



CHANGING THE GAME IN HEALTH AND FITNESS™

Model EV916 / E916

Be Strong.™

NAUTILUS®



Model EV916



Model E916

Commercial Series Ellipticals  
Assembly Manual

## INTRODUCTION

Thank you for purchasing the Nautilus® Commercial Series EV916 or E916 Ellipticals. For more than 30 years Nautilus has been producing the world's finest fitness equipment used in health clubs and homes around the globe. We hope this product exceeds your expectations and is a valuable tool for your facility.

Please carefully read through this manual to familiarize yourself with the operation of your new Nautilus elliptical. Doing so will help to insure that your users get the most out of your elliptical, enjoying safe and effective workouts ahead.

Nautilus  
World Headquarters  
16400 SE Nautilus Drive  
Vancouver, WA 98683

1-800-NAUTILUS  
nautilus.com



**Model EV916**



**Model E916**

# SAFETY REQUIREMENTS: SAVE THESE INSTRUCTIONS!

WHEN USING ELECTRICAL EQUIPMENT, ALWAYS FOLLOW THESE BASIC PRECAUTIONS:

## IMPORTANT SAFETY INSTRUCTIONS

The following definitions apply to the words "Danger" and "Warning" found throughout this manual:

▼▼▼▼▼ Used to call attention to IMMEDIATE hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.

### DANGER

▼▼▼▼▼ Used to call attention to POTENTIAL hazards that could result in personal injury or loss of life.

### WARNING

## READ ALL INSTRUCTIONS BEFORE USING THE MACHINE.

▼▼▼▼▼ To reduce the risk of electrical shock, always unplug the external power supply from the electrical outlet before cleaning, maintaining, or repairing.

### DANGER

▼▼▼▼▼ To reduce the risk of burns, electric shock, or injury to persons:

### WARNING

**Read this manual in full before operating the elliptical. Failure to follow these guidelines can produce a serious or possibly fatal electrical shock hazard or other serious injury. Consult a qualified electrician as required.**

1. The external power supply should always be unplugged from the AC wall outlet before removing or installing parts. Never make adjustments or repairs while an exercise program is in progress.
2. Close supervision is necessary whenever the machine is used by or near children, invalids, or disabled persons.
3. Keep your hands away from all moving parts and keep your feet on the pedals while exercising. Do not operate the machine with the side covers removed, or outdoors.
4. Use this machine only for its intended use as described in this Manual. Do not use parts, attachments, or accessories other than those provided by Nautilus Inc.
5. Do not use the external power supply if it has a damaged cord or plug, it is not working properly, if it has been dropped or damaged, or dropped in water. Contact our Technical Service Department to arrange for the return of damaged parts.

6. To avoid potential safety and electrical problems, replace with manufacturer's specified parts only.
7. Connect the external power supply to a properly grounded AC wall outlet. Keep all cords away from heated surfaces. To disconnect the external power supply, remove the plug from the AC wall outlet.
8. Do not let liquid enter the console. If it does, the console must be inspected and tested for safety by an approved technician before it can be used again.
9. Never drop or insert any object into any opening on the machine. Keep the area underneath and around the machine clear.
10. Do not operate where aerosol (spray) products are being used.
11. Always wear insulated gloves when handling batteries.
12. Do not crush, incinerate, or dismantle the battery. The electrolyte contains sulfuric acid, which can cause serious damage to eyes and skin. Should this occur, flush profusely with water and seek medical attention.

The safety level provided by the design of this equipment can only be maintained when the equipment is regularly examined for damage and wear. Inoperable components should be replaced immediately or the equipment be put out of use until it is repaired. Failure to follow the guidelines may compromise the effectiveness of the exercise experience, expose you (and possibly others) to injury, and reduce the longevity of the machine. Follow all training instructions listed in the manual and/or on the machine. Physical injury may result from incorrect or excessive training.

Failure to follow the conditions set forth below shall limit, to the extent allowed by law, Nautilus, Inc. responsibility for the safety, reliability, and performance of this equipment.

- The operator manual must be read in full by each owner and trainer before the product is first used. Each user must be instructed in the proper use of the elliptical and its accessories.
- The equipment must be used in accordance with the instructions for use.
- Only Nautilus®-trained or Nautilus®-authorized personnel should carry out assembly operations, extensions, readjustments, modifications, or repairs.
- For further information or instruction on use, maintenance or specifications, please contact your Authorized Nautilus® Fitness Dealer or Service Technician.

## SAFE OPERATION



### WARNING

THESE GUIDELINES ARE DIRECTED TO YOU, AS THE OWNER OF THE MACHINE. YOU SHOULD INSIST THAT ALL USERS FOLLOW THE SAME GUIDELINES.



### WARNING!

Do not begin an exercise program without first consulting a physician.



### WARNING!

If at any time during your workout you feel chest pain, experience severe muscular discomfort, feel faint, or are short of breath, stop exercising immediately. If the condition persists, you should consult your medical doctor immediately.



### WARNING!

Secure long hair and loose clothing before use.

## General Guidelines For Safe Operation

1. Obtain a complete physical examination from your medical doctor and enlist a health/fitness professional's aid in developing an exercise program suitable for your current health status.
2. When working out for the first time, use the **MANUAL** exercise program at the lower levels until you feel comfortable and capable of higher workloads.
3. The intensity and duration of your exercise program should always be subject to how you feel. Never permit peer pressure to override your personal judgment while exercising.
4. Overweight or severely deconditioned individuals should be particularly cautious when using the machine for the first time. Even though such individuals may not have histories of serious physical problems, they may perceive the exercise to be far less intense than it really is, resulting in the possibility of overexertion or injury.
5. Although all equipment manufactured by Nautilus, Inc. has been thoroughly inspected by the manufacturing facility prior to shipment, proper installation and regular maintenance are required to ensure safety. Maintenance is the sole responsibility of the owner.

## Moving Your Machine

This machine is heavy and requires two people to safely move from one location to another. To move, have two people lift up the front end of the machine until the transport wheels are in contact with the ground. The machine can now be rolled on the transport wheels. Note: The transport wheels are intended for indoor use only and should never be rolled on concrete or asphalt surfaces.

# GETTING STARTED

## Receiving

When the carrier delivers your order, verify that the number of items received equals the number listed on the freight bill or express receipt.

Inspect the containers for damage. Itemize discrepancies and damage on the waybill and have the agent sign it. Failure to describe external evidence of loss adequately may result in the carrier refusing to honor your claim. Do not discard the packing materials until you have verified physical condition and proper operation.

## Installation Notice

The elliptical must be installed correctly before being used. Nautilus recommends that you contact your elliptical dealer or sales representative when your equipment arrives. The representative will help unpack, install, and demonstrate how to use the machine to ensure the following:

- Equipment is free from shipping damage
- Installation and operation are in accordance with Nautilus standards.

Incorrect installation by unauthorized personnel can lead to equipment damage and may void the warranty.



## Hardware Included

- (4) Screw, 3/8" - 16 x 3/4", Hex Head
- (4) Washer, 3/8" Split Lock
- (4) Washer, 3/8" Flat
- (22) Screw, #10-32 x 3/4", Pan Head with Lock Washer
- (2) Screw, 1/2"-13 x 4", Hex Head
- (4) Washer, 1/2" Flat
- (2) Nut, 1/2"-13, Self Locking
- (4) Screw, 1/4" x 3/4", Pan Head with Lock Washer

## Components included

- (1) Bottom Front Left Cover
- (1) Bottom Front Right Cover
- (2) Bottom Pivot Cover #1
- (2) Bottom Pivot Cover #2
- (2) Bottom Swing Arm Shaft
- (1) Elliptical Console

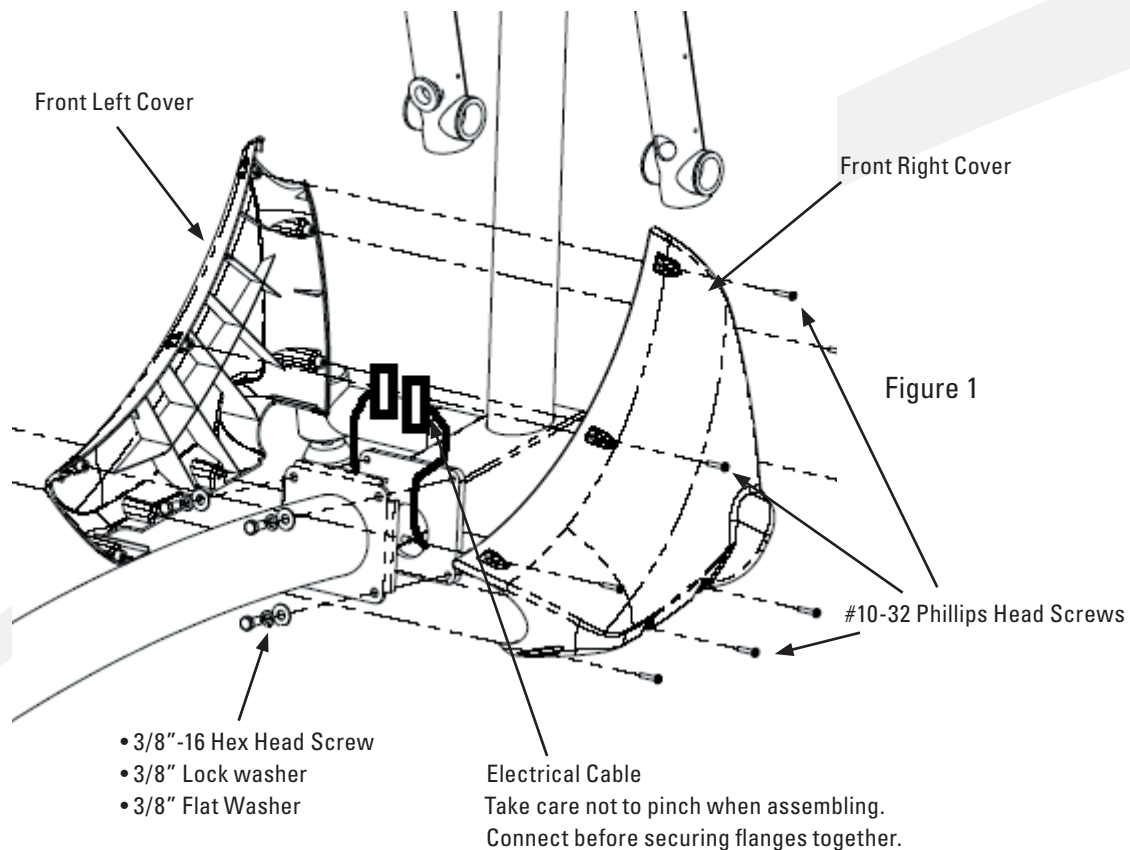
## Tools Required

- Shears or Razor Knife
- 9/16" Hex Socket Wrench
- 3/4" Hex Socket Wrench
- 3/8" Hex Socket Wrench
- #2 Phillips Screw Driver
- Torque Wrench (if available)

## Unpacking the Elliptical

1. Inspect the containers for damage. Itemize discrepancies and damage on the waybill and have the agent sign it. Failure to describe external evidence of loss or damage adequately may result in the carrier refusing to honor your claim.
2. Use shears or a razor knife to cut the straps that secure the elliptical cover to the pallet. Remove the cover.
3. Remove the packing materials from the machine.
4. Remove the parts box.
5. Unpack and detach the Bottom Front Cover, Front Pivot Covers, Elliptical Console, and hardware from the box.
6. Use shears or a razor knife to cut the straps that secure the elliptical machine to the pallet.
7. Use a 3/8" hex socket wrench to remove the two lag bolts at the rear of the pallet that hold the machine to the pallet.
8. Remove the packaging material from the elliptical machine mast assembly.

9. Rotate the elliptical mast into the proper position, **taking care not to pinch the electrical cable at the bottom in the process** (see Figure 1).
10. Connect the electrical cables coming out of the front bottom flange of the mast assembly to the electrical cables coming out of the front flange of the main frame center tube (see Figure 1). The color-coded cables snap together with basic male/female connectors for corresponding cable colors.
11. Install and tighten (4) 3/8"-16 hex head screws, (4) 3/8" flat washers, and (4) 3/8" lock washers into front bottom flange of the upright and the front flange of the main frame tube. Take care not to pinch the electrical cable during this process. This requires a 9/16" hex socket wrench.
12. Install the front left and right covers and align the holes at the side. (See Figure 1).
13. Secure the front bottom left and right covers with (10) #10-32 Phillips head screws. This will require a #2 Phillips head screw driver.





14. Install (1) Bottom Swing Arm Shaft into the swing arm and the install the foot support tube (see Figures 2 and 3).
15. Install and tighten (1) 1/2"-13 hex head screw, (2) 1/2" washers, and (1) 1/2"-13 nuts connecting the swing arm and the foot support tube (both left and right sides). This will require a 3/4" hex socket wrench. Install nuts toward middle of the machine as is shown in Figure 2. Torque bolts to 45 ft/lbs (if torque wrench is available).
16. Repeat steps 14 and 15 for the opposite foot support tube.

