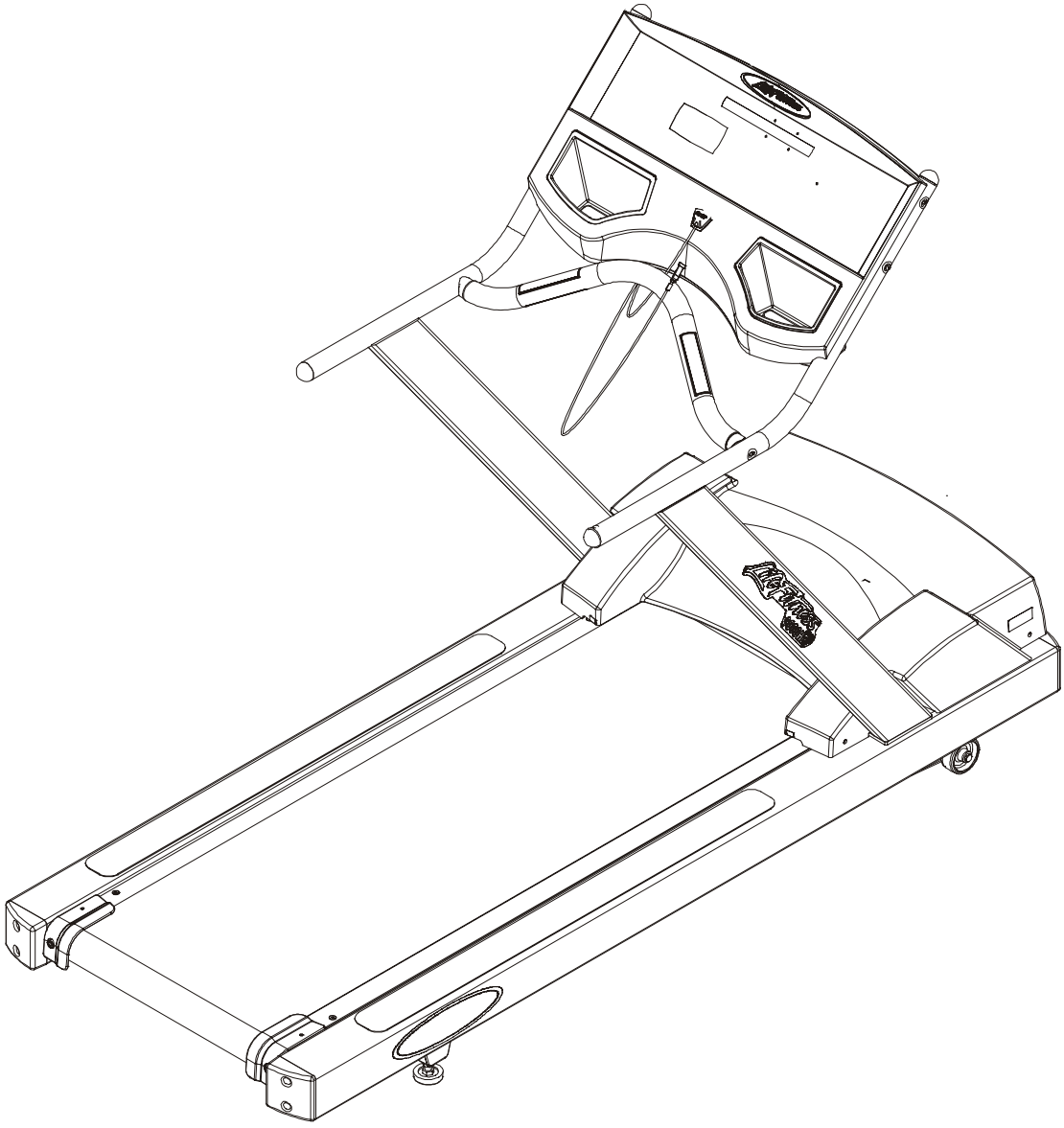
LifeFitness

Models 9000HR, 8500, and T9i Treadmills



Customer Support Services

SERVICE MANUAL

M051-00K60-A013
November-2002

Life Fitness Models 9000HR, 8500, and T9i Treadmills

INTRODUCTION

This service manual is applicable to Treadmill Models TR9000HR, TR8500, and T9i. **Note:** Information in this service manual represents typical configuration and may differ slightly from actual equipment. This manual consists of the following topics and sections.

If an operating problem should arise, turn to the TROUBLESHOOTING GUIDES and attempt to isolate what is causing the malfunction. The GUIDES are listed by symptoms and follow with suggestions as to the most probable cause of the problem.

Once you have pinpointed the source of the problem, turn to the appropriate "How To..." section and review the proper procedures for removing, replacing or adjusting a part. The "How To..." sections are organized by replaceable part (or assembly) name, and under the title of the service procedure will be list only those special service tools need to perform the task. See next page for Special Service Tool Requirements.

Refer to COMPONENT IDENTIFICATION in the front part of this section to locate and identify in order service repair parts for your machine.

If you do not have a part in stock, a form to order by FAX has been included in Section V for your convenience or you can call Life Fitness Customer Support Services any Monday through Friday from 8:00 AM to 5:00 PM central standard time. To speed-up our response time to your particular situation, please have the following information available for the customer service phone technician who will be prepared to assist you:

1. Serial number
2. Equipment model number
3. Symptom or problem
4. Part name and number to order

When you receive your order, review the appropriate "How To..." section and follow the step by step procedures designed to help you install the part quickly and correctly.

If you have any questions or comments please phone, mail, or fax us at:

LIFE FITNESS COMPANY - **CUSTOMER SUPPORT SERVICES**
10601 Belmont Avenue, Franklin Park, IL 60131; U.S.A.
Telephone: 847-451-0036, Toll Free: 800-351-3737, FAX: 847-288-3702

SPECIAL SERVICE TOOL REQUIREMENTS

Unless otherwise specified, only basic hand tools are required to perform service procedures outlined in this section. Some of these standard tools should consist of: Philips and Straight-Blade Screw Drivers, Torx Set, Pliers, Rubber Mallet, Pry Bar, Snap Ring Pliers (internal and external), Standard and Metric size Socket Set (3/8 or 1/2 drive), and Standard and Metric size Combination, open-end, or Box Wrenches.

*Specialized tools will be listed after the sub-heading **Special Service Tools:**, which appears below the Service Procedure Heading at the top of the page. If no specialized tools are required, then the title would read: **Special Service Tools: NONE**, which means that standard hand tools should be employed to provide service to the product.*

Specialized tools must be used to safely and effectively complete the service procedures. Improvisation or attempts to use any other tool could result in unnecessary damage to the equipment or personal injury.

THEORY OF OPERATION

The treadmill is an electromechanical device that operates on 120 volt system and is controlled through the electronics in the display console. The key components that make up the treadmill are the unit frame, electric motor and motor controller, belt and deck, wax and wax motor, pulleys and rollers, and the display console.

Initially, voltage is received by the Line Filter which distributes this power to the motor controller and other various electrical and electronic components that activates all the mechanical devices. The operator ultimately controls all electromechanical devices through the console display, making settings and adjustments to speed, incline, and custom workout programs.

The Unit Frame is critical not only to support the operator but also to support the electromechanical devices and the unit's overall appearance. Although the frame is a non-maintenance item, its design and structure are essential to providing years of safe and reliable service.

The most critical parts on the treadmill are the Belt and Deck. Regardless of all other components, the success of a good treadmill is its belt and deck. The Deck is made up of a special particle board which allows for flexibility and long wear. Under the deck are the lifesprings which are designed to support and absorb the shock load. To prevent the deck from being worn out by constant operation of the belt, wax is applied to the inside of the belt. This is accomplished by a wax motor which pumps the wax out of the wax bag and through the wax nozzle. Remember, when replacing the belt, reverse or replace the deck, and check the anti-static tinsel.

The Belt is designed to endure constant stress loads. It is mounted directly over the front and rear rollers. The Main Drive Motor has a pulley on the end of its shaft which is connected by a drive belt to the pulley on the front roller. When the front roller is driven by the motor the striding belt moves accordingly. The rear roller is not motor driven but travels along with the current speed of the front roller. Belt tension is adjustable by means of adjusting bolts which are located at the ends of the rear roller. When turned, they are used to adjust belt tension and belt centering. In order to increase belt and deck life, it is important to properly keep clean all areas of the machine.

The Display Console is the brain center of the treadmill. It is here where all electromechanical operations are controlled for specific program operations. Depending on the display console, various selections and settings can be easily accomplished either through a numeric keypad or up/down arrows. The display console allows the operator to selectively choose the program and input pertinent statistical information such as weight, age, language, etc.

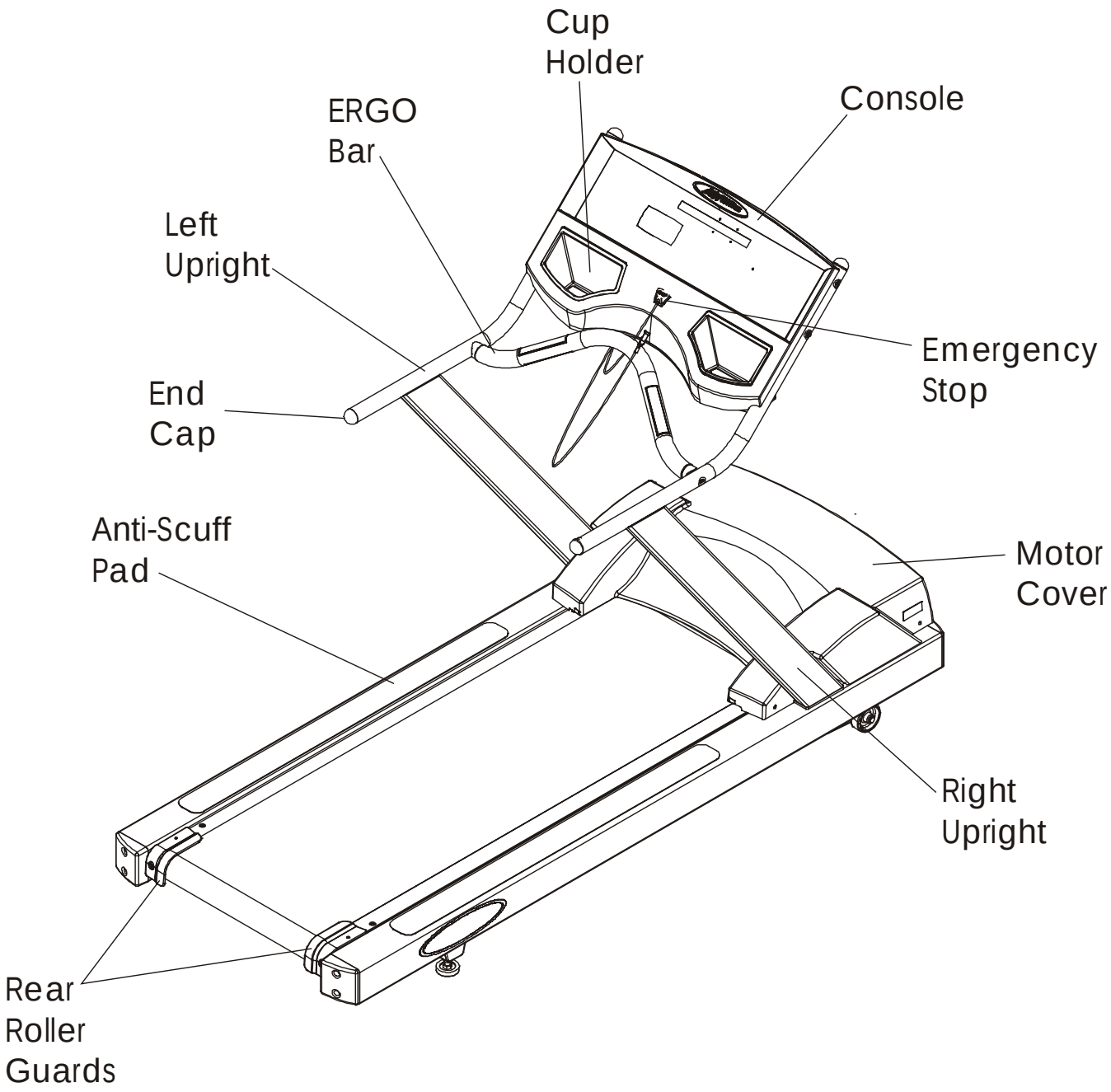
The treadmill is by far one of the most popular pieces of all cardiovascular exercise equipment. With proper routine maintenance and care, it will provide a lifetime of healthy cardiovascular exercise.

Anti-Scuff Pads	Rubber strips located on the surface of each side of the frame, and used to ensure sure footing.
Anti-Static Tinsel	A copper tinsel wire that discharges static electricity from the striding belt during operation.
Connectors	Plastic devices used to connect wiring together.
Deck	Special particle board that is used for the running surface.
Display Console Board	Electronic board used for making direct input settings and monitoring output messages which are displayed in the digital readout display.
Dynamic Current	Current which changes randomly.
EEPROM	Electrically erasable programmable read only memory.
EEROM	Electrically erasable read only memory.
Front Roller	Motor belt driven, the front roller drives the striding belt.
HR & LF Pulse Sensors	Located in each handle grip and measures heart rate.
Jumper	Electrical connector used to connect between two electrical points.
LED	Light emitting diodes are used to indicate a condition.
Levelers	Adjustable supports under the rear of the treadmill, which are used to stabilize the unit.
Lift Motor	The motor that raises and lowers the unit for incline operations.
LifeSprings	Springs under the deck to absorb impact of the walker or runner.
Main Drive Belt	Connects between the main drive motor pulley and the front roller pulley, and used to transmit the driving power of the main drive motor to the front roller.

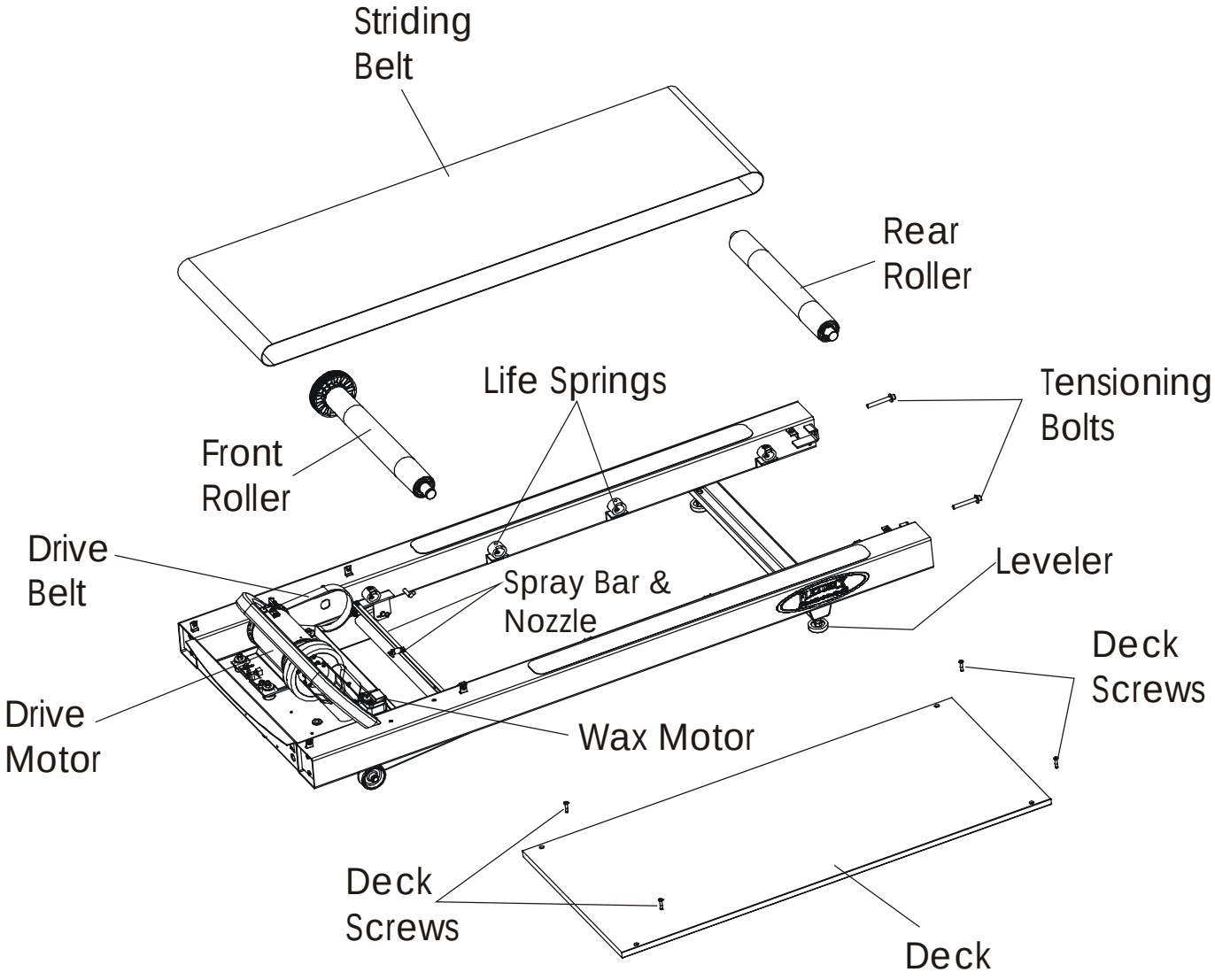
TERMINOLOGY

Main Wire Harness	Routed through the left uprights to DC Motor Controller and then, to the control console.
Heart Rate Wire Harness	Routed through right side of upright.
Motor Controller	Receives an output signal from the console display to perform all functions.
Overlay Bezel	Plastic covering with key pad which is part of the display console.
PCB	Programmable Circuit Board
Line Filter	Receives main electrical source from the wall outlet and filters voltage to the DC Controller for all electromechanical systems.
Polar Receiver	Monitors heart rate.
Rear Roller	A free spinning roller with adjusting screws at each end of the roller are used for tensioning and centering the striding belt.
Rear Roller Guards	Located at the back of each side of the rear roller, are used as protective guards.
RPM	Revolutions per minute.
Static Current	Steady current flow.
Stop Switch	A switch used to interrupt power going to the motor to stop the unit.
Striding Belt	Sometimes referred to as the 'walking belt' and used to walk or run on.
Telemetry Receiver	A sensor that reads Heart Rate signal transmitted from the operator's chest strap transmitter.
Ties	Plastic straps used to secure loose wiring to the main frame.
Wax Bracket	A mounting bracket that spans across the rear width of the unit and is located inside the striding belt area, is used to secure the positions of the wax tube and wax nozzle.
Wax Motor	This motor is mounted on the frame and is used to pump the wax out of the wax bag, through the wax tube, and out the wax nozzle onto the underside of the striding belt.

COMPONENTS IDENTIFICATION (9000HR Displayed)



COMPONENTS IDENTIFICATION



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NOTES

SECTION I

TROUBLESHOOTING GUIDE

Life Fitness Models 9000HR, 8500, and T9i Treadmills

TROUBLESHOOTING GUIDE

Malfunction	Probable Cause	Corrective Action
Striding Belt slips during footfall.	Striding belt slips on front roller during stall test.	Check striding belt & re-tension as necessary. See How…To Adjust Belt Tension.
Maximum speed is reduced.	User is pushing striding belt.	Instruct users not to push striding belt in either direction.
	Wax system malfunction.	Inspect spray pattern between 8" (200mm) and 16" (400mm). Refer to Diagnostics. If not, verify wax nozzle is clean, hoses are not kinked, wax bag is not empty, or wax is contaminated.
	Striding belt/deck malfunction. The deck laminate worn through or the underside of striding belt glazed over (hard, glossy).	Replace belt and deck. See How To…Replace Striding Belt.
	Insufficient power source.	Plug treadmill into a dedicated circuit. Refer to the Operations Manual.
Knocking sound at rear of machine.	Faulty rear roller bearings.	Replace rear roller assembly.
	Wax build up on rear roller.	Run unit for 10 hours to break-in the treadmill.
Knocking sound coming from deck.	Life Springs not positioned correctly and/or loose mounting hardware.	Reposition or tighten life springs.
Striding belt folds.	Out of wax.	Check wax bag.
	Wax Pump failure.	Replace pump.
	Worn belt or deck.	Replace as necessary.

TROUBLESHOOTING GUIDE

Malfunction	Probable Cause	Corrective Action
The Striding Belt is traveling beyond the tracking limits.	Striding belt needs to be re-tensioned or tracking needs adjustment.	Refer to belt tensioning or tracking adjustment procedure in operation or service manual.
	Worn striding belt or user pushing belt.	Center striding belt according to belt centering technique. See How To...Adjust And Tension The Striding Belt.
	Striding belt folded over.	Verify wax in bag. Replace if necessary. See How To…Replace Wax Bag.
		Verify the wax is not contaminated (flakes). Replace wax bag and wax if contaminated. See How To…Replace Wax Bag.
		Verify the wax nozzle is not clogged. Clean nozzle if clogged. See How To…Replace Wax Nozzle.
		Refer to “Wax Manual” in the diagnostics section of this manual to verify if the wax pump is functioning properly. Replace if necessary. See How To…Replace Wax Pump.
		Replace the belt and deck. See How To… Replace Striding Belt. Perform belt and deck test for wear.
Striding belt not centered.	Striding belt tension or tracking needs to be adjusted.	Adjust striding belt . See How To…Adjust And Tension The Striding Belt.
Striding belt mis-alignment, but properly tensioned.	Improper walking/running.	Verify unit is level. Notify Club Manager.

TROUBLESHOOTING GUIDE

Malfunction	Probable Cause	Corrective Action
Rubbing sound from underneath machine.	Foreign objects may be stuck underneath the machine.	Inspect underneath striding belt and machine. Remove any debris or objects that may cause interference with the treadmill.
	Tinsel is installed incorrectly.	Reposition tinsel on the outside of the striding belt.
	Wax bracket loose or missing.	Inspect wax bracket underneath deck and verify wax bracket is secure. See How To…
Squeaking noise.	Drive pulley making contact with frame.	Inspect setscrew. If loose, apply 242 Loctite and retighten.
	Drive motor belt may be worn or damaged.	Replace faulty drive motor belt. See How To…
Loud groaning sound heard from front of machine while elevating.	Lift mechanism pivot points are dry.	Lubricate pivot points.
	Lift screw dirty or gummy.	Clean and lubricate threaded screw.
	Faulty lift motor or lift screw nut stripped.	Replace the lift motor. See How To…Replace Lift Motor.
Loud groaning on footfall.	High friction between deck and striding belt.	Refer to belt and deck test in diagnostics.

Malfunction	Probable Cause	Corrective Action
Display does not illuminate when machine is powered on.	Insufficient power source.	Plug treadmill into a dedicated amp circuit. Refer To The Operations Manual.
	Loose 10 pin connection at display console or DC control board.	Check all electrical connections for proper attachment. Refer to wiring block diagram in section 5.
	Damaged main harness wire connection.	Replace wire harness. See How To…Replace Main Wire Harness.
	Faulty display console.	Verify if 8VDC is present at P1 pin, 3-4 and 12VDC at P1 pin 9. If yes, replace Display Console. See How To… Replace Display Console PCB. If no, replace the Control Board. See How To… in section 3.
	Damaged main cable.	Perform continuity test from pin connector to pin connector, and then from connector pins to frame.

Malfunction	Probable Cause	Corrective Action
Display overlay keys are not responding when depressed.	Loose ribbon connection(s).	Verify that the ribbon connections is attached to the display PCB. Reseat the connection and verify the operation.
	Worn or defective overlay assembly.	Replace overlay assembly. See How To… Replace Overlay Decal.
Unit resets randomly or pauses.	Insufficient power source.	Plug treadmill into a dedicated amp circuit. Refer to the Operations Manual.
	Damaged ground prong on line cord.	Replace line cord. See How To… Replace Line Cord.
	Loose connections at display console.	Secure all connections at display console PCB.
	Line cord improperly seated in electrical outlet.	Inspect power connection at electrical outlet and at machine for proper contact.
	Emergency stop magnet not engaged.	Re-engage the emergency stop magnet.
	Magazine making contact with stop key on the overlay	Move all possible obstructions off the console and handlebar.

TROUBLESHOOTING GUIDE

Malfunction	Probable Cause	Corrective Action
Unit resets randomly or pauses.	Emergency stop switch magnet not making proper contact.	Re-seat the emergency stop switch magnet and verify the operation.
	Pinched main wire harness.	Replace the main wire harness. See How To…Replace Main Wire Harness.
	Open ground path.	Using voltmeter, check all points for continuity: console pan screws, console mounting screws, handlebar screws, and handrail mounting screws to frame with respect to ground. Ground must be a non-painted surface.
	Lift motor over-heating which causes unit to pause.	Inspect thread screw for dirt. Perform lift motor test. Refer to diagnostics.
No Power.	On/Off switch.	Turn the switch to the ON position.
	Insufficient power source.	Plug treadmill into a dedicated amp circuit. Refer to the Operations Manual.
		Using a voltmeter, verify power at outlet. If no power exists, reset circuit breaker at panel.
	Damaged line cord.	Replace line cord. See How To…Replace Line Cord.
	Line cord improperly seated in socket.	Inspect power connection at wall outlet and at machine for proper contact.
	No line filter.	Verify voltage at the line filter. Verify 120VAC at the control connector P1. Refer to Service Manual, Section 4 Electronics.

TROUBLESHOOTING GUIDE

Malfunction	Probable Cause	Corrective Action
No Power.	DC Controller	Turn the switch to the ON position.
		Verify at P3, 8VDC on Pins 3 and 4. Refer to Service Manual, Section 4 Electronics. Verify at P3, for 12VDC on Pin 9. Refer to Service Manual, Section 4 Electronics. Verify both LEDs 5 and 6 are lit. Refer to Service Manual, Section 4 Electronics.
Wax Leak.	Loose hose connections.	Inspect hose connections and secure as necessary, replace if necessary.
	Faulty connection at bag.	Replace wax bag and plastic coupling.
	Wax bag is torn.	Replace wax bag. See How To…Replace Wax Bag.
	Wax hose damaged.	Inspect for leaks and replace.
	Wax hose in pump is damaged.	Inspect wax hose.
	Wax passes through pump and slowly drips from nozzle.	Replace wax motor. See How To…Replace Wax Motor.

Malfunction	Probable Cause	Corrective Action
Lifepulse Heart Rate System does not respond or improper heart rate reading or "Reading Heart Rate" appears in the message center for more than 2 minutes without giving heart rate reading.	Dirty handlebar sensors.	Wipe sensors with a clean soft cloth.
	Inadequate contact with all four sensors.	Verify a firm grip of all four sensors (two on top, two on bottom of handlebar).
	User running over 4.5 mph (7.5kph).	For accurate heart rate reading, user must slow down to less than 4.5 mph (7.5kph).
	User may have an unusual heart condition.	Have different people grasp sensors to detect any variance.
	Loose connections at display console and handlebar.	Secure connections at display console and handlebar.
	Faulty heart rate sensors..	Replace handlebar sensors. See How To… Replace Heart Rate Kit.
	Faulty display console PCB.	Replace display console PCB. See How To… Replace Display Console PCB.

