



CRW800

Service Manual

dyaco

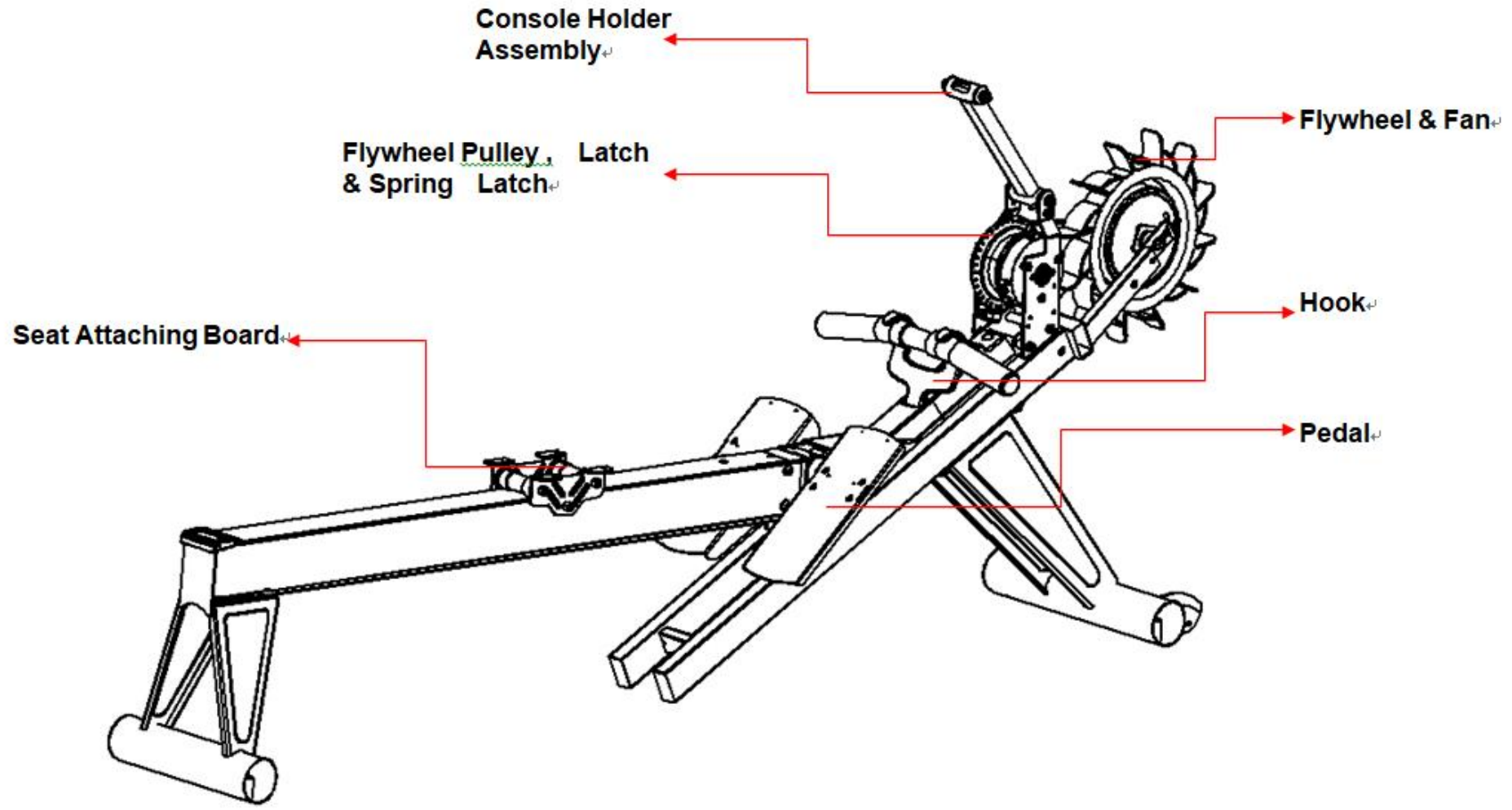
Service Manual

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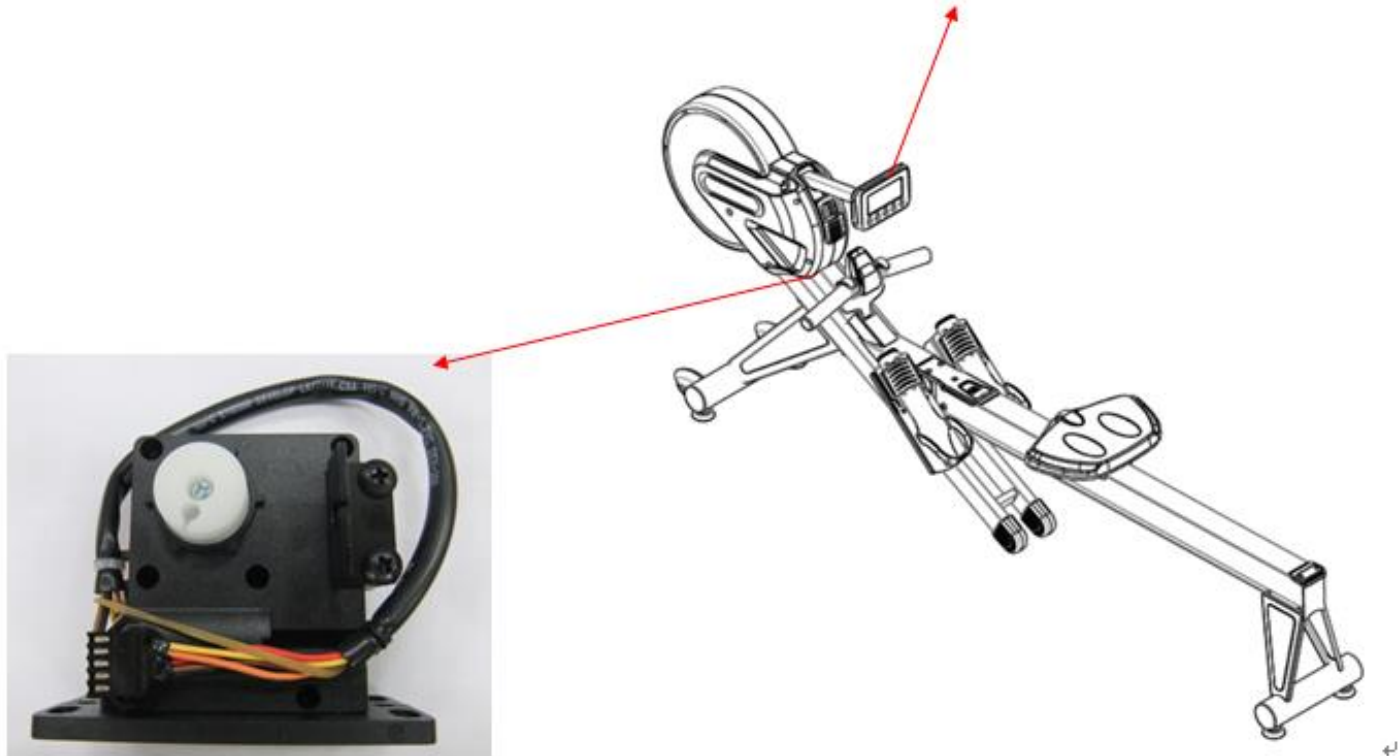
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1. CRW800 Outlines





2. CRW800 Electronic Parts



3. Electrical Configurations

Part Name	Part Description
Console	Interface that controls all functions of the Rower.
Tension motor	It can change to increase or decrease resistance level of brake.

General Information

Part Name	Part Description
Console	Contain Keys control and LCD Display. Main controller Include power supply and motor driver control circuit.
Tension motor	Work voltage: DC 4.0~6.0V Control resistance increases and decreases.

4. CRW800 Product Operation

Large LED Matrix Window

Built-in Heart Rate Receiver



Ten innovative programs offer a variety of workouts

Easy-Touch Control Buttons

4-1 Function Description

stroke/min

s/m value shows the equivalent strokes per minute.

Time

1. It shows the time.
2. Range of time: 00 : 00~99 : 59(minute: second).
3. The time is accumulated for each workout mode.
4. When time is set to count down, it shows the time remaining.

Distance

1. The distance range is 0~9999 and switches to the format of 1X.XX when the value is over 9999.
2. The distance will be accumulated for each workout mode.
3. When the distance is set to count down, it shows the remaining distance.

Heart Rate

1. The heart rate range is 40~220 bpm.
2. When the heart rate signal is detected, the small dot at lower right corner of the heart rate window will be blinking together with heart rate value showing.
3. When there is no heart rate signal detected, the heart rate window shows nothing.

Calories

1. The calorie window shows the value of calorie dissipated.
2. The calorie range is 0~999.

Watts

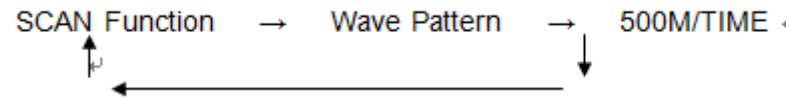
1. The Watt range is 0~2000.
2. When the numbers over 999 to four digits, the display would use point to show digit in thousands. E.g. 1000 shows 1.00, 1009 shows 1.01, 1240 shows 1.20, 1250 shows 1.25, 2000 shows 2.00, etc.

LEVEL

1. The level window shows the current resistance level.
2. The level range is 1~16.

500M/TIME

1. Only workout modes of Manual, Distance, Time and Calorie are with this display function.
2. For Manual workout mode as an example: When the console starts, Matrix in the middle of LCD will show the wave pattern then switch to “500M/TIME 00:00” across center display after 5 seconds then switch again back to the wave pattern after another 5 seconds and continue to repeat the cycle. This is the function of “SCAN”.
3. The console goes directly into “SCAN” mode after start. If “MODE” button is pressed, it shows the wave pattern. Pressing the “MODE” button again, it displays 500M/TIME and repeat again by pressing “MODE” button it goes back with “SCAN” function (recyclable).



4-2 Key button Function

All Keys

1. Any valid key button pressed will generate a beep sound.
2. When in power off mode, pressing any key button turns on the console.

