LifeFitness

Rely on it.™

Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

Customer Support Services

SERVICE MANUAL

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills
INTRODUCTION

HOW TO USE SERVICE MANUAL AND CONTACT CUSTOMER SUPPORT SERVICES

This service manual is applicable to Treadmill Models TR 9100, TR 9500HR, TR 9700HR, and TR 9700HR w/Decline. ***Note:*** *Information represents typical configuration and may differ slightly from actual equipment.* The Service Manual provides recommendations of safe and efficient approaches to problem situations. This manual is separated into six sections.

Refer to **TABLE OF CONTENTS** for section topics.

When an operating problem occurs, refer to trouble shooting guides and diagnostic mode to isolate cause . When applicable, guides are listed by problem symptom followed with suggestions of probable cause(s) .

Once source of problem is identified, consult "How To..." guides for recommended repair procedures. "How To..." sub-sections are organized by replaceable part or assembly name. For convenience, sub-section lists recommended “Tools Required” to complete specific function. Refer to **PARTS IDENTIFICATION** to identify proper name and number of part to order for repair of equipment.

A reproducible FAX order claim form is given in COMMUNICATING BY TELEFACSIMILE for convenient ordering of service parts.

To order, contact Life Fitness Customer Support Services.
Via FAX - 24 hrs. /day, 7 days/week.
Via telephone - Monday through Friday from 8:00 AM to 7:00 PM (CST).
Via post - At address cited.

To speed Life Fitness Customer Support Services response to your needs, please provide the following information.
1. Model number
2. Serial number
3. Symptom of problem
4. Part name and number to order (if known)

Before installing part, review "How To..." and follow step by step procedures recommended to install part safely and efficiently. If you have questions or comments please telephone, FAX or, write us. We are:

LIFE FITNESS - 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 Toll-free: 800.216.8893

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

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SECTION I

TROUBLESHOOTING GUIDE

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). 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 20amp 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.
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.

Malfunction	Probable Cause	Corrective Action
Squeaking noise.	Drive motor belt tensioning pin may be squeaking.	Spray pin with lubricant.
	Drive motor belt may be worn or damaged.	Replace drive motor belt. See How To… Replace Drive Motor Belt.
Loud groaning sound heard from front of machine while elevating.	Lift mechanism pivot points are dry.	Lubricate pivot points.
	Faulty lift motor.	Replace the lift motor. See How To…Replace Lift Motor.
Loud groaning on footfall.	High friction between deck and striding belt.	Refer to Slowdown Section.
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 wax/lift control board.	Check all electrical connections for proper attachment.
	Damaged main harness wire connection.	Replace wire harness. See How To…Replace Main Wire Harness.
	Faulty display console or Wax/ Lift Board.	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 Wax/Lift Board. See How To… Replace Wax/Lift PCB.

Malfunction	Probable Cause	Corrective Action
Display overlay keys are not responding when depressed.	Loose ribbon connection(s).	Verify that the two ribbon connections are attached to the display PCB. If attached, reseat the connection and verify the operation.
	Worn or defective overlay assembly.	Replace overlay assembly. See How To… Replace Overlay Assembly.
	Smart Stop Sensor.	Refer to diagnostics to verify the operation of the smart stop sensor.
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.
	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.
	Towel or magazine may be making contact with stop switch while user is running.	Move all possible obstructions off display console and handlebar.
	Loose connections at display console.	Secure all connections at display console PCB.
	Stop switch is activated with very light pressure or returns slowly after being pressed.	Replace stop switch. See How To…Replace Stop Switch.

Malfunction	Probable Cause	Corrective Action
Unit resets randomly or pauses.	Stop switch cable not making proper contact.	Re-seat cable from stop switch 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.
	Inspect Smart Stop system.	Disconnect the 4 pin connector and verify if problem exists. If no, replace smart stop PCB. See How To…Replace Smart Stop PCB.
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.
	Power module.	Verify 120VAC at wax/lift board 3 pin connector. If no, replace power entry module See How To…Replace Power Entry Module. If yes, verify 8 VDC at P1 pins 3 and 4, and 12VDC at P1 pin 9. If voltage is present, replace display console PCB. If not, replace wax /lift PCB. See How To…Replace Display Console PCB and/or Wax /Lift PCB.

TROUBLESHOOTING GUIDE

Malfunction	Probable Cause	Corrective Action
No Power.	3 Amp Circuit breaker.	Verify that circuit breaker is not open. If open, reset circuit breaker.
	Faulty display console.	Refer to Display Console Symptom.
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 pump does not shut off.	Replace wax/lift PCB. See How To…Replace Wax/Lift PCB.
	Wax passes through pump and slowly drips from nozzle.	Replace wax motor. See How To…Replace Wax Motor.
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 (lumpy). 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.

Malfunction	Probable Cause	Corrective Action
The Striding Belt is traveling beyond the tracking limits.	Striding belt folded over.	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.
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.	Notify Club Manager.
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
Display reads a continuous heart rate reading when hands are removed.	Harness wires pinched at handlebar or handrail.	Replace handlebar assembly if the wires are damaged. See How To…Replace Handlebar 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 1. If yes, replace transmitter. If no, replace display console PCB.
	Telemetry turned OFF.	Enter Manager's Configuration mode and turn telemetry to ON.
	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.	Treadmills are located less than 8" (203 mm) apart.	Position treadmills to recommended distances. Refer to the Operations Manual.

Malfunction	Probable Cause	Corrective Action
Display reads: MOTOR CONTROLLER COMM BAD: CHECK HARNESS BETWEEN LIFT & CONTROLLER -P9/P3	Loose wire harness.	Reset connections at wax/lift PCB connector P9 and motor controller PCB connector P3.
Display reads: MOTOR CONTROLLER COMM BAD: CHECK POWER TO MOTOR CONTROLLER.	Bad power entry module or motor controller.	Verify line voltage at P1 on the Motor Controller. If voltage exists, replace motor controller. See How To Replace… Motor Controller. If no voltage exists, replace power entry module. See How To Replace…Power Entry Module.
Display reads: WAX/LIFT BOARD COMM BAD: CHECK POWER ON LIFT	Bad Wax/ Lift PCB.	Verify if the LED 7 (Green) and LED 8 (Red) is lit on the Wax/Lift PCB. If no, replace Wax/Lift PCB. See How To Replace…Wax /Lift PCB.
Display reads: BOTH LIFT and CONTROLLER COMM BAD: CHECK HARNESS BETWEEN CONSOLE & LIFT -P1/P1	Loose wire harness.	Reset connection at Wax/Lift PCB connectorP1 and Display Console PCB connector P1.
Display reads: SYSTEM CONFIGURED TWO WIRED	Motor Controller is not jumped correctly.	Reset jumper at JM1 on both pins.
Display reads: INCLINE INOPERATIVE – CONTINUE IF DESIRED	Level or negative switch.	Refer to the Diagnostics section “incline” to verify the operation. If replacement is required. See How To Replace…Level or Negative Switch.
		Inspect wire harness for damage, replace if needed.
	Lift motor adjustment incorrect.	See “How To…Replace the Lift Motor” and refer to the step in the procedure that describes 13-3/4” tube adjustment.
	Lift Motor.	Cycle motor in incline manual and verify 120VAC at P7 on Wax/Lift PCB. If not, replace lift motor. See How To Replace…Lift Motor.

TROUBLESHOOTING GUIDE

Malfunction	Probable Cause	Corrective Action
Display reads: **HOME SWITCH ERROR**	Lift switches wire harnesses are backward (applies only to TR97).	Switch the wire harnesses on the negative and level switches.
Display reads: **NEGATIVE SWITCH ERROR**	Lift switches wire harnesses are backward (applies only to TR97HR Decline).	Switch the wire harnesses on the negative and level switches.
Display reads: **NO AC POWER ERROR**	Wax/Lift PCB.	Replace Wax/Lift PCB.
Display reads: **WAXER UNPLUGGED**	Defective wire harness or Wax Motor.	Cycle motor in waxer manual mode in diagnostics and verify 120VAC at P6 on Wax/Lift PCB. If voltage exists, verify that the cable from the wax/lift PCB to wax motor has continuity. If continuity exists replace wax motor. See How To Replace… Wax Motor. No continuity, replace wire harness. If no voltage exists, replace wax/lift PCB. See How To Replace…Wax/Lift PCB.
Display reads: **WAXER NO AC POWER**	Broken, damaged or unplugged harness or Defective Wax/Lift PCB.	Reset or replace waxer harness.
	Wax Motor or wire harness.	Cycle motor in waxer manual mode in diagnostics and verify 120VAC at P6 on Wax/Lift PCB. If voltage exists, verify that the cable from the wax/lift PCB to wax motor has continuity. If continuity exists replace wax motor. See How To Replace…Wax Motor. No continuity, replace wire harness. If no voltage exists, replace wax/lift PCB. See How To Replace… Wax/Lift PCB.
Display reads: **SMART STOP UNPLUGGED** **(TR9500HR and TR9700HR are equipped)**	Broken, damaged, or unplugged harness.	Reset or replace smart stop harness.

Malfunction	Probable Cause	Corrective Action
Display reads:FRAME CLOCK COMM BAD	Frame board or bad wire harness	Verify continuity on wire harness. If continuity exists, replace frame tag PCB. See How To… Replace Frame Tag PCB. If continuity does not exist, replace wire harness.
Display reads: FRAME TAG UNPLUGGED	Disconnected wire harness.	Reconnect wire harness.
Display reads: SCI ERROR	Bad wire harness connection.	Bad wire harness or noise. Reseat connection and verify operation. If problem exists, reconnect your connection at the display console to wax/lift PCB
Display reads: DYNAMIC CURRENT TRIP	Motor Controller, striding belt or deck.	When verifying striding belt tension, an error can be caused when performing a stall test. This can result in the following message: “Cannot Obtain Speed Error”.
Display reads: STATIC CURRENT TRIP	During power-up only, an error occurs.	Replace motor controller. See How To…Replace Motor Controller.
Display reads: CHECKSUM ERROR XXXX	Display Console	Replace Display Console
Display reads: NOTIFY MAINTENANCE MOTOR CONTROLLER ERROR	Motor Controller	Enter diagnostics and enter Speed Errors. See what current errors are listed that caused the error: “MAX TEMPERATURE TRIP” “MAXIMUM VOLTAGE TRIP” “FAULT LINE 1 ERROR” If any exist, replace motor controller. See How To… Replace Motor Controller.

Malfunction	Probable Cause	Corrective Action
Display reads: **NOTIFY MAINTENANCE** **INCLINE TIMEOUT ERROR**	Lift Motor.	Cycle motor in incline manual and verify 120VAC at P7 on Wax/Lift PCB. Replace lift motor.
	Level switch, negative switch or wire harness is defective.	In incline manual in diagnostics, verify the operation of the switches. Replace switches if defective. See How To…Replace Switches.
		Verify the wire for continuity, replace wire harness if defective.
Display reads: **NOTIFY MAINTENANCE** **HOME SWITCH ERROR**	Lift switches wire harnesses are backward. This applies only to TR97.	Switch the wire harnesses on the negative and level switches.
Display reads: **NOTIFY MAINTENANCE** **NEGATIVE SWITCH ERROR**	Lift switches wire harnesses are backward. This applies only to TR97.	Switch the wire harnesses on the negative and level switches.
Display reads: **NOTIFY MAINTENANCE** **FRAME TAG UNPLUGGED**	Broken, damaged or unplugged harness.	Re-seat the frame tag wire harness**.**
Display reads: **UNABLE TO OBTAIN** **TARGET SPEED**	Incorrect power requirements.	Refer to the Operations Manual
	Striding belt/deck malfunction. Is the deck laminate is worn through or the underside of striding belt is glazed over (hard, glossy).	Replace belt and deck. See How To… Replace Striding Belt.
	Motor Controller.	Replace motor controller. See How To… Replace Motor Controller.
Display reads: **NOTIFY MAINTENANCE** **SPEED SENSOR ERROR**	Speed sensor or disconnected wire harness.	This error will appear after a workout, but the unit will continue to function. Enter diagnostics, Speed Manual, and look for a RPM reading. If no reading exists, check continuity on the wire harness. No continuity, replace wire harness. If continuity exists, replace speed sensor. See How To …Replace Speed Sensor.

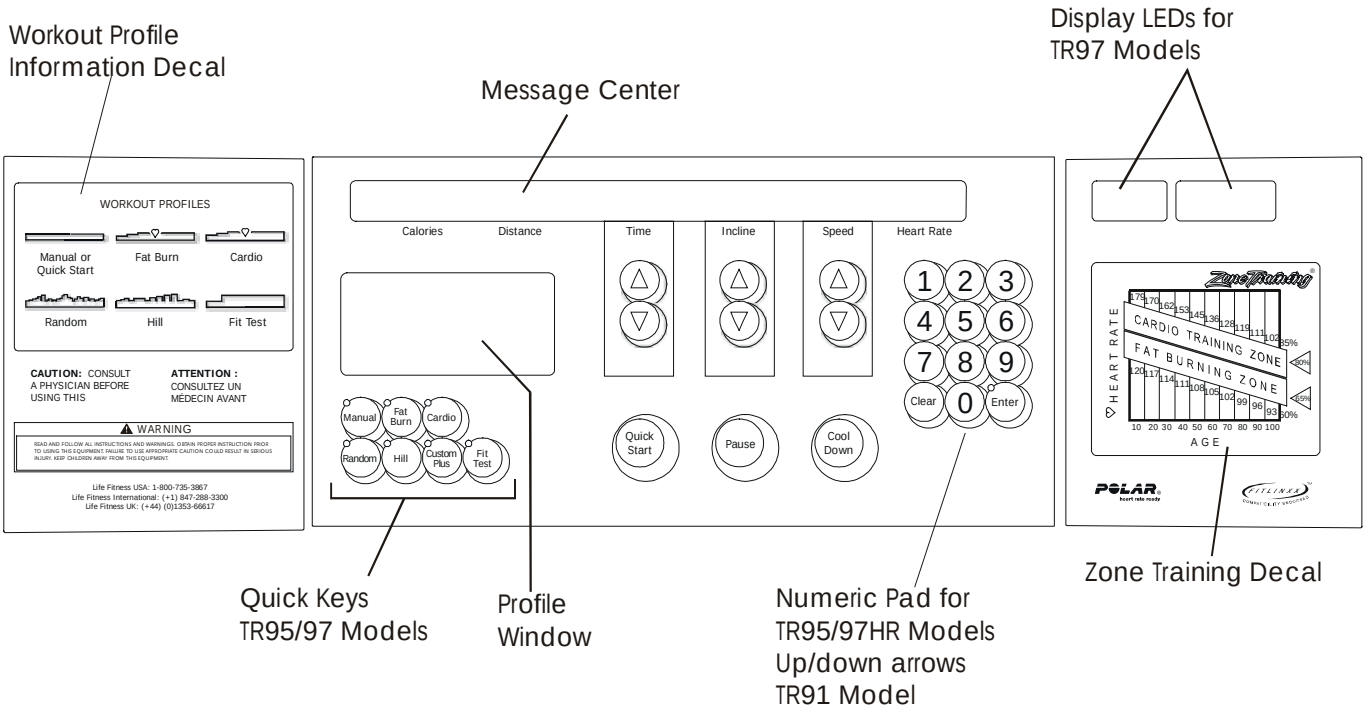
NOTES:

SECTION II

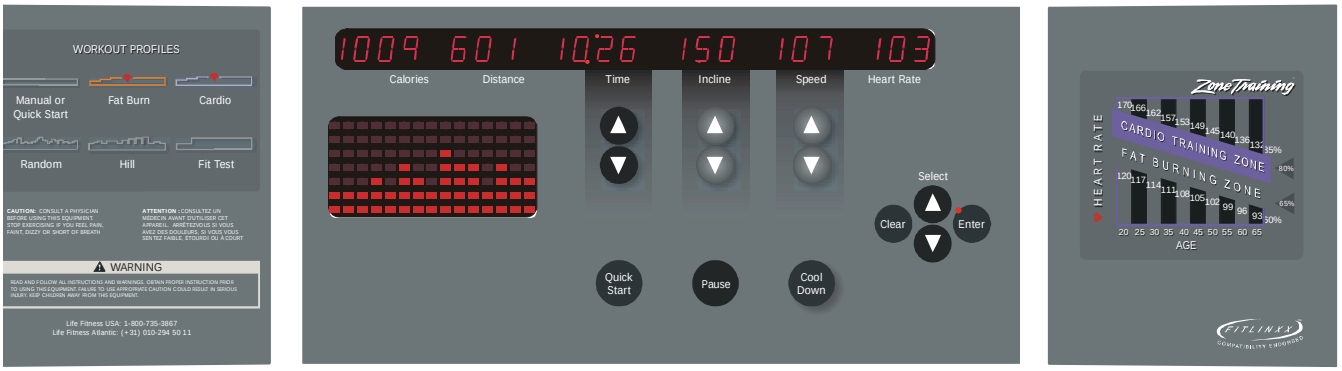
DIAGNOSTIC MODES

DISPLAY CONSOLES

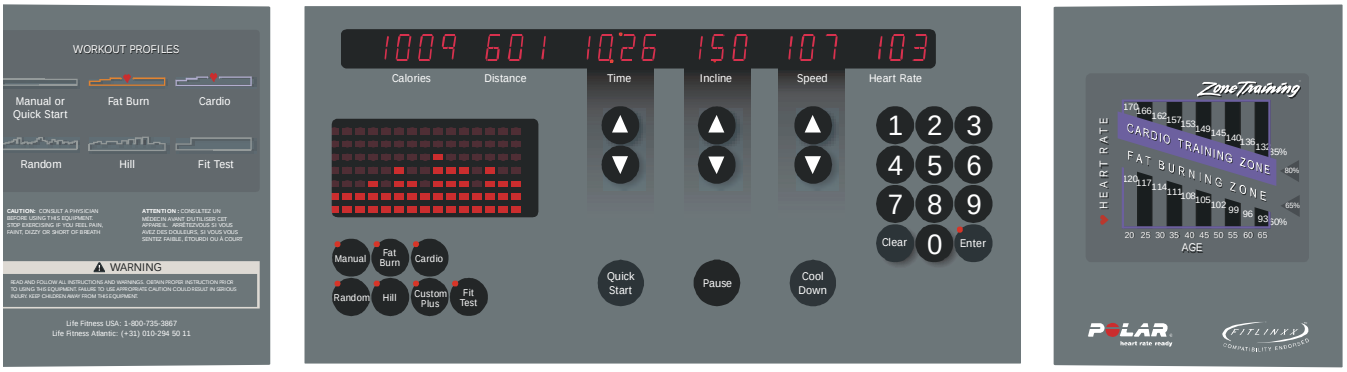
Use the following to aid you in control and message locations:



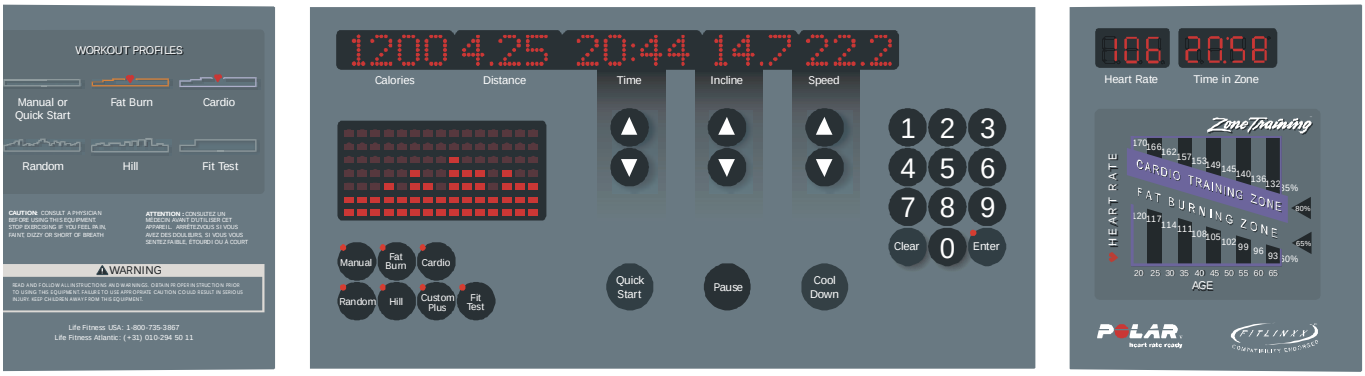
DISPLAY CONSOLES - Continued



TR9100 Treadmill



TR9500HR Treadmill

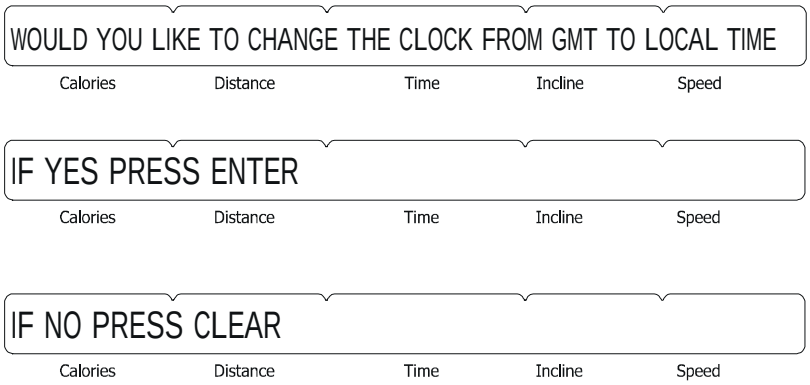


TR9700HR and TR9700HR w/Decline

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

INITIAL SETTING OF THE REAL TIME CLOCK

As part of the initial installation of the treadmill, the real time clock may be configured to the local time. Initially the real time clock is set to Greenwich meantime (GMT) which is the mean solar time for the meridian at Greenwich, England, used as a basis for calculating time throughout most of the world. Upon powering up the unit the following message will be displayed:



If the user wants to set the real time clock to the local time, the user must press the 'ENTER' key.
The user will be asked to set the display mode. The two display modes are 12-hour mode with AM/PM or 24 hour mode with no am/pm. displayed. The message will be:

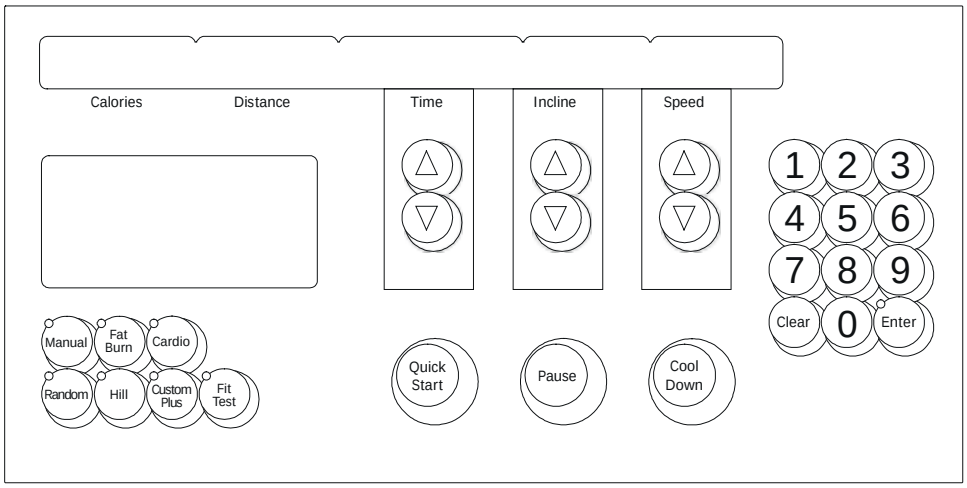
By pressing any of the arrow keys, the user toggles between the two modes. Once the mode is set, press the 'ENTER' key to continue.
After the display mode is set the user will now be asked to set the local time. The following message will appear:

"CLOCK SET TO GMT",
"USE ARROW KEYS TO "
"CHANGE SYSTEM CLOCK",
"TIME KEYS - HOURS",
"INCLINE KEYS-MINUTES",
"SPEED KEYS – SECONDS"

By pressing the specific arrow key, the user can set the real time clock to the local time.
After setting the local time, press the 'CLEAR' key to exit the real time clock setting mode.
The message "UPDATING CLOCK" will appear in the message center. The unit will then continue with the normal powering up sequence.

If the user does not want to set up the real time clock at this time, a 'CLEAR' key can be pressed to clear the initial message. The unit will continue with it's normal powering up sequence. The unit will ask a total of 5 times upon powering up if the real time clock wants to be set. After the 5th time the message will no longer appear. Refer to clock configuration to change the clock settings.

DIAGNOSTIC ENTRY



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.

