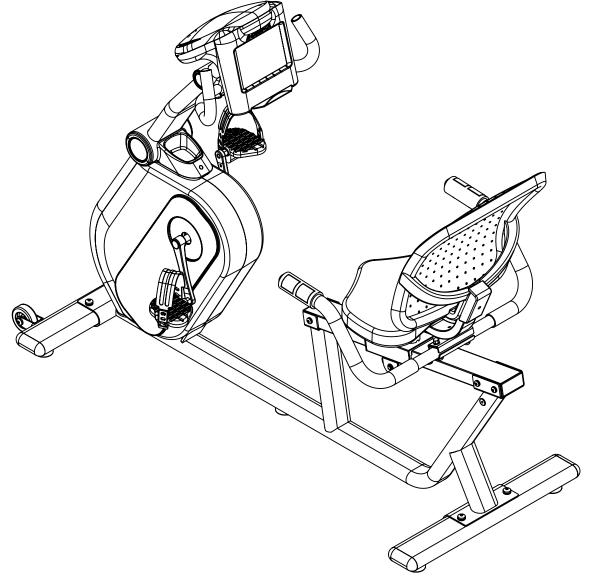


B4R



Endurance®

B4R Recumbent Bike

User Manual

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Endurance® continually seeks ways to improve the performance, specifications and product manuals in order to ensure that only superior products are released from our factories. Please take the time to carefully read through this manual thoroughly. Instructions contained in this document are not intended to cover all details or variations possible with Endurance® equipment, or to cover every contingency that may be met in conjunction with installation, operation, maintenance or troubleshooting of the equipment. Even though we have prepared this manual with extreme care, neither the publisher nor the author can accept responsibility for any errors in, or omission from, the information given. Should additional information be required, or should situations arise that are not covered by this manual, the matter should be directed to your local Endurance® representative, or the Service Department at Endurance® in Forest Park, Illinois.

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Introduction

Congratulations!!

Thank you for purchasing your new Endurance® Recumbent Bike.

Using state-of-the-art techniques, robust frame structure and superior ergonomic design, Endurance® Recumbent Bike set a new standard for excellence. The Endurance® Recumbent Bike can improve your quality of life by keeping you fit and healthy, increasing your energy levels and enhancing your lifestyle.

Endurance® wants to ensure years of quality workouts with your new Recumbent bike so we recommend that you read this manual carefully and thoroughly to fully understand proper use and maintenance of this product. Retain this Owner's Manual for future reference.

Please use this Owner's Manual to make sure that all parts have been included in your shipment. When ordering parts, you must use the part number and description from this Owner's Manual. Use only Endurance® replacement parts when servicing this machine. Failure to do so will void your warranty and could result in personal injury.

For information about product operation or service, check out the official Endurance website at www.bodysolid.com/Home/Endurance Cardio or contact an authorized Endurance dealer or an Endurance factory-authorized service company or contact Endurance Customer Tech Support at one of the following:

Toll Free: 1-800-556-3113 Phone: 1-708-427-3555 Fax: 1-708-427-3556 Hours: M-F 8:30-5:00 CST E-Mail: service@bodysolid.com

Or write to:

Endurance® Service Department 1900 S. Des Plaines Ave. Forest Park, IL 60130 USA

Important Safety Information

Save this Owner's Manual!

Before beginning any fitness program, you should obtain a complete physical examination from your physician.

When using exercise equipment, you must always take basic precautions, including the following:

- Read all instructions before using your Endurance® Recumbent Bike. These instructions are written to ensure your safety and to protect the unit.
- O DO NOT allow children on or near the equipment.
- O Use the equipment only for its intended purpose as described in this guide.
- O DO NOT use accessory attachments that are not recommended by the manufacturer. Such attachments might cause injuries and will void your warranty.
- Wear proper exercise clothing and shoes for your workout, no loose clothing.
- O DO NOT use cleats, spikes or any other non-athletic shoes.
- O DO NOT use this product while barefoot or wearing only socks.
- O Use care when getting on or off the unit.
- O NOT overexert yourself or work to exhaustion. If you experience any pain such as chest pains, nausea, dizziness, shortness of breath or abnormal symptoms, stop your workout immediately and consult your physician before continuing.
- Never operate the unit when it has been dropped or damaged. Return the equipment to a service center for examination and repair.
- O Never drop or insert objects into any opening in the equipment.
- Always check the unit for loose components before each use.
- O DO NOT turn pedals by hand.
- O NOT use the equipment outdoors or near water. It is imperative that your Endurance® Recumbent bike is used in a climate controlled environment. If your recumbent bike has been exposed to colder temperatures or to high moisture climates, it is strongly recommended that the recumbent bike is brought to room temperature before use. Failure to use this equipment in a climate controlled environment may cause premature electronic failure.
- Endurance® recommends that a mat is placed under the unit to protect the floor or carpet and for easier cleaning.

Endurance® Recumbent bikes are designed for your enjoyment. By following these precautions and using common sense, you can have many safe and pleasurable hours of healthful exercise with your Endurance® Recumbent bike.

Before You Begin

The Endurance® B4R is carefully tested and inspected before shipment. We have shipped the unit in several pieces that require assembly. Carefully unpack the unit in a clear area and lay the pieces on the floor near the area where you plan to use the equipment. Remove the packing material. Do not dispose of the packing material until assembly is complete and the unit is working properly. Place the unit on a clean level surface for assembly. Before assembling, the unit should be placed as close as possible to its final location. Be careful to assemble all components in the sequence presented in this guide.

PERSONAL SAFETY DURING ASSEMBLY

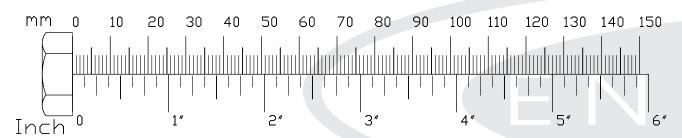
- It is strongly recommended that a qualified dealer assemble the equipment. Assistance is required.
- O Before beginning assembly, please take the time to read the instructions thoroughly.
- Read each step in the assembly instructions and follow the steps in sequence. *Do not skip ahead.* If you skip ahead, you may learn later that you have to disassemble components and that you may have damaged the equipment which will void the warranty.
- Assemble and operate the Endurance® Recumbent bike on a solid, level surface.
 - Locate the unit a few feet from the walls or furniture to provide easy access.

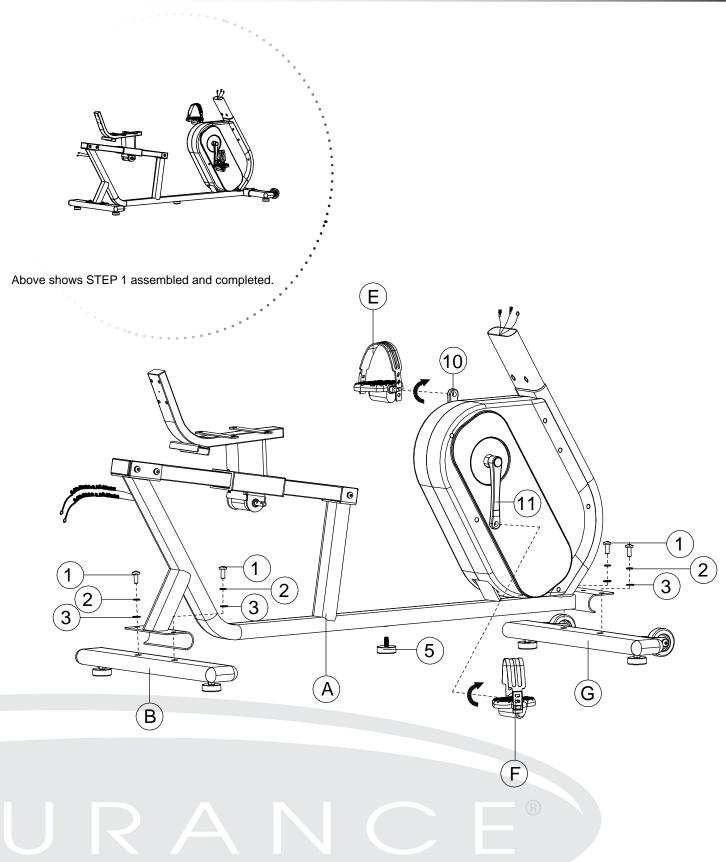
AFTER ASSEMBLY

Once the unit is assembled, you should check all functions to ensure correct operation. If you experience problems, first recheck the assembly instructions to locate any possible errors made during assembly. If you are unable to correct the problem, call the dealer from whom you purchased the machine or call Endurance® Customer Tech Support Hot Line Toll Free at: 1-800-556-3113.