Malfunction	Probable Cause	Corrective Action
Electrode sensors not working.	Excess sweat or cleaning fluids come in contact with electrodes in handlebar.	Inspect and wipe clean. Replace sensors if contacts are coming off sensors.
Display reads a continuous heart rate reading when hands are removed.	Harness wires pinched at handlebar or handrail.	Replace ERGO bar assembly if the wires are damaged. See How To…Replace ERGO bar Assembly.
No Chest Strap detected.	Chest strap sensors not making good contact with body of user.	Adjust chest strap and moisten sensors to make better contact with skin.
	User is out of monitoring range.	Move within 3 ft (1 meter) of receiver
	Loose connection at receiver.	Check connection on receiver. See How To...Replace Telemetry Receiver.
	Faulty chest strap.	Replace chest strap.
	Faulty receiver.	Verify 5VDC at P6 pin 2. If yes, replace transmitter. If no, replace display console PCB.
	Telemetry turned OFF.	Enter Manager's Configuration mode and turn telemetry to ON. Refer to Diagnostics.
	Receiver is turned slightly sideways.	Position receiver so it's horizontal with the console. See How To...Replace the Telemetry Receiver.
	Bad connection at Telemetry cable and receiver.	Check cable jack and receiver connection.
Erratic Heart Rate readings.	Cross-talk between units (closer than 1 meter apart.)	Position treadmills to recommended distances. Refer to the Operations Manual.

SECTION II-A

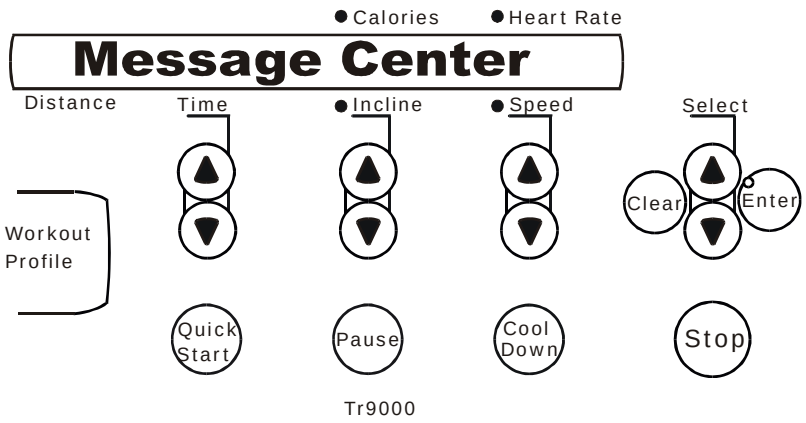
DIAGNOSTICS

TR9000HR/ T9i

Diagnostics - Entry

DIAGNOSTICS ENTRY - TR9000HR

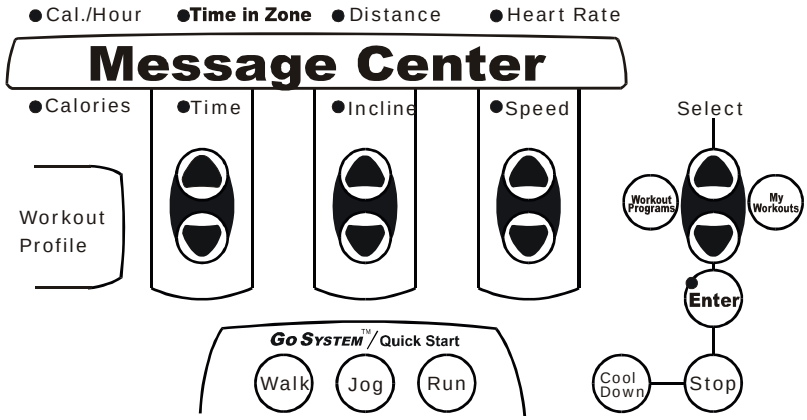
Diagnostics is entered by holding the 'PAUSE' key when power is applied or by holding the 'PAUSE' key and pressing the 'CLEAR' key twice from any state. The unit will take approx. 3 to 4 seconds to enter Diagnostics.



Tr9000

DIAGNOSTICS ENTRY - T9i

Diagnostics is entered by holding the 'JOG' key when power is applied or by holding the 'JOG' key and pressing the 'STOP' key twice from any state. The unit will take approx. 3 to 4 seconds to enter Diagnostics.



T9i

FIRST STATE ON BOTH UNITS

On entry to this state, the message "SERVICE MENU" will appear.

"USE ARROW KEYS TO SCROLL THROUGH LIST".

Using any of the arrow keys will allow you to scroll through four main categories.

SYSTEM TEST
INFORMATION
MAINTAINANCE
CONFIGURATION

Press the 'ENTER' key to enter the desired category.

Diagnostics – System Test

SYSTEM TEST

Upon entry into this category, a SYSTEM COMM TEST will be performed.

SYSTEM COMM TEST

This test will attempt to communicate with all of the modules within the treadmill unit. If all the modules communicate, the message is: “SYSTEM COMM OK” followed by an ‘AUTO ENTER’ event. If a module does not respond to the console processor an ERROR message will be displayed.

The console cannot perform a loop back test, the message is:
“SYSTEM COMM TWO WIRE.”
JW1 jumper is miss connector or missing from board

If the motor controller module does not communicate, if the motor controller has no power, or if the harness is disconnected, the message:
“COMM BAD”,
“CHECK HARNESS BETWEEN CONSOLE AND MOTOR CONTROLLER”,

Press the ‘ENTER’ key to advance to the SYSTEM TEST MENU.
Press the ‘CLEAR’ key or ‘STOP’ key to return to the SERVICE MENU.

SYSTEM TEST MENU

Upon entry into the area, the message is:
“SYSTEM TEST MENU”,
“USE ARROW KEYS TO”,
“ SCROLL THROUGH LIST”

Using any of the arrow keys will allow you to scroll through the nine systems test areas.

MAIN MOTOR MODULE
Speed Automatic Test
Speed Manual Test
Speed Errors

LIFT MOTOR MODULE
Incline Automatic Test
Incline Manual Test
Incline Errors

WAXER MOTOR MODULE
Waxer Automatic Test
Waxer Manual Test
Waxer Errors

BELT/DECK TEST
DISPLAY TEST
CONSOLE EEPROM TEST
LIFEPULSE TEST – applies only to TR9000HR and T9i units
TELEMETRY TEST
CSAFE TEST

Press the ‘ENTER’ key to enter the desired category.

Diagnostics – System Test

MAIN MOTOR MODULE

Speed Automatic Test

This test allows the user to test the main drive motor and controller controlling the target speed. Upon entry into this test a SA (speed automatic) will be in the profile window. The user can select a target speed by using the speed arrow keys. The actual speed as calculated by the speed feedback sensor is shown in the actual portion of the message center.

The incline system can be activated in this test as well. However, the display will only show the target incline for two seconds while the incline keys are being pressed. It will then return to showing the speed information.

System Communication Module Timeout Readout

During the Speed Automatic Test, if a user wants to see how the communication module timeout occurrences are occurring, press the 'TIME DOWN' arrow key to show them. There will be 3 modules that will be display in the message center. In order from left to right they are motor controller, lift module, waxer module. During operation of the treadmill, if any module has a communication timeout to the console, the readout for that module will increment up to a maximum of nine. After any successive communication to a module, the readout is zeroed out for that module. If any module gets nine consecutive timeouts, that module will be placed into a disabled mode. Depending on which module has the timeout, the treadmill may or may not experience a shutdown, reset, Notify Maintenance Notification or continue to operate.

Press the 'CLEAR' key or 'STOP' key to exit the Speed Automatic test and return to the System Test Menu.
Press the 'ENTER' key to advance to the Speed Manual test.

Speed Manual Test

This test allows the user to test the main drive motor and controller controlling the motor rpm. Upon entry into this test a SM (Speed Manual) will be in the profile window. The user can select a target motor rpm by using the speed arrow keys. The actual motor rpm as calculated by the speed feedback sensor is shown in the actual portion of the message center.

The incline system can be activated in this test as well. However, the display will only show the target incline for two seconds while the incline keys are being pressed. It will then return to showing the speed information.

Press the 'CLEAR' key or 'STOP' key to exit the Speed Manual test and return to the Speed Automatic test.
Press the 'ENTER' key to advance to the Controller Errors test.

Speed Errors

This test allows seeing the current motor controller error conditions that are being displayed on the motor controller display. Upon entry into this test a SE (speed errors) will be in the profile window.

The following is a list of the current motor controller error conditions:

OVERSPEED ERROR
BELT MOVING ERROR
RUNNING ERROR
START UP ERROR
DRIVE TRANSISTOR ERROR
DYNAMIC CURRENT TRIP
LOW VOLTAGE ERROR

Refer to the Error Code Troubleshooting Table on the next page.

Diagnostics – System Test

ERROR CODE TROUBLESHOOTING TABLE		
T9I/TR9000:	**MEANING:**	**YOU WILL GET THIS ERROR IF:**
Start-up error	Belt commanded to move and OPTO not seen or belt started to move and stalled.	The OPTO sensor is unplugged or lost communication when you start a workout.
Running error	Belt stalled after it was moving at its target speed and/or lost OPTO after moving at target speed.	The OPTO sensor is disconnected or lost target speed after a workout starts.
Belt moving error	Belt seen moving via OPTO but motor controller did not command it to move.	Movement of the striding belt prior to starting a workout.
Over speed error	Belt commanded to move but it is moving over target goal by 3 mph.	Moving the belt manually faster then the commanded/target speed during a workout.
Drive transistor error	Shows up if motor controller detects a failed part. This isn't a reset-able error. Treadmill will not allow workouts until serviced.	Main motor wires/leads are disconnected at the start of a workout. If the motor is properly connected and in working condition then the drive transistor could have failed. Check DC Controller
Low voltage error	Shows up if motor controller detects a low voltage condition.	The motor thermal wires are disconnected, broken, or become loose.
Speed unattained error	Shows up in system error log only	The belt and deck are badly worn, the motor can not reached the commanded speed.
No Comm error	Console lost communications with motor controller board. This could mean that the console has intermittent communications with the motor controller (possibly because of faulty cables) or the console was never able to communicate with the motor controller (possibly because of broken wires).	Communication wires in the console cable are broken.
Waxer Needs Filling	Waxer bag contains <= 6% wax solution.	Replace wax fill bag
Waxer Empty	Waxer bag is emptied. This isn't a reset-able error. Treadmill will not allow workouts until the waxer bag is serviced.	Replace wax fill bag
Level Switch Error	Shows up in system error log only on TR8500.	…the treadmill is at non-zero incline and you unplug the incline home switch and then you command the incline down to zero.
Incline time-out error	Shows up in system error log only	…the treadmill is at 0% incline and you disconnect the incline motor and then start a workout.
Dynamic Current Trip	Shows up in systems error log only.	Worn striding belt and deck motor causing motor to work to hard to move.

Press the 'CLEAR' key or 'STOP' key to exit the Speed Errors test and return to the Speed Manual test.

Diagnostics – System Test

LIFT MOTOR MODULE

Incline Automatic Test

This test allows the user to test the lift motor and switches controlling the target incline. Upon entry into this test an IA (incline automatic) will be in the profile window. The user can select a target incline by using the incline arrow keys. The actual incline as calculated by the time count is shown in the actual portion of the message center.
The state of the level incline switches will be displayed in the profile window. The speed system can be activated in this test as well. However, the display will only show the target speed for two seconds while the speed keys are being pressed. It will then return to showing the incline information.

Press the 'CLEAR' key or 'STOP' key to exit the Incline Automatic test and return to the System Test Menu.
Press the 'ENTER' key to advance to the Incline Manual test.

Incline Manual Test

This test allows the user to test the lift motor without switches controlling the incline manually. Upon entry into this test an IM (incline manual) will be in the profile window. The user move incline by using the incline arrow keys. The actual incline as calculated by the time count is shown in the actual portion of the message center.
The state of the level incline switches will be displayed in the profile window.
The speed system can be activated in this test as well. However, the display will only show the target speed for two seconds while the speed keys are being pressed. It will then return to showing the incline information.

Press the 'CLEAR' key or 'STOP' key to exit the Incline Manual test and return to the Incline Automatic test.
Press the 'ENTER' key to advance to the Incline Errors test.

Incline Errors

This test allows seeing the current lift motor error conditions. Upon entry into this test an IE (incline errors) will be in the profile window.

The following is a list of the current lift motor error conditions:

INCLINE TIMEOUT ERROR - Home switch blocked or unplugged.
LEVEL SWITCH ERROR – Zero home position not detected.
NO AC POWER ERROR – No AC to lift.

Press the 'CLEAR' key or 'STOP' key to exit the Incline Errors test and return to the Incline Manual test.

Diagnostics – System Test

WAXER MOTOR MODULE

Waxer Automatic Test

This test allows the user to see information concerning the waxer motor. Upon entry into this test a WA (waxer automatic) will be in the profile window. The waxer information will scroll automatically every 3 seconds. The following is a list of the current information that can be seen:

WAXER UNPLUGGED
WAXER FIRED – XXX
PRE WAXER FIRED - XXX
WAXER - XX/100 FULL
NEXT WAX - XX HOURS or XX MINUTES
MANUAL WAX- XX TIMES
INITIAL WAX- XX MINS
WAX INTERVAL XX MINS
MIN WAX SPEED- X.X

The speed system and incline systems can be activated in this test as well. However, the display will only show the target speed or incline for two seconds while the speed/incline keys are being pressed. It will then return to showing the waxer information.

Press the 'CLEAR' key or 'STOP' key to exit the Waxer Automatic test and return to the System Test Menu.
Press the 'ENTER' key to advance to the Waxer Manual test.

Waxer Manual Test

This test allows the user to manually fire the waxer system. Upon entry into this test a WM (waxer manual) will be in the profile window.

Note: When testing wax system, place paper or towels under nozzle when determining spray pattern (8-16" wide).

TO FIRE WAXER PRESS THE QUICK START KEY

The speed system and incline systems can be activated in this test as well. However, the display will only show the target speed or incline for two seconds while the speed/incline keys are being pressed. It will then return to showing the waxer information.

Press the 'CLEAR' key or 'STOP' key to exit the Waxer Manual test and return to the Waxer Automatic test.
Press the 'ENTER' key to advance to the Waxer Errors test.

Waxer Errors

This test allows seeing the current wax motor error conditions. Upon entry into this test a WE (waxer errors) will be in the profile window.

The following is a list of the current waxer motor error conditions:

WAXER UNPLUGGED
WAXER NO AC POWER

Press the 'CLEAR' key or 'STOP' key to exit the Waxer Errors test and return to the Waxer Manual test.

Diagnostics – System Test

BELT/DECK TEST

This test allows the user to test the belt and deck condition. This test attempts to approximate a wattage meter. It will give the user the percentage of power, wattage, bus voltage, and temperature readings.

The speed system and incline systems can be activated in this test. However, the display will only show the target speed or incline for two seconds while the speed/incline keys are being pressed. It will then return to showing the belt/deck information. The initial message will be:

"POWER METER",
"RECOMMENDED SPEED ABOVE 3.5 MPH" or
"RECOMMENDED SPEED ABOVE 5.0 KPH"

The initial information displayed will be:

POWER XXX WATT XXXX

By pressing the 'COOLDOWN' key, the display will toggle to the information:
VOLTAGE XXX TEMP XX ºC
The display will lock on the current information if the 'PAUSE' key or 'JOG' key is pressed.

WATT is the wattage measured by the motor controller to move the belt.
VOLTAGE is the bus voltage of the motor controller. It is not the input line voltage.

Press the 'CLEAR' key or 'STOP' key to exit the Belt/Deck test and return to the System Test Menu.

LIFEPULSE TEST

This test will allow the user to test the lifepulse heart rate system. The lifepulse system can be manually tested. A heart will appear in the profile window.The system will show when the user has placed their hands on the lifepulse sensors. When the left sensor detects "hands on" condition, a 'L' will be placed in the profile window with the heart. When the right sensor detects "hands on" condition, a 'R' will be placed in the profile window with the heart. A timer will start counting from the time when a both left and right "hands on" condition occurs to when the lifepulse system can reliable give the user their heart rate. This timer will stop when the heart rate is given. The gain value of the heart rate signal is shown. The confidence level of the heart rate value is displayed. The value ranges from 0 to 9. A value of 9 is considered to be high confidence. A value of 0 is considered to be low confidence. The speed system and incline systems can be activated in this test. However, the display will only show the target speed or incline for two seconds while the speed/incline keys are being pressed. It will then return to showing the lifepulse information.

Press the 'CLEAR' key or 'STOP' key to exit the Lifepulse test and return to the System Test Menu.

TELEMETRY HEART RATE TEST

This test will allow the user to test the telemetry heart rate system. Upon initial entry to this test, a message concerning the telemetry system on/off will occur. If the telemetry heart rate system is disabled, no heart rate value will be given.

If the system is enabled, a telemetry heart rate signal can be provided and a heart rate value will be shown. The signal will also generate the 'ENTER' LED to flash at the heart rate pulse frequency.

Press the 'CLEAR' key or 'STOP' key to exit the Telemetry Heart Rate test and return to the System Test Menu.

Diagnostics – System Test

DISPLAY TEST

All Lights On Test/Keypad Test

This test will allow the user to test the display console. Upon entry to this test, all lights will be turned on.

Pressing keys will result in a beep sound and, for all but the 'ENTER' and 'CLEAR' key or 'STOP' keys, a character will be repeated across the message center display.

KEYS	*DISPLAYED CHARACTER*
TIME UP	'1'
TIME DOWN	'2'
INCLINE UP	'3'
INCLINE DOWN	'4'
SPEED UP	'5'
SPEED DOWN	'6'
SELECTUP	'7'
SELECT DOWN	'8'
QUICK	'9'
WALK	'A'
PAUSE/JOG	'B'
RUN	'C'
COOL DOWN	'D'
COOL DOWN T9I	'E'

Pulling the Emergency Stop switch will result in the message:
'REPLACE EMERGENCY STOP SWITCH'.

Pressing the 'CLEAR' key or 'STOP' key to exit the Display test and return to the System Test Menu.
Pressing the 'ENTER' key will advance to Walking LED test.

Walking LED Test

This test will light each individual segment per character until complete. It will then light each character separately until all characters have been lit. Each individual LED will be tested also. If the 'PAUSE' key or 'JOG' key is pressed, the sequence will halt and remain there until the 'PAUSE' is pressed again.

Pressing the 'PAUSE' key or 'JOG' key can LOCK the display. This will prohibit the scrolling of the LED's.
Pressing the 'CLEAR' key or 'STOP' key to exit the Walking LED test and return to the Keypad test.

DISPLAY CONSOLE EEPROM TEST

This test allows the user to test the display console EEPROM. This test will read/write/replace all used locations in the display console EEPROM. The EEPROM location being tested will be displayed in the heart rate window. If there is an error, the bad location will be displayed. The following is a list of current information that can be seen:

TESTING EEPROM XXXX
EEPROM GOOD
EEPROM BAD AT XX

Press the 'CLEAR' key or 'STOP' key to exit the Display Console EEPROM test and return to the System Test Menu.

Diagnostics – System Test

C-SAFE TEST

This test will give information concerning whether there is a CSAFE system connected to the treadmill. A special LOOP BACK CABLE is required for this test. This test, is performed to determine fault between Life Fitness equipment and CSAFE system. Pressing the Time Up arrow key will reset the console and send out the standard power up message to the network. The console should display “SENDING…” . If the CSAFE network is communicating to the console it will display “RECEIVING…” then “READY MODE”, the communication between the unit and the CSAFE are functioning properly. If the network does not function properly you will see the console display “SENDING…” then “NOT CONNECTED.” When the CSAFE is not used the console will display “NOT CONNECTED”

Display: "RX.-xx TX.-xx 'MESSAGE' 'TIMER'" -updated every second

Overview:
The 'Rx' and 'Tx' sections show you the commands being Rxed/Txed. The Rx/Tx sections both show decimal points whenever were are Rxing/Txing. The 'MESSAGE' sections report useful messages about the current networking state of the machine or error conditions.

The 'TIMER' section shows you networked time-out timers and auto status timers counting down.

Messages:
-"RESETING CSAFE NETWORK" is shown every time this mode is entered or whenever user presses the 'cooldown' key. This means the Csafe State machine is reset to its powerup mode. You can thus see the kiosk configuring the equipment and verify we have a valid network connection.

-'RX-xx' shows last Rxed command from network. Shows 'RX-00' for empty frame receptions. On rejected frames this shows the byte that caused the rejection.

-'TX-xx' shows last Txed command that equipment sent.

-'NOT CONNECTED' means Csafe state machine is in the power-up mode and has not been configured by the kiosk yet. After any frame has been Rxing this message goes away indicating we are connected to a network.

-'RECEIVING...' means we are currently Rxing a frame

-'FRAME BAD' means frame was detected to have a bad checksum or any of the other types of framing error listed in the Csafe spec.

-'FRAME REJECTED' means frame was good (no framing error's detected) but frame contained invalid commands/data for current Csafe State.

-'READY MODE' -Csafe 'Ready' state

-'GET ID MODE XX' -Csafe 'Idle' state. Network has configured equipment to ask for ID's.

-'HAVEID MODE'
-'COMM TIME-OUT'
-'INUSE MODE'
-'FINISHED'

Timers:
-2 types of timers are shown. One is our internal network timer. It is shown at the end of the display during 'GET ID MODE', 'HAVEID MODE', and 'FINISHED' states. Its default setting is 65 seconds for the 'GET ID MODE' and 15 seconds for the other modes. -The other time that is shown is the auto status and/or auto 'UpList' option. When the network activates these options you will see a countdown timer (from 1 to 30 seconds) that will send the equipment’s status or 'UpList' whenever the timer times out. This is shown in the 'Ready' and 'InUse' modes.

Pressing the ‘CLEAR’ key or ‘STOP’ key to exit the C-SAFE test and return to the System Test Menu.

Diagnostics - Information

SYSTEM INFO MENU

Upon entry into the area, the message is:
"INFORMATION MENU",
"USE ARROW KEYS TO",
" SCROLL THROUGH LIST"

Using any of the arrow keys will allow you to scroll through the eight system information areas.

SYSTEM STATISTICS
SOFTWARE VERSION
LIFT MOTOR INFO
WAX MOTOR INFO
SYSTEM ERRORS
MAINTENANCE INFO

Press the 'ENTER' key to enter the desired category.

SYSTEM STATISTICS

This area will allow the user to see system information concerning the following areas:

TOTAL HOURS - XX
TOTAL MILES - XX
BELT HOURS - XX
BELT MILES - XX
LIFT MINUTES - XX
HILL PROGRAM SELECTIONS
RANDOM PROGRAM SELECTIONS
MANUAL PROGRAM SELECTIONS
FAT BURN PROGRAM SELECTIONS
CARDIO PROGRAM SELECTIONS
QUICK START PROGRAM SELECTIONS
GERKIN PROTOCAL

MY WRKS
CUSTOM
EZ INCLINE
SPORT
WALK
JOG
XTRAIN
HR HILL
HR INTRV
HR EX

The information will automatically scroll every 3 seconds or using any of the arrow keys will allow you to scroll through the system statistics.

Pressing the 'PAUSE' key or 'JOG' key can LOCK the display. This will prohibit the scrolling of the information. Press the 'CLEAR' key or 'STOP' key to exit the System Statistics and return to the System Info Menu.

SOFTWARE VERSIONS

This area will allow the user to see system information concerning the following areas:

CONSOLE SOFTWARE VERSION - XX
MOTOR CONTROLER SOFTWARE VERSION - XX
LIFEPULSE SOFTWARE VERSION -XX
CSAFE VERSION – XX
BOOT VERSION - XX

The information will automatically scroll every 3 seconds or using any of the arrow keys will allow you to scroll through the system information.

Press the 'CLEAR' key or 'STOP' key to exit the Software Versions and return to the System Info Menu.

Diagnostics - Information

LIFT MOTOR INFORMATION

This area will allow the user to see the current information about the lift motor. The information will cover the following areas:

UNIT CONFIGURATION – 60 HERTZ or 50 HERTZ
CURRENT LIFT "ON TIME" IN MINUTES
INCLINE BUCKET INFORMATION – 16 BUCKETS

INCLINE AT PERCENT INFORMATION

BUCKET 0	TIME - XX
BUCKET 1	TIME -XX
BUCKET 2	TIME - XX
BUCKET 3	TIME - XX
BUCKET 4	TIME - XX
BUCKET 5	TIME - XX
BUCKET 6	TIME - XX
BUCKET 7	TIME - XX
BUCKET 8	TIME - XX
BUCKET 9	TIME - XX
BUCKET 10	TIME - XX
BUCKET 11	TIME - XX
BUCKET 12	TIME - XX
BUCKET 13	TIME - XX
BUCKET 14	TIME - XX
BUCKET 15	TIME - XX

The information will automatically scroll every 3 seconds or using any of the arrow keys will allow you to scroll through the lift motor information.

Press the 'CLEAR' key or 'STOP' key to exit the Lift Motor Info and return to the System Info Menu.

WAX MOTOR INFORMATION

This area will allow the user to see the current information about the wax motor. The information will cover the following areas:

WAXER FIRED – XXX
WAXER - XX/100 FULL
NEXT WAX - XX HOURS or XX MINUTES
MANUAL WAX- XX TIMES
INITIAL WAX- XX MINS
WAX INTERVAL XX MINS
MIN WAX SPEED- X.X

The information will automatically scroll every 3 seconds or using any of the arrow keys will allow you to scroll through the wax motor information.

Pressing the 'PAUSE' key or 'JOG' key can LOCK the display. This will prohibit the scrolling of the information. Press the 'CLEAR' key or 'STOP' key to exit the Wax Motor Info and return to the System Info Menu.

Diagnostics - Information

SYSTEM ERRORS

This area will allow the user to see the last 25 logged system errors. The error information will be displayed from the most recently logged to the oldest. Each system error will be displayed in the following format.

Error # Brief Error Title

This format allows the user to scroll through all logged system errors without seeing any error details. The system errors will be scrolled automatically every 3 seconds or can be scrolled by using any of the arrow keys.

If the user wants to see the details about an error condition, the user must press the 'ENTER' key when the error title is displayed on the message center.

When the 'ENTER' key is pressed, all of the error log details will begin to display. These error details will scroll automatically every 3 seconds or can be scrolled by using any of the arrow keys.

Press the 'CLEAR' key or 'STOP' key to go back to just seeing the error titles.
Press the 'CLEAR' key or 'STOP' key to exit the System Errors and return to the System Info Menu.

Diagnostics - Maintenance

MAINTENANCE MENU

Upon entry into the area, the message is:
"MAINTENANCE MENU",
"USE ARROW KEYS TO",
"SCROLL THROUGH LIST"

Using any of the arrow keys will allow you to scroll through the ten system maintenance procedures.

REPLACING BELT /DECK
REPLACING WAXER BAG
REPLACING CONSOLE
REPLACING MOTOR CONTROLLER
REPLACING DRIVE MOTOR
REPLACING LIFT MOTOR
REPLACING WAX MOTOR

Press the 'ENTER' key to choose the desire procedure.

Upon the selection of the desired procedure, the system will gather all-important information concerning that procedure and log the procedure the Console will beep. Upon successful completion of the log.

MAINTENANCE INFO

This area will allow the user to see the last 12 logged system repairs. The repair information will be displayed from the most recently logged to the oldest. Each system repair will be displayed in the following format.

Repair # Brief Repair Title

This format allows the user to scroll through all logged system repairs without seeing any repair details. The system repairs will be scrolled automatically every 3 seconds or can be scrolled by using any of the arrow keys.