MODE Key

1. Under idle mode, pressing “MODE” key each time switches the workout mode with the following sequence:
MANUAL →DISTANCE →TIME →CALORIES →20/10 INTERVAL →10/20 INTERVAL→CUSTOM INTERVAL→ Fat Burn → Cardio → Strength → Game
2. The default workout mode after turning on the unit is Manual mode.
3. To choose the target workout mode, when the matrix window shows the desired workout pattern and parameter window value to be set will be blinking each second.

Up Key

1. Under the setting mode of the target workout, the parameter is will be counted up.
2. The value increases one increment when “UP” key is pressed once.

Down Key

1. Under the setting mode of the target workout, the parameter is will be counted down.
2. The value decreases one increment when “DOWN” key is pressed once.

Start/Stop Key

1. Under idle mode, pressing Start/Stop key button enters Manual workout mode.
2. To confirm the value the window is showing when setting the parameter under each target workout mode and to start the workout mode.
3. Press to end the current workout mode and all message windows stop counting.

Reset Key

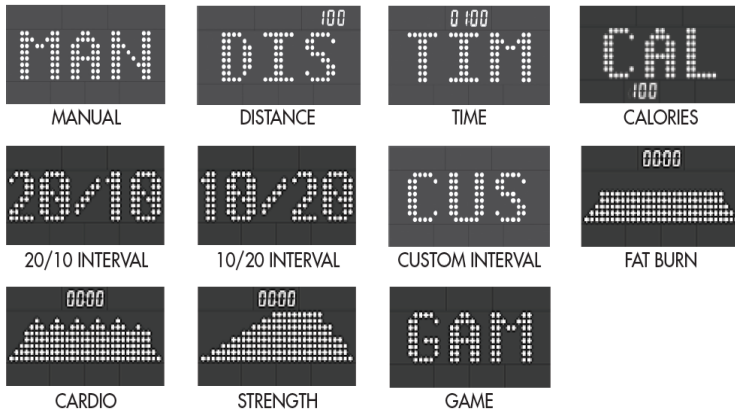
1. Pressing this key button under stopping mode, the image switches to the idle mode.
2. The reset key button is valid only in stopping mode.
3. Under any mode, pressing this key button for 3 seconds turns on the console again.

4-3 Operating Instruction

- The screen is with full display and the buzzer beeps for two seconds after turning on. Pressing “Start” button goes directly to “Manual” workout mode or pressing “MODE” button to switch and select a workout mode with the workout sequence shown as below:

MANUAL →DISTANCE →TIME →CALORIES →20/10 INTERVAL →10/20 INTERVAL→CUSTOM INTERVAL→ Fat Burn → Cardio → Strength → Game

The program name will scroll from left to right to tell the user what it is.



- To choose MANUAL mode (Fig. 2-1)**

- Pressing Start/Stop button and begins the workout mode or pulling the paddle under the idle mode and enters directly to Manual workout mode.
- The image at the center of LCD will scan every 5 seconds to show the stroke speed with wave pattern (Fig. 2-2) and 500M/TIME (Fig. 2-3) or pressing “MODE” button to cancel scanning with wave pattern only. Pressing “MODE” again switches the image to show 500M/TIME.
- Pressing “UP” or “DOWN” button and adjusts the resistance level which is shown at bottom right corner of “LEVEL” window.



Fig. 2-1



Fig. 2-2



Fig. 2-3

3. To choose target distance count-down Distance workout mode (Fig. 3-1)

1. Use UP/DOWN buttons to adjust and set the workout distance. The default distance is 100M with increment of 50M up or down. Press Start/Stop button to confirm the setting and start the workout mode.
2. The image at the center of LCD will scan every 5 seconds to show the stroke speed with wave pattern (Fig. 3-2) and 500M/TIME (Fig. 3-3) or pressing “MODE” button to cancel scanning with wave pattern only. Pressing “MODE” again switches the image to show 500M/TIME.
3. Distance window counts down from target distance setting value and shows the remaining distance of the workout.
4. Under the workout mode, pressing UP or DOWN key button adjusts the resistance level.
5. When the distance is counted down to 0, the workout completes and the buzzer sounds with a long beep. If paddling continues, the distance count-down repeats.



Fig. 3-1



Fig. 3-2



Fig. 3-3

4. To choose target time count-down Time workout mode (Fig. 4-1)

1. Use UP/DOWN buttons to adjust and set the workout time. The default distance is 1:00 with 1-minute increment of up or down (99:00 maximum). Press Start/Stop button to confirm the setting and start the workout mode.
2. The image at the center of LCD will scan every 5 seconds to show the stroke speed with wave pattern (Fig. 4-2) and 500M/TIME (Fig. 4-3) or pressing “MODE” button to cancel scanning with wave pattern only. Pressing “MODE” again switches the image to show 500M/TIME.
3. Under the workout mode, pressing UP or DOWN key button adjusts the resistance level.
4. Time window counts down from the setting time value and shows the remaining time of the workout.
5. When time is counted down to 0:00, the workout completes and the buzzer sounds with a long beep. If paddling continues, the time count-down repeats.



Fig. 4-1



Fig. 4-2



Fig. 4-3

5. To choose target calorie count-down Calories workout mode (Fig. 5-1)

1. Use UP/DOWN buttons to adjust and set the target calorie. The default value is 100 with increment of 10 up or down. Press Start/Stop button to confirm the setting and start the workout mode.
2. The image at the center of LCD will scan every 5 seconds to show the stroke speed with wave pattern (Fig. 5-2) and 500M/TIME (Fig. 5-3) or pressing “MODE” button to cancel scanning with wave pattern only. Pressing “MODE” again switches the image to show 500M/TIME.
3. Calorie window counts down from the setting target calorie value and shows the remaining calorie of the workout.
4. Under the workout mode, pressing UP or DOWN key button adjusts the resistance level.
5. When calorie is counted down to 0, the workout completes and the buzzer sounds with a long beep. If paddling continues, the time count-down repeats.



Fig. 5-1



Fig. 5-2



Fig. 5-3

6. To choose 20/10 INTERVAL workout mode (Fig. 6-1)

1. The image at the center of LCD: 20 seconds (Exercise)/10 seconds (Rest)
2. Pressing Start/Stop button starts the workout mode.
3. The image at the center of LCD shows time count-down of current workout and wave (Fig. 6-2) or rest time count-down and mark (Fig. 6-3).
4. Under the workout mode, pressing UP or DOWN key button adjusts the resistance level.
5. There are 10 Exercise/Rest cycles for each workout time.
6. When workout completes, the buzzer sounds with a long beep. If paddling continues, the time count-down repeats.



Fig. 6-1



Fig. 6-2

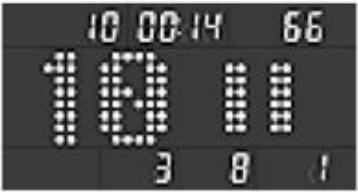


Fig. 6-3

7. To choose 10/20 INTERVAL workout mode (Fig. 7-1)

1. The image at the center of LCD: 10 seconds (Exercise)/20 seconds (Rest)
2. Pressing Start/Stop button starts the workout mode.
3. The image at the center of LCD shows time count-down of current workout and wave (Fig. 7-2) or rest time count-down and mark (Fig. 7-3).
4. Under the workout mode, pressing UP or DOWN key button adjusts the resistance level.
5. There are 10 Exercise/Rest cycles for each workout time.
6. When workout completes, the buzzer sounds with a long beep. If paddling continues, the time count-down repeats.



Fig. 7-1



Fig. 7-2



Fig. 7-3

8. To choose CUSTOM INTERVAL workout mode (Fig. 8-1)

1. User-define time (Exercise)/time (Rest): the default is 10 seconds (Exercise)/10 seconds (Rest)
2. The value at left side of the matrix window flashes for setting the exercise time. Use UP/DOWN buttons to adjust and set the workout time. The default time is 10 seconds with 1-second increment of up or down. Press Start/Stop button to confirm the setting and start the workout mode.
3. The value at right side of the matrix window flashes for setting the rest time. Use UP/DOWN buttons to adjust and set the workout time. The default time is 10 seconds with 1-second increment of up or down. Press Start/Stop button to confirm the setting and start the workout mode.
4. The image at the center of LCD: 10 seconds (Exercise)/10 seconds (Rest)
5. Pressing Start/Stop button starts the workout mode.
6. The image at the center of LCD shows time count-down of current workout and wave (Fig. 8-2) or rest time count-down and mark (Fig. 8-3).
7. Under the workout mode, pressing UP or DOWN key button adjusts the resistance level.
8. There are 10 Exercise/Rest cycles for each workout time.
9. When workout completes, the buzzer sounds with a long beep. If paddling continues, the time count-down repeats.



Fig. 8-1



Fig. 8-2



Fig. 8-3

9. To choose Fat Burn workout mode (Fig. 9-1)

1. Pressing Start/Stop button and begins the workout mode or setting the workout time. Use UP/DOWN buttons to adjust the time. The increment of adjustment is 5-minute (99:00maximum). Press Start/Stop button to start the workout mode.
2. The image at the center of LCD shows the fat burn profile (Fig. 9-2)
3. Under the workout mode, pressing UP or DOWN key button adjusts the resistance level.
4. Time window starts count-down from the setting time and shows the remaining workout time.
5. When time is counted down to 0:00, the workout completes and the buzzer sounds with a long beep. If paddling continues, the time count-down repeats.

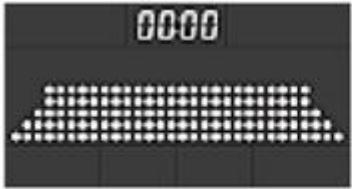


Fig. 9-1

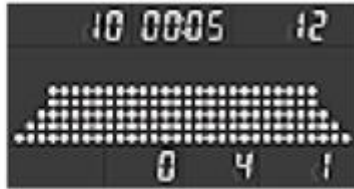


Fig. 9-2

10. To choose cardio workout mode (Fig. 10-1)

1. Pressing Start/Stop button and begins the workout mode or setting the workout time. Use UP/DOWN buttons to adjust the time. The increment of adjustment is 5-minute (99:00maximum). Press Start/Stop button to start the workout mode.
2. The image at the center of LCD shows the cardio profile (Fig. 10-2)
3. Under the workout mode, pressing UP or DOWN key button adjusts the resistance level.
4. Time window starts count-down from the setting time and shows the remaining workout time.
5. When time is counted down to 0:00, the workout completes and the buzzer sounds with a long beep. If paddling continues, the time count-down repeats.