NOTE:

- 1A. Attach Front Stabilizer (G) to Main Frame (A) using:
 Two M10x20mm Button Head Cap Screws (#1)
 Two M10 Lock Washers (#2)
 Two M10 Washers (#3)
- 1B. Attach Rear Stabilizer (B) to Main Frame (A) using: Two M10x20mm Button Head Cap Screws (#1) Two M10 Lock Washers (#2) Two M10 Washers (#3)
- **1C.** Attach Leveler (#5) to Main Frame (A)
- **1D.** Attach Left Pedal (E) to Left Crank (#10)
- **1E.** Attach Righ Pedal (F) to Right Crank(#11)

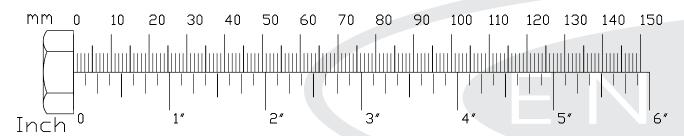


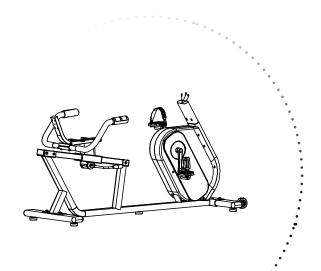


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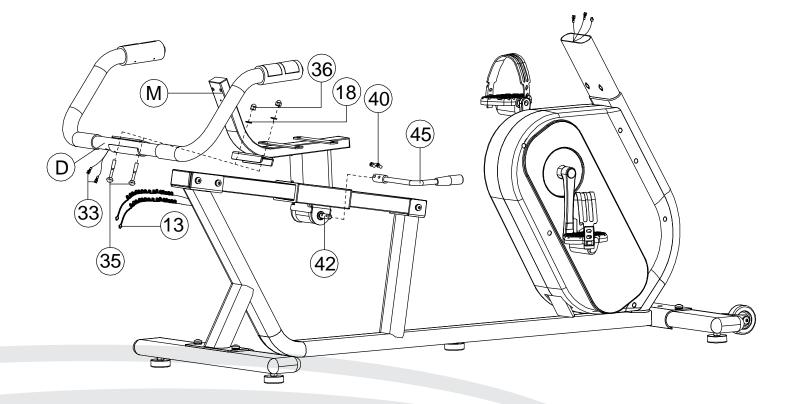
NOTE:

- 2A. Attach the Handle Bar (M) to the Seat Frame (M) using:
 Two M8x50mm Carriage Bolts (#35)
 Two M8 Washers (#18)
 Two M8 Acorn Nuts (#36)
- **2B.** Connect Heart Rate Cables (#33) to the Heart Rate Cables (#13) on the Main Frame.
- **2C.** Attach the Lever Handle (#45) to the Shaft (#42) using: **Two M6x10mm Socket Head Cap Screws**





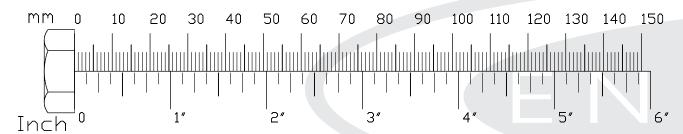
Above shows STEP 2 assembled and completed.

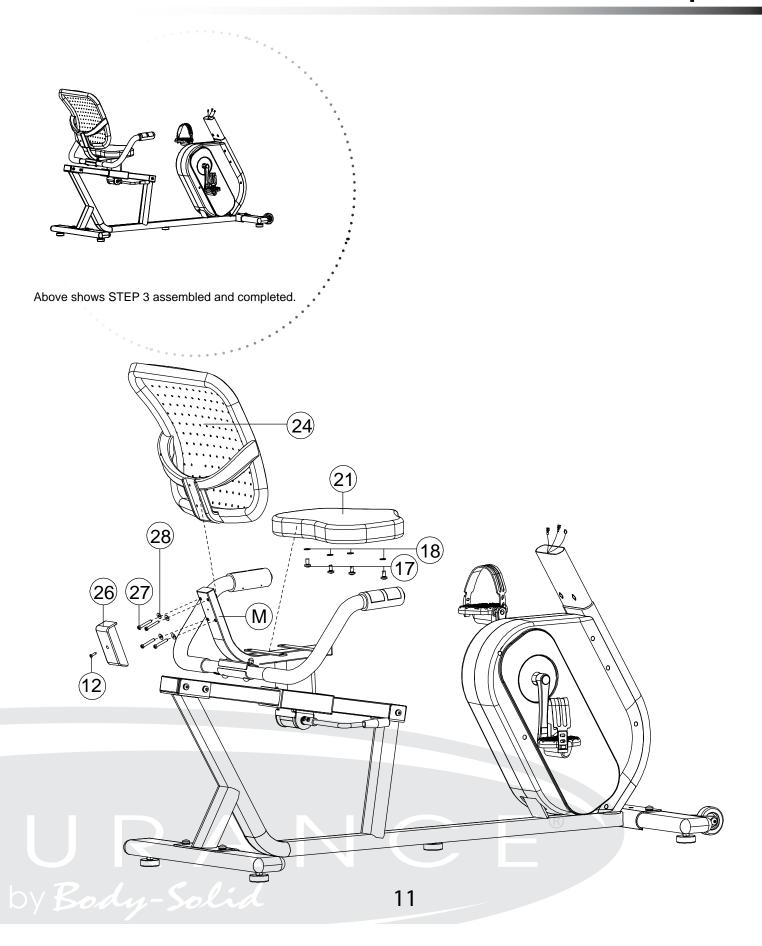


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NOTE:

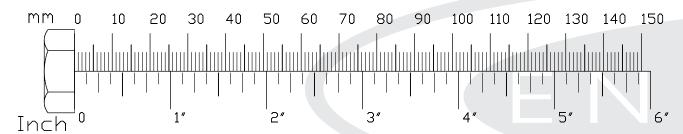
- 3A. Attach Seat Pad (#21) to the Seat Frame (M) using: Four M8x16mm Button Head Cap Screw (#17) Four M8 Washer (#18)
- **3B.** Attach Back Rest (#24) to the Seat Frame (M) using: Four M6x40mm Button Head Cap Screw (#27) Four M6 Washer (#28)
- **3C.** Attach Plastic Cover (#26) to the Seat Frame (M) using: One ST4.2x18mm Pan Head Phillips Screw (#12)