If the user wants to see the number of repairs, the user must press the 'ENTER' key when the repair # is displayed on the message center.

When the 'ENTER' key is pressed, all of the repairs procedure details will begin to display. These repair details will scroll automatically every 3 seconds or can be scrolled by using any of the arrow keys.

Press the 'CLEAR' key or 'STOP' key to go back to just seeing the repair titles.
Press the 'CLEAR' key or 'STOP' key to exit the System Repair and return to the System Info Menu.
Press the 'CLEAR' key or 'STOP' key to exit the System Maintenance and return to the Service Menu.

Diagnostics - Configuration

CONFIGURATION MENU

Upon entry into the area, the message is:

> “CONFIGURATION MENU”,
> “USE ARROW KEYS TO”,
> “SCROLL THROUGH LIST”

Using any of the arrow keys will allow you to scroll through the three system configuration areas.

> MANAGER CONFIG
> MANUFACTURER CONFIG

Press the ‘ENTER’ key to choose the desire area.
Press the ‘CLEAR’ key or ‘STOP’ key to exit the Configuration Menu and return to the Service Menu.

Diagnostics - Configuration

MANAGER CONFIG

This area will allow the user to see the current configuration about the system. The information will cover the following areas:

LANGUAGE SELECTION
ENGLISH/METRIC UNITS
MAXIMUM SPEED
MINIMUM SPEED
MAXIMUM INCLINE
MAXIMUM DURATION
TELEMETRY ON/OFF
PAUSE TIMEOUT DURATION
WATTS DISPLAY ON/OFF
METS DISPLAY ON/OFF
PACE DISPLAY ON/OFF
CALORIE PER HOUR DISPLAY ON/OFF
DISTANCE CLIMBED ON/OFF
WAX MAINTENANCE REMINDER ON/OFF
ACCELERATION RATE 1 - 5
DECELERATION RATE 1 – 5

DEFAULT SELECTIONS FOR UNITS TR9000/T9i

LANGUAGE SELECTION	ENGLISH FOR ALL
ENGLISH/METRIC UNITS	ENGLISH FOR ALL
MAXIMUM SPEED	TR9000-10MPH T9i-12MPH
MINIMUM SPEED	0.5 MPH FOR ALL
MAXIMUM INCLINE	15% INCLINE
MAXIMUM PROGRAM TIME	60 MINUTES FOR ALL
TELEMETRY ON/OFF	ON FOR ALL
PAUSE TIMEOUT DURATION	1 MINUTE FOR ALL
WATTS DISPLAY ON/OFF	OFF FOR ALL
METS DISPLAY ON/OFF	OFF FOR ALL
PACE DISPLAY ON/OFF	ON FOR ALL
CALORIE PER HOUR DISPLAY ON/OFF	OFF FOR ALL
DISTANCE DISPLAY ON/OFF	OFF FOR ALL
ACCELERATION RATE 1 – 5	3 FOR ALL
DECELERATION RATE 1 – 5	3 FOR ALL

The information will automatically scroll every 3 seconds or using the ‘TIME UP’ or ‘TIME DOWN’ arrow keys will allow you to scroll through the configuration items.

The information can be changed when the item is displayed in the message center by using any of the remaining arrow keys.

Pressing the ‘PAUSE’ key or ‘JOG’ key can LOCK the display. This will prohibit the scrolling of the information. All changed items will be saved to the memory upon exiting of the manager’s configuration.

Press the ‘CLEAR’ key or ‘STOP’ key to exit the Manager’s Config and return to the Configuration Menu.

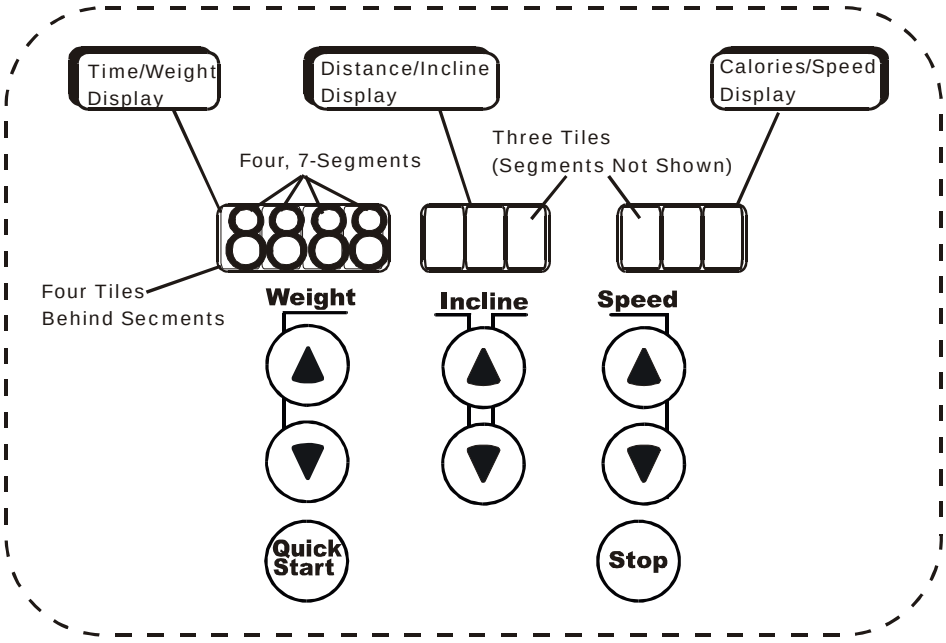
SECTION II-B

DIAGNOSTICS

TR8500

Diagnostics – Manager's Settings

NOTE: In the illustration, there're three data Display windows consisting of a total of 10 tiles. Each tile consists of a seven-segments which illuminates to make-up a number or letter. Example: "ConS =" translates to "Software Version Mode x.xx." Refer to the tables throughout this section for complete default setting explanations.



Manager Configuration: Press and hold down the Time/Weight UP arrow key and press the Stop key twice. Display windows show "ConS =." Use the Quick Start key to move forward through each setting modes and the Stop key to move back. To exit Managers settings, press the Stop key to move backward through each mode until the Data Display windows show "ConS x.xx." Press the Stop key one more time. When the computer is no longer in Managers settings, the Data Display windows show the animated "flyers", or the center window shows an underscore.

Manager Settings	Sequence	Default
Display Mode	1	diSP ON
Units (English/Metric)	2	UnitS LbS
Maximum Workout Time	3	tinE 99
Maximum Speed	4	SPd 10.0
Maximum Incline	5	inc 15.0
Flyers ON/OFF	6	Fly ON
Polar ON/OFF	7	PoLAr ON
Acceleration Rate	8	AccEL = 3
Deceleration Rate	9	dEcEL = 3
Waxer System Installed	10	Lub SyS = no

Diagnostics – Service Menu

DIAGNOSTIC MODES

Service Menu: Press the Stop key twice and then hold down the Incline Up arrow key. To advance through the diagnostic modes press the Quick Start key, to go backwards use the Stop key

There are 12 different diagnostic modes and settings shown in the order as they appear in the table.

Sequence	Diagnostic Modes	Default	Diagnostic Settings	Sequence	Default
1	Software Version Mode	"ConS x.xx"	Display Mode	1	diSP ON
2	Display Test (all lights on)	"diSPLAY"	Units (English/Metric)	2	UnitS LbS
3	Cycling Display Test	cycling lights	Maximum Workout Time	3	tinE 99
4	Keypad Test	"buttonS"	Maximum Speed	4	SPd 10.0
5	Motor Test	"bELt tESt"	Maximum Incline	5	inc 15.0
6	Incline Test	"LiFt tESt"	Flyers ON/OFF	6	Fly ON
7	Waxer Test	"Lub tESt"	Polar ON/OFF	7	PoLAr ON
8	Polar Test (heart rate)	"PolAr tESt"	Drive Ratio	8	dri = 11350
9	Statistics	"StAtS"	Acceleration Rate	9	AccEL = 3
10	Settings	"SettingS"	Deceleration Rate	10	dEcEL = 3
11	System Errors	"ErrorS"	Waxer System Installed	11	Lub SyS = no
12	Photoshoot Mode	"PhotoSHoot"	Waxer Settings	12-21	LubX xxx

DESCRIPTION

Software Version Mode
Upon entry into this mode, the console software version will be display first as "ConS xx.x.", then the motor controller software as "CtrL xx.xx.", and finally the date the software version was made (MM = 2 digit month, DD = 2 digit day, and YYYY = 4 digit year). Use the Weight arrow key to cycle through the different versions.

Display Test = "diSPLAY"
This mode turns all of the displays on. To cycle through the displays, press the Quick Start key.

Cycling Display Test
This mode cycles through the different display segments automatically.

Keypad Test = "buttonS"
This test allows you to check the keypad. Use the table below to verify the key functions.

Key		Default
Weight Up Arrow		"1"
Incline Up Arrow		"2"
Speed Up Arrow		"3"
Weight Down Arrow		"4"
Incline Down Arrow		"5"
Speed Down Arrow		"6"
Emergency Stop Button (pressed)		"EEEE EEE EEE"
Emergency Stop Button (released)		"---- --- ---"
Not-Used key		"---- --- ---"
Stop Key		Exits keypad test mode
Quick Start Key		Enters motor test mode

Diagnostics

Motor Test = "bELt tESt"

This test checks the motor and motor controller. Use the Speed arrow keys to increase or decrease motor speed from 0.5 to 10.0 mph. The Time window shows the actual OPTO speed while the Speed window shows the target speed. Speed LED is ON during test mode. The Time LED flashes when information is sent to the motor controller. The Weight LED flashes when information is received from the motor controller. Use the Incline arrow keys to select items as listed below.

Item	Description	Default
Motor Status byte #1	Gives current status of the motor controller.	" XX_0 "
Motor Status byte #2		" XX_1 "
Target RPM	Shows commanded (target) rpm	"xxxx tArgEt"
Actual RPM	Shows OPTO (actual) rpm	"xxxx ActuAL"
Power	Shows motor power in watts	" P = xxxx"
Current	Shows % maximum current being used. Range = 0 to 100 where 100 = 100% of maximum current is being used.	" I = xxx"
Voltage	Shows buss voltage	" E = xxx"

During this test if an error occurs, it usually shows up because the motor draws excessive current. This can occur during power-up or when a user tries to start a workout. In either case, the motor automatically shuts OFF, a beeping sound occurs, and an error code is displayed. Most errors can be cleared out by pressing the Stop key, however, if the error persists, refer to the Error Code Troubleshooting Table on the next page.

Diagnostics

ERROR CODE TROUBLESHOOTING TABLE		
TR8500	**MEANING:**	**YOU WILL GET THIS ERROR IF:**
"Err 1"	Belt commanded to move and opto not seen or belt started to move and stalled.	The opto sensor is unplugged or lost communication when you start a workout.
"Err 2"	Belt stalled after it was moving at its target speed and/or lost opto after moving at target speed.	The opto sensor is disconnected or lost target speed after a workout starts.
"Err 3"	Belt seen moving via opto but motor controller did not command it to move.	Movement of the striding belt prior to starting a workout.
"Err 4"	Belt commanded to move but it is moving over target goal by 3 mph.	Moving the belt manually faster then the commanded/target speed during a workout.
"Err 5"	Shows up if motor controller detects a failed part. This isn't a reset-able error. Treadmill will not allow workouts until serviced.	Main motor wires/leads are disconnected at the start of a workout. If the motor is properly connected and in working condition then the drive transistor could have failed. Check DC Controller
"Err 6"	Shows up if motor controller detects a low voltage condition.	The motor thermal wires are disconnected, broken, or become loose.
"Err 7"	Shows up in system error log only	The belt and deck are badly worn; the motor can not reached the commanded speed.
"Err 8"	Console lost communications with motor controller board. This could mean that the console has intermittent communications with the motor controller (possibly because of faulty cables) or the console was never able to communicate with the motor controller (possibly because of broken wires).	Communication wires in the console cable are broken.
"Err 9"	Waxer bag contains <= 6% wax solution.	Replace wax fill bag
"Err 10"	Waxer bag is emptied. This isn't a reset-able error. Treadmill will not allow workouts until the waxer bag is serviced.	Replace wax fill bag
"Err 11"	Shows up in system error log only on TR8500.	The treadmill is at non-zero incline and you unplug the incline home switch and then you command the incline down to zero.
"Err 12"	Shows up in system error log only	The treadmill is at 0% incline and you disconnect the incline motor and then start a workout.

Diagnostics

Incline Test = "LiFt tESt"

Using the Incline up and down arrow keys, check incline positions in 0.5% increments. During this test, the Incline LED will illuminate the Time window shows the percent of incline, and the Incline window shows the incline setting. If the treadmills incline home switch is pressed (indicating it is at 0.0% incline) then the Distance LED will turn on. Once the home switch is released (indicating it is above 0.0% incline) the Distance LED will shut off. The Calories LED will turn on if the Incline controller detects 60Hz line frequency. The Calories LED is off if 50Hz is detected.

Waxer Test = "Lub tESt"

This test lets you check the waxer system. The weight LED illuminates when you're in this test mode. You can toggle the waxer do a test squirt by pressing either of the Weight arrow keys. The words ON and OFF indicate when the test squirt has started and ended. This information is shown in the Time display as: SSS=ON or SSS=OFF. If the waxer is disabled it is displayed as: SSS = "---". Doing a waxer test squirt will automatically re-enable the waxer. The Time LED illuminates when the waxer is enabled.

Polar Test = "PolAr tESt"
Shows the polar value currently beginning detected. If no polar pulse is detected then "Hr = 0" is displayed.
If heart rate is detected "Hr = xxx" will be displayed.

Statistics = "StAtS"

Statistic mode keeps track of the total workout times, distances, program selections, lift times, and several waxer items. Use any arrow keys to cycle through the selections listed in the table below.

Statistic	Topic	Display	Definition
Time	Total equipment usage	tinE xxxx.xx	Time is displayed in hours and minutes as hhhh.mm. Once time exceeds 9999.59 the minutes will no longer be displayed. Time will continue to be tracked and saved up to a maximum of 999,999 hours (over 100 years).
Distance	Total equipment mileage	diSt xxxx.xx	Distance is displayed in miles. Whole miles displayed as MMMM up to 9999. 1/100th of a mile displayed as "mm" up to 99. Once distance exceeds 9999.99, less than a whole mile will no longer be displayed. Distance will continue to be tracked and saved up to a maximum of 999,999 miles. If unit is set to Metric units then distance is saved in kilometers instead of miles.
Workouts	Total number of workouts	Prog xxxxxx	The treadmill only has one program, which is a manual workout, and will record and display up to 999,999 program selections.
Lift Time	Total number of lift time	LiFt xxxx.xx	Measured in minutes "mmmm" up to 9999, and seconds "ss" up to 59. Once time exceeds 9999.59, the seconds no longer are displayed. Lift time will continue to be tracked and saved up to a maximum of 999,999 minutes.
Wax intervals	Wax intervals (in minutes)	Lub1 xxxxxx	"Lub1 through Lub4" are wax system statistics about lubrication.
Waxer fired	Number of times waxer fired	Lub2 xxxxxx	
Waxer fired manually	Number of times waxer was fired manually	Lub3 xxxxxx	
Waxer pre-soak	Number of times waxer did a pre-soak squirt	Lub4 xxxxxx	

Diagnostics

Settings = "SEttingS"

There are 21 different settings available. Settings are selected with the Weight arrow keys. Once a setting is shown it can be changed using the Speed arrow keys.

SETTING	SEQUENCE	DEFAULT	DESCRIPTION
Display Mode	1	"diSP ON"	This setting turns the console's ability to display messages ON and OFF while in the Settings Mode. When turned OFF, the display reads "01 OFF." When turned ON, the display reads "02 LbS."
Units (English/Metric)	2	"UnitS LbS"	This mode switches between Metric and English units. English is displayed as "LbS" (for pounds) and Metric "grS" (for grams).
Maximum Workout Time	3	"tinE 99"	This mode sets the maximum allowable workout time which is: 1 to 99 minutes.
Maximum Speed	4	"SPd 10.0"	This mode sets the unit to the maximum workout speed, which is: 0.5 to 10.0 mph (0.8 to 16.0 kph).
Maximum Incline	5	"inc 15.0"	This mode sets the maximum allowable incline from 0.0 to 15.0 %.
Flyers ON/OFF	6	"Fly ON"	Flyers are animated circles that appear in the Data Display when the treadmill is turned ON. When turned OFF, only a single underscore character is displayed in the center display.
Polar ON/OFF	7	"PoLAr ON"	Switching ON this feature makes it possible to use the Polar Heart Rate Chest Strap and to see heart rate readings.
Acceleration Rate	9	"AccEL = 3"	Sets the acceleration ramp rate of the motor controller from 1 to 5. Default is 3.
Deceleration Rate	10	"dEcEL = 3"	Sets the deceleration ramp rate of the motor controller from 1 to 5. Default is 3.
Wax System Installed	11	"Lub SyS = no"	Signals to the system whether or not a wax system has been installed.
Wax Settings	12-21	"LubX xxx"	There are 10 different wax settings. They are "Lub0" through "Lub9." When OFF, "12-21" appear in the display.

Diagnostics

System Errors = "ErrorS"

The treadmill saves the last 25 system errors, which can be retrieved for review. Use the Time down arrow to move forward through the errors which is displayed as "Exx= ErrXXX". The last error logged-in, is the first error to show. Use the Time up arrow to move backwards through the errors. At the last error, press the Time up arrow to get the total number of errors: 0xffff (65535).

Use the Incline arrow key to toggle between viewing an error and seeing how many times it has occurred. Total number of occurrences goes up to 255. No more occurrences will be recorded after this. Display shows occurrences as "OccurEd xxx", where xxx ='s 1 to 255 times.

Clear all system errors by holding down the Incline down arrow while pressing the Speed up arrow. Display will read "Clr". Press the Speed down arrow to start the clearing process. If you decide not to clear at the "Clr" prompt, then press the Stop key.

Error Modes		Default
Total number of system errors		"t-Er = xxxxx"
Last error		"Exx= Err xxx"
Number of times error occurred		"Occurred xxx"
Clearing mode		"Clr"
Canceled clearing mode		"---"
Once cleared		"oooo ooo ooo"

Photoshoot mode = "PHotoSHoot"

Data displayed is non-functional and intended only to simulate values for photographic sessions.

SECTION III

HOW TO…
SERVICE AND REPAIR GUIDE

Life Fitness Models 9000HR, 8500, and T9i Treadmills

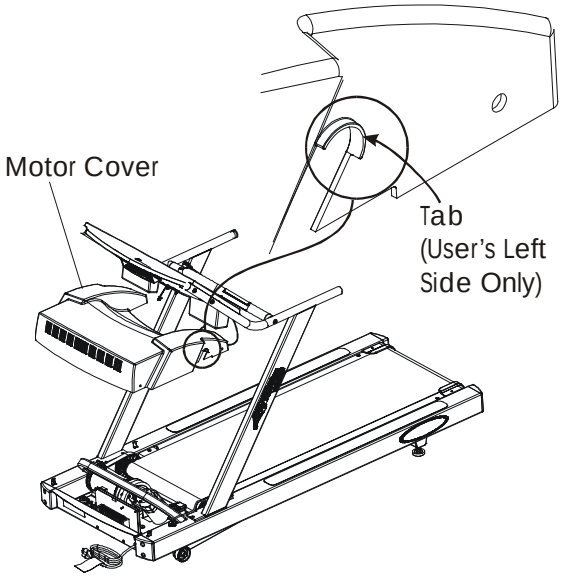
How To... Replace the Striding Belt and Deck

Special Tools Required: None

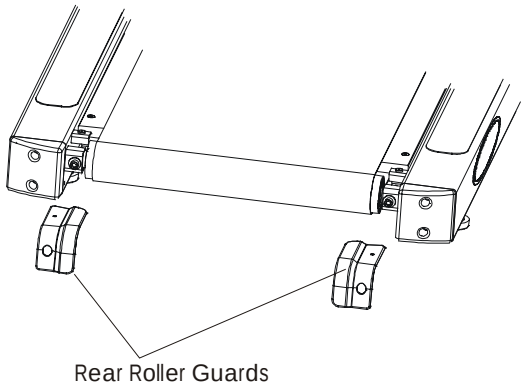
IMPORTANT: When replacing the striding belt, the deck must be flipped to the unused waxed side or else replaced. Whenever a deck is replaced, the striding belt must be replaced. Before flipping a deck, wipe off any debris from the unused waxed side without removing the wax. When installing the unused side into position, be careful not to disturb the waxed side. If both sides of a deck are used, then the deck must be replaced. T9i uses a none waxed deck, but requires flipping.

1. Turn the unit power OFF at the switch, and then unplug the line cord at the wall outlet.

2. Remove four Phillips screws securing the motor cover to the frame. Squeeze in the sides of the motor cover near the uprights so that the tab on user's left side clears the frame, and then lift off the motor cover.



3. At the back of the unit, remove the rear roller guards.

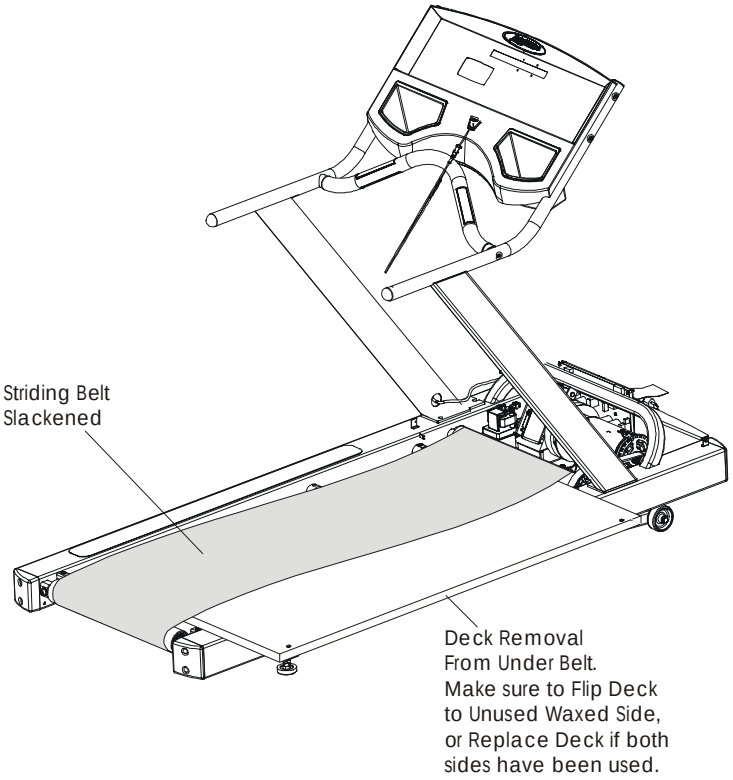


NOTE: Mark the left and right shaft ends of the rear roller to ensure that the bearing wear-patterns remain on the same sides for reinstallation.

4. Remove the rear roller adjusting bolts by turning them counter-clockwise, then lift the rear roller out from under the striding belt.

5. Remove four deck screws at each corner of the deck, and slide out the deck from under striding belt without disturbing the unused waxed surface.

6. Reach in under the striding belt and remove two screws securing the wax bracket to the frame. Lay the wax bracket on top of the Lifesprings on the users left side. Not applicable for T9i units.

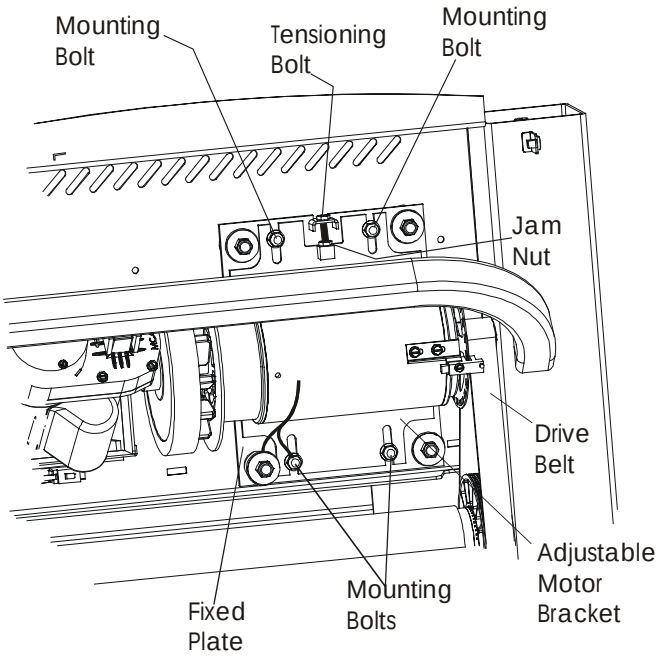


How To... Replace the Striding Belt and Deck - Continued

Special Tools Required: None

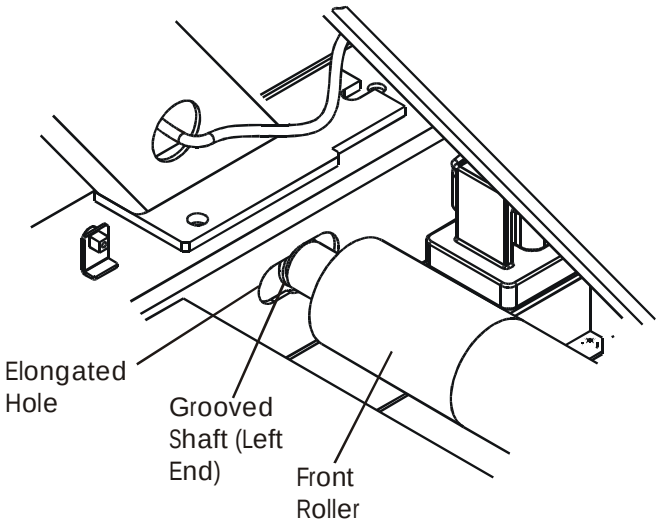
7. Index the motor bracket to the frame to maintain proper belt tension setting. Then loosen four mounting bolts on the motor bracket, and also the tensioning bolt.

8. Slide the motor forward toward the front roller to loosen the drive belt.



9. Move the left end of the front roller shaft out from its elongated mounting hole and into the left side of the frame. This will allow the right end of the front roller shaft to clear its mounting hole so that the drive belt can be removed off the front roller pulley.

10. Remove the drive belt off the front roller pulley.



How To... Replace the Striding Belt and Deck - Continued

Special Tools Required: None

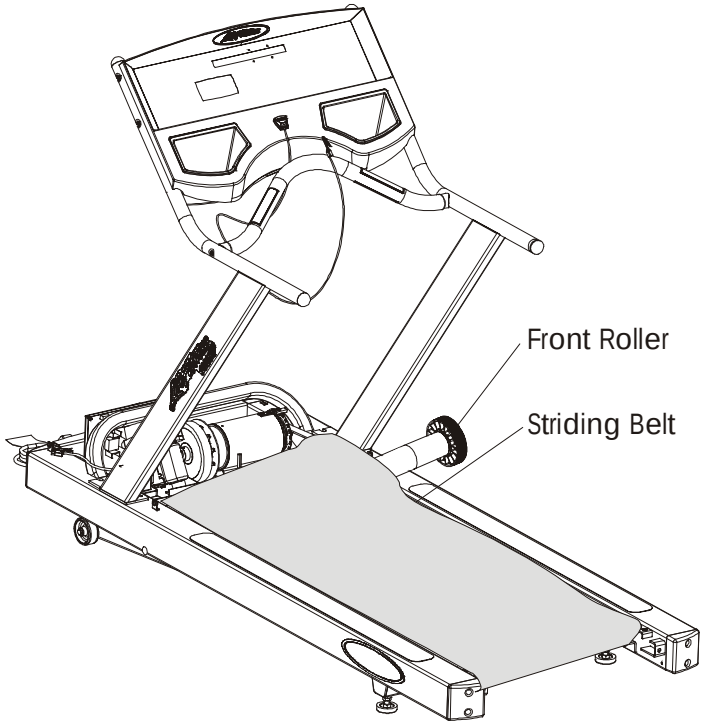
11. Remove the front roller out from under the right side of the striding belt. Discard the striding belt.

