



SCHWINN FITNESS



Model 102

102 / 202

OWNER'S MANUAL



Model 202

CONGRATULATIONS!

Thank you for making the Schwinn® bike a part of your exercise and fitness activities. For years to come, you'll be able to rely on Schwinn® craftsmanship and durability as you pursue your personal fitness goals.

The Schwinn® bike should enable you to shape and monitor your workouts to:

- ▲ **Increase your energy level**
- ▲ **Increase cardiovascular and aerobic fitness**
- ▲ **Increase lower body muscle strength**
- ▼ **Decrease your overall percentage of body fat**

Whether you are just getting started in an exercise program or are already in good shape, the Schwinn® bike is designed to be an efficient, easy and fun way to achieve an enhanced level of fitness. You can pedal your way to a slimmer and healthier body. The on-board digital computer enables you to accurately monitor your progress by tracking time, speed, distance and approximate Calories burned. This Owner's Manual contains all the information you need to operate and enjoy your Schwinn® exercise bike. Also included are general fitness guidelines. Please read this Owner's Manual in its entirety before getting onto the bike and working out. So let's get started.

Take your time and have fun!

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WHEN USING ELECTRICAL EQUIPMENT, ALWAYS FOLLOW THESE BASIC PRECAUTIONS:

IMPORTANT SAFETY INSTRUCTIONS

The following definition applies to the word “Warning” found throughout this manual:



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



READ ALL INSTRUCTIONS BEFORE USING THE MACHINE.

▲ WARNING! ▲

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

To reduce the risk of burns, electric shock, or injury to persons: Read this manual in full before operating the bike. Failure to follow these guidelines can produce a serious or possibly fatal electrical shock hazard or other serious injury. Consult a qualified electrician as required.

1. The external power supply should always be unplugged from the wall outlet before removing or installing parts. Never make adjustments or repairs while an exercise program is in progress.
2. Close supervision is necessary whenever the machine is used by or near children, invalids, or disabled persons.
3. Keep your hands away from all moving parts and keep your feet on the pedals while exercising. Do not operate the machine with the side covers removed, or outdoors.
4. Use this machine only for its intended use as described in this Manual. Do not use parts, attachments, or accessories other than those provided by Nautilus, Inc.
5. To avoid potential safety and electrical problems, replace with manufacturer's specified parts only.
6. Connect the external power supply to a properly grounded wall outlet. Keep all cords away from heated surfaces. To disconnect the external power supply, remove the plug from the wall outlet.

7. Do not let liquid enter the console. If it does, the console must be inspected and tested for safety by an approved technician before it can be used again.
8. Never drop or insert any object into any opening on the machine. Keep the area underneath and around the machine clear.
9. Do not operate where aerosol (spray) products are being used.

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

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

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

FITNESS SAFEGUARDS AND WARNINGS

Before starting any exercise program, consult with your physician or health professional. He or she can help establish the correct exercise frequency, intensity (target heart rate zone) and time appropriate for your particular age and condition.

The following 3 warnings listed below are also located on the computer console mast of the exercise bike. Failure to follow any of these safeguards may result in injury or serious health problems.

- Read and understand the Owner's Manual and operation instructions prior to use. If you do not have an Owner's Manual, call 1-800-864-1270 to obtain one.
- If you feel any unusual pain or tightness in your chest, shortness of breath or dizziness, feel faint or have any discomfort while you exercise, STOP! Consult your physician.
- Keep children and pets away.

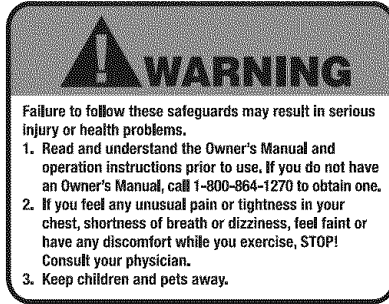
OTHER IMPORTANT SAFEGUARDS AND WARNINGS

- Do not exceed maximum user weight of 136 kg (300 lb.)
- It is the responsibility of the owner to ensure that all users of this equipment are adequately informed of all precautions.
- Use this equipment only on a solid level surface. Cover the floor or carpet beneath this equipment for protection.
- Read the Warning Label located on the computer console mast.
- Do not place fingers or any other objects into moving parts of the exercise equipment.
- This equipment is designed for use by persons aged 13 years and older. Teenagers should be supervised.
- Always wear athletic shoes for foot protection. Avoid wearing loose clothing that may become entangled in the drive mechanism.
- Warn bystanders to keep a safe distance, especially from the moving pedals. Do not allow anyone to touch the bike while it is in operation.
- This equipment is for home use only. Do not use in a commercial, institutional, or rental setting.
- Care should be taken when mounting or dismounting the exercise bicycle.
- Do not operate in damp or wet conditions.
- Follow proper set-up and guidance as outlined in the Owner's Manual and Assembly Instructions. Only use the bike as outlined in usage instructions of the Owner's Manual.
- Prior to each use inspect the bike for loose, broken, or worn parts. Do not use if found in this condition. The safety of the equipment can only be ensured if it is regularly examined and maintained. (See Maintenance section of the Owner's Manual.)
- Refer to the Maintenance section in the Owner's Manual and disconnect power supply before servicing the bike.
- Replace Warning Label if damaged, illegible, or removed.
- We recommend that a minimum distance of 1 meter (39 inches) surrounding the bike is kept clear of all obstructions, including children, bystanders, and pets. This is to ensure adequate clearance for easy access to the bike and to avoid any possible contact with the moving pedals.