Fig. 10-1

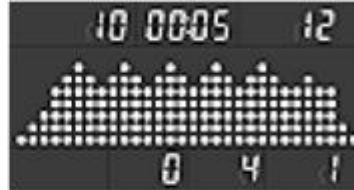


Fig. 10-2

11. To choose Strength workout mode (Fig. 11-1)

1. Pressing Start/Stop button and begins the workout mode or setting the workout time. Use UP/DOWN buttons to adjust the time. The increment of adjustment is 5-minute (99:00maximum). Press Start/Stop button to start the workout mode.
2. The image at the center of LCD shows the strength profile (Fig. 11-2)
3. Time window starts count-down from the setting time and shows the remaining workout time.
4. When time is counted down to 0:00, the workout completes and the buzzer sounds with a long beep. If paddling continues, the time count-down repeats.



Fig. 11-1



Fig 11-2

12. To choose GAME workout mode (Fig. 11-1)

1. Pressing Start/Stop button and begins the GAME workout mode (11-2).
2. Three dots at left side represents the user position and the image shift one profile left per second and continue to scroll.
3. The position of the user will not shift. However, the faster the user stroke, the higher the user's position. When there is no stroke, the position of the user goes down to the lowest. The height of the user's position is equivalent to the speed the user strokes.
4. The time for the game workout starts counting down from 5 minutes and ends when time is up.



Fig. 12-1

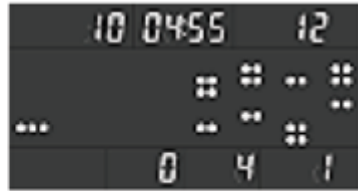
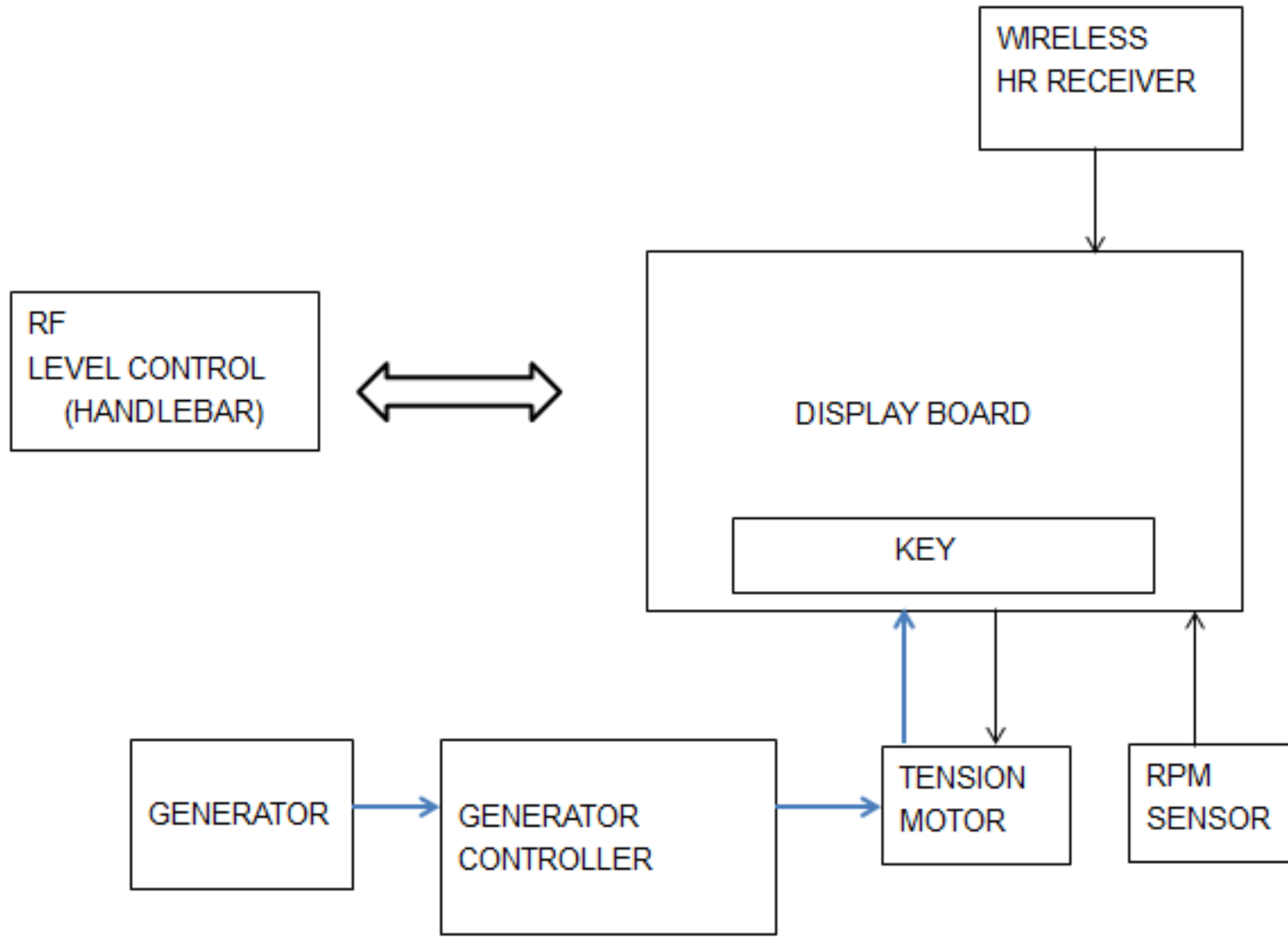


Fig. 12-2

5. CRW800 Unit Block Diagrams



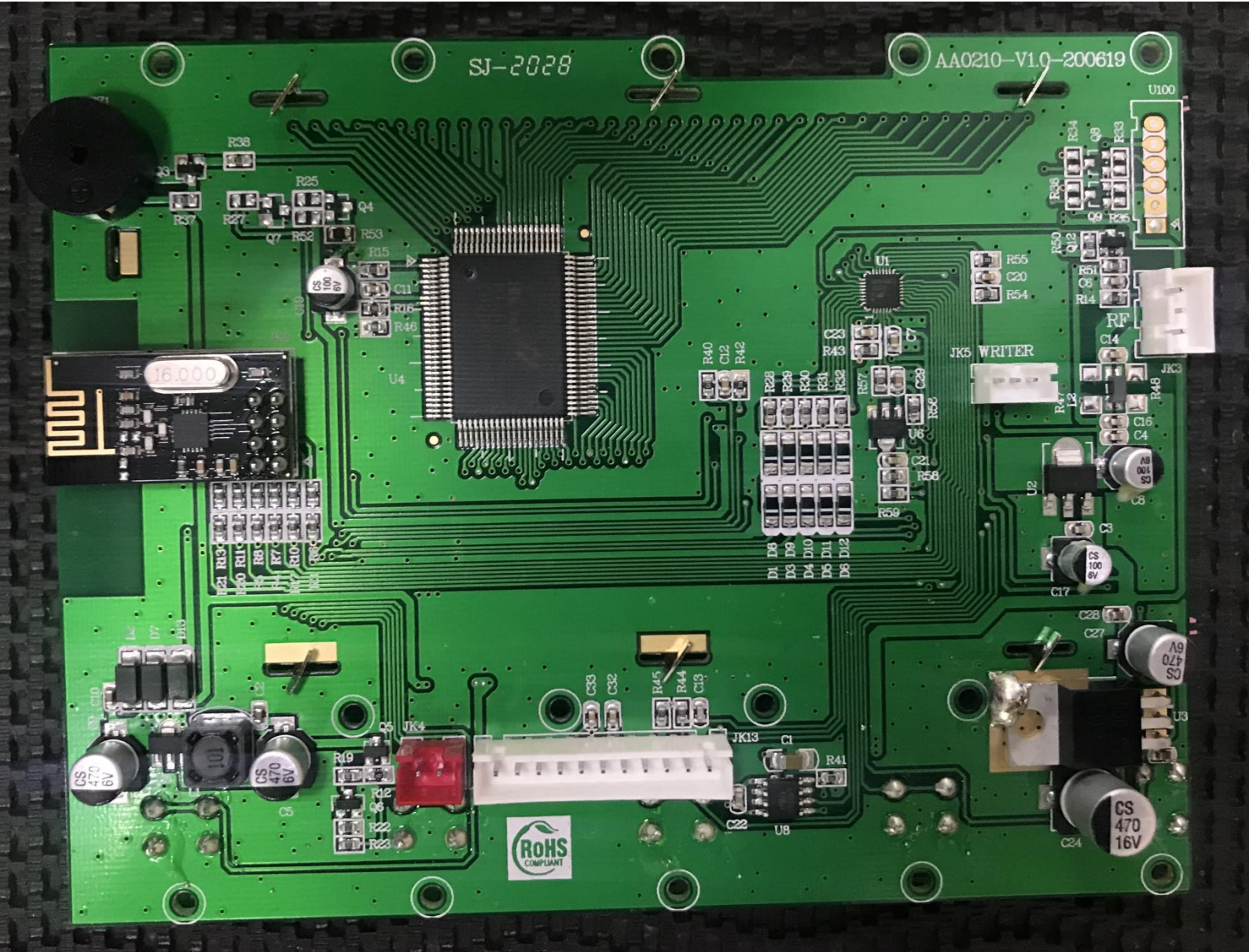
6-1 Display Board PCB Component Locations