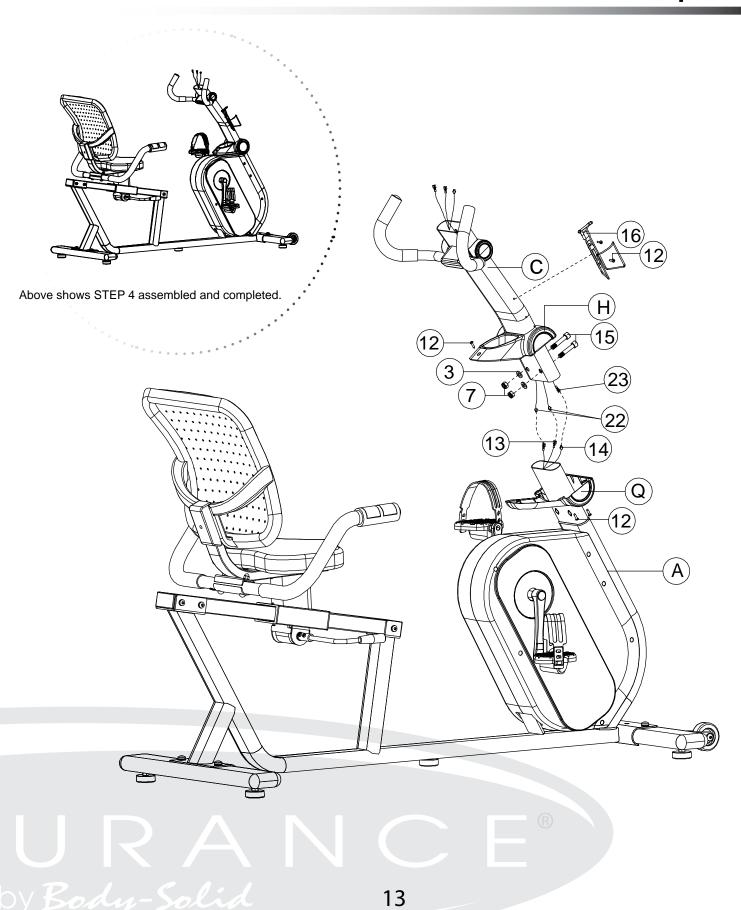




NOTE:

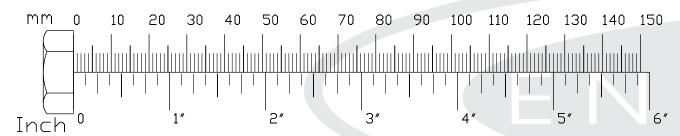
- **4A.** Insert the Holder Top Half (H) to UPRIGHT FRAME (C)
- **4B.** Insert the Holder Bottom Half (Q) to MAIN FRAME (A)
- **4C.** Connect Upper Heart Rate Cables (#22) to Lower Heart Rate Cables (#13).
- **4D.** Connect Upper Wire Harness (#23) to Lower Wire Harness (#14).
- 4E. Attach Upright Frame (C) to Main Frame (A) using:
 Two M10x50mm Socket Head Cap Screw (#15)
 Two M10 Washer (#3)
 Two M10 Nylon Lock Nut (#7)
- **4F.** Attach the Holder Top Half (H) to the Holder Bottom Half (Q) using: Three ST4.2x18mm Pan Head Phillips Screws (#12)
- **4G.** Attach the Water Bottle Holder (#16) to Upright Frame (C) using: **Two ST4.2x18mm Pan Head Phillips Screws (#12)**

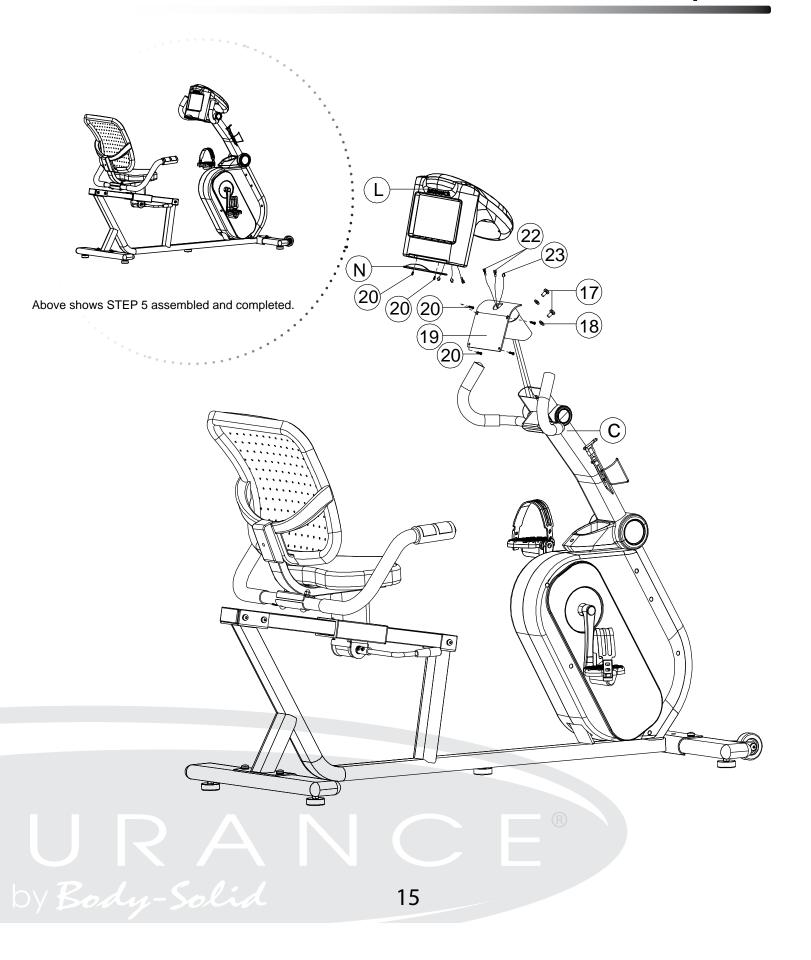




NOTE:

- **5A.** Attach L Shape Holder (N) to Console (L) using **Two M5x10mm Pan Head Phillips Screw (#20)**
- **5B.** Connect Heart Rate Cables (22) to the Heart Rate Cables of the Console (L).
- **5C.** Connect Wire Harness (23) to the Wire Harness of the Console (L).
- **5D.** Attach Console (L) to UPRIGHT FRAME (C) using: Four M5x10mm Pan Head Phillips Screw (#20)





SETTING UP B4R

PLACEMENT IN YOUR HOME

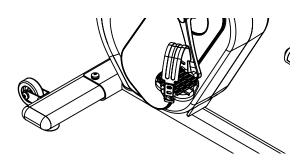
To make exercise a desirable daily activity for you, the B4R should be placed in a comfortable and attractive setting. This bike is designed to use minimal floor space and to fit nicely in your gym/home.

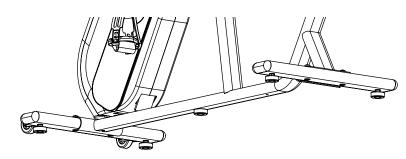
- Do not place or operate the B4R outdoors.
- Do not place the B4R near water or in high moisture content environment.
- It is highly recommended to place a dedicated equipment mat beneath your B4R.
 A dedicated mat provides superior stability and firmness for a proper workout.

MOVING THE B4R

This bike is easy to move around safely. To move the B4R:

- 1. Grasp the back end Frame
- 2. Simply roll the B4R on its two wheels to the desired location.





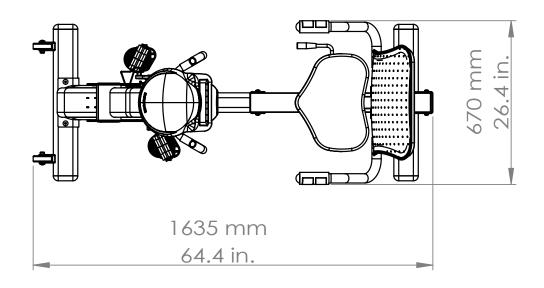
LEVELING THE B4R

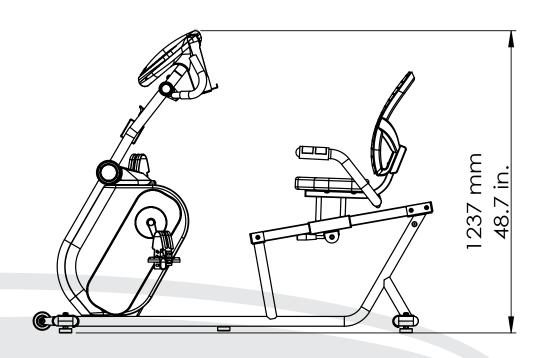
There are five Levelers can be used to level the B4R:

 Rotate the Adjustable Pads clockwise or counter-clockwise to adjust the level of the bike.



