

SportsArtFITNESS

C575R Repair Manual (Electronics)



1-1. C575R Product pictures

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1-2. Display -C575R

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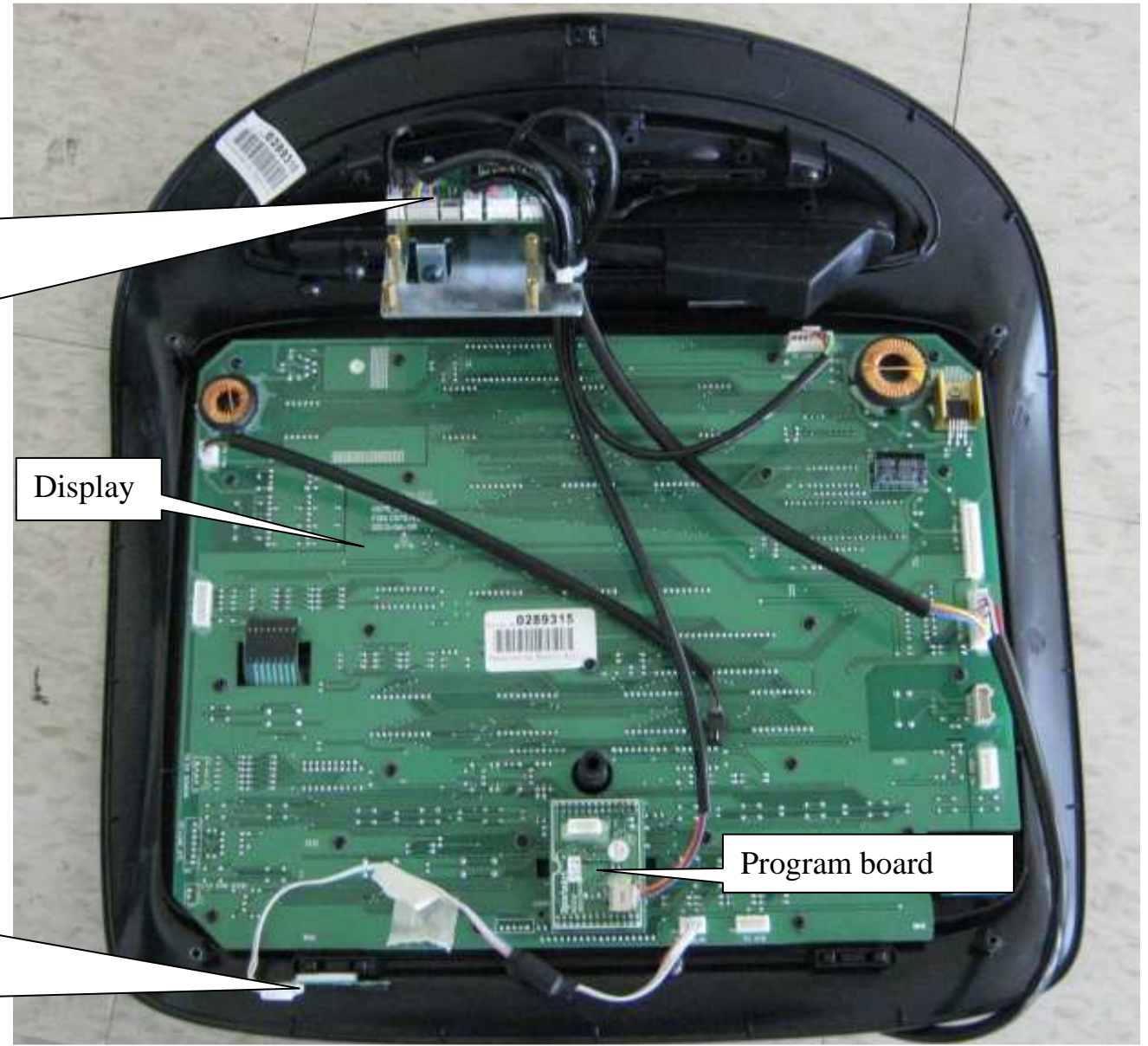
1-3.Component Placement- C575RDisplay