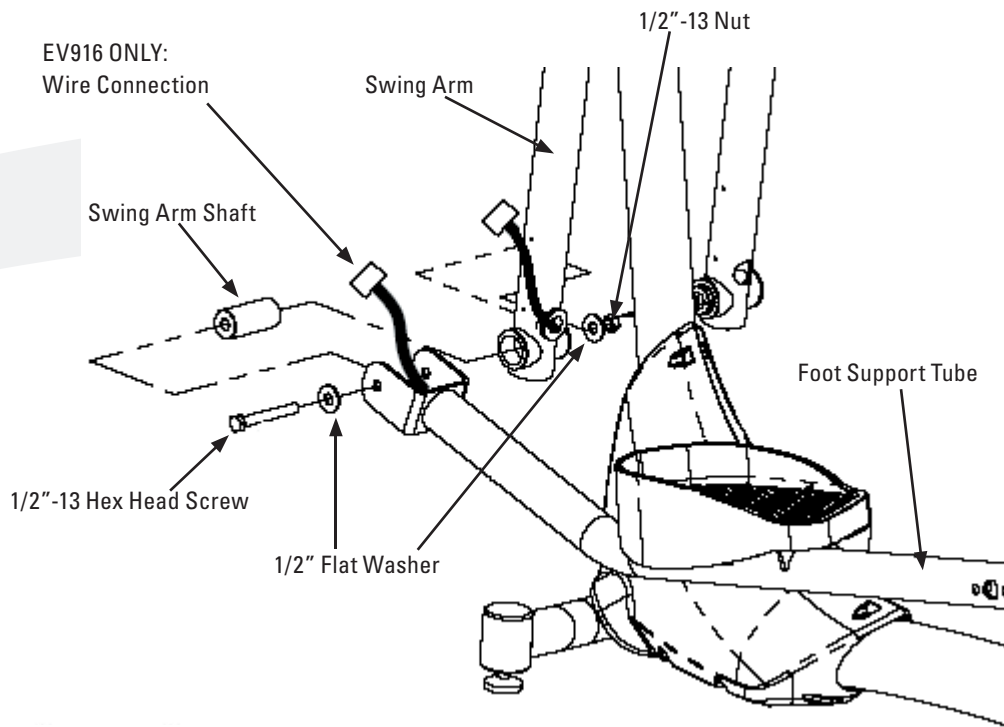


Figure 2

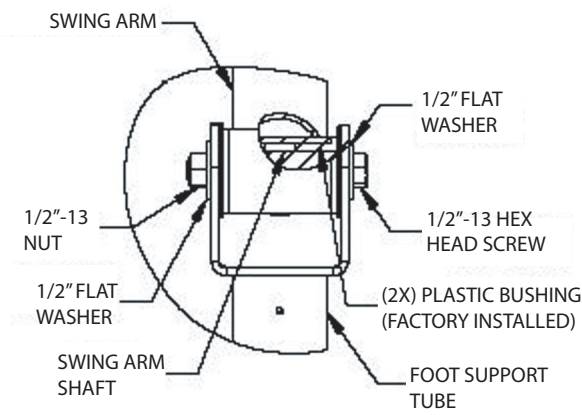


Figure 3

If you have an EV916 manufactured PRIOR to September 30, 2005, please follow steps 17-22 (for units manufactured AFTER September 30, 2005, please skip to step 19).

To determine the manufacturing date of your machine, refer to the 14-digit serial number:

**08000050926005**

1st 5 digits: Model Number (above example: Model #08000)

Next 6 digits: Year, Month, Day (above example, "050926) means September 26, 2005)

Last 3 digits: Number of units built this day (above example, 005 means this was the fifth unit built on September 26, 2005)

17. Remove the rubber grommets from the openings in the left Swing Arm and left Foot Support Tube. Slide the Grommets onto the Footlink Cable extruding from the Foot support Tube.
18. Using a 1 1/2" section of sheathed housing, make a loop in the sheathed portion of the footlink cable between the grommets and the end connector, and use a zip tie to secure the loop. See Figure 4.
19. Connect the swing arm cable to the footlink cable. You can remove the warning tag at this time.

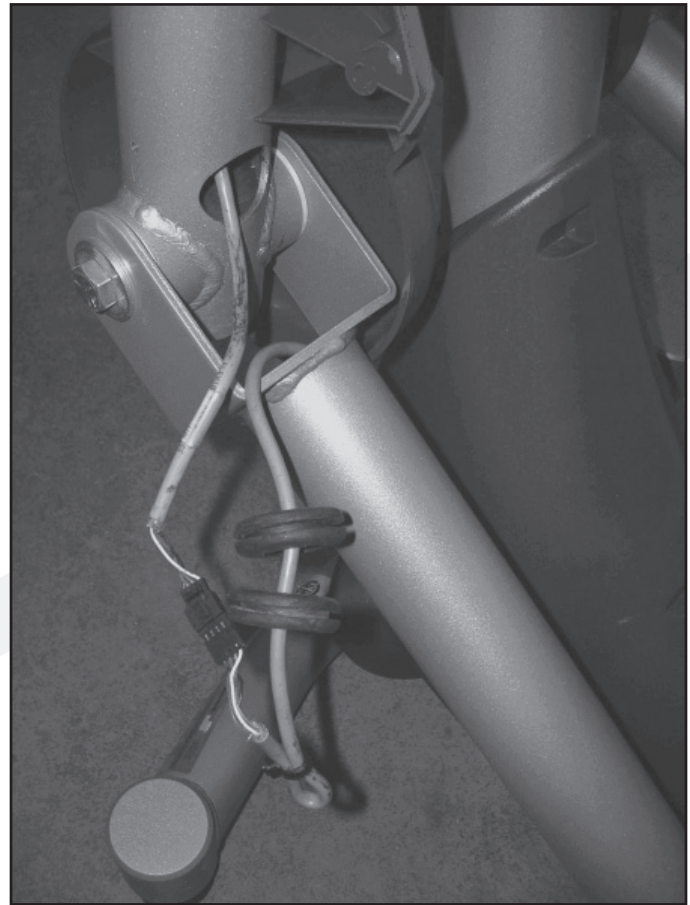


Figure 4

20. Carefully insert the connectors and zip tied loop into the swing arm tube's opening (see Figure 5).

**NOTE: If connectors are not inserted into the swing arm tube, they will be damaged during use!**

21. Install the swing arm rubber grommet, and insert any remaining slack cable into either tube.

22. Make sure that grommets are fully installed and that only the sheathed cable is exposed (see Figure 6).

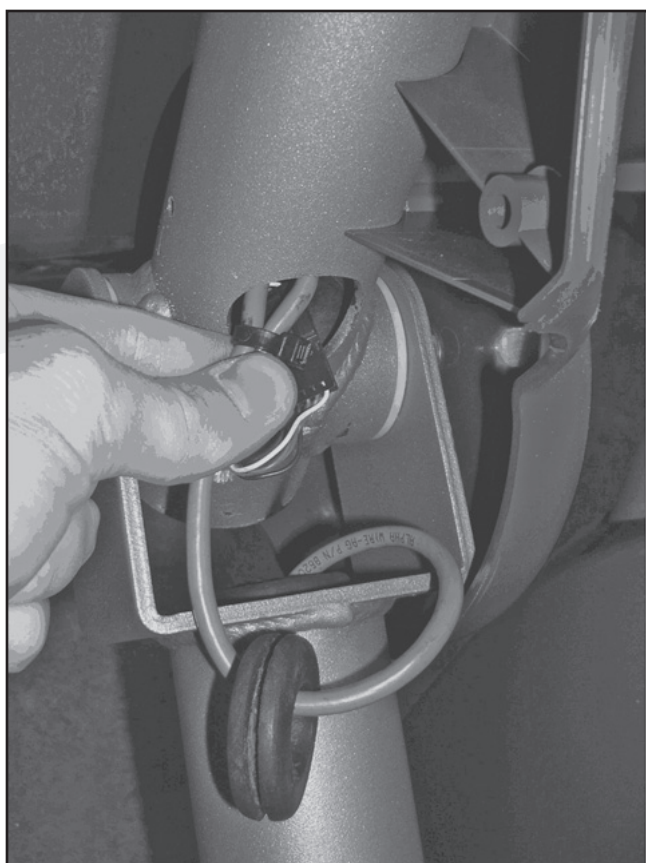


Figure 5

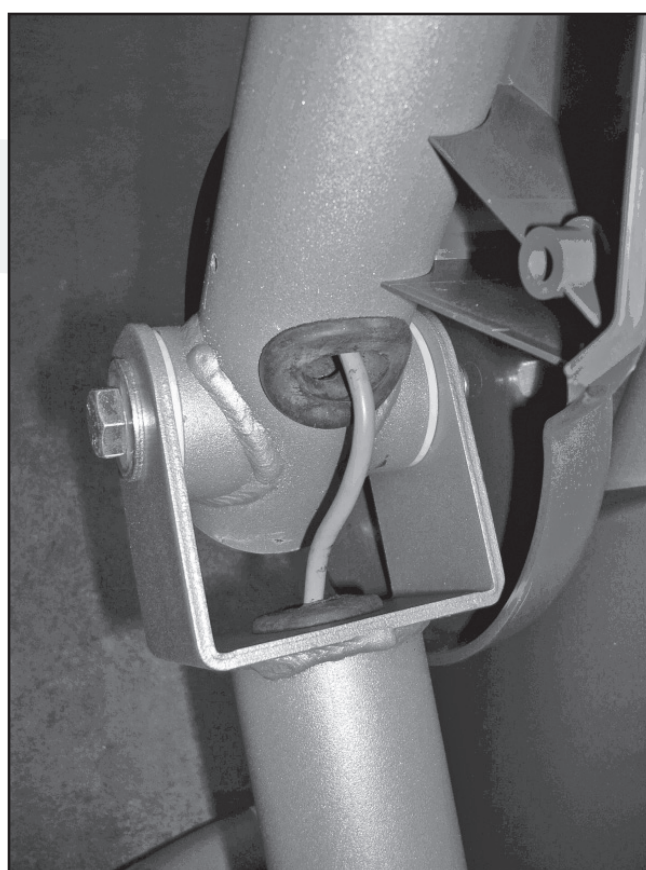


Figure 6

23. Install the (1) Bottom Pivot Cover #1 and (1) Bottom Pivot Cover #2 and align the holes at the sides of the swing arm tube (see Figure 7).

24. Install and tighten (5) #10-32 Phillips head screws. This requires a #2 Phillips head screwdriver.

25. Repeat steps 23 and 24 for the opposite swing arm tube.

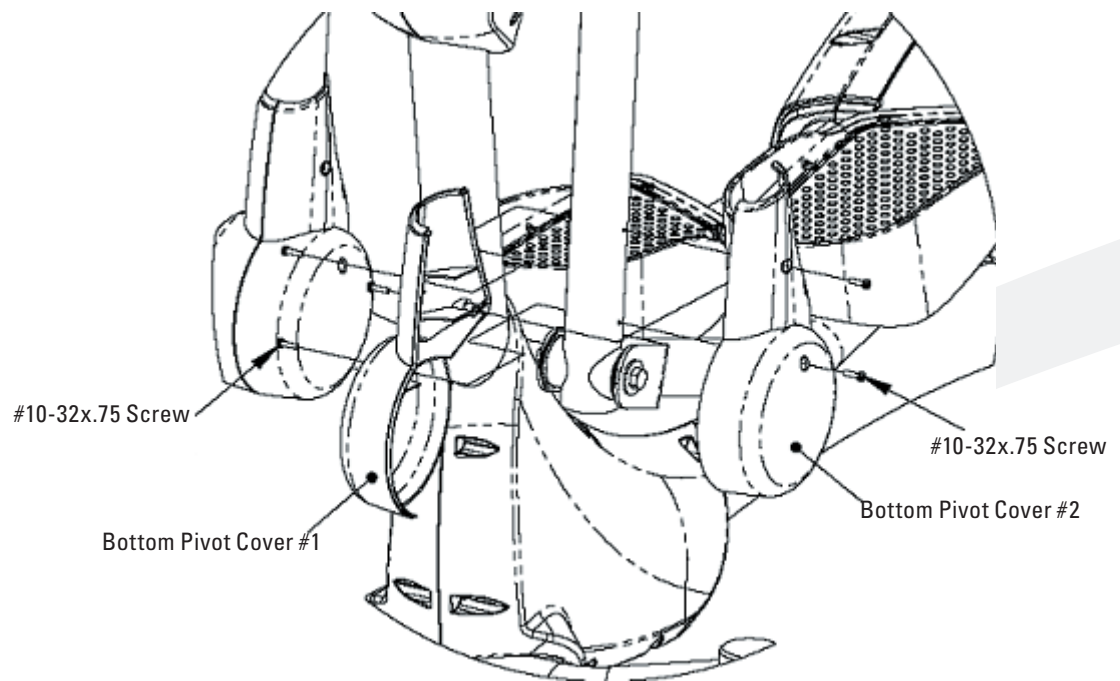


Figure 7

26. Position console so that the electrical cables can be connected. Use the correct cables with the proper connectors. See wiring diagram on next page.
27. Install the console and tighten (4) 1/4" Phillips head screws (see Figure 8). This requires a #2 Phillips head screwdriver.
28. The elliptical can now be removed from the pallet and is ready for use.

