

FreeClimber® 7000 PT Owner's Manual



StairMaster®



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P/N 22440-A

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WARRANTY

This is to certify that the StairMaster[®] Stepmill[®] 7000 PT[™] exercise system is warranted by StairMaster Sports/Medical Products, Inc. to be free of all defects in materials and workmanship. This warranty does not apply to any defect caused by negligence, misuse, accident, alteration, improper maintenance, or an "act of God". This warranty is non-transferable from the original owner.

If, within three years from the date of purchase, any part of the StairMaster Stepmill 7000 PT exercise system should fail to operate properly contact our Customer Service Department to report the problem. International customers may contact their local distributor. When calling, please be prepared to provide the customer service representative with the following information:

- Your name, shipping address, and telephone number;
- The model and serial number of the inoperable machine;
- The date(s) of purchase for the inoperable machine(s);
- Your billing address.

This information will ensure that you are the only one ordering parts under your warranty protection. If warranty replacement parts are shipped to you, you may be required to return the inoperable part. To facilitate this process, the following policy has been established:

- Please call our Customer Service Department to receive a return goods authorization prior to shipment.
- StairMaster Sports/Medical Products, Inc. will incur all freight charges for warranty parts ordered for a machine that is less than 45 days old. The parts will be shipped to you via an overnight courier.*
- You are responsible for freight charges on warranty parts for machines that are more than 45 days old. You will not be responsible for the return shipment of the inoperable parts.
- Some inoperable warranty parts must be promptly returned to our Customer Service Department. We will pay the return shipping cost for the inoperable warranty parts. Detailed shipping instructions are included with each warranty replacement part.

StairMaster Sports/Medical Products, Inc. neither makes, assumes nor authorizes any representative or other person to make or assume for us, any other warranty whatsoever, whether expressed or implied, in connection with the sale, service, or shipment of our products. We reserve the right to make changes and improvements in our products without incurring any obligation to similarly alter products previously purchased. In order to maintain your product warranty and to ensure the safe and efficient operation of your machine, only authorized replacement parts can be used. This warranty is void if parts other than those provided by StairMaster Sports/Medical Products, Inc. are used.

* Note: Aerosol products cannot be transported via air.



INTRODUCTION

The StairMaster[®] Stepmill[®] 7000 PT[™] exercise system is a safe, functional, and effective exercise modality for developing aerobic fitness and increasing the strength of the major muscle groups of the lower body. It is designed for use by individuals of all ages and fitness levels. Your purchase of this machine is a positive affirmation of your commitment to use the best available methods for enhancing your functional fitness capabilities. In order to derive optimal benefits from your machine, you should read this manual thoroughly and adhere closely to the instructions.

WHAT IS IN THIS MANUAL?

Following the information on installation and a brief explanation of how the Stepmill 7000 PT exercise system works, this manual contains two major sections. The first section provides an explanation of how the machine should be used to achieve maximum results. The second section offers instructions and advice on how to properly maintain your machine. The "Appendix" contains additional information for the owner.

Throughout this Manual, whenever you are required to enter information into the console, the console keypad keystrokes are enclosed in []. The names of the buttons and special console operational modes are shown in capital letters. For example, your machine is ready for use when the console is in the ATTRACT mode. You are then required to press the [MANUAL] button to start the MANUAL exercise program.

WHAT IS THE STAIRMASTER STEPMILL 7000 PT EXERCISE SYSTEM?

The StairMaster Stepmill 7000 PT exercise system is a vertical climbing machine with a rotating staircase which provides an aerobic workout equivalent to climbing stairs, without the impact loads and skeletal trauma common to most aerobic activities. Regular use of the Stepmill 7000 PT exercise system strengthens and conditions the heart and the following lower body muscle groups: gluteals, quadriceps, hamstrings, and calf muscles.



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IMPORTANT SAFETY INSTRUCTIONS

When using electrical equipment, basic precautions should always be followed, including:

Read all instructions before using the machine.

DANGER

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

WARNING

To reduce the risk of burns, electric shock, or injury to persons:

1. The external power supply should always be unplugged from the AC wall outlet before removing or installing parts. Never make adjustments or repairs while an exercise program is in progress.
2. Close supervision is necessary whenever the machine is used by, on, or near children, invalids, or disabled persons.
3. Keep your hands away from all moving parts and keep your feet on the pedals while exercising. Do not operate with the side covers removed.
4. Use this machine only for its intended use as described in this Manual. Do not use attachments or accessories other than those provided by StairMaster Sports/Medical Products, Inc.
5. Do not use the external power supply if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Contact our Customer Service Department at (800) 331-3578 to arrange for the return of damaged parts. International customers should contact their local distributor; refer to the Appendix for the appropriate phone number.



SAFETY GUIDELINES

6. Connect the external power supply to a properly grounded AC wall outlet; refer to the "Grounding Instructions" section of this Manual. Keep all cords away from heated surfaces.
7. Never drop or insert any object into any opening on the machine.
8. Do not use the machine outdoors.
9. Do not operate where aerosol (spray) products are being used.
10. To disconnect the external power supply, remove the plug from the AC wall outlet.

The safety level given by the design of this equipment can only be maintained when the equipment is regularly examined for damage and wear. Inoperable components shall be replaced immediately or the equipment shall be put out of use until it is repaired.

Failure to follow all guidelines may compromise the effectiveness of the exercise experience, expose yourself (and possibly others) to injury, and reduce the longevity of the machine.

SAVE THESE INSTRUCTIONS

INSTALLATION INSTRUCTIONS

Before leaving the manufacturing facility in Tulsa, Oklahoma, your StairMaster® Stepmill® 7000 PT™ exercise system was thoroughly inspected and tested for proper operation. To minimize shipping damage, careful attention was given to making your machine ready for shipment.

The dimensions of the machine are listed in Table 1. Throughout the *Owner's Manual*, all references to the left or right side and to the front or back are made as if you were on the machine, ready to exercise. For example, the white function keypad is located on the right side of the console.

Table 1. Dimensions and Specifications for the StairMaster 7000 PT Exercise System

Physical Dimensions:	
Length	50.0 inches (127 cm)
Width	29.0 inches (74 cm)
Height	78.0 inches (198 cm)
Weight	409 pounds (186 kg)
Power Supply Specifications, PS 7:	
Output Voltage	10 to 16 VDC
Output Current Capacity	2.5 amps
Input Power Consumption	55 watts

The machine requires minor assembly before operation. You will need a pair of diagonal cutters or a pair of heavy-duty scissors. The Stepmill 7000 PT exercise system must be placed on a solid, level floor near an AC wall outlet. A minimum ceiling height of 9 feet (2.8 meters) and a doorway width of 29 inches (74 cm) is required.

1. Roll the machine to its desired location on its temporary wheels.
2. Have an assistant tilt the machine forward until the wheels are off the floor. Make sure the assistant can support the machine so you can remove the temporary wheels (refer to Figure 10).
3. Remove the pin from each axle. Remove both axles and wheels from the frame.

INSTALLATION INSTRUCTIONS

4. Help your assistant lower the machine to the floor.
5. Adjust the leg levelers as necessary to level the machine.
6. If your machine was shipped outside North America, it will need additional assembly (if this is not the case, skip to step #7).
 - Use the fastener removal tool to remove the 10 fasteners on the back cover.
 - Mount both handrails using the hardware as shown in Figure 10.
 - Push the console cable assembly through the grommet in the frame and connect it to the main cable assembly (refer to Wiring Diagram 1).
 - Install the console mount onto the handrails (refer to Figure 10).
 - Install the console and connect the console cable.
 - Reinstall the back cover.
 - Go to step #9.
7. Unwrap the power supply assembly from the console.
8. Connect the DC power cable to the power connector located on the bottom cover.
9. Place the power supply on the floor near an AC wall outlet. To reduce the hazard of electrical shock, place the power supply in a location away from the machine and away from exposure to perspiration. You should not place your power supply on a carpet because it may overheat.
10. Check to be sure that the input AC power rating marked on the power supply matches the available power. If it does not, obtain the matching power supply from StairMaster® Sports/Medical Products, Inc. before proceeding any further.



WARNING

TO REDUCE THE RISK OF ELECTRICAL SHOCK AND FIRE AND TO PREVENT SEVERE DAMAGE TO THE MACHINE, USE ONLY THE POWER SUPPLY APPROVED FOR USE WITH THIS EQUIPMENT. IN ADDITION, YOUR MACHINE MUST BE PROPERLY GROUNDED.

INSTALLATION INSTRUCTIONS

11. Connect the AC power cord to the AC wall outlet. Refer to the "Grounding Instructions" section of the *Owner's Manual* if the AC wall outlet does not accept a three-prong plug.
12. Watch the console. It should produce an audible sound when plugged in and then display a simulated EKG after the software revision level scrolling message. If it does not, unplug the power supply and then plug it back in. If the sound and/or the display are still not present, contact the Customer Service Department at (800) 331-3578. International customers should call their local distributor; refer to the Appendix "How to Order Parts" for the phone number of the office nearest you.
13. When the console displays the simulated EKG, your Stepmill® 7000 PT™ exercise system is in the ATTRACT mode.
14. The console is set at the manufacturing facility to English language prompts and English units. While the console is in the ATTRACT mode, you can set the console for foreign language prompts or metric units. To change the language of the prompts, press [+ ARROW], [7], [4], [2], [4], [ENTER]. Press the code number corresponding to the desired language according to Table 4 and then [ENTER].

To change the console to metric units, press [+ ARROW], [9], [7], [6], [0], [ENTER]. Press [1], [ENTER] to set the console to metric units. Press [0], [ENTER] to set the console to English units.
15. Custom-length DC cables, brackets for multiple power supplies and other accessories are available. Refer to the Appendix "How to Order Parts" for the phone number of the office nearest you.

BASIC OPERATING INSTRUCTIONS

GENERAL GUIDELINES FOR SAFE OPERATION



THESE GUIDELINES ARE DIRECTED TO YOU, AS THE OWNER OF THE MACHINE. YOU SHOULD INSIST THAT ALL USERS FOLLOW THE SAME GUIDELINES. YOU SHOULD MAKE THIS MANUAL AVAILABLE TO ALL USERS.

1. Obtain a complete physical examination from your medical doctor and enlist a health/fitness professional's aid in developing an exercise program suitable for your current health status.
2. When working out for the first time, use the MANUAL exercise program at the lower speeds until you feel comfortable and capable of faster speeds.
3. The speed and duration of your exercise program should always be subject to how you feel. Never permit peer pressure to exceed your personal judgment while exercising.
4. Overweight or severely deconditioned individuals should be particularly cautious when using the machine for the first time. Even though such individuals may not have histories of serious physical problems, they may perceive the exercise to be far less intense than it really is, resulting in the possibility of overexertion or injury.
5. Although all equipment manufactured by StairMaster Sports/Medical Products, Inc. has been thoroughly inspected by the manufacturing facility prior to shipment, proper installation and regular maintenance are required to ensure safety. Maintenance is the sole responsibility of the owner.

YOUR FIRST WORKOUT ON THE STAIRMASTER® STEPMILL® 7000 PT™ EXERCISE SYSTEM

The ATTRACT Mode

The StairMaster Stepmill 7000 PT exercise system is ready to use when the console is in the inactive or ATTRACT mode. The ATTRACT mode is denoted by a simulated EKG signal in the display and/or a typewritten message that scrolls across the text bar.

You can program your own message to scroll across the text bar. Refer to the "Customizing the Text Bar Scrolling Message" section of this *Manual*. A diagram of the

BASIC OPERATING INSTRUCTIONS

console is shown in Figure 1.

Basic Instructions for First-Time Users

1. Warm up with light calisthenics and easy stretching exercises for at least five minutes before beginning your exercise program.



WARNING

IF AT ANY TIME DURING YOUR WORKOUT YOU FEEL CHEST PAIN, EXPERIENCE SEVERE MUSCULAR DISCOMFORT, FEEL FAINT, OR ARE SHORT OF BREATH, STOP EXERCISING IMMEDIATELY. IF THE CONDITION PERSISTS, YOU SHOULD CONSULT YOUR MEDICAL DOCTOR IMMEDIATELY.

2. Hold onto the handrails and step up onto the staircase. Stand up straight. The steps will rotate slowly.
3. Select the MANUAL exercise program so you can control the pace of your first workout and get used to the exercise motion.
4. Press [MANUAL] and then [ENTER]. The console will return to the ATTRACT mode if you do not press [ENTER] within ten seconds.
5. The console will prompt you to enter your body weight. Enter your weight in pounds (or kilograms if the console is set up for metric units). Correct entry errors by pressing [CLEAR] before you press [ENTER].
6. The console will prompt you to enter the workout time in one-minute increments between five and 45 minutes. Press [1], [0], [ENTER] to exercise for ten minutes.
7. Step up with one foot at a time. Try to step at the top of the staircase. When you begin to exercise, the console will display a single flashing light in the first interval.
8. The flashing column shows which interval is active. Everything to the left of the active interval indicates completed intervals. As you become comfortable with the exercise motion, try pressing [+ ARROW] and [- ARROW] to adjust your speed.
9. Relax as much as possible while exercising and maintain an erect posture. Use the handrails for balance. Don't lock your elbows or lean on the console. Supporting your weight will reduce the exercise intensity and the console will



BASIC OPERATING INSTRUCTIONS

10. overestimate the number of calories burned.
Select a speed (or intensity level) that allows you to step towards the top of the staircase. Faster is not always better. Exercise at a level that is consistent with your fitness level.
11. You can stop once and rest for up to two minutes at any time during the workout. To rest, simply stop climbing and step down to the floor or press [RESET] (the stairs will continue to rotate very slowly). To resume your workout, press [YES] and begin climbing. To return the console the ATTRACT mode, press [NO] during the pause. The console returns to the ATTRACT mode if you rest longer than two minutes or take two rest breaks.
12. When you have completed the last interval of the workout, the machine will slow down to the slowest speed. Step off the machine and cool down by walking or stretching for at least five minutes.