USB board

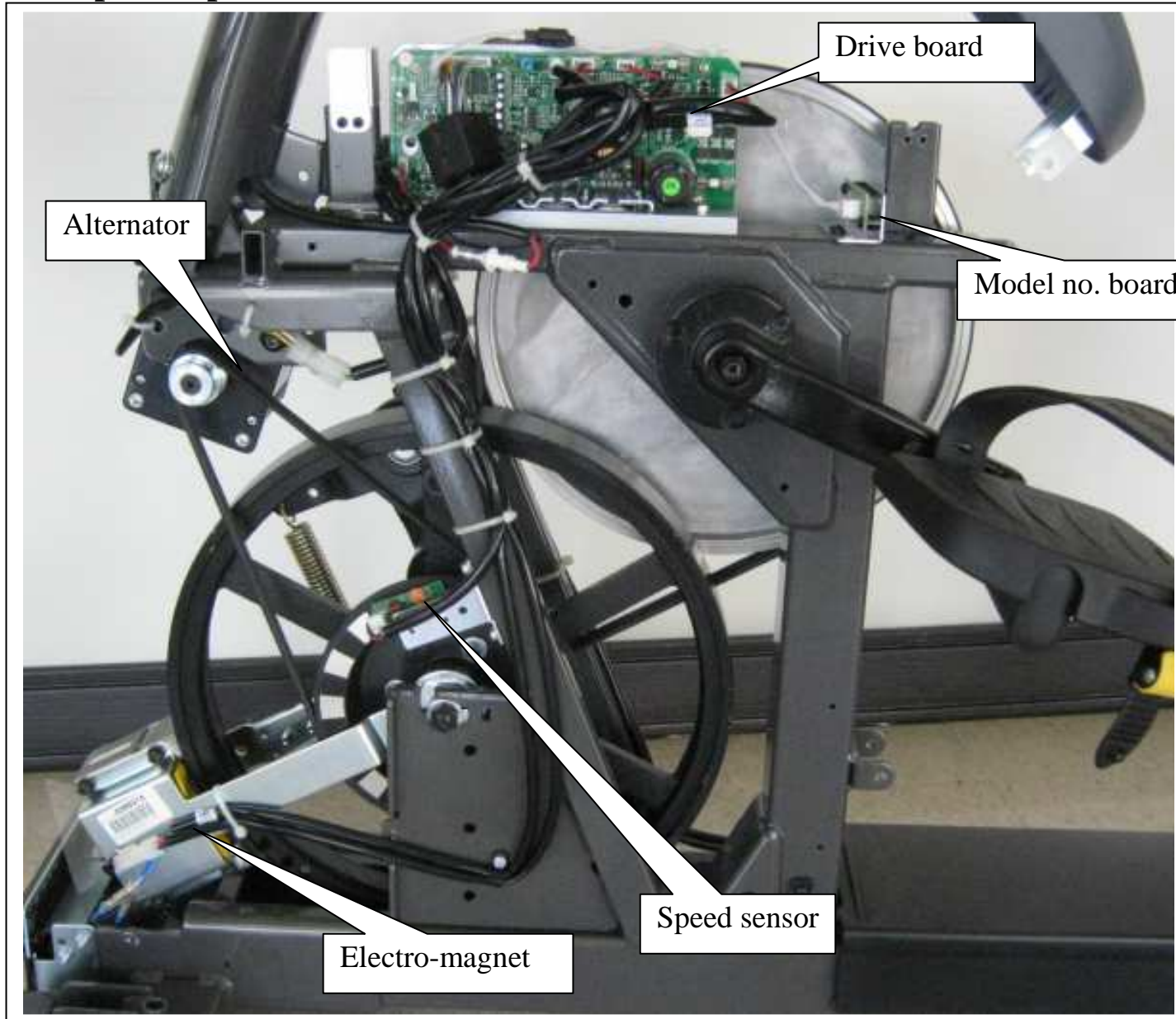


Display

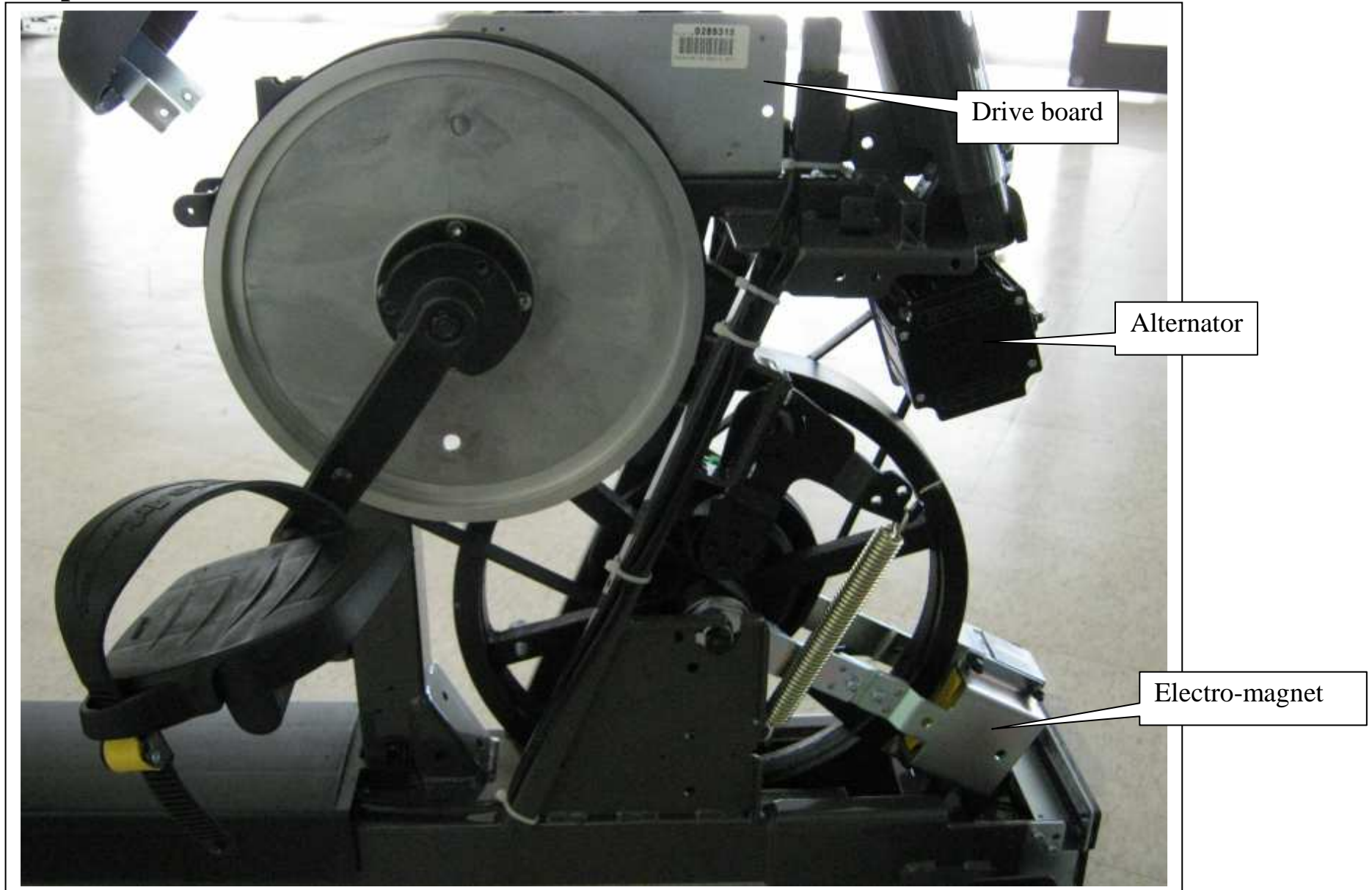
Polar wireless board



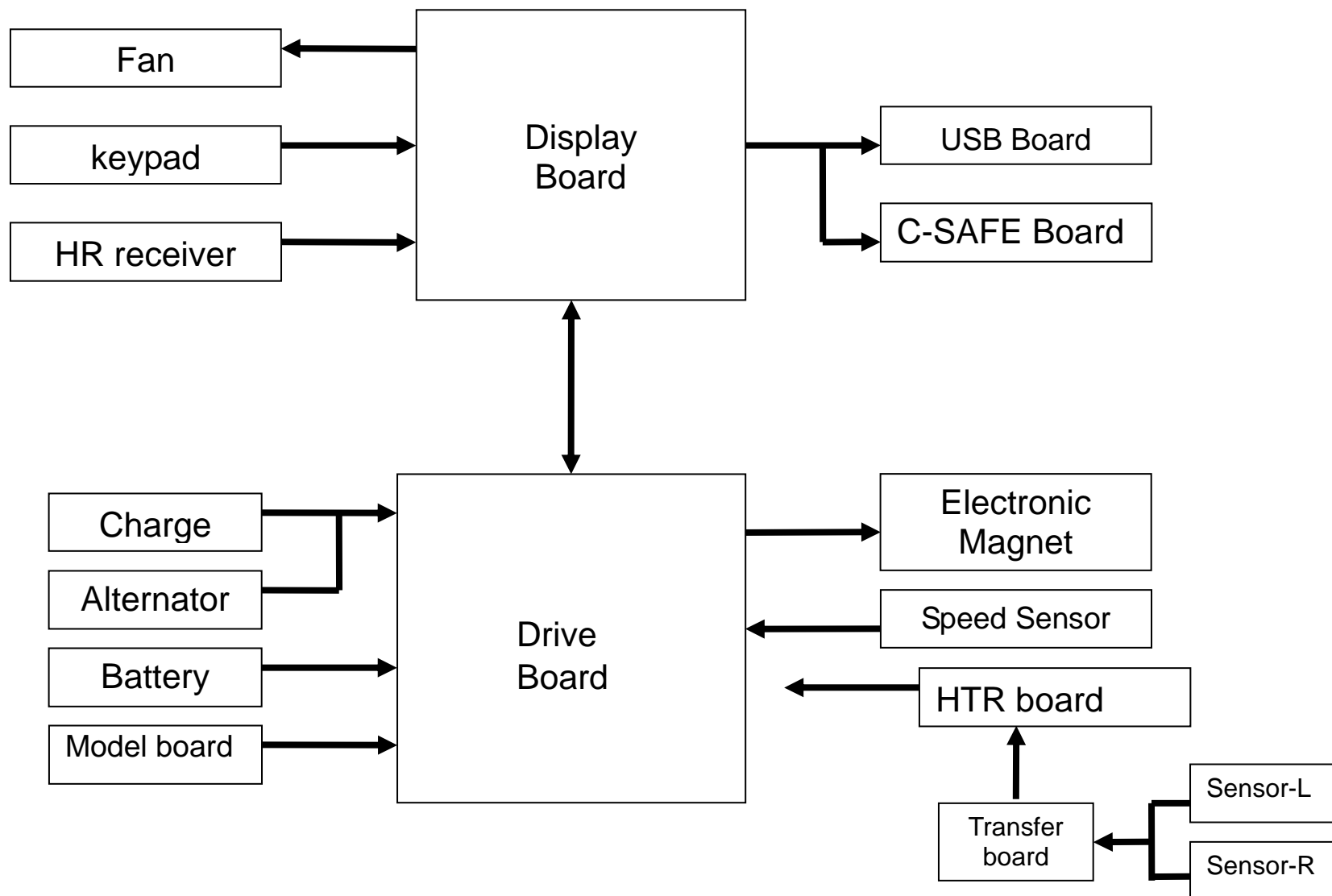
1-3.Component placement - C575R lower frame



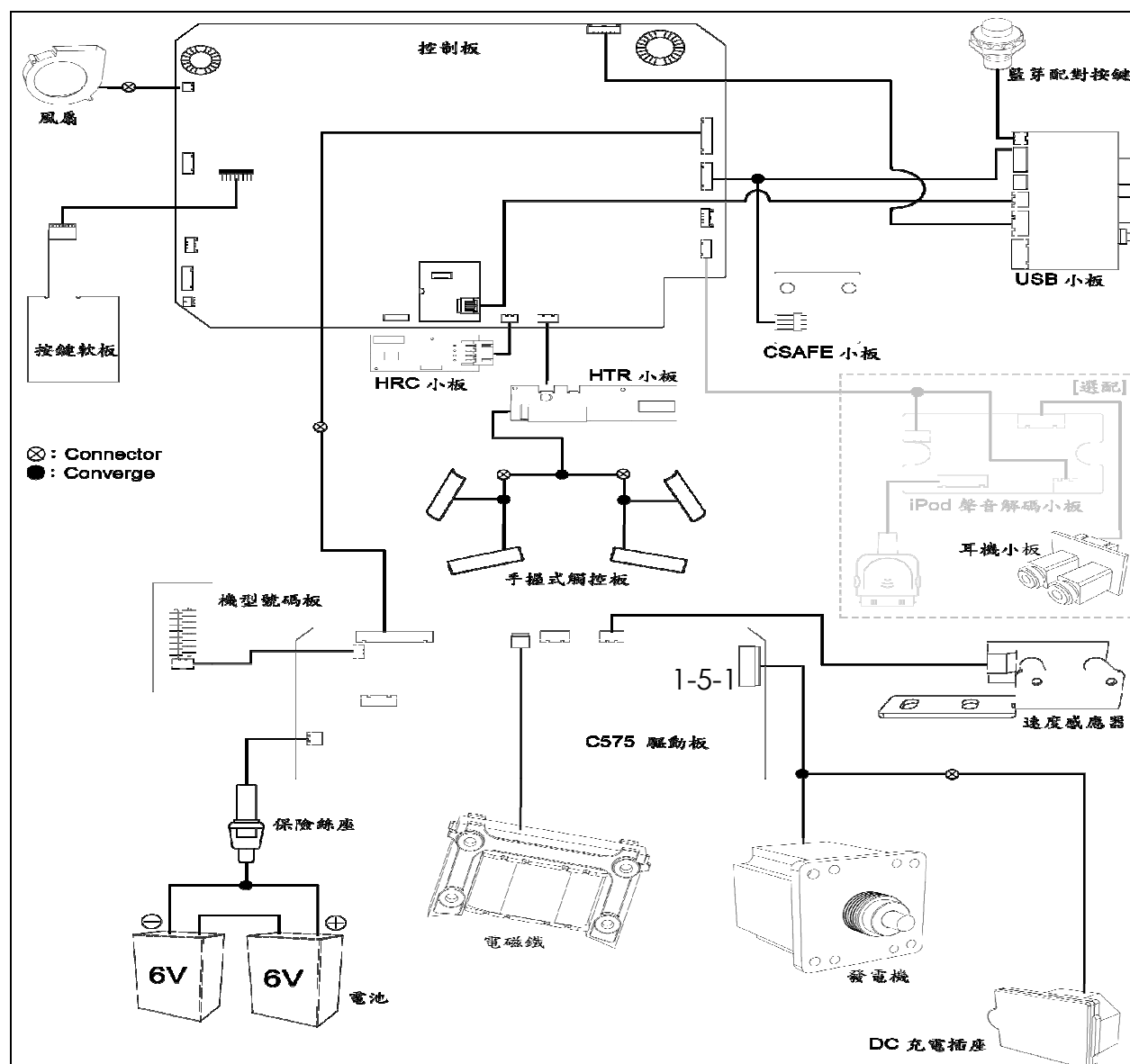
1-3.Component placement - C575R Lower frame