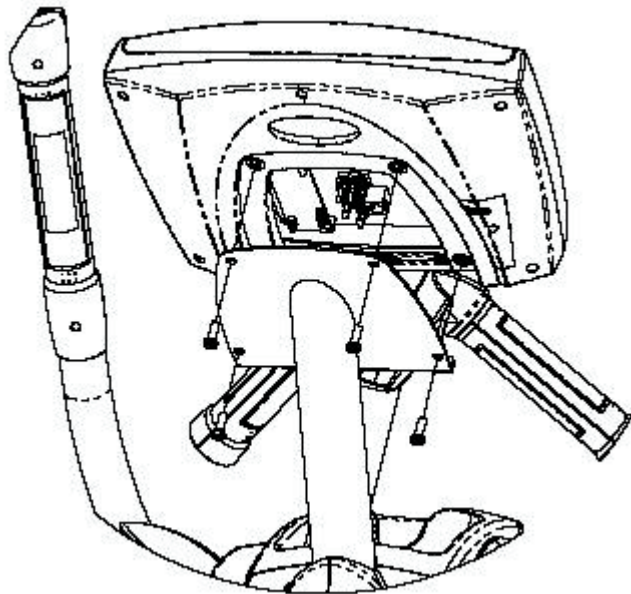
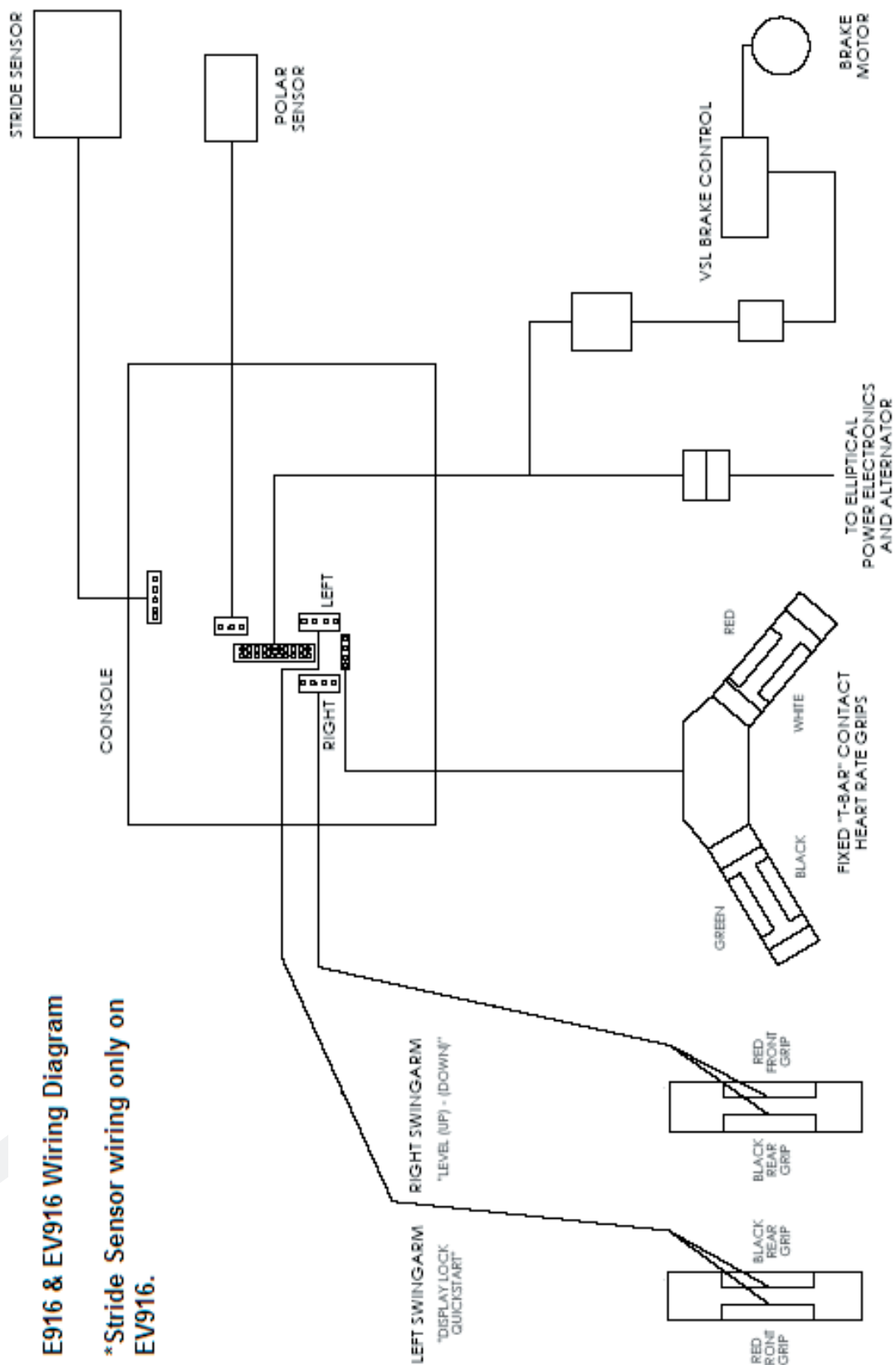


Figure 8

29. Ensure all console wiring is connected correctly, using the following wiring diagram.



**E916 & EV916 Wiring Diagram**

**\*Stride Sensor wiring only on EV916.**

If you need assistance, please have both the serial number of your machine and the date of purchase available when you contact the appropriate Nautilus office listed below.

## OFFICES IN THE UNITED STATES    INTERNATIONAL OFFICES

- **NAUTILUS INNOVATION CENTER**

Nautilus, Inc.  
1886 Prairie Way  
Louisville, Colorado, USA 80027  
Phone: 800-864-1270  
Fax: 800-898-9410

- **TECHNICAL/CUSTOMER SERVICE**

Nautilus, Inc.  
10757 East Ute Street  
Tulsa, Oklahoma, USA 74116  
Phone: 800-864-1270  
Fax: 800-764-7380  
E-mail: [customerservice@nautilus.com](mailto:customerservice@nautilus.com)

- **CORPORATE HEADQUARTERS**

Nautilus, Inc.  
World Headquarters  
16400 SE Nautilus Drive  
Vancouver, Washington, USA 98683  
Phone: 800-NAUTILUS

For technical assistance and a list of distributors in your area, please call or fax one of the following numbers.

- **INTERNATIONAL CUSTOMER SERVICE  
NORTH AMERICA OFFICE**

Nautilus, Inc.  
World Headquarters  
16400 SE Nautilus Drive  
Vancouver, Washington, USA 98683  
Phone: 800-864-1270  
Fax: 800-764-7380  
E-mail: [customerservice@nautilus.com](mailto:customerservice@nautilus.com)

- **GERMANY OFFICE**

Nautilus GmbH  
Tel: 02204 61027  
Fax: 02204 62890

- **ITALY OFFICE**

Nautilus Italy s.r.l.  
Tel: 031 51 10 86  
Fax: 031 34 24 97

- **SWISS OFFICE**

Nautilus International S.A.  
Rue Jean Prouvé 6  
1762 Givisiez / Switzerland  
Tel: + 41 26 460 77 77  
Fax: + 41 26 460 77 70

- **UNITED KINGDOM OFFICE**

Nautilus UK Ltd  
Tel: 01 908 267 345  
Fax: 01 908 267 346



**Model EV916**



**Model E916**



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Nautilus, Inc. World Headquarters, 16400 SE Nautilus Drive, Vancouver, WA 98683  
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EV916/E916 V.1-09/05  
P/N 40388A





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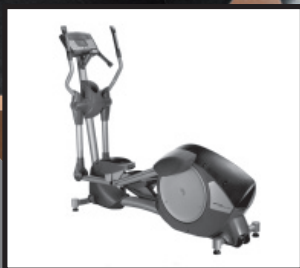
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Owner's Manual

# INTRODUCTION

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**Model EV916**



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## TABLE OF CONTENTS:

Safety Requirements >>>>>>>>>> 1	Heart Rate Zone Trainer Program >>>> 12	Nutrition >>>>>>>>>>>>>>>> 26
Getting Started >>>>>>>>>>>>> 2	More Workouts >>>>>>>>>>>>> 14	Determining Workout Intensity Levels 27
Guidelines for Getting On and Off the Elliptical >>>>>>>>>>>>>>>> 3	Nautilus Fit Test Program >>>>> 14	Console Codes >>>>>>>>>>>>>>> 31
Understanding the Display and Controls 4	Custom Intervals Program >>>>> 18	Default and Custom Codes >>>>>> 31
Elliptical Display Definitions >>>>> 4	Random Play Program >>>>>> 18	Machine Status Codes >>>>>>>> 32
Elliptical Display Functions >>>>>> 4	HR Intervals Program >>>>>>> 19	Diagnostic Codes >>>>>>>>>>>>> 33
Elliptical Key Functions >>>>>>>> 6	Workout Program Options >>>>>>> 20	Configuration Codes >>>>>>>>> 34
Workout Program Overview >>>>>>> 7	Heart Rate Monitoring >>>>>>>>> 22	Maintenance >>>>>>>>>>>>>>> 35
Workout Program Keypad >>>>>>> 7	Telemetry Heart Rate >>>>>>>>> 22	Checking the Battery Charger >>>> 36
Quick Start Program >>>>>>>>> 8	Maintaining the Transmitter Belt >>> 22	Recharging the Battery Backup >>>> 37
Manual Program >>>>>>>>>>>>> 8	Contact Heart Rate >>>>>>>>>>> 22	Battery Disposal >>>>>>>>>>>>> 37
Fat Burner Program >>>>>>>>>>> 9	Heart Rate Priority >>>>>>>>>>>>> 23	Warranty Information >>>>>>>>>>>>> 38
Calorie Burner Program >>>>>>> 10	Exercise & Fitness Guidelines >>>>> 24	Contacting Nautilus >>>>>>>>>>>>> 39
Intervals Program >>>>>>>>>>>> 11	Starting a Fitness Program >>>>>>> 24	
	Components of Fitness >>>>>>>>> 25	

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# GETTING STARTED

## Guidelines For Getting On and Off the Elliptical

**Instruct each user in the following guidelines for getting on and off the elliptical.**

1. Hold onto the handlebars and step up onto the pedals. Stand up straight. Begin striding slowly at a pace just fast enough to activate the console. You should see the "SELECT WORKOUT" message on the display.
2. Select the MANUAL exercise program so you can control the pace of your first workout and get used to the exercise motion. Press [MANUAL] and then press [ENTER].
3. The console will prompt you to enter your body weight. Enter your weight in pounds (or kilograms if the console is set to metric units). Correct entry errors by pressing [CLEAR] before you press [ENTER].
4. The console will prompt you to enter your intensity level. Enter your desired intensity level from 1 (very easy) to 20 (extremely hard). First time users may want to select a low intensity level, for example, level 3. Correct entry errors by pressing [CLEAR] before you press [ENTER].
5. The console will prompt you to enter the workout time in one-minute increments between 5 and 99 minutes. Press [1], [0], [ENTER] to exercise for ten minutes. After time is entered, the console will display "ENJOY WORKOUT" and your program will begin. If you do not start exercising within 30 seconds, the console will return to the start screen.
6. Begin striding at a comfortable, natural rate. Stand up straight and hold onto the static bars in front or the moving upper-body handles to the sides of the console. When you begin to exercise, the MANUAL program starts at the level you selected during data entry.
7. As you become comfortable with the exercise motion, press [LEVEL: ↑] and [LEVEL: ←] to adjust the resistance.
8. Relax and stand up straight while exercising. Use the handlebars for balance.
9. Before stepping off the elliptical, use the static bars for balance, wait until the pedals have stopped moving, then step off.



## UNDERSTANDING THE DISPLAY AND CONTROLS

The elliptical display is a computerized panel used to operate the elliptical and see all workout data and operational status. You should familiarize yourself with the operation of the elliptical and location of all keys before beginning use.

00:01  
00:02  
00:03  
00:04

### Understanding the Display and Controls

The machine's console is a computerized panel used to operate your elliptical trainer and to display all workout data. Take time to read through the following sections so that you can properly understand its operation and take full advantage of all of your machines workout options.



### Display Definitions and Functions

The following describes the display functions on the Commercial Series EV916 and E916 ellipticals.

**Time**—The selected workout time is displayed in the upper left section of the display window. In most of the workouts, the timer will count down, in minutes and seconds, until the workout is finished or stopped. If (0) is entered in the (MANUAL) or (HR ZONE TRAINER) workout, the timer will count up.

**Interval Timer**—The interval timer is displayed in the lower display, upper left corner. The interval timer counts down the remaining time within each interval.

**Resistance Level**—Displays the current intensity level between 1 (the easiest) and 20 (the hardest). Pressing the ↑ key increases the workload intensity and pressing the ← key decreases the workload intensity.

**Heart Rate**—Current heart rate is displayed next to the heart icon, in beats per minute.

**Percentage of Maximum Heart Rate**—An approximation of maximal heart rate is calculated based on the latest American College of Sports Medicine predictive equation as follows:

## UNDERSTANDING THE DISPLAY AND CONTROLS



### WARNING!

**User should consult a physician to determine an appropriate target heart rate in which to exercise in based on age, weight and physical condition. While Nautilus provides some target heart rate ranges, these are only approximations and should not be viewed as a medical recommendation.**

**Max Heart Rate =  $215 - (\text{Age} * .75)$**  . Percentage of maximum heart rate will only be shown in HRC programs.

**Example:** For a person 40 years of age, max HR is estimated as  $(215 - (40 (\text{age}) * .75) = 185$  . 185 beats per minute would be the approximate maximum heart rate for a 40-year-old user. If the user works out at 140 beats per minute, then 76% ( $140 / 185 = 76\%$ ) will be displayed in the upper left corner of the lower display area. This means that the 40 year old user working at 140 beats per minute is at 76% of their maximum heart rate.

**(See the Heart Training programs for more information.)**

**Distance**— Provides a cumulative total of the equivalent distance, in miles (or kilometers if your display is set to metric units), you have traveled.

**Calories**— Provides a current total of the number of Calories burned during a workout. Note: this number is only an approximation as a user's caloric expenditure will vary significantly based on a person's age, gender, weight and metabolism.

**Calories/Hour**— Provides the rate at which calories are burned per hour at the current resistance level and stride rate.

**Strides Per Minute**— Provides the rate of your strides, or how fast your legs are moving. The

higher your strides per minute, the faster you would be traveling. Monitoring this number can help you maintain a constant stride rate for the entire workout. Maintaining a constant stride rate and increasing the intensity Level will result in you doing more work and burning more calories. Or, if you increase your stride rate and maintain the same intensity Level, you will also be doing more work and burning more calories. Vary your strides per minute and/or intensity Level to provide variety in your workout.

**Stride Length (EV916 only)**—the EV916 features patented dynamic variable stride length technology. That means you can vary your stride length up to 30" in length. This is done automatically without electronic controls. As you stride faster, your stride length will get longer. Stride length tells you the length of your stride in inches (or cms if the display is set to Metric units).

**Watts**—During a workout, this statistic displays the power output at the current stride rate and intensity Level, displayed in watts (746 watts = 1 hp).

**METs**—Gives you the relative energy cost of exercise. MET stands for multiple of the resting metabolic rate. While you are sitting quietly, your body consumes oxygen at the rate of 1 MET or about 3.5 milliliters per kilogram of body mass per minute. When you exercise, your body needs more oxygen in order to function. For example, exercising at 10 METs requires ten times the resting rate of oxygen consumption, or about 35 milliliters per kilogram per minute. During a workout, the display shows the current MET level. During the workout summary, the average MET level is displayed. During your workout, keeping track of the METs will show you how hard you are working—the higher the MET level, the harder you are working.

**Workout Profile**—The dot-matrix area of the display shows the actual course profile of the selected exercise program. The taller the column, the higher the resistance level and/or METs for that interval. The flashing column shows your current interval.



