SCHWINN
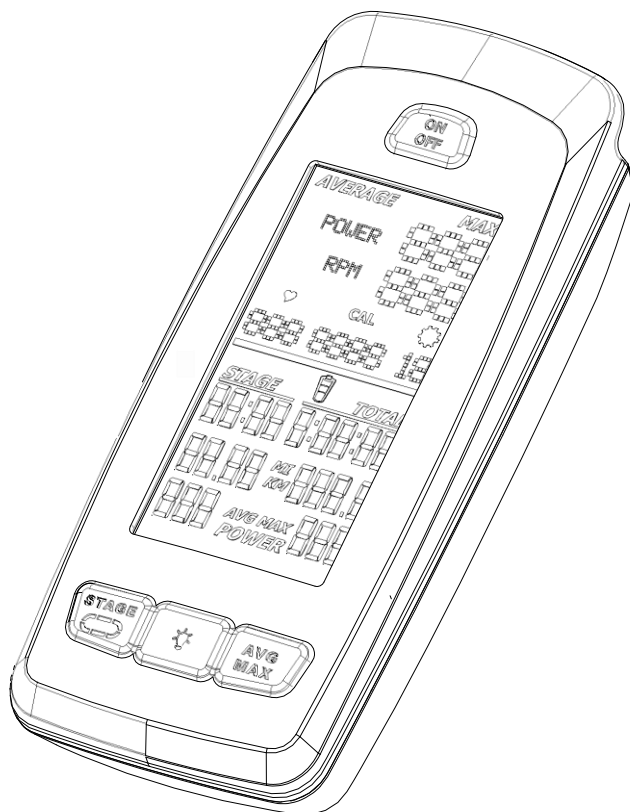
MPower™ Echelon2 Console
MPower™ Echelon2 Power Upgrade
MPower™ Echelon2 External Wiring Kit

Installation Guide

Table of Contents

INTRODUCTION

This installation guide details how to install and setup the following:
- Schwinn MPower™ Echelon2 Console, P/N 740-8727
- Schwinn MPower™ Echelon2 Optional Power Upgrade, P/N 740-8730
- Schwinn MPower™ Echelon2 External Wiring Kit, P/N 740-8875

The following instructions apply to the following models:
- Schwinn AC™ Performance
- Schwinn AC™ Sport
- Schwinn AC™ Sport with Carbon Blue
- Schwinn AC™ Performance Plus
- Schwinn AC™ Performance Plus with Carbon Blue

NOTE: The console cable must be externally routed on the AC Performance and AC Sport models. This requires that the External Wiring Kit, 740-8875 be used. The console cable for the AC Performance Plus is routed internally

TOOLS REQUIRED

- Phillips screw driver
- 2.5mm hex key
- 3mm hex key
- Long nose pliers

NOTE: Tools are not included in the kits.

CONSOLE KIT CONTENTS

Item	Description	QTY
1	Console	1
2	Console mount bracket	1
3	RPM (Cadence) sensor	1
4	RPM sensor adapter for AC Sport and AC Performance models	1
5	Console-to-RPM sensor cable (Only used when the optional power upgrade kit is not installed)	1
6	Connector protective cap	1
7	Cosmetic cap for AC Performance Plus models	1
8	C Cell Batteries	2
9	Console bracket mount screws, M4 x 10mm PHP, for AC Performance Plus models	3
10	Console bracket mount screws, M5 x 14mm BHCS, for AC Sport and AC Performance models	2
11	Connector protective cap mount screws, M3 x 12mm SHCS	2
12	Console-to-bracket mount screw, M3 x 6mm PHP	1
13	RPM sensor adapter mount screw, M3 x 6mm PHP (Only used on AC Sport and AC Performance Plus models)	1
14	Cosmetic cap mount screw, M5 x 14mm (Same as Item 10)	1
15	Cable grommet	1
16	RPM cable saddles	2
17	Cable saddle mount rivets	2
18	CD Rom with Owner's Manual and Installation Guide	1

OPTIONAL POWER UPGRADE KIT CONTENTS

Item	Description	QTY
1	Sensor assembly	1
2	Console-to-power sensor cable	1
3	RPM-to-Power sensor cable	1
4	Magnet assembly	1
5	Sensor mount screws, M4 x 6mm BHCS (Only 2 screws are used on older models with two screw mount holes)	3
6	Calibration tool	1