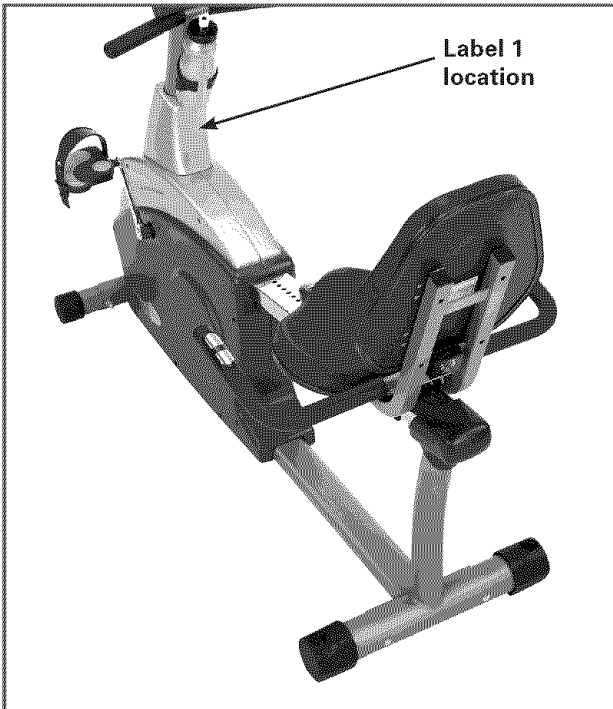
SAFETY WARNING LABELS

BEFORE USING YOUR PRODUCT: The following safety warnings are located in site-specific areas on the Schwinn Exercise Bike Model 102 and 202. Please read all safety precautions and warning information prior to using your product. Be sure to replace any warning label if damaged, illegible or missing. If you do not have, or cannot find, or need to replace a warning label, please call 1-800-864-1270 to obtain a new label.

Label 1: General safety warning label.



Location: Affixed to the console mast cover just below the computer.





Model 202



Model 102

102/202 FEATURES AND BENEFITS

- ***On-board Computer***
The fast and easy way to obtain immediate feedback regarding your fitness program

- ***Padded Seat***
Extra-wide and extra-padded for maximum comfort

- ***Padded Hand Grips***
Sturdy, well-padded hand grips for extra stability and comfort

- ***Serial Number***
Located on the underside of the base frame

- ***Seat Adjustment***
Fast and easy seat adjustment accommodates riders of all body sizes and leg lengths

- ***Fully Shrouded Flywheel***
Bike features a fully-shrouded high inertia flywheel

- ***Transport Wheels***
A single individual can easily move and position the Bikes across any flat surface

HOW TO USE THE 102/202 BIKE

■ Seat adjustment

Proper seat adjustment helps ensure maximum exercise efficiency and comfort, while reducing the risk of injury.

1. Place one pedal in the forward position and center the ball of your foot over the center of the pedal. Your leg should be slightly bent at the knee.
2. If your leg is too straight or your foot cannot touch the pedal, you will need to move the seat down on the 102 or forward on the 202 bike. If your leg is bent too much, you will need to move the seat up on the 102 or backward on the 202 bike.
3. Adjust the 102 seat by first dismounting the bike, then pulling out the adjustment knob on the seat tube and releasing the locking pin. Lower or raise the seat to the desired height. Release the seat knob, engaging the locking pin. Be sure that the pin is fully secured in a seat post hole. To adjust the 202 seat, pull the seat knob up with your right hand to release the seat. Slide the seat forward or backward to the desired position. The knob will “pop” up into the next hole; turn the knob to ensure a tight fit.
4. The 102 also features a fore / aft adjustment. To move the seat closer to, or away from the console, loosen the knob, slide the seat forward or rearward to the desired position and re-tighten.

■ Foot positioning/pedal strap adjustment

Place the ball of each foot on the pedals. Rotate the pedals until one foot is within arms reach. Then, reach down carefully and fasten the rubber strap over your shoe and secure it to the pedal by slipping the nub at the end of the pedal through one of the slots in the strap. Pull down on the strap until it snaps into place. Repeat for the other foot. Point your toes and knees directly forward to ensure maximum pedal efficiency. Pedal straps can be left in place for subsequent workouts.

■ Handlebar Adjustment

The 102 offers an adjustable handlebar to ensure a variety of comfortable hand positions. To adjust the angle of the handlebars, loosen knob, adjust the handlebars to the desired position and re-tighten.

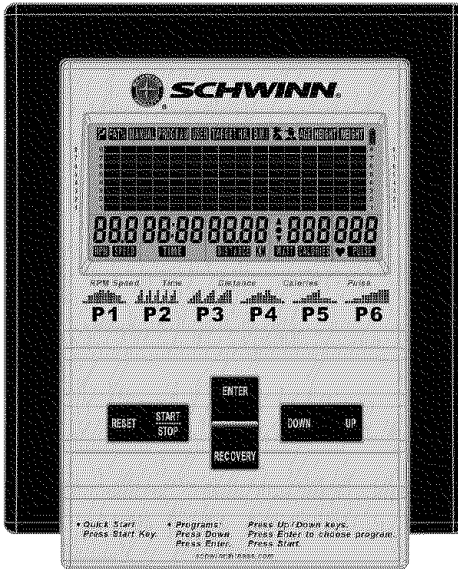
■ Resistance adjustment

Using the console, you have control over the levels of resistance integrated into your workout. Typically, lower resistance levels enable you to move at a faster pace, placing increased demand on your cardiovascular system. Higher resistance levels will typically deliver more of a muscle/ endurance workout at lower RPMs. But everyone is different! So experiment and find the beginning of resistance that is comfortable for you.

■ Lower body workout

Once you are in position and sitting comfortably, slowly begin pedaling, with your arms relaxed at your sides and with your hands resting on the top of your thighs or on the hand grips. Pedal at an easy pace, at a low resistance level until you feel secure and comfortable. As you feel more comfortable, experiment with the range of resistance levels available via the console.

