



IT ALL STARTS WITH A VISION

# **X70 ELLIPTICAL TRAINER SERVICE MANUAL**



# TABLE OF CONTENTS

	<b>CHAPTER 1: SERIAL NUMBER LOCATION</b> .....	1
	<b>CHAPTER 2: IMPORTANT SAFETY INSTRUCTIONS</b>	
2.1	Legal Disclaimer.....	2
2.2	Before Getting Started .....	2
2.3	Read and Save These Instructions .....	3
2.4	Electrical Requirements .....	4
	<b>CHAPTER 3: PREVENTATIVE MAINTENANCE</b>	
3.1	Recommended Cleaning Tips .....	5
3.2	Check for Damaged Parts .....	5
3.3	Care and Maintenance Instructions .....	6
	<b>CHAPTER 4: CONSOLE OVERLAY AND WORKOUT DESCRIPTION</b>	
4.1	Console Description .....	7
4.2	Workout Overview .....	8
4.3	Workout Setup Steps .....	9
4.4	Using Fitness Networking .....	11
	<b>CHAPTER 5: MANAGER MODE</b>	
5.1	Using Manager Mode .....	12
5.2	Manager Mode Overview .....	13
	<b>CHAPTER 6: TROUBLESHOOTING</b>	
6.1	Electrical Diagram .....	14
6.2	Console Power Issues .....	19
6.3	Keypad Issues.....	20
6.4	Resistance Issues .....	21
6.5	Pedal Slipping .....	22
6.6	Noise Issues .....	23
6.7	Heart Rate Issues .....	24
	<b>CHAPTER 7: PART REPLACEMENT GUIDE</b>	
7.1	Console Replacement.....	25
7.2	Console Back Replacement.....	26
7.3	Heart Rate Grip Replacement .....	27
7.4	Cup Holder Replacement.....	28
7.5	Link Arm Replacement .....	29
7.6	Dual Action Handlebar Removal.....	31
7.7	Pedal Arm Replacement .....	33
7.8	Pedal Replacement.....	34
7.9	Rear Roller Replacement .....	35
7.10	Rear Roller Track Replacement.....	37
7.11	Front Disc Removal.....	39
7.12	Side Cover Removal .....	41
7.13	Lower Control Board Replacement .....	42
7.14	Drive Belt Replacement .....	43

# TABLE OF CONTENTS

7.15	Generator Belt Replacement.....	44
7.16	Generator Replacement.....	46
7.17	Drive Axle Set Replacement.....	48
7.18	Pulley Axle Set Replacement.....	49
7.19	Testing the Elliptical Trainer.....	50

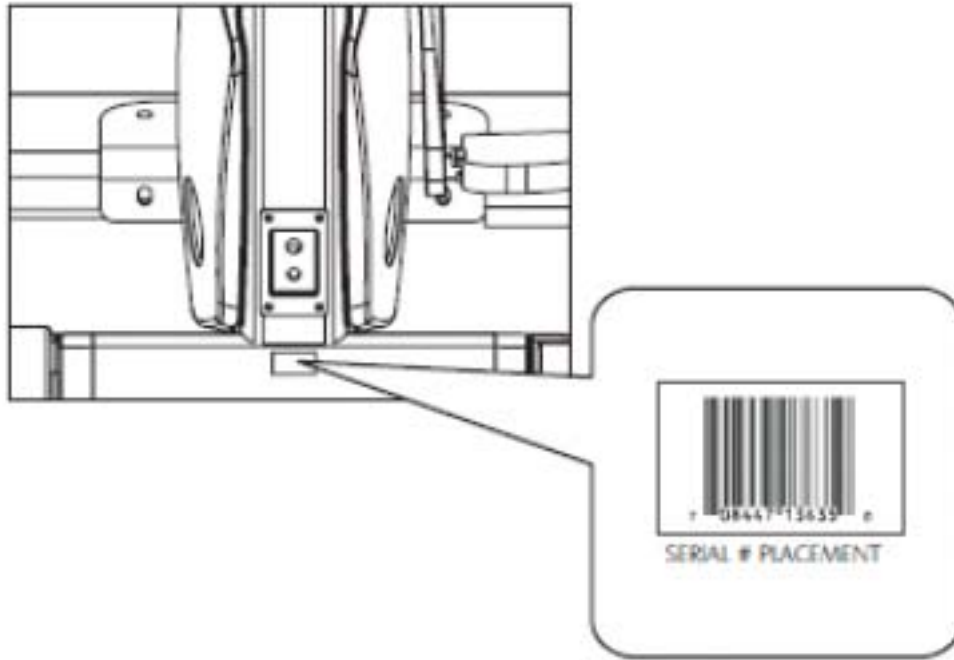
## **CHAPTER 8: ELLIPTICAL TRAINER SPECIFICATIONS AND ASSEMBLY GUIDE**

8.1	Unpacking the X70 Elliptical Trainer.....	51
8.2	Assembly Tools.....	52
8.3	Assembly Instructions.....	53
8.4	Leveling the X70 Elliptical Trainer.....	58

# CHAPTER 1: SERIAL NUMBER LOCATION

## 1.1 SERIAL NUMBER LOCATION

---



## CHAPTER 2: IMPORTANT SAFETY INSTRUCTIONS

### 2.1 BEFORE GETTING STARTED

The Vision Fitness X70 Elliptical Trainer is intended for commercial use. To ensure your safety and protect the equipment, read all instructions before operating the Elliptical Trainer.

#### CHOOSING A SITE

The site should be well lit and well ventilated. Locate the Vision Fitness X70 Elliptical Trainer on a structurally solid and flat surface. The Elliptical Trainer should have a clearance of 20" on one side and behind the unit, and 12" on the other side from the wall or other equipment. This zone is to allow easy access to the Elliptical Trainer and gives the user an easy exit path from the machine. If the site has a heavy plush carpet, to protect the carpeting and machinery, you should place a rigid plastic base under the unit.

Please do not place the Vision Fitness X70 Elliptical Trainer in an area of high humidity, such as the vicinity of a steam room, indoor pool, or sauna. Exposure to intensive water vapor or chlorine could adversely affect the electronics, as well as other parts of the machine.

#### MOVING THE ELLIPTICAL TRAINER

Your Vision Fitness X70 Elliptical Trainer has transport wheels included for ease of mobility. To move your Elliptical Trainer, firmly grasp the rear of the frame assembly. Carefully lift and roll on the transport wheels.

#### CAUTION:

Vision Fitness Elliptical Trainers are well built and heavy, use care and additional help if necessary. This Elliptical Trainer can weigh up to 340 lbs.



### 2.2 READ AND SAVE THESE INSTRUCTIONS

---

To ensure your safety and protect the equipment, read all instructions before operating the Vision Fitness X70 Elliptical Trainer.

To ensure proper use of the Vision Fitness X70 Elliptical Trainer, make sure that all users read this manual. Remind the users that before undertaking any fitness program, they should obtain complete physical examinations from their physicians. If, at any time while exercising, the user experiences dizziness, pain, or shortness of breath, nausea or feels faint, he or she must stop immediately.

- \* This Elliptical Trainer is only to be used for its intended purpose described in this manual. Do not use attachments that have not been recommended by Vision Fitness.
- \* Never drop or insert objects into any opening. Keep hands away from moving parts. If the item cannot be reached, contact a Vision Fitness authorized dealer for assistance.
- \* Never operate the unit if it is damaged, not working properly, when it has been dropped, or has been dropped in water.
- \* Keep hands and feet clear at all times from moving parts to avoid injury.
- \* Do not use this product outdoors, near swimming pools or in areas of high humidity.
- \* Do not operate where aerosol (spray) products are being used or when oxygen is being administered.
- \* Do not use this product in bare feet. Do not wear shoes with heels, leather soles, cleats, or spikes while exercising.
- \* Do not remove the side covers. Service should only be done by an authorized service technician.
- \* Close supervision is necessary when used near children, invalids, or disabled people.
- \* When the Elliptical Trainer is in use, young children and pets should be kept at least 3 meters / 10 feet away.
- \* Assemble and operate the Elliptical Trainer on a solid, level surface.
- \* Never face backward while using the Vision Fitness X70 Elliptical Trainer.
- \* Use the stationary handlebars when mounting or dismounting the Elliptical Trainer.
- \* Do not wear clothing that might catch on any moving parts of this Elliptical Trainer.

**CAUTION!** If you experience chest pains, nausea, dizziness, or shortness of breath, stop exercising immediately and consult your physician before continuing.

**CAUTION!** Any changes or modifications to this equipment could void the product warranty.

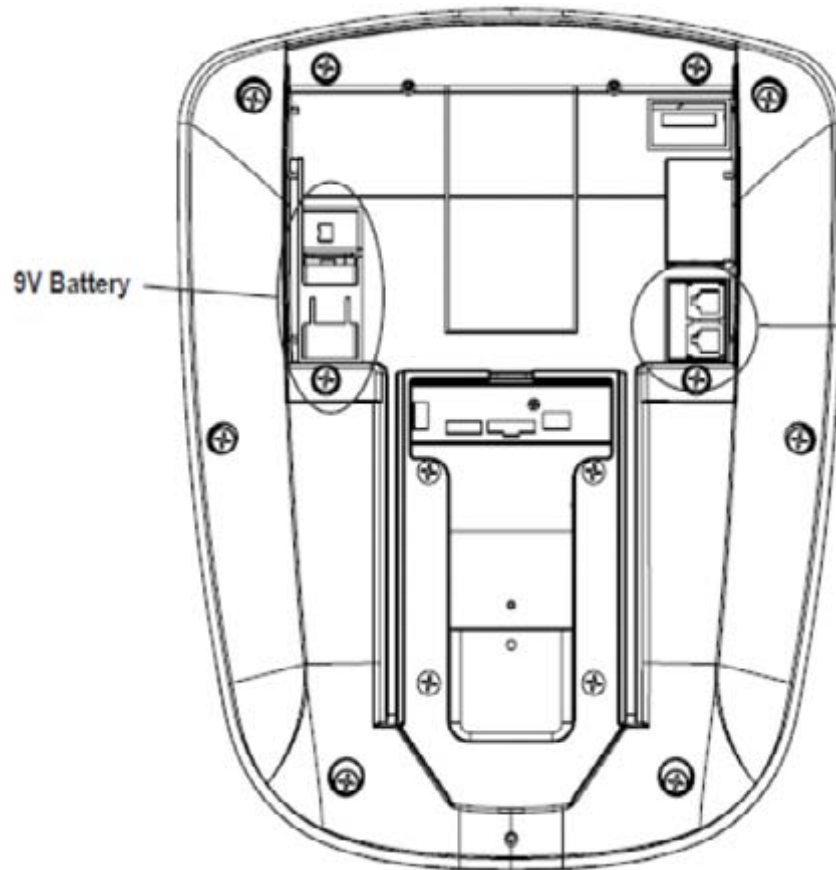
## CHAPTER 2: IMPORTANT SAFETY INSTRUCTIONS

### 2.3 ELECTRICAL REQUIREMENTS

#### SELF POWERED FEATURES:

The Vision Fitness X70 Elliptical Trainer is a self-powered unit, requiring no external power source. When a user strides at a speed above 40 strides per minute, the power is generated to allow the Elliptical Trainer to function properly. Because of this self-generating feature, the console feedback will fade away when you cease striding. The console does use a 9 volt battery as a backup to save your feedback information for 30 seconds from the time you stop striding. If you resume striding within the 30 seconds, the information will reappear. If the information does not appear within the 30 seconds, your battery may need to be plugged in or replaced.

**BATTERY** - The battery is located on the backside of the console and is enclosed by a removable cover.





## CHAPTER 3: PREVENTATIVE MAINTENANCE

### 3.1 RECOMMENDED CLEANING TIPS

---

Preventative maintenance and daily cleaning will prolong the life and look of your Vision Fitness X70 Elliptical Trainer

Please read and follow these tips.

- Position the equipment away from direct sunlight. The intense UV light can cause discoloration on plastics.
- Locate your equipment in an area with cool temperatures and low humidity.
- Clean with a soft 100% cotton cloth.
- Clean with soap and water or other non-ammonia based all purpose cleaners.
- Wipe pedals, arms, console, heart rate grips, and the handlebar clean after each use.
- Do not pour liquids directly onto your equipment. This can cause damage to the equipment and in some cases electrocution.
- Adjust leveling feet when equipment wobbles or rocks.
- Maintain a clean area around the equipment, free from dust and dirt.

### 3.2 CHECK FOR DAMAGED PARTS

---

**DO NOT** use any equipment that is damaged or has worn or broken parts. Use only replacement parts supplied by Vision Fitness.

**MAINTAIN LABELS AND NAMEPLATES.** Do not remove labels for any reason. They contain important information. If unreadable or missing, contact Vision Fitness for a replacement at 800-335-4348 or [www.visionfitness.com](http://www.visionfitness.com).

**MAINTAIN ALL EQUIPMENT.** Preventative maintenance is the key to smoothly operating equipment. Equipment needs to be inspected at regular intervals. Defective components must be kept out of use until they are repaired. Ensure that any person(s) making adjustments or performing maintenance or repair of any kind is qualified to do so.

# CHAPTER 3: PREVENTATIVE MAINTENANCE

## 3.3 CARE AND MAINTENANCE INSTRUCTIONS

In order to maximize life span, and minimize down time, all Vision Fitness equipment requires regular cleaning, and maintenance items performed on a scheduled basis. This section contains detailed instructions on how to perform these items and the frequency of which they should be done. Some basic tools and supplies will be necessary to perform these tasks which include (but may not be limited to):

- \* Metric Allen wrenches
- \* #2 Phillips head screwdriver
- \* Adjustable wrench
- \* Lint free cleaning cloths
- \* Teflon based spray lubricant such as "Super Lube" or other Vision Fitness approved products.
- \* Mild water soluble detergent such as "Simple Green" or other Vision Fitness approved products
- \* Vacuum cleaner with an extendable hose and crevasse tool attachment.

### DAILY MAINTENANCE ITEMS

- 1) Look and listen for loose fasteners, unusual noises, and any other indications that the equipment may be in need of service.
- 2) Clean the Elliptical Trainer before and after each use, including:
  - a. Use a damp, soft cloth with water or mild liquid detergent to clean all exposed surfaces. DO NOT use ammonia, chlorine, or any acid based cleaners.
  - b. Keep the console display free of fingerprints and salt build up caused by sweat.
  - c. Frequently vacuum the floor beneath the unit to prevent the accumulation of dust and dirt which can affect the smooth operation of the unit.