End-of-Workout Summary

1. At the end of your workout, the message "GOAL ATTAINED" will scroll across the text bar. The total number of Calories you burned during your workout is then displayed for ten seconds. During this time, you may press any of the function keypad buttons to receive feedback concerning your workout. Refer to the "Function Keypad" section of this *Manual* for details.
2. The summary information is stored in the console memory until the next person begins an exercise program. Press [WORKOUT STATS] to recall the summary for the last workout.

7000 PT CONSOLE

The StairMaster® Stepmill® 7000 PT™ exercise system console is divided into four sections: the text bar, display, the function keypad, and the exercise program keypad (refer to Figure 2).

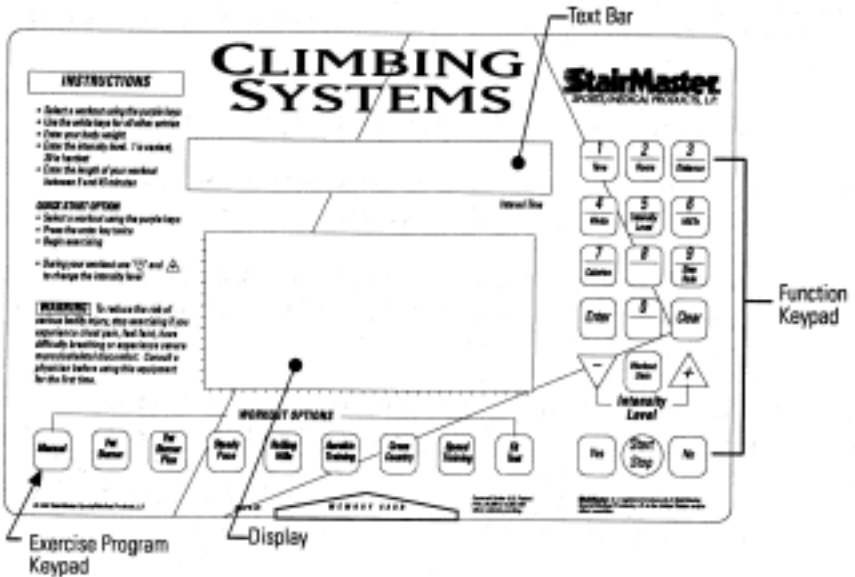


Figure 1: Console Diagram

TEXT BAR

Information regarding workout statistics and data entry is displayed or scrolled across the text bar. A countdown timer is located directly above the words "Interval Time". The timer shows the number of seconds remaining in the current interval.

DISPLAY

For all exercise program options except MANUAL, a profile of the selected program appears in the display. A flashing interval column indicates where on the profile you are currently exercising (the active interval). The flashing, active column moves left to right across the display area as you complete each interval.

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THE FUNCTION KEYPAD

The function keypad is located on the right side of the console. Eight of the buttons have two pieces of information on them—a number and a workout statistic. Before the exercise program begins, the numbers are used to enter data in response to the console prompts. During the exercise program, the buttons are used to display workout statistics on the text bar.

1. **TIME** displays the elapsed time, in minutes and seconds, of your workout.
2. **FLOORS** is the cumulative number of floors you have climbed based on an average eight-inch step and 16 steps per floor.
3. **DISTANCE** provides a cumulative total of the equivalent distance, in miles (or kilometers if your console is set to metric units), you would have traveled at the same relative intensity of exercise.
4. **WATTS** displays the physical power output of the machine. Power output is measured in units known as watts (746 watts = 1 horsepower). Since power is a rate, the watts do not accumulate over time. During a workout, this button provides the power output at that moment. After a workout, the average power output over the entire workout is shown.
5. **INTENSITY LEVEL** shows the current level between 1 (the easiest) and 20 (the hardest).
6. **METs** gives you the relative energy cost of exercise. One MET is equivalent to the resting oxygen consumption of about 3.5 milliliters of oxygen per kilogram of body mass per minute ($\text{ml O}_2 \text{ kg}^{-1} \text{ min}^{-1}$). For example, exercising at 10 METs requires ten times the resting metabolic rate or about $35 \text{ ml O}_2 \text{ kg}^{-1} \text{ min}^{-1}$. During the exercise program, this button displays the current MET level. After your exercise program, the average MET level is displayed.
7. **CALORIES** provides a running total of the Calories burned during a workout. Calories expended is a common way to measure the energy cost of exercise. Since the energy content of food is expressed in Calories, a convenient way exists to control or manage your body weight. When your total energy intake is less than your total energy output, you lose weight and vice versa. Technically, a Calorie is the amount of heat needed to raise the temperature of one liter (or one kilogram) of water one degree Celsius.

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8. **STEP RATE** indicates the exercise speed, using the number of eight-inch steps per minute for units.
9. The **ENTER** button confirms selections and stores the information used to calculate the workout statistics in the console memory.
10. The **CLEAR** button erases data from the console before the ENTER button is pressed.
11. The **+ and - ARROWS** increase or decrease, respectively, the workout intensity level (or the number of lights during MANUAL). The intensity level ranges from 1 (the easiest) to 20 (the hardest).
12. The **WORKOUT STATS** button scrolls the eight statistics continuously across the text bar. You can press any function keypad button during the scrolling summary and stop at that statistic.

If you press [WORKOUT STATS] while the total Calories are shown on the text bar immediately after your workout, the eight statistics scroll once across the text bar. You can press any function keypad button during the scrolling summary and stop at that statistic.

Pressing [WORKOUT STATS] while the console is in the ATTRACT mode will recall the final totals of the last workout. Your workout statistics are stored in the console memory until another exercise program is started.

13. The **YES** and **NO** buttons are used to respond to data entry prompts.
14. If the **START/STOP** button is pressed while the console is in the ATTRACT mode, the "ENTER WEIGHT" prompt will appear in the display area. If it is pressed during a workout or during data entry, the console will return to the ATTRACT mode, ending the workout.

EXERCISE PROGRAM KEYPAD

The purple exercise keypad is located below the display and to the left of the function keypad. While the console is in the ATTRACT mode, press one of the exercise program keys to preview the desired workout.

The sequence of prompts for the preset exercise programs is slightly different than the sequence described earlier for the MANUAL program. After you press one of the exercise program buttons, the exercise program profile is scrolled across the display.



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After the profile is scrolled, the prompts are:

- “PRESS ENTER KEY TO SELECT”
- “ENTER BODY WEIGHT” -- type in your body weight in pounds (or kilograms if your console is set to metric units).
- “ENTER LEVEL 1 - 20” -- select your intensity level with level 1 being the easiest and level 20 the hardest.
- “ENTER TIME 5 - 45” -- select the workout duration in one minute increments from five to 45.

The Quick Start Option

You can quickly start any workout by first pressing one of the purple exercise program keys and then pressing [ENTER] twice. You do not have to enter any other information. The length of the workout is set automatically and varies with the program. Quick starting MANUAL gives you a 15 minute workout. The preprogrammed workouts last five minutes for every thirty intervals. So, a 60 interval program will last 10 minutes. The only workout stats available are time, floors, distance, level, and step rate. The Fit Test does not have a quick start option.

The Fit Test

The Fit Test is a program that estimates your maximal aerobic capacity based on your heart rate response to submaximal exercise. Start the Fit Test by pressing [FIT TEST], [ENTER] while the console is in the ATTRACT mode. You will be prompted to enter your age and gender after a short message is scrolled across the display.

Once you have entered the required information, you will step at the rate of 43 steps per minute for three minutes. At the end of the three minutes, you will need to enter your heart rate. The console will prompt you to find your pulse; use the artery below your thumb in your wrist or the artery in the side of your neck. Start counting the beats when the console prompts you—the first beat you feel is zero and then one and so on. Enter the number of beats you counted in the ten seconds. If you are using a heart rate monitor, enter your heart rate directly into the console.

You will continue to exercise for three minute bouts of increasing intensity until you reach a point where you have entered two heart rate responses between 19 and 25 counts (115-150 beats per minute). The test typically lasts from nine to 15 minutes.

At the end of the Fit Test, your results scroll across the display area. Prior to a three-minute cool down, your estimated aerobic capacity, expressed in metabolic

equivalents (METs) , is shown in the display area. Next, your results will be compared to normative values for others of your age and gender. These normative values are based on values developed by the world renowned exercise physiologist, Dr. Per Olaf Åstrand, and are shown in Table 2. Your results are stored in the console until the next person starts an exercise program. Press [WORKOUT STATS] to review your results.

Table 2. Fitness Rating Norms

Rating	Low	Fair	Average	Above Average	Superior
Gender/Age					
Men					
20-29	<10.8	11.1-12.3	12.6-16.0	16.3-19.7	20.0+
30-39	<9.7	10.0-11.1	11.4-14.6	14.8-18.3	18.6+
40-49	<8.6	8.8-10.0	10.3-13.4	13.7-17.1	17.4+
50-59	<7.1	7.4-8.8	9.1-12.3	12.6-15.7	16.0+
60-69	<6.0	6.3-7.4	7.7-11.1	11.4-14.0	14.3+
Women					
20-29	<8.0	8.3-9.7	10.0-13.7	14.0-16.8	17.1+
30-39	<7.7	8.0-9.4	9.7-13.4	13.7-16.6	16.8+
40-49	<7.1	7.4-8.8	9.1-12.8	13.1-16.0	16.3+
50-59	<6.0	6.3-7.7	8.0-11.7	12.0-14.0	14.3+
60-69	<4.8	5.1-6.3	6.6-10.3	10.6-12.6	12.8+

PRESET EXERCISE PROGRAMS

There are seven preset exercise programs. The exercise speed during the programs varies automatically over 14 increments within each of the 20 different intensity levels. Varying the intensity of an exercise program does not change the profile shown on the display. Change the intensity level of your workout by pressing [+ ARROW] or [- ARROW]. The average energy cost of the exercise programs is about the same.

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The Fat Burner program (Figure 2) is a 60 interval workout designed for people just starting a weight control program. The Fat Burner Plus program (Figure 3) is similar but has 90 intervals. It is meant for the longer workouts you will need as your fitness level increases.



Figure 2a: Fat Burner, Screen 1

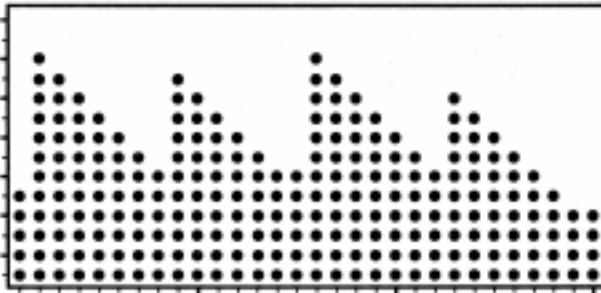


Figure 2b: Fat Burner, Screen 2

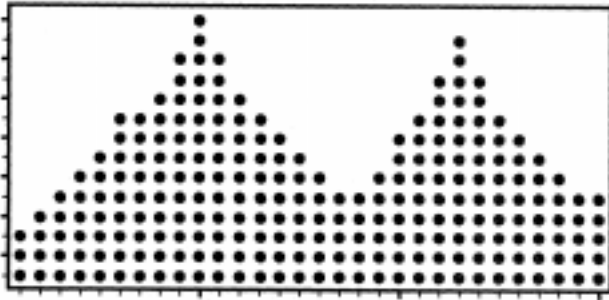


Figure 3a: Fat Burner Plus, Screen 1

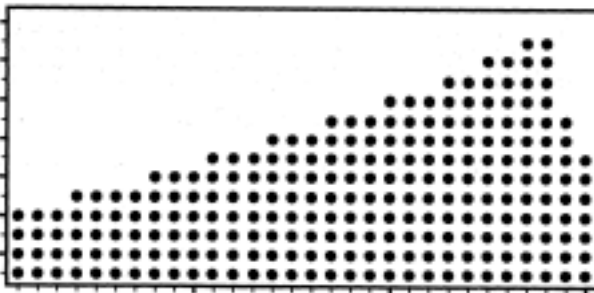


Figure 3b: Fat Burner Plus, Screen 2

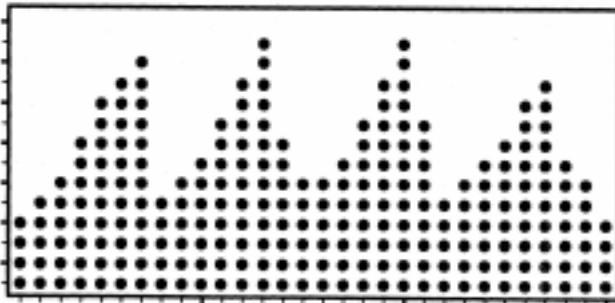


Figure 3c: Fat Burner Plus, Screen 3

7000 PT CONSOLE

Steady Pace and Rolling Hills (Figures 4 and 5) are 30 interval workouts with gradual speed changes. They are geared for those who are just starting to exercise or for those who need an easy day of recovery exercise.

