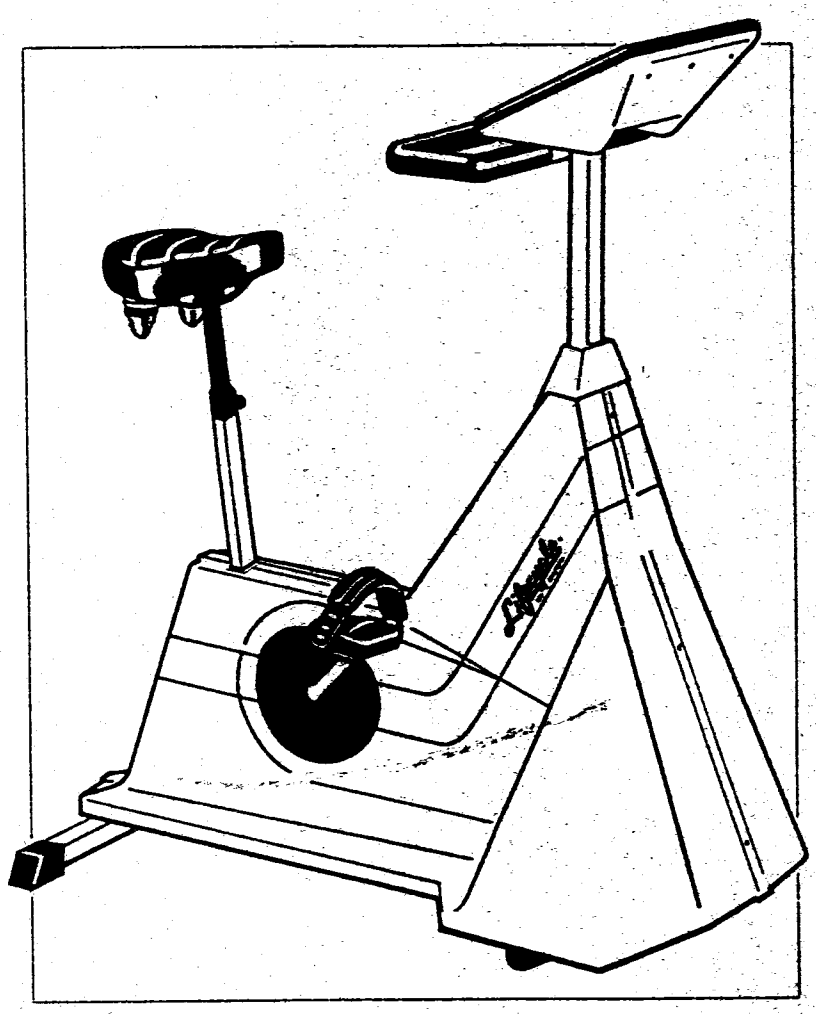
Model 6000 Lifecycle® Aerobic Trainer

# OPERATION MANUAL

## How To Get The Most Out Of Your Lifecycle® Workout



Lifecycle®
Aerobic Trainer

# INTRODUCTION

## How To Get the Most Out of Your Lifecycle® Workout

**Congratulations...**and welcome to the world of Life Fitness, Inc. and the Lifecycle® aerobic trainer.

**THE LIFECYCLE® OPERATION MANUAL**

Your new Lifecycle® is the culmination of over 17 years of technological innovation. Today, it is recognized as the world's most popular and most advanced computerized stationary bicycle.

The Lifecycle® offers a host of exclusive features designed to help you achieve your fitness goals more quickly and enjoyably. Its patented Hill-profile, instant visual feedback and fitness scoring computation provide the exceptional motivation that will help you stay with your conditioning program.

**Who rides the Lifecycle®?** People who value time and who need to make every minute count. Olympic athletes, movie stars, busy executives, top government administrators, sports celebrities and housewives all make the Lifecycle® their exercise choice. Whether at a fitness facility, at home or at the office, riding a Lifecycle® is an excellent way to lose weight and improve your cardiorespiratory condition. And it's fun! More health clubs use Lifecycle® for cycling than any other computerized stationary bike.