### MONTHLY MAINTENANCE ITEMS

- 1) Inspect the console, grips, pedals, and shrouds for damage.
- 2) Adjust leveling feet if equipment rocks or wobbles.
- 3) Inspect the hardware on the frame for tightness. Tighten if necessary.

### QUARTERLY MAINTENANCE ITEMS

- 1) Inspect the console mounting bolts for tightness, tighten if necessary.
- 2) Inspect the console, grips, and handlebar for damage.
- 3) Remove the side covers and inspect the grooves on the belts and pulleys for dust or dirt. Clean if necessary (Figures A-C).

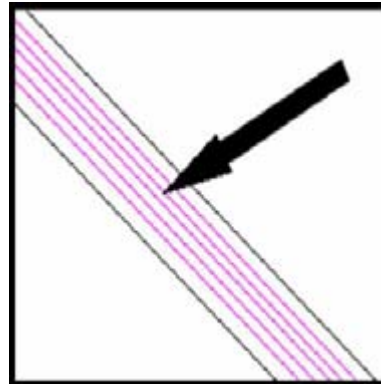


FIGURE A

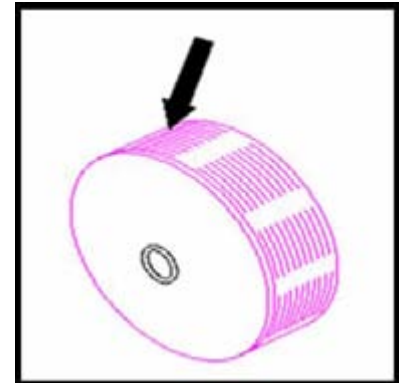


FIGURE B

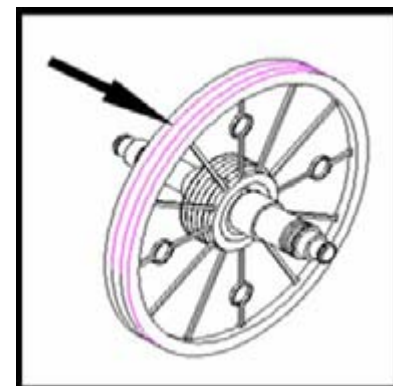
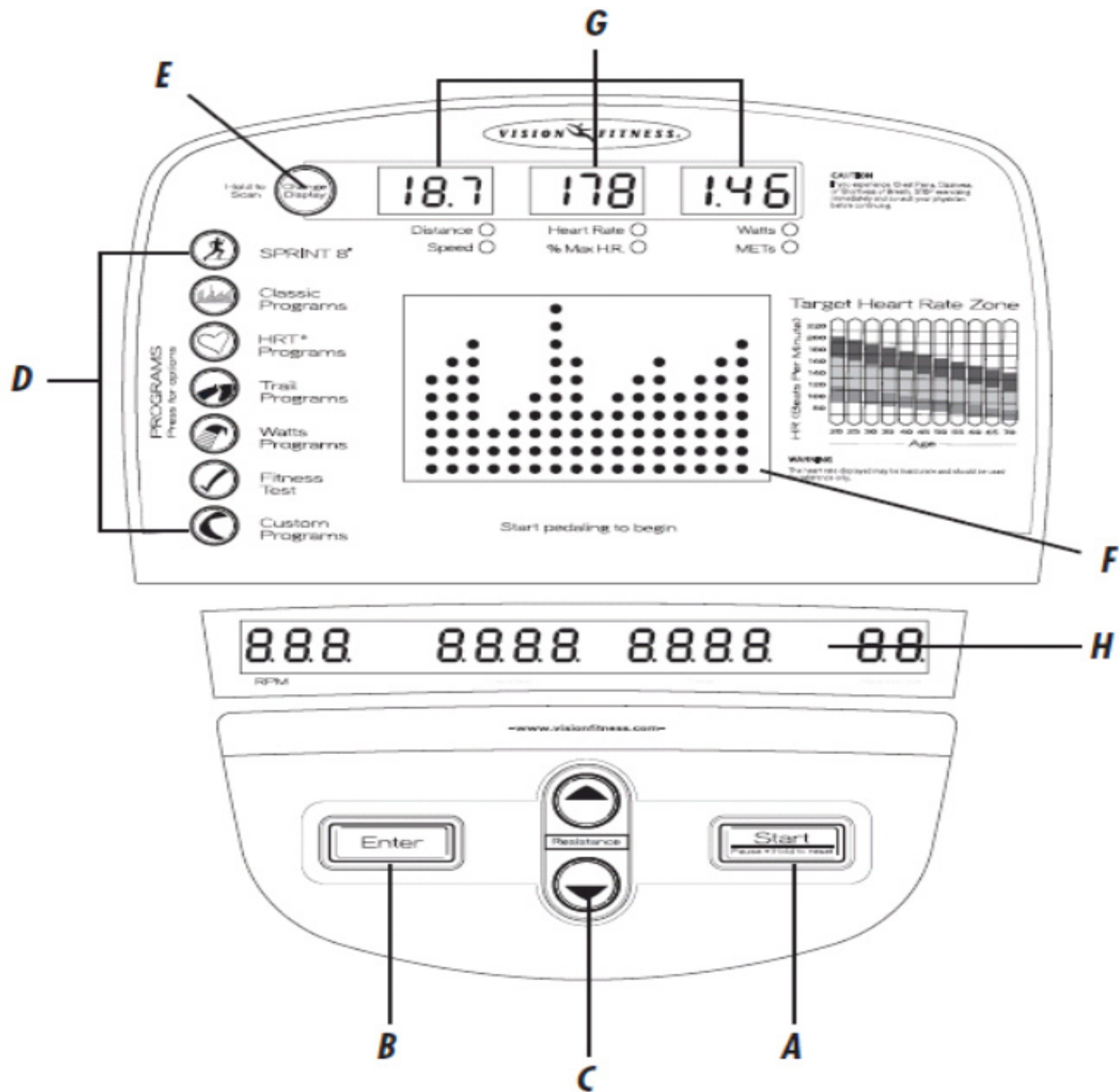


FIGURE C

# CHAPTER 4: CONSOLE OVERLAY AND WORKOUT DESCRIPTION

## 4.1 CONSOLE DESCRIPTION



## 4.1 CONSOLE DESCRIPTION - CONTINUED

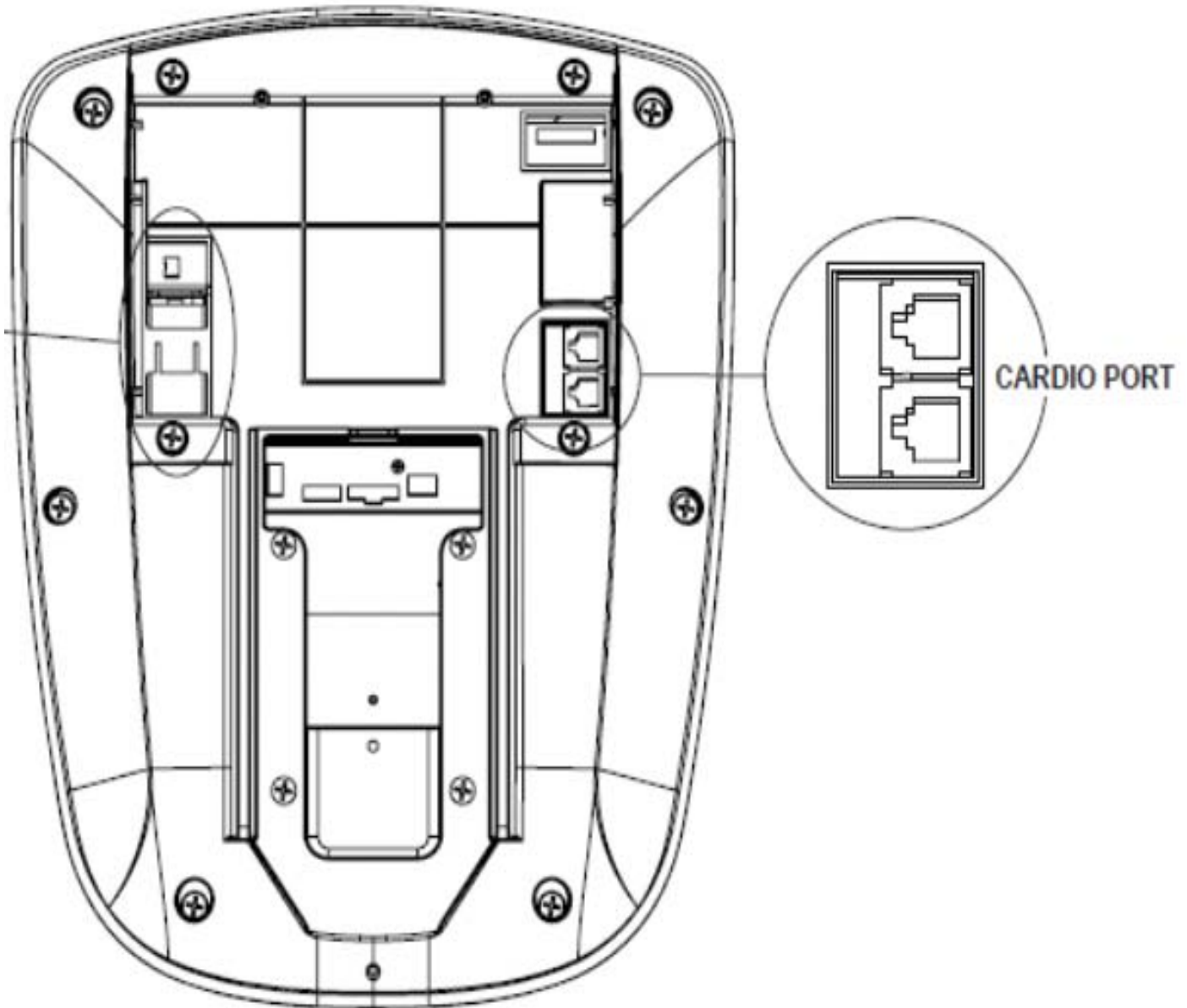
### CONSOLE DISPLAY DESCRIPTIONS

- A. START / HOLD TO RESET** - Press the START key to begin a Manual workout immediately without having to set individual information. When the program begins, you have the ability to adjust resistance levels with the UP or DOWN ARROW keys. Feedback information will be calculated using the default settings.
- PAUSE** - If you need to pause your program during a workout, pressing the START key will pause your program for 30 seconds. Pressing START again will return you to your workout.
- RESET** - If you need to reset the console during your workout, you can do so by holding down the START key for 3 seconds or until the display resets.
- B. ENTER** - This key is used after entering each piece of information in setup such as age, weight, or level.
- C. UP / DOWN ARROWS** - These keys are used to change values in setup mode prior to your workout. During your workout, they are used to change workout levels. In HRT programs, they are used to change your target heart rate.
- D. PROGRAM BUTTONS** - These keys provide quick access to your favorite workouts. Press the PROGRAM keys repeatedly or use the UP or DOWN ARROW keys to select one of the multiple workouts.
- E. CHANGE DISPLAY / HOLD TO SCAN** - Press this key to change the display information. Press and hold the key to scan automatically between the two display options.
- F. PROFILE DISPLAY** - This window provides a dot matrix profile of the workout segments you are about to complete, as well as those you have already completed, and level of resistance for each segment.
- G. FEEDBACK WINDOWS** - These windows provide step-by-step instructions in the setup mode, instructions, feedback, and motivational messages during your workout.
- SPEED** - The pedaling speed in miles or kilometers per hour.
- DISTANCE** - The total distance traveled in miles or kilometers since the start of your workout.
- WATTS** - A measurement of workload. One watt is equal to six kilogram meters per minute.
- METS** - A measurement of oxygen consumption. One MET equals the approximate amount of oxygen consumed per minute by a person at rest.
- HEART RATE / HRT FEEDBACK WINDOW** - This window provides feedback on your current heart rate and the percent of your predicted maximum heart rate. It also includes your target heart rate when using one of the HRT programs.
- NOTE** - At the end of your workout, the totals will be displayed as an average of your total workout time. The only exceptions are distance and calories which are program totals.
- H. MESSAGE WINDOW** - This window provides step-by-step instructions in the setup mode, instructions, feedback and motivational messages during your workout.
- TIME** - The time elapsed or the time remaining in your workout.
- RPM** - The pedal rate or revolutions per minute (RPM).
- CALORIES** - An estimate of calories burned since the beginning of the workout.
- RESISTANCE** - The current resistance level you are in.

## 4.1 CONSOLE DESCRIPTION - CONTINUED

### CARDIO PORT

A cardio port is located on the back of the console that is compatible to entertainment protocol such as Cardio Theater. The bottom port is the active port to use for this function.



## 4.2 WORKOUT OVERVIEW

### WORKOUT OVERVIEW

#### CLASSICS:

**MANUAL** - Manual is a user controlled program in which the resistance remains at a set level unless you decide to change it.

**INTERVAL** - Interval is an efficient workout that strengthens your cardiovascular system by alternating work intervals and recovery intervals. Be sure to challenge yourself with intense work intervals.

**FAT BURN** - Fat Burn is a program designed to target your stored body fat. This program is generally used at a slightly lower resistance level but runs for longer durations than other programs.

**RANDOM** - Random is a workout that will give you a different workout every time you workout. The resistance levels will change randomly, providing a challenging workout.

#### HRT PROGRAMS:

**TARGET HRT** - Target HRT allows you to set your target heart rate. The machine will automatically change resistance levels to keep you at your preset heart rate target. The user must grasp the hand pulse sensors or wear a telemetric heart rate chest strap during use.

**HRT WEIGHT LOSS** - HRT Weight Loss is a lower intensity workout that will help your body burn a higher percentage of calories from your body's fat reserves. The user must grasp the hand pulse sensors or wear a telemetric heart rate chest strap during use. The program will automatically adjust resistance to keep you at 65% of your predicted maximum heart rate.

**HRT INTERVAL** - HRT Interval alternates between effort intervals of 80% and 70% of your predicted maximum heart rate. This program is designed to increase your cardiovascular fitness capacity. The user must grasp the hand pulse sensors or wear a telemetric heart rate chest strap during use.

**HRT HILL** - HRT Hill increases your intensity level from 65% to 70% to 75% to 80% of your predicted maximum heart rate to promote cardiovascular strength and endurance.

#### TRAILS:

**TRAIL 10K** - Trail 10K is a distance based program that ends after you complete the 10K. See if you can beat your previous time!

**TRAIL 15K** - Trail 15K is a distance based program that ends after you complete the 15K.

**TRAIL 20K** - Trail 20K is a distance based program that ends after you complete the 20K.

#### WATTS PROGRAMS:

**CONSTANT WATTS** - Constant Watts allows you to set your target WATT output (energy output). The resistance will change automatically to keep you at your target watts.

