

# *Johnson C8000*

## *SERVICE MANUAL*



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***SECTION 1***  
***MAINTENANCE PROCEDURE***

## **PREVENTIVE MAINTENANCE SCHEDULE**

### ***BIKE***

| <b><i>Item</i></b>                     | <b><i>Daily</i></b> | <b><i>Weekly</i></b> | <b><i>Monthly</i></b> | <b><i>Quarterly</i></b> | <b><i>Biannual</i></b> | <b><i>Annual</i></b> |
|----------------------------------------|---------------------|----------------------|-----------------------|-------------------------|------------------------|----------------------|
| <b><i>Console Mounting Bolts</i></b>   |                     |                      |                       |                         | <b>Inspect</b>         |                      |
| <b><i>Frame / All Cover</i></b>        | <b>Clean</b>        |                      |                       |                         | <b>Inspect</b>         |                      |
| <b><i>Display Console</i></b>          | <b>Clean</b>        |                      | <b>Inspect</b>        |                         |                        |                      |
| <b><i>Handlebar</i></b>                | <b>Clean</b>        |                      |                       |                         | <b>Inspect</b>         |                      |
| <b><i>Handrail &amp; Handlebar</i></b> |                     |                      |                       | <b>Inspect</b>          |                        |                      |
| <b><i>Belt Grooves</i></b>             |                     |                      | <b>Inspect</b>        |                         |                        |                      |
| <b><i>V Belt</i></b>                   |                     |                      |                       |                         | <b>Inspect / Clean</b> |                      |
| <b><i>Air Shock</i></b>                |                     |                      |                       |                         | <b>Lubricate</b>       |                      |

# CLEANING THE GROOVES

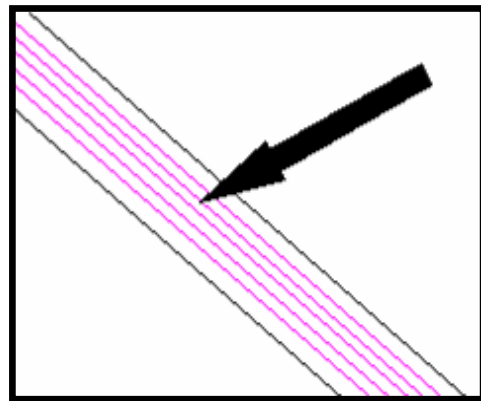
## Caution:

If there is any dust in the grooves of the Poly-V belts and pulleys, noises will be generated during operation.

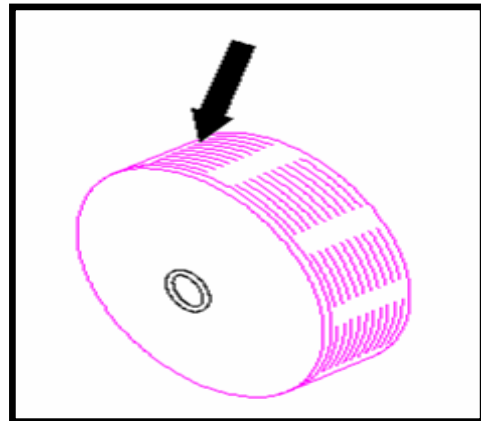
**Frequency: Every 6 months.**

## Procedure:

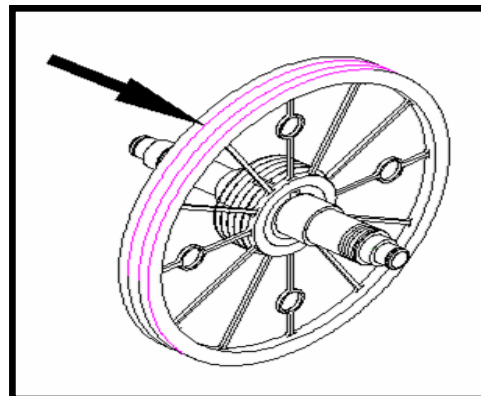
1.Remove the Poly-V belts and check the grooves of the belt for dirt or dust and clean it if any.



2.Check the grooves in the pulley for dirt or dust and clean it if any.

