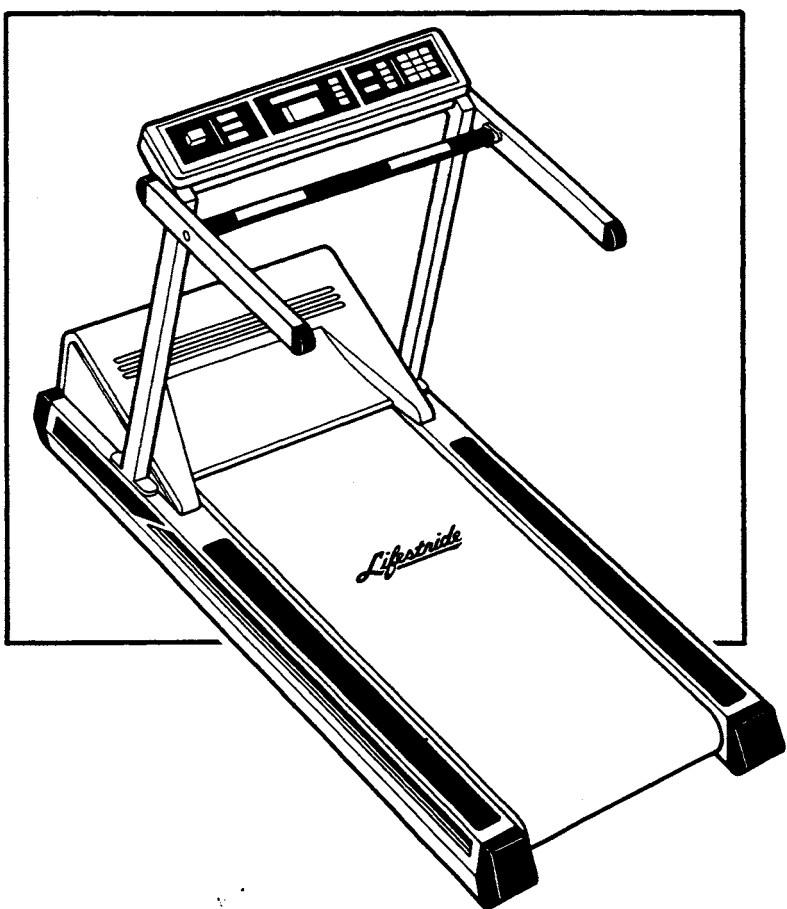# *Lifestride*
9100HR♥ ®

OPERATION MANUAL

**HOW TO GET THE MOST FROM THE
LIFESTRIDE®AEROBIC TRAINER**

FCC Warning—Possible Radio/Television Interference

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instruction manual, this product may cause harmful interference to radio communications. There is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

❏ Reorient or relocate the receiving antenna.

❏ Increase the space between the equipment and the receiver.

❏ Connect the equipment to an outlet on a different circuit than that to which the receiver is connected.

❏ Consult the dealer or an experienced radio/tv technician for help.

You are cautioned that any changes or modifications could void your authority to operate the equipment.

CAUTION: Anyone starting a vigorous exercise regimen should see a physician for a medical exam. We strongly recommend that you see your doctor before beginning any exercise program, especially if you have a history of high blood pressure, heart problems, or if you are over the age of 45.

Life Fitness

Sales, Product Information and Customer Service:

Life Fitness
Corporate Headquarters
10601 West Belmont Avenue
Franklin Park, Illinois 60131
(800) 735-3867 Toll Free
(708) 288-3300
Fax: (708) 288-3703

Assistance on Installation, Operation, Warranty, Parts and Repairs:

Life Fitness
After Market Service
10601 West Belmont Avenue
Franklin Park, Illinois 60131
(800) 351-3737 Toll Free
(708) 451-0036
Telex: 721596
Fax: (708) 288-3702

Introduction

Congratulations… and welcome to the world of Life Fitness and the Lifestride® 9100HR aerobic trainer.

The Lifestride aerobic trainer offers a host of exclusive features designed to help users achieve their fitness goals more quickly and enjoyably. The new Heart Rate program, the Lifepulse™ digital heart rate monitoring system with near 100% accuracy*, and the Fit Test program provide the exceptional motivational that help users stay with their conditioning program.

Who uses the Lifestride aerobic trainer? People who value time and who need to make every minute count. Olympic athletes, movie stars, busy executives, top government administrators, sports celebrities and others all make the Lifestride trainer their exercise choice. Whether at home or at the office, using the Lifestride trainer is an excellent way to lose weight and improve your cardiorespiratory condition, and it's fun!

Why use a Lifestride aerobic trainer? Aerobic training with a Lifestride trainer is more than just a motivating experience. Regular aerobic exercise improves energy and endurance, reduces body fat, lowers the probability of heart disease, and tends to prolong life.** Consistent workouts can also diffuse the effects of everyday stress. Competitive athletes train aerobically to increase their heart strength, lung capacity and muscular endurance.

Read this manual now. Before using or instructing others on the use of the Lifestride trainer, it is essential that you read this entire manual. It explains how to operate the Lifestride trainer.

If you have further questions regarding the operation of the Lifestride trainer, please call Life Fitness After Market Service at (708) 451-0036 or toll-free within the U.S. and Canada at (800) 351-3737.

*Based on research conducted on the Lifecycle 9500HR at the Exercise Physiology and Nutrition Laboratory, University of Massachusetts Medical School.
**Paffenbarger, R.S. Jr., Hyde, R.T., Wing, A.L., et al: Physical Activity, All-cause Mortality, and Longevity of College Alumni. N Engl J Med 1986:314(March 6):605-613.
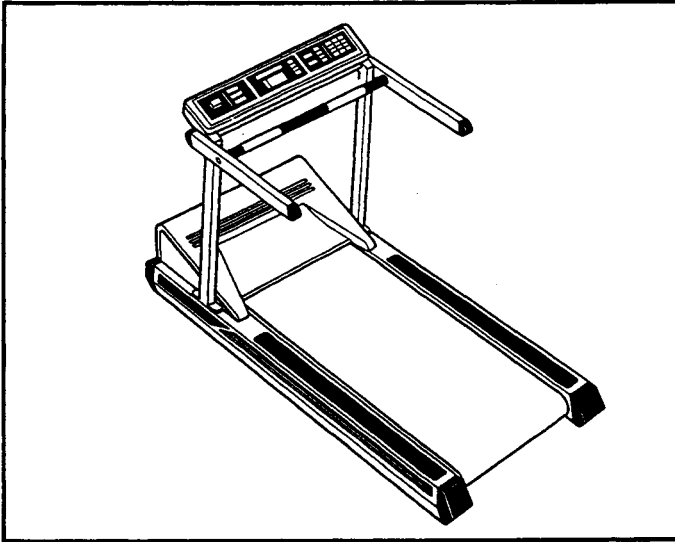
The Lifestride 9100HR trainer, designed for commercial or consumer use, will provide you with an effective workout that is both motivating and time-efficient. The user-friendly console provides a host of visual feedback. It acts as a "coach" and "trainer" with easy-to-follow instructions and helpful message displays throughout the workout.

The Lifepulse™ digital heart rate monitoring system on the Lifestride trainer is unique to Life Fitness products. This system provides the most accurate heart rate readings available without requiring users to wear chest strap sensors.* The Lifestride 9500HR is equipped with a Heart Rate Management program, enabling the user to maintain his target heart rate by automatically varying the incline in response to the user's current heart rate. By exercising at a level within one's Training Heart Rate Range, the user can be assured that he is gaining the full benefits of aerobic exercise.

In the past, people with special needs or conditions have been advised by their doctor or exercise specialist to maintain a specified level of watts or calories per hour during their workouts as an indirect means of regulating their heart rate. With the Lifestride trainer, such exercise prescriptions are unnecessary, since the user can directly monitor his heart rate regardless of the program he uses, and with the Heart Rate program, the user can work out at a prescribed heart rate profile automatically.

*Based on research from the Exercise Physiology Laboratory, Univ. Of Ma.

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Safety Instructions

It is essential that you read this entire manual. It explains the design philosophy of the Lifestride trainer, how to operate it, and ways to tailor your aerobic workouts to meet your personal fitness objectives.

DANGER: To reduce the risk of electrical shock, always unplug the Lifestride unit from the electrical outlet before cleaning or attempting any maintenance activity.

WARNING: To reduce the risk of burns, fire, electrical shock or personal injury, it is imperative that you CONNECT EACH LIFESTRIDE UNIT TO A PROPERLY GROUNDED OUTLET. (See Grounding Instructions Page 8.)

Safety First:

1. Always wear gym or running shoes. Do not use shoes with heels, leather soles, cleats or spikes. Make sure no stones are embedded into the soles.

2. Never mount or dismount the treadmill while the running belt is moving. Use the handrail or handgrip whenever practical.

3. The running belt will move slowly during the initial start-up and will gradually increase speed until the selected running belt speed is reached. The running belt tracking is continually being monitored and will automatically adjust the belt if it shifts to the left or right.

4. Never walk or jog backwards on the unit.

5. Only one person should use the Lifestride trainer at a time.

6. The equipment is to be used only by adults. Close supervision and appropriate measures should be taken to prevent spectators from interfering in any way while an exercise routine is in progress.

7. Always follow the console instructions for proper use and maintenance.

8. The Lifestride aerobic training unit should remain on. When initiating any maintenance or service activities, simply turn the power switch to the off position and unplug the unit, gripping the plug firmly and pulling it out of the outlet. **Do not** disengage the plug from the outlet by pulling on the cord.

9. Keep the power cord away from heated surfaces.

10. Do not pull the Lifestride unit by the power cord or use the cord as a handle.

11. Never operate a Lifestride unit if it has a damaged power cord or electrical plug, or if it has been dropped, damaged, or immersed in water, even partially. Contact Life Fitness After Market Service for examination and repairs.