**INTERVAL WATTS** - Interval Watts allows you to choose a high watts value and a low watts value. The interval program will switch between high and low watts values, making for a very intense and effective workout.

**HILL WATTS** - Hill Watts lets you choose four watt levels. Each watt level will change at 1 minute intervals and repeat until your preset workout time is over. Perfect for a challenging workout.

**SPRINT 8** - Sprint 8 is an anaerobically based interval program. It is effective in recruiting fast twitch muscle fibers and improving athletic performance.

**FITNESS TEST** - Fitness Test is a heart rate based fitness test. The test lasts 5 minutes and is based on your V02 level and maximum heart rate achieved to provide an accurate fitness level. This is a great program to track your increase in fitness levels. The user must grasp the hand pulse sensors or wear a telemetric heart rate chest strap during use.

**CUSTOM PROGRAMS** - Custom 1-5 allows the user to preset up to 5 workout profiles. You have the ability to save or change the workouts whenever you wish. During initial setup, the program will function as a Manual program. Change your resistance levels as you want. At the end of the workout, the console will ask if you would like to save your workout. Press and hold ENTER to save the workout you just completed.

## 4.3 USING THE PROGRAMS

### USING THE PROGRAMS

**SELECTING QUICK START** - The easiest way to begin exercising is to simply press the START key (Figure A). You will begin exercising in a Manual resistance program in which you can change the resistance levels to meet your goals. Current default settings will be used to determine exercise feedback.

**SELECTING A PROGRAM** - Each program has its own program button (Figure B). Some programs buttons have multiple programs. Press the key of the program that you would like to use. You can use the UP or DOWN ARROW keys or press the program key repeatedly to scroll through the different program options.

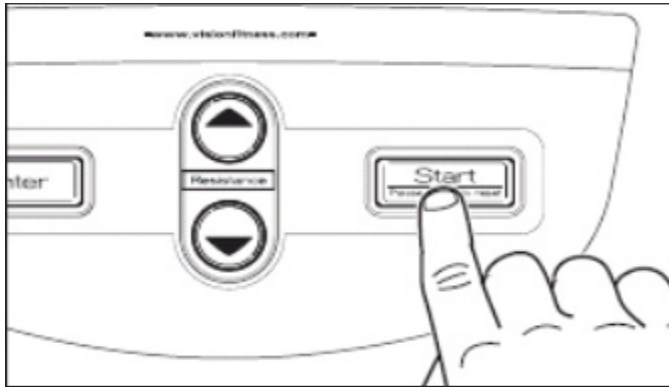


FIGURE A

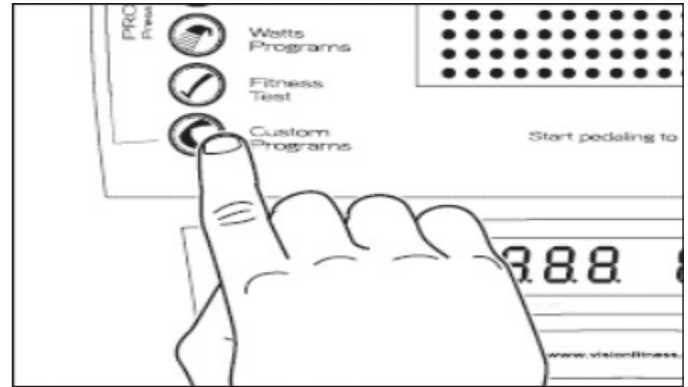


FIGURE B

**ENTERING AGE** - When prompted by the message center to enter your age, use the UP or DOWN ARROW keys to adjust the displayed age to the correct value (Figure C). This information is necessary for the HRT programs and will affect your % Heart Rate feedback.

**ENTERING TIME** - When prompted by the message center to enter your time, use the UP or DOWN ARROW keys to adjust the displayed time to a desired value (Figure D).

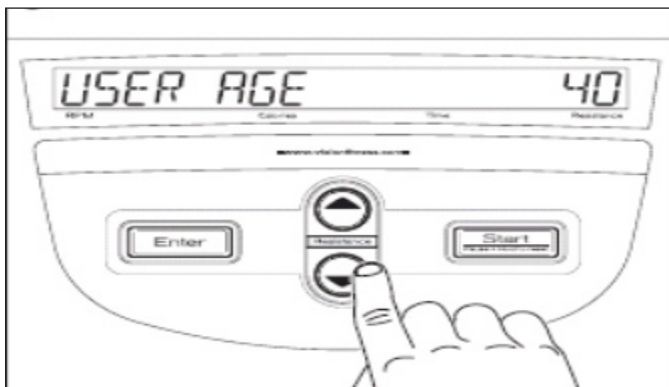


FIGURE C

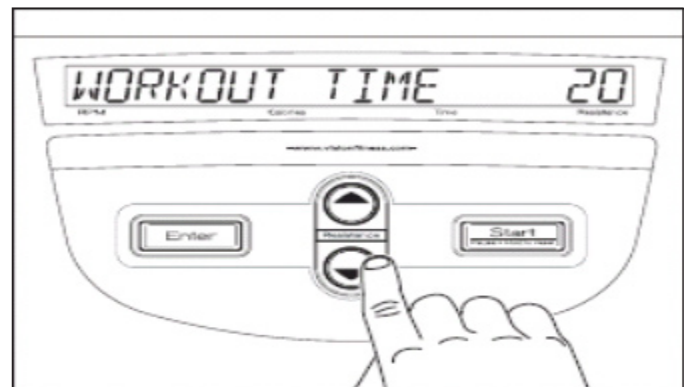


FIGURE D

## 4.3 USING THE PROGRAMS - CONTINUED

### USING THE PROGRAMS - Continued

**ENTERING RESISTANCE** - When prompted by the message center to enter level, use the UP and DOWN ARROW keys to adjust the displayed resistance level (Figure E). There are 20 levels of resistance to choose from in each program. The maximum resistance level varies by program.

**ENTERING WEIGHT** - When prompted by the message center to enter weight, use the UP and DOWN ARROW keys to adjust the displayed weight to equal your current body weight (Figure F). This information is necessary to give accurate exercise feedback for calorie and MET calculations.

**ENTERING WATTS** - The Watts program will ask you to set the desired watt level instead of resistance levels. The Watts level will range from 40 to 250 in increments of five.

**ENTERING TARGET HRT** - The HRT programs will set your target heart rate in the place of resistance level. The console will display your target heart rate and give you the opportunity to adjust this value if you wish.

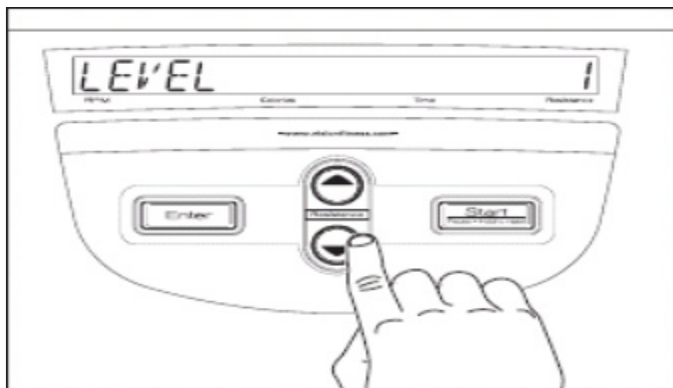


FIGURE E

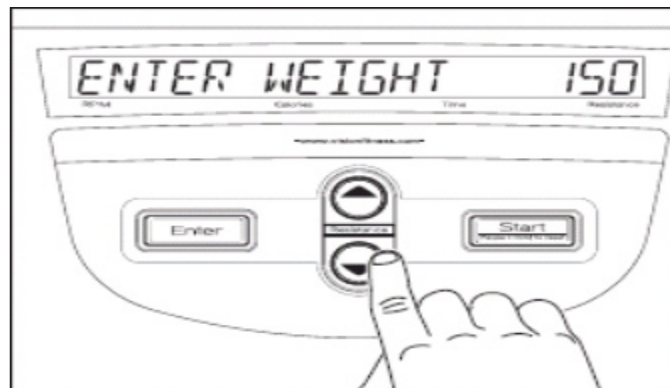


FIGURE F

**SPRINT 8** - The Sprint 8 program is an aerobic interval program designed to build muscle, improve speed, and naturally increase the release of Human Growth Hormone (HGH) in your body. Producing HGH through exercise and a proper diet has been shown as an effective way to burn fat and build lean muscle mass according to Phil Campbell, author of Ready, Set, GO! Synergy Fitness. Please go to Mr. Campbell's website, [www.readysetgofitness.com](http://www.readysetgofitness.com) for more details about this radical new approach to fitness.

The Sprint 8 program features intense sprint intervals followed by recovery intervals. The program includes the following phases:

- 1) **WARM UP** should gradually increase your heart rate and increase respiration and blood flow to working muscles. The warm up is controlled by the user to meet your specific needs.
- 2) **INTERVAL TRAINING** starts immediately after the warm up with a 30 second sprint interval. Seven recovery intervals of one minute and 30 seconds will alternate with the eight 30 second sprint intervals. The message display will prompt you to increase your pedal rate during the sprint interval and decrease pedal rate during the recovery interval. A difference of 30 to 50 RPM between interval and recovery interval is recommended.
- 3) **COOL DOWN** helps return your body's systems to resting levels. Less demand is placed on your heart during recovery if an appropriate cool down is used following the exercise.

Due to the fact that Sprint 8 is a specialized program, total workout time is not displayed during the program. The interval time is displayed in the time window instead. It takes only 20 minutes to complete the Sprint 8 workout.



## CHAPTER 5: ENGINEERING MODE

### 5.1 ENGINEERING MODE

The Engineering Mode allows the club owner to customize the Elliptical Trainer for the club.

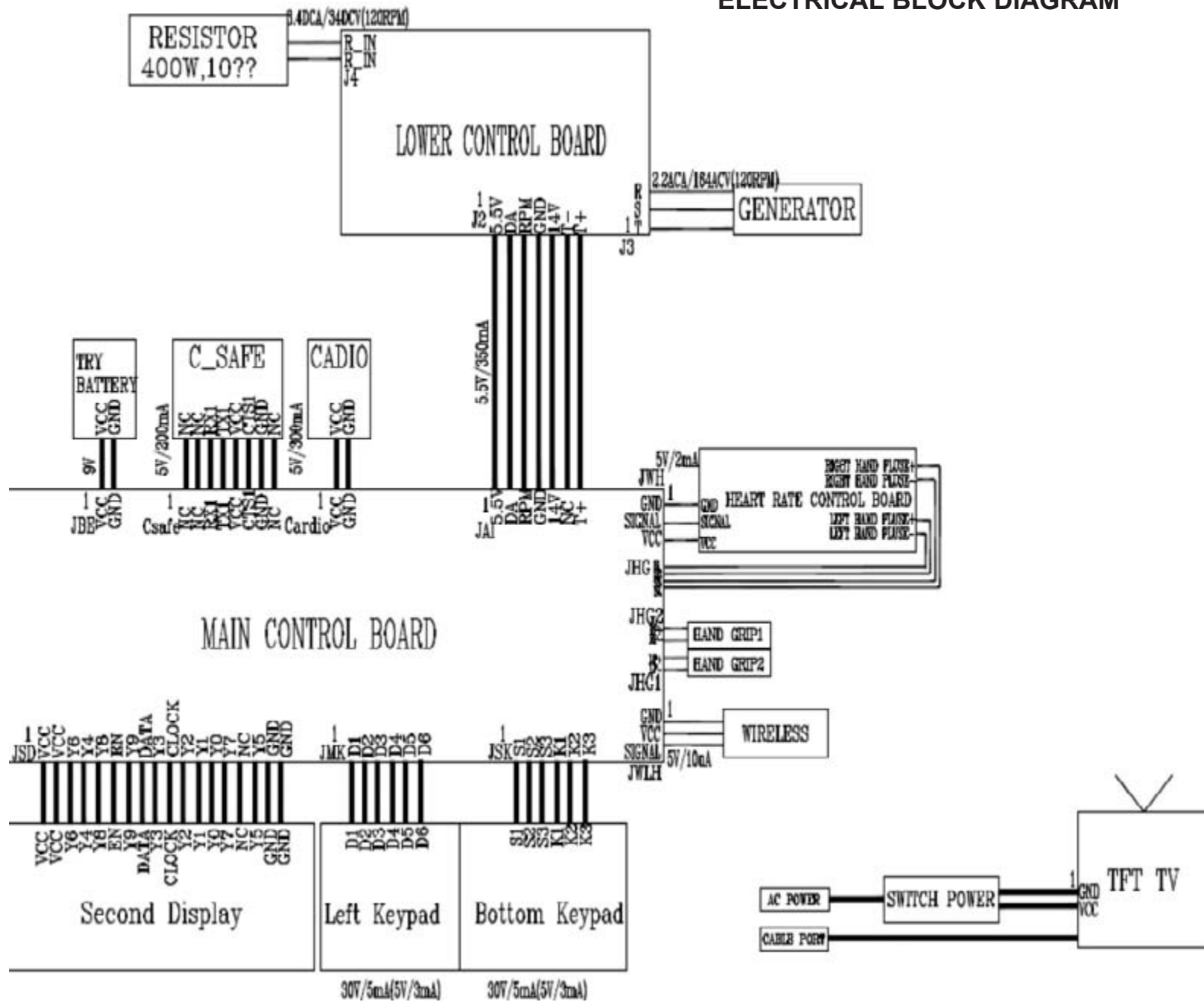
- 1) To enter Engineering Mode, press and hold down the UP and DOWN ARROW keys at the same time for 3-5 seconds.
- 2) The console will beep 3 times and enter into the Engineering Mode menu.
- 3) To scroll through the list of options in Engineering Mode, use the UP and DOWN ARROW keys. Each of the custom settings will show on the display.
- 4) To select a custom setting, press the ENTER key when the desired setting is shown.
- 5) To change the value of the setting, use the UP and DOWN ARROW keys.
- 6) To confirm and save the value of the setting, press and hold ENTER for 3 seconds.
- 7) To back out of a setting or to exit the Engineering Mode, press and hold START for 3 seconds.