**Why ride a Lifecycle®?** Lifecycle® aerobic training is more than just a motivating experience. Regular aerobic exercise, such as on a Lifecycle®, 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 Lifecycle® Personal Exercise Plan (PEP), it is essential that you read this entire manual. It explains how to operate your Lifecycle®, and helps you design an aerobic workout tailored to your personal fitness needs.

If you have further questions regarding the operation of your Lifecycle®, please call PRODUCT SUPPORT at (800) 351-3737 toll free, or (312) 451-0036.

*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.

Life Fitness INC.
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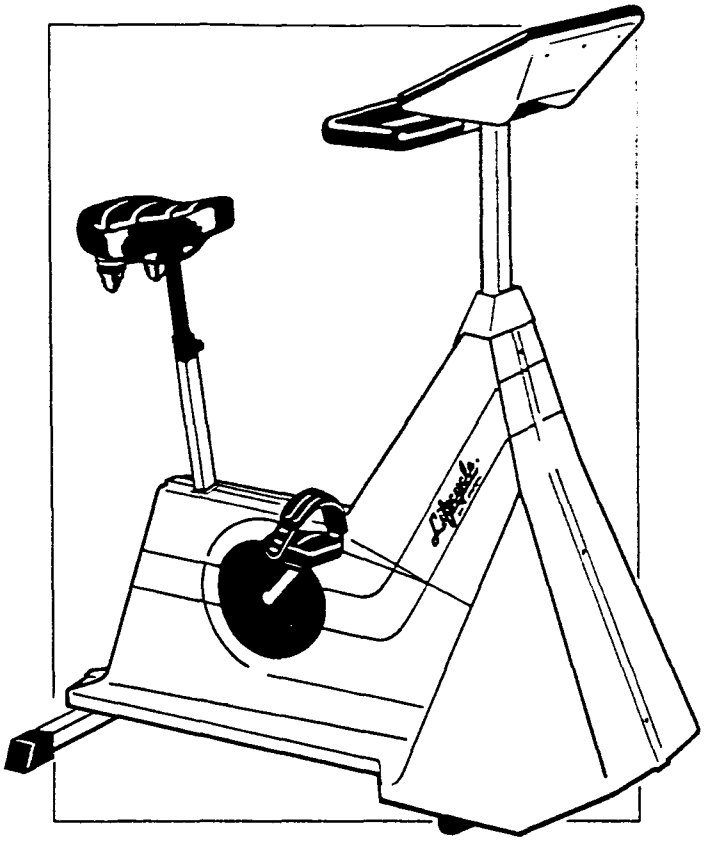

The Lifecycle® Model 6000 aerobic trainer is lightweight, easy to move from room-to-room and features the same motivating Hill Profile program that has attracted thousands of loyal users in health clubs around the world.

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U.S. Patent no.'s 3,767,195 and 4,358,105