Dimensions



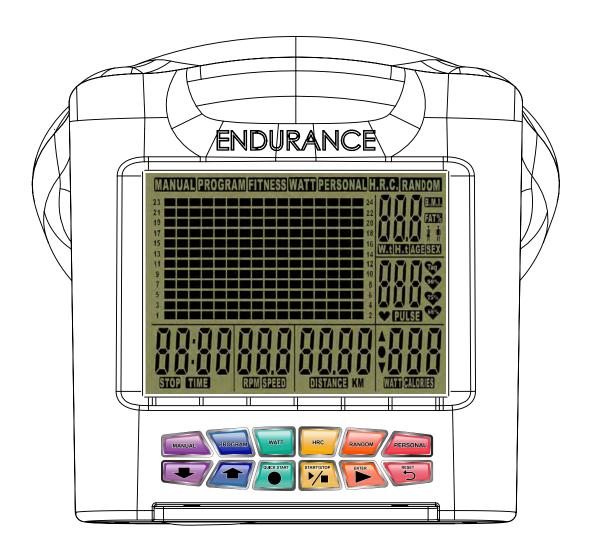


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Console Overview

Take a few moments to review the console Screen layout.



Console Overview

CONSOLE DISPLAY

Resistance Level

The resistance level display is located on the upper left side of the screen . There are 24 resistance Levels to choose from.

User Profile

The User profile display is located on the upper right side of the screen. There are 5 user profiles can be entered into the program.

Heart Rate

When the user's heart rate signal is detected via heart rate sensor on the handlebar or wireless chest strap, the user's current heart rate will be displayed in the middle right side of the screen.

Time

Time display is located on the lower left side of the screen. It shows the total elapsed time or remaining time based on the current program.

RPM/Speed

RPM/Speed display is located in the lower middle side of the screen. It will alternate the display between RPM/Speed. The unit for Speed is either Miles-per-Hour or Kilometers-per-Hour based on current console setting.

Distance

Distance is located on the left side of RPM/Speed Display. The unit is either Miles or Kilometers based on current console setting.

Watt/Calories

Watt/Calories display is located on the lower right side of the screen, It will alternate the display between Watt and Calories.



Console Overview

CONSOLE BUTTONS

Quick Program Buttons

The Quick Program buttons all the user to launch a program quickly. The programs are MANUAL, PROGRAM, FITNESS, WATT, PERSONAL, HRC and RANDOM.

Up **@** & Down **Buttons**

The Up and Down arrow buttons are for adjusting values in both program and setup modes.

Quick Start Button

Press the Quick Start Button to immediately launch the Quick Start program and bypass data entry.

Start/Stop <a>Button

Press the Start/Stop Button during the Setup Mode will start the program. Press the Start/Stop Button during the Program Run Mode will Pause the program.

Enter Button

The Enter button will confirm the selection in the setup mode.

Reset Button

The Reset button will erase current data and return to the setup mode.

MODES

Setup Mode: When Powered on, the console beeps and then goes into setup mode. **Sleep Mode:** When RPM Signal or Data is not detected for 4 minutes, it will automatically enter Sleep Mode. Pedal again or press any button to start the program again.

USER SETUP MODE

When entering the program, You have the option of entering your own personal settings (Gender, Age, Height, Weight).

- 1. In the Setup Mode, hold the Reset Button until it display "U0" on the screen. (Figure #1 & #2)
- Press Up or Down Buttons to choose from U0 ~ U4 and then press Enter Button.
- 3. Press Up or Down Buttons to choose the **Gender** and then press Enter Button.
- 4. Press Up or Down Buttons to adjust the Age and then press Enter Button.
- 5. Press Up or Down Buttons to adjust the **Height** and then press Enter Button.
- 6. Press Up or Down Buttons to adjust the **Weight** and then press Enter Button.

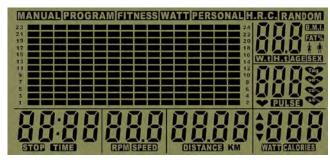


Figure #1

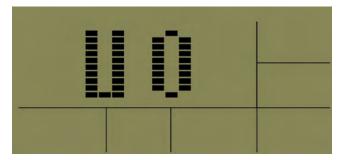


Figure #2

QUICK START PROGRAM

This is the quickest way to start a workout. After the console is powered up, Press the Quick Start Button to begin the workout program. In Quick Start Mode, Time will count up from zero and all workout data will start to accrue. Resistance Level can be adjusted by pressing Up or Down Buttons. There are 24 levels of resistance available.

PRESET PROGRAMS

There are seven Pre-Set Programs (MANUAL, PROGRAM, FITNESS, WATT, PERSONAL, H.R.C., RANDOM) to choose from.

MANUAL

This program allows the user to have the complete control over their workout (Figure #3). The user can make adjustment on resistance level from 1 to 24. To start the program,

- 1. In the Setup Mode, Press Up or Down Buttons to choose **MANUAL** program and then press Enter Button.
- 2. Press Up or Down Buttons to adjust the **Level** and then press Enter Button.
- 3. Press Up or Down Buttons to adjust the **Time** and then press Enter Button.
- 4. Press Up or Down Buttons to adjust the **Distance** and then press Enter Button.
- 5. Press Up or Down Buttons to adjust the **Calories** and then press Start Button.

PROGRAM

This program has a total of 12 different exercise profiles (Figure #4). To start the program,

- 1. In the Setup Mode, Press Up or Down Buttons to choose **PROGRAM** program and then press Enter Button.
- 2. Press Up or Down Buttons to choose **P1-P12** and then press Enter Button.
- 3. Press Up or Down Buttons to adjust the **Level** and then press Enter Button.
- 4. Press Up or Down Buttons to adjust the **Time** and then press Enter Button.
- 5. Press Up or Down Buttons to adjust the **Distance** and then press Enter Button.
- 6. Press Up or Down Buttons to adjust the **Calories** and then press Start Button.

Strength: It is designed to increase muscular strength in your lower body. This progarm will steadily increase in resistance to a high level and then maintain at that level to help build the users' strength and endurance (Figure #10).

Cardio: It is designed to increase your Cardio vascular function. It builds up your heart muscle and increases blood flow and lung capacity (Figure #11).

Hill: It is designed to take the user through two hill profiles. Resistance changes are small during this program. This is a good program to get started with or for someone looking for a lower stress workout (Figure #12 - #13).

Fat Burn: It is designed to get user's heart rate fast and maintains it at 65% of your calculated maximum heart rate with slight variation to provide optimal calories burn . (Figure #14 - #15)

Interval: It is designed to vary the intensity of the workout between low and high resistance to quickly raise and lower the heart rate thru a series of high & low profiles (Figure #16 - #18).

Speed Training: This program simulates interval training with more extreme levels of high and low intensity levels (Figure #19 - #21).

FITNESS

This program helps determine the physical fitness of the user (Figure #5). The Testing time is eight minutes. After the test, the result will display on the screen as below.