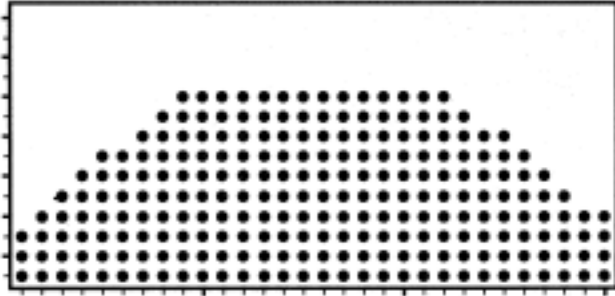


Figure 4: Steady Pace

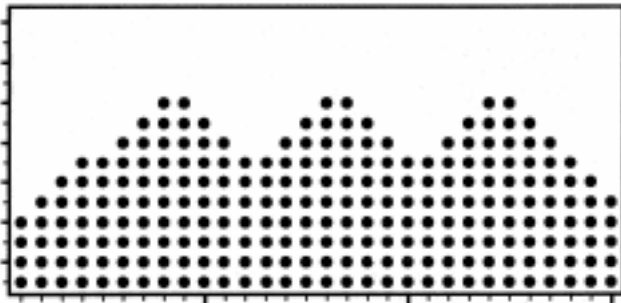


Figure 5: Rolling Hills

Aerobic Training (Figure 6) is a 60 interval workout with slightly more varied speed changes. It is ideal for those long, slow workouts to increase your aerobic capacity.

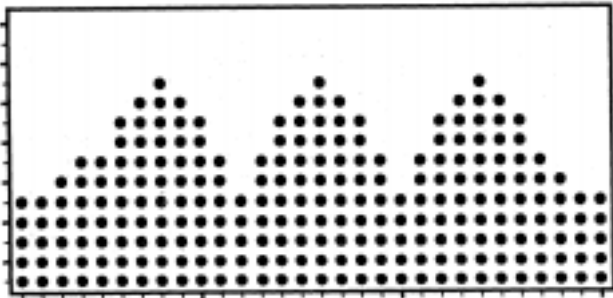


Figure 6a: Aerobic Training, Screen 1

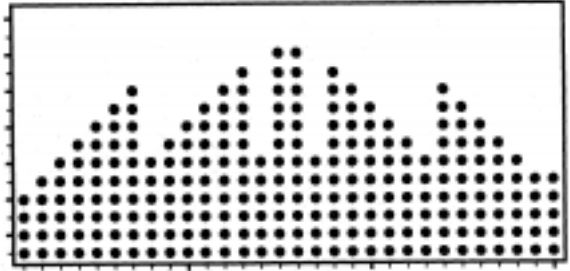


Figure 6b: Aerobic Training, Screen 2

7000 PT CONSOLE

Cross Country and Speed Training (Figures 7 and 8) are 90 interval workouts with lots of speed changes to get your legs moving. Think of the terrain you would find on a hike cross country.

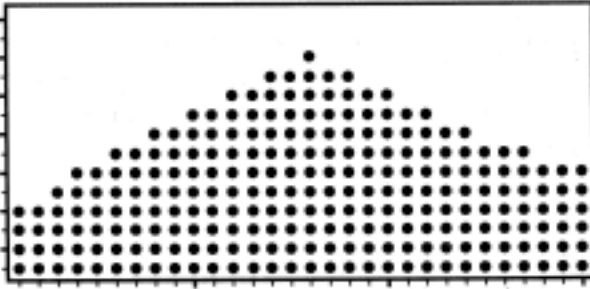


Figure 7a: Cross-Country, Screen 1

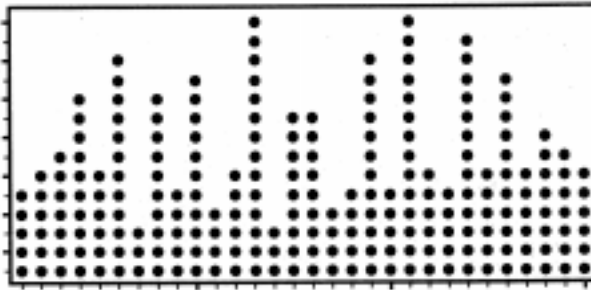


Figure 7b: Cross-Country, Screen 2

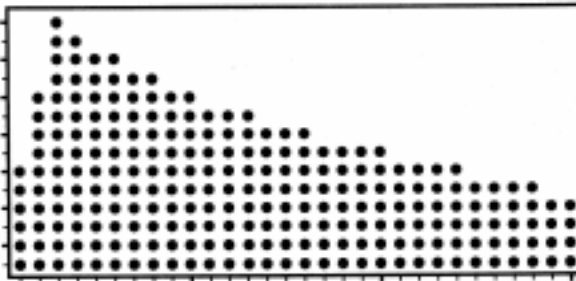


Figure 7c: Cross-Country, Screen 3

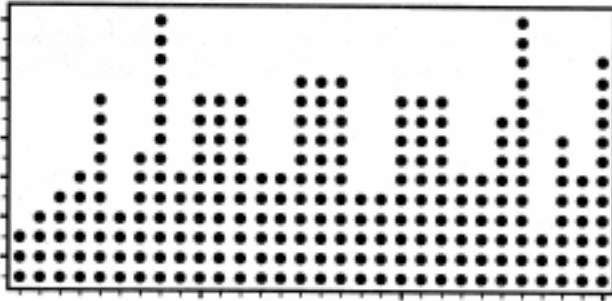


Figure 8a: Speed Training, Screen 1

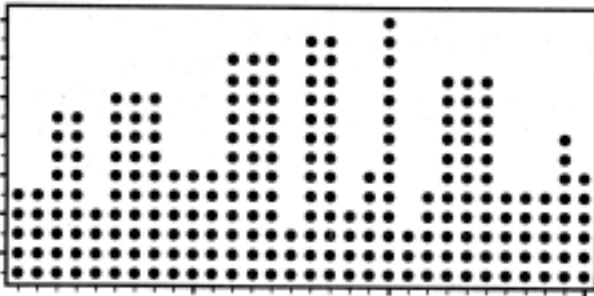


Figure 8b: Speed Training, Screen 2

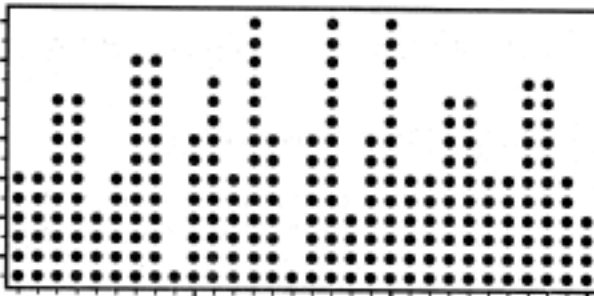


Figure 8c: Speed Training, Screen 3

7000 PT CONSOLE

CUSTOMIZING YOUR EXERCISE PROGRAM

The StairMaster® Stepmill® 7000 PT™ exercise system console has enough memory space for nine exercise programs of your design. Only the exercise profile is saved, your body weight, the intensity level and the workout time must be entered each time the custom program is used.

Programming Your Workout

1. The console must be in the ATTRACT mode. Press [+ ARROW], [1], [6], [5], [0], [ENTER]. Press the exercise program keypad button that you want to assign to your custom program.
2. If you select an exercise program keypad button that is already programmed, the profile will appear; it can be modified or completely rewritten. If the exercise program keypad button was not previously programmed, you will see a single row of dots along the bottom of the display.
3. The flashing dot or column indicates which interval can be modified. Press the [+ ARROW] or [- ARROW] to make the column taller or shorter. Press [ENTER] to move one column to the right and [CLEAR] to move one column to the left.
4. When all of the intervals are correctly programmed, press [YES] to save the profile. Press [START/STOP] to abort the programming process without saving the profile.

Using a Custom Program

1. Press [- ARROW] and the exercise program keypad button you assigned to the custom program.
2. Enter your body weight, the intensity level and the workout time in response to the prompts.

CUSTOMIZING THE TEXT BAR SCROLLING MESSAGE

The message that scrolls across the text bar during the ATTRACT mode can be replaced with a message of your choice. The console accepts messages up to 128 characters in length, including spaces. To program your message:

1. Encode your message using the character codes listed in Table 3.

7000 PT CONSOLE

2. While the console is in the ATTRACT mode, press [+ ARROW], [7], [6], [0], [7], [ENTER].
3. Enter the two-digit code for each letter of your message. The letter will appear in the text bar as you press the second digit of each code. Do not press [ENTER] between the code numbers.
4. For example, to program the message "EXERCISE IS FUN", press [+ ARROW], [7], [6], [0], [7], [ENTER]. Then press [1], [5], [3], [4], [1], [5], [2], [8], [1], [3], [1], [9], [2], [9], [1], [5], [1], [0], [1], [9], [2], [9], [1], [0], [1], [6], [3], [1], [2], [4], [ENTER]. At that point, your message will begin scrolling. The console is again in the ATTRACT mode.
5. If you make a mistake while entering the codes, press [CLEAR] to erase the last character entered.

Table 3. Character Codes for the Scrolling Message

Character	Code	Character	Code	Character	Code
0	00	M	23	Í	46
1	01	N	24	À	47
2	02	O	25	Î	48
3	03	P	26	Ë	49
4	04	Q	27	Ä	50
5	05	R	28	Ç	51
6	06	S	29	È	52
7	07	T	30	¿	53
8	08	U	31	+	54
9	09	V	32	\$	55
SPACE	10	W	33	.	56
A	11	X	34	,	57
B	12	Y	35	%	58
C	13	Z	36	?	59
D	14	Ä	37	·	60
E	15	Ü	38	!	61
F	16	Ö	39	-	62
G	17	ß	40	#	63
H	18	Ä	41	:	64
I	19	Á	42	;	65
J	20	Ó	43)	66
K	21	É	44	(67
L	22	Ñ	45	/	68



7000 PT CONSOLE

Editing the Scrolling Message

1. While the console is in the ATTRACT mode, press [+ ARROW], [7], [6], [0], [7], [ENTER] to display the first character of the message onto the text bar.
2. Press [+ ARROW] or [- ARROW] to scroll through the message character-by-character.
3. Press [CLEAR] to delete the last character displayed on the text bar. Press [ENTER] to end the editing process.
4. To edit multiple characters at one time, press [9], [9], [ENTER] to erase all of the characters to the right of the last character displayed on the text bar.
5. To erase the entire message, press [+ ARROW], [1], [0], [5], [ENTER] while in the ATTRACT mode.
6. The edited message will scroll across the text bar. If you have erased the entire message, the text bar area will be blank during the ATTRACT mode.
7. Press [+ ARROW], [2], [1], [2], [3], [ENTER] to display the default scrolling message on the text bar.
8. Press [+ ARROW], [2], [1], [2], [1], [ENTER] to display your custom scrolling message on the text bar.

CONSOLE CODES

The console codes and the corresponding functions are listed in Table 4.

Table 4. Console Codes

Code	Function
+ ARROW, 105, ENTER	Clears the custom programmed scrolling message
+ARROW, 107, ENTER	Activates the Diagnostic mode
0	Display test
1	Speaker test
2	Keypad test
3	Speed Test
4	Software revision level test
+ARROW, 1650, ENTER	Programs a custom workout
+ARROW, 2121, ENTER	Turns on the custom scrolling message
+ARROW, 2123, ENTER	Turns off the custom scrolling message
+ARROW, 7424, ENTER	Changes the language of the console prompts
0	English
1	German
2	French
3	Italian
4	Spanish
5	Swedish
6	Danish
7	Japanese
+ARROW, 7607, ENTER 99, ENTER	Turns on the custom message option Text bar scrolling message editing function
+ARROW, 7703, ENTER	Displays machine usage information
+ARROW, 7704, ENTER	Allows you to turn the console speaker on or off
0	Turns the speaker on
1	Turns the speaker off
+ARROW, 9760, ENTER	Allows you to change the units displayed by the console
0	Changes the console to English units
1	Changes the console to metric units

MAINTENANCE INSTRUCTIONS

HELPFUL HINTS

Read all maintenance instructions thoroughly before beginning work. In some cases, an assistant is required to perform the necessary tasks. The safety level given by the design of this equipment can only be maintained when the equipment is regularly examined for damage and wear. Inoperable components shall be replaced immediately or the equipment shall be put out of use until it is repaired.

All references to the right or left side and to the front or back are made as if you were on the machine ready to exercise. For example, the power supply is plugged into the connector near the bottom of the right side cover. The circled numbers in the figures identify parts that are referenced in the Parts Key of the Appendix.

TOOL LIST

The following tools are needed to perform service and maintenance:

- standard screwdriver
- combination wrenches (sizes 7/16 - 3/4")
- combination pliers
- locking pliers
- allen wrench set (sizes 5/64 - 1/4")
- socket set or nut driver set (sizes 1/4 - 3/4" in 1/16" increments)
- phillips screwdriver
- adjustable wrench
- external snap ring pliers
- wire stripper/crimper tool
- volt-ohm meter (multimeter)
- shop goggles

MAINTENANCE RECORDS

The console will keep track of the following data on machine usage:

- The number of hours the power supply was turned on.
- The number of hours the machine was in use.
- The total number of floors climbed.
- The number of exercise programs started.
- The hours of MANUAL use.

To display the data, press [+ ARROW], [7], [7], [0], [3], [ENTER] while the console is in the ATTRACT mode. The console will display the data in the sequence listed above. The machine may show a few hours of use due to testing at the manufacturing facility.

MAINTENANCE INSTRUCTIONS

INITIAL SERVICE

Upon receiving your machine, use a soft, clean towel to wipe off the dust which may have accumulated during shipping. Your new machine will require minor assembly. Refer to the "Installation Instructions" section of this *Manual* for details.

