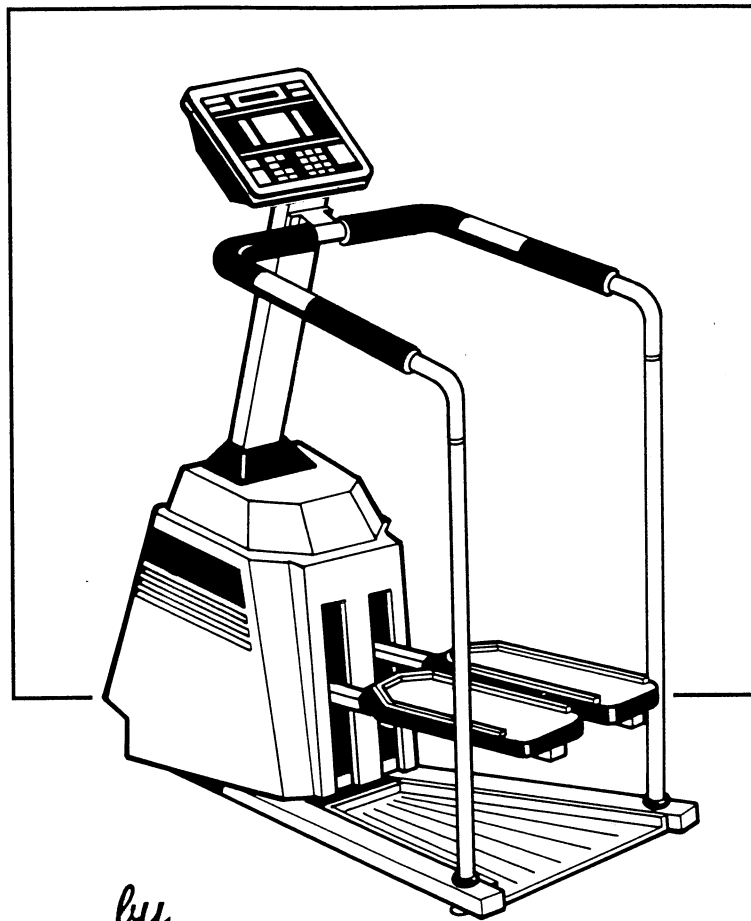


Lifestep 9500HR[®]♥

OPERATION MANUAL



by

LifeFitness

Possible Radio/Television Interference

NOTE: This equipment has been tested and found to comply with the limits for a Class A Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If necessary, we encourage you to seek advice from the Product Support Center of Life Fitness (800) 351-3737 toll free or (708) 451-0036.

Introduction

HOW TO GET THE MOST OUT OF THE LIFESTEP® WORKOUT

Congratulations...and welcome to the world of Life Fitness and the Lifestep aerobic trainer.

Your new aerobic trainer is the culmination of over 20 years of technological innovation. Today, it is recognized as the world's most popular and most advanced computerized stepping machine.

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

Who uses the Lifestep 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 Lifestep trainer their exercise choice. Whether at a fitness facility, at home or at the office, using the Lifestep is an excellent way to lose weight and improve your cardiorespiratory condition, and it's fun!

Why use a Lifestep aerobic trainer? Aerobic training with a Lifestep aerobic trainer is more than just a motivating experience. Regular aerobic exercise improves energy and endurance, reduces body fat, lowers your 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 beginning your Lifestep Aerobic Exercise Plan (PEP), it is essential that you read this entire manual. It explains how to operate your Lifestep, and helps you design an aerobic workout tailored to your aerobic fitness needs.

If you have further questions regarding the operation of your Lifestep trainer, please call THE LIFE FITNESS PRODUCT SUPPORT CENTER toll free at (800) 351-3737. In Illinois call (708) 451-0036.

*Based on research from Exercise Physiology 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.



***Sales, Product Information
and Customer Service:***

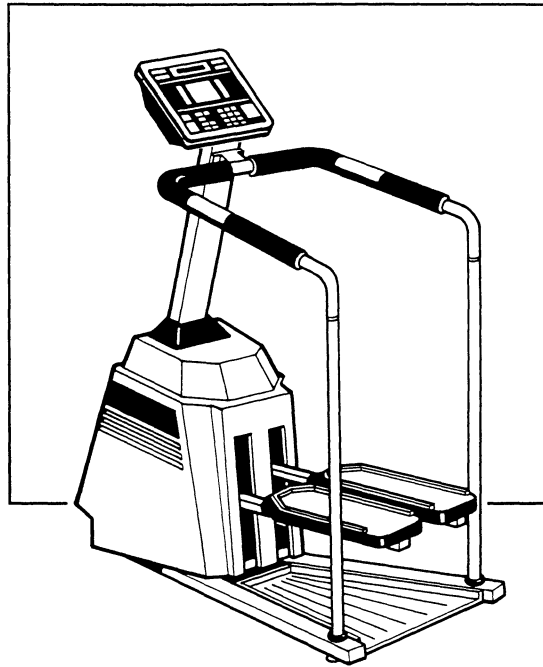
Life Fitness
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(708) 451-9200
(708) 451-4137 Fax

***Assistance on Installation, Operation,
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The Lifestep stairclimber is the third aerobic conditioning product from Life Fitness, joining the Lifecycle[®] aerobic trainer and Liferower[®] total body conditioner, both health club favorites.

The Lifepulse[®] digitized heart rate monitoring system on the Lifestep 9500 HR trainer is unique to Life Fitness products. This system provides the most accurate heart rate readings available at over 99.9% accuracy* without requiring users to wear chest-strap sensors. The Lifestep 9500HR is equipped with a Heart Rate Management Program, enabling the user to maintain his target heart rate by automatically varying the stepping resistance. By exercising at a target heart rate 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 Lifestep 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 a a prescribed heart rate profile automatically.

This Lifestep aerobic trainer is manufactured by Life Fitness.

*Based on research from the Exercise Physiology Laboratory, University of Massachusetts Medical School.

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Important Safety Instructions

Please read this manual now. It is essential that you read this entire manual. It explains the design philosophy of the Lifestep 9500HR trainer, how to operate it, and ways to tailor aerobic workout plans to meet your members' personal fitness objectives.

If you have further questions regarding your Lifestep aerobic trainer, please call Life Fitness Product Support at (800) 351-3737 toll free or (708) 451-0036.

DANGER: To reduce the risk of electrical shock, always unplug the Lifestep unit from the electrical outlet or the electrical power supply cord 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 LIFESTEP UNIT TO A PROPERLY GROUNDED OUTLET. (See Grounding Instructions Page 9)

SAFETY FIRST

1. The Lifestep aerobic trainer should always be left on. When initiating any maintenance or service activities, first turn the power switch to the off position and then unplug the unit. Grip the plug firmly and pull it out of the outlet. Do not disengage the plug from the outlet by pulling on the cord.
2. The equipment is for use by adults only. Close supervision and appropriate measures should be taken to prevent spectators from interfering in any way with the user while an exercise routine is in progress.
3. Always follow the console diagrams for proper lifting techniques and motions.
4. Each Lifestep aerobic trainer is intended to be used in a manner described in this manual.
5. Never operate a Lifestep unit if it has a damaged cord or electrical plug, if it has been dropped or damaged or immersed in water, even partially. Contact Life Fitness Product Support for examinations and repairs.
6. Keep the electrical cord away from heated surfaces.
7. Do not carry the Lifestep unit by the power cord or use the cord as a handle.

8. Never operate a Lifestep unit with the air openings blocked.
Keep air openings free of lint, hair or any obstructing material.
9. Never drop or insert objects into any opening in a Lifestep unit.
10. Never place liquids of any type on a Lifestep unit.
11. Do not use the Lifestep aerobic trainer outdoors.
12. Do not use the units in areas where aerosol spray products are being used or where oxygen is being administered. Such substances increase the danger of combustion or explosion.

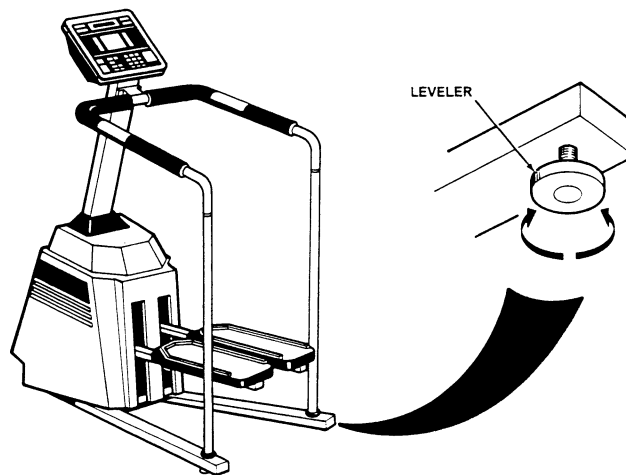
SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

How to Level the Lifestep 9500HR Aerobic Trainer

Your Lifestep model 9500HR may have to be leveled, depending on the surface on which the machine is placed.

After placing the Lifestep in its intended location for use, check the stability of the unit. If the Lifestep 9500HR is not stable, adjust either leveler by turning it clockwise or counterclockwise until the rocking motion is diminished.