12. Never drop or insert any object into any opening of a Lifestride unit.

13. Never place liquids of any type directly on the unit.

14. Keep all loose clothing and towels away from the treadmill's running surface and belt rollers.

15. Do not reach underneath the unit while it is operating or powered on.

16. Do not use the unit in areas where aerosol spray products are being used or where oxygen is being administered. Such substances increase the danger of combustion and explosion.

17. Do not use the Lifestride trainer outdoors.

18. The Lifestride trainer is intended to be used in the manner described in this manual only.

19. If you have any questions contact Life Fitness After Market Service at 1-800-351-3737.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

Leveling the Lifestride Trainer

The Lifestride 9100HR must be leveled where it will be operated.

IT IS EXTREMELY IMPORTANT THAT THE TREADMILL BE CORRECTLY LEVELED FOR PROPER OPERATION. AN UNSTABLE UNIT MAY CAUSE STRIDING BELT MISALIGNMENT.

After placing the Lifestride trainer in the intended location for use, check the stability of the unit. If the unit is not stable, loosen the **JAM NUT** on the leveling leg on the left side of the machine. Turn the **LEVELING LEG** until the rocking motion is diminished. Re-tighten the **JAM NUT.**

Figure 1: How to Level the Lifestride Trainer

JAM NUT

ADJUSTABLE LEG
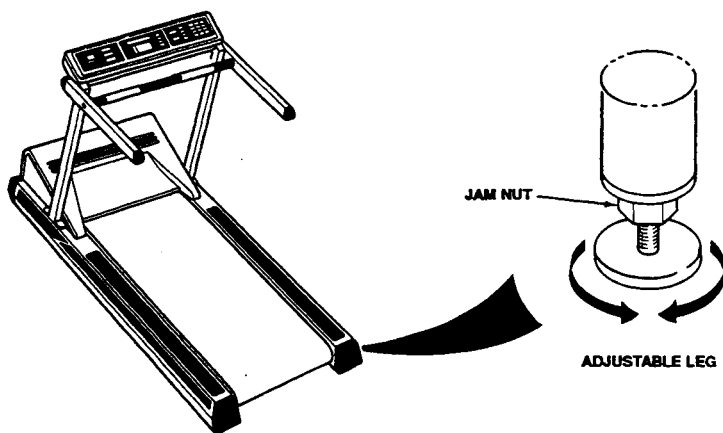
Grounding Instructions

For safe operation, the Lifestride trainer must be properly grounded. If the unit malfunctions or breaks down, proper grounding provides a path of least resistance for an electrical current, which reduces the risk of electrical shock to someone touching or using the unit. Each unit is equipped with an electrical cord which includes an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Figure 2: Proper Grounding
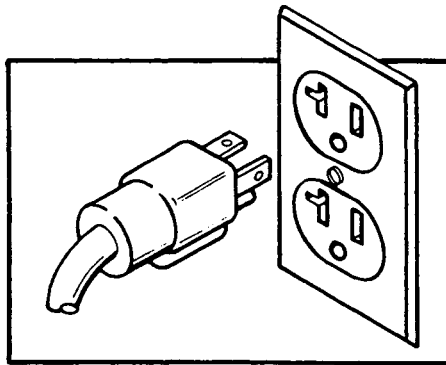
U.S. and Canada Electrical Requirements:
This product is for use on a 20-amp, 120-volt dedicated electrical circuit, and has a grounding plug that looks like the plug shown above. A temporary adapter may **NOT** be used to connect this plug to a 2-pole receptacle if a properly grounded outlet is not available. A PROPERLY GROUNDED 20 AMP OUTLET MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN.

DANGER: A risk of electrical shock may result from improper connection of the equipment-grounding conductor. Check with a qualified electrician if you are in doubt as to proper grounding techniques. Do not modify the plug provided with the product. If it does not fit your electrical outlet, have a proper outlet installed by a qualified electrician.

SAVE THESE INSTRUCTIONS FOR FUTURE PURPOSES.

How to Use the Display Console

Figure 3: Display Console
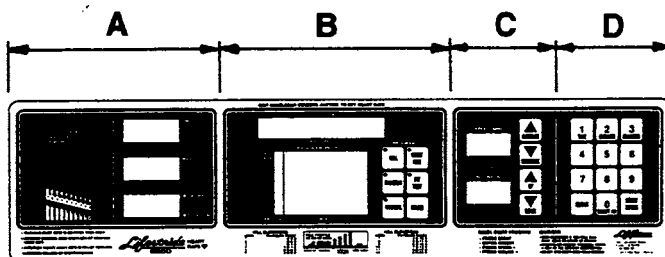
- A -

- **STOP:** Pressing this key will immediately stop the running belt from moving and will discontinue any program.

- **TIME:** This window provides a continuous display of the elapsed time of each workout.

- **MILES:** Shows a continual display of miles traveled. At the end of the program, total distance traveled will be displayed.

- **CAL HR/TOTAL CAL:** Display of calories burned per hour alternates every five seconds with a display of total calories burned. LED lights next to Cal/Hr or Total Cal illuminate, indicating which information is being displayed.

- B -

- **INSTRUCTIONS (MESSAGE CENTER):** Provides simple step-by-step instructions and motivating information. Also, watts can be displayed in this window. The watts readout is approximately one quarter of the calories-per-hour readout. Heart Rate will also be displayed here.

PROGRAM PROFILE WINDOW: A matrix of LED lights displays the user's present position (yellow column) and the upcoming terrain (red columns). As the user walks, the lights move across the screen from right to left. The higher the yellow column of lights, the greater the incline and workout intensity. In the Heart Rate and Fit Test programs, a large heart will flash in this window, prompting the user to make contact with the sensors to obtain a heart rate reading. When the user makes proper

contact with the sensors, the heart prompt will remain lit. Once a heart rate reading is obtained, the heart shape will disappear and the user may remove his hands from the sensors.

☐ **PROGRAMS:** Provides you with a choice of Hill, Random, Manual, or Heart Rate workout programs as well as the Fit Test program.

☐ **PAUSE KEY:** This key puts an exercise program on hold. To put the exercise program on hold for 60 seconds, press this key once. The belt speed is off while the program is on hold. The user can resume his workout by pressing the ENTER key.

- C -

☐ **SPEED M.P.H.:** This display shows the current walking belt speed in miles per hour.

☐ **▲ INCREASE AND DECREASE ▼ KEYS:** Pressing the ▲ INCREASE or ▼ DECREASE keys allows the user to increase or decrease the belt speed from 1.5 m.p.h. to 9.0 m.p.h. The speed ▲ INCREASE key will also give the user access to the Quick Start program. Use these keys to change the belt speed at any time during a program.

☐ **INCLINE %:** This display shows the current elevation of the deck on the Lifestride treadmill.

☐ **▲ UP AND ▼ DOWN:** Pressing the ▲ UP and ▼ DOWN keys allows the user to increase or decrease the elevation of the Lifestride deck from 0% to 15%. The ▲ UP key will also access the Quick Start program. Use these keys to change the incline during any program.

- D -

KEYPAD: The keypad is used to enter information and program data. The user enters program durations, difficulty level, target heart rate, weight and Fit Test and Heart Rate program information (age and gender) with the keypad.

☐ **NUMERIC KEYS:** Use these keys to enter exercise time, belt speed, weight, distance, target heart rate, goal selection, incline level and gender.

☐ **CLEAR:** Press this key once to clear data not yet entered. Press this key two times in succession to reset the unit and begin the programming sequence again.

☐ **TARGET HR KEY:** In the Heart Rate program, to change the target heart rate, press the TARGET HR key and enter a new target heart rate value.

❏ **START-ENTER KEY:** This key is used to begin an exercise program, to restart a program after pausing or to enter the data displayed in the message center.

Simplified Operating Instructions & Program Selections

Selecting a Lifestride workout program is simple. Six computerized aerobic workout programs are available on your the Lifestride trainer:

1. **Hill**

2. **Random**

3. **Manual**

4. **Quick Start**

5. **Heart Rate**

6. **Fit Test**

Operating the Lifestride trainer is as easy as walking. There are just a few keys to press. Simply follow the instructions below to begin exercising.

☐ Press the START–ENTER key.

☐ If watts display is desired, press 0 then START–ENTER.

☐ Enter current weight using the numeric keypad on the console and then press the START–ENTER key. (Weight data is necessary to properly calculate caloric burn information.)

☐ Quick Start program: press speed ▲ INCREASE key or the incline ▲ UP key to enter into the Manual program with a 60-minute time limit.

☐ Press one of the five flashing program keys labeled HILL, RANDOM, MANUAL, HEART RATE, or FIT TEST.

HILL PROFILE - starts a workout that provides progressively increasing effort levels mixed with periods of less effort.

RANDOM - starts a program of different effort levels that vary randomly with each exercise session.

MANUAL - allows you to select a program of predetermined goals using a constant effort level.

FIT TEST - measures your aerobic fitness level in comparison to others of the same sex and age.

QUICK START - 60-minute MANUAL program during which you can increase the speed and incline.

HEART RATE - automatically maintains their target heart rate by altering the incline at a given speed.

Hill

☐ Upon selecting a Hill workout, enter the desired workout time. Enter either 1 through 6, 12, 18 or 24 minutes and press ENTER.

NOTE: The console does not accept Hill programs of durations other than those listed above

☐ After selecting a workout duration, select a level of intensity. Level 1 is the lowest incline and the lowest effort level and 12 is the steepest incline and the highest effort level. Enter a level and press the ENTER key.

☐ Select a belt speed from 1.5 to 9.0 mph. Mileage must be entered in tenths of a mile. For example, to enter a belt speed of 8 mph, press the 8 key and the 0 key.

NOTE: You may change the speed and incline at any time during an exercise program by pressing the ▲▼ keys.

☐ Begin walking at a comfortable pace.

