3 - Operation

Read and understand all instructions and warnings prior to using the Unit. See all of the safety related information located in chapter 1.

Terms and Symbols Used

This section lists some of the common terms and symbols used in this chapter. Other terms and symbols are listed in this chapter as appropriate.

Dormant Mode - This occurs when the unit is plugged in and not in use. The control panel will display a beating heart when the unit is in *Dormant Mode.*

Program Setup Mode - This begins after pressing any program key. Upon entering a program the LEDs flash, prompting the user to adjust the appropriate settings.

Active Mode - This begins immediately after pressing the **Quick Start** key *(Manual Mode),* or after the *Program Setup Mode.* The beginning of *Active Mode* is marked by the 3 second countdown. *Active Mode* continues until you reach the end of a program or press the **Pause/end** key.

Quick Start - This begins by pressing the **Quick Start** key. **Quick Start** skips the *Program Setup Mode* and begins immediately in *Manual Mode.*

Manual Mode - This begins immediately after pressing the **Quick Start** key or after pressing the **Manual** program key. In *Manual Mode* you can customize your workout **Resistance** and **Time** and enter your **Weight** by pressing those keys. ***NOTE:*** *Manual Mode features differ from the Manual Program. See the Manual section in this chapter.*

Workout Review - This begins after pressing the **Pause/end** key once, at the end of a program or when you stop striding for 25 seconds. The workout statistics accumulated during the previous workout session will display for 20 seconds (default setting) or until **Pause/end** is pressed again. ***NOTE:*** *You can change the 20 second default. See Setting Operation Options in chapter 5.*

Pause Mode - This begins when the you stop striding for 25 seconds or when you press **Pause/end** once. While in *Workout Review* you can press the **Quick Start** key to resume your workout in *Manual Mode.* The time, calories burned and other accumulated data is remembered and added to.

▲▼ - These keys adjust **Time, Level** or **Weight** up or down.

Λ V**-** These keys adjust **Incline** higher or lower..

+ - - These keys adjust **Resistance** up (**+**) or down (**-**).

Quick Operation Guide

NOTE: *Maximum user weight is 350 lbs. (160 kg).*

The following is a quick overview of the operation of the unit. For more information read *Detailed Operation Guide* in this chapter. ***NOTE:*** *Times specified in this chapter reflect the unit's defaults. To change the defaults see Setting Operation Options in chapter 5.*

1. Hold the handles to steady yourself while you step into the foot plates.

2. Press any program key to enter a program or press **Quick Start** to skip the settings and begin.

3. If you pressed a program key to select a program, you will now be prompted for workout **Time, Weight,** and **Level** as appropriate. Adjust these settings with the ▲▼ arrows and press **Enter** to proceed. ***IMPORTANT: Enter your actual weight.*** *The* **Resistance + -** *keys calculate the proper resistance for your weight. Your workout may feel too easy or too difficult if you do not enter your actual weight.*

4. The unit begins a countdown, "3...2...1" then the resistance increases to correspond to the program that you selected.

5. Begin striding.

6. Press the **Resistance + -** keys to change the load at any time. The right display will show the current resistance setting.

7. Press the **Incline** Λ V keys to change the incline at any time. The left display will show the current incline setting.

8. Press the **Pause/End** key at any time.

! WARNING: Wait until all moving parts come to a complete stop before dismounting.

9. Wait until foot plates come to a complete stop before dismounting the unit. Hold the handles to steady yourself while you step off the unit.

Detailed Operation Guide

NOTE: *Maximum user weight is 350 lbs. (160 kg).*

1. Plug the power cord into a power outlet on a grounded circuit, rated for one of the following: 115 VAC±5%, 50/60 Hz and 15 amps; or 230 VAC±10%, 50/60 Hz and 10 amps.

2. Hold the handles to steady yourself while you step into the foot plates.

3. You now have the option to select a program or to select **Quick Start**, skip *Program Setup Mode,* and enter *Manual Mode.*

To select a program, press the program key and continue pressing until program desired is displayed. Upon entering a program the LEDs flash, prompting you to adjust the appropriate settings. This is referred to as *Program Setup Mode*. If the **Quick Start** key is pressed now, all defaults for that program will be accepted. After10 seconds, if no key has been pressed, the first default will be accepted. After another 10 seconds the second default will be accepted and so on until the last default. The program will not enter *Active Mode* until you press the **Enter** or **Quick Start** key. If no key has been pressed for 20 seconds after displaying the last default, then the unit will return to the *Dormant Mode.*

If you press the **Quick Start** key instead of choosing a program, you will enter *Manual Mode.* ***NOTE:*** *No prompts will occur in Manual Mode.* While in *Manual Mode,* customize your workout **Resistance** and **Incline** and enter your **Weight** by pressing those keys.

IMPORTANT: *Enter your actual weight. The* **Resistance + -** *keys calculate the proper resistance for your weight. Your workout may feel to easy or too difficult if you do not enter your actual weight. For the most accurate calorie count, you must set your correct weight before beginning your workout (including clothing).*

NOTE: *Press* ***Enter*** *after each adjustment.*

When you enter *Program Setup Mode* or *Manual Mode* the unit will rock slightly. This ensures free movement of the unit.

4. The unit begins a countdown, "3...2...1" and sounds a tone for each count. When it reaches one (1) it gives a longer tone. Depending on which program and level you selected, the resistance may begin to increase and the incline may rise or fall.

5. Observe the four displays. (See Figure 1):

The lower left display flashes the actual incline until the desired incline is reached and then reverts to time. During your workout the time will show in the format of minutes:seconds. If your workout exceeds sixty minutes the time format will change to minutes only.

The lower right display shows the user's current resistance.

The top center display begins showing your program profile at the left side.

The center display shows statistics or adjustable settings. This scans (every three seconds) through **Distance**, **Calories, Calories per Hour, Mets, Watts** and **Strides Per Minute**. Press the **Scan** key to toggle this feature on or off.

NOTE: *Heart Rate is scanned only when you are holding the contact heart rate grips or using Polar compatible heart rate transmitter. See Figure 1.*