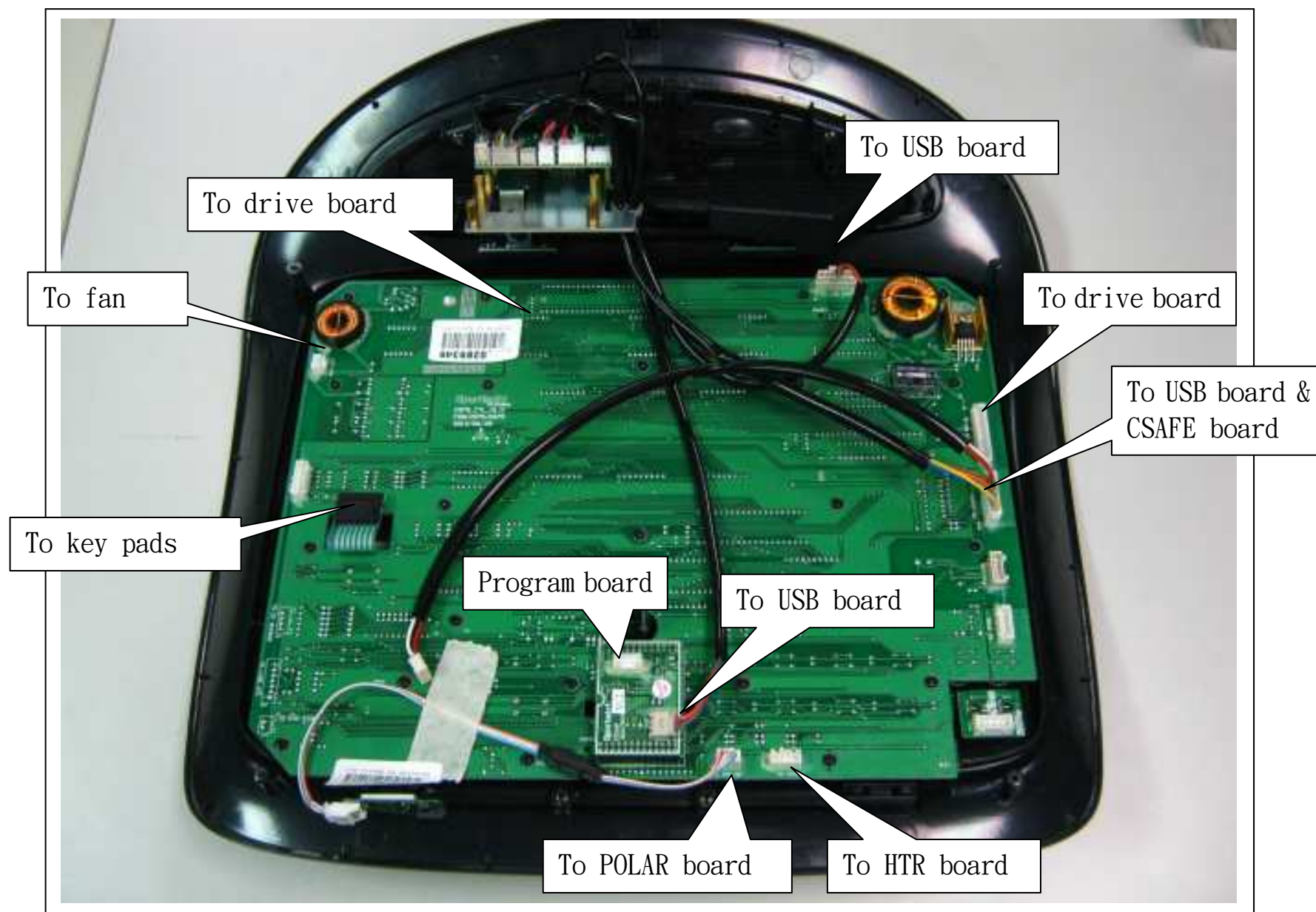
1-4. Block diagram -C575R



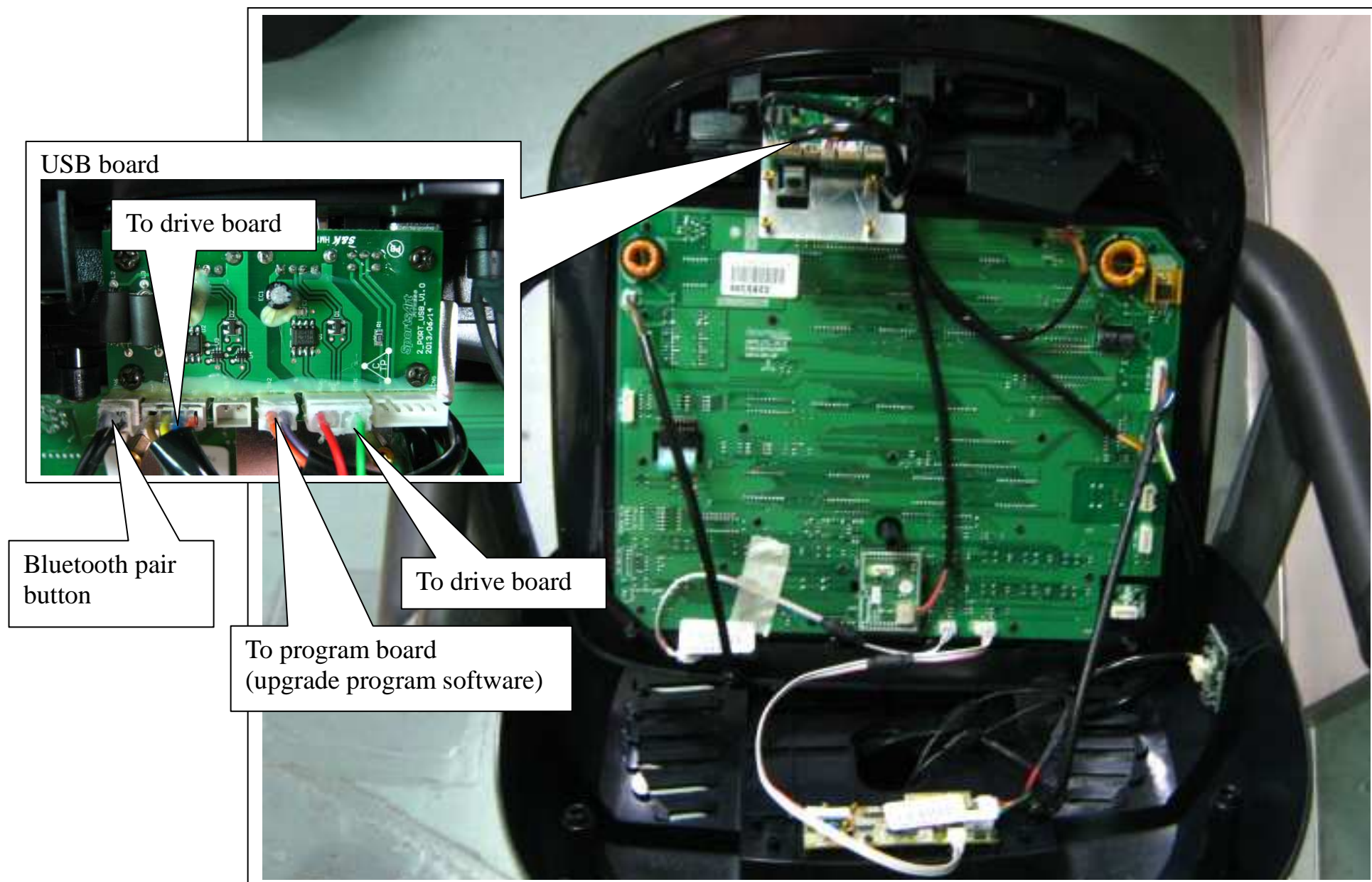
1-5.Block diagram-C575R



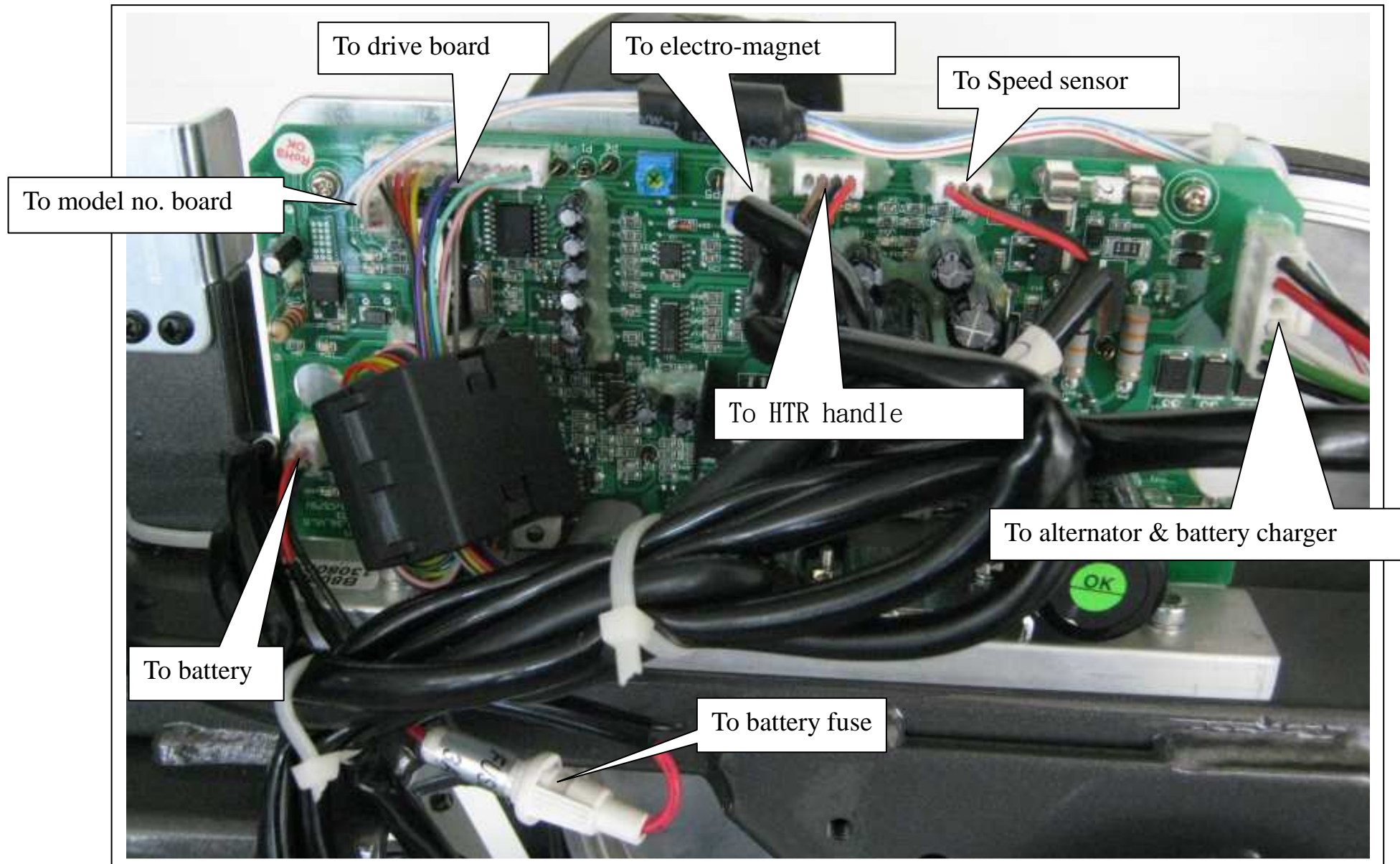
1-5.Connections - C575R display



1-5. Connections -C575R Display



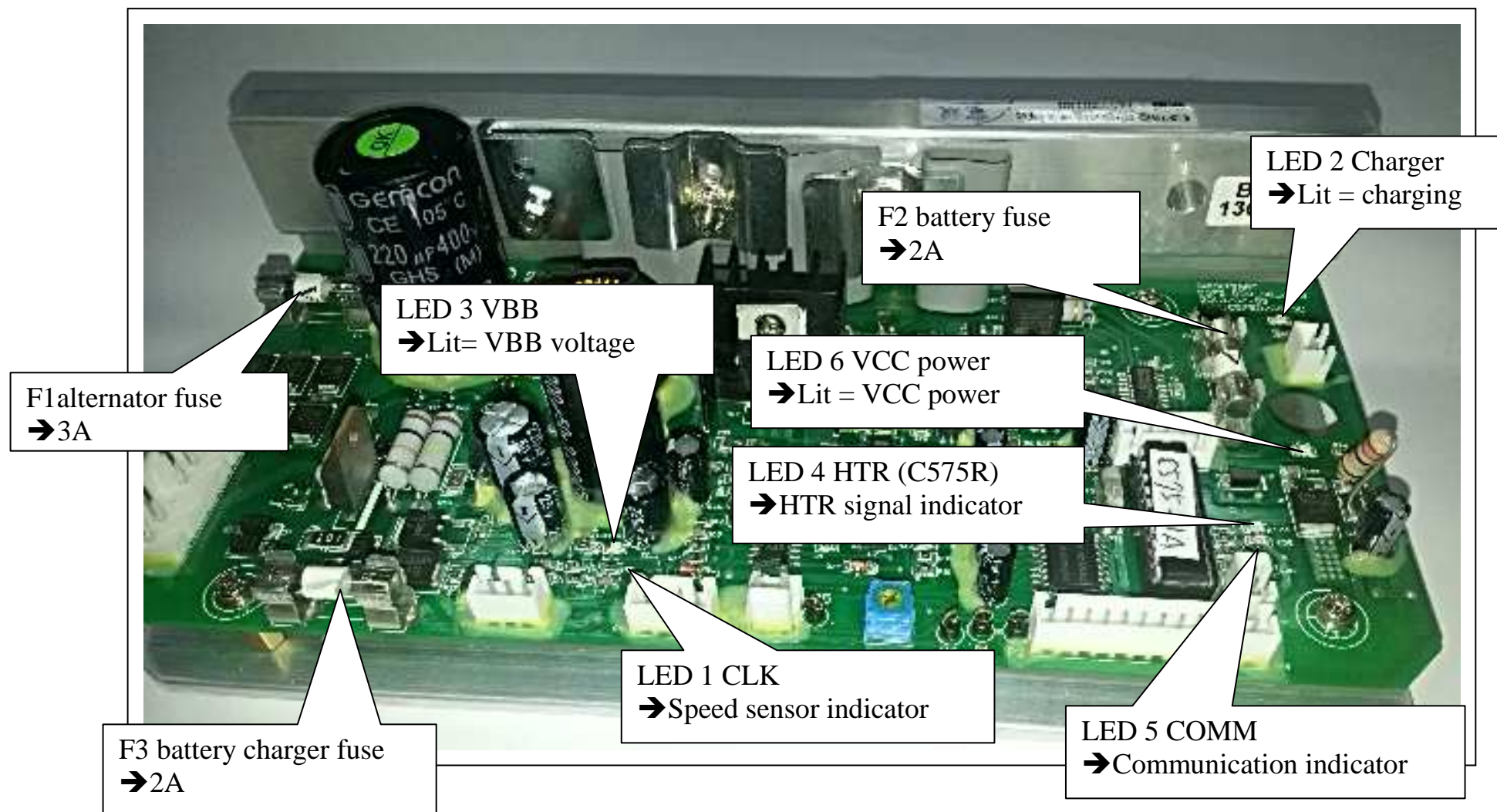
1-5. Connections -C575R Drive board



1-6. Display board indicator LEDs -C575R display



1-6.Drive board indicator -C575R/U



1-7. Electronic component specification -C575R

Specification	Description	Note
Main power	AC alternator	
Battery	Rechargeable Battery 6V *2 Self-charging or charging from the outside power source	
Resistance control	Electro-magnetic (current control)	
Resistance range	LEVEL 1 – LEVEL 40	
Speed sensor	Infrared sensor	
Main display window	Dot matrix	
Secondary windows	CARDIO ADVISOR – Weight loss zone, Heart, CARDIO zone, CALORIES / LEVEL / TIME / DISTANCE RPM / METS / SPEED / HUMAN WATTS	
Program modes	MANUAL, INTERVAL, PLATEAU, RANDOM, FAT BURN, FIT TEST, CUSTOM HR, WT LOSS/CARDIO	
Heart rate receivers	Wireless Polar T34 & HTR	
Program languages	German, French, Spanish, English (US), English (International), Japanese	
Fan	Fan, (LOW, MIDDLE, HIGH)	
Outside connection	USB → cell phone charging, software upgrade ; CSAFE Reserved functions → IPOD video, Bluetooth	
Fuse	Drive board, alternator fuse 2A Drive board, battery fuse 1A Drive board outside power charging fuse 3.15A	

2-1.Troubleshooting -C575R

Faulty item	Description	Inspect and test procedures	Suggesting replacement parts
No power	Display is not lit up while pedaling the bike	1.Check all wire connections 2.Check drive board alternator fuse 3.Check drive board LED3,LED6 , or replace drive board 4.Replace drive board	1. Drive board alternator fuse 2. Drive board 3. Control board
No power	Display off immediately when stop pedaling	1.Use the external adaptor or pedaling the bike to charge 2.Check the rechargeable battery fuse 3. Check the rechargeable battery voltage. If it is too low, replace the battery.	
No RPM	RPM display 0 while pedaling the bike	1. Check the wire connection 2. Check speed sensor & LED1 CLK LED 3. The distance of speed sensor& optical disk < 5mm 4. Clean the speed sensor 5. Replace the drive board	1. speed sensor 2. Drive board
No resistance	1.No resistance while pedaling	1.Check to see if there is RPM signal on display while pedaling the bike 2.Check the electro-magnet status 3.Check or replace the drive board to see	1.speed sensor 2.Drive board
No/bad telemetry heart rate reception	Wearing strap, however no/bad heart rate signal	1. Check the Polar board wiring or replace it 2. Check interference sources, such as light or speaker	1. Polar board 2. polar transmission
Key not function properly	Key is not responding or stuck	1. Check the location of the problem keys 2. Numeric key pad problem, check or replace the membrane keys 3. If it is other key area, check or replace control board. 4. Replace key switches	1. Soft key pad 2. Control board or control board key board switch

No/bad contact heart rate reception	No/bad HTR heart rate signal	1. Make sure palms are holding on the sensors. 2. Check the HTR board signal status 3. Check HTR wiring problem	1. HTR board 2. HTR sensor 3. HTR wiring
Total distance display	Kph/mph/total distance/time/software version	1. Press <CHANGE DISPLAY> 3 seconds 2. Display language, total time, total distance, control board software version, drive board software version	