12. Install the front roller, deck, striding belt, and rear roller in reverse order. Refer to Tensioning Striding Belt, Belt Tracking, and Stall Test.

13. Tension the motor drive belt using the tensioning bolt, which is located next to the motor bracket. When the motor drive belt is properly tensioned (1/4" deflection), tighten the motor bracket bolts.

NOTE: When replacing the striding belt the deck must be flipped to an unused side or replaced. Whenever a deck is replaced, the striding belt must also be replaced. If the deck is to be flipped, carefully wipe debris from the unused side without removing the wax.

14. Refer to diagnostics section to log maintenance repair of the striding belt and deck.

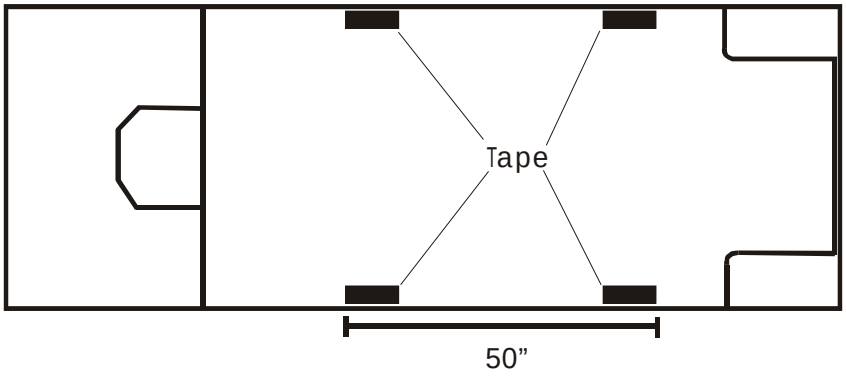


How To... Tension Striding Belt

Special Tools Required: None

TR9000 and TR8500

1. Center the new striding belt between the front and rear rollers. Place two pieces of tape 50” apart on the right and left edges of the striding belt. Tighten the striding belt at the tensioning bolts.



2. Alternately tighten the tensioning bolts 1/4 turn clockwise until the distance between the tape increases to 50.25”.

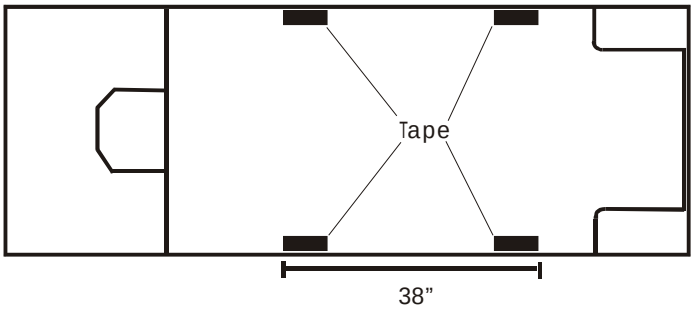
3. Complete reassembly of remaining components in reverse order of removal.

4. Adjust the striding belt tracking. See How To...Adjust Striding Belt Tracking in this section.

5. Refer to diagnostics section to log maintenance repair of the striding belt.

T9i Treadmill

1. Center the new striding belt between the front and rear rollers. Place two pieces of tape 38” apart on the right and left edges of the striding belt. Tighten the striding belt at the tensioning bolts.



2. Alternately tighten the tensioning bolts 1/4 turn clockwise until the distance between the tape increases to 38.25”.

3. Complete reassembly of remaining components in reverse order of removal.

4. Adjust the striding belt tracking. See How To...Adjust Striding Belt Tracking in this section.

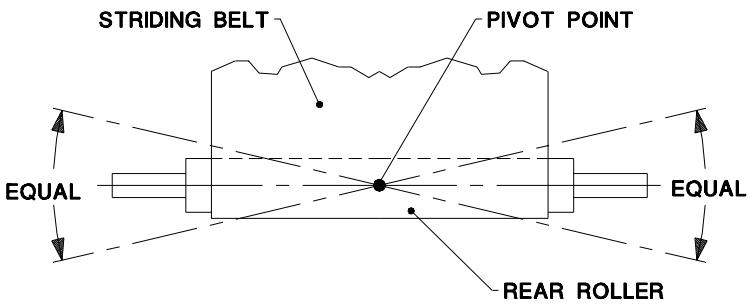
5. Refer to diagnostics section to log maintenance repair of the striding belt.

Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Adjust Striding Belt Tracking

Special Tools Required: None

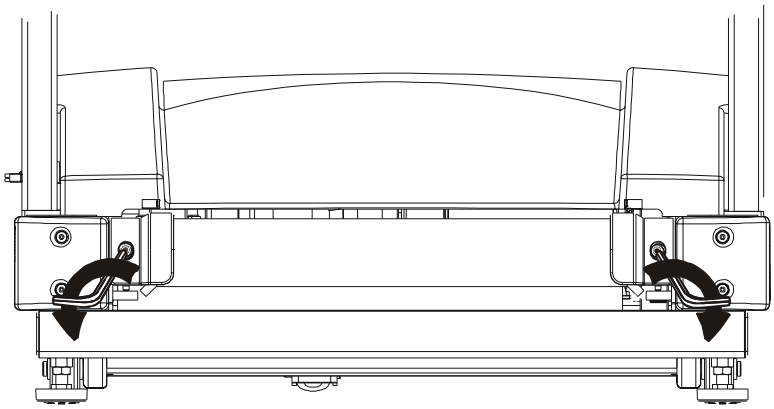
IMPORTANT: *It is CRITICAL that the treadmill be correctly leveled prior to any tracking adjustments. An unstable unit can cause Striding Belt misalignment. To level and stabilize the unit, refer to instructions on "How To…Replace The Leveler Assembly" in this section.*



1. After the treadmill has been installed and leveled, the belt must be checked to confirm proper tracking.

2. Turn the unit ON and set the main motor speed to 2.5 mph (4 km/h).

3. With the belt operating at specified speed, NOTE its tracking. If the belt moves to the right, turn the right adjusting bolt 1/4 turn counterclockwise to bring the belt back to center. If the belt moves to the left, turn the left adjusting bolt 1/4 turn clockwise and then turn the right tension bolt 1/4 turn counterclockwise to bring the belt back to center.



4. Repeat this adjustment until the striding belt appears centered between rollers. When striding appears to be centered increase motor speed to 5 MPH. Allow the unit to operate for several minutes to see that the belt remains centered.

NOTE: During the adjustment above, DO NOT exceed one full turn of the adjusting screws in either direction.

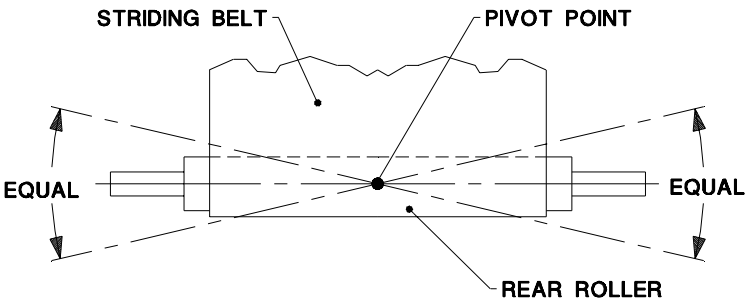
Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To… How To Perform a Stall Test

Special Tools Required: None

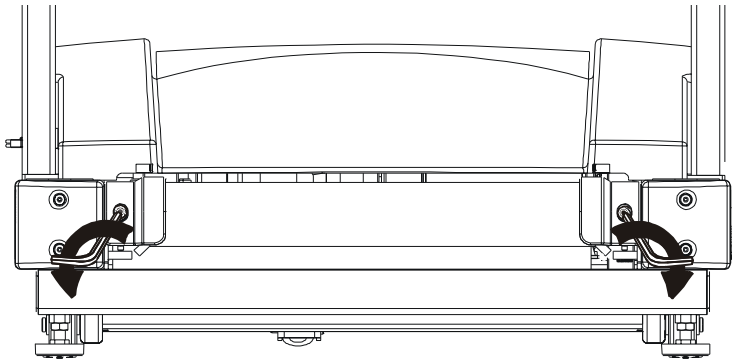
1. Locate the two adjusting bolts on each side of the rear roller mounting brackets. These bolts are accessible from the holes provided in the rear roller guards.

2. Enter the manual program and run unit for five minutes at 5.0 mph (8.0 km/h). ***DO NOT RUN*** on the BELT.



3. Press the down arrow speed button to decrease striding belt speed to 2 mph (3.2 km/h). Begin walking on the treadmill. Tightly grasp the handrails and attempt to stall the striding belt. If it slips, proceed to Step 4. **I**f it does not slip, proceed to Step 5.

4. Stop the treadmill and increase belt tension by turning the adjusting bolts clockwise in 1/4-turn increments. Once the belt is properly tensioned, proceed to Step 5.



5. With the belt running, NOTE its tracking (centering). If the belt moves to the right, turn the right adjusting bolt 1/4 turn counterclockwise to bring the belt back to center. If the belt moves to the left, turn the left adjusting bolt 1/4 turn clockwise and then turn the right bolt 1/4 turn counterclockwise to bring the belt back to center. Repeat this adjustment until the striding belt is centered. Allow the unit to operate for several minutes after each adjustment to see that the belt remains centered.

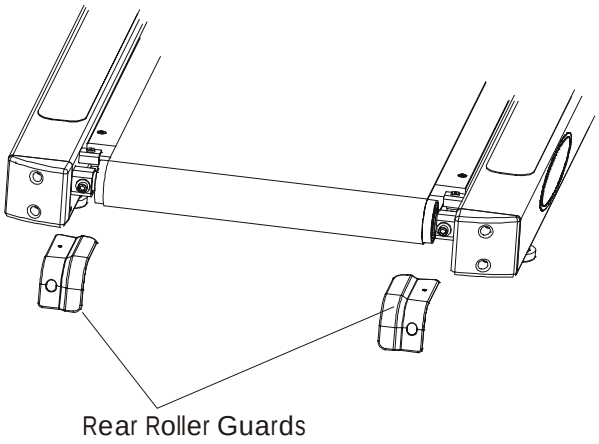
   NOTE: Make adjustments in 1/4 turn. DO NOT exceed one full turn of the adjusting bolts.

Life Fitness Models 9000HR, 8500, and T9i Treadmills

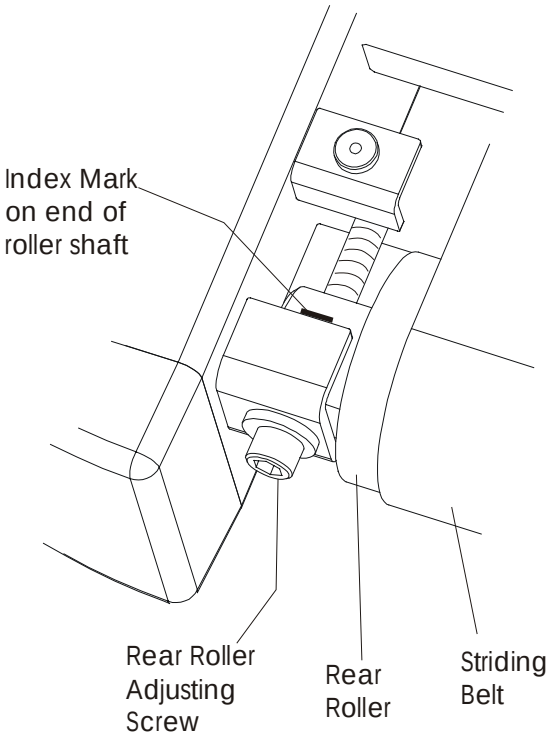
How To... Replace the Front Roller

Special Tools Required: None

1. Turn the unit power OFF at the switch, and then unplug the line cord at the wall outlet.
2. Remove the motor cover.
3. Remove the rear roller guards.



4. Index the rear roller so that same belt tension can be restored to its original state.
5. Loosen the rear roller adjusting bolts to slacken the striding belt.

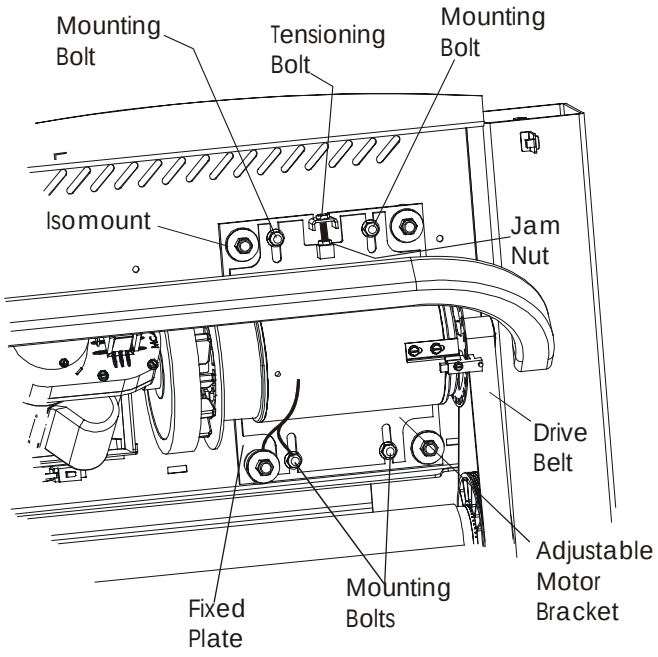


How To... Replace the Front Roller - Continued

Special Tools Required: None

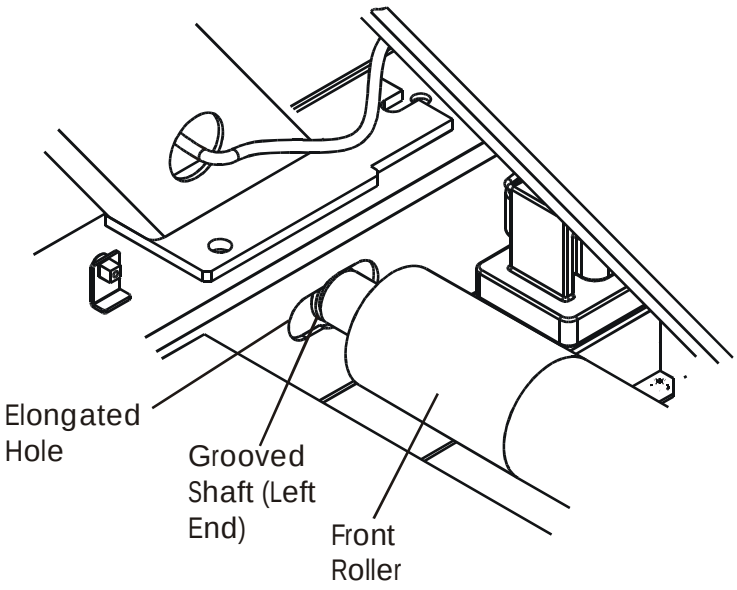
6. Index the motor bracket to the frame to restore proper belt tension setting. Loosen four mounting bolts at the motor bracket and the tensioning bolt to relieve drive belt tension. Move the motor towards the front roller to loosen the drive belt

NOTE: Do Not loosen the isomounts.



7. Move the left end of the front roller shaft out from its elongated mounting hole and into the left side of the frame. This will allow the right end of the front roller shaft to clear its mounting hole so that the drive belt can be removed off the front roller pulley.

8. Remove the drive belt off the front roller pulley.



How To... Replace the Front Roller - Continued

Special Tools Required: None

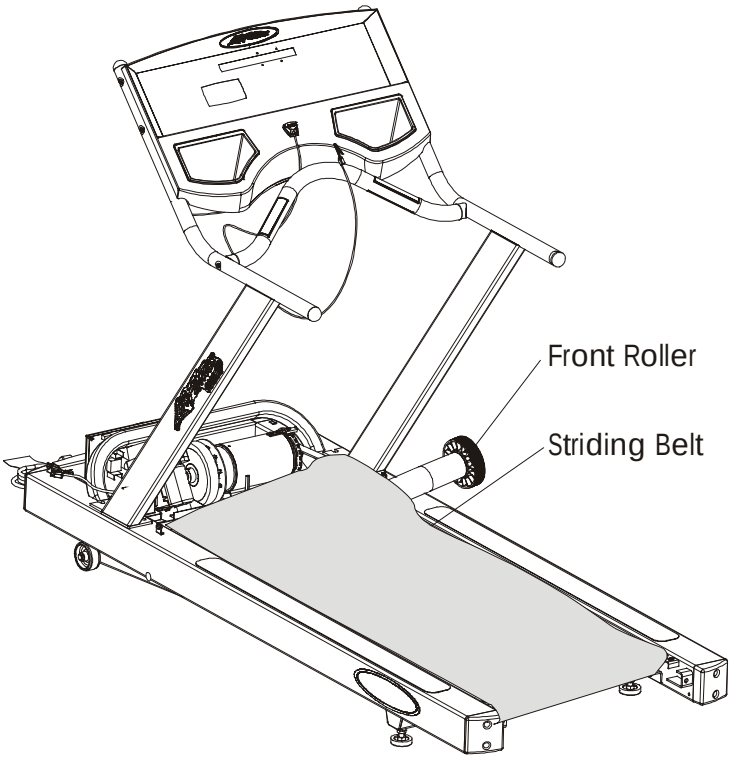
9. Remove the front roller out from under the right side of the striding belt.

10. Position a new front roller and install the drive belt around the front roller pulley.

11. Install the left end of the roller shaft into the left side of the frame. Now move the right shaft end into its mounting hole on right side of the frame, and secure the left end of the roller shaft (grooved end) into the elongated hole.

12. Tighten the striding belt according to the marks earlier established on the rear roller. Slight additional adjustment may be required to achieve proper striding belt tension. Do Not over-tension the striding belt.

13. Re-tension the drive motor to the index mark so the drive belt can be restored to its original state. When the motor drive belt is properly tensioned (1/4" deflection), tighten the motor bracket bolts.

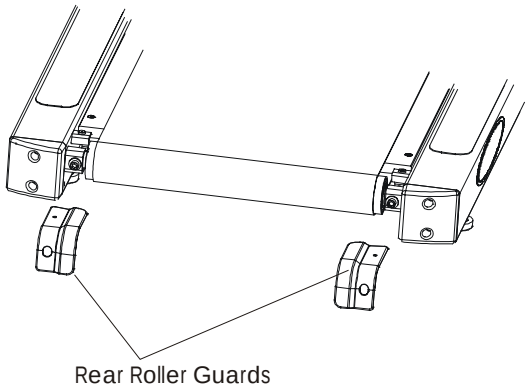


Life Fitness Models 9000HR, 8500, and T9i Treadmills

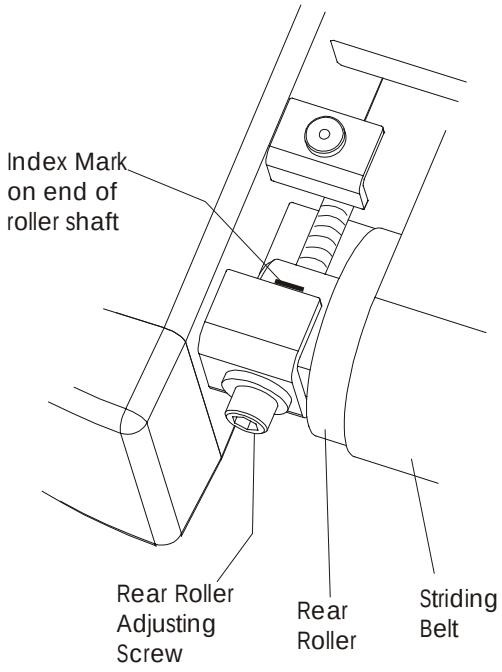
How To... Replace the Rear Roller

Special Tools Required: None

1. Turn the unit power OFF at the switch, and then unplug the line cord at the wall outlet.



2. Remove the rear roller guards. Index the rear roller to so that same belt tension can be restored to its original state.



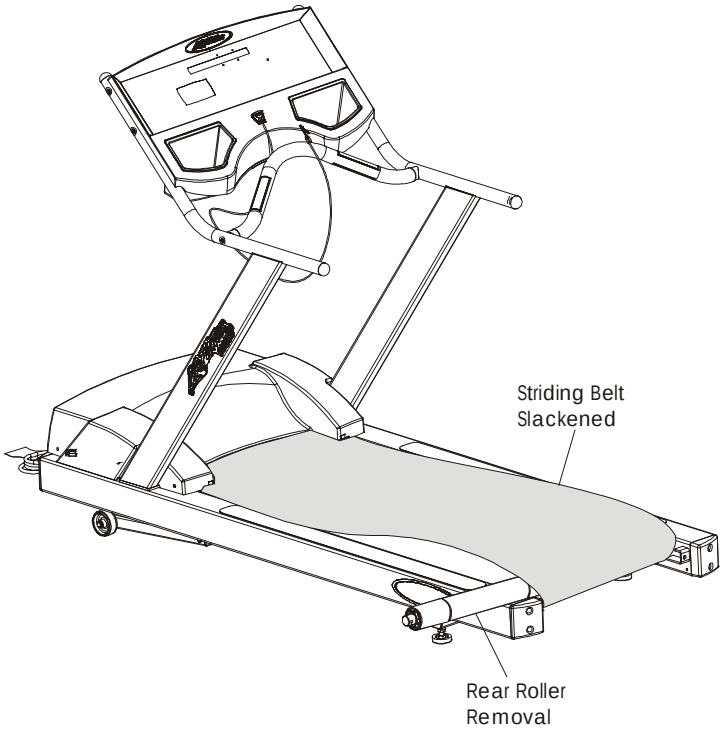
3. Remove the rear roller adjusting bolts.

4. Remove the rear roller out from under the striding belt.

5. Install new rear roller and position to the index mark.

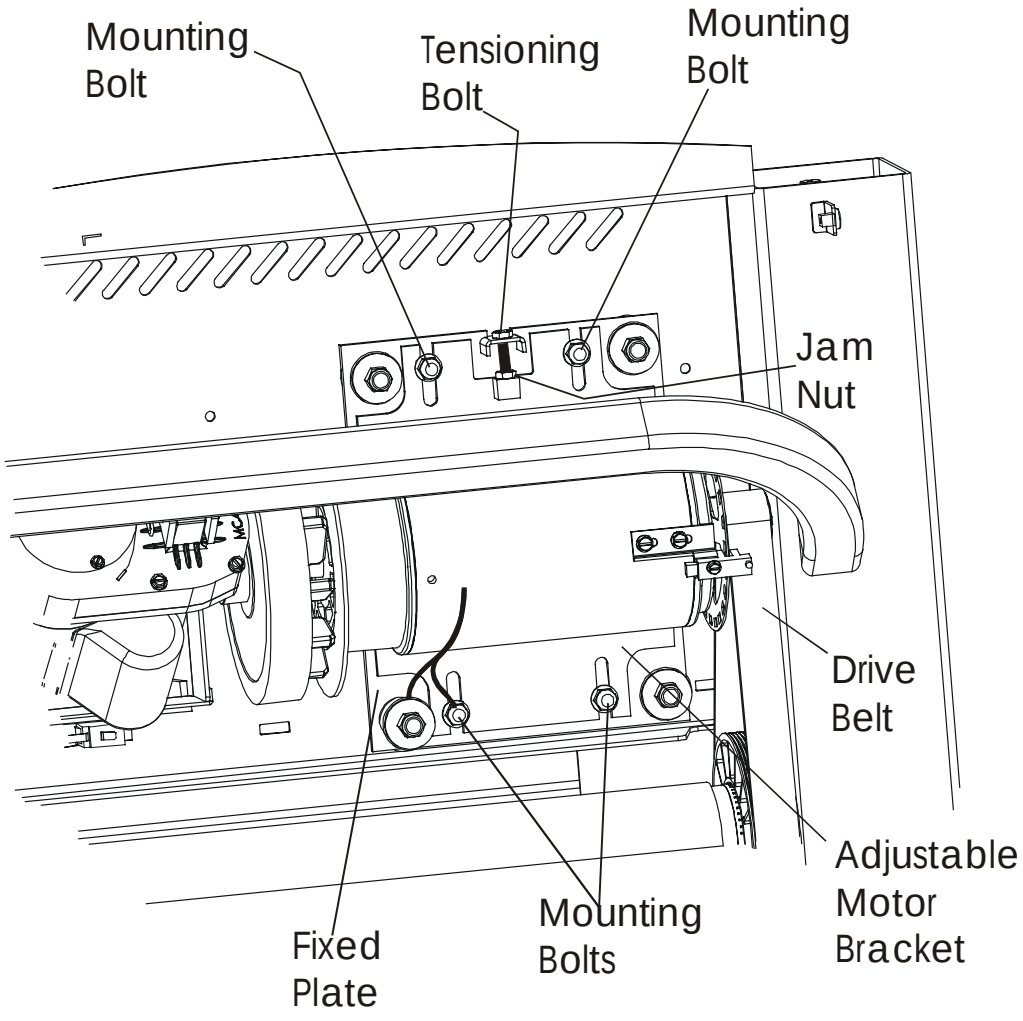
6. Adjust the striding belt. See How To…Adjust Tracking, Tension, and Stall Test in this section.

7. Reinstall the rear roller guards.



How To... Replace the Drive Belt

Special Tools Required: None



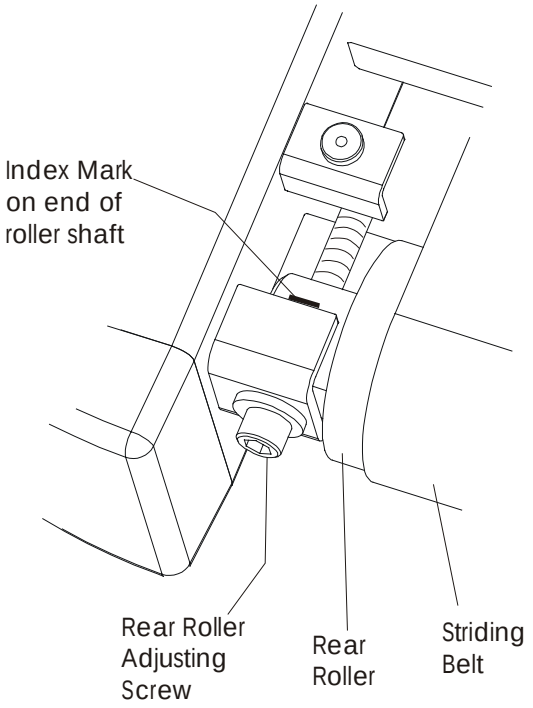
1. Turn the unit power OFF at the switch, and then unplug the line cord at the wall outlet.
2. Remove the motor cover
3. Index the motor bracket to the frame to maintain proper belt tension setting, and then loosen four mounting bolts on the motor bracket, and also the tensioning bolt.
4. Slide the motor forward, toward the front roller, until the drive belt is loose.