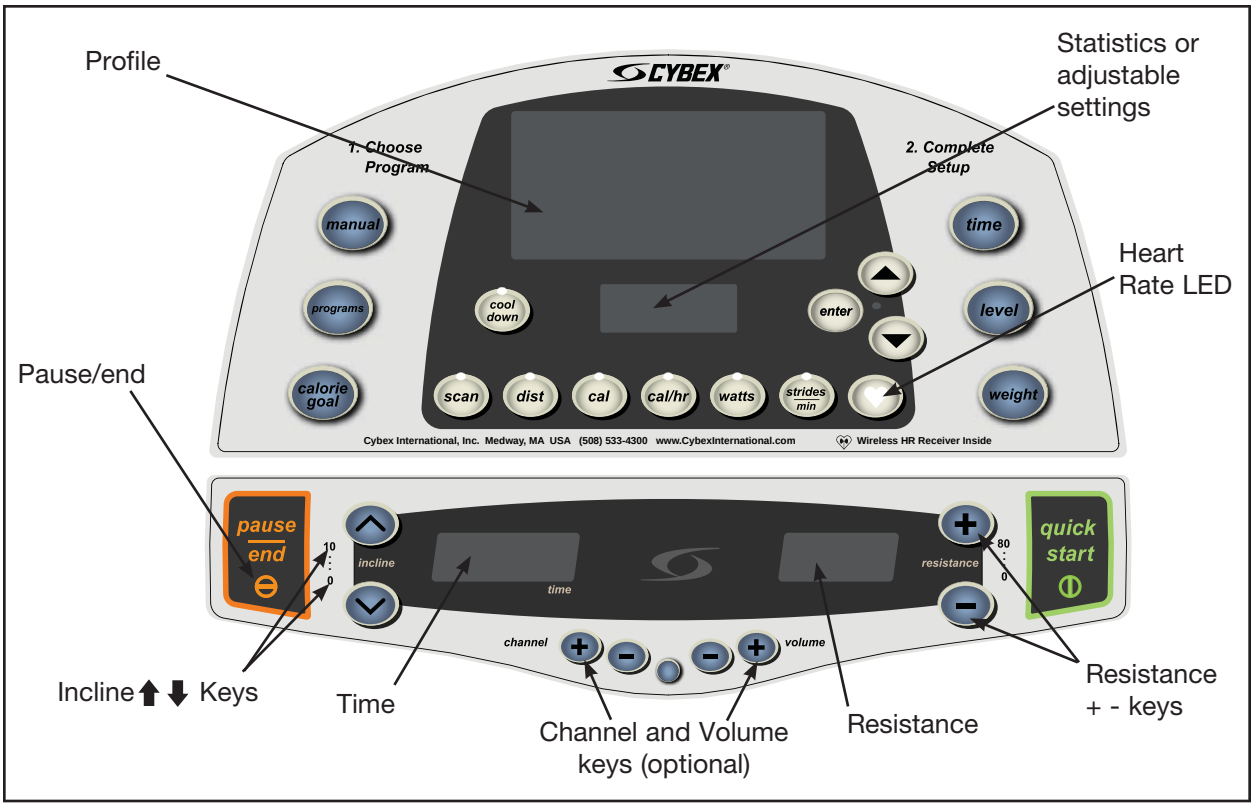


Figure 1

6. Press the **Resistance + -** keys to change the load at any time. Pressing the **+** key will make your workout harder. Pressing the **-** key will make your workout easier. The right display will show the current level in increments of 1 from 0 to 80.

7. Press the **Incline** Λ V keys to change the incline at any time. The left display will show the current incline (only while it is adjusting), in increments of 1 from 0 to 10.

8. Press the **Pause/end** key at any time to stop your workout. Press **Pause/end** once to end your workout and begin your *Workout Review*. As you press **Pause/end** once, the unit will return to level 0 incline (starting position). Press **Pause/end** twice to clear the *Workout Review* and return to *Dormant Mode.*

9. When you complete a program the unit begins a countdown, "3...2...1" and sounds a tone for each count. Workout Review displays for 20 seconds (default setting) or until you press the **Pause/end** key.

NOTE: *Speeding up and slowing down is dependent on the user speeding up and slowing down.*

! WARNING: Wait until foot plates come to a complete stop before dismounting.

10. Wait until foot plates come to a complete stop before dismounting the unit. Hold the handles to steady yourself while you step off the unit.

11. The unit returns to *Dormant Mode.*

Stopping the Arc Trainer 425A

Press **Pause/End** once to pause your workout for 20 seconds (default setting) and to enter the *Workout Review.* As you stop striding the foot plates will stop and the elevation will return to the level 0 incline (starting position), but all workout settings and data will remain in memory for the pre-selected time. Press the **Quick Start** key within the default setting to continue your workout. If the **Quick Start** key has not been pressed during the 20 seconds pause, workout data will be cleared and the display will change to *Dormant Mode.*

Press **Pause/end** a second time to interrupt workout data from cycling and to change the display to *Dormant Mode.*

NOTE: *Speeding up and slowing down is dependent on the user speeding up and slowing down.*

! WARNING: Wait until foot plates come to a complete stop before dismounting.

Emergency Dismount: Follow the steps listed below if you experience pain, feel faint or need to stop your unit in an emergency situation:

1. Grip handles for support.
2. Stop striding.
3. Wait until the foot plates come to a complete stop.
4. Continue holding the handles while you step off the unit.

Presence Detect

Presence Detect uses the movement of the pedals and any input from the user (such as a key press or heart rate) to determine your presence. If you step off the Arc or stop moving during a workout, it may detect that you are not there. After the pre-selected waiting period "run?" will appear in the center window for a few seconds then Presence Detect will end your workout session. If you press Quick Start within the time selected you can resume your workout.

Control During Operation

Control keys on the display are usable during operation and may be pressed at any time to make adjustments in level, incline or data readouts.

Changing Level - You can change the level during a programmed workout. Press the **Level** key to display the current program and level status. Then press ▲▼ keys to change the level. The level will change immediately and will continue to accumulate performance data without interruption. ***NOTE:*** *If you change the level during the Manual Mode the level and resistance will change at once.*

Changing Resistance - Press the **Resistance + -** keys to change the load in increments of 1. Minimum to maximum resistance is from 0-80. ***NOTE:*** *During a Manual Mode or* ***Quick Start*** *workout the* ▲▼ keys *temporarily revert to resistance keys.*

Changing Incline - Press the **Incline** keys to change the elevation in increments of 1 from 0-10. The elevation rises in the shape of an arc ranging from 12 to 34.5 degrees. See *Range of Motion* in this chapter.

Changing Programs - When changing programs, your data from the previous program will transfer only when changing from one program to *Manual Mode*. You cannot transfer data when changing from one program to another program or from *Manual Mode* to a program.

Changing Workout Time - Press **Time** to alter the amount of time you plan to workout. You can change **Time** before or during a workout. ***NOTE:*** *The* ***Max*** *default time may limit your time. See Setting Operation Options in chapter 5.*

Changing Data Readouts - Press **Scan** once to continue to display a set of data. Press **Scan** again and it will continually review each set of data. ***NOTE:*** *The automatic scan is a feature that can be toggled and/or turned on or off. See Setting Operation Options in chapter 5. If* ***Scan*** *is off, your heart rate will still appear when a heart beat is detected.*

Data Readouts

As you exercise, the Arc Trainer 425A keeps track of the following data:

Distance - The total accumulated distance, in miles or kilometers, during your workout. ***NOTE:*** *Depending on the defaults you've chosen this measurement will show in English or Metric.*

Calories - The total accumulated calories burned during your workout. Your weight must be correctly set before beginning your workout for this measurement to be most accurate.

Calories Per Hour - Calculation of present workloads energy exertion in Calories per Hour. Your weight must be correctly set before beginning your workout for this measurement to be most accurate.

Metabolic Equivalent - Relates to the user's energy expenditure. A MET is a basic unit of measurement that is used to compare relative work between individuals and activities. One MET is the amount of oxygen an individual consumes at rest. For example two mets would be twice that amount. If an individual were working at four METs he/she would be consuming oxygen at a rate equal to four times their resting consumption. METs can be used to compare walking on a grade with running or even to cycling and other activities. See *The Workout Profile* in this chapter for more information.

Watts - Present workload energy exertion in Watts.

Strides Per Minute - Your average number of strides per minute at your current speed.

Heart Rate - Your current heart rate. Heart rate will appear when a signal is introduced. Use either the handgrips for Contact Heart Rate or a Polar compatible heart rate transmitter. See *Heart Rate LED* for a description of colors.

To review accumulated data after a program: The display automatically cycles through your accumulated workout data during the *Workout Review* for 20 seconds (default setting). ***NOTE:*** *Heart rate is not displayed during a Workout Review.*

Displaying Heart Rate

In order to display your heart rate, you must either use a Polar compatible heart rate transmitter belt (not included) or hold the handgrips to use Contact Heart Rate.

Contact Heart Rate - Hold the handgrips on the handles until a heart rate is displayed, typically less than thirty seconds. For best results, hold the handgrips lightly and ensure that your hands contact both the front and back sensors of each grip. ***NOTE:*** *Hold your hands as steady as possible as movement can cause interference on the contacts.*

Factors that can interfere with the heart rate signal include:
- excessive movement
- body composition
- hydration
- too loose grip
- too tight grip
- excessive dirt, powder or oil
- resting or leaning on the grips

Contaminants, such as hand lotions, oils or body powder, may come off on the contact heart rate grips. These can reduce sensitivity and interfere with the heart rate signal. Therefore, ensure you have clean hands when using the contact heart rate.

Polar Compatible Reception - To use this feature, a Polar compatible heart rate transmitter belt must be worn. To view heart rate continuously, press the **Scan** key when the Heart LED is lit or press the **Heart** key.

Heart Rate LED

When the handgrips are held the center display switches to show the heart rate in beats per minute (BPM) if you are not scanning. For several seconds the display will show "---". Once the actual heart rate is determined the center window displays the BPM and the Heart LED lights up. See Figure 2. The color of the light represents a scale of low to high target heart rate.