PREVENTIVE MAINTENANCE

The procedures for performing the recommended preventive maintenance are summarized in Table 5. The schedule is based on normal usage in a commercial health club environment; adjust the schedule to meet actual machine usage. Refer to the "Parts Removal and Replacement" section of this Manual for all disassembly and assembly instructions.

Cleaning and Inspecting

1. DO NOT USE GLASS CLEANERS OR ANY OTHER HOUSEHOLD CLEANER ON THE CONSOLE. Clean the console daily with a water-dampened cloth and wipe dry after cleaning.
2. Clean the exterior of your Stepmill® 7000 PT™ exercise system daily with soap and water.
3. Thoroughly clean the entire machine at least once a week.
4. Inspect the painted surfaces of the exposed frame for any rust, bubbling or chips during the weekly cleaning. The salt in perspiration can damage the unpainted surfaces. Repair the damaged area with a touch-up kit provided by StairMaster® Sports/Medical Products, Inc. Refer to the Parts Key for the touch-up kit part number.
5. Clean the step hinges carefully. Perspiration tends to accumulate in the hinges, and this can lead to eventual corrosion.
6. Inspect the Poly-V belt for excessive wear during the weekly cleaning. Adjust the belt tension if necessary.



WARNING

TO AVOID INJURY DUE TO SLIPPERY PEDAL SURFACES, DO NOT USE PETROLEUM-BASED CLEANERS OR ARMORALL-TYPE PROTECTANTS

MAINTENANCE INSTRUCTIONS

ANYWHERE ON THIS MACHINE OR THE FLOOR MATS.

Lubrication

The StairMaster® Stepmill® 7000 PT™ exercise system has six components that require periodic lubrication: the drive chain, the two step chains, the bearing plates and the step hinges. These parts are shown in Figure 11. You will need to remove the side cover(s) to lubricate the chains and the bearing plates.

1. Place a protective mat on the floor while you are lubricating your machine. A rubber floor mat is available from StairMaster Sports/Medical Products, Inc.
2. Lubricate the chains monthly with 30W motor oil. Drip the oil onto the chain plates and rollers. Let the oil soak in for a few minutes and then remove any excess oil with a dry rag.
3. Remove the chains every three months to thoroughly clean and relubricate them. Use a mild degreaser and a stiff brush to remove dirt and corrosion from the chain. Read the instructions on the degreaser container before using.
4. Clean each bearing plate and lubricate it with multi-purpose grease every three months. The plate is lubricated to reduce friction when the step shaft bearings roll over the plate.
5. Once per month, use 30W motor oil or brush light bearing grease into the step hinges to lubricate the hinges and to prevent corrosion. Wipe off all excess lubricant.



WARNING

TO REDUCE THE POSSIBILITY OF SLIPPING, BE SURE THE STEP AREA IS FREE OF GREASE OR OIL. WIPE ANY EXCESS OIL OFF THE MACHINE SURFACES.

MAINTENANCE INSTRUCTIONS

Table 5. Recommended Preventive Maintenance Schedule

PART	RECCOMENDED ACTION	FREQUENCY	CLEANER	LUBRICANT
Exterior Surfaces	Clean	Daily	Soap & water	N/A
Console	Wipe Clean	Daily	Water	N/A
Step Chain Assembly	Lubricate	Monthly or after 300 hours of use	N/A	30W motor oil
	Clean and lubricate	Quarterly or after 900 hours of use	Clean, dry rag	Multi purpose grease
Drive Chain	Lubricate	Weekly or after 70hours of use	N/A	30W motor oil
	Clean and lubricate	Quarterly or after 900 hours of use	Mild Degreaser	30W motor oil
Step Hinges	Lubricate	Monthly or after 300 hours of use	N/A	30W motor oil
Bearing Plate	Clean and lubricate	Quarterly or after 900 hours of use	Mild Degreaser	30W motor oil

*Note: Use of lubricants other than those so specified will result in diminished performance and a shorter life span for that part.

TROUBLESHOOTING

GENERAL TROUBLESHOOTING GUIDELINES

This section outlines several tests to systematically identify and isolate the cause of problems in the electrical system and the drive train. This troubleshooting section is organized into four basic problem sections: Electrical System, Console Diagnostics, Speed Control, and the Drive Train. The first step is to identify the problem. Once you have identified the problem, perform all the tests in exactly the same order as written. Refer to the "Parts Removal and Replacement" section of this *Manual* for all disassembly and assembly instructions. To order a replacement part, or to get help with the troubleshooting process, contact our Customer Service Department at (800) 331-3578. International customers should contact their local distributor or call (206) 823-1825.

TROUBLESHOOTING THE ELECTRICAL SYSTEM

The electrical system consists of: the power supply and the console. In order to identify the component that is causing the problem, you must systematically test the system. You will need a volt-ohm meter (multimeter) to conduct portions of the following procedures. The console and power supply are not serviceable by the owner. If either of these parts are inoperable, they must be replaced. Opening the console or the power supply will void the warranty.

The Console Fails to Power Up

- A. Perform a visual check of the machine. Check the following things first:
 1. Is the power supply plugged in?
 2. Is the indicator light lit on the power supply? If it is, proceed to step #3. If the light is not on, reset the circuit breaker. If the light is still not on, replace the power supply.
 3. Replace or exchange your console with a console you know is good and retest the machine.
- B. Verify AC power.
 1. Disconnect the AC power cord from the AC wall outlet.
 2. Verify that the AC wall outlet is supplying the correct power in one of two ways: a) Use an AC voltmeter to verify that the AC line voltage is between 100 and 120 VAC (or between 220 and 240 VAC, if applicable) at the AC wall

TROUBLESHOOTING THE ELECTRICAL SYSTEM

outlet; or b) Plug in an alternate AC-powered device (a lamp, for example). If the AC wall outlet is supplying the correct power, proceed to step #3. If the voltage is outside the range or if the device does not work when plugged into the AC wall outlet, consult an electrician for further assistance and then retest the AC wall outlet.

3. Plug the AC power cord into the wall outlet and proceed to the next section.

C. Verify DC power.

1. Make sure that the AC power cord is plugged in and that the AC wall outlet is delivering the proper voltage.

2. The indicator light should be lit. If it is, proceed to step #3. If the indicator is not lit, reset the circuit breaker. If the indicator light is still not lit, replace the power supply and test the new power supply.

3. Disconnect the cable from the DC power connector located on the bottom cover. Use a DC voltmeter to verify 10-16 VDC at the end of the DC cable. Pin #1 is positive and pin #2 is negative. Proceed to step #5 if the VDC is within the range. Replace the power supply if the VDC is outside the range and test the new power supply.

4. Remove the right side cover. Reconnect the DC power cable to the machine. Locate the relay/resistor circuit board located just inside the frame, midway between the top and bottom steps (refer to Wiring Diagram 1). There are three red indicator lights along the bottom edge of the relay assembly circuit board. They are labeled, from top to bottom: Field, Power, and Relay. Ensure the black and white wire power connector (labeled J2 on the relay resistor circuit board) is securely connected to the relay resistor circuit board.

a. The Power light should be lit. If it is, go to step #6. If it is not, disconnect the power connector from the J2 position on the relay assembly circuit board (refer to Wiring Diagram 2). Use a DC voltmeter to measure the VDC at the power connector. Hole #1 (the white wire) is positive and hole #2 (the black wire) is negative. The reading should be between 15 and 17 VDC. If you are not getting power to the connector, replace the power connector assembly and retest.

b. If you are getting the correct voltage at the power connector, reconnect it to the J2 position on the relay assembly circuit board.



TROUBLESHOOTING THE ELECTRICAL SYSTEM

Disconnect the main cable connector at the J1 position of the relay assembly circuit board. Check the VDC reading at the silver tabs on the relay assembly circuit board. Tab #4 (labelled +/WHT) is positive and tab #5 (labelled GND/BLK) is negative (refer to Wiring Diagram 2). You should get a reading between 15 and 17 VDC. If your reading is not within the range, replace the relay assembly circuit board and retest.

- c. If you are getting the correct voltage at tabs #4 and #5, check the VDC reading at the connector labelled position J1 on the relay assembly circuit board. Pin #4 is positive and pin #5 is negative. You should get a reading between 15 and 17 VDC. If your reading is not within the range, replace the relay assembly circuit board and retest.
- d. If all of the above power tests produce VDC readings that are within range and the Power indicator light is still not lit, the Power indicator light is probably inoperable. Replace the relay assembly circuit board and retest.

5. Ensure that all of the wires you disconnected in steps 5a-5c are securely reconnected. Remove the console and disconnect the console cable. Use a DC voltmeter to measure the VDC at pin #9 (positive) and pin #1 (negative) of the console cable connector. You should get a reading between 15 and 17 VDC. If the reading is not within the range, replace the cable assembly and retest.
6. If the problem still exists, contact the Customer Service Department at StairMaster® Sports/Medical Products, Inc.

CONSOLE DIAGNOSTIC TESTS

The following tests must be performed while the console is in the DIAGNOSTIC mode. To activate the DIAGNOSTIC mode, press [+ ARROW], [1], [0], [7], [ENTER]. The numbers will not appear on the display area as you enter them. If the console fails any test, the console should be replaced or exchanged. To return to the ATTRACT mode, press either [CLEAR] or [RESET] while in the DIAGNOSTIC mode.

Display Test

Use this test if the console display or text bar exhibits blank spots during use. This test checks for inoperable Light Emitting Diodes (LEDs) in the console display and the text bar. If any LED will not light, replace the console.

1. Press [0] to start the test.
2. All LEDs in the console display will flash on and off as a block. The 26 letters (A-Z) will scroll across the text bar.
3. Press [CLEAR] to end the test.

Speaker Test

Use this test to make sure the console speaker is fully operational. The speaker will ascend and then descend through the musical scale.

1. Press [1] to start the test.
2. Press [ENTER] to pause the test. Press [CLEAR] to end the test.

Keypad Test

Perform this test if you are having trouble entering data into the console. If you cannot enter the DIAGNOSTIC mode due to an inoperable keypad, replace the console.

1. Press [2] to start the test.
2. The display LEDs will light up in an L-shaped formation, representing the keypad matrix. Pressing a button on either the exercise program keypad or the function keypad will light an LED within the outline on the display that corresponds to that button's position on the console.
3. Firmly press each button. If the LED corresponding to the button you pushed does not light up, the keypad is bad and the console should be replaced.



CONSOLE DIAGNOSTIC TESTS

4. Press [CLEAR] to test the LED and then end the test.

Speed Test

Use this test to verify the electronic speed control routines of the console. You will need to briefly exercise on the machine for this test.

1. Press [3] to start the test.
2. The console will be set at a certain speed. The alternator speed, in RPM, is displayed on the text bar as "Target" and a single column of lights will light up on the display.
3. Begin exercising. As the stairs rotate, the text bar will alternately show the actual RPM and the target RPM.
4. Press [CLEAR] to return to the DIAGNOSTIC mode.

Software Revision Level Test

This test allows you to check the version number of the software installed in the console.

1. Press [4] to start the test.
2. The software version number will be scrolled across the text bar. The console will automatically return to the DIAGNOSTIC mode.
3. Contact the Customer Service Department for the most current software revision update.

SPEED CONTROL PROBLEMS

If you have problems with erratic speed control while operating the machine, the cause may be either electrical or mechanical in nature. You will have to remove the side covers to conduct most of these tests.

- A. Perform a visual check of the machine. Check the following things first:
 1. Inspect the Poly- V belt for proper tension and excessive wear. A loose belt will cause excessive noise and wear. The machine will run sluggishly if the belt is too tight.
 2. Replace a worn or frayed Poly-V belt. Adjust the belt so that there is 1/10" (0.3 cm) deflection at a point midway between the alternator and transmission pulleys with fingertip pressure (refer to Figure 14).
 3. Check for proper wire connections on the alternator, relay assembly circuit board, and load resistor (refer to Wiring Diagram 3).
 4. Replace or exchange the console with another console you know is good and retest the machine.

- B. Check the relay assembly circuit board while the console is in the ATTRACT mode. You will need an assistant to complete the test of the relay assembly circuit board.
 1. Remove the right side cover. Locate the relay assembly circuit board located just inside the frame, midway between the top and bottom steps (refer to Wiring Diagram #1). There are three red indicator lights along the bottom edge of the circuit board. They are labeled, from top to bottom: Field, Power, and Relay. Ensure the black and white wire power connector (labeled J2 on the relay assembly circuit board) is securely connected to the relay assembly circuit board (refer to Wiring Diagram 2).
 2. If the Power light is lit, go to step #3. If it is not, perform the tests as described in step C-5 of the "Console Fails to Power Up" section.
 3. The relay indicator light should be lit. If it is lit, proceed to step #5. If it is not, use a jumper wire on the relay assembly circuit board. Jump the silver tabs #1 (labeled RLY/RED) and #5 (labeled GND/BLK) (refer to Wiring Diagram 3). The relay indicator should light up. If it does, go to step #4. If the relay indicator does not light up, the relay assembly circuit board must be replaced. Replace the relay assembly circuit board and retest the machine.

SPEED CONTROL PROBLEMS

4. You must check the cable assembly for continuity if the relay indicator lit up when you jumped tabs #1 and #5.
 - a. Unplug the main cable from the position labeled J1 on the relay assembly circuit board. Disconnect the console cable from the back of the console. Set your multimeter to the continuity check mode; on most meters, this will be the resistance or ohms setting.
 - b. Place one lead of the multimeter on pin #1 at the console connector end of the console cable (refer to Wiring Diagram 1). Place the other lead on pin #1 at the end of the main cable you disconnected from the relay assembly circuit board. You will get a reading of near zero ohms if there is continuity in the cable assembly.
 - c. Check continuity in both ends of the main cable assembly at pin #5.
 - d. If there is no continuity in the cable assembly at either pin, replace the cable assembly and retest. If there is continuity in the cable assembly at both pins and the relay resistor indicator is not lit, the console is inoperable and must be replaced.
5. Have your assistant step on the staircase (leave the console in the ATTRACT mode) while you check the field indicator light. It should be flickering. If it is and you still have a speed control problem, go to step #6.