6. CR

Wiring



6-1-1 PCB BOARD TOP



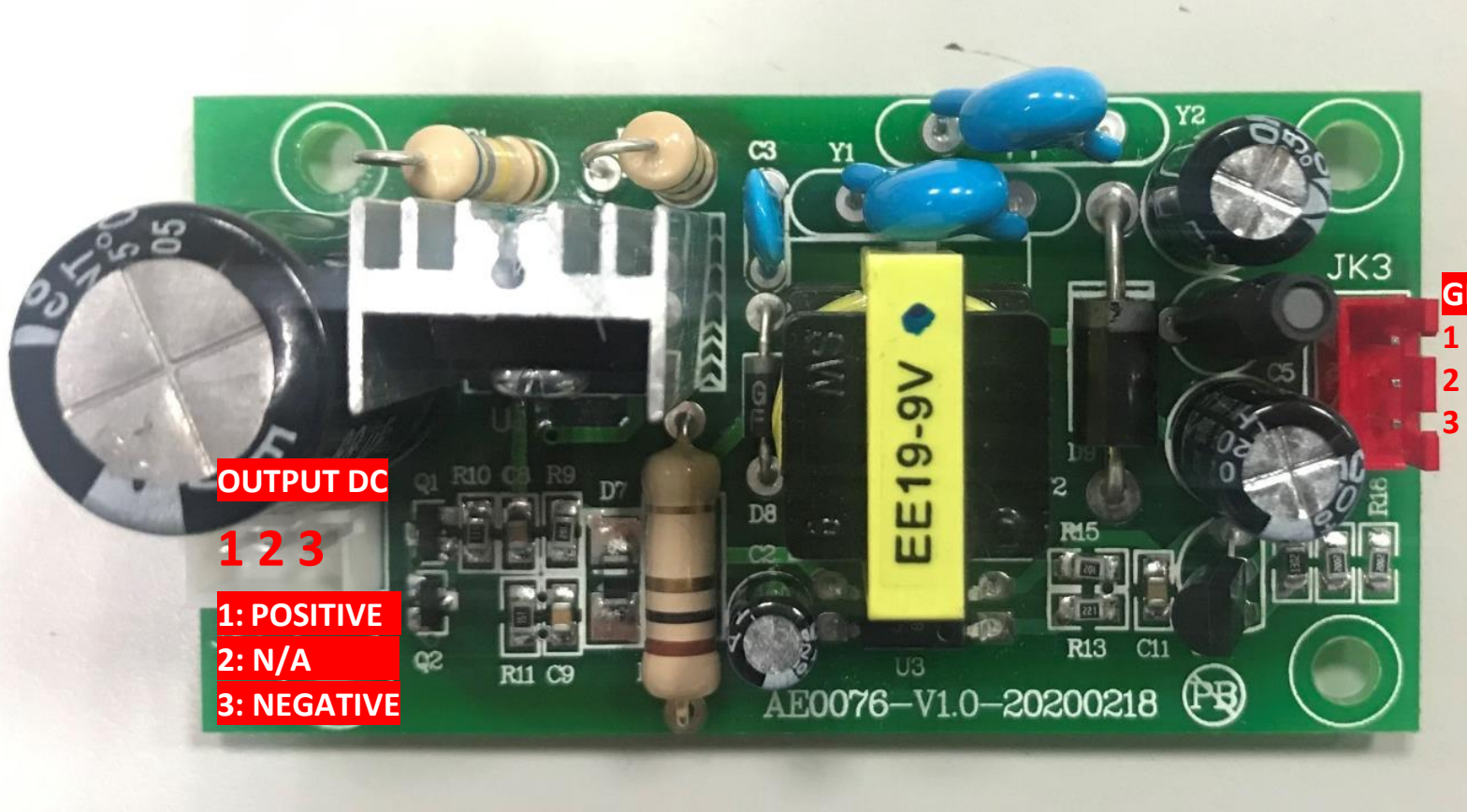
6-1-2 PCB BOARD

BOTTOM

6-1-3 TENSION MOTOR (GEAR MOTOR) CONNECTOR DEFINITION FUNCTION



6-1-4 GENERATOR CONTROLLER CONNECTOR DEFINITION FUNCTION



OUTPUT DC
1 2 3
1: POSITIVE
2: N/A
3: NEGATIVE

GENERATOR INPUT
1: AC
2: N/A
3: AC

7. CRW800 Error Messages / Troubleshooting

7-1 Error Codes

Error Message Code	Problem Description
E1	Console (Electronic Desk) EEPROM failure
E2	Cable tension communication error

7-2 Prepare tools

Multi-meter



7-3 Error Message

Error code: E1

Description of the Situation

When the screen displays "E1" "RAM ERROR" message, it means that the system console EEPROM failure, all functions are disabled.

Troubleshooting

Replace the console (Electronic Desk)

Error code: E2

Description of the Situation

When the "E2" "MOTOR ERROR" message is displayed, the communication with the cable tensioner is abnormal and all functions are stopped.

Cable tensioner operation

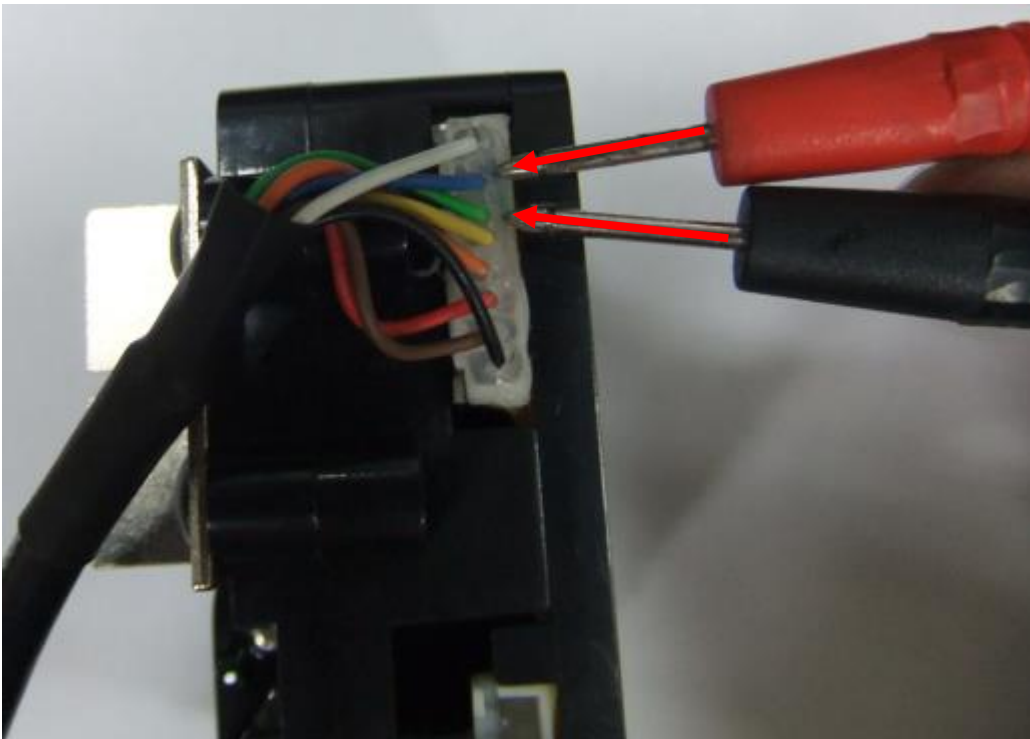
Device	Description
Console	When you press the UP or DOWN key while in program mode, the LEVEL value displayed on the console display increases or decreases. At the same time send a command signal to the cable tensioner action.
Cable tensioner	Receives the command signal from the console and actuation

Troubleshooting

Device	Troubleshooting
Console	<ol style="list-style-type: none"> 1. Check the connection of motherboard's 8-pin cable. 2. When UP or DOWN is pressed, a beep sound is generated, if yes that it is determined that the signal has been sent.
8-pin Cable	<ol style="list-style-type: none"> 1. Check the cable connections. 2. Check if the cable is broken or curled. 3. Replace the cable and retest.
Cable tensioner	Check the 8-pin cable connection.

Cable tensioner fault / Voltage measurement procedure

1. Place the multifunction meter at 12VDC. Place the probe in the motor control line on the drive board (the red probe is blue wire and the black probe is green wire).
3. Turn on the power of device to tension motor. The console display lights.
4. Press the LEVEL UP measurement to the normal reading: +4.0 ~ 6.0VDC, motor action, resistance increases.
5. Press LEVEL DOWN. Normal reading: -4.0 ~ -6.0VDC. Motor work. Resistance decreases.
6. If there is no voltage, please check the generator controller socket terminals whether the voltage, if not please change another one controller.
7. If the generator controller can work fine, replace the cable tensioner.



Place the probe on the motor control cable on the drive board (the red probe is blue wire and the black probe is green wire).

7-4 Maintenance menu in the console software

1. In the IDLE MODE, press UP and DOWN key for 3 seconds into the engineering mode one.
2. Pressing the RESET key at any time returns to IDLE MODE.
3. Enter the engineering mode one, do the LCD byte display test, each byte lit sequentially, after testing, directly into the main menu screen.
4. Console window displayed "FUN", press MODE to enter option :

Menu	Item	
FUNCTION >	KEY TEST	
	ODOMETER RESET	
	UNITS >	ENGLISH / METRIC
	MOTOR TEST >	Correction related
	MANUAL	

5. If you select "KEY TEST", press the MODE key to confirm the entry, and the console window will display "PRESS ALL KEYS" in a flowing way. "KEY NUMBER" will be displayed in the DISTANCE window when the KEY is pressed. After all the keys have been pressed, the console window will display "OK". After 2 seconds, it will automatically return to the "KEY TEST"
6. If "ODOMETER RESET" is selected, press the MODE key to confirm the entry and display "ODO RESET" on the console window. Press UP → DOWN → MODE to clear the total mileage and total time. When clear, the display will show "RET". After 2 second the program will return to "ODOMETER RESET" submenu.
7. If you select "UNITS" as the unit switch, "UNITS" will be displayed in the console window. Press the MODE key to enter the unit switching screen. In the console window, the default unit is "MI". Press UP / DOWN key to switch, when switching metric, the console window displays "KM". Press the MODE key to select OK, automatically return to the "UNITS" sub-menu screen.
8. If you select "MOTOR TEST" as the motor auto test, "MOTOR TEST" will be displayed in the console window. When you press MODE, "TEST" will be displayed in the console window, "L 01" (L01 ~ L16) will be displayed in the DISTANCE window. Press UP / DOWN / MODE to do TEST, do increment to the highest, and then descending to the minimum, every 2 seconds change once, back to do MOTOR drag cable test, press the RESET button to do the end, return to the "MOTOR TEST Sub-menu screen.
9. If "MANUAL" is selected as the motor manual test, "TEST" will be displayed in the console window. When TEST is entered by pressing MODE, the DISTANCE window will display "XX" (XX is the motor COUNTER value), and DW will show "L1 ~ L16 Press the UP key to increase the number of segments up to 16, press the DOWN key to decrease the number of segments to 1, press the RESET key to complete the input, and then return to the MANUAL submenu screen.