The Lifestride trainer's patented Hill program offers the ideal configuration for interval training: periods of high-effort aerobic activity separated by regular intervals of low-intensity exercise. The Hill program is available in various time durations of 1 through 6, 12, 18, and 24 minutes. The longer the Hill program, the longer the amount of time spent on top of a hill or at the bottom of a valley. The user may find two 12-minute programs easier than the 24-minute program because the hill climbing duration is shorter. Each Hill program is composed of four stages: (1) Warm-up, (2) Plateau, (3) Interval Training, and (4) Cool Down.

The Lifestride treadmill is unique in the fitness industry. Its patented, computerized interval training program has been scientifically demonstrated to yield more statistically significant cardiorespiratory improvement than steady-pace training. The Hill program offers interval training with progressive overload. Not only does it offer the challenge of alternating periods of high and low intensity, but the levels of intensity become progressively more difficult during the course of the program.

Warm-up Period: Gradually brings the user's heart rate into the lower portion of his Training Heart Rate Range (THRR) and increases respiration. Blood flow to working muscles also increases. (See page 48 to calculate THRR.)

Plateau Period: Increases heart rate so that it is within the user's THRR. The user receives his heart rate (heart rate check) at the end of the plateau period to ensure he enters his THRR.

Interval Training Period: Comprises periods of higher and lower intensity levels. During this period, the user is confronted with four progressively higher incline levels. Each is separated from the next by a recovery period. By grasping the heart rate sensors, the user receives his heart rate at the end of the interval training period to ensure that he stays within his THRR.

Cool-down Period: This exercise period gradually reduces the incline to reduce heart rate to the lower end of the user's THRR. The cool-down period allows the body to begin removing accumulated end-products of exercise, such as lactic acid, which tend to build up in muscles during a workout and contribute to muscle soreness.

> *HEART RATE CHECK POINTS: Users should check their heart rate near the end of the plateau period and at the end of the interval training period. They should always take their heart rate reading at the times indicated to make sure they are staying within their THRR.*

The Hill program (Figure 4) shows the effort level and recovery periods encountered during a Lifestride workout. Effort and recovery periods are simulated on the display console by columns of red and yellow lights in the Program Profile window. The columns move from right to left during the workout. The higher the column, the higher the incline. Consequently, the user must increase his effort.

Figure 4: Hill Profile Program

HILL PROFILE

Terrain (Hills and Valleys)

Elapsed Time (minutes)

6 Min. Program		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12 Min. Program	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
18 Min. Program	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0	16.5	18.0
24 Min. Program	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0

WARM-UP	PLATEAU	INTERVAL TRAINING	COOL-DOWN

FIRST HR
CHECK POINT (1)

SECOND HR
CHECK POINT (2)
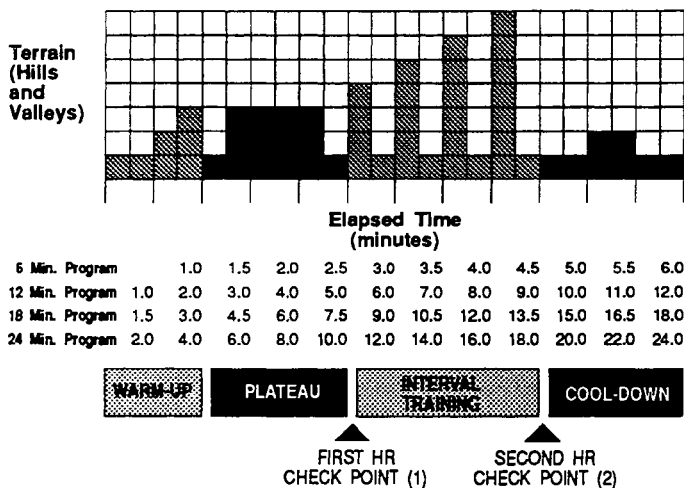
FOR FAT LOSS TRAINING:

(1) FIRST HEART RATE CHECK POINT — At the first heart rate check point, the user's heart rate should be between 60% and 70% of the theoretical maximum heart rate for his age category for fat loss training.

(2) SECOND HEART RATE CHECK POINT — At the second heart rate check point, the user's heart rate should be between 70% and 75% of the theoretical maximum for his age category for fat loss training.

FOR CARDIORESPIRATORY TRAINING:

(1) FIRST HEART RATE CHECK POINT — At the first heart rate check point, the user's heart rate should be between 75% and 80% of the theoretical maximum (see Training Zone chart on page 50) for his age category for aerobic training.

(2) SECOND HEART RATE CHECK POINT — At the second heart rate check point, the user's heart rate should be between 80% and 85% of the theoretical maximum heart rate for his age category for aerobic training.

Random or Manual

❏ Press 1 for a goal based on time, 2 for distance or 3 for calories; enter the respective goal and press ENTER.

❏ For the Random program, select an effort level. Level 1 is the lowest incline and the lowest effort level and 12 is the steepest incline and the highest effort level. Enter a level and press the ENTER key.

❏ Select a belt speed from 1.5 to 9.0 mph. Mileage must be entered in tenths of a mile. For example, to enter a belt speed of 8 mph, press the 8 key followed by the 0 key.

NOTE: You may change the speed and incline at any time during an exercise program by pressing ▲▼ keys.

❏ Begin walking at a comfortable pace.

—Random

In the Random program, the computer randomly selects hill-and-valley terrains, which vary with each and every exercise program. Over one million combinations are offered in an interval training format. Because the incline levels are changing more often, it is more difficult than the Hill program. As a result it is recommended that the Random program be set 1 or 2 levels lower than normally selected during the Hill program.

Heart Rate Check Points: User's should check their heart rate after the first five minutes of exercise on the Random program and every five to ten minutes thereafter. This provides the low and high heart rate extremes to ensure that they are exercising within their THRR.

—Manual

This program provides steady-pace exercise with a fixed speed rate and incline level equal to that of the highest hill encountered on the Hill program at the same level of intensity. Because of the greater effort levels of this program, it is recommended that the user sets the Manual program about three to four levels lower than the level of intensity that he would normally select on the Hill Program.

Heart Rate Check Points: User's should check their heart rate after the first five minutes of exercise on the Manual program and every five to ten minutes thereafter. This provides the low and high heart rate extremes to ensure that they are exercising within their THRR.

Users can also design their own interval training program using the Manual program by varying the level of intensity during the course of their workout. To do so, the user selects a high level of intensity until he

reaches the upper end of his THRR, then strides at a lower level of intensity until his heart rate drops to the bottom of your THRR. Then, the user should increase the level of intensity until he reaches the upper end of his THRR again. By repeating this process, the user simulates his own hills and valleys.

Quick Start

☐ Begin the Quick Start Program for sixty minutes at a speed of 1.5 m.p.h. After entering weight, use the speed ▲ key to increase your speed from 0.5 to 1.5 m.p.h. The running belt will begin traveling slowly while you are selecting your desired speed.

☐ Begin walking at a pace of 1.5 m.p.h. to get the feel of the Lifestride treadmill. Hold the handrails if necessary.

☐ Once you are comfortable, press the speed ▲ key to increase belt speed to 2 m.p.h. Release one hand from the handrail and let that arm swing with your body rhythm. Next, release the other hand and walk without holding the handrails.

☐ Look forward for spatial awareness; this will help maintain balance and ensure exercise comfort.

☐ Walk or jog in an upright position to avoid excessive leaning and back fatigue.

☐ Press the incline ▲ key to slowly incline the treadmill. To stop press the stop button.

If your concentration is broken, immediately press the STOP button to stop the machine.

This program provides steady-pace exercise.

Heart Rate Check Points: Users should check their heart rate after the first five minutes of exercise on their Quick Start program and every five to ten minutes thereafter. This ensures that they are exercising within their THRR.

They can design their own interval training program using the Quick Start program also by varying the level of intensity during the course of their workout. To do so, select a high level of intensity until they reach the upper end of their Target Heart Rate Range, then stride at a lower level of intensity until their heart rate drops to the bottom of their THRR. Then, increase the level of intensity until they reach their upper range heart rate again. By repeating this process, they will be simulating their own hills and valleys. This program does not require a goal of time, calories or distance.

Heart Rate

The Life Fitness Heart Rate program, the most accurate Heart Rate monitoring system available on any treadmill, takes the guesswork out of working out. This revolutionary heart rate management system automatically adjusts the deck incline to keep the user at his appropriate target heart rate while he exercises. Under-training and over-training are eliminated.

The user receives a heart rate reading in any workout program by grasping the handlebar sensors.

❒ Enter age using the numeric keys to receive a computed THR (target heart rate) or press the TARGET HR key ("O") and enter a target heart rate.

❒ Select a goal: press 1 for a goal based on time, 2 for distance or 3 for calories; enter the respective goal and press ENTER.

❒ Use the numeric keys to enter a belt speed of 1.5 to 9.0 m.p.h.

❒ Begin walking at a comfortable pace.

NOTE: The user may change his target heart rate at any time during his workout simply by pressing the numeric keys. The incline will adjust up or down based on his working heart rate versus his target heart rate.

Figure 5: Heart Rate Sensors
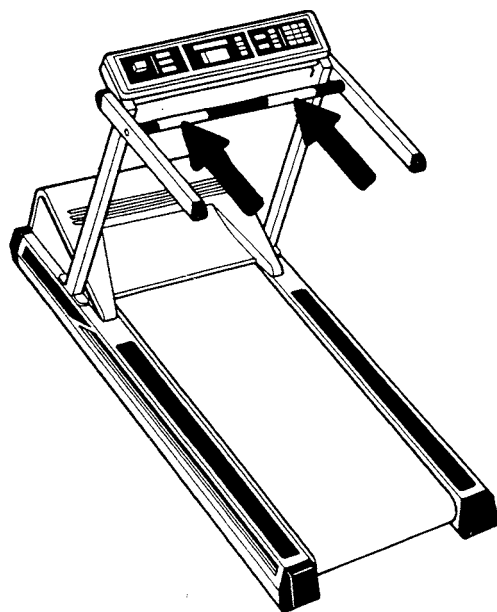
The Heart Rate program is designed to maintain the user's heart rate by varying the incline of the Lifestride 9100HR The Lifepulse sensors provide the user with an accurate and convenient means of obtaining his heart rate and automatically adjust the workout intensity to maintain the user's predetermined target heart rate. Because the Lifepulse heart rate monitoring system provides an extremely accurate heart rate reading, healthcare professionals can prescribe a precise individualized workout program. Also, the user can change his target heart rate at any time during the program simply by pressing the TARGET HR key and entering a new target.

