

## OWNER'S MANUAL

MODEL NO.  
16807048000

- Assembly
- Operation
- Maintenance
- Parts
- Warranty

### CAUTION:

You must read and understand this owner's manual before operating unit.

# SPIRIT



**Retain For Future  
Reference**

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# ***SPIRIT***

## **CONGRATULATIONS ON YOUR NEW STEPPER**

Thank you for your purchase of this quality Stepper from Dyaco Canada Inc. Your new Stepper was manufactured by one of the leading fitness manufacturers in the world and is backed by one of the most comprehensive warranties available. Through your dealer, Dyaco Canada Inc. will do all we can to make your ownership experience as pleasant as possible for many years to come. The local dealership where you purchased this Stepper is your administrator for all warranty and service needs. Their responsibility is to provide you with the technical knowledge and service personnel to make your experience more informed and any difficulties easier to remedy.

Please take a moment at this time to record the name of the dealer, their telephone number, and the date of purchase below to make any future, needed contact easy. We appreciate your support and we will always remember that you are the reason that we are in business. Please complete and mail your registration card today and enjoy your new Stepper.

Yours in Health,  
Dyaco Canada Inc.

**Name of Dealer** \_\_\_\_\_  
**Telephone Number of Dealer** \_\_\_\_\_  
**Purchase Date** \_\_\_\_\_

## ***Product Registration***

### **RECORD YOUR SERIAL NUMBER**

Please record the Serial Number of this fitness product in the space provided below.

Serial Number \_\_\_\_\_

### **REGISTER YOUR PURCHASE**

The self-addressed product registration card must be completed in full and returned to Dyaco Canada Inc.

# SAFETY PRECAUTIONS

**IMPORTANT SAFETY INFORMATION**  
**THIS UNIT IS INTENDED FOR HOUSEHOLD USE ONLY**  
**READ ALL INSTRUCTIONS BEFORE USING THIS STEPPER**

**CAUTION:** Before starting any exercise program, it is recommended that you consult your physician. Thank you for purchasing our product. Even though we go to great efforts to ensure the quality of each product we produce, occasional errors and/or omissions do occur. In any event should you find this product to have either a defective or a missing part please contact us for a replacement.

This exercise equipment was designed and built for optimum safety. However, certain precautions apply whenever you operate a piece of exercise equipment. Be sure to read the entire manual before assembly and operation of this machine. Also, please note the following safety precautions:

1. Read the OWNER'S OPERATING MANUAL and all accompanying literature and follow it carefully before using your Stepper.
2. It is the responsibility of the owner to ensure that all users of the Stepper exerciser are adequately informed of all precautions.
3. If dizziness, nausea, chest pains, or any other abnormal symptoms are experienced while using this equipment, STOP the workout at once. CONSULT A PHYSICIAN IMMEDIATELY.
4. Inspect your exercise equipment prior to exercising to ensure that all nuts and bolts are fully tightened before each use.
5. The Stepper must be regularly checked for signs of wear and damage. Any part found defective; the part must be replaced with new spare part from the manufacturer.
6. Fitness equipment must always be installed on a flat surface, do not place the unit on a loose rug or uneven surface. It is recommended to use an equipment mat to prevent the unit from moving while it is being used, which could possibly scratch or damage the surface of your floor. Keep the Stepper exerciser indoors, away from moisture and dust.
7. No changes must be made which might compromise the safety of the equipment.
8. It is recommended to have a minimum of 1' safe clearance around the exercise equipment while in use.
9. Keep children and pets away from this equipment at all times while exercising.
10. Warm up 5 to 10 minutes before each workout and cool down 5 to 10 minutes afterward. This allows your heart rate to gradually increase and decrease and will help prevent you from straining muscles.
11. Never hold your breath while exercising. Breathing should remain at a normal rate in conjunction with the level of exercise being performed
12. Always wear suitable clothing and footwear while exercising. Do not wear loose fitting clothing that could become entangled with the moving parts of your Stepper.
13. Always hold the handlebars when mounting, dismounting, or using the Stepper exerciser.
14. Keep your back straight when using the Stepper exerciser; do not arch your back.

**WARNING:** Before beginning any exercise program consult your physician. This is especially important for individuals over the age of 35 or persons with pre-existing health problems. Read all instructions before using any fitness equipment. We assume no responsibility form personal injury or property damage sustained by or through the use of this product.

**SAVE THESE INSTRUCTIONS**

# IMPORTANT SAFETY INSTRUCTIONS

**WARNING** - Read all instructions before using this equipment.

**DANGER** - To reduce the risk of electric shock, always unplug this equipment from the electrical outlet immediately after using and before cleaning.

**WARNING** - To reduce the risk of burns, fire, electric shock, or injury to persons, install the Stepper on a flat level surface with access to a 110-volt, 15 amp grounded outlet with only the Stepper plugged into the circuit.

## **DO NOT USE AN EXTENSION CORD UNLESS IT IS A 14 AWG OR BETTER.**

- Do not operate Stepper on deeply padded, plush or shag carpet. Damage to both carpet and Stepper may result.
- Keep children away from the Stepper. There are obvious pinch points and other caution areas that can cause harm.
- Keep hands away from all moving parts.
- Never operate the Stepper if it has a damaged cord or plug. If the Stepper is not working properly, call your dealer.
- Keep the cord away from heated surfaces.
- Do not operate where aerosol spray products are being used or where oxygen is being administered. Sparks from the motor may ignite a highly gaseous environment.
- Never drop or insert any object into any openings.
- Do not use outdoors.
- To disconnect, turn all controls to the off position and then remove the plug from the outlet.
- Do not attempt to use your Stepper for any purpose other than for the purpose it is intended.
- The hand pulse sensors are not medical devices. Various factors, including the user's movement, may affect the accuracy of heart rate readings. The pulse sensors are intended only as exercise aids in determining heart rate trends in general.
- Wear proper shoes. High heels, dress shoes, sandals or bare feet are not suitable for use on your climber. Quality athletic shoes are recommended to avoid leg fatigue.
- Keep children under the age of 13 away from this machine.
- This exercise equipment is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.
- Before beginning this or any exercise program, consult a physician. This is especially important for persons over the age of 35 or persons with pre-existing health conditions.
- Close supervision is necessary when this exercise equipment is used by, on, or near children, invalids, or disabled persons.

**SAVE THESE INSTRUCTIONS - THINK SAFETY!**

# IMPORTANT ELECTRICAL INSTRUCTIONS

## **WARNING!**

**NEVER** remove any cover without first disconnecting AC power.

If voltage varies by ten percent (10%) or more, the performance of your Stepper may be affected. **Such conditions are not covered under your warranty.** If you suspect the voltage is low, contact your local power company or a licensed electrician for proper testing.

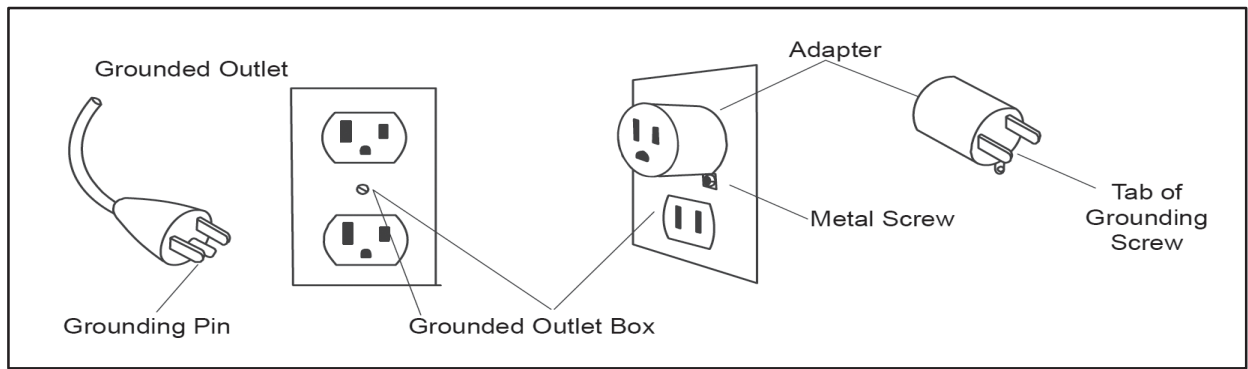
**NEVER** expose this Stepper to rain or moisture. This product is **NOT** designed for use outdoors, near a pool or spa, or in any other high humidity environment. The operating temperature specification is 5 to 48 degrees Celsius (40 to 120 degrees Fahrenheit), and humidity is 95% non-condensing (no water drops forming on surfaces).

**Circuit Breakers:** Some circuit breakers used in homes are not rated for high inrush currents that can occur when a Stepper is first turned on or even during use. If your Stepper is tripping the house circuit breaker (even though it is the proper current rating) but the circuit breaker on the Stepper itself does not trip, you will need to replace the home breaker with a high inrush type. This is not a warranty defect. This is a condition we as a manufacture have no ability to control. This part is available through most electrical supply stores. Examples: Grainger part # 1D237, or available online at [www.squared.com](http://www.squared.com) part #QO120HM. The electrical outlet used should have a dedicated 15 amp circuit breaker.

## GROUNDING INSTRUCTIONS

**This product must be grounded.** If your equipment should malfunction or breakdown, grounding provides a path of least resistance for electric current, reducing the risk of electric shock. This product is equipped with a cord having an equipment-grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**DANGER** - Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product if it will not fit the outlet; have a proper outlet installed by a qualified electrician. This product is for use on a nominal 110-volt/15 amp dedicated circuit and has a grounding plug that looks like the plug illustrated below. A temporary adapter that looks like the adapter illustrated below may be used to connect this plug to a 2-pole receptacle as shown below if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet, (shown below) can be installed by a qualified electrician. The green colored rigid ear-lug, or the like, extending from the adapter, must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by a metal screw.