7-5 Troubleshooting Quick Lookup Table

Happening	Caused	Processing Step
LCD display does not shine, incomplete or imperfect	<ol style="list-style-type: none"> 1. LCD backlight damage. 2. Console power is too low. 	<ol style="list-style-type: none"> 1. Check the battery. 2. Replace the new LCD module or the control electronics. 3. Check the power of the console. 4. Check the generator.
The heartbeat display value is incorrect	<ol style="list-style-type: none"> 1. May be received another heart rate strap signal. 2. There may be other electric field noise interference. 3. The wireless heartbeat receiver is damaged. 	<ol style="list-style-type: none"> 1. Check that there is no other heart rate strap around the machine being used. 2. Try changing the machine direction or position. 3. Replace the new wireless heartbeat receiver.
Wireless heartbeat has no effect (The heartbeat value is not displayed on the monitor)	<ol style="list-style-type: none"> 1. The Heart rate strap is not properly worn. 2. The distance is too far above the receiver. 3. The battery of heart rate strap is low or has no voltage. 	<ol style="list-style-type: none"> 1. Check that the Heart rate strap is in proper contact with the skin and in the right direction. 2. Keep the chest strap within 3 feet of the console. 3. Please replace the new lithium battery type CR2032.
Wireless heartbeat reception is too short (must be very close to the console)	The battery is low.	Please replace the new lithium battery type CR2032.
RF handheld board problem	<ol style="list-style-type: none"> 1. Level UP/DOWN canned not changed. 	<ol style="list-style-type: none"> 1. Check the battery. 2. Check that the receiving board is in the correct position 3. Near the source of interference (such as fluorescent lamp rectifier, cable interference power, etc.) 4. Check the cable , or replace the RF radio reception module
Light sensor problem	<ol style="list-style-type: none"> 1. No count. 	<ol style="list-style-type: none"> 1. Check that the receiving board is in the correct position 2. Check the light point and the receiving point for dust obstruction 3. Check the cable 4. Replace the light sensor

7-6 Console (Electronic Desk) problem

The normal operation of the console screen will be normal display, if not light up check the generator power is the normal power supply or change another one to check is work or check the generator controller is correctly, the controller have output voltage, and then check all the wire is indeed Plug in the console, the console cover removed to check whether all the wires inserted in the correct location, and check whether the wire fracture.

7-7 Wireless heartbeat problem

7-7-1 No display of heart rate

- A ∙ Make sure that the heart rate strap is worn in place.
- B ∙ Make sure that the battery power of the heart rate strap is sufficient.
- C ∙ Whether the range of the wireless heartbeat has been exceeded.
- D ∙ Check whether the wireless heartbeat module is in the correct position.
- E ∙ Replace the wireless heartbeat receiver module.

7-7-2 Press the keypad heart rate unexpected increase / Heart rate always increasing / Wireless receiving distance is short

- A ∙ Check that the receiving board is in the correct position.
- B ∙ To confirm whether the keypad sound is too loud caused.
- C ∙ Disturbed wireless heartbeat near the source of interference. (Such as fluorescent lamp rectifier, cable interference power, etc···)
- D ∙ Replace the wireless heartbeat receiver module.

7-7-3 Light sensor problem

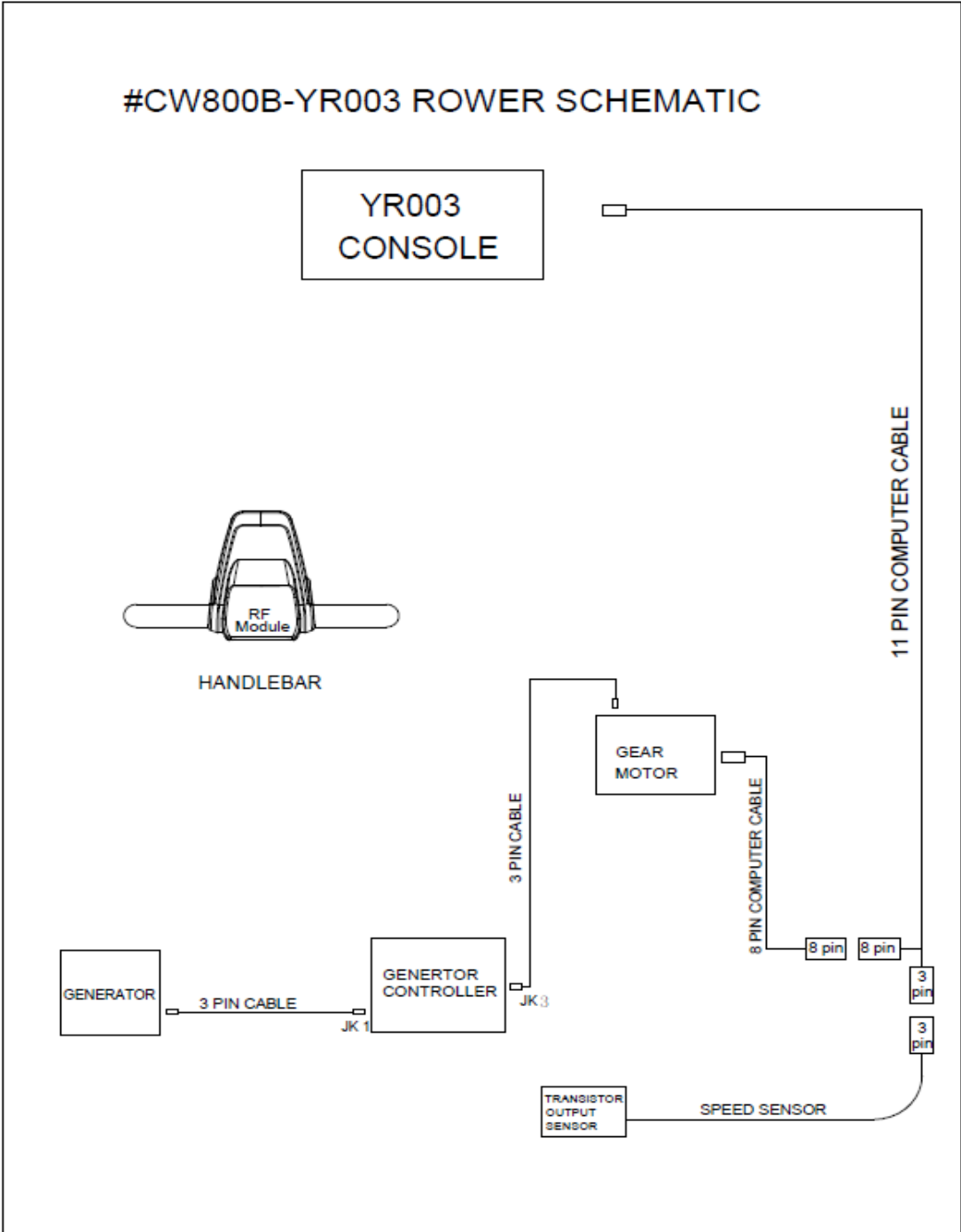
- A ․ Check that the receiving board is in the correct position.
 - B ․ Check whether the light-emitting point and the receiving point are obstructed by dust.
 - C ․ Check the cable connection.
 - D ․ Replace the light sensor module.
-

7-7-4 RF handheld board problem

- A ․ Check the battery power.
- B ․ Check that the receiving board is in the correct position
- C ․ Whether disturbed by the source of near interference. (such as fluorescent lamp rectifier, cable interference power, etc.)
- D ․ Check the cable connection.
- E ․ Replace the RF receiver module

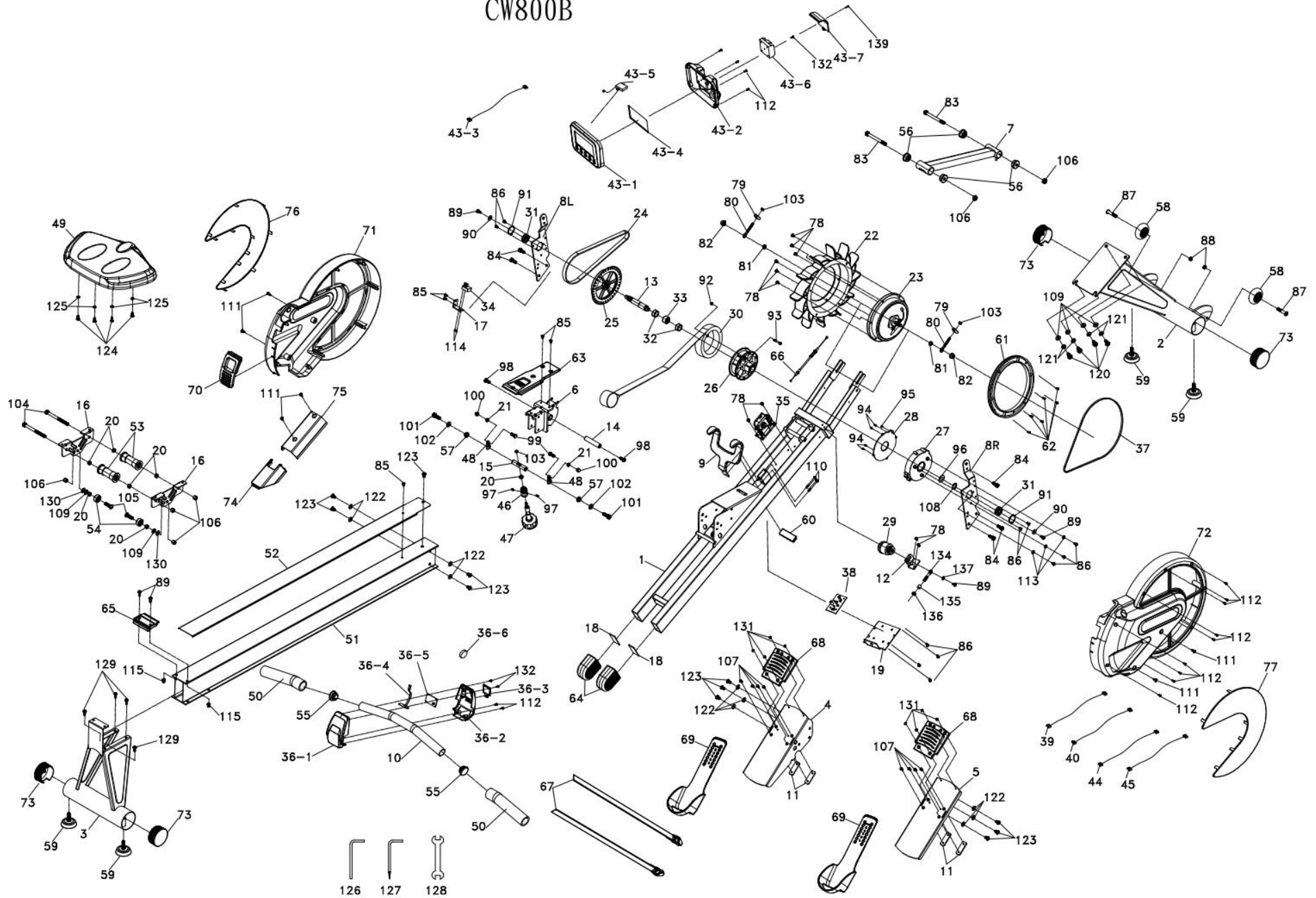
9. Circuit diagram(CRW800)