Troubleshooting

Model: C575R

Malfunction item: Product will not turn on -alternator

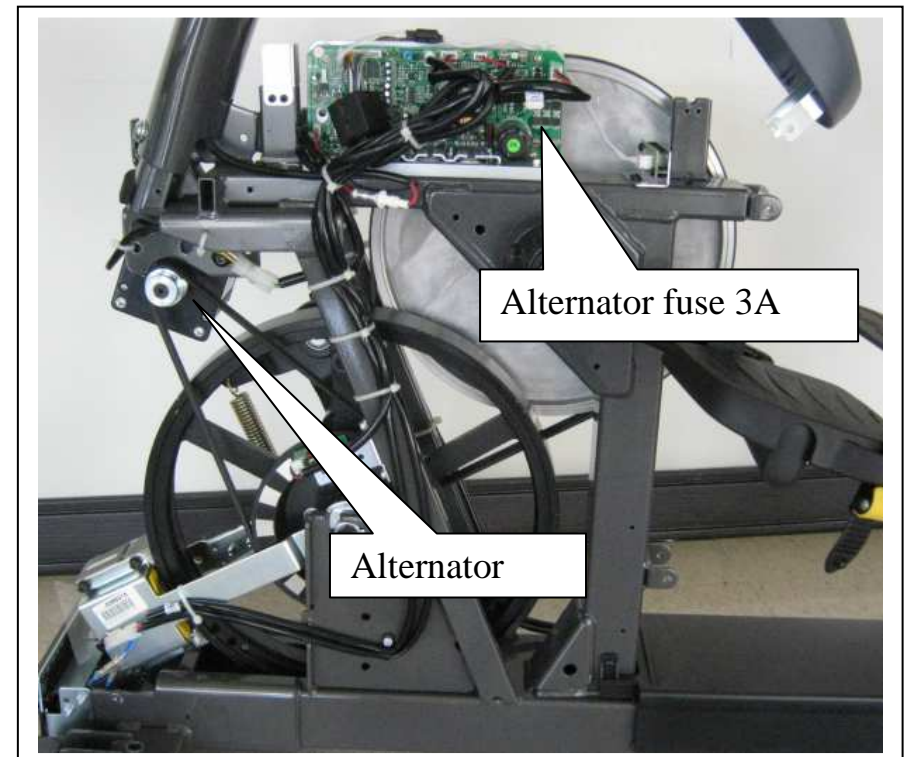
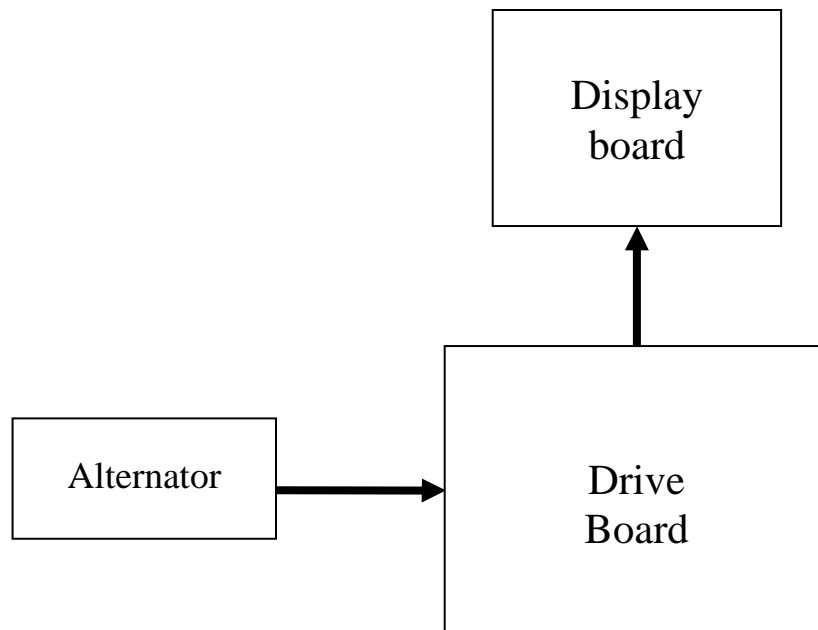
Circumstance: Start pedaling, display will not turn on

Possible causes:

- 1.Bad wire connections
- 2.Alternator fuse brunt
- 3.Bad drive board
- 4.Bad control board

Troubleshooting:

- 1.Check the alternator fuse
- 2.Check all wire connections
- 3.Check drive board LED indicator or replace drive board
4. Check power LED indicator on the control board or replace control board



Troubleshooting

Model: C575R

Malfunction item: Product will not start – rechargeable battery

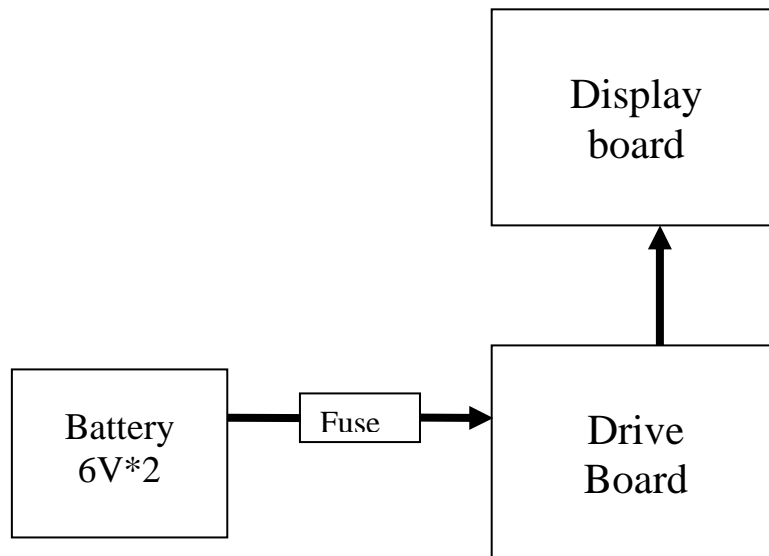
Circumstance: Press <Quickly start> on the console and no response

Possible causes:

1. Bad wire connections
2. Wiring problem with rechargeable battery

Troubleshooting:

1. Check the drive board and rechargeable battery fuse
2. Measure the battery voltage, it should be above $6V * 2$
3. Check drive board LED 3 & 6 indicators
4. If the battery is low, plug the adaptor to recharge.



Battery fuse

Battery Fuse 3A

Battery voltage
 $6V * 2 = 12V$



Troubleshooting

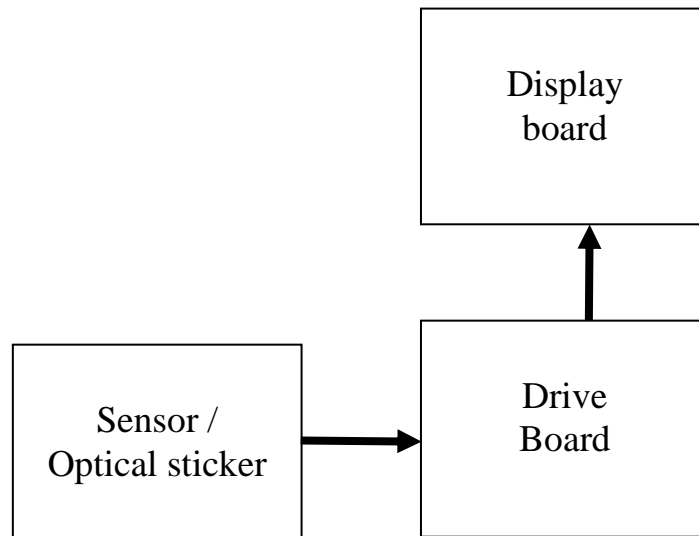
Model: C575R

Malfunction item: No RPM display

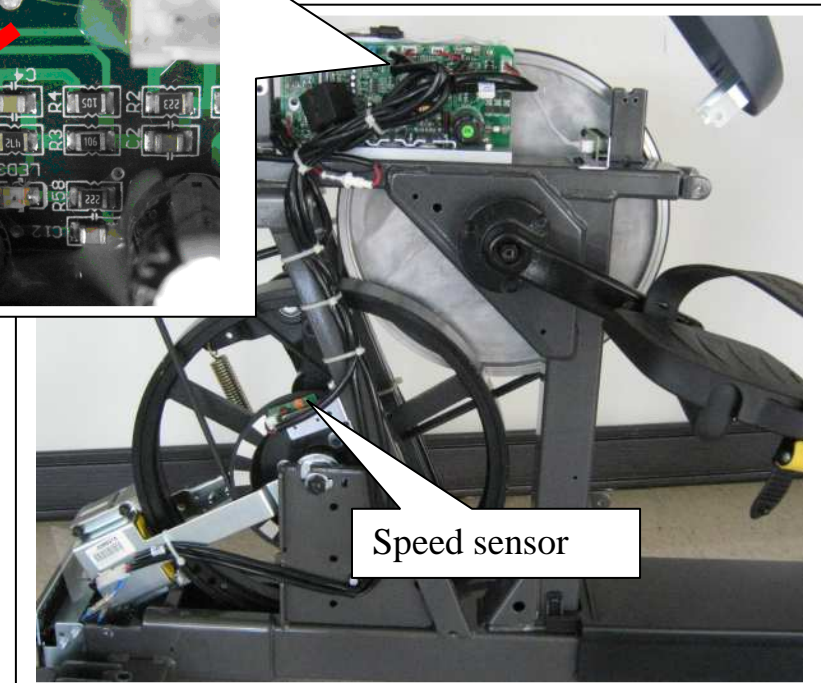
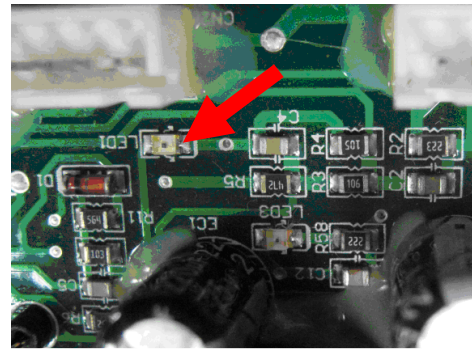
Circumstance: There is no RPM display while pedaling the bike

Possible causes: 1.Bad wire connections
2.Bad speed sensor signal

Troubleshooting: 1.Check to see if the distance
between sensor and its sticker < 5mm
2.Clean speed sensor
3.Check drive board LED1/CLK signal indicator
4.Replace speed sensor or drive board



LED 1 CLK indicator



Troubleshooting

Model: C575R

Malfunction item: No resistance

Circumstance: No resistance while pedaling the bike

Possible causes: 1. No RPM signal on display

2. Bad drive board

Troubleshooting: 1. Check CLK indicator on the drive board

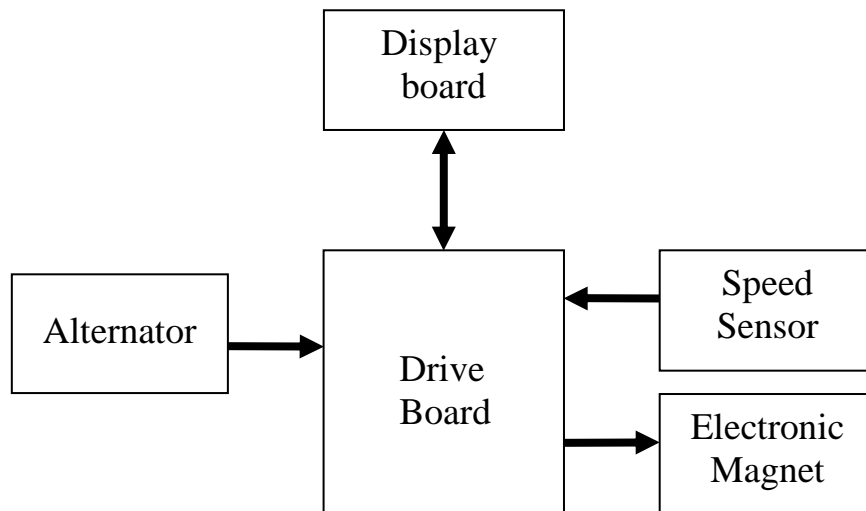
2. Check all wire connections

3. Check alternator voltage

4. Measure the resistance voltage output or replace the drive board.

5. Check drive board LED3 & 4 and wire connections to the electro-magnets.

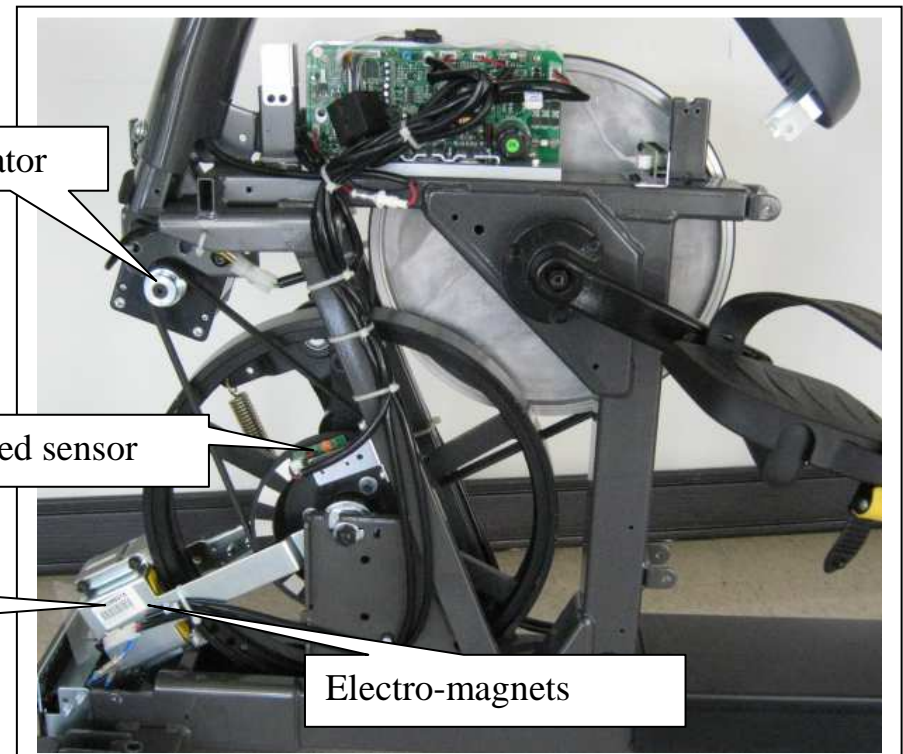
6. Bad one way bearing on the flywheel



Blue-blue

Level	Voltage (V)
LEVEL 1	1.9 V
LEVEL 10	11 V
LEVEL 40	17 V

3-3-1



Troubleshooting

Model: C575R

Malfunction item: Resistance voltage output too much or not enough

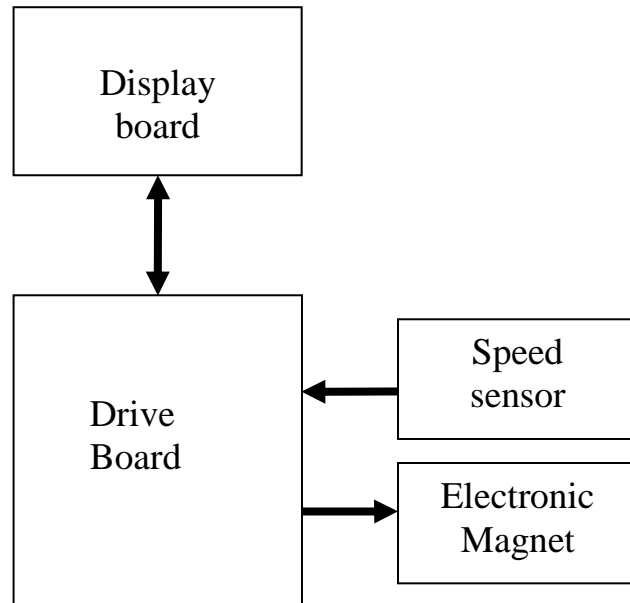
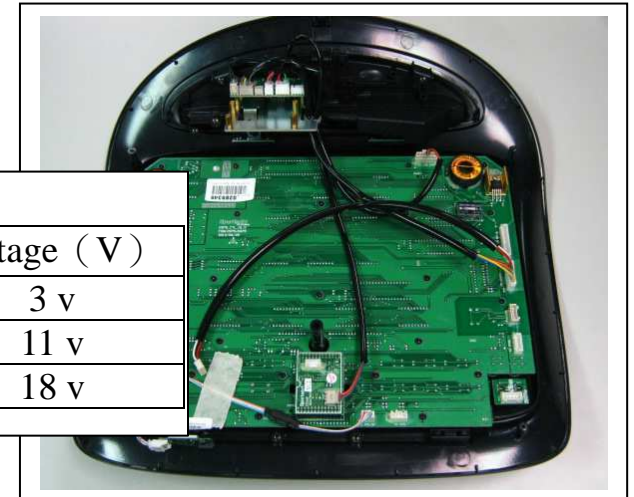
Circumstance: Resistance voltage output too much or not enough