HOW TO USE THE 102/202 BIKE COMPUTER



Computer Display and Functions:

- SPEED** Displays current exercise SPEED from 0.0 to 99.9 miles per hour.
- RPM** Displays current exercise pedal RPM (Revolutions Per Minute).
- TIME** If exercise TIME is not preset, TIME will count up from 00:00 to 99:59 in 1 second increments.
If exercise TIME is preset, TIME will count down from your preset exercise TIME until it reaches 00:00
- DISTANCE** If exercise DISTANCE is not preset, DISTANCE will count up from 00.00 to 99.90 in 0.1 increments.
If exercise DISTANCE is preset, DISTANCE will count down from your preset DISTANCE until it reaches 00.00.
- CALORIES** If exercise CALORIES is not preset, CALORIES will count up from 0 to 999 in 1 Calorie increments.
If exercise CALORIES is preset, CALORIES will count down from your preset CALORIES until it reaches 0.
- PULSE** Your heart rate will display when you grip the heart rate sensors located on the handlebars.
- RECOVERY** After exercising for a period of time, press the RECOVERY button and hold on the handlebars, keeping a secure grip on the heart rate sensors. Once the computer receives a stable heart rate signal, TIME will begin to count down from 1:00 to 00:00. As soon as 00:00 is reached, the LCD display will show a heart rate recovery score from F1 to F6. F1 is the most desirable and F6 is the least desirable. As your fitness improves, you will notice your recovery score improves.
Press the RECOVERY button again to return to the main display and, if desired, press START / STOP to resume exercising.

Computer Buttons::

UP	To make upward adjustments to function data, to increase the level of resistance, or to select user setting.
DOWN	To make backward adjustments to function data, to decrease the level of resistance, or to select user setting.
ENTER	To confirm function or data setting.
RECOVERY	To activate the heart rate recovery function.
RESET	To clear and reset the computer.
START/STOP	To start or stop exercising.

Operating Overview: (after the computer powers up)

USERS Press the UP or DOWN buttons to select U1 (User number 1) to U4 (User number 4) as your user identification number. The computer is set up to store goal data for 4 different users. Remember which number you want to exercise under so you can return to it. Any goals you set will be stored under your user number.

PROGRAMS Use the UP or DOWN buttons to select the training mode. There is 1 Manual program, 6 preset profile programs, 3 Heart Rate Control programs (55%, 75%, and 90%) and 1 Target Heart Rate program. If you select any of the Heart Rate programs you will need to input your age.

RESISTANCE Use the UP or DOWN buttons to adjust the resistance level from Level 1 (easiest) to Level 8 (more difficult). Use this button when exercising in the Manual program, the 6 preset profile programs, and the User mode. The resistance level is automatically adjusted according to your heart rate when exercising in the Heart Rate programs.

EXERCISE DATA Use the UP or DOWN buttons to set up the exercise function data. When you set the data for each function press the ENTER button to confirm the settings.

General Operating Information:**Getting started:**

Press any button on the console or begin pedaling to turn on the computer. The computer will store the user goal data of 4 different users. This will allow goals to be set by a specific user. They will remain the default goals for that user's next exercise session. To select the desired user: When the computer powers up, press the RESET button so it will prompt you to select user U1 through U4. Use the UP or DOWN button to select the user. Press the ENTER button to confirm. The program bar will flash in the upper left corner of the display. Use the UP or DOWN button to scroll through the programs. After selecting a program, press ENTER to confirm. Press ENTER until you see the TIME display flash. This is the signal that you can now begin to set goals if you desire. If you do not desire to set any goals simply press START / STOP to begin exercising.

Setting Goals:

Once you select an exercise program, you can set “goals” for TIME, DISTANCE, or CALORIES. For example, if you set a CALORIE goal of 100, once you start the program, you will notice that the CALORIE display will count down from 100 to 0. If you do not want to set a goal in any of the above, simply press ENTER to advance to the next goal choice or press START / STOP to begin exercising.

When the TIME, DISTANCE, or CALORIES display is flashing, enter values by using the UP or DOWN button to select a value then press ENTER to confirm the value and advance to the next goal choice. When a goal is reached during your exercise, the corresponding display will flash, signaling that your workout is complete.

We recommend that you only set one goal (TIME, DISTANCE, or CALORIES) for each exercise. Note, if no goals are set and the goal displays are 0, the TIME, DISTANCE, and CALORIES values will count up once the START / STOP button is pressed and you begin exercising.

Quick Start:

If you want to immediately start exercising without choosing any specific program or inputting any goals, simply press the START / STOP button after the computer powers up to begin exercising in the Manual mode.

Resistance control:

In the MANUAL program you can adjust the level of resistance at any time by using the UP or DOWN buttons to select from level 1 to level 8. In the preset profile programs you can also adjust the level of resistance, but you can not lower the resistance below the minimum preset resistance. For example if the minimum preset level of resistance in one interval of the preset profile program is level 2, you are not able to manually lower the resistance to level 1. However, you can raise and lower the resistance between the lower and upper presets.

Exercising with preset TIME:

The workouts are segmented into 16 intervals. If you preset the TIME, each segment of your workout is 1/16 of the total TIME you entered. For example if you enter a workout TIME of 16 minutes, each segment (interval) is 1 minute in duration. The TIME counts down from the preset TIME you entered until the program reaches 0, the display flashes, and the program ends.

Exercising without preset TIME:

If you choose not to preset TIME you can enter a preset DISTANCE. To do this make sure that the TIME is set to 0:00 and press ENTER when the TIME display is flashing to advance to DISTANCE. When setting a preset DISTANCE each segment (interval) counts down in units of .01 until the program reaches 0, the display flashes, and the program ends. If you choose not to enter a preset distance the program advances (counts up) in increments of .01 until you choose to stop exercising.

To advance to set a CALORIE goal do not preset a TIME or a DISTANCE goal (make sure those values are set to 0). Just press ENTER when those displays flash. This will bring you to the CALORIE goal.

After you have set the goal of your choice press START / STOP to begin exercising.

Exercising in the MANUAL PROGRAM:

You control the level of resistance by pressing the UP or DOWN keys at any time during your workout.

Exercising in any of the 6 PRESET PROFILE PROGRAMS:

The computer automatically adjusts the level of resistance for you, but you are able to override the computer at any time and adjust the level of resistance yourself with the lower and upper presets.

Exercising in the HEART RATE PROGRAMS:

The display will flash and the computer will prompt you for your age. Use the UP or DOWN button to select your age and press ENTER to confirm. The display will flash, prompting you to select a Heart Rate program – 55%, 75%, 90%, or THR (user defined Target Heart Rate). Use the UP or DOWN button to scroll through the choices and press ENTER to confirm. Press START / STOP to begin exercising.