Figure 1: Leveling the Lifestep

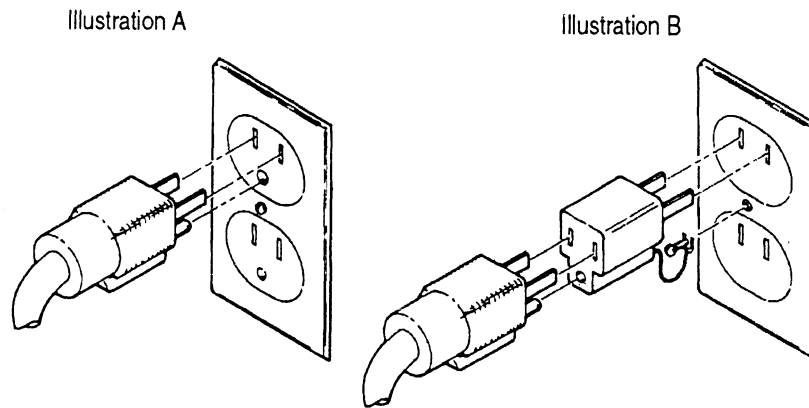


NOTE: Only one leveler needs to be turned.

Grounding Instructions

The Lifestep aerobic trainer must be properly grounded. If the unit malfunctions or breaks down, proper grounding provides a path of least resistance for 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 (Figure 2) that is properly installed and grounded in accordance with all local codes and ordinances.

Figure 2: Proper Grounding



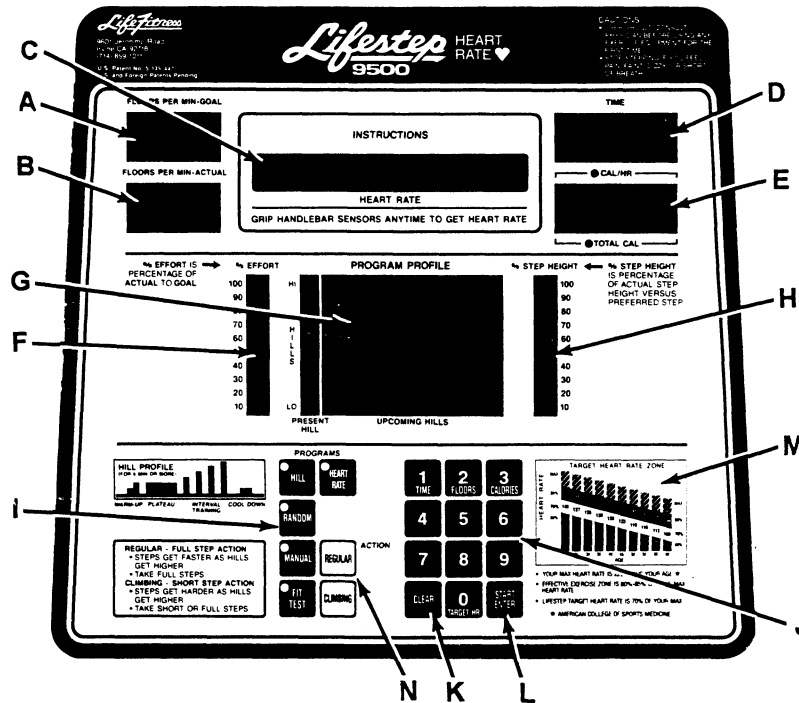
This product is for use on a normal 120-volt electrical circuit and has a grounding plug that looks like the plug depicted in Illustration A. A temporary adapter, similar to the adapter in Illustration B, may be used to connect this plug to a 2-pole receptacle if a properly grounded outlet is not available. **THE TEMPORARY ADAPTER SHOULD BE USED ONLY UNTIL A PROPERLY GROUNDED OUTLET CAN BE INSTALLED BY A QUALIFIED ELECTRICIAN. THE GREEN EAR OR LUG MUST BE CONNECTED TO A PERMANENT GROUND SUCH AS A PROPERLY GROUNDED BOX COVER. IT MUST BE HELD IN PLACE SECURELY BY A METAL SCREW.**

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

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

How to Use the Display Console

Figure 3: Display Console



- A. **FLOORS PER MINUTE-GOAL:** In the Regular Action mode, this window displays a user's floors per minute rate at which the user should be stepping, based on the program selection, effort level and time duration selected. If the user is stepping above or below the floors per minute goal, this window will begin to flash. Also, the user will hear "beeps" if he drops below his floors per minute goal. A floors-per-minute goal is not displayed in the Climbing Action mode.
- B. **FLOORS PER MINUTE-ACTUAL:** Shows the actual floors per minute pace at which the user is stepping, with 1 floor being equal to 10.2 ft. In the Regular Action mode, the user should attempt to keep this figure as close to the floors per minute goal display as possible to make sure he receives the optimal aerobic benefits from his workout.
- C. **INSTRUCTIONS (Message Center):** Provides simple, step-by-step instructions as well as motivational information during a workout. At the end of each workout, a summary of total feet and total floors climbed, workout duration and total caloric burn is displayed.

- D. **TIME:** Provides a continual display of elapsed time during each workout.
- E. **CALORIES PER HOUR/TOTAL CALORIES:** Display of calories burned per hour alternates every two seconds with total caloric burn display. LED lights next to CAL/HR or TOTAL CAL illuminate, indicating which information is being displayed. Also, the user may select a display of watts, instead of calories per hour, by pressing START, "0" and the ENTER key prior to selecting a program.
- F. **% EFFORT:** Depicts, in a percentage, the user's actual stepping pace as compared to the goal pace for the program, level and duration he has selected. The closer the LED light column is to 100%, the more closely the user's pace matches his floors per minute goal. The user should try to maintain 100% effort.
- G. **PROGRAM PROFILE:** Displays present intensity level in addition to upcoming intensity levels. The higher the LED light column, the higher the floors per minute goal and consequently a greater effort is required. In the Heart Rate program, this window displays a flashing heart prompting the user to make contact with the heart rate sensors.
- H. **% STEP HEIGHT:** Allows users to see the actual percentage of step height they are achieving as compared to the unit's maximum possible step height.
- I. **PROGRAMS:** The Program keys access the five Lifestep programs: HILL, RANDOM, MANUAL, HEART RATE or FIT TEST. These programs are described in detail in the section "How to choose a Computerized Workout Program."
- J. **NUMERICAL KEYPAD:** Used to enter workout duration and effort level information into the computer programming system. During a workout, the user may vary his program difficulty by entering the new level values through the keypad. The numerical keypad is also used to enter a workout goal. In the Random and Manual programs pressing a number programs a workout based on a user specified amount of time. Pressing number 2 programs a workout on a user specified number of floors, and pressing number 3 programs a workout on a user specified number of calories to burn. Pressing 0 in the Target Heart Rate program allows a user to enter a desired target heart rate.
- K. **CLEAR:** Pressing this key two times in succession resets the unit and allows the user to begin the programming sequence again.
- L. **START/ENTER:** Press this key to begin a workout or as part of the information entering process at the start of a workout.
- M. **TARGET HEART RATE ZONE CHART:** This chart depicts the Training Heart Rate Zone based on his age. A user should maintain

a heart rate that is between 60% and 85% of his theoretical maximum heart rate.

- N. STEP ACTION KEYS:** These keys are used to choose a step action, either the Regular-Full Step Action in which the steps get faster as the hills get higher, or the Climbing-Short Step Action in which the steps become more difficult as the hills get higher. The Climbing Action mode allows you to take short or full steps, whereas the Regular Action mode was designed for a full step action.

Operating Instructions Summarized

Selecting a Lifestep workout program is simple. Step-by-step instructions appear in the Message Center Screen to help "walk" your members through the process. Once they become familiar with programming their workout, the process can be completed in as little as 30 seconds.

- To begin, simply press the START-ENTER key.
- The message *ENTER YOUR WEIGHT* appears on the message screen. Enter current weight using the numerical keypad on the console and press ENTER. (Weight data is necessary to properly calibrate your caloric burn information.)
- The message screen will then read, *ENTER YOUR PROGRAM*. Press one of the five flashing program keys marked HILL, RANDOM, MANUAL, HEART RATE, and FIT TEST. The HILL key will start a Hill Profile workout which provides progressively increasing effort levels mixed with periods of less effort. The RANDOM key starts a program of different effort levels, which vary randomly with each exercise session. The MANUAL key allows users to select a program of a constant effort level without variation. The HEART RATE key begins a program which maintains a user's target heart rate by varying step resistance. The Fit Test key begins a 3-minute program which evaluates a user's relative fitness level.