EXTERNAL WIRE KIT CONTENTS

Item	Description	QTY
1	Cable duct assemblies	2

CONSOLE INSTALLATION ON AC SPORT AND AC PERFORMANCE BIKES
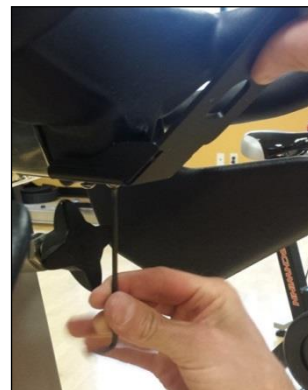
1. Insert batteries into console. (Figure 1)

Figure 1

2. Mount the console bracket using the two (2) M5 x 14mm button head screws. Tighten the screws using the 3mm hex key. (Figure 2 and Figure 3)

Figure 2

Figure 3

3. Slide the console onto the bracket. Insert the M3 x 6mm pan head screw and tighten with the screw driver. (Figure 4)

Figure 4

4. Prior to installing the upper conduit, clean head tube with isopropyl alcohol. Allow to air dry.

5. Peel off backing adhesive and align duct part number 740-8875-001 to forward edge and lower edge of the frame tube (as shown below). Apply normal pressure for 5 seconds. (Figure 5)

   Note: It is recommended that the adhesive set for 24 hours before use.

6. Insert the cable through the slot. (Figure 5)

7. Snap the outer part of the cable duct onto the base with the cable inside. (Figure 6)
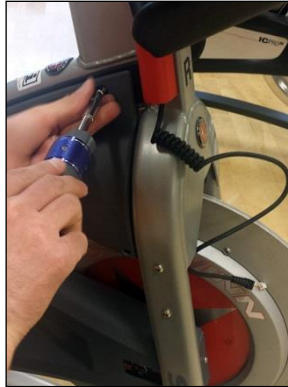

Figure 5

Figure 6

8. Using a Philips screw driver, remove the sweat guard (Do not use a power drill in removing and re-installing). (Figure 7)

9. Route the cable through the sweat guard. (Figure 8)

Figure 7

Figure 8

10. Re-mount the sweat guard. (Figure 9 and Figure 10)

Figure 9
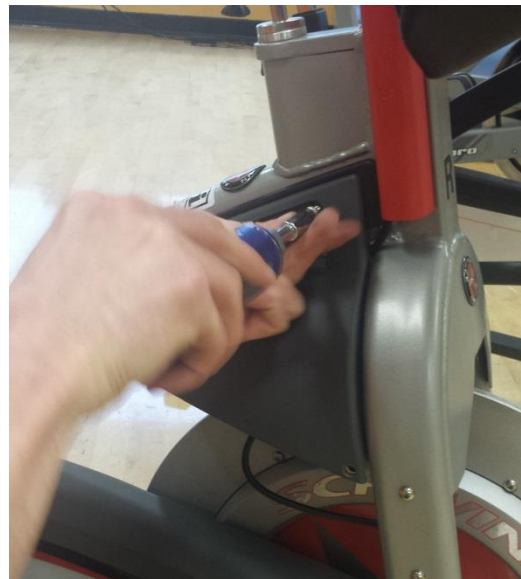
Figure 10

11. Plug the console cable RJ45 connector into the console. (Figure 11)

12. Slide the grommet of the cable into the slot on the connector protective cap as shown. (Figure 11)

13. Attach the protective cap to the bracket using the two (2) M3 x 12mm socket head cap screws, and tighten with the 2.5mm hex key. (Figure 12)
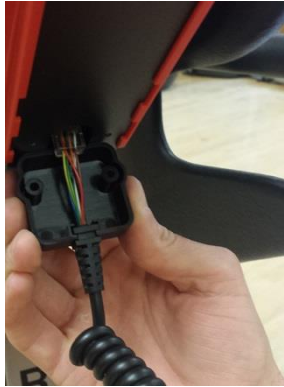
Figure 11

Figure 12

14. Attach the RPM sensor adapter to the RPM sensor using the M3 x 6mm Philips Pan Head Screw. (Figure 13)

15. Unscrew the M3 x 6mm Philips Pan Head screw holding the RPM sensor cover on and remove it. (Figure 14 and Figure 15)

Figure 13

Figure 14

Figure 15

16. Plug the RPM sensor cable 2-pin connector into the RPM sensor connector and slide the cable grommet into the slot in the RPM sensor housing. (Figure 16 and Figure 17)