## KEY FUNCTIONS

### Remote Operation Control™ (ROC™)

The Remote Operation Control™ features are located on the upper-body arms above the contact heart rate grips. The elliptical can be controlled from these keypads. The ROC™ keypad on the left upper-body arm includes a Quick Start key and a Display LOCK/UNLOCK key. The ROC™ keypad on the right upper-body arm includes the Level UP and DOWN keys. These keys work exactly the same as the keys on the console.



### Display LOCK / UNLOCK—Statistics Key

During the exercise program, the Display LOCK / UNLOCK key is used to track workout statistics which are shown in the text line of the display window. When a workout is started, the display is in an unlocked mode and the various exercise statistics will scroll in order. Press the [DISPLAY] key once to turn off the scan feature and show the current statistic in the display window. Press the [DISPLAY] key a second time and the scan feature will turn back on to scroll through the different statistics.

When in the Display Unlock mode, the console will cycle through the following statistics in order: Distance, Calories/Hour, Stride Rate, Level, Watts, METs, Target Heart Rate.

At the completion of a workout, the statistic averages are calculated based on the accumulation of data

during the workout program.

**Quick Start Key**—The Quick Start Key provides an immediate start to a workout session without having to provide any user information.

**Level (Intensity) UP & DOWN Keys**—The exercise intensity level may be changed at any time during a workout between Level 1 (the easiest) and Level 20 (the hardest). Pressing the ↑ key increases the workload intensity and pressing the ← key decreases the workload intensity. After the first press of a Level key, the text line will show the target level. Further presses will increase or decrease the Level.

**Stop Key**—Press the STOP Key any time you want to pause the workout program for up to one minute. Press the STOP Key a second time, or press (1), and the workout statistics will be displayed, then the console will return to the “SELECT WORKOUT” prompt.

**Numeric Keypad (0-9)**—The numeric keypad is located on the right side of the console. During program setup, this keypad allows you to quickly enter requested information such as time, age, intensity Level, weight and heart rate.

- **Enter**—The ENTER Key confirms workout selections and stores the information used by the console to calculate workout statistics.
- **Clear**—During data entry, the CLEAR Key erases information from the console memory and backs up to the previous data entry prompt. Workout Program Keypad



## WORKOUT PROGRAM OVERVIEW

The Commercial Series EV916 and E916 ellipticals have a wide variety of programming options with a great amount of flexibility to allow anyone of any fitness level to use.



### Workout Program Keypad

The workout program keypad is located to the left of the display. There are six workout program keys, including a More Workouts key with multiple advanced program options.

While the console is in the “SELECT WORKOUT” mode, press one of the exercise program keys to preview the desired workout. After selecting the desired workout, simply follow the prompts to enter the required user data for that program.

When entering data, the user can select the standard default values by pressing [ENTER] at the display prompt without first typing data. This will set up the console with the following default data:

- **Weight**—175 lbs.
- **Intensity Level**—3
- **Age (HR Zone Trainer program only)**—40 years

- **Workout Time**—The default time in the programmed workouts and Quick Start is 20 minutes. The Manual and HR Zone Trainer programs do not have a specified default time. In this program, the console timer will count up to the maximum time of 99 minutes.

Once you have selected a program, follow the console prompts.

- **“ENTER BODY WEIGHT”**—type in your body weight in pounds (or kilograms if your console is set to metric units).
- **“ENTER LEVEL”**—type in your desired intensity level. The elliptical has 20 intensity levels (1 to 20).
- **“ENTER TIME 5 - 99”**—select the workout duration in one minute increments from five to 99.

### ☀ CALORIES BURNED ☀

Your weight, stride rate, and intensity level are used to calculate the number of calories burned for each minute of exercise and the total number of calories burned for the exercise session.

## The Quick Start Program

Provides an immediate start, without having to enter any user information. This program uses the standard default settings to calculate calories burned during a workout session.

### To use the Quick Start program:

1. Press the [QUICK START] key. A message, "ENJOY WORKOUT" is displayed, the workout begins with exercise statistics accumulating.

2. During the workout:

The intensity level may be changed at any time during the workout by pressing the [Level: UP] key to increase the resistance, or the [Level: DOWN] key to decrease the resistance. Any changes to the intensity level will be displayed in the current flashing column. The new intensity level will continue through the rest of the workout until changed using the Level keys.

3. Press [STOP] to pause the workout. Press [STOP] again to end the workout. The workout statistics will be displayed, and then the console will revert back to the "SELECT WORKOUT" message.

## The Manual Program

Allows you to control the intensity level of the elliptical during the workout, while accurately calculating exercise statistics based on your weight. The default intensity level is 3 unless changed during the data entry mode. The workout profile in the display window is divided into 30 equal intervals within the selected workout time. The profile is based on the MET level, with every 1 MET equating to one vertical bar. MET level is based on a combination of intensity level and stride rate.

### To use the Manual program:

1. Press the [MANUAL] key. The message, "MANUAL WORKOUT" will be displayed in the text line and the workout profile displayed in the lower display.
2. The console will display "ENTER WEIGHT - LBS" (or "ENTER WEIGHT - KG" if in Metric mode). Enter your weight using the numeric keypad and press [ENTER]. Or, press [ENTER] to accept the default value.
3. The console will display "ENTER LEVEL 1 - 20". Enter the desired intensity level using the numeric keypad and press [ENTER]. Or, press [ENTER] to accept the default value.
4. Next, the console will display "ENTER TIME 5 - 99". Enter the desired time and press [ENTER]. Or, press [ENTER] to select the default time.  
If you press [0], then the timer will count-up from 0:00 to the maximum time of 99:00.
5. The console will display "ENJOY WORKOUT" and the timer will begin.

The intensity level may be changed at any time during the workout by pressing the [Level: UP] key to increase the resistance, or the [Level: DOWN] key to decrease the resistance. Any changes to

# FAT BURNER PROGRAM

the intensity level will be displayed in the current flashing column. The new intensity level will continue through the rest of the workout until changed using the Level keys.

6. Press [STOP] to end the workout. The workout statistics will be displayed, and then the console will revert back to the "SELECT WORKOUT" message.

## ☀ CALORIES BURNED ☀

Your weight, stride rate, and intensity level are used to calculate the number of calories burned for each minute of exercise and the total number of calories burned for the exercise session.

## The Fat Burner Program

A 30 interval workout designed with moderate changes in intensity level designed to stimulate fat store assimilation for users on a weight control program. The profile in the center display indicates relative intensity. Any changes to the intensity level will not change the look of the remaining profile; however, the new intensity level will continue through the rest of the workout.

### To use the Fat Burner program:

1. Press the [FAT BURNER] key. The message, "FAT BURNER", will be displayed on the text line with the workout profile displayed in the lower display.
2. The console will display "ENTER WEIGHT - LBS" (or "ENTER WEIGHT - KG" if in Metric mode). Enter your weight using the numeric keypad and press [ENTER]. Or, press [ENTER] to accept the default value.
3. The console will display "ENTER LEVEL 1 - 20". Enter the desired intensity level using the numeric

keypad and press [ENTER]. Or, press [ENTER] to accept the default value.

4. Next, the console will display "ENTER TIME 5 - 99". Enter the desired time and press [ENTER]. Or, press [ENTER] to select the default time.
5. The console will display "ENJOY WORKOUT" and the timer will begin.

The intensity level may be changed at any time during the workout by pressing the [Level: UP] key to increase the resistance, or the [Level: DOWN] key to decrease the resistance. Any changes to the intensity level will be displayed in the current flashing column. The new intensity level will continue through the rest of the workout until changed using the Level keys.

6. Press [STOP] to end the workout. The workout statistics will be displayed, and then the console will revert back to the "SELECT WORKOUT" message.

## CALORIE BURNER PROGRAM

### The Calorie Burner Program

A 30 interval workout designed for users wanting to increase their aerobic capacity. The changes of the intensity in the program are greater than the changes in the Fat Burner program, and are designed specifically to tax the cardiorespiratory system. The profile in the center display indicates relative intensity. Any changes to the intensity level will not change the look of the remaining profile; however, the new intensity level will continue through the rest of the workout.

#### To use the Calorie Burner program:

1. Press the [CALORIE BURNER] key. The message, "CALORIE BURNER", will be displayed on the text line with the workout profile displayed in the lower display.
2. The console will display "ENTER WEIGHT - LBS" (or "ENTER WEIGHT - KG" if in Metric mode). Enter your weight using the numeric keypad and press [ENTER]. Or, press [ENTER] to accept the default value.
3. The console will display "ENTER LEVEL 1 - 20". Enter the desired intensity level using the numeric keypad and press [ENTER]. Or, press [ENTER] to accept the default value.
4. Next, the console will display "ENTER TIME 5 - 99". Enter the desired time and press [ENTER]. Or, press [ENTER] to select the default time.
5. The console will display "ENJOY WORKOUT" and the timer will begin.

The intensity level may be changed at any time during the workout by pressing the [Level: UP] key to increase the resistance, or the [Level: DOWN] key to decrease the resistance. Any changes to the intensity level will be displayed in the current

flashing column. The new intensity level will continue through the rest of the workout until changed using the Level keys.

6. Press [STOP] to end the workout. The workout statistics will be displayed, and then the console will revert back to the "SELECT WORKOUT" message.

### ☀ CALORIES BURNED ☀

Your weight, stride rate, and intensity level are used to calculate the number of calories burned for each minute of exercise and the total number of calories burned for the exercise session.

### The Intervals Program

An interval workout containing 8 alternating rest intervals with 7 exercise intervals. An interval cycle consists of a work phase and a rest phase. You may scale the rest intensity level and the work intensity level independently - which will be saved for the remainder of the workout.

#### To use the Intervals program:

1. Press the [INTERVALS] key. The message, "INTERVALS", will be displayed on the text line with the workout profile displayed in the lower display.
2. The console will display "ENTER WEIGHT - LBS" (or "ENTER WEIGHT - KG" if in Metric mode). Enter your weight using the numeric keypad and press [ENTER]. Or, press [ENTER] to accept the default value.
3. The console will display "ENTER WORK LEVEL". Enter the desired work intensity level using the numeric keypad and press [ENTER]. Or, press [ENTER] to accept the default value.

# INTERVALS PROGRAM

4. The console will display "ENTER REST LEVEL". Enter the desired rest intensity level using the numeric keypad and press (ENTER). Or, press (ENTER) to accept the default value.
5. Next, the console will display "ENTER TIME 5 – 99". Enter the desired time and press [ENTER]. Or, press [ENTER] to select the default time.

6. The console will display "ENJOY WORKOUT" and the timer will begin.

The intensity level may be changed at any time during the workout by pressing the [Level: UP] key to increase the resistance, or the [Level: DOWN] key to decrease the resistance. Any changes to the intensity level will only change the level in the current rest or work phase.

To change the intensity level of the work phase, you must change the intensity level during a work phase. To change the intensity level of the rest phase, you must change the intensity level during a rest phase. Changing the intensity level will not change the look of the remaining profile; however, the new intensity level will continue through the rest of the workout.

7. Press [STOP] to end the workout. The workout statistics will be displayed, and then the console will revert back to the "SELECT WORKOUT" message.

## ▲ INTENSITY CONTROL ▼

The intensity level may be changed at any time during the workout by pressing the [Level: UP] key to increase the resistance, or the [Level: DOWN] key to decrease the resistance. Any changes to the intensity level will only change the level in the current rest or work phase.

To change the intensity level of the work phase, you must change the intensity level during a work phase. To change the intensity level of the rest phase, you must change the intensity level during a rest phase. Changing the intensity level will not change the look of the remaining profile; however, the new intensity level will continue through the rest of the workout.



## WARNING!

**User should consult a physician to determine an appropriate target heart rate in which to exercise in based on age, weight and physical condition. While Nautilus provides some target heart rate ranges, these are only approximations and should not be viewed as a medical recommendation.**

### Heart Rate Zone Trainer Program

Allows you to exercise at a selected target heart rate by automatically varying the intensity level (resistance) during the workout. The default target heart rate is equal to 70% of your maximum heart rate which is calculated by the following equation:  $\text{Max HR} = 215 - (.75 * \text{Age})$ .  $\text{Target HR} = \text{Max HR} * .7$ . To choose a different target heart rate (between 100 and 180 beats per minute) at any time during the workout, use the numeric keypad to enter the new target heart rate, followed by the [ENTER] key.

#### To use the HR Zone Trainer program:

1. For best results, use a telemetry heart rate chest belt. However, you can also use the contact HR grips located just below the console or on the upper-body moving arms to the sides of the console.

If you are using the telemetry HR method, put the chest strap on. Remember to wet the electrodes underneath the chest strap. The console must detect a heart rate signal to allow selection of the HR Zone Trainer program.

If you will be using contact HR, then place your hands on the contact HR grips below the console.

2. Press the [HR ZONE TRAINER] key. The message, "HR ZONE TRAINER", will be displayed on the text line with the workout profile in the lower display.
3. The console will display "ENTER WEIGHT - LBS" (or "ENTER WEIGHT - KG" if in Metric mode). Enter your weight using the numeric keypad and press [ENTER]. Or, press [ENTER] to accept the default value.
4. The console will display "ENTER AGE 10 -99." Enter your age using the numeric keypad and press [ENTER]. Or, press [ENTER] to accept the default value of 40 years old.
5. The console will display "TARGET HR." A suggested target heart rate will be displayed, based on your age. Press [ENTER] to accept the calculated target heart rate, or enter a different target heart rate using the numeric keypad and then press [ENTER]. Or, press [ENTER] to accept the default value.
7. The console will display "ENTER TIME 5-99." Enter the desired time and press [ENTER]. Or, press [ENTER] to accept the default value.
8. The console will display "ENJOY WORKOUT" and the timer will begin.
9. Press [STOP] to end the workout. The workout statistics will be displayed, and then the console will revert back to the "SELECT WORKOUT" message.

# HEART RATE ZONE TRAINER PROGRAM

The following messages may be displayed during a workout:

<b>CHECK HR BELT</b>	Indicates that the telemetry heart rate signal has been missing for the last 30 seconds.
<b>HOLD HR SENSORS</b>	Indicates that the contact heart rate signal has been missing for the last 30 seconds.
<b>HR BELT NEEDED</b>	No telemetry belt signal has been sensed during the initial setup time.
<b>HR MODE DISABLED</b>	No heart rate signal is allowed due to the set up option that was chosen. Heart rate monitoring is not possible. To change HR option, refer to the HR Priority section of this manual.