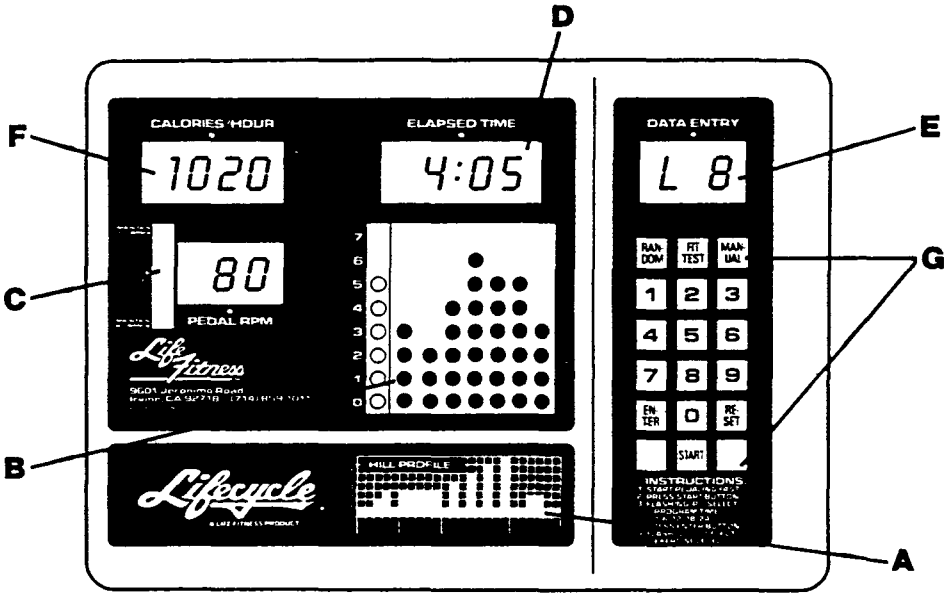
# HOW TO USE THE DISPLAY CONSOLE

The Lifecycle® aerobic trainer's computerized display console allows you to watch your progress as you ride.

The on-board computer lets you tailor your workout to your individual fitness capabilities and provides a unique means of measuring your fitness improvement from one workout to the next. You'll want to challenge yourself by gradually increasing exercise intensity and exercise time as your endurance improves.

The display is simple to program and easy to use. It shows only data essential to using the bike effectively.

*Figure 1: Display Console*




**A. HILL PROFILE GRAPHIC DIAGRAM:** This graphic diagram visualizes the hills and valleys encountered when you select the Hill Profile program - a patented, scientifically developed interval training system - unique to the Lifecycle® aerobic trainer. You have a choice of 9 timed programs ranging from 1 through 24 minutes, and can ride the Hill Profile, Random and Manual programs at 12 different levels of intensity (difficulty). The Hill Profile graphic diagram is not applicable to either the Random or Manual programs.

**B. LED MATRIX WINDOW:** This matrix of LED "lights" shows your present position (yellow column) and the upcoming terrain (red columns). As you pedal, the lights move across the screen from right to left. The higher the yellow column of lights, the harder you will be pedaling.

The Lifecycle® is automatically programmed to put you in the Hill Profile mode. With the Hill Profile, you will encounter the terrain visualized in diagram "A" on page 8. If you choose to ride the Random program, you will encounter a series of random hills and valleys - with over one million variations, so you'll never make

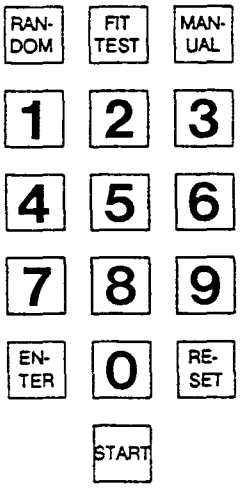
the same ride twice. If you choose the Manual program, you will ride at a steady-pace, that is, hills and valleys will not appear in the LED matrix window.

**C. PEDAL RPM WINDOW:** Your pedaling speed, measured in revolutions per minute (RPM), is displayed here. A small red light in the narrow vertical window to the left of the PEDAL RPM window instructs you to maintain either 80 RPM or 100 RPM. The light flashes when you are pedaling faster or slower than the recommended speed.

**D. ELAPSED TIME WINDOW:** The elapsed time indicates how long you have been pedaling. The elapsed time window also functions as a STOP WATCH when checking pulse. It is activated when either the "RESET" or "FIT TEST" key is pressed. (See specific instructions to reset the exercise program or to use the FIT TEST feature described on page 34.)

**E. DATA ENTRY WINDOW:** This window displays the data of multiple functions. First it displays the riding time you entered. Next it displays the level of difficulty you entered (1 through 12), which remains visible during your entire ride, except when you activate the FIT TEST feature (see page 34 for a complete description of FIT TEST)

*Figure 2: Keyboard*




**F. CALORIES/HOUR WINDOW:** This shows the estimated number of calories per hour that you are burning by working at the selected level of difficulty.

**G. KEYBOARD:** The keyboard is used to enter information. You can select a program duration of 1,2,3,4,5,6,12,18 or 24 minutes for the Hill Profile program. (You cannot enter an exercise time for the Random or Manual programs; which allow indefinite, open-ended rides.) The keyboard is also used to select a level of difficulty from 1 to 12 or enter FIT TEST information (heart rate, age and weight).