The Heart Rate program begins with a three minute warm up period, designed to safely get the user close to his target heart rate from a resting start. The user may obtain his heart rate during the warm up by making proper contact with the handlebar sensors. If the program detects that the user's heart rate is above the chosen target during the warm up period, the warm up period will immediately end, and the Lifestride will begin altering the incline to maintain the user's target heart rate.

At the end of three minutes, a heart shape (♥) will appear in the center window, prompting the user to make contact with the sensors. Once the Lifestride has received a valid heart rate reading, it will begin to use this information to vary the incline to help the user reach his target. On average, it will take two to three minutes for the user's heart rate to reach his target.

> *NOTE: The user need not maintain constant contact with the handlebar sensors except when the large flashing heart appears in the center window. Once the heart disappears, the user is free to remove his hands. On average, the user will only make contact for ten seconds every minute.*

Fit Test

The Lifestride Fit Test program is another exclusive feature of this versatile aerobic trainer. Think of it as the user's "relative fitness score." Use the Fit Test to monitor improvement in their endurance every four to six weeks.

☐ Use the numeric keys to enter age and press ENTER.

☐ Press 1 for male or 2 for female, then press ENTER.

☐ Using the numeric keys, enter Fit Test speed (see below) and press ENTER:

Beginner	Intermediate	Advanced
2.0	3.0, 4.0	4.5

❏ Begin walking for the five minute Fit Test (one minute warm up and four minute test). Speed and incline cannot be changed, it will be maintained for an accurate computation.

❏ With thirty seconds remaining, a heart shape will flash in the center of the program profile window. At this time, grasp the handrail sensors for the remainder of the program so that heart rate can be determined.

❏ At the end of the program, a Fit Test score and descriptive ranking will appear in the Message Center window. The Fit Test scoring tables on page 22 can also be used to determine how the user ranks with others in his or her specific category.

❏ If the user's heart rate is lower than 60% of his theoretical maximum heart rate, he will be instructed to redo the Fit Test at a faster belt speed.

The Fit Test score is a number that allows the user to compare his fitness level to others of his sex and age. It is also an estimate of the user's VO_2 max. VO_2 max is a combination of how well the heart supplies oxygenated blood to the exercising muscles and how efficiently these muscles are able to receive the oxygen from the blood. It is the measurement regarded by physicians and exercise physiologists as the standard for aerobic capacity.

Note that the VO_2 max values received will be 10 to 15 percent higher than those achieved on a stationary cycle. Stationary cycling offers a specific workout for the quadriceps muscle and this muscle often reaches maximum fatigue at a lower level of VO_2 max than a person could reach on a stairclimber or a treadmill.[*]

Also, the rate of pedaling or stepping is often difficult to control. However, treadmill speed and grade can be regulated with precision. Also, unlike cycling or stepping, walking is a natural, habitual activity. Most people become accustomed to treadmill walking within one to two minutes.

> *NOTE: To receive a proper Fit Test score, the user must be working within his Training Heart Rate Range (THRR) which is 60% of his theoretical maximum heart rate. The Lifestride treadmill will automatically determine if the user are working within this range. If not, the Lifestride Message Center will prompt the user to redo the Fit Test at the next highest level.*

The Fit Test Scoring Tables on page 22 enables users to compare their fitness level to others of their same sex and age. The score is also designed as an indicator of improvement.

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[*]Ebbeling, Cara B.; Puleo, Elaine M.; Ward, Ann; Widrick, Jeffrey, and Rippe, James M., "Development Of A Single Stage Submaximal Treadmill Walking Test." Univ. Of Ma. Medical Ctr.,1991 "Unpublished."

Fit Test Tips

The computer does not accept:

- ☐ heart rates less than 52 or greater than 200 beats per minute.

- ☐ body weights less than 50 pounds or greater than 300 pounds.

- ☐ ages below 10 years.

- ☐ data input that exceeds human potential.

If the user makes an error when entering any Fit Test information, he can correct it by pressing CLEAR and re-entering accurate information.

It is important for users take their Fit Test under similar circumstances each time. Heart rate is dependent on many factors including:

- ☐ amount of sleep the previous night (seven or more hours is recommended).

- ☐ time of day of the test.

- ☐ time of last meal (two to four hours after the last meal is recommended).

- ☐ time since last drink containing caffeine or alcohol, or smoked a cigarette (four or more hours is recommended).

- ☐ time since last exercise session (at least six hours is recommended).

For the most accurate Fit Test results, members should perform the Fit Test on three consecutive days and average the three scores.

Table 1: Fit Test Scoring Tables

Relative Fitness Classification For Men				
Fit Test Scoring Table (Estimated VO$_2$ Max)				
MEN	AGE			
RATING	20-29	30-39	40-49	50-59	60-69
Elite	61+	57+	55+	53+	50+
Excellent	55-60	52-56	50-54	47-52	44-49
Good	50-54	46-51	44-49	42-46	39-43
Above Average	44-49	41-45	39-43	36-41	33-38
Average	40-43	36-40	34-38	32-35	29-32
Below Average	34-39	31-35	29-33	26-31	23-28
Poor	29-33	25-30	22-28	20-25	18-22
Very Poor	<29	<25	<22	<20	<18

Relative Fitness Classification For Women				
Fit Test Scoring Table (Estimated VO$_2$ Max)				
WOMEN	AGE			
RATING	20-29	30-39	40-49	50-59	60-69
Elite	54+	51+	48+	46+	44+
Excellent	48-53	45-50	43-47	41-45	39-43
Good	43-47	40-44	37-42	35-40	33-38
Above Average	37-42	34-39	32-36	30-34	28-32
Average	33-36	30-33	28-31	25-29	23-27
Below Average	28-32	24-29	22-27	20-24	18-22
Poor	22-27	19-23	17-21	14-19	12-17
Very Poor	<22	<19	<17	<14	<12

The Resting Heart Rate Is Important

Another excellent indicator of cardiorespiratory health is an individual's resting heart rate. An average resting heart rate is approximately 72 beats per minute. A lower heart rate indicates a stronger, healthier heart. Monitoring a person's resting heart rate is an easy way to measure the effectiveness of the exercise program. The pulse should taken each day at the same time, preferably upon awakening and before getting out of bed. As the exercise program continues, the user will notice a decrease in his resting heart rate. He should be patient. This improvement takes at least 8-10 weeks of training.

Check the Heart Rate

For best results, we recommend that users stay within their THRR during exercise. To do this, have them check their heart rates periodically during their workouts. (See Figure 4 on page 15 for the times to check heart rate during the Hill program). Users can monitor their heart rate at any time, using the Lifepulse sensor, by grasping the handlebars. The Lifestride 9100HR will calculate the heart rate within approximately fifteen seconds and display the rate in the Message Center window.

In the Heart Rate Training program, the heart rate data will be used to adjust the speed and incline in order to maintain a user's target heart rate.

The Lifestride Message Center

The Lifestride 9100HR treadmill constantly monitors the user's performance during an exercise program, providing prompts to inform and advise the user of his performance. The following script is what the user might see during his workout.

MESSAGES	COMMENTS
Operation: **Hill, Random or Manual Program**	
☐ PRESS START TO BEGIN	Instructs the user to begin an exercise program.
☐ ENTER WEIGHT ____ LBS.	The user must enter accurate weight in pounds.
☐ WATTS MODE ENABLED	Watts will be displayed throughout the program. The user may enter watts mode by pressing 0 and START–ENTER prior to entering your weight.
☐ SELECT PROGRAM OR BEGIN BY PRESSING SPEED INCREASE OR INCLINE UP KEY	Prompts the user to select an exercise program: Hill, Random, Manual, Quick Start (60 min/1.5 mph) or Fit Test.
☐ SELECT PROGRAM TIME: 1–6, 12, 18 or 24	In the Hill program, select the duration of workout 1 to 6, 12, 18 or 24 minutes.
☐ ENTER TIME ____ MINUTES	Prompts the user to select desired duration of workout in minutes.
☐ SELECT INCLINE LEVEL	Instructs the user to select an incline level: 1 to 12 (1 is easiest, 12 the most challenging).

❏ CHOOSE PROGRAM GOAL: Instructs the user to select workout
   PRESS 1 FOR TIME, 2   duration, miles to be traveled or
   FOR DISTANCE OR   calories to burn for the Random or
   3 FOR CALORIES.   Manual programs.

❏ ENTER MILES   Prompts the user to select desired
                         miles to be traveled.

❏ MAX DISTANCE ALLOWED   The user has input an unavailable
   IS 9.0   distance.

❏ PLEASE WAIT   Unit is preparing for program.

❏ PACE—MIN. MILE   The user's pace.

❏ TO SELECT NEW SPEED   Speed is increased or decreased by
   SIMPLY PRESS SPEED ▲   pressing arrow key or by entering a
   UP, or SPEED ▼ DOWN   new running speed.
   KEY OR KEY IN A NEW
   SPEED

❏ SELECT YOUR RUNNING   Instructs the user to select belt speed
   BELT SPEED FROM 1.5   from 1.5 to 9.0. miles-per-hour.
   TO 9.0. M.P.H.

❏ WORKOUT PAUSED   The user has pressed the Pause
                         button.

❏ HAVE A GOOD WORKOUT   Begin walking.