## ⚙️ TARGET HEART RATE ⚙️

The target heart rate selected by the console is based on age, and is equal to 70% of your maximum heart rate which is calculated by the following equation:  $\text{Max HR} = 215 - (.75 * \text{Age})$ .  $\text{Target HR} = \text{Max HR} * .7$ . If desired, change the target heart rate at this point by using the numeric keypad to enter the new target heart rate, and then press [ENTER].

During a workout, change to a new target heart rate that is between 100 and 180 beats per minute at any time by using the numeric keypad to enter the new target heart rate, and then pressing (ENTER). The intensity level will change automatically to achieve the new target heart rate.

## ⚙️ CALORIES BURNED ⚙️

Your weight, stride rate, and intensity level are used to calculate the number of calories burned for each minute of exercise and the total number of calories burned for the exercise session.

## More Workouts

**Press the More Workouts key for several advanced program options outlined below. Press the LEVEL UP or DOWN keys to scroll through the MORE WORKOUTS program options. Press ENTER when desired program is displayed.**

## The Nautilus® Fit Test Program

### Understanding Sub-maximal Exercise Testing

Before using the Nautilus® EV916 or E916 for sub-maximal exercise testing, it should be noted that all sub-maximal tests make several assumptions:

- That a steady-state heart rate is obtained for each exercise workload.
- That a linear relationship exists between heart rate, oxygen uptake and workload.
- That the maximal heart rate for a given age is uniform.
- That the mechanical efficiency of the physical activity performed (i.e., oxygen uptake at a given workload) is the same for everyone.

It should be kept in mind that any one or all of the above mentioned assumptions may not be met during a sub-maximal exercise test. If for any reason one of the assumptions is not met, then errors in predicting  $VO_{2\max}$  will occur.

Unfortunately, it is often quite difficult to meet all of the requirements for the four listed assumptions. For example, exercising at a given workload for only a few minutes can involve an insufficient amount of time for many individuals to achieve a true steady-state. To ensure that a steady-state has been achieved, the

heart rate should be measured after two minutes of exercise at a given workload and again after the third minute of exercise at that workload. These two heart rates should then be compared. If a difference of more than five beats per minute between the two is found, the subject should continue to exercise at one-minute intervals at the same workload until two successive heart rates differ by less than five beats per minute.

It is also important that the sub-maximal heart rates obtained be between 115 and 150 beats per minute, because it is within this heart rate range that a linear relationship tends to exist between heart rate and oxygen uptake or workload for most adults. When the heart rate is less than 115, many external factors (e.g., talking, laughing, apprehension, etc.) can greatly influence heart rate. Once the heart rate reaches a level between 115 and 150, external factors no longer influence heart rate, and a linear relationship exists. As the heart rate rises above 150, the heart-rate/oxygen uptake relationship becomes curvilinear.

The third assumption involves maximal heart rate. Maximal heart rate is the greatest heart rate that can be measured when an individual is exercising to the point of volitional fatigue (i.e., exhaustion) during a graded exercise test. The EV9 16 and E9 16 ellipticals use the most current published equation developed to estimate the average maximal heart rate as follows:

$$\text{Maximal heart rate} = 215 \text{ minus } (0.75 \times \text{age})$$

Maximal heart rate can, however, vary greatly among different individuals of the same age. One standard deviation is  $\pm 12$  bpm, which means that two-thirds of the population varies an average of plus or minus 12 heart beats from the average given by a prediction equation. If an individual's age-predicted maximal heart rate is higher than that person's true maximal heart rate, then his/her estimated  $VO_{2\max}$  will be an overestimation of the correct or actual value.



# THE NAUTILUS FIT TEST PROGRAM

The final assumption addresses the issue of mechanical efficiency. Oxygen uptake at any given work rate can vary by approximately 15% between different individuals. Therefore, individuals vary in the amount of oxygen they require to perform a certain exercise workload. Some individuals are more efficient at performing a given task than others. As a result, the average oxygen consumption associated with a given workload may vary significantly from one person to another. Thus,  $VO_{2max}$  predicted by sub-maximal exercise tests tends to be overestimated for those who are mechanically efficient and underestimated for those who are inefficient.

The point to remember is that sub-maximal exercise testing, though not as precise as maximal exercise testing, is not without advantages. For example, the results of such testing can provide a fairly accurate reflection of an individual's fitness status without the cost, risk, effort (on the part of the subject) and time involved in max testing. If an individual is given repeated sub-maximal exercise tests and that person's heart rate response to a fixed workload is found to decrease over time, it is reasonably safe to conclude that the individual has made improvements in aerobic (cardiorespiratory) fitness, irrespective of the accuracy of the  $VO_{2max}$  prediction.

## Pretest Screening

Prior to any exercise test (maximal or sub-maximal), participants should complete a brief health/medical questionnaire, have their resting blood pressure and heart rate measured, and provide an informed consent form. The Physical Activity Readiness Questionnaire (PAR-Q) is an example of a valid health/medical questionnaire for screening individuals prior to sub-maximal exercise testing. Canadian health and fitness practitioners have extensively (and quite successfully) used the PAR-Q to determine whether individuals should be given an exercise test. A "yes" answer to any of the following seven questions

taken from the PAR-Q would disqualify a participant from taking part in an exercise test until appropriate medical clearance was obtained.

## Physical Activity Readiness Questionnaire (PAR-Q)

1. Has your doctor ever said you have a heart condition and recommended only medically supervised physical activity?
2. Do you have chest pain brought on by physical activity?
3. Have you developed chest pain within the past month?
4. Do you tend to lose consciousness or fall over as a result of dizziness?
5. Do you have a bone or joint problem that could be aggravated by the proposed physical activity?
6. Has a doctor ever recommended medication for your blood pressure or a heart condition?
7. Are you aware, through your own experience or a doctor's advice, of any other physical reason against your exercising without medical supervision?

## Nautilus® Sub-maximal Fit Test

The Nautilus® Fit Test is a program that estimates maximal aerobic capacity based on heart-rate response to sub-maximal exercise.

The Nautilus® branching protocol is a series of 3-minute stages of continuous exercise at increasing intensity. The first stage is a warm-up at approximately 4 METs. The intensity of the remaining stages is based on the heart rate response to the warm-up. The test is designed to raise the steady state heart rate of the subject to at least



## THE NAUTILUS FIT TEST PROGRAM

115 beats/minute. It is important to remember that two consecutive heart rate measurements must be obtained above 115 beats/minute to predict  $VO_{2max}$ . The test typically lasts from 6 to 15 minutes. The test will terminate if the heart rate does not continue to rise from state to stage.

In the Nautilus® protocol, each work rate is performed for 3 minutes, with heart rates recorded during the final 4 seconds of the second and third minutes of each stage. If the heart rates are within 5 beats/min, then the heart rate during the last minute is plotted against the work rate, and the program advances to the next 3-minute stage. The program continues for two to four stages until two steady state heart rates above 115 beats/min are obtained in two consecutive stages. The line generated from the plotted points is then extended to the age-predicted maximal heart rate. A corresponding maximal work rate and  $VO_{2max}$  can then be calculated.

At the end of the 3rd minute of each stage, if the heart rates at the end of the 2nd and 3rd minute are not within 5 beats/min of each other, then that work rate is maintained for an additional minute. At the end of the 4th minute, the heart rate is compared to the heart rate at the end of the 3rd minute. If the heart rates are within 5 beats/min, then the heart rate during the 4th minute is plotted against the work rate. If the heart rate at the end of the 3rd and 4th minute are not within 5 beats/min, then the work rate is maintained for one more additional minute. If the heart rate at the end of the 4th and 5th minutes are within 5 beats/min, then the heart rate at the end of the 5th minute is plotted against the work rate. If the heart rate at the end of the 4th and 5th minutes are not within 5 beats/min, then the test failed.

Once two consecutive heart rate measurements are obtained above 115 beats/min range, then the test ends successfully and the results are displayed. Estimated maximum aerobic capacity is shown in ml/kg/min and METs. Next, the results are compared to normative values for others of the same age range and gender.

### To use the Fitness Test program:

1. Put the chest strap on. Remember to wet underneath the chest strap, over the electrodes.
2. Press the [MORE WORKOUTS] key. Then use the Level UP or DOWN keys to scroll through the program options. When the console displays "NAUTILUS FIT TEST", press [ENTER] to select.
3. The console will then display "ENTER WEIGHT – LBS" (or "ENTER WEIGHT – KG" if in Metric mode). Enter your weight using the numeric key keypad.
4. The console will display "ENTER AGE 10–99." Enter your age using the numeric keypad.
5. The console will display "ENTER GENDER / 1 – MALE / 2 – FEMALE. Enter your gender code using the numeric keypad.
6. The console will display "BEGIN FIT TEST". Follow the onscreen prompts. The following messages may be displayed during a fitness test:

**"CHECK HR BELT"**—Indicates that the heart rate signal has been missing for the last 30 seconds.

**"INCREASE TO 90"**—Indicates that your stride rate is below 75 strides per minute. For the Fit Test, stride rate should be held constant at 90 strides per minute.

# THE NAUTILUS FIT TEST PROGRAM

**“DECREASE TO 90”**—Indicates that your stride rate is above 105 strides per minute.

7. The test will be terminated early, and the messages “TEST TERMINATED / TRY AGAIN LATER” will be displayed if:

- The user stops exercising at any point during the test.
- The [STOP] key is pressed.
- The heart rate response to each work level is the same or less than the previous work level.
- The heart rate never reaches 115 beats/minute.
- The heart rate continues to rise after the fifth minute.

8. The test is complete when two consecutive steady-state heart rates are obtained above 115 beats/minute. The test can be as short as 6 minutes, or as long as 15 minutes.

No cool down is done at the end of the test.

9. The estimated maximal aerobic capacity is displayed in METs, and VO<sub>2</sub>max. The results are compared to normative values of the same age and gender<sup>1</sup> (see below), and given a fitness rating of “Low”, “Fair”, “Average”, “Good”, or “High.”

## Fitness Rating Norms (VO<sub>2</sub>max)

	AGE	20 – 29	30 – 39	40 – 49	50 – 59	60 +
<b>Men</b>	High	51.4 +	50.4 +	48.2 +	45.3 +	42.5 +
	Good	51.3 – 46.8	50.3 – 44.6	48.1 – 41.8	45.2 – 38.5	42.4 – 35.3
	Average	46.7 – 42.5	44.5 – 41.0	41.7 – 38.1	38.4 – 35.2	35.2 – 31.8
	Fair	42.4 – 39.5	40.9 – 37.4	38.0 – 35.1	35.1 – 32.3	31.7 – 28.7
	Low	39.4 or less	37.3 or less	35.0 or less	32.2 or less	28.6 or less
<b>Women</b>	High	44.2 +	41.0 +	39.5 +	35.2 +	35.2 +
	Good	44.1 – 38.1	40.9 – 36.7	39.4 – 33.8	35.1 – 30.9	35.1 – 29.4
	Average	38.0 – 35.2	36.6 – 33.8	33.7 – 30.9	30.8 – 28.2	29.3 – 25.8
	Fair	35.1 – 32.3	33.7 – 30.5	30.8 – 28.3	28.1 – 25.5	25.7 – 23.8
	Low	32.2 or less	30.4 or less	28.2 or less	25.4 or less	23.7 or less

<sup>1</sup> The American College of Sports Medicine, Guidelines for Exercise Testing and Prescription, 6th Edition, Lippincott Williams & Wilkins, Philadelphia, PA, 2000, p. 77.



## CUSTOM INTERVALS & RANDOM PLAY PROGRAMS

### Custom Intervals Workout

Users can create a custom interval program by entering Rest Level and Time, Work Level and Time, and total # of intervals.

#### To use the Custom Intervals Workout:

1. Press the MORE WORKOUTS key. Then, use the Level UP or DOWN keys to scroll through the program options. When the console displays "CUSTOM INTERVALS", press [ENTER] to accept.
2. The console will then display "ENTER WEIGHT – LBS" (or "ENTER WEIGHT – KG" if in Metric mode). Enter your weight using the numeric keypad and press (ENTER). Or, press [ENTER] to accept the default value.
3. The console will display "ENTER WORK LEVEL". Enter the desired intensity level using the numeric keypad and press (ENTER). Or, press [ENTER] to accept the default value.
4. The console will then display "ENTER WORK TIME". Enter the desired time and press (ENTER). Or, press [ENTER] to accept the default value.
5. The console will display "ENTER REST LEVEL". Enter the desired intensity level using the numeric keypad and press (ENTER). Or, press [ENTER] to accept the default value.
6. The console will then display "ENTER REST TIME". Enter the desired time and press (ENTER). Or, press [ENTER] to accept the default value.
7. The console will display "# OF INTERVALS". Enter the desired number of intervals using the numeric keypad and press (ENTER). Or, press [ENTER] to accept the default value.
8. The console will display "ENJOY WORKOUT" and the timer will begin.

The intensity level may be changed at any time during the workout by pressing the [Level: UP] key to increase the resistance, or the [Level: DOWN] key to decrease the resistance. Any changes to the intensity level will only change the level in the current recovery or exercise phase. To change the intensity level of the exercise phase, you must change the intensity level during an exercise phase. To change the intensity level of the recovery phase, you must change the intensity level during a recovery phase. Changing the intensity level will not change the look of the remaining profile; however, the new intensity level will continue through the rest of the workout.

### Random Play Workout

A program that randomly changes the intensity throughout the workout time.

1. Press the MORE WORKOUTS key. Then use the Level UP or DOWN keys to scroll through the program options. When the console displays "RANDOM PLAY", press [ENTER] to accept.
2. The console will then display "ENTER WEIGHT – LBS" (or "ENTER WEIGHT – KG" if in Metric mode). Enter your weight using the numeric keypad and press (ENTER). Or, press [ENTER] to accept the default value.
3. The console will display "ENTER AVG LEVEL". Enter the desired average intensity level using the numeric keypad and press (ENTER). Or, press [ENTER] to accept the default value.
4. The console will then display "ENTER TIME". Enter the desired time and press (ENTER). Or, press [ENTER] to accept the default value.
5. The console will display "ENJOY WORKOUT" and the timer will begin.