17. Reinstall the RPM sensor cover into the housing, and reinstall the M3 x 6mm Philips Pan Head screw. (Figure 18 and Figure 19)
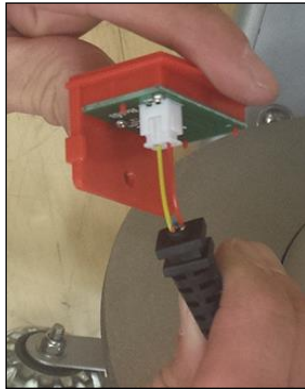
Figure 16

Figure 17

Figure 18

Figure 19

18. Remove the top and bottom screw from the front of the chain guard. (Figure 20)

19. Position the RPM sensor as shown and reinstall the two chain guard screws. The RPM sensor should be about 2 - 3mm away from the flywheel, or about the width of a credit card. If the RPM sensor is too close, it will rub against the sensor magnet that is embedded in the flywheel. If the RPM sensor is too far away, the sensor will intermittently pick up a signal from the magnet or will not pick up any signal at all; this will cause an erratic RPM display, or no RPM display. (Figure 21)

Figure 20

Figure 21

20. Prior to applying the lower conduit, clean the surface of the inner right fork with isopropyl alcohol and allow to air dry. Peel the non-stick strip off the plastic conduit base. Place it firmly on the inside of the right hand fork. There should be about one inch gap between chain guard/rpm sensor bracket and the wire conduit. (Figure 22)

21. Route the wire inside the conduit and snap the conduit outer cover on to the base. (Figure 23 and Figure 24)

Figure 22

Figure 23

Figure 24

Optional Power Upgrade Kit Installation on AC Sport and AC Performance

NOTE: When installing the power upgrade kit, do not use the console-to-RPM sensor cable (Item 5) from the console kit. This cable is not used when installing the power upgrade kit. Use the console-to-power cable (Item 2) in the power kit to connect the console to the power sensor. Use the RPM-to-power cable (Item 3) in the power kit to connect the RPM sensor to the power sensor; this cable is the shorter cable with a two-pin connector on each end of the cable. (Figure 25)
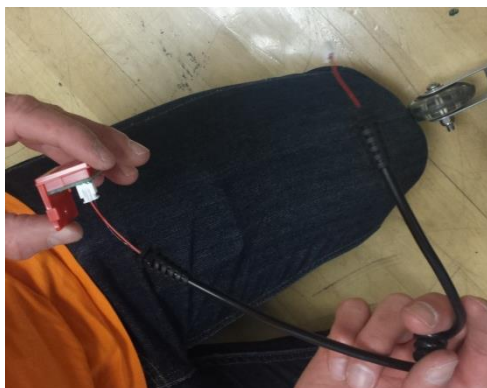
Figure 25

1. Repeat Step 1-9, and 11-21 from the console kit installation instructions above.
   NOTE: The difference at this point will be that the cable from the console will not be plugged into the RPM sensor. The RPM sensor cable will have one free end after installing the RPM sensor on the bike and routing the ROM cable through the cable duct. The console-to-power cable has different lengths of unshielded wires at each end as show below in Figure 26 and has RJ45 connectors on both ends. The end with the shorter length of unshielded wires (shown in the right) plugs into the console. The end with the longer length of unshielded wires (shown on the left) is routed through the cable duct and plugged into the power sensor.
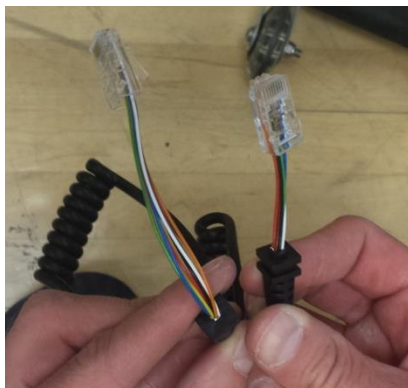
Figure 26

2. Position rubber boot with magnet (magnet assembly) so that the hex pattern of the boot lines up with the hex nut on the resistance mechanism. (Figure 27)

3. Slide boot onto hex nut and ensure that boot sits in contact with the black plate of the resistance mechanism. (Figure 28)

Figure 27

Figure 28

4. Plug console cable into the RJ45 connector, and the RPM cable into the 2-pin connector on the power sensor. Slide each cable's grommet into their respective slots in the power sensor case. (Figure 29)

Figure 29

5. Attach sensor case to the resistance mechanism using the M4 x 6mm button head screws. Be sure that sensor case sits tight against the black plate of the resistance mechanism. (Figure 30)

![Schwinn logo]