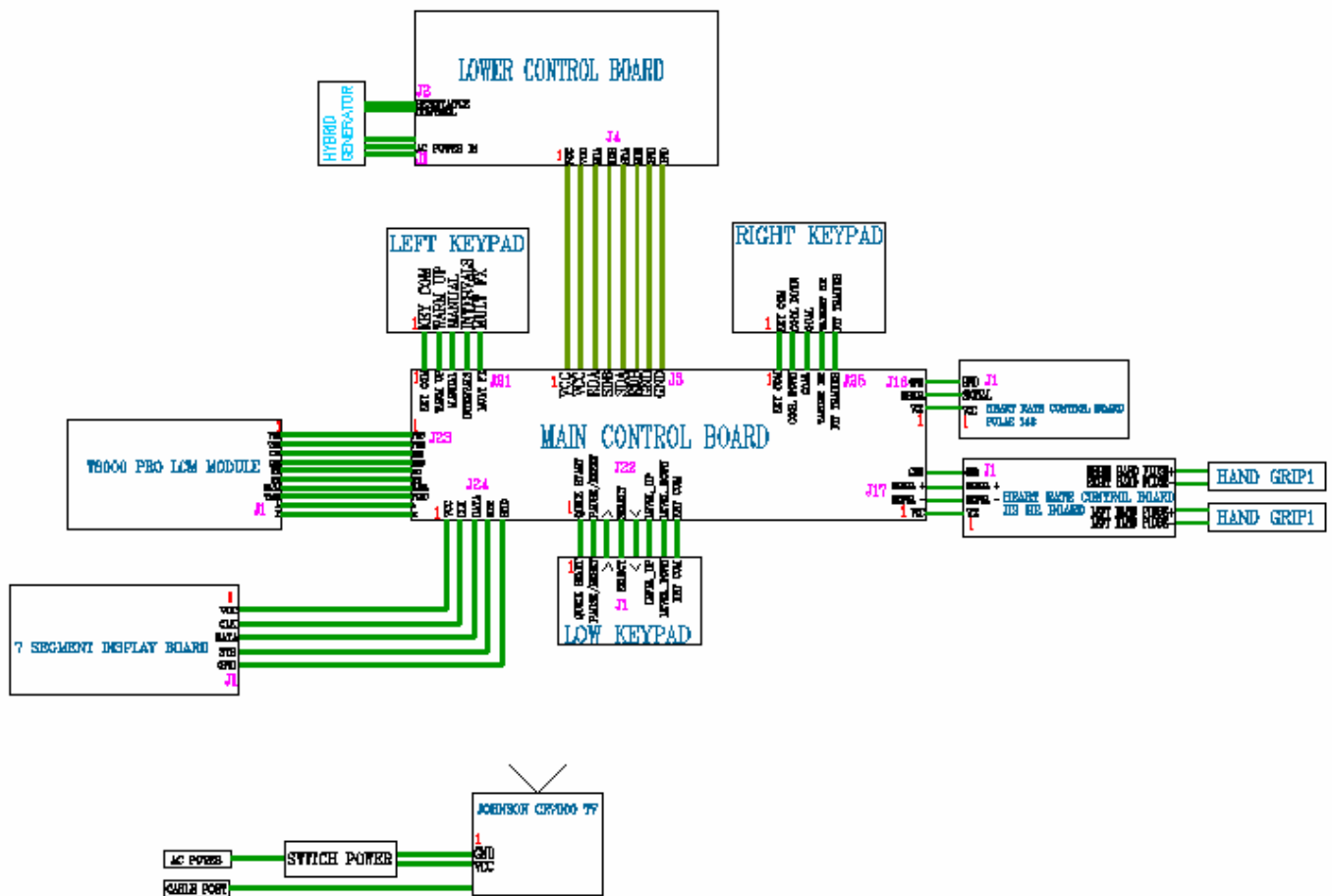


3.Check the grooves in the roller pulley for dirt or dust and clean it if any

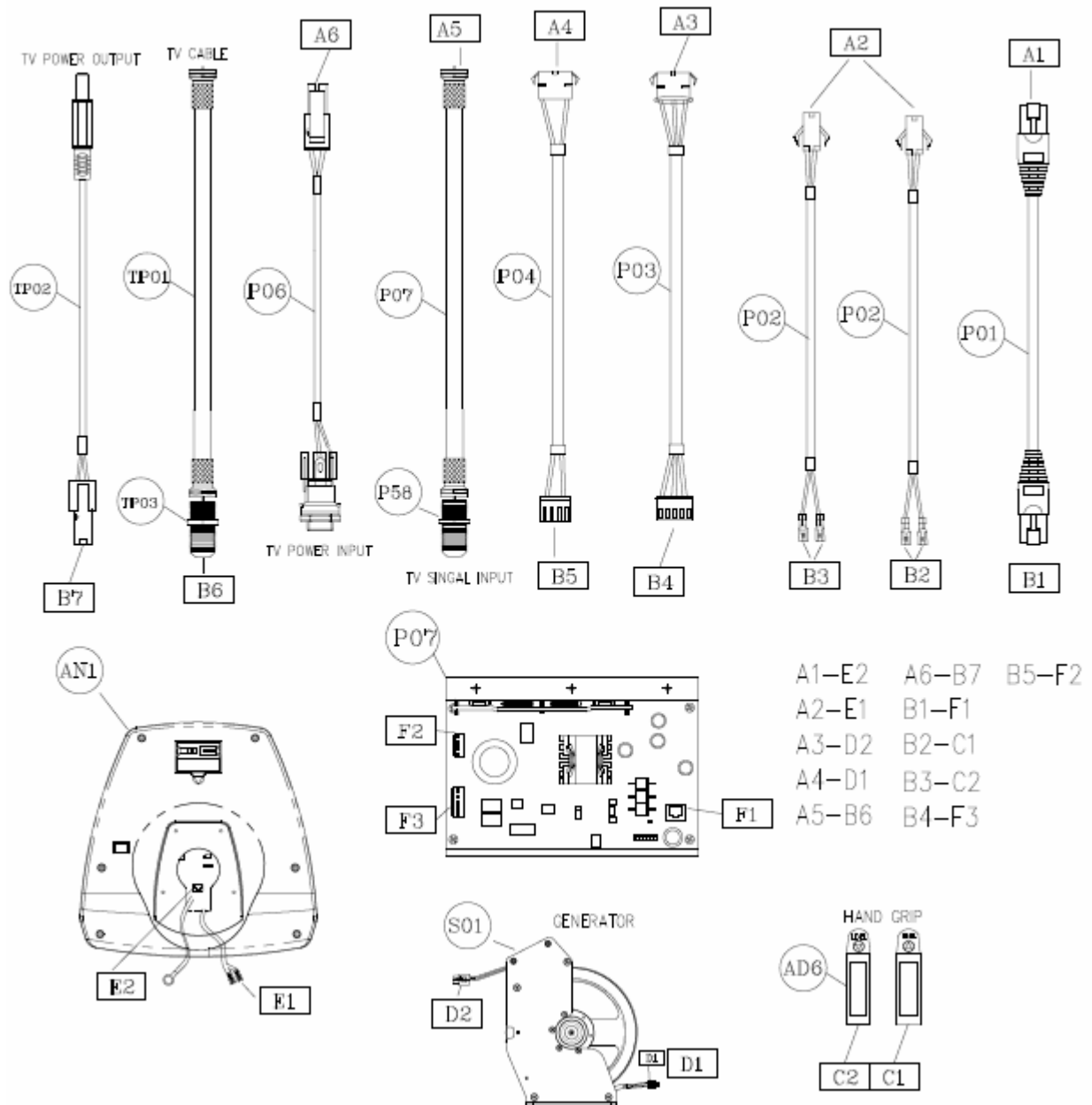


***SECTION 2***  
***WIRING DIAGRAM INSTRUCTION***

# C8000(CB66) Electrical block diagram

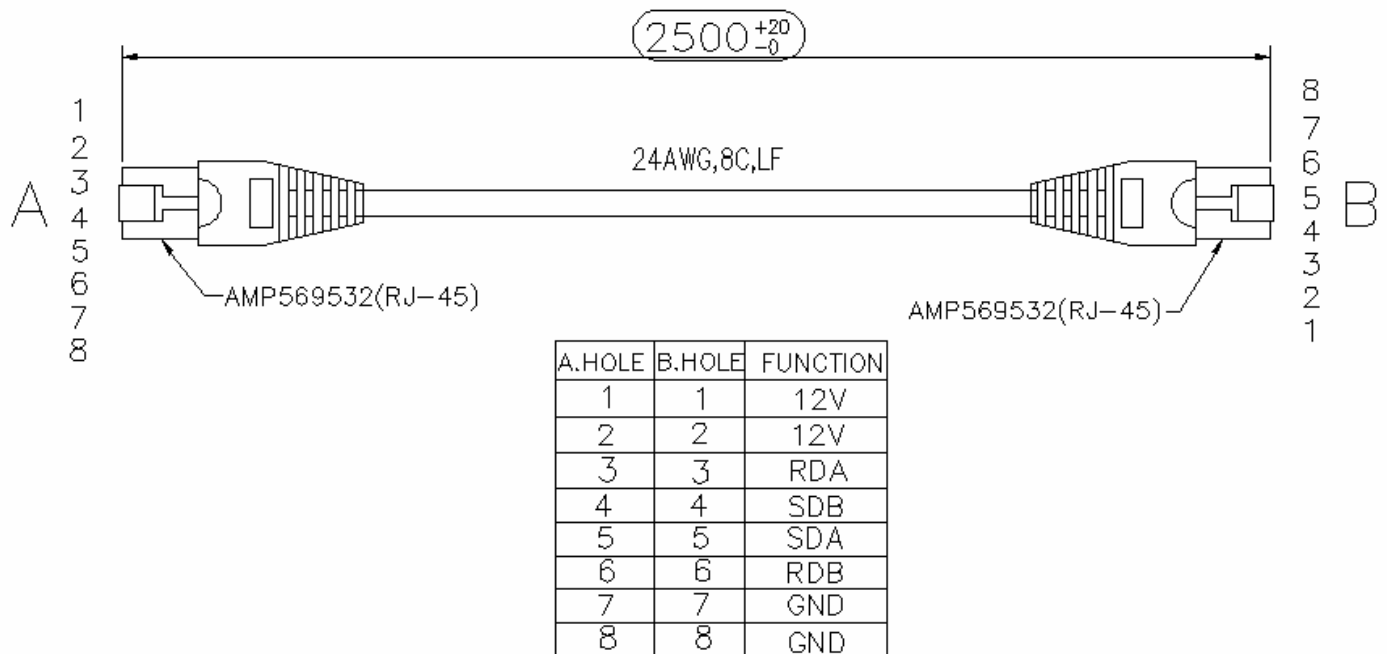


# Johnson C8000 WIRING DIAGRAM INSTRUCTION





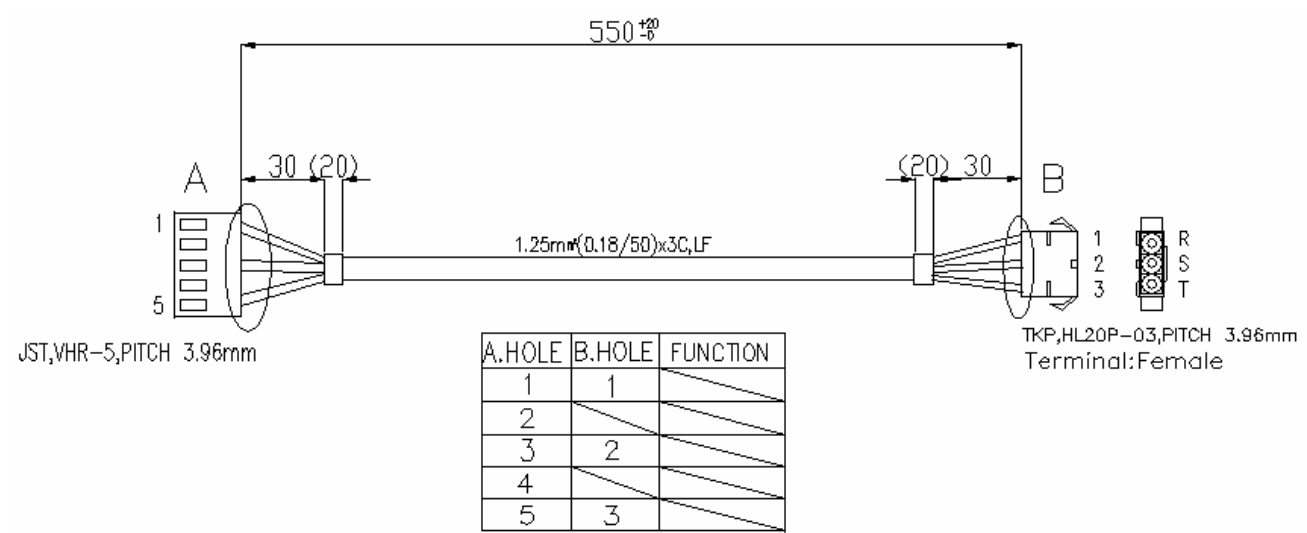
## P01 : Console cable



## P02 : Pulse sensor wire



P03 : Generator Wire



***SECTION 3***  
***CONSOLE ENGINEERING MODE GUIDE***

# How to enter into the engineering mode?



1. To enter the Manager's Custom Mode, press and hold down the "LEVEL UP and DOWN arrow keys" continue to hold down these two keys until the INSTRUCTION CENTER displays show the "MANAGER MENU".

1. To scroll through the list of Manager's Custom Mode, use the "LEFT / RIGHT ARROW keys", or "LEVEL ARROW keys". The INSTRUCTION CENTER will display, in turn, each of custom settings.
2. To select a custom mode, press the SELECT key to enter.
3. To change the value of the setting, use the "LEFT / RIGHT ARROW keys", or "LEVEL ARROW keys".
4. To confirm and save the value of the setting, press the QUICK START key. "SETTING SAVED" will appear in the INSTRUCTION CENTER.

To exit the setting without saving, press the RESET key within 5 seconds, or if there is no key pressed, the system will resume automatically.

|     | CUSTOM SETTING       | DEFAULT       | MINIMUM      | MAXIMUM                  | UNIT      | STEP | DESCRIPTION                                                                                                                                                                                                                                                                                |
|-----|----------------------|---------------|--------------|--------------------------|-----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P0  | MAXIMUM TIME         | 99 min        | 20 min       | 99 min                   | minute    | 1    | Enable fitness club managers to set the program maximum workout duration limits during peak and non-peak hours of club traffic. Active variable displayed in the TIME display after change.                                                                                                |