If you select THR, you are able to set your own target heart rate. After pressing ENTER, notice that the PULSE display flashes. Use the UP or DOWN button to select a desired exercise heart rate. Press the START / STOP button to begin exercising.

The computer automatically adjusts the level of resistance according to the heart rate signal it receives. You must keep constant contact with the heart rate sensors located on the handlebars so the computer can read the signal and adjust the level of resistance.

In TARGET HEART RATE mode: If your heart rate is under the target, the resistance level will be up-adjusted one level every 30 seconds. When your heart rate figure is achieved, the resistance will begin to down-adjust one level every 15 seconds until it reaches level 1. If your heart rate is still over (or equal to) the target heart rate for 30 seconds while in level 1, the computer will stop and sound 6 beeps. This signal is to inform you to stop exercising and rest.

*****If you feel any unusual pain or tightness in your chest, shortness of breath or dizziness, feel faint or have any discomfort while you exercise, STOP!**

Consult your physician.

General Information:

While the grip heart rate feature is a quick and convenient way to check your heart rate, it is generally not as accurate as a wireless transmitter belt and receiver. Grip heart rate is subject to occasional misreadings and interference. You may from time to time experience inconsistencies with the heart rate display on your computer.

There are many external factors that can affect the heart rate display. These include the environment where the equipment is used and the physiology of the user themselves. Electromagnetic interference from televisions, computers, microwave ovens, cellular and cordless telephones and fluorescent lights can affect the heart rate display. Try moving your equipment to different areas of the room or house if you experience problems with the heart rate display. Dry or calloused hands and poor contact with the sensor pods can also be a source of display problems. Moisten palms with sweat or try a heart rate monitor conductive cream (such as Buh-Bump™ cream). Grip the pods firmly but not too tightly. Trying these tips can alleviate many heart rate display problems.

All displays are for basic, general reference purposes only. Consult with your physician before starting any exercise program.

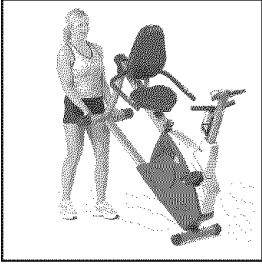
When there is no signal to the computer for 4 minutes, the LCD display will automatically shut off and all previous training data will be stored. Press any button to power up the computer again.

To reset the computer, hold the RESET button for 4 seconds. The display will clear then all segments will briefly display. The monitor will then display the previous user number including any preset goal data.

Water bottles are not included.

102/202 EXERCISE BIKE MAINTENANCE

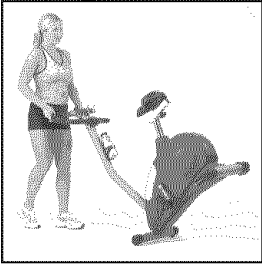
FIG. A



■ **Moving your 102/202 bike**

Carefully lift the horizontal rear floor support to move and steer the 202 bike to another location (Fig. A). Pull the handlebars towards you, leaning the bike down, to move and steer the 102 bike to another location (Fig. B). Be gentle while moving the unit as any sharp impact directly or indirectly to the computer can affect computer operation.

FIG. B



■ **Daily maintenance**

Use a damp cloth to wipe your bike and computer free of sweat. **IMPORTANT:** To avoid damaging the finish on your bike and computer, never use a petroleum-based solvent when cleaning. Avoid getting excessive moisture on the computer.

GENERAL FITNESS AND EXERCISE

Edmund R. Burke, Ph.D.

■ Getting the Most Out of Your Home Fitness Program

The three main reasons for the increased popularity of home fitness gyms and exercise are convenience, convenience and convenience. For any fitness program to be successful, it must be done on a regular, sustained basis. With equipment in your home, you can roll out of bed, put on a pair of sweats, and start working out while the coffee is brewing.

For many, home workouts are easier to fit into their hectic schedules. No getting in the car and having to go to the health club. No standing in line to use the stair climber. Then there is the comfort and safety factor. Who wants to run outdoors during a raging blizzard. Or, who wants to ride a bike on busy city streets during rush hour in the heat of summer. It's much more comfortable to hop on your Schwinn home fitness equipment and exercise in the comfort and security of your air-conditioned room.

Privacy and cleanliness are also important. Many feel intimidated in a gym, especially if they are carrying around a few extra pounds. At home you can exercise without feeling as if you are being rushed or that anyone is looking at you. No more lying down on a sweaty bench or wondering if you'll catch athlete's foot in the shower.

Flexibility of time may be the biggest advantage. Work schedules vary for many people who work flex shifts or have a family that has different schedules. Parents with children soon discover that exercising at home turns out to be the only viable alternative if they want to stay fit. But parents and busy workers may not be the only ones who benefit from exercising at home.

■ The Stanford Home Exercise Study

Recently, researchers at Stanford University School of Medicine, conducted a year long study of over 350 individuals to examine the effectiveness and compliance of a group of supervised home exercisers versus a group of individuals who reported for a group session at the university. The subject population included middle aged men and women and included fit individuals as well as individuals who were overweight and smoked.

Individuals in both the high intensity (three 40-minute sessions per week on the treadmill at a 73 to 88 percent of max heart rate) and low intensity group (five 30-minute sessions at 60-71 percent of max heart rate) reported significantly greater adherence than those in the university group based program.

Many at the beginning of the study thought that the university based group would have a greater compliance rate than the home based group, because of the camaraderie of the group and the instruction given by the instructors. But the study found the opposite to be true. The group program was just too inconvenient over the 12 month period for the subjects to justify the benefits.

But the good news was that all three groups showed fitness improvements. With the individuals in the low intensity group achieving similar results as the high intensity group. Good news for those of you just starting out in a moderate exercise program.

Perhaps most importantly, research has also shown that it's never too late to start exercising . . . and experiencing the benefits. Studies conducted at Tufts University, for instance, show that even people in their 90's can significantly increase their strength as a result of following a moderate, strength training program.