On entry to this state, the message:

SERVICE MENU

Calories Distance Time Incline Speed

Followed by:

USE ARROW KEY TO SCROLL THROUGH LIST

Calories Distance Time Incline Speed

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

SYSTEM TEST

Calories Distance Time Incline Speed

INFORMATION

Calories Distance Time Incline Speed

MAINTENANCE

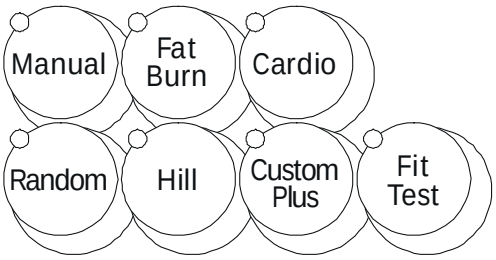
Calories Distance Time Incline Speed

CONFIGURATION

Calories Distance Time Incline Speed

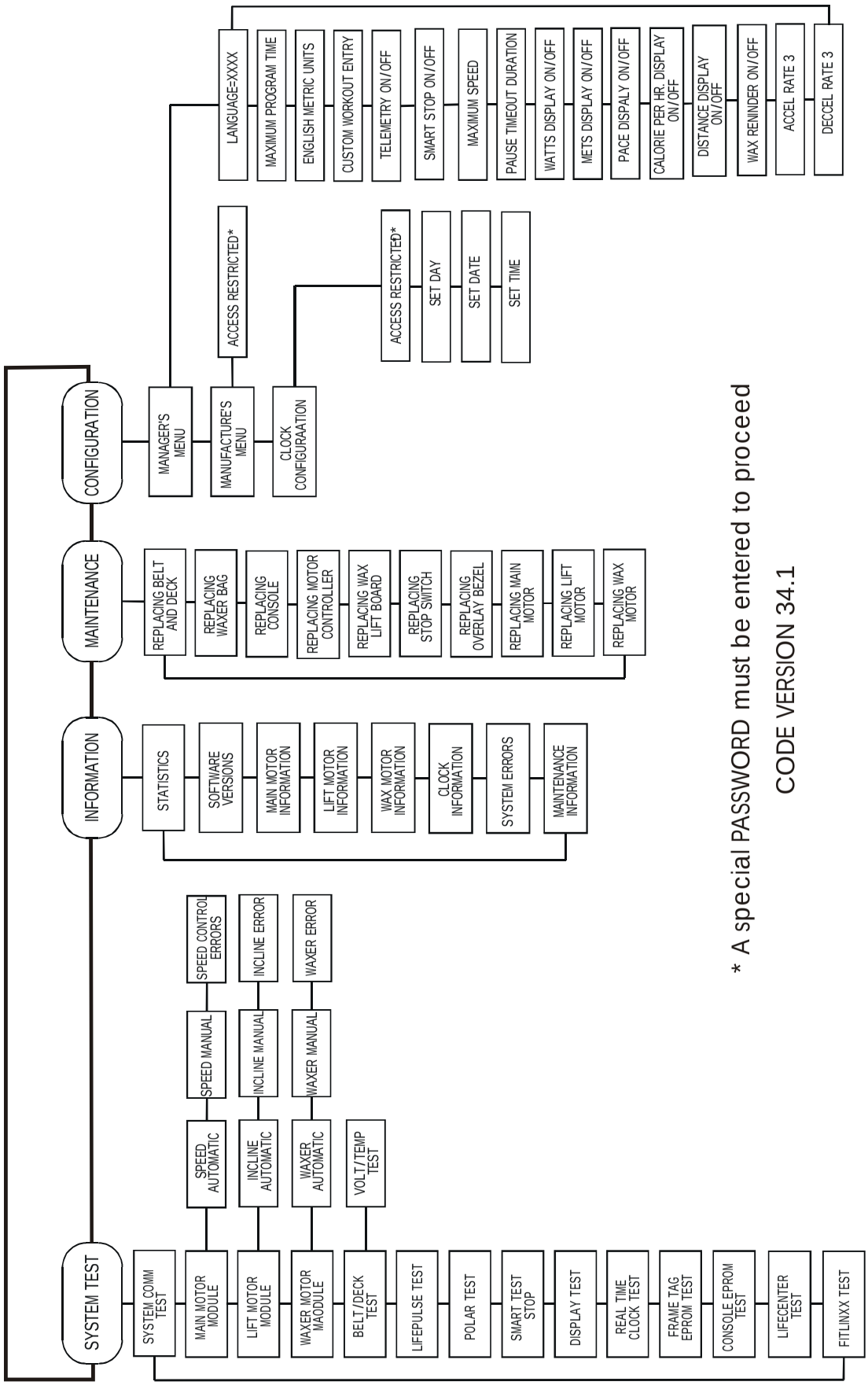
MAINTENANCE CONFIGURATION – QUICK ENTRY REFERENCE

Diagnostics selections can also be made on the TR9700HR and TR9500HR by pressing a combination '-of program keys. The following is the list of diagnostic tests and their program key combination. All blank fields in the chart are considered "OFF" for that program key.



SERVICE MENU							
DIAGNOSTIC TESTS	**MANUAL**	**FAT BURN**	**CARDIO**	**RANDOM**	**HILL**	**CUSTOM**	**FIT TEST**
MAIN MOTOR MODULE							
SPEED AUTO				**ON**			
SPEED MANUAL	**ON**			**ON**			
SPEED ERROR				**ON**		**ON**	
SPEED INFO			**ON**	**ON**			
LIFT MOTOR MODULE							
INCLINE AUTO					**ON**		
INCLINE MANUAL	**ON**				**ON**		
INCLINE ERROR					**ON**	**ON**	
INCLINE INFO			**ON**		**ON**		
WAXER MOTOR MODULE							
WAXER AUTO							**ON**
WAXER MANUAL	**ON**						**ON**
WAXER ERROR						**ON**	**ON**
WAXER INFO			**ON**				**ON**
SYSTEM TESTS							
BELT/DECK TEST						**ON**	
LIFEPULSE TEST		**ON**					
TELEMETRY TEST			**ON**				
SMART STOP TEST		**ON**			**ON**		
DISPLAY TEST				**ON**	**ON**		
COMM TEST				**ON**			**ON**
TAG EEPROM TEST					**ON**		**ON**
CONSOLE EEPROM TEST		**ON**					**ON**
LIFECENTER TEST		**ON**				**ON**	
FITLINXX TEST			**ON**			**ON**	
INFORMATION							
STATISTICS		**ON**	**ON**				
SOFTWARE VERSION		**ON**		**ON**			
CLOCK INFO	**ON**					**ON**	
SYSTEM ERROR INFO	**ON**	**ON**					
SYSTEM REPAIR INFO	**ON**		**ON**				
MAINTENANCE	**ON**						

DIAGNOSTICS: SUB-CATEGORIES

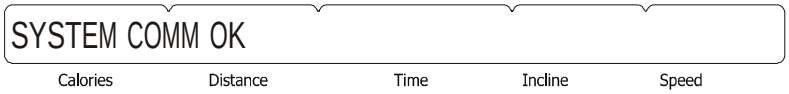


DIAGNOSTICS: SYSTEM COMMUNICATION(COMM) TEST

Upon entry into this category, a SYSTEM COMMUNICATION (COMM) TEST will be performed automatically.

This test will attempt to communicate with all of the modules within the treadmill unit. If a module does not respond to the console processor an ERROR message will be displayed.

If all the modules communicate, the message is:



If the motor controller module does not communicate, the initial message will display:

If the harness is disconnected the message is:

If the motor controller has no power, the message is:

If the wax/lift board module does not communicate, the message is:

If both the motor controller module and the wax/lift board module do not communicate, the message is:

If the wax/lift and motor controller has no power, the message is:

If the main harness from the console to the wax/lift board is disconnected, the message is:

DIAGNOSTICS: SYSTEM COMMUNICATION(COMM) TEST

If both the motor controller module and the wax/lift board module do communicate, but the console cannot perform a loop-back test, the message is:

If SYSTEM COMM OK is displayed it will advance to the **system test** category.

Press the ‘CLEAR’ key to return to the MAIN DIAGNOSTIC CATEGORIES.
Press the ‘ENTER’ key to advance to the SYSTEM TEST SUB-CATEGORIES.

DIAGNOSTICS: SYSTEM TEST MENU

Upon entry the, the message is:

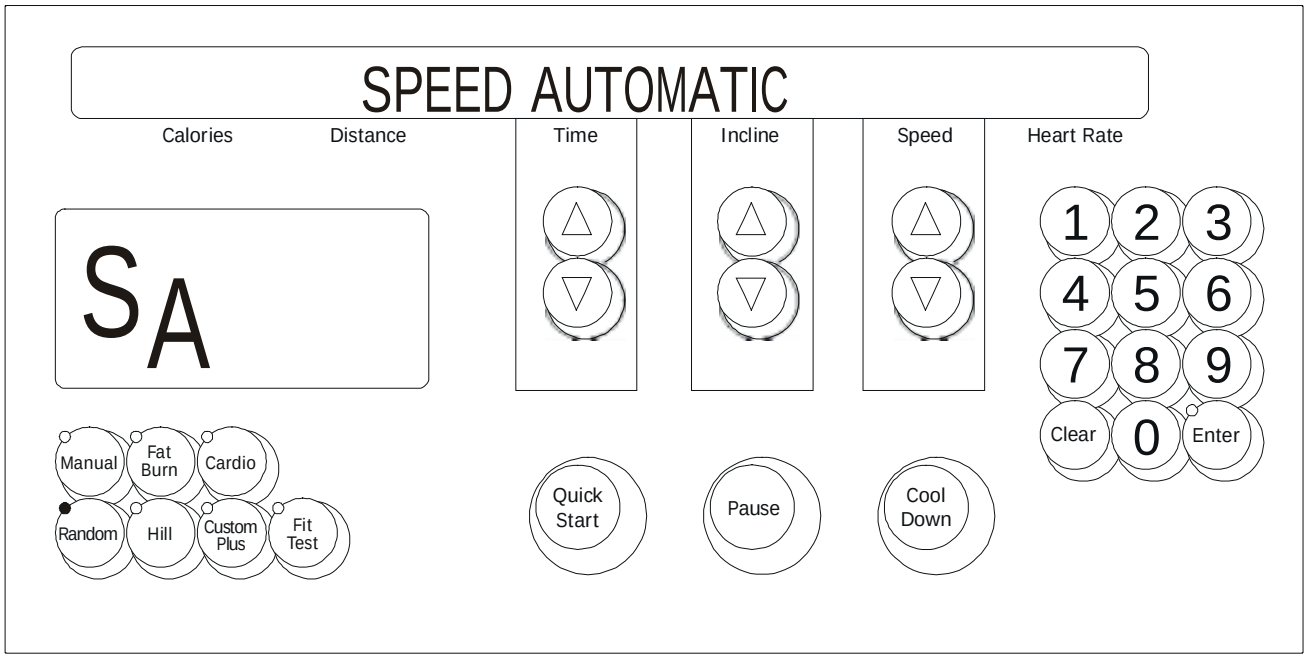
"USE ARROW KEYS TO SCROLL THROUGH THE LIST"

Using any of the arrow keys will allow you to scroll through the thirteen system tests.

MAIN MOTOR TEST
LIFT MOTOR TEST
WAXER MOTOR TEST
BELT/DECK TEST
LIFEPULSE TEST
TELEMETRY TEST
SMART STOP TEST
DISPLAY TEST
FRAME TAG REAL TIME CLOCK TEST
FRAME TAG EEPROM TEST
DISPLAY CONSOLE EEPROM TEST
LIFECENTER TEST
FITLINX TEST

Press the 'ENTER' key to access the sub-category.

DIAGNOSTICS: SYSTEM TEST – SPEED AUTOMATIC MODE

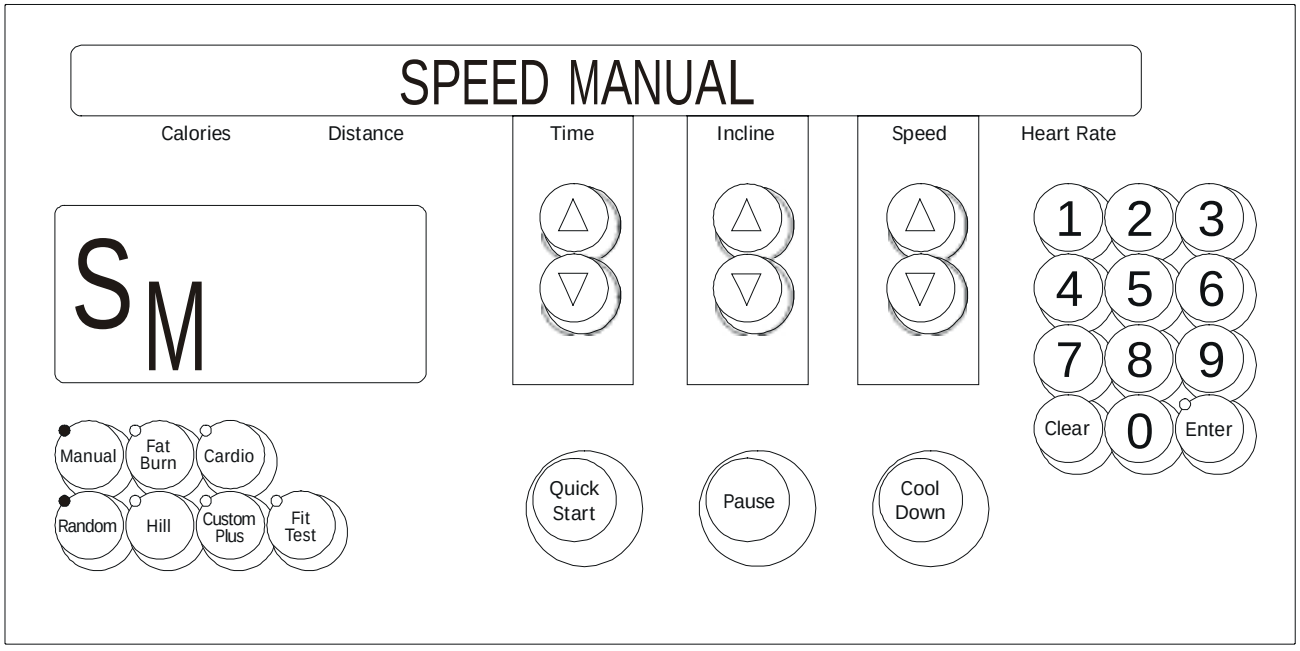


Upon entry into this test the letters SA (speed automatic) will be in the profile window. This test allows the user to test the main drive motor and controller controlling the target speed. The user can select a target speed by using the speed arrow keys. The actual speed as calculated by the speed feedback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

Press the ‘CLEAR’ 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.

DIAGNOSTICS: SYSTEM TEST – SPEED MANUAL MODE

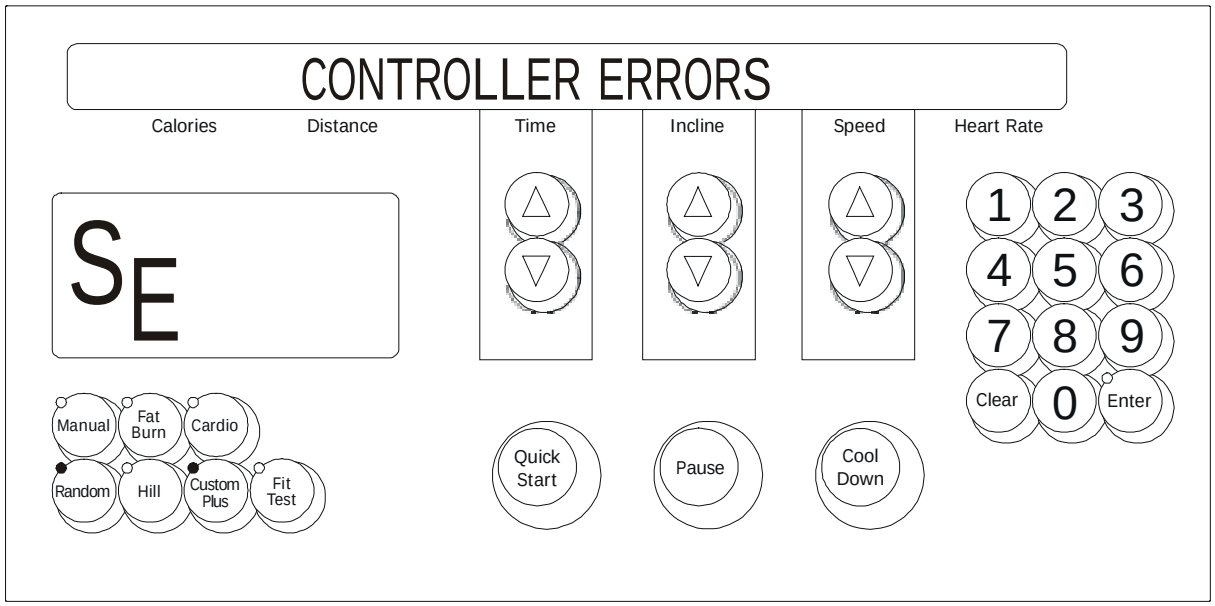


Upon entry into this test the letters SM (Speed Manual) will be in the profile window. This test allows the user to test the main drive motor and controller controlling the motor rpm. The user can select a target motor rpm by using the speed arrow keys. The actual motor rpm as calculated by the speed 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 to exit the Speed Manual test and return to the Speed Automatic test.
Press the ‘ENTER’ key to advance to the Controller Errors test.

DIAGNOSTICS: SYSTEM TEST – CONTROLLER ERRORS MODE



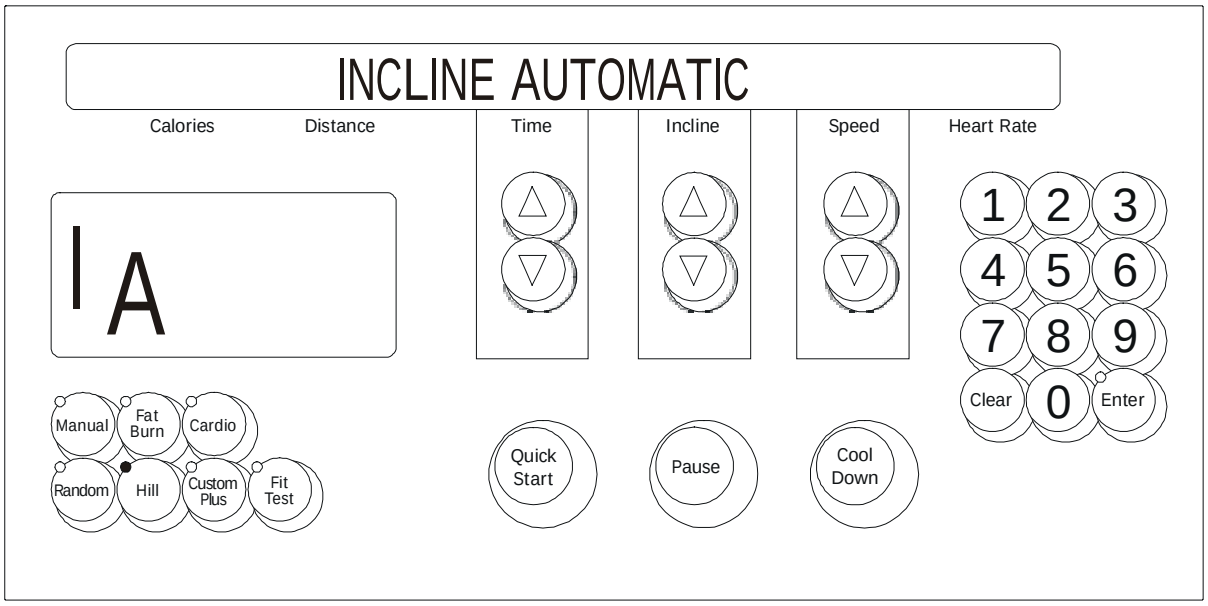
Upon entry into this test the letters SE (speed errors) will be in the profile window. This test allows seeing the current motor controller error conditions that are being displayed on the motor controller display. The following is a list of the current motor error conditions. If an error is displayed, refer to the troubleshooting section for corrective action.

CURRENT MOTOR ERROR CONDITIONS

POWER UP RESET ERROR
STATIC CURRENT TRIP
MAX TEMPERATURE TRIP
MAXIMUM VOLTAGE TRIP
DYNAMIC CURRENT TRIP
FAULT LINE 1 ERROR
SCI ERROR
SPEED SENSOR ERROR

Press the ‘CLEAR’ key to exit the Speed Controller Errors test and return to the Speed Manual test.

DIAGNOSTICS: SYSTEM TEST – INCLINE AUTOMATIC MODE



Upon entry into this test the letters IA (incline automatic) will appear in the profile window. This test allows the user to test the lift motor and switches controlling the target incline. 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.

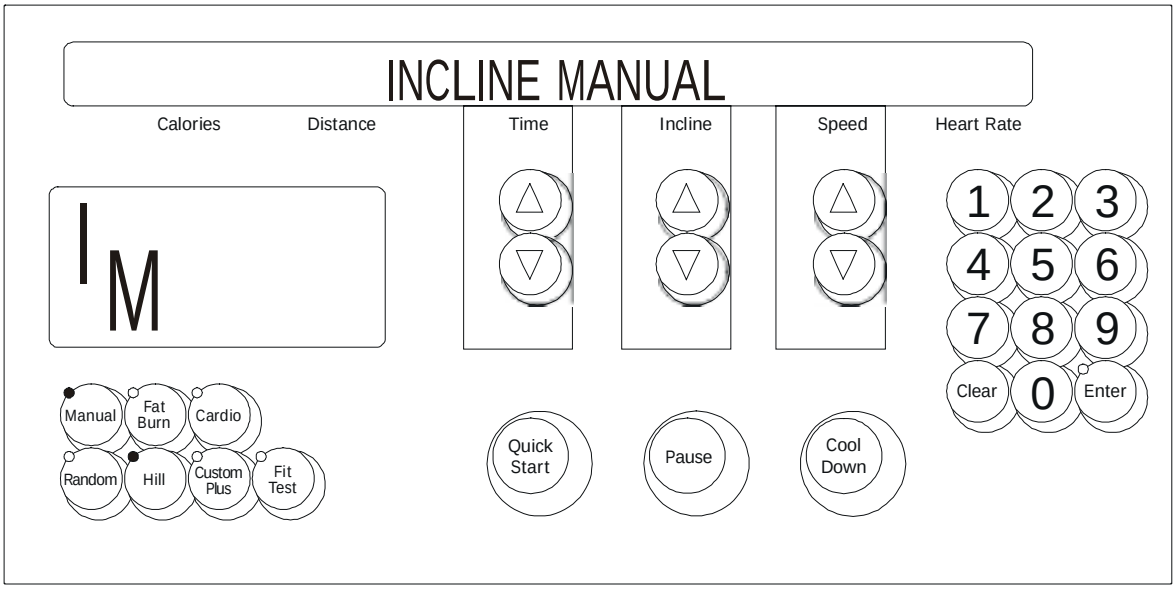
For non-decline units: The state of the level switch will be displayed in the profile window. A zero “0” displayed in the profile window shows the level switch in the closed position. As the unit is inclined the zero “0” displayed should disappear to indicate that the level switch is functioning.

For decline units: The state of the level switch will be displayed in the profile window. A zero “0” displayed in the profile window shows the level switch in the closed position. As the unit is inclined the zero “0” displayed should disappear to indicate that the level switch is functioning.

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 to exit the Incline Automatic test and return to the System Test Menu.
Press the ‘ENTER’ key to advance to the Incline Manual test.

DIAGNOSTICS: SYSTEM TEST – INCLINE MANUAL MODE



Upon entry into this test the letters IM (incline manual) will be in the profile window. This test allows the user to bypass the electromechanical switches that normally control the target incline. The user moves incline by pressing the incline arrow keys. The actual incline is calculated by the time count is shown in the actual portion of the message center. The state of the level and negative incline switches will be displayed in the profile window.

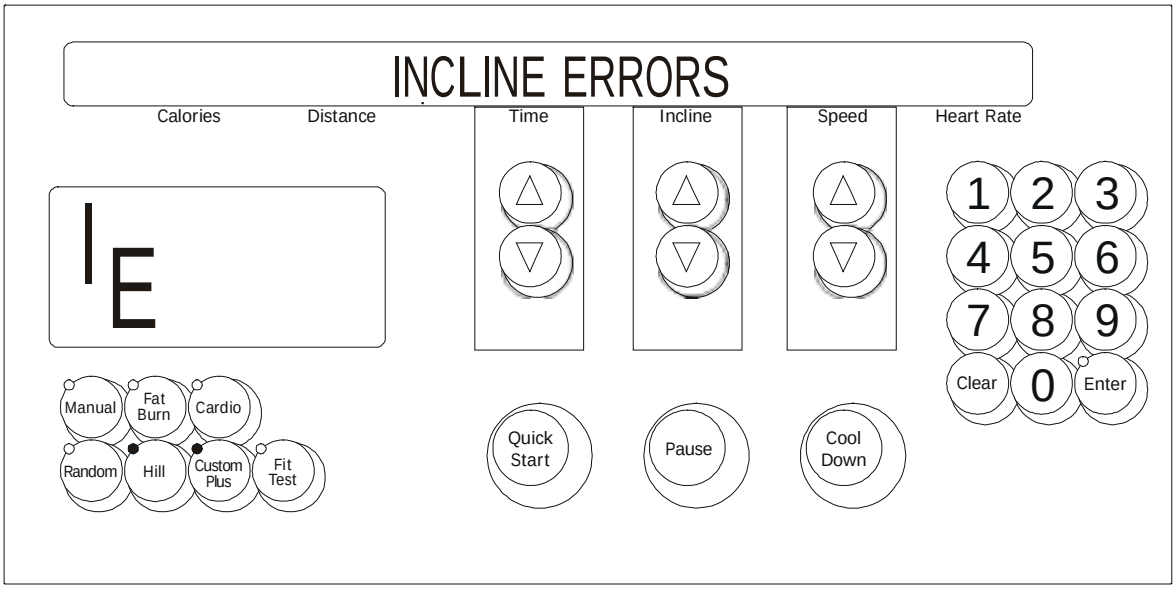
For non-decline units: The state of the level switch will be displayed in the profile window. A zero “0” displayed in the profile window shows the level switch in the closed position. As the unit is inclined the zero “0” displayed should disappear to indicate that the level switch is functioning.