Fit Test Operations:

❏ ENTER YOUR AGE: In the Fit Test program, the user
   MINIMUM AGE IS 10   must enter his age: 10 to 99 years.

❏ ENTER YOUR SEX. PRESS   In the Fit Test program, the user
   1 FOR MALE, PRESS 2   must indicate: male or female.
   FOR FEMALE

❏ SELECT 1 OF 4 SPEEDS: The user may enter Fit Test running
   2, 3, 4, 4.5 M.P.H.   belt speeds based on the following
                         scale: Beginner/Advanced/Expert.

☐ TEST SPEED – _:__ M.P.H.   Enter Fit Test speed.

☐ BEGIN 1 MINUTE WARM-   Start 1-minute warm-up for the Fit
   UP NOW   Test program.

☐ NOW BEGIN 4 MINUTE   Start the 4-minute Fit Test.
   TEST

☐ FIT TEST SCORE IS: The user's relative Fit Test score is
       displayed. Compare the score with
       others of the same sex and age.

☐ YOUR HEART RATE   The user's heart rate is too low. It is
   IS NOT HIGH ENOUGH;   below 65% of the theoretical
   REDO TEST ____ M.P.H.   maximum heart rate. Re-do Fit Test
       at a faster belt speed.

☐ HEART RATE TOO HIGH   The user's 15 second pulse count
   OR TOO LOW, CONSULT   is too high or too low (above 200
   INSTRUCTOR   beats/or below 50 beats per
       minute). The user should consult
       instructor. Page 48 explains proper
       heart rate training zones.

☐ PUT HANDS ON   Prompts the user to hold the
   SENSORS   sensors for heart rate reading.

☐ SPEED SET TO ...M.P.H.   The user may not change speed
   START OVER TO CHANGE   during Fit Test.

☐ CAN'T CHANGE INCLINE   The user may not change incline
       during Fit Test.

☐ TO RESTART WORKOUT,   Prompts action in pause mode in all
   PRESS THE START KEY.   programs except Fit Test.
   TO END YOUR WORKOUT,
   PRESS THE STOP KEY

☐ NEW INCLINE LEVEL   The user has to input a new incline
       level in Random and Hill programs.

Diagnostic Messages:

☐ MAXIMUM SPEED REDUCED TO _____M.P.H. FOR WORKOUT, NOTIFY MAINTENANCE

Temporary maximum speed imposed based on the user's weight and the condition of the running belt. The user should notify maintenance personnel.

☐ NOTIFY MAINTENANCE

Internal malfunction has occurred. Contact your maintenance staff or Life Fitness After Market Service.

☐ WAXER NEEDS REFILL

Auto waxer needs refill. Notify maintenance personnel.

☐ WORKOUT PAUSED — **NOTE:** YOU'RE PUSHING THE BELT TOO HARD

Treadmill exceeded maximum loading. Unit goes into pause mode. The user can resume workout by pressing the ENTER key.

Optional Settings for the Lifestride 9100HR

Lifestride 9100HR Maximum Speed Option

The maximum speed option allows the user to change the maximum speed of the Lifestride 9100HR. The maximum speed can be any speed between 2.0 and 9.0 mph in 0.5 increments. To change the maximum speed on the Lifestride 9100HR:

1. Press CLEAR until the Message Center displays "Press Start to Begin." Press CLEAR again.

2. Press 9-1-9 on the numeric keypad and press ENTER.

3. Press the HILL, RANDOM and FIT TEST keys so that they are lit. (Do not press the MANUAL key.) The letters "E"and "A" will be shown in the Program Profile window.

4. Various messages will scroll through the Message Center window. When the message "Maximum Speed - _._ m.p.h." appears in the window, press the speed ▲ INCREASE or ▼ DECREASE key to change the maximum speed from 2.0–9.0 m.p.h. in 0.5 increments.

5. After setting the new maximum speed, press CLEAR. The new maximum speed will now be in effect.

Lifestride 9100HR Minimum Speed Option

The minimum speed option allows you to change the minimum speed of the Lifestride 9100HR from 1.5 to 1.0 mph. To change the minimum speed on the Lifestride 9100HR:

1. Press CLEAR until the message center displays "Press Start to Begin." Press CLEAR again.

2. Press 9-1-9 on the numeric keypad and press ENTER.

3. Press the HILL, RANDOM and FIT TEST keys so that they are lit. (Do not press the MANUAL key.) The letters "E"and "A" will be shown in the Program Profile window.

4. Various messages will scroll through the Message Center window. When the message "Minimum Speed - _._ m.p.h." appears in the window, press the speed ▲ INCREASE or ▼ DECREASE key to toggle the minimum speed between 1.0 and 1.5 m.p.h.

5. After setting the desired minimum speed, press CLEAR. The new minimum speed will now be in effect.

Lifestride 9100HR Maximum Program Time Option

The maximum program time option allows the user to change the maximum program time from the standard maximum time limit of 60 minutes to a shortened maximum time limit of 30 minutes. To change the Lifestride 9100HR maximum program time:

1. Press CLEAR until the message center displays "Press Start to Begin." Press CLEAR again.

2. Press 9–1–9 on the numeric keypad and press ENTER.

3. Press the HILL, RANDOM and FIT TEST keys so that they are lit. **(Do not press the MANUAL key.)** The letters "E"and "A" will be shown in the Program Profile window.

4. Various messages will scroll through the Message Center window. When the message "Normal Program Time" appears in the window, press the speed ▲ INCREASE or ▼ DECREASE key to toggle between Normal Program Time (60 min.) and Short Program Time (30 min.).

5. After setting the new maximum program time, press CLEAR. The new maximum program time will now be in effect.

Password Protection Option

Password protection allows you to limit the use of your Lifestride 9100HR to only those individuals who have been given a numeric password which has been preset by you.

Setting Your Password

1. Press CLEAR until the message center displays "Press Start to Begin". Press CLEAR again.

2. Press 9-1-0-0 on the numeric keypad and press ENTER.

3. "Password ___" will appear in the Message Center window. Enter a password at this time (a valid password is any number between 1 and 999). You can press CLEAR at any time while setting a password to delete your entry.

4. After setting a password, press the ENTER key. The new password has now been accepted.

Once the password protection mode has been set, each time an individual presses the START key on the Lifestride 9100HR, the message center will prompt the user for the password. The user must then press the numeric code and the ENTER key for the Lifestride to continue with the user's workout. If an individual enters an incorrect password, the message center will continue to prompt the user for the correct password.

NOTE: Once the password protection code has been enabled, a user can not get past the "Password___" prompt without entering the correct number(s).

If You Forget Your Password

1. Press CLEAR until the message center displays "Press Start to Begin." Press CLEAR again.

2. Press 9-1-0-0 on the numeric keypad and press ENTER. Your password will now appear in the Message Center window. Press the STOP button to exit.

Changing Your Password

1. Press CLEAR until the message center displays "Press Start to Begin". Press CLEAR again.

2. Press 9-1-0-0 on the numeric keypad and press ENTER. Your password will now appear in the Message Center window.

3. Key in a new password (1-999).

4. Press the ENTER key. The new password is now in effect.

Disabling Your Password

1. Press CLEAR until the message center displays "Press Start to Begin." Press CLEAR again.

2. Press 9-1-0-0 on the numeric keypad and press ENTER. Your password will now appear in the Message Center window.

3. Press CLEAR and the ENTER key. Your password is now disabled and the treadmill will operate without requiring a password.

Belt Speed and Grade Incline

The user should use the Target Heart Rate Training Zone Chart (see page 50) or the Heart Rate program to obtain his target heart range. The user's target heart range determines the workout intensity he should select for the Hill, Random and Manual programs. The user should choose a level of intensity (effort) that keeps his heart rate within his Target Heart Rate Range (THRR). The Heart Rate program automatically monitors the user's heart rate and varies the level of incline to keep the user in his THRR.

The chart below shows how you can design a workout based on belt speed and grade level. The lower the grade incline level at a set belt speed, the lower the caloric burn. The higher the grade incline level at a set belt speed, the greater the caloric burn. Design your workout by either a lower grade incline level at a greater speed, or a higher grade incline level at a lower belt speed.

Thus the Lifestride 9100HR aerobic trainer allows you to exercise in a manner that's both comfortable and advantageous. Those who enjoy a quicker pace at a lower grade level receive the same caloric expenditure advantages as those who would rather walk at a slower pace but at a higher grade incline. For example:

*Table 2: Belt Speed**

Belt Speed	Grade Level (%)	Caloric Expenditure (Kcal/hr)
User 1 @ 7.0 m.p.h.	1	913
User 2 @ 4.0 m.p.h.	14	861
User 3 @ 1.5 m.p.h.	14	367
User 4 @ 3.5 m.p.h.	3	378
User 5 @ 5.0 m.p.h.	12	948
User 6 @ 6.5 m.p.h.	4	951

* Based on a 154 lb. user

Table 3: Lifestride Treadmill Hill program — Incline % Grades

Hill Number							
Incline Level	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	0	1.0	2.0	2.5	3.0	3.5	4.0
2	0	1.0	2.0	3.0	4.0	5.0	6.0
3	0	2.0	3.0	4.0	5.0	6.0	7.0
4	1.0	2.0	3.0	4.0	5.0	6.0	7.0
5	2.0	3.0	4.0	5.0	6.0	7.0	8.0
6	3.0	4.0	5.0	6.0	7.0	8.0	9.0
7	4.0	5.0	6.0	7.0	8.0	9.0	10.0
8	5.0	6.0	7.0	8.0	9.0	10.0	11.0
9	6.0	7.0	8.0	9.0	10.0	11.0	12.0
10	7.0	8.0	9.0	10.0	11.0	12.0	13.0
11	8.0	9.0	10.0	11.0	12.0	13.0	14.0
12	9.0	10.0	11.0	12.0	13.0	14.0	15.0

Numbers in table represent incline grades in percentages.