Blue = 0-69 beats per minute
Green = 70-93 beats per minute
Yellow = 94-120 beats per minute
Amber = 121-170 beats per minute
Purple = 171 & up beats per minute

NOTE: *A label is on the unit to remind you what the color represents while you are working out. See Figure 2.*

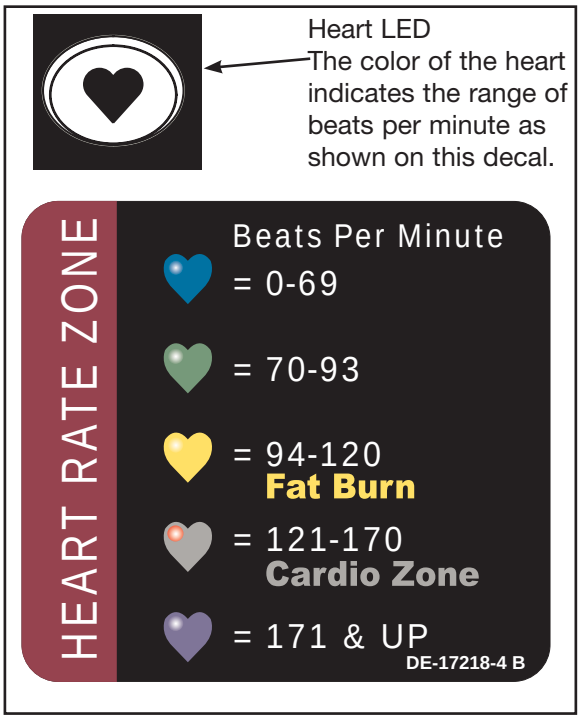


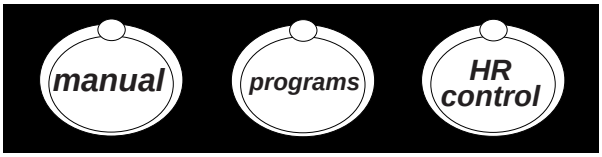
Figure 2

Use of Programs

! WARNING: Obtain a medical exam before beginning any exercise program. Begin comfortably with a lower level and progress with higher levels as you become acclimated.

With the Arc Trainer 425A, you may choose from nine different programs. Eight of the programs provide ten levels of difficulty for a choice of 80 different pre-programmed options.You may also use *Manual Mode*. With this unique combination of programs, you can tailor your workout to achieve exactly the fitness goals you desire, including: weight loss, conditioning, endurance or maintenance of overall health. Speed is never predetermined for you; you can change your speed simply by changing your stride. The program choices are summarized as follows:

Manual Mode	Enter time and weight. You control speed, elevation.	
P1 Speed Interval 1	10 Levels	Select time, level and weight.
P2 Speed Interval 2	10 Levels	Select time, level and weight.
P3 Hills Interval	10 Levels	Select time, level and weight.
P4 Valleys	10 Levels	Select time, level and weight.
P5 Ramps	10 Levels	Select time, level and weight.
P6 Hills	10 Levels	Select time, level and weight.
P7 Weight Loss	10 Levels	Select time, level and weight.
P8 Cardio	10 Levels	Select time, level and weight.
Calorie Goal	Enter calorie goal 50 - 2,000.	



Manual Mode

Manual Mode is not a pre-programmed workout. Instead, it allows you to choose setting as you workout. You may choose your settings according to how you feel or your endurance level. Since you remain in control, *Manual Mode* may be the best choice for beginners or for those who have not worked out in a long time.

Press the **Quick Start** key to workout in *Manual Mode*. To increase or decrease the resistance while in *Manual Mode* use the **Resistance + -** keys. To increase or decrease the incline while in Manual Mode use the Λ V arrows.

When you workout in *Manual Mode*, be sure to include a three-to-five minute warm-up and cool-down period. You can warm-up by setting a low resistance at zero incline and then gradually increase the incline and resistance to the target for your workout. Reverse this process for your cool-down period, lowering the resistance gradually and returning the incline to zero.

The Workout Profile

The Workout Profile matrix in the center of the display uses columns of lights to show the progress of your workout. The height of the column represents METS, specifically the highest METS you reached in that period. Each column represents 1 minute of your total workout time when in *Manual Mode* and 15 seconds in every other program.

NOTE: *It is conceivable to have two segments of different speed and elevation combinations in the same met range.*

Range of Motion

Press the **Incline** Λ V keys to change the elevation in increments of 10%. The elevation rises or lowers in the shape of an arc ranging from 12 to 34.5 degrees (with the chord of an arc). Depending upon the incline you choose the primary and secondary muscles trained will vary. See Figure 3.

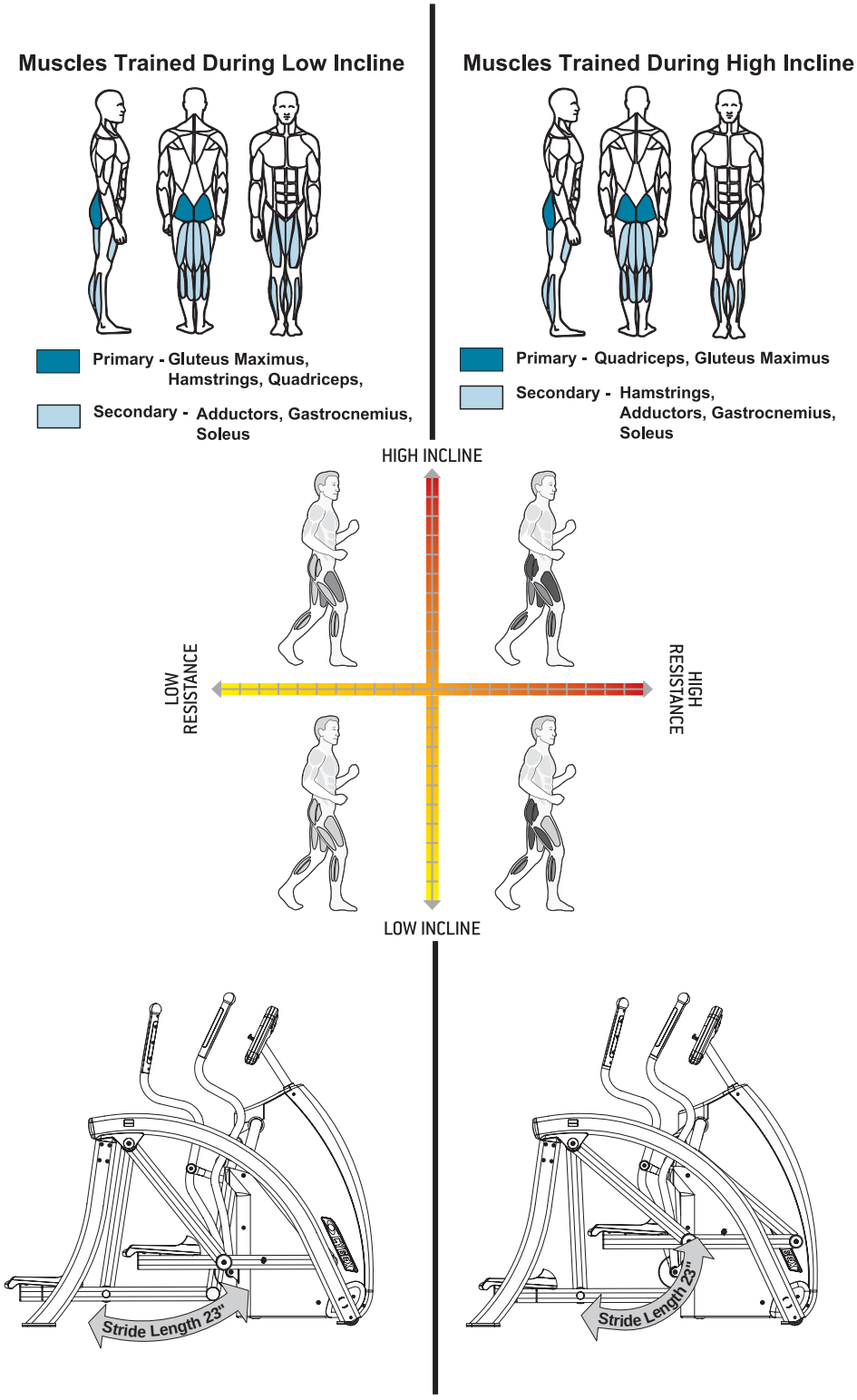

Muscles Trained During Low Incline
Primary - Gluteus Maximus, Hamstrings, Quadriceps,
Secondary - Adductors, Gastrocnemius, Soleus
Muscles Trained During High Incline
Primary - Quadriceps, Gluteus Maximus
Secondary - Hamstrings, Adductors, Gastrocnemius, Soleus
HIGH INCLINE
LOW RESISTANCE
HIGH RESISTANCE
LOW INCLINE
Stride Length 23"
Stride Length 23"