Figure 30

6. Reinstall sweat guard. (See Figure 10)

Console Installation on AC Performance Plus

1. Insert batteries into console. (Figure 31)

Figure 31

2. Remove handlebars from bike and place on a sturdy working surface.
3. Grab the console-to-RPM cable and note which end has the 2-pin connector.
4. Insert the end of cable with the 2-pin connector into the opening at the top of the handlebar post. Feed the cable through, with one section of coiled cable being inside the tube, and one section of coiled cable being outside the tube. The end of the cable should just be poking out of the end of the tube. (Figure 32 and Figure 33)

Figure 32

Figure 33

5. Place the handlebar back on the bike.
6. Feed the end of the cable out of the end of the head tube. Wear heavy-duty protective gloves when pulling the end of the cable out of the head tube as there may be sharp edges inside the head tube. (Figure 34)

Figure 34

7. Mount the console bracket using the three (3) M4 x 10mm Philips Pan Head screws, and tighten the screws. (Figure 35 and Figure 36)

Figure 35

Figure 36

8. Slide the console onto the bracket. Insert the M3 x 6mm pan head screw and tighten with the screw driver. (Figure 37)
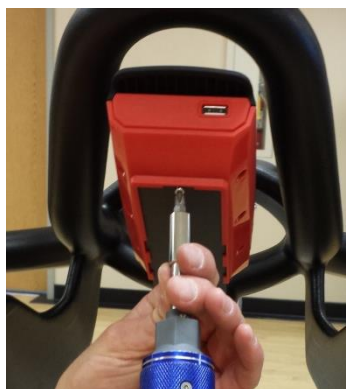
Figure 37

9. Plug the console cable RJ45 connector into the console. (Figure 38)

10. Slide the grommet of the cable into the slot on the connector protective cap as shown. (Figure 38)

11. Attach the protective cap to the bracket using the two (2) M3 x 12mm socket head cap screws, and tighten with the 2.5mm hex key. (Figure 39)
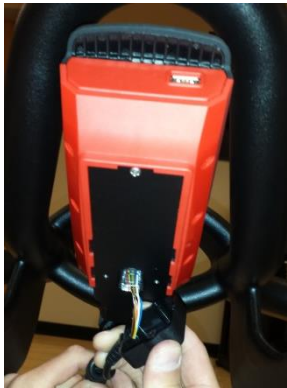
Figure 38

Figure 39

12. Install the cosmetic cap using a M5 x 14mm BHCS. (Figure 40 and Figure 41)

Figure 40

Figure 41

13. Using a Philips screw driver, remove the sweat guard (Do not use a power drill in removing and re-installing). Route the cable through the sweat guard. (Figure 42 and Figure 43)

Figure 42

Figure 43

14. Unscrew the M3 x 6mm Philips Pan Head screw holding the RPM sensor cover on and remove it. (Figure 44 and Figure 45)

Figure 44

Figure 45

15. Plug the RPM sensor cable 2-pin connector into the RPM sensor connector and slide the cable grommet into the slot in the RPM sensor housing. (Figure 46 and Figure 47)

16. Reinstall the RPM sensor cover into the housing, and reinstall the M3 x 6mm Philips Pan Head screw. (Figure 48 and Figure 49)
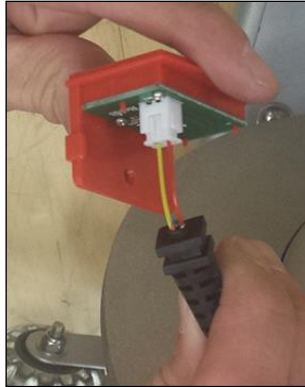
Figure 46

Figure 47

Figure 48

Figure 49

17. Remove the top and bottom screw from the front of the chain guard. (Figure 50)

18. Position the RPM sensor as shown and reinstall the two chain guard screws. The RPM sensor should be about 2 - 3mm away from the flywheel, or about the width of a credit card. If the RPM sensor is too close, it will rub against the sensor magnet that is embedded in the flywheel. If the RPM sensor is too far away, the sensor will intermittently pick up a signal from the magnet or will not pick up any signal at all; this will cause an erratic RPM display, or no RPM display. (Figure 51)

19. Reinstall the sweat guard.
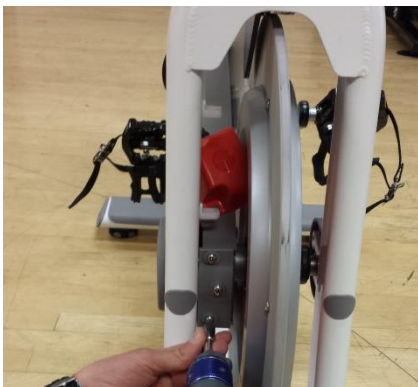
Figure 50

Figure 51

20. Install the two cable saddle mounts to the two holes inside the left fork using the two plastic rivets. (Figure 52 and Figure 53)