NOTE: See Figure 4 Hill Profile Program on page 15 for the graphic display of each hill number.

Preventative Maintenance Tips

The Lifestride 9100HR trainer is backed by the engineering excellence of Life Fitness and is one of the most rugged and trouble-free pieces of exercise equipment on the market today. As one of the most popular treadmills in health clubs across the country, the Lifestride trainer regularly stands up to marathon use — 18 hours a day, 7 days a week.

There are some preventative maintenance tips which will keep your Lifestride aerobic trainer operating at its best.

The optimum operating position of the STRIDING BELT is between the arrows on the BELT LIMIT labels. Should the STRIDING BELT travel beyond the BELT LIMIT labels, contact Life Fitness Customer Support for proper alignment instructions.
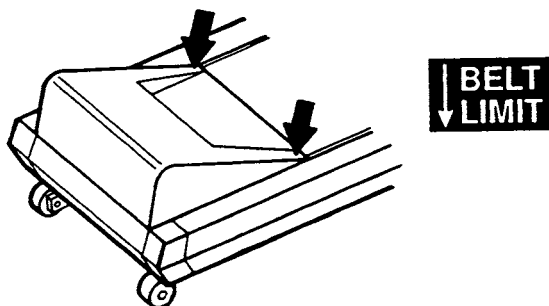
☐ Wipe off heart rate sensors and handlebars, clean display console and clean exterior surfaces regularly.

☐ Clean display console and all exterior surfaces regularly.

☐ Check operation of emergency stop once a week.

☐ Vacuum striding belt regularly to keep debris from accumulating.

☐ Inspect exterior parts monthly for wear and tear, especially the striding belt and deck.

☐ Inspect area under unit and vacuum under unit regularly.

NOTE: When cleaning the exterior of the unit, a non-abrasive cleanser and soft cotton cloth are strongly recommended. At no time should cleanser be applied directly to any part of the machine, instead, place the non-abrasive cleaning solution on a soft cloth and wipe down the unit.

Preventive Maintenance Schedule

ITEM	WEEKLY	MONTHLY	QUARTERLY	BI-ANNUALLY	ANNUAL
Anti-Static Cords		I		R	
Console Mounting Bolts				I	
Frame	C			I	
Striding Belt (Top)	C			I	
Brush				R	
Deck				I	
Power Cord		I			
Display Console	C	I			
Handlebar	C			I	
Handrail & Handlebar Bolts				I	
Rear Roller Belt			I		
Front Roller				I	
Rear Roller				I	
Stop Button	I				
Rear Roller Guard		C and I			
Tracking Spring		I			
V Belt				I	
Wax Assy. Container			I		
Wax System Leaks				I	
Wax Nozzle		C and I			
Wax Refill					R

KEY: C = Clean   I = Inspect   R = Replace   L = Lubricate

How to Adjust and Tension the Striding Belt

Tool Required: 5/16 Hex key wrench

A.   Centering an existing or new striding belt

B.   Tensioning an existing striding belt

IT IS EXTREMELY IMPORTANT THAT THE TREADMILL BE CORRECTLY LEVELED PRIOR TO ANY TRACKING ADJUSTMENTS. AN UNSTABLE UNIT MAY CAUSE STRIDING BELT MISALIGNMENT. SEE THE LEVELING INSTRUCTIONS ON PAGE 7 PRIOR TO ATTEMPTING ANY REAR ROLLER ADJUSTMENTS.

A. Tracking (centering) an existing or new striding belt

Step 1

Locate the two access holes to the belt tensioning bolts situated on each side of the user end caps.

Step 2

Enter the Manual Program and set the belt speed to run at 4.0 m.p.h.

Step 3

Before proceeding it is helpful to visualize the rear roller pivot point as shown below. Each adjustment made to one side of the roller must be met with an equal and opposite adjustment to the other side of the roller to maintain an ideal belt tension at the pivot point.

STRIDING BELT   PIVOT POINT

EQUAL   EQUAL

TENSIONING BOLT   REAR ROLLER
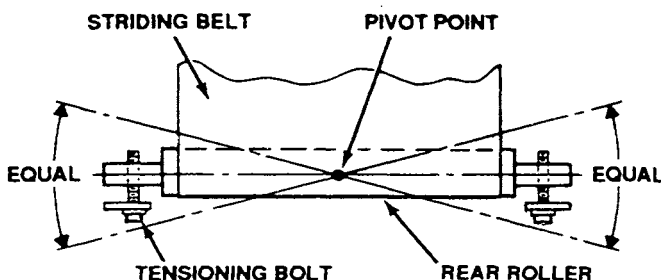
CAUTION: DO NOT OVERTIGHTEN THE TENSIONING BOLTS WHILE MAKING BELT ADJUSTMENTS. OVERTIGHTENING OF BOLTS MAY OVER STRETCH AND DAMAGE STRIDING BELT AS WELL AS PLACE AN UNNECESSARY LOAD ON THE ROLLER BEARINGS.

If the striding belt has moved to the right, turn the right tension bolt 1/4 turn clockwise and then turn the left tension bolt 1/4 turn counter-clockwise to start striding belt tracking back to center of roller.
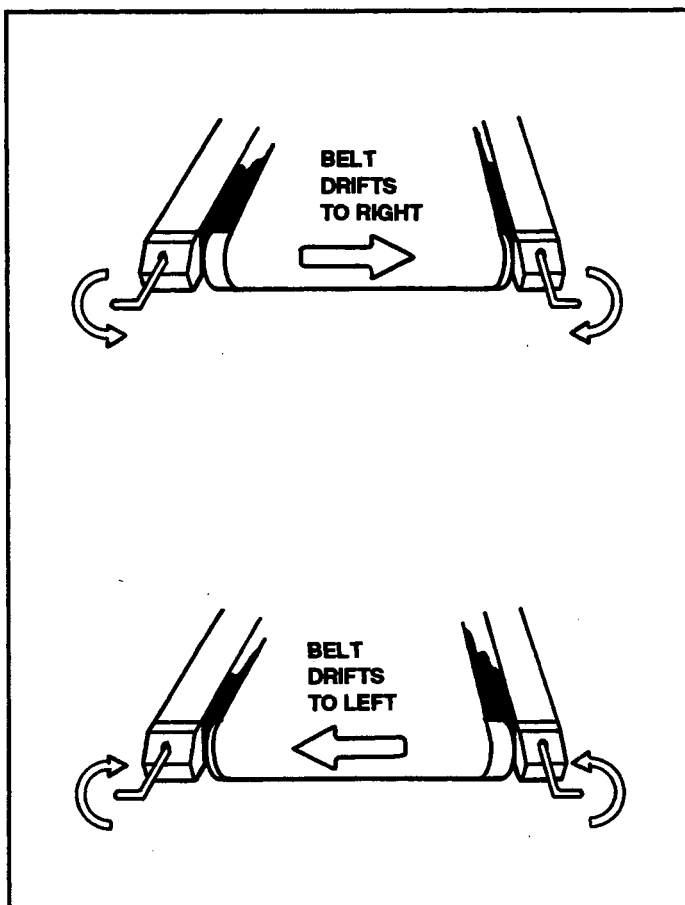
If the striding belt has moved to the left, turn the left tension bolt 1/4 turn clockwise and then turn the right tension bolt 1/4 turn counter-clockwise to start striding belt tracking back to center of roller.

Step 4

Repeat adjustments until striding belt appears centered. Allow machine to continue running for several minutes to observe if tracking remains stabilized.

B. Tensioning an Existing Striding Belt

Step1

Enter the Manual Program and run unit for five minutes at 5.0 m.p.h.

Step 2

With the belt speed at 2.0 m.p.h., tightly grasp the handrails and attempt to stall the striding belt. If striding belt slips, continue to Step 3.

Step 3

Stop the treadmill and alternately turn the belt tensioning bolts 1/4 turn clockwise to tension, not to exceed one full turn. Repeat Steps 1 and 2 until belt no longer slips. See Section A for belt centering procedures.

How to Obtain Product Service

If you have a problem...

Step 1:

☐ **If possible, verify the symptom.**

Sometimes the problem turns out to be unfamiliarity with the Lifestride trainer's features.

Step 2:

☐ **Locate and document the serial number of the unit.**

The serial number of your Lifestride 9100HR aerobic trainer is located on the front crossbar, between the two wheels.
Figure 6: Serial Number Location
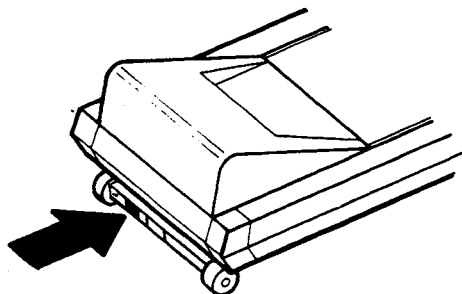
Step 3:

Contact Life Fitness After Market Service.

Life Fitness After Market Service
10601 W. Belmont Avenue
Franklin Park, IL 60131 U.S.A.
(800) 351-3737 (toll-free within the U.S. and Canada)
(708) 451-0036
FAX: (708) 288-3702

Please have the serial number of the product and the symptom ready for the Customer Support specialist who will be assisting you. This information is necessary for us to help solve any problems you may be encountering.