#CW800B-YR003 ROWER SCHEMATIC



10.Exploded View (CRW800)

CW800B

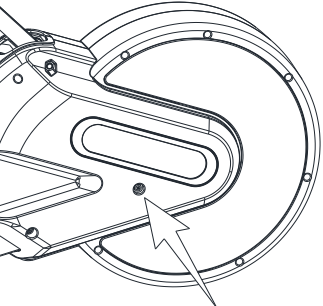


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11.Part Replacement Guide

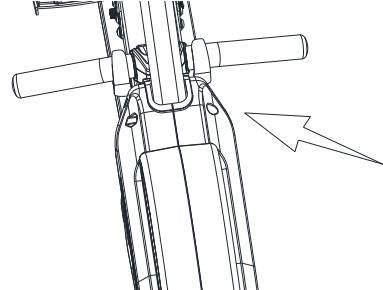
11-1 Chain Cover & Galvanized iron net replacement.

Step 1: Remove the $\varnothing 5 \times 16L$ _Tapping Screw(111) x2pcs from the Chain Cover (L) (71) by using Phillips Head Screw Driver, take apart the $3.5 \times 12L$ _Sheet Metal Screw(112)x9pcs from the Chain Cover (R) (72), and then it works to take apart the Chain Cover (L) (71) completely.

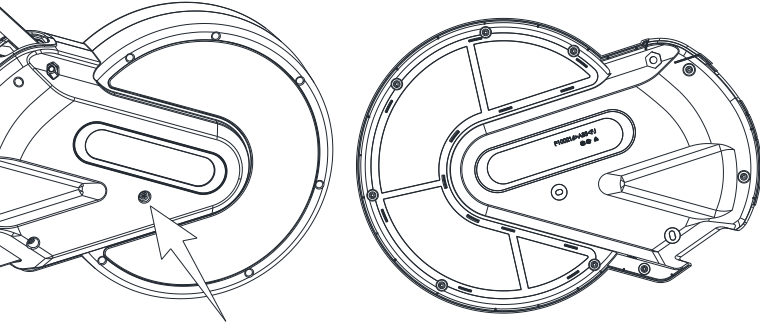


Step 2: Loose the $3/8" \times UNC16 \times 3-3/4"$ _Socket Head Cap Bolt (83) by using the L Allen Wrench(8m/m) and pushing the $3/8" \times 11T$ _Nyloc Nut.

Noted: Please do not take out the Screw.

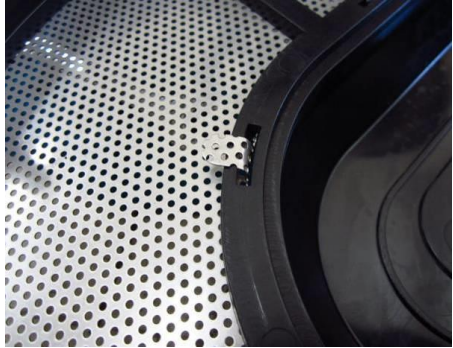


Step 3: Take out the $\varnothing 5 \times 16L$ _Tapping Screw (111) x2pcs by using the Philips screwdriver, then Chain Cover (R) could be removed.

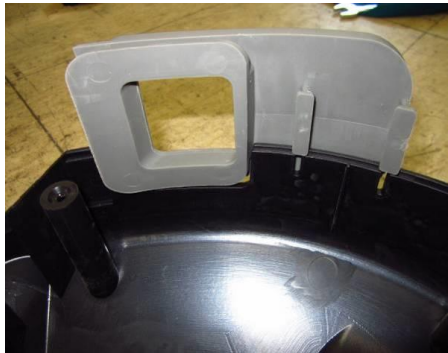


Step 4: Take out the Galvanized iron net (L) and Galvanized iron net (R) from the Chain Cover (L) and Chain Cover (R) and make it straight from the hole.

Noted: It can be taken out the single chain cover and Galvanized iron.



Step 5: To do the reverse of above steps to install Chain Cover (L) (71) and Chain Cover (R) (72). Be careful about the Chain Cover Foam must aim at the hole.



11-2 Console & Console Holder Assembly replacement.

Step 1: Take out the 3.5 × 12L_Sheet Metal Screw (112)x4pcs from the Console(43) by using the driver to the Top cover of Console(43), and then remove the 500m/m Computer Cable (Upper) (44) and wireless cables or receivers.



Step 2: Remove the 3/8" × UNC16 × 3-3/4" _Socket Head Cap Bolt (83) by using the L Allen Wrench (8m/m) if the user wants to take out the Console Assembly (43). Separate the 500m/m Computer Cable (Upper)(44) and controller.



Step 3: Take out the Chain Cover (L) and Chain Cover (R) first. Then separate the 500m/m Computer Cable (Upper)(44) and 500m/m Computer Cable (Lower) (45) if the user wants to remove the Console Holder Assembly. Apart from the Board(34), and then take out the 3/8" × UNC16 × 3-3/4" _Socket Head Cap Bolt (83), then the user can get the Console Holder Assembly(7) and Console Assembly(43) at meanwhile.



Step 4: To do the reverse of above steps to resume the console assemble (43). Be noticed the processing of pass through the 3/8" × UNC16 × 3-3/4" _Socket Head Cap Bolt (83) and 500m/m Computer Cable (Upper), which may interfere with each other, need techniques.

11-3 Handle bar & Controller Assembly replacement.

Step 1: Take out the 3.5 × 12L_Sheet Metal Screw (112) x2pcs and Sheet Metal Screw (132) x2pcs from the Controller Assembly (36) by using the driver (see figure 1), and pass the Handle through the Ribbon Roll (30). Be careful it needs to pass Handle (10) through the Ribbon Roll (30) and fix it on the Hook (9). It is to avoid the Ribbon Roll (30) goes back to the chain cover.



Step 2: If the user wants to change the PVC Sleeve (50), it needs to remove the Controller Assembly (36) directly.

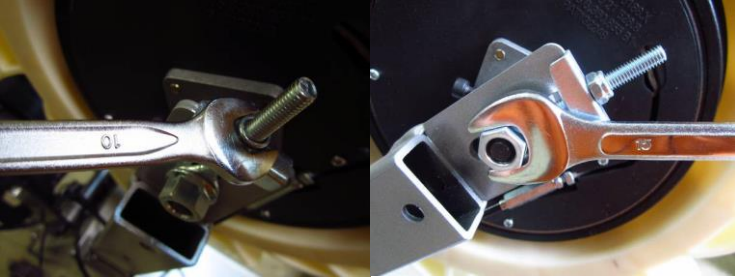
Step 3: Remove the 3.5 × 12L_Sheet Metal Screw (112) x1PC from the Battery Cover (36~3) if the user only wants to remove the battery.



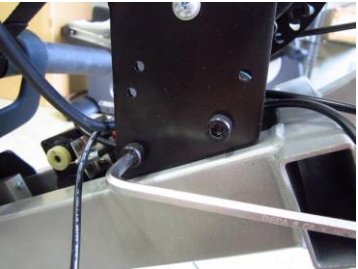
11-4 Flywheel Pulley 、 Latch & Spring Latch replacement.

Step 1: Adjust the resistance to the highest on the Console and remove the Power Cord. Take out the Chain Cover (L)(71). Chain Cover (R)(72) 、 Handle(10) 、 Controller Assembly (36) and Console Holder Assembly (7) with Console Assembly (43).

Step 2: Loose the M6 × 6T_Nyloc Nut (103) and 3/8" × UNF26 × 11T_Nut (82) by using 10/15m/m Wrench.



Step 3: Take out the M8 × P1.25 × 20L_Socket Head Cap Bolt (84)x4pcs by 6m/m L Allen Wrench. Move forward the Flywheel Pulley (25) 、 Latch (26) 、 Spring Latch (27) 、 Attaching Plate (8L) and Attaching Plate (8R).



Step 4: Fix the Flywheel Pulley (25) by hands and take out the M6 × P1.0 × 18L_Button Head Socket Bolt (89) by using 4m/m L Allen Wrench. Take out M5 × 10L_Phillips Head Screw (86)x3pcs by using driver and remove the Attaching Plate (8R) with Bearing(6201 UOU).



Step 5: Take out the M5 × 10L_Phillips Head Screw (86) x 2pcs by using driver. Separate the Attaching Plate (8R) with Bearing (6201 UOU).

Step 6: Remove the $\varnothing 20 \times 1.2t$ _C Ring(108) by clip and also $\varnothing 20 \times 29 \times 0.3T$ _Wave Washer(96), Spring Latch(27) and Latch(26).

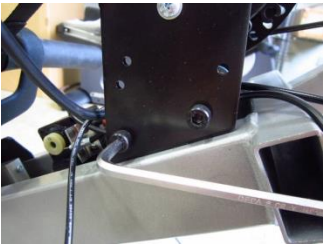


Step 7: Be careful of the steps when reassemble the parts back.

a) The position of Spring Latch(27) and Attaching Plate (8R).