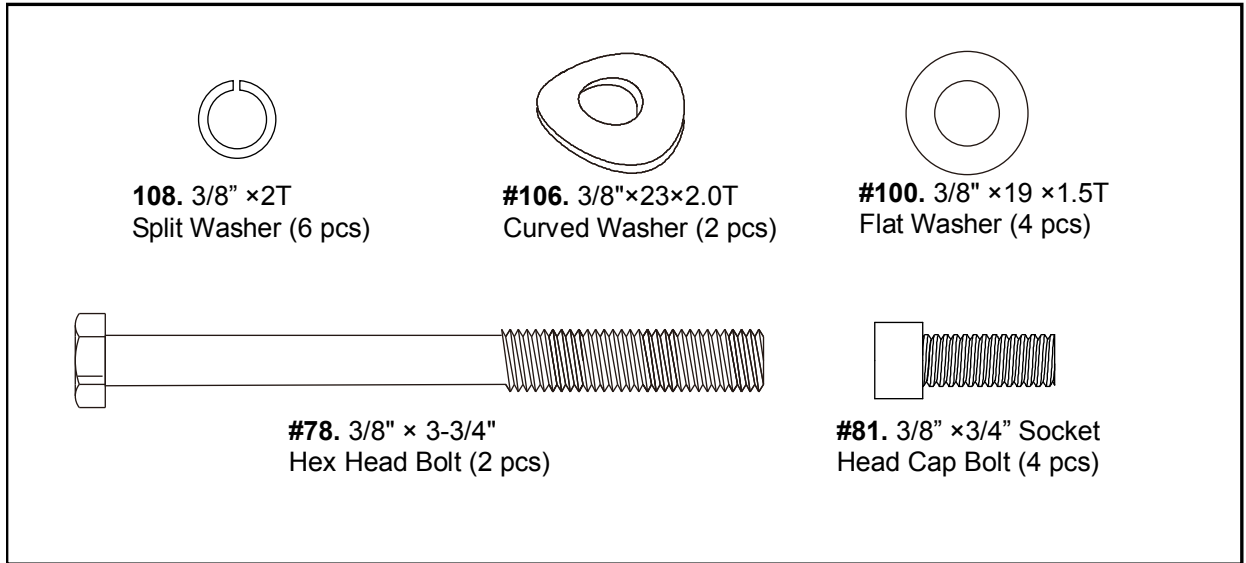
## IMPORTANT OPERATION INSTRUCTIONS

- **NEVER** operate this Stepper without reading and completely understanding the results of any operational change you request from the computer.
- Understand that changes in resistance and incline do not occur immediately. Set your desired resistance level on the computer console and release the adjustment key. The computer will obey the command gradually.
- **NEVER** use your Stepper during an electrical storm. Surges may occur in your household power supply that could damage climber components. Unplug the Stepper during an electrical storm as a precaution.
- Use caution while participating in other activities while using your Stepper, such as watching television, reading, etc. These distractions may cause you to lose balance, which may result in serious injury.
- Do not use excessive pressure on console control keys. They are precision set to function properly with little finger pressure.

# ASSEMBLY PACK CHECKLIST

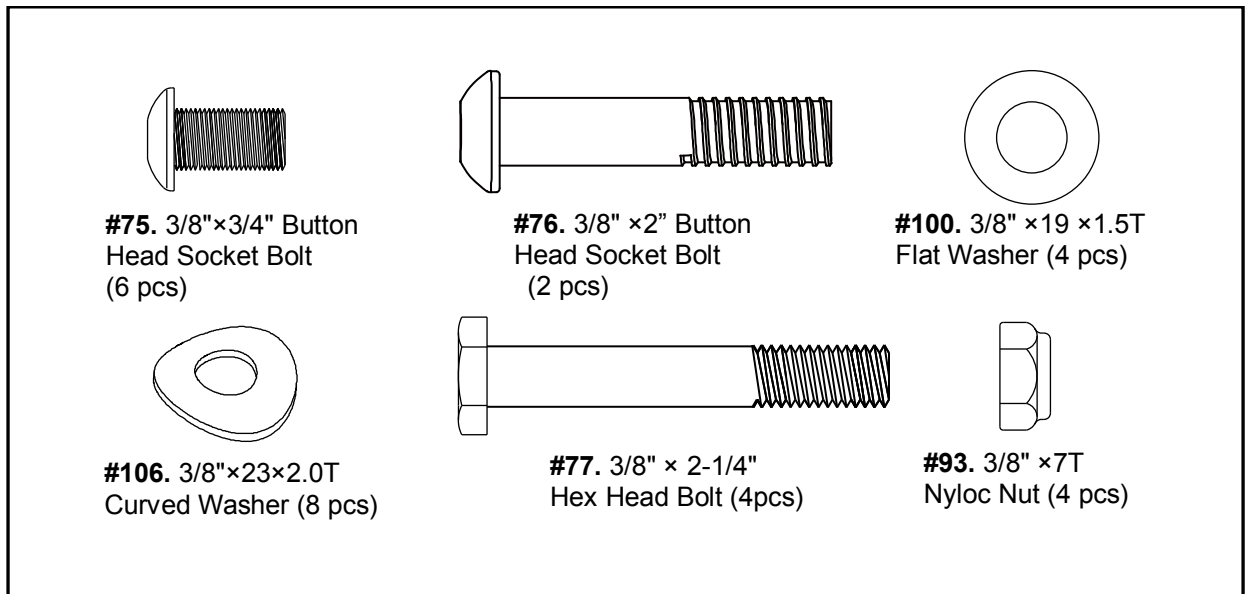
## 1

### HARDWARE STEP 1



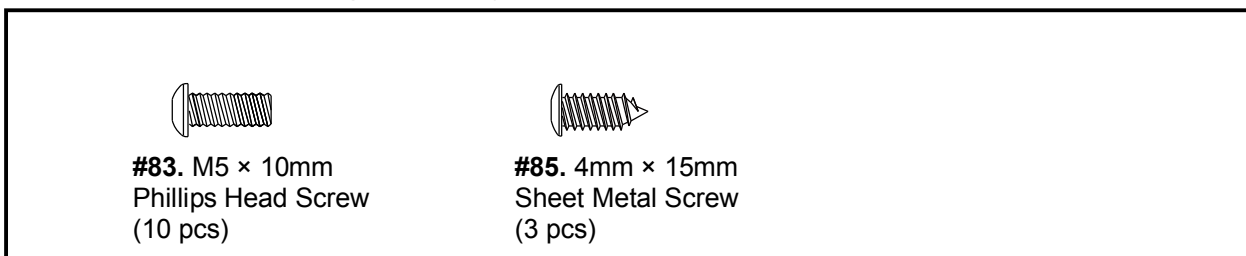
## 2

### HARDWARE STEP 2



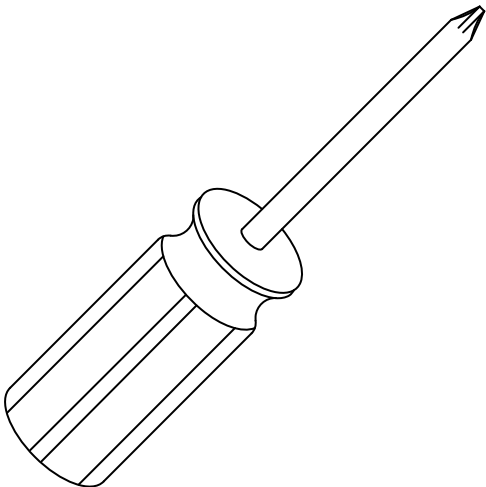
## 3

### HARDWARE STEP 3

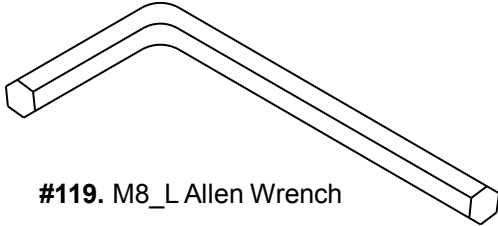




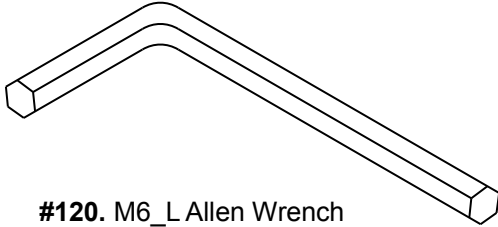
# ASSEMBLY TOOLS



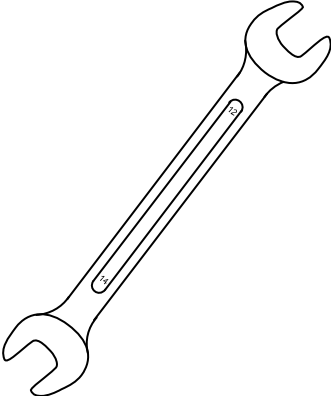
#118. Phillips Head Screwdriver



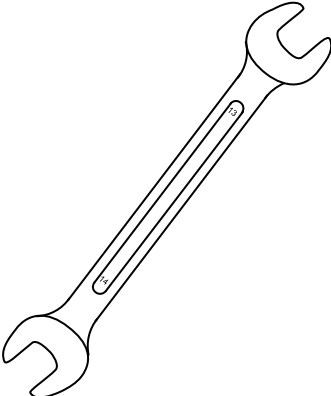
#119. M8\_L Allen Wrench



#120. M6\_L Allen Wrench



#117. 12/14mm Wrench



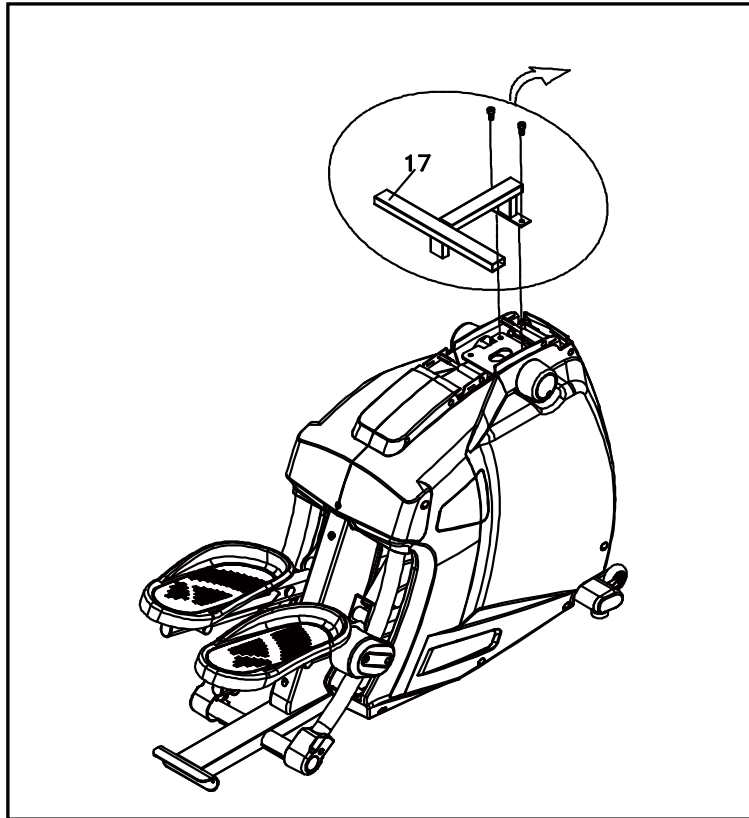
#116. 13/14mm Wrench

# ASSEMBLY INSTRUCTIONS

## Unpacking

1. Cut the straps, then lift the box over the unit and unpack.
2. Locate the hardware package. The hardware is separated into steps. Remove the tools first. Remove the hardware for each step as needed to avoid confusion. The numbers in the instructions that are in parenthesis (#) are the item number from the assembly drawing for reference.