Figure 3

Speed Interval 1

Program Overview

This program is designed to introduce the user to some higher intensity training. The program uses a fixed incline with resistance using a repeating 1:2 work to rest ratio. Each work segment lasts 30 seconds and each rest segment lasts 60 seconds. The resistance of the rest segments is 60 to 65% that of the work segments. Interval training is designed to tax both the aerobic and anaerobic energy systems. During the high intensity segments the anaerobic energy system is taxed. During the low intensity segments the aerobic energy system is used while the "oxygen debt" incurred during the high intensity segments is repaid. The repetition of the high intensity segments forces the body to adapt to the greater demands thereby helping the user to develop higher performance capabilities. See table below and Figure 4.

Speed Interval 1					**Repeat**						
Time	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30
Distance	Refer to Notes							Refer to Notes			
	Warm up				Program Segment			Cool Down			
Resistance	1	2	3	4	1	2	3	1	2	3	4
10	35	45	55	65	70	45	45	40	35	30	20
9	35	40	50	60	65	40	40	35	30	25	15
8	30	40	50	55	60	35	35	30	25	20	15
7	30	35	45	50	55	30	30	30	25	20	10
6	25	35	40	45	50	30	30	30	25	20	10
5	25	30	35	40	45	25	25	25	20	15	10
4	20	25	30	35	40	25	25	25	20	15	10
3	20	25	30	30	35	20	20	20	15	10	10
2	15	20	25	30	30	20	20	20	15	10	5
1	10	15	20	20	25	15	15	15	15	10	5
Elevation	Warm up				Program Segment			Cool Down			
	1	2	3	4	1	2	3	1	2	3	4
10	2	2	3	4	5	5	5	4	3	2	2
9	2	2	3	4	5	5	5	4	3	2	2
8	2	2	3	3	4	4	4	3	3	2	2
7	2	2	3	3	4	4	4	3	3	2	2
6	2	2	3	3	4	4	4	3	3	2	2
5	2	2	2	3	3	3	3	3	2	2	2
4	2	2	2	2	3	3	3	2	2	2	2
3	2	2	2	2	3	3	3	2	2	2	2
2	2	2	2	2	2	2	2	2	2	2	2
1	2	2	2	2	2	2	2	2	2	2	2
Shown as a 10 minute program											
Time may be increased in 1 minute blocks added to core program											

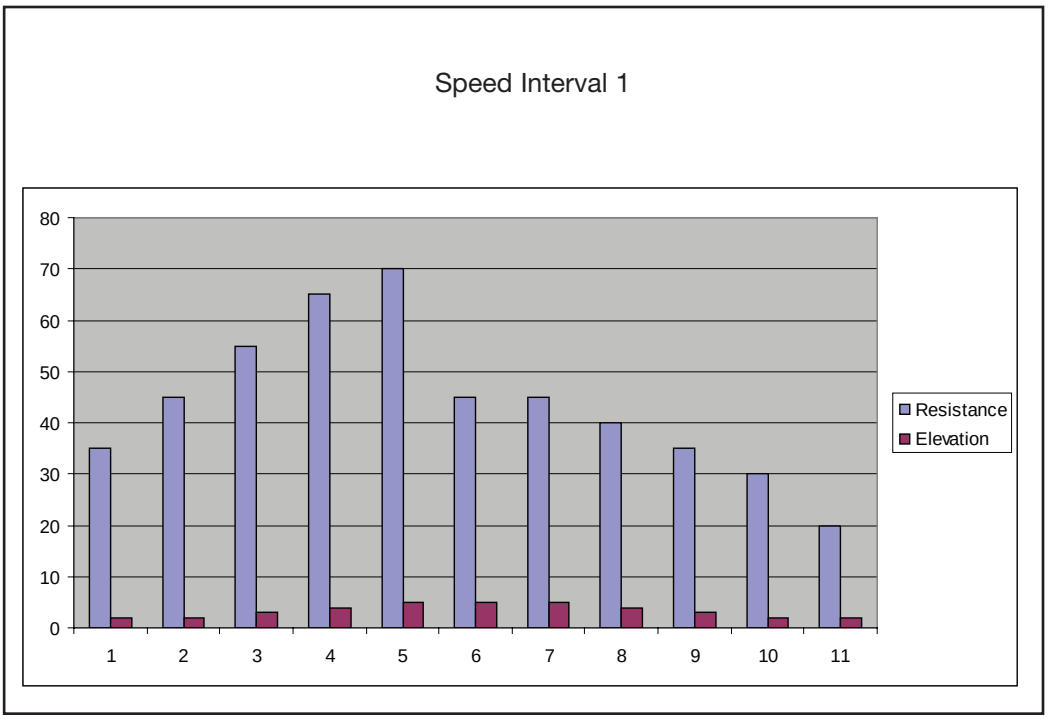

Speed Interval 1
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
Resistance
Elevation

Figure 4

Speed Interval 2

Program Overview

This program is designed for those who desire a higher intensity training interval training program. The program uses a fixed incline with resistance using a repeating 1:1 work to rest ratio. Each work segment lasts 60 seconds and each rest segment lasts 60 seconds. The resistance of the rest segments is approximately 55 to 65% that of the work segments. Interval training is deigned to tax both the aerobic and anaerobic energy systems. During the high intensity segments the anaerobic energy system is taxed. During the low intensity segments the aerobic energy system is used while the “oxygen debt” incurred during the high intensity segments is repaid. In Interval 2 the extended work segment creates a greater “oxygen debt” than Interval 1 putting greater demand on both energy system and the repayment of the “oxygen debt” forcing even greater adaptation to the imposed demands. See table below and Figure 5.

Interval 2					**Repeat**					
Time	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30
Distance	Refer to Notes				Program Segment		Refer to Notes			
	Warm up						Cool Down			
Resistance	1	2	3	4	1	2	1	2	3	4
10	20	30	35	40	80	50	40	35	30	20
9	15	25	30	35	75	50	35	30	25	15
8	15	20	25	30	75	45	30	25	20	15
7	10	20	25	30	70	45	30	25	20	10
6	10	20	25	30	70	40	30	25	20	10
5	10	15	20	25	65	40	25	20	15	10
4	15	20	20	25	65	35	25	20	20	15
3	10	10	15	20	60	35	20	15	10	10
2	5	10	15	20	60	30	20	15	10	5
1	5	10	15	15	55	30	15	15	10	5
Elevation	Warm up				Program Segment		Cool Down			
	1	2	3	4	1	2	1	2	3	4
10	2	2	3	4	5	5	4	3	2	2
9	2	2	3	4	5	5	4	3	2	2
8	2	2	3	3	4	4	3	3	2	2
7	2	2	3	3	4	4	3	3	2	2
6	2	2	3	3	4	4	3	3	2	2
5	2	2	2	3	3	3	3	2	2	2
4	2	2	2	2	3	3	2	2	2	2
3	2	2	2	2	3	3	2	2	2	2
2	2	2	2	2	2	2	2	2	2	2
1	2	2	2	2	2	2	2	2	2	2
Time may be increased in 1 minute blacks added to core program										