| P1  | DEFAULT TIME         | 20 min        | 5 min        | max. time                | minute    | 1    | Control the default program time.                                                                                                                                                                                                                                                          |
| P2  | DEFAULT LEVEL        | 1             | 1            | 10                       | n/a       | 1    | Control the starting resistance level for all programs.                                                                                                                                                                                                                                    |
| P3  | MAXIMUM LEVEL        | 20            | 1            | 20                       | n/a       | 1    | Enable to set maximum resistance level for all programs.                                                                                                                                                                                                                                   |
| P4  | DEFAULT WEIGHT       | 68kg / 150lbs | 34kg / 75lbs | 182kg / 400lbs           | kg/lbs    | 1    | Control the default weight used in calorie calculations. Set to default unit change (kilograms or pounds). Displayed in native units.                                                                                                                                                      |
| P5  | DEFAULT AGE          | 30            | 10           | 99                       | age       | 1    | Control the default users age used in target heart rate calculations.                                                                                                                                                                                                                      |
| P6  | ACCUMULATED DISTANCE | N/A           | 0            | 104,000 km / 65,000 mile | km / mile | N/A  | Accumulated distance is not editable, but only for display. Displayed in native units (miles or kilometers). Holding the Left and Right Arrow keys simultaneously to reset the accumulated distance. After the equipment reaches the maximum distance, it will reset to "0" automatically. |
| P7  | ACCUMULATED TIME     | N/A           | 0            | 65,000 hrs               | hour      | N/A  | Accumulated time is not editable, but only for display. Holding the Left and Right Arrow keys simultaneously to reset the accumulated time. After the machine reaches the maximum time, it will reset to "0" automatically.                                                                |
| P8  | PAUSE TIME           | 30 sec        | 30 sec       | 180 sec                  | second    | 1    | This is the maximum time during which a workout can remain in pause mode. Restrictions exist for the machine not equipped with a battery.                                                                                                                                                  |
| P9  | MODEL                | CB            | N/A          | N/A                      | N/A       | N/A  | CB - Upright Bike<br>RB - Recumbent Bike<br>EL - Elliptical Trainer<br>ST - Stepper                                                                                                                                                                                                        |
| P10 | LANGUAGE             | English       | N/A          | N/A                      | N/A       | N/A  | The native language prompts in the INSTRUCTION CENTER.                                                                                                                                                                                                                                     |