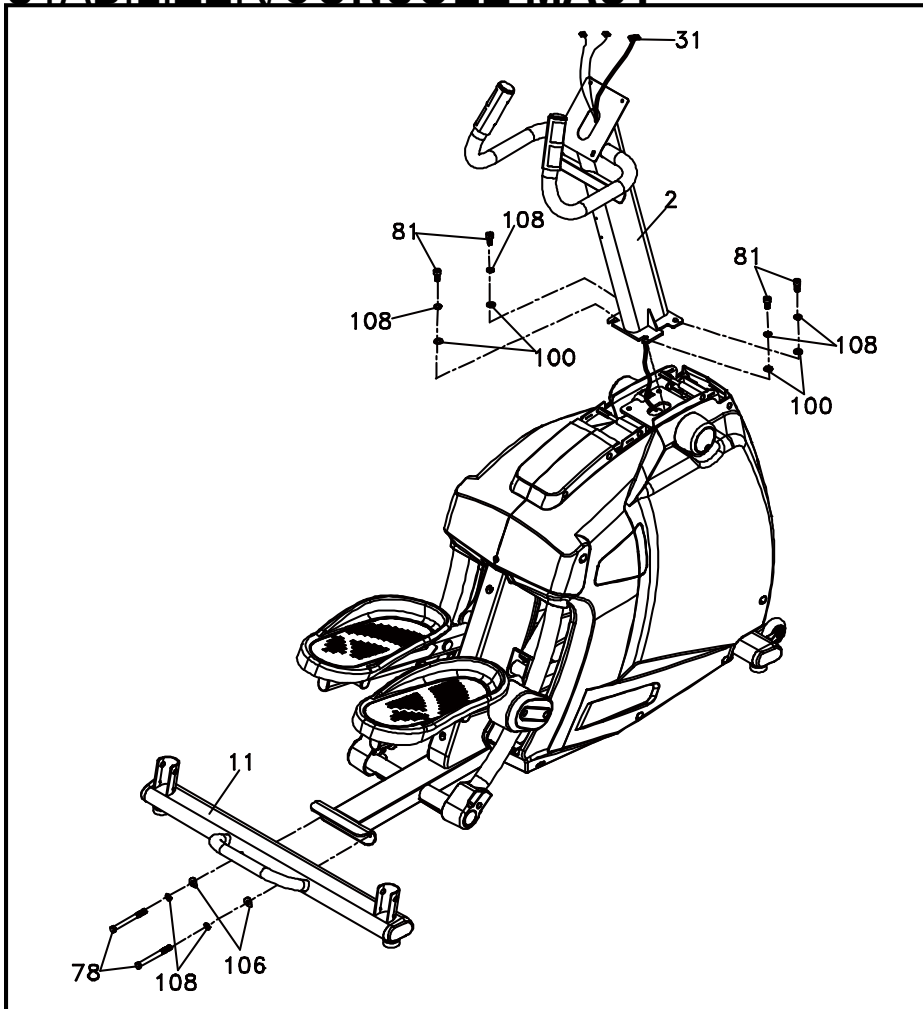
## REMOVE SHIPPING STABILIZER



Use the **Allen Wrench (119)** to remove the two Bolts and discard the shipping stabilizer.

# 1

## STABILIZER/CONSOLE MAST



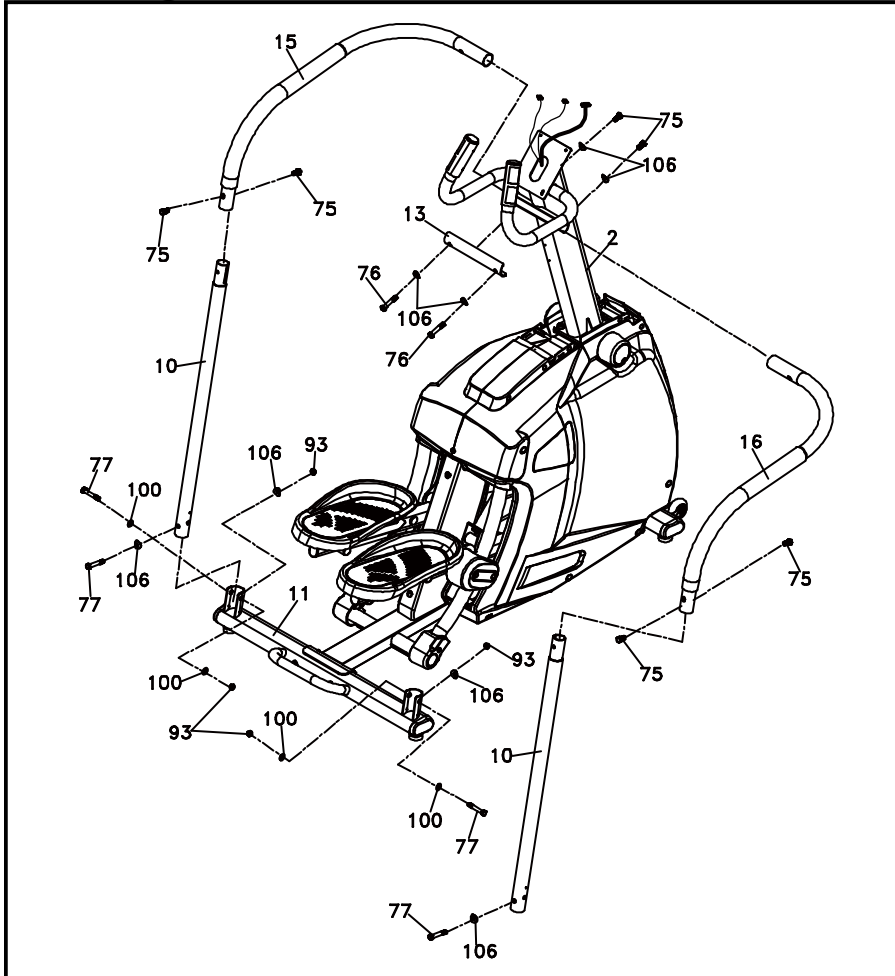
### HARDWARE STEP 1

- #108. 3/8" Split Washer (6 pcs)
- #106. 3/8" Curved Washer (2 pcs)
- #100. 3/8" Flat Washer (4 pcs)
- #78. 3/8" × 3-3/4" Hex Head Bolt (2 pcs)
- #81. 3/8"X3/4" Socket Head Cap Bolt (4 pcs)

1. Attach Rear Stabilizer with handle (11) to mounting plate on the main frame and secure with two 3/8" × 3-3/4" Hex Head Bolts (78), two Ø10 × 2T Split Washers (108) and 3/8" × 23 × 2.0T Curved Washers (106) by using 13/14m/ wrench (116).
2. Pull the tie-on Console Mast (2) to have Computer Cable (31) go through the mast from bottom and out of the mast on top. Secure the Console Mast on the mounting plate on the Main Frame with four 3/8" × 3/4" Socket Head Cap Bolts (81), four Ø10 × 2T Split Washers (108) and four Ø3/8" × Ø19 × 1.5T Flat Washers (100) by using L Allen Wrench (119).

# 2

## HANDGRIP

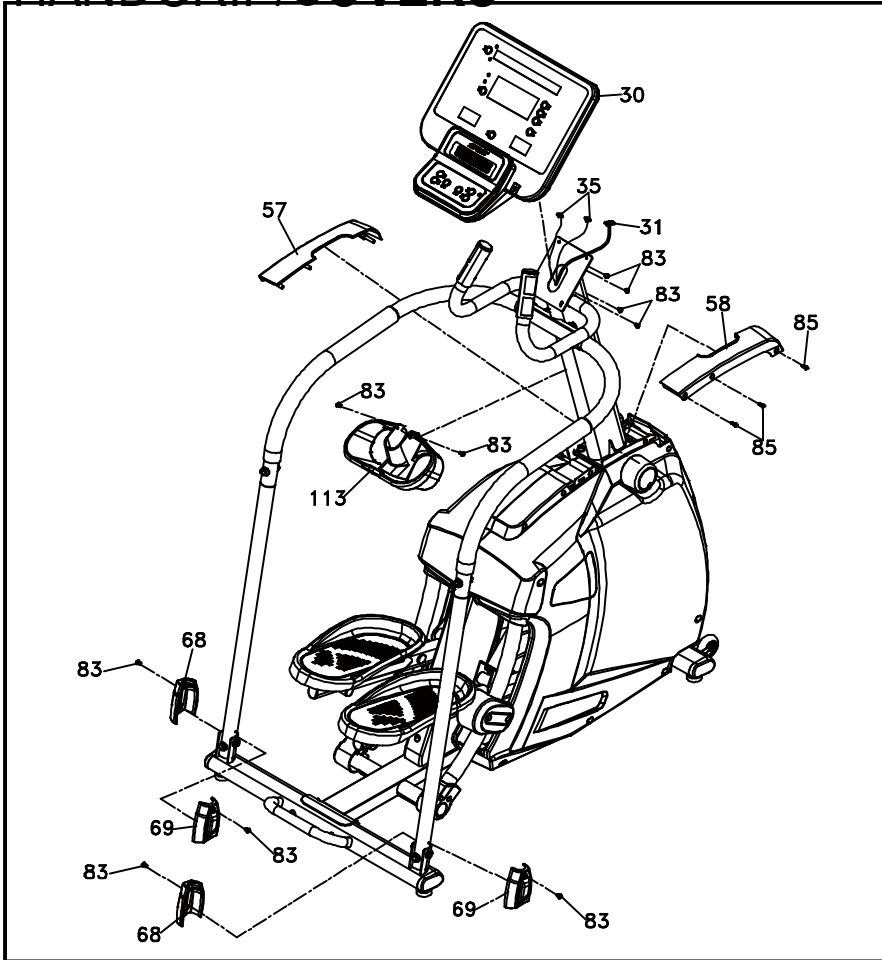


### HARDWARE STEP 2

- #75. 3/8"×3/4" Button Head Socket Bolt (6 pcs)
- #76. 3/8" ×2" Button Head Socket Bolt (2 pcs)
- #100. 3/8" ×19 ×1.5T Flat Washer (4 pcs)
- #106. 3/8"×23×2.0T Curved Washer (8 pcs)
- #77. 3/8" × 2-1/4" Hex Head Bolt (4pcs)
- #93. 3/8" ×7T Nyloc Nut (4 pcs)

1. Put Upper Left Handgrip (15) with orientation of 90 degree bending at front onto Connecting Plate B on Console Mast (2) and temporarily hold it with a 3/8"×3/4" Button Head Socket Bolt (75) together with a 3/8"×23×2T Curved Washer (106) on the Connecting plate B (not to tighten yet). Then insert one of Handgrip Connecting Tube (10) to connect with Upper Left Handgrip at the 107-degree-bending end and temporarily with two 3/8" x3/4" Button Head Socket Bolts (75) with L Allen Wrench-M6 (120). Then attach the bottom end of Handgrip Connecting Tube to the U-shape mounting at left side of Rear Stabilizer with handle (11). Use two 3/8" x 2-1/4"Hex Head Bolts (77) together with two 3/8" x 19 x 1.5T Flat Washers (100), two 3/8"×23×2T Curved Washers (106) and two 3/8" × 7T\_Nyloc Nuts (93) to tighten by using 13/14m/m Wrench (116) and 12/14m/m Wrench (117). Tighten and secure all other bolts.
2. Same way for Upper Right Handgrip (16) and the other Handgrip Connecting Tube (10) with the same amount of hardware at the right side.
3. Attach Handgrip Connecting Plate A (13) to Handgrip Connecting Plate B of Upper Handgrip and Console Mast. Secure with two 3/8" × UNC16 × 2" Button Head Socket Bolts (76) and two 3/8"×23×2T Curved Washers (106) by using 13/14m/m Wrench (116).