CUSTOM SETTINGS	DEFAULT	MINIMUM	MAXIMUM	DESCRIPTION
MAX TIME	99	5	99	Maximum workout duration.
USER TIME	60	5	99 (LIMITED TO MAX TIME SETTING)	Default start time in all programs.
DEFAULT AGE	40	10	100	Default age used for all programs.
DEFAULT WEIGHT	150	80	400	Default weight used for all programs.
DEFAULT LEVEL	1	1	20	Default level used for all programs.
DEFAULT GENDER	MALE	FEMALE	MALE	Default gender used for all programs.
UNIT	MILE	KM	UNIT	Sets the unit to miles or kilometers.
MACHINE	ELLIPTICAL	BIKE	ELLIPTICAL	Sets the machine to Bike or Elliptical mode.
ACCUMULATED TIME	-	-	-	Shows the total time on the Elliptical Trainer in hours.
ACCUMULATED DISTANCE	-	-	-	Shows the total distance on the Elliptical Trainer in miles or kilometers.
DISPLAY TEST	-	-	-	Used by service technicians to test the LED displays.
MACHINE TEST	-	-	-	Used by service technicians to test mechanical and CSafe functions.
KEYPAD TEST	-	-	-	Test to ensure that all buttons are functioning properly.
VERSION	-	-	-	Displays current software version.
LANGUAGE	-	-	-	Sets the language that the prompts use in the instruction center.

# CHAPTER 6: TROUBLESHOOTING

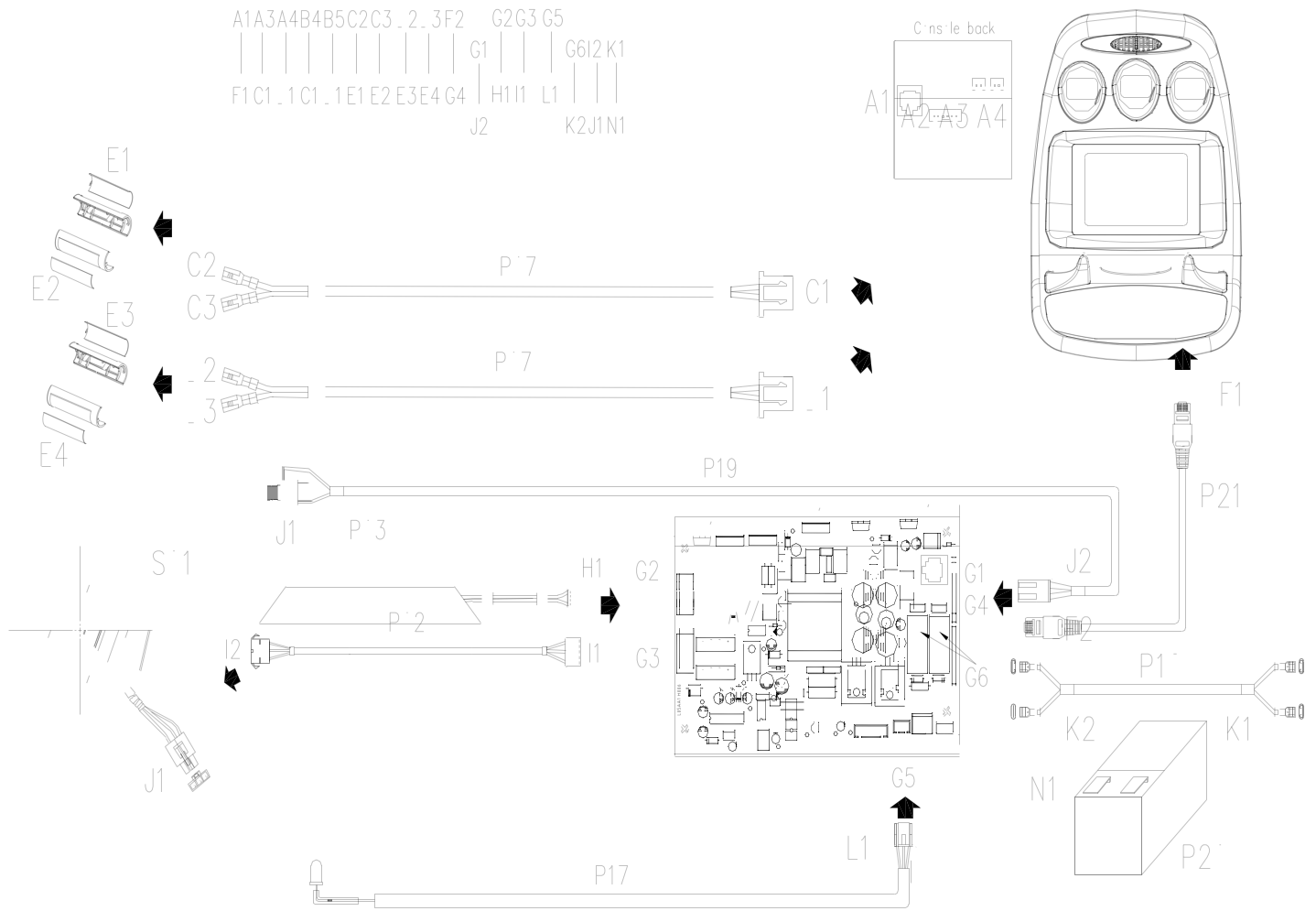
## 6.1 ELECTRICAL DIAGRAMS

### ELECTRICAL BLOCK DIAGRAM



# CHAPTER 6: TROUBLESHOOTING

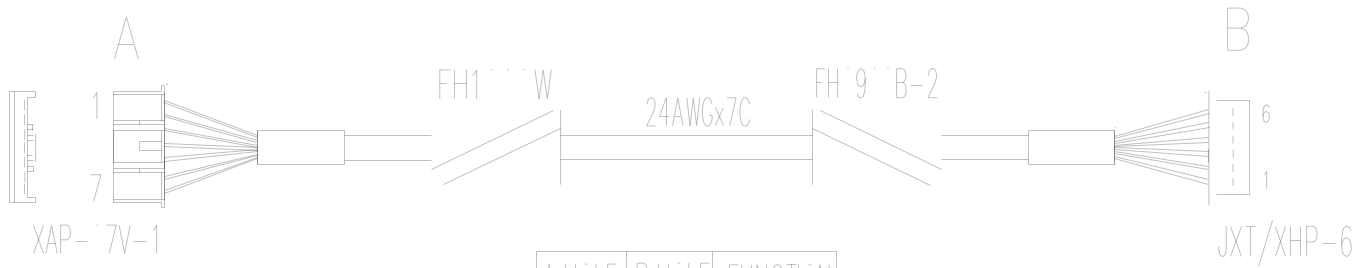
## 6.1 ELECTRICAL DIAGRAMS



# CHAPTER 6: TROUBLESHOOTING

## 6.1 ELECTRICAL DIAGRAMS

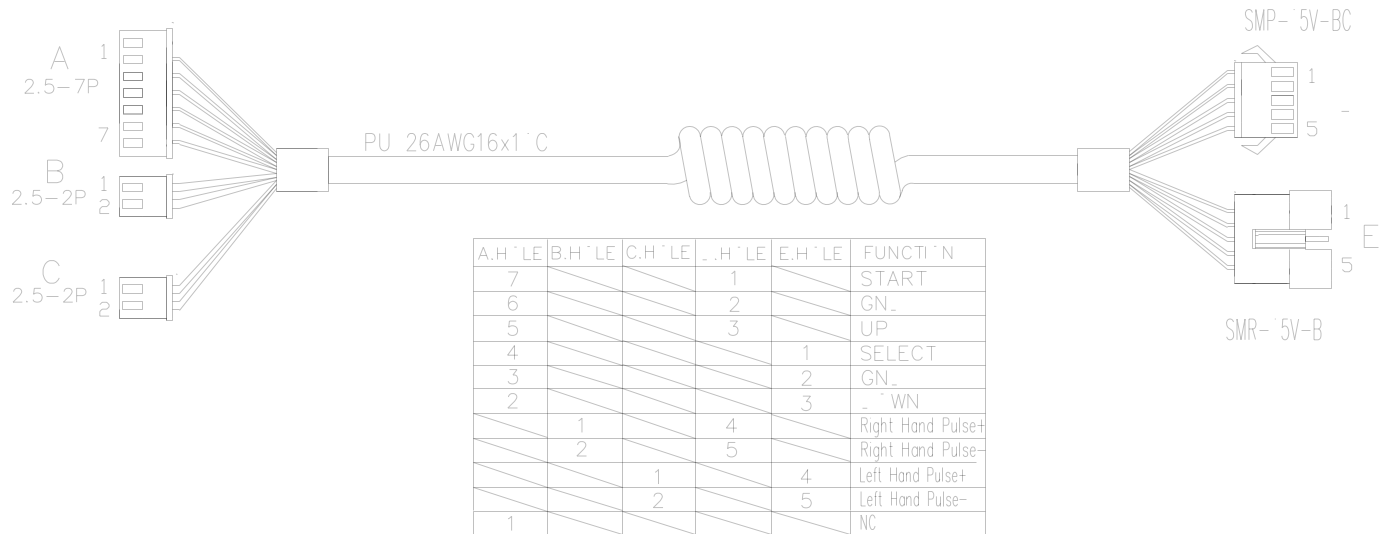
### P01 - CONSOLE CABLE



A.HOLE	B.HOLE	FUNCTION
1	1	5.5V
2	2	-/A
3	3	RPM
4	4	GN
5	5	14V
6		T-
7	6	T+

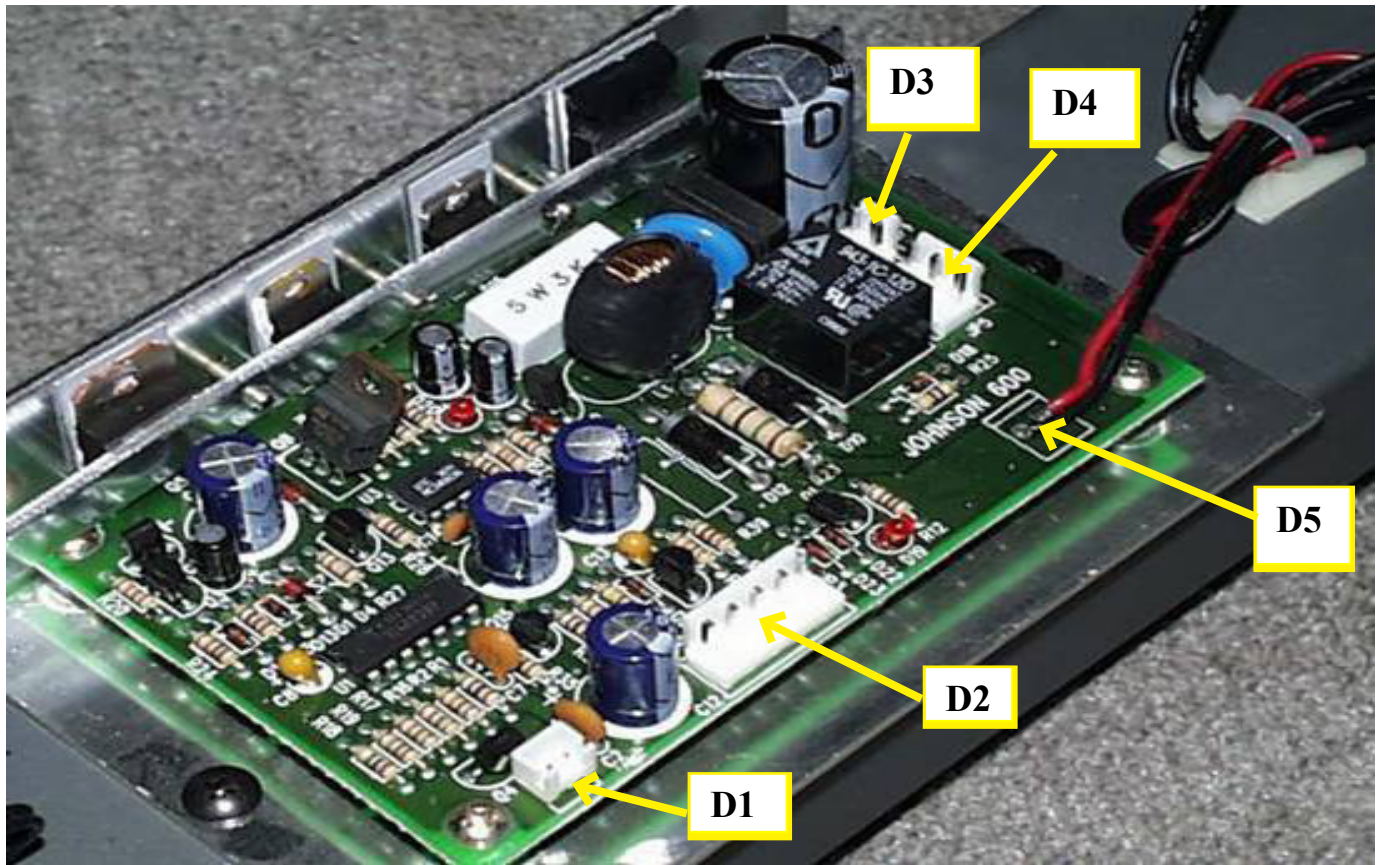
## 6.1 ELECTRICAL DIAGRAMS

### P04 - PULSE SENSOR WIRE



## CHAPTER 6: TROUBLESHOOTING

### 6.2 LOWER CONTROL BOARD CONNECTIONS



- D1 - 2 pin terminal to the generator sensor.
- D2 - 5 pin terminal to the console.
- D3 - 2 pin terminal to the generator.
- D4 - 3 pin terminal to the on / off switch.
- D5 - 2 pin terminal to the battery.

## 6.3 TROUBLESHOOTING - CONSOLE POWER ISSUES

### NO DISPLAY ON THE CONSOLE OR THE DISPLAY IS DIM

#### POSSIBLE CAUSES:

- 1) The console is damaged or the console cable is not connected properly.
- 2) Poor connection to the terminals on the lower control board.
- 3) The lower control board is damaged.
- 4) The generator is damaged.

#### SOLUTION

- 1) Check the console cable connections at the console and lower control board.
- 2) Unplug the console cable at the console. Use a multi-meter to check if the voltage between the 1 (VCC) and 4 (Ground) pins of the console cable is greater than 5.5 VDC (Figure A).
  - a. If the voltage is greater than 5.5 VDC, replace the console.
- 3) Unplug the generator cable from the lower control board and check to see if the voltage is variable (See Section 6.4 for how to check the power).
  - a. If the voltage is variable, replace the lower control board.
  - b. If the voltage is NOT variable, replace the generator.