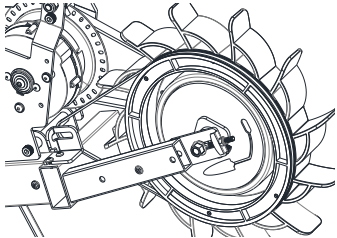
b) Fix the Attaching Plate (8L) and Attaching Plate (8R) after put the Drive Belt (6PJ-787L)(24) on the Flywheel Pulley(25).



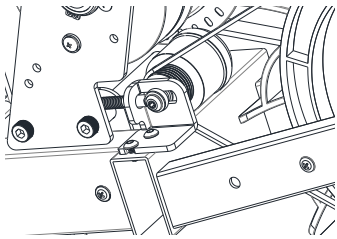
c) Tie up the 3/8" × UNF26 × 11T Nut (82) and adjust the M6 × 6T_Nyloc Nut(103). Adjust the Drive Belt to the Tension value of 70~80BLS and Flywheel(23). Tie up 3/8" × UNF26 × 11T Nut(82).



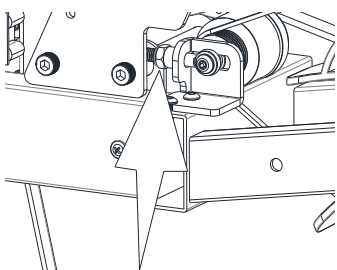
Step 8: To mount generator belt to generator pulley.



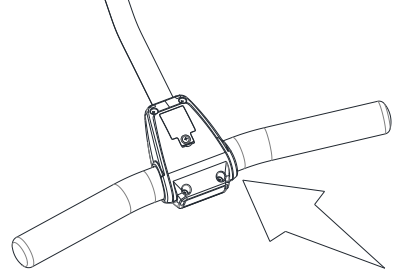
Step 9: To insert the Idle Wheel Screw to the generator Fixing Plate then locking the generator with a bolt (M6 *1.0*18L) and a flat washer.



Step 10: To adjust the nut of idle wheel screw to the right tension which the generator belt won't skidding.



Step 11: Test with pull the handle bar to make sure there won't be any noise.



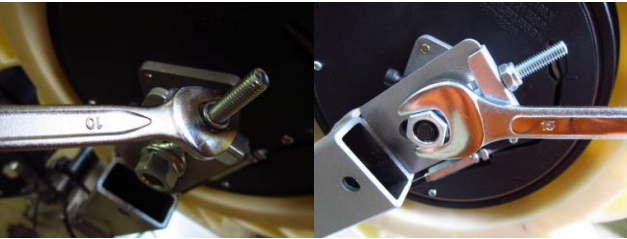
11-5 Fan & Flywheel replacement.

Step 1: Adjust the assistance of console to the highest and remove the power cord. Take out the Chain Cover (L)(71)& Chain Cover (R)(72).

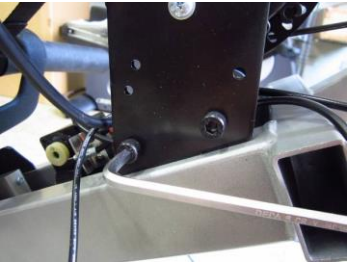
Step 2: Pull out the Steel Cable (66) from the Flywheel(23).



Step 3: Use 10/15m/m Wrench to loose M6 × 6T_Nyloc Nut(103) & 3/8" × UNF26 × 11T_Nut(82).



Step 4: Use 6m/m L Allen Wrench to take out the M8 × P1.25 × 20L_Socket Head Cap Bolt(84)x4pcs. Move forward the Flywheel Pulley(25), Latch(26), Spring Latch(27) and Attaching Plate (8L) (8R) which the Drive Belt(24) can be removed.



Step 5: Release the Flywheel(23) & Fan(22).

Step 6: Use driver to remove M5 × P0.8 × 15L_Phillips Head Screw(78)x6pcs and Flywheel(23) & Fan(22) can be separated.

Step 7: To do the reverse of above steps to resume the Flywheel Pulley 、 Latch & Spring Latch.

11-6 Gear Motor & Steel Cable replacement.

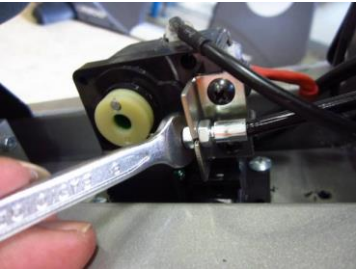
Step 1: Adjust the assistance of console to the highest and remove the power cord. Take out the Chain Cover (L)(71)& Chain Cover (R)(72).

Step 2: Pull out the Steel Cable (66) from the Flywheel (23).

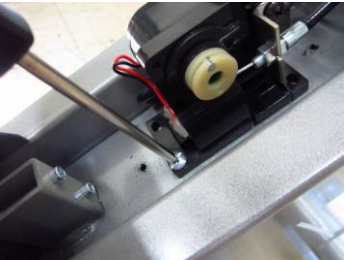
Step 3: Use driver to take out $\varnothing 5 \times 16L$ _Tapping Screw (111) x 2pcs. Take out the Front Gear Motor Cover(74)& Rear Gear Motor Cover(75).



Step 4: Use 8m/m Wrench to remove M5 x 5T_Nyloc Nut of Steel Cable(66).



Step 5: Remove the cables from Gear Motor(35). Use driver to take out M5 x P0.8 x 15L_Phillips Head Screw(78)x2pcs



Step 6: To do the reverse of above steps to resume parts.

11-7 Pedal 、 Pedal Plate & Wire Tie Mount replacement.

Step 1: Use 5m/m Wrench to take out the M8 × P1.25 × 12L_Button Head Socket Bolt(123)x6pcs, Ø5/16" × Ø18 × 1.5T_Flat Washer(122)x6pcs. Release the Pedal (L) & (R), Pedal(68), Pedal Plate(69) and Wire Tie Mount(67).



Step 2: Use the driver to take out the M4 × 5L_Phillips Head Screw (113)x4pcs, Pedal(68), Pedal Plate(69) and Wire Tie Mount(67)



Step 3: Use the driver to take out the M5 × 12L_Flat Head Socket Screw (107)x4pcs and Wire Tie Mount(67).



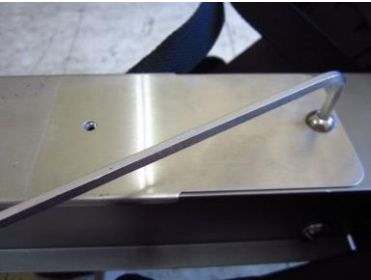
Step 4: To do the reverse of above steps to resume parts

11-8 Aluminum Track 、Seat & Rear Stabilizer replacement.

Step 1: Use the driver to take out M5 × 10L_Phillips Head Screw(85)x3pcs and Connecting Cover(63).



Step 2: Use 5m/m Wrench to take out the M8 × P1.25 × 12L_Button Head Socket Bolt(123)x6pcs, Ø5/16" × Ø18 × 1.5T_Flat Washer(122)x6pcs. Release the Aluminum Track(51), Seat sets(49)(16)(53)(54) and Rear Stabilizer(3).



Step 3: Take out the Seat sets(49)(16)(53)(54) in the front.

Step 4: Use 4m/m Wrench to release M6 × P1.0 × 18L_Button Head Socket Bolt(89)x2pcs, M6 × P1.0 × 10L_Button Head Socket Bolt(129)x4pcs. Remove the Seat Stop Cover(65) & Rear Stabilizer(3).



Step 5: Use 6m/m Wrench & 14m/m Wrench to take 3/8" × UNC16 × 1-1/4" Button Head Socket Bolt(105), 3/8" × 11T_Nyloc Nut(106) and Pulley(54) apart.



Step 6: Use the driver to take M6 × 15L_Phillips Head Screw(124), Seat(49) and Seat Attaching Board(16) apart.



Step 7: To do the reverse of above steps to resume parts.

11-9 Folding End Assembly & Seat Up/Down Adjustment Knob replacement.

Step 1: Remove Aluminum Track(51)& Pedal (L)(R).

Step 2: Use 6m/m Wrench to take M8 × P1.25 × 15L_Socket Head Cap Bolt(98)x2pcs and Folding End Assembly(6) apart.



※ Please note it is not allowed to take out 2pcs of M8 × P1.25 × 15L_Socket Head Cap Bolt(98), please get a new piece of M8 × P1.25 × 15L_Socket Head Cap Bolt(98) to lock the original position.

Follow the same steps to get another one.

Step 3: Use 10m/m Wrench to take M6 × 6T_Nyloc Nut(103) apart.



Step 4: Use 22m/m Wrench to take 22L × M16 × M22 × 37L_Knob Nut(46)& Seat Up/Down Adjustment Knob(47).



※Please note 22L × M16 × M22 × 37L_Knob Nut(46) is fixed by thread-locker, remember add 1~2cc thread-locker when reverse above steps to resume part.

Step 5: Use 13m/m Wrench to remove the M8 × P1.25 × 13T_Cap Nut(100)x2pcs, M8 × P1.25 × 20L_Hex Head Bolt(99)x2pcs and take Tension Spring(48) and Main Frame(1) apart.



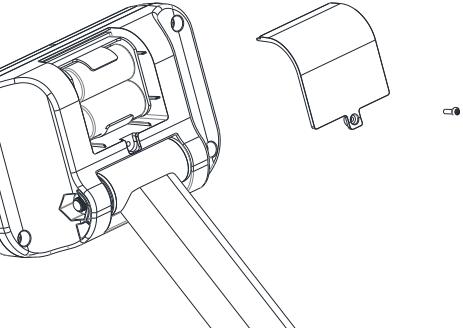
Step 6: Use 8m/m Wrench to remove the 3/8" × UNC16 × 1" _Socket Head Cap Bolt) (101)x2pcs, Ø3/8" × 20 × 3.0T_Flat Washer(102)x2pcs and take Seat Stop Axle(15) and Tension Spring(48) apart.



Step 7: To do the reverse of above steps to resume parts

11-10 Batteries replacement.