Hill Profile

- After pressing the HILL key, the message center screen will prompt the user to enter his desired workout time. Enter your desired workout time, either 1-6, 12, 18 or 24 minutes.
- The message center screen will prompt the user to select desired step action - REGULAR or CLIMBING. Enter desired step action.
 - REGULAR - FULL STEP ACTION - steps get FASTER as hills get higher.
 - CLIMBING - SHORT STEP ACTION - steps get HARDER as hills get higher.
- The message center will instruct the user to select an effort level. Beginners should start with a low level and work toward higher levels. Level 1 is the slowest pace and the lowest effort level and 12 is the fastest pace and the highest effort level. Enter a level and press the START-ENTER key. Begin stepping at a comfortable pace. Random or Manual

Random or Manual

- The Lifestep allows the user to customize his program to either a specific amount of time, a specific number of floors to climb, or a specified number of calories to burn.
- Press 1 for a program based on a specific amount of time, 2 for a program based on a specific number of floors to climb, and 3 for a program based on a specific number of calories to burn.
- Enter time, floors, or calories goal as desired and press ENTER.
- The message center will prompt the user to select a desired step action - REGULAR or CLIMBING. Enter desired step action.
 - REGULAR - FULL STEP ACTION - steps get FASTER as hills get higher.
 - CLIMBING - SHORT STEP ACTION - steps get HARDER as hills get higher.
- The message center will instruct the user to enter a level. Enter a level from 1 to 12 and press the START-ENTER key. Begin stepping at a comfortable pace.

Heart Rate Program

- After pressing the Heart Rate key, the message center will prompt the user to enter his age (in order to receive a computed target heart rate which is 70% of the user's theoretical maximum heart rate) or to press the TARGET HEART RATE key (in order to enter a self-selected target heart rate).
- After the target heart rate has been programmed, the message center will instruct the user to select an effort level. Level 1 is the slowest pace and the lowest resistance level and 12 is the fastest pace and the highest resistance level. Enter a level and press the START-ENTER key. Begin stepping at a comfortable pace.
- Grip the handlebar sensors whenever a heart appears in the center window.

Fit Test Program

- See page 23 for operating procedures.

The Watts Option:

- To view a display of watts, a unit of energy expended while exercising, press START, then press 0 prior to selecting a program. This measurement is approximately 1/4 of the calories-per-hour readout.

The Pause Mode:

- When a user stops stepping, the Lifestep 9500HR will automatically enter the Pause mode. The Lifestep will remain in the Pause mode for one minute, or until the user resumes stepping. At the end of one minute, if stepping has not been resumed, the program will end. During any program, the Pause mode may also be entered by pressing the CLEAR/PAUSE key.

Message Center Prompts

The Lifestep 9500HR aerobic trainer constantly monitors the user's performance during the exercise program, giving prompts to inform and advise him of his performance. The following script is a sample of what a user may see during a workout:

Displayed Messages	Comments
<input type="checkbox"/> Press "Start" to begin	Begin exercise program.
<input type="checkbox"/> Enter weight _____lbs	User must enter accurate weight.
<input type="checkbox"/> Select your program	Prompts user to select an exercise program: Hill, Random or Manual.
<input type="checkbox"/> Select program time: 1-6,12,18 or 24 min.	In Hill program, instructs user to select duration of workout 1-6, 12, 18 or 24 minutes.
<input type="checkbox"/> Enter time _____minutes	Prompts user to select desired duration of workout in minutes.
<input type="checkbox"/> Select level 1-12	Instructs user to select effort level: 1-12; (1 is the easiest, 12 is the most challenging).
<input type="checkbox"/> Choose program goal : Time, Floors or Categories by pressing 1 for Time, 2 for Floors, or 3 for calories	Prompts user to select workout duration (in minutes) or number of floors to be climbed, or number of calories to be burned.
<input type="checkbox"/> Enter floors	Instructs user to select desired number of floors to be climbed.
<input type="checkbox"/> You are stepping too hard. Slow your pace or increase your level	Prompts user to slow pace or increase exercise level.
<input type="checkbox"/> To change levels use arrow keys	Instructs user to select greater or lesser intensity level.
<input type="checkbox"/> Level changed to _____	The unit automatically lowers resistance level for 1 minute if user goes slower than floors per minute goal.
<input type="checkbox"/> Increase your pace	User's pace has decreased .
<input type="checkbox"/> Floors climbed	Displays actual floors per minute to compare against the floors per minute goal.
<input type="checkbox"/> Feet climbed	Displays total feet climbed.

- | | |
|---|---|
| <input type="checkbox"/> User has changed levels | The unit acknowledges a level change. |
| <input type="checkbox"/> Minutes to Go | The unit notifies user of time left in program. |
| <input type="checkbox"/> Total calories | Displays total calories burned. |
| <input type="checkbox"/> Enter your sex.
Press 1 for male,
press 2 for female. | In The Fit Test program, the user must indicate their sex. |
| <input type="checkbox"/> Enter your age: | In Fit Test program, the user must enter their age. |
| <input type="checkbox"/> Select Effort Level:
female 1, 5, 8, 11
male 2, 6, 9, 12 | The user may select an effort level based on the following scale: Beginner/Intermediate/Advanced/Expert. |
| <input type="checkbox"/> Begin 3 minute
Fit Test now. | Prompts user to begin 3 minute Fit Test Program. User should maintain a 100% effort level and step height. |
| <input type="checkbox"/> Take Your Pulse for
15 seconds, but start at
the beep. | Instructs user to take his pulse for 15 seconds using the beep to start and stop counting. |
| <input type="checkbox"/> Fit Test Score is: | User relative Fit Test Score is displayed. User should compare their score with others of their sex and age in Table1 on page 25. |
| <input type="checkbox"/> Your heart rate is
not high enough;
Redo Test level _____ | User's Heart Rate is too low. His heart range is below 50 beats per minute. User is instructed to do Fit Test at the same level while maintaining the floors per minute goal or to redo the Fit Test at a higher level. |
| <input type="checkbox"/> Pulse seems too high
Consult Instructor | User's 15 second pulse count is too high (above 200 beats per minute). User should consult instructor and turn to page 21 to be sure the user is using the proper procedure for taking his pulse and is staying within his proper heart rate training zone. |
| <input type="checkbox"/> Enter age or press
target heart rate key
to enter your own
target heart rate. | Instructs user to enter his age to receive a calculated target heart rate or to press theTARGET HR key to enter a different target heart rate. |

How to Choose a Computerized Workout Program

Five computerized aerobic workout programs are available on your Lifestep model 9500HR:

1. The Hill Profile Program
2. The Random Program
3. The Manual Program
4. The Heart Rate Program
5. The Fit Test Program

The Hill Profile Program

The Lifestep aerobic trainer's patented Hill Profile program offers the ideal configuration for interval training, that is, periods of high-effort aerobic activity separated by regular intervals of low-intensity exercise. The Hill Profile program is available in various time durations from 1 to 24 minutes. You can select 1, 2, 3, 4, 5, 6, 12, 18 or 24 minute programs. Each program is comprised of four stages: (1) Warm-up, (2) Plateau, (3) Interval Training, and (4) Cool Down.

The Lifestep trainer 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 Profile program offers "interval training;" 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 heart rate into the lower portion of user's Training Heart Rate Range (THRR) (see page 26 to calculate your THRR) and increases respiration. Blood flow to working muscles also increases.

PLATEAU PERIOD: Increases heart rate so that it is within user's THRR. The user takes his pulse (HR check) at the end of the plateau period to ensure he enters his THRR.

INTERVAL TRAINING PERIOD: Comprised of periods of higher and lower intensity levels. During this period, the user is confronted with four progressively higher paced levels. Each is separated from the next by a recovery period. The user takes his pulse at the end of the interval training period to ensure that he has stayed within his THRR.

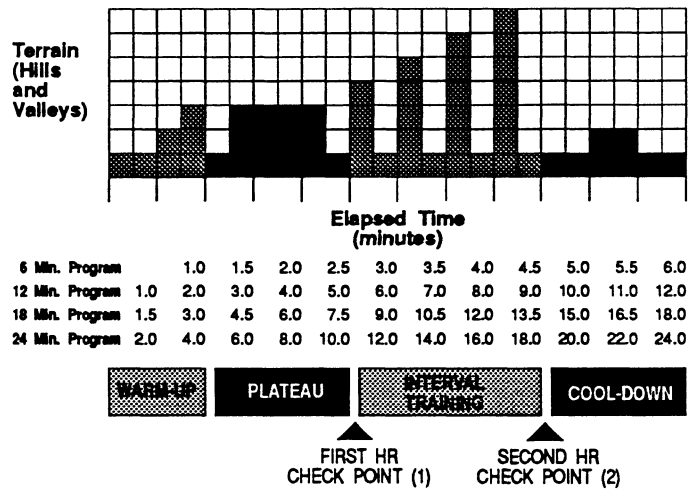
COOL-DOWN PERIOD: Reduced effort levels gradually reduce heart rate to the lower end of the user's THRR. This period allows the body to begin removing accumulated end products of exercise, such as lactic acid, which tend to build up in muscles during the workout and contribute to muscle soreness.

Heart Rate Check Points: Your club members 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 pulse at the times indicated to make sure they are staying within their personal THRR.

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

Figure 4: Hill Profile Program

HILL PROFILE



FOR CARDIORESPIRATORY TRAINING:

- (1) First Heart Rate Check Point — At the first heart rate check point (during the plateau stage), the user's pulse should be between 75%-80% of the theoretical maximum (see Training Zone Chart on page 22) for user's age category for cardiorespiratory training.
- (2) Second Heart Rate Check Point — At the second heart rate check point (at the end of the interval training period), the user's pulse should be between 80%-85% of the theoretical maximum heart rate for his age category for cardiorespiratory training.