**"START" KEY:** This key is used to activate the display console. press it only after you are pedaling briskly at approximately 80 RPM. With experience you'll get a "feel" for this speed.

**NUMERIC KEYS:** Use these keys to enter your riding time, level of difficulty and FIT TEST data.

**"ENTER" KEY:** This key enters the riding time of your Hill Profile program into the Lifecycle® on-board computer. It is also used to separate each component of the FIT TEST scoring feature. You do not have to press the "ENTER" key after selecting a level of difficulty.

**"RESET" KEY:** Use this key to put your exercise program on hold or to re-start a program. To put your exercise program on hold, press the key once and keep on pedaling. (If you stop pedaling, all power is lost and the display goes blank.) Pedal resistance is at a minimum while the program is on hold. You can use this "rest" feature if you begin to feel tired to the point of discomfort.

When the "RESET" key is pressed once, the bike's stop watch feature is activated and the time is displayed in the ELAPSED TIME WINDOW. Use this stop watch to time your rest period or to time the pulse check procedure. To resume your exercise program, simply press the "ENTER" key.

To cancel the current exercise program, press "RESET" twice. (The current exercise program is also cancelled when you stop pedaling.)

**"FIT TEST" KEY:** This key is used to calculate your relative level of cardiorespiratory fitness. See page 34 for complete instructions before attempting to operate this unique feature.

**"RANDOM" KEY:** Use it when you want to bypass the standard Hill Profile program and access the computer's Random program which offers over one million different combinations. The Random program is fun and challenging because you never know what is coming up next! You can ride the Random program indefinitely at a level of difficulty ranging from 1 to 12. Change the level of difficulty at any time during a ride by simply entering another number.

**"MANUAL" KEY:** This key is used when you want to bypass the standard Hill Profile program and exercise at a constant level of pedal resistance. It runs the Manual program indefinitely at a level of difficulty ranging form 1 to 12. Pedal resistance is equal in intensity to the highest hill encountered on the standard Hill Profile program at the same intensity level. For this reason, the Manual program provides a much more difficult workout than the Hill Profile program.

**NOTE: See the section "How to Operate The Hill Profile Program" on page 28 for step-by-step display console programming instructions.**

# 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 riding the Lifecycle® aerobic trainer is an ideal form of exercise. It is designed to deliver a computerized workout tailored specifically to your individual training capacity.

**START WITH A MEDICAL EXAM**

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 and Medicine and the American Medical Association have established medical screening guidelines for exercise, and we strongly recommend that if you have not had a recent physical exam, you should consider the start of our PEP as an appropriate time to see your physician.

Medical clearance for use of the Lifecycle® 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 al persons, regardless of age, with cardiorespiratory disorders, diabetes, bone and/or joint disease, or persons who have 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, you 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 on the Lifecycle® accomplishes this and improves muscle endurance at the same time.

## 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 ride your Lifecycle® each week. If your objective is to improve cardiorespiratory fitness, you should ride the Lifecycle® 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 you 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 1 on page 44 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 our heart rate within its most effective range. You will find that it is more difficult to pedal at the same level of intensity on the Hill Profile program. Figure 5 on page 27 compares the intensity levels of the three Lifecycle® programs.

**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 rides. Beginners might start with the 6 to 12 minute Hill Profile program. As you adapt, extend the duration of your workout. The 18 to 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.

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

Begin with a 6 minute Hill Profile program. As you become more comfortable, extend to 12 minutes, then to 18 or 24 minutes when you feel you are ready to do so.

*It is recommended that those just beginning to use the Lifecycle®, even if in excellent condition, start with the standard Hill Profile program.*

If your objective is **FAT LOSS**, it is better to ride for a longer duration. You will find that a lower level of intensity allows your to ride 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.

# HOW TO EXERCISE EFFECTIVELY

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

## Calculating Your Training Heart Rate Range

To approximate your THRR, you must first calculate your theoretical maximum heart rate. Subtract your age from 220. (This formula is recognized by the American College of Sports Medicine as a method for determining your theoretical maximum heart rate.*) For example, if you are 35 years old, your theoretical maximum heart rate is 185. If your goal is fat loss, you can establish your THRR by multiplying this number (185) by 65% to establish the lower limit, then by 75% to establish the upper limit. If your goal is cardiorespiratory fitness, you can establish your THRR by multiplying 185 first by 75% to establish the lower limit, then by 90% to establish the upper limit.