Lifestride 9100HR Specifications

Designed Use . . . . Heavy duty commercial use
Speed Range . . . . 1.5 to 9.0 m.p.h. in 0.1 m.p.h. increments;
                           1.0 m.p.h. minimum speed setting is optional.
Elevation Range . . . . 0-15% grade in 0.5% increments
Motor Type . . . . Variable speed AC
Motor Size . . . . 2.0 HP
Drive Train . . . . Poly-V; Belt and pulleys
Power Requirements
(% Voltage Fluctuation) . . . . 120 volt, 20 Amp circuit (±10%)
                           220 volt, 10 Amp circuit (±10%)
Roller Diameter . . . . 3 1/2"
Crowned Rollers . . . . Front and back
Belt Color/Type . . . . Gray/pvc, multi-ply
Automatic Belt
Waxing System . . . . Computer controlled pump system
Deck type . . . . Flex Deck™
Striding Dimensions . . . . 58 1/2" L by 18" W
Side Hand Rails . . . . Cantilevered
Stop Button . . . . Prominently positioned; raised
Popular Life Fitness Programs . . . . Hill, Random, Manual,
                           Fit Test, Quick Start, & Heart Rate
Console and Message Center
Display Information . . . . Elapsed time, speed (m.p.h.),
                           total calories, miles
Assembled Dimensions . . . . 31" W by 80" L by 48" H
Unit Weight . . . . 370 lbs.
Shipping Weight . . . . 450 lbs.

APPENDIX

How to Choose an Aerobic Training Method

How hard you work out during your Lifestride exercise sessions depends on your fitness goals and physical condition. If you don't enjoy your workouts, you won't continue. Basically, you should design workouts you can live with.

This section describes an aerobic training method that is available on the Lifestride trainer — interval striding.

Interval Striding

Interval striding combines the best features of walking and interval training. Like walking, interval striding is a natural, comfortable motion which is easy for virtually everyone to master. By combining walking with progressive hills, interval striding allows you to achieve the important benefits of interval training. Previous research studies on the progressive Hill program have shown that it is superior to steady-paced training for improving aerobic capacity.

This unique feature of the Lifestride, "interval training," results in a greater cardiovascular improvement
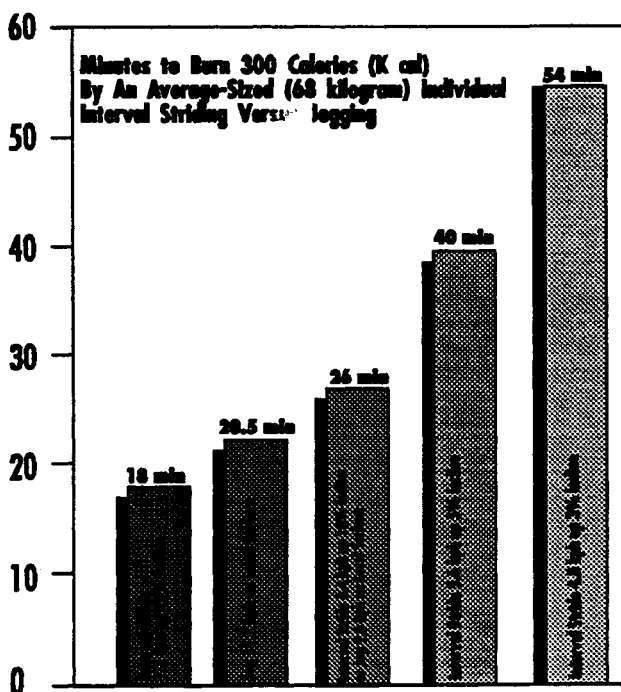
By adding incline to striding, you partially lift your own weight with each stride. This is great for shaping and toning the major muscle groups of the legs and buttocks. This is the same physiology that has made stair-climbing and step aerobics so popular.

Interval Striding Compared to Running

Interval striding has many features that make it superior to running for most individuals. Compared to running, interval striding is much less stressful on the bones and joints. This reduced stress is enhanced through the Lifestride trainer's flexible striding surface. When you run (whether on a treadmill or outside) you leave the ground with every stride and land with three to four times your body weight. With interval striding, since one foot is always in contact with the ground, you can land with only 1–1 1/2 times your body weight.

Interval Striding Versus Jogging — Caloric Expenditure

Minutes to Burn 300 Calories (K cal)
By An Average-Sized (68 kilogram) Individual
Interval Striding Versus Jogging

18 min   20.5 min   26 min   40 min   54 min

Many people don't realize how powerful the addition of incline in interval striding is in terms of caloric burn. Figures 6 and 7 show that interval striding at fairly low speeds often allows caloric burns higher than running on a level surface at much higher speeds.

Interval Striding Versus Jogging — Time Requirement
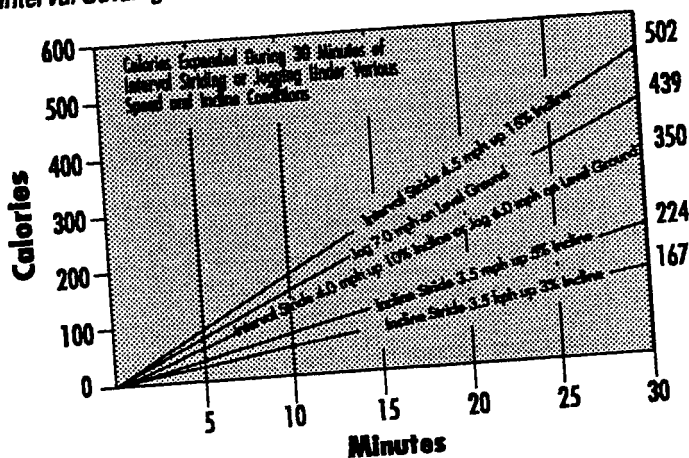
Interval Striding: The Exercise for the '90s

For many people, interval striding is the ideal form of exercise. It's simple, practical, a powerful way to burn calories, low impact and motivational. We're confident that once you try interval striding on the Lifestride 9100HR trainer, you'll agree it's the ideal exercise/activity for the '90s and beyond!

How to Determine an Interval Striding Program Level

Your members are now ready to select the optimal interval striding program for their needs. Each of the programs has been designed to keep the user's heart rate in his target training zone, offer the benefits of progressive hill interval training, build leg strength and be fun and motivational. Once members start the interval striding program, it should serve as the cornerstone of their aerobic fitness program. They should, however, feel free to supplement it with other aerobic activities.

To start a personalized interval striding program, locate your Fit Test score (VO2 Max) in the left column of the chart below. The corresponding letter listed advises which interval striding program to follow. (To obtain a Fit Test score refer to page 22.)

Fit Test Score (VO2 Max) (ml/kg/min)	Program
Less than 20	A
20–29	B
30–39	C
40–49	D
More than 50	E

About the Interval Striding Programs

The following descriptions will help you understand the Lifestride treadmill and the interval striding programs.

Speed: This is the belt speed you should program into the Lifestride trainer.

Level: This is the level of the Hill mode you should program into the Lifestride trainer in order to provide the correct interval striding level. Hill inclines will automatically be determined.

Duration: The time you exercise during each interval striding workout. (Using the numeric keys, press the number of minutes desired when prompted by the Message Center.)

Calories: The number of calories you'll burn for a 12-minute workout. (If you have elected to work out for 24 minutes, simply double this number.)

Heart Rate: Percent of theoretical maximum heart rate (to determine your maximum heart rate, subtract your age from 220).

Frequency: How often during a week you should perform the interval striding program.

Lifestride 9100HR Interval Striding Programs (Using the Hill Profile)

The following programs (A – E) are examples of progressing Lifestride Interval Striding programs (Hill mode). Use these as a reference when creating your personal exercise program.

Program A

WEEK	1	2-3	4-6	7-9	10-12
Speed (mph)	2-3	2-3	2-3	2-3	2-3
Level	1	2	3	4	5
Duration (mins)	12-24	12-24	12-24	12-24	12-24
Calories (12 mins)					
2 mph	42	43	44	47	51
3 mph	56	57	59	63	69
Heart Rate %	60-70	60-70	60-70	70-80	70-80
Frequency	4-5	4-5	4-5	4-5	4-5

Program B

WEEK	1	2-3	4-6	7-9	10-12	Maintenance
Speed (mph)	3-4	3-4	3-4	3-4	3-4	3-4
Level	2	3	4	5	6	6
Duration (mins)	12-24	12-24	12-24	12-24	12-24	12-24
Calories (12 min)						
3 mph	57	59	63	69	75	75
4 mph	71	74	79	87	95	95
Heart Rate %	60-70	60-70	65-75	70-80	70-80	70-80
Frequency	4-5	4-5	4-5	4-5	4-5	3-5

Program C

WEEK	1	2-3	4-6	7-9	10-12	Maintenance
Speed (mph)	3-4	3-4	3-4	3-4	3-4	3-4
Level	6	7	8	5	10	10
Duration (mins)	12-24	12-24	12-24	12-24	12-24	12-24
Calories (12 min)						
2 mph	75	81	87	93	99	99
3 mph	95	103	111	120	128	128
Heart Rate %	60-70	60-70	65-75	70-80	70-80	70-80
Frequency	3-5	3-5	3-5	3-5	3-5	3-5

Program D

WEEK	1	2-3	4-6	7-9	10-12	Maintenance
Speed (mph)	4-4.5	4-4.5	4-4.5	4-4.5	4-4.5	4-4.5
Level	8	9	10	11	12	12
Duration (mins)	12-24	12-24	12-24	12-24	12-24	12-24
Calories (12 min)						
2 mph	111	120	128	136	144	144
3 mph	124	133	142	151	160	1603
Heart Rate %	60-70	60-70	65-75	70-80	70-80	70-80
Frequency	3-5	3-5	3-5	3-5	3-5	3-5

Program E

WEEK	1	2-3	4-6	7-9	10-12	Maintenance
Speed (mph)	4.5-6	4.5-6	4.5-6	4.5-6	4.5-6	4.5-6
Level	6	7	8	9	10	10-12
Duration (mins)	12-24	12-24	12-24	12-24	12-24	12-24
Calories (12 min)						
4.5 mph	136	141	145	150	154	154-163
6.0 mph	203	215	227	239	252	252-276
Heart Rate %	60-70	60-70	65-75	70-80	70-80	70-80
Frequency	3-4	3-4	3-4	3-4	3-4	3-4

Interval Striding Using the Manual, Random, and Heart Rate Training Programs

The interval striding programs described in this manual are designed for the Hill Profile program. If users wish to create their own variations on these programs, they may utilize either the Manual, Random or Heart Rate programs on the Lifestride treadmill.