If it is not flickering, ensure the following: the console cable is connected to the console; the console/main cable connection is secure; the connector at position J1 on the relay assembly circuit board is securely connected; that there is continuity in the cable assembly. To check for continuity:

- a. Unplug the connector at position J1 on the relay assembly circuit board. Disconnect the console cable from the back of the console. Set your multimeter to the continuity check mode; on most meters this will be the resistance or ohms setting.
- b. Place one lead of the multimeter on pin #2 at the console connector end of the console cable (refer to Wiring Diagram 1). Place the other lead on pin #2 at the end of the main cable you disconnected from the relay assembly circuit board. You will get a reading of near zero ohms if there is continuity in the cable assembly.
- c. If there is no continuity in the cable assembly, replace it and retest. If



SPEED CONTROL PROBLEMS

there is continuity in the cable assembly and the field indicator light is still not flickering, contact the Customer Service Department for further assistance.

6. If the field indicator was flickering while your assistant was on the machine and you still have a problem with speed control, you need to test the alternator (refer to Wiring Diagram 3).
 - a. Disconnect the white wire (labeled positive output on the alternator) and the brown wire (labeled "Field" on the alternator). Use a jumper wire to jump the Field and positive output terminals of the alternator.
 - b. Have your assistant step onto the staircase. Does the staircase slow down? If it does not, you need to replace the alternator. If the staircase does slow down, contact the Customer Service Department for further assistance.
- C. Replace or exchange the alternator with another alternator you know is good and retest the machine.
- D. Test the load resistor as outlined in the "Load Resistor Test" section of this Manual.
- E. If the speed control problem still exists, contact the Customer Service Department for further assistance.



LOAD RESISTOR TEST

The alternators are heavy-duty models designed to withstand the rigors of commercial use. One possible reason for repeated failure is an inoperable load resistor. To test the load resistor:

1. Unplug the AC power cord from the AC wall outlet.
2. Locate the load resistor mounted to the frame just under the staircase.
3. Disconnect one black wire from the resistor (refer to Wiring Diagram 3).
4. Set your multimeter for R x 1 or the lowest available resistance range. If you have an analog multimeter, touch the two leads together and adjust the meter for a zero reading.
5. Place one lead on Tab A and one lead on Tab 5 of the relay assembly circuit board (refer to Wiring Diagram 2). You should get a reading of approximately 1.0 ohm or less.
6. Replace the load resistor if the reading is out of range and retest the new load resistor.
7. Reconnect the AC power cord and reinstall the right side cover.

TROUBLESHOOTING THE DRIVE TRAIN

If you hear a grinding or clicking noise, or experience excessive vibration during exercise, or if the steps are not functioning properly, you probably have a problem in the drive train. Attempt to isolate the problem area by performing the following tests in precisely the order listed below. Refer to the "Parts Removal and Replacement" Section of this *Manual* for all disassembly and assembly instructions.

1. Unplug the power supply from the AC wall outlet and remove the side covers.



WARNING

TO REDUCE THE RISK OF INJURY, DO NOT OPERATE THE MACHINE WHILE THE SIDE COVERS ARE REMOVED. DO NOT ROTATE THE STAIRS WHILE ANYONE'S HANDS ARE INSIDE THE MACHINE.

2. Check the condition and the tension level of the Poly-V belt. Replace the belt if it is excessively worn.
 - a. Adjust the tension level so that you can deflect either side of the belt 1/10" (0.3 cm) at the center between the alternator and the transmission pulleys (refer to Figure 14). Noise can be generated by a belt that is too tight or too loose.
 - b. If the noise is still present, remove the Poly-V belt and work the revolving staircase. Note: With the Poly-V belt removed, the staircase will rotate very quickly.
 - c. If the noise no longer exists, replace the alternator.
3. Check the condition of the alternator.
 - a. Remove the Poly-V belt.
 - b. Spin the alternator pulley with your fingers. It should spin freely and remain spinning for at least one and one-half revolutions. If it does not spin as it should, the bearings may be bad and the alternator should be replaced.
 - c. If the pulley does spin freely, check the alternator for noise, roughness, or the presence of black powder inside the alternator or near the outside of the case. If any of these conditions exist, the brushes may be bad and the alternator should be replaced.
 - d. Reconnect the Poly-V belt and adjust the belt tension.



TROUBLESHOOTING THE DRIVE TRAIN

4. Check the drive chain mechanism. Rotate the stairs and look for chain links that do not flex as the chain travels over the sprockets. If the links are frozen or sticking, replace the chain.
5. Check the step chain assemblies.
 - a. Have your assistant slowly exercise on the machine. Observe the staircase. If the staircase moves to the left or right during exercise, ensure the set screws in the bearing adjusters are tight.
 - b. Rotate the stairs and look for chain links that do not flex as the chain travels over the sprockets. If the links are frozen or sticking, replace the chain.
6. Check the condition of the upper and lower sprocket assemblies. Replace the sprocket assembly if it is worn excessively, has broken teeth, or if it is bent.
7. Check the alignment of the upper and the lower sprocket assemblies. The outside face of the upper and lower sprockets should be 1-11/16" (4.3 cm) from the outside edge of the left frame rail. Loosen the nuts on the pillow block bearing collars and tighten or loosen the bearing adjuster set screws until the distance to both sprockets is correct. Tighten the pillow block bearing nuts and verify the distance.
8. Check the step assembly.
 - a. Rotate the steps and check the hinges, step shafts, washers, and bearings (refer to Figure 16) for wear, corrosion and lack of lubrication. Replace any worn parts.
 - b. Ensure the nuts at each step shaft end are tight.
9. Check the transmission.
 - a. Remove the drive chain and the Poly-V belt. Turn the transmission sprocket. It should turn freely without binding or releasing. If it does not, replace the transmission.
 - b. Check for a 19:1 gear ratio between the two shafts.
 - Place a mark from the transmission sprocket straight across to the transmission casing and a mark from the alternator pulley straight across to the alternator casing.



TROUBLESHOOTING THE DRIVE TRAIN

- Rotate the transmission sprocket through one full revolution while observing the alternator pulley. The alternator pulley should rotate through 19 full revolutions.
 - Replace the transmission if you detect roughness while rotating the sprocket or if the alternator pulley does not rotate 19 revolutions.
10. Reinstall all parts, ensuring the Poly-V belt is properly tensioned. Clean and lubricate the drive and step chains before reinstalling them.

PARTS REMOVAL AND REPLACEMENT

COVERS



WARNING

TO REDUCE THE RISK OF INJURY, DO NOT OPERATE THE MACHINE WHILE THE SIDE COVERS ARE REMOVED. DO NOT ROTATE THE STAIRS WHILE ANYONE'S HANDS ARE INSIDE THE MACHINE.

There are five covers on the machine: two side covers, a back cover, a bottom cover, and a top cover. The side covers overlap the top cover. The side covers must be removed before the top cover. The side covers must also be removed before the bottom cover can be removed.

All covers are held in place with reusable plastic fasteners (refer to Figure 12 for their location). To remove the fasteners, slide either end of the fastener removal tool under the edge of the pin head (refer to Figure 13). The pin should not be removed. Pull the cover away from the frame. Do NOT use the fastener removal tool or any other sharp tool to pry out the fastener base because you may damage the covers.

To reinstall the fastener, insert the base of the fastener through the cover and into the frame. When the base is in place, push the pin in all the way to secure the fastener.

Side Covers

1. Remove the 14 fasteners on each side cover.
2. Pull the cover away from the frame.

Top Cover

1. Remove both side covers.
2. Lift the top cover away from the frame.
3. Set the top cover in place. Secure the side covers to complete reinstallation.

Back Cover

1. Remove the 10 fasteners and lift the back cover away from the frame.

PARTS REMOVAL AND REPLACEMENT

2. Align the holes in the frame and the back cover. Secure the back cover with the 10 fasteners.

Bottom Cover

1. Remove both side covers to gain access to the bottom cover fasteners.
2. Disconnect the DC power cable.
3. Remove the six fasteners and lift the bottom cover away from the frame.
4. Reinstall the bottom cover, then the two side covers. Remember to connect the DC power cable.

CONSOLE

1. Locate the mounting knobs on the back of the console (refer to Figure 10).
2. Loosen and remove the four mounting knobs.
3. Unscrew the console cable from the back of the console.
4. To reinstall the console, connect the console cable to the back of the console.
5. Align the four console holes with the four holes on the console mount.
6. Insert and tighten a mounting knob into each hole.
7. There is no need to overtighten the knobs.

POLY-V BELT



WARNING

THE POLY-V BELT MUST BE ADJUSTED SO THAT THE CENTER OF EITHER SIDE CAN BE DEFLECTED 1/10" (0.3 CM) FROM ITS CENTER LINE WITH FINGERTIP PRESSURE. A TIGHT BELT WILL CAUSE SLOW AND SLUGGISH OPERATION; A LOOSE BELT WILL CAUSE EXCESSIVE NOISE AND BELT WEAR.

1. Remove the left side cover.
2. Loosen the adjustment bolt that mounts the alternator to the slotted alternator brace.



PARTS REMOVAL AND REPLACEMENT

3. Pivot the alternator forward to loosen the belt. Remove the Poly-V belt.
4. When reinstalling the Poly-V belt, pivot the alternator forward or back as necessary to allow 1/10" (0.3 cm) of play on either side of the belt (refer to Figure 14).
5. Tighten the adjustment bolt and verify the Poly-V belt tension.

DRIVE CHAIN

1. Remove the left side cover.
2. Remove the retaining clip and retaining plate from the drive chain master link. Do not remove the master link from the drive chain yet.
3. Push up on the idler arm with one hand to relieve the tension on the drive chain (refer to Figure 15). Remove the master link from one end of the drive chain and remove the drive chain from the sprockets.
4. Reinstall the drive chain by reversing the steps.

STEP ASSEMBLY

1. Remove the right and the left side covers.
2. Rotate the stairs until the step you want to remove is positioned in the middle of the staircase.
3. Loosen and remove the nut from one end of the step shaft on both the upper and the lower hinges of that step (refer to Figure 16). You may be required to place another 5/16"-18 nut on the opposite end of the step shaft to remove the nut.
4. Remove the bearing and the washer from each step shaft.
5. Grasp the opposite step retaining nut with pliers or locking pliers. Pull the step shaft out of the upper and lower step hinges. Be careful to not lose the washer located between the step and the modified link.
6. Reinstall the step by reversing the procedures.



PARTS REMOVAL AND REPLACEMENT

STEP CHAIN ASSEMBLY

1. Remove the right and the left side covers.
2. Rotate the stairs to position the step chain master link on the lower span of the chain (refer to Figure 17).
3. Remove the master link.
4. Using the old master link, connect the new chain assembly to the lower half of the old chain assembly.
5. Remove the nut from the step shaft above the master link (refer to Figure 16). You may be required to place another 5/16"-18 nut on the opposite end of the step shaft to remove the nut.
6. Remove the bearing, outer step shaft washer and the modified link of the old step chain assembly from the step shaft.
7. Place the modified link of the new step chain assembly on the step shaft. Reinstall the outer step shaft washer, bearing and nut.
8. Rotate the steps until the next step shaft is in approximately the same place as the previous step shaft.
9. Repeat steps 6-8 until the new chain assembly is installed on the remaining step shafts.
10. Remove the master link connecting the old chain with the new chain.
11. Connect the new chain assembly together with the master link. It may be necessary to reduce the chain tension to install the master link. This step is accomplished by:
 - Count and write down the number of exposed threads on the top bearing adjuster set screw for a reference when you reassemble the parts (refer to Figure 17).
 - Loosen the nuts on the pillow block bearing housing.
 - Loosen the bearing adjustment set screw until the chain tension level is relieved to a point where the master link may be reconnected.



PARTS REMOVAL AND REPLACEMENT

- Tighten the adjustment screw until the same number of threads are exposed.
 - Tighten the nuts on the pillow block bearing housing.
12. You should consider replacing the opposite step chain so that both chains will wear equally.
 13. Reassemble the machine in reverse order.

UPPER (AND LOWER) SPROCKET ASSEMBLY

1. Remove the right and left side covers.
2. Remove all of the steps.
3. Remove the drive chain if you are removing the upper sprocket assembly.
4. Remove the right and left step chain assemblies.
5. Count and write down the number of exposed threads on the bearing adjuster set screws on both sides of the machine for a reference when you reassemble the parts (refer to Figure 17).
6. Loosen the adjustment screws until the tips of the screws are flush with the inside face of the bearing adjusters.
7. Have an assistant support the sprocket assembly. Loosen and remove the nuts on the pillow block bearing housing.
8. Remove the sprocket assembly from the frame.
9. Loosen the two set screws on both of the pillow block bearing collars and remove the pillow block bearings from the sprocket axle.
10. To reinstall the sprocket assembly:
 - Slide the pillow block bearings on both ends of the sprocket axle. Do not tighten the set screw on the pillow block bearing collars yet.
 - Place the bearing adjusters and the sprocket assembly onto the frame and start the pillow block bearing housing nuts onto the frame.