Exercise is one of life's joys. It energizes—it gives you a sense of well-being and accomplishment and it keeps you healthy and fit. There is great pleasure in being able to set goals, accept your own challenges and push yourself to a better life of health and fitness.

STEPS TO GETTING STARTED

Once you have made the commitment to get started in a home fitness program, here are some suggestions that you may want consider to help you get off on the right foot and stay motivated. Realize that any new habit is difficult to establish at first, but it can be done. Follow these steps and you'll be on your way to establishing and using your home fitness center for improved health and fitness. Enjoy the journey!

- **Get a physical exam.** If you have been inactive for several years or new to an exercise program, be sure to consult with your family physician. Especially if you're over 35, have health problems or have a history of heart disease in your family.
- **Begin planning for your home fitness center.** Set aside a portion or a room in your house or apartment that is exclusively for fitness, and make sure that it is as comfortable as possible so you'll enjoy using it. If you like music or like to look outside while exercising, make sure these things are accessible. Do not force yourself to exercise in a part of the house that isn't comfortable, you will not feel motivated to exercise.
- **Do you need a companion?** If you prefer to exercise with someone, find a friend to train with who lives nearby. Encouraging your spouse or children to exercise with you is an excellent way to stay motivated and promote family unity.
- **Make fitness a part of your daily lifestyle.** Include it in your daily planner just as you would any other appointment. Keep the appointment; you'll be glad you did.
- **Use affirmations.** Affirmations will help you program your subconscious to accept new beliefs. They should be positive statements. "I am living a healthier lifestyle by exercising several times per week at home." Repeat your affirmations several times per week.

■ Home Fitness Planning Worksheet

Target date to begin exercise program: _____

Times of day I can exercise:

Time #1 _____

Time #2 _____

Time #3 _____

Days of the week that are good for me to workout:

Day #1 _____

Day #2 _____

Day #3 _____

Activities I would like to experiment with:

Activity #1 _____

Activity #2 _____

Activity #3 _____

Exercise goals I wish to accomplish:

Goal #1 _____

Goal #2 _____

Goal #3 _____

Individuals who will support me in my exercise program:

Person #1 _____

Person #2 _____

Person #3 _____

Individuals who can workout with me:

Person #1 _____

Person #2 _____

Person #3 _____

Over the last 25 years, ever since the introduction of Dr. Kenneth Cooper's book, *Aerobics*, many individuals have focused on walking, running, cycling, swimming, and other types of aerobic activity as their only means of exercise.

Unfortunately, this has led to many of these same people neglecting other key components of fitness; such as strength training, flexibility and body composition. Many of us lack the strength to carry a full bag of groceries, or the flexibility to pick up our shoes without bending at the knees. In addition, as we have aged, we have replaced muscle tissue with fat tissue.

Continued work by Dr. Cooper at the Institute of Aerobics Research, is showing that in addition to the need to stress our cardiovascular system, that more attention needs to be placed on building stronger muscles and increasing joint flexibility. They are talking about the benefits of balanced fitness: regular physical activity that includes strength training and flexibility (stretching) in addition to aerobic conditioning.

For many years, "fitness" has been solely a measure of cardiovascular (aerobic) endurance. And, while aerobic fitness is the cornerstone for health and quality of life, there are two other components that are nearly as important. When developing your home fitness program it is only appropriate that you develop all three components in order to achieve balanced fitness, and thus optimal health and quality of life. The three components are:

- Muscle strength
- Cardiovascular fitness
- Flexibility

■ Balance Fitness

Many people considering beginning a balanced home fitness program still think "no pain, no gain." They usually think they have to cycle or lift weights until they are over-tired and their body aches. This idea of fitness is outdated. What they don't realize is that, in a short time using proper guidelines, the initial tiredness or soreness will be replaced by increased energy for work and recreation and an increased sense of well-being.

Since 1978, the American College of Sports Medicine (ACSM) has had an influence on the medical and scientific communities with its position statement on "The Recommended Quantity and Quality of Exercise for Developing and Maintaining Fitness in Healthy Adults." For the first time since 1978 the ACSM has revised its recommendations on exercise for healthy adults. The new paper published in 1991 expands and revises advice on cardiovascular fitness and body composition, and now recommends that you add resistance training. This is new information to those of us who have only cycled, ran, swam, watched our body weight and controlled our diet to attempt to maintain fitness.

Balanced fitness can do more to ensure a long, healthy life than just about anything else known to the medical community today. It's never too late to start a fitness program but ideally, you should build strong muscles, flexibility and a strong cardiovascular system early in life and enter the later years with your physical potential at its maximum.

■ Muscular Strength

The new guidelines have added resistance training since the ACSM recognizes the increasing importance of maintaining strength as a health benefit as we get older. The rationale for the addition of strength training to the guidelines is a result of a ten year follow-up study on master runners (along with other studies). Those who continued to train aerobically without upper body exercise maintained their body's oxygen transporting capacity over the years, but lost about 4.5 pounds of lean body mass; those who included strength training in their program maintained their lean body mass along with their aerobic capacity after 10 years of aging.

The guidelines also show where consistent resistance training helps maintain bone and muscle mass as we get older. For women, strength training (along with the aerobic work) may also protect against post menopausal bone loss and osteoporosis in their later years.

The guidelines recommend that two strength training sessions per week should be added to your workout schedule. We recommend three sessions a week during the off-season and two sessions a week for maintenance during the in-season. The new ACSM guidelines recommend one set of eight to 12 repetitions of eight to 10 strength exercises of your major muscle groups per session as the minimum requirement. A complete detailed strength training program will be outlined in a later section of this book. If weights or other resistance training devices are not available, add calisthenics to your program.

■ Cardiovascular Fitness

The new statement, published in 1991, repeats the four recommendations on duration, intensity, frequency and various modes of aerobic activity, with slight changes. The duration is now 20 to 60 minutes, versus a minimum of 15 minutes in the past.

Intensity of exercise can be determined by two methods. The first is the familiar use of target heart rate. The guidelines state that you should aim to work at 60 to 85 percent of your maximum heart rate ($\text{max HR} = 220 - \text{your age}$) or 50 to 85 percent of your maximal oxygen capacity (determined by doing a stress test on a bicycle ergometer or treadmill at a medical facility).

