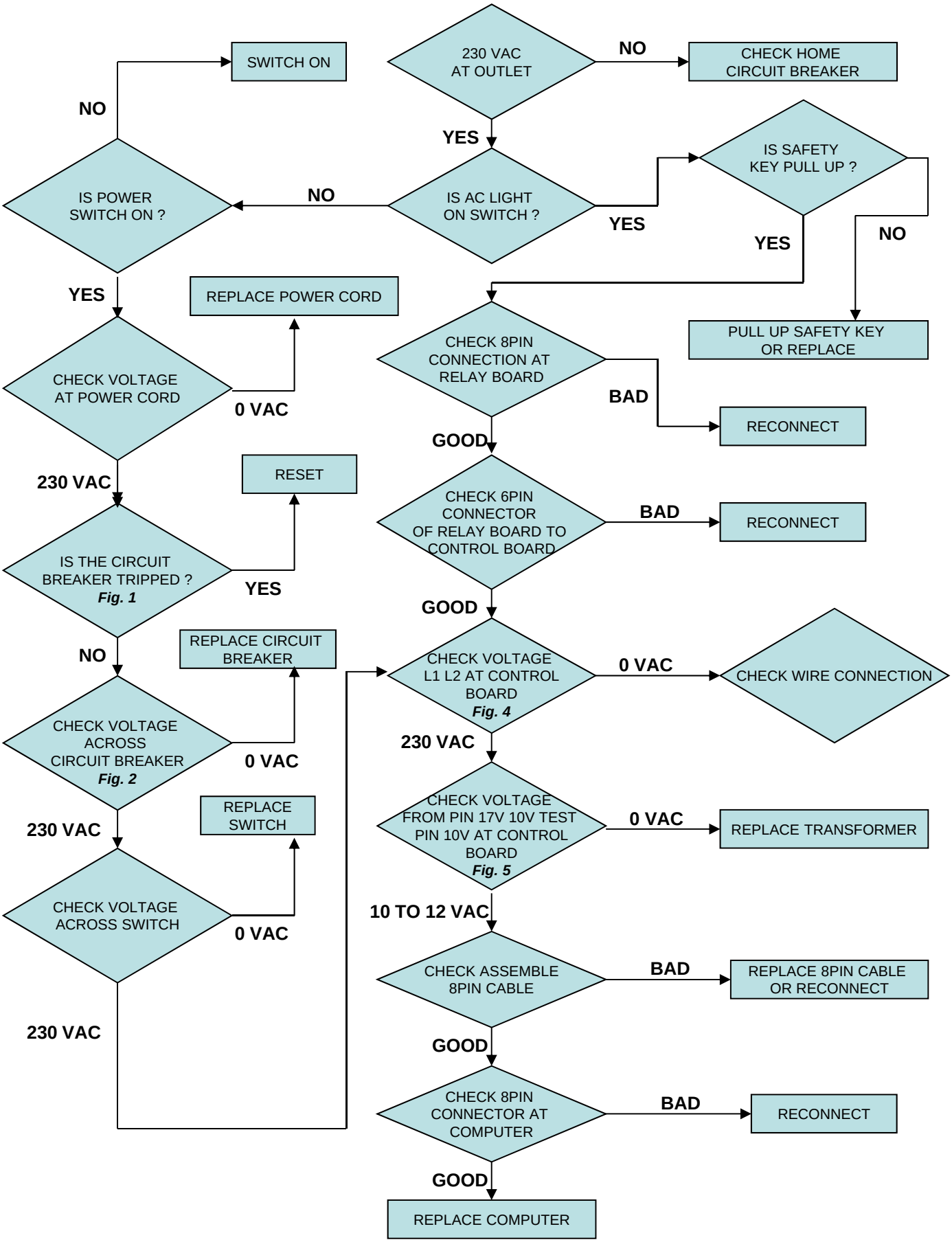


Press START button
at 0.8kph(0.5mph) speed.



Press START button then continuous adjust speed to top speed.

NO DISPLAY REPAIR-1



NO DISPLAY REPAIR-2

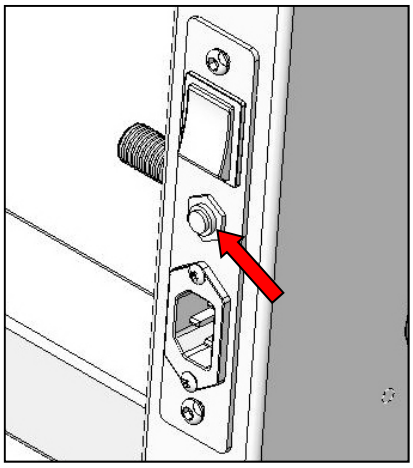


Fig. 1: Is circuit tripped ? press button to reset.