For decline units: The state of the level and negative incline switches will be displayed in the profile window. A zero “0” displayed in the profile window shows the level switch in the closed position. As the unit is declined the zero “0” displayed should disappear and a “–4” should appear in the profile window. This verifies that the negative switch is functioning (the “–4” will only appear in incline manual mode).

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 show the incline information.

Press the ‘CLEAR’ 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.

DIAGNOSTICS: SYSTEM TEST – INCLINE ERROR MODE



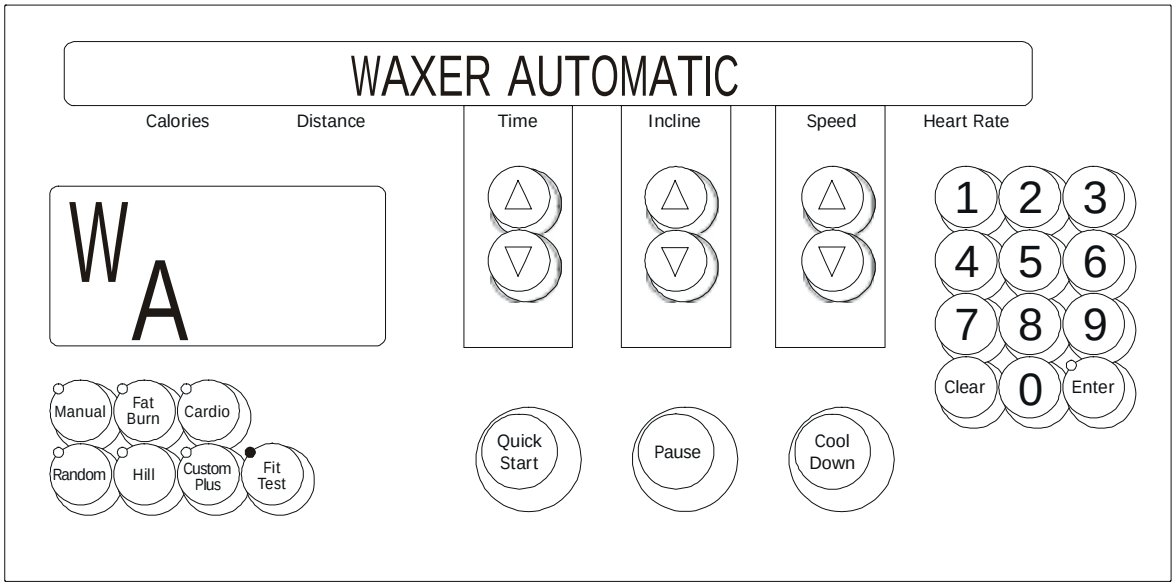
Upon entry into this test the letters IE (incline errors) will be in the profile window. This test allows seeing the current lift motor error conditions. The following is a list of the current lift motor error conditions. If an error is displayed, refer to the troubleshooting section for corrective action.

CURRENT LIFT MOTOR ERROR CONDITIONS

INCLINE TIMEOUT ERROR
HOME SWITCH ERROR
NEGATIVE SWITCH ERROR
NO AC POWER ERROR

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

DIAGNOSTICS: SYSTEM TEST – WAXER AUTOMATIC MODE



Upon entry into this test the letters WA (waxer automatic) will be in the profile window. This test allows the user to see information concerning the waxer motor. The waxer information will scroll automatically every 3 seconds.

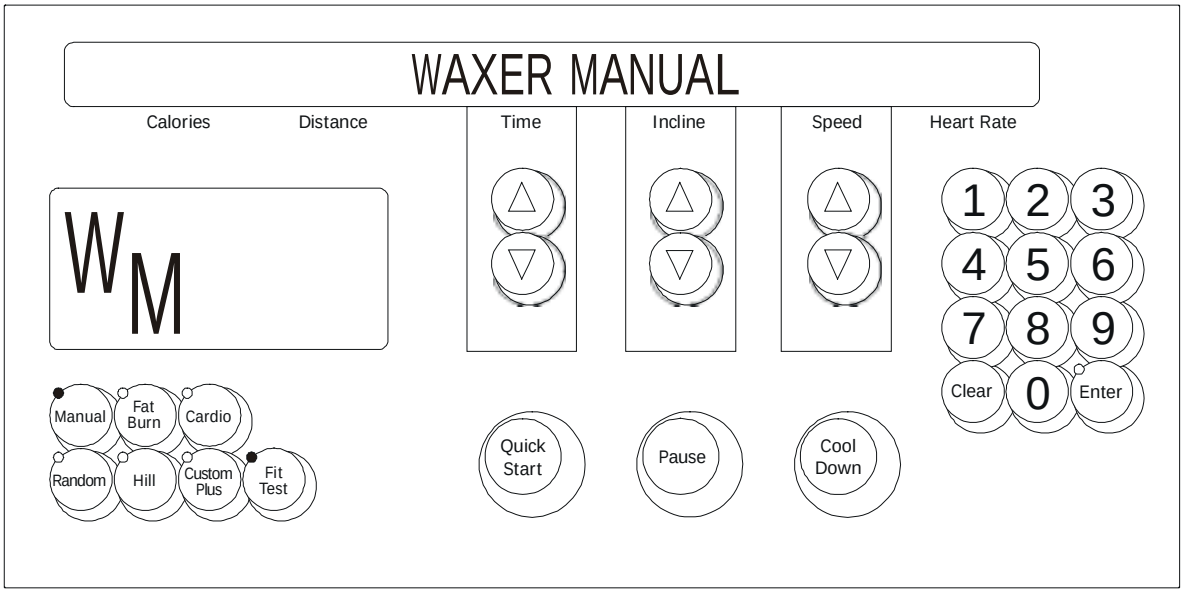
The following is a list of the current information that can be seen. The following is a list of the current information that is displayed. If an error is displayed, refer to the troubleshooting section for corrective action.

ERROR CONDITION	**DISPLAYED INFORMATION**
WAXER UNPLUGGED	WAXER FIRED – XXX WAXER - XX/100 FULL MANUAL WAX- XX TIMES NEXT WAX - XX HOURS 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 to exit the Waxer Automatic test and return to the System Test Menu.
Press the ‘ENTER’ key to advance to the Waxer Manual test.

DIAGNOSTICS: SYSTEM TEST – WAXER MANUAL MODE



Upon entry into this test the letters WM (waxer manual) will be in the profile window. This test allows the user to manually fire the waxer system. It allows the user to see information concerning the waxer motor as well. The waxer information will scroll automatically every 3 seconds.

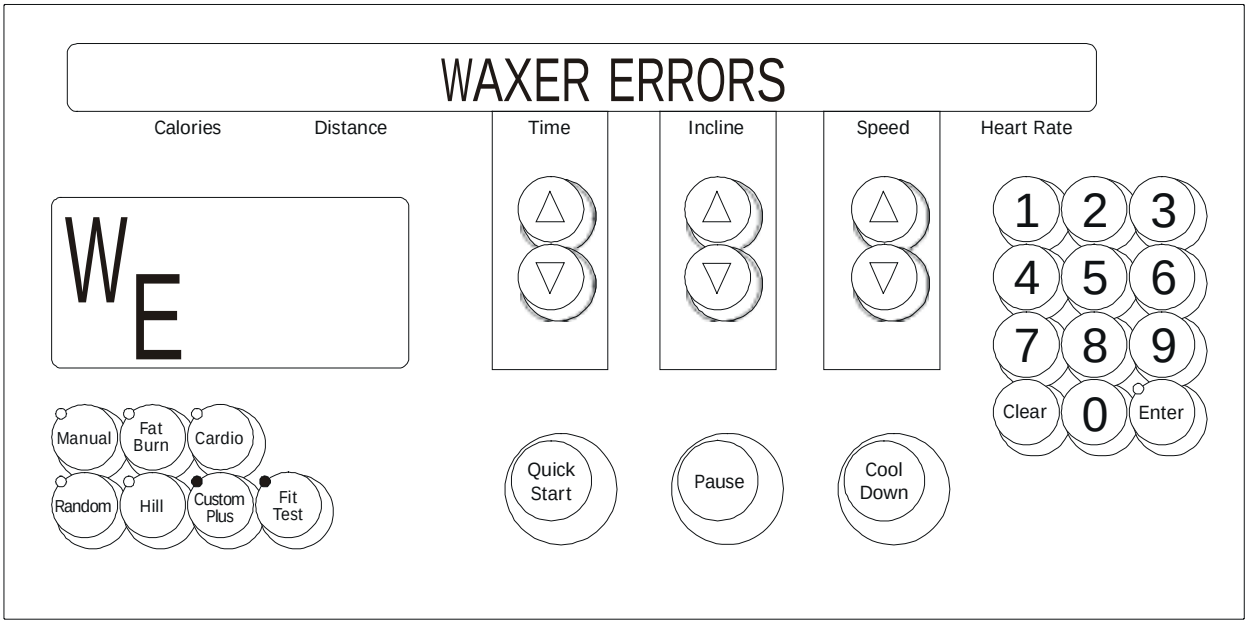
The following is a list of the current information that can be seen. If an error is display refer to the troubleshooting section for corrective action.

ERROR CONDITION	**DISPLAYED INFORMATION**	**WAXER FIRE TEST**
WAXER UNPLUGGED	WAXER FIRED – XXX WAXER - XX/100 FULL MANUAL WAX- XX TIMES NEXT WAX - XX HOURS INITIAL WAX- XX MINS WAX INTERVAL XX MINS MIN WAX SPEED- X.X	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 to exit the Waxer Manual test and return to the Waxer Automatic test.
Press the ‘ENTER’ key to advance to the Waxer Errors test.

DIAGNOSTICS: SYSTEM TEST – WAXER ERROR MODE



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

The following is a list of the current waxer motor error conditions. If an error has occurred, refer to your troubleshooting section for corrective action.

WAXER MOTOR ERROR CONDITIONS

WAXER UNPLUGGED
WAXER NO AC POWER

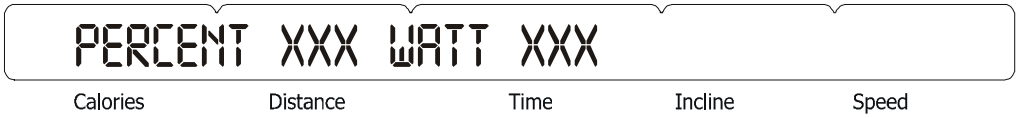
Press the ‘CLEAR’ key to exit the Waxer Errors test and return to the Waxer Manual test.

DIAGNOSTICS: SYSTEM TEST – BELT / DECK MODE

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

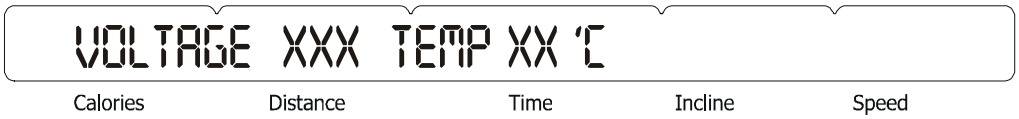
The following messages will scroll:

The initial information displayed will be:



Where **XXX** will indicate real values.
PERCENT is the percentage of available power. It will range from 0 to 100%.
WATT is the wattage measured by the motor controller to move the belt ranging from 340 to 1200 watts.

By pressing the '**COOL-DOWN**' key, the display will toggle to the information displayed below.



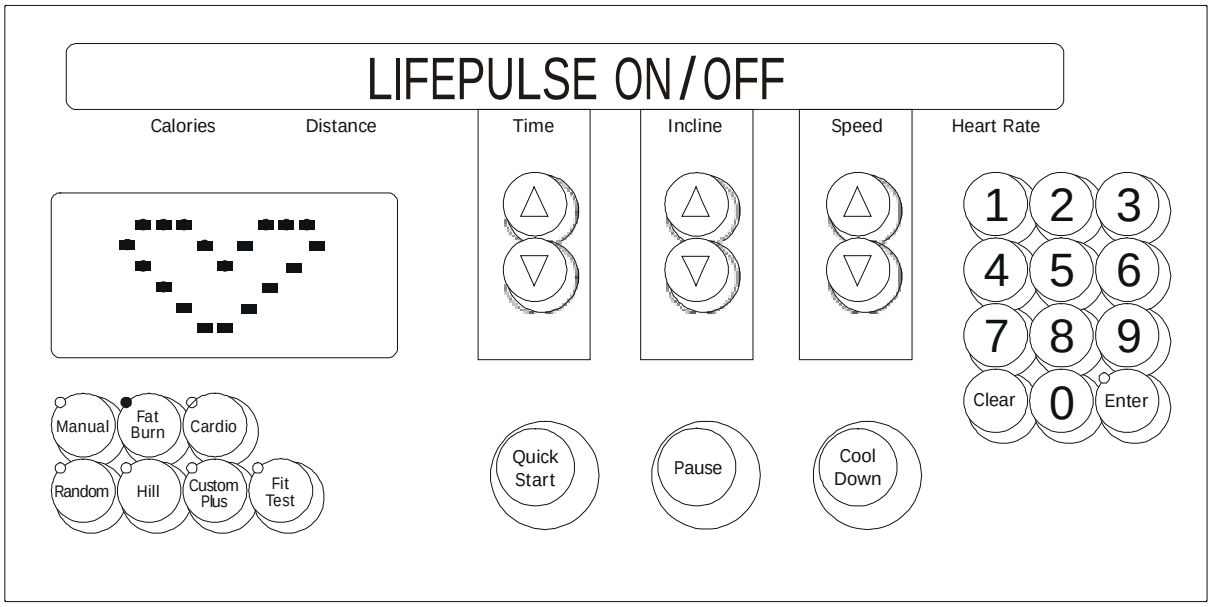
Where **XXX** will indicate real values.
VOLTAGE is the bus voltage of the motor controller. It is not the input line voltage.
TEMP is the temperature measure of the motor controller heat sink in Celsius.

The display will lock on the current information if the 'PAUSE' key is pressed.

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.

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

DIAGNOSTICS: SYSTEM TEST – LIFE PULSE MODE



Upon initial entry to this test, a message concerning the configuration of the lifepulse system being On or Off. This test will allow the user to test the lifepulse heart rate system.

Following this message, the lifepulse system can be manually tested. A heart will be 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.

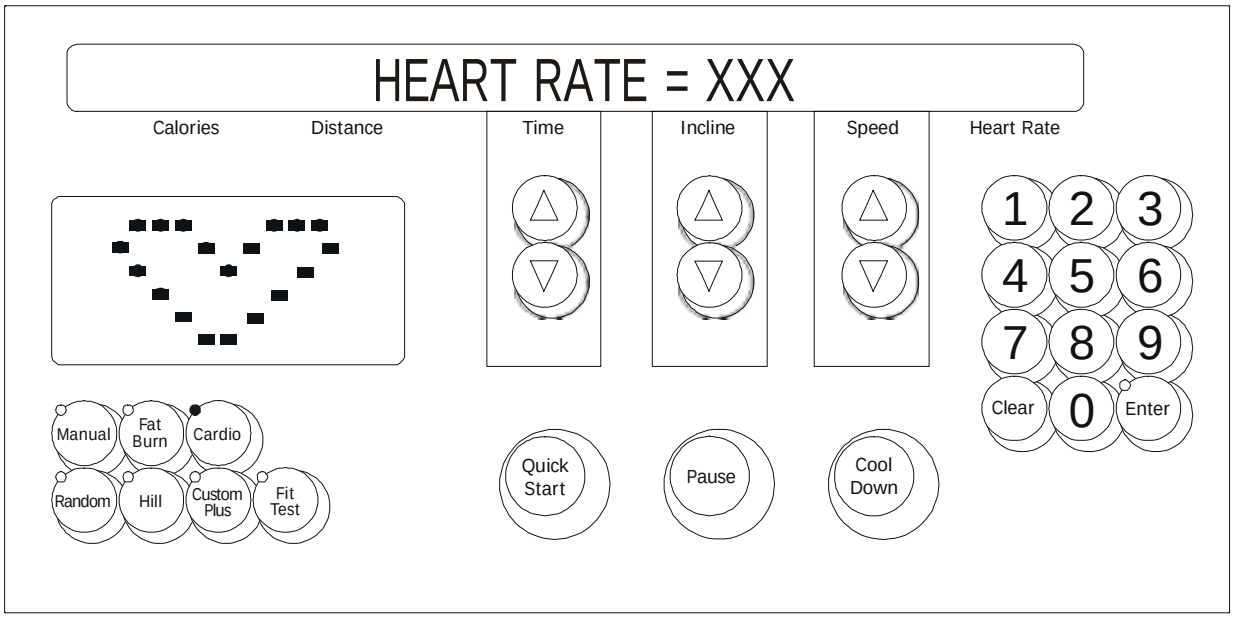
A timer will start counting from the time when a both left and right hands on condition occurs to when the lifepulse system can reliable give the user their heart rate. This timer will stop when the heart rate is given.

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 to exit the Lifepulse test and return to the System Test Menu.

DIAGNOSTICS: SYSTEM TEST – TELEMETRY MODE

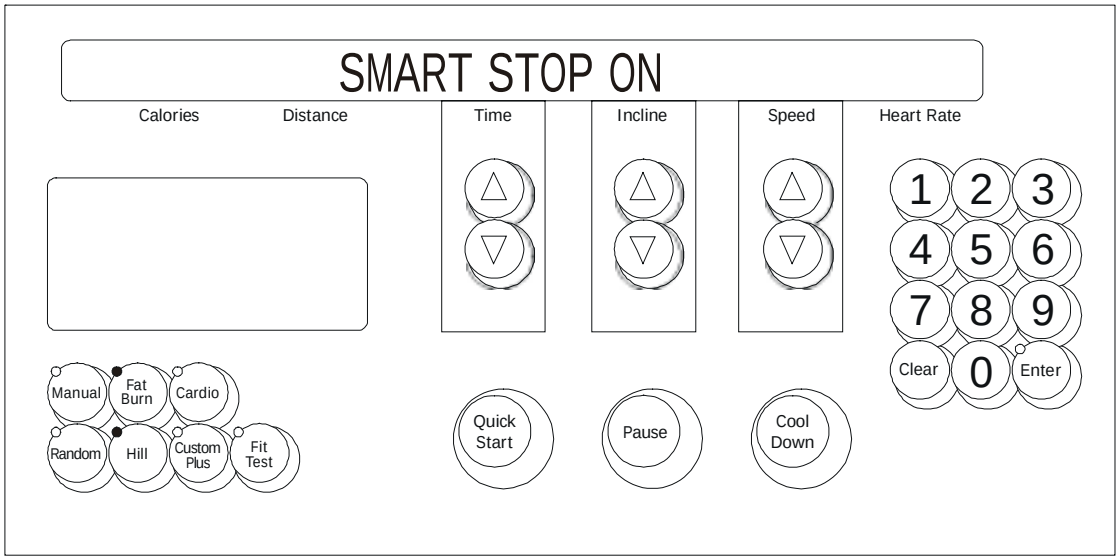


Upon initial entry to this test, a message concerning the telemetry system on/off will occur. This test will allow the user to test the telemetry heart rate system. If the telemetry heart rate system is OFF, no heart rate value will be given.

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 to exit the Telemetry Heart Rate test and return to the System Test Menu.

DIAGNOSTICS: SYSTEM TEST – SMART STOP MODE



Upon entry into the test, if the smart stop PCB is not plugged in, a message will be displayed “Smart Stop Unplugged”. This test will allow the user to test the Smart Stop System. If the smart stop system detects a user it will scroll the profile window from empty to full depending on the percentage of detection that is occurring. Other smart stop information will scroll automatically every 3 seconds.

The following is a list of the current information that can be seen. If an error has occurred, refer to the troubleshooting section for corrective action.

ERROR CONDITION	**DISPLAYED INFORMATION**
SMART STOP UNPLUGGED	SMART STOP ON SMART STOP OFF USER DETECTED USER NOT DETECTED SMART STOP ADJUST-XX

The smart stop system can be turned ON/OFF in this test. When the message “SMART STOP ON” is placed on the message center, an arrow key will toggle it to “SMART STOP OFF”.

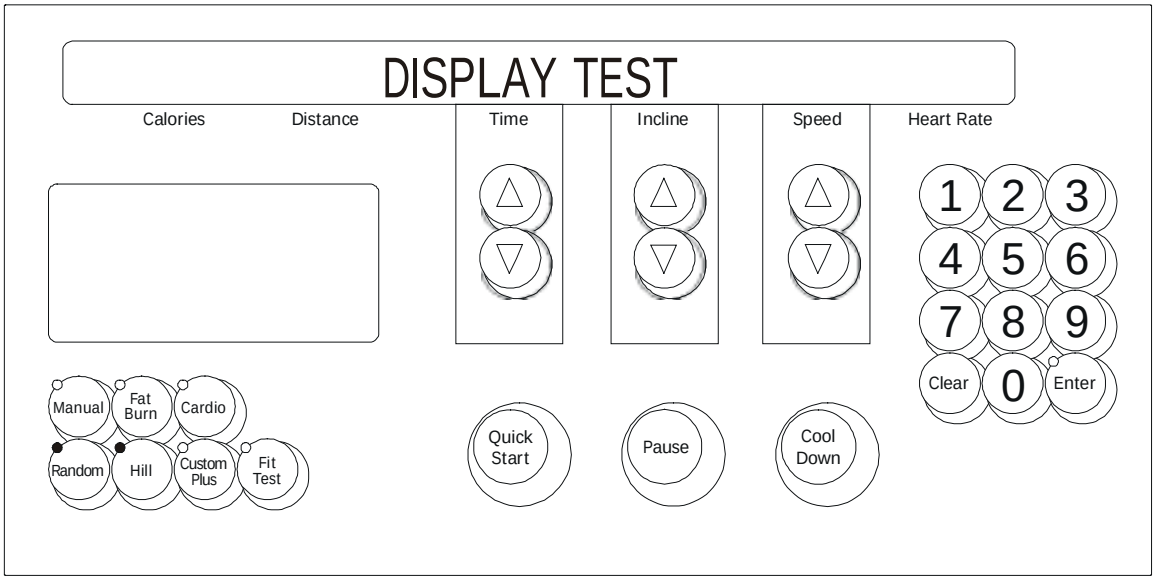
The display can be put into a locked mode by pressing the ‘PAUSE’ key. This will prohibit the scrolling of the smart stop information.

Pressing the ‘CLEAR’ key to exit the smart stop test and return to the System Test Menu.

DIAGNOSTICS: SYSTEM TEST – DIPLAY TEST MODE

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 is pressed, the sequence will halt and remain there until the 'PAUSE' is pressed again.

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



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

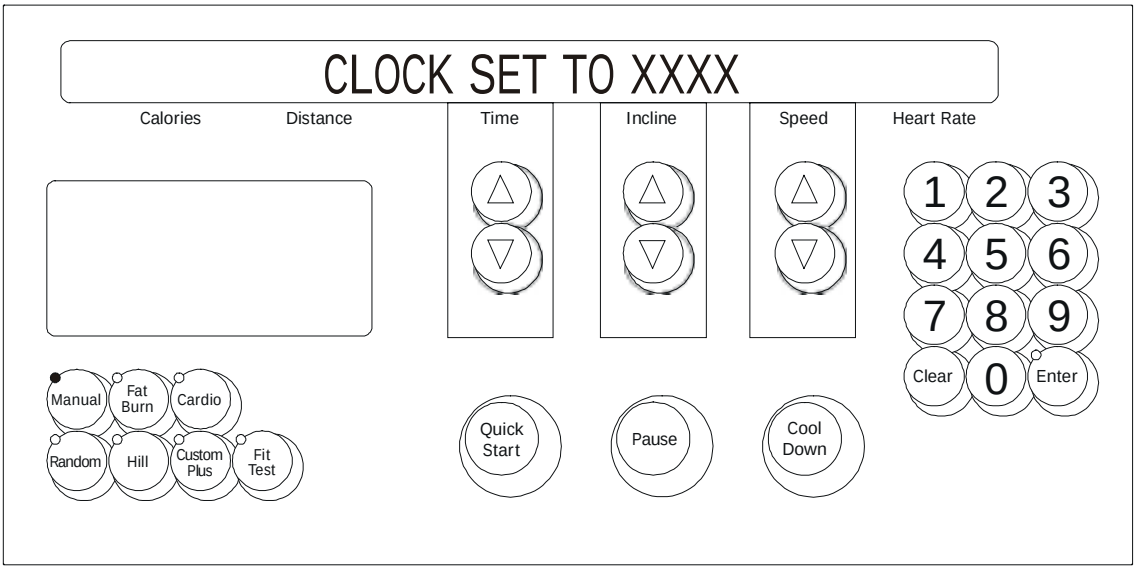
Pressing keys will result in a beep sound and, for all but the 'ENTER' and 'CLEAR' keys, a character will be repeated across the message center display.