Duration is dependent upon the intensity of the activity; for those who like to work at a lower intensity they should work out longer. Low to moderate intensity cycling, stepping, walking, or cross-country skiing is best for most adults, because higher intensity workouts can lead to increased risk of injury and it is easier to adhere to the exercise routine. Beginners can achieve a significant training effect from low intensity workouts. If you're already fit and want to improve, gradually increase your intensity.

The type of activity, once again, should include anything that uses large muscle groups, and is rhythmical and aerobic in nature, such as cycling or running. Other activities could include stair climbing, cross-country skiing, walking, etc. These activities need to be carried out three to five days per week.

■ Training Effect

Duration, intensity and frequency of training stimulate the aerobic training effect. Any training done below the ACSM guidelines will not be sufficient enough to give you the aerobic training effect. If you are exercising more than the recommendations, it will not significantly increase the aerobic training effect, though athletes training for competition need to exercise more to be competitive. It is important to remember not to over do it; your body needs adequate recovery from a hard workout.

In general, endurance training for fewer than two days per week at less than 60 percent of maximal heart rate, for fewer than 20 minutes per day, and without a well-rounded resistance and flexibility program is inadequate for developing and maintaining fitness in healthy adults. It is just that simple.

IDENTIFYING YOUR BALANCED FITNESS GOALS

Keep in mind that the ACSM recommendations are guidelines for the average person, not a champion athlete training for the Olympic Games.

An appropriate warm-up and cool-down, which would also include flexibility exercises, is also recommended. While many of you will need to train with more mileage and at a greater intensity to race competitively, the important factor to remember for most people is that if they follow the ACSM guidelines of physical activity they will attain increased physical and health benefits at the lowest risk. Below is a table outlining the guidelines (Table 1.1).

The ACSM guidelines, if followed, can result in permanent lifestyle changes for most individuals. The good news is that, with the right approach, exercising at home can and should be pleasant. You can combine strength training, aerobic exercise and flexibility activities that you enjoy and gain valuable health benefits.

	Strength Training	Aerobic Exercise	Stretching
Frequency	2 to 3 times/week	3 to 5 times/week	3 to 6 times/week
Intensity	8-12 reps	60-90% of "easy" feeling until fatigue	max HR
Stretch Time	20-40 minutes	20-60 minutes	10 minutes
Type	10 exercises	any rhythmical activity	10 stretches

■ Flexibility

To be in total balance it is important to be flexible. While not part of the ACSM guidelines, flexibility is important for you to perform tasks that require reaching, twisting and turning your body. Hip flexibility, for example, is important to preventing lower back pain.

■ Exercise and Body Composition

Body composition is an important component of health-related fitness. Good body composition results from aerobic activity, strength training and proper diet.

Your everyday caloric balance will determine whether you will gain or lose weight from day-to-day. Caloric balance refers to the difference between the calories you take in from food eaten and caloric expenditure or the amount of energy you put out in daily activities, work or exercise.

Body weight is lost when caloric expenditure exceeds caloric intake or when caloric intake is less than caloric expenditure. It is a known physiological fact that one pound of fat is equal to 3500 calories of energy. Though it is predictable that shifts in caloric balance will be accompanied by changes in body weight, how your body loses weight varies on the various programs you may undertake to lose weight. For example, low calorie diets cause a substantial loss of water and lean body tissue, such as muscle. In contrast, an exercise-induced negative caloric balance results in a weight loss of primarily fat stores. If you were to add a resistant training component to your program, you may also see a slight increase in weight due to a gain in muscle mass, while an aerobic based program usually results in a maintenance of muscle mass. While both approaches to weight loss are effective, aerobic activity is found to be very effective because metabolism stays sustained for longer periods of time and energy. Expenditure is greater with activities that use large muscle groups such as walking, cycling, cross-country skiing, etc.

Follow these guidelines when engaging in a weight loss program that combines exercise and caloric restriction:

- Ensure that you are consuming at least 1,200 calories per day in a balanced diet. You need to consume calories for everyday bodily, healthy functions.
- You should not exceed more than a 500 to 1,000 calories per day negative caloric balance, combining both caloric restriction and exercise. This will result in a gradual weight loss, without a loss of lean body weight (muscle). You should not lose more than 2 pounds per week on a diet.

- Include an exercise program that provides at least 300 calories or more of activity per day. This is best accomplished with exercise of low intensity and long duration. Many pieces of home fitness equipment give estimates of calories burned while exercising. Remember these are approximate calories burned, exact amounts will depend on type of exercise, your body size, intensity and duration.
- Add resistance training to your program to add muscle mass. Muscle cells are more active than fat cells and will help you burn more calories per day.
- Include use of behavior modification techniques to identify and eliminate bad diet and eating habits.

You should strive to burn between 300 to 500 calories per exercise session and 1000 to 2000 calories per week in exercise. Remember that sustained aerobic activities that use large muscle groups will cause the greatest energy expenditure.

If overweight or obese, you may want to keep the intensity even lower than 60 percent of maximum heart rate to keep the risk of orthopedic injuries at a minimum. Nonweight-bearing activities such as stationary cycling may be considered for this group, or for those who suffer from orthopedic or arthritis problems.

■ A Balanced Workout

All of your balanced home workouts should include three parts:

- Warm-up
- The main aerobic and/or strength routine
- Cool-down

Together, exercise and recovery comprise fitness conditioning: deny neither and you invite injury and minimize benefits. Our bodies and minds become stronger and more efficient in response to their use and exercise. Overuse and overload will cause breakdown. You don't want too much, but just enough.

The secret is to know when you are pushing too much or too little. Monitoring your heart rate tells you how much to exercise and when to rest.

■ Warm-up

A good warm-up will help you perform better and will decrease the aches and pains most people experience. The warm-up prepares your muscles for exercise and allows your oxygen supply to ready itself for what's to come. Studies show that muscles perform best when they're warmer than normal body temperatures. Warm-up exercises include cycling, walking, skiing slowly until you begin to break a light sweat. This normally takes about 5 to 10 minutes. If using a heart rate monitor, raise your heart rate to about 110 to 120 beats per minute during your warm-up.