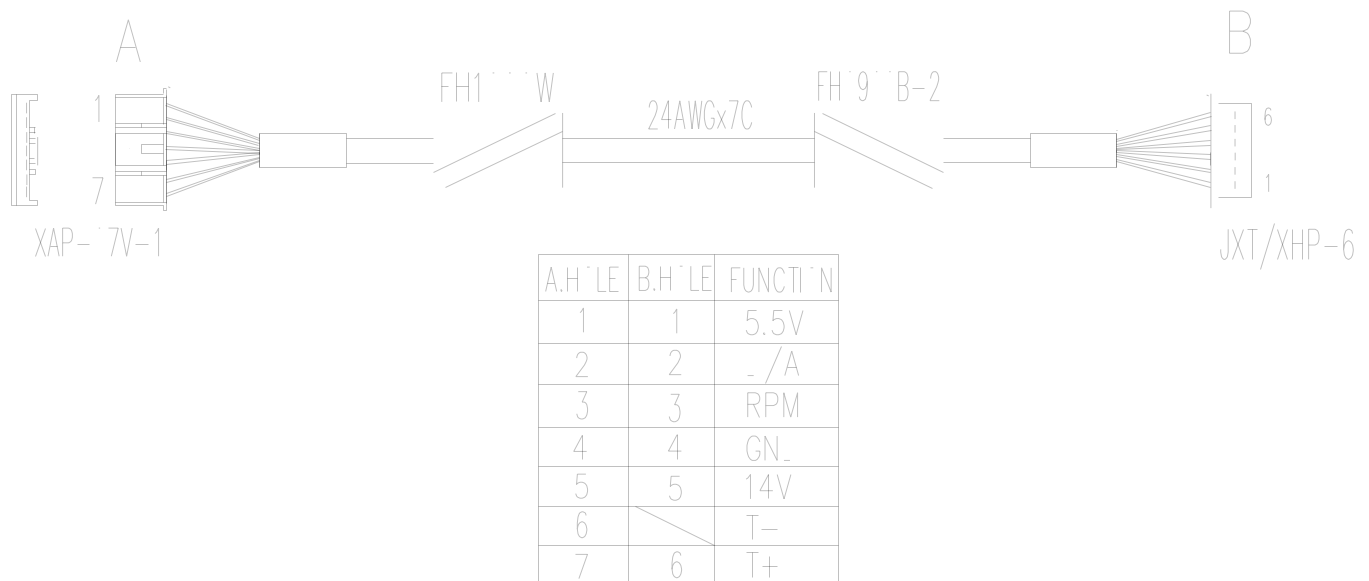


FIGURE A

## 6.4 TROUBLESHOOTING - NO OR HIGH RESISTANCE

### NO RESISTANCE CHANGE OR ALWAYS HIGH RESISTANCE

#### POSSIBLE CAUSES:

- 1) The console is damaged or the console cable is not connected properly.
- 2) The console cable is damaged.
- 3) The generator is damaged.
- 4) The lower control board is damaged.

#### SOLUTION:

- 1) Check the console cable connections at the console and lower control board.
- 2) Unplug the generator cable from the lower control board and pedal the machine. Use a multi-meter to check the VAC (AC voltage) readout from the generator cable (Figures A & B).
  - a. The VAC should vary depending on how fast the unit is pedaled.
  - b. If the VAC is not variable, replace the generator.
  - c. If the voltage is variable, replace the lower control board.
  - d. If the issue is not resolved by the generator or lower control board, replace the console.
  - e. If the issue is still not resolved, replace the console cable.



FIGURE A

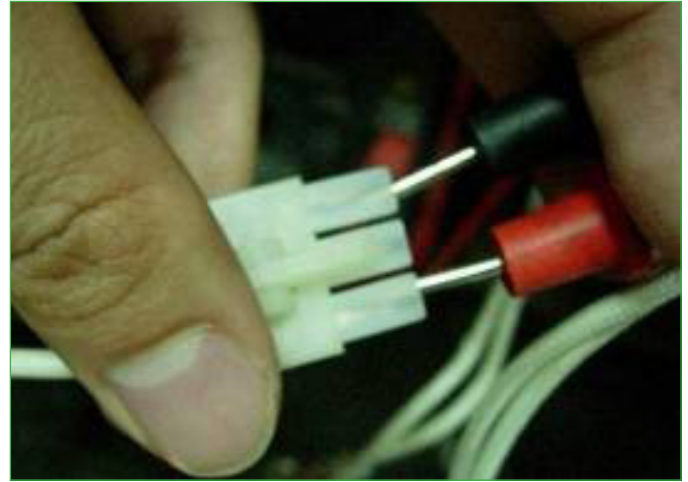


FIGURE B



### 6.5 TROUBLESHOOTING - NO RPM DISPLAYED

---

#### NO RPM IS DISPLAYED DURING EXERCISE

##### POSSIBLE CAUSES:

- 1) The console is damaged or the console cable is not connected properly.
- 2) The lower control board is damaged.

##### SOLUTION:

- 1) Check the console cable connections at the console and lower control board.
- 2) Replace the console if all connections are good.
  - a. If the console or console cable do not resolve the situation, replace the lower control board.

### 6.6 TROUBLESHOOTING - PEDALS SLIPPING

---

#### SLIPPING WHILE PEDALING

##### POSSIBLE CAUSES

- 1) Belt tension is not enough.
- 2) The one way bearing in the drive axle is damaged.

##### SOLUTION:

- 1) Remove the right side cover and check the drive belt tension. Tighten as needed.
- 2) If the belt tension is correct and the belt is still slipping, the one way bearing in the drive axle is damaged. Replace the drive axle assembly.

### 6.7 TROUBLESHOOTING - NOISE ISSUES

---

#### KNOCKING OR CREAKING NOISES

##### POSSIBLE CAUSES:

- 1) The pedal is connected to the link arm too loosely.
- 2) Belt tension is too loose, or the belt is dirty.
- 3) The drive axle assembly is damaged.

##### SOLUTION:

- 1) Open the side covers and clean and tighten the belts.
- 2) Tighten the connections between the pedal and link arm.
- 3) Replace the drive axle assembly.

#### HEART RATE DOES NOT WORK

##### POSSIBLE CAUSES:

- 1) Not good contact between the user and HR grips or HR strap.
- 2) The HR strap is at a low battery status.
- 3) The HR strap is damaged.
- 4) The HR grips are damaged.
- 5) The HR board in the console is damaged.

##### SOLUTION:

- 1) Re-center the HR strap on user's chest as shown in Figure A.
- 2) Replace the battery in the HR Strap.
- 3) Wet the user's hand, then reestablish contact with the HR grip.
- 4) Replace the HR strap.
- 5) Replace the HR grips.
- 6) Replace the console.

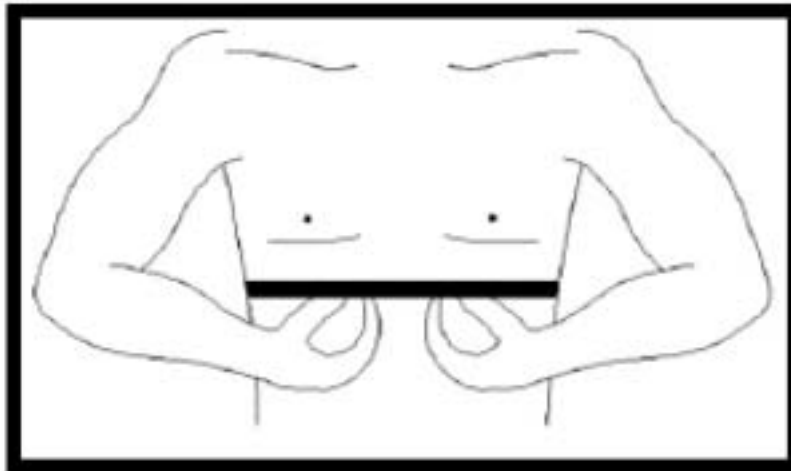


FIGURE A

### 7.1 CONSOLE BACK REPLACEMENT

- 1) Remove the 4 screws holding the console back to the console (Figure A).



**FIGURE A**

- 2) Remove the console back (Figure B).



**FIGURE B**

- 3) Reverse Steps 1-2 to install a new console back.

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.2 CONSOLE REPLACEMENT

- 1) Remove the console back as outlined in Section 7.1.
- 2) Remove the 4 screws attaching the console to the console mast (Figure A).
- 3) Disconnect the 3 console cable connections at the back of the console (Figure B).



FIGURE A



FIGURE B

- 4) Remove the console (Figure C).



FIGURE C

- 5) Reverse Steps 1-4 to install a new console.
- 6) Test the elliptical trainer for function as outlined in Section 7.19.

### 7.3 HEART RATE GRIPS REPLACEMENT

- 1) Remove the 2 screws attaching the 2 halves of the HR grip together (Figure A).



**FIGURE A**

- 2) Split the HR grip apart and disconnect the red and white wires (Figure B).



**FIGURE B**

- 3) Reverse Steps 1-2 to install new HR grips. **NOTE:** Be sure to plug the red wire into the top plate and the white wire into the bottom plate and also re-install the end cap.
- 4) Test the elliptical trainer for function as outlined in Section 7.19.

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.4 CUP HOLDER REPLACEMENT

- 1) Remove the 2 screws holding the cup holder to the console mast (Figure A).



**FIGURE A**

- 2) Remove the cup holder (Figure B).



**FIGURE B**

- 3) Reverse Steps 1-2 to install a new cup holder.



### 7.5 LINK ARM REPLACEMENT

- 1) Remove the 2 screws holding on the right side front link arm cover and remove it (Figures A & B).



**FIGURE A**



**FIGURE B**

- 2) Remove the 1 screw holding on the left side front link arm cover and remove it (Figures C & D).



**FIGURE C**



**FIGURE D**

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.5 LINK ARM REPLACEMENT - CONTINUED

- 3) Remove the bolt / nut connecting the link arm to the dual action handlebar (Figure E).
- 4) Remove the 3 screws that go through the 3 hole plate and connect the link arm to the pedal arm (Figure F).



FIGURE E



FIGURE F

- 5) Pull the link arm away from the pedal arm and off the unit (Figure G).
- 6) Reverse Steps 1-5 to install a new link arm. **NOTE:** Be sure to re-install the spacers when connecting the link arm to the dual action handlebar (Figure H).



FIGURE G



FIGURE H

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.6 DUAL ACTION HANDLEBAR REPLACEMENT

- 1) Remove the 2 screws holding on the right side front link arm cover and remove it (Figures A & B).



**FIGURE A**



**FIGURE B**

- 2) Remove the 1 screw holding on the left side front link arm cover and remove it (Figures C & D).



**FIGURE C**



**FIGURE D**

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.6 DUAL ACTION HANDLEBAR REPLACEMENT - CONTINUED

- 3) Remove the bolt / nut connecting the link arm to the dual action handlebar (Figure E).
- 4) Remove the round end cap at the pivot of the dual action handlebar (Figure F).



FIGURE E



FIGURE F

- 5) Remove the 4 screws holding the dual action handlebar to the console mast (Figure G).
- 6) Remove the dual action handlebar.
- 7) Reverse Steps 1-6 to install a dual action handlebar. **NOTE:** Be sure to re-install the spacers when connecting the link arm to the dual action handlebar (Figure H).



FIGURE G



FIGURE H

### 7.7 PEDAL ARM REPLACEMENT

- 1) Remove the screw holding on the pivot block cover (Figures A & B).
- 2) Remove the large bolt / nut holding the pivot block to the pedal arm (Figure C).



**FIGURE A**



**FIGURE B**



**FIGURE C**

- 3) Remove the link arm as outlined in Section 7.5.
- 4) Pull up on the roller rubber gasket to release the plugs on the gasket from the plastic cover (Figure D).
- 5) Once the gasket is out of the way, the pedal arm can be lifted out of the roller frame (Figure E).



**FIGURE D**



**FIGURE E**

- 6) Reverse Steps 1-5 to install a new pedal arm.

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.8 PEDAL REPLACEMENT

- 1) Remove the link arm as outlined in Section 7.7.
- 2) Remove the 4 screws attaching the pedal to the link arm (Figure A).



**FIGURE A**

- 3) Remove the pedal from the link arm (Figure B).



**FIGURE B**

- 4) Reverse Steps 1-3 to install a new pedal.

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.9 REAR ROLLER REPLACEMENT

- 1) Pull up on the roller rubber gasket to release the plugs on the gasket from the plastic cover (Figure A).
- 2) Once the gasket is out of the way, the rear end of the pedal arm can be lifted out of the roller frame (Figure B).



**FIGURE A**



**FIGURE B**

- 3) Remove the screw holding the brush assembly onto the pedal arm (Figure C & D).



**FIGURE C**



**FIGURE D**

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.9 REAR ROLLER REPLACEMENT - CONTINUED

- 4) Remove the screw holding the rear roller onto the pedal arm (Figure E).



**FIGURE E**

- 5) Use a large flat screwdriver or a tie rod fork (available at most auto parts stores) to separate the rear roller from the pedal arm post (Figure F).



**FIGURE F**

- 6) Reverse Steps 1-5 to install a new rear roller.



## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.10 REAR ROLLER TRACK REPLACEMENT

- 1) Pull up on the roller rubber gasket to release the plugs on the gasket from the plastic cover (Figure A).
- 2) Once the gasket is out of the way, the rear end of the pedal arm can be lifted out of the roller frame (Figure B).



**FIGURE A**



**FIGURE B**

- 3) Lift up the rear end of the pedal arm and remove the roller rubber gasket (Figure C).
- 4) Repeat Steps 1-3 on the opposite side pedal arm.
- 5) Remove the 3 screws on each side holding on the rear roller plastic cover (Figure D).



**FIGURE C**



**FIGURE D**

## CHAPTER 7: PART REPLACEMENT GUIDE

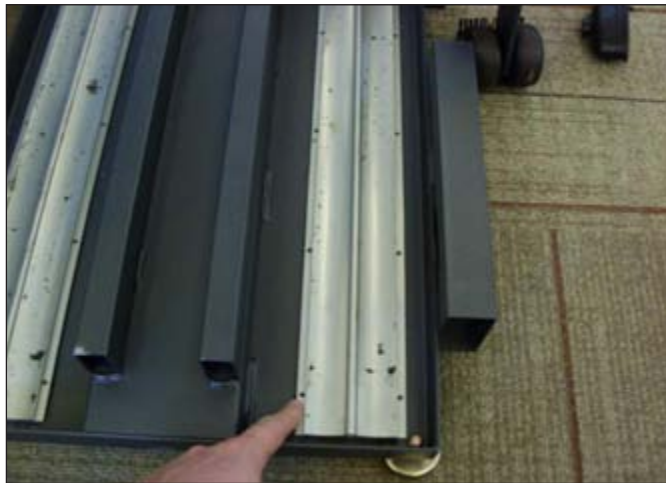
### 7.10 REAR ROLLER TRACK REPLACEMENT - CONTINUED

- 6) Lift up the rear end of the pedal arms and remove the rear roller plastic cover (Figure E).