KEYS	DISPLAYED CHARACTER	KEYS	DISPLAYED CHARACTER
0	'0'	FIT TEST	'L'
1	'1'	TIME UP	'N'
2	'2'	INCLINE UP	'P'
3	'3'	SPEED UP	'Q'
4	'4'	TIME DOWN	'R'
5	'5'	INCLINE DOWN	'T'
6	'6'	SPEED DOWN	'U'
7	'7'	QUICK	'V'
8	'8'	PAUSE	'W'
9	'9'	COOL DOWN	'X'
MANUAL	'C'	STOP	'Y'
FAT BURN	'D'	DOWN	'Z'
CARDIO	'E'	UP	'S'
RANDOM	'H'		
HILL	'J'		
CUSTOM	'K'		

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

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

DIAGNOSTICS: SYSTEM TEST – REAL TIME CLOCK MODE



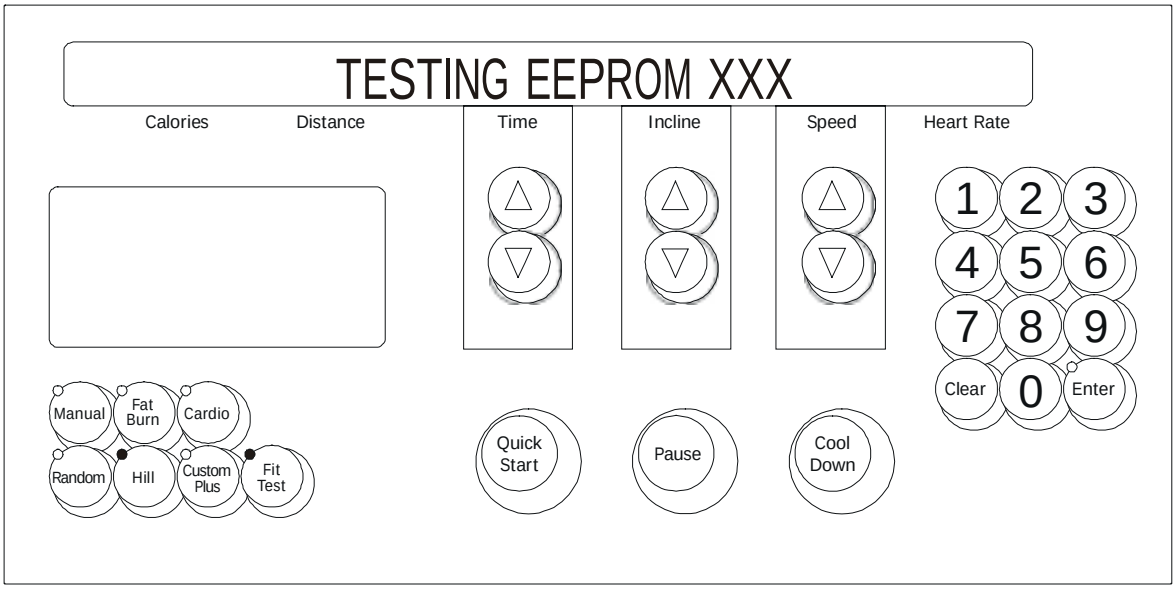
This test allows the user to see the current time set on the frame tag real time clock. If the communication is bad or the frame tag is unplugged the following messages will appear. Refer to the troubleshooting section for corrective action.

FRAME CLOCK COMM BAD
FRAME TAG UNPLUGGED

If there are no errors, a message concerning whether the clock is set the local time or default “Greenwich Mean Time”. Either message may appear:
“CLOCK SET TO LOCAL” or
“CLOCK SET TO GMT”

The message will be followed by the current real time clock information.
Press the ‘CLEAR’ key to exit the Frame Tag Real Time Clock test and return to the System Test Menu.

DIAGNOSTICS: SYSTEM TEST – FRAME TAG EEPROM MODE

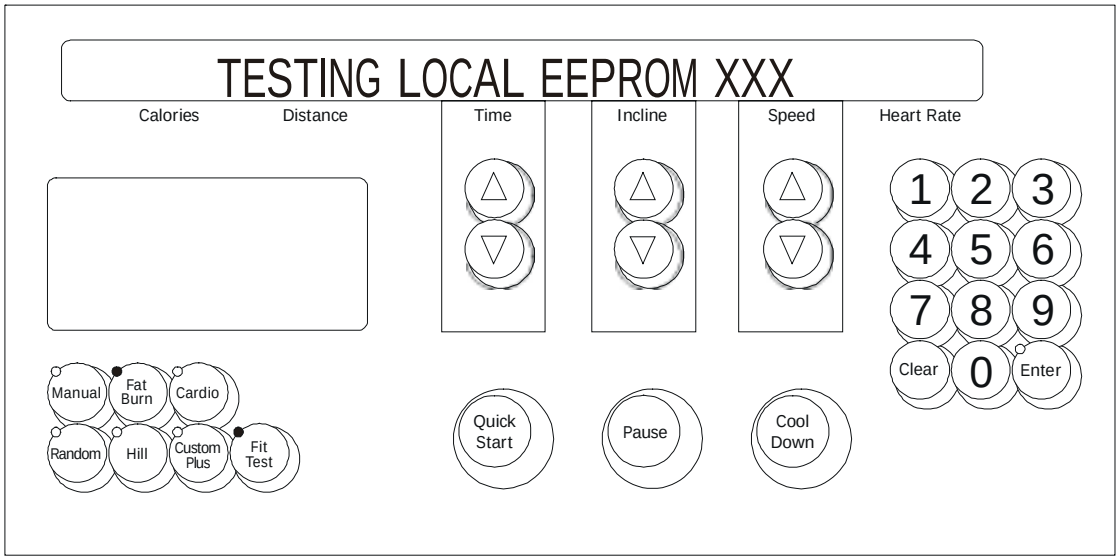


This test allows the user to test the frame tag EEPROM. This test will read/write/replace all used locations in the frame tag EEPROM. If there is an error, the bad location will be displayed. The following is a list of current information that can be seen. If an error has occurred, refer to the troubleshooting section for corrective action.

ERROR CONDITION	**DISPLAYED INFORMATION**
FRAME EEPROM COMM BAD	TESTING FRAME EEPROM
FRAME TAG UNPLUGGED	EEPROM TESTED GOOD
	EEPROM BAD AT XX

Press the ‘CLEAR’ key to exit the Frame TagEEPROM test and return to the System Test Menu.

DIAGNOSTICS: SYSTEM TEST – DISPLAY CONSOLE EEPROM TEST MODE



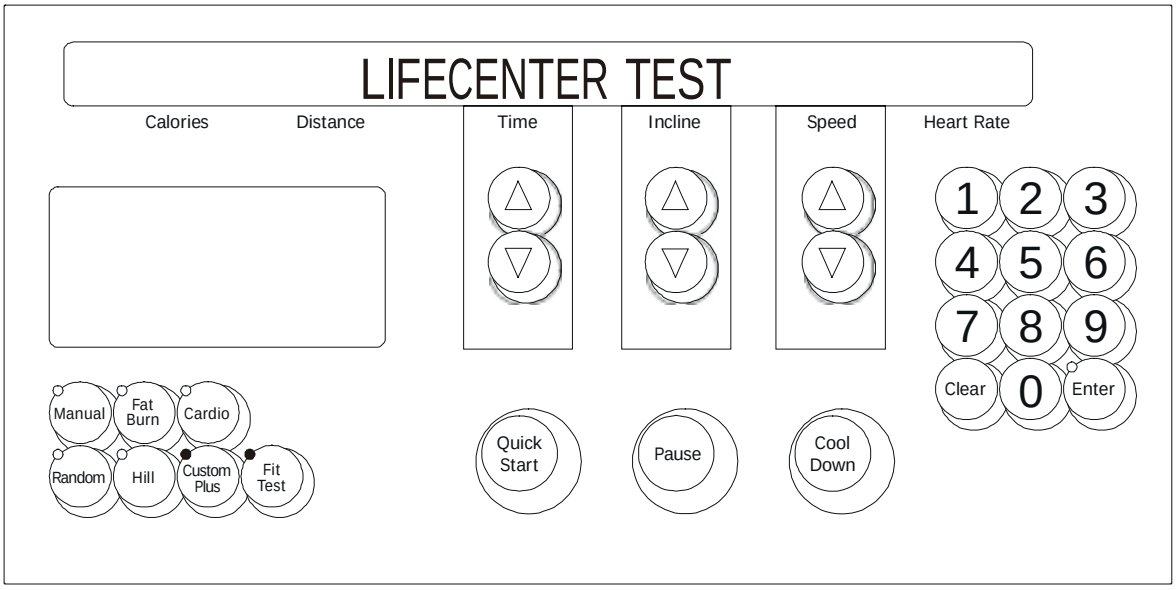
This test allows the user to test the display console EEPROM. This test will read/write/replace all used locations in the display console EEPROM. The EEPROM location being tested will be displayed in the heart rate window. If there is an error, the bad location will be displayed.

The following is a list of current information that can be seen. In an error has occurred, refer to the troubleshooting section for corrective action.

DISPLAYED INFORMATION	**ERROR CONDITION**
TESTING LOCAL EEPROM	EEPROM BAD AT XX
EEPROM TESTED GOOD	

Press the ‘CLEAR’ key to exit the Display Console EEPROM test and return to the System Test Menu.

DIAGNOSTICS: SYSTEM TEST – LIFECENTER TEST MODE



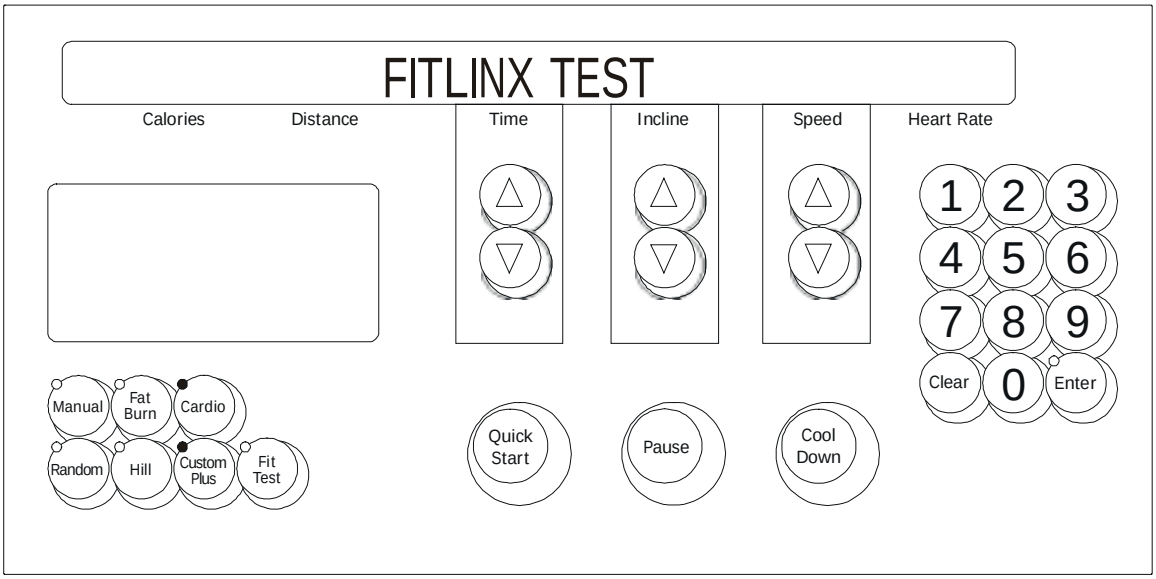
This test will give information concerning whether there is a lifecenter system connected to the treadmill. The following is a list of the current information that can be seen:

NONE
NULL - T-XX R-XX
OFF - T-XX R-XX
ON - T-XX R-XX
WAIT - T-XX R-XX

The “T-XX” is the last transmitted message to the lifelink card.
The “R-XX” is the last received message from the lifelink card.

Press the ‘CLEAR’ key to exit the Lifecenter test and return to the System Test Menu.

DIAGNOSTICS: SYSTEM TEST – FITLINXX TEST MODE



This test will give information concerning whether there is a Fitlinx system connected to the treadmill. The following is a list of the current information that can be seen:

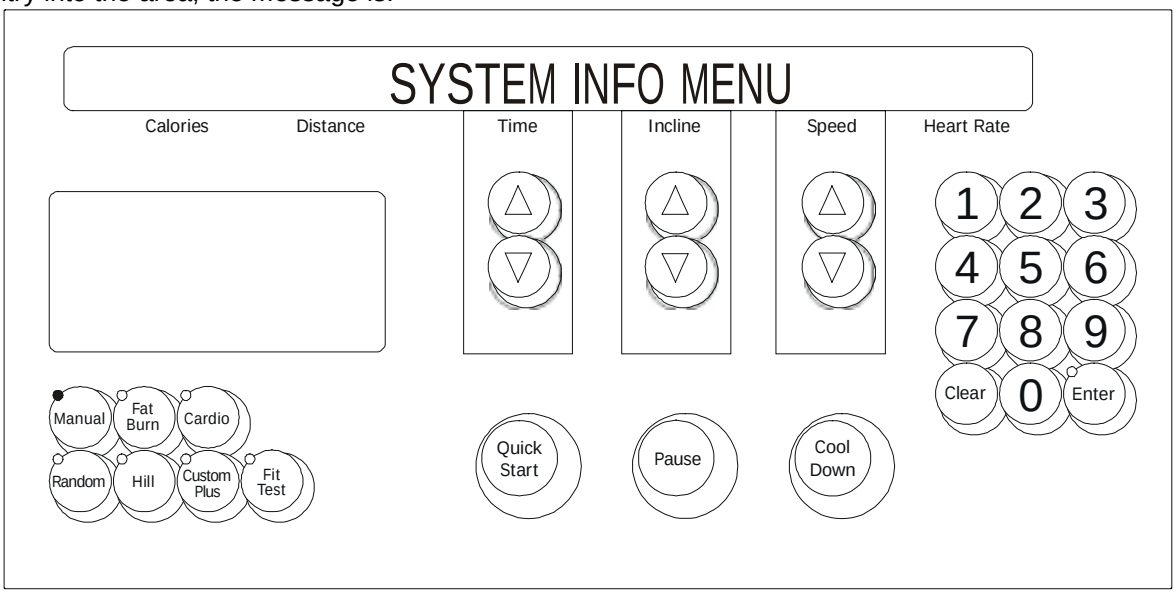
NONE
NULL - T-XX R-XX
OFF - T-XX R-XX
ON - T-XX R-XX
WAIT - T-XX R-XX

The “T-XX” is the last transmitted message to the C-safe card.
The “R-XX” is the last received message from the C-safe card.

Press the ‘CLEAR’ key to exit the Fitlinx test and return to the System Test Menu.

DIAGNOSTICS: INFORMATION MENU

Upon entry into the area, the message is:



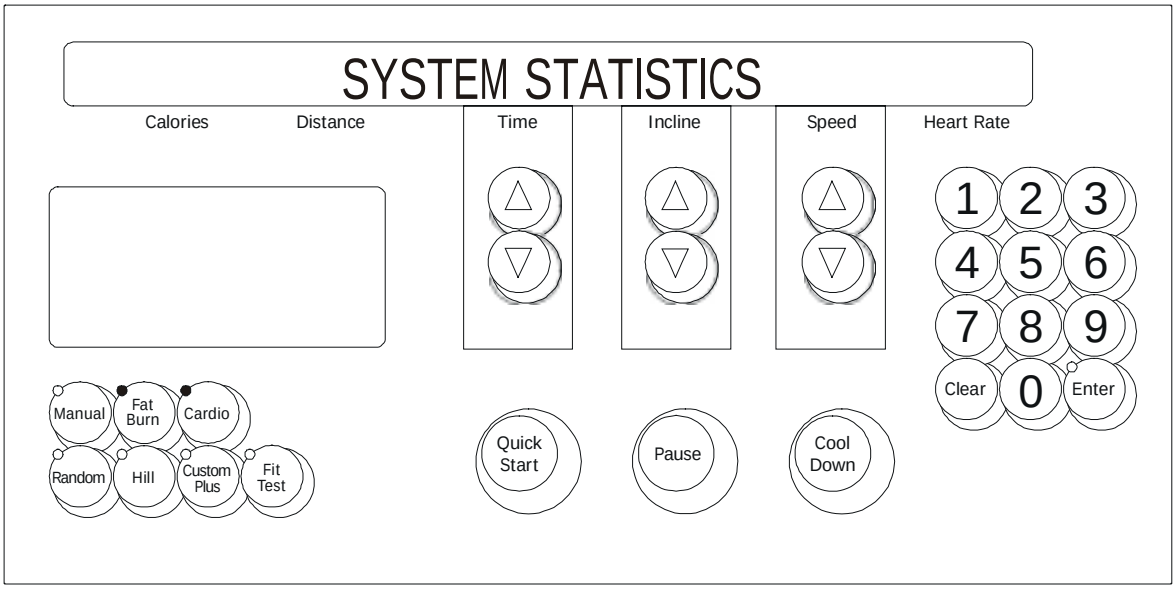
Followed by,

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

SYSTEM STATISTICS
SOFTWARE VERSIONS
MAIN MOTOR INFORMATION
LIFT MOTOR INFORMATION
WAX MOTOR INFORMATION
REAL TIME CLOCK INFORMATION
SYSTEM ERRORS
SYSTEM MAINTENANCE

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

DIAGNOSTICS: INFORMATION – SYSTEM STATISTICS MODE



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

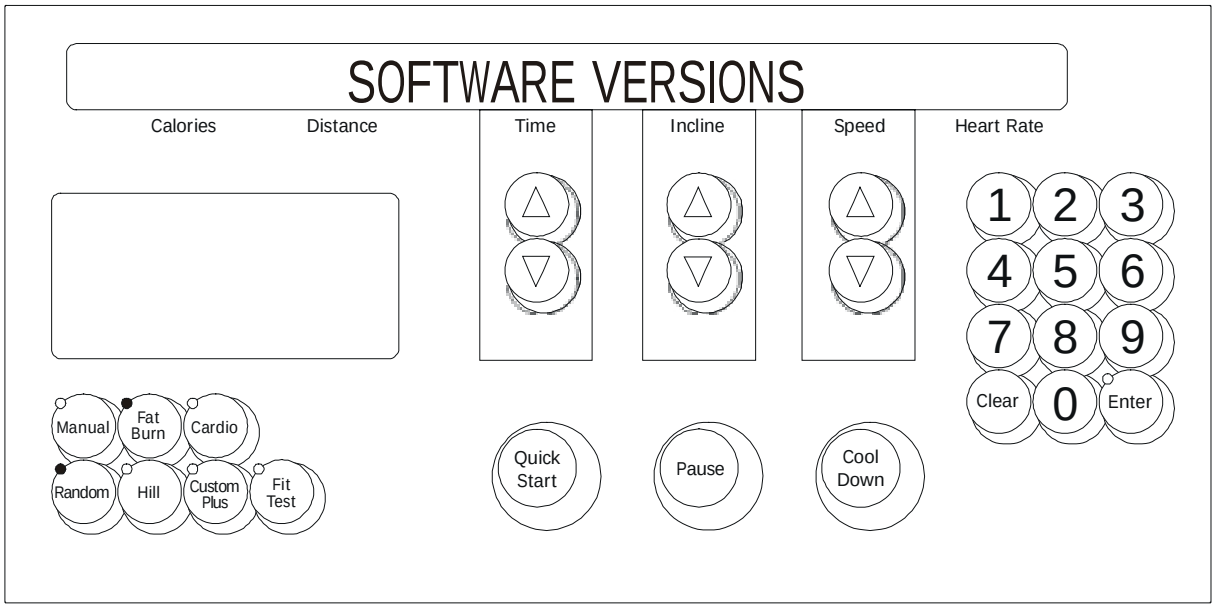
DISPLAYED INFORMTION

TOTAL HOURS
TOTAL MILES
BELT HOURS
BELT MILES
LIFT MINUTES
HILL PROGRAM SELECTIONS
RANDOM PROGRAM SELECTIONS
MANUAL PROGRAM SELECTIONS
FAT BURN PROGRAM SELECTIONS
CARDIO PROGRAM SELECTIONS
FIT TEST PROGRAM SELECTIONS
QUICK START PROGRAM SELECTIONS
CUSTOM PROGRAM SELECTIONS

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

DIAGNOSTICS: INFORMATION – SOFTWARE VERSION MODE



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

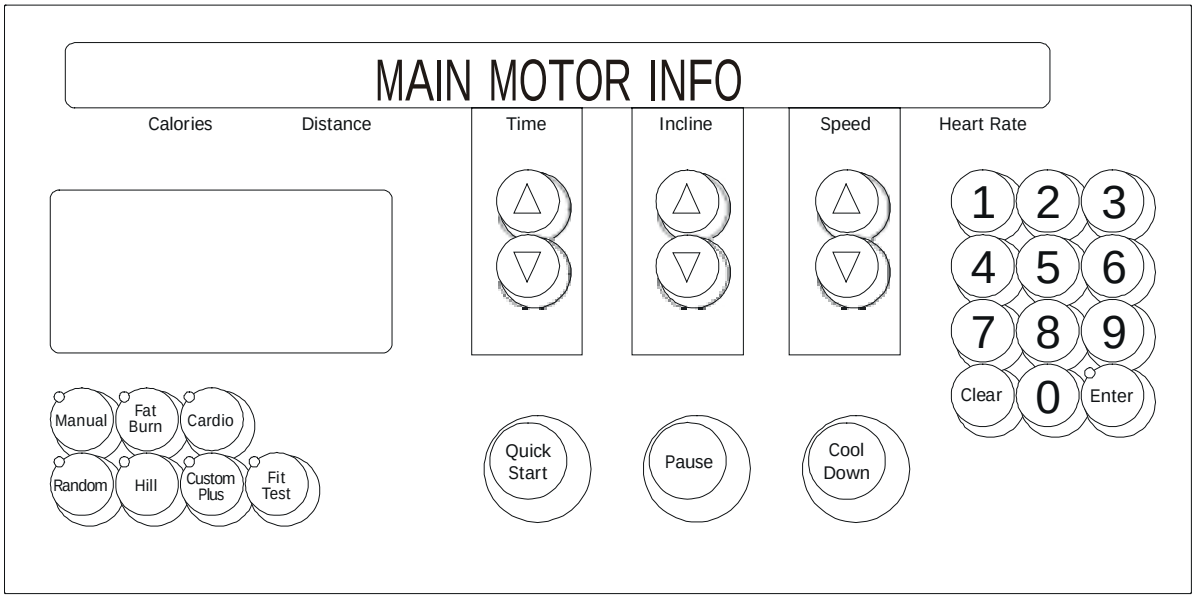
DISPLAYED INFORMATION

CONSOLE SOFTWARE VERSION
MOTOR CONTROLLER SOFTWARE VERSION
WAX/LIFT BOARD SOFTWARE VERSION
LIFEPULSE SOFTWARE VERSION

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 to exit the Software Versions and return to the System Info Menu.

DIAGNOSTICS: INFORMATION – MAIN MOTOR INFO MODE



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

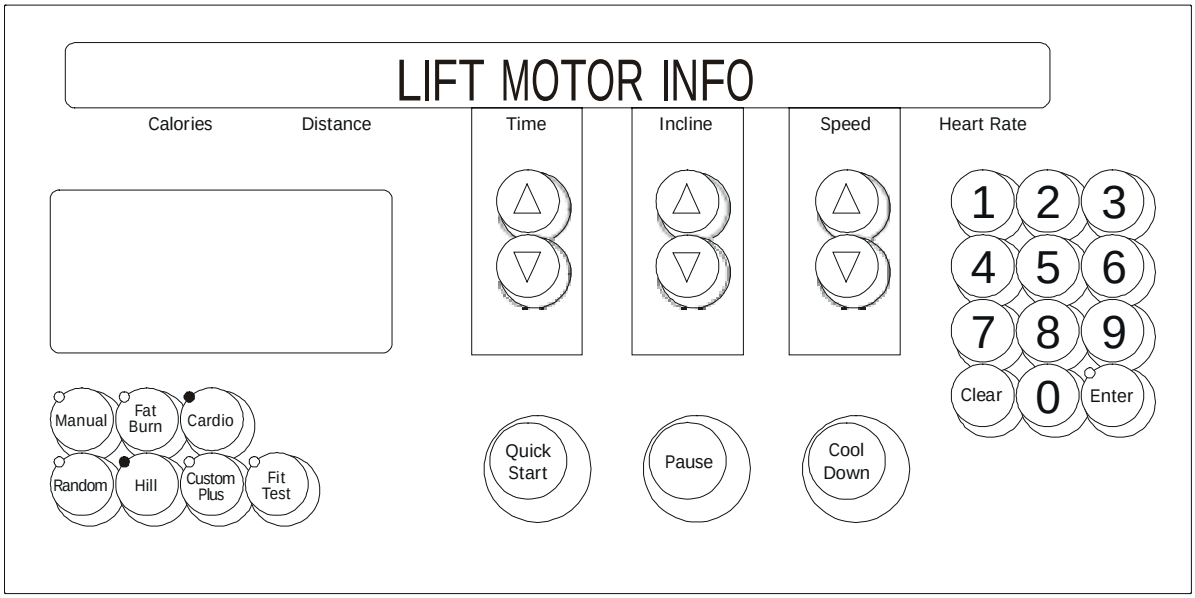
DISPLAYED INFORMATION

MOTOR MINUTES
NUMBER OF POWER UP RESETS
NUMBER OF HARDWARE CURRENT ERRORS
NUMBER OF STATIC CURRENT TRIP
NUMBER OF MAX TEMPERATURE TRIP
NUMBER OF MAXIMUM VOLTAGE TRIP
NUMBER OF DYNAMIC CURRENT TRIP
MAXIMUM STATIC CURRENT VALUE
MAXIMUM TEMPERATURE VALUE
MAXIMUM VOLTAGE VALUE
MAXIMUM DYNAMIC CURRENT VALUE
NUMBER OF SPEED SENSOR ERROR

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

Pressing the ‘PAUSE’ key can LOCK the display. This will prohibit the scrolling of the information.
Press the ‘CLEAR’ key to exit the Main Motor Info and return to the System Info Menu.