Figure	State
F1	VERY GOOD
F2	GOOD
F3	FAIR
F4	POOR
F5	VERY POOR

WATT

This program allows the user to adjust Watt value to acheive different resistance level (Figure #6). To Start the program,

- 1. In the Setup Mode, Press Up or Down Buttons to choose **WATT** program and then press Enter Button.
- 2. Press Up or Down Buttons to adjust the **Time** and then press Enter Button.
- 3. Press Up or Down Buttons to adjust the **Distance** and then press Enter Button.
- 4. Press Up or Down Buttons to adjust the **Calories** and then press Start Button.

PERSONAL

This program allows the users to build their own workout profile (Figure #7). To start the program,

- 1. In the Setup Mode, Press Up or Down Buttons to choose **PERSONAL**
- 2. Press Up or Down Buttons to adjust **Resistance Level** and then press Enter Button.
- 3. Press Up or Down Buttons to adjust the **Time** and then press Enter Button.
- 4. Press Up or Down Buttons to adjust the **Distance** and then press Enter Button.
- 5. Press Up or Down Buttons to adjust the **Calories** and then press Start Button.

H.R.C.

Heart rate control programs are designed to automatically change resistance to keep your heart rate at a predetermined level based on the selected Heart Rate program. Each Heart Rate program is designed with a specific goal in mind (Figure #8). To Start the program,

- 1. In the Setup Mode, Press Up or Down Buttons to choose H.R.C.
- 2. Press Up or Down Buttons to choose **55%**, **75%**, **90% or Tag** and then press Enter Button. If the user choose **Tag**, the user needs to set his/her our target heart rate by pressing Up or Down Buttons to adjust the value.
- 3. Press Up or Down Buttons to adjust the **Time** and then press Enter Button.
- 4. Press Up or Down Buttons to adjust the **Distance** and then press Enter Button.
- 5. Press Up or Down Buttons to adjust the **Calories** and then press Start Button.

RANDOM

This program generates a random exercise profile for the user (Figure #9). To Start the program

- 1. In the Setup Mode, Press Up or Down Buttons to choose **RANDOM**
- 2. Press Up or Down Buttons to adjust **Time** and then press Enter Button.
- 3. Press Up or Down Buttons to adjust the **Distance** and then press Enter Button.
- 4. Press Up or Down Buttons to adjust the **Calories** and then press Start Button.

PRESET PROGRAMS



Figure #3

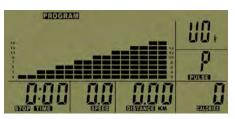


Figure #4



Figure #5



Figure #6



Figure #7

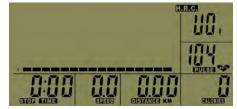


Figure #8



Figure #9

12 EXERCISE PROFILE PROGRAMS

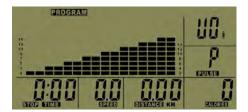


Figure #10



Figure #11



Figure #12

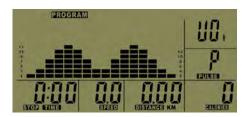


Figure #13

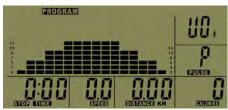


Figure #14



Figure #15

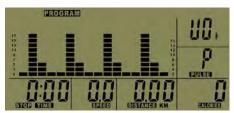


Figure #16

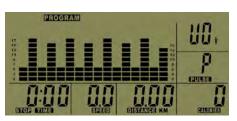


Figure #17

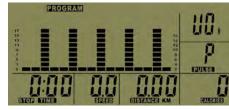


Figure #18



Figure #19



Figure #20



Figure #21

Monitoring Your Heart Rate

To obtain the greatest cardiovascular benefits from your exercise workout, it is important to work within your target heart rate zone. The American Heart Association (AHA) defines this target as 60% -75% percent of the Maximum Heart Rate. The Maximum Heart Rate may be roughly calculated by subtracting the user's age from 220.

The Maximum Heart Rate and aerobic capacity naturally decreases as the user ages. This may vary from one person to another, but use this number to find your approximate effective target zone. For example, the Maximum Heart Rate for an average 40 year-old is 180 bpm. The target heart rate zone is 60%-75% of 180 or 108-135 bpm. See the **FITNESS SAFETY** section on page 28.

Before beginning a workout, check the normal resting heart rate. The user can place their fingers lightly against the neck or wrist over the main artery. After finding the pulse, count the number of beats in 10 seconds. Multiply the number of beats by six to determine your pulse rate per minute. It is recommend to take a heart rate measurement at rest, after warming up, during the workout and two minutes into cooling down after the workout, to accurately track progress as it relates to better fitness.

During your first several months of exercising, the AHA recommends aiming for the lower part of the target heart rate zone - 60%, then gradually progressing up to 75%. According to the AHA, exercising above 75% of the Maximum Heart Rate may be too strenuous unless the user is in top physical condition. Exercising below 60% of the maximum will result in minimal cardiovascular conditioning.

CHECK YOUR PULSE RECOVERY RATE

If your pulse is over 100 bpm five minutes after stopping exercising, or if it's higher than normal the morning after exercising, the user's exertion may have been too strenuous for their current fitness level. Rest and reduce the intensity next time.

Monitoring Your Heart Rate

FITNESS SAFETY

The Heart Rate chart indicates average rate zones for different ages. A variety of different factors (including medication, emotional state, temperature and other conditions) can affect the target heart rate zone that is best for you. Your physician or health care professional can help you determine the exercise intensity that is appropriate for your age and condition.

(MHR) = Maximum Heart Rate

(THR) = Target Heart Rate

220 - Age = *Maximum Heart Rate (MHZ)*

MHZ x .60 = 60% of your Maximum Heart Rate.

MHZ x .75 = 75% of your Maximum Heart Rate.

For example, if you are 30 years old, your calculations will be as follows:

220 - 30 = 190

 $190 \times .60 = 114$ (Low End or 60% of MHZ)

 $190 \times .75 = 142$ (High End or 75% of MHZ)

30 Year-Old (THR) Target Heart Rate would be 114-142

MaximumHeartRate(MHR)Calculation



Heart Rate Training Zone Chart

Chest Strap Operation

Your Endurance® Recumbent bike has the capability to determine Heart Rate with the use of a Heart Rate Chest Strap. A Heart Rate Chest Strap can be purchased seperately. In all Heart Rate Control programs, the console only accepts the heart rate signal from the chest strap transmitter while the pulse grip heart rate function is disabled. The requirement to wear the chest strap is due to the superior accuracy of a chest strap transmitter compared to the pulse grip sensors.

It is suggested for the Chest Strap Transmitter that you position the transmitter as close to your heart as possible, against the skin, 1-2 inches below the pectoral muscles. For best results, moisten the back of the transmitter for better contact.

If no Heart Rate signal is detected for 10 seconds, the screen will show "0" Heart Rate



HR Chest Strap for Endurance® models

SAFETY PRECAUTIONS AND TIPS FOR CHEST STRAP

- 1. It is the owner's responsibility to ensure that all users of this unit have read the Owner's Manual and are familiar with warnings and safety precautions.
- 2. Do not place chest strap near devices that generate large magnetic fields. TV sets, electric motors, radios, and high voltage power lines can affect the transmitter's performance. These items can interfere with the heart rate signal and possibly affect the heart rate readings on the console.
- 3. Handle the Chest Strap with care. Dropping the transmitter might cause damage that could void the warranty.
- 4. Do not use the chest strap if you have a cardiac pacemaker or if your are taking medications for a heart condition. Medication or electrical pulses from the pacemaker can interfere with accurate heart rate readings.
- 5. Do not bend the strips inside the chest strap. This can cause the chest strap to loose conductivity.
- 6. The chest strap has batteries that need to be replaced periodically. A faulty battery can cause inaccurate reading.

General Maintenace

Your Endurance® B4R Exercise Bike has been manufactured to withstand many hours of use with minimal maintenance. Here are some maintenance tips to keep your Endurance® B4R Exercise Bike running at its best.