Possible causes: 1.Bad drive board

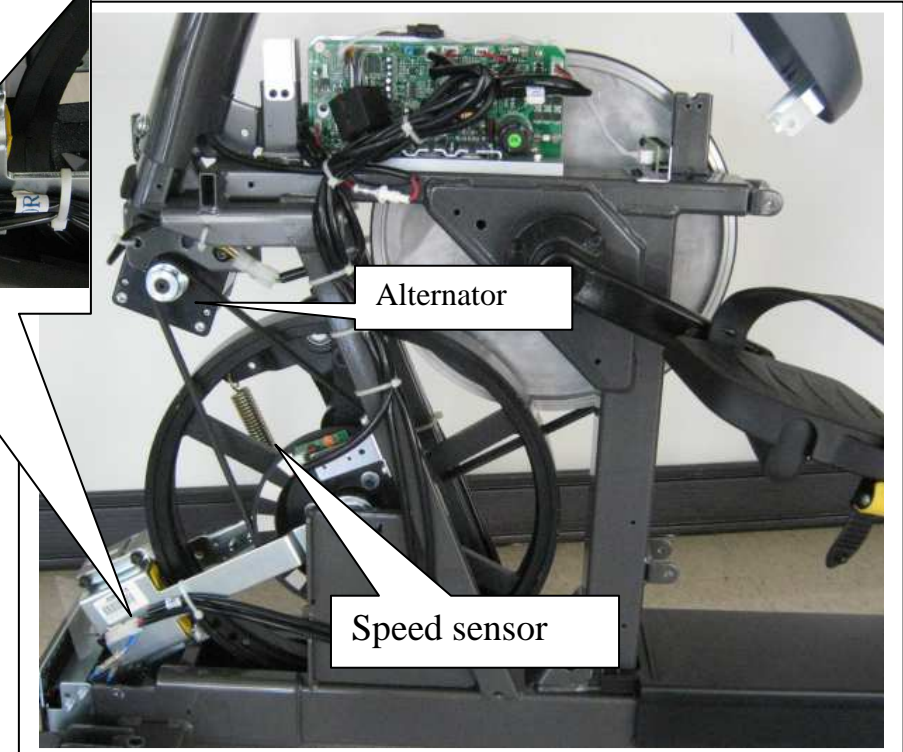
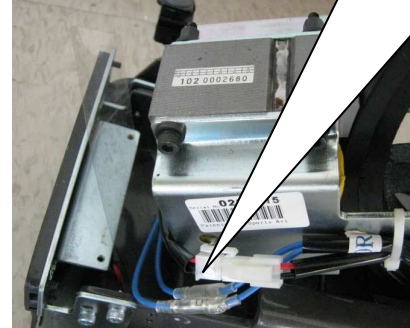
Troubleshooting: 1.Measure the drive board voltage
2.Check flywheel if the voltage is normal
3. Replace drive board if the voltage measurement is abnormal

Blue-blue

Level	Voltage (V)
LEVEL 1	3 v
LEVEL 10	11 v
LEVEL 20	18 v



Electro-magnets



Troubleshooting

Model: C575R

Malfunction item: Bad telemetry heart rate reception

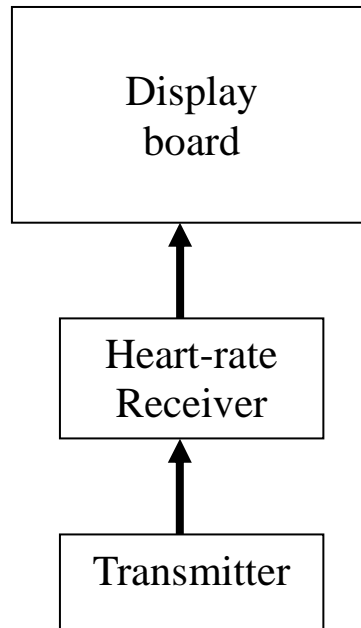
Circumstance: Bad telemetry heart rate reception

Possible causes:

1. Telemetry transmitter battery too low
2. Bad HR receiver board
3. Interference issue, such as lights, speakers

Troubleshooting

1. Replace the transmitter battery
2. Check HR receiver board wiring
3. Replace the receiver board



Telemetry receiver board



Polar T34



Troubleshooting

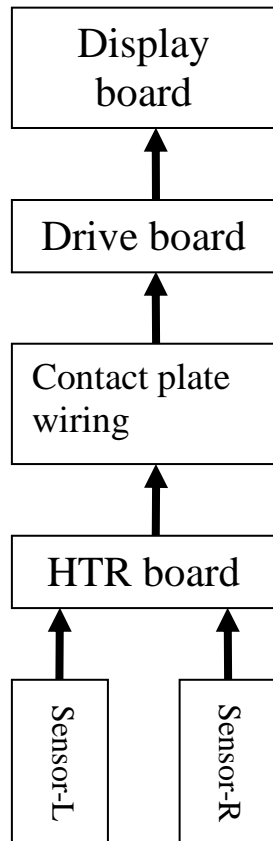
Model: C575R

Malfunction item: Bad HTR signal

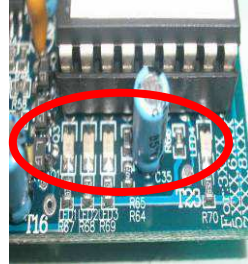
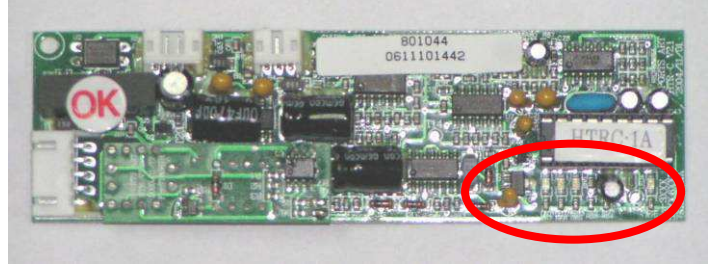
Circumstance: Holding to HTR and the reading is incorrect

Possible causes: 1. Bad HTR wire connection
2. Bad HTR board

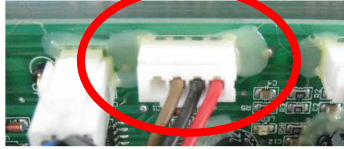
Troubleshooting: 1. Check display wire connections
2. Check drive board HTR wire connection
3. Check HTR bridge board and LED indicator
4. Check HTR contact plates and wire connections




HTR board LED indicator		
Indicator	Name	Description
LED1	Telemetry	Flashes to indicate incoming telemetry signal
LED2	HTR contact	Lights to indicate hands on the contact plates
LED3	HTR output	Flashes to indicate incoming HTR signal
LED4	Heart rate signal output	Each flash indicates each heart rate output


HTR connector (drive board)




HTR contact plates



HTR board



HTR contact plate wiring



Troubleshooting

Model: C575R

Malfunction item: bad keys – soft key pads

Circumstances: No response when pressing keys

Possible causes: 1.Bad membrane key pads

Troubleshooting: 1.Replace membrane key pads

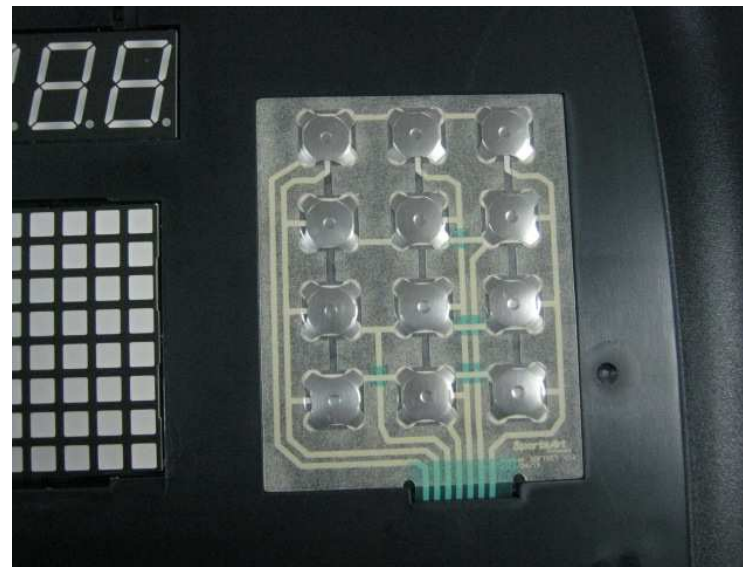
Display board

Membrane
Key pad

Key pads



Membrane Key pad



Troubleshooting

Model: C575R

Malfunction item: Bad key - display

Circumstance: No response while pressing the display keys, such as pressing <STOP> , LEVEL <▲> , LEVEL <▼>

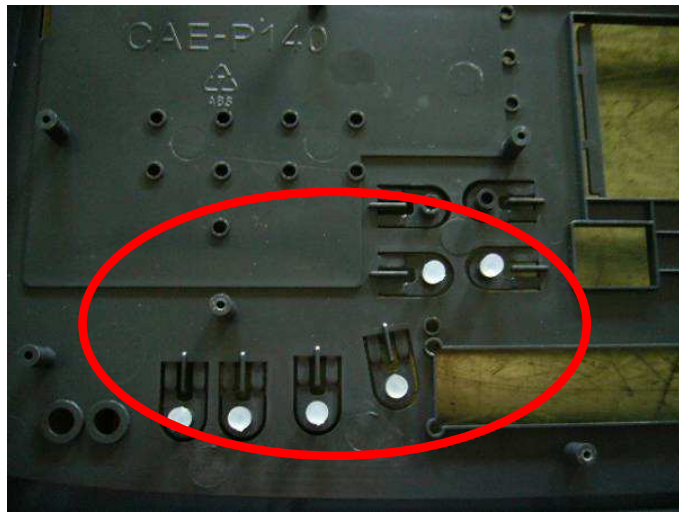
Possible causes: 1. Bad display tact switches
2. Bad switch cushion placement

Troubleshooting: 1. Check switch cushions
2. Replace display tact switches

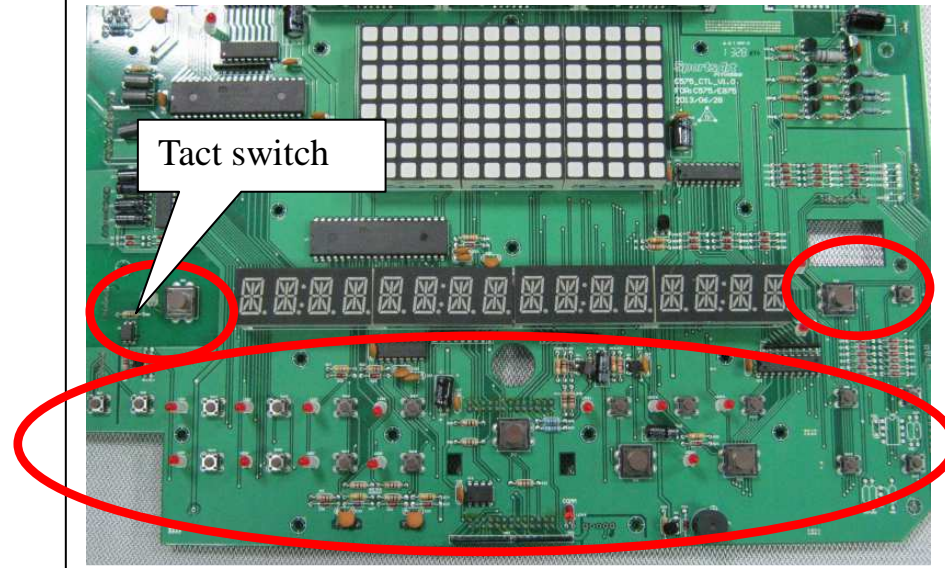
Tact switches



Tact switch cushions



Tact switch



Troubleshooting

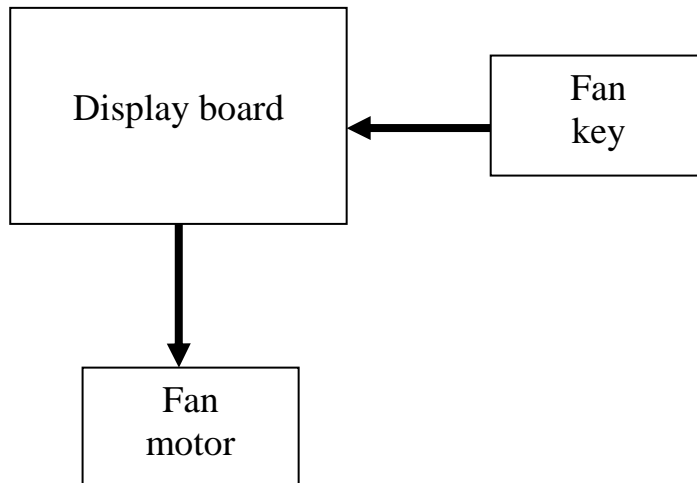
Model: C575R

Malfunction item: Fan does not operate correctly

Circumstance: 1.Press the fan key & fan is not responding

Possible causes: 1.Bad control board
2.Bad fan wire connections or bad fan motor

Troubleshooting 1.Check the fan key and wire connections
2.Measure control board fan voltage
3.Replace control board or fan motor



Fan	voltage (V)
Fan low	3 v
Fan mid	6v
Fan high	9v

Other items

Model : C575R

Items : Other function descriptions

Description :

1. Energy saving mode

No key pressing or no rpm for more than 15 minutes in anytime, the product will enter energy saving mode.