PARTS REMOVAL AND REPLACEMENT

- Slide the sprocket assembly toward the front of the machine while tightening pillow block bearing housing nuts.
- Align the sprocket assembly. The outside face of the left sprocket should be 1-11/16" (4.3 cm) from the outside edge of the left frame rail. Move the sprocket axle within the pillow block bearing collar as needed to get the correct distance.
- When the distance is correct, tighten the pillow block bearing collar set screw on the left and right side of the machine.
- Loosen the pillow block bearing housing nuts slightly. Tighten the bearing adjuster set screws until the exact number of threads are exposed (refer to your notes taken earlier). Tighten the pillow block bearing housing nuts.
- Check the alignment of the other sprocket at this time. If the distance from the outside edge of the left frame rail to the outside face of the sprocket is not 1-11/16" (4.3 cm), loosen the set screws on the left and right side pillow block bearing collars and adjust the axle. Tighten the pillow block bearing collar set screws on the machine.

11. Complete the reassembly of the machine by performing steps 1-4 in reverse order.

CABLE ASSEMBLY

1. Remove the right side cover.
2. Remove the console and unscrew the console cable from the back of the console. Unplug the plastic connectors at the console cable : main cable junction.
3. Hold the console connector and pull the console cable up and out of the handrails.
4. Reinstall the console cable by pushing the white plastic connector end down through the handrails. Do not connect the console and the main cables.
5. Remove the main cable from the wire saddles (refer to Wiring Diagram 1).
6. Unplug the white plastic connector labeled J1 on the relay assembly circuit board (refer to Wiring Diagram 2).
7. Cut the four tyrap on the vertical support.



PARTS REMOVAL AND REPLACEMENT

8. Remove the main cable from the frame.
9. To reinstall, place the main cable into the wire saddles. Reattach the cable to the vertical support with four tyrap.
10. Plug the white plastic connector of the main cable into the relay assembly circuit board at the spot labeled J1.
11. Screw the console cable into the receptacle in the back of the console. Reattach the console to the handrail mount. Plug the connectors together at the main cable : console cable junction.
12. Reinstall the right side cover. Reconnect the DC power cable.

TRANSMISSION ASSEMBLY

1. Remove the left side cover.
2. Remove the step positioned in the middle of the staircase.
3. Remove the drive chain.
4. Remove the Poly-V belt. Inspect the belt for wear. Replace the belt if it is cracked, worn, torn, or cut.
5. Remove the transmission bracket by loosening and removing the mounting hardware on the alternator and the transmission (refer to Figure 18).
6. Remove the transmission brace by loosening and removing the mounting hardware from the transmission and the frame.
7. Support the transmission while loosening and removing the four transmission mounting bolts. Remove the transmission and rubber pad from the frame.
8. Reinstall the transmission by reversing the removal procedures.
9. Ensure the Poly-V belt is tensioned according to the procedures outlined in the "Poly-V Belt" section of this Manual.



PARTS REMOVAL AND REPLACEMENT

ALTERNATOR ASSEMBLY

1. Remove the right and left side covers.
2. Remove the step positioned in the middle of the staircase.
3. Remove the wiring from the alternator terminals, noting the origin and color of the wires removed from each terminal.
4. Remove the Poly-V belt. Inspect the belt for wear. Replace the belt if it is cracked, worn, torn, or cut.
5. Remove the alternator adjustment bolt (refer to Figure 18).
6. Remove the nut, bolt and mounting hardware from the alternator bracket. Remove the alternator from the frame.
7. Reinstall the alternator by reversing the removal procedures. Be sure to verify the wiring connections (refer to Wiring Diagram 3).
8. Ensure the Poly-V belt is tensioned according to the procedures outlined in the "Poly-V Belt" section of this Manual.

RELAY/RESISTOR ASSEMBLY

1. Remove the left side cover.
2. Remove the step positioned in the middle of the staircase.
3. Remove the wiring from the alternator terminals, noting the origin and color of the wires that are removed from each terminal.
4. Unplug the main cable connector from the J1 position on the relay circuit board (refer to Wiring Diagram 2).
5. Unplug the power connector from the J2 position on the relay circuit board.
6. Loosen and remove the four mounting bolts and remove the relay/resistor assembly from the frame (refer to Wiring Diagram 1).
7. Reinstall the relay/resistor assembly in the reverse order. Verify the wiring connections before attaching the side cover (refer to Wiring Diagram 3).

GROUNDING INSTRUCTIONS

The machine must be grounded. If it should malfunction or break down, grounding provides the path of least resistance for the electric current, thereby reducing the risk of electric shock. This machine is equipped with a cord having an equipment-grounding conductor and a grounding plug that looks like the plug illustrated in sketch A in Figure 9 below. International machines may vary. It must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.



IMPROPER CONNECTION OF THE EQUIPMENT-GROUNDING CONNECTOR CAN RESULT IN THE RISK OF ELECTRIC SHOCK. CHECK WITH A QUALIFIED ELECTRICIAN OR SERVICE PERSON IF YOU ARE IN DOUBT AS TO WHETHER THE MACHINE IS PROPERLY GROUNDED. DO NOT MODIFY THE PLUG PROVIDED WITH THIS MACHINE. IF IT WILL NOT FIT THE AVAILABLE OUTLET, HAVE A PROPER OUTLET INSTALLED BY A QUALIFIED ELECTRICIAN.

A temporary adapter that looks like the adapter illustrated in sketches B and C may be used to connect this plug to a two-pole receptacle as shown in sketch B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet (sketch A) can be installed by a qualified electrician. The green colored lug extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever an adapter is used, it must be held in place by a metal screw.

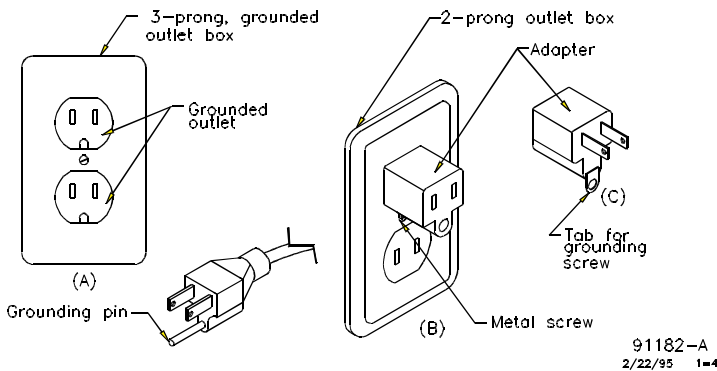


Figure 9: Grounding System

FCC COMPLIANCE

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



WARNING

CHANGES OR MODIFICATIONS TO EQUIPMENT NOT EXPRESSLY APPROVED BY STAIRMASTER® SPORTS/MEDICAL PRODUCTS, INC. COULD VOID THE USER'S AUTHORITY TO OPERATE THIS EQUIPMENT.

CANADIAN DOC CLASS A COMPLIANCE

This digital apparatus does not exceed the Class A limits for radio emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

La présent appareil numérique ne dépasse pas les limites établies pour les bruits radioélectriques applicables aux appareils numériques de la Class A prescrites dans les règlements sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.



HOW TO ORDER PARTS

If you need assistance, please have both the serial number of your machine and the date of purchase available when you contact the appropriate StairMaster® Sports/Medical Products, Inc. office listed below.

OFFICES IN THE UNITED STATES

CORPORATE HEADQUARTERS
12421 Willows Road NE, Suite 100
Kirkland, WA 98034
(800) 635-2936 or (206) 823-1825
FAX: (206) 823-9490

CUSTOMER SERVICE
12421 Willows Road NE, Suite 100
Kirkland, WA 98034
(800) 331-3578
FAX: (206) 814-0601

INTERNATIONAL OFFICES AND DISTRIBUTORS

INTERNATIONAL DIVISION
(206) 823-1825
FAX: (206) 820-7505

CANADA: TRC SPORTS/MEDICAL
PRODUCTS
(800) 668-4857
(905) 712-2719
FAX: (905) 712-3722

EUROPE: HEADQUARTERS
41-91-827-3801
FAX: 41-91-827-8902

JAPAN: SENOH CORPORATION
81-3-5479-6711
FAX: 81-3-5479-6703

GERMANY: HEADQUARTERS
49-2204/610-27
FAX: 49-2204/628-90

AUSTRALIA: THE FITNESS
GENERATION PTY LTD
61-3/800-2122
FAX: 61-3/800-2722

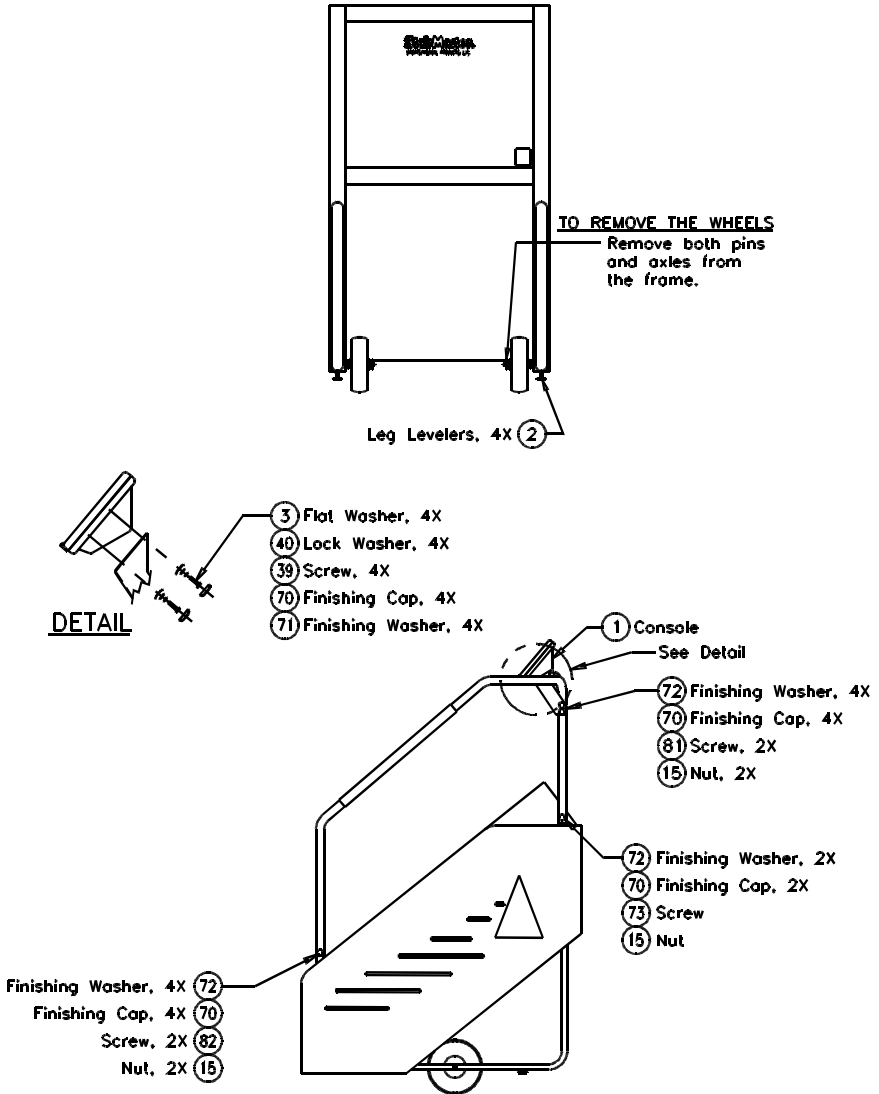
U.K.: HEADQUARTERS
44-1908/221-323
FAX: 44-1908/223-162