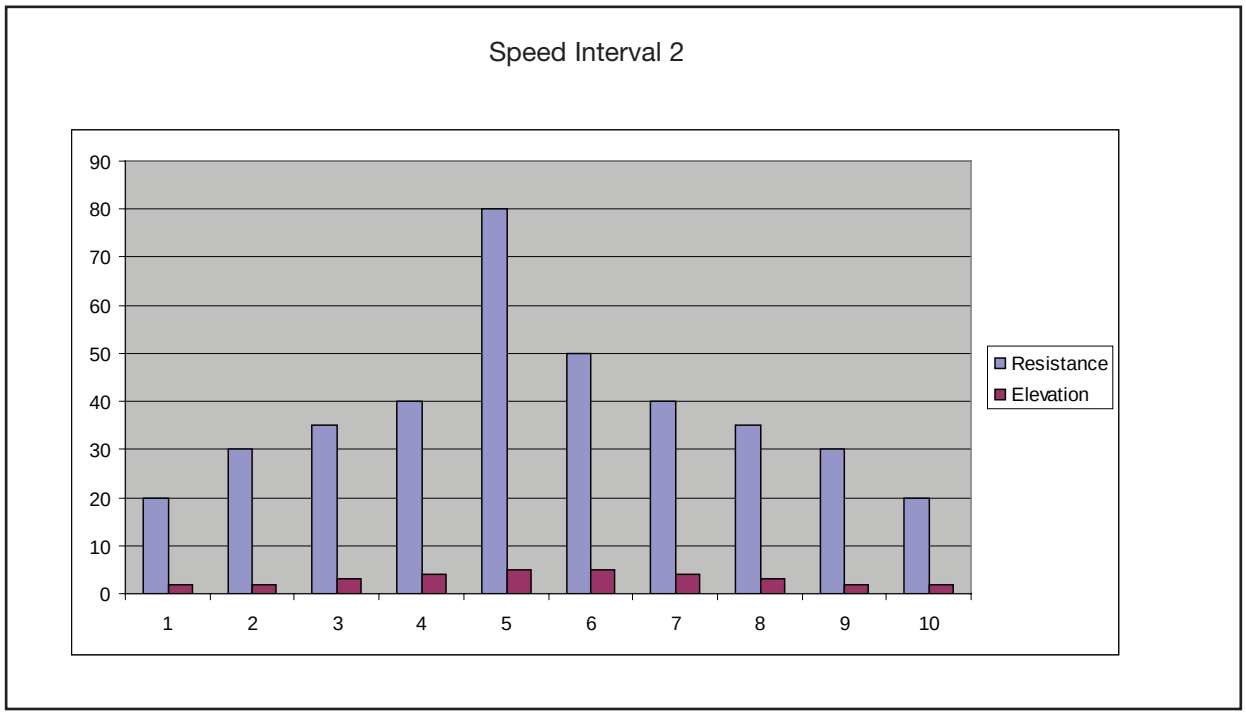


Figure 5

Hills Interval

Program Overview

The Hills program is designed to give the user the experience of hiking in a hilly terrain. This program uses intervals of moderate resistance and incline to simulate relatively flat areas and intervals of substantially greater incline and resistance to simulate steeper grades. Likewise the two-minute work segments are intended to tax the users capabilities, while the two-minute rest allows for recuperation and allows for repeated work segments. See table on next page and Figure 6.

Hills Interval										
Time	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30
Distance					Program Segments					
	Warm up						Cool Down			
Resistance	1	2	3	4	1	2	1	2	3	4
10	20	25	30	35	40	60	35	30	25	20
9	20	25	30	35	40	50	35	30	25	20
8	15	20	25	30	35	45	30	25	20	15
7	15	20	25	30	35	40	30	25	20	15
6	15	15	20	25	30	35	25	20	15	15
5	15	15	20	25	30	25	25	20	15	15
4	10	10	15	20	25	30	20	15	10	10
3	10	10	15	20	25	25	20	15	10	10
2	10	10	10	15	20	20	15	10	10	10
1	10	10	10	10	15	15	10	10	10	10
Elevation	Warm up				Program Segments		Cool Down			
	1	2	3	4	1	2	1	2	3	4
10	3	4	5	6	6	10	6	5	4	3
9	3	3	4	5	5	10	5	4	3	3
8	3	3	4	5	5	9	5	4	3	3
7	3	3	3	4	4	9	4	3	3	3
6	3	3	3	4	4	8	4	3	3	3
5	3	3	3	3	3	8	3	3	3	3
4	3	3	3	3	3	7	3	3	3	3
3	2	2	3	3	3	7	3	3	2	2
2	2	2	3	3	3	6	3	3	2	2
1	2	2	3	3	3	6	3	3	2	2
Shown as a 10 minute program										
Time may be increased in 1 minute blocks added to core program										

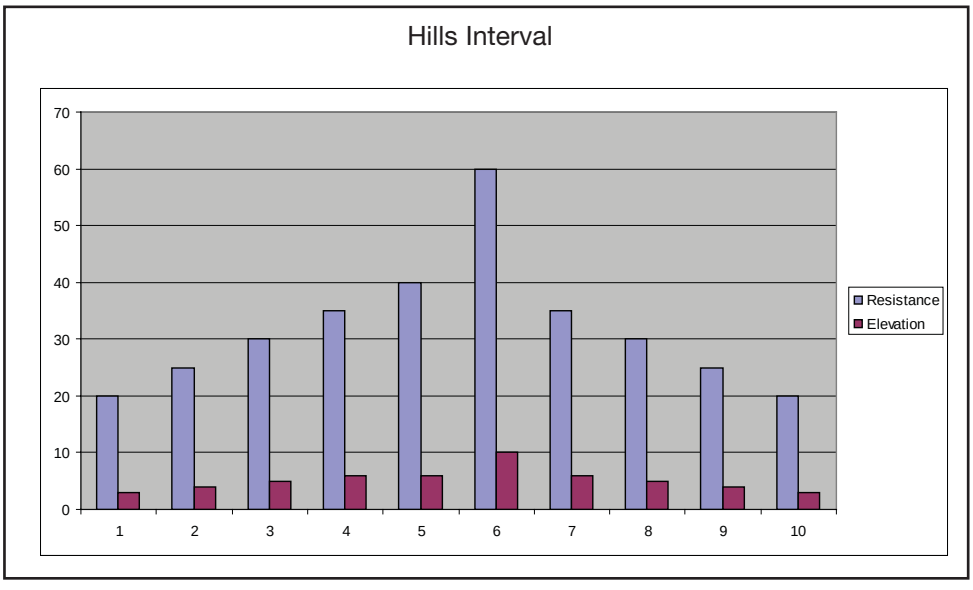


Figure 6

Valleys

Program Overview

The Valleys program provides a contrasting mix of incline and resistance. The program uses a five minute core during which the resistance is increased and the incline is reduced in the first three minutes followed by and a reduction in resistance and an increase in incline until the valley repeats itself. This program is designed specifically to contrast the Ramps and Hills programs for added training variety. See table below and Figure 7.