Figure 3 (page 15) or Table 1 (page 44) can be used to determine your theoretical maximum heart rate and THRR for your age category.

**Examples:**
Cardiorespiratory Training for age 35:
Lower limit: (220 less 35 = 185) x .75 = 138 beats/min.
Upper limit: (220 less 35 = 185) x .90 = 166 beats/min.

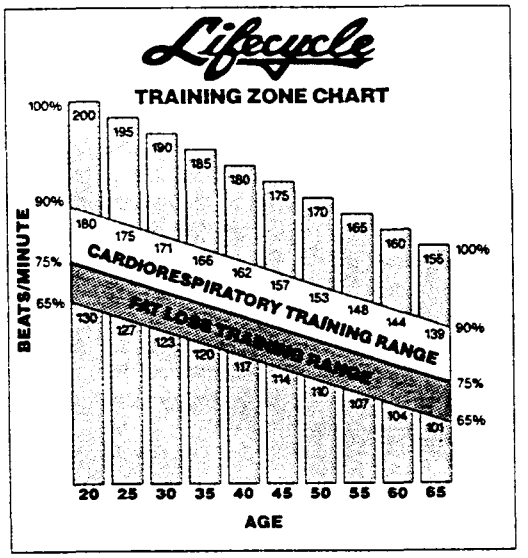
Fat Loss Training Range for age 35:
Lower limit: (220 less 35 = 185) x .65 = 120 beats/min.
Upper limit: (220 less 35 = 185) x .75 = 138 beats/min.

**Note:** A stress test administered by your doctor, is the most accurate method of determining your maximum heart rate and overall cardiorespiratory condition. 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. You and your doctor can decide whether a maximum stress test is advisable.

By making sure your heart rate stays within this range during your workout, you will achieve optimal training benefits with minimal stress to your cardiorespiratory system. As you fitness program progresses, your aerobic capacity will build and your body will begin to show the benefits of what is referred to fitness experts as "the training effect."

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

*Figure 3: Training Heart Rate Range (THRR) chart*




It is not recommended to train above 90% of your theoretical maximum heart rate.

CARDIORESPIRATORY TRAINING RANGE – between 75% and 90% of your theoretical maximum heart rate.

FAT LOSS TRAINING RANGE – between 75% and 90% of your theoretical maximum heart rate.

For most people, training benefits are difficult to achieve below 65% of your theoretical maximum heart rate.

## Checking Your Pulse

For best results, stay within you THRR during exercise. To do this, check your pulse periodically during your workout on the Lifecycle®. (See Figure 4 on page 24 for the times to check your heart rate during the Hill Profile program.)

You may wish to use an electronic pulse meter, but your own two fingers will suffice. Your pulse can be conveniently monitored in two locations: (1) half way between the ear and wind pipe on your neck or (2) on the thumb side of the inside of your wrist. To monitor your pulse, hold your index and middle fingers together against either site. (The neck site is easiest during exercise.) **CAUTION:** *Do not press too hard, especially when taking a neck pulse. Excessive pressure can reduce blood flow, and cause the heart to slow down.*

A 15-second count is recommended. Your heart rate per minute is 4 times the 15-second count.

## Warming Up and Cooling Down

A warm-up ride on your Lifecycle® gradually increases your pulse rate and your recommended THRR. 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 duration of the ride you selected. The warm-up period is 2 1/2 minutes if you select a 12 minute ride; 1 1/4 minutes in a 6 minute ride; 3 1/2 minutes in an 18 minute ride; and 4 1/2 minutes in a 24 minute ride.