SWEDEN/NORWAY: NORDIC GYM
PRODUCTION
46-278/242-10
FAX: 46-278/159-66

FRANCE/BELGIUM/HOLLAND:
MONDIAL S.P.R.L.
32-82/226775
FAX: 32-82/226854

COUNTRIES NOT LISTED
(206) 823-1825
FAX: (206) 820-7505

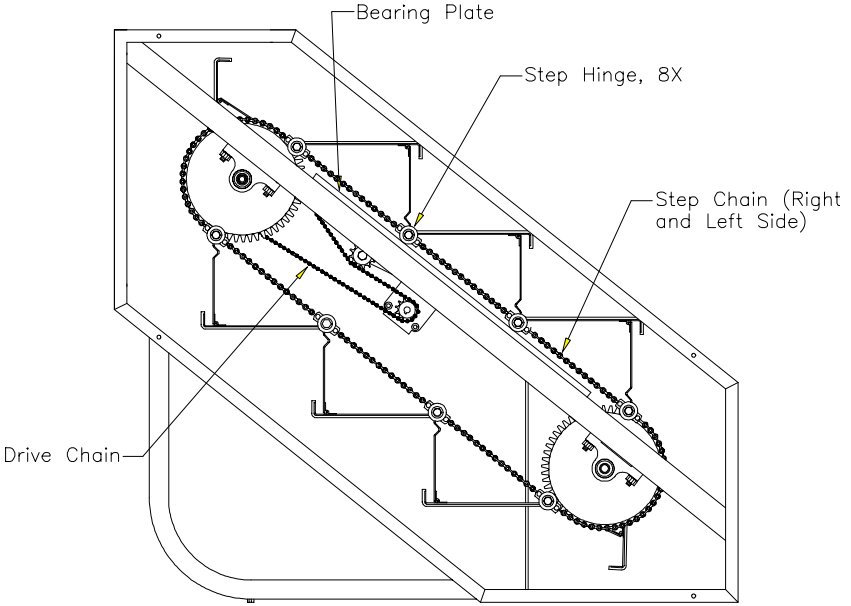
Figure 10: Installation Diagram



91183-A
9/26/95 1-35

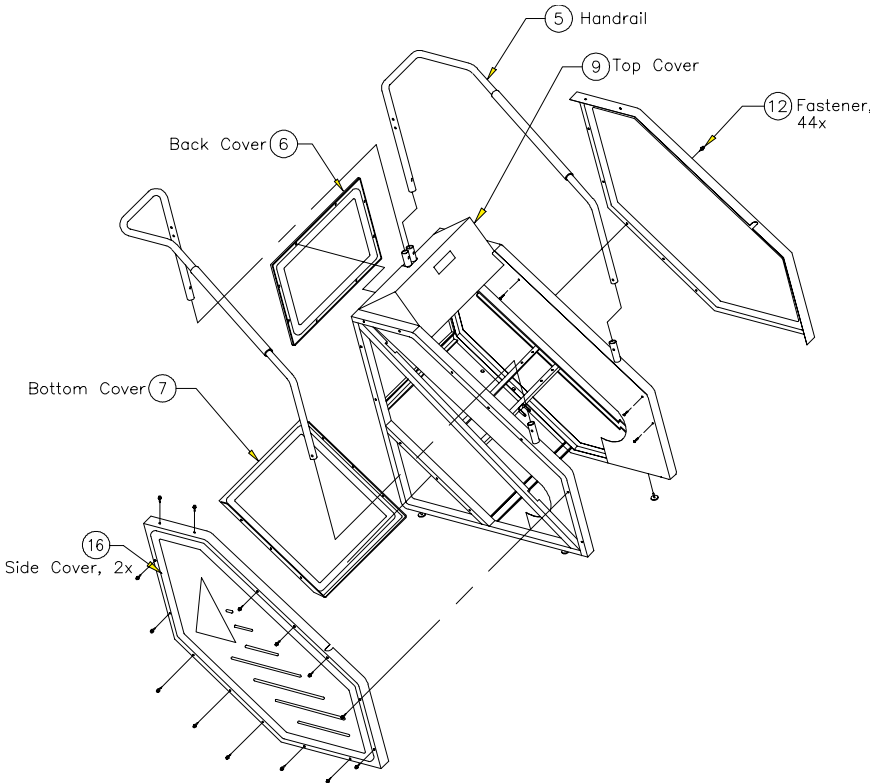
FIGURES

Figure 11: Parts Needing Periodic Lubrication



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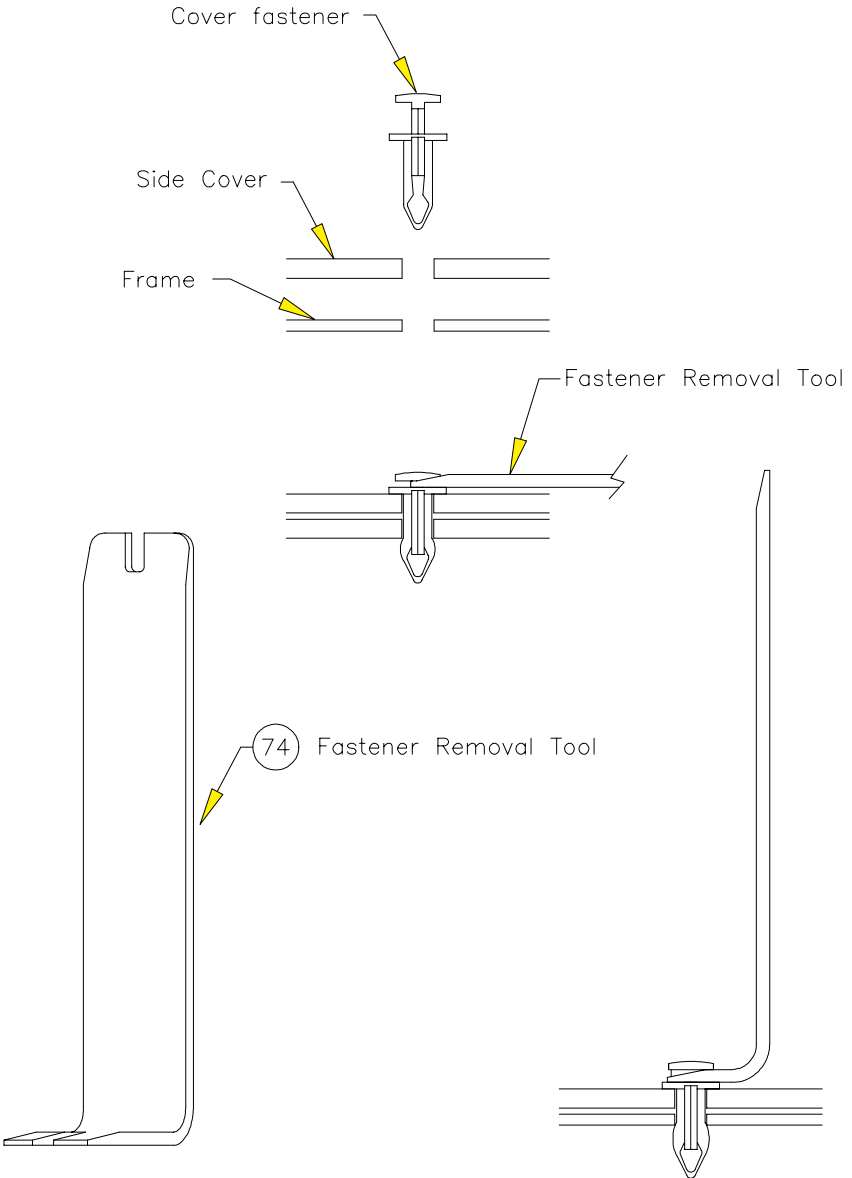
Figure 12: Side Cover and Handrail Assemblies



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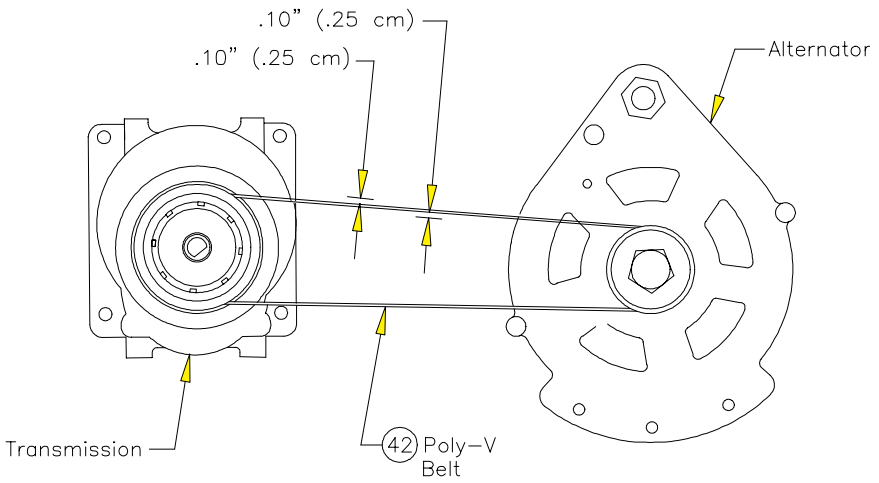
FIGURES

Figure 13: Cover Fasteners



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9/29/94 1=2

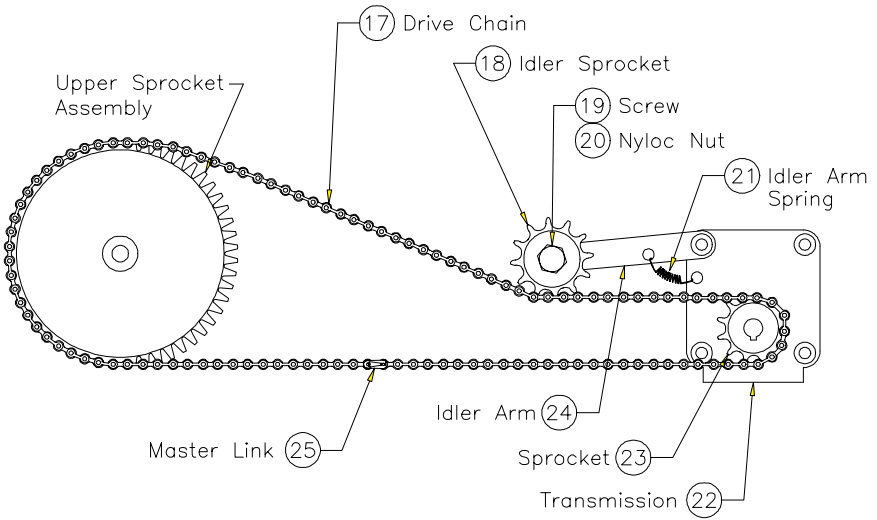
Figure 14: Poly-V Belt Tension



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2/02/95 1=4

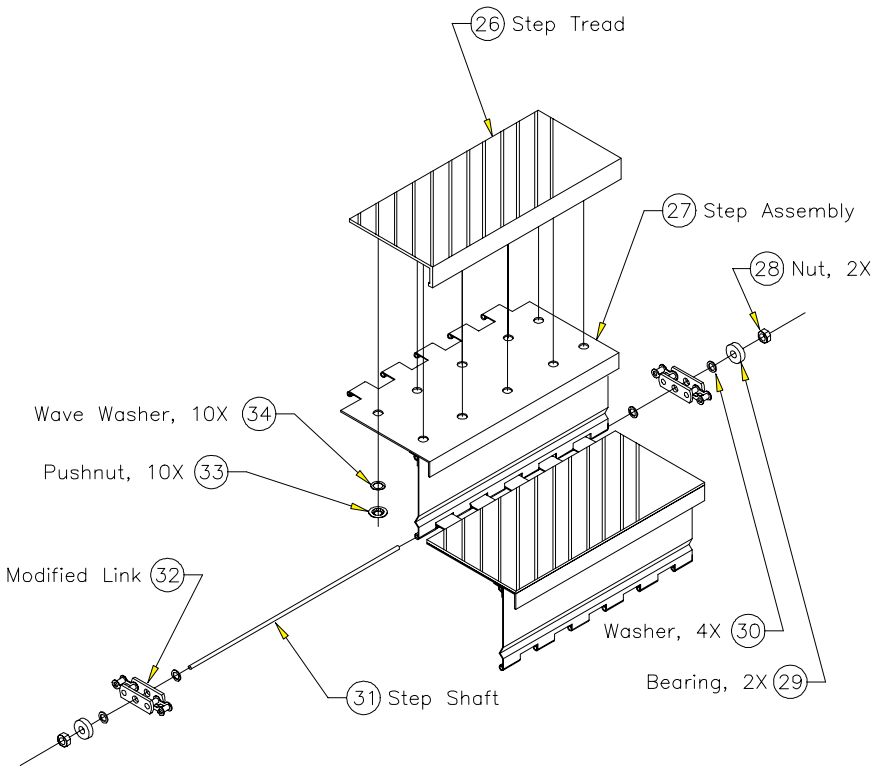
FIGURES

Figure 15: Drive Chain Assembly



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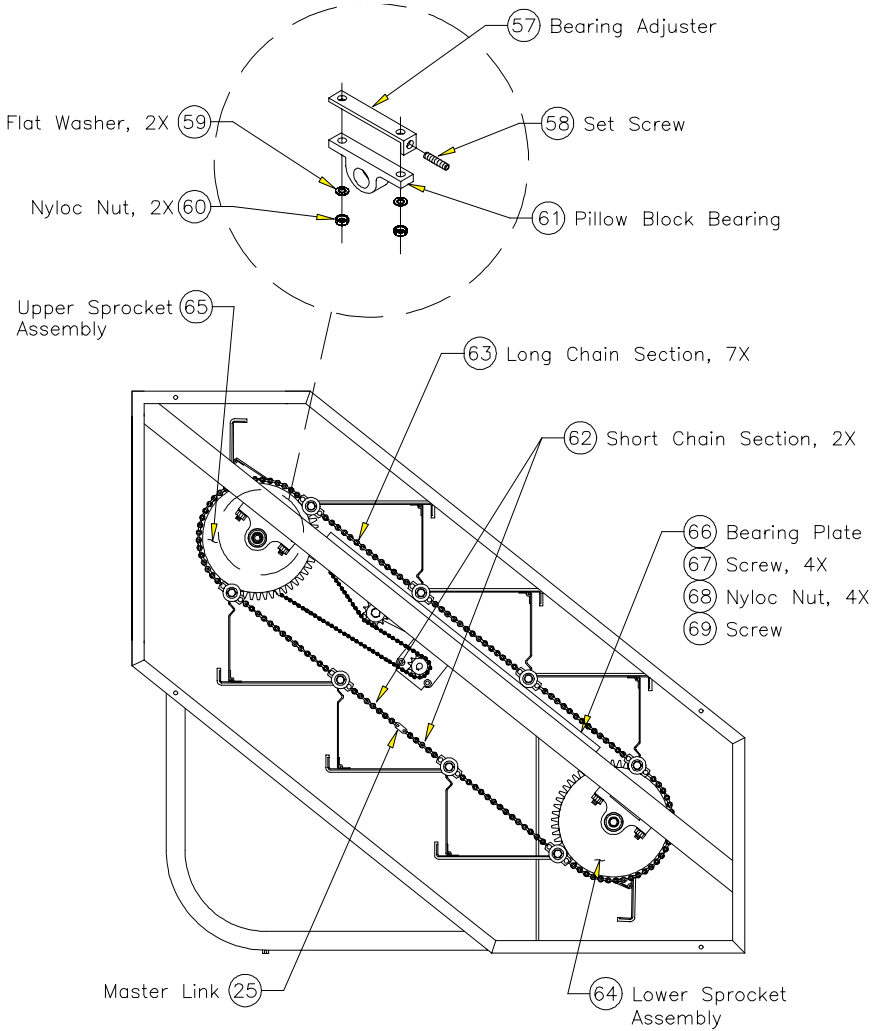
Figure 16: Step Assembly