How To... Replace the Drive Belt - Continued

Special Tools Required: None

5. Index the rear roller on both sides. These marks will be used to bring the striding belt back to its original tension.

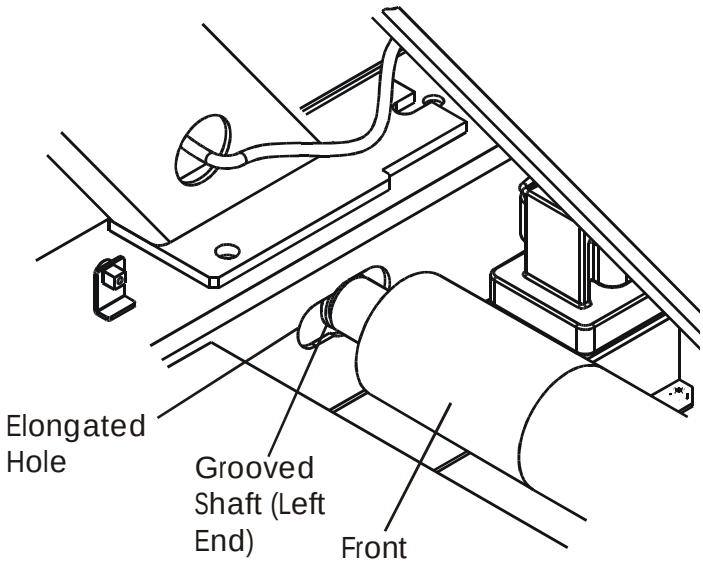
6. Loosen the striding belt by turning the rear roller adjusting screws counterclockwise.



7. Move the left end of the front roller shaft out from its elongated mounting hole and into the left side of the frame. This will allow the right end of the front roller shaft to clear its mounting hole so that the drive belt can be removed off the front roller pulley.

8. With the drive belt off the front roller pulley, remove the drive belt off the drive motor and discard.

9. Install the new drive belt in reverse order. Re-tension the drive belt, at the index mark, at the tensioning bolt on the motor bracket. When the drive belt is properly tensioned (1/4" deflection), tighten the motor bracket bolts.



10. Re-tension the striding belt to the index marks. Additional adjustment may be required to achieve proper striding belt tension. Do Not over-tension the striding belt.

Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the Drive Motor

Special Tools Required: None

1. Turn the unit power OFF at the switch, and then unplug the line cord at the wall outlet.

2. Remove the motor cover.

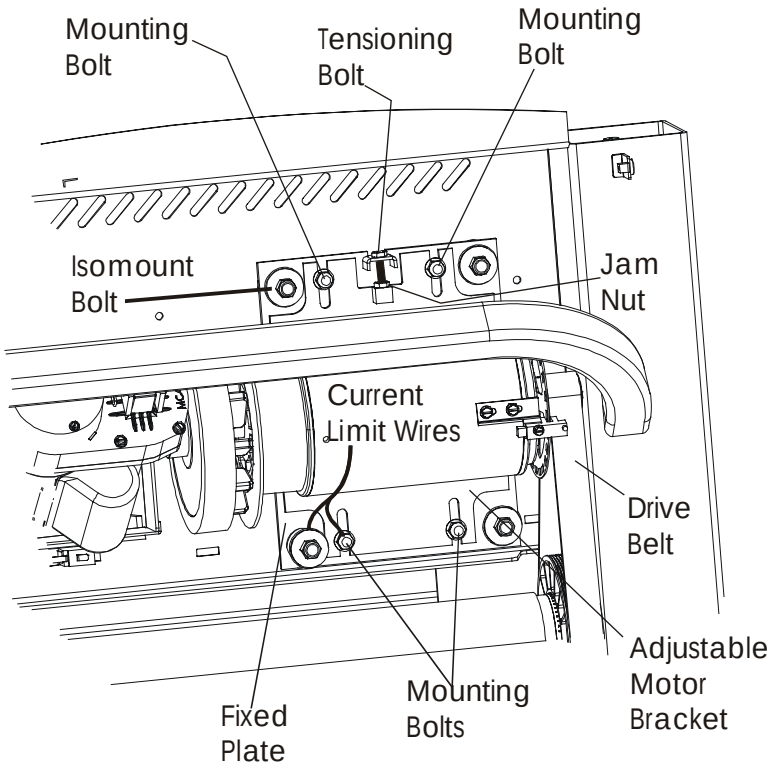
3. Disconnect RPM sensor cable (P7) and four motor cables (P17, P18, P11, P12) from the control board.

NOTE: Polarity on P11 and P12.

4. Index the motor bracket to the frame to maintain proper belt tension setting, and then loosen four mounting bolts on the motor bracket, and also the tensioning bolt.

5. Remove the four mounting bolts from the motor bracket, and then remove the Current Limit Wire attached to the mounting bolt.

NOTE: Do Not remove the isomount bolts.



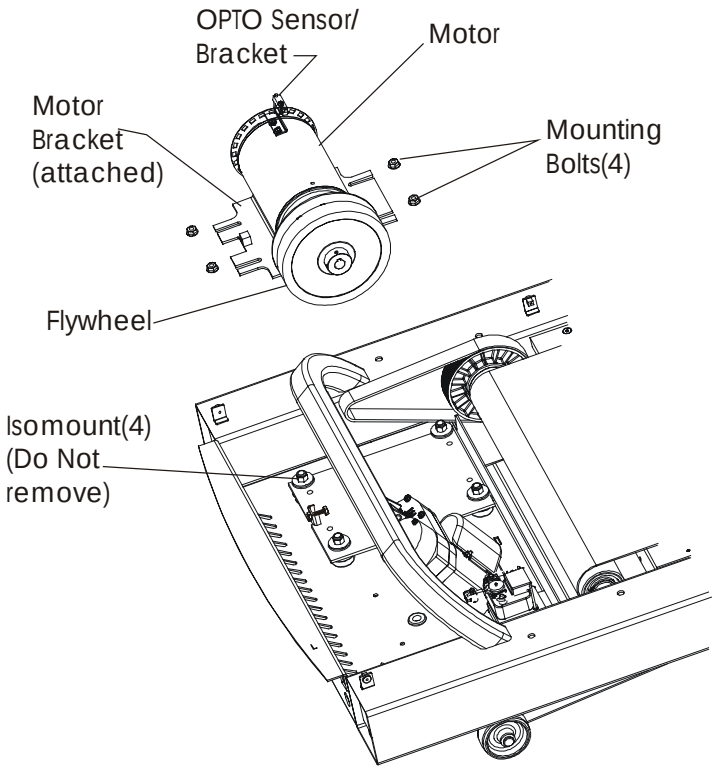
6. Cut the cable ties, lift the motor out from under the drive belt, and remove the motor from the unit frame.

7. Remove the following from the motor:

   (a) Motor Bracket
   (b) OPTO sensor/bracket
   (c) Flywheel
   (d) Drive sheave and chopper wheel

New motor installation as follows:

1. Locate new chopper wheel with the tape to the flywheel side.
2. Remove old chopper wheel from drive sheave pulley and attach new chopper wheel.
3. Install motor bracket, flywheel, and OPTO sensor and bracket.
4. Position motor belt back on the drive motor pulley and then lower the unit into position over the four mounting studs. Using a straight edge, align the drive sheave with the outer edge of the front roller pulley. Apply 242 Loctite on drive sheave setscrews and tighten.



How To... Replace the Drive Motor - Continued

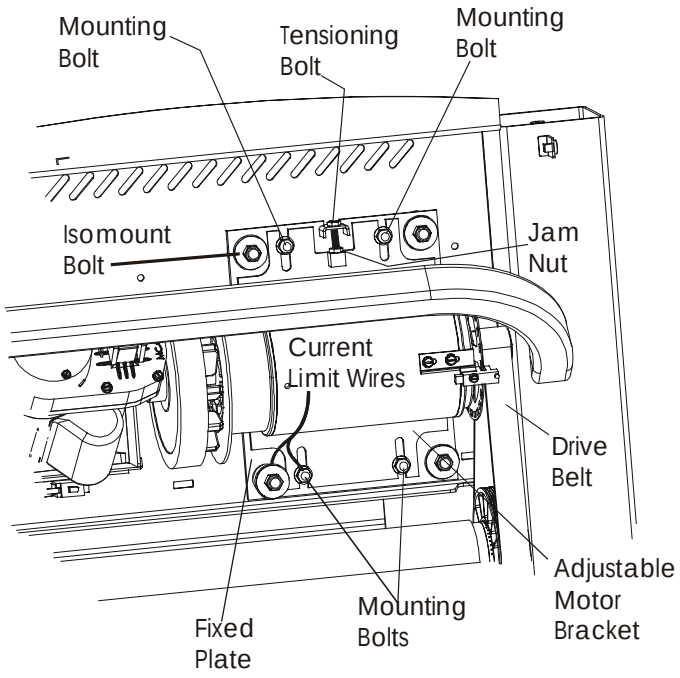
Special Tools Required: None

5. Loosely secure the four motor mounting bolts. Make sure the current limit wire is attached to the mounting stud.

6. Tension the drive belt using the tensioning bolt, which is located next to the motor bracket. When the motor drive belt is properly tensioned (1/4" deflection), tighten the motor bracket bolts.

7. Reinstall the motor cover.

8. Refer to diagnostics section to log maintenance repair of the drive motor.

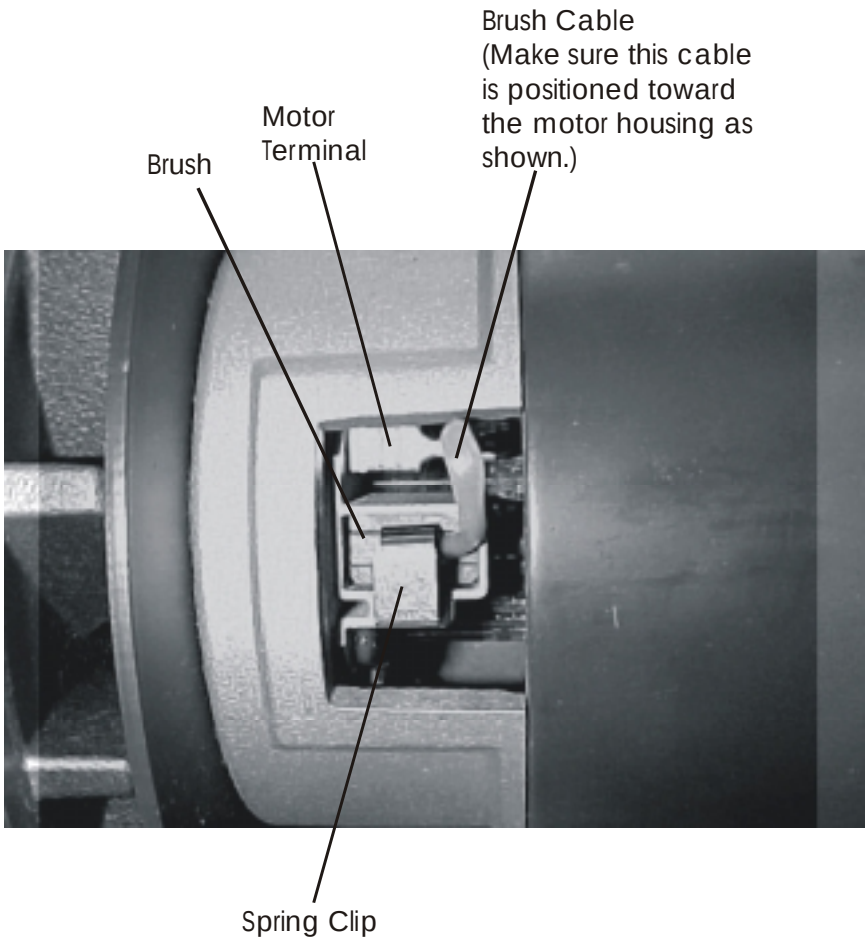


Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the Motor Brushes

Special Tools Required: None

1. Turn the unit power OFF at the switch, and then unplug the line cord at the wall outlet.
2. Remove the motor cover.
3. Remove the plastic cover from each side of the drive motor.
4. Remove the spring-clip retaining the brushes by pushing in the spring-clip to release the spring from the brushes.
5. Pull the brushes out just enough to disconnect the brush wire from the motor terminal.
6. Install new brushes in reverse order, making sure to position brush wires as shown. Secure brushes with the spring-clip by pushing in and up on the spring-clip.



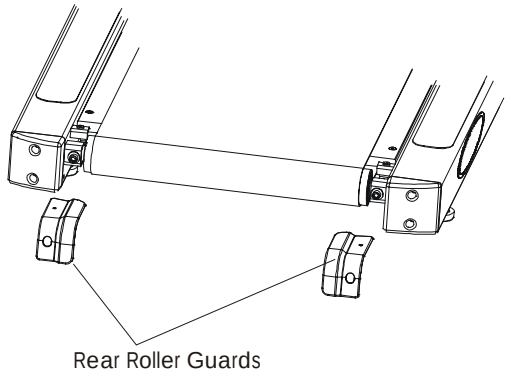
Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the Life Spring Absorbers

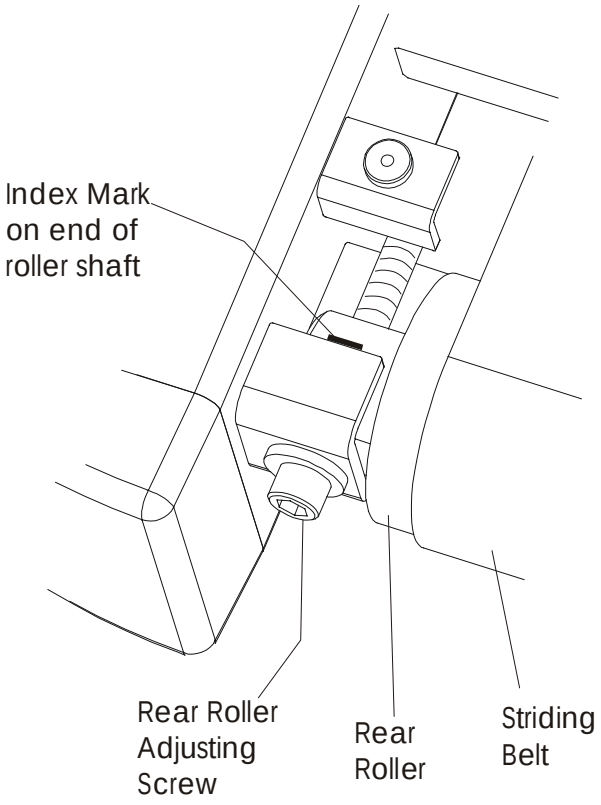
Special Tools Required: None

NOTE: The striding belt does not require removal to replace life springs.

1. Turn the unit power OFF at the switch, and then unplug the line cord at the wall outlet.
2. Remove the motor cover.
3. Remove the rear roller guards.



4. Index the rear roller, then loosen the striding belt by turning the rear roller adjusting bolts counterclockwise.

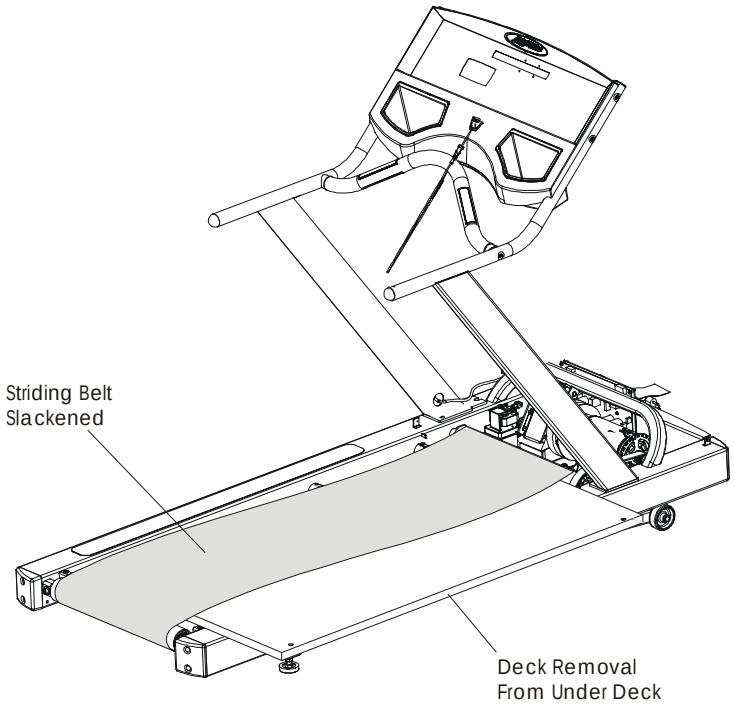


How To... Replace the Life Spring Absorbers - Continued

Special Tools Required: None

5. Remove the four deck screws, one at each corner of the deck.

6. Remove the deck from under the striding belt. Be careful not to disturb the waxed surfaces (9000HR, and 8500 Int'l only).



7. Remove the four tinnerman clips from the Lifesprings at each corner of the frame.

8. Remove the Allen screws(8) and washers(8) securing the Lifesprings to the frame mounts. Discard the life springs, but save the hardware.

9. Install new lifesprings making sure to face each notch towards the center of the unit. Torque 1/4-20 screws to 21-23 in lbs.

10. Reinstall the tinnerman clips on the lifespings at each corner of the unit for deck placement.

10. Reinstall the deck and secure into position with the deck screws.

11. Re-tension striding belt according to the index marks. If further adjustment is required, see to How To…Adjust Striding Belt Tracking or Tensioning in this section.

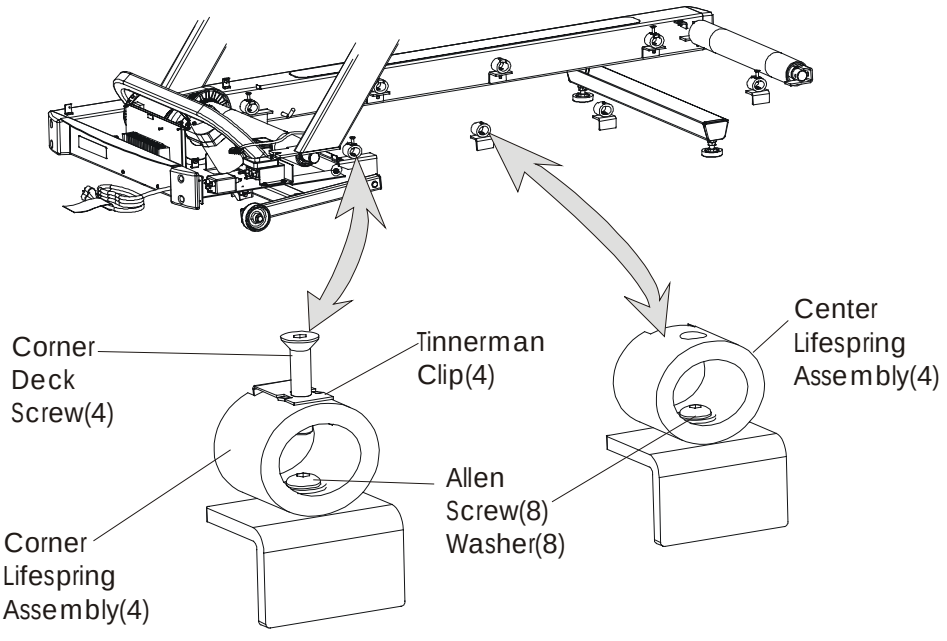
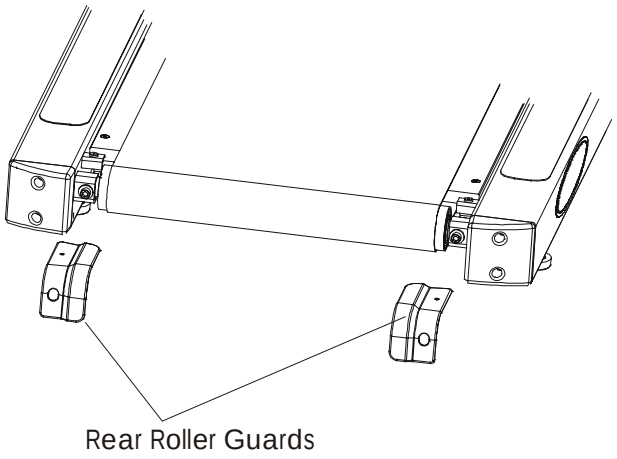


Illustration Shown
Without Left Side of Frame
For Clarity Purpose Only

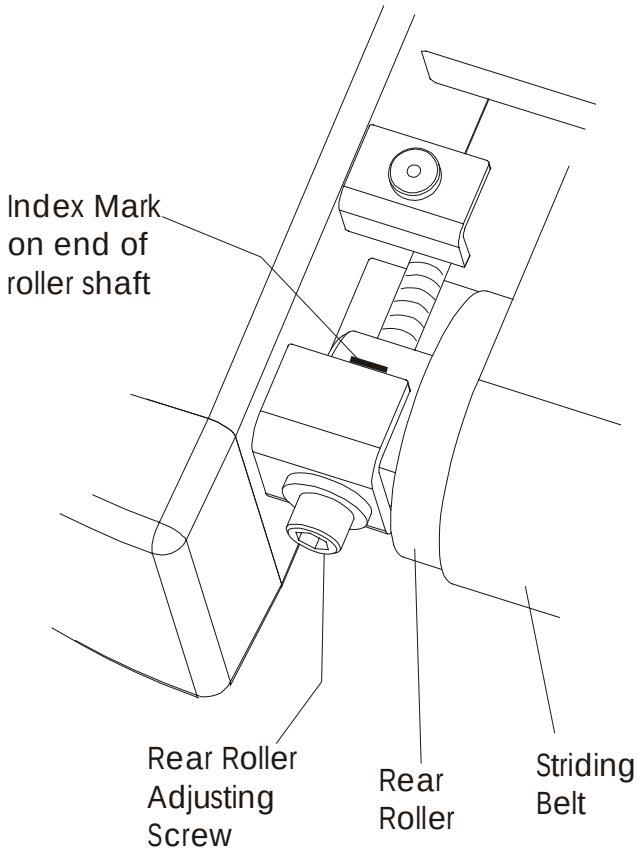
How To...Clean the Wax Nozzle

Special Tools Required: None

1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.
2. Remove the motor cover.
3. Remove the rear roller guards.



4. Index the rear roller and then, loosen the striding belt by turning the rear roller adjusting bolts counterclockwise.
5. With the striding belt loosened, remove the deck. See How To …Remove Striding Belt and Deck in this section.
6. Remove the mounting screws(2) securing the wax bracket to the frame.



How To...Clean the Wax Nozzle - Continued

Special Tools Required: None

7. Lay the wax bracket on the left side of the unit frame.

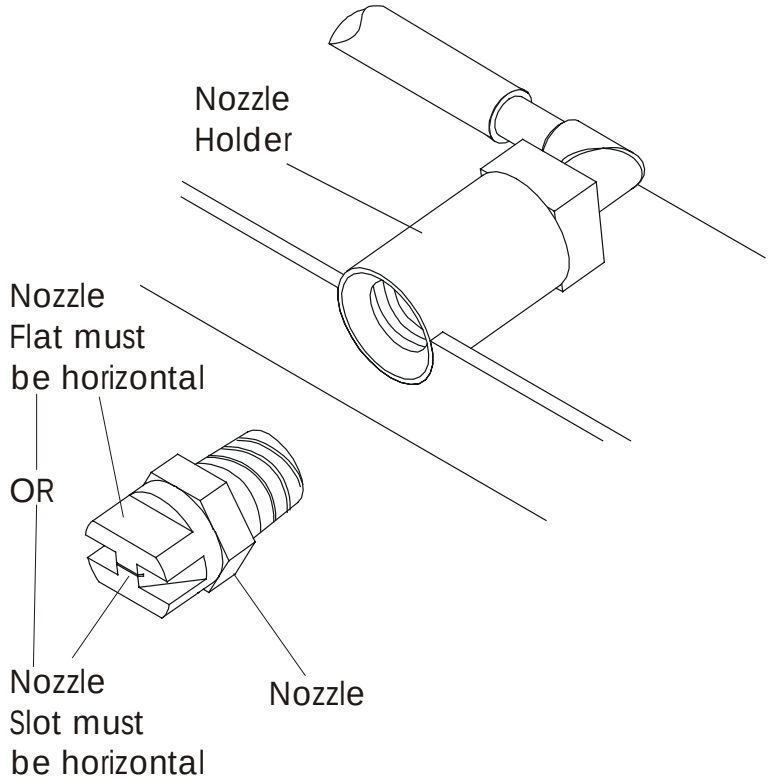
8. Remove the nozzle by turning it (counterclockwise).

9. Place the nozzle in a container of hot water and let sit for at least 10 minutes or when water has cooled enough to the touch.

10. Remove the nozzle from the water and inspect for cleanliness. If necessary, scrub-clean with a medium-to-soft bristle brush to remove any wax residue from outside and inside the wax nozzle.

11. Dry the nozzle off with a lint-free rag. Apply pipe joint seal compound to treads.

12. Reinstall the wax nozzle into its holder, and tighten, making sure that the flats are horizontal.



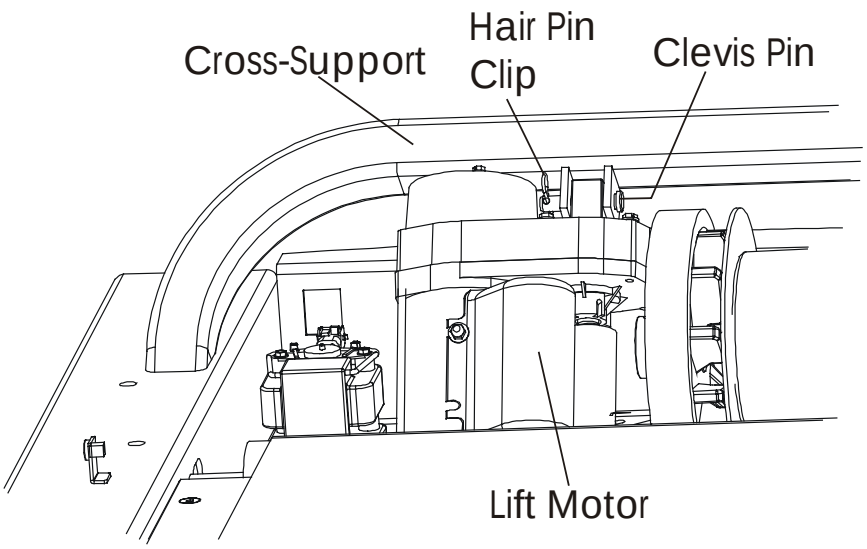
IMPORTANT: *MAKE ABSOLUTELY SURE, THAT UPON FINAL ASSEMBLY, THE NOZZLE SLOT OR FLATS, WHICH EVER PREFERRED, ARE POSITIONED IN A HORIZONTAL PLANE. FAILURE TO DO SO WILL RESULT IN IMPROPER WAX APPLICATION.*

Retention the striding belt to the index marks. Additional adjustment may be required to achieve proper striding belt tension. Do Not over-tension the striding belt.