The display will show “----” to indicate the mode.

2. Power On

A). Pedaling to power on → Pedaling in a consistent speed, display will turn on; the power is coming from alternator.

B). Key pressed to turn on power → Press any key on the display to turn on; the power is coming from battery.

3. Power off

A). Software will determine when to turn off the power. When no key pressing nor pedaling over 1 min 20 sec, it will turn off the console automatically.

B). When not pedaling, press FAN button to force power off.

4. Using fan

RPM must be higher than 30 to start the fan.

5. Recharge function

RPM must be higher than 30 to charge the battery. The charging voltage is about 17.2V. Drive board.

LED2 indicator will light up to indicate the charging.

Other items

Model : C575R

Item : Error messages

Description :

1. ERROR_**8**_1_ : Communication malfunction during power on
2. ERROR_**8**_2_ : Communication malfunction during normal operation

Other items

Model: C575R

Item: KPH/MPH switch, total distance, total time and software version display

Method: 1. Press <CHANGE DISPLAY> for 3 seconds to get into user reference and setting mode

A. English and Metric setting

The display will show "UNIT-MPH" for English setting or "UNIT-KPH" for metric setting. Press INCLINE <▲> <▼> key to switch the setting. After selection, press <ENTER> to confirm.

B. Program time limit setting

The display will show "TIME LIMIT- YES" or "TIME LIMIT- NO", press INCLINE <▲> <▼> key to change it. After selection, press ENTER to confirm. If the selection is YES, the display will show "TIME-XX:00" with default value of 30:00, press INCLINE <▲> <▼> key to adjust; the range of adjustment is 5-60 minutes. Afterwards, press ENTER to confirm.

C. Language setting

The display shows "GERMAN"...," XX MILE H>H" or " XX KM H_H", press WORKOUT LEVEL<▲>/<▼>to change the setting. Afterwards, press ENTER to confirm.

D. Total distance display

The display shows "DIST-XXXXXXXKM" or "DIST-XXXXXXXMILE" for total distance display. Press <ENTER> to exit.

E. Total time display

The display shows "TIME-XXXXXXXHOUR" for total time display. Press <ENTER> to exit.

F. Control board software version display

The display shows "CTL C575-XX" for software version display. Press <ENTER> to exit.

G. Drive board software version display

The display shows "DRV C575_SG_XX" for software version display. Press <ENTER> to exit.

Other items

Model: C575R

Item: Language setting

Description: How to set up the language preference, such as German, French...

Method: 1. Press <CHANGE DISPLAY> for 3 seconds to enter user preference and setting mode.

Continuing pressing <ENTER> key,

the display will show "UNIT-KPH, MPH ; TIME LITMIT ; ZZZ TIME-XXMIN"...

until the display shows "GERMAN" or "0 MILE H_H" for language setting.

0,1,2,3...represents country language code,

see below. Press <WORKOUT LEVEL<▲>/<▼> to select the desired language,

press <ENTER> to confirm.

2. Country language code

GERMAN	➔	0	KM	H_H
FRENCH	➔	1	KM	H_H
POLISH	➔	2	KM	H_H
SPAINLISH	➔	3	KM	H_H
JAPANESE	➔	5	KM	H_H
US. ENGLISH	➔	6	MILE	H_H
UK. ENGLISH	➔	10	KM	H_H
SWEDISH	➔	11	KM	H_H

Other item

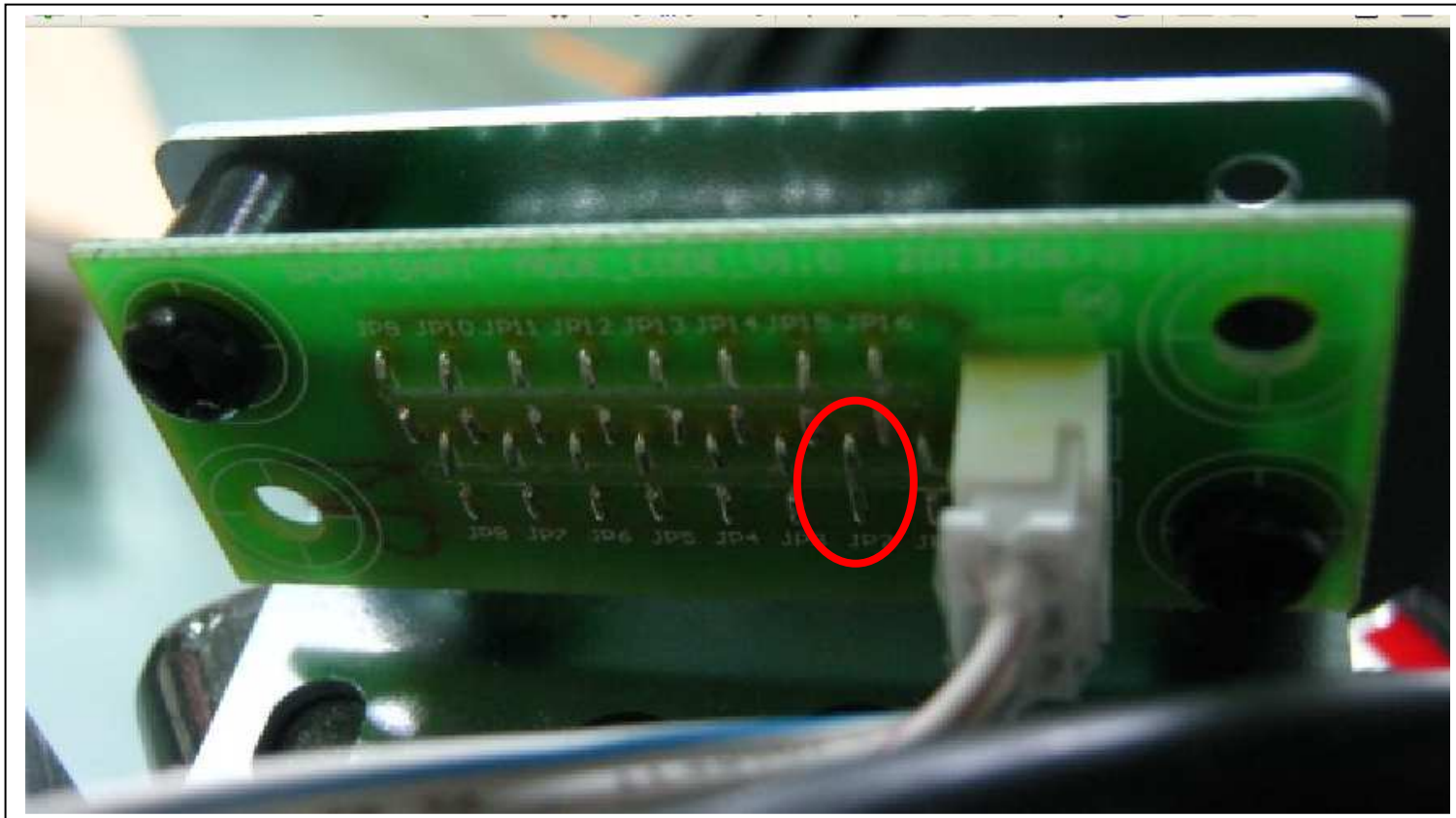
Model: C575R

Item: Model no. board

Function: 1. Use it for identifying model no.
2. C575 & E875 use the same control board & software, therefore using this board to identify the model no. for workout calculation

Description:

Model No.	JP1,JP2,JP3,JP4,...JP16
C575R/U	Only Jump JP2 ; Cut off on others JP1,JP3-JP16



Inspection and measurement

Item : Alternator

Testing item : Alternator voltage measurement

Method : 1. Visual inspection

A) Check for alternator proper wire connections

B) Check for drive belt interference

2. Power generating

A) Check for alternator burnt fuse

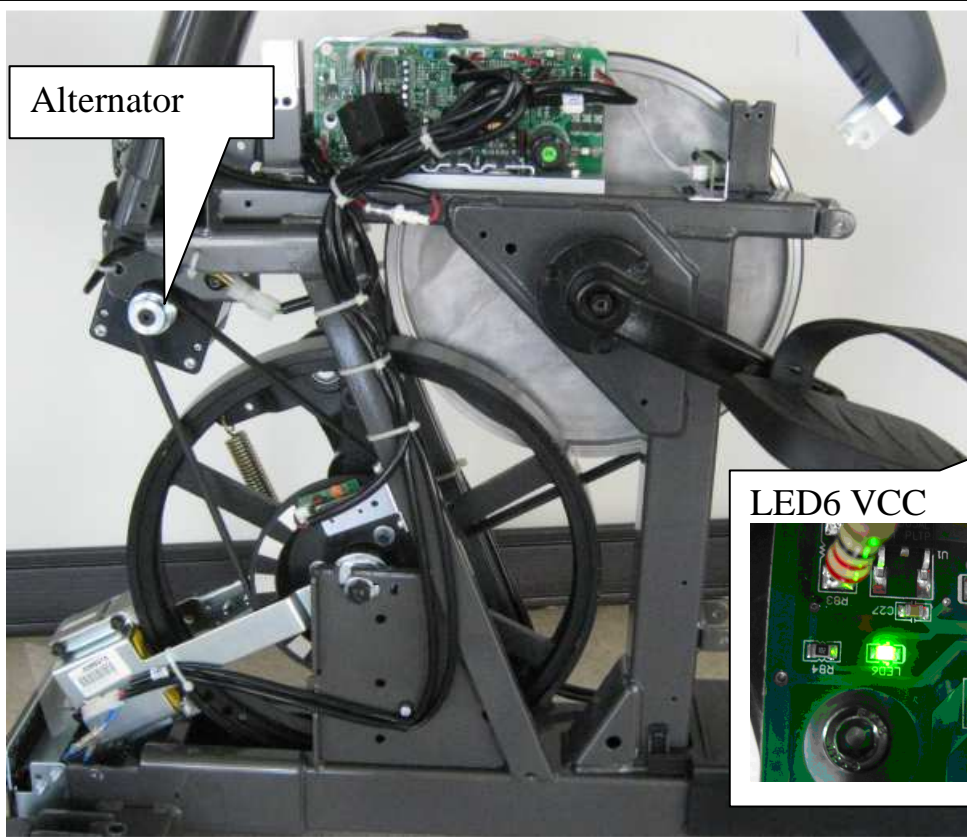
B) Use volt meter & set it at DC to check the voltage while pedaling the bike

Meanwhile, the LED 3 & 6 indicators will light up for proper functioning.