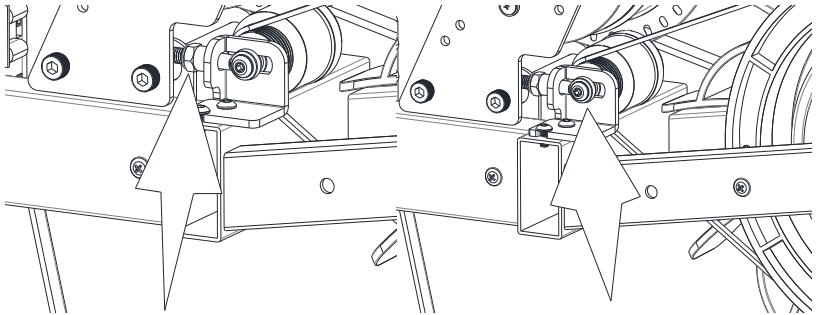
Step 1: Use a screwdriver to remove a screw of battery cover on the back of console then replace batteries.



11-11 Generator motor replacement.

Step 1: Please follow the steps of Chain cover replacement to take off Chain cover.

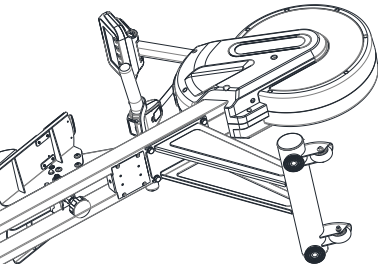
Step 2: To loose the nut (M8*7T) which locking with the idle wheel bolt, then remove the button socket cap screw and take off the generator.



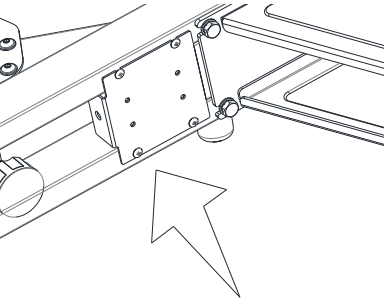
Step 3: To do the reverse of above steps to install the generator back.

11-12 Controller board replacement.

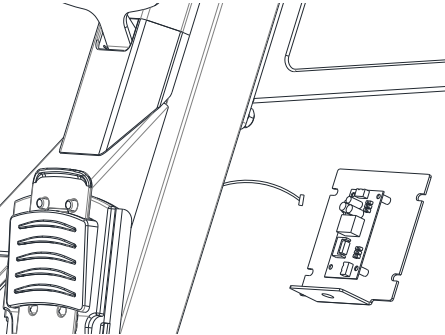
Step 1: Lie down the machine.



Step 2: Use a screwdriver to remove 4 screws(M5*10L).



Step 3: Unplug the control wire then replace the controller board.



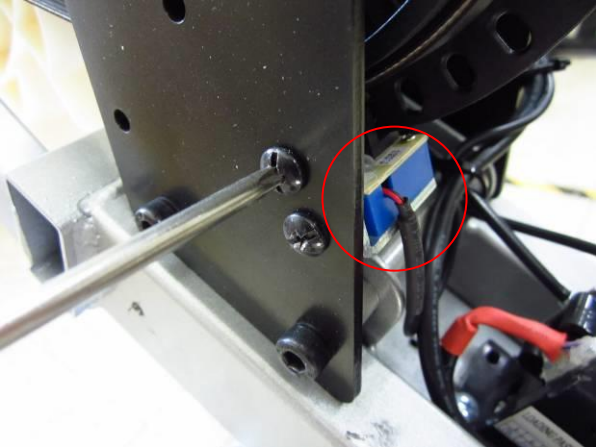
Step 4: To do the reverse of above steps to install back.

12. CRW800 Troubleshooting

12-1 The Console Display troubleshooting

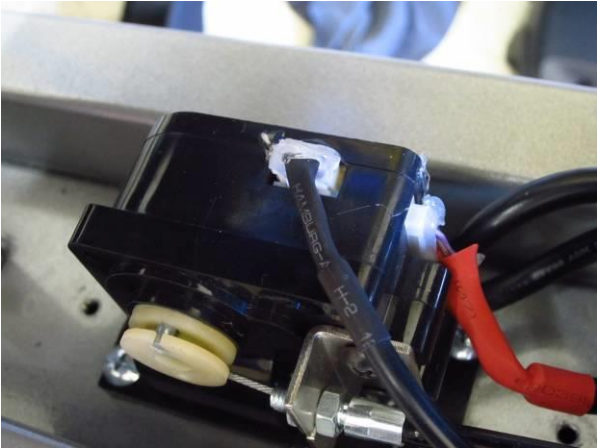
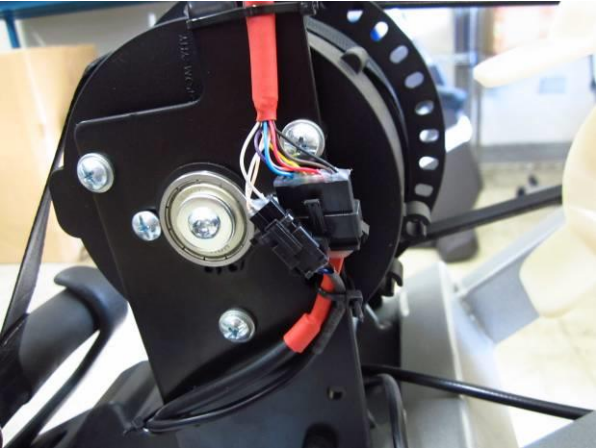
Q: Count Times doesn't show in display.

A: Please check the connections with optical coupler Board (34) or the connection of all wires.



Q: The console doesn't display.

A: Please check the connection with 750m/m DC Power Cord(39), Gear Motor(35), and 500m/m Computer Cable (Upper)(44).



12-2 The Resistance Level can't adjust troubleshooting

Please check Controller Assembly(36) and Console Assembly(43) if there's no adjustable resistance separately. If it is the problem of Controller Assembly(36), please refer to step 1. If it is the problem of Console Assembly(43), please refer to step 3.

1. Please follow the steps of instruction manual or the message on the sticker to proceed the calibration of RF module. If there's still no resistance, please use driver to remove the 3.5 × 12L_Sheet Metal Screw(112)x1pc from the Battery Cover(36~3) and check if has power of Controller Assembly(36). If not, please replace directly. If yes, please remove the 3.5 × 12L_Sheet Metal Screw(112)x2pcs from the Controller Assembly(36) and check the connection of Resistance Button W/Cable+Faceplate (36~4) and RF Module(35). Or take out the 3.5 × 12L_Sheet Metal Screw(112)x4pcs from the console. Open the cover of console and check the connections of cables on the Console Bottom Cover(43~2). It is get easier to find the problem if you have RF Module(35).

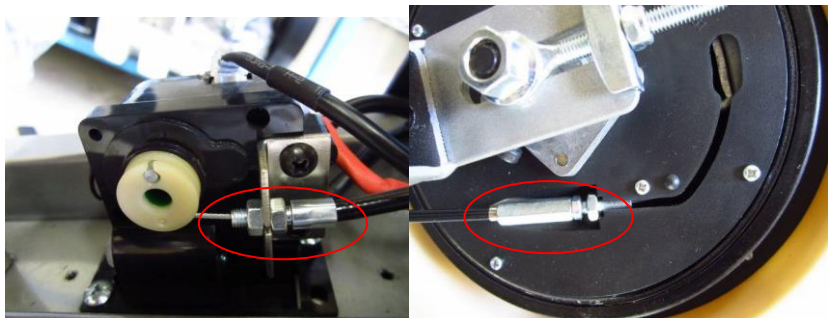


2. Release the 3.5 × 12L_Sheet Metal Screw(112)x4pcs from the Console(43). (See figure 2) Check the PCB board(43~4) and 500m/m_Computer Cable (Upper). Release the Chain Cover (R)(72) and check the Gear Motor(35) and 500m/m_Computer Cable (Lower)(45).

3. Release the the Chain Cover (R)(72) and check the Drive Belt(24), Flywheel(23) if it is without problem. Check the connections with Gear Motor(35), Steel Cable(66), and Flywheel(23) and check if is without problem of adjustable resistance.

The problems could be:

- a) Gear Motor(35)- Please check there's any the noise while working. If yes, please get the Steel Cable(66) to the maximum. If not, please replace Gear Motor(35) directly.
- b) Flywheel(23)- Please check if the Steel Cable is broken or Flywheel gets stuck. Check the trouble shooting step by step.



12-3 Troubleshooting for not smooth when operating

Q: Ribbon Roll can't Spring Back.

A: Release the Chain Cover (R)(72) and check the Latch(26). If the ribbon roll can spring back, the problem could be broken on the other side. Please pull it out and check.



If the Latch(26) cannot spring back, please release the Attaching Plate (8R) to check the connections of Spring Latch(27~2) and Latch(26). (See figure 2 as in red circle) If the Spring Latch(27~2) is broken, please replace it directly.



Q: Ribbon Roll works not smoothly or gets stuck.

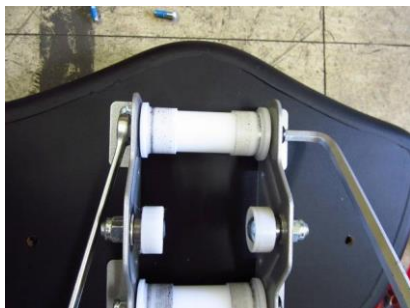
A: The Ribbon Roll may get in reverse position. Please pull it out and check, please also check Chain Cover (R) (72)

12-4 Troubleshooting for Other problems

Q: Slide works not smoothly.

A: Please follow below steps until the slide works.

1. Please clean Aluminum Board(52)& Aluminum Track Pulley(53).
2. Please loose 3pcs of 3/8" × 11T_Nyloc Nut(106).
3. Check and replace Aluminum Track Pulley(53) or Pulley(54).



Q: Noise.

A: Please refer to the cause of noise to find out the problems. The main reasons and parts are below.

1. Screw Kits not fixed. Please check.
2. Please check four of Adjustment Foot Pad(59) are fixed to the ground and also adjust the each of Nuts.
3. Tie the Seat Up/Down Adjustment Knob(47). If it has the noise, please get some lubrication on the position of screw.



4. Slide has noise. Please clean Aluminum Track Pulley(53), Pulley(54) and Aluminum Board(52). If it is not workable, please replace Aluminum Track Pulley(53) and Pulley(54) directly.
5. Fan(22) or Flywheel(23) has noise. Please release the Chain Cover (L)(71)&Chain Cover (R)(72) and check.