# 3 HANDGRIP/COVERS



## HARDWARE STEP 3

#83. M5 × 10mm  
Phillips Head Screw  
(10 pcs)  
#85. 4MM × 15MM  
Sheet Metal Screw  
(3 pcs)

1. Match Left Console Mast Cover (57) with Right Console Mast Cover (58) on top of left and right Chain Covers and around the Console Mast and secure with three Ø4 × 15L\_Sheet Metal Screws (85) by using Phillips Head Screwdriver (118).
2. Match Left and Right Handgrip Caps (68, 69) together on U-shape mounting at left side of Rear Stabilizer with handle and use Phillips Head Screwdriver (118) to tighten two Phillips Head Screws (83) and secure. Match Left and Right Handgrip Caps (68, 69) together on U-shape mounting at right side of Rear Stabilizer with handle and secure with the same way and same amount of hardware.
3. Take off the tie from Computer Cable (31) and plug in onto the Console Assembly (30) together with two Handpulse Assembly (35) cables. Place the Console on the mounting plat of the Console Mast and secure with four M5 × 10m/m\_Phillips Head Screws (83) by using Phillips Head Screwdriver (118)
4. Secure Drink Bottle Holder (113) on the Console Mast with two M5 × 10m/m Phillips Head Screws (83) by using Phillips Head Screwdriver.

# OPERATION OF YOUR FITNESS STEPPER

## Operation Of Your Console



## POWER

When the AC power cord is connected to the Stepper, the console will automatically power up. When initially powered on the console will perform an internal self-test. During this time all the lights will turn on. When the lights go off, the Dot Matrix Message Center will show the software version (i.e.: VER 1.0). The LED Data Display Window shows the total hours of use and total steps. The odometer will remain displayed for only a few seconds then the console will go to the startup display. The Dot Matrix Message Center display will be scrolling through the different profiles of the programs and will be scrolling the startup message. You may now begin to use the console.

## C-SAFE FEATURE

Your console is equipped with a C-SAFE feature. The Power (POWER) port can be used for powering a remote-controlled audio-visual system by connecting a cable from the remote to the Power port at the back of the console. **The Communication port (COMM) can be used to interact with fitness software applications.**

## Quick Start

This is the quickest way to start a workout. After the console powers up you just press the Start key to begin. This will initiate the Quick Start mode. In Quick Start the Time will count up from zero, all workout data will start to accrue, and the workload may be adjusted manually by pressing the Level Up and Down buttons. The Dot Matrix Message Center will show just the bottom row lit. As you increase the workload more rows will light indicating a harder workout. The Stepper will get harder to pedal as the rows increase. The Dot Matrix Message Center has 24 columns of lights and each column represents 1 minute. At the end of the 24th column (or 24 minutes of work) the display will wrap around and start at the first column again. There are 20 levels of resistance available for plenty of variety. The first 5 levels are very easy workloads and the changes between levels are set to a good progression for de-conditioned users. Levels 6-10 are more challenging, but the increases in resistance from one level to the next remain small. Levels 11-15 start getting tough as the levels jump more dramatically. Levels 16-20 are extremely difficult and are good for short interval peaks and elite athletic training.

## Basic Information

The Dot Matrix Message Center, or Profile Window, will display the workout Profile. The LED Data Display Window displays pertinent exercise data. There is a Strides Per Minute window for pedal speed and a Level window indicating machine resistance.

The LED Data Display Window will initially be displaying Steps, Calories, Pulse and Time Elapsed information. When the Up/Down Scan key is pressed the next set of information will appear: Vertical Distance, Watts, METs and Time Remaining. Pressing the Up/Down Scan button, the Scan mode is activated, and the LED Data Display Window will show each set of data for four seconds then switch to the next set of data in a continuous loop. Pressing the Up/Down Scan button again will bring you back to the beginning.

The Stop key button actually has several functions. Pressing the Stop key once during a program will pause the program for 5 minutes. If you need to get a drink, answer the phone, or any of the many things that could interrupt your workout, this is a great feature. To resume your workout during Pause just press the Start key. If the Stop key is pressed twice during a workout, the program will end, and the console will return to the start-up screen. If the Stop key button is held down for 3 seconds, the console will perform a complete Reset. During data entry for a program the Stop key performs a Previous Screen function. This allows you to go back one step in the programming each time you press the Stop key button.

The Program Key is used to preview each program. When you first turn the console on, you may press program key to preview what the program profile looks like. If you decide that you want to try a program, press the Enter key to select the program and enter into the data set-up mode.

## 1/4 MILE / 0.4 KM TRACK

The 1/4-mile track (0.4 km) will be displayed around the dot matrix window. The flashing dot indicates your progress. In the center of the track there is a lap counter for reference.

## **HEART RATE WINDOW**

The Pulse (Heart Rate) window will display your current heart rate in beats per minute during the workout. You must use both left and right stainless-steel sensors to pick up your pulse. Pulse values are displayed anytime the computer is receiving a Grip Pulse signal. You may use the Grip Pulse feature while in Heart Rate Control. The STEPPER will also pick up wireless heart rate transmitters that are Polar compatible, including coded transmissions.

## **TO TURN STEPPER OFF**

The display will automatically turn off (go to sleep) after 30 minutes of inactivity. This function is called sleep mode. In sleep mode, the stepper will power down most everything except for a minimum of circuitry for detecting button presses and the safety button so it will start up again if these are activated. There is only a tiny amount of current used in sleep mode (about the same as your TV when it is turned off) and it is perfectly fine to leave the main power switch on in sleep mode. Of course, you may also remove the safety button or turn off the main power switch to power down the stepper.

## **PROGRAMMABLE FEATURES**

Each of the programs can be customized with your personal information and changed to suit your needs. Some of the information asked for is necessary to ensure the readouts are correct. You will be asked for your Age and Weight. Your Age is also necessary during the Heart Rate control program to ensure the correct settings are in the program for your Age. Otherwise the work settings could be too high or low for you; entering your Weight aides in calculating a more correct Calorie reading. Although we cannot provide an exact calorie count, we do want to be as close as possible.

*CALORIE NOTE: Calorie readings on every piece of exercise equipment, whether it is in a gym or at home, are not accurate and tend to vary widely. They are meant only as a guide to monitor your progress from workout to workout. The only way to measure your calorie burn accurately is in a clinical setting connected to a host of machines. This is because every person is different and burns calories at a different rate. Some good news is that you will continue to burn calories at an accelerated rate for at least an hour after you have finished exercising!*

## **ENTERING A PROGRAM & CHANGING SETTINGS**

When you enter a program (by pressing the Program button to choose a program, then the Enter key to select it) you have the option of entering your own personal settings. If you want to work out without entering new settings, then just press the Start button. This will bypass the programming of data and take you directly to the start of your workout. If you want to change the personal settings, then just follow the instructions in the Dot Matrix Message Center. If you start a program without changing the settings the default – or pre-saved – settings will be used.



## MANUAL

The Manual program works as the name implies, manually. This means that you control the workload yourself and not the computer. To start the Manual program, follow the instructions below.

1. Using the Program button select Manual then press the Enter button.
2. The Dot Matrix Message Center will ask you to enter your Age. You may enter your Age, using the Up and Down buttons or the numeric button pad, then press the Enter button to accept the new number and proceed on to the next screen.
3. You are now asked to enter your Weight. You may adjust the Weight number using the Up and Down buttons, or the numeric button pad, then press Enter to continue.
4. The next setting is Time. You may adjust the Time and press Enter to continue.
5. Now you are finished editing the settings and can begin your workout by pressing the Start button. You can also go back and modify your settings by pressing the Enter button.

*NOTE: At any time during the editing of data you can press the Stop button to go back one level, or screen.*

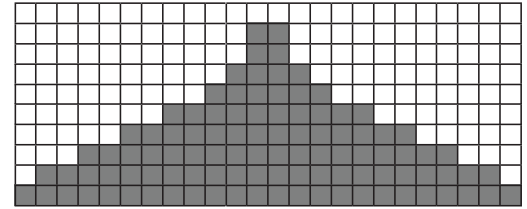
6. The program automatically starts you at level one. This is the easiest level and it is a good idea to stay at level one for a while to warm up. If you want to increase the workload at any time press the Up button; the Down button will decrease the workload.
7. During the Manual program you will be able to scroll through the data in the LED Data Display Window by pressing the adjacent Up/Down Scan button. You may also switch between the profile display and a quarter mile track by pressing the Up/Down Scan button adjacent to the LED Data Display Window.
8. When the program ends you may press Start to begin the same program again or Stop to exit the program, or you can save the program you just completed as a custom program by pressing the Program button and selecting Custom, then following the instructions in the Dot Matrix Message Center.

# PRESET PROGRAMS

The stepper has ten different programs that have been designed for a variety of workouts. These ten programs have factory preset work level profiles for achieving different goals.

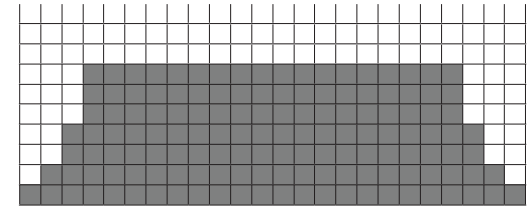
## HILL

This program follows a triangle or pyramid type of gradual progression from approximately 10% of maximum effort (the level that you chose before starting this program) up to a maximum effort which lasts for 10% of the total workout time, then a gradual regression of resistance back to approximately 10% of maximum effort.



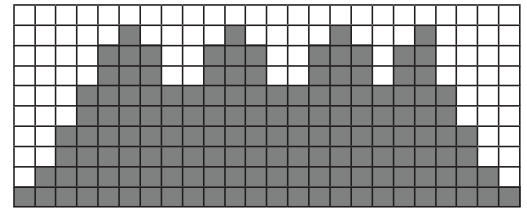
## FATBURN

This program follows a quick progression up to the maximum resistance level (default or user input level) that is sustained for 2/3 of the workout. This program will challenge your ability to sustain your energy output for an extended period of time.



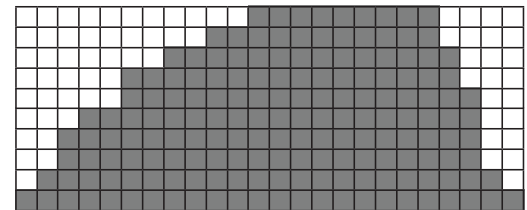
## Cardio

This program presents a quick progression up to near maximum resistance level (default or user input level). It has slight fluctuations up and down to allow your heart rate to elevate, and then recover repeatedly, before beginning a quick cool down. This will build up your heart muscle and increase blood flow and lung capacity.