Figure 52

Figure 53

21. Secure the cable inside the two saddle clamps as shown. (Figure 54)

Figure 54

Optional Power Upgrade Kit Installation on AC Performance Plus

NOTE: When installing the power upgrade kit, do not use the console-to-RPM sensor cable (Item 5) from the console kit. This cable is not used when installing the power upgrade kit. Use the console-to-power cable (Item 2) in the power kit to connect the console to the power sensor. Use the RPM-to-power cable (Item 3) in the power kit to connect the RPM sensor to the power sensor; this cable is the shorter cable with a two-pin connector on each end of the cable. (Figure 55)

Figure 55

1. Repeat Step 1-9, and 11-21 from the console kit installation instructions above.
    NOTE: The difference at this point will be that the cable from the console will not be plugged into the RPM sensor. The RPM sensor cable will have one free end after installing the RPM sensor on the bike and routing the ROM cable through the cable duct. The console-to-power cable has different lengths of unshielded wires at each end as shown in Figure 56 and has RJ45 connectors on both ends. The end with the shorter length of unshielded wires (shown in the right) plugs into the console. The end with the longer length of unshielded wires (shown on the left) is routed through the handlebar post to be plugged into the power sensor. After routing the cable through the post, and reinstalling the post, the RJ45 connector that plugs to the power sensor will be visible. (Figure 57)
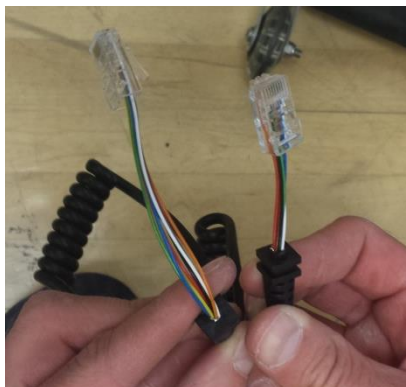
Figure 56

Figure 57

2. Position rubber boot with magnet (magnet assembly) so that the hex pattern of the boot lines up with the hex nut on the resistance mechanism. (Figure 58)

3. Slide boot onto hex nut and ensure that boot sits in contact with the black plate of the resistance mechanism. (Figure 59)

Figure 58

Figure 59

4. Plug console cable into the RJ45 connector, and the RPM cable into the 2-pin connector on the power sensor. Slide each cable's grommet into their respective slots in the power sensor case. (Figure 60)

Figure 60

5. Attach sensor case to the resistance mechanism using the M4 x 6mm button head screws. Be sure that sensor case sits tight against the black plate of the resistance mechanism. (Figure 61)

Figure 61

6. Reinstall sweat guard.

SERVICE MODE OPERATION

Service mode may be entered immediately after powering on the console, or when the console is in Pause mode (Pause mode is indicated by flashing digits on the screen). Service mode cannot be entered during Ride mode. Follow the instructions in the attached picture to enter Service mode and navigate through the menus. In Service mode, the STAGE button is used to scroll backwards. The LIGHT button is used as an enter button to enter submenus, or make select desired setting. The AVG/MAX button is used to scroll forward.

Press and hold STAGE button and AVG/MAX button together for 3 seconds to enter Service Mode

CARBON BLUE	UNITS	GEAR	OPEN ANT	BACK LIGHT
ON	MI	OFF	OFF	

Press the AVG/MAX button to navigate forward through main menu selections in Service Mode. Press the STAGE button to navigate backward in Service Mode.

EXIT	SYSTEM	BATTERIES	CALIBRATE
		100%	

Press the LIGHT button to exit Service Mode

ASSIGNING SYSTEM SETTINGS

The picture below shows the optional system settings and how to assign settings. Below is a description of each setting. *NOTE: The Gear setting and Calibration settings are not used unless the optional power upgrade kit is installed.*

Carbon Blue

This setting is used to distinguish between Carbon Blue bike with a belt and bikes with a chain. The default setting is ON. Leave this setting set to ON for Carbon Blue models. On models with chain, set it to OFF.

Gear

This is an optional setting that enables the console to display a gear number that corresponds to the level of resistance. When set to ON, a gear symbol and gear number will be displayed on the right side of the console next to the calories value. This setting is set to OFF by default.