# HR INTERVAL PROGRAM

## ☀ TARGET HEART RATE ☀

The **WORK target heart rate** selected by the console is based on age, and is equal to 80% of your maximum heart rate which is calculated by the following equation:  $\text{Max HR} = 215 - (.75 * \text{Age})$ .  $\text{Target HR} = \text{Max HR} * .8$ . If desired, change the target heart rate at this point by using the numeric keypad to enter the new target heart rate, and then press [ENTER]. **Change to a new target heart rate** (between 100 and 180 beats per minute) during a workout by using the numeric keypad to enter the new target heart rate, and then pressing [ENTER].

The **REST target heart rate** selected by the console is based on age, and is equal to 65% of your maximum heart rate which is calculated by the following equation:  $\text{Max HR} = 215 - (.75 * \text{Age})$ .  $\text{Target HR} = \text{Max HR} * .65$ . If desired, change the target heart rate at this point by using the numeric keypad to enter the new target heart rate, and then press [ENTER].

## HR Interval Program

Allows the user to define an exercise Target HR, time at exercise Target HR, recovery Target HR and total exercise time. This program will change the intensity level to keep the user in their defined Target HR zone.

### To use the HR Interval Program:

1. Press the MORE WORKOUTS key. Then use the Level UP or DOWN keys to scroll through the program options. When the console displays "HR INTERVALS", press [ENTER] to accept.
2. The console will then display "ENTER WEIGHT - LBS" (or "ENTER WEIGHT - KG" if in Metric mode). Enter your weight using the numeric keypad and press (ENTER). Or, press [ENTER] to accept the default value.
3. The console will display "ENTER AGE 10 -99." Enter your age using the numeric keypad. Or, press [ENTER] to accept the default value of 40 years old.
4. The console will then display "ENTER WORK TARGET HR". Enter the desired Target HR using the numeric keypad and press (ENTER). Or, press [ENTER] to accept the default value.
5. The console will display "WORK TARGET HR." A suggested target heart rate will be displayed, based on your age. Press [ENTER] to accept the calculated target heart rate, or enter a different target heart rate using the numeric keypad and then press [ENTER]. Or, press [ENTER] to accept the default value.
6. The console will display "ENTER WORK TIME". This is the amount of time you want to exercise in the work target heart rate zone. Entire desired work time using the numeric keypad and press (ENTER). Or, press (ENTER) to accept the default value.
7. The console will then display "REST TARGET HR". A suggested target heart rate will be displayed, based on your age. Press (ENTER) to accept the calculated target heart rate, or enter a different target heart rate using the numeric keypad and then press (ENTER). Or, press (ENTER) to accept the default value.
8. The console will display "ENTER REST TIME". This is the amount of time you want to exercise in the rest target heart rate zone. Enter desired rest time using the numeric keypad and press (ENTER). Or press (ENTER) to accept the default value.
9. The console will then display "ENTER TIME". Enter desired total workout time using the numeric keypad and press "ENTER". Or, press (ENTER) to accept the default value.
10. The console will display "ENJOY WORKOUT" and the timer will begin.

## OPTIONS DURING A WORKOUT

### Options During a Workout

After the message, "Enjoy Workout", is displayed, your workout statistics will begin to accumulate.

The exercise statistics include, in order:

**Distance**

**Calories / Hour**

**Stride Rate (strides/minute)**

**Stride Length in inches (or cms) – EV916 only**

**Intensity Level**

**Power in watts**

**METs**

**Target Heart Rate** (in Heart Rate Control programs only)

The 20 x 30 brickyard in the lower half of the display will show the exercise profile of the workout program selected. Each column represents an equal portion of the total workout and the flashing column will advance across the brickyard as you progress through your workout.

### Changing Intensity Level or Target Heart Rate During a Workout

During the workout, the intensity level may be changed at any time by pressing the [Level: UP] key to increase the resistance, or the [Level: DOWN] key to decrease the resistance. The console will display "LEVEL".

**In Heart Rate Control programs**, you can use the numeric keys to change the Target Heart Rate. If the user presses a numeric key in a Heart Rate Control program, then the message line will display "TARGET HR".

Once you enter your desired target heart rate, press [ENTER] to accept, and the console will gradually change the resistance to move you to the new target heart rate.

# OPTIONS DURING A WORKOUT

## Pausing Your Workout

The program automatically enters the PAUSE state from a workout when the STOP key is pressed. The workout will be suspended, and the program will display the following alternating messages every 3 seconds for up to 1 minute, "PRESS 1 TO RESET OR 2 TO CONTINUE".

When the program enters a PAUSE state, the interval timer begins to count down from 1 minute to show you the time remaining in the pause condition.

### To leave the PAUSE state:

- At the end of the one minute count down, the current workout ends, the accumulated exercise statistics are scrolled, and the program returns to the opening message.
- If the user presses STOP or CLEAR or [1], then the program ends, the accumulated exercise statistics are scrolled, and the program returns to the opening message.
- If the user presses the [2] key, then the workout proceeds from where it was suspended.

## End of Your Workout

The program is at the end of the workout when the workout time is completed, or from the PAUSE state when the STOP key is pressed. At this point, each workout statistic is scrolled with averages calculated and displayed for Stride Rate, Calories/Hour, Level, Watts, METs, and Heart Rate.

After the statistics are scrolled, the program returns to the opening message. If you want to replay the exercise statistics, press the Display LOCK/UNLOCK key, and each exercise statistic will be scrolled once for 3 seconds.

After the statistics are scrolled, the program returns to the opening message. If you want to replay the exercise statistics, press the **Display LOCK/UNLOCK** key, and each exercise statistic will be scrolled once for 3 seconds.

## WARNING!

**PPACEMAKER USERS SHOULD NOT USE THE TELEMETRY TRANSMITTER WITHOUT FIRST CONSULTING WITH THEIR DOCTOR.**

Heart rate monitoring helps users monitor their levels of exertion by displaying the heart rate during exercise. There are two methods of monitoring heart rate on the Commercial Series EV9 16 and E9 16 ellipticals:

- **Telemetry (e.g. using a Polar® or Polar-compatible transmitter belt).**

A Polar-compatible heart rate chest belt transmits the heart beat signal to the receiver in the display. The display shows the heart rate in beats per minute and uses the heart rate value in heart rate control mode.



- **Contact heart rate (handgrip).** Sensors on the handgrip detect heart rate and display it on the controller.

### Telemetry Heart Rate

The telemetry heart rate monitoring system consists of the receiver, located in the display, and a transmitter belt (purchased separately) worn across your chest. The monitoring function is activated as soon as you strap on the chest belt and step within range of the receiver in the machine. Two electrodes on the underside of the chest belt sense the heart rate signal and send it to the receiver. The far right decimal point in the Heart Rate Display pulses to indicate that the display is receiving a valid signal. A microprocessor in the controller calculates the heart rate and shows it, in beats per minute, on the display.

Before you put the transmitter belt on, wet the two electrode patches (the grooved rectangles on the reverse side of the belt). Secure the transmitter belt as high under the pectoral muscles (chest) as is comfortable. The transmitter belt should fit snugly and comfortably, and allow normal breathing.

After the initial belt signal is detected, the display will enter a validation phase in which four good heart beat signals lasting four seconds are required before locking on telemetry heart rate signals for the duration of the workout session.

#### If your heart rate is not being displayed, try the following:

- Move closer to the display.
- Tighten the elastic band on the chest belt.
- Adjust the belt higher or lower on your chest.
- Remoisten the electrodes.
- Test your chest strap with a machine that you know is working, or with a heart rate watch that you know is working.

### Maintaining the Transmitter Belt

Clean the chest belt regularly with mild soap and water, then dry thoroughly — residual sweat and moisture keeps the transmitter active and will drain the battery in the transmitter. Do not use abrasives or chemicals such as steel wool or alcohol for cleaning, as they can damage the electrodes permanently. Replacement belts can be purchased from an Authorized Nautilus Fitness Retailer or at [www.nautilus.com](http://www.nautilus.com).

### Contact Heart Rate

Through the use of stainless steel sensors built into the handle bar and using sophisticated software, heart rate can be checked at any time during a workout. As with the wireless telemetry chest belt, the heart rate is shown on the display in the same manner.



# HEART RATE PRIORITY

The contact heart rate system's ability to detect a heart rate signal is influenced by several factors. Movement of the muscles of the upper body produces an electrical signal (muscle artifact) that will interfere with the detection of the heart rate signal by the sensors. Movement of the hands while they are in contact with the sensors also produces interference. Calluses and hand lotion act as an insulating layer to reduce the signal strength. Also, the EKG signal generated by some individuals is not strong enough to be detected by the sensors. These individuals should opt for the telemetry method of heart rate monitoring.

Contact heart rate input signals are acquired only during contact between your hands and the stainless steel sensors on the handrails. To use the contact heart rate feature, place your hands around the handles so that your hands touch both the top and the bottom of the sensors. After the initial contact heart rate signal is detected, the controller will enter a validation phase requiring a good heart beat signal within 10 to 15 seconds, or until the system acquires a valid signal. During the validation phase the controller will not recognize telemetry heart rate signals. The controller will display a heart icon. If, during exercise, the heart rate displayed is erratic, it may be helpful to remove your hands from the handles, wipe them and place them back on the handles. In all programs, the heart rate is shown automatically in the display window the first time the sensors are touched.

## Heart Rate Priority

Both contact heart rate and telemetry (e.g., Polar®) heart rate signal detection is available. The default priority of heart rate input is "LOCKED INPUT." If a telemetry signal is detected first, contact heart rate signals are inhibited from being detected throughout the rest of the workout session and vice-versa.

## Locked/Non-Locked Heart Rate Signal Options

When the "EITHER INPUT" option is selected the heart rate source signal is not fixed during the workout session (if the signal is lost either input will be valid). If the "LOCKED INPUTS" option is selected then the heart rate source signal is locked on the first detected signal

during the workout. To set a heart rate signal input, or to turn off the heart rate option all together, perform the following steps:

1. On the console keypad, press [Level: UP], [3], [2]. At this point the screen will display "HR INPUTS." Press [ENTER] to select this option.
2. There are five options to handle heart rate input signals. Press the [Level: UP] and [Level: DOWN] keys to scroll through the options until you find the option that you want. Press the [ENTER] key to select that option.

### The options are as follows:

**"LOCKED INPUTS"**—allows either telemetry or contact heart rate signals to be detected. Once the console has detected a valid input signal it will lock out the opposite type of signal for the duration of the workout session. For example, if you start out using contact heart rate then you are limited to using only contact heart rate during your workout session, even if the signal is lost while performing the workout, and vice-versa.

**"EITHER INPUT"**—allows either telemetry or contact heart rate signals to be detected. Does not lock out a particular input signal for the entire workout. Will detect either input signal during a workout session, but only one at a time, and only until the other signal terminates.

**"TELEMETRY ONLY"**—locks out contact heart rate signals and will only detect telemetry signals.

**"HAND ONLY"**—locks out telemetry signals and will only detect contact heart rate signals.

**"BOTH HR OFF"**—turns off the ability to detect any heart rate signal. Used in rare situations where there is excessive interference with the heart rate signals.

During workouts where heart rate is necessary, such as the HR Zone Trainer and the Fitness Test, the console will pick up telemetry heart rate signals so that the programs are not disabled.

## EXERCISE & FITNESS GUIDELINES



No single fitness program is suitable for all. All fitness programs should be designed by fitness professionals who are trained to tailor the program to the individual goals and fitness levels of each

client. The following information on exercise intensity, duration, and frequency is based on averages and is included here only as a guideline for use by fitness professionals. Programs should be altered for comfort and safety when necessary.

### Exercise and Health

It is not a secret that lack of exercise is increasingly becoming a major health issue. Obesity is on the rise, and being overweight can contribute to an increased risk in heart attack, diabetes, high blood pressure and other life threatening illnesses.

Most people do not get enough activity during the day to make up for the time they spend at their desks, driving their cars or sitting in front of their televisions. We have learned that exercising is not simply something we must do to look good and have a great body. Exercise is a requirement for health, and overall wellness, not to mention it can help you feel great!

The good news is that we are seeing more and more research that indicates we don't have to work out intensely to see the benefits. Sure, it is great if you can workout for 30-40 minutes at a time, five days a week. But it is not essential. Shorter bouts of exercise can have a great effect (especially if you are just starting out), and a little bit of exercise at a time is much better than none at all.

And what is really exciting is that research indicates that whether you are young or old, people who

workout at light to moderate intensities may have an easier time sticking to their exercise programs than those people who work out harder and more often.

So, you do not need to be an athlete or a fitness "die-hard" to benefit from exercise ... you just need to get started, work out at levels that are comfortable and enjoyable to you and stick with it!

### Steps to Getting Started

Once you have made the commitment to start an exercise program, here are some suggestions that may help you stay motivated.

**The first step is the most difficult.** Any new habit is difficult to establish at first, but it can be done. Be patient, and plan to start slow and easy. Less is more when you are first starting out... don't overdo it!

**Get a physical exam.** If you have been inactive for several years or new to an exercise program, be sure to ask your doctor before beginning any exercise program. Especially if you are over 30, have health problems or have a history of heart disease in your family.

**Find an exercise buddy.** Research has shown that starting an exercise program with someone can increase your chances of sticking to it. If you have a buddy that is also starting a program, you can encourage, motivate and challenge each other.

**Make fitness a part of your schedule.** Include it in your daily planner just as you would any other appointment. Plan ahead for the week so that you can be sure to fit it in. Even if you are pressed for time one day, a little exercise is better than none at all. Do what you can to fit it in, even if you have less time than you hoped for.

**Use positive affirmations.** Affirmations will help you program your subconscious to accept new beliefs. Saying to yourself a couple of times a day,

# EXERCISE & FITNESS GUIDELINES

**“I am living a healthier lifestyle by exercising several times per week at home,”** can help you stay on track.

**Set goals.** Setting goals can be helpful in keeping you motivated, but remember to keep them realistic. Short-term and long-term goals can make this easier. How many days do you want to exercise this week? How many workouts would you like to have done in 90 days or a year?