|     | CUSTOM SETTING   | DEFAULT | MINIMUM | MAXIMUM | UNIT | STEP | DESCRIPTION                                                                                                                                                                                                          |
|-----|------------------|---------|---------|---------|------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P11 | SOFTWARE VERSION | N/A     | N/A     | N/A     | N/A  | N/A  | Software version is not editable, but only for display.                                                                                                                                                              |
| P12 | UNITS            | Metric  | Metric  | English | N/A  | N/A  | The measurement unit prompts for weight, distance, and speed.                                                                                                                                                        |
| P13 | ERROR LOG        | N/A     | N/A     | N/A     | N/A  | N/A  | Error log is not editable, but only for display. Holding the Left and Right Arrow keys simultaneously to erase the error log.                                                                                        |
| P14 | METS             | OFF     | ON      | OFF     | N/A  | N/A  | If this option is "ON", the METs prompt becomes an individual display in PROMPT AREA. If "OFF", there will be an alternate prompt in RPM and METs at the lower-right corner of the WORKOUT PROFILE WINDOW.           |
| P15 | RESET ALL        | N/A     | N/A     | N/A     | N/A  | N/A  | The function would clear all custom settings had stored on the unit and all settings return to manufacturer default value. Holding the Left and Right Arrow keys simultaneously to clear all custom settings values. |

## SYMPTOMS OF A LOW BATTERY

If the bike has not been used for an extended period of time, the battery may require recharging. Symptoms of a low battery can include:

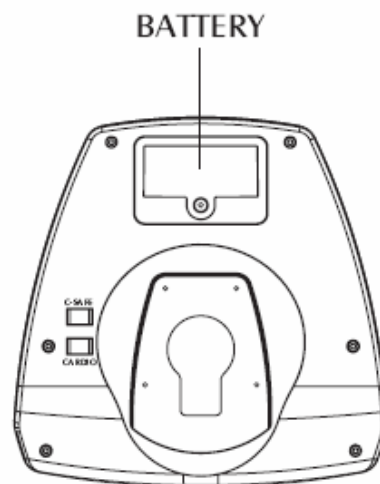
- A "LOW BATTERY" message will appear on the monitor
- Backlighting on the LCD display will be disabled
- No one uses the bike for an extended period of time.

If the battery must be recharged, use the optional power adapter charging unit. The charger should be connected to the bike for a minimum of eight hours to ensure a thorough charge. If LOW BATTERY still appears on the display after full charging, the battery could be extinct. Please check with an authorized service technician for replacing the battery.

## REPLACING THE BATTERY

The unit's battery is built to last for a long time. However, if you feel that the battery may need replacing, check with an authorized service technician.

**CAUTION:** The battery stored inside the unit contains hazardous materials to the environment. Proper disposal of the battery is required by the local law.



***SECTION 4***  
***TROUBLESHOOTINGS***



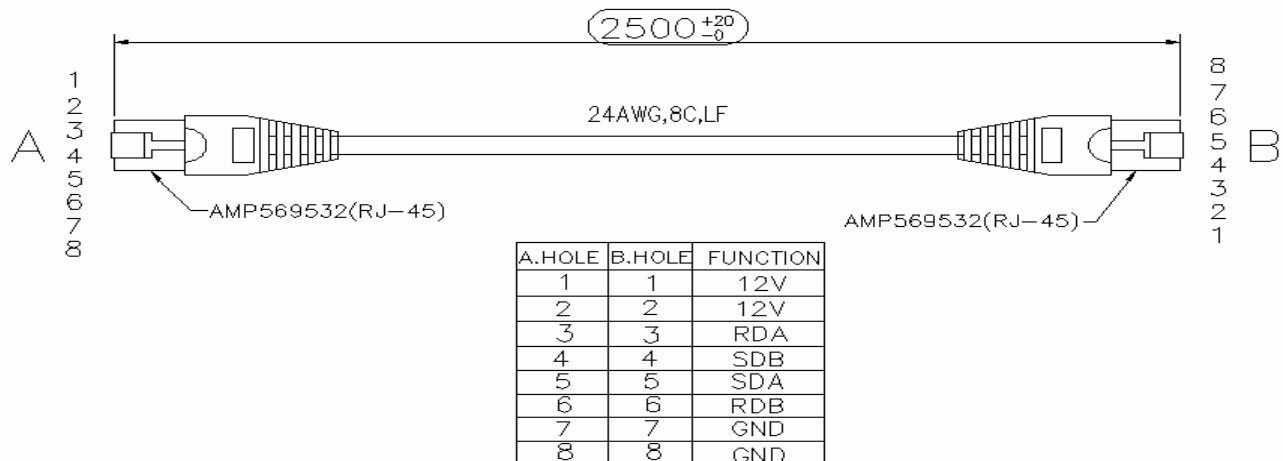
## No display on the console or the display is dim

### Possible causes:

1. Console is damaged or the console cable is not connected properly.
2. Poor connection to all the terminals on the control board.
3. Controller is damaged.
4. Generator is damaged.