The cool-down period, which lasts 1 1/2 minutes in a 6 minute ride; 3 minutes in a 12 minute ride; 4 1/2 minutes in an 18 minute ride; 6 minutes in a 24 ride, decreases the activity level of your heart until it has returned to 55% of its theoretical maximum rate. A proper cool-down period assures sufficient blood flow to the muscles which helps 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 you follow your aerobic workout with a weight training session. Proper stretching techniques are illustrated on pages 17 and 18.

The Hill Profile program includes built-in warm-up and cool-down periods. The Random and Manual programs do not. When using the Random and Manual programs, you should gradually increase the workload at the beginning of the ride and then decrease you effort during the final minutes of the ride in order to provide effective warm-up and cool-down periods.

## Proper Stretching Techniques

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

**Flexibility as a Fitness Safety**

Limber joints, muscles and connective tissue provides 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 to prepare themselves for the exertion required to participate in a program of regular muscular and aerobic training.

**See page 17 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 or neck rotation, perform five rotations in each direction.

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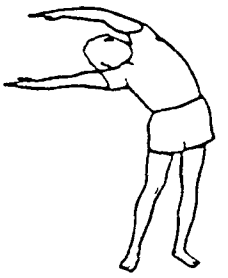

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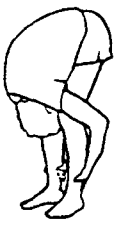

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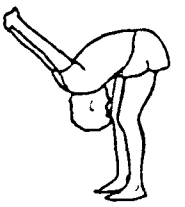

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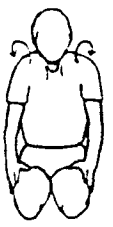

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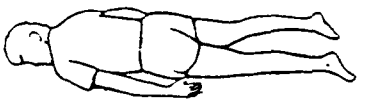

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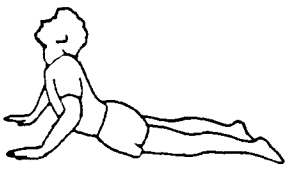

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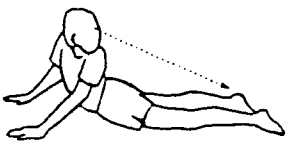

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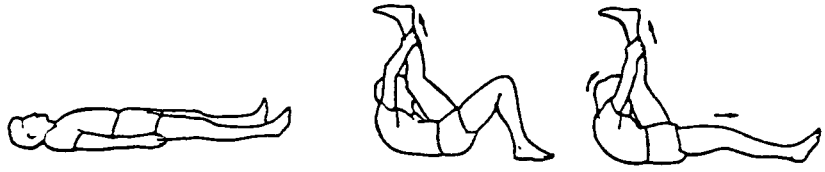

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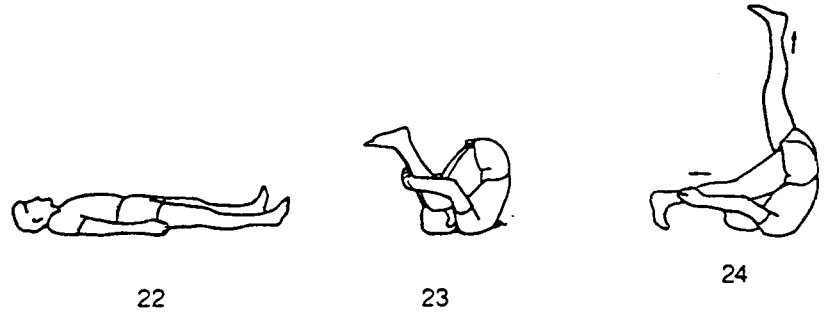

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*Reproduced, in part, with permission of James M. Rippe, M.D., Co-Author. The Sports Performance Factors (Rippe and Southmayd). Putman Publishing Group, 1986.

## 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 illustrations that follow 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 lager 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 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 following 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't's for Minimizing Soreness and Muscular Stress

The following do's and don't's will help reduce the chance of soreness and increase the effectiveness of our workout.

- **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 Lifecycle® program.
- **Do** stretching exercises after you complete your cool-down.
- **Don't** increase duration by more than 10% per week.
- **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.
- **DO OBTAIN PROPER MEDICAL CLEARANCE PRIOR TO STARTING YOUR PERSONAL EXERCISE PROGRAM, BY HAVING A PHYSICAL EXAM.**

# HOW TO CHOOSE AN AEROBIC TRAINING METHOD

How hard you work out during your Lifecycle® 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. Page 11 explains how to develop your Personal Exercise Plan.