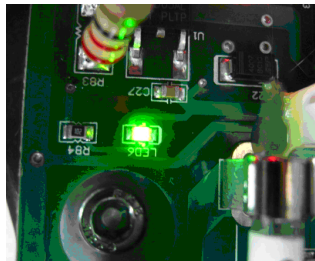
Alternator



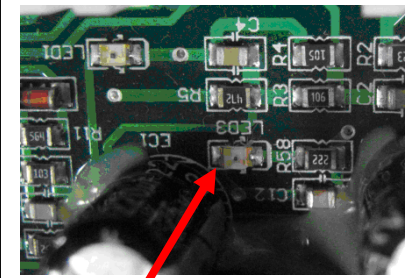
Alternator



LED6 VCC



LED 3 VBB



Inspection and measurement

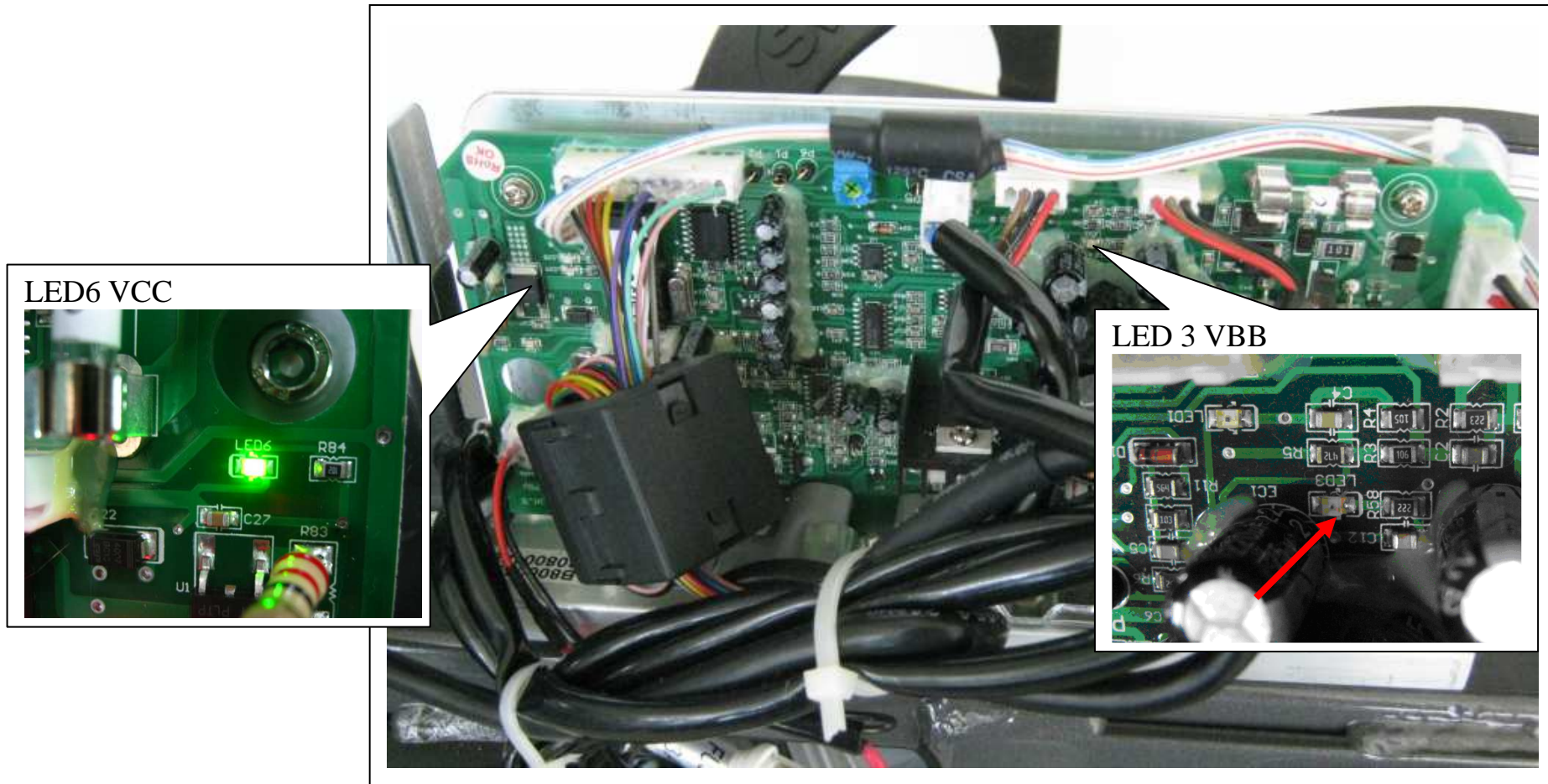
Item : Drive board

Testing item : Power source inspection

Method : 1. LED indicator on the drive board will light up while pedaling

A. Vbb voltage → LED 3 lit up, voltage should be around 12V for control board usage

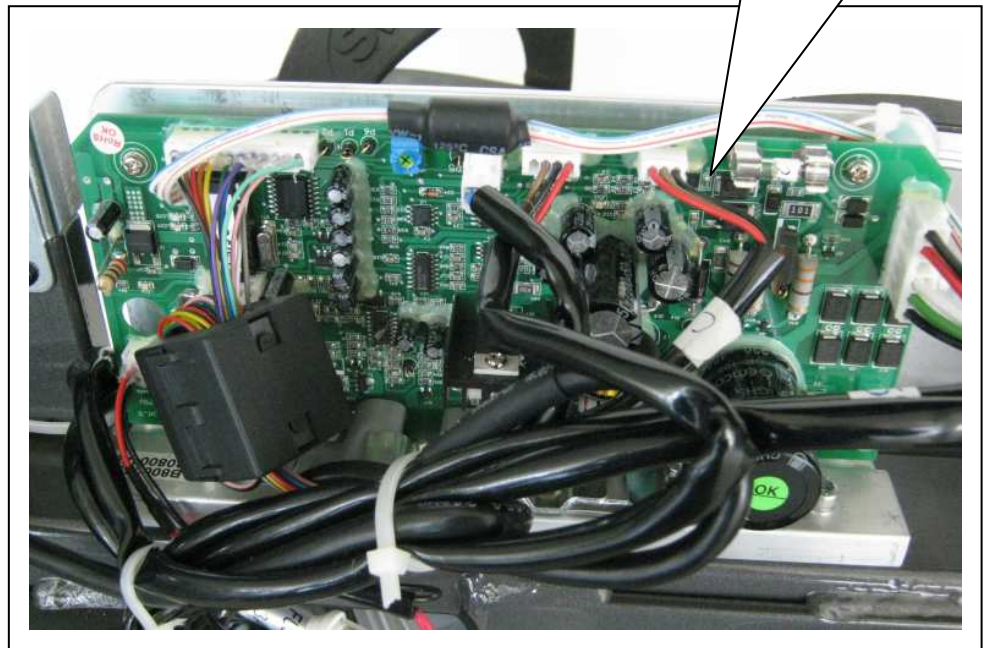
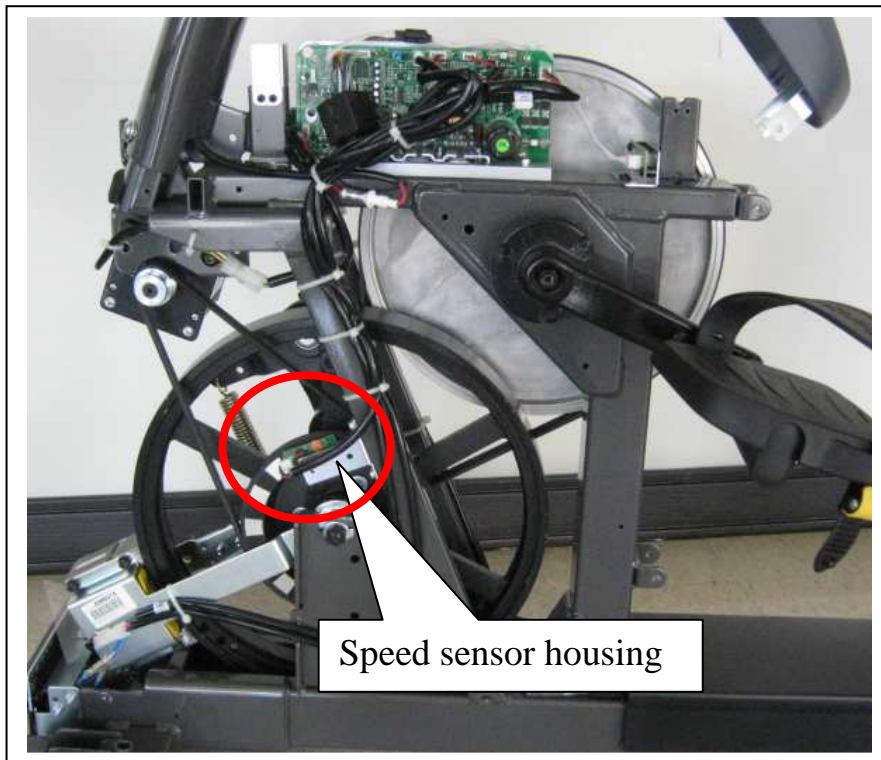
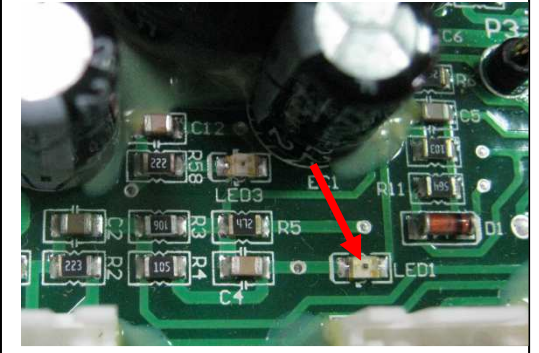
B. Vcc voltage → LED 6 lit up, voltage should be around 5V for drive board usage



Inspection and measurement

- Item: Speed sensor
Testing item: Speed sensor inspection
Method: 1. Inspect speed sensor
- A) speed sensor & optical label distance < 5mm
 - B) Clean speed sensor surface
 - C) LED5 will not light up when speed sensor is passing optical label
in Black area LED5 will light up when speed sensor is passing
optical label in Silver area
 - D) RPM display should be 60 if pedal once per second.

LED 1 CLK indicator



Inspection and measurement

Item: Drive board

Testing item: Drive board communication status

Method: 1. Turn on the power and visually inspect the LED5 indicator flashing status. Normally, it is flashing regularly.
If irregular flashing occurs, it means there is a communication error; check wiring connections at this time.

LED5



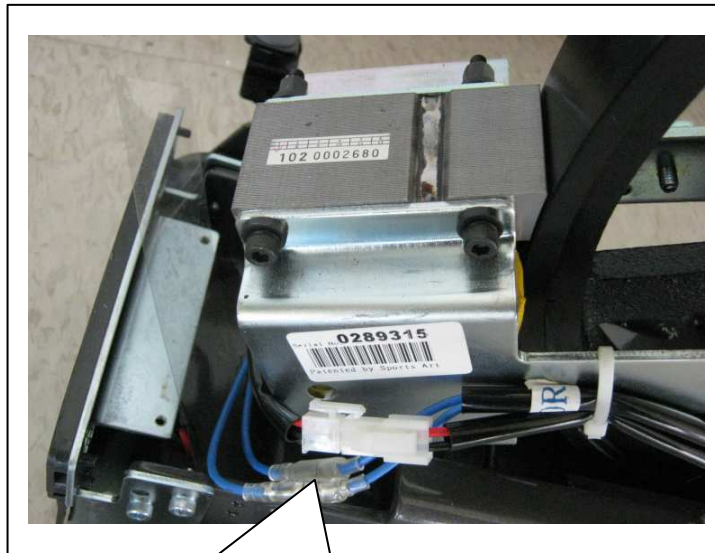
Inspection and measurement

Item: Drive board

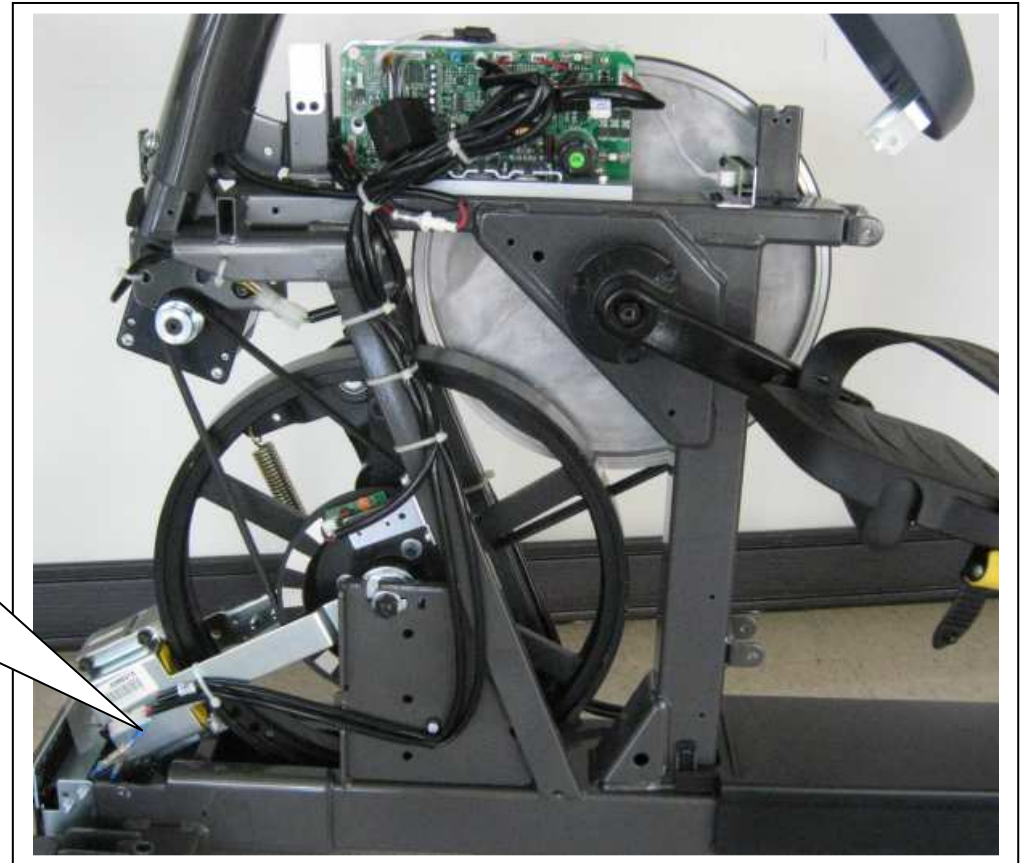
Testing item: Electro-magnet current and voltage