### Fix:

1. First, unplug the console cable and use a multi-meter to check if the voltage between the 1(Vcc) and 7(Ground) pin of the console cable is greater than 12.  
(If it is, replace the console and check again.)



2. Open the side covers then check if all the wire harnesses are connected properly to the terminals of the control board
3. Unplug the generator cable from the Controller and pedal the machine to check if the voltage is variable.  
If it is, replace the Controller with a new one.  
If it is not, replace the generator with a new one.

## **All or some of the function keys do not respond**

### **Possible causes:**

1. Keypad connecting plug has been not fit-in properly.
2. Keypad is damaged.
3. Upper board is damaged.

### **Fix:**

1. Remove the console cover, and then check if keypad cable is connected properly to the upper board.

**If it has not been connected well, reconnect it to the terminal and check again.**

2. Keypad or upper board is damaged.  
Replace the console.

## **No resistance change or too hard for pedaling**

### **Possible causes:**

1. Console is damaged or the console cable is not connected properly.
2. Console cable is damaged.
3. Generator is damaged.
4. Controller is damaged.

### **Fix:**

1. Remove the console and check if the console cable has been connected properly.
2. Remove the side covers and check if the console cable is connected well to the controller properly.
3. Please make use of tools to confirm “Generator” have conduct( $10\sim15\Omega$ ).



◆ If it is damage, Please replace “Generator”

◆ If it is well, Please replace control board

## **Feel slipping while pedaling**

### **Possible causes:**

1. Belt tension is not enough.
2. One way bearing is damaged.

### **Fix:**

1. Remove all of the cover.
2. Pedaling and check if the belt tension is correctly.
3. One way bearing is damaged. Replace it with a new one. (instruction see below).

## **Knocking or creaking noises**

### **Possible causes:**

1. Pedal is on crank arm too loose
2. Crank or axle is wear out
3. Belt tension is too loose or poly v belt is too dirty

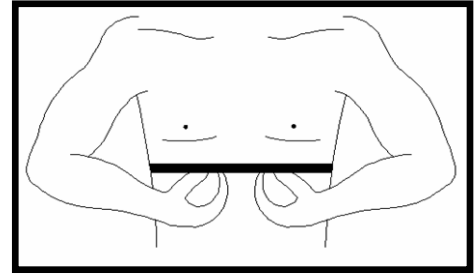
### **Fix:**

1. Re-tighten it.
2. Replace it with a new one
3. Re-adjust the belt tension and clean the poly v belt

## **Heart-Rate-Control function does not work**

### **Possible causes:**

1. Bike does not contact with user's chest very well.
2. Bike (Polar-belt) is at low battery status.
3. Bike (Polar-belt) is damaged.
4. Heart-rate-control board is damaged.
5. PCB is damaged.



### **Fix:**

1. Center the bike on your chest below the pectoral muscle(breast) as shown, then check again.
2. Remove the battery cover of the bike. Replace a new battery and check again.  
Actually, as moisture may activate the transmitter, please dry transmitter after use.
3. Transmitter is damaged. Replace the Transmitter.
4. Heart-rate-control board is damaged. Replace the HR-control board.
5. PCB is damaged. Replace the PCB.