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

**Note:** A Lifecycle® 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 workload 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 ride by simply pressing a numbered key which is greater than the one your entered at the beginning of your ride. Likewise, you can select a lower number.

The Lifecycle® aerobic trainer is unique in the fitness industry. Its patented, computerized interval training program has been scientifically demonstrated to yield statistically significant cardiorespiratory improvement compared to steady-pace training. And, the Lifecycle® goes one step further. Its Hill Profile program offers "interval training with progressive overload." Not only does it offer the challenge of alternating hills and valleys, but the hills and valleys become progressively more difficult during the course of the ride. (See Figure 4 on page 24.)

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. A study conducted at the Human Performance Laboratory of Oregon Health Sciences University* compared interval and steady-pace training and concluded that interval training offered the following advantages:

- Greater cardiorespiratory fitness gains per unit of time -- approximately 60% greater than steady-pace training
- A feeling of less discomfort and less muscular fatigue than steady-pace exercising
- Reduced boredom and the potential for increased adherence to the overall exercise plan

*Allen, D., McDougal, K.G. and Pickens, D.W., A Physiological Comparison of Interval vs. Steady-Pace Training (Abstract), Medicine and Science in Sports and Exercise, 19:S62, 1987.

## Steady-Pace Training

For those who prefer steady-pace training, it is available on the Lifecycle®. It is activated by the Manual key on the Display console and provides a steady, fixed level of pedal resistance. You can create your own program using the Manual program simply by changing levels during the course of your ride. For example, if you are riding the Manual program at Level 4 and wish to increase the pedal 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 and Manual and Random programs of the Lifecycle® offer this variety. If our time is limited, however, we recommend that you choose the Hill Profile program because it can provide 60% 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 mode than the Hill Profile or Random modes.

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

**See page 33 for instructions on how to operate the Lifecycle® Manual program.**

# HOW TO CHOOSE A LIFECYCLE® COMPUTERIZED PROGRAM

Three computerized programs are available on your Lifecycle®:

1. **The Hill Profile Program**
2. **The Random Program**
3. **The Manual Program**

## The Hill Profile Program

The Lifecycle® aerobic trainer's patented Hill Profile program (See Figure 4 on page 24) offers the ideal configuration for interval training. The Hill Profile program is available in various durations from 1 to 24 minutes. You can select rides of 1, 2, 3, 4, 5, 6, 12, 18 and 24 minutes. Each Hill Profile program is comprised of four periods: 1) Warm-Up, 2) Test, 3) Interval Training, and 4) Cool-Down.

**This unique feature of the Lifecycle®, "interval training with progressive overload," results in a greater improvement in cardiorespiratory fitness* -- and it's this scientifc innovation that distinguishes the Lifecycle® from all other aerobic training equipment.**

**Warm-Up Period:** Gradually brings your heart rate into the lower portion of your THRR and increases respiration. Blood-flow to working muscles also increases.

**Test Period:** Increases your heart rate so that it is within your THRR. Take your pulse (HR check) at the end of the test period to ensure that you have entered your THRR.

**Interval Training Period:** Comprised of a series of hills and valleys. During this period, you are confronted with four successively higher hills. Each one is separated from the next by a valley or recovery period. Take your pulse at the end of the interval training period to ensure you have stayed within your THRR.

**Cool-Down Period:** Reduced pedal resistance which calls for pedaling at 80 RPM for 1/3 of the time, then faster (100 RPM) for the second 1/3, followed by a return to 80 RPM for the last 1/3. The last 1/3 of this exercise period gradually reduces your heart rate to the lower end of your THRR. It also allows your body to begin removing accumulated end products of exercise, such as lactic acid, which tend to build-up in muscles during your workout and contribute to muscle soreness.