Valleys													
Time	:30	:30	:30	:30	1:00	1:00	1:00	1:00	1:00	:30	:30	:30	:30
Distance	Refer to Notes												
	Warm up				Program Segment					Cool Down			
Resistance	1	2	3	4	1	2	3	4	5	1	2	3	4
10	20	25	30	40	50	65	80	65	50	40	30	25	20
9	20	25	30	35	50	60	75	60	50	35	30	25	20
8	20	25	30	35	45	55	70	55	45	35	30	25	20
7	15	20	25	35	45	50	65	50	45	35	25	20	15
6	15	20	25	30	40	45	60	45	40	30	25	20	15
5	10	15	20	20	40	40	55	40	40	20	20	15	10
4	10	10	15	15	30	35	50	35	30	15	15	10	10
3	5	10	10	15	30	30	45	30	30	15	10	10	5
2	5	5	10	10	20	20	40	20	20	10	10	5	5
1	5	5	10	10	15	20	35	20	15	10	10	5	5
Elevation	Warm up				Program Segment					Cool Down			
	1	2	3	4	1	2	3	4	5	1	2	3	4
10	3	4	5	5	10	5	1	5	10	5	5	4	3
9	3	4	5	5	10	4	1	4	10	5	5	4	3
8	3	4	4	4	9	4	1	4	9	4	4	4	3
7	3	3	4	4	9	4	1	4	9	4	4	3	3
6	3	3	4	4	8	3	1	3	8	4	4	3	3
5	3	3	4	4	7	3	1	3	7	4	4	3	3
4	3	3	4	4	6	3	1	3	6	4	4	3	3
3	3	3	4	4	5	2	1	2	5	4	4	3	3
2	3	3	4	4	4	2	1	2	4	4	4	3	3
1	3	3	4	4	3	2	1	2	3	4	4	3	3

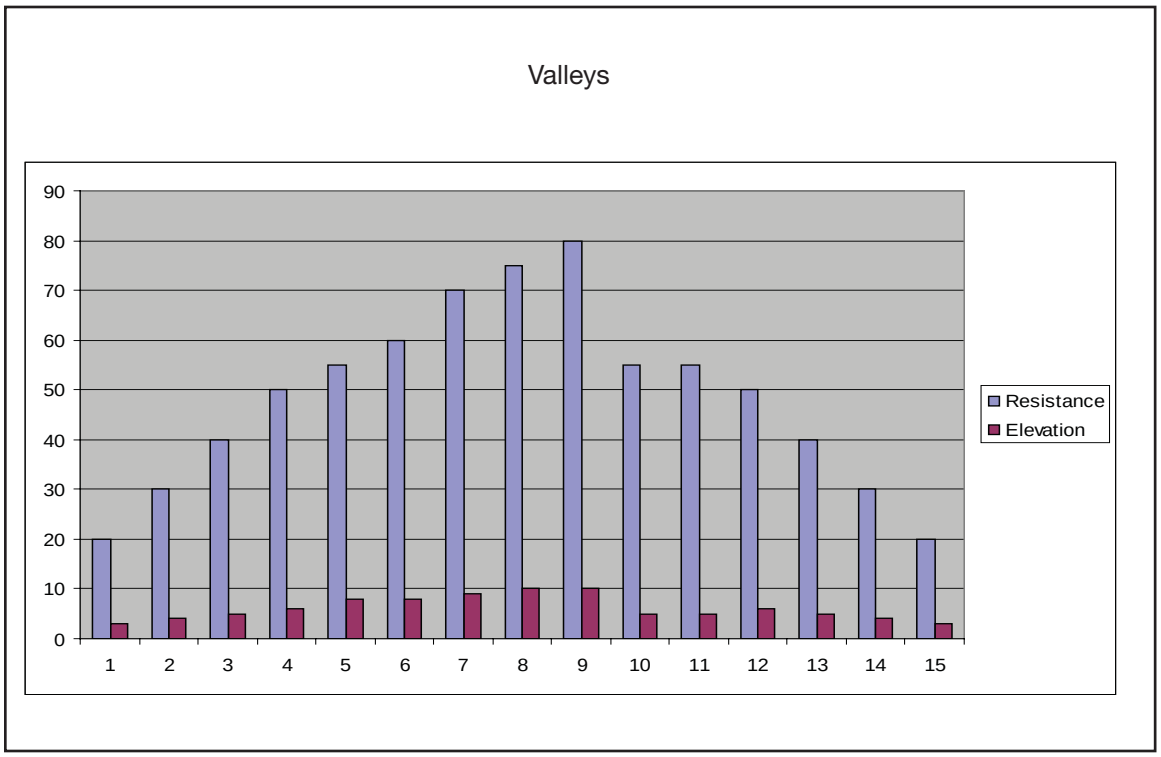

Valleys
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Resistance
Elevation

Figure 7

Ramps

Program Overview

The Ramps program is similar to the Hills program but uses a more linear ramp to both incline and resistance from segment to segment. Ramps is comprised of a 3 ½ minute core where the incline and resistance both increase over the first 2 ½ minutes followed by a one minute reduction of both incline and resistance. The reduction in incline and resistance is designed to provide a working rest period before the ramp is repeated. See table below and Figure 8.

Ramps															
Time	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30				
Distance	Refer to Notes				Refer to Notes							Refer to Notes			
	Warm up				Program Segment							Cool Down			
Resistance	1	2	3	4	1	2	3	4	5	6	7	1	2	3	4
10	20	30	40	50	55	60	70	75	80	55	55	50	40	30	20
9	20	30	40	45	55	65	65	70	75	55	55	45	40	30	20
8	20	30	35	40	50	60	60	65	70	50	50	40	35	30	20
7	15	25	35	35	45	55	55	60	65	45	45	35	35	25	15
6	15	25	30	35	40	50	50	55	60	40	40	35	30	25	15
5	15	25	30	30	35	45	45	50	55	35	35	30	30	25	15
4	10	20	25	30	30	40	40	45	50	30	30	30	25	20	10
3	10	20	25	25	25	35	35	40	45	25	25	25	25	20	10
2	10	15	20	20	20	30	30	35	40	20	20	20	20	15	10
1	10	10	15	15	15	20	25	30	35	15	15	15	15	10	10
Elevation	Warm up				Program Segment							Cool Down			
	1	2	3	4	1	2	3	1	2	5	5	1	2	3	4
10	3	4	5	6	8	8	9	10	10	5	5	6	5	4	3
9	3	3	4	5	7	8	8	9	10	5	5	5	4	3	3
8	3	3	4	4	7	7	8	9	9	5	5	4	4	3	3
7	3	3	4	4	6	7	7	8	9	5	5	4	4	3	3
6	3	3	3	4	6	6	7	8	8	5	5	4	3	3	3
5	3	3	3	3	5	6	6	7	8	5	5	3	3	3	3
4	2	2	2	3	5	5	6	7	7	5	5	3	2	2	2
3	2	2	2	3	4	5	5	6	7	5	5	3	2	2	2
2	2	2	2	2	4	4	5	6	6	5	5	2	2	2	2
1	2	2	2	2	3	4	4	5	6	5	5	2	2	2	2
Shown as a 10 minute program															
Time may be increased in 1 minute blocks added to core program															