If users choose to create an interval striding program utilizing the Manual program, it is recommended that they first set a comfortable striding speed and then select the inclines and durations desired using the appropriate keys on the keypad.

If users choose to perform interval striding utilizing the Random program, it is recommended that they choose a level one or two lower than normally used on the Hill Profile, due to the increased difficulty of this program.

If the user chooses to perform interval striding utilizing the Heart Rate program, he simply changes his target heart rate to simulate hills and valleys.

Most people will discover the ease of use and motivation inherent in performing interval striding in the Hill mode, making this the preferred choice.

Lifetime Exercise for Health and Fitness

Numerous scientific and medical studies demonstrate that lifetime consistency is the key to achieving the most health benefits from exercise. Interval striding is the ideal form of exercise for lifetime health and fitness. It features the easy, natural activity of striding and adds the features of interval training. Its low impact nature reduces the injury potential. The motivational nature of the Hill program on the Lifestride trainer assures the enthusiasm and enjoyment so essential to maintaining a lifelong exercise habit.

The Lifestride Trainer: The Ultimate Striding Machine

The Lifestride 9100HR treadmill is loaded with features designed to make interval striding comfortable, motivational and safe. The flexing deck™ minimizes impact to bones and joints. The quiet, powerful motor allows belt speeds from 1.5 to 9.0 m.p.h. The ergonomically designed side rails remain out of the way. The Lifestride trainer is truly the machine of the '90s and beyond for walking, running and interval striding.

How to Exercise Effectively

Using the Lifepulse System

Exercising too hard is as ineffective as not working hard enough. In fact, it can be harmful. For an effective workout, the user must determine his optimal workout frequency, duration and intensity and stick to it!

The Lifepulse digital heart rate monitoring system is an exclusive patented feature of Life Fitness products. Through the use of sensors built into the handrails and unique software, the user can check his or her heart rate at any time during any Lifestride program.

When the user makes contact with the 4 handlebar sensors (2 on the topside, 2 on the underside), the Lifepulse system detects the electrical impulses the heart gives off each time it beats. Through a sophisticated software system, the Lifestride computer uses these impulses to calculate the user's heart rate.

> *NOTE: The user must contact all four sensors to activate the Lifepulse system and receive a heart rate reading. This can be done by grasping the sensors, palms down, with the user's palms and fingers reaching around the top of the handlebar and the thumbs extended around the underside of the handlebar.*

The Lifepulse system takes the guesswork and error out of manually counting a pulse. It's easy and convenient to use, and does not interrupt the user's Lifestride program in any way.

Calculating a Training Heart Rate Range (THRR)

To approximate a Training Heart Rate Range (THRR), the user should refer to the Target Heart Rate Zone Chart provided on the console. For a more precise training zone, the user must first calculate his theoretical maximum heart rate.

The following formula is recognized by the American College of Sports Medicine as a method for determining theoretical maximum heart rate*: subtract the user's age from 220. For example, if the rider is 35 years old, his theoretical maximum heart rate is 185. Establish his THRR by multiplying this number (185) first by 60% to establish the lower limit and then by 85% to establish the upper limit.

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* American College of Sports Medicine, Guidelines for Exercise Testing and Prescription (Lea & Febiger:Philadelphia, 1986), p.32.

Examples:

Fat Loss Training Range for age 35:
Lower limit: (220 less 35 = 185) × .60 = 111 beats/min.
Upper limit: (220 less 35 = 185) × .75 = 139 beats/min.

Cardiorespiratory Training Range for age 35:
Lower limit: (220 less 35 = 185) × .75 = 139 beats/min.
Upper limit: (220 less 35 = 185) × .85 = 157 beats/min.

> *NOTE: The Heart Rate program will automatically supply a user with his target heart rate (at 70% of his theoretical maximum) when he inputs his age. A stress test, administered by a doctor, is the most accurate method of determining the user's maximum heart rate and overall cardiorespiratory condition. We strongly recommend that users see their doctors before beginning any exercise program, especially if they have a history of high blood pressure, heart problems or if they are over the age of 45. The users and their doctors can decide whether a maximum stress test is advisable.*

Warming Up and Cooling Down

A warm up period on the Lifestride trainer gradually increases the user's heart rate. This promotes blood flow to working muscles and meets the body's increased demand for oxygen. The length of the warm up period of the standard Hill Profile program will vary depending upon the program duration selected. The warm up period is 1 1/4 minutes if the user selects a 6 minute program, 2 1/2 minutes in a 12 minute program, 3 1/2 minutes in an 18 minute program, and 4 1/2 minutes in a 24 minute program. There is a 3 minute warm up period for the Heart Rate program.

The cool down period in the Hill Profile program, which lasts 1 1/2 minutes in a 6 minute program, 3 minutes in a 12 minute program, 4 1/2 minutes in an 18 minute program and 6 minutes in a 24 minute program, decreases the activity level of the heart until it has returned to approximately 55% of its theoretical maximum rate. A proper cool down period assures sufficient blood flow to the muscles which helps to remove the end products of exercise, including lactic acid. Accumulation of these end products is a major cause of muscle soreness. The harder the workout, the longer the cool down should be.

Research suggests that in order to minimize the chance of injury, stretching exercises should be performed after the cool down period, while muscles and joints are still warm. This is especially true if the user follows his or her aerobic workout with a weight training session.

> *CAUTION: Many physicians believe proper cool down is very important to avoid heart failure, even for people with no prior history or symptoms of heart problems.*

Figure 7: Training Zone Chart

TRAINING ZONE CHART
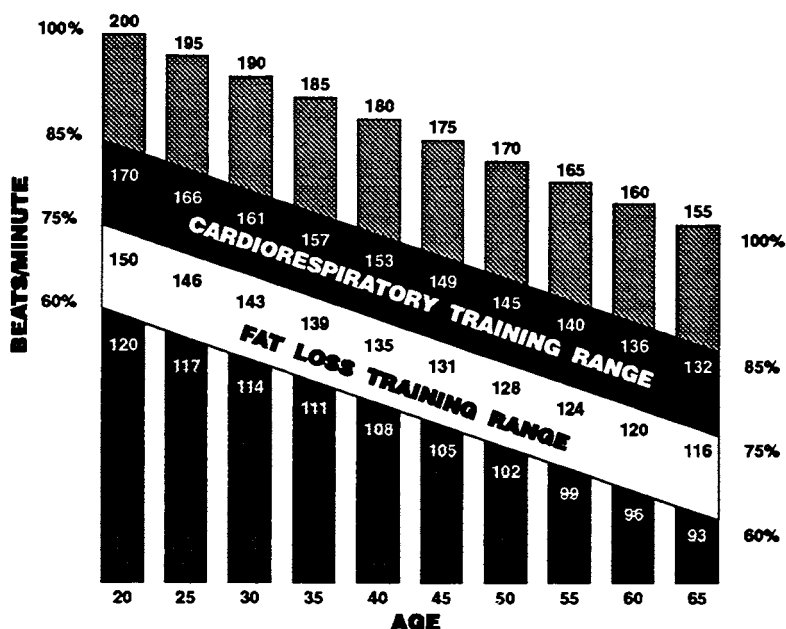
Training above 85% of your theoretical maximum heart rate is not recommended.

CARDIORESPIRATORY TRAINING RANGE – between 75% and 85% of your theoretical maximum heart rate.

FAT LOSS TRAINING RANGE – between 60% and 75% of your theoretical maximum heart rate.

For most people, training benefits are difficult to achieve below 60% of their theoretical maximum heart rate.

Table 4: Training Heart Rate Range (THRR) for Fat Loss and Cardiorespiratory Improvement

Age	Max HR*	60% HR	75% HR	85% HR	Optimal Training HR**
20	200	120	150	170	160
21	199	119	149	169	159
22	198	118	148	168	158
23	197	118	148	167	158
24	196	117	147	166	157
25	195	117	146	165	156
26	194	116	145	164	155
27	193	115	145	164	154
28	192	115	144	163	154
29	191	114	143	162	153
30	190	114	142	161	152
31	189	113	142	160	151
32	188	112	141	159	150
33	187	112	140	158	150
34	186	111	139	158	149
35	185	111	139	157	148
36	184	110	138	156	147
37	183	109	137	155	146
38	182	109	136	154	146
39	181	108	136	153	145
40	180	108	135	153	144
41	179	107	134	152	143
42	178	106	133	151	142
43	177	106	133	150	142
44	176	105	132	149	141
45	175	105	131	148	140
46	174	104	130	147	139
47	173	103	130	147	138
48	172	103	129	146	138
49	171	102	128	145	137
50	170	102	127	144	136
51	169	101	127	143	135
52	168	100	126	142	134
53	167	100	125	141	134
54	166	99	124	141	133
55	165	99	124	140	132
56	164	98	123	139	131
57	163	97	122	138	130
58	162	97	121	137	130
59	161	96	121	136	129
60	160	95	120	136	128
61	159	95	119	135	127
62	158	94	118	134	126
63	157	94	118	133	126
64	156	93	117	132	125
65	155	93	116	131	124
66	154	92	115	130	123
67	153	91	115	130	122
68	152	91	114	129	122
69	151	90	113	128	121
70	150	90	112	127	120

See footnotes and explanations on page 52.

*Theoretical maximum heart rate is recognized by the American College of Sports Medicine.

**Optimal training heart rate is hypothetical, based on an average person in the population; however, exercising at a specific heart rate is a precise determination that can only be made by qualified medical personnel.

A greater percentage of calories are burned when you average between 60% and 75% of your theoretical maximum heart rate. Fat is burned best when there is plenty of oxygen available in the blood. Working out at a lower heart rate for a longer period of time tends to optimize the amount of fat burned. Lower intensity exercise allows you to work out longer, thus allowing you to burn more total calories.