DIAGNOSTICS: INFORMATION – LIFT MOTOR INFO MODE



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

DISPLAYED INFORAMTION

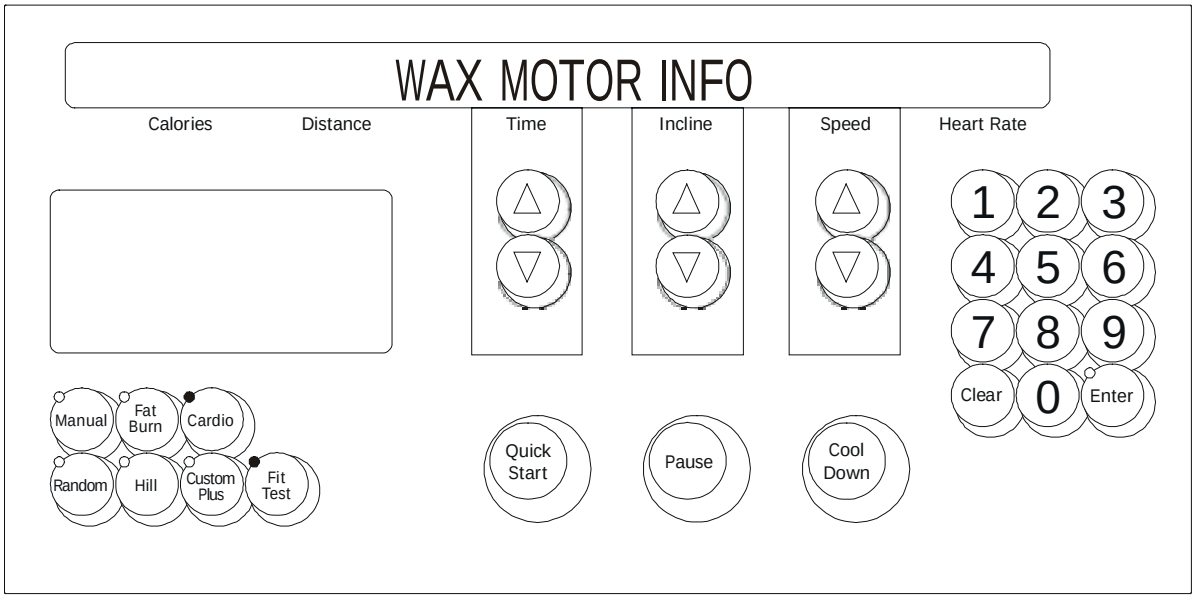
1. UNIT CONFIGURATION – NEGATIVE OR NON-NEGATIVE
2. CURRENT LIFT ON TIME IN MINUTES
3. BUCKET (Refer to table)

BUCKET - INCLINE AT PERCENTAGE OF RANGE				
BUCKET 0	-3.0 TO -2.1 PERCENT		BUCKET 10	7.0 TO 6.1 PERCENT
BUCKET 1	-2.0 TO - 1.1 PERCENT		BUCKET 11	8.0 TO 7.1 PERCENT
BUCKET 2	-1.0 TO –0.1 PERCENT		BUCKET 12	9.0 TO 8.1 PERCENT
BUCKET 3	0.0 PERCENT		BUCKET 13	10.0 TO 9.1 PERCENT
BUCKET 4	1.0 TO 0.1 PERCENT		BUCKET 14	11.0 TO 10.1 PERCENT
BUCKET 5	2.0 TO 1.1 PERCENT		BUCKET 15	12.0 TO 11.1 PERCENT
BUCKET 6	3.0 TO 2.1 PERCENT		BUCKET 16	13.0 TO 12.1 PERCENT
BUCKET 7	4.0 TO 3.1 PERCENT		BUCKET 17	14.0 TO 13.1 PERCENT
BUCKET 8	5.0 TO 4.1 PERCENT		BUCKET 18	15.0 TO 14.1 PERCENT
BUCKET 9	6.0 TO 5.1 PERCENT			

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 can LOCK the display. This will prohibit the scrolling of the information.
Press the ‘CLEAR’ key to exit the Wax Motor Info and return to the System Info Menu.

DIAGNOSTICS: INFORMATION – WAX MOTOR INFO MODE



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

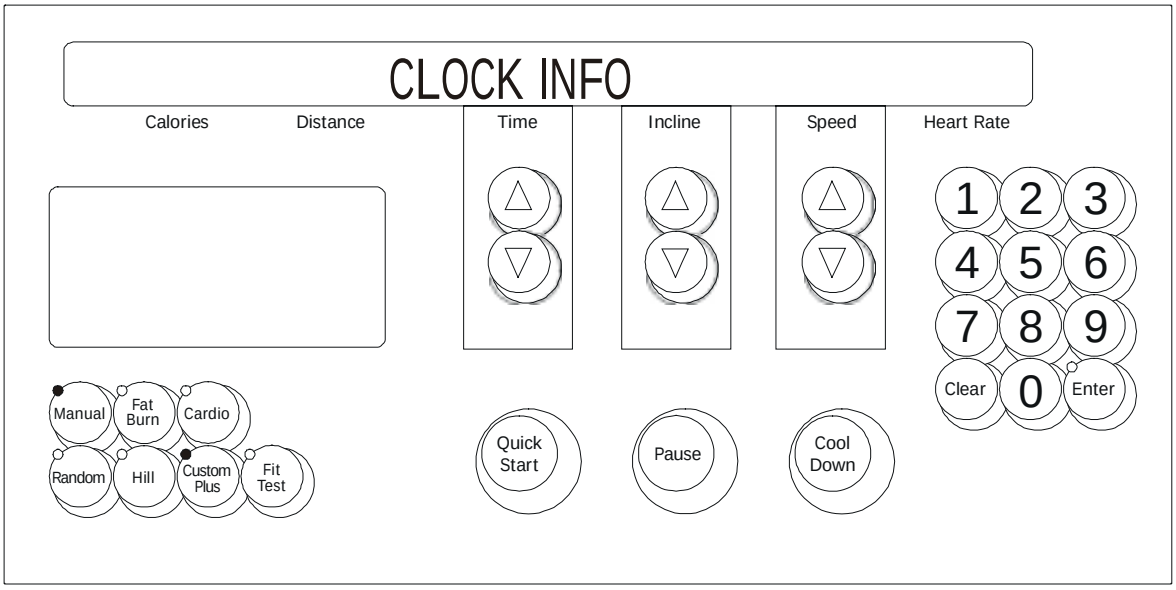
DISPLAYED INFORMATION

WAXER UNPLUGGED
WAXER FIRED – XXX
WAXER - XX/100 FULL
MANUAL WAX- XX TIMES
NEXT WAX - XX HOURS
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 can LOCK the display. This will prohibit the scrolling of the information.
Press the 'CLEAR' key to exit the Wax Motor Info and return to the System Info Menu.

DIAGNOSTICS: INFORMATION – CLOCK INFO MODE



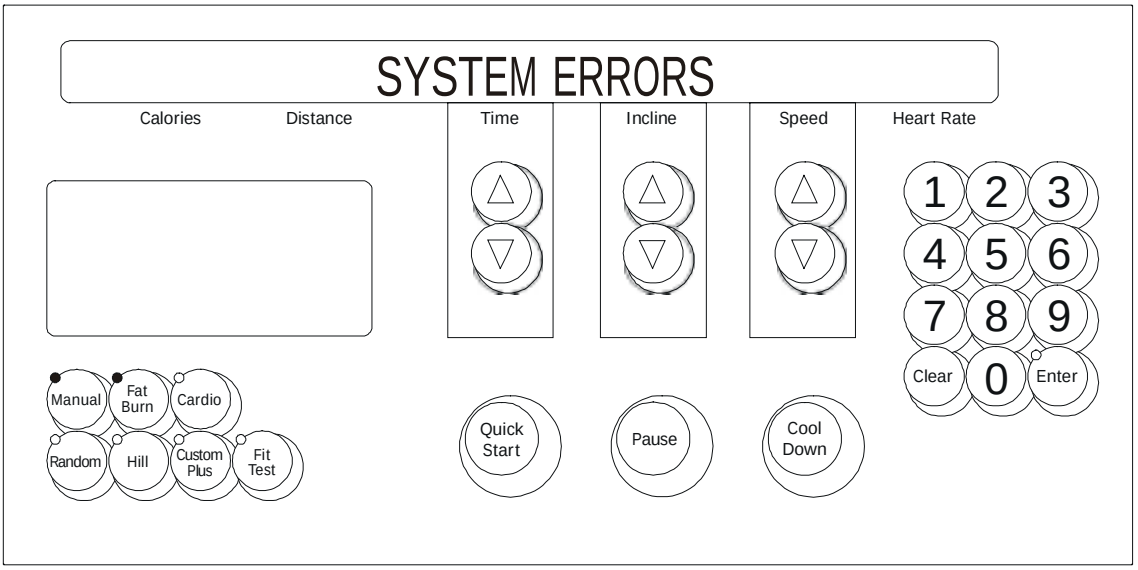
This area will allow the user to see the current information about the real time clock. The information will cover the following areas:

DISPLAYED INFORMATION

FRAME CLOCK COMM BAD
FRAME TAG UNPLUGGED
CURRENT SETTING FOR REAL TIME CLOCK

Press the ‘CLEAR’ key to exit the Real Time Clock Info and return to the System Info Menu.

DIAGNOSTICS: INFORMATION – SYSTEM ERROR MODE



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.

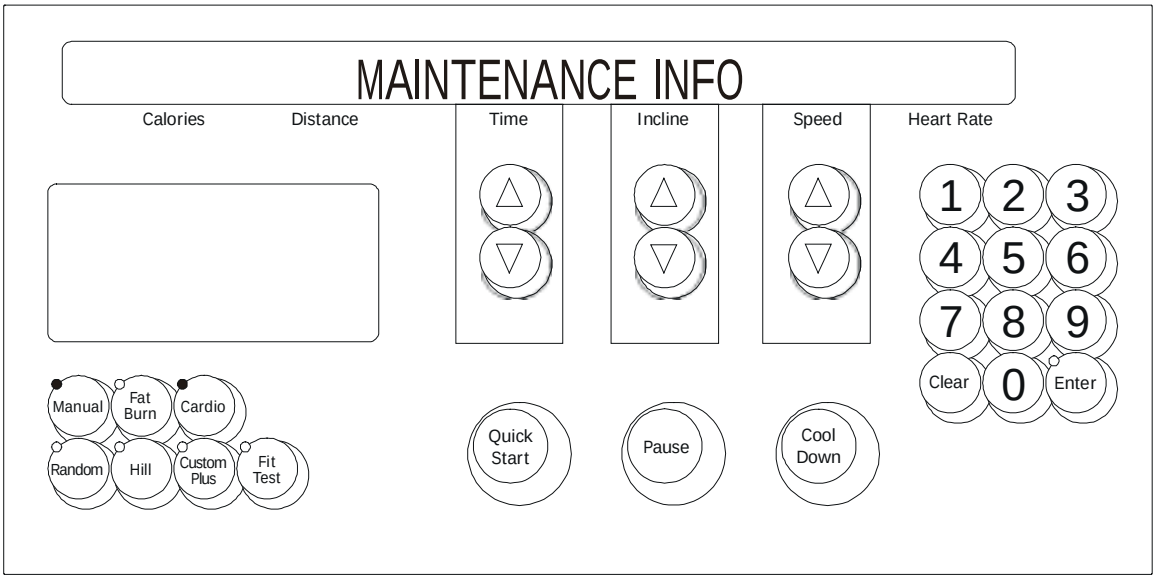
This format allows the user to scroll through all logged system errors without seeing any error details. The system errors will be scrolled automatically every 3 seconds or can be scrolled by using any of the arrow keys.

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.

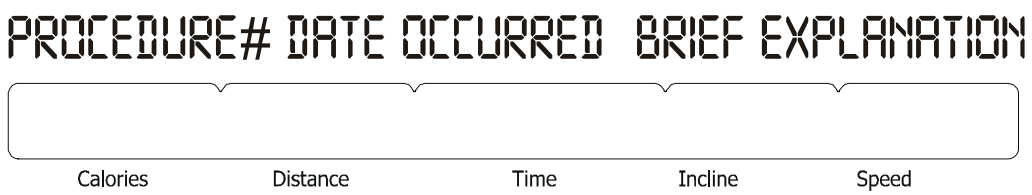
When the 'ENTER' key is pressed, all of the error log details will begin to display. These error details will scroll automatically every 3 seconds or can be scrolled by using any of the arrow keys.

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

DIAGNOSTICS: INFORMATION – MAINTENANCE INFO MODE



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.



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.

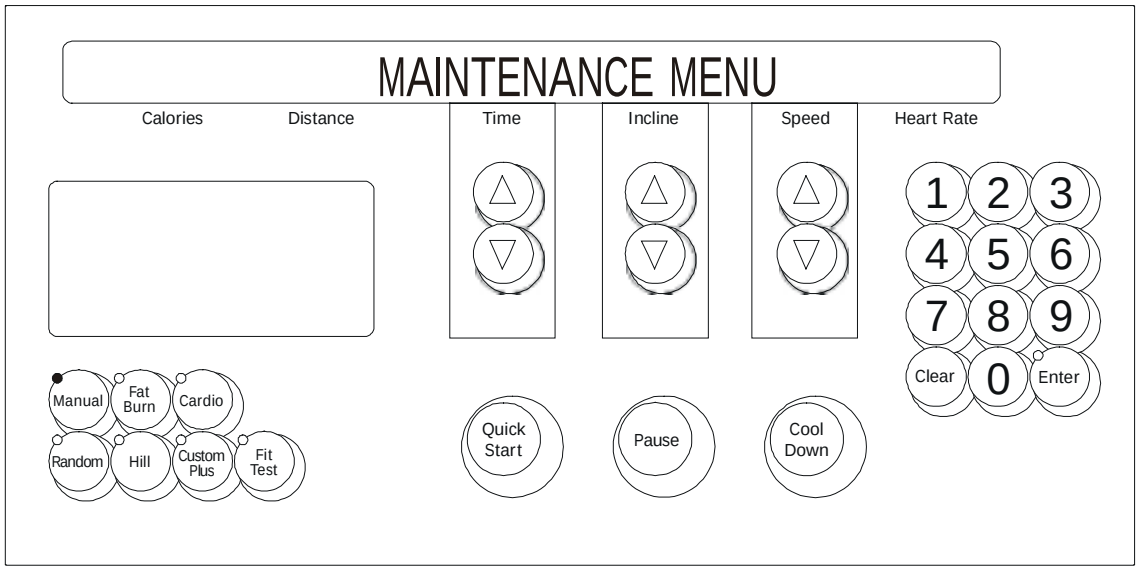
If the user wants to see the details about a repair procedure, the user must press the 'ENTER' key when the repair title is displayed on the message center.

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 'ENTER' key to view system repair procedure. Detail repair log as needed.
Press the 'CLEAR' key to exit the System Repair and return to the System Info Menu.

DIAGNOSTICS: MAINTENANCE MENU

Upon entry into the area, the message is:



Followed by,

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

REPLACING BELT AND DECK
REPLACING WAXER BAG
REPLACING CONSOLE
REPLACING MOTOR CONTROLLER
REPLACING WAX LIFT BOARD
REPLACING STOP SWITCH
REPLACING OVERLAY BEZEL
REPLACING MAIN MOTOR
REPLACING LIFT MOTOR
REPLACING WAX MOTOR

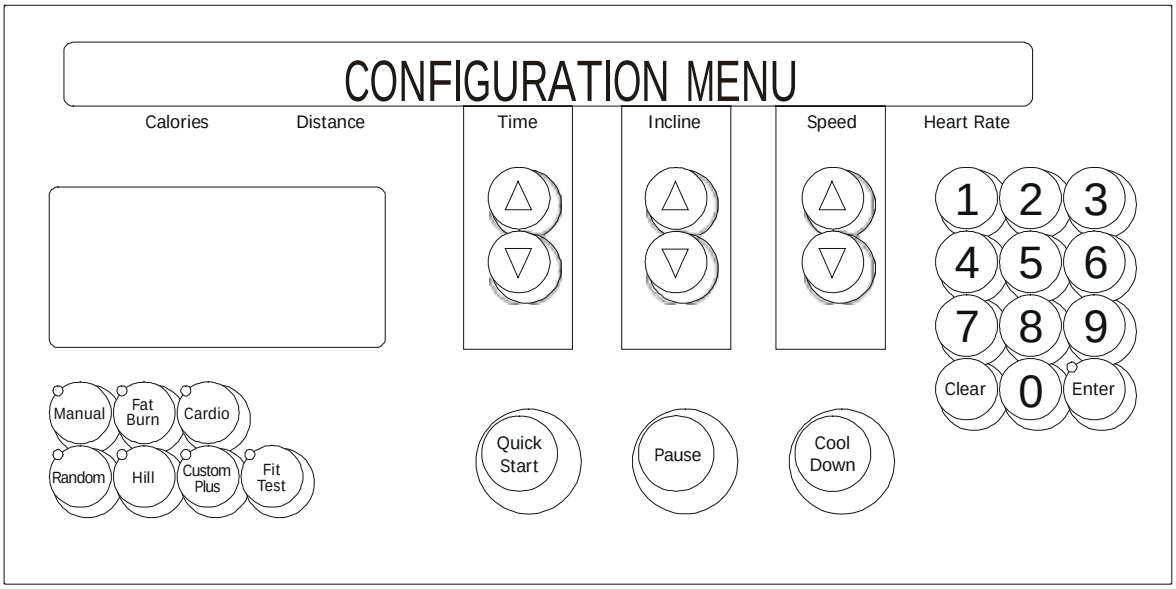
Press the ‘ENTER’ key to choose the desire procedure.

Upon the selection of the desired procedure, the system will gather all-important information concerning that procedure and log the procedure and details to the frame tag EEPROM. Upon successful completion of the log, the message “REPAIR LOGGED” will be displayed.

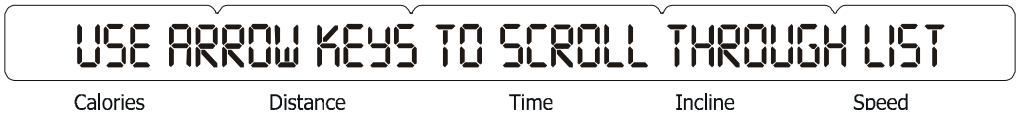
Press the ‘CLEAR’ key to exit the System Maintenance and return to the Service Menu.

DIAGNOSTICS: CONFIGURATION MENU

Upon entry into the area, the message is:



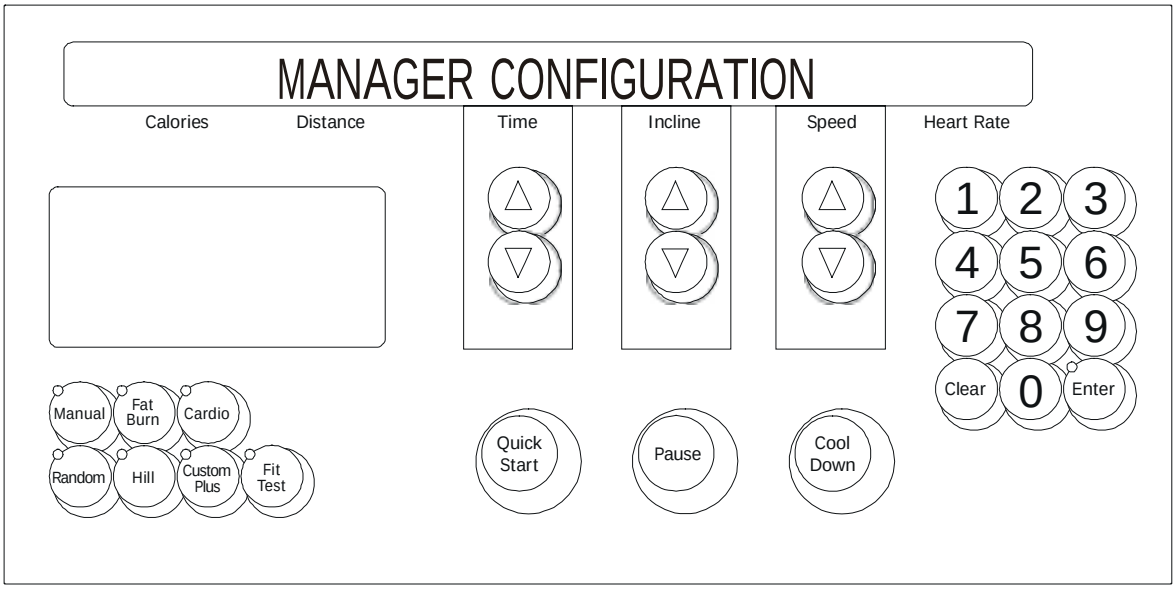
Followed by,



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

MANAGER CONFIG
MANUFACTURE CONFIG
CLOCK CONFIG

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



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 to change the value.

DIAGNOSTICS: CONFIGURATION - MANAGER CONFIGURATION MODE (Continued)

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

TOPIC	DESCRIPTION
LANGUAGE = XXXXX	Eight different languages can be selected: English, Dutch, Italian and Portuguese, German, French, Japanese, and Spanish.
MAXIMUM PROGRAM TIME	The maximum duration of a workout. The range of this option is 10 to 99 minutes.
ENGLISH/METRIC UNITS	The units of measure used by the equipment (i.e. miles or kilometers, pounds or kilograms).
CUSTOM WORKOUT ENTRY	The trainer can define up to 6 different workouts consisting of a series of intervals (up to 30), of a fixed duration in seconds, each containing a pre-defined incline, target heart rate percentage, or speed.
TELEMETRY ON/OFF	Telemetry allows the product to use the Polar® compatible Heart Rate Zone Training exercise chest strap to monitor the heart rate.
SMART STOP ON/OFF	Controls user detection mode.
MAXIMUM SPEED	Highest speed available to the user is 12 MPH, optional 15 MPH TR9700 models.
MINIMUM SPEED	Lowest speed available to the user is .5 MPH.
PAUSE TIMEOUT DURATION	Number of minutes user can pause a workout.
WATTS DISPLAY ON/OFF	The expression of the rate of work (power output/power consumption) for a device, such as a cardiovascular machine.
METS DISPLAY ON/OFF	The expression of the rate of work (power output) for the human body at rest, or a metabolic equivalent. One MET is approximately equal to a person's metabolism when seated and relaxed.
PACE DISPLAY ON/OFF	
CALORIE PER HOUR DISPLAY ON/OFF	It is a measurement of work to express the amount of energy expended (used) in physical activity (also expressed in terms of kcal; 1000 cal = 1 kcal).
DISTANCE DISPLAY ON/OFF	Expersion of the amount of distance travel in a numerical value.
WAX REMINDER ON/OFF	After the first 100 hours, then every 168 hours, message will appear "Maintenance Reminder - Clean the nozzle".
ACCEL RATE 3	Rate of acceleration to user-chosen speed, range 1 to 5 (fastest).
DECCEL RATE 3	Rate of deceleration to user-chosen speed, range 1 to 5 (fastest).

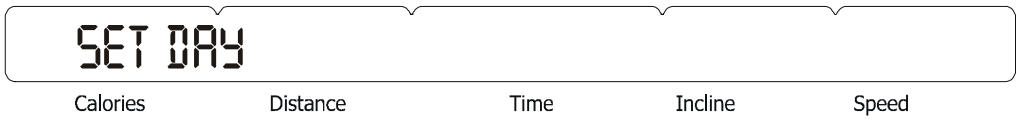
Pressing the 'PAUSE' key can LOCK the display. This will prohibit the scrolling of the information.
All changed items will be saved to the memory upon exiting of the manager's configuration.
Press the 'CLEAR' key to exit the Manager's Config and return to the Configuration Menu.

The following message is for factory use only.

DIAGNOSTICS: CONFIGURATION – CLOCK CONFIGURATION MODE

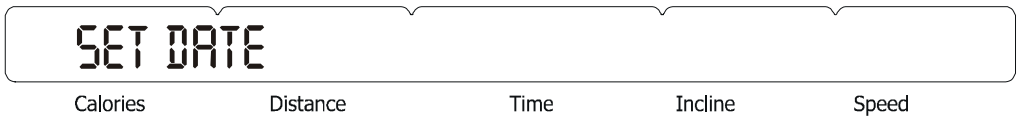
To view the information in this area, a special password must be entered to go into the configuration area. Hold the 'PAUSE' key and hit the 'ENTER' key to proceed.

This area will allow the user to set the clock configuration in the system. The information can be obtained by using the 'ENTER' key to scroll the day, date, and time.