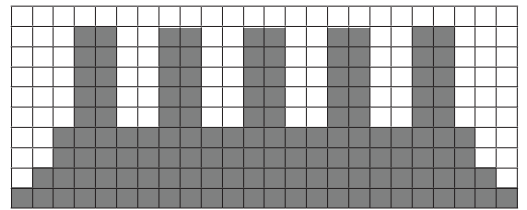
## Strength

This program has a gradual progression of resistance up to 100% of maximum effort that is sustained for 25% of workout duration. This will help build strength and muscular endurance in the lower body and glutes. A brief cool down follow.



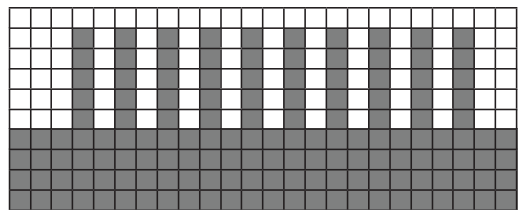
## Interval

This program takes you through high levels of intensity followed by recovery periods of low intensity. This program utilizes and develops your “Fast Twitch” muscle fibers which are used when performing tasks that are intense and short in duration. These deplete your oxygen level and spike your heart rate, followed by periods of recovery and heart rate drop to replenish oxygen. Your cardiovascular system gets programmed to use oxygen more efficiently.



## HIIT

The HIIT, or High Intensity Interval Training, program takes advantage of the latest trend in fitness. During the program you will perform short bursts of high intensity sprinting followed by short rest periods. HIIT is a fully customizable interval training program. You can enter the number of intervals, time of each interval Sprint and Rest periods and the work intensity of the levels.



## PROGRAMMING PRESET PROGRAMS

1. Using the Program button select your desired program then press the Enter button.
2. The Dot Matrix Message Center will ask you to enter your Age. You may adjust the age setting, using the Up and Down buttons, then press the Enter button to accept the new number and proceed on to the next screen.
3. You are now asked to enter your Weight. You may adjust the weight number using the Up and Down buttons, then press Enter to continue.
4. Next is Time. You may adjust the Time and press Enter to continue.
5. Now you are asked to adjust the Max Level. This is the peak exertion level you will experience during the program (at the top of the hill). Adjust the level and then press Enter.
6. Now you are finished editing the settings and can begin your workout by pressing the Start button. You can also go back and modify your settings by pressing the Stop button to go back one level, or screen.
7. If you want to increase or decrease the workload at any time during the program press the Up or Down button. This will change the workload settings of the entire profile, although the profile picture on the screen will not change. The reason for this is so that you can see the entire profile at all times. If the profile picture is changed it will look distorted and not a true representation of the actual profile. When you make a change to the workload, the Dot Matrix Message Center will show the current column, and program maximum, levels of work.
8. During the program you will be able to scroll through the data in the LED Data Display Window by pressing the Up/Down button next to the LED Data Display Window.
9. When the program ends the LED Data Display Window will show a summary of your workout. The summary will be displayed for a short time then the console will return to the start-up display.

## CUSTOM USER-DEFINED PROGRAMS

The Custom Program allows you to build and save a custom program. You can build your own custom program by following the instructions below or you can save any other preset program you complete as a custom program. The Custom Program allows you to further personalize it by adding your facility name.

1. Press the Custom button. The Dot Matrix Message Center will show a welcome message; if you had previously saved a program the message will contain the name you gave it. Then press the Enter button to begin programming.
2. When you press Enter, the Dot Matrix Message Center will show "Name – A", if there is no name saved. If the name "Custom Workout" had been previously saved the Message Window will show "Name – Custom Workout" and the C in Custom will be blinking. If there is a name saved you can change it or you may press the Stop button to keep the name and continue to the next step. If you want to enter a name use the Up and/or the Down button to change the first letter, then press Enter to save the first letter and continue to the next letter. When you have finished entering the name press the Stop button to save the name and continue to the next step.
3. The Dot Matrix Message Center will ask you to enter your Age. You may enter your Age, using the Up and Down buttons then press the Enter button to accept the new number and proceed on to the next screen.
4. You are now asked to enter your Weight. You may adjust the Weight number using the Up and Down buttons then press enter to continue.
5. Next is Time. You may adjust the Time and press Enter to continue.
6. Now you are asked to adjust the Max Level. This is the peak exertion level you will experience during the program. Adjust the level and then press Enter.
7. Now the first column will be blinking, and you are asked to adjust the level for the first segment of the workout. When you finish adjusting the first segment, or if you don't want to change, then press Enter to continue to the next segment.
8. The next segment will show the same level as the previously adjusted segment. Repeat the same process as the last segment then press Enter. Continue this process until all twenty segments have been set.
9. The Dot Matrix Message Center will then tell you to press Enter to save the program. After saving the program the Dot Matrix Message Center says "New program saved" then will give you the option to start or modify the program. Pressing Stop will exit to the startup screen.
10. If you want to increase or decrease the workload at any time during the program press the Up or Down button. This will only affect the workload for the present position in the profile. When the profile changes to the next column it will return to the preset work level.
11. During the User 1 or User 2 program you will be able to scroll through the data in the Dot Matrix Message Center by pressing the adjacent Up/Down buttons, switch between the profile display and a quarter mile track by pressing the Up/Down buttons adjacent to the matrix, use the heart rate monitoring features and can switch to heart rate Auto-Pilot mode. See Heart Rate section for details of this feature).

## HIIT PROGRAM

1. Using the Program button choose the HIIT program then press Enter.
2. The Dot Matrix Message Center will ask you to enter your Age. You may enter your Age, using the Up and Down keys, then press the Enter key to accept the new number and proceed on to the next screen.
3. You are now asked to enter your Weight. You may adjust the Weight number using the Up and Down keys then press enter to continue.
4. Next you are asked for the number of Intervals you want to do. The default is 10 and the range available is 3 to 15. One interval equals 1 Sprint and 1 Rest segment.
5. Now you are asked to adjust the Sprint Level. This is the resistance level you will experience during the Sprint segments of the program. Adjust the level and then press Enter.
6. Now you are asked to adjust the Rest Level. This is the resistance level you will experience during the Rest segments of the program. Adjust the level and then press Enter.
7. Next is entering the Interval time. The LED Data Display Window shows: Sprint Time:30 and Rest Time:30. The Sprint Time will be blinking. You may use the Up and Down keys to adjust the Sprint time from 20 to 60 seconds then press Enter. The time for the Rest period will blink and you can adjust the time using the up and down keys and press Enter.
8. The LED Data Display Window will now display the total time for the HIIT workout; now press Start to begin. There is a 3-minute warm-up period before the first Sprint begins. The resistance level during warm-up is set to 5 but can be adjusted manually.
9. The Dot Matrix Message Center in the HIIT program is a speed indication display, not a power or resistance display. During the Sprint the Dot Matrix Message Center will show a blinking LED at the first Sprint segment. That is the target speed LED and indicates 90 pedal rpm. As you pedal faster the lights below the target speed LED light up the faster you go. When you exceed 90 rpm the target LED will move up showing you are past the target speed. You should maintain at least 90 rpm throughout the Sprint segments. The rest segments of the HIIT program are set to resistance level 5 and you can pedal at any speed you choose as your heart rate recovers. You can manually adjust the resistance levels during the Sprint and Rest segments.
10. At the end of the last Sprint there is a 2-minute cool-down period. You can bypass this by pressing the Stop key and the workout summary will be displayed.

# HEART RATE PROGRAMS

## A word about Heart Rate:

The old motto, “no pain, no gain”, is a myth that has been overpowered by the benefits of exercising comfortably. A great deal of this success has been promoted by the use of heart rate monitors. With the proper use of a heart rate monitor, many people find that their usual choice of exercise intensity was either too high or too low and exercise is much more enjoyable by maintaining their heart rate in the desired benefit range.

To determine the benefit range in which you wish to train, you must first determine your Maximum Heart Rate. This can be accomplished by using the following formula: 220 minus your age. This will give you the Maximum heart rate (MHR) for someone of your age. To determine the effective heart rate range for specific goals you simply calculate a percentage your MHR. Your Heart rate training zone is 50% to 90% of your maximum heart rate. 60% of your MHR is the zone that burns fat while 80% is for strengthening the cardiovascular system. This 60% to 80% is the zone to stay in for maximum benefit.

For someone who is 40 years old their target heart rate zone is calculated:

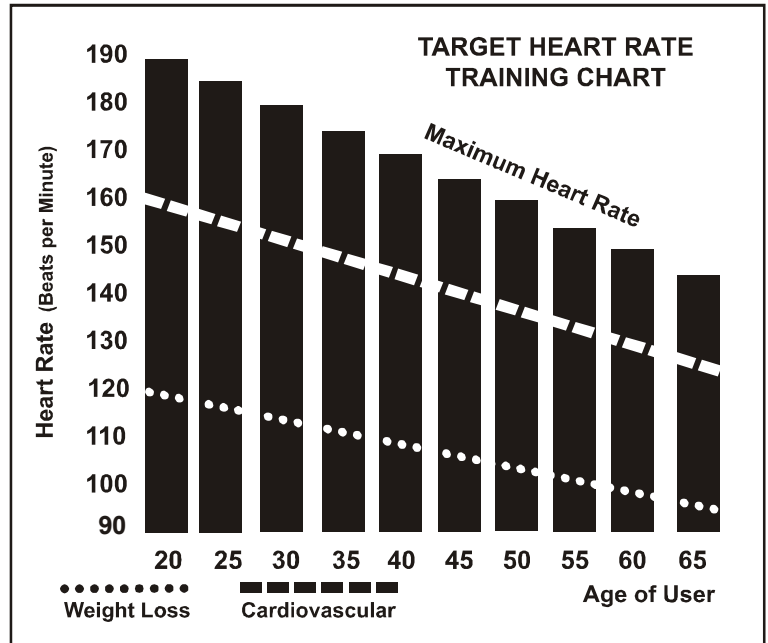
$$\begin{aligned} 220 - 40 &= 180 \text{ (maximum heart rate)} \\ 180 \times .6 &= 108 \text{ beats per minute (60\% of maximum)} \\ 180 \times .8 &= 144 \text{ beats per minute (80\% of maximum)} \end{aligned}$$

So, for a 40-year-old the training zone would be 108 to 144 beats per minute.

If you enter your age during programming the console will perform this calculation automatically. Entering your age is used for the Heart Rate control programs. After calculating your Maximum Heart Rate, you can decide upon which goal you would like to pursue.

The two most popular reasons for, or goals, of exercise are cardiovascular fitness (training for the heart and lungs) and weight control. The black columns on the chart above represent the Maximum Heart Rate for a person whose age is listed at the bottom of each column. The training heart rate, for either cardiovascular fitness or weight loss, is represented by two different lines that cut diagonally through the chart. A definition of the lines' goal is in the bottom left-hand corner of the chart. If your goal is cardiovascular fitness or if it is weight loss, it can be achieved by training at 80% or 60%, respectively, of your Maximum Heart Rate on a schedule approved by your physician. Consult your physician before participating in any exercise program. With all Spirit Fitness Heart Rate Programs, you may use the heart rate monitor feature without using the Heart Rate program. This function can be used during manual mode or during any of the nine different programs. The Heart Rate program automatically controls resistance at the pedals.