FOR FAT LOSS TRAINING:

- (1) First Heart Rate Check Point — At the first heart rate check point (during the plateau stage), the user's pulse should be between 60%-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 (at the end of the interval training period), the user's pulse should be between 70%-75% of the theoretical maximum for his age category for fat loss training.

The Random Program

In the Random program, the computer randomly selects hill-and-valley terrain which varies with each and every exercise program. Over one million combinations are offered in an interval training format. Because the goal pace is faster, it is more difficult than the Hill Profile program, and as a result it is recommended that your club members set the Random program one or two levels lower than they would normally select on the Hill Profile program.

Heart Rate Check Points: Users should check their heart rate after the first 5 minutes of exercise on the Random program and every 5 to 10 minutes thereafter. This provides the low and high heart rate extremes to ensure that they are exercising within their THRR.

The Manual Program

This program provides steady-pace exercise .

Heart Rate Check Points: Users should check their heart rate after the first 5 minutes of exercise and every 5 to 10 minutes thereafter when using the Manual Program. This provides the low and high heart rate extremes to ensure that they are exercising within their THRR.

Your club members 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 his maximum heart rate, then strides at a lower level of intensity until his heart rate drops to the bottom of his particular THRR. Then, the user should increase the level of intensity until he reaches his maximum heart rate again. By repeating this process, he will be simulating his own hills and valleys.

The Heart Rate Program

The Heart Rate program is designed to maintain the heart rate of the user by varying the pedal resistance. The program provides the user with an accurate and convenient means of obtaining his heart rate and automatically adjusts the workout intensity in order to maintain the users' predetermined heart rate.

Because the Lifepulse[®] heart rate monitoring target 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 3-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 Lifestep 9500HR will begin altering resistance in order to maintain the user's target heart rate.

At the end of 3 minutes, a heart 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 step resistance to help the user reach his target. On average, it will take 2 to 3 minutes in order for the user's heart rate to reach his target.

Note: The user need not maintain constant contact with the sensors, only 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 10 seconds in every minute.

The Climbing Action Mode

In the Climbing Action mode, the Lifestep 9500HR simulates the natural sensation of climbing up and down real hills and steps. The user can take full or short steps, depending on their preferred stairclimbing motion. At a slower paced, short-step workout, combined with a minimal step rebound, the Lifestep 9500HR simulates the action of independent stairclimber machines, while enabling the user to step at any pace while controlling their own workout speed. Club members can use the Climbing Action mode as an alternative to the Regular - Full Step Action in which the stepping pace increases as the hills increase in size.

The Fit Test Program

The Lifestep model 9500HR aerobic trainer FIT TEST program is another exclusive feature of this versatile aerobic product. It will enable your members to chart their "Relative Fitness Score" and monitor improvements in their endurance every 4 to 6 weeks. Your members' FIT TEST score will be a number which will allow them to compare their fitness level to others of their sex and age. (See Table 1 on page 25.) It is also an estimate of their VO2 max.

VO2 max is a combination of how well the heart supplies oxygenated blood to the exercising muscles and how efficiently these muscles are able to get the oxygen from the blood. It is the measurement regarded by physicians and exercise physiologists as the standard for aerobic capacity.

Note: To receive a proper FIT TEST score, the user must be working within his training heart rate range of 65% of his theoretical maximum heart rate. The Lifestep will automatically determine if the user is working within his range. If not, the Lifestep will prompt him to redo the FIT TEST at the next highest level.

HOW THE FIT TEST WORKS

1. Press START-ENTER key.
2. Using the numeric keys, the user must enter in their current weight and press START-ENTER.
3. The user then presses FIT TEST and START-ENTER.
4. Using the numeric keys, the user enters their age then presses START-ENTER.
5. After entering their weight the user will be instructed to enter their sex. Press "1" for Male or "2" for Female then press START-ENTER. This is necessary for accurate computation of the FIT TEST score.
6. Using numeric keys, enter the FIT TEST level.

For males the levels are:

Beginner	Intermediate	Advanced	Expert
2	6	9	12

For females the levels are:

Beginner	Intermediate	Advanced	Expert
1	5	8	11

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

7. User then begins stepping for the 3 minute FIT TEST . The user must maintain the floors per minute goal indicated in the Floors Per Minute Goal window. Also, they must maintain a 100% effort and step height for an accurate score.
8. At the end of the Fit Test, a heart shape will flash in the center of the Program Profile window. The user must make contact with the sensors at this time.
9. Once the user's heart rate has been received, a score will appear in the Data Entry window. The table on page 25 may be used to determine where the user ranks among others in that specific category.
10. If the user's heart rate is too low, they will be instructed by the message center to redo the Fit Test at the next higher level.
11. If the user's pulse is too high, they should consult an instructor and review the proper pulse taking procedure on page 26.

FIT TEST TIPS

- The computer does not accept . . .
 - heart rates less than 50 or greater than 200 beats per minute;
 - body weights less than 50 or greater than 350 pounds;
 - ages below 16 and above 99;
 - data input that exceeds human potential.
- If members make an error when entering any FIT TEST information, they can correct it by pressing 'Clear' twice and re-entering the accurate data.
- Heart rate is dependent on many factors. It is important to have members take their FIT TEST under similar circumstances each time.
 - amount of sleep the previous night (7 or more hours is recommended);
 - time of day of the test;
 - time they last ate (2 to 4 hours after your last meal is recommended);
 - time since you last drank a liquid containing caffeine or alcohol, or smoked a cigarette (4 or more hours is recommended); and
 - time since they last exercised (at least 6 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.

YOUR RESTING HEART RATE IS IMPORTANT

Another excellent indicator of cardiorespiratory health is a person's resting pulse. An average resting pulse is approximately 72 beats per minute. A lower pulse indicates a stronger, healthier heart. Monitoring a person's resting pulse is an easy way to measure the effectiveness of their exercise program. They should take their pulse each day at the same time preferably upon awakening and before they get out of bed. As their Personal Exercise Plan (PEP) continues, they will notice a decrease in their resting heart rate. Be patient. This improvement takes at least 8-10 weeks of training.

Table 1: Fit Test Scoring

MEN		AGE				
RATING	20-29	30-39	40-49	50-59	60-69	
Elite	55+	52+	50+	48+	45+	
Excellent	50-54	47-51	45-49	43-47	40-44	
Good	45-49	42-46	40-44	38-42	35-38	
Above Average	40-44	37-41	35-39	33-37	30-34	
Average	36-39	33-36	31-34	29-32	26-29	
Below Average	31-35	28-32	26-30	24-28	21-25	
Poor	26-30	23-27	20-25	18-23	16-20	
Very Poor	<20	<23	<20	<18	<16	
WOMEN		AGE				
RATING	20-29	30-39	40-49	50-59	60-69	
Elite	49+	46+	44+	42+	40+	
Excellent	44-48	41-45	39-43	37-41	35-39	
Good	39-43	36-40	34-38	32-36	30-34	
Above Average	34-38	31-35	29-33	27-31	25-29	
Average	30-33	27-30	25-28	23-26	20-24	
Below Average	25-29	22-26	20-24	18-22	16-20	
Poor	20-24	17-21	15-19	13-17	11-15	
Very Poor	<20	<17	<15	<13	<11	

NOTE: To receive a proper Fit Test score, the user must be working within his training heart rate range of 65-80% of his theoretical maximum heart rate range.

How to Exercise Effectively Using the Lifepulse™ System

As a club owner, you know that 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 handlebars and unique software, the user can check his or her heart rate at any time during any Lifestep program with over 99.9% accuracy.*

When the user makes contact with the 4 handrail 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 Lifestep 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 palm and fingers reaching around the top of the handlebars and the thumbs extended around the underside of the handlebars.

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 Lifestep 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 rider 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.