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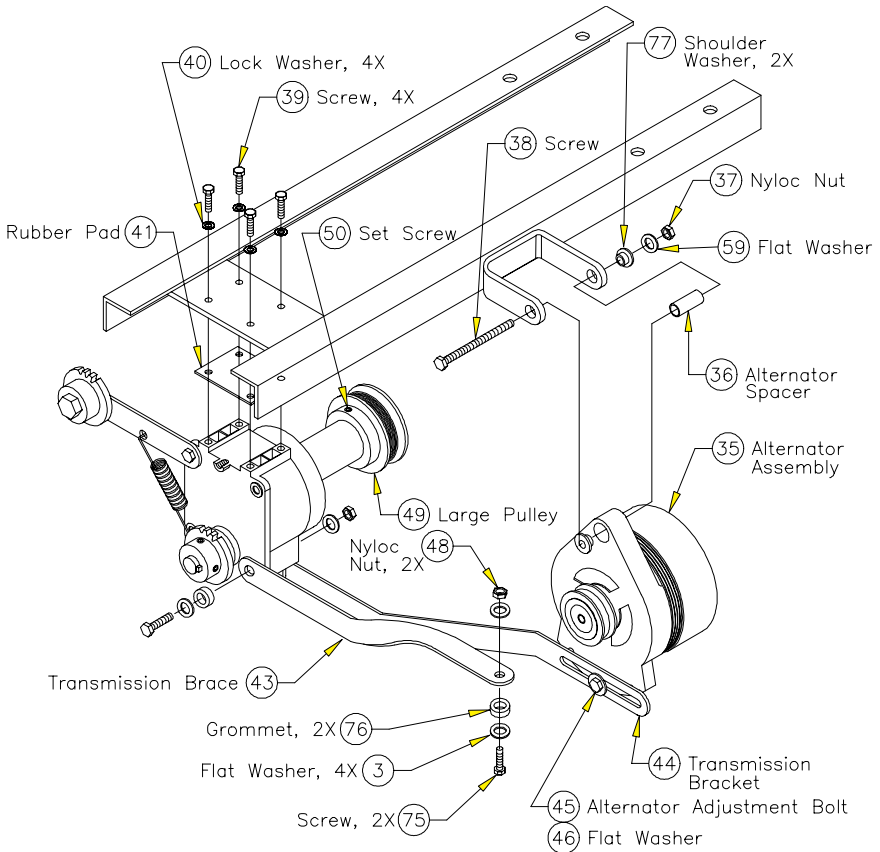
FIGURES

Figure 17: Step Chain and Sprocket Assemblies



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5/01/95 1=20

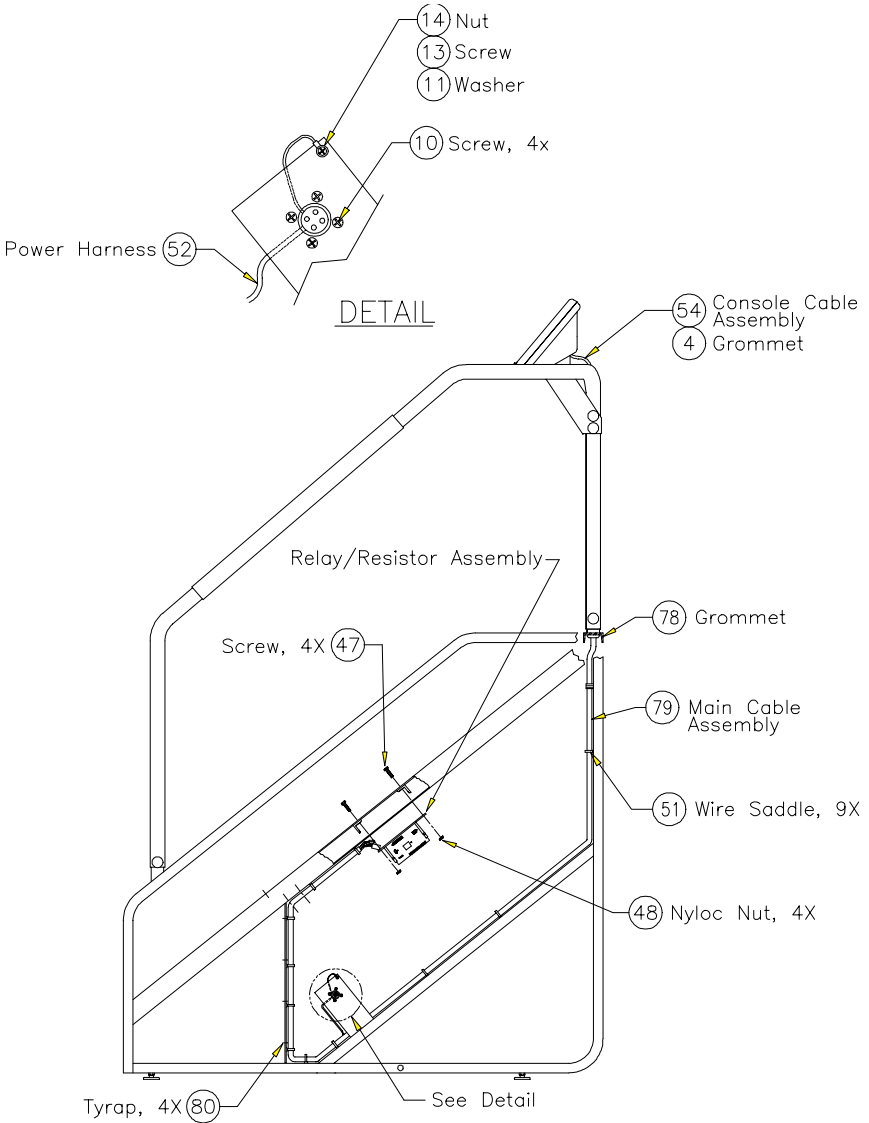
Figure 18: Transmission and Alternator Assemblies



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WIRING DIAGRAMS

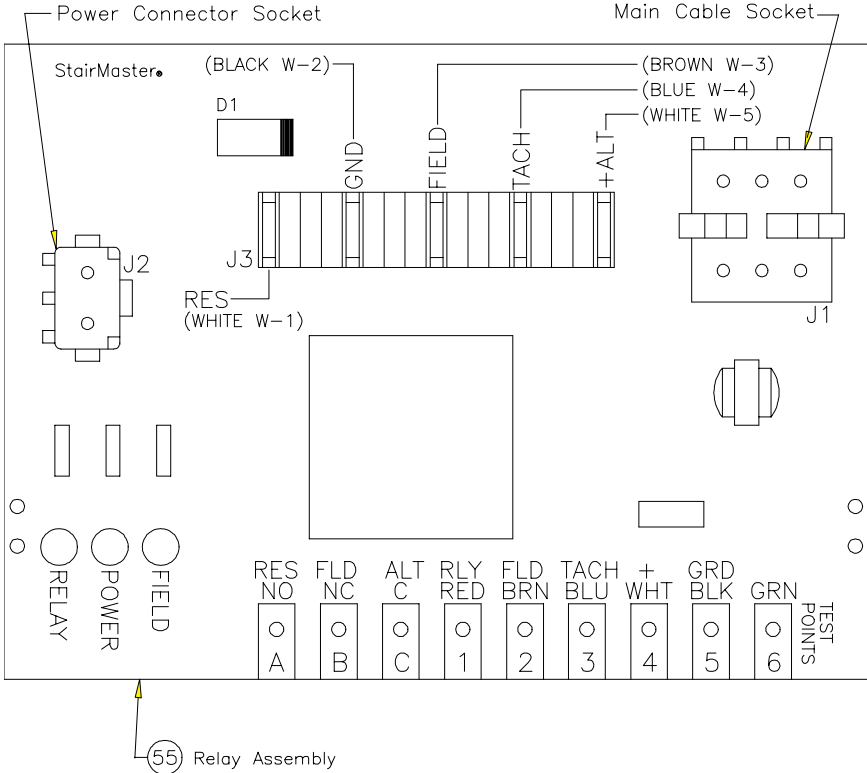
Wiring Diagram 1



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WIRING DIAGRAMS

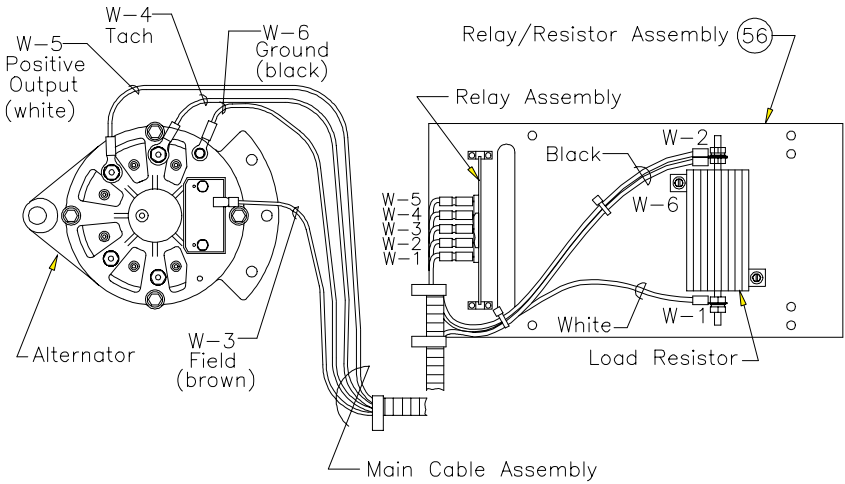
Wiring Diagram 2



91260-A
4/18/95 1=1

WIRING DIAGRAMS

Wiring Diagram 3



91193-A
4/18/95 1=12

KEY TO FIGURES AND WIRING DIAGRAMS

ID Number	Description	Part Number
1	Console assembly	24742
2	Leg levelers	20017
3	Flat washer, 1/4"	22038
4	Grommet	24663
5	Handrail, right	22946-03
	Handrail, left	22947-03
6	Back panel	21304
7	Bottom panel	21305
9	Top panel	21308
10	Screw, #6 x 3/8	24208
11	Internal tooth washer, #8	22109
12	Rivet	22086
13	Screw, #8 - 32 x 3/8	22134
14	Nut, #8 - 32	22110
15	Nut, 3/8 - 16, Low profile	24643
16	Side panel assembly, left (with decal)	24298
	Side panel assembly, right (with decal)	24299
17	Drive chain, #40 x 41.5"	23257
18	Idler sprocket	20007
19	Screw, 1/2 - 13 x 2"	22043
20	Nyloc nut, 1/2 - 13	22042
21	Idler arm spring	20054
22	Transmission	20001
23	12T sprocket	23427
24	Idler arm	20693
25	#40 Master link	20157
26	Step tread	20541
27	Step assembly	10378-03
28	Nut 5/16 - 24	22063
29	Bearing	23082
30	Flat washer, 5/16"	22128
31	Step shaft	20762
32	Modified link	20548
33	Pushnut	20508
34	Wave washer	20528
35	Alternator assembly	21164
36	Alternator spacer	20114
37	Nyloc nut, 1/2 - 13	22092
38	Screw, 1/2 - 13 x 3 3/4"	22090
39	Screw, 1/4 - 20 x .63"	22028
40	Lock washer, 1/4"	22027

KEY TO FIGURES AND WIRING DIAGRAMS

ID Number	Description	Part Number
41	Rubber pad	20808
42	Poly-V belt	20202
43	Transmission brace	10059
44	Transmission bracket	10860
45	Screw, 5/16 - 18 x 1 1/4"	22146
46	Flat washer, 5/16"	22075
47	Screw, 1/4 - 20 x 1.0"	22026
48	Nyloc nut, 1/4 - 20	22036
49	Large pulley	20208
50	Set screw	22037
51	Wire saddle	23792
52	Main power harness assembly	22957
54	Console cable assembly	22428
55	Relay assembly	23544
56	Relay/resistor assembly	23546
57	Bearing adjuster	10037
58	Screw, 3/8 - 16 x 1"	22039
59	Flat washer, 3/8"	22030
60	Nyloc nut, 3/8 - 16	22029
61	Pillow block bearing	20101
62	Chain section, #40 x 5 1/2"	20532
63	Chain section, #40 x 11 1/2"	20531
64	Lower sprocket assembly	10205-03
65	Upper sprocket assembly	23424-03
66	Bearing plate	20682
67	Screw, 5/16 - 18 x 1"	22071
68	Nyloc nut, 5/16 - 18	22032
69	Screw, 5/16 - 24 x 3/8"	22072
70	Finishing Cap	22323
71	Console mounting knob	24677
72	Finishing washer, 3/8"	22213
73	Screw, 3/8 - 16 x 3.25	22097
74	Fastener removal tool	23853
75	Screw, 1/4 - 20 x 1.25	22164
76	Grommet, 1/4" ID	22435
77	Shoulder washer, .38 ID	22191
78	Grommet, 7/8"	15034
79	Main cable assembly	22956
80	Tyrap	20473
81	Screw, 3/8 - 16 x 3.5	22937

KEY TO FIGURES AND WIRING DIAGRAMS

ID Number	Description	Part Number
82	Screw, 3/8 - 16 x 1.75	24640
	Power Supply, PS-7	24683
	Power Supply, IPS-3	14072
	Touch-up kit	21211