**FIGURE E**

- 7) Lean the unit to the side and remove the 10 screws holding down the rear roller track and remove it (Figure F).



**FIGURE F**

- 8) Reverse Steps 1-7 to install new rear roller tracks.

### 7.11 FRONT DISC REMOVAL

- 1) Turn the center cap counter-clockwise and remove it from the unit (Figure A).



**FIGURE A**

- 2) Remove the 21mm flanged nut from the drive shaft (Figures B & C).



**FIGURE B**



**FIGURE C**

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.11 FRONT DISC REMOVAL - CONTINUED

3) Use the 3 hole crank puller (available from Vision Fitness, part # 023725-Z2) to remove the front disc. The 3 smaller outside screws should be tightened as much as possible by hand (Figure D), and then the large inside screw should be turned (Figure E). That will push the disc off of the frame (Figure F).



FIGURE D



FIGURE E



FIGURE F

### 7.12 SIDE COVER REMOVAL

- 1) Remove the front discs as outlined in Section 7.11.
- 2) Remove the screws holding the side covers to each other and to the frame (Figure A). **NOTE:** You will need to lift up the console mast boot to access some of these screws (Figure B).



FIGURE A



FIGURE B

- 3) Figure C shows the unit with the right side cover and disc removed.



FIGURE C

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.13 LOWER CONTROL BOARD REPLACEMENT

- 1) Remove the front disc as outlined in Section 7.11.
- 2) Disconnect the 3 wire connections at the lower control board (Figure A).
- 3) Remove the 2 screws holding the lower control board to the frame (Figure B).



FIGURE A



FIGURE B

- 4) Remove the lower control board (Figure C).
- 5) Reverse Steps 1-4 to install a new lower control board. **NOTE:** Be sure to route the wiring so that it does not interfere with the drive belt (Figure D).



FIGURE C

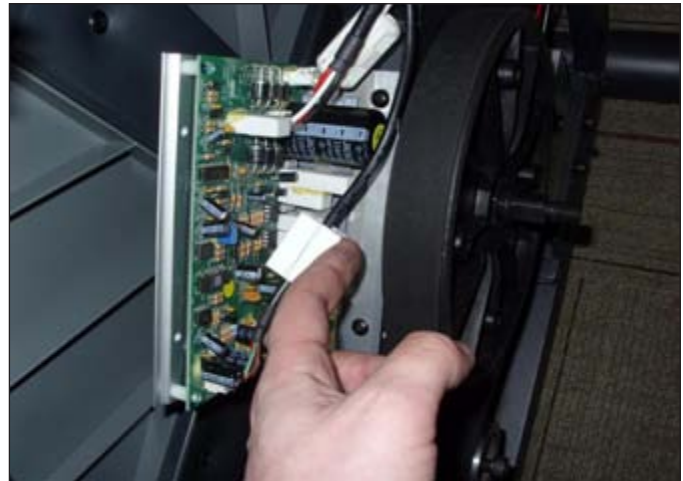


FIGURE D

- 6) Test the elliptical trainer for function as outlined in Section 7.19.

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.14 DRIVE BELT REPLACEMENT

- 1) Remove the front disc as outlined in Section 7.11.
- 2) Remove the screw holding the idler to the frame (Figure A).
- 3) Remove the idler from the frame (Figure B).



FIGURE A



FIGURE B

- 4) Once the idler is removed, the tension is released from the drive belt and it can be removed.
- 5) Reverse Steps 1-4 to install a new drive belt. **NOTE:** Be sure to re-install the idler so that tension is returned to the drive belt. Rotate the idler counter-clockwise, and then tighten the screw removed in Step 1 (Figure C).



FIGURE C

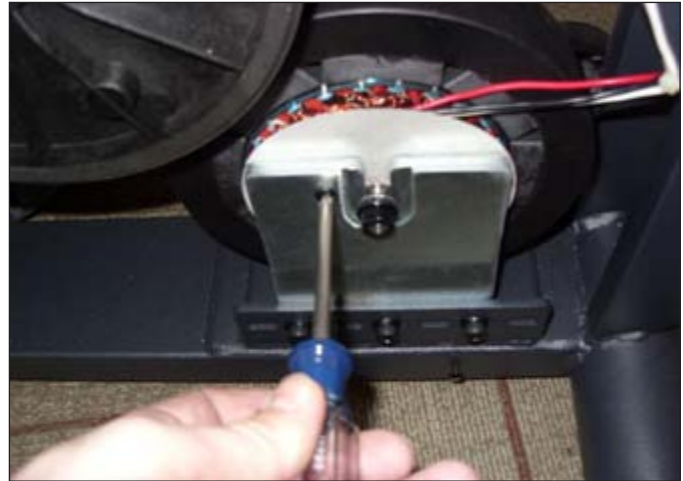
- 6) Test the elliptical trainer for function as outlined in Section 7.19.

### 7.15 GENERATOR BELT REPLACEMENT

- 1) Remove the front discs as outlined in Section 7.11.
- 2) Remove the front side covers as outlined in Section 7.12.
- 3) Loosen the large nut on each side of the generator (Figure A).
- 4) Remove the screw keeping the generator disc from turning (Figure B).



**FIGURE A**



**FIGURE B**

- 5) Lift the generator out of the generator frame (Figure C). This will loosen the tension on the generator belt and allows the belt to be removed from the drive pulley with a flat screwdriver (Figure D).



**FIGURE C**



**FIGURE D**



### 7.15 GENERATOR BELT REPLACEMENT - CONTINUED

- 6) Lift the belt side of the generator out of the generator frame and remove the generator belt (Figure E).



FIGURE E

- 7) Reverse Steps 1-6 to install a new generator belt. **NOTE:** When installing the generator belt, be sure to tighten the eye hook nut on the generator so that the generator belt can be turned a maximum of 90 degrees (Figure F).



FIGURE F

- 8) Test the elliptical trainer for function as outlined in Section 7.19.

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.16 GENERATOR REPLACEMENT

- 1) Remove the front discs as outlined in Section 7.11.
- 2) Remove the front side covers as outlined in Section 7.12.
- 3) Loosen the large nut on each side of the generator (Figure A).
- 4) Remove the screw keeping the generator disc from turning (Figure B).



FIGURE A

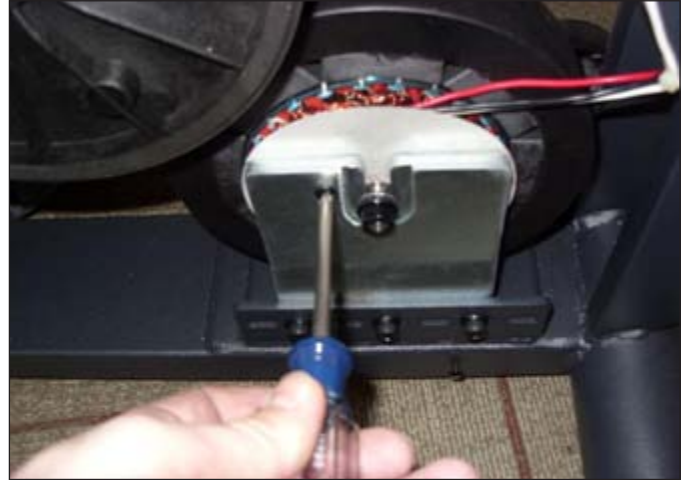


FIGURE B

- 5) Lift the generator out of the generator frame (Figure C). This will loosen the tension on the generator belt and allows the belt to be removed from the drive pulley with a flat screwdriver (Figure D).
- 6) Lift the belt side of the generator out of the generator frame and remove the generator belt (Figure E).



FIGURE C



FIGURE D



FIGURE E

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.16 GENERATOR REPLACEMENT - CONTINUED

- 7) Remove the 3 screws on each side holding the generator frame to the main frame (Figure F).
- 8) Remove the nut from the eye hook bolt allowing the generator and generator frame to be removed (Figure G).



FIGURE F



FIGURE G

- 9) Disconnect the generator wire harness and remove the generator and generator frame (Figure H).
- 10) Reverse Steps 1-9 to install a new generator. **NOTE:** When installing the generator, be sure to tighten the eye hook nut on the generator so that the generator belt can be turned a maximum of 90 degrees (Figure I).

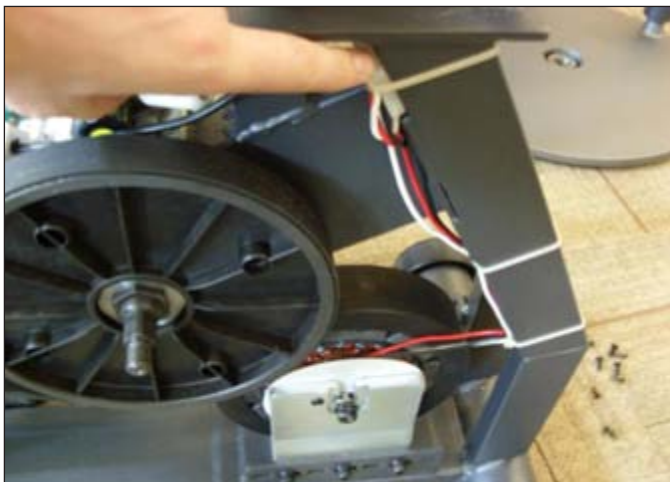


FIGURE H



FIGURE I

- 11) Test the elliptical trainer for function as outlined in Section 7.19.

## CHAPTER 7: PART REPLACEMENT GUIDE

### 7.17 DRIVE AXLE REPLACEMENT

- 1) Remove the front discs as outlined in Section 7.11.
- 2) Remove the side covers as outlined in Section 7.12.
- 3) Remove the screw holding the idler to the frame (Figure A).
- 4) Remove the idler from the frame (Figure B).



FIGURE A



FIGURE B

- 5) Once the idler is removed, the tension is released from the drive belt and it can be removed.
- 6) Use the 65mm nut removal tool (available from Vision Fitness, part # 028261-00) to remove the large nut on the left side of the drive axle (Figure C).
- 7) Remove the drive axle from the frame. You may need to use a hammer or mallet to loosen the drive axle bearings in the frame (Figure D).



FIGURE C



FIGURE D

- 8) Reverse Steps 1-7 to install a new drive axle. **NOTE:** If a hammer or mallet is needed to install the new drive axle, be sure to protect the new drive axle from damage by using a piece of wood or rubber in between.

### 7.18 PULLEY AXLE REPLACEMENT

- 1) Remove the front discs as outlined in Section 7.11.
- 2) Remove the side covers as outlined in Section 7.12.
- 3) Remove the screw holding the idler to the frame (Figure A).
- 4) Remove the idler from the frame (Figure B).



FIGURE A



FIGURE B

- 5) Once the idler is removed, the tension is released from the drive belt and it can be removed.
- 6) Use the 65mm nut removal tool (available from Vision Fitness, part # 028261-00) to remove the large nut on the right side of the pulley axle (Figure C).
- 7) Remove the pulley axle set from the frame. You may need to use a hammer or mallet to loosen the pulley axle in the frame (Figure D).



FIGURE C



FIGURE D

- 8) Reverse Steps 1-7 to install a new pulley axle. **NOTE:** If a hammer or mallet is needed to install the new pulley axle, be sure to protect the new pulley axle from damage by using a piece of wood or rubber in between.

### 7.19 TESTING THE ELLIPTICAL TRAINER

---

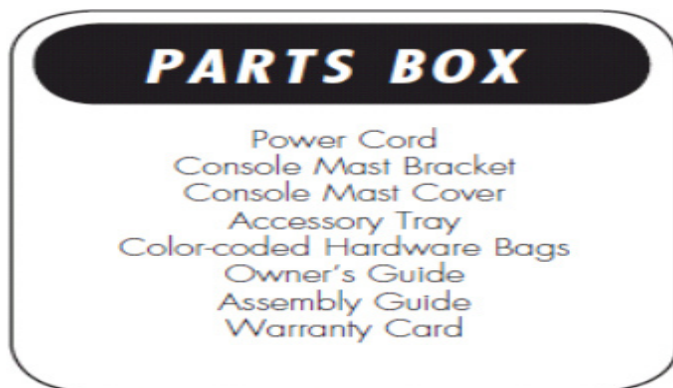
ONCE THE UNIT OR REPLACEMENT PART IS FULLY INSTALLED AND ASSEMBLED AND PROPERLY PLACED ON THE FLOOR, USE THE FOLLOWING INSTRUCTIONS TO TEST THE MACHINE:

- 1) Without hitting start or entering any program modes, stand on the Elliptical Trainer and hold the handlebars while pedaling to simulate exercising. While moving, listen for any odd noises or squeaks.
- 2) After stopping movement, press the START button and begin pedaling.
- 3) Grasp the hand grips to check for proper heart rate response.
- 4) Press the level up and down buttons on the console to make sure resistance is fully functional.
- 5) If everything functions properly, stop pedaling and the unit will reset to normal operation within 30 seconds.