Units

The units refer to the distance. The two optional settings are miles or kilometers. The default setting is miles.

Open Ant Channel

This setting is used to turn on the channel that broadcasts data to external leaderboard systems that display console data on a large screen. This must be set to ON in order for external systems to read data from the console. It is set to OFF by default. Leaving this setting off when not used conserves battery life.

Backlight

This setting allows the user to set the backlight display to a number of settings. In the BACKLIGHT SETTING submenu the backlight can be set as follows:

- Backlight displays for 10 seconds when the LIGHT button is pressed in Ride mode (this is the default setting)
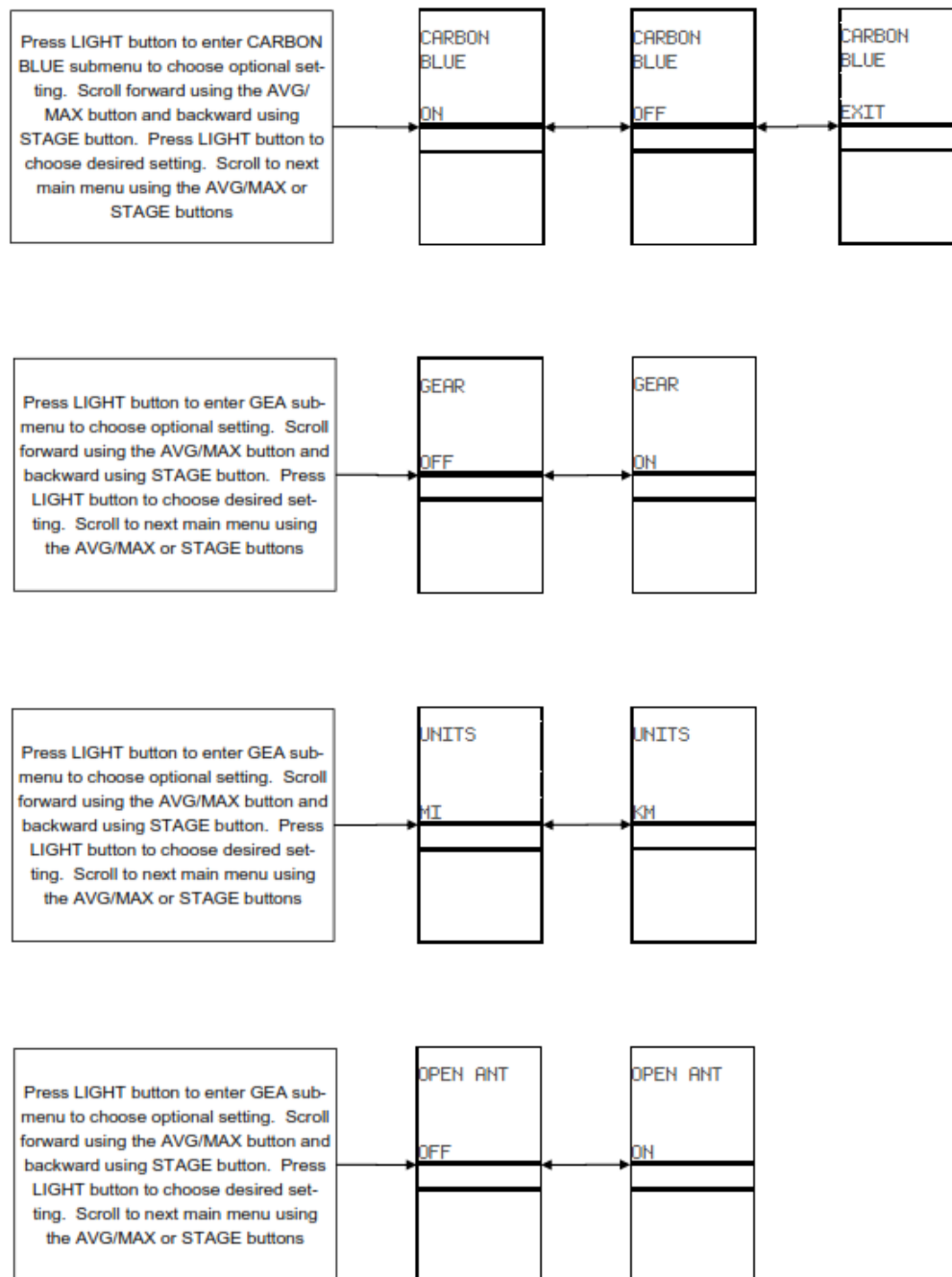- Backlight displays for 15 seconds when the LIGHT button is pressed in Ride mode
- Backlight displays for 20 seconds when the light button is pressed in Ride mode
- When set to ON, the backlight will always be on when the console is on
- When set to OFF, the backlight cannot be used when the console is on

In the BACKLIGHT HOLD submenu the backlight display can be set as follows:

- When set to ON, the rider can press and hold the LIGHT button for 5 seconds, allowing the backlight to remain on until the rider presses the LIGHT button again to turn off the light
- When set to OFF, the backlight hold display cannot be used

BATTERIES
The battery strength is displayed on the BATTERIES screen.