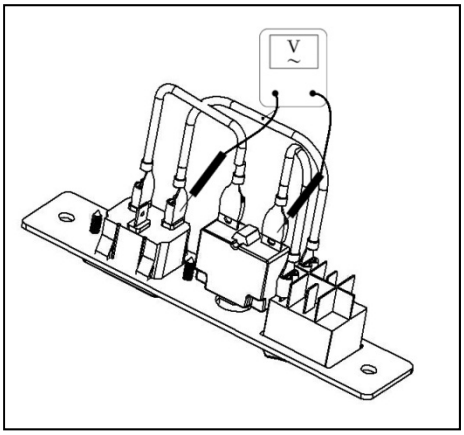


Fig. 2**:** Check voltage across circuit breaker.

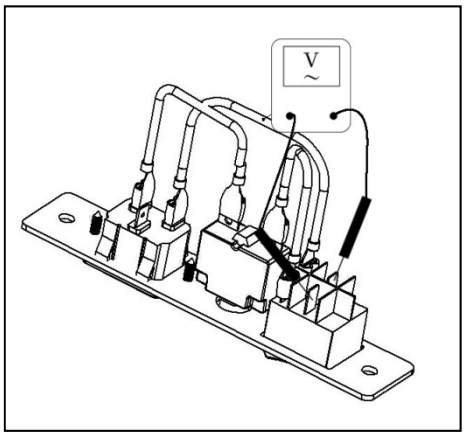


Fig. 3**:** Check voltage across switch.

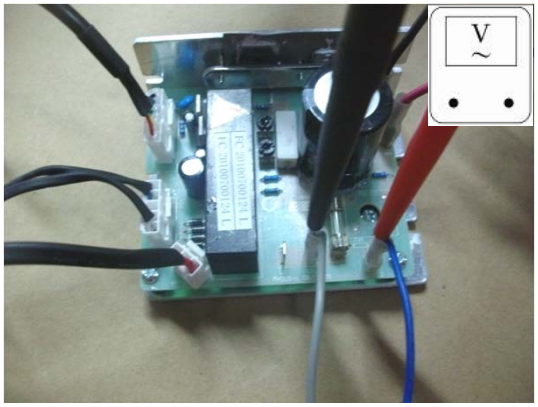


Fig. 4**:** Check voltage L1, L2 at main control board.

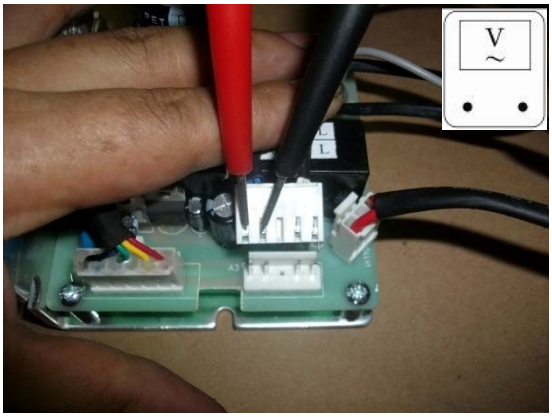
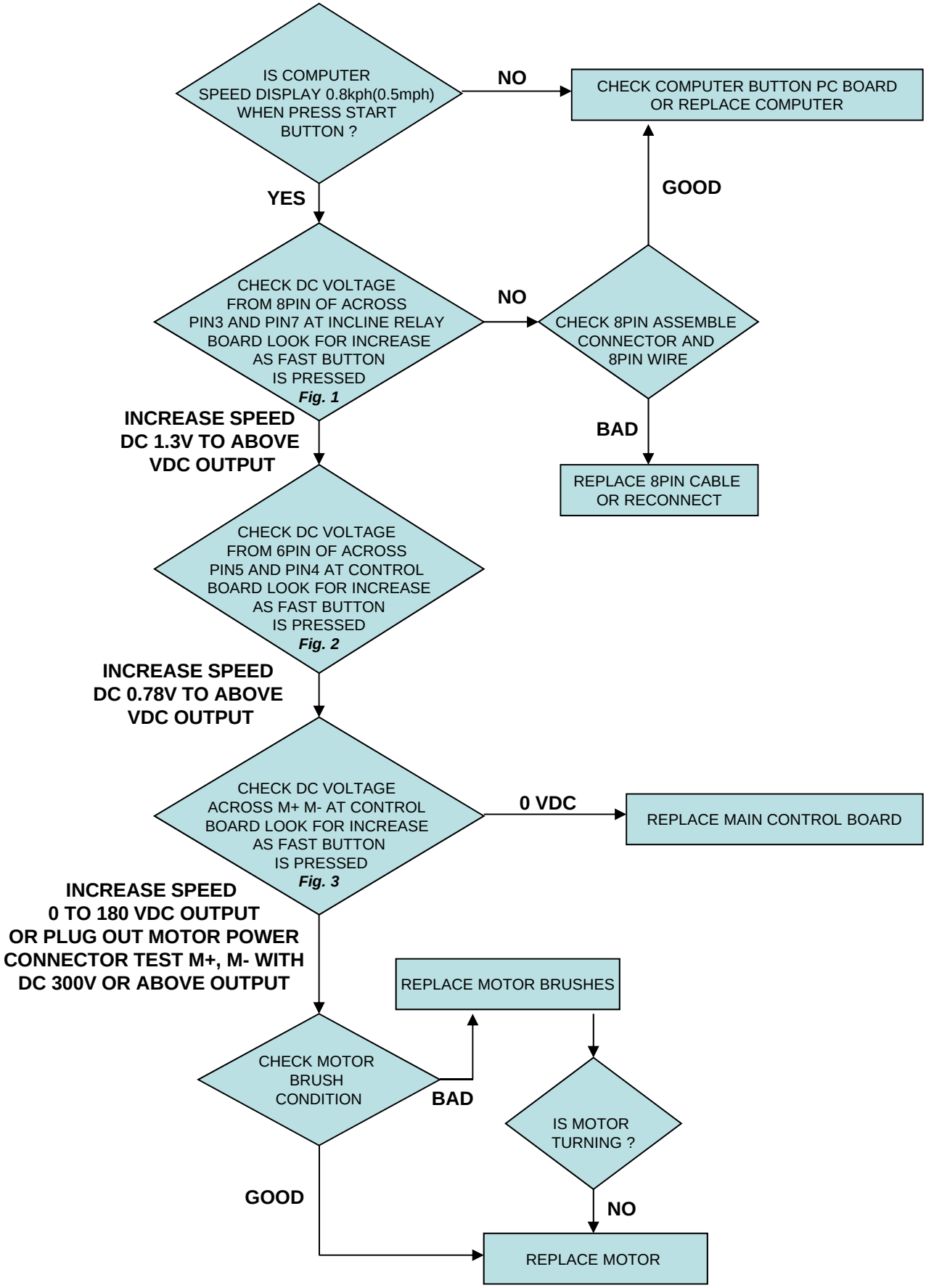