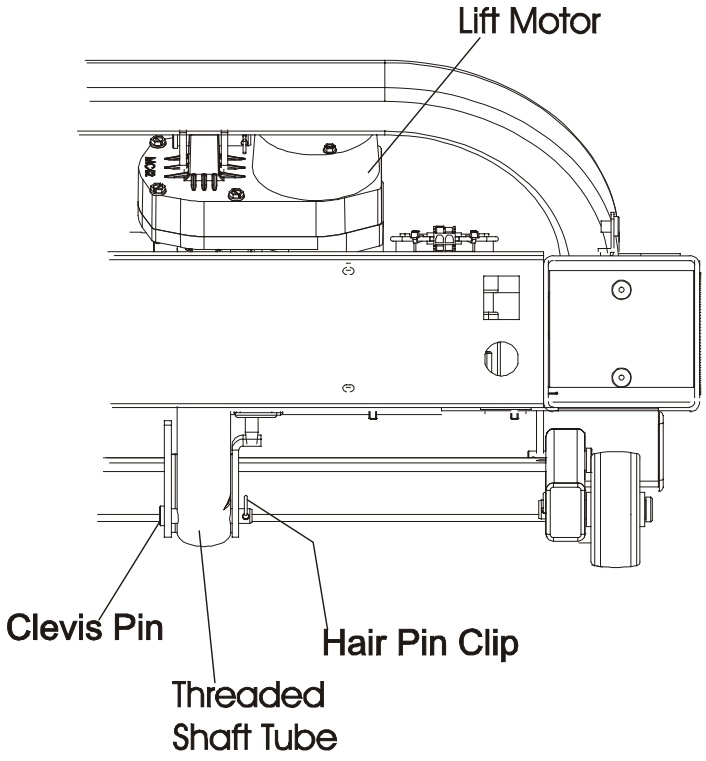
How To... Replace the Lift Motor

Special Tools Required: None

1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.
2. Remove the motor cover.
3. Remove cable ties.
4. Disconnect the 3-pin P9 connector from the control board.
5. Disconnect lift motor ground wire from the bottom of the frame.
6. Tilt the unit on its right side (user's right).

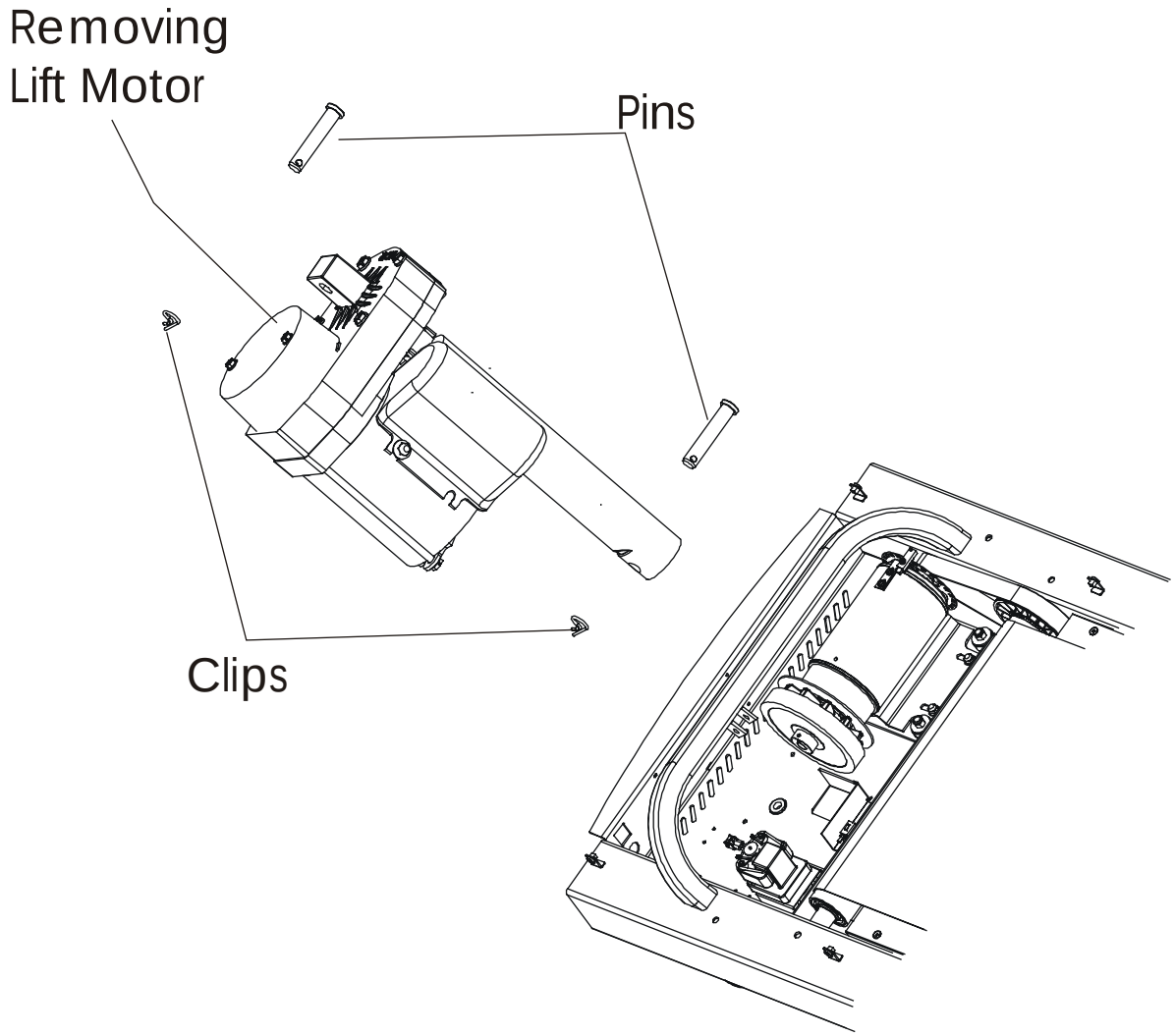


7. Remove the hair clip pin and clevis pin from the lift motor at the cross-support.
8. Remove the clevis pin and hair pin clip from the bottom of the motor at the end of the motor tube.



How To... Replace the Lift Motor - Continued

Special Tools Required: None



9. Install the new lift motor in reverse order. Make sure to secure cables with new tie straps.

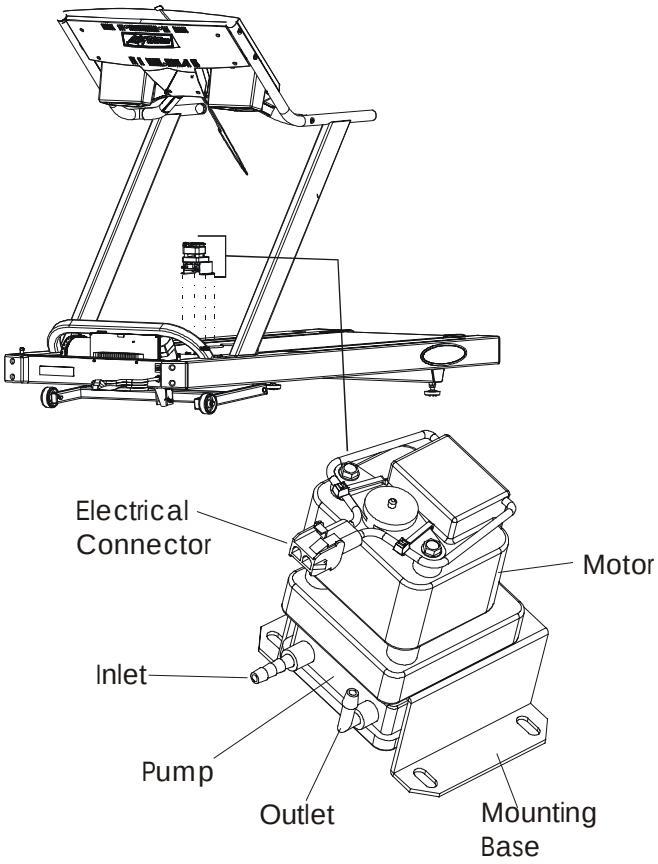
10. Refer to diagnostics section to log maintenance repair of the lift motor.

Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the Wax Motor (9000HR and 8500 INT'L Only)

Special Tools Required: None

1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.
2. Remove the motor cover.

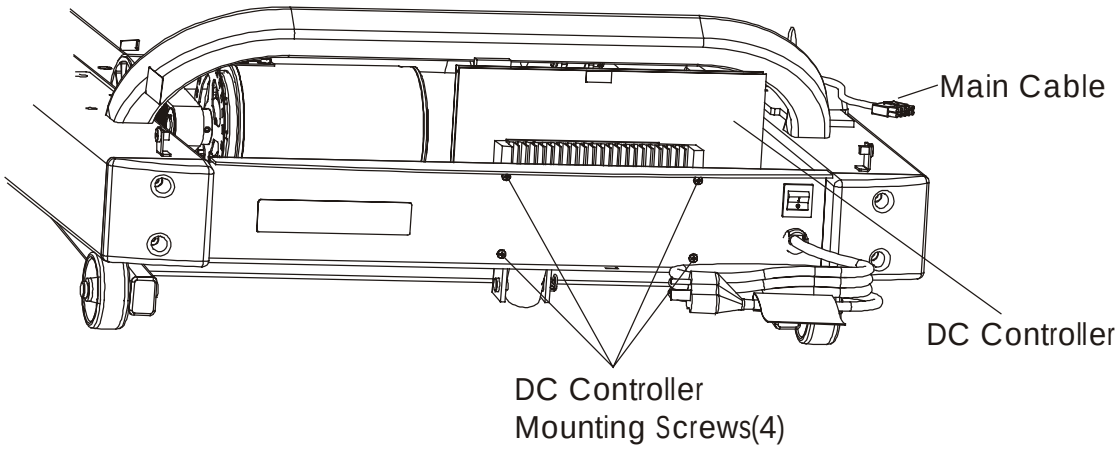


3. Disconnect the electrical connector at the wax motor.
4. Remove the mounting screws securing the mounting base to the bottom of the frame, and then lift out the wax motor assembly.
5. Cut the wax hoses off at the wax pump fittings.
6. Install hoses to the new wax motor, and install the wax motor back into the base of the unit in reverse order.
7. Test the wax motor for proper operation.
8. Refer to diagnostics section to log maintenance repair of the wax motor.

Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the DC Controller Assembly

Special Tools Required: None



The DC Controller Assembly is located in the front of the motor. It is attached to the front of the frame by four screws. In replacing the DC Controller Assembly it is essential to mark and tag the wiring before making any disconnects from the controller assembly. Once this has been accomplished, then remove four mounting screws in the front frame of the unit and lift out the DC Controller Assembly.

1. Turn the unit power OFF at the switch, and then unplug the line cord at the wall outlet.

2. Remove four Phillips screws securing the motor cover to the frame. Squeeze in the sides of the motor cover near the uprights so that the tab on user's left side clears the frame, and then lift off the motor cover.

3. Remove cable ties along the cross frame.

4. Remove four screws from the front of the unit and lift out the DC Controller to access the wiring.

5. To ensure correct wiring locations, mark all wiring connectors at the back of the DC Controller before making any disconnects. Once all wires are tagged and identified, then disconnect connectors at the back of the DC Controller Assembly.

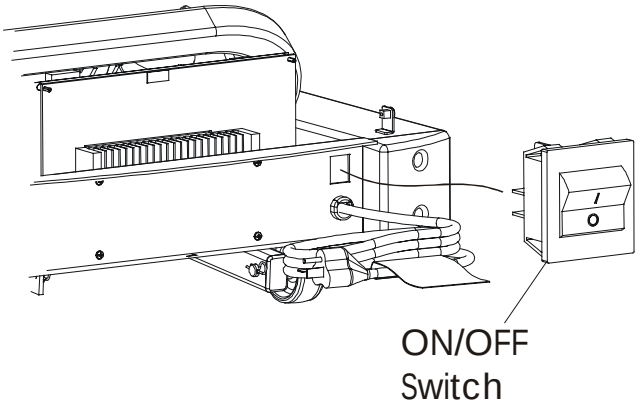
6. Install new DC Controller in reverse order, and replace all wire ties.

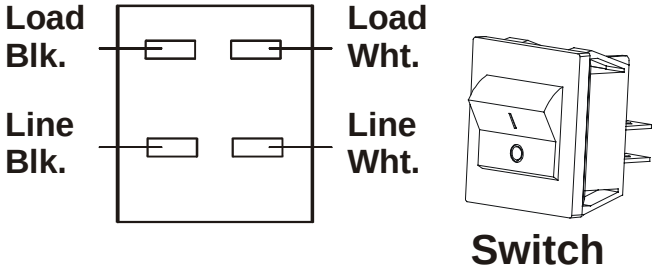
Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the ON/OFF Switch

Special Tools Required: None

1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.
2. Remove the motor cover.
3. Mark and identify the wiring to the back of the ON/OFF Switch before disconnecting, then disconnect the wiring.
4. Squeeze the tabs on the sides ON/OFF Switch, and remove it from the front of the unit.
5. Install new ON/OFF switch in reverse order. Use illustration to reconnect black and white wires correctly to the switch terminal.





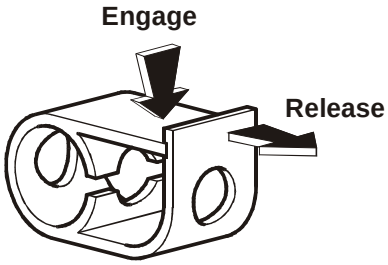
Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To… Replace the Wax Bag – TR8500 Int'l and TR9000HR Dom/Int'l

Special Tools Required: None

1. Raise the unit to its highest elevation.

2. Turn the power OFF at the ON/OFF switch, and then unplug the unit from the electrical outlet.



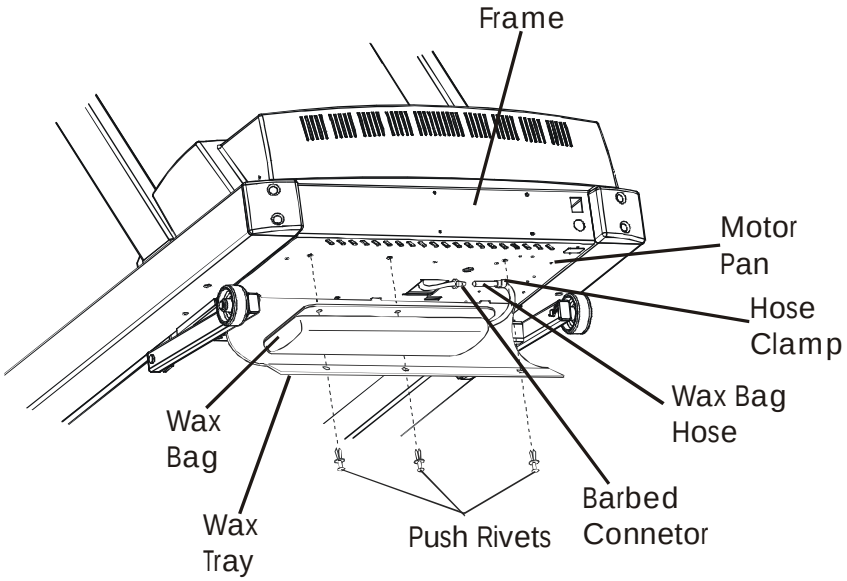
3. Pull out the three push rivets that fasten the front edge of the wax tray to the bottom of the treadmill frame then, lower the wax tray. If necessary, use a flat-edge screwdriver to pry off the rivets. The rivets are reusable. Set the front edge of the wax tray down, with the wax bag on top of it.

4. Clamp the wax bag hose to prevent any residual wax from seeping out of the bag. Work the wax bag hose off the barbed fitting on the wax pump, which is the inlet side. Remove the hose clamp, and then discard the empty wax bag.

5. Reattach the clamp to the new wax bag hose.

6. Place the new wax bag on top of the tray so its flange is facing out toward the front of the treadmill. The wax bag hose is now near the access hole at the bottom of the motor pan.

7. Cut off the end of the new wax bag hose approximately one half inch from the end. Feed the hose through the access hole in the bottom of the frame, and then push the hose onto the barbed fitting (wax pump inlet side). Once the hose is secured to the barbed fitting, release the hose clamp.



8. Align two holes of the wax bag flange with the two holes at the front edge of the wax tray and at the bottom of the treadmill frame. Attach the wax tray and wax bag to frame with two push-rivets. Push these rivets in as far as possible, then insert the third rivet.

9. Log maintenance repair.

How To... Replace the Anti-Static Tinsel

Special Tools Required: None

1. Raise the unit to its highest incline position.

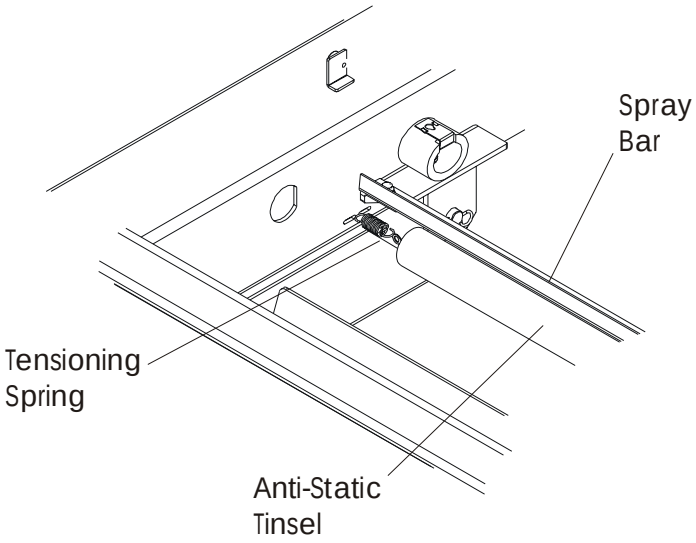
2. Turn the unit power OFF at the switch and then, unplug the line cord at the wall outlet.

3. Under the unit, adjacent to the spray bar, is the anti-static tinsel. One end of the tinsel is connected to the tensioning spring and the other to the frame. Disconnect the tinsel and remove it from the unit.

NOTE: Illustration shown without belt and deck for clarity purposes.

4. Discard the old tinsel and install new anti-static tinsel in reverse order.

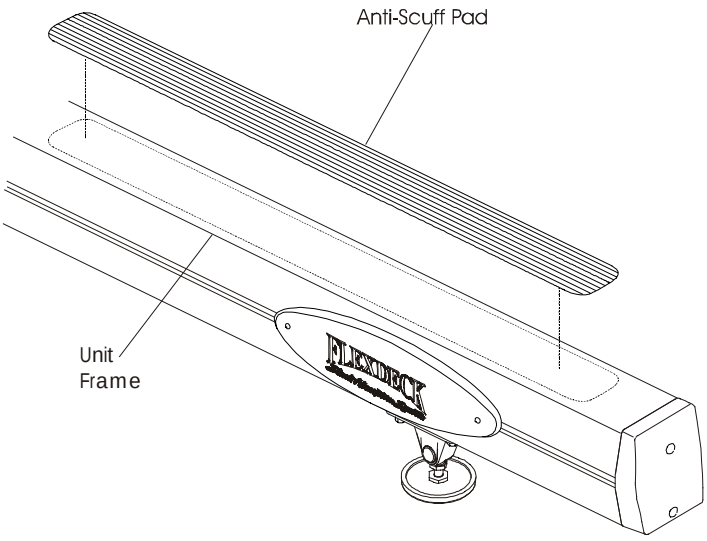
.



How To... Replace the Anti-Scuff Pads

Special Tools Required: None

1. Remove the worn ANTI-SCUFF PAD from the FRAME.
2. Clean off adhesive residue with a non-abrasive cleaner such as alcohol.
3. Peel off the protective backing on the new anti-scuff pad.
4. Install new pad on the frame so that its edges are equal in distance to the edges of the frame.
5. Allow the adhesive to dry 12-24 hours.



How To... Replace the Leveler Assembly

Special Tools Required: None

1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.

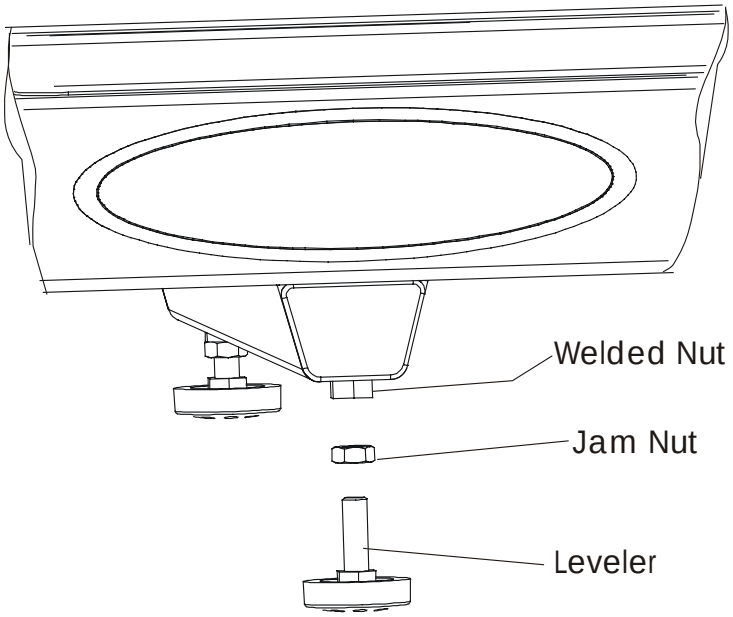
2. Loosen the jam nut.

3. Remove the leveler from the welded nut by turning it out counterclockwise.

3. Install new leveler.

4. After placing the unit where it will be used, check its stability. If there is even a slight rocking motion or the unit is not stable, determine which leg leveler is not resting on the floor. To adjust, loosen the Jam Nut and turn the leveler until the rocking motion ceases and both stabilizing legs rest firmly on the floor. Retighten the jam nut.

NOTE: It is important that the leveler be correctly adjusted for proper unit operation. An unbalanced unit can cause striding belt misalignment.



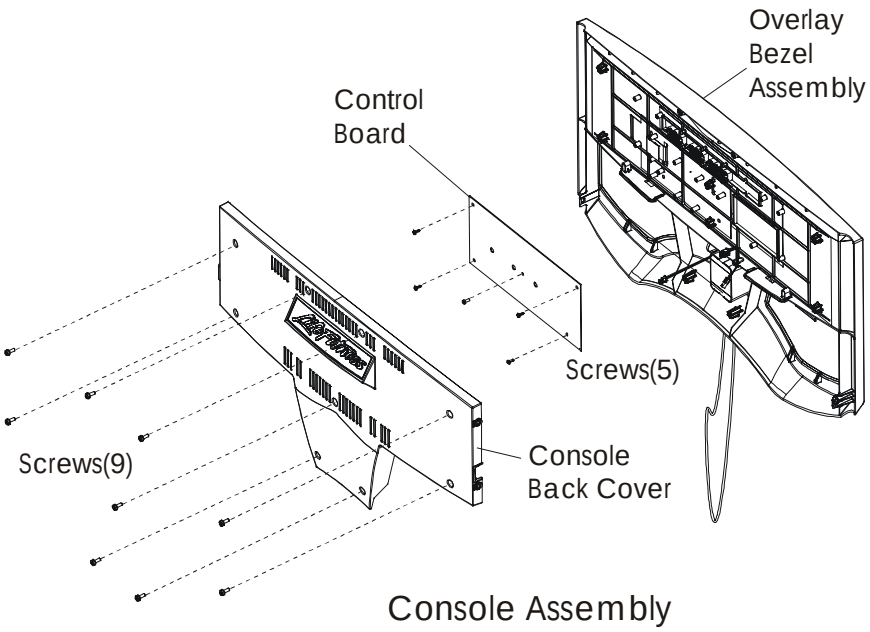
Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the Control Board

Special Tools Required: None

GENERAL

The Console Assembly is made up of the three parts. The front half is called the Overlay Bezel Assembly, the back half is called the Console Back Cover and when these two are split, the Control Board is attached to the back of the Overlay Bezel. The main wiring cable is routed up through the left upright and enters the left side of the console. The heart rate cable, if equipped, is routed through the right upright and enters the right side of the console. To replace the Control Board, follow the procedure below.



Console Assembly

1. Turn the unit power OFF at the switch, and then unplug the line cord at the wall outlet.
2. Remove the cup holders.
3. Remove nine screws and two push rivets from the console back cover.
4. Partially lift off the Overlay Bezel Assembly enough to access the main cable.
5. Disconnect the main cable and the heart rate cable (if equipped), from the Control Board.
6. Disconnect the ribbon cable and the telemetry cable connector from the Control Board.
7. Remove five mounting screws that attach the Control Board to the back of the Overlay Bezel.
8. Install a new Control Board or Overlay Bezel at this time.
9. Re-connect wiring and install Overlay Bezel in reverse order of removal.
10. Refer to diagnostics section to log maintenance repair of the console.

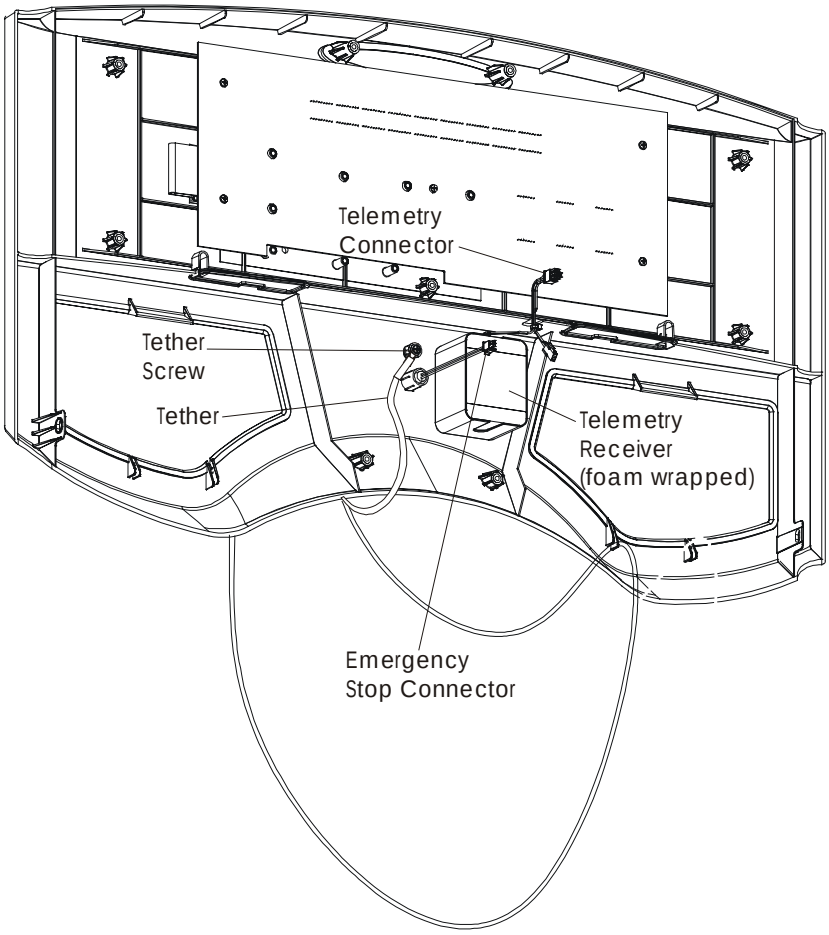
Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the Tether, and the Telemetry Receiver and Cable

Special Tools Required: None

1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.
2. Remove the Overlay Bezel. See How To…Replace the Control Board. At this time, if the tether needs replacement, remove the screw and washer securing the tether, and install a new tether.
3. Disconnect the emergency stop cable from the telemetry cable connector.
4. Disconnect the telemetry cable from the control board.
5. Remove the foam wrap, which contains the telemetry receiver from the back of the Overlay Bezel.
6. Remove the telemetry cable from the receiver.
7. Remove the telemetry receiver from the foam wrap.
8. Install new telemetry receiver or wiring and install in reverse order.