Method: 1. Use volt meter and set it at current setting; put black & red leads to the blue wires on the electro-magnet to get reading. The current reading should be as below while pedaling above 30RPM -

LEVEL	Voltage	Current
10		0.43A
30		0.75A



Blue wires for volt meter leads



Inspection and measurement

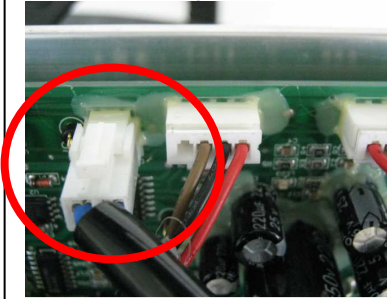
Item: Electro-magnet

Testing item: Electro-magnet circuit breaker inspection

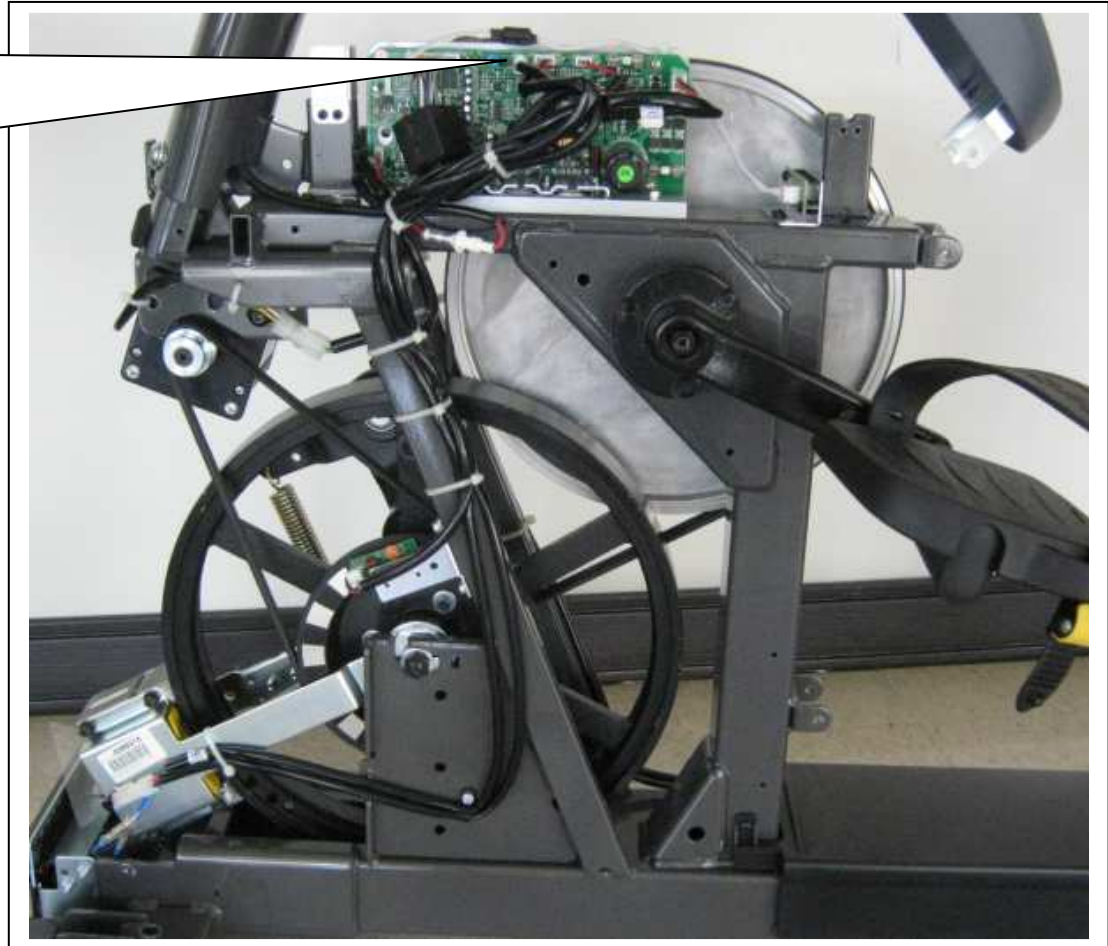
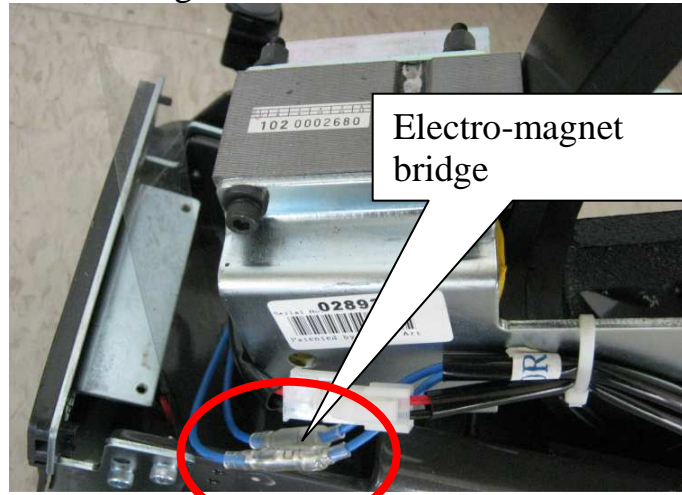
Method :

1. Turn off power, unplug the Electro-magnet wire from the drive board
2. Use the volt meter; set it at Ohms setting and test the electro-magnet connecting wires
3. Normally, the reading should be in between 0-20 Ω . If there is no reading, then there is an issue with the connection.

Electro-magnet connection



Electro-magnet



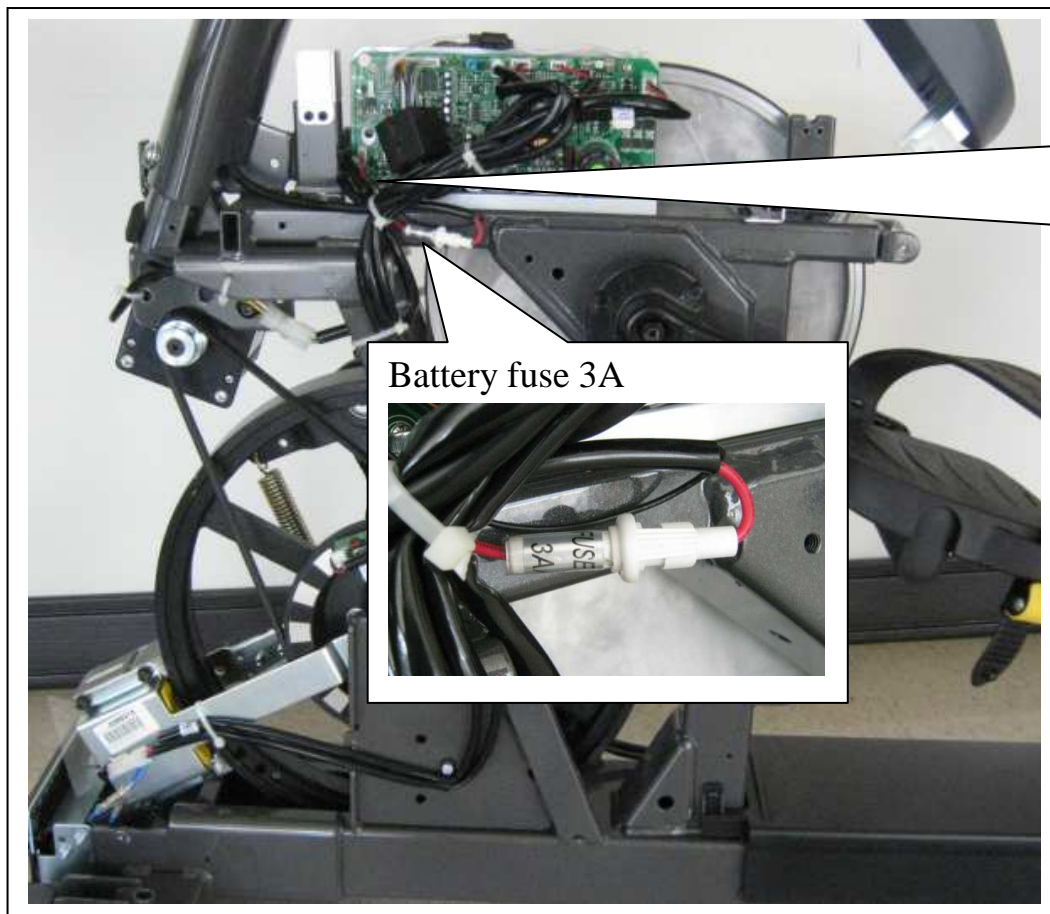
Inspection and measurement

Item: Rechargeable battery

Testing item: Drive board battery voltage measurement

Method:

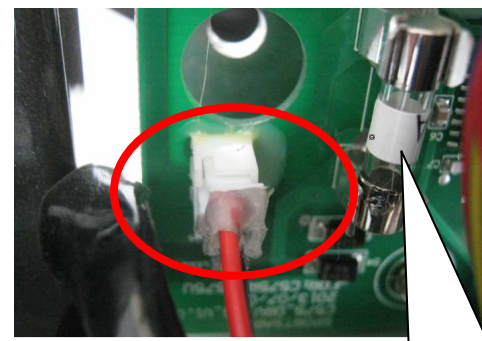
1. Set the volt meter to voltage setting at above 50V. Put the back & red leads to the drive board battery wiring housing, the reading should be $>12V$ or one battery $>6V$.
2. If the reading is $<6V$, use outside power source adapter charging or pedaling to charge.
3. If you can't get a reading, check to see if the battery fuse is burnt.



Battery fuse 3A



Battery housing



Battery $6V \times 2 = 12V$



Battery fuse 3A

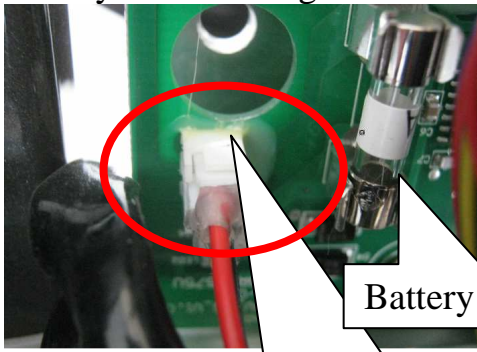
Inspection and measurement

Item: Rechargeable battery

Testing item: Drive board battery charging voltage measurement

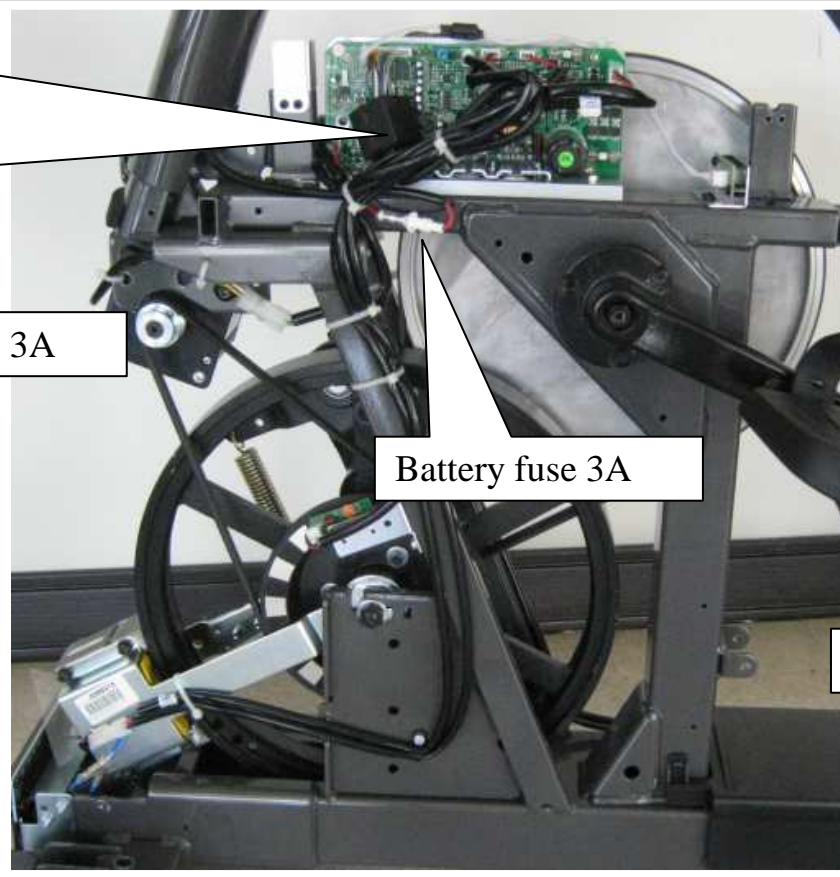
- Method:
1. Set the volt meter to voltage setting at above 50V; put black and red leads to drive board battery wiring housing.
 2. Pedaling above 60RPM, the LED2 charge indicator on drive board should light up and the volt meter reading should be $> 17.2V$.
 3. If the reading is not $> 17.2V$, then possible causes are: A. Battery voltage is too low B. Drive board battery fuse burnt C. Bad drive board
 4. If the battery is too low, use adapter to help charging

Battery wire housing



Battery fuse 3A

LED2 Charge indicator



Battery fuse 3A

Battery 6V*2=12V



Battery Charger