Press LIGHT button to enter CARBON BLUE submenu to choose optional setting. Scroll forward using the AVG/MAX button and backward using STAGE button. Press LIGHT button to choose desired setting. Scroll to next main menu using the AVG/MAX or STAGE buttons

| CARBON BLUE | CARBON BLUE | CARBON BLUE |
| ON | OFF | EXIT |

Press LIGHT button to enter GEA submenu to choose optional setting. Scroll forward using the AVG/MAX button and backward using STAGE button. Press LIGHT button to choose desired setting. Scroll to next main menu using the AVG/MAX or STAGE buttons

| GEAR | GEAR |
| OFF | ON |

Press LIGHT button to enter GEA submenu to choose optional setting. Scroll forward using the AVG/MAX button and backward using STAGE button. Press LIGHT button to choose desired setting. Scroll to next main menu using the AVG/MAX or STAGE buttons

| UNITS | UNITS |
| MI | KM |

Press LIGHT button to enter GEA submenu to choose optional setting. Scroll forward using the AVG/MAX button and backward using STAGE button. Press LIGHT button to choose desired setting. Scroll to next main menu using the AVG/MAX or STAGE buttons

| OPEN ANT | OPEN ANT |
| OFF | ON |

Press LIGHT button to enter BACKLIGHT menu. Scroll forward or back using AVG/MAX or STAGE buttons. Use LIGHT button to select a setting