Fig. 5**:** Check voltage from pin 17v 10v, test pin 10v at main control board.

NO BELT MOVEMENT REPAIR-1



NO BELT MOVEMENT REPAIR-2

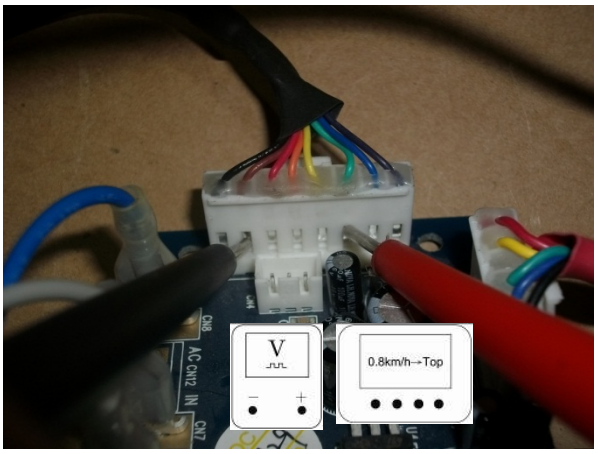


***Fig*. 1:** Check DC voltage from 8pin of across pin3 and pin7 at incline relay board check for increase as fast button is pressed.

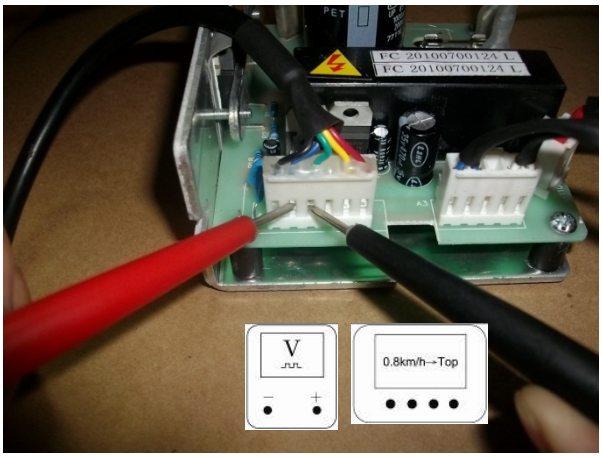


Fig. 2: Check DC voltage from 6pin of across pin4 and pin5 at main control board check for increase voltage as press SPEED UP button is pressed.