In this area, the user will be prompted to set the current day for the real time clock. The following is the message that will appear: "USE ARROW KEYS TO CHANGE DAY"

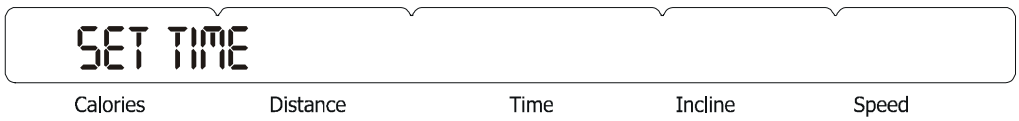
By pressing any of the arrow keys the user will set the current day for the real time clock.
Press the 'CLEAR' key to exit and save data. It will return to the Clock Configuration Menu.



In this area, the user will be asked to set the current date for the real time clock. The following message will appear:

"ARROW KEYS TO CHANGE": "TIME KEYS = MONTH", "INCLINE KEYS = DATE", "SPEED KEYS = YEAR"

Press the 'CLEAR' key to exit and save data. It will return to the Clock Configuration Menu.



In this area, the user will be prompted to set the display mode of the real time clock. There are two modes that can be chosen by using the 'ARROW KEYS' to scroll and the 'ENTER' key to set local time:

Standard time = 12 hours or Military time = 24 hours

After the selection of the display mode, the user will be prompted to set the current time. The following message will appear:

"ARROW KEYS TO CHANGE": "TIME KEYS = HOURS", "INCLINE KEYS = MINUTES", "SPEED KEYS = SECONDS"

Press the 'CLEAR' key to exit the Set Time menu and return to the Clock Configuration Menu.

NOTES:

SECTION III

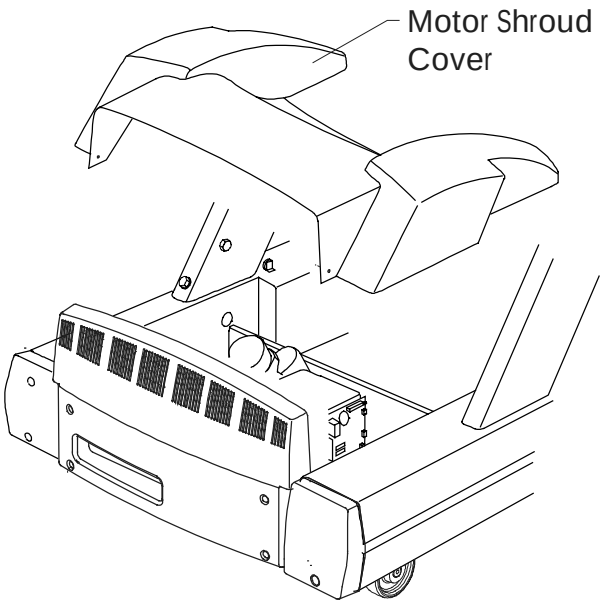
HOW TO…
SERVICE AND REPAIR GUIDE

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills
How To... Replace The Striding Belt and Deck

Tools Required: Hex key wrench set, socket and ratchet set, and Phillips screwdriver

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

Step 2
Remove four Phillip screws from the MOTOR SHROUD COVER, and remove the motor shroud cover.



Step 3
Remove four Phillips screws from the REAR ROLLER GUARDS and remove the REAR ROLLER GUARDS.

Step 4
Remove two tension bolts from the REAR ROLLER by turning counterclockwise.

Step 5
Lift out the REAR ROLLER.

Step 6
Remove the four DECK SCREWS, and remove the DECK.

Step 7
Remove two Phillip screws from the RIGHT ACCESS PANEL, and remove the ANTI-STATIC TINSEL .

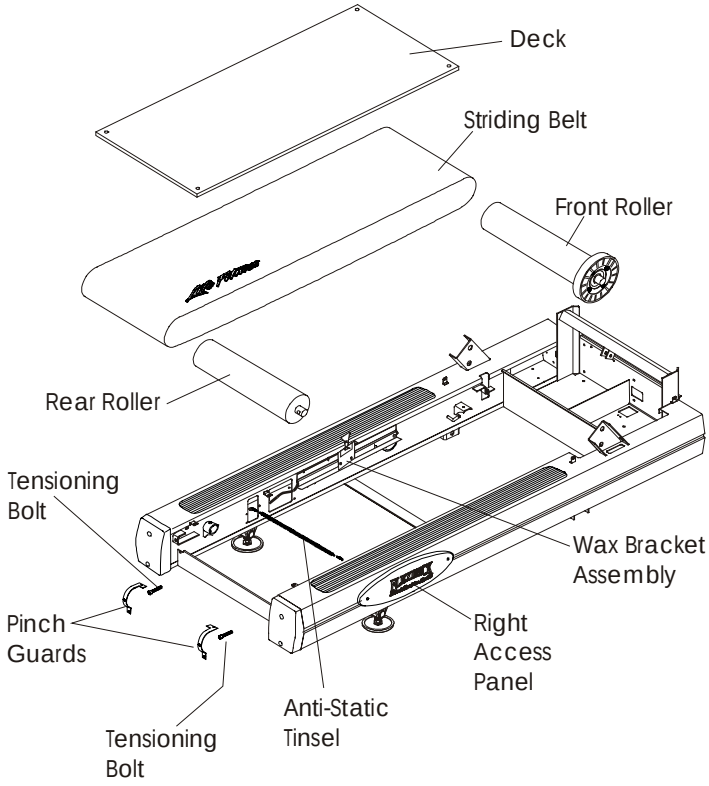
Step 8
Remove the WAX BRACKET and lay it on top of the LIFESPRINGS on the users left side of the unit.

Step 9
Release the tension on the IDLER ARM BRACKET PULLEY and slip the DRIVE BELT off the FRONT ROLLER PULLEY.

Step 10
Remove the FRONT ROLLER mounting bolt and lift out the FRONT ROLLER.

Step 11
Remove the STRIDING BELT.

Step 12
Install new STRIDING BELT and make sure the deck is flipped (if unused) or replace DECK, and that the arrow, on the inside the belt, is pointing in the direction of rotation.



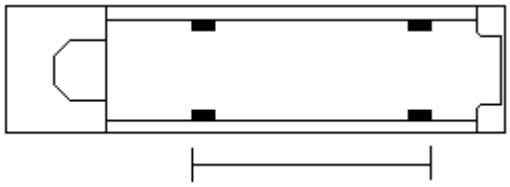
How To... Replace The Striding Belt (Continued)

Tools Required: Hex key wrench set, socket and ratchet set, and Phillips screwdriver

INSTALL THE STRIDE BELT IN THE REVERSE ORDER EXCEPT AS FOLLOWS:

Step 14
Center the STRIDE BELT between the FRONT and REAR ROLLERS. Tighten the BELT TENSIONING BOLTS up to the location marks made prior to removal, or if not marked, until the center span of the belt is taut between rollers.

Step 15
After installing new STRIDING BELT, but prior to tensioning, place two pieces of tape 50" inches apart on **BOTH** the right and left edges of the STRIDING BELT.



Step 16
Alternately tighten the two tensioning bolts 1/4 turn clockwise each until the distance between the tape is 50.25" which is the equivalent of a quarter inch or .55% stretch.

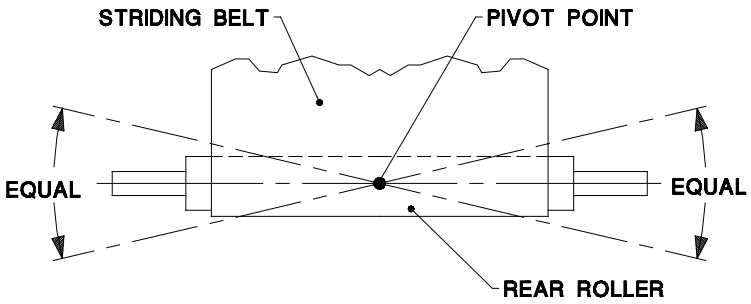
Step 17
Adjust the Tracking. See How To...Adjust Striding Belt Tracking in this section.

Step 18
Refer to diagnostics section to log maintenance repair of the striding belt.

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills
How To... Adjust Striding Belt Tracking

Tools Required: Hex key wrench set

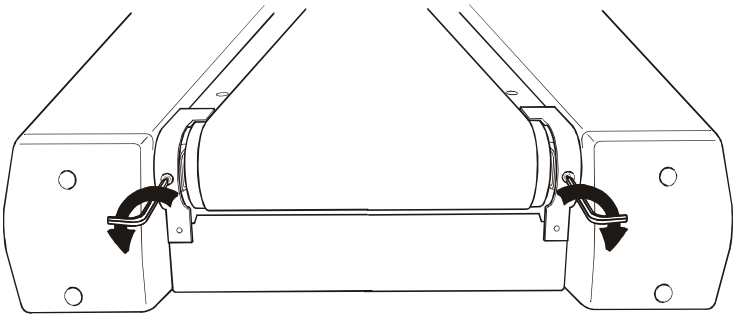
IMPORTANT: ***It is CRITICAL that the treadmill be correctly leveled prior to any tracking adjustments. An unstable unit can cause Striding Belt misalignment. To level and stabilize the unit, refer to instructions on "How To…Replace The Leveler Assembly" in this section.***



Step 1
After the treadmill has been installed and leveled, the belt must be checked fo confirm proper tracking. First, plug the power cord into an appropriate outlet and turn the treadmill ON.

Step 2
Refer to the SPEED AUTOMATIC test procedure under MOTOR TEST MODULE in DIAGNOSTICS: SYSTEM TEST to achieve a 4.0 mph (6.4 kph) motor speed.

Step 3
With the belt running, note its tracking. If the belt moves to the right, turn the right tensioning bolt 1/4 turn counterclockwise to bring the belt back to center. If the belt moves to the left, turn the left tensioning bolt 1/4 turn clockwise and then turn the right tension bolt 1/4 turn counterclockwise to bring the belt back to center.



If the STRIDING BELT has moved to the **right**, turn the right TENSION BOLT 1/4 turn clockwise and the left TENSION BOLT 1/4 turn counter-clockwise to start the STRIDING BELT tracking back to the center of the REAR ROLLER.

If the STRIDING BELT has moved to the **left**, turn the left TENSION BOLT 1/4 turn clockwise and the right TENSION BOLT 1/4 turn counterclockwise to start the STRIDING BELT tracking back to the center of the REAR ROLLER.

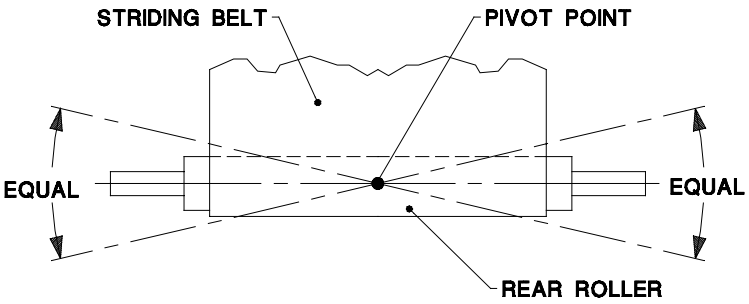
Step 4
Repeat this adjustment until the striding belt appears centered. Allow the unit to operate for several minutes to see that the belt remains centered.

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

How To… How To Adjust Striding Belt Tension

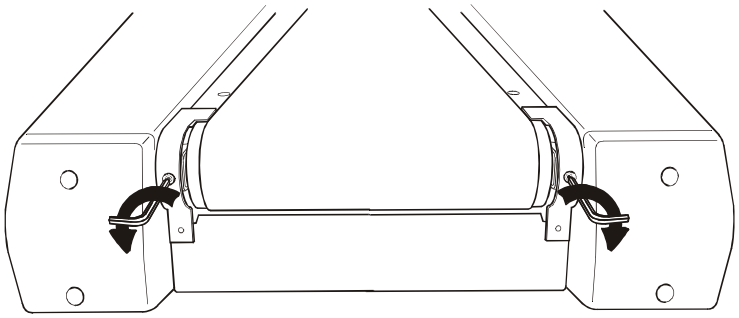
Tools Required: Hex key wrench set, Phillips screwdriver

Step 1
Locate the two BELT TENSIONING BOLTS on each side of the REAR ROLLER MOUNTING BRACKETS. The TENSIONING BOLTS are accessible from the holes provided in the REAR ROLLER GUARDS.



Step 2
Enter the Manual program and run unit for five minutes at 5.0 mph (8.0 kph). ***DO NOT*** run on the BELT.

Step 3
Using the speed decrease button ∇, bring the STRIDING BELT speed down to 2 mph (3.2 kph). With the STRIDING BELT speed at 2 mph (3.2 kph), begin walking on the treadmill. Tightly grasp the HANDRAILS and attempt to stall the STRIDING BELT. If the STRIDING BELT slips, continue to Step 4. if it does not slip, the tension is correct.



Step 4
Stop the treadmill and alternately turn the STRIDING BELT TENSIONING BOLTS 1/4 turn clock-wise to tension (See **Tracking (Centering) an Existing or New Striding Belt** on previous page). Repeat Step 3 and Step 4 until slipping is eliminated. **DO NOT EXCEED ONE FULL TURN!**

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Drive Belt

Tools Required: Hex key wrench set, socket and ratchet set, and Phillips screwdriver

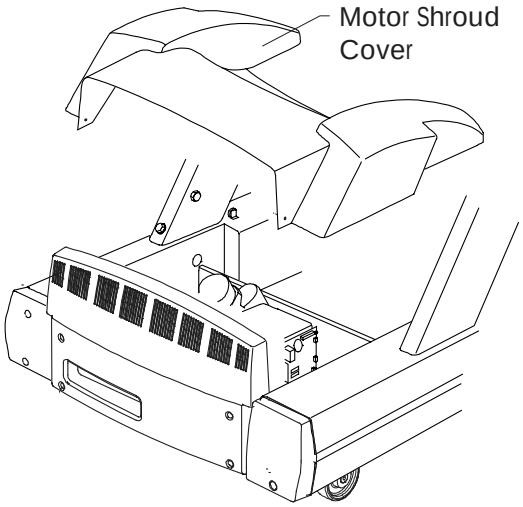
Step 1
Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.

Step 2
Remove four Phillips screws from the MOTOR SHROUD COVER, and remove the motor shroud.

Step 3
Remove tension bolts from the REAR ROLLER.

Step 4
To relieve drive belt tension, insert the end of a flat blade screwdriver in the slot of the IDLER ARM, then raise the idler arm and fix it in the raised position by installing an Allen wrench in the idler arm hole as shown.

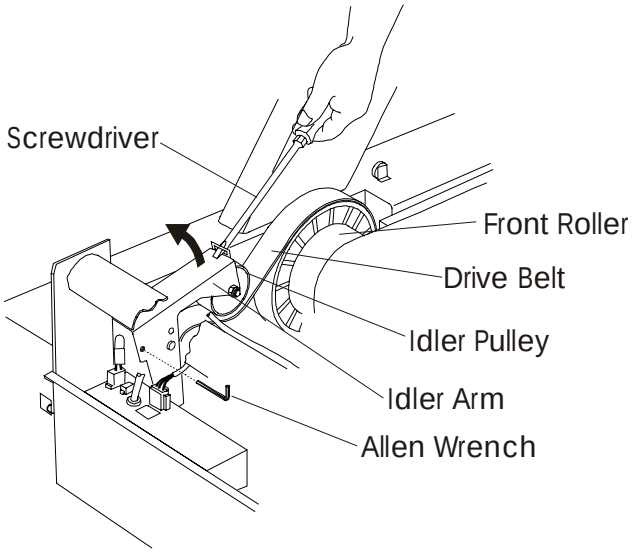
CAUTION: ***DO NOT RAISE THE IDLER ARM HIGHER THAN REQUIRED TO INSTALL THE ALLEN WRENCH INTO THE IDLER ARM HOLE.***



Step 5
Remove the FRONT ROLLER mounting bolt and lift out the FRONT ROLLER.

Step 6
Remove the MOTOR DRIVE BELT from its pulley and discard.

Step 7
Install the new MOTOR DRIVE BELT in reverse order. Make sure to align the new motor drive belt on the motor pulley and front roller pulley. Refer to "HOW TO…Replace Striding Belt" for proper belt adjustment and tensioning.



How To... Replace The Drive Motor

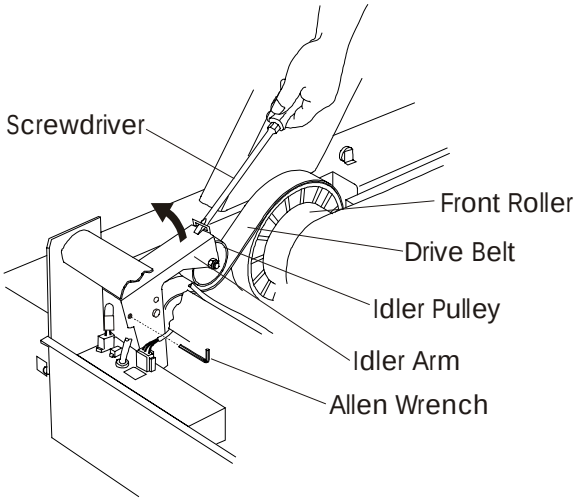
Tools Required: Hex key wrench set, socket and ratchet set, spring hook, and Phillips screwdriver

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

Step 2
Remove the Phillip screws from the MOTOR SHROUD COVER, and remove the motor shroud cover.

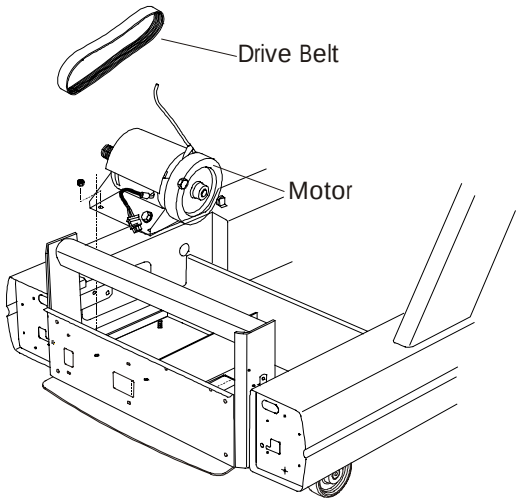
Step 3
Disconnect the MOTOR CABLE CONNECTORS (3 and 6 Pins).

Step 4
To relieve drive belt tension, insert the end of a flat blade screwdriver in the slot of the IDLER ARM, then raise the idler arm and fix it in the raised position by installing an Allen wrench in the idler arm hole as shown.



CAUTION: ***DO NOT RAISE THE IDLER ARM HIGHER THAN REQUIRED TO INSTALL THE ALLEN WRENCH.***

Step 5
Remove the four MOTOR MOUNTING BOLTS and lift out the motor.



INSTALL THE DRIVE MOTOR BELT IN THE REVERSE ORDER EXCEPT AS FOLLOWS:

Step 6
Install the motor in the unit securing it with four(4) nuts. Check to see that the outer pulley faces of the motor and front roller (towards user right side of unit) are aligned with each other. Use a straight edge to check for proper alignment. If necessary, loosen the set screws(2) in the motor pulley and move it in or out until alignment is achieved, then tighten the set screws(2).

Step 7
With the motor pulley properly aligned, secure the idler arm bracket in the raised position and reinstall DRIVE BELT around the pulley and lower the IDLER ARM. Test the unit prior to reinstalling covers and end cap to insure belt doesn't jump.

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

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Front Roller

Tools Required: Hex key wrench set, socket and ratchet set, and Phillips screwdriver

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

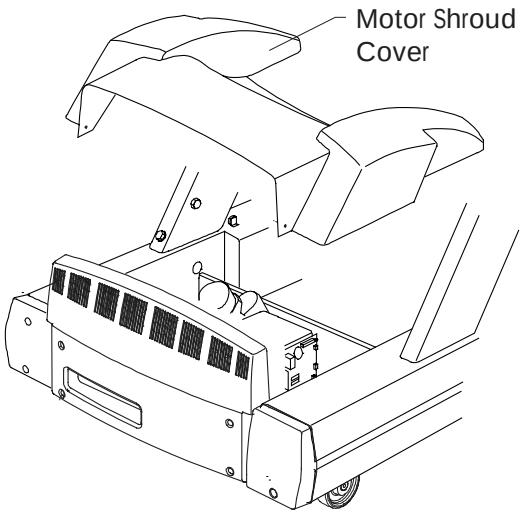
Step 2
Remove the MOTOR SHROUD.

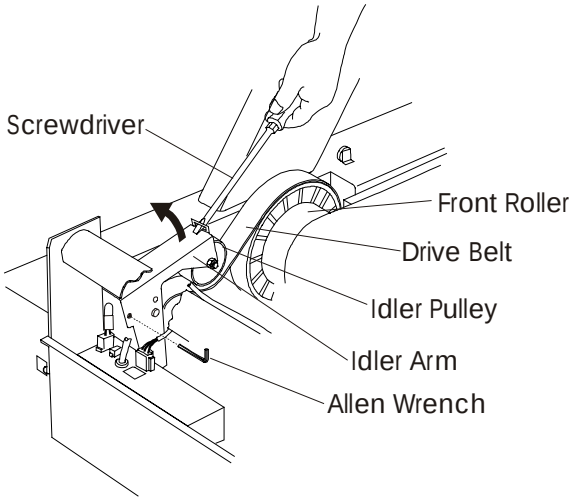
Step 3
Remove tension bolts from the REAR R0LLER and set aside.

Step 4
Raise the IDLER ARM PULLEY to relieve belt tension, and remove the DRIVE MOTOR BELT off the pulley.

Step 5
Remove the FRONT ROLLER mounting bolt and lift out the FRONT ROLLER.

Step 6
Install the new front roller making sure the motor drive belt is centered on both the drive motor and front roller pulleys. Refer to “HOW TO…Replace Striding Belt” for proper belt adjustment and tensioning.





Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Rear Roller

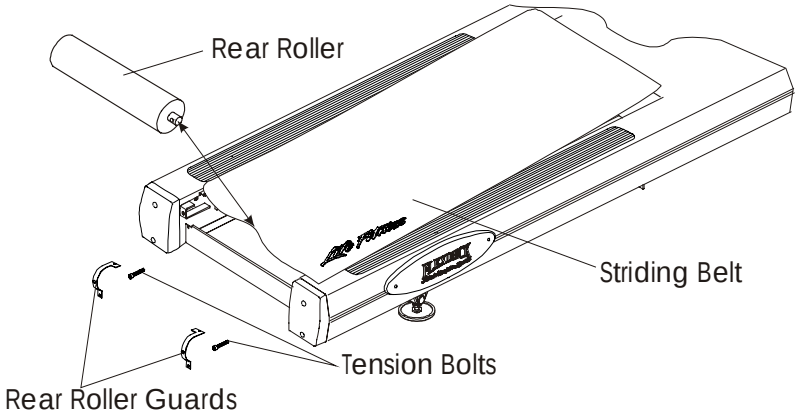
Tools Required: Hex key wrench set, socket and ratchet set, and Phillips screwdriver

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

Step 2
Remove the REAR ROLLER GUARDS.

Step 3
Remove tension bolts from REAR ROLLER.

Step 4
Remove the REAR ROLLER.



Step 5
Install the new rear roller making sure the striding belt is properly adjusted and tensioned. Refer to "HOW TO…Replace Striding Belt" for proper belt adjustment and tensioning.

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills
How To... Replace The Lifespring Absorbers

Tools Required: Hex key wrench set, socket and ratchet set, and Phillips screwdriver

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

Step 2
Loosen the rear roller TENSIONING BOLTS(2).

Step 3
Remove the four DECK SCREWS.

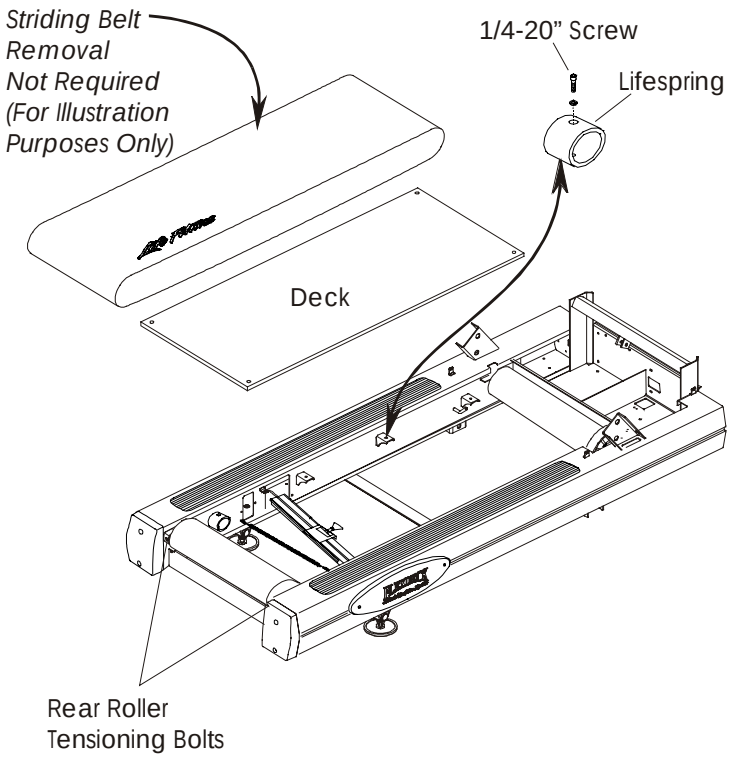
Step 4
Remove the DECK being careful of its waxed side.