* When compared to an EKG machine

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

Examples:

Cardiorespiratory Training Range for age 35:

Lower limit: $(220 \text{ less } 35 = 185) \times .75 = 139 \text{ beats/min.}$

Upper limit: $(220 \text{ less } 35 = 185) \times .85 = 157 \text{ beats/min.}$

Fat Loss Training Range for age 35:

Lower limit: $(220 \text{ less } 35 = 185) \times .60 = 120 \text{ beats/min.}$

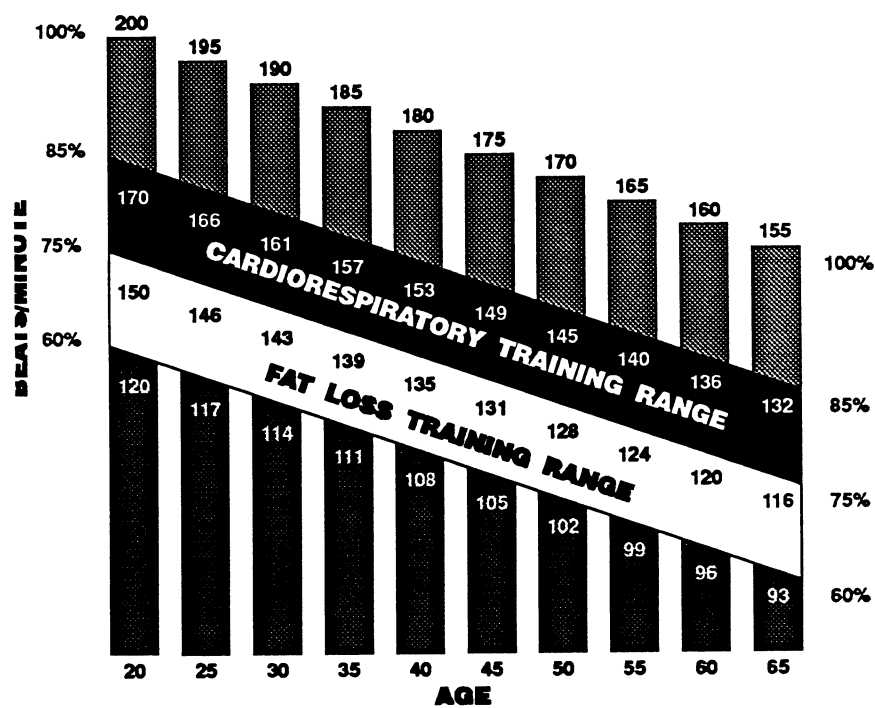
Upper limit: $(220 \text{ less } 35 = 185) \times .75 = 139 \text{ beats/min.}$





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 rider'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.

The user can use the Target Heart Rate Zone Chart on the display console or refer to Figure 5 on page 28 to determine the theoretical maximum heart rate for his age category.

Figure 5: Training Heart Rate Range (THRR) 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.

Lifestep 9500HR Caloric Expenditure

The human body at work uses approximately five kilocalories (kcal) for every liter of oxygen consumed. From a power standpoint, this means that five kilocalories per minute equals approximately 1 Vo₂ (liter/min), Vo₂ being the maximum oxygen uptake, in liters per minute, to produce energy during aerobic exercises. This relationship may be stated as follows:
 $5 \text{ kcal/min} = 1 \text{ Vo}_2 \text{ (liter/min)}$

The Lifestep 9500HR also enables the user to measure the watts output, the power generated from the Lifestep. This equation is written as follows:
 $1 \text{ Kcal/hour} = 0.86 \text{ watts}$

The user can receive a display of watts by pressing START-ENTER, "0" and the START-ENTER key again *prior* to initiating an exercise program.

The Lifestep is the **first** and only stairclimber that has the caloric expenditure based upon "performance tests" on a Lifestep, rather than assuming the same caloric expenditure as if you are walking up stairs. Studies performed at the University of Massachusetts Medical School showed that the oxygen consumption and caloric expenditure differed when measured with a person on a stairclimber than walking stairs. In fact, the caloric expenditure was approximately one-third lower than the caloric value burned in walking up stairs.

Caloric Expenditure For Manual Level

Manual Level	Caloric Expenditure Per Hour on Lifestep	Watts Per Hour	*Mets Per Hour
1	279	69	4
2	393	98	5
3	425	106	6
4	457	114	6
5	490	122	7
6	526	131	7
7	579	144	8
8	632	158	8
9	697	174	9
10	770	192	10
11	838	209	11
12	940	235	13

Checking the Heart Rate

For best results, we recommend that users stay within their THRR while exercising. To do this, have them check their heart rates periodically during their workouts. (See Figure 4 on page 21 for the times to check their heart rates during the Hill Profile program.) A user can monitor his heart rate at anytime using the Lifepulse system by grasping the sensors on the handlebar. The Lifestep 9500HR will calculate the user's heart rate within approximately 15 seconds and will display the rate in the Message Center window.

In the Heart Rate program, the heart rate data will be used to adjust the pedal resistance in order to maintain a user's target heart rate.

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 the user selected. The warm-up period is 1 1/4 minutes if the rider 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 2-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, 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. Proper stretching techniques are illustrated on pages 43 and 44 located in the appendix.

The Random, Manual, and Heart Rate programs do not include built-in warm-up and cool-down periods. (Heart Rate program provides a 3-minute warm-up period only). When users use the Random and Manual programs, they should decrease their effort at the beginning of their workout and during the final minutes of the workout in order to provide effective warm-up and cool-down periods. In the Heart Rate program, the user should decrease his heart rate target to 60% to 70% of his maximum heart rate.

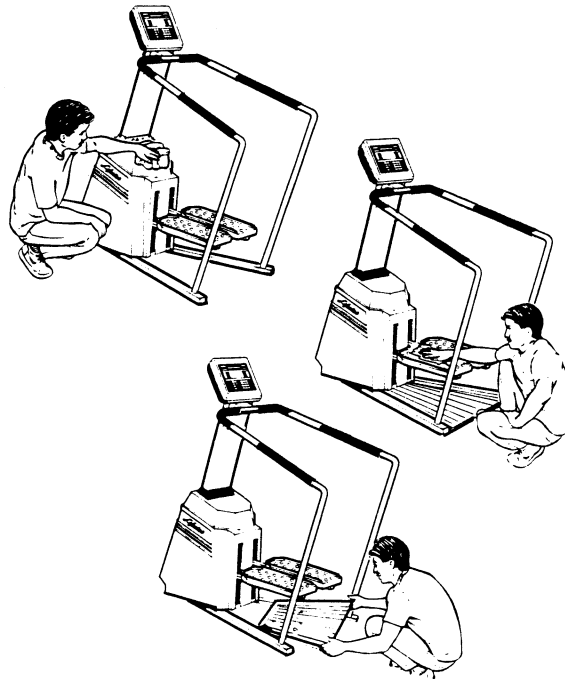
CAUTION: Many physicians believe proper cool-down is very important to avoid heart failure, even for people with no prior history or symptoms of heart problems.

Preventative Maintenance Tips

- Clean console daily.
- Empty the drip pan and rinse with water.
- Clean outer housing daily.
- Clean pedals and grips daily.
- Inspect for wear and tear on exterior parts monthly, especially the handle grips.
- Inspect oil level in oil container. Fill as needed. See page 26 for step by step instructions.

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 equipment. Instead, place the non-abrasive cleaning solution on a soft cloth and wipe down the unit.*

Figure 6: Preventative Maintenance Illustrations



Electronic Oiler System

The Lifestep aerobic trainer 9500HR is equipped with an electronic oiling system to increase the longevity of the mechanical drive components by dispersing approximately .04 milliliters of 30 weight **non-detergent oil** on the chain (per side) every 1,000 floors. The oil reservoir contains 8 ounces (236.8 ml) of non-detergent 30 weight oil which should enable the chain to last for 1.5 to 2 years depending on use.

Every 180 days examine the oil level. If the oil level is below the indicated mark on the oil container, immediately fill the bottle to the proper level using Life Fitness oil No. 0017-00008-0146 or a quality 30 weight **non-detergent oil**.

NOTE: You must use Life Fitness approved oil No. 0017-00008-0146 or a quality 30 weight non-detergent oil. Other types and grades of oil will void your Lifestep warranty. Never, under any circumstances, use a detergent oil.

Steps for Changing Oil

STEP 1: Turn the power off. Disconnect the power cord from the outlet.

STEP 2: With a phillips screwdriver, loosen and remove the four screws which attach the Housing to the splash tray at the user side of the machine. Use a 5/32" allen head wrench to loosen and remove the four screws which attach the Housing to the Frame.

STEP 3: With your hands, slide the Housing up the column until the top of the Boot contacts the lower portion of the Handle.

Step 4: Secure the Housing, by lifting the Housing up and onto the two Bolts extending from the Frame.

STEP 5: Locate the oil container. Turn the Cap of the oil container counterclockwise and remove.

STEP 6: Use a funnel to fill the oil container to the designated level.

STEP 7: Reverse steps 1 through 5 to return all parts to their proper positions.