CLEANING

Periodically wipe down your machine with mild, soapy water or a diluted general purpose non-abrasive household cleaner. Cleaner should never be applied directly to any part of the equipment. Instead, place the non-abrasive cleaning solution on a soft cloth and wipe down the unit. The Exercise Bike should be wiped down to remove sweat after each use.

SQUEAKING NOISE

If squeaking noise occurs, it is most likely one of these three reasons:

1. The hardware is not sufficiently tightened durring assembly. Please check and tighthen all bolts.

2. Dirt buid-up on the rails and wheels. Clean the rails and wheels with a lint free cloth and rubbing alcohol. After Cleaning, apply a small amount of lubricant on Rail with your fingers or a lint free cloth.

3. The unit is not properly Leveled. There are two leveling pads on the rear legs to adjust the level of the bike.

Trouble Shooting Guide

Symptom	Possible Cause	Solution
	Console cable is not connected?	Verify that the console cable is connected properly.
Console has no power.	The console is faulty?	Call the Endurance® service number.
	Computer isn't receiving a	Check that the sensor magnet is correctly fitted and passes in front of the sensor.
Strides/Min or Speed shows 0	signal from the sensor?	Check that all the computer plugs and sockets are correctly and firmly connected.
	The sensor is faulty?	If all above checks are O.K., then replace sensor.
	The computer is faulty?	Call the Endurance® service number.
		Check to make sure that the batteries in the chest strap are installed correctly.
	Computer is receiving a faint or intermittent pulse signal.	Replace the chest strap batteries.
		Check to see if the receiver is properly installed.
No HR signal or incorrect HR signal		Check to see if the chest strap is being properly worn by the user - if skin is extremely dry, then moisten contact points on chest with water and try again.
		If the problem still exists then call the Endurance® service number.
	Loose hardware or dirt build up.	Check and tighten hardware
Noise from Bike	Dirt build up.	Clean up the dirt
	The Problem still exists.	Call the Endurance® service number.

Any Questions?
Call the Customer Tech Hotline at:
1 (800) 556-3113

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Stretching & Flexibility

Flexibility is an important component of physical fitness and needs to be addressed in a resistance training program. The two main purposes for stretching are injury prevention and a faster rate of recovery from exercise. Stretching should be performed in both the warm up and cool down phases of a training session. A good general guideline is that each workout session should be preceded by 5 to 15 minutes of general warm up, followed by 8 to 12 minutes of stretching, and concluded with 4 to 5 minutes of post-exercise stretching.

A regular stretching program will loosen muscle tissue, allowing an increased range of motion. This helps prevent micro-tears at the muscle-tendon junction. Almost 90% of all injuries from muscle strain occur at the muscle-tendon junction. Repeated injury at this junction can lead to a build-up of scar tissue, which impedes range of motion and adds stress to the joints.

Begin by stretching the major muscle groups first. Move in and out of your stretches with smooth, slow, controlled motion. Hold the stretch for at least 10 seconds when you feel you have reached your muscle's maximum distance. Do not use fast, hurried or reckless motions when stretching. Fast and bouncy motions will increase the risk of injury.

The most common and most popular type of stretching is the static stretching technique. This form of stretching involves voluntary, complete relaxation of the muscles while they are elongated. A static stretch is a constant, steady stretch in which the end position is held for 10 to 30 seconds. This technique is popular because it is easy to learn, effective, and accompanied by minimal soreness with the least risk of injury.

Ballistic stretching involves a bouncing or bobbing movement during the stretch. The final position in the movement is not held. Ballistic stretching is unpopular because of the increased amount of delayed muscle soreness and the possibility of injury during the stretching exercise. Ballistic stretching is not recommended.

A dynamic stretch involves flexibility during sport specific movements. Dynamic stretching is similar to ballistic stretching in that it utilizes movement, but dynamic stretching includes movements that may be specific to a sport or movement pattern. Dynamic stretching is most common among track and field athletes, but is also used in other sports, such as basketball and volleyball. An example of dynamic stretching would be a track sprinter performing high knees with an emphasis on knee height and arm action, not on horizontal speed.

The following pages show illustrations with descriptions of static stretching for warm up and post-exercise cool down. Remember... stretch your large muscle groups first and do all stretches in a smooth, slow, controlled manner.



UPPER BACK

Cross Arm in Front of Chest

MUSCLE(S) AFFECTED: latissimus dorsi and teres major

- 1. Stand or sit with the right arm slightly flexed (15° to 30°) and adducted across the chest.
- 2. Grasp the upper arm just above the elbow, placing the left hand on the posterior side of the upper arm
- 3. Pull the right arm across the chest (toward the left) with the left hand; hold for 10 seconds.
- 4. Repeat with the left arm.



Stretching the upper back



Stretching the shoulders, chest and upper back

UPPER BACK

Arms Straight Up Above Head (Pillar)

MUSCLE(S) AFFECTED: latissimus dorsi and wrist flexors

- 1. Stand with arms in front of torso, fingers interlocked with palms facing each other.
- 2. Slowly straighten the arms above the head with palms up.
- 3. Continue to reach upward with hands and arms.
- 4. While continuing to reach upward, slowly reach slightly backward; hold for 10 seconds.

LOWER BACK

Spinal Twist (Pretzel)

MUSCLE(S) AFFECTED: internal oblique, external oblique and spinal erectors

- 1. Sitting with legs straight and upper body nearly vertical, place right foot on left side of left knee.
- 2. Place back of left elbow on right side of right knee, which is now bent.
- 3. Place right palm on floor 12 to 16 inches behind hips.
- 4. Push right knee to the left with left elbow while turning shoulders and head to the right as far as possible. Try to look behind the back. Hold for 10 seconds.
- 5. Repeat with left leg.



Stretching the lower back and sides

LOWER BACK

Semi-Leg Straddle

MUSCLE(S) AFFECTED: spinal erectors

- 1. Sitting, knees flexed 30 to 50 degrees, let the legs totally relax.
- 2. Point the knees outward; the lateral side of the knees may or may not touch the floor.
- 3. Lean forward from waist and reach forward with extended arms; hold position for 10 to 15 seconds
- 4. Bending and relaxing legs decreases hamstring involvement and increases lower back stretch.



Stretching the lower back from a seated position



Rotational flexion of the neck

NFCK

Look Right and Left

MUSCLE(S) AFFECTED: sternocleidomastoid

- 1. Stand or sit with head and neck upright.
- 2. Turn head to the right using a sub-maximal concentric contraction; hold for 10 seconds.
- 3. Turn head to the left using a sub-maximal concentric contraction; hold for 10 seconds.

NECK

Flexion and Extension

MUSCLE(S) AFFECTED: sternocleidomastoid, suboccipitals and splenii

- 1. Standing or sitting with head and neck upright, flex neck anteriorly (forward) by tucking chin in toward the chest; hold for 10 seconds.
- 2. If the chin touches the chest, try to touch lower on the chest with the chin.
- 3. Extend neck posteriorly (backward) by trying to touch the head to the trapezius; hold for 10 seconds.



Neck Extension

Neck Flexion

CHEST/SHOULDER

Straight Arms Behind Back

MUSCLE(S) AFFECTED: deltoids and pectoralis major

- 1. Standing, place both arms behind back.
- 2. Interlock fingers with palms facing each other.
- 3. Straighten arms fully.
- 4. Slowly raise the straight arms; hold for 10 to 15 seconds.
- 5. Keep head upright and neck relaxed.



Stretching the sides, upper back and shoulders

SIDES

Side Bend with Straight Arms

MUSCLE(S) AFFECTED: external oblique, latissimus dorsi and serratus anterior

- 1. Stand with feet 14 to 16 inches apart.
- 2. Interlace the fingers with palms facing each other.
- 3. Reach upward with straight arms.
- 4. Keeping arms straight, lean from waist to left side. Do not bend knees.
- 5. After moving as far as possible; hold for 10 seconds.
- 6. Repeat to the left side.