# CHAPTER 8: ELLIPTICAL TRAINER SPECIFICATIONS AND ASSEMBLY GUIDE

## 8.1 UNPACKING THE ELLIPTICAL TRAINER

The Vision Fitness X70 Elliptical Trainer is carefully inspected before shipment, so it should arrive in good operating condition. Vision Fitness ships the Elliptical Trainer in the following pieces:



**NOTE:** If these parts are missing from the package, please contact Vision Fitness at 1-800-335-4348.

### PINK BAG



Spacer  
Quantity: 4



M8x20L Socket Head Cap  
Screw Quantity: 8



M10x50L Hex Socket Head  
Cap Screw Quantity: 2



M10x1.25P Nylon  
Nut Quantity: 2

### ORANGE BAG



M10x70L Socket Head  
Cap Screw Quantity: 2



M8x80L Socket Head  
Cap Screw Quantity: 1

### BLUE BAG



20.5x29x1.51 Wavy  
Washer Quantity: 2

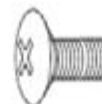


M8x20L Socket Head Cap  
Screw Quantity: 2



M8x10L Socket Head Cap  
Screw Quantity: 4

### BLACK BAG



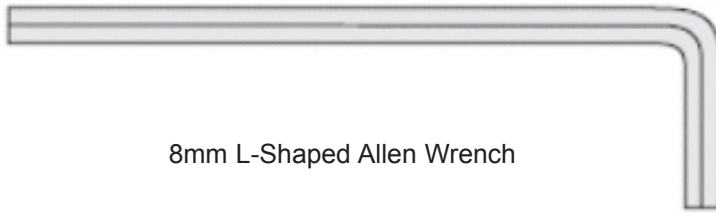
M5x12L Socket Head  
Cap Screw Quantity: 6



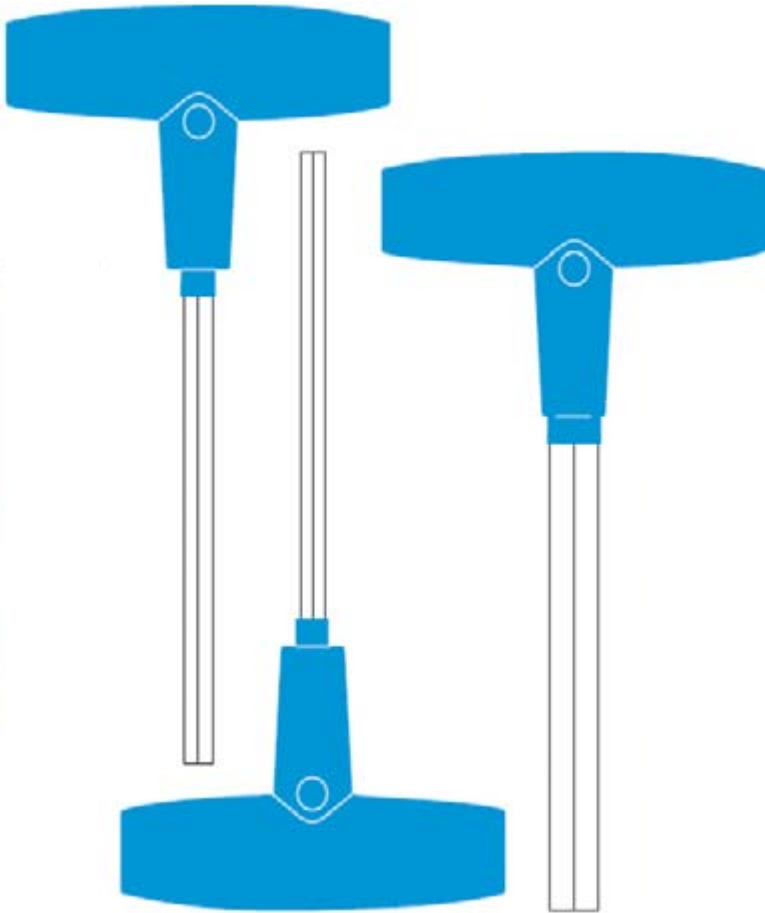
5.3x10x1.01 Washer  
Quantity: 4

## 8.2 ASSEMBLY TOOLS

### TOOLS REQUIRED FOR ASSEMBLY



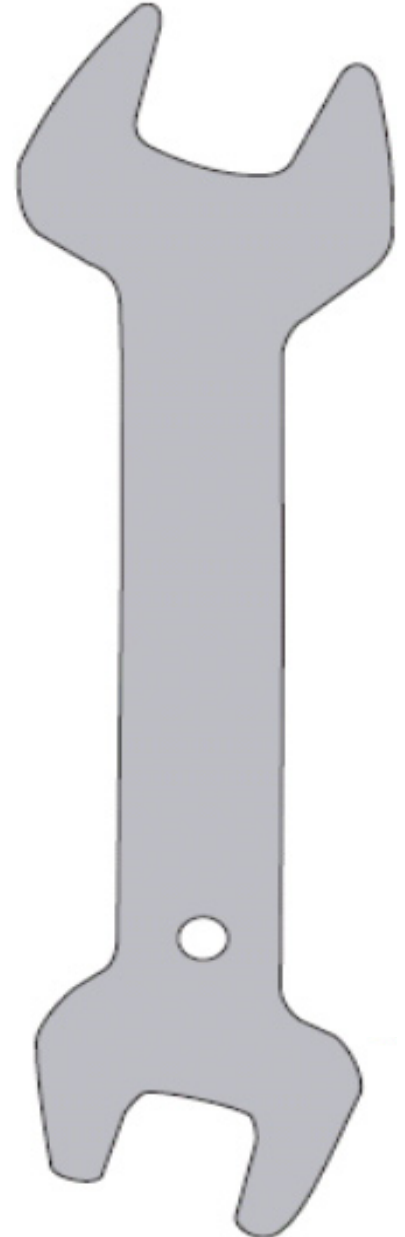
8mm L-Shaped Allen Wrench



5, 6, & 10 mm T-Handled Allen Wrenches



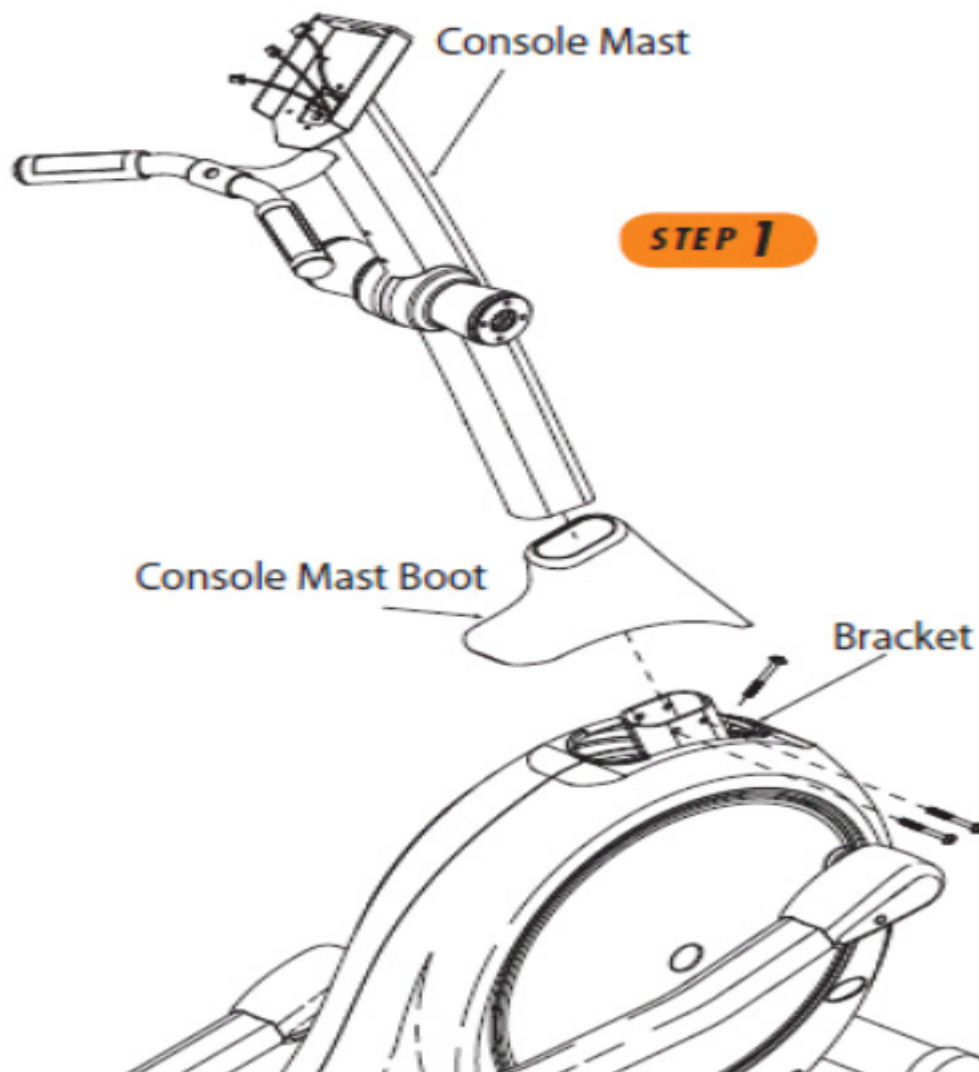
Phillips Screwdriver



13 & 17mm Pedal Wrench



## 8.3 ASSEMBLY INSTRUCTIONS

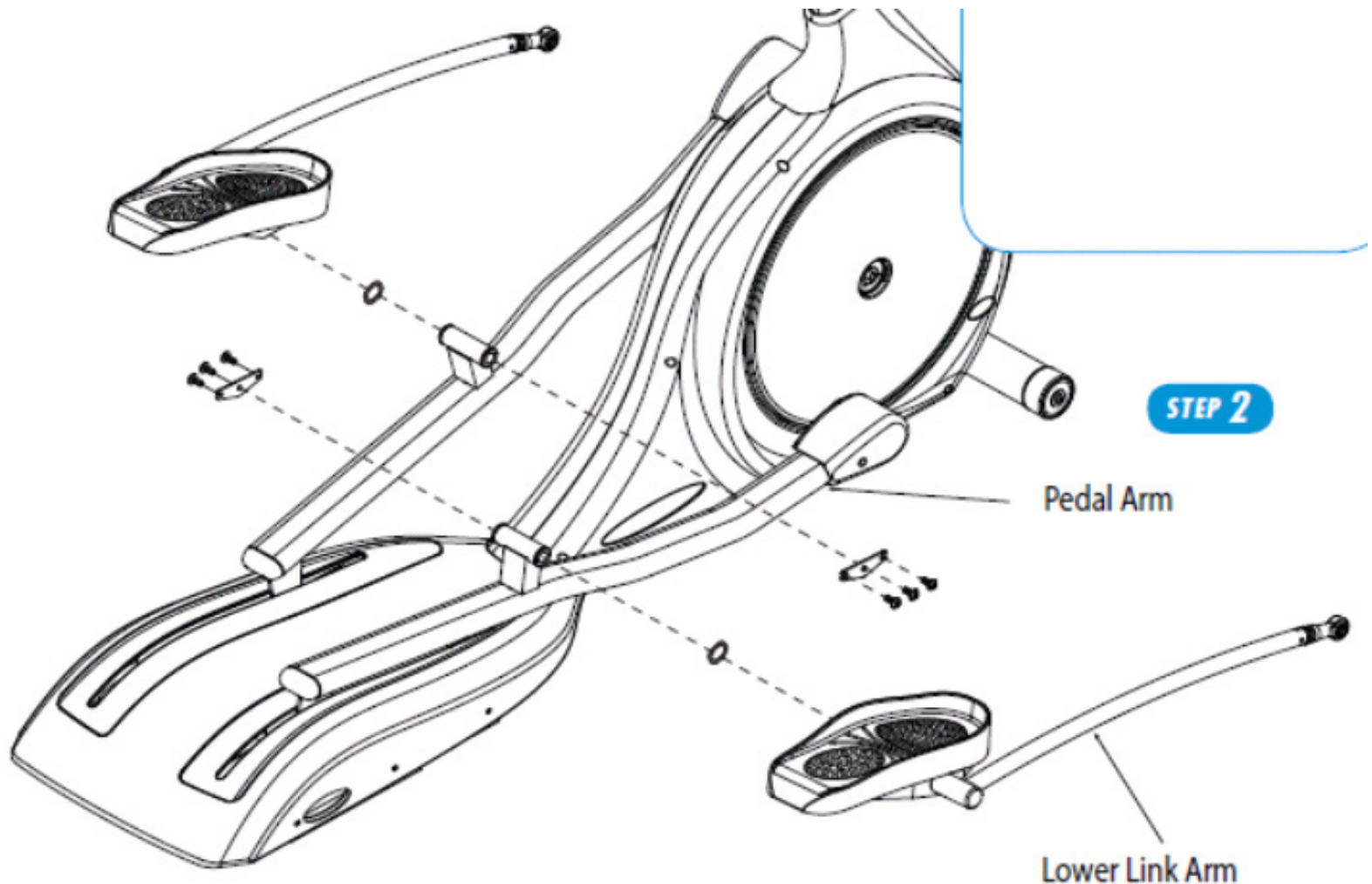


### STEP 1 - ORANGE BAG

- 1) Place the console mast boot on the end of the console mast.
- 2) Connect the wire tie that exits the bottom of the console mast to the wire harness that sits in the bracket at the top of the frame. Pull the wire tie and wire harness up through the console mast while at the same time inserting the console mast into the frame bracket.
- 3) Secure the console mast to the frame with two cap screws (M10 x 70L). Tighten with the 8mm L-Shaped Allen Wrench.
- 4) Stabilize the console mast by inserting the socket head screw (M8 x 80L) to the front of the bracket. Tighten with the 8mm L-Shaped Allen Wrench.
- 5) Slide the console mast boot down the console mast and snap it in place so it integrates with the side covers.

## CHAPTER 8: ELLIPTICAL TRAINER SPECIFICATIONS AND ASSEMBLY GUIDE

### 8.3 ASSEMBLY INSTRUCTIONS - CONTINUED



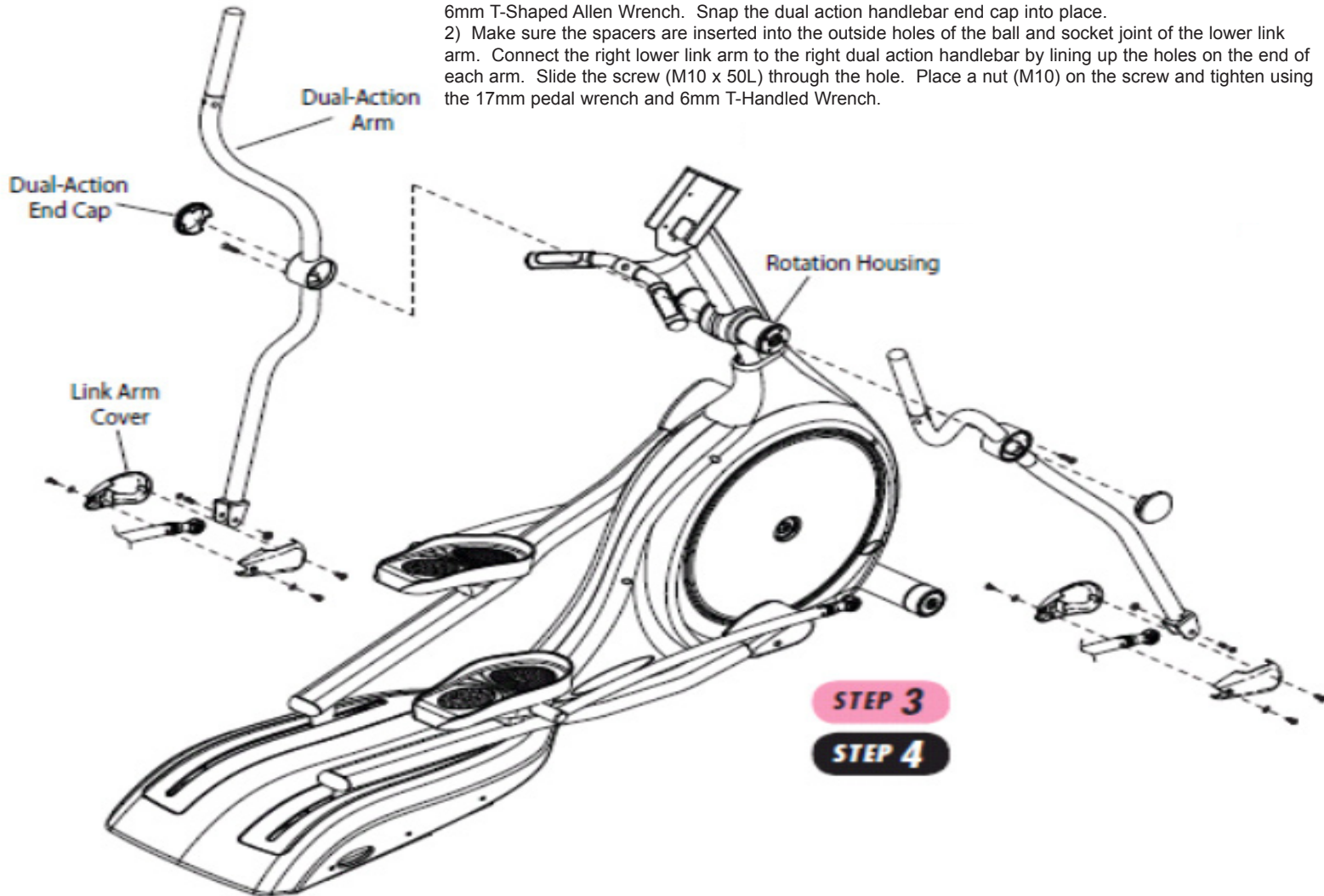
#### STEP 2 - BLUE BAG

- 1) Place a wavy washer (M20) on the axle located under the foot plate of the right lower link arm.
- 2) Slide the axle of the lower link arm into the bracket located on the top of the right pedal arm. Secure the lower link arm to the pedal arm by attaching the pedal support bracket and screw (M8 x 20L) to the end of the axle. Secure the outside holes in the bracket to the foot plate with two socket head cap screws (M8 x 10L). Tighten screws with the 5mm T-Handled Allen Wrench.
- 3) Repeat the same steps for the left side.