Figure 7: How to Lift Housing

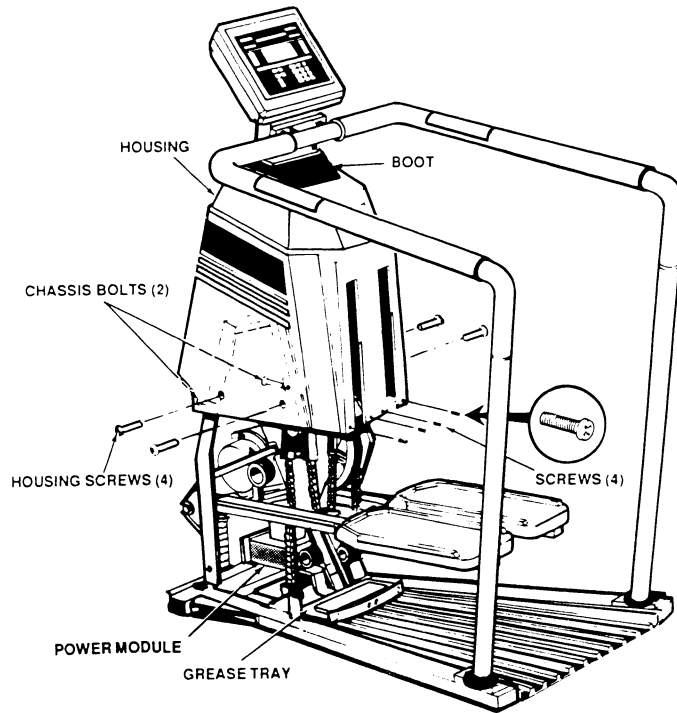
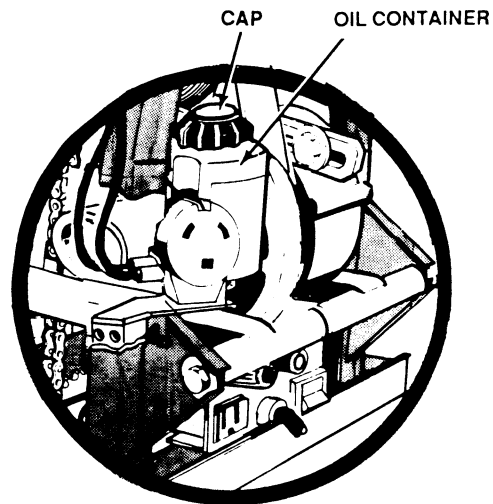


Figure 8: Cap and Oil Container.



How to Solve Minor Operating Problems

Symptom: No Power

- Check connection at wall outlet.
- Check connection at Lifestep outlet if using "daisy-chain" power supply method.
- Check position of on-off switch.
- Check Lifestep unit's circuit breaker.
- Disconnect the display connector and reconnect.

Symptom: Erratic display

- Check connection at wall.
- Disconnect the display connector and reconnect.

Symptom: Keys will not respond

- Check connection at wall outlet.
- Disconnect the display connector and reconnect.

How to Obtain Service for Your Product

If you have a problem . . .

STEP 1:

- If possible, verify the symptom.**

Speak with the person who encountered the problem. Sometimes, the problem turns out to be unfamiliarity with a product's features.

STEP 2:

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

The serial number of your Lifestep aerobic trainer is located on the underside of the frame just below the left vertical handle.

STEP 3:

- Contact Life Fitness Product Support.**

Toll Free: 800-351-3737 (United States and Canada).

Illinois: 708-451-0036.

FAX: 708-451-4137.

Or write:

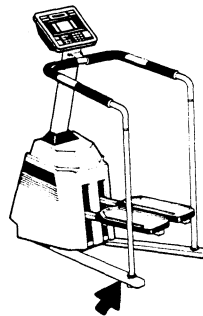
Life Fitness Product Support,

10601 W. Belmont Avenue

Franklin Park, IL 60131

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

Figure 9: Serial Number Location



Lifestep Model 9500HR Product Specifications

All specifications are for a fully-assembled Lifestep Model 9500HR aerobic trainer.

Physical:

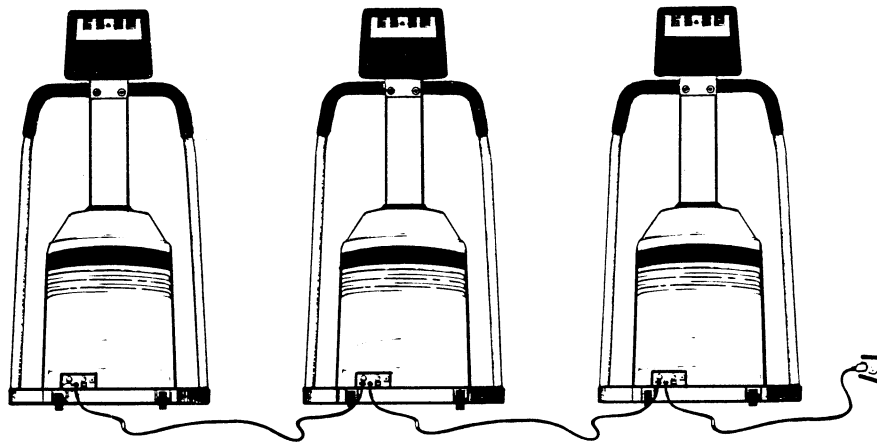
Length.....	41 inches
Width.....	33.5 inches
Height.....	63.5 inches
Weight.....	224 pounds
Shipping Weight.....	274 pounds
Color.....	Warm grey with black and red accents

Electrical:

Reservoir Oil Volume.....	8 oz/236.8 ml
Required Power Source*.....	115 volts, 60 Hz, 20 Amp circuit
Shipping dimensions: ..	45 9/16" Long, 35" Wide, 39"High, 274 lbs.

*Up to six Lifestep units can be powered from one circuit via the "daisy-chain" method.

Figure 10: "Daisy-Chain" Method



APPENDIX

How to Develop Your Personal Exercise Plan (PEP)

No two people are exactly alike, and therefore, no two Personalized Exercise Plans should be identical. People vary widely in their health and fitness status. Their goals, motivation, age, physical condition, exercise experience and time constraints are different. That's why using the Lifestep aerobic trainer is an ideal form of exercise. It is designed to deliver a computerized workout tailored specifically to your individual training capacity.

This section provides the general guidelines you need to develop your PEP. Remember that you are your own best coach, since you know your limitations and expectations better than anyone.

The American College of Sports Medicine and American Medical Association have established medical screening guidelines for exercise, and we strongly recommend that you consider the start of your PEP as an appropriate time to see your physician.

Medical clearance for use of the Lifestep aerobic trainer should definitely be obtained by individuals over 45 who have a major risk factor for coronary disease, such as heart disease, high blood pressure, high cholesterol levels, cigarette smoking or a family history of heart disease. Medical clearance should be obtained by all persons, regardless of age, with cardiorespiratory disorders, diabetes, bone and/or joint disease, or persons who have had any symptoms of coronary disease.

In general, anyone starting a vigorous exercise regimen should see a physician for a medical exam. The extent of the exam will depend on the physician's preliminary evaluation of the individual's health status.

PLANNING YOUR AEROBIC WORKOUT

YOUR GOALS:

Goals determine the direction and type of exercise plan that is right for you. An individual wishing to reduce his or her risk of heart disease will train less strenuously than a competitive athlete.

There are two major goals of aerobic exercise:

1. Cardiorespiratory improvement
2. Fat loss

Varying the frequency and intensity of the aerobic workout changes the focus from one goal to the other. High intensity aerobic exercise for shorter periods of time promotes cardiorespiratory improvement, and

burns mostly muscle glycogen as fuel. Low intensity aerobic exercise for longer periods of time promotes fat loss, because these longer periods of exercise burn more calories from stored fat.

If you are working to reduce the probability of heart disease or improve endurance, your goal is to build a stronger heart and lungs (cardiorespiratory improvement). By expanding lung capacity, your body's intake and utilization of oxygen is increased. Regular aerobic exercise accomplishes this and improves muscle endurance at the same time. (See page 28 for a heart rate training zone chart with suggested heart rates for fat loss and cardiorespiratory training.)

FIT GUIDELINES

FIT stands for FREQUENCY of exercise, INTENSITY of exercise and the amount of TIME (duration) you spend exercising. These are the three variables in designing an effective Personal Exercise Plan (PEP). Here's how to use the FIT guidelines to develop your PEP:

FREQUENCY . . . refers to how many times you use your Lifestep trainer each week. If your objective is to improve cardiorespiratory fitness, you should exercise on the Lifestep at least three times a week, with no more than two days between workouts. At first, you should give your muscles a chance to adapt to increased activity.

When you begin your FIT regimen, do not exercise more than once every other day. This should prevent muscle soreness and fatigue. Even after you have progressed sufficiently, the American College of Sports Medicine still recommends that your workout not exceed 5 times per week. Increased frequency yields minimal additional cardiorespiratory improvement and increases the risk of muscle strain. Only highly trained, competitive athletes should consider daily workouts. However, if your goal is fat loss, you should exercise more frequently, for longer periods of time, at a lower level of intensity.

INTENSITY . . . refers to how hard you work your heart. A heart rate of 75% of your theoretical maximum heart rate is the threshold above which optimum cardiorespiratory training occurs for those who are medically fit. 90% of your theoretical maximum heart rate is a safe upper limit for these same people.* Select a level of intensity that puts your heart rate between 75% and 90% of your theoretical maximum for cardiorespiratory improvement. Beginners will want to exercise at a heart rate which is closer to 75% while highly trained athletes may want to exercise closer to 90% of the theoretical maximum heart rate.

See Table 2 on page 49 for an approximation of the Theoretical Maximum Heart Rate and your Training Heart Rate Range (THRR) for your age category.

Adjust the intensity (level) of your workout to keep your heart rate within its most effective range. You will find that it is easier to step at a level

of intensity on the Hill Profile program than at that same level on the Manual program.