**WARNING:** Heart rate monitoring system may be inaccurate. Over exercise may result in injury or death. If you feel faint stop exercising immediately.



# RATE OF PERCEIVED EXERTION

Heart rate is important but listening to your body also has a lot of advantages. There are more variables involved in how hard you should workout than just heart rate. Your stress level, physical health, emotional health, temperature, humidity, the time of day, the last time you ate and what you ate, all contribute to the intensity at which you should workout. If you listen to your body, it will tell you all of these things.

The rate of perceived exertion (RPE), also known as the Borg scale, was developed by Swedish physiologist G.A.V. Borg. This scale rates exercise intensity from 6 to 20 depending upon how you feel or the perception of your effort.

The scale is as follows:

## Rating Perception of Effort

- 6 Minimal
- 7 Very, very light
- 8 Very, very light +
- 9 Very light
- 10 Very light +
- 11 Fairly light
- 12 Comfortable
- 13 Somewhat hard
- 14 Somewhat hard +
- 15 Hard
- 16 Hard +
- 17 Very hard
- 18 Very hard +
- 19 Very, very hard
- 20 Maximal

You can get an approximate heart rate level for each rating by simply adding a zero to each rating. For example, a rating of 12 will result in an approximate heart rate of 120 beats per minute. Your RPE will vary depending up the factors discussed earlier. That is the major benefit of this type of training. If your body is strong and rested, you will feel strong and your pace will feel easier. When your body is in this condition, you are able to train harder and the RPE will support this. If you are feeling tired and sluggish, it is because your body needs a break. In this condition, your pace will feel harder. Again, this will show up in your RPE and you will train at the proper level for that day.



# USING A HEART RATE TRANSMITTER (OPTIONAL)

How to wear your wireless chest strap transmitter:

1. Attach the transmitter to the elastic strap using the locking parts.
2. Adjust the strap as tightly as possible as long as the strap is not too tight to remain comfortable.
3. Position the transmitter with the logo centered in the middle of your body facing away from your chest (some people must position the transmitter slightly left of center). Attach the final end of the elastic strap by inserting the round end and, using the locking parts, secure the transmitter and strap around your chest.
4. Position the transmitter immediately below the pectoral muscles.
5. Sweat is the best conductor to measure very minute heart beat electrical signals. However, plain water can also be used to pre-wet the electrodes (2 black square areas on the reverse side of the belt and either side of transmitter). It's also recommended that you wear the transmitter strap a few minutes before your work out. Some users, because of body chemistry, have a more difficult time in achieving a strong, steady signal at the beginning. After "warming up", this problem lessens. As noted, wearing clothing over the transmitter/strap doesn't affect performance.
6. Your workout must be within range - distance between transmitter/receiver – to achieve a strong steady signal. The length of range may vary somewhat but generally stay close enough to the console to maintain good, strong, reliable readings. Wearing the transmitter immediately against bare skin assures you of proper operation. If you wish, you may wear the transmitter over a shirt. To do so, moisten the areas of the shirt that the electrodes will rest upon.



*Note: The transmitter is automatically activated when it detects activity from the user's heart. Additionally, it automatically deactivates when it does not receive any activity. Although the transmitter is water resistant, moisture can have the effect of creating false signals, so you should take precautions to completely dry the transmitter after use to prolong battery life (estimated transmitter battery life is 2500 hours). If your chest strap has a replaceable battery the replacement battery is Panasonic CR2032.*

## ERRATIC OPERATION

**Caution!** Do not use this Stepper for Heart Rate Control unless a steady, solid Actual Heart Rate value is being displayed. High, wild, random numbers being displayed indicate a problem.

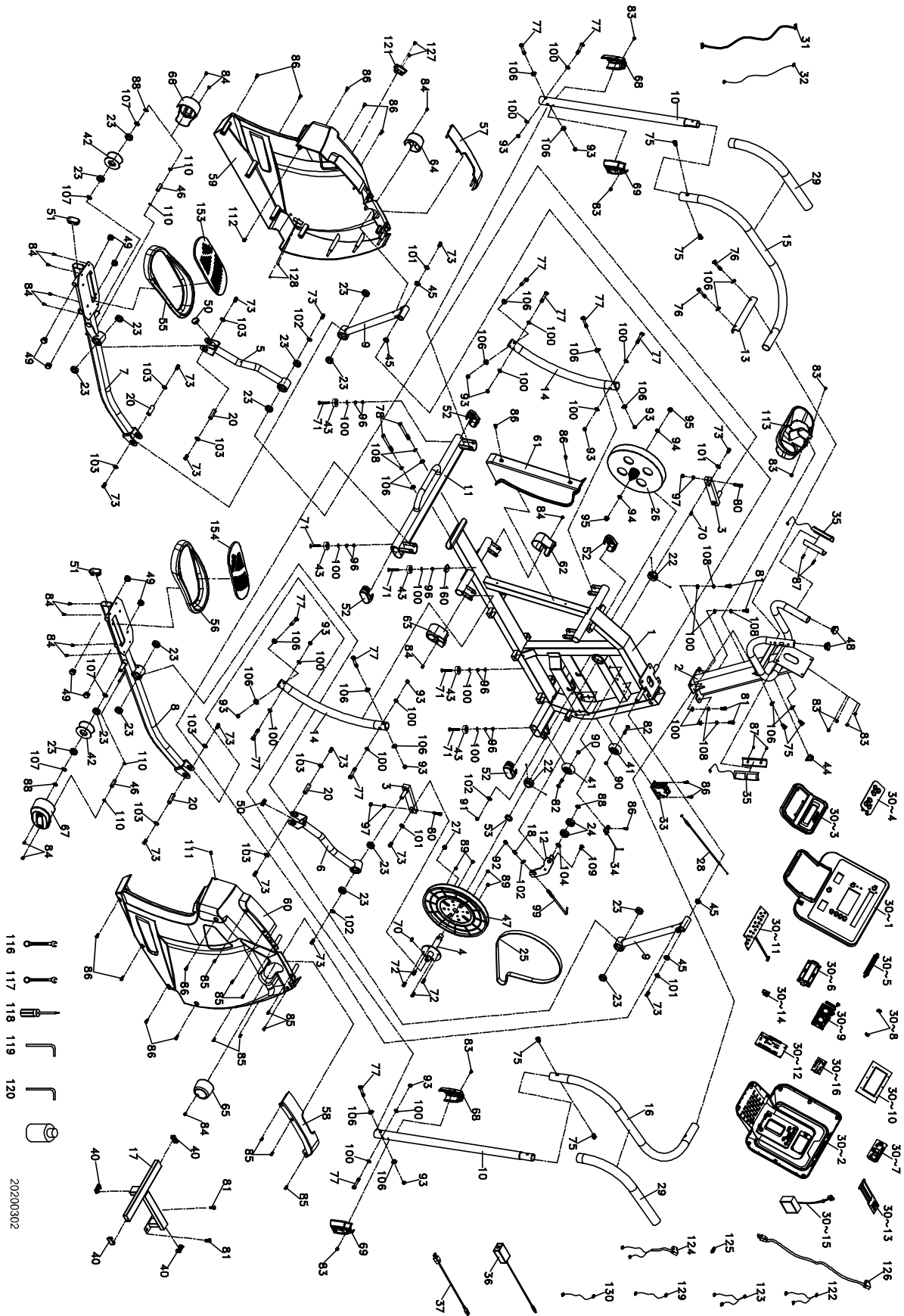
Areas to look at for interference, which may cause erratic heart rate:

1. Microwave ovens, TV's, small appliances, etc.
2. Fluorescent lights.
3. Some household security systems.
4. Perimeter fence for a pet.
5. Some people have problems with the transmitter picking up a signal from their skin. If you have problems, try wearing the transmitter upside down. Normally the transmitter will be oriented, so the logo is right side up.
6. The antenna that picks up your heart rate is very sensitive. If there is an outside noise source, turning the whole machine 90 degrees may de-tune the interference.
7. Another Individual wearing a transmitter within 3' of your machine's console.

If you continue to experience problems, contact Dyaco Canada In



# EXPLODED VIEW DIAGRAM



# PARTS LIST

KEY NO.	PART NO.	DESCRIPTION	Q'TY
1	CC010065-S13	Main Frame	1
2	RCC020082-S13	Console Mast	1
3	CC060097-Q2	Crank Arm	2
4	RC140032A	Crank Axle	1
5	RCC060110-S13	Linked Assembly(L)	1
6	RCC060111-S13	Linked Assembly(R)	1
7	RCC060112-S13-02	Connecting Arm (L)	1
8	RCC060113-S13-02	Connecting Arm (R)	1
9	RCC060114-S13	Swing Assembly	2
10	A060172-S13	Handgrip Connecting Tube	2
11	CC050020-S13	Rear Stabilizer with handle	1
12	RB140024A-Q2	Idler Wheel Assembly	1
13	B040048-S13	Handgrip Connecting Plate	1
14	A060170-Z2	Curved Rail Tube	2
15	RA060174-S13	Left Handgrip (Upper)	1
16	RA060176-S13	Right Handgrip (Upper)	1
17	CC060104-Q2	Side Back	1
18	C080008-Z1	Rod End Sleeve	1
20	C050082	Rod End Shaft	4
22	K056005D	6005-2RS/B10+2M5_Bearing	2
23	K056003-A8	6003_Bearing	16
24	K056203-A3	6203_Bearing	2
25	N010002A	Drive Belt	1
26	K500029A	Flywheel	1
27	N040002	Magnet	1
28	K020006	Steel Cable	1
29	L130056-A1	Handgrip Foam	2
30	RZSS0050-21	Console Assembly	1
31	E020159	1200m/m_Computer Cable	1
32	E060735-01	100m/m_Power Cord	1
33	F090301	Gear Motor	1
34	F030415	200m/m_Reed Switch	1
35	F090204	850m/m_Handpulse Assembly	2
36	RF080075	Power Adaptor	1
37	E061004	Transformer Power Cord (Optional)	1
40	P040038-A1	20 × 40L_Square End Cap	4
41	P050021-A1	Ø65_Transportation Wheel	2
42	RP050051A-D5	Ø72_Slide Wheel, Urethane	2
43	RP060256E-A1	Ø35 × 10_Rubber Foot	4
44	P040153-A1	Bolt Access Cap	1
45	P060440	WFM-1719-12_Bushing	4
46	P060633B-A1	Ø15 × Ø8.6 × 38.5L_Sleeve	2
47	PP060090-A1-B	Ø330_Drive Pulley	1
48	P060253-A1	Ø32(1.8T)_Button Head Plug	2