SIDES

Side Bend with Bent Arms

MUSCLE(S) AFFECTED: external oblique, latissimus dorsi, serratus anterior and triceps

- 1. Stand with feet 14 to 16 inches apart.
- 2. Flex right arm and raise elbow above head.
- 3. Reach the right hand down toward the left shoulder.
- 4. Grasp the right elbow (just above the elbow) with the left hand.
- 5. Pull the elbow behind head.
- 6. Keeping arm bent, lean from waist to left side.
- 7. Do not bend knees.
- 8. After moving as far as possible; hold for 10 to 15 seconds.
- 9. Repeat with the left arm.



Stretching shoulder joints and

chest while standing

Stretching the sides, triceps and upper back



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ANTERIOR OF THIGH AND HIP FLEXOR

Side Quadricep Stretch

MUSCLE(S) AFFECTED: quadriceps and iliopsoas

- Lie on left side with both legs straight.
- Place left forearm flat on floor and upper arm perpendicular to floor.
- Place left forearm at 45° angle with torso.
- 4. Flex right leg with heel of right foot moving toward buttocks.
- 5. Grasp front of ankle with right hand and pull toward buttocks. WARNING: Do not pull on ankle so hard that pain or discomfort is felt in knee.
- Move knee backward and slightly upward. The stretch occurs not so much from the excessive flexion of the knee but from moving the knee back and slightly up; hold for 10 to 15 seconds.
- Repeat with the left leg.



ANTERIOR OF THIGH AND HIP FLEXOR **Kneeling Quadriceps Stretch** MUSCLE(S) AFFECTED: quadriceps

- Kneel with the balls of the feet on the ground.
- Keep hips straight (upper leg and torso should be in a straight line).
- Place palms of hands on buttocks and push slightly forward.
- With a straight body, lean slightly backward until developmental stretch is felt in quadriceps; hold for 10 to 15 seconds.



Stretching the quadriceps kneeling

POSTERIOR OF THIGH

Sitting Toe Touch

MUSCLE(S) AFFECTED: hamstrings, spinal erectors and gastrocnemius

- Sit with the upper body nearly vertical and legs straight.
- 2. Lean forward from waist and grasp toes with each hand, slightly pull toes towards the upper body, and pull chest towards leg; hold for 10 seconds. (If you are very stiff, try to grasp the ankles.)
- Release toes and relax foot.
- 4. Grasp ankles and continue to pull chest towards legs; hold for 10
- Still grasping the ankles, point away from body and continue to pull chest towards legs; hold for 10 seconds.



with emphasis on insertion of the hamstrings and calves.

Stretching the hamstrings with emphasis on the middle portion.



Stretching the hamstrings with emphasis on the upper portion.

POSTERIOR OF THIGH

Semistraddle (Figure Four)

MUSCLE(S) AFFECTED: gastrocnemius, hamstrings and spinal erectors

- 1. Sit with the upper body nearly vertical and legs straight.
- 2. Place sole of left foot on left side of right knee. The lateral side of left leg should be resting on the floor.
- 3. Lean forward from the waist and grasp toes with right hand and slightly pull toes toward the upper body as the chest is also pulled toward right leg; hold for 10 seconds.
- Release toes and relax foot.
- 5. Grasp ankle and continue to pull chest toward right leg; hold for 10 seconds.
- 6. Point toes away from body and continue to pull chest toward right leg; hold for 10 seconds.
- 7. Repeat with the left leg.















Stretching the hamstrings with emphasis on the upper portion

GROIN

Straddle (Spread Eagle)

MUSCLE(S) AFFECTED: gastrocnemius, hamstrings, spinal erectors, adductors and sartorius

- 1. Sit with the upper body nearly vertical and legs straight, and spread legs as far as possible.
- 2. With right hand, grasp toes of right foot and pull on toes slightly, while pulling chest toward right leg; hold for 10 seconds.
- 3. Release toes and relax foot.
- 4. Grasp ankle and continue to pull chest toward right leg; hold for 10 seconds.
- 5. Point toes away from body and continue to pull chest toward right leg; hold for 10 seconds.
- 6. Repeat process with the left leg.
- 7. Repeat process by grasping right toes with right hand and left toes with left hand. Move the torso forward and toward the ground.



GROIN

Butterfly

MUSCLE(S) AFFECTED: adductors and sartorius

- 1. Sitting with the upper body nearly vertical and legs straight, flex both knees as the soles of the feet come together.
- Pull feet toward body.
- 3. Place hands on feet and elbows on legs.
- 4. Pull torso slightly forward as elbows push legs down; hold for 10 to 15 seconds.



Stretching the groin



Stretching calves without a step

POSTERIOR OF LOWER LEG

Bent-Over Toe Raise

MUSCLE(S) AFFECTED: gastrocnemius and soleus

- 1. Stand with heel of right foot 6 to 8 inches in front of left foot.
- 2. Flex right foot toward shin (dorsi-flexion) with heel in contact with floor.
- 3. Lean forward and try to touch right leg with chest while both legs are straight.
- 4. Continue to lean downward with upper body as the foot is dorsi-flexed near maximal toward the shin; hold for 10 to 15 seconds.
- 5. Repeat with the left leg.

POSTERIOR OF LOWER LEG

Step Stretch

MUSCLE(S) AFFECTED: gastrocnemius and soleus; also, achilles tendon

- 1. Have ready a step or board 3 to 4 inches high.
- 2. Place balls of both feet on the step or board, 1 inch from its edge.
- 3. With straight legs, lower heels as far as possible; hold for 10 to 15 seconds.
- 4. To stretch achilles tendon, raise heels slightly. Slightly flex the knees and then lower the heels. This stretch will be felt in the achilles tendon; hold for 10 to 15 seconds.
- 5. For a more intense and individualized stretch, perform this stretch with one leg at a time.



Stretching the calves standing on a step



Preparing to stretch the achilles tendon by slightly bending the knee



Stretching the achilles tendon by lowering the heel

HIPS

Forward Lunge (Fencer)

MUSCLE(S) AFFECTED: iliopsoas, rectus femoris

- 1. Standing, take a long step forward (as with the lunge) with the right leg and flex the right knee until it is directly over the right foot.
- 2. Keep right foot flat on floor.
- 3. Keep back leg straight.
- 4. Keep back foot pointed in same direction as front foot; it is not necessary to have heel on floor.
- 5. Keep torso upright and rest hands on hips or front leg.
- 6. Slowly lower hips forward and downward; hold for 10 to 15 seconds.
- 7. Repeat with the left leg.



Stretching the hip flexors



Stretching the gluteals and hamstrings

HIPS

Supine Knee Flex

MUSCLE(S) AFFECTED: hip extensors (gluteus maximus and hamstrings)

- 1. Lie on back with legs straight.
- 2. Flex right leg and lift knee toward chest.
- 3. Place both hands below knee and continue to pull knee toward chest; hold for 10 to 15 seconds.
- 4. Repeat with left leg.

SHOULDER

Seated Lean-Back

MUSCLE(S) AFFECTED: deltoids and pectoralis major

- 1. Sitting with legs straight and arms extended, place palms on floor about 12 inches behind hips.
- 2. Point fingers away (backward) from body.
- 3. Slide hands backward and lean backward; hold for 10 seconds.