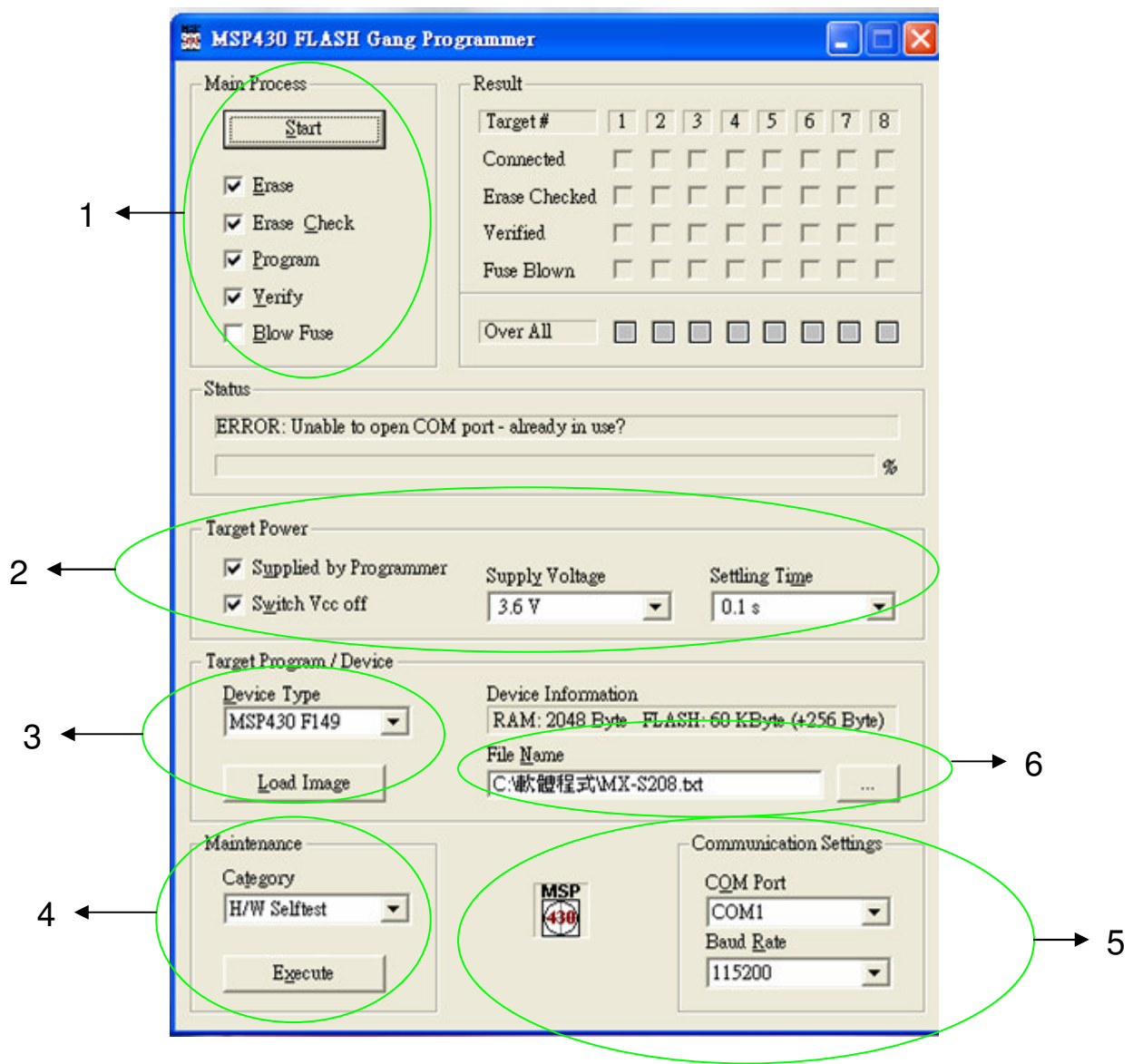
***SECTION 5***  
***SOFTWARE UPGRADE PROCEDURE***

# Johnson C7000 BIKE SOFTWARE UPGRADE SOP

## A. Service Tools & Accessories:

1. MSP-FET430 (Please refer the bulletin NB-0506002)
2. Parts NO: MT00L-039
3. Software





Please refer the above photo to set the parameter.

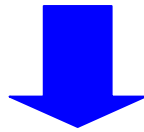
Press the **File Name** Find out the software version file in the computer and then actuate/open the file.

## Note

**When upgrade LCB the device type (3) has to select MSP430 F135**

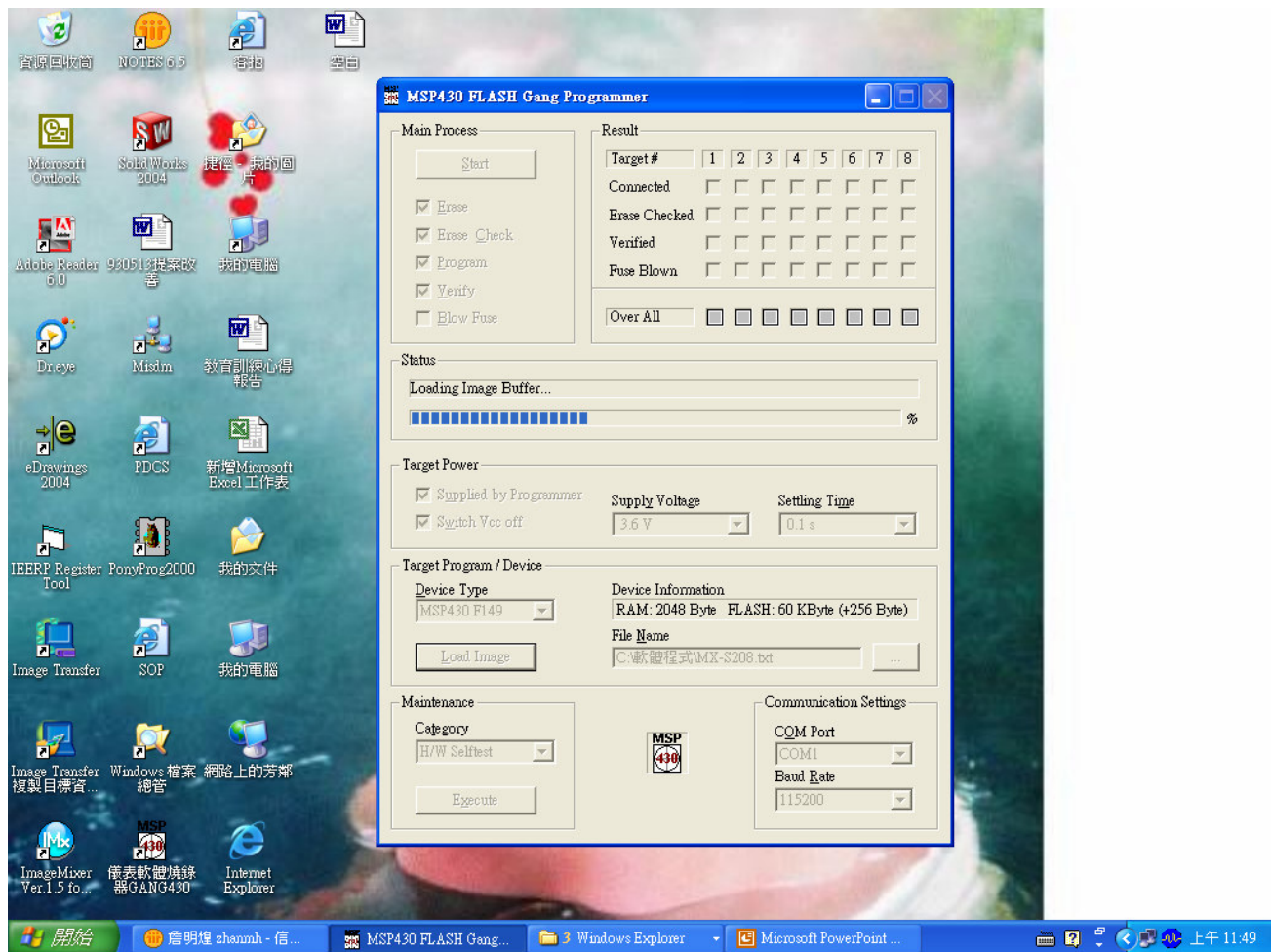
**When upgrade PCB the device type (3) has to select MSP430 F149**