## 8.3 ASSEMBLY INSTRUCTIONS - CONTINUED

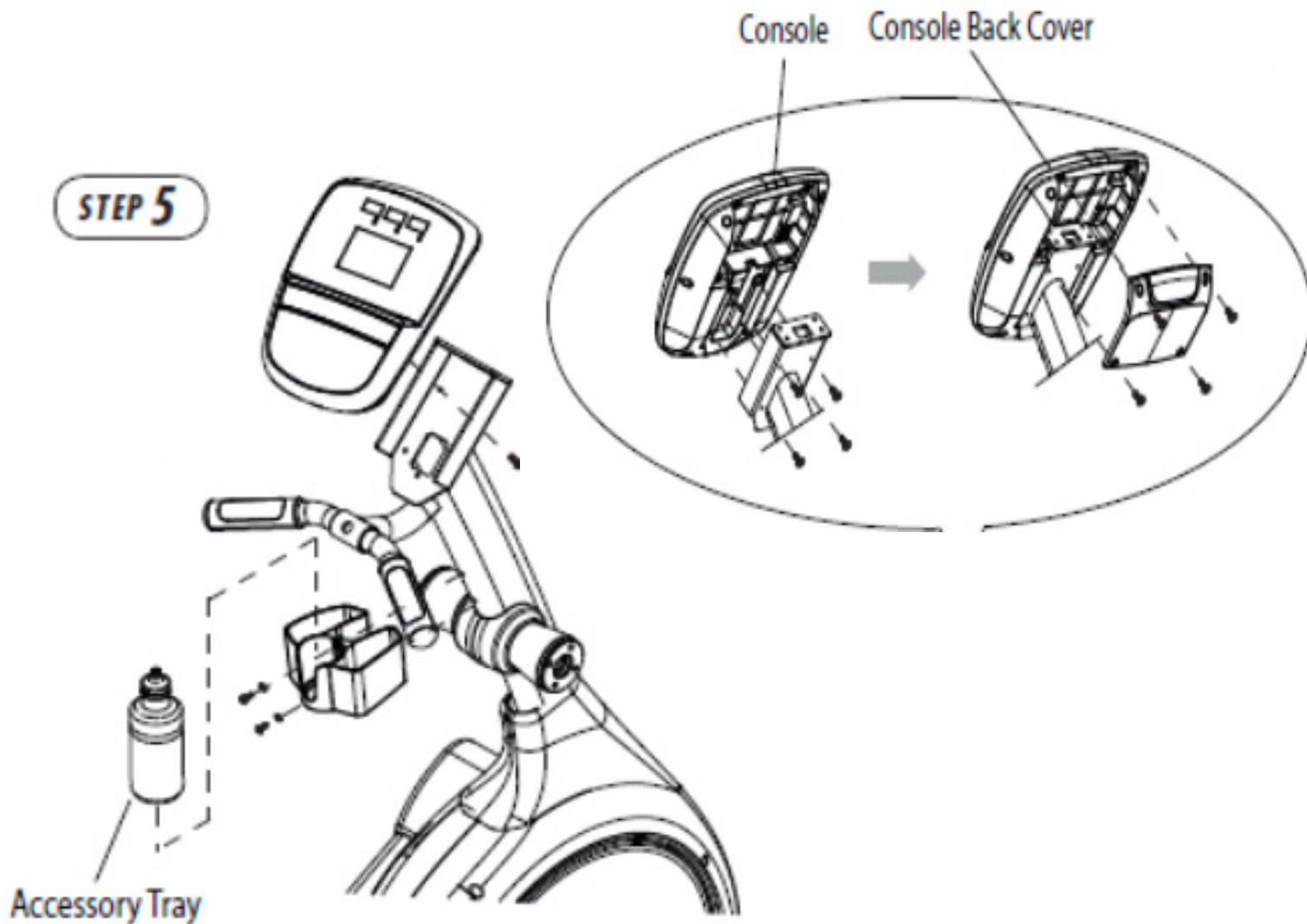
### STEP 3 - PINK BAG

- 1) Connect the right dual action handlebar to the right console mast rotation housing, being sure to line up the holes. Secure the dual action handlebar in place with four set screws (M8 x 20L) and tighten with the 6mm T-Shaped Allen Wrench. Snap the dual action handlebar end cap into place.
- 2) Make sure the spacers are inserted into the outside holes of the ball and socket joint of the lower link arm. Connect the right lower link arm to the right dual action handlebar by lining up the holes on the end of each arm. Slide the screw (M10 x 50L) through the hole. Place a nut (M10) on the screw and tighten using the 17mm pedal wrench and 6mm T-Handled Wrench.



### STEP 4 - BLACK BAG

- 1) Position the link arm cover over the joint of the lower link arm and the dual action handlebar. With a screw (M5 x 12L) and the screwdriver, connect the two halves of the cover through the hole located in the front of the cover. Attach the cover to each side of the lower link arm with the two washers (M5) and two screws (M5 x 12L).
- 2) Repeat these same steps on the left side.

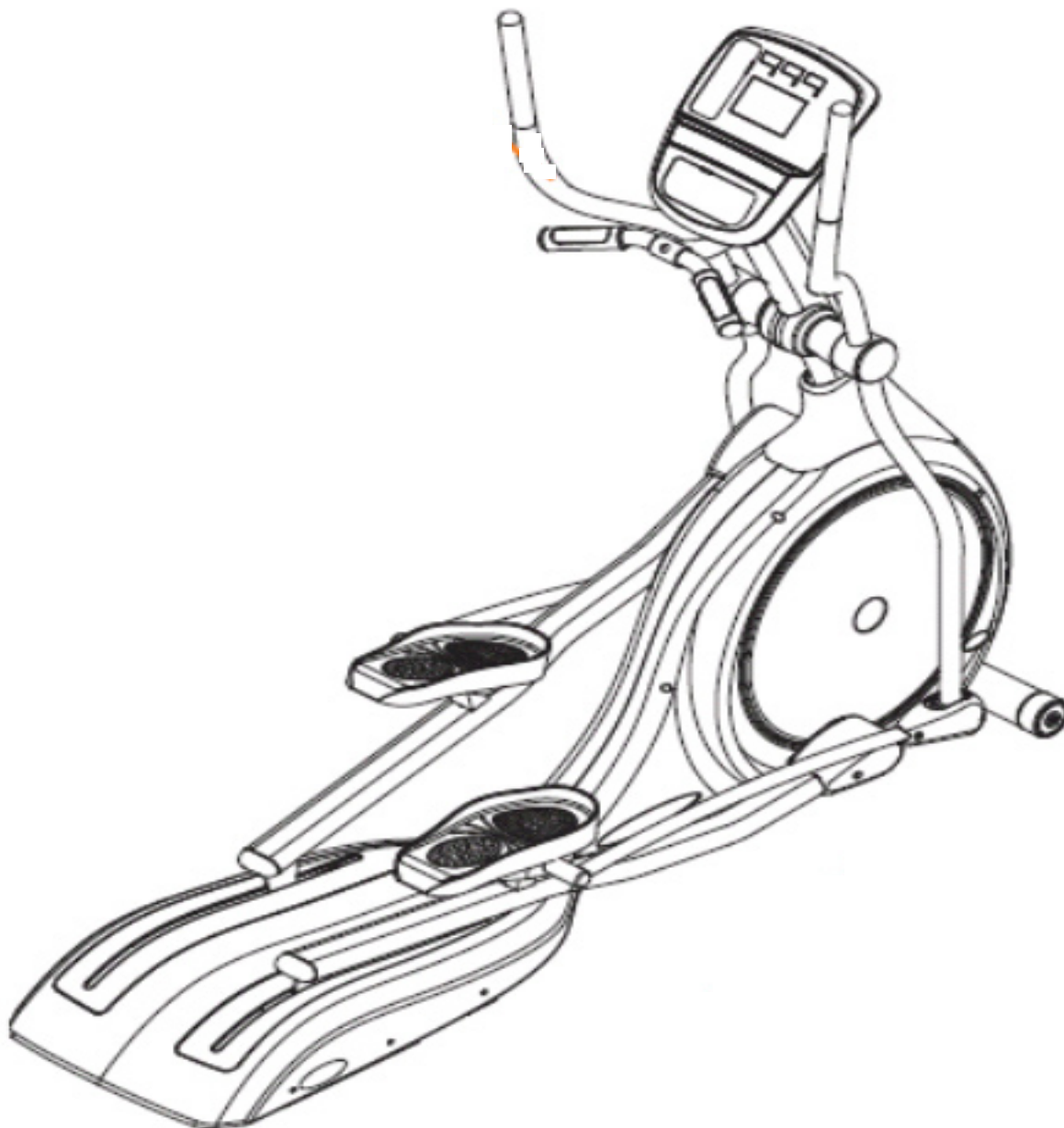


### STEP 5 - CONSOLE

- 1) Remove the four mounting screws from the back of the console. Remove the four console back cover screws. Connect the wire harness and heart rate wires that come from the console mast into the plugs located in the back of the console. Attach the console to the console mast with the four screws removed earlier.
- 2) Plug in the 9-volt battery. Re-attach the console back cover with the four screws previously removed.
- 3) Attach the accessory tray to the console mast with the two included screws and screwdriver. Insert the water bottle.

8.3 ASSEMBLY INSTRUCTIONS - CONTINUED

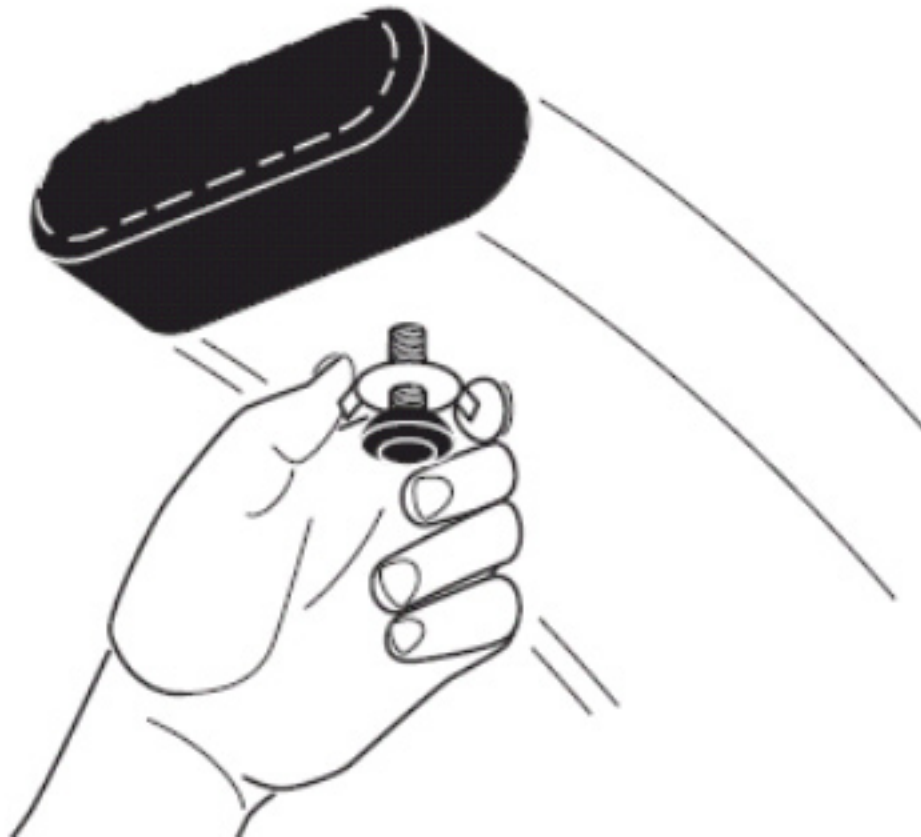
FINAL ASSEMBLY



### 8.4 LEVELING THE X70 ELLIPTICAL TRAINER

#### LEVELING THE VISION FITNESS X70 ELLIPTICAL TRAINER

After positioning the Elliptical Trainer in its intended location, check its stability by attempting to shake it side to side. Shaking or wobbling indicates that your Elliptical Trainer needs to be leveled. Determine which leveler is not resting completely on the floor. Loosen the nut with one hand to allow the leveler to rotate. Rotate the left or right leveler, and repeat the adjustment as necessary until the Elliptical Trainer is stable. Lock the adjustment by tightening the nut against the rear foot support.



NOTES

---



**VISION FITNESS SYSTEMS CORP.**

1610 LANDMARK DRIVE COTTAGE GROVE WI 53527 USA

TOLL FREE 800.335.4348 [www.visionfitness.com](http://www.visionfitness.com) FAX 608.839.1717

KO  
REV. 1