KEY NO.	PART NO.	DESCRIPTION	Q'TY
49	P040136-A1	Ø25.4 × 2T_Round Cap	8
50	P040052-A1	Ø32 × 1.8T_Round Cap	2
51	P040219-A1	Ø30 × 60_Oval End Cap	2
52	P060112-A1	Ø40 × Ø80_Oval End Cap	4
53	P060273-A1	Spacer Bushing	1
55	PP130015A-A1	Pedal (L)	1
56	PP130016A-A1	Pedal (R)	1
57	P100202-A1	Console Mast Cover (L)	1
58	P100203-A1	Console Mast Cover (R)	1
59	RP100204B-A1-01	Chain Cover (L)	1
60	RP100205-A1-04	Chain Cover (R)	1
61	P100206-A1	Rear Shroud	1
62	P180134-A1	Stabilizer Cover (L)	1
63	P180135-A1	Stabilizer Cover (R)	1
64	P180138-A1	Handlebar Cover (L)	1
65	P180139-A1	Handlebar Cover (R)	1
66	P200017-A1	Slide Wheel Cover (L)	1
67	P200018-A1	Slide Wheel Cover (R)	1
68	P180136-A1	Left Handgrip Cap	2
69	P180137-A1	Right Handgrip Cap	2
70	J320012-ZF	Woodruff Key	2
71	J341008-Y3	3/8" × 2" Flat Head Socket Bolt	4
72	J010002-ZH	1/4" × UNC20 × 3/4" Hex Head Bolt	4
73	J010502-YQ	5/16" × UNC18 × 3/4" Hex Head Bolt	14
75	J021002-Y3	3/8" × 3/4" Button Head Socket Bolt	6
76	J021008S-Y3	3/8" × UNC16 × 2" Button Head Socket Bolt	2
77	J011009E-Y3	3/8" × 2-1/4" Hex Head Bolt	12
78	J011015AG-Y3	3/8" × 3-3/4" Hex Head Bolt	2
80	J033007-Y3	M8 × 35m/m Socket Head Cap Bolt	2
81	J031002-Z4	3/8" × 3/4" Socket Head Cap Bolt	6
82	J020507AB-Y3	5/16" × UNC18 × 1-3/4" Button Head Socket Bolt	2
83	J092001-Y3	M5 × 10m/m_Phillips Head Screw	10
84	J092001-YN	M5 × 10m/m_Phillips Head Screw	16
85	J396917-Y3	Ø4 × 15L_Sheet Metal Screw	10
86	J367114-Y3	5 × 19m/m_Tapping Screw	15
87	J517007-Y3	3 × 20m/m_Tapping Screw	4
88	J310002-Z4	Ø17_C Ring	3
89	J139461-Z1	1/4" × 8T_Nyloc Nut	4
90	J139062-Y3	5/16" × 7T_Nyloc Nut	2
91	J139261-ZF	M8 × 7T_Nyloc Nut	1
92	J139262-Z4	M8 × 9T_Nyloc Nut	1
93	J139011-Y3	3/8" × 7T_Nyloc Nut	12
94	J129031-Z1	3/8" × UNF26 × 4T_Luck Nut	2
95	J160028-Z1	3/8" × UNF26 × 11T_Nut	2
96	J129021-Y3	3/8" × 7T_Luck Nut	9

KEY NO.	PART NO.	DESCRIPTION	Q'TY
97	J129272-ZS	M8 × 6.3T_Luck Nut	4
99	J083012K-Z1	M8 × 170m/m_J Bolt	1
100	J210003-Y3	Ø3/8" × Ø19 × 1.5T_Flat Washer	21
101	J210042-Y3	Ø8.5 × Ø26 × 2.0T_Flat Washer	4
102	J210009-Y3	Ø5/16" × Ø23 × 1.5T_Flat Washer	4
103	J210090-Y3	Ø5/16" × Ø23 × 3T_Flat Washer	8
104	J210011-Z1	Ø17 × Ø23.5 × 1.0T_Flat Washer	1
106	J220004-Y3	Ø3/8" × 23 × 2.0T_Curved Washer	18
107	J250002-Z4	Ø17_Wave Washer	4
108	J260003-Y3	Ø10 × 2T_Split Washer	6
109	J073004-Z1	M8 × 20m/m_Carriage Bolt	1
110	J590003-Z4	7 × 14 × 0.8T_E-Clip	4
111	J377105-Y3	5 × 16m/m_Tapping Screw	1
112	J160001-Z4	M5_Speed Nut Clip	1
113	P220041-A1	Drink Bottle Holder	1
116	J330025-Z1	13/14m/m_Wrench	1
117	J330026-Z1	12/14m/m_Wrench	1
118	J330008-Z1	Phillips Head Screwdriver	1
119	J330012-Z1	L Allen Wrench-M8	1
120	J330036	L Allen Wrench-M6	1
121	F030053	AC Electronic Module	1
122	E010082-01	100m/m_Connecting Wire (White)	1
123	E010085	100m/m_Connecting Wire (Black)	1
124	E061308	Power Cord (Connection socket)	1
125	E100009	TV Adapter	1
126	E060001	Power Cord	1
127	J094502-Y3	M4 × 12m/m_Phillips Head Screw	2
128	J139411-Z1	M4 × 5T_Nyloc Nut	2
129	E010083	80m/m_Connecting Wire (White)	1
130	E010084	80m/m_Connecting Wire (Black)	1
153	P120025-A1	Pedal Foam (L)	1
154	P120026-A1	Pedal Foam (R)	1
160	B130435	Foot Pad Adjusting Plate	1

# GENERAL MAINTENANCE

1. Wipe down all areas in the sweat path with a damp cloth after each workout.
2. If a squeak, thump, clicking or rough feeling develops the main cause is most likely one of two reasons:
  - I. The hardware was not sufficiently tightened during assembly. All bolts that were installed during assembly need to be tightened as much as possible. It may be necessary to use a larger wrench than the one provided if you cannot tighten the bolts sufficiently. I cannot stress this point enough; 90% of calls to the service department for noise issues can be traced to loose hardware.
  - II. The crank arm nut needs to be retightened
  - III. If squeaks or other noises persist, check that the unit is properly leveled. There are 2 leveling pads on the bottom of the rear stabilizer, use a 14mm wrench (or adjustable wrench) to adjust the levelers.

## ENGINEERING MODE

To enter the Maintenance Mode, pedal the stepper and press and hold down the Start, Stop and Enter keys. Keep holding the keys down for about 5 seconds and the Message Center will display Maintenance Mode. Press the Enter key to access the menu below:

- a. **Key test** (will allow you to test all the keys to make sure they are functioning)
- b. **Display test** (tests all the display functions)
- c. **Function**
  - Units - Sets the display to read out in Imperial (miles, pounds, feet, etc.) or Metric (kilometers, kilograms, meters, etc.) display measurements
  - Pause mode (have five minutes)
  - Odometer Reset (Resets the odometer)
  - Sleep mode
  - Beep sound (Control Beep)
  - CAB Protocol or CSAFE Protocol
- d. **Service**
  - Motor test
  - Csafe test
  - Sensor test (Test the speed sensor function)
- e. **Exit**

# TRAINING GUIDELINES

## EXERCISE

Exercise is one of the most important factors in the overall health of an individual. Listed among its benefits are:

- Increased capacity for physical work (strength endurance)
- Increased cardiovascular (heart and arteries/veins) and respiratory efficiency
- Decreased risk of coronary heart disease
- Changes in body metabolism, e.g. losing weight
- Delaying the physiological effects of age
- Physiological effects, e.g. reduction in stress, increase in self-confidence, etc.

## BASIC COMPONENTS OF PHYSICAL FITNESS

**There are four all-encompassing components of physical fitness and we need to briefly define each and clarify its role.**

**Strength** is the capacity of a muscle to exert a force against resistance. Strength contributes to power and speed and is of great importance to a majority of sports people.

**Muscular Endurance** is the capacity to exert a force repeatedly over a period of time, e.g. it is the capacity of your legs to carry you 10 Km without stopping.

**Flexibility** is the range of motion about a joint. Improving flexibility involves the stretching of muscles and tendons to maintain or increase suppleness and provides increased resistance to muscle injury or soreness.

**Cardio-Respiratory Endurance** is the most essential component of physical fitness. It is the efficient functioning of the heart and lungs

## AEROBIC FITNESS

The largest amount of oxygen that you can use per minute during exercise is called your maximum oxygen uptake (MVo<sub>2</sub>). This is often referred to as your aerobic capacity.

The effort that you can exert over a prolonged period of time is limited by your ability to deliver oxygen to the working muscles. Regular vigorous exercise produces a training effect that can increase your aerobic capacity by as much as 20 to 30%. An increased MVO<sub>2</sub> indicates an increased ability of the heart to pump blood, of the lungs to ventilate oxygen and of the muscles to take up oxygen.

## Anaerobic Training

This means “without oxygen” and is the output of energy when the oxygen supply is insufficient to meet the body’s long-term energy demands. (For example, 100-meter sprint).

## The Training Threshold

This is the minimum level of exercise which is required to produce significant improvements in any physical fitness parameter.

## **Progression**

As you become fitter, a higher intensity of exercise is required to create an overload and therefore provide continued improvement

## **Overload**

This is where you exercise at a level above that which can be carried out comfortably. The intensity, duration and frequency of exercise should be above the training threshold and should be gradually increased as the body adapts to the increasing demands. As your fitness level improves, so the training threshold should be raised.

Working through your program and gradually increasing the overload factor is important.

## **Specificity**

Different forms of exercise produce different results. The type of exercise that is carried out is specific both to the muscle groups being used and to the energy source involved.

There is little transfer of the effects of exercise, i.e. from strength training to cardiovascular fitness. That is why it is important to have an exercise program tailored to your specific needs.

## **Reversibility**

If you stop exercising or do not do your program often enough, you will lose the benefits you have gained. Regular workouts are the key to success.

## **WARM UP**

Every exercise program should start with a warmup where the body is prepared for the effort to come. It should be gentle and preferably use the muscles to be involved later.

Stretching should be included in both your warmup and cool down and should be performed after 3-5 minutes of low intensity aerobic activity or callisthenic type exercise.

## **Warm Down or Cool Down**

This involves a gradual decrease in the intensity of the exercise session. Following exercise, a large supply of blood remains in the working muscles. If it is not returned promptly to the central circulation, pooling of blood may occur in the muscles

## **Heart Rate**

As you exercise, so the rate at which your heartbeat also increases. This is often used as a measure of the required intensity of exercise. You need to exercise hard enough to condition your circulatory system, and increase your pulse rate, but not enough to strain your heart.

Your initial level of fitness is important in developing an exercise program for you. If you are starting off, you can get a good training effect with a heart rate of 110-120 beats per minute (BPM). If you are fitter, you will need a higher threshold of stimulation.

To begin with, you should exercise at a level that elevates your heart rate to about 65 to 70% of your maximum. If you find this is too easy, you may want to increase it, but it is better to lean on the conservative side.

As a rule of thumb, the maximum heart rate is 220 minus your age. As you increase in age, so your heart, like other muscles, loses some of its efficiency. Some of its natural loss is won back as fitness improves.