## Components of Fitness

Over the past 25 years, many people have focused on walking, running, cycling, swimming and other types of aerobic activity as their only means of exercise.

However, we have learned that two other components of fitness are just as important. These other two components are muscle strength and flexibility. So in addition to having a strong heart and lungs, we also need to be able to pick up a full bag of groceries and tie our shoes without having to sit down.

When developing your home fitness program, it is only appropriate that you develop all three components in order to achieve balanced overall fitness. Let’s take a look at all three components:

**Cardiovascular fitness** is training the heart and lungs to be stronger and deliver more oxygen throughout your body with less effort. It can help reduce the risk of heart disease, and help you manage your weight. It is the cornerstone of fitness, and can be achieved in many ways such as using a Nautilus elliptical, walking or running on the treadmill or outdoors, climbing stairs, cycling, using a StairMaster® stepper or swimming in the pool or ocean.

For many years, it was suggested that moderate level cardiovascular activity (activities that make you sweat and breathe and a moderate pace) should be done 3 – 4 days a week for 15 – 45 minutes at a time.

It is now recommended that you attempt to do some cardiovascular activity EVERY day, if possible.

The good news is that the cardiovascular activity does not need to be moderately intensive everyday, nor does it need to be sustained for 15 – 45 minutes at a time.

So while it is ideal to challenge your heart and lungs by doing something like a strong power walk every other day for 15 — 45 minutes, it is more important to make sure you do at least a little bit of cardiovascular activity every day, even if you don’t do it for very long or very intensely.

For example, you might try using a Nautilus® elliptical for a scheduled, moderate level workout for 20 – 30 minutes on Monday, Wednesday, Friday and Sunday (see the intensity monitoring section for further details on how hard to workout). On the other days, you might try going for a leisurely stroll 10 minutes in the morning and in the evening (or whenever you can fit it in).

Whatever you do, just make sure you get your body moving, and your heart and lungs pumping for some period of time every day.

**Muscular Strength** is training your muscles to remain strong using resistance such as Nautilus strength machines, dumbbells, elastic tubing or your body weight. In the past decade, we have learned that building or maintaining muscular strength is extremely important for a balanced fitness program. And it is especially important as we get older.

We have learned through a variety of studies that those individuals who just train aerobically (without strength training) do maintain their cardiovascular endurance over the years, but they generally lose lean muscle mass as they get older. However, those individuals who combine strength training and cardiovascular training can maintain their lean



body mass as they get older. What this means is that if you just do cardiovascular activity, your body will naturally lose muscle mass as you get older, and that means that you will actually get “fatter” as you age,

unless you incorporate strength training.

We have also learned that consistent strength training helps maintain bone and muscle mass as we get older. For women, strength training (along with cardiovascular training) may also protect against post-menopausal bone loss and osteoporosis in their later years.

And strength training is not complicated. It is recommended that you do 8 – 12 repetitions of 8 – 10 major muscle groups at least 2 days a week. However, you don’t have to do all these exercises at once. You can break them up into shorter workouts throughout the day. For example, you can do just upper body exercises in the morning, and your lower body exercises in the evening. Or, you can alternate strength exercises with cardiovascular exercise (often known as circuit training) by switching back and forth every couple of minutes.

**Flexibility** is being able to bend, reach, twist and turn with comfort and ease as we perform daily tasks, play or exercise. It is perhaps the most ignored component of fitness, but certainly the easiest one to incorporate into our daily lives because it can be done anywhere and almost at any time.

To maintain your flexibility, you simply need to stretch. This could be as simple as reaching for your toes, or reaching overhead when you wake up in the morning. Or maybe you enjoy it so much that you would be

interested in trying the Nautilus® yoga workout video. You can even incorporate stretching into your strength training workouts by stretching the muscles you have used immediately after you have completed your exercise set.

Like cardiovascular training, it is recommended that you stretch every day. However, you do not need to create a formalized program. You can simply make sure that you stretch your major muscle groups throughout the day. Make sure you include your thighs, calves, hamstrings, back, chest, neck and shoulders.

Do what feels good, but also remember to mix it up. Don’t just do traditional “reach and hold” stretches. Also, try gently moving through a range of motion that is comfortable to you. For example, you don’t have to stretch your neck simply by pulling on your head with your hand. You can also just rotate the neck slowly around and look side to side.

## Nutrition

Of course, every good health and fitness program will also include a good nutrition component. Good nutrition is likely the most important factor in maintaining ideal body weight and managing weight loss.

There are a variety of schools of thought regarding which nutrition program, diet or eating plan is best. While we do not promote or endorse any particular one, here are some things to consider that will help you get on the road to a healthy diet:

**Understand caloric balance.** How many Calories you intake, and how many Calories you burn off will determine whether you will gain or lose weight day to day. It is impossible to achieve weight loss without some sort of “Caloric deficit” that can be obtained through cutting Calories, or burning off more than you take in. The wisest approach is to do a little of

# EXERCISE & FITNESS GUIDELINES

both – cutting Calories and exercising. It is the only proven long-term weight management program that is successful. You should ensure that you are consuming at least 1,200 Calories per day total. A total weight loss of no more than 2 lbs. per week is recommended for long-term weight management.

**Eat a variety of foods.** Regardless of your eating plan, you should be sure to include a variety of foods in your diet, maximizing your intake of fruits and vegetables whenever possible. Colorful meals and snacks that are divided amongst the 4 food groups will ensure that you obtain the nutrients needed for your body to function at optimal levels. Any diet that focuses on just one food group source or processed foods can be unhealthy in the long run, and should be avoided. Don't focus too much on any particular meal or snack, but rather on your overall intake of a variety of different foods during any given day.

**Drink water.** Our bodies are made up of over 70% water, and most of us don't drink enough. Carry water with you everywhere you go, and drink as often as you can. This helps the body function at optimum levels, and can significantly help with weight management.

## **Eat more often and be mindful of your portions.**

Research has shown that it can be helpful to eat smaller meals more often versus 3 larger meals a day if you are looking to promote healthy weight maintenance or weight loss. And we have discovered that many portions we eat are much larger than necessary, and can be laden with Calories. So, try snacking more and not eating so many large meals, and share your snacks or food with others (or break your portions in half) to help manage your Caloric intake.

## **Monitoring Your Intensity**

When you are doing cardiovascular workouts, it is important that you work at the appropriate intensities when you are first starting out. It is also important

that you workout at a variety of intensities after you have built a fitness base.

Research in recent years has indicated that one of the best ways to monitor your cardiovascular intensity is to pay close attention to how you are feeling when you workout. Most individuals can do a very good job of choosing the correct intensities if they simply categorize how they feel into one of four intensity "zones."

<b>Zone 1</b>	<ul style="list-style-type: none"><li>• Easy</li><li>• Warm-up</li><li>• Cool-down</li></ul>
<b>Zone 2</b>	<ul style="list-style-type: none"><li>• Challenging, but comfortable</li><li>• Steady endurance pace</li></ul>
<b>Zone 3</b>	<ul style="list-style-type: none"><li>• Challenging, and slightly uncomfortable</li><li>• Race pace</li><li>• Borderline out of breath</li></ul>
<b>Zone 4</b>	<ul style="list-style-type: none"><li>• Breathless</li><li>• Not maximum, but winded</li><li>• Can't keep the pace for very long</li></ul>

## **These zones could be described the following ways:**

When you are first starting out, you should exclusively work in the Zone 1 and Zone 2 intensities. After a few weeks, you can occasionally incorporate Zone 3 and Zone 4 intensities for short periods of time. Remember, when you begin to incorporate Zone 3 and Zone 4 intensities, you will find that you will likely have to drop down to Zone 1 intensities shortly thereafter as brief recovery periods.

For variety, you can spend a little bit of time in each of the four Zones during one workout, and then spend your time in just one Zone during the next workout.

Prenatal woman should always remain at Zone 1 and Zone 2 intensities, and anyone unaware of their current medical condition should also avoid Zone 3

## EXERCISE & FITNESS GUIDELINES

and Zone 4 without prior clearance from their doctor.

These Zones can be translated into target heart rate numbers if your fitness product has a grip or telemetric heart rate counter. Research has shown the best way to do this is not to establish heart rate numbers based upon age, but rather based upon how you feel.

The following chart will allow you to log your heart rate numbers based upon how you feel when working

out. Simply log the heart rate numbers you find when you feel you are working at each of the specific intensities.

As you get in better shape, the heart rate number you obtain for each zone will get higher and higher, which means your heart is able to handle higher intensities. Or you may find that your numbers don't change, but you are able to stay in Zone 3 and Zone 4 longer than you used to.

Zone	Description of Workout Intensity	Approximate % of Maximum Heart Rate	Log Your Heart Rate	Your Heart Rate
1	<ul style="list-style-type: none"> <li>• Easy</li> <li>• Warm-up</li> <li>• Cool-down</li> </ul>	50% — 65%	Enter the heart rate you get when you are working in Zone 1 ►	
2	<ul style="list-style-type: none"> <li>• Challenging, but comfortable</li> <li>• Steady endurance pace</li> </ul>	65% — 75%	Enter the heart rate you get when you are working in Zone 2 ►	
3	<ul style="list-style-type: none"> <li>• Challenging, and slightly uncomfortable</li> <li>• Race pace</li> <li>• Borderline out of breath</li> </ul>	75% — 85%	Enter the heart rate you get when you are working in Zone 3 ►	
4	<ul style="list-style-type: none"> <li>• Breathless</li> <li>• Not maximum, but winded</li> <li>• Can't keep the pace for very long</li> </ul>	85% — 90%	Enter the heart rate you get when you are working in Zone 4 ►	

# EXERCISE & FITNESS GUIDELINES

Don't get too attached to any specific number or target heart rate. If you train properly, you will notice numbers that used to be difficult have now become easier. You will also notice that if you are sick or over-tired, you may find that numbers that usually feel fairly easy are one day much harder, and it is a good sign to take a break. If you notice that numbers that are usually very challenging are one day fairly easy, then it is a good time to push yourself.

Listening to your body, and using your heart rate numbers (when available) will enable you to keep track of your intensity and see your progress as you train.

## Beating The Dropout Odds

The Surgeon General's Report on Physical Activity and Health summarizes a few main points:

1. Regular physical activity offers substantial improvements in health and well-being for a majority of Americans.
2. If you exercise regularly, you'll reduce your risk of heart attack, cancer, diabetes, high blood pressure, osteoporosis and even the common cold.
3. Regular exercise, regardless of the intensity, can help you control stress, sleep problems and depression.

The benefits of exercise and activity are AMAZING! And yet, only 22 percent of Americans engage in exercise for 20 minutes a day. And even among individuals who begin exercise programs, the dropout rate is about 50 percent.

So, how do you beat these odds? The answer appears to be in how you start and maintain your exercise program as well as how you create a habit of exercise.

Why are you starting an exercise program? For most

individuals, it is to lose weight and look better, which are great reasons. However, since changes in your body shape and size can be gradual, and won't happen overnight, it is important to focus on other benefits so that you will remain motivated.



Thrive on the energy that exercise gives you. Watch your health risks scores go down. Pay attention to how much easier everyday activity is. Notice how much better you are sleeping. These kinds of additional benefits will continue to keep you motivated if you make them just as important to you as weight loss.

Additionally, try not to view exercise as punishment. Look at it as an investment in your health. If you don't feel motivated to workout one day, think of something that is appealing to you that is active, and change your workout. Try not to let your workout become routine or mundane, and always remember that some exercise is better than none at all. So, if you feel you are not motivated to continue, stop your workout early, or skip a day. It just might be the thing you need to get you excited about your next workout.

Possibly the most important thing is to keep progressing your exercise program slowly. Big increases in time or intensity can set you up for injury, and cause you to drop out. Unless you are a world-class athlete, there is no reason to workout at world-class levels. Remember to give yourself some days off and get proper rest.

Finally, try to anticipate lapses. If you are traveling, or your schedule is becoming busier, and you are fearful you may get off track, try planning ahead. For example,

## EXERCISE & FITNESS GUIDELINES



book a hotel that has a workout facility or change up your workout so that you keep your interest high and your boredom low. The bottom line is you must be creative and innovative to keep up your fitness program. With some imagination and planning, it is easy to do.

### **Suggested Reading:**

[The Complete Home Fitness Handbook](#) by Edmund Burke, Human Kinetics Publisher.

[Full Body Flexibility](#) by Jay Blahnik, Human Kinetics Publisher.

[Building Strength and Stamina](#) by Wayne Wescott, PhD, Human Kinetics Publisher.

[Cross-Training for Dummies](#) by Tony Ryan and Martica Heaner, For Dummies Publisher.



# CONSOLE CODES

There are 4 groups of console codes as follows: Customization (codes starting with 2 or 3), Machine Status (codes starting with 4), Diagnostic (codes starting with 6 or 7), and Configuration (codes starting with 8). Each group of codes is defined below. To access these console codes and the options within each group, follow the instructions for each section.

## Customizing the EV916 and E916

You can customize several parameters on the EV9 16 and E9 16 to conform to your individual requirements, including changing the workout default values and setting custom parameters such as time limits, changing screen contrast, changing language, and changing units.

To change the workout default values:

1. Press [Level: UP], [2], [ENTER]. The console will display "DEFAULTS".
2. Press [Level: UP] or [Level: DOWN] to scan through the default choices. Select the option you want to change by pressing [ENTER]. Then, use the [Level: UP] or [Level: DOWN] keys to view the choices for the selected option. Press [ENTER] to accept the choice for that option.

The default options are as follows:

### Change default weight

Use the numeric keypad or [Level: UP] or [Level: DOWN] keys to change the desired default weight for your facility. Press [ENTER] to accept the new value.

### Change default workout time

Use the numeric keypad or [Level: UP] or [Level: DOWN] keys to change the desired default

workout time between 10 and 99 minutes. Press [ENTER] to accept the new value.