Stretching before and after exercise also serves many purposes. By promoting flexibility, it decreases the risk of injury and soreness. It also enhances physical performance by allowing you to maintain a comfortable position on the bicycle longer. Take a few minutes to stretch your legs, shoulders and lower back before you get on your home equipment.

■ Aerobic/Strength Exercise

Vigorous aerobic exercise is the core of your workout program. The intensity of your exercise must be strenuous enough to raise your heart rate into your target zone. This is usually between 60 and 90% of your maximum heart rate. Cycling, or any exercise done in this range, is usually called aerobic exercise. It means your body, your heart, and the various exercising muscles are working at a level at which oxygen can be utilized. Exercising with a heart rate monitor allows you to constantly receive visible feedback (and on some models audible feedback) as to what your heart rate is while exercising, and allows you to stay within your selected target heart rate zone.

In addition to aerobic exercise, the ACSM recommends that healthy adults perform a minimum of 8 to 10 strength exercises involving the major muscle groups a minimum of two times per week. At least one set of 8 to 12 repetitions to near-fatigue should be completed during each session. These recommendations are based on two factors:

- Most people aren't likely to adhere to workout sessions that last more than 60 minutes. The regimen outlined above can be completed in 30 minutes or less, and when combined with 30 minutes of aerobic activity and flexibility gives you a balanced workout.
- While more frequent and intense training is likely to build greater strength, the difference is usually very small.

■ **Cool-Down**

The cool-down enables your body's cardiovascular system to gradually return to normal, preferably over a 5 to 10 minute period. Bringing your workout to an abrupt halt can cause light-headedness, since blood will pool in your legs if you abruptly stop working. Lower your exercise intensity gradually over a period of a few minutes. When your heart rate has returned to below 110 beats per minute you can stop exercising on whatever piece of equipment you are on.

Always keep in mind that warm-up and cool-down are just as important as the activity phase. Both can prevent many common injuries from occurring.

■ **How To Determine Your Maximum Heart Rate**

The best way to determine your maximal heart rate is to calculate your target heart rate zones. Simply record your heart rate several times when you are putting out a maximal effort, such as when you are going all out on a stationary bicycle, or during a hard session of stair climbing.

The easiest option is to estimate your maximum heart rate based on a formula which has been well-established for reliability: take the number 220, and subtract your age. For example, a 45-year-old would have an estimated maximum heart rate of 175 ($220 - 45 = 175$). The target heart rate zone for aerobic training would be 105 to 149 beats per minute (60 to 80 percent of the maximum).

■ **Target Heart Rate Training Zones**

There are three primary heart rate training zones. The first is often referred to as the "fat burning zone", because the intensity is moderate enough to require your body to primarily use fat as the fuel source for the exercise. You should exercise at 50 to 65 % of your maximal heart rate to achieve this level of intensity. While you workout in this and the other zones, your heart rate should fall somewhere between these two figures. People just starting out on an exercise program or who want to lose weight should concentrate on maintaining their heart rate in this zone for 20 to 30 minutes per day, 3 to 5 days per week.

The second zone discussed above is known as the "aerobic exercise zone" or is shown on many charts as the "target heart rate zone." In this zone you should exercise at 60 to 85% of your maximal heart rate. Training in this zone helps you build aerobic endurance and constructs a base upon which you can progressively add more demanding workouts as your cardiovascular fitness increases.

A higher level of training can help increase both your speed and tolerance for the buildup of lactic acid, the primary waste product of anaerobic metabolism in your muscles. This type of workout from 85 to 100% of maximum heart rate usually consists of short, hard sprints or repeated hill running and is referred to as "anaerobic training."

Varied training in all three of these zones will add to increased levels of fitness and improved performance and add more energy to your life. "Most training programs use a combination of training intensities to increase performance capacity," according to J. T. Kearney, Ph.D., Senior Exercise Physiologist at the U. S. Olympic Training Center in Colorado Springs. Kearney suggests that it is important for individuals to monitor intensity. "There are many different ways to monitor training but monitoring heart rate response is the simplest, most convenient and least expensive physiological method for monitoring training," Kearney says.

■ Predicted Target Heart Rate Zones for Different Ages

Age	Maximum Predicted Heart Rate	Aerobic Target Zone: 60-85 %
20	200	120-170
25	195	117-166
30	190	114-162
35	185	111-157
40	180	108-153
45	175	105-149
50	170	102-145
55	165	99-140
60	160	96-136

After several weeks of "aerobic conditioning," certain changes become apparent. What was a barely attainable level of exercise before, now becomes quite easy. Whereas cycling or running at a certain pace or speed may have previously caused your heart rate to go up to 135 beats per minute, that pace can now be achieved at a lower heart rate. In short, your heart is becoming stronger, larger and more efficient, and your body is able to do the same work with less strain.

Regardless of your maximum average heart rate or your target heart rate, you should consult with your physician or with a sports medical expert to establish, with precision, the rates that are right for you, your age and your medical and physical condition. This is especially important if you are over the age of 35, been sedentary for several years, overweight or have a history of heart disease in your family.

■ Beating The Dropout Odds: Jump Start Your Fitness Program

You already know you need to exercise. And you're probably trying – at least a little. But let's get serious: If you don't add regular exercise to your life, you're missing out on a sure bet. This is one area where medical research all points in the same direction.

"Starting to exercise is comparable, from a health benefit standpoint, to quitting smoking," says the recently released Surgeon's General Report on Physical Activity and Health.

■ Summary of Surgeon General's Report on Physical Activity and Health:

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

But even with all this evidence, only 22 percent of Americans engage in exercise for 20 minutes a day. And even among individuals who begin exercise programs, the dropout rate is about 50 percent. So if the Surgeon General's findings are not convincing evidence enough to keep most of us exercising on a consistent basis, what is?

Scientists are finding that the process of beginning, increasing and ultimately sticking to an exercise program is a combination of two elements: finding the right incentives and building a habit. And, as we will see, these two motivational factors are connected, but distinct.