Step 5
Remove the MOUNTING BOLT from the LIFESPRING.

Step 6
Remove the 1/4-20" screws from the LIFESPRING(S) and lift off the lifespring and discard. Note the tinnerman clips in the four(4) corners of the life spring.

Step 7
Install new Life Spring(s) in reverse order.

NOTE: ***Notch in Life Spring to face inside of the frame.***



Step 8
Refer to "HOW TO…Replace Striding Belt" for proper belt adjustment and tensioning.

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Anti-Static Tinsel

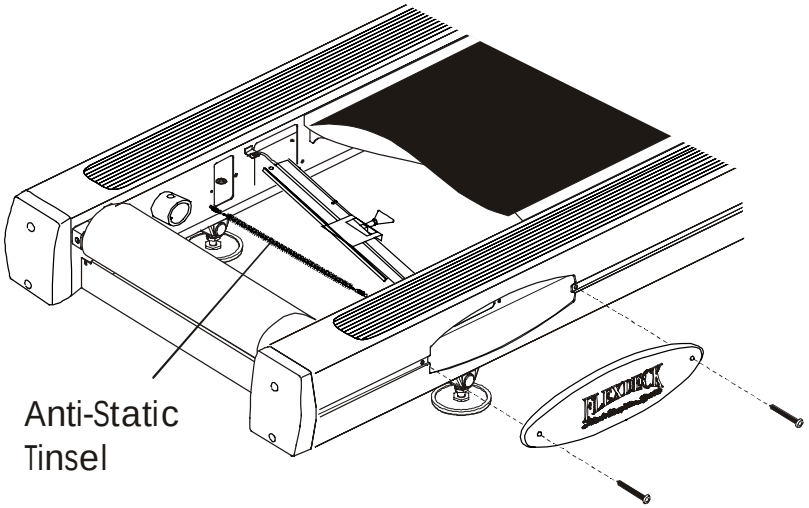
Tools Required: Hex key wrench set, socket and ratchet set, and Phillips screwdriver

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

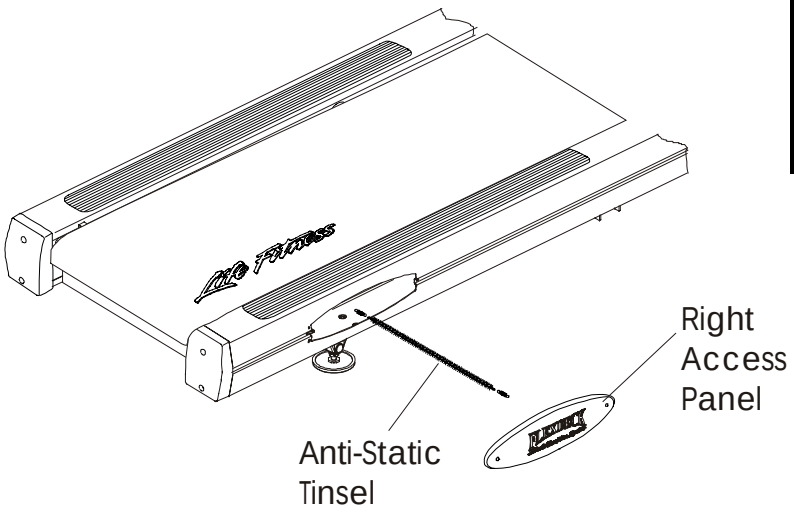
Step 2
Remove both ACCESS PANELS at the side of the unit frame. At this point you can access the ANTI-STATIC TINSEL through the access opening or tilt the unit on the side where the access panel was removed.

NOTE: To avoid damaging the access cover, make sure to remove the access cover before tilting the unit on its side.

Step 3
Remove the ANTI-STATIC TINSEL and discard.



Step 4
Install new ANTI-STATIC TINSEL in reverse order.



Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

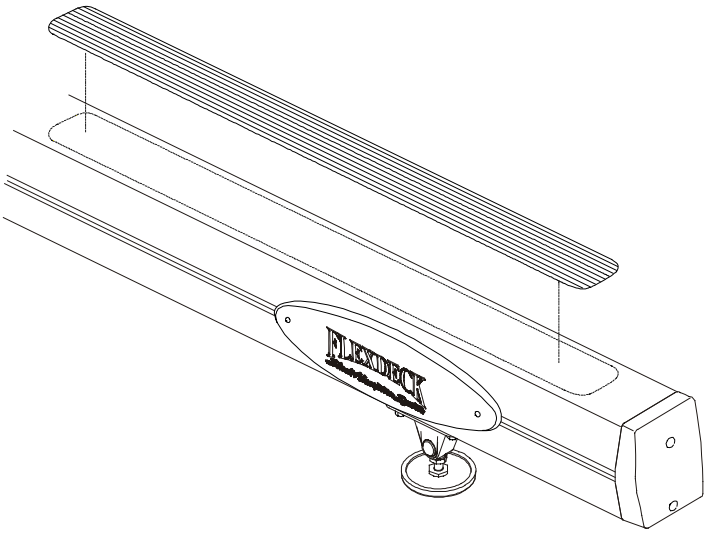
How To... Replace The Anti-Scuff Pads

Tools Required: Pencil, non-abrasive cleaner, paper towels

Step 1
Remove the worn ANTI-SCUFF PAD from the FRAME.

Step 2
Clean off adhesive residue with a non-abrasive cleaner.

Step 3
Peel off the protective backing and install the new ANTI-SCUFF PAD making sure to apply even pressure while maintaining equal distance between edges of pad and STRIDING BELT.



Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Wax Motor

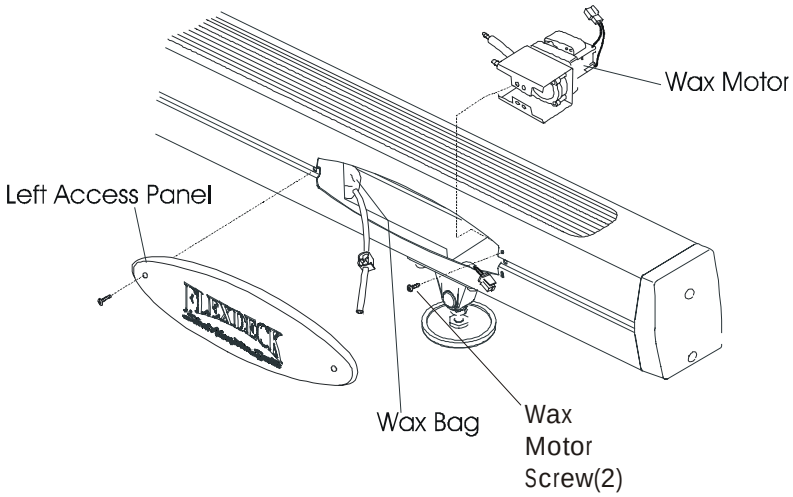
Tools Required: Phillips screwdriver and pliers

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

Step 2
Remove the LEFT ACCESS PANEL on the left side of the unit frame and pull out the WAX BAG close off HOSE CLAMP and disconnect wax hoses from the motor.

Step 3
Disconnect the 2-Pin connector from the WAX MOTOR.

Step 4
Remove two WAX MOTOR MOUNTING SCREWS which are located on the right side of the RIGHT ACCESS PANEL.



Step 5
Remove the WAX MOTOR.

Step 6
Install new wax motor in reverse order, then test for proper operation.

Step 7
Refer to diagnostics section to log maintenance repair of the wax motor.

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Power Module

Tools Required: Phillips screwdriver

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

Step 2
Remove four phillip screws from the MOTOR COVER and four phillip screws from the FRONT COVER. Remove both covers.

Step 3
Remove the power line cord from under the unit which is secured by two screws and a bracket.

Step 4
Cut cable ties.

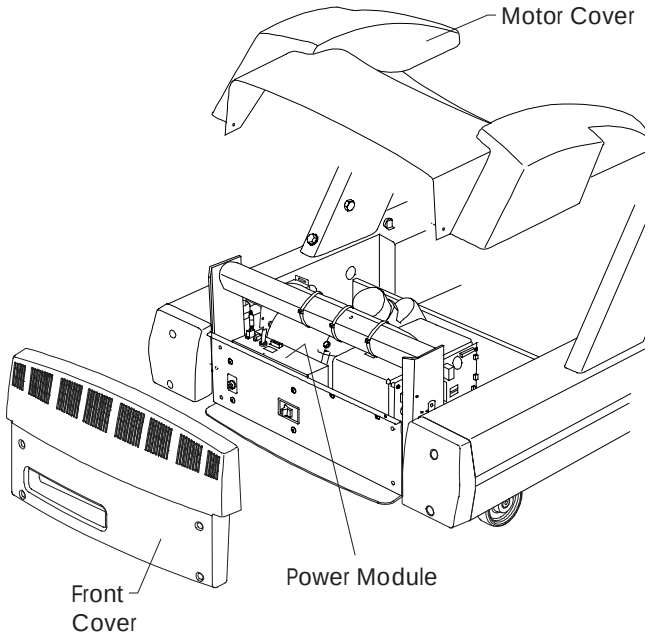
Step 5
Disconnect the 3-Pin Connector from top of the POWER MODULE.

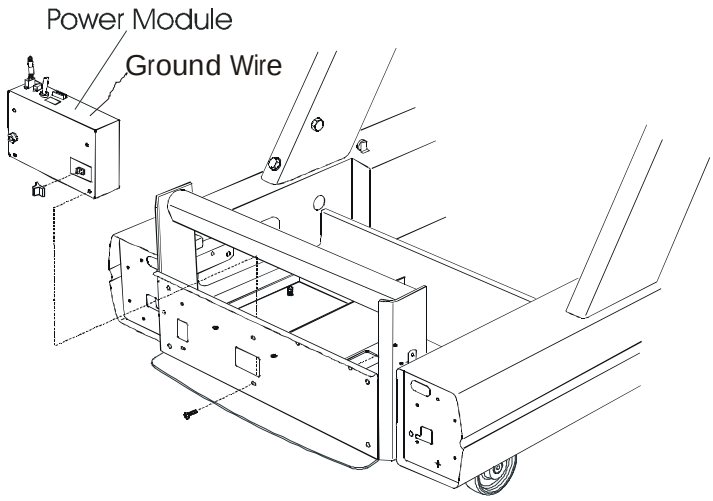
Step 6
Disconnect 3-Pin Connector at the MOTOR CONTROLLER.

Step 7
Remove LIFT MOTOR ground wire.

Step 8
Remove four mounting screws at the front of the unit securing the POWER MODULE, then lift out the power module.

Step 9
Install new POWER MODULE in reverse order.





Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills
How To… Replace the Wax Bag

Tools required: Phillips screwdriver, Side Cutters or Utility Knife

Step 1
Turn the power **OFF** at the ON/OFF switch and then unplug the unit from the electrical outlet.

Step 2
Remove the two SCREWS securing the WAX BAG ACCESS PANEL located on the user left side of the unit. Remove the WAX BAG ACCESS PANEL and set it aside.

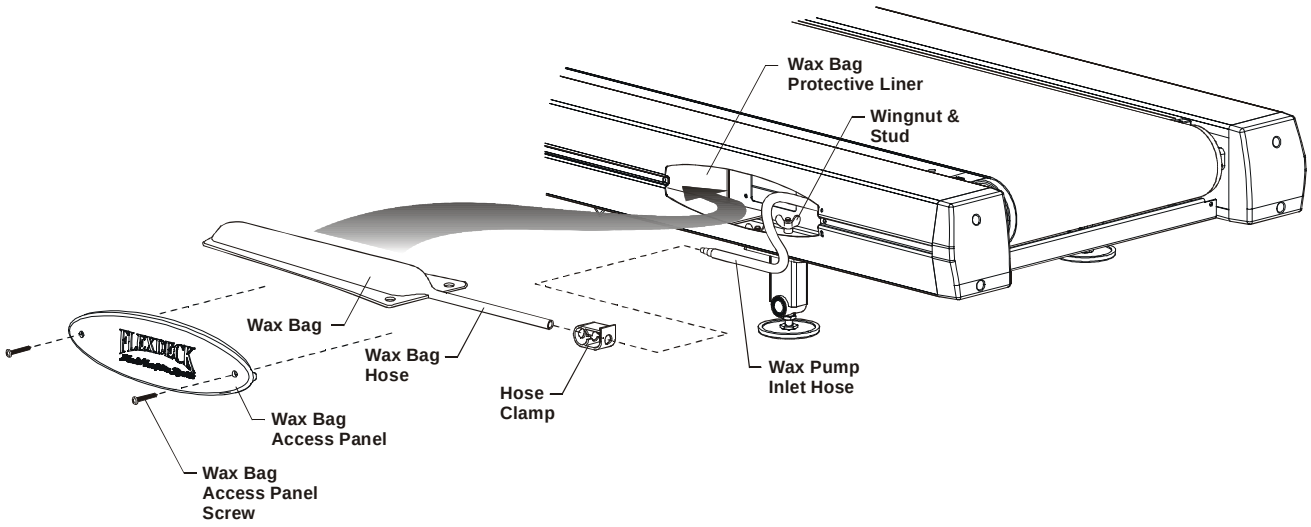
FOR A FIRST TIME INSTALLATION, SKIP TO STEP 7.

Step 3
Engage the HOSE CLAMP onto the used WAX BAG HOSE.

Step 4
Slide the used WAX BAG HOSE off the BARBED NOZZLE on the WAX PUMP INLET HOSE.

Step 5
Remove the two WINGNUTS located just inside the access hole.

Step 6
Lift the used WAX BAG from the two WINGNUT STUDS. Slide the WAX BAG out of its PROTECTIVE LINER. Discard the used WAX BAG.



Step 7
Verify that the WAX BAG PROTECTIVE LINER is open and ready to receive the new WAX BAG. Remove the new WAX BAG from its packaging and carefully insert the WAX BAG into the access hole as shown with the WAX BAG HOSE facing the rear of the unit.

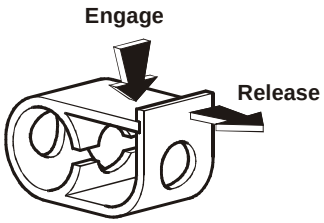
Step 8
For first time installations, remove the two WINGNUTS located just inside the access hole.

Step 9
Align the mounting holes located in the WAX BAG FLANGE with the two WINGNUT STUDS. Secure the WAX BAG with the two WINGNUTS.

CAUTION: ***BE CAREFUL NOT TO RIP OR OTHERWISE DAMAGE THE WAX BAG ON THE WINGNUT STUDS OR WINGNUTS WHEN INSERTING NEW WAX BAG.***

How To… Replace the Wax Bag (Continued)

Step 10
Slide the HOSE CLAMP over the end of the WAX BAG OUTLET HOSE. Position the HOSE CLAMP approximately three inches from the end of the WAX BAG HOSE and engage the HOSE CLAMP onto the WAX BAG HOSE.



Step 11
Cut ½" off the plugged end of the WAX BAG HOSE and slide the WAX BAG HOSE onto the BARBED NOZZLE on the WAX PUMP INLET HOSE. Be sure to fully seat the WAX BAG HOSE. Release the HOSE CLAMP.

Step 12
Replace the WAX BAG ACCESS PANEL and secure with the two WAX BAG ACCESS PANEL SCREWS.

FIRST TIME INSTALLATION IS NOW COMPLETE.
IF WAX BAG IS BEING REPLACED, CONTINUE THROUGH STEP 21.

Step 13
Reset the WAX FILL STATISTICS as follows.

Step 14
Press and hold the PAUSE KEY. While holding the PAUSE KEY press the CLEAR KEY twice. Continue to hold the PAUSE KEY until the DISPLAY reads " SERVICE MENU."

Step 15
Press any UP ARROW KEY until you see "MAINTENANCE" in the DISPLAY. Then press ENTER. The DISPLAY will begin to scroll automatically through available options.

Step 16
When the DISPLAY reads "REFILL WAXER SYSTEM", press the ENTER KEY. The DISPLAY will read "REPAIR LOGGED."

Step 17
Wax replacement is now complete.

Step 18
To verify that the wax refill has been completed correctly, press the CLEAR KEY once to return to the "SERVICE MENU."

Step 19
Using any of the UP ARROW KEYS, scroll until "INFORMATION" is displayed. Then press ENTER.

Step 20
Press any of the UP ARROW KEYS until "WAX MOTOR INFO" appears in the DISPLAY. Press ENTER and verify that the DISPLAY reads "100/100 FULL."

Step 21
Press the CLEAR KEY three times to exit diagnostic.

How To... Replace The Lift Motor

Tools Required: Phillips screwdriver, socket set, pliers

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

Step 2
Remove four phillip screws from the MOTOR COVER, and lift off the MOTOR COVER.

Step 3
Cut-off cable ties.

Step 4
Disconnect the 4-PIN CONNECTOR from the WAX PCB.

Step 5
Disconnect LIFT MOTOR ground wire from the POWER MODULE.

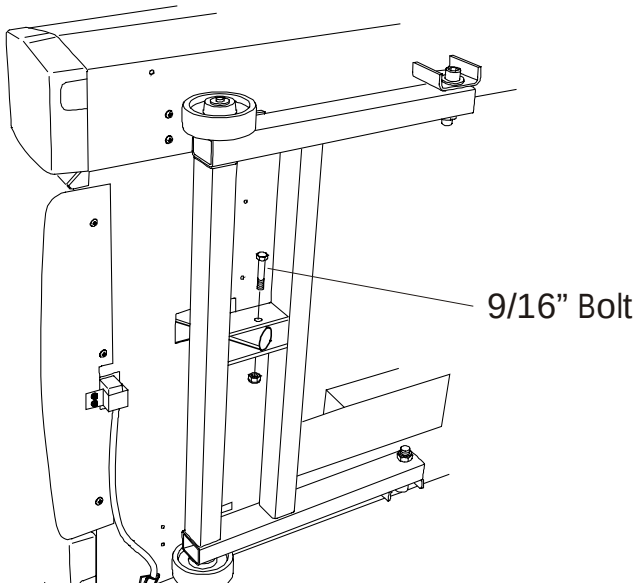
Step 6
Remove the RIGHT ACCESS PANEL on the right side of the unit, and tilt the unit over on its right side.

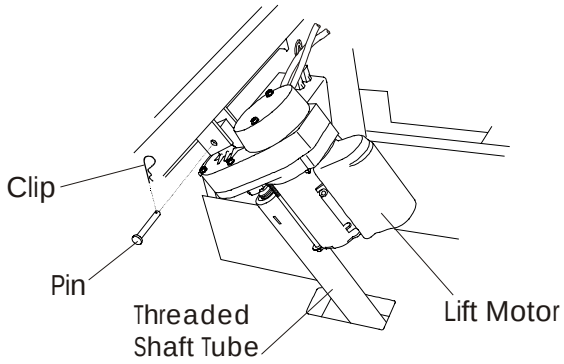
Step 7
Remove the 3/8-16" mounting bolt and nut from the LIFT FRAME.

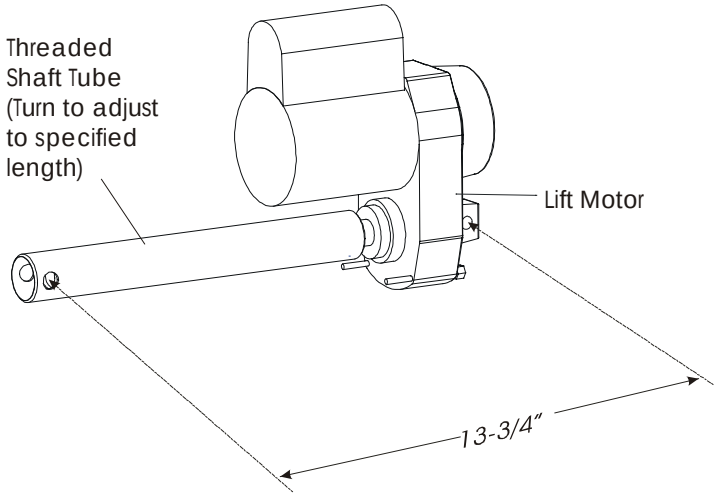
Step 8
Remove the clip and pin from the lift motor, and remove the lift motor.

Step 9
To install the lift motor, make sure that the lift carriage is activating the level switch on 91/95, and on the 97 the decline switch. If necessary adjust THREADED SHAFT TUBE until the mounting bolt holes are 13-3/4" apart or aligned with the carrier and lift motor.

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





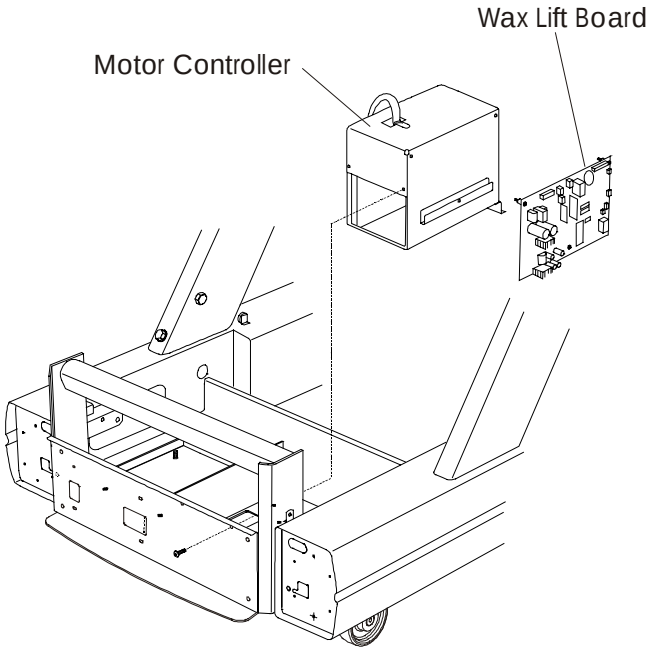


Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Motor Controller

Tools Required: Phillips Screwdriver

Step 1
The new controller doesn't have logged stats. Log in maintenance diagnostic to store in treadmill frame tag accumulated stats.



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

Step 3
Remove four phillip screws from the MOTOR COVER and four phillip screws from the FRONT COVER, then remove the motor and front covers.

Step 4
Cut the cable ties and disconnect the 6-Pin and 3-Pin Connector and Power Module Cord from the Motor Controller.

Step 5
Disconnect all connectors from the Wax Lift Board.

Step 6
Remove two phillip screws securing the controller at the base of the unit and two phillip screws at the front of the unit. Lift the motor controller out of the unit.

Step 7
With the controller out, remove three phillip screws securing the Wax Lift Board, and remove the wax lift board from the controller.

Step 8
Install wax lift board on new Motor Controller, and install the motor controller back in the unit in the reverse order.

Step 9
Refer to diagnostics section to log maintenance repair of the lift motor.

How To... Replace The WAX and LIFT PCB

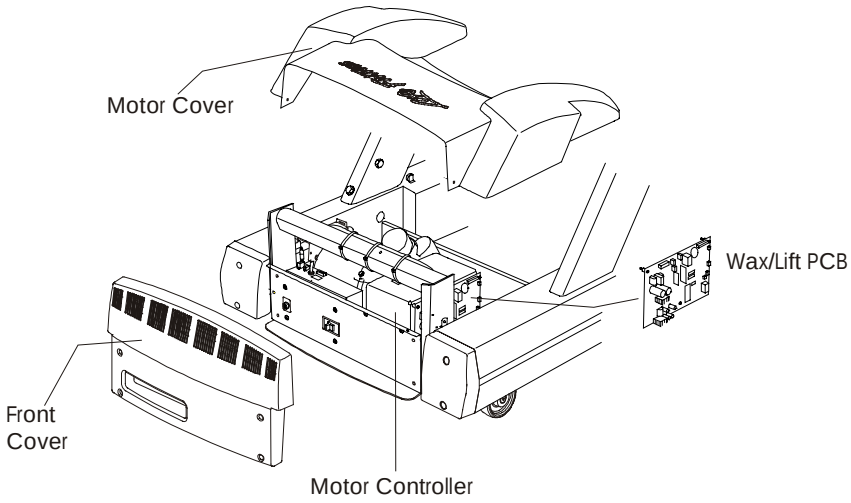
Tools Required: Phillips Screwdriver

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

Step 2
Remove the MOTOR COVER and FRONT COVER.

Step 3
Disconnect all connectors from the Wax Lift Board.

Step 4
Remove three phillips mounting screws from the PCB and remove.



Step 5
Install the new PCB in the reverse order.

Step 6
Refer to diagnostics section to log maintenance repair of the lift PCB.