### Change default age

Use the numeric keypad or [Level: UP] or [Level: DOWN] keys to change the desired default age used to calculate target heart rate. Valid age range is between 10 and 99 minutes. Press [ENTER] to accept the new value.

### Change default % Target HR

Use the numeric keypad or [Level: UP] or [Level: DOWN] keys to change the desired target HR value based on maximum HR. This is used to calculate the target heart rate value based on the % of maximum HR. Valid target HR % is between 40 and 90%. Press [ENTER] to accept the new value.

### Change default Cool Down Time

Use the numeric keypad or [Level: UP] or [Level: DOWN] keys to change the desired default cool down time between 1 and 10 minutes. Press [ENTER] to accept the new value.

To customize the console for your use:

1. Press [Level: UP], [3], [ENTER]. The console will display "CUSTOMIZE."
2. Press [Level: UP] or [Level: DOWN] to scan through the customize choices. Select the option you want to change by pressing [ENTER]. Then, use the [Level: UP] or [Level: DOWN] keys to view the choices for the selected option. Press [ENTER] to accept the choice for that option.

The customize options are as follows:

### Max time limit

Use the numeric keypad to enter the desired time limit between 5 and 99 minutes. Press [ENTER] to accept the new time limit.

### Change units

Use the [Level: UP] and [Level: DOWN] keys to toggle between USA units and Metric units. Press [ENTER] to select your option.

### Choose the type of heart rate input

See Heart Rate Priority in the previous section for details of the choices.

### Choose console language

Use the [Level: UP] and [Level: DOWN] keys to view the choices (English, German, French, Spanish, Italian, Dutch, Swedish, Japanese). Press [ENTER] to select your option.

### Adjust upper LCD screen contrast

Use the [Level: UP] and [Level: DOWN] keys to increase or decrease the contrast level of the upper LCD. Press [ENTER] to select your option.

### Adjust lower LCD screen contrast

Use the [Level: UP] and [Level: DOWN] keys to increase or decrease the contrast level of the upper LCD. Press [ENTER] to select your option.

### Reset Defaults

This code will reset all exercise parameters to the factory defaults. Press [ENTER], to accept the default values.

3. To exit "CUSTOMIZE", press the [CLEAR] key.

## Machine Status Codes

To view maintenance information such as the run time in hours, number of workouts and distance, as well a machine type and software revision:

1. Press [Level: UP], [4], [ENTER]. The console will display "MACHINE STATUS".
2. Press [Level: UP] or [Level: DOWN] to scan through the choices. Select the option you want to view by pressing [ENTER]. Press [CLEAR] to exit the machine status codes.

The machine status options are as follows:

### Machine run time in hours

Display the machine run time in hours. The console will display "RUN HOURS #####".

### Number of workouts

Display the number of times a workout key has been pressed. The console will display "WORKOUTS #####".

### Distance traveled

Display the total distance traveled in miles (or kms if console is set to Metric units). The console will display "DISTANCE #####".

### Software revision

Display the console software revision number. The console will display "CONS 41375-###".

### Machine type

Display the machine type the console is currently configured to. The console will display "ELLIPTICAL" or other machine type.

# CONSOLE CODES

## Machine run time in hours since last cleared (used for maintenance)

Display the machine run time since last cleared. The console will display "MAINT HOURS #####". This will provide the number of hours between service or maintenance calls. The machine run time is reset to zero in the following Diagnostics section.

3. To exit "MACHINE STATUS", press the [CLEAR] key.

## Diagnostic Codes

Diagnostic codes are used to test various components of the machine such as the display, keyboard, serial port, alternator, and tachometer, as well as viewing the error log information and resetting the time between service or maintenance calls. To run diagnostics and view diagnostic information:

1. Press [Level: UP], [6], [ENTER]. The console will display "DIAGNOSTICS"
2. Press [Level: UP] or [Level: DOWN] to scan through the choices. Select the option you want to view by pressing [ENTER].

The diagnostic options are as follows:

### Test display

To test the LCD display, press [ENTER] when the message, "DISPLAY TEST" is displayed. The console screen alternates turning on all LCD segments and a representative program screen. Verify that all LCD segments turn on.

### Test keyboard

To test all the keys on the keyboard, press [ENTER] when the message, "KEY TEST" is displayed. Then, press any key on the keyboard

and that key's name will be displayed in the text line. Press [CLEAR] as the last key to exit this test.

### Test serial port

To test the serial port, press [ENTER] when the message, "SERIAL TESTS" is displayed. This test performs a serial loop back test. Select the CSAFE RS-232 selection. You will need a loop-back test cable (PN 040051-001) inserted into the appropriate connector port to successfully run this test. Console will display either "PASS" or "FAIL".

### Test alternator

To test the machine's alternator, press [ENTER] when the message, "ALT TEST" is displayed. This test verifies the alternator field routines through the console. Position yourself on the machine and press [LEVEL: UP] for "field on". After exercising briefly you should build up resistance. For "field off", press [LEVEL: DWN].

### Test tach response

To test the machine's tachometer, press [ENTER] when the message, "TACH TEST" is displayed. Start exercising on the machine. The console should regulate the alternator resistance based on the tach signal to maintain approximately 2,000 RPMs while you are exercising. If not, there is a possible problem in the AC tap or field circuit. Check the alternator, the AC tap wire, the field wire, the diode, the terminal posts, and the main cable.

3. To exit "DIAGNOSTICS", press the [CLEAR] key.
4. To review the error log and reset the service timer, press [Level: UP], [7], [ENTER]. The console will display "DIAGNOSTICS2". Press

[Level: UP] or [Level: DOWN] to scan through the choices. Select the option you want by pressing [ENTER].

### **Error log**

To display the machine's error log, press [ENTER] when the message, "ERROR LOG", is displayed. The console will report various error messages in the display window. The total amount of errors will be displayed in the upper right window. Note that only the highest priority reported error will be displayed. Errors are handled in two ways. First, as a non-fatal "WARNING" which will display the text message but continue system operation until you press the [CLEAR] key. The second way is a fatal "ERROR" which will stop the exercise and return the system to an idle intensity state. The console will display the error text and not let you restart the program unless power has been turned off and then back on.

### **Reset service time**

To reset the time between service or maintenance calls, press [ENTER] when the message, "MAINT HOURS" is displayed. Selecting this code will reset the maintenance timer to 0 hours.

3. To exit "DIAGNOSTICS2", press the [CLEAR] key.

## **Configuration Codes**

To change the machine type from Stepper, StepMill, Bike or Elliptical, press (LEVEL: UP), (8), (ENTER). The display will read "CHANGE MACHINE". Press (ENTER) to display the list of machines, then press (LEVEL: UP) or (LEVEL: DOWN) to scan through the choices. Select the machine type you want by pressing (ENTER).

# MAINTENANCE INSTRUCTIONS

## Maintenance Records

For ease of maintenance the EV916 and E916 console will keep track of hours, number of workouts, time between last servicing, etc. You can quickly access any of the custom menus by pressing [LEVEL: UP], [4], [ENTER]. The console will then display "MACHINE STATUS." Use the [Level: UP] and [Level: DOWN] keys to scroll through the options. For details, refer to the Machine Status Console Codes in the previous section.

## Resetting The Maintenance Hour Timer

After each maintenance period reset the counter. Press [LEVEL: UP], [7], [ENTER]. Then use the Level keys to scroll through the options. When "MAINT HOURS" is displayed, press [ENTER]. The console will display "RESET SERVICE". Press [ENTER]. The console will display "DONE". Press [CLEAR] to return to the opening screen.

## Initial Service

Upon receiving your machine, use a soft, clean towel to wipe off the dust, which may have accumulated during shipping. Your new machine will require minor assembly. Refer to the "Installation Instructions" section for details.

### Cleaning

1. DO NOT USE GLASS CLEANERS OR ANY OTHER HOUSEHOLD CLEANERS ON THE CONSOLE. Clean the console daily with a water-dampened cloth and wipe dry after cleaning.
2. Clean the exterior of the machine daily using soap and water or a diluted, non-mineral based household cleaner such as Fantastic®.

### Inspection

1. **Frame:** Inspect the frame for any rust, bubbling, or paint chips during the weekly cleaning. The salt in perspiration can damage the unpainted surfaces. Repair the damaged area with a touch-up paint kit purchased from Nautilus (call Customer Service for order information).

## Checking the Battery Charge

1. Using your multimeter, touch the red lead to the positive terminal of the battery and the black lead to the negative terminal.
2. If the voltage level is less than 6.1 VDC, charge the battery.

## MAINTENANCE INSTRUCTIONS

### Recharging the Battery Back-Up

The Commercial Series EV916 and E916 elliptical are both self-powered (cordless) with a rechargeable battery back-up. Typically, the elliptical can be operated without plugging in the battery charger. If, however, the console flickers during operation or the console display does not light up while using the machine, then use the battery charger to recharge the battery back-up.

The battery charger is supplied with the unit and plugs into a standard 115 volt, 15 amp outlet. (all major voltage plugs are available) The plug-in for the battery charger is located in the rear of the machine at the base.



#### **EV9.16 / E9.16 battery charger plug**

Plug the wall pack battery charger into the connector and charge the battery for approximately 24 hours and then recheck it. It is okay to use the machine while the battery charger is connected.

The console will power on as user starts to pedal machine, and will stay lit for up to 60 seconds in pause mode. The console will power off after 60 seconds of stopping exercise.

### Battery Disposal

When ordering new batteries, you will need to properly dispose of (recycle) your old lead-acid batteries. Most federal and state regulations require lead-acid batteries to be recycled. Do not throw away old batteries. Lead is a toxic heavy metal, hazardous to living organisms. Disposal instructions and a list of recycling centers are tabulated in the Appendix. If you have questions, contact the Customer Service Department at (800) 331-3578.

# COMMERCIAL MARKET WARRANTY INFORMATION

All Nautilus® exercise products are warranted to the commercial market purchaser to be free from defects in materials and workmanship. Warranty coverage valid to the original purchaser only and proof of the purchase will be required. Any product sold or placed in an application not recommended by Nautilus will void any warranty coverage set forth by Nautilus® warranty policies and procedures.

## Time Period

Frame: 15 Years

Mechanical and electrical parts : 3 Years

Labor: 1 Year

Wear Items: 1 Year

## What This Warranty Does Not Cover

1. Any component on original equipment which carries a separate consumer warranty of the parts supplier.
2. Users weighing more than 400 lbs.
3. Any damage, failure or loss caused by accident, misuse, neglect, abuse, improper assembly, improper maintenance or failure follow instructions or warnings in Owner's Manual.
4. Use of product in a manner or environment for which it was not designed.

## Limitations

The foregoing warranties are in lieu of and exclude all other warranties not expressly set forth herein, whether expressed or implied by operation of law or otherwise, including, but not limited to, warranties of merchantability or fitness for a particular purpose. Nautilus shall in no event be liable for incidental or consequential losses, damages or expenses in connection with its exercise products. Nautilus' liability hereunder is expressly limited to the replacement of goods not complying with this

warranty or, at Nautilus' election, to the replacement amount of the purchase price of the exercise product in question. Some states do not permit the exclusion or limitation of implied warranties or incidental or consequential damages, so the preceding limitations and exclusions may not apply to you.

## Procedures

Warranty service will in most cases be performed by an authorized Nautilus® Fitness Dealer or Service Technician. The original purchaser must provide proof of purchase, Service calls and/or transportation to and from the Nautilus® Dealer is the responsibility of the purchaser.

1. Nautilus will have the option to repair or replace any exercise product, which requires service.
2. Nautilus will replace any equipment frame that is structurally defective with a new frame or replace the unit with a unit of equal value.
3. Nautilus is not responsible for dealer labor charges for the component changeovers completed after the labor related warranty period stated herein.
4. If you elect to repair an exercise product or part yourself, using the services of someone other than an authorized Nautilus® Fitness Dealer or Service Technician, or use a replacement part not supplied by Nautilus, Nautilus shall not be liable for any cost, damage, failure or loss caused by the use of such unauthorized service or parts.

## Important Phone Numbers

If you need assistance, please have both the serial number of your machine and the date of purchase available when you contact the appropriate Nautilus office listed below.

**OFFICES IN THE UNITED STATES:** E-mail: [customerservice@nautilus.com](mailto:customerservice@nautilus.com)

### **NAUTILUS INNOVATION CENTER/ CUSTOMER SERVICE**

Nautilus, Inc.  
1886 Prairie Way  
Louisville, CO 80027  
Tel: 800-864-1270  
Fax: 800-898-9410

### **TECHNICAL SERVICE**

Nautilus, Inc.  
10757 East Ute Street  
Tulsa, OK 74116  
Tel: 800-864-1270 or  
800-331-3578  
Fax: 800-764-7380

### **CORPORATE HEADQUARTERS**

Nautilus, Inc.  
World Headquarters  
16400 SE Nautilus Drive  
Vancouver, WA 98683  
Tel: 800-NAUTILUS  
Fax: 360-694-7755

### **INTERNATIONAL OFFICES:**

For technical assistance and a list of distributors in your area, please call or fax one of the following numbers.

### **INTERNATIONAL CUSTOMER SERVICE:**

#### **NORTH AMERICA OFFICE**

Nautilus, Inc.  
1886 Prairie Way  
Louisville, CO 80027  
Tel: 303-939-0100  
Tel: 800-864-1270 x1603 or 1658  
Fax: 303-402-4817

#### **GERMANY OFFICE**

Nautilus Health & Fitness Group  
GmbH  
Tel: 02204 61027  
Fax: 02204 62890

#### **ITALY OFFICE**

Nautilus Health & Fitness Group  
Italy s.r.l.  
Tel: 031 51 10 86  
Fax: 031 34 24 97

#### **SWISS OFFICE**

Nautilus Health & Fitness Group  
International S.A.  
Rue Jean Prouvé 6  
1762 Givisiez / Switzerland  
Tel: + 41 26 460 77 77  
Fax: + 41 26 460 77 70

#### **U.K. OFFICE**

Nautilus Health & Fitness Group  
UK Ltd  
Tel: 01 908 267 345  
Fax: 01 908 267 346





**Model EV916**



**Model E916**



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EV916/E916 V.1-06/05  
P/N 40355A