NOTE: Make sure that the RED DOT on the telemetry receiver is installed facing the user.



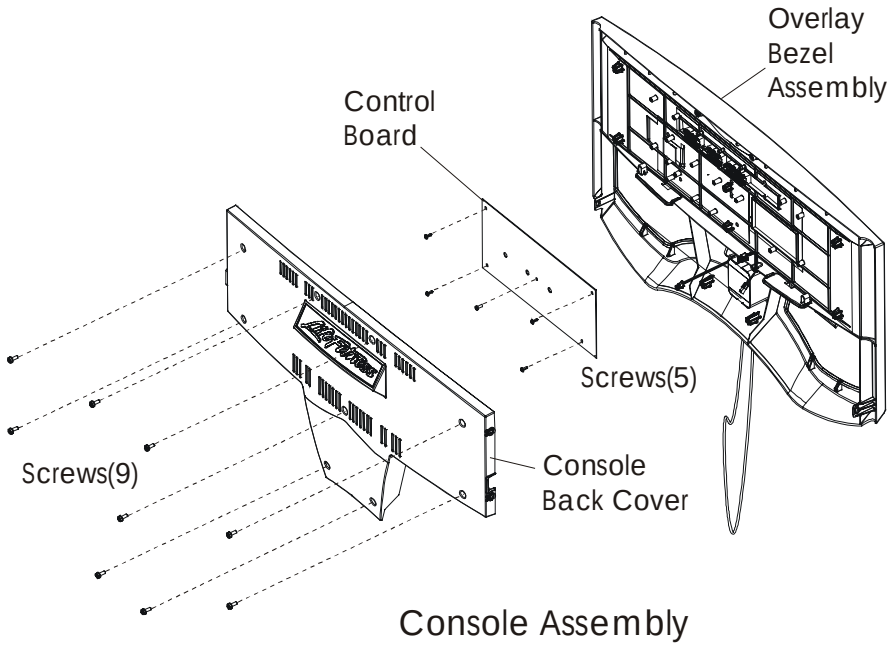
Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the Main Wiring Harness and ERGO Bar

Special Tools Required: None

Removal

1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.
2. Remove the motor cover.
3. Remove the cup holders from the console assembly.
4. Remove nine screws and two push rivets from the console back cover.
5. Partially lift off the Overlay Bezel Assembly enough to access the main wiring cable and the heart rate cable, if equipped.
6. Disconnect the main wiring cable and, the heart rate cable (if equipped) from the Control Board. Lay the Overlay Bezel and Control Board aside.
7. Loosen the left and right upright mounting bolts so that the uprights can move outward freely.
8. Remove the left side ERGO Bar mounting screw from the left upright.
9. Lift the left side of the ERGO Bar out from the left upright and NOTE the grounding spring in the upright. This spring functions as a ground to reduce static. Remove the grounding spring from the left upright.



Console Assembly

10. Remove the right side ERGO Bar mounting screw and then, the ERGO Bar. If equipped with Heart Rate Cable route this cable out from the console and right upright.
11. Remove the main wiring harness from the left upright.

How To... Replace the Main Wiring Harness and ERGO Bar - Continued

Special Tools Required: None

Installation

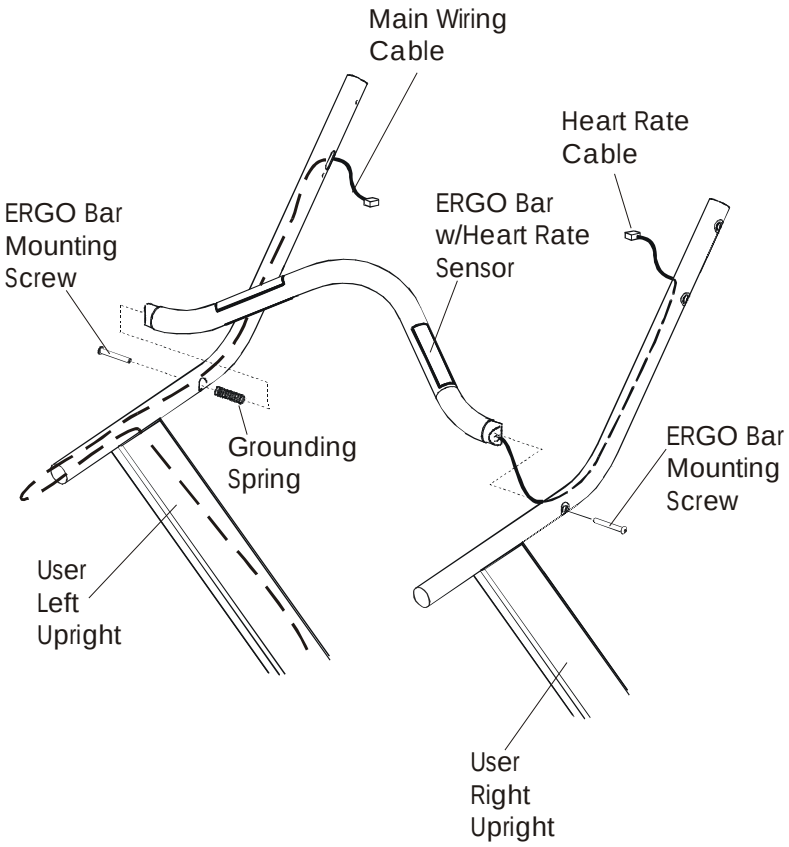
1. Remove the lower end cap from the end of the left upright.

2. Route the 10-pin connector of the main wiring cable through the end and down the upright. When is becomes visible at the access hole at the bottom of the upright, fish it our through the access hole and reconnect it to the back of the DC Controller.

3. Route the other end of the main cable (6-pin console connector) through the upright and out the access hole at the top of the handrail.

4. Now route the heart rate cable (if equipped) up and out the access hole in the right upright. Loosely secure the right end of the ERGO Bar on the right upright.

5. Install the grounding spring back into the left upright and loosely secure the left end of the ERGO Bar to the left upright.



NOTE: Make sure not to pinch or crimp the main wiring cable going through the left upright with the ERGO Bar mounting screw.

6. Position the Overlay Bezel and Control Board, and reconnect the Main Wiring Cable and Heart Rate Cable (if equipped) to the Control Board, and secure overlay bezel to the back cover with mounting screws and push rivets.

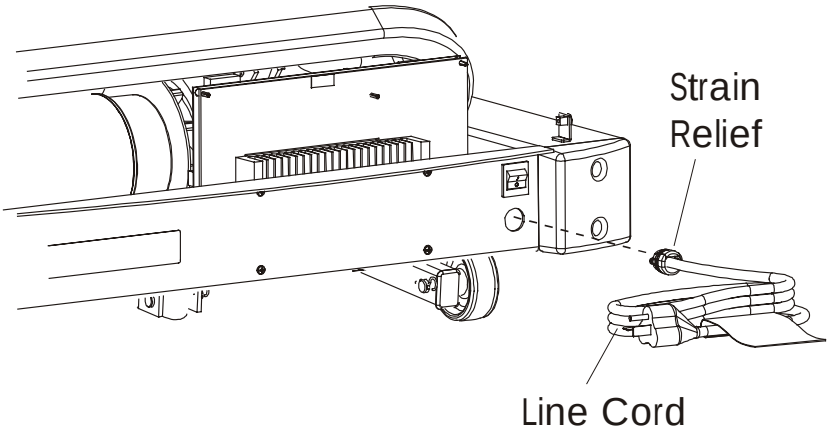
7. Tighten all remaining screws and bolts.

Life Fitness Models 9000HR, 8500, and T9i Treadmills

How To... Replace the Domestic and International Line Cords

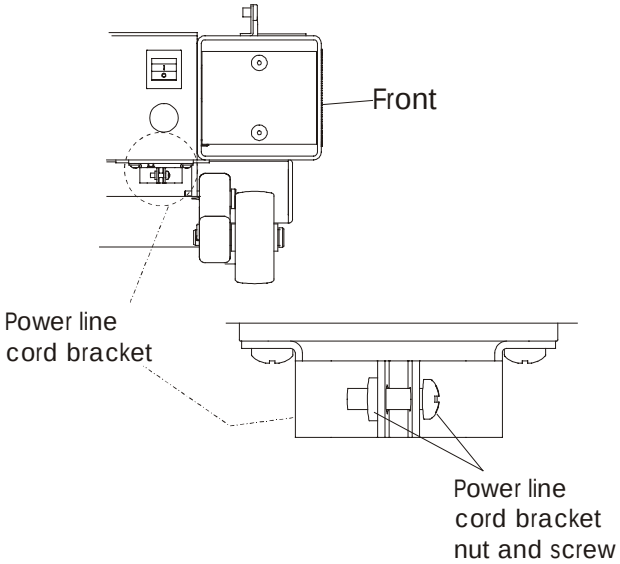
Special Tools Required: None

DOMESTIC LINE CORD



1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.
2. Remove the motor cover.
3. Disconnect line cord ground wire at the base of the unit.
4. Tag and identify the line cord wiring at the back of the DC Controller Board before disconnecting. With the line cord wiring marked and identified, proceed to disconnect the line cord leads from the ON/OFF switch.
5. Using pliers, squeeze the strain relief, plastic grommet at the end of the line cord, and remove the line cord cable from the front of the unit.
6. Install new line cord in reverse order.

INTERNATIONAL LINE CORD ONLY



1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.
2. Remove the motor cover.
3. Tag and identify the wiring at the back of the ON/OFF switch and at line cord connector before disconnecting. With all wires marked and identified, proceed to disconnect.
4. Loosen the line cord bracket screw under the front of the unit, and then remove the line cord.
5. Install a new line cord in reverse order.

How To... Replace the Line Filter

Special Tools Required: None

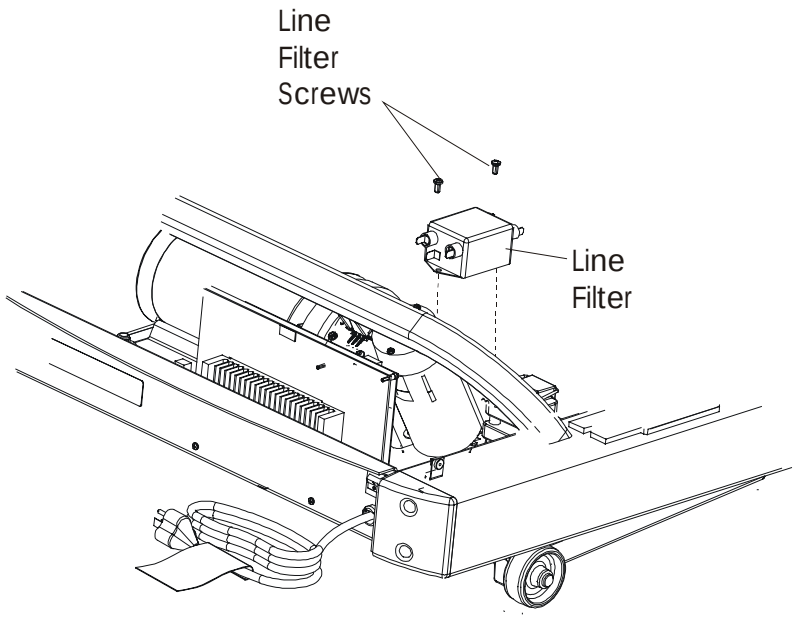
1. Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.

2. Remove the motor cover.

3. The line filter is a rectangular metal box locate at the base of the frame between the wax pump and DC Controller. To remove it, first mark and tag wiring before disconnecting.

4. Disconnect line filter wiring, and then remove the two mounting screws securing the line filter to the base of the unit.

5. Lift out the line filter, and install new line filter in reverse order.

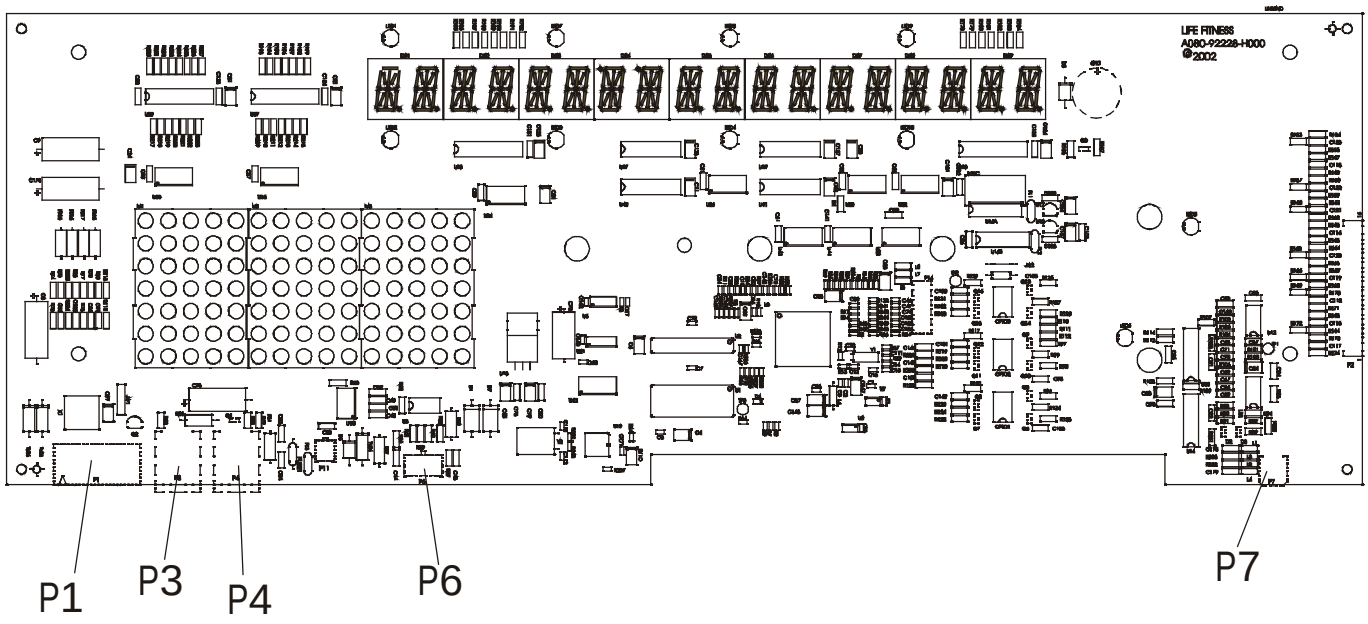


NOTES

SECTION IV

ELECTRONIC OVERVIEW AND WIRING BLOCK DIAGRAM

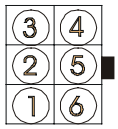
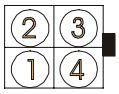
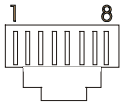
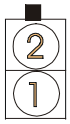
ELECTRONIC OVERVIEW - DISPLAY CONSOLE - TR9000HR/T9i



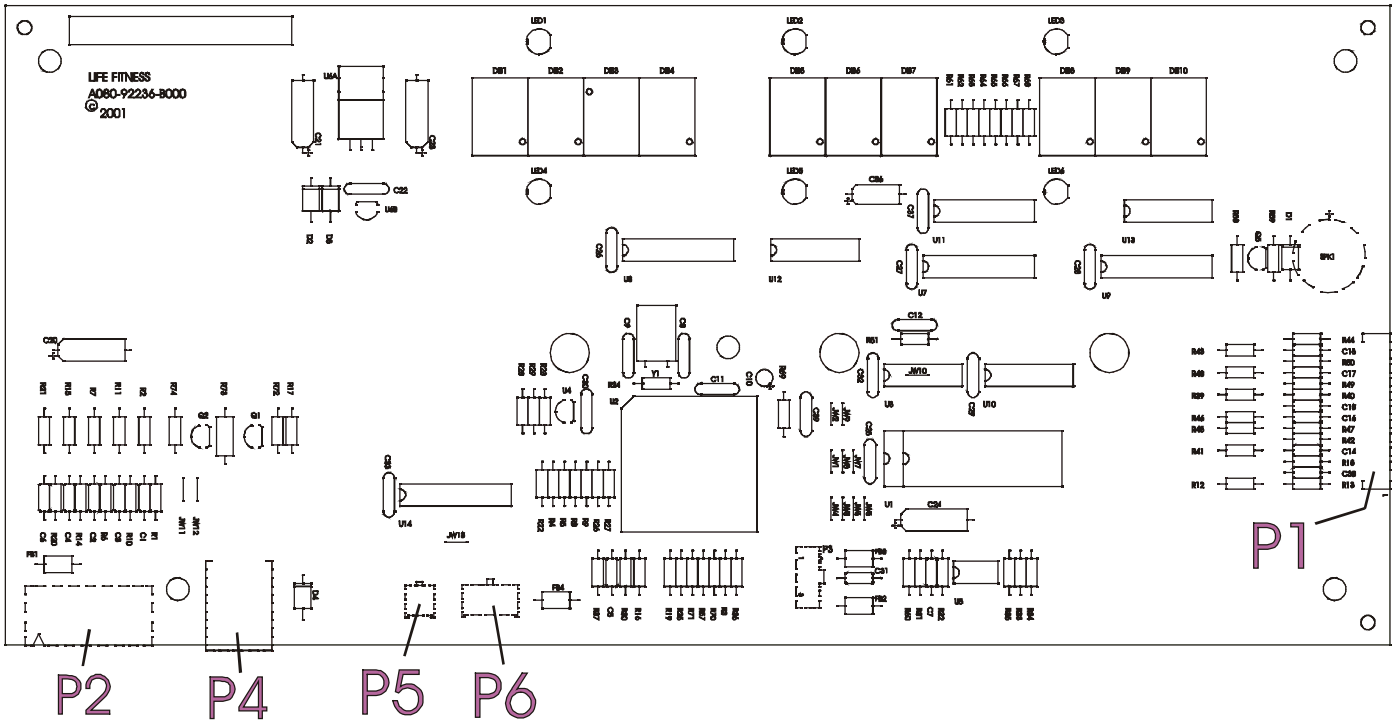
Connector and Pin Functions

Connector	Location	Pin	Functional Description
P1 is a 10 pin connector that connects from the display console to the DC controller.		1	GND - ground
		2	GND - ground
		3	+8Vdc - LEDs
		4	+8Vdc - LEDs
		5	Reed Sense
		6	TXD – transmit data
		7	RXD – data received
		8	Bus_Req (bus request)
		9	+12Vdc – emergency stop switch
		10	Reed Sense
P2 (not shown) is a 12 pin ribbon connector that connects to the Display Console Overlay.		1	ESD ground
		2	Switch strobe 0
		3	Switch return 0
		4	Switch strobe 1
		5	Switch return 1
		6	Switch strobe 2
		7	Switch return 2
		8	Switch strobe 3
		9	Switch return 3
		10	Switch strobe 4
		11	Switch return 4
		12	ESD ground

ELECTRONIC OVERVIEW - DISPLAY CONSOLE - TR9000HR/T9i

Connector	Location	Pin	Functional Description
P6 is a 6 pin connector that connects to the Polar Receiver and end of Session switch		1	Polar
		2	VCC (5VDC)
		3	GND
		4	Reed Sense
		5	12VDC
		6	N/U
P7 is a 4 pin connector that connects to the Lifepulse electrodes		1	Left +
		2	Left -
		3	Right -
		4	Right +
P3 and P4 are 8 pin connectors that connect to the CSAFE and Cardio Theater interface		1	N/U - not used
		2	N/U - not used
		3	Receive Data
		4	Transmit Data
		5	+8 Vdc
		6	CTS
		7	Ground
		8	N/U - not used
P11 is a 2 pin connector that connects to the Emergency Stop Switch		1	Switch (-)
		2	Switch +12Vdc
P14 is a 10 pin connector that connects to the Background Debug Mode Signals		1	/DS
		2	/BERR
		3	Ground
		4	/BKPT /DSCLK
		5	Ground
		6	FREEZE/QUOT
		7	/RESET
		8	IPIPE1/DS1
		9	+5 Vdc
		10	IPIPE0/DS0

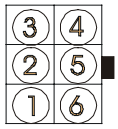
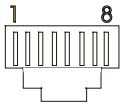
ELECTRONIC OVERVIEW - DISPLAY CONSOLE – TR8500



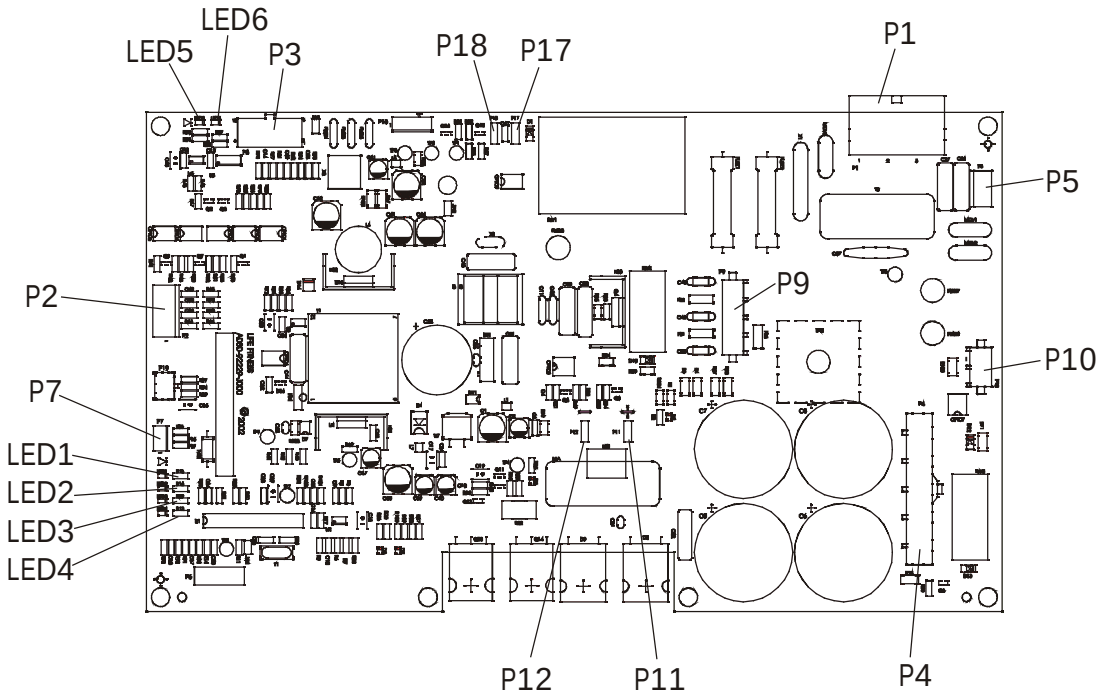
Connector and Pin Functions

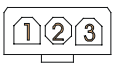
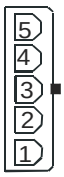
Connector	***Location***	***Pin***	***Functional Description***
P2 is a 10 pin connector that connects from the display console to the DC controller.		*1*	*GND - ground*
		2	*GND - ground*
		3	*+8Vdc - LEDs*
		4	*+8Vdc - LEDs*
		5	*Reed Sense*
		6	*TXD – transmit data*
		7	*RXD – data received*
		8	*Bus_Req (bus request)*
		9	*+12Vdc – emergency stop switch*
		10	*Reed Sense*
P1 is a 12 pin ribbon connector that connects to the Display Console Overlay.		*1*	*ESD ground*
		2	*Switch strobe 0*
		3	*Switch return 0*
		4	*Switch strobe 1*
		5	*Switch return 1*
		6	*Switch strobe 2*
		7	*Switch return 2*
		8	*Switch strobe 3*
		9	*Switch return 3*
		10	*Switch strobe 4*
		11	*Switch return 4*
		12	*ESD ground*

ELECTRONIC OVERVIEW - DISPLAY CONSOLE – TR8500

Connector	***Location***	***Pin***	***Functional Description***
P6 is a 6 pin connector that connects to the Polar Receiver and end of Session switch		*1*	Polar
		2	VCC (5VDC)
		3	GND
		4	Reed Sense
		5	12VDC
		6	N/U
P3 and P4 are 8 pin connectors that connect to the CSAFE and Cardio Theater interface		*1*	N/U - not used
		2	N/U - not used
		3	Receive Data
		4	Transmit Data
		5	+8 Vdc
		6	CTS
		7	Ground
		8	N/U - not used
P5 is a 2 pin connector that connects to the Emergency Stop Switch		*1*	Switch (-)
		2	Switch +12Vdc

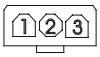
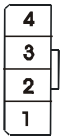
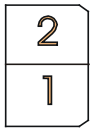
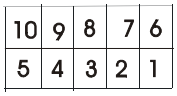
ELECTRONIC OVERVIEW – DC CONTROLLER – All Models



Description	Location	Pin	Function
Service LED		LED1	Main Loop
		LED2	COM Indicator/Communication
		LED3	Home Switch
		LED4	RPM or OPTO
		LED5	+12VDC Console
		LED6	+8VDC Console
Test Point (TP)		TP1	GND Console
		TP2	+8VDC Console
		TP3	+12VDC Console
		TP4	15VDC Drive Voltage
		TP5	5 VDC Controller Processor
		TP6	Power supply bridge negative
		TPN	Line frequency monitor
		TP8	AC input ground
		TP9	Power supply bridge positive
P1 is a 3 pin connector to the main power control board		1	AC LINE
		2	AC NUETRAL
		3	GND
P4 is a 5 pin jumper connector for voltage selection		1	Bridge Negative
		2	Capacity junction
		3	DC High Voltage Bus
		4	Bridge Positive
		5	AC Input

ELECTRONIC OVERVIEW – DC CONTROLLER – All Models

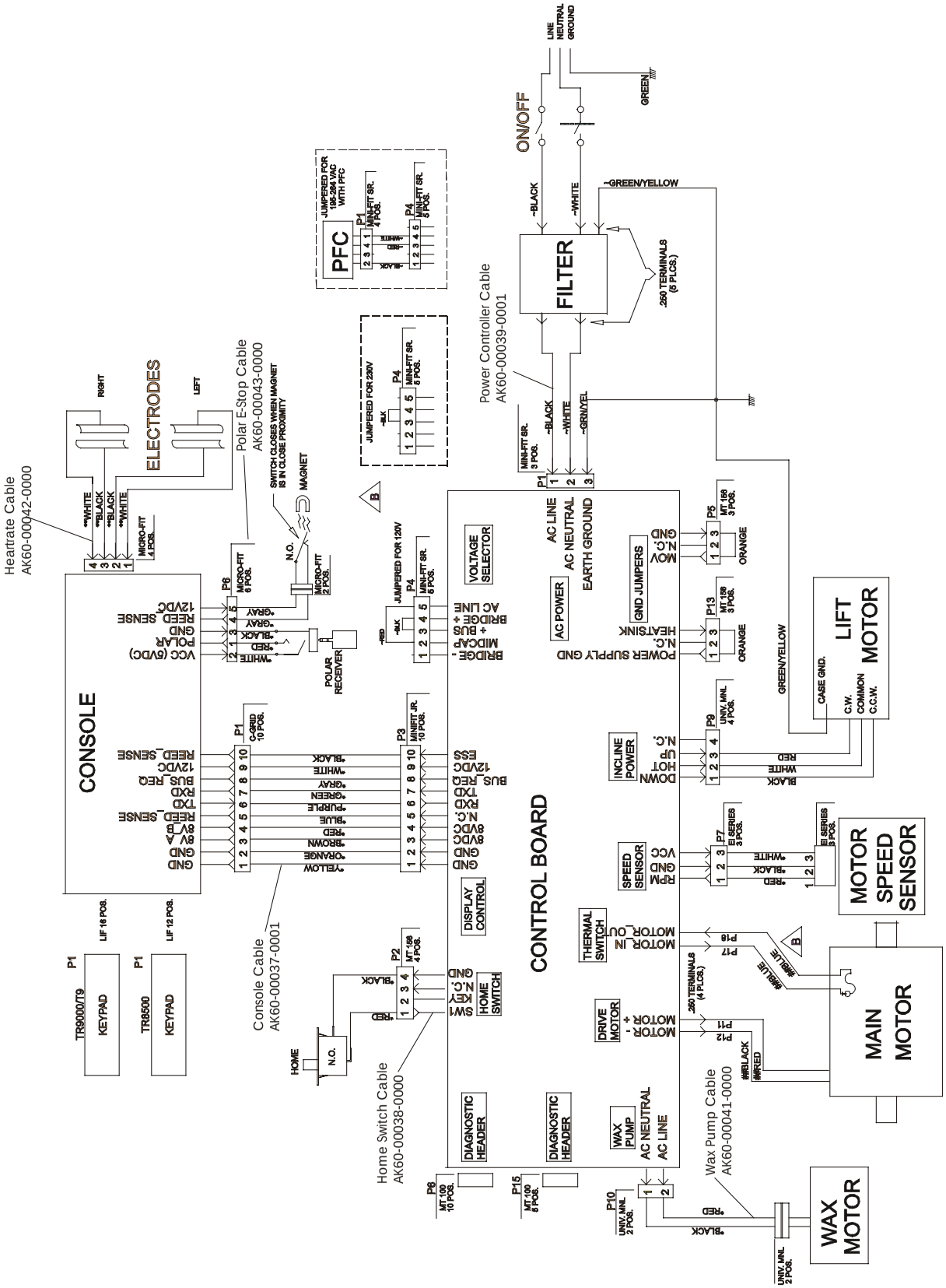
Connector and Pin Functions

Connector	*Location*	*Pin*	*Functional Description*
P7 is a 3 pin connector that connects to speed sensor		*1*	RPM output
		2	Isolated GND
		3	+5VDC
P2 is a 4 pin connector that connects to the home switch		*1*	Home SW Input
		2	Keyed
		3	Isolated GND
		4	Isolated GND
P5 is a 2 pin connector for MOV ground jumpers		*1*	MOV
		2	Earth Ground
P3 is a 10 pin connector that connects to the main wiring cable to the console		*1*	GND
		2	GND
		3	8 VDC
		4	8 VDC
		5	NC
		6	RXD
		7	TXD
		8	BUS-REQ
		9	12VDC
		10	ESS
P10 is a 2 pin connector which connects to the wax motor		*1*	AC Neutral
		2	Pump Motor

NOTE: P11, P12, P17, P18 are Faston Connectors for the Drive Motor.