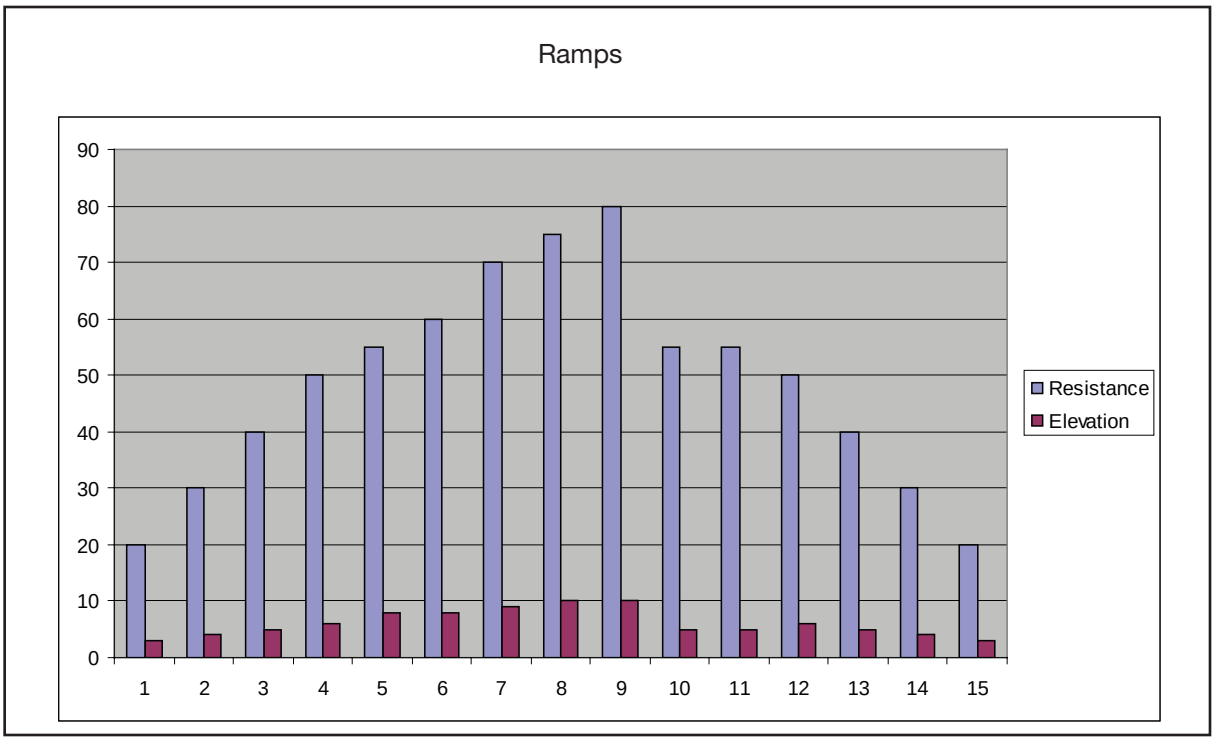

Ramps
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Resistance
Elevation

Figure 8

Hills

Program Overview

The Hills program uses a 3 ½ minute core where the incline and resistance both increase over the first 2 ½ minutes followed by a one minute reduction of both incline and resistance. The reduction in incline and resistance is designed to simulate reaching the top a hill and level ground. The climb up the hill is then repeated. See table below and Figure 9.

Hills															
Time	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30
Distance	Refer to Notes				Program Segments			Refer to Notes				Refer to Notes			
	Warm up							Cool Down				Cool Down			
Resistance	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4
10	20	30	40	50	50	55	65	75	80	50	50	50	40	30	20
9	20	30	40	45	45	50	60	70	75	45	45	45	40	30	20
8	20	30	35	40	40	45	55	65	75	40	40	40	35	30	20
7	15	25	35	35	35	45	50	60	70	35	35	35	35	25	15
6	15	25	30	35	35	40	50	55	65	35	35	35	30	25	15
5	15	25	30	30	30	35	45	50	60	30	30	30	30	25	15
4	10	20	25	30	25	30	40	50	55	25	25	30	25	20	10
3	10	20	25	25	20	30	40	45	50	20	20	25	25	20	10
2	10	15	20	25	20	25	35	40	45	20	20	25	20	15	10
1	10	10	15	15	30	20	30	35	40	20	20	15	15	10	10
Elevation	Warm up				Program Segments			Cool Down				Cool Down			
	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4
10	3	4	5	6	8	8	9	10	10	5	5	6	5	4	3
9	3	3	4	5	7	8	8	9	10	5	5	5	4	3	3
8	3	3	4	4	7	7	8	9	9	5	5	4	4	3	3
7	3	3	4	4	6	7	7	8	9	5	5	4	4	3	3
6	3	3	3	4	6	6	7	8	8	5	5	4	3	3	3
5	3	3	3	3	5	6	6	7	8	5	5	3	3	3	3
4	2	2	2	3	5	5	6	7	7	5	5	3	2	2	2
3	2	2	2	3	4	5	5	6	7	5	5	3	2	2	2
2	2	2	2	2	4	4	5	6	6	5	5	2	2	2	2
1	2	2	2	2	3	4	4	5	6	5	4	2	2	2	2
Shown as a 10 minute program															
Time may be increased in 1 minute blocks added to core program															

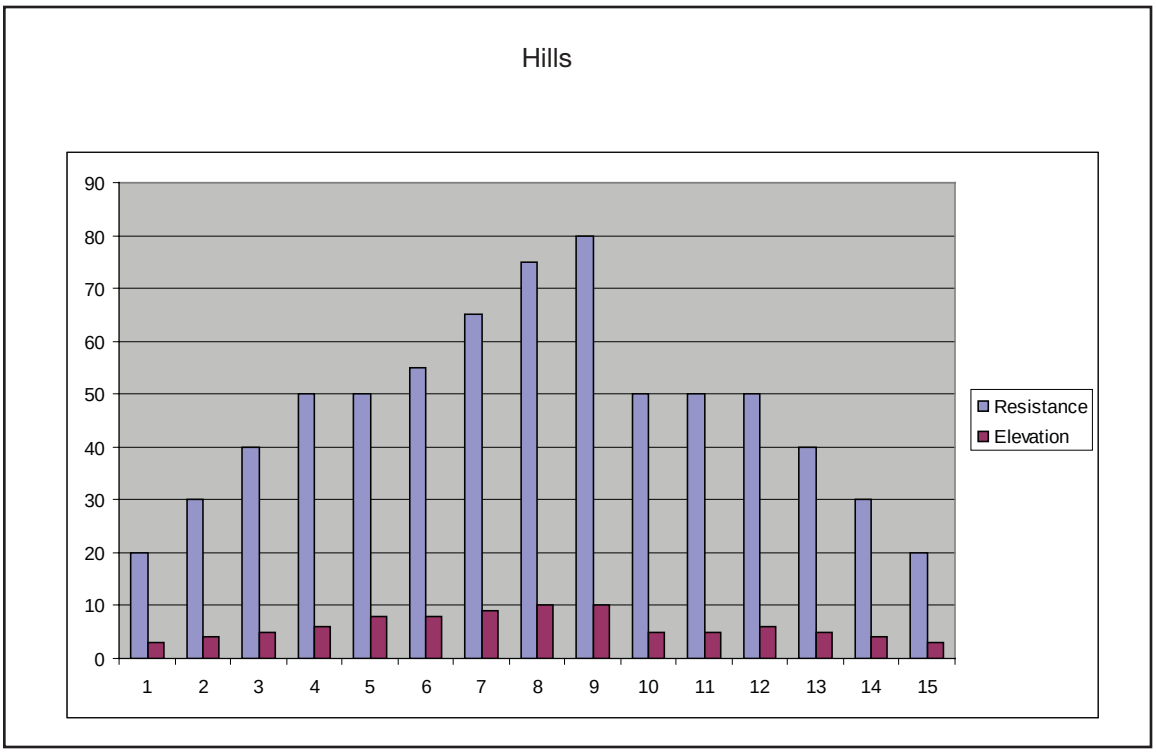

Hills
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Resistance
Elevation

Figure 9

Weight Loss

Program Overview

The Weight Loss program is designed for low to medium intensity training that the user can sustain for an extended period of time. It builds from a low intensity baseline to include segments of higher incline and resistance as well as segments that use higher resistance with the baseline incline. The constant variety porvides for periods of higher expenditure and training effect without the introduction of undue fatigue allowing the user to perform for longer periods of time. See table below and Figure 10.

Weight Loss														
Time	:30	:30	:30	:30	1:00	1:00	1:00	1:00	1:00	1:00	:30	:30	:30	:30
Distance	Refer to Notes													
	Warm up				Program Segments						Cool Down			
Resistance	1	2	3	4	1	2	3	4	5	6	1	2	3	4
10	5	10	15	20	25	45	45	25	45	25	20	15	10	5
9	5	10	15	20	25	40	40	25	40	25	20	15	10	5
8	5	10	15	20	25	35	35	25	35	25	20	15	10	5
7	5	5	10	15	25	40	40	25	40	25	15	10	5	5
6	5	5	10	15	25	35	35	25	35	25	15	10	5	5
5	5	5	10	15	25	30	30	25	30	25	15	10	5	5
4	5	5	5	10	15	25	25	15	25	15	10	5	10	8
3	5	5	5	10	15	20	20	15	20	15	10	5	10	8
2	5	5	5	5	5	15	15	5	15	5	5	4	3	3
1	5	5	5	5	5	10	10	5	10	5	5	4	3	3
Elevation	Warm up				Program Segments						Cool Down			
	1	2	3	4	1	2	3	4	5	6	1	2	3	4
10	4	4	4	4	4	6	6	4	4	4	4	4	4	4
9	4	4	4	4	4	6	6	4	4	4	4	4	4	4
8	3	3	3	3	3	6	6	3	3	3	3	3	3	3
7	3	3	3	3	3	4	4	3	3	3	3	3	3	3
6	3	3	3	3	3	4	4	3	3	3	3	3	3	3
5	3	3	3	3	3	4	4	3	3	3	3	3	3	3
4	2	2	2	2	2	3	3	2	2	2	2	2	2	2
3	2	2	2	2	2	3	3	2	2	2	2	2	2	2
2	2	2	2	2	2	3	3	2	2	2	2	2	2	2
1	2	2	2	2	2	3	3	2	2	2	2	2	2	2