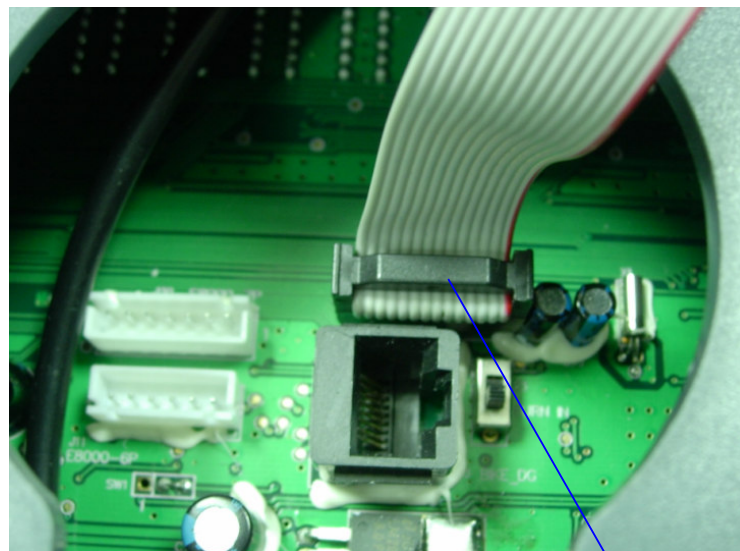


Computer

Install the MSP430 Tools

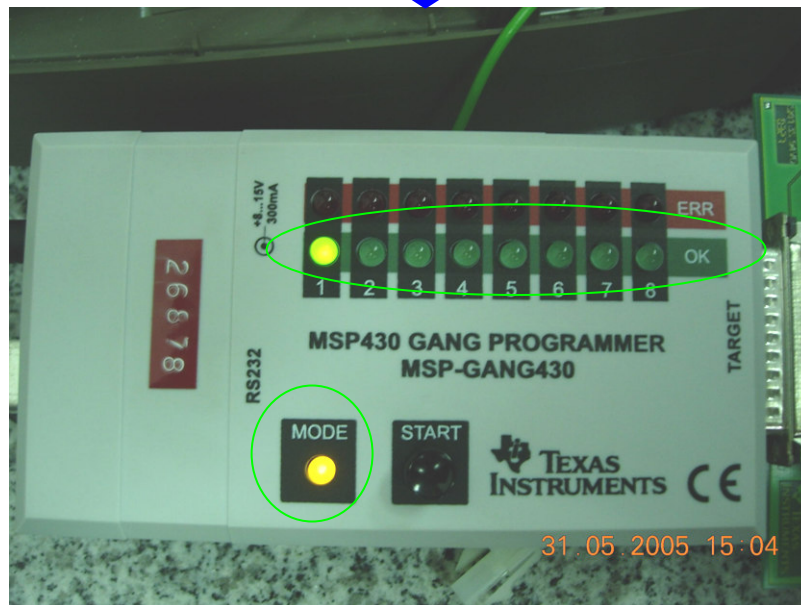


Press the **Load Image**, Installation software to MSP430 Tools.



MSP430

Installing the MSP430 cable to console.



1. Press the MSP430 “START” key, the “MODE” light will to glitter about 10 sec, If installing pass, the OK LET light.
2. Drive the machine to provide power for console and then enter into the engineering mode to confirm if the software had been installed/upgraded