BACKLIGHT

BACKLIGHT
SETTING

BACKLIGHT
LIGHT HOLD

OFF

BACKLIGHT
EXIT

BACKLIGHT
LIGHT HOLD

ON

BACKLIGHT
SETTING

TIMER 10

BACKLIGHT
SETTING

TIMER 15

BACKLIGHT
SETTING

TIMER 20

BACKLIGHT
SETTING

ON

BACKLIGHT
SETTING

OFF

BACKLIGHT
SETTING

EXIT

CALIBRATING POWER SENSOR

When the optional power upgrade kit is installed with the console for the first time, the sensor zero point must be set. This is done using the calibration tool included with the power upgrade kit. Follow the prompts as shown below to set the zero point. Place the calibration as shown in (Figure 62 and Figure 63). Place the calibration tool on the flywheel as shown in the picture below. NOTE: After completing the zero set point operation, scroll to CURRENT ANGLE and verify the angle is 0.0 +/- .2 degrees. If the angle is outside this range, then rerun the zero set point process. Once the zero point is set, the console is ready to use.
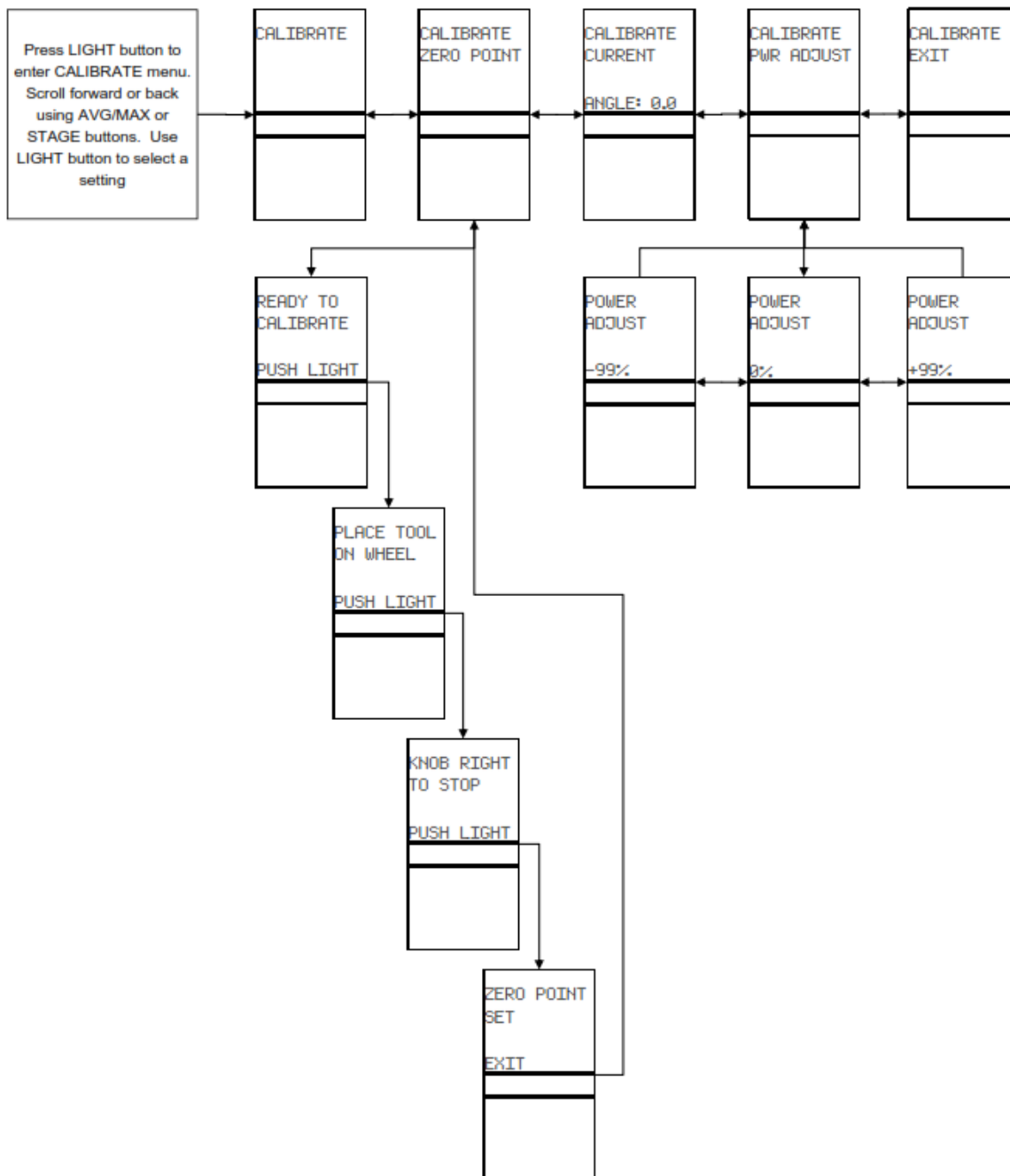
The CALIBRATE PWR ADJUST setting enables the rider to adjust the power displayed up or down between the range of -99% to +99%. This feature is intended to be used to fine tune the power level of bikes to make all bikes consistent in rare cases that some bikes feel "easier" or "harder" to riders compared to other bikes at a given level of resistance.

Figure 62

Figure 63

Press LIGHT button to enter CALIBRATE menu. Scroll forward or back using AVG/MAX or STAGE buttons. Use LIGHT button to select a setting

CALIBRATE

CALIBRATE ZERO POINT

CALIBRATE CURRENT

ANGLE: 0.0

CALIBRATE PWR ADJUST

CALIBRATE EXIT

READY TO CALIBRATE

PUSH LIGHT

POWER ADJUST

-99%

POWER ADJUST

0%

POWER ADJUST

+99%

PLACE TOOL ON WHEEL

PUSH LIGHT

KNOB RIGHT TO STOP

PUSH LIGHT

ZERO POINT SET

EXIT

CHECKING SYSTEM SETTINGS, RESETTING SYSTEM, AND UPDATING FIRMWARE

Checking System Settings

In the SYSTEM menu, the first screen displays the system summary which includes:

- Number of hours of usage on the third line
- Current version of firmware on the 4th line, in the lower section of the screen

Resetting System

In the SYSTEM RESET submenu, the console can be restored to factory default settings by following the prompts shown below.

Updating Firmware

The console firmware can be easily updated via a USB stick in the SYSTEM LOAD FW submenu. The firmware file should be loaded onto the US stick under the name "MPowerQ.bin". To load the new firmware, follow the prompts shown below. Updating the firmware will not restore user-defined settings to factory default as is done SYSTEM RESET submenu. All user-defined settings will be maintained when updating firmware. After loading the firmware, scroll back to the SYSTEM SUMMARY screen and verify that the new version of firmware appears. Check the Schwinn Equipment website at www.schwinnequipment.com for firmware updates.

Core Health & Fitness

Phone: 1-800-503-1221
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