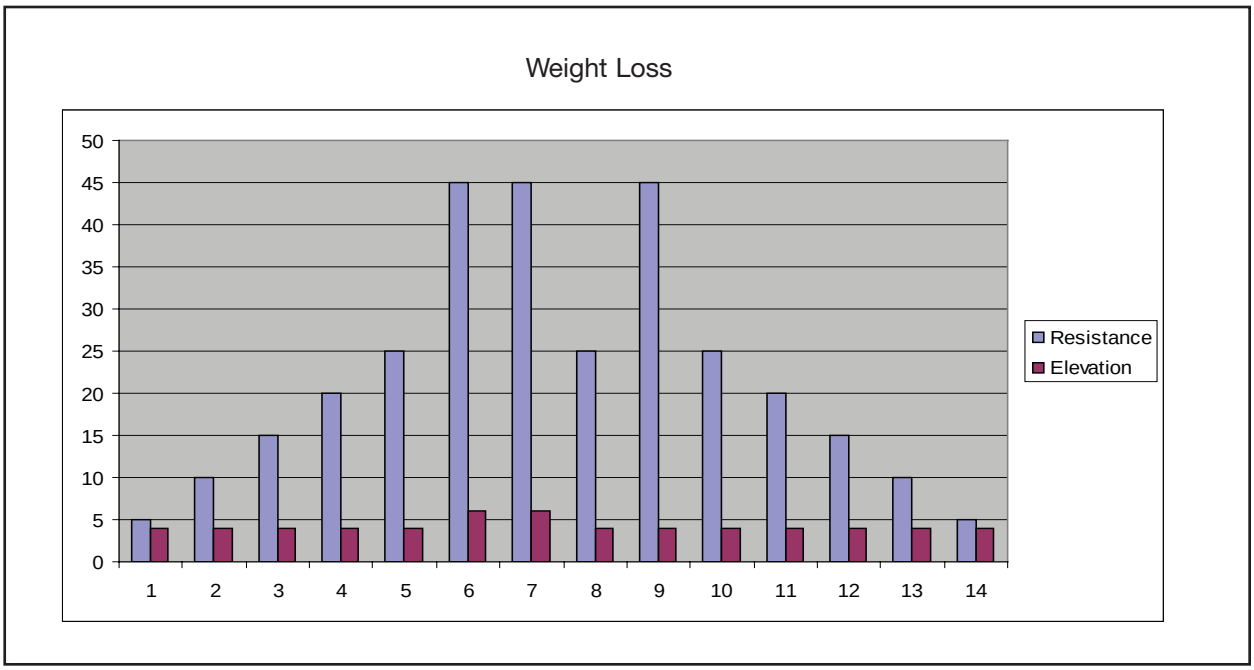

Weight Loss
50
45
40
35
30
25
20
15
10
5
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Resistance
Elevation

Figure 10

Cardio

Program Overview

The Cardio program is designed for experienced users that desire a high intensity cardiovascular training experience. The two-minute work interval with high resistance ensures that the aerobic energy system is completely taxes, while the subsequent two-minute rest interval allows for recovery enabling a repeat at the higher work rate. Additionally, a higher incline level is used during the recovery interval to discourage blood pooling, ensuring more complete recovery. See table below and Figure 11.

Cardio										
Time	:30	:30	:30	:30	:30	:30	:30	:30	:30	:30
Distance	Refer to Notes				Program Segments		Refer to Notes			
	Warm up						Cool Down			
Resistance	1	2	3	4	1	2	1	2	3	4
10	30	35	45	55	80	60	55	45	35	30
9	25	35	45	55	75	55	55	45	35	25
8	25	30	40	45	70	50	45	40	30	25
7	20	25	35	40	65	45	40	35	25	20
6	15	20	30	35	60	40	35	30	20	15
5	15	20	25	30	55	35	30	25	20	15
4	10	15	20	25	50	30	25	20	15	10
3	5	10	15	20	45	30	20	15	10	5
2	0	5	10	15	40	25	15	10	5	0
1	0	0	5	10	35	20	10	5	0	0
Elevation	Warm up				Program Segments		Cool Down			
	1	2	3	4	1	2	1	2	3	4
10	3	4	5	6	5	8	6	5	4	3
9	3	3	4	5	5	8	5	4	3	3
8	3	3	4	4	5	7	4	4	3	3
7	3	3	4	4	4	7	4	4	3	3
6	3	3	3	4	4	6	4	3	3	3
5	3	3	3	3	4	6	3	3	3	3
4	2	2	2	3	3	5	3	2	2	2
3	2	2	2	3	3	5	3	2	2	2
2	2	2	2	2	2	4	2	2	2	2
1	2	2	2	2	2	4	2	2	2	2
Shown as a 10 minute program										
Time may be increased in 1 minute blocks added to core program										

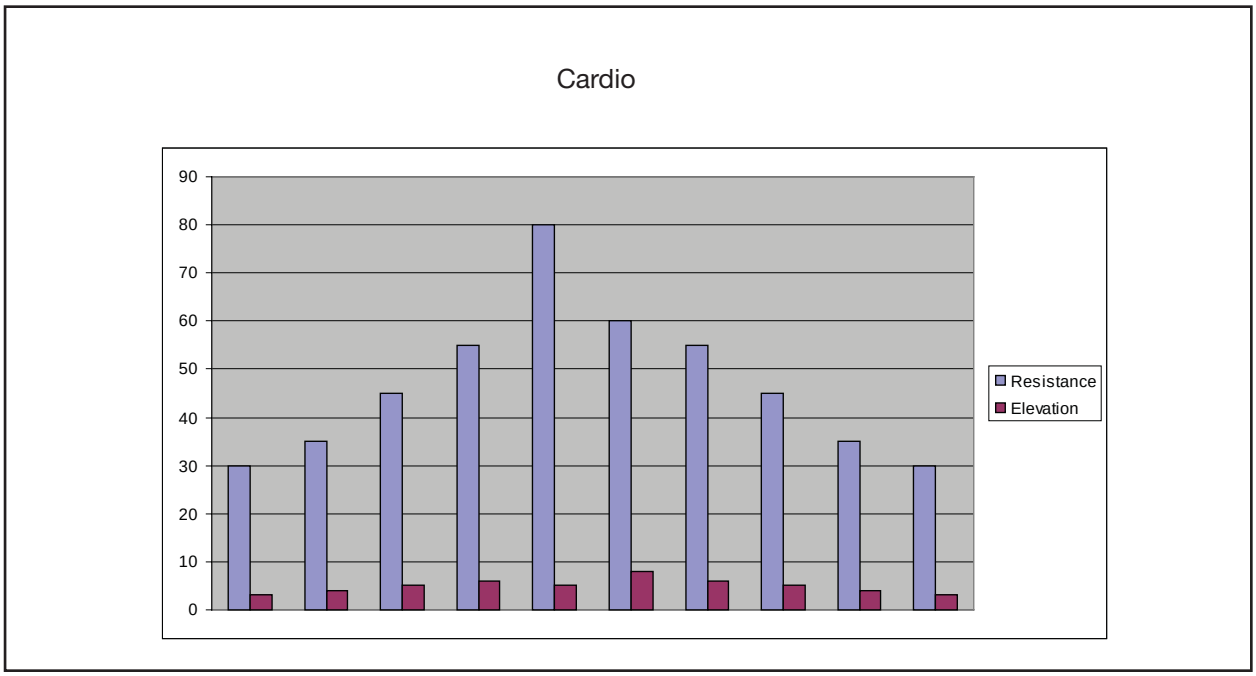


Figure 11