TIME. . .refers to the number of minutes you spend exercising within your THRR. Optimal cardiorespiratory and endurance improvements come with prolonged use of 12 to 24 minute workouts. Beginners might start with the 6 or 12 minute Hill Profile program. As you adapt, extend the duration of your workout. The 18 or 24 minute Hill Profile programs are available for this purpose. Be sure to keep your heart rate within your THRR by adjusting the intensity level.

It is recommended that those just beginning to use the Lifestep aerobic trainer, even if in excellent condition, start with the standard Hill Profile program.

If your objective is **FAT LOSS**, it is better to step for a longer duration. You will find that a lower level of intensity allows you to step longer. You can increase the intensity as you progress. A heart rate range of 65% to 75% of the theoretical maximum heart rate is the preferred range for fat loss training.

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

How to Choose an Aerobic Training Method

How hard you work out during your Lifestep exercise session depends on your fitness goals and physical condition. Your PEP (Personal Exercise Plan) should fit your goals and preferences. If you don't enjoy your workout you won't continue. Basically, design a workout that you can live with. Pages 38-40 explains how to develop your Personal Exercise Plan.

This section describes the two aerobic training methods that are available on the Lifestep aerobic trainer - interval training and steady-pace training.

NOTE: A Lifestep Training Log is included at the back of this manual so you can record information on your progress.

INTERVAL TRAINING

Interval training, which is offered by selecting the Hill Profile program or Random program, provides periods of high-effort aerobic activity separated by regular intervals of low-intensity exercise. By varying the work load throughout the exercise session in this way, your heart rate will range between the high and low ends of your THRR. You can also change the levels of intensity during your program by simply pressing a numbered key which is higher or lower than the one you entered at the beginning of your exercise program.

The Lifestep aerobic trainer 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 Profile program "interval training" offers the challenge of alternating hills and valleys, with the hills and valleys becoming progressively more difficult during the course of the program.

Interval training is extremely popular with individuals ranging from elite athletes, whose performance depends on power and speed, to patients in medically supervised rehabilitation facilities.

STEADY-PACE TRAINING

For those who prefer steady-pace training, it is available on the Lifestep trainer. It is activated by the Manual key on the display console and provides a steady, fixed step rate or level of resistance depending on your preferred step action - REGULAR or CLIMBING. You can create your own program using the Manual program by simply changing during the course of your program. For example, if you are stepping in

the Manual program at Level 4 and wish to increase your stepping rate or level of resistance, merely press a numbered key which is greater than 4. Likewise, you can select a lower number.

Some exercise physiologists believe in the combined use of both steady-pace and interval training. The Hill Profile, Manual and Random programs offer this variety. If your time is limited, however, we recommend that you choose the Hill Profile program because it can provide greater cardiorespiratory improvement per unit of time than steady-pace training.

If for some medical or physiological reason you have been advised to maintain a steady heart rate while you are exercising, select the Manual program. It is easier to maintain a consistent heart rate using the Manual program than the Hill Profile or Random programs.

If your goal is fat loss, you may initially wish to use the Manual program at a low level of intensity and step for a longer period of time at each exercise session.

See pages 13-14 for instructions on how to operate the Lifestep Hill Profile, Random and Manual programs.

PROPER STRETCHING TECHNIQUES

Stretching is perhaps the most neglected element of physical conditioning, because people do not associate flexibility with the more glamorous aspects of exercise — speed, strength and a lean body appearance. However, without significant flexibility, real gains in fitness are unnecessarily difficult to achieve and maintain.

Limber joints, muscles, and connective tissues provide the freedom of motion that makes exercise easier and more enjoyable to perform and lessens the risk of injury. Without proper, consistent stretching, ligaments and tendons can become taut and shortened with decreased circulation. These inflexible tissues are more prone to chronic soreness or rupture than loose, stretch-conditioned tissues. And, nothing is more discouraging than nagging injuries. Stretching helps people of all ages and levels of fitness prepare themselves for the exertion required to participate in a program of regular muscular and aerobic training.

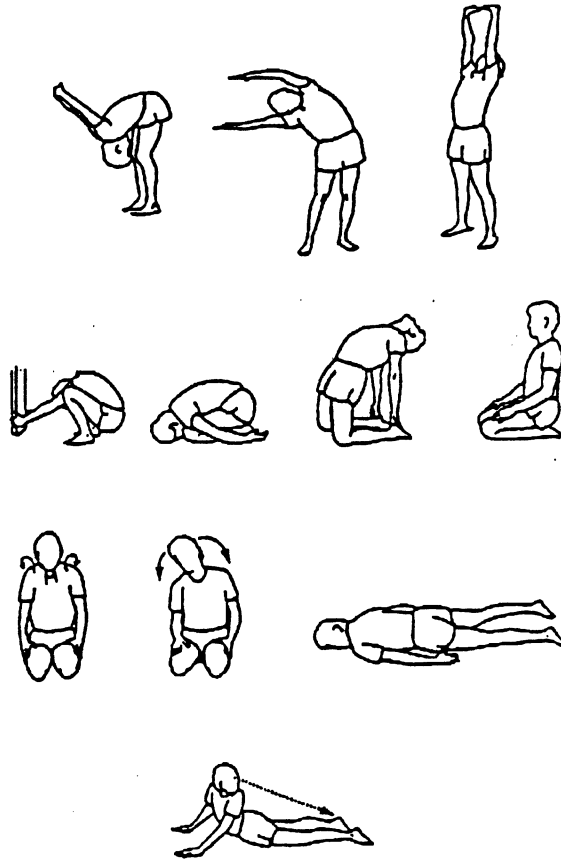
See pages 43 and 44 for illustrations of recommended stretching exercises.

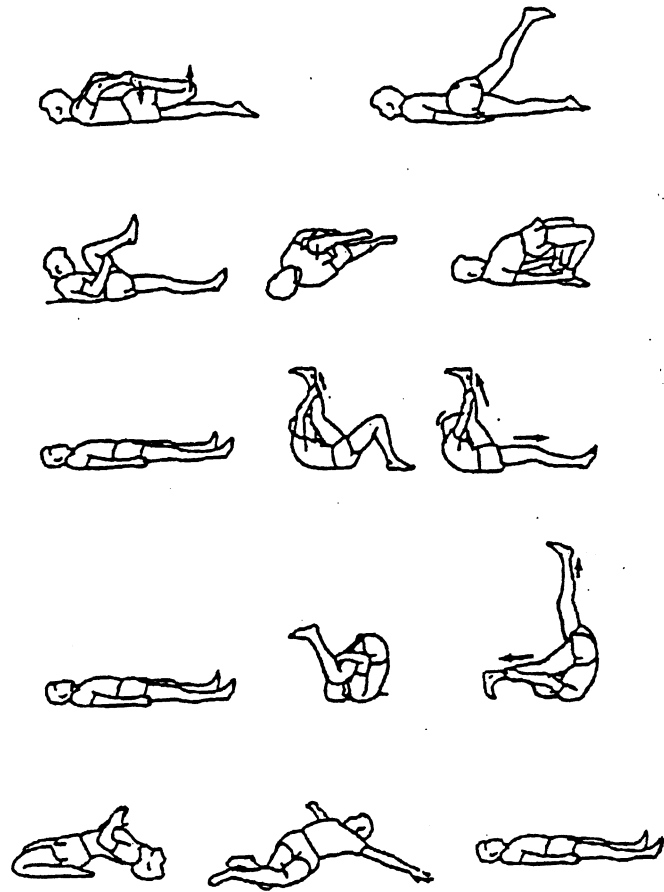
Stretching Exercises

Follow the sequence indicated in these stretching illustrations.

When stretching, remember to move slowly into a stretch to where you feel resistance, but not pain. Hold that position and breathe deeply and slowly for 5-10 seconds. Remember to stretch both sides of your body when the illustration calls for arm or leg stretching. When the illustration calls for shoulder rotation, perform five rotations in each direction.

Figure 11: Stretching Exercises:





TIPS FOR GOOD STRETCHING RESULTS

Stretching is a special discipline that requires concentration and patience for best results. Follow these tips and practice the stretches shown in the preceding illustrations at least 3 times a week for 15 minutes per session. You'll progress safely and surely.

1. DRESS COMFORTABLY. Wear loose-fitting, soft fabric clothes without restrictive belts, elastic or large buttons or buckles. Breathable cotton or softly woven wool is preferable to synthetic cloth. Go without shoes or slippers when stretching.

2. STRETCH SLOWLY. Move in and out of your stretches with slow, controlled motions and hold in a static position when you've stretched as far as comfortable. Fast, bouncy, ballistic motions can actually signal the muscles to contract, and defeat the purpose of stretching. Concentrate on the body part you are working. You can close your eyes and imagine your muscles loosening slowly and gradually.

3. PRACTICE ABDOMINAL BREATHING. Learn to breathe from your diaphragm, so that your stomach, rather than your rib cage and shoulders, rises and falls with each breath. Abdominal breathing encourages relaxation, lessens muscular tension and helps lower blood pressure.

4. LEARN YOUR "STRETCHING ZONE." Stretch gradually to the point that you feel resistance, but never to the point of pain, and never use muscular effort to increase a stretch. Some discomfort is natural, but the gentle forces of gravity and your body weight will determine the limits of your safe, effective "stretching zone."