The following table is a guide to those who are “starting fitness”.

Age	25	30	35	40	45	50	55	60	65
Target heart Rate									
10 Second Count	23	22	22	21	20	19	19	18	18
Beats per Minute	138	132	132	126	120	114	114	108	108

### **Pulse Count**

The pulse count (on your wrist or carotid artery in the neck, taken with two index fingers) is done for ten seconds, taken a few seconds after you stop exercising. This is for two reasons: (a) 10 seconds is long enough for accuracy, (b) the pulse count is to approximate your BPM rate at the time you are exercising. Since heart rate slows as you recover, a longer count isn't as accurate.

The target is not a magic number, but a general guide. If you're above average fitness, you may work quite comfortably a little above that suggested for your age group.

The following table is a guide to those who are keeping fit. Here we are working at about 80% of maximum.

Age	25	30	35	40	45	50	55	60	65
Target heart Rate									
10 Second Count	26	26	25	24	23	22	22	21	20
Beats per Minute	156	156	150	144	138	132	132	126	120

Don't push yourself too hard to reach the figures on this table. It can be very uncomfortable if you overdo it. Let it happen naturally as you work through your program. Remember, the target is a guide, not a rule, a little above or below is just fine.

Two final comments:(1) don't be concerned with day to day variations in your pulse rate, being under pressure or not enough sleep can affect it;(2) your pulse rate is a guide, don't become a slave to it.

### **ENDURANCE CIRCUIT TRAINING**

Cardiovascular endurance, muscle, strength, flexibility and coordination are all necessary for maximum fitness. The principle behind circuit training is to give a person all the essentials at one time by going through your exercise program moving as fast as possible between each exercise. This increases the heart rate and sustains it, which improves the fitness level. Do not introduce this circuit training effect until you have reached an advanced program stage.

#### **Body Building**

Is often used synonymously with strength training. The fundamental principal here is OVERLOAD. Here, the muscle works against greater loads than usual. This can be done by increasing the load you are working against.

#### **Patronization**

This is the term used to vary your exercise program for both physiological and psychological benefits. In your overall program, you should vary the workload, frequency and intensity. The body responds better to variety and so do you. In addition, when you feel yourself getting “stale”, bring in periods of lighter exercise to allow the body to recuperate and restore its reserves. You will enjoy your program more and feel better for it.



## **Muscle Soreness**

For the first week or so, this may be the only indication you have that you are on an exercise program. This, of course, does depend on your overall fitness level. A confirmation that you are on the correct program is a very slight soreness in most major muscle groups. This is quite normal and will disappear in a matter of days.

If you experience major discomfort, you may be on a program that is too advanced, or you have increased your program too rapidly.

If you experience PAIN during or after exercise, your body is telling you something.

Stop exercising and consult your doctor.

## **WHAT TO WEAR**

Wear clothing that will not restrict your movement in any way while exercising. Clothes should be light enough to allow the body to cool. Excessive clothing that causes you to perspire more than you normally would while exercising, gives you no advantage. The extra weight you lose is body fluid and will be replaced with the next glass of water you drink. It is advisable to wear a pair of gym or running shoes or “sneakers”.

## **Breathing during Exercise**

Do not hold your breath while exercising. Breathe normally as much as possible. Remember, breathing involves the intake and distribution of oxygen, which feeds the working muscles.

## ***Rest periods***

Once you start your exercise program, you should continue through to the end. Do not break off halfway through and then restart at the same place later on without going through the warm-up stage again.

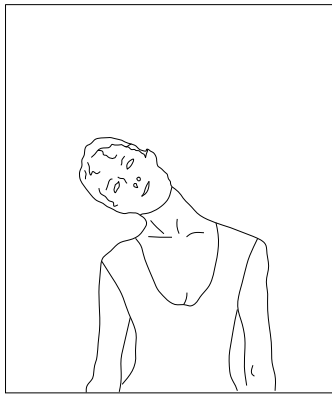
The rest period required between strength training exercises may vary from person to person. This will depend mostly on your level of fitness and the program you have chosen. Rest between exercises by all means, but do not allow this to exceed two minutes. Most people manage with half minute to one-minute rest periods

# STRETCHING

Stretching should be included in both your warmup and cool down, and should be performed after 3-5 minutes of low intensity aerobic activity or callisthenic type exercise. Movements should be performed slowly and smoothly, with no bouncing or jerking. Move into the stretch until slight tension, not pain, is felt in the muscle and hold for 20-30 seconds. Breathing should be slow, rhythmical and under control, making sure never to hold your breath.

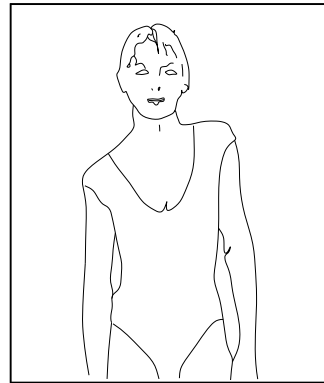
## HEAD ROLLS

Rotate your head to the right for one count, feeling the stretch up the left side of your neck. Next rotate your head back for one count, stretching your chin to the ceiling and letting your mouth open. Rotate your head to the left for one count, and finally, drop your head to your chest for one count.



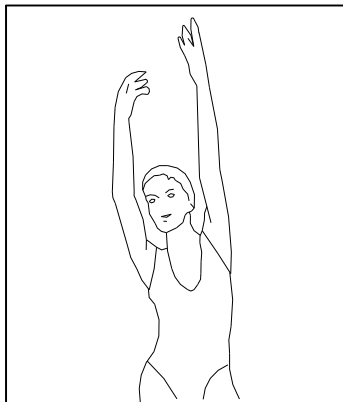
## SHOULDER LIFTS

Lift your right shoulder up toward your ear for one count. Then lift your left shoulder up for one count as you lower your right shoulder.



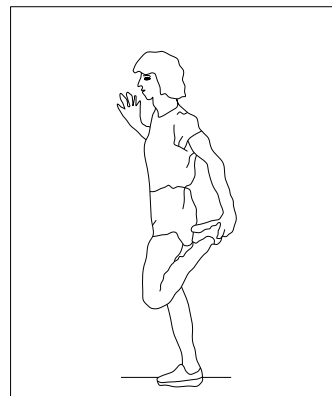
## SIDE STRETCHES

Open your arms to the side and continue lifting them until they are over your head. Reach your right arm as far upward toward the ceiling as you can for one count. Feel the stretch up your right side. Repeat this action with your left arm.



## QUADRICEPS STRETCH

With one hand against a wall for balance, reach behind you and pull your right foot up. Bring your heel as close to your buttocks as possible. Hold for 15 counts and repeat with left foot up.



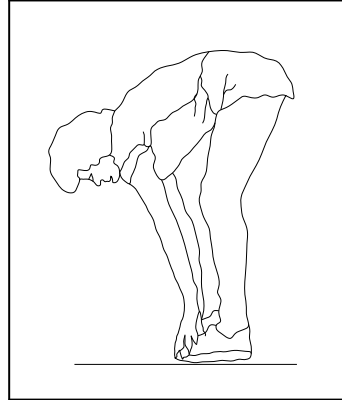
### **INNER THIGH STRETCH**

Sit with the soles of your feet together with your knees pointing outward. Pull your feet as close into your groin as possible. Gently push your knees towards the floor. Hold for 15 counts.



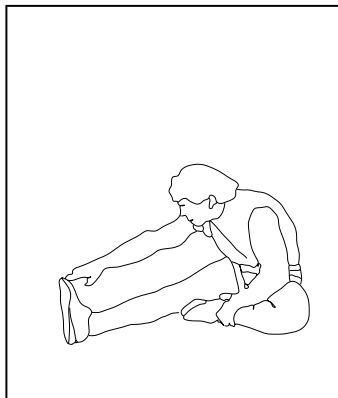
### **TOUCHES**

Slowly bend forward from your waist, letting your back and shoulders relax as you stretch toward your toes. Reach down as far as you can and hold for 15 counts.



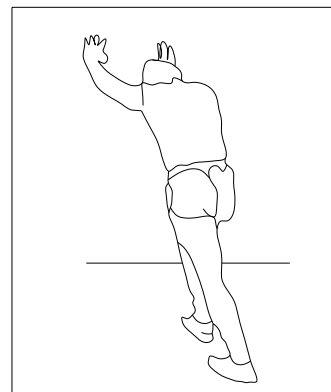
### **HAMSTRING STRETCHES**

Sit with your right leg extended. Rest the sole of your left foot against your right inner thigh. Stretch as far as possible. Hold for 15 counts. Relax and then repeat with left leg extended.



### **CALF / ACHILLES STRETCH**

Lean against a wall with your left leg in front of the right and your arms forward. Keep toward your toe your right leg straight and the left foot on the floor then bend the left leg and lean forward by moving your hips toward the wall. Hold, then repeat on the other side for 15 counts.



# MANUFACTURER'S LIMITED WARRANTY

Dyaco Canada Inc. warrants all its Stepper parts for a period of time listed below, from the date of retail sale, as determined by a sales receipt. Dyaco Canada Inc.'s responsibilities include providing new or remanufactured parts, at Dyaco Canada Inc.'s option, and technical support to our independent dealers and servicing organizations. In the absence of a dealer or service organization, these warranties will be administered by Dyaco Canada Inc. directly to a consumer. The warranty period applies to the following components:

## **Light Commercial (5 hours use or less in a non-dues paying facility)**

Frame: Lifetime

Brake: 5 Years

Parts: 5 Years

Labour: 2 Years

## **Residential**

Frame: Lifetime

Brake: 10 Years

Parts: 10 Years

Labour: 2 Years

This warranty is not transferable and is extended only to the original owner.

The warranty shall not apply to exercise units which are (1) used for commercial or other income producing purposes, or (2) subject to misuse, neglect, accident or unauthorized repair and alterations. This warranty provided herein is lieu of all other express warranties, any implied warranties, including any implied warranties of merchantability of fitness for particular purpose, are limited in duration to the first 24 months from date of purchase. All other obligations or liabilities, including liability for consequential damages are hereby excluded.

## **REPAIR PARTS AND SERVICE**

All of the parts for the Stepper shown in figure can be ordered from Dyaco Canada Inc., 5955 Don Murie Street, Niagara Falls, Ontario L2G 0A9. When ordering parts, the parts will be sent and billed at the current prices. Prices may be subject to change without notice. Cheque or money order must accompany all orders. Standard hardware items are available at your local hardware store.

To ensure prompt and correct handling of any errors, or to answer any questions, please call our Toll Free number: 1-888-707-1880, or local number 1-905-353-8955 or fax 1-905-353-8968 or email [customerservice@dyaco.ca](mailto:customerservice@dyaco.ca) or visit us at [www.dyaco.ca](http://www.dyaco.ca) Office hours are from 8:30 AM to 5:00 PM Monday to Friday Eastern Standard Time.

Always include the following information when ordering parts

- \_ Model number
- \_ Name of each part
- \_ Part number of each part

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