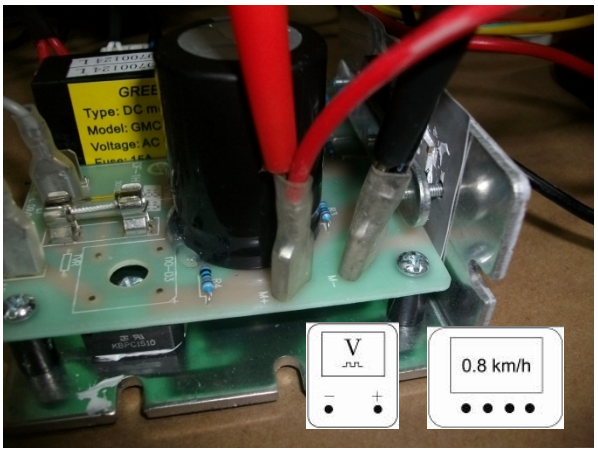
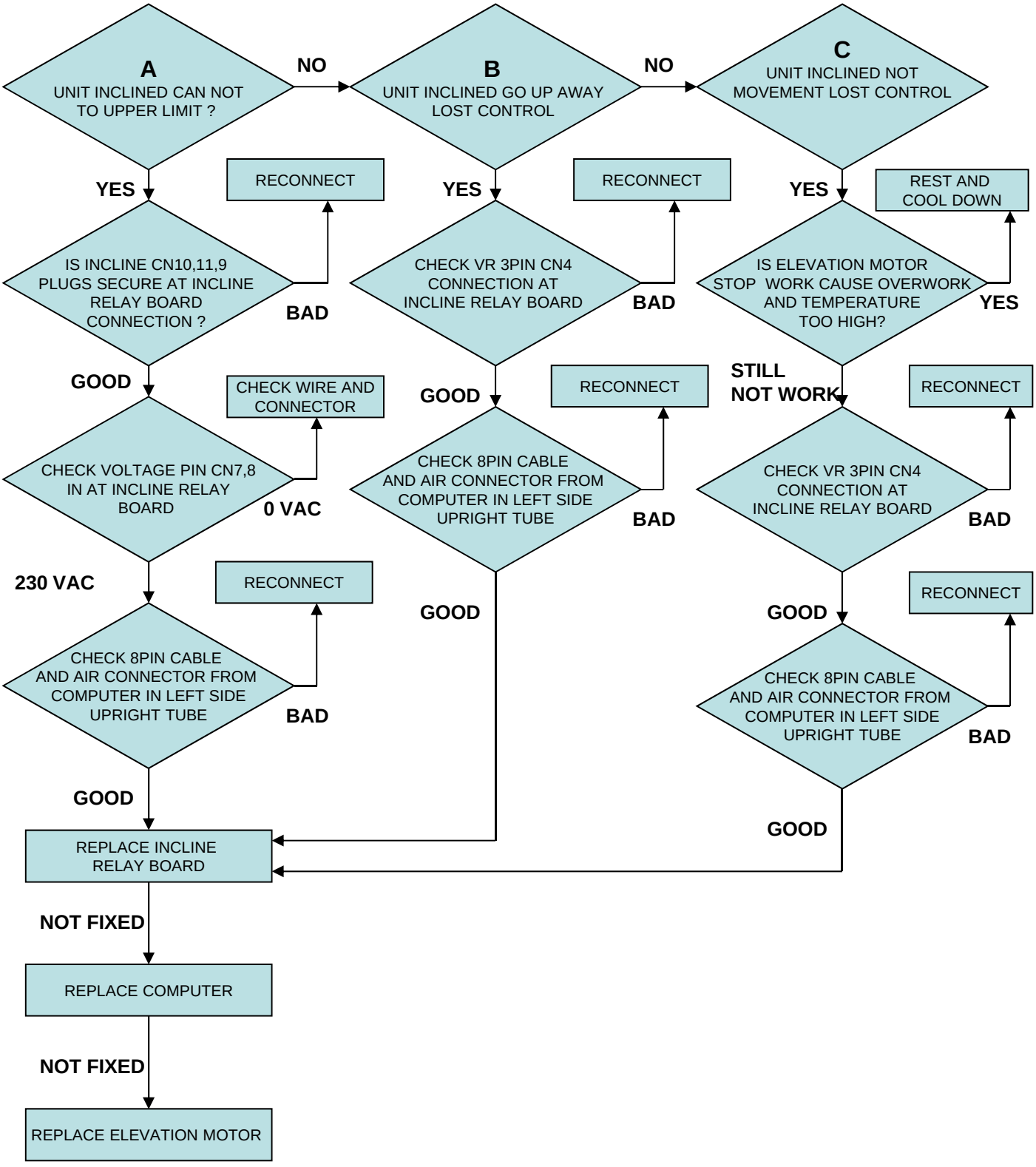


Fig. 3: Check DC voltage across M+, M- at main control board check for increase as fast button is pressed.

ELEVATION MALFUNCTION



HEART RATE(HR) NOT FUNCTIONING/ ERRATIC READING