5. START EASY. Start each session with the stretches you find easiest. This will help you relax, concentrate and warm up for the more difficult parts of your routine.

6. EMPTY STOMACHS MAKE STRETCHING EASIER. You'll find your stretching routines easier and more pleasant if you do them on an empty stomach. This refers to liquid as well as solid foods.

7. PRE- AND POST-WORKOUT STRETCHES. Always stretch in order to warm and loosen tissues in preparation for exertion. And, since muscles tighten up after exertion, stretch afterwards to promote circulation and minimize stiffness from lactic acid build-up. You don't have to perform all the stretches pictured on the preceding pages before and after you work out, but be sure to perform those that most directly effect the muscles you use during exercise.

Do's and Don'ts for Minimizing Soreness and Muscular Stress

The following do's and don'ts will help reduce the chance of soreness and increase the effectiveness of your workout.

- DO OBTAIN PROPER MEDICAL CLEARANCE PRIOR TO STARTING YOUR AEROBIC EXERCISE PROGRAM BY HAVING A PHYSICAL EXAM.**
- Do set realistic goals and objectives.
- Do exercise within your THRR.
- Do warm up and cool down properly.
- Do stretching exercises before you begin your Lifestep program.
- Do stretching exercises after you complete your cool-down.
- Don't increase intensity by more than one level per week.
- Don't increase intensity and duration at the same time.
- Don't overextend yourself in hot and/or humid weather.

How to Stay Motivated or “Staying With It”

Maintaining consistent exercise habits is a big challenge. Adherence to a training program gives you tremendous rewards. Once you begin to notice how much better you look and feel, you will wonder how you ever got along without a regular exercise program. You'll look forward to your next workout.

The physiological and psychological benefits are not immediately apparent. Sometimes it is hard to stay motivated until you begin to see results. The following tips are a few of the more popular and effective strategies used by successful athletes, coaches and sports physiologists to maintain a high degree of motivation.

1. Be Responsible. When it comes to the bottom line, you make the decision whether to exercise or watch TV, whether to refuse that extra pastry or to indulge. While the pressures of daily life often seem to force you into putting off your exercise, remember that it's your health that's concerned and you can say "yes" or "no" to the temptation to pass up working out "just this one time."

2. Be Disciplined. Discipline is the day-to-day ability to make the health-conscious decision every time you have a choice. It requires reminding yourself of the image you've created mentally of how you want to be, or how you want to look, and consistently working on your reinforcement of that image through the right actions. A routine time and place for exercise is a simple first step. You might even consider writing down your exercise session in your daily appointment book, as if it were a business appointment. This will ensure that other activities will not interfere.

3. Rehearse Mentally. Visualizing the actions of exercising and creating mental pictures of yourself in peak physical condition, enjoying the benefits of vibrant physical health will program you toward fitness success. Many athletes and performers actually rehearse their skills and shows with mental pictures prior to taking the field or walking on stage. It prepares them for the activity by eliminating apprehension and makes the activity more exciting, and even more enjoyable.

4. Gain Fitness Knowledge. The press and broadcast media are constantly full of new diets, exercise plans, product descriptions and testimonials about state-of-the-art health programs. There is so much to learn, and so many people and companies are making claims for their own particular offerings, that you must become a shrewd student of fitness to decipher what works best for you. Read authoritative periodicals by expert authors. Attend seminars and trade shows. Evaluate each new product and system you encounter against what you have already learned to be accurate information.

5. *Be Realistic.* The degree of endurance, strength and figure appeal you can reach is always determined by your genetic potential, your fitness program and your environment. Don't compare yourself just to top athletes or celebrities. Judge real development by improvement from where you start. You will have a sense of pride and accomplishment when you achieve goals you have set for yourself, and nothing is more motivating than success.

6. *Enlist the Support of Family and Friends.* Tell those close to you about your fitness goals and ask them to support your efforts. Working out with a friend can produce amiable challenges and be twice as much fun as exercising alone.

Table 2: 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	119	148	168	158
23	197	118	148	167	158
24	196	118	147	167	157
25	195	117	146	166	156
26	194	116	145	165	155
27	193	116	145	164	154
28	192	115	144	163	154
29	191	115	143	162	153
30	190	114	142	162	152
31	189	113	142	161	151
32	188	113	141	160	150
33	187	112	140	159	150
34	186	112	139	158	149
35	185	111	139	157	148
36	184	110	138	154	147
37	183	110	137	155	146
38	182	109	136	155	146
39	181	109	136	154	145
40	180	108	135	153	144
41	179	107	134	152	143
42	178	107	133	151	142
43	177	106	133	150	142
44	176	106	132	150	141
45	175	106	131	150	140
46	174	105	130	149	139
47	173	104	130	148	138
48	172	104	129	147	138
49	171	103	128	145	137
50	170	102	127	144	136
51	169	101	127	144	135
52	168	101	126	143	134
53	167	100	125	142	134
54	166	100	124	141	133
55	165	99	124	140	132
56	164	98	123	139	131
57	163	98	122	138	130
58	162	97	121	138	130
59	161	97	121	137	129
60	160	96	120	136	128
61	159	95	119	135	127
62	158	95	118	134	126
63	157	94	118	133	126
64	156	94	117	133	125
65	155	93	116	132	124
66	154	92	115	131	123
67	153	92	115	130	122
68	152	91	114	129	122
69	151	91	113	128	121
70	150	98	112	135	120

*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 a qualified medical personnel.

A greater percentage of calories are burned when you average between 65% 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.

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

Table 3: Weight Conversion Chart (Kilograms to Pounds)

kgs.	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.	lbs.
34	75	48.5	107	63	139	77.5	171	92	204	106.5	234	106.5	234
34.5	76	49	108	63.5	140	78	172	92.5	204	107	235	107	235
35	77	49.5	109	64	141	78.5	173	93	205	107.5	237	107.5	237
35.5	78	50	110	64.5	142	79	174	93.5	206	108	238	108	238
36	79	50.5	111	65	143	79.5	175	94	207	108.5	239	108.5	239
36.5	80	51	112	65.5	144	80	176	94.5	208	109	240	109	240
37	81	51.5	113	66	145	80.5	177	95	209	109.5	241	109.5	241
37.5	83	52	114	66.5	146	81	178	95.5	210	110	242	110	242
38	84	52.5	116	67	147	81.5	179	96	211	110.5	243	110.5	243
38.5	85	53	117	67.5	149	82	180	96.5	212	111	244	111	244
39	86	53.5	118	68	150	82.5	182	97	213	111.5	245	111.5	245
39.5	87	54	119	68.5	151	83	183	97.5	215	112	246	112	246
40	88	54.5	120	69	152	83.5	184	98	216	112.5	248	112.5	248
40.5	89	55	121	69.5	153	84	185	98.5	217	113	249	113	249
41	90	55.5	122	70	154	84.5	186	99	218	113.5	250	113.5	250
41.5	91	56	123	70.5	155	85	187	99.5	219	114	251	114	251
42	92	56.5	124	71	156	85.5	188	100	220	114.5	252	114.5	252
42.5	94	57	125	71.5	157	86	189	100.5	221	115	253	115	253
43	95	57.5	127	72	158	86.5	190	101	222	115.5	254	115.5	254
43.5	96	58	128	72.5	160	87	191	101.5	223	116	255	116	255
44	97	58.5	129	73	161	87.5	193	102	224	116.5	256	116.5	256
44.5	98	59	130	73.5	162	88	194	102.5	226	117	257	117	257
45	99	59.5	131	74	163	88.5	195	103	227	117.5	259	117.5	259
45.5	100	60	132	74.5	164	89	196	103.5	228	118	260	118	260
46	101	60.5	133	75	165	89.5	197	104	229	118.5	261	118.5	261
46.5	102	61	134	75.5	166	90	198	104.5	230	119	262	119	262
47	103	61.5	135	76	167	90.5	199	105	231	119.5	263	119.5	263
47.5	105	62	136	76.5	168	91	200	105.5	232	120	264	120	264
48	106	62.5	138	77	169	91.5	201	106	233				

Lifestep Training Log

Session No.	Date	Resting Heart Rate	Body Weight	Program Selection / Level	Length of Ride	Heart Rate #1	Heart Rate #2	Fit Test Score*	Comments
1	5/1	70	185	Hill	3 12 min.	108	143	NO	Feel great starting, but fatigued too fast.
2	5/2	72	184 1/2	Hill	3 12 min.	110	152	NO	A half pound lost! Yay!
3	5/4	71	184	Hill	4 18 min.	109	150	NO	Feel pretty about performance yesterday. @ Total Extra miles.
4	5/5	70	184	Man.	4 12 min.	108	149	46	Not bad! That's in the "good" range for a 45 yr old. Also see.
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

SAMPLE

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*Take 3 days consecutively and average. Measure every 4 to 6 weeks.

Session No.	Date	Resting Heart Rate	Body Weight	Program Selection / Level	Length of Ride	Heart Rate #1	Heart Rate #2	Fit Test Score*	Comments
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

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*Take 3 days consecutively and average. Measure every 4 to 6 weeks.