Stretching shoulder joints—sitting

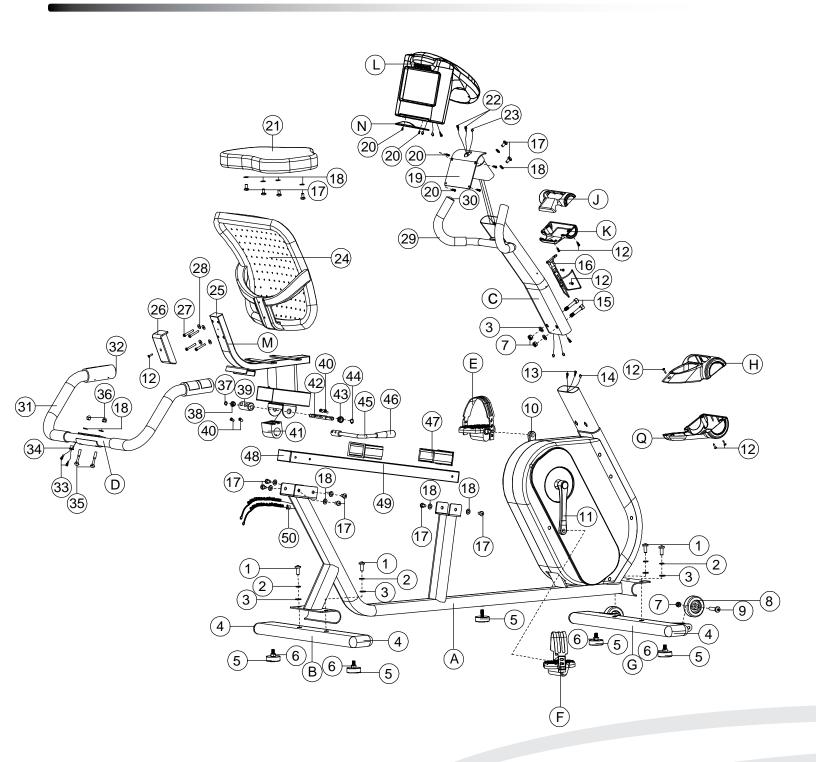
Part#	Description	QTY
A	MAIN FRAME	1
В	REAR STABILIZER	1
С	UPRIGHT FRAME	1
D	HANDLE BAR	1
E	LEFT PEDAL	1
F	RIGHT PEDAL	1
G	FRONT STABILIZER	1
Н	HOLDER TOP HALF	1
Q	HOLDER BOTTOM HALF	1
J	UPRIGHT COVER TOP HALF	1
K	UPRIGHT COVER BOTTOM HALF	1
L	CONSOLE	1
M	SEAT FRAME	1
N	L SHAPE HOLDER	1
1	M10x20mm BUTTON HEAD CAP SCREW	4
2	M10 LOCK WASHER	4
3	M10 FLAT WASHER	8
4	FOOT CAP	4
5	LEVELER	5
6	M10 HEX NUT	4
7	M10 NYLON LOCK NUT	5
8	TRANSPORT WHEEL	2
9	M10x45mm BUTTON HEAD CAP SCREW	2
10	LEFT CRANK	1
11	RIGHT CRANK	1
12	ST4.2x18mm PAN HEAD PHILLIPS SCREW	19

Part#	Description	QTY
13	HEART RATE CABLE	2
14	WIRE HARNESS	1
15	M10x52mm SOCKET HEAD CAP SCREW	2
16	WATER BOTTLE HOLDER	1
17	M8x16mm BUTTON HEAD CAP SCREW	15
18	M8 FLAT WASHER	14
19	CONSOLE MOUNTING PLATE	1
20	M5x10mm PAN HEAD PHILLIPS SCREW	6
21	SEAT PAD	1
22	HEART RATE CABLE	2
23	WIRE HARNESS	1
24	BACK REST	1
25	50x25mm END CAP	2
26	PLASTIC COVER	1
27	M6x40mm BUTTON HEAD CAP SCREW	4
28	M6 FLAT WASHER	4
29	ø24IDxT3x250mm GRIP	2
30	Ø25mm END CAP	2
31	ø31IDxT3x500mm GRIP	2
32	ø38OD mm END CAP	2
33	HEART RATE CABLE	2
34	RUBBER PLUG	1
35	M8x52mm CARRIAGE BOLT	2
36	M8 ACORN NUT	2
37	D10 RETAINING RING	1
38	ø14xø10x10mm BUSHING	1

Part#	Description	QTY
39	ø28x60mm SHAFT	1
40	M6x10mm SOCKET HEAD CAP SCREW	4
41	STOPPER	1
42	ø12x142mm SHAFT	1
43	ø18xø12X10mm BUSHING	1
44	D12 RETAINING RING	1
45	LEVER HANDLE	1
46	LEVER GRIP	1
47	100x50mm BUSHING	2
48	80x40mm END CAP	2
49	CHROME RAIL	1
50	RUBBER PLUG	1
51	SERVO	1
52	POWER CORD	1
53	POWER ADAPTOR	1
54	ADJUSTMENT SCREW	1
55	M6 HEXT NUT	1
56	ø25mm PLUG	2
57	M10x1.25 FLANGE NUT	2
58	LEFT SHROUD	1
59	RIGHT SHROUD	1
60	D17 RETAINING RING	2
61	BEARING	2
62	PLUG	2
63	BELT WHEEL	1
64	M8 NYLON LOCK NUT	4

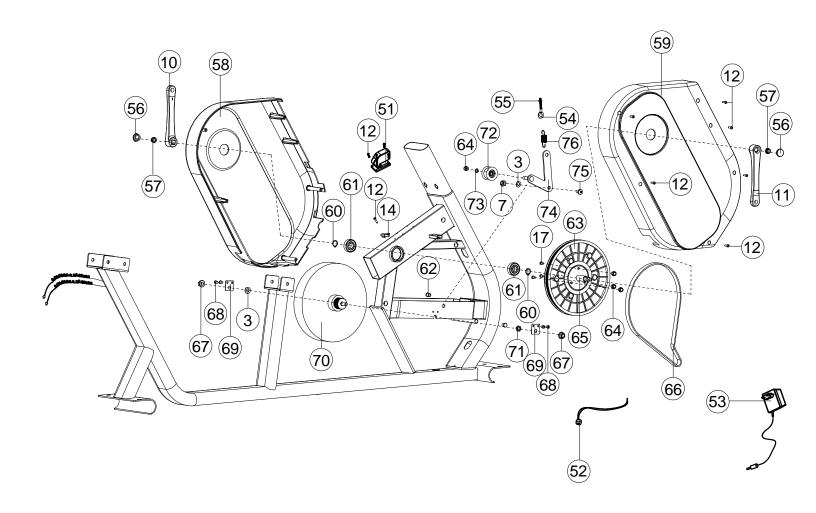
Part#	Description	QTY
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66	BELT	1
67	M10x1.0 FLANG NUT	2
68	M5x10mm PAN HEAD PHILLIPS SCREW	4
69	MOUNTING PLATE	1
70	FLYWHEEL	1
71	M10x5mm HEX NUT	1
72	TENSION ROLLER	1
73	M8 LOCK WASHER	1
74	L BRACKET	1
75	M10x20mm BUTTON HEAD CAP SCREW	1
76	SPRING	1

Exploded Drawing

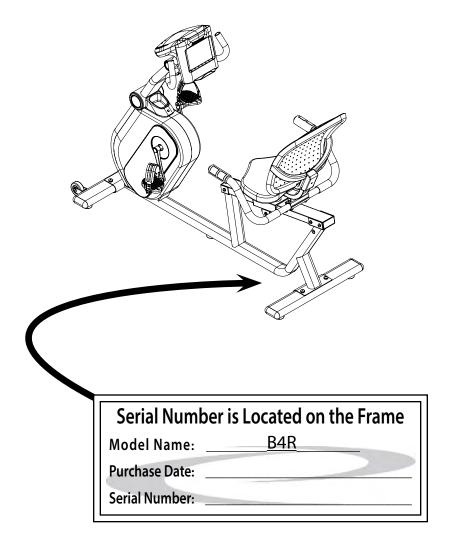


END

Exploded Drawing



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Customer Tech Support Hotline

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