An integral part of the end product dissipation process is the period of rapid pedaling (100 RPM) midway throughout the cool-sown period mentioned above. A small flashing "light" to the left on the Pedal RPM Window on the display console signals you to increase from 80 RPM to 100 RPM and then to resume 80 RPM again.

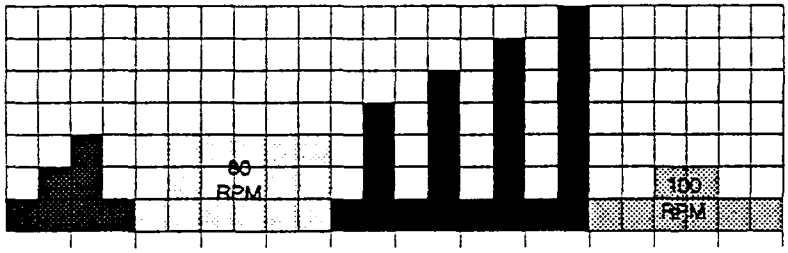
* Allen, D., McDougal, K.G. and Pickens, D.W., A Physiological Comparison of Interval Training vs. Steady-State Training (Abstract), Medicine and Science in Sports and Exercise, 19:S62, 1987.

**Heart Rate Check Points:** Your heart rate should be checked near the end of the Test period and at the end of the interval training period. (See Figure 4 below for the exact time of each heart rate check point.) Always take your pulse at the times indicated to make sure you are staying within your personal THRR.

The Hill Profile program (Figure 4) shows the terrain encountered during the ride on the Lifecycle® aerobic trainer. Hills and valleys 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 as you pedal.

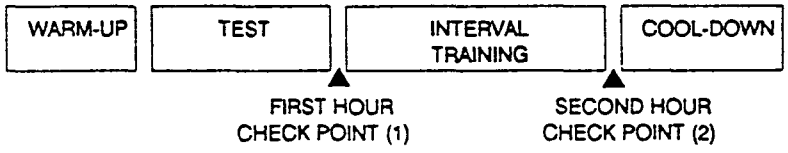
**Hill Profile information continued on page 28.**

*Figure 4: Hill Profile Program*




Elapsed Time (minutes)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 min. ride | | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 |
| 12 min. ride | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 18 min. ride | 1.5 | 3 | 4.5 | 6 | 7.5 | 9 | 10.5 | 12 | 13.5 | 15 | 16.5 | 18 |
| 24 min. ride | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |




**FOR CARDIORESPIRATORY TRAINING:**

(1) FIRST HEART RATE CHECK POINT -- At the first heart rate check point, your pulse should be between 75% - 80% of the theoretical maximum for your age category for cardiorespiratory training.

(2) SECOND HEART RATE CHECK POINT -- At the second heart rate check point, your pulse should be between 85% - 90% of the theoretical maximum for your age category for cardiorespiratory training.

**FOR FAT LOSS TRAINING:**

(1) FIRST HEART RATE CHECK POINT -- At the first heart rate check point, your pulse should be between 65% - 70% of the theoretical maximum heart rate for your age category for fat loss training.

(2) SECOND HEART RATE CHECK POINT -- At the second heart rate check point, your pulse should be between 70% - 75% of the theoretical maximum for your age category for fat loss training.

*Figure 5. Relative Program Intensities*
Comparison of relative levels of intensity of the three Lifecycle® exercise programs.

| | Hill Profile | Random | Manual |
|---|---|---|---|
| Level of | 3-4 | 2 | 1 |
| Intensity | 5-6 | 3 | 2 |
| (Pedal Resistance) | 7-8 | 4 | 3 |
| | 9-10 | 5-6 | 4 |
| | 11-12 | 7-8 | 5 |
| | | 9 | 6 |
| | | 10 | 7 |
| | | 11 | 8 |
| | | 12 | 9 |
| | | | 10 |
| | | | 11 |
| | | | 12 |

*Interpretation:* Level 3 or 4 in the Hill Profile program is equivalent to Level 2 in the Random Program and Level 1 in the Manual program. In other words, it is more difficult to pedal at the same level of intensity in the Manual Program than on the Random program, and the Random program is more difficult to pedal at the same level of intensity than the Hill Profile program.