- P11 – Motor positive terminal
- P12 - Motor negative terminal
- P17 – Motor IN for thermal cutoff
- P18 – Motor OUT for thermal cutoff

Block Diagram



SECTION V

MISCELLANEOUS INFORMATION

Preventive Maintenance Schedule

ITEM	WEEKLY	MONTHLY	QUARTERLY	BI-ANNUAL	ANNUAL
DISPLAY CONSOLE ASSEMBLY					
Hardware				Inspect	
Overlay	Clean			Inspect	
Accessory Cups					Inspect
Stop Switch	Clean			Inspect	
Emergency Switch/Key	Clean			Inspect	
HANDLEBAR ASSEMBLY					
Hardware				Inspect	
Handlebar				Inspect	
Side Hand Rails				Inspect	
Lifepulse Sensors	Clean/Inspect				
Smart Stop Cover	Clean/Inspect				
FRAME ASSEMBLY					
Hardware				Inspect	
Motor Cover	Clean				
Motor Electronic Compartment		Vacuum Clean		Inspect	
Drive Belt				Inspect	
Leg Levelers		Inspect/Adjust			
Front Roller				Inspect	
Rear Roller				Inspect	
WAX SYSTEM					
Wax Bag			Inspect		
Wax System					Inspect
Wax Nozzle	Clean Every 2 weeks				

IMPORTANT SAFETY INSTRUCTIONS !

⇒ DO NOT position the rear of the treadmill within 6 feet (2 meter) of the nearest obstruction. The sides of the treadmill should maintain a minimum clearance of 8 inches (20 cm) from the nearest treadmill or other obstruction.

⇒ DO NOT locate the treadmill outdoors, near swimming pools, or in areas of high humidity.

⇒ DO verify the contents of the delivery carton against the accompanying parts listing prior to setting the cartons and shipping material aside. If any parts are missing, contact Life Fitness Customer Support Services at the number listed on the back page of this assembly instruction booklet. **Save the shipping cartons in case of return.**

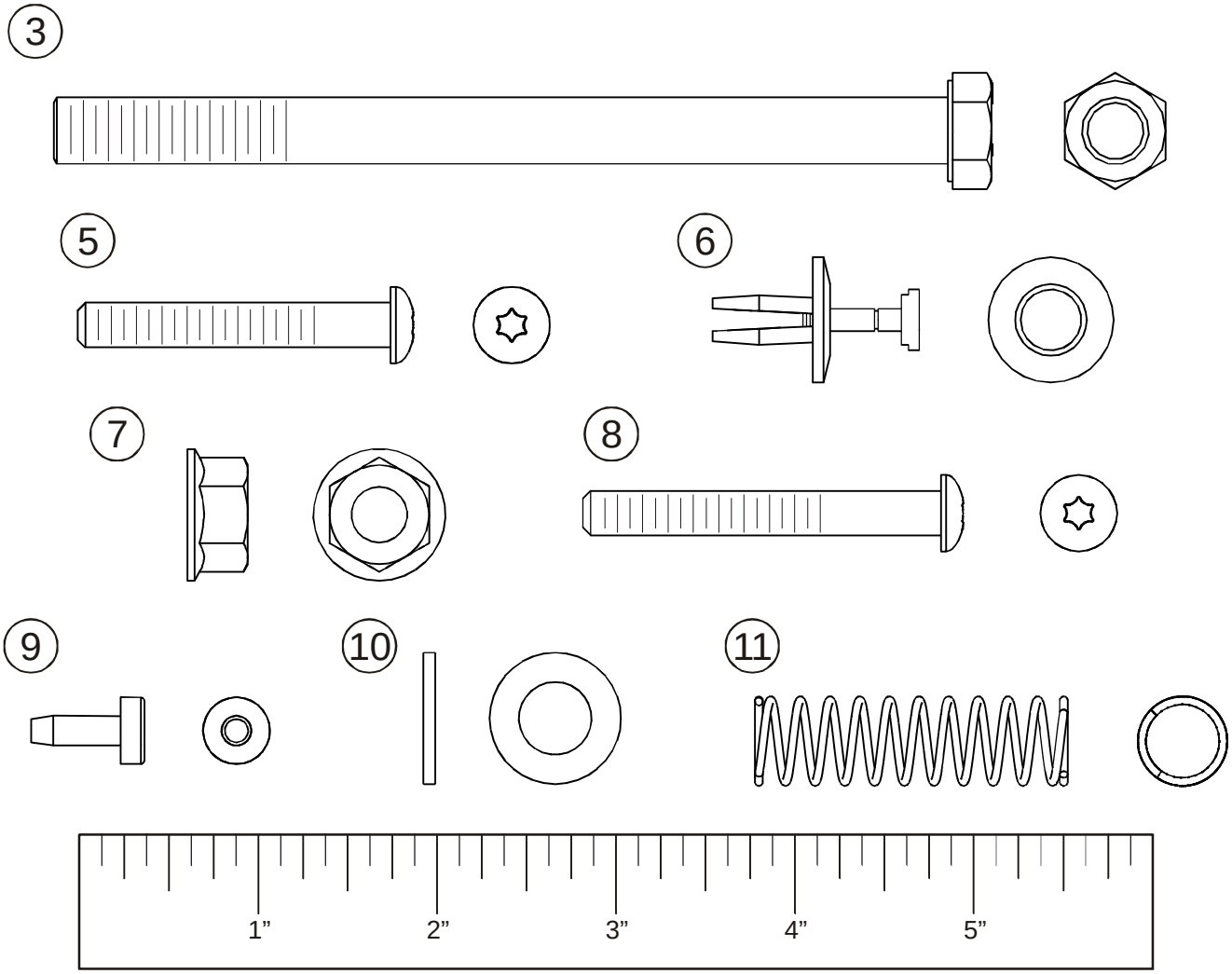
⇒ DO read the entire Operation Manual prior to attempting to operate this machine, as this is essential for proper use. The Manual explains how to properly use the treadmill and helps you to design an aerobic workout tailored to your personal fitness needs or requirements.

TOOLS REQUIRED FOR ASSEMBLY...

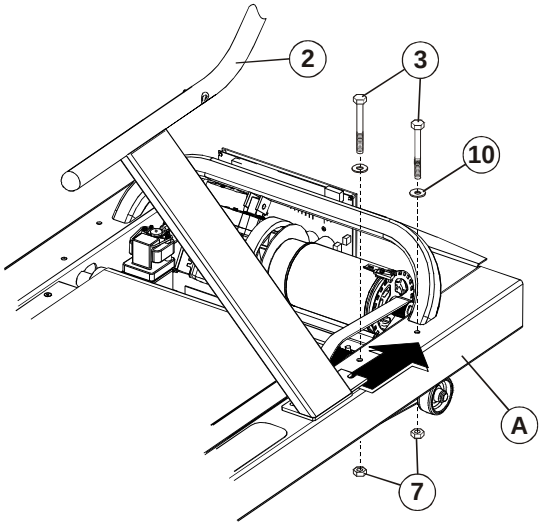
Phillips screwdriver, Torx wrench, 3/4” combination wrench, flat blade screwdriver (or 5/16” nut driver), Rubber Mallet

PARTS DESCRIPTION

1	USER LEFT HANDRAIL AK60-00069-0001 (Model 9000HR) AK60-00069-0002 (Model 8500)	**Qty: 1**	**2**	USER RIGHT HANDRAIL AK60-00068-0001 (Model 9000HR) AK60-00068-0002 (Model 8500)	**Qty: 1**
3	HANDRAIL MOUNTING BOLT 0017-00101-1256	**Qty: 4**	**4**	DISPLAY CONSOLE ASSEMBLY AK60-00014-0001 (Model 9000HR) AK60-00015-0001 (Model 8500)	**Qty: 1**
5	CONSOLE SCREW 0017-00101-1727	**Qty: 4**	**6**	PUSH RIVET – CONSOLE / WAX BAG TRAY 0017-00042-1142	**Qty: 5**
7	NUT 0017-00103-0188	**Qty: 4**	**8**	HANDLEBAR SCREW 0017-00101-1738	**Qty: 2**
9	MOUNTING SCREW 0017-00101-1621	**Qty: 14**	**10**	FLAT WASHER 0017-00104-0190	**Qty: 4**
11	GROUNDING SPRING (Model 9000HR Only) OK60-01157-0000	**Qty: 1**	**12**	FRAME ENDCAP OK60-01018-0000	**Qty: 4**
13	FRONT HANDLEBAR ASSEMBLY AK60-00046-0000 (Model 9000HR) OK60-01081-0000 (Model 8500)	**Qty: 1**	**14**	HANDRAIL ENDCAP OK60-01098-0000	**Qty: 4**
15	LEFT ROLLER GUARD OK60-01085-0002	**Qty: 1**	**16**	RIGHT ROLLER GUARD OK60-01085-0001	**Qty: 1**
17	ACCESSORY TRAY LEFT OK60-01008-0002	**Qty: 1**	**18**	ACCESSORY TRAY RIGHT OK60-01008-0001	**Qty: 1**
19	WAX BAG KIT GK60-00002-0001	**Qty: 1**	**20**	LINE CORD (INTERNATIONAL MODELS)	**Qty: 1**



IMPORTANT!
DO NOT DISCARD THE SHIP KIT LOCATED ON TOP OF THE DECK AND BELT. ALL NECESSARY COMPONENTS NEEDED TO COMPLETE THE INSTALLATION ARE LOCATED IN THE SHIP KIT.

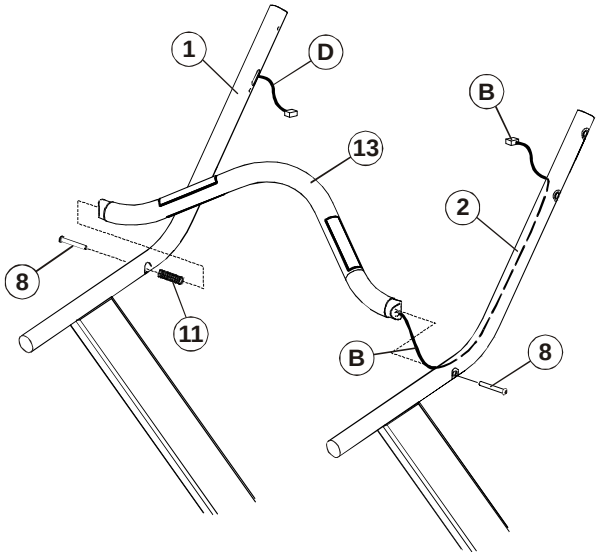


1. Remove the MOTOR COVER and set aside.

2. Feed one BOLT (#3) and WASHER (#10) through the forward most USER RIGHT UPRIGHT (#2) mounting hole. Begin hand threading a NUT (#7) onto the BOLT from under the FRAME (A).

3. Position the USER RIGHT UPRIGHT (#2) mounting flange near the BOLT (#3) as shown. Slide the USER RIGHT UPRIGHT mounting flange under the BOLT and WASHER (#10) as shown. Align the REAR MOUNTING HOLE of the USER RIGHT UPRIGHT mounting flange with that of the FRAME (A). Insert a BOLT (#3) and WASHER (#10) onto the REAR MOUNTING HOLE. Hand -thread a NUT (#7) onto the BOLT from under the FRAME. Finger-tighten the two NUTS. Repeat the procedure for the USER LEFT UPRIGHT (#1).

NOTE: BE SURE NOT TO DAMAGE THE MAIN WIRE HARNESS UNDER THE USER LEFT UPRIGHT (#1).



4. Locate the HANDLEBAR (#13). Position the HANDLEBAR between the LEFT and RIGHT UPRIGHTS (#1 & #2). The bend in the HANDLEBAR should face upward and tilt slightly forward.

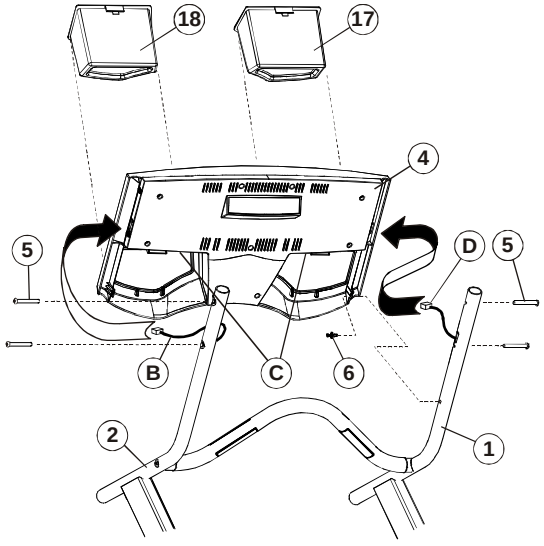
5. **(Model 9000HR Only)** Feed the WIRE HARNESS (B) leading from the right end of the HANDLEBAR into the access hole located on the inside of the USER RIGHT UPRIGHT (#2). The WIRE HARNESS should be routed forward and out the side access hole of the USER RIGHT UPRIGHT.

6. Secure the user right end of the HANDLEBAR (#13) to the USER RIGHT UPRIGHT (#2) using one HANDLEBAR MOUNTING SCREW (#8). Leave the screw loose at this time.

NOTE: BE CAREFUL NOT TO DAMAGE THE MAIN WIRE HARNESS (B) WHEN ATTACHING THE HANDLEBAR (#13) TO THE USER RIGHT UPRIGHT (#2).

7. Insert the remaining HANDLEBAR MOUNTING SCREW (#8) through the mounting hole of the USER LEFT UPRIGHT (#1). Position the grounding spring (#11) over the HANDLEBAR MOUNTING SCREW. Align the left side of the HANDLEBAR with the HANDLEBAR MOUNTING SCREW. Secure the user left end of the HANDLEBAR to the USER LEFT UPRIGHT.

NOTE: BE CAREFUL NOT TO DAMAGE THE MAIN WIRE HARNESS (D) WHEN INSERTING THE HANDLEBAR MOUNTING SCREW (#8) INTO THE MOUNTING HOLE OF THE USER LEFT UPRIGHT (#1).



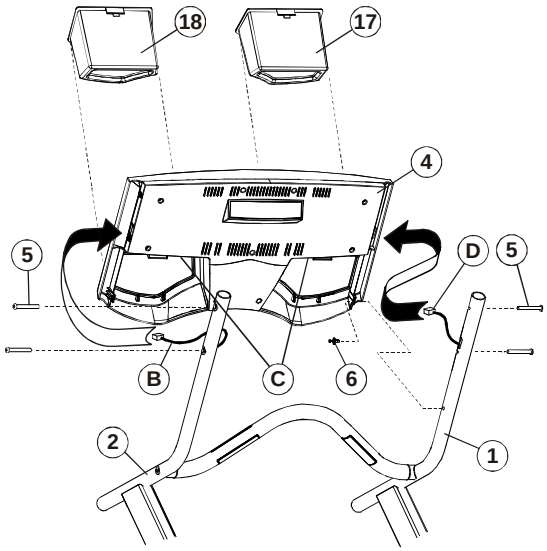
8. Locate the DISPLAY CONSOLE (#4). Remove the REAR PANEL ACCESS DOORS (C). Position the DISPLAY CONSOLE over the UPRIGHTS (#1 & #2). Route the MAIN WIRE HARNESS (D) leading from the top of the USER LEFT UPRIGHT (#1) through the left side access hole of the DISPLAY CONSOLE and out the user left rear panel access hole. Lower the left side of the DISPLAY CONSOLE onto the USER LEFT UPRIGHT.

9. **(Model 9000HR Only)** With the left side of the DISPLAY CONSOLE (#4) supported, carefully route the HEART RATE WIRE HARNESS (B) through the right side access hole of the DISPLAY CONSOLE.

10. **(Model 9000HR Only)** While pulling the USER RIGHT UPRIGHT (#2) slightly outward, carefully lower the DISPLAY CONSOLE (#4) onto the USER RIGHT UPRIGHT. Secure the DISPLAY CONSOLE to the UPRIGHTS using four SCREWS (#5). Tighten the SCREWS securely.

    (Model 8500 Only) Lower the DISPLAY CONSOLE (#4) onto the USER RIGHT UPRIGHT (#2). Secure the DISPLAY CONSOLE to the UPRIGHTS using four SCREWS (#5). Tighten the SCREWS securely.

CAUTION: BE CAREFUL NOT TO PINCH THE WIRE HARNESS (D).



11. Secure the bottom of the DISPLAY CONSOLE (#4) to the inside of the UPRIGHTS (#1 & #2) using two PUSH RIVETS (#6).

12. Connect all WIRE HARNESS CONNECTORS to their corresponding JACKS located within the rear access holes. Feed excess WIRE HARNESS into the DISPLAY CONSOLE (#4). Replace REAR PANEL ACCESS DOORS (C) as necessary.

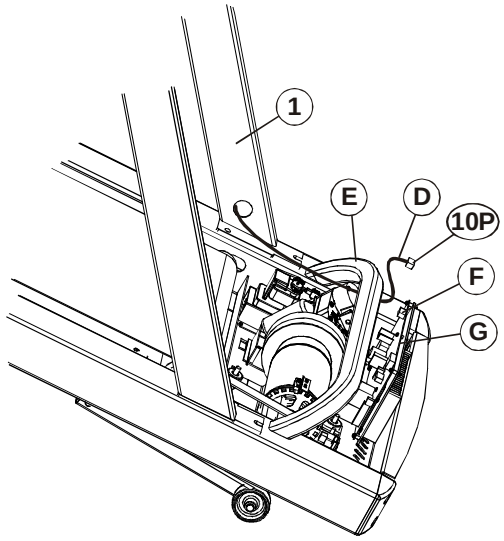
13. Tighten all BOLTS and SCREWS securely.

14. Insert the ACCESSORY TRAYS (#17 & #18) into the DISPLAY CONSOLE (#4) as shown. Press downward firmly until the ACCESSORY TRAYS snap securely into place.

15. Unwrap the MAIN WIRE HARNESS (D) located at the base of the USER LEFT UPRIGHT (#1). Route the MAIN WIRE HARNESS under the CROSS FRAME MEMBER (E). Connect the 10-PIN CONNECTOR (10P) of the MAIN WIRE HARNESS to the corresponding JACK (F) located at the top of the CONTROL BOARD (G).

16. Replace the MOTOR COVER. Secure the MOTOR COVER using four MOUNTING SCREWS (#9).

CAUTION: BE SURE THE MOTOR COVER IS OUTSIDE ALL MOUNTING TABS.

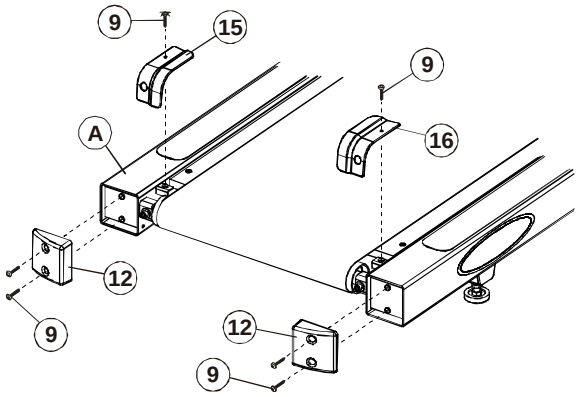


17. Using two MOUNTING SCREWS (#9) each, secure the four FRAME ENDCAPS (#12) to the four FRAME (A) corners.

NOTE: THE LARGER END OF THE FRAME ENDCAPS (#12) SHOULD FACE THE CENTER OF THE TREADMILL.

18. Install the two REAR ROLLER GUARDS (#15 & #16) as shown using one MOUNTING SCREW (#9) each.

19. Using a rubber mallet, install the four HANDRAIL ENDCAPS (#14).



Model 9000HR and International 8500 Only

20. Move the treadmill into the desired location for use. Plug the line-cord into a dedicated NEMA R5 (U.S. only) electrical outlet. Turn the power on at the ON/OFF switch located at the front of the treadmill. Using the UP INCLINE ARROW KEY, raise the treadmill to its maximum elevation (15%). Unplug the treadmill from the electrical outlet.

21. Remove the tape securing the WAX TRAY (H) to the FRAME (A). Locate the WAX BAG (J). Position the HOSE CLAMP (K) over the WAX BAG HOSE (L) approximately three inches from the end of the WAX BAG HOSE. Engage the HOSE CLAMP.

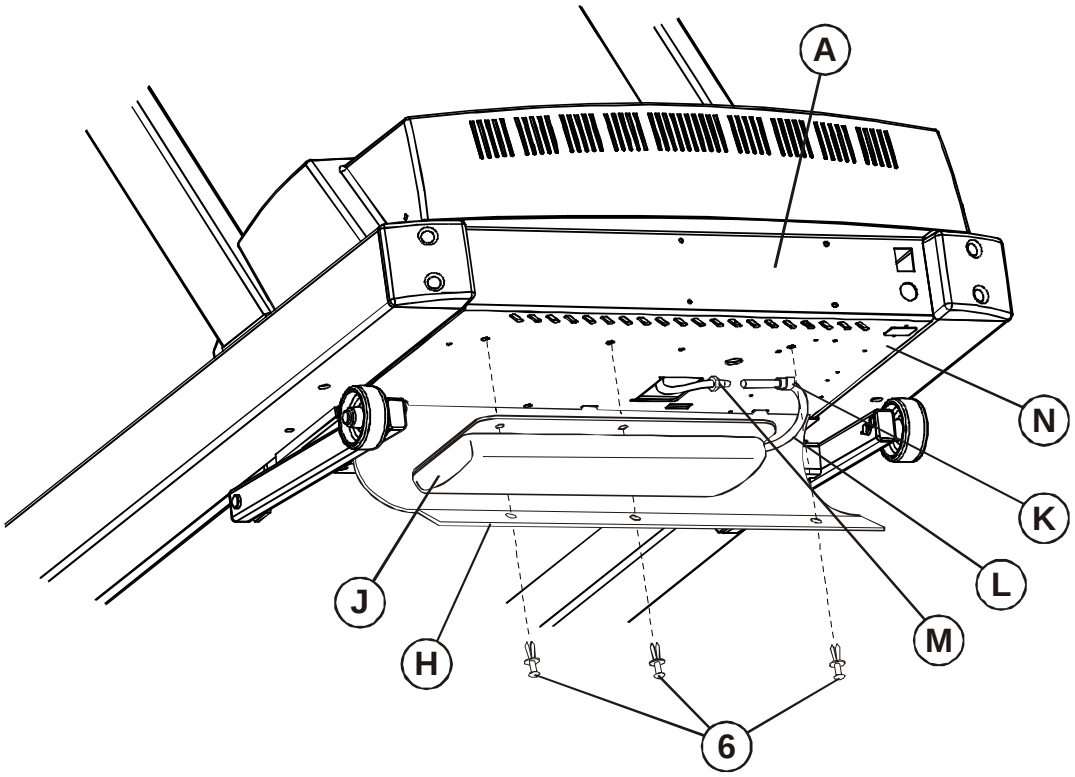
22. Cut off the end of the WAX BAG HOSE (L) approximately 1/2" from the end of the hose.

23. Position the WAX BAG (J) so the WAX BAG HOSE (L) faces the user left side and the WAX BAG FLANGE faces the front of the treadmill. Slide the end on the WAX BAG HOSE over the BARBED CONNECTOR (M) leading from underside of the MOTOR PAN (N). Disengage the HOSE CLAMP (K).

CAUTION: IT IS VERY IMPORTANT TO DISENGAGE THE HOSE CLAMP (K). FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE TREADMILL.

24. Place the WAX BAG (J) into the WAX TRAY (H). Align the holes of the WAX BAG FLANGE with the holes of the WAX TRAY. Using two PUSH RIVETS (#6), secure the WAX BAG and TRAY to the underside of the MOTOR PAN (N). Using a THIRD PUSH RIVET, secure the left end of the WAX TRAY to the underside of the MOTOR PAN.

25. Lower and level the treadmill according to the instructions located in the Operation Manual.



PRE-OPERATION CHECKLIST

- ⇒ *Ensure that all fasteners are tight.*
- ⇒ *Make sure the STRIDING BELT is properly tensioned and aligned according to the Operation Manual.*
- ⇒ *Confirm the wax bag has been installed.*
- ⇒ *Check the operation of the STOP switch and tether switch assembly.*
  (See Operation Manual.)
- ⇒ *Confirm the display console is set to English or Metric units.*
  (See Optional Settings ENG/MET in Operation Manual.)
- ⇒ *Refer to the Operation Manual for real time clock setting.*
- ⇒ *Read the entire Operation Manual before using the treadmill.*

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