Focusing on the positive is one of the best incentives to exercise. Avoid looking at exercise as a way to fix something that's wrong with your body. Instead, focus on your successes. Pat yourself on the back each time you've made it through a workout. Thrive on the energy that exercising gives you. Reward yourself with a dinner out, after you have reached a certain weight loss goal, or buy yourself a new workout outfit. With these rewards, you'll go back for more, and your body will show results.

Don't view exercise as punishment. Don't look at exercise as something that has to be tackled because you are out of shape. Think of exercise as an investment in your health, your physical looks and your mental outlook. As you run, walk or lift weights, concentrate on the positive energy being generated within your body and the renewed sense of life and wellness you feel.

The basics of any fitness program are planning and setting goals. Goal setting and formulating a plan are the most clear ways of establishing a consistent program of exercise; they are also a powerful form of direction and motivation. Take some time to think about what will help you begin your exercise program. Write these down in your daily planner or diary. Goals provide a sense of purpose and incentive that can drive you to your intended destination. However, for goals to be effective they need to be realistic. Motivation will be strengthened only if it's possible to reach your objectives.

Consider this: Your mind and body will respond better to exercise if you start with 20-minute sessions, three times a week, rather than an hour session four times per week. Once the sessions become a routine, aim for 30 minutes, then increase from there.

The most important thing in any exercise program is to do your best to keep progressing, backsliding as little as possible and getting back on the horse just as fast as possible if you fall off. Try to anticipate lapses: If a crazy workday looms, get up early and squeeze in a short ride on a stationary bicycle so that you've achieved something even if it isn't your regular workout routine. When on a business trip, stay in a hotel that has an onsite workout facility.

Exercise is one of life's joys. It energizes – giving you a sense of well-being and accomplishment and keeps you healthy and fit. There is great pleasure in being able to set goals, accept challenges, and push yourself to a better lifestyle of health and fitness. No matter what your reason for exercising – to lose weight, to get fit, or to feel better — motivating yourself to exercise on a regular basis requires changing your behavior.

■ Make Exercise A Habit

The key to a successful fitness program is getting your body to do what your mind knows it should. Here are six mental strategies to help keep you focused on your fitness goals.

1. Clarify why you want to exercise. If you want to gain strength – is it to swim more laps, or to tone-up your body. By understanding and detailing your goals, you will be better able to stay motivated.
2. Vary your workout. To make your routine more enjoyable, vary it once in a while. Supplement your indoor cycling with outdoor cycling and strength training. These activities make exercise more interesting and increase your fitness level by making you utilize different muscle groups.

3. Focus on the positive. Avoid looking at your exercise program as a way to fix something that's wrong with your body. Instead focus on your successes. Congratulate yourself after each workout. Thrive on the energy that exercising gives you.
4. Develop a constructive attitude. Do not focus on what you are giving up to exercise on a regular basis, but on what new options you'll have after you become fit.
5. Engage your body and mind. Connect on a deeper level, you'll be more likely to stay with your routine. If your exercise time on a stationary bike is your 30-minutes away from work or a time for reflection, you're much more likely to stick with it. Individuals claim to experience an increased sense of creativity and an enhanced thought process due to a regular exercise program.
6. Consider many of the physiological benefits. If a strong and fit body isn't enough to keep you motivated, consider some of the hidden benefits of exercise: lower blood pressure, stronger heart, more efficient pulmonary system, lower risk of osteoporosis and stress reduction.

■ It's Never Too Late . . . for Fitness

Most of us have very busy schedules and to keep our fitness level intact we have to be extremely efficient. These three words, efficiency of effort, form the core of creating your own home fitness center. Efficiency of effort means producing maximum gains with minimal time spent; this is the goal of most of us when designing our home fitness program.

The bottom line is you must be creative and innovative to get the best results. With this book and your own creativity a great workout is only a few moments away; a different grip on the multi-gym, a varied stepping rhythm on the stepper, a new intensity on the stationary wind-load simulator or a more rapid stroke rate on the rower. By varying your workouts you'll create maximum gains in the shortest time frames.

As you will see, your home fitness equipment will allow you to reach your fitness goals and prepare properly for a healthier lifestyle. Anyone who is serious about fitness – or for that matter just improving their overall fitness – should have a few basic pieces of home fitness equipment. It makes no difference if you are a competitive cyclist or triathlete, an executive or someone trying to tone their muscles, the home fitness center is the most efficient way to help you reach your physical potential.

Edmund R. Burke, Ph.D., is author of the *Complete Home Fitness Handbook*, published by Human Kinetics Publishers. It can be found at major book stores or you can order it by calling 1-800-747-4457. He also serves as Director of the Exercise Science Program at the University of Colorado at Colorado Springs.

■ Suggested Readings:

Burke, Edmund. *Complete Home Fitness Handbook*, Champaign, IL., Human Kinetics Publishers, 1996. Book illustrates how to set up a home gym, purchase equipment and gives workout programs for various pieces of home fitness equipment.

Anderson, Bob; Pearl Bill; and Burke Ed. *Getting in Shape: Workout Programs for Men & Women*. Bolinas, CA., Shelter Publications, 1994. Offers information on how to set-up a balanced fitness program of cardiovascular, strength and flexibility training.

Burke, Edmund. *Precision Heart Rate Training*. Champaign, IL., Human Kinetics Publishers, 1998. Fine-tune your workout intensity. This book fully explains why and how to train with a heart rate monitor.

LIMITED WARRANTY ON EXERCISE EQUIPMENT

From the date of purchase for the time periods listed below, the following parts will be replaced free of charge if they are defective in material or workmanship. After the six months from the date of purchase, you pay the labor cost to have them installed.

- Ten Years: Frame
- One Year: All non-expendable mechanical and electronic parts

To arrange for warranty service, call 1-800-4-MY-HOME®.

This warranty does not include seat, seat back, pedals and handlebar grips, which are expendable parts that can wear out from normal use in less than one year.

This warranty is void if this product is ever used for other than private household purposes.

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