How To... Replace The Frame Board

Tools Required: Socket Set and Phillips Screwdriver

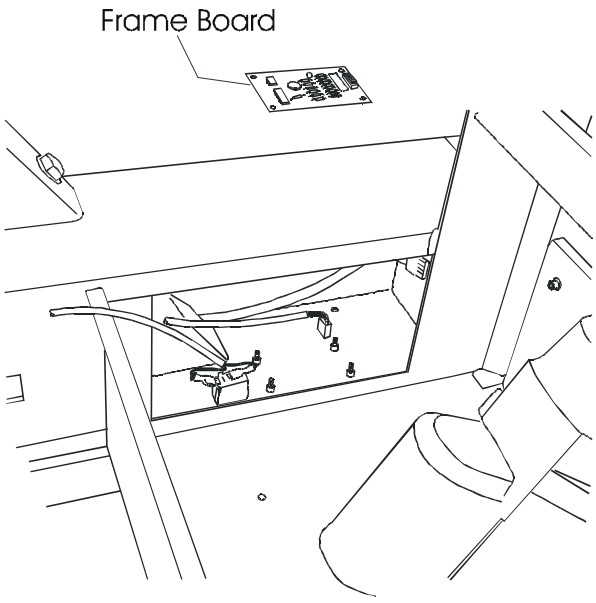
Step 1
Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.

Step 2
Remove the MOTOR COVER.

Step 3
Disconnect the connector at the FRAME BOARD.

Step 4
Detach four(4) spring clips securing the FRAME BOARD from inside the left frame and lift out.

Step 5
Install new FRAME BOARD in reverse order.



How To... Replace The Leveler Assembly

Tools Required: Phillips Screwdriver, Wrench and Socket Set

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

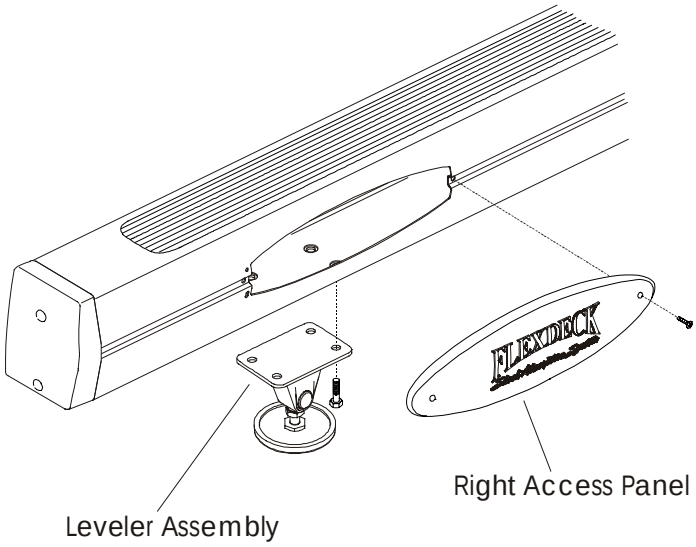
Step 2
Remove four 3/8-16 bolts from the LEVELER ASSEMBLY and remove the leveler.

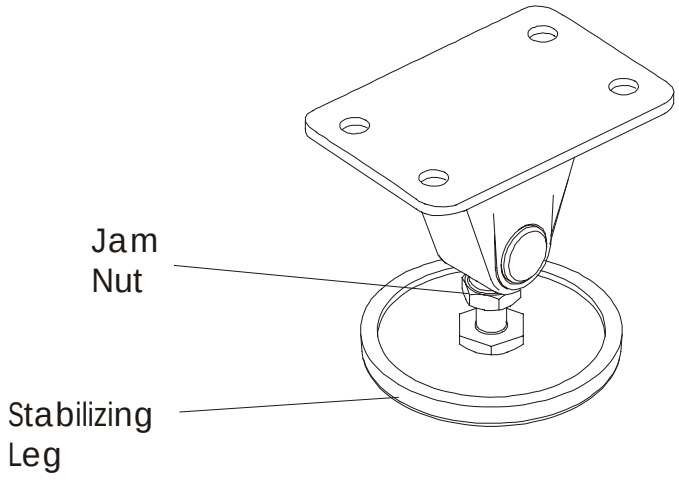
NOTE: ***Observe the orientation of hole pattern.***

Step 3
Install new leveler assembly in reverse order.

Step 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 stabilizing leg is not resting on the floor. To adjust, loosen the Jam Nut and turn the Stabilizing Leg until the rocking motion ceases and both stabilizing legs rest firmly on the floor. Retighten the Jam Nut.

NOTE: ***It is extremely important that the stabilizing leg be correctly adjusted for proper operation. An unbalanced unit may cause striding belt misalignment. Refer to the Operator Manual for complete instructions.***





Section III

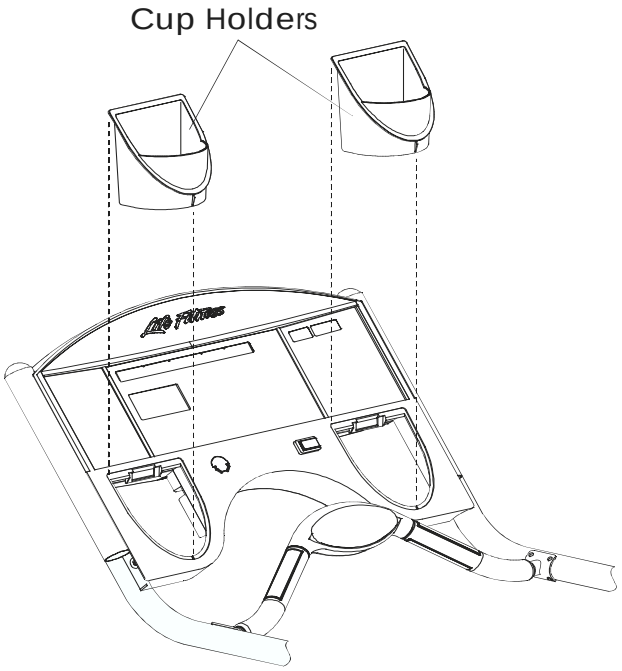
Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Accessory Cup Holders

Tools Required: N/A

Step 1
Depress the CUP HOLDER TABS located behind the DISPLAY CONSOLE and remove the cup holders.

Step 2
Install new CUP HOLDERS in reverse order. Snap cup holder firmly into the display console.



How To... Replace The Line Cord

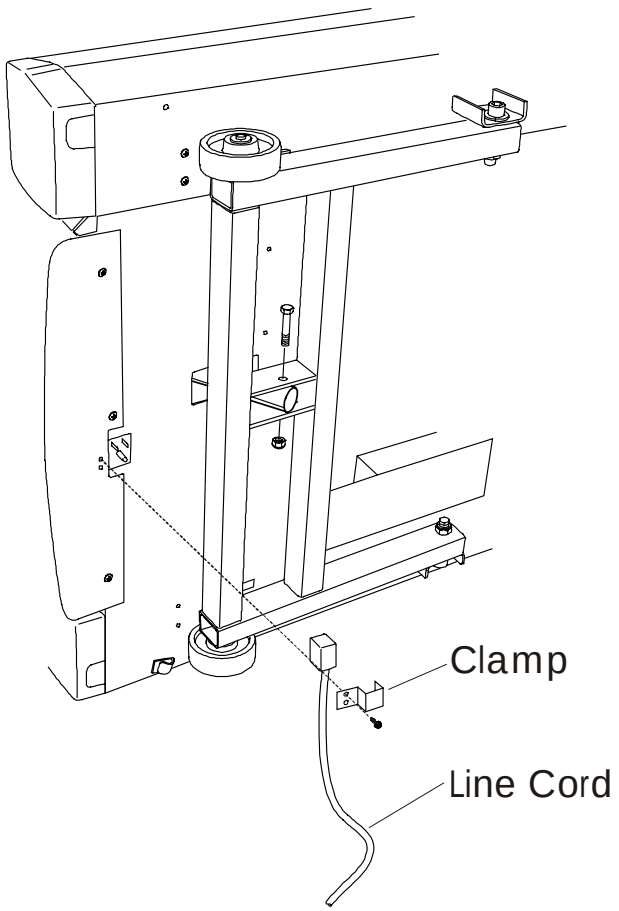
Tools Required: Phillips Screwdriver

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

NOTE: ***If the unit is disabled (damaged electrical cord), then position the unit on its right side. Make sure that to remove the right access cover to avoid damaging it.***

Step 2
Raise the front of the unit to access LINE CORD clamp. Note the routing of the line cord.

Step 3
Remove two screws and clamp, and replace the LINE CORD and clamp.



Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Display Board PCB

Tools Required: Phillips Screwdriver

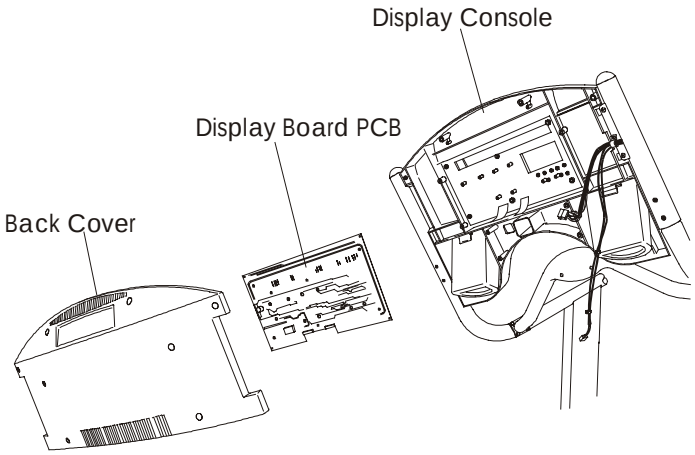
Step 1
Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.

Step 2
Remove eight screws from the back of the console.

Step 3
Remove the back cover.

Step 4
Disconnect all cable connectors.

Step 5
Remove eight screws from the DISPLAY BOARD PCB, and lift the display board PCB.



Step 6
Install new display board in reverse order. Take care not to over-tighten the display board PCB mounting screws.

Step 7
Replace the back cover.

Step 8
Refer to diagnostics section to log maintenance repair of the display board PCB.

How To... Replace The Stop Switch

Tools Required: Phillips screwdriver, Flat Blade Screwdriver, Adjustable Wench

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

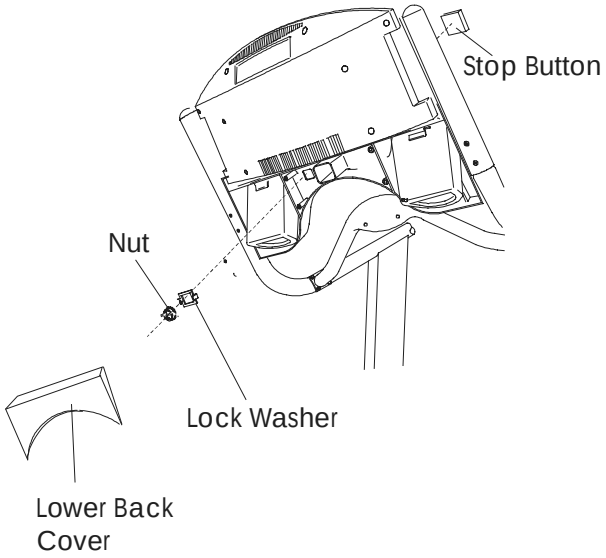
Step 2
Remove four(4) screws from the LOWER BACK COVER.

Step 3
Remove the FAST-ON connected to the micro-switch.

Step 4
Remove the STOP SWITCH.

Step 5
Install new stop switch in reverse order.

Step 6
Refer to diagnostics section to log maintenance repair of the stop switch.



Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Telemetry Receiver and Jack

Tools Required: Phillips Screwdriver

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

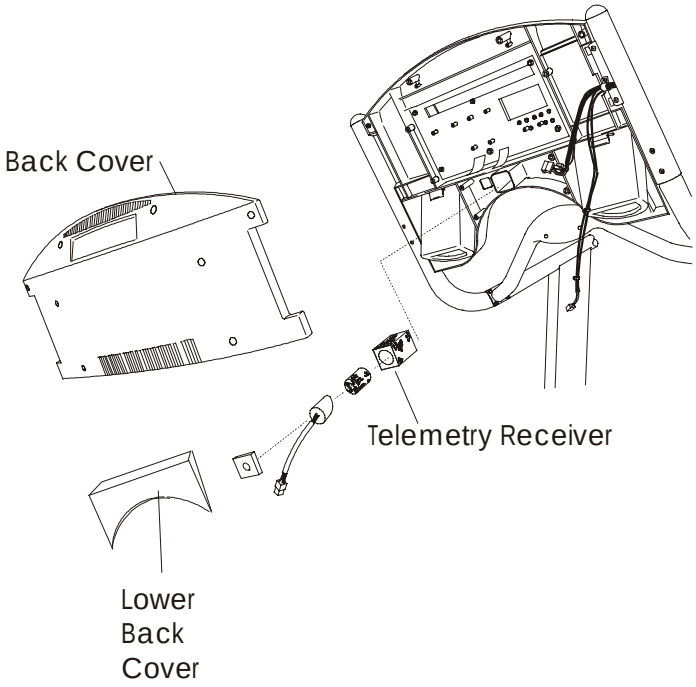
Step 2
Remove eight(8) screws from BACK COVER, and remove the cover.

Step 3
Remove four(4) screws from the LOWER BACK COVER, and remove the cover.

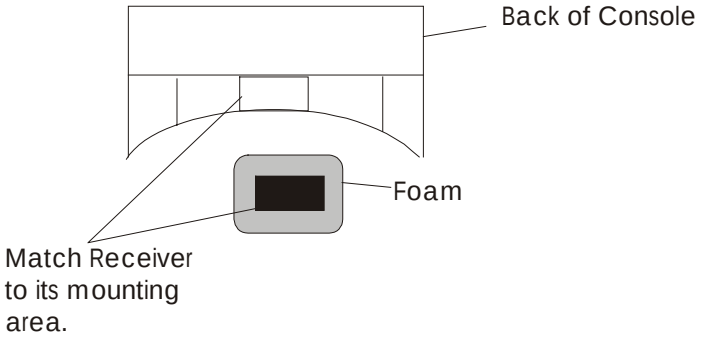
Step 4
Disconnect the 3 Pin connector from the STOP SWITCH and DISPLAY BOARD.

Step 5
Remove the TELEMETRY RECEIVER.

Step 6
Unscrew TELEMETRY JACK from the SHIELD TUBE.



Step 7
Install new TELEMETRY RECEIVER and JACK in reverse order. Make sure to orientate the telemetry receiver properly. It has to be horizontal within the horizontal plane of its housing. See illustration.



How To... Replace The Main Wire Harness

Tools Required:

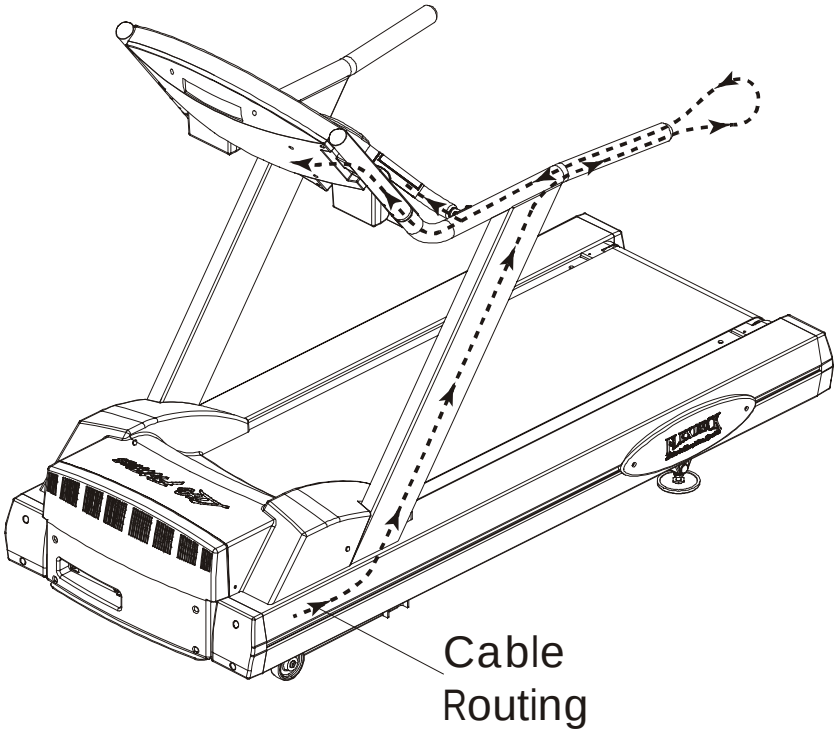
Step 1
Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.

Step 2
Remove eight screws from the back of the console.

Step 3
Disconnect all cable connectors from the circuit board.

Step 4
Remove six mounting screws securing the display console to the TUBE EXTENSIONS, then remove the display console.

Step 5
Remove the left TUBE EXTENSION from the cables, routing out the cables from the tube.



Step 6

Remove the eight screws from the HANDLE BAR, and remove the handle bar.

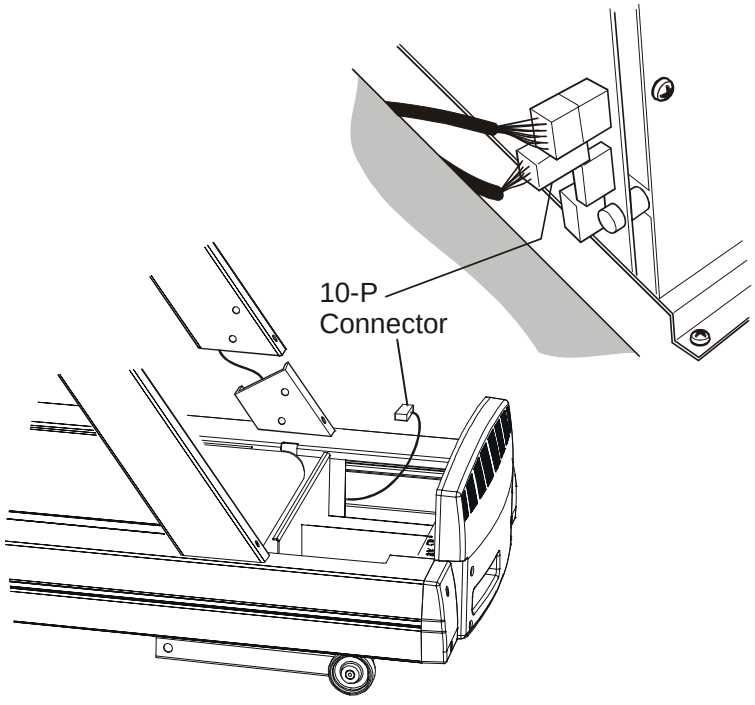
Step 7
Remove the MOTOR SHIELD and disconnect the MAIN WIRING HARNESS CONNECTOR from the WAX LIFT BOARD.

Step 8
Remove three mounting bolts at the base of the left handrail support.

Step 9
Lift off the left handrail while routing out the cable from the frame.

Step 10
Remove the LEFT HANDLE BAR END CAP and route out the MAIN WIRING HARNESS and discard.

Step 11
Install new wire harness in reverse order. With the left handle bar end cap removed, first route the cable out the end of the handle bar, then re-route back.



How To... Replace The Display Console Control Panel

Tools Required: Torx Wrench Set, Phillips Screwdriver

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

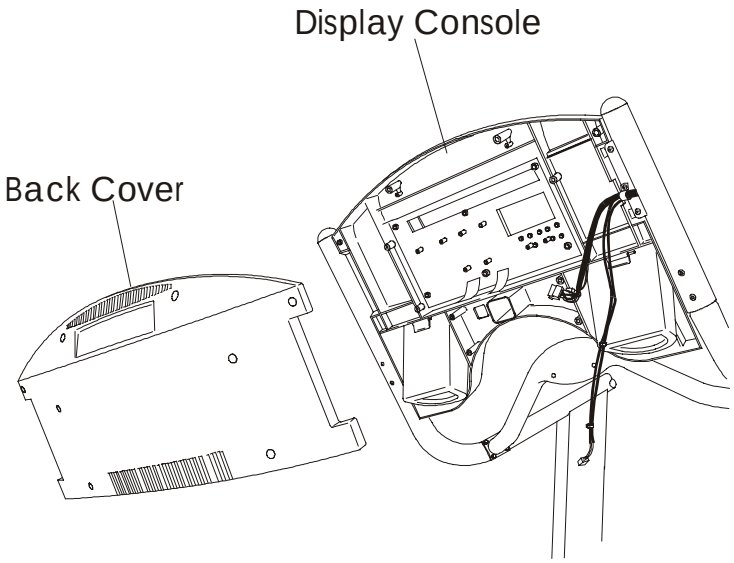
Step 2
Remove eight(8) screws from the BACK COVER.

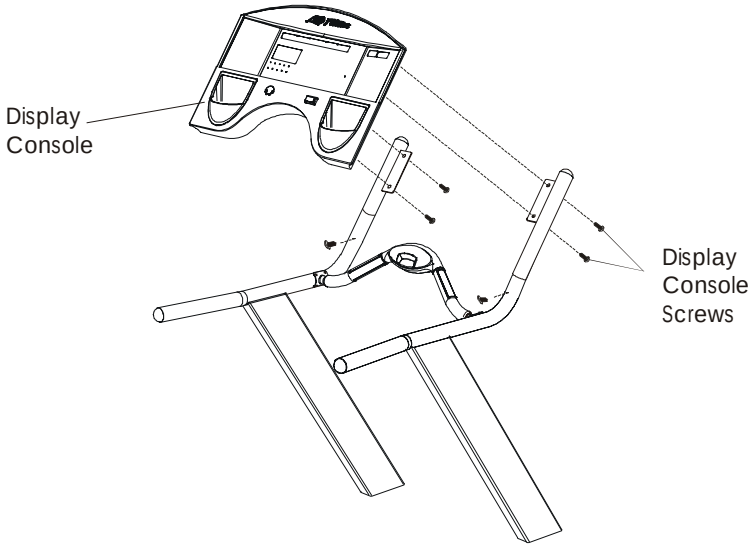
Step 3
Disconnect all cable connectors from the DISPLAY BOARD.

Step 4
Remove six(6) console mounting screws from the back of the console, and lift off the DISPLAY CONSOLE.

Step 5
Install new display console in reverse order.

Step 6
Refer to diagnostics section to log maintenance repair of the display console control panel.





How To... Replace The Overlay Bezel

Tools Required: Phillips Screwdriver, Flat Blade Screwdriver

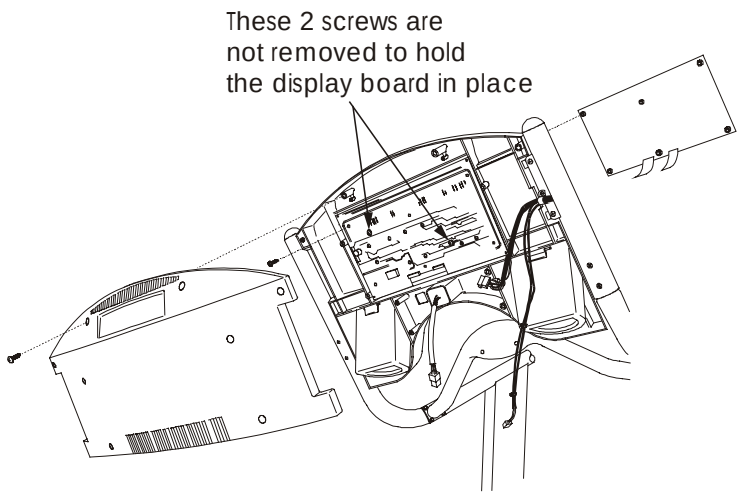
Step 1
Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.

Step 2
Remove eight screws from the back of the console.

Step 3
Disconnect all cable connectors from the CIRCUIT BOARD.

Step 4
Remove the outer six screws around the PCB board, and remove OVERLAY BEZEL..

NOTE: ***Two(2) screws remain to hold display PCB in place.***



Step 5
Disconnect the RIBBON CABLE and lift off the OVERLAY BEZEL.

Step 6
Make sure adhesive back is removed from seal strip along the top of the new overlay bezel.

Step 7
Install new OVERLAY BEZEL in reverse order. Press along the top edge of the new overlay bezel to properly seat the seal strip.

Step 8
Refer to diagnostics section to log maintenance repair of the overlay bezel.

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills

How To... Replace The Smart Stop for Models TR9500 and TR9700 only

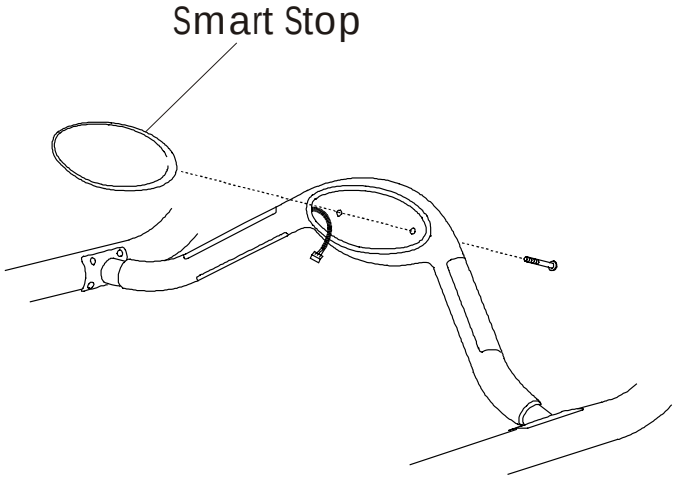
Tools Required: Phillips Screwdriver

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

Step 2
Remove two screws from the PCB COVER between the handle bars.

Step 3
Disconnect 4 Pin Connector from the PCB board and discard the board.

Step 4
Install new PCB board in reverse order.



How To... Replace The Handlebar Assembly

Tools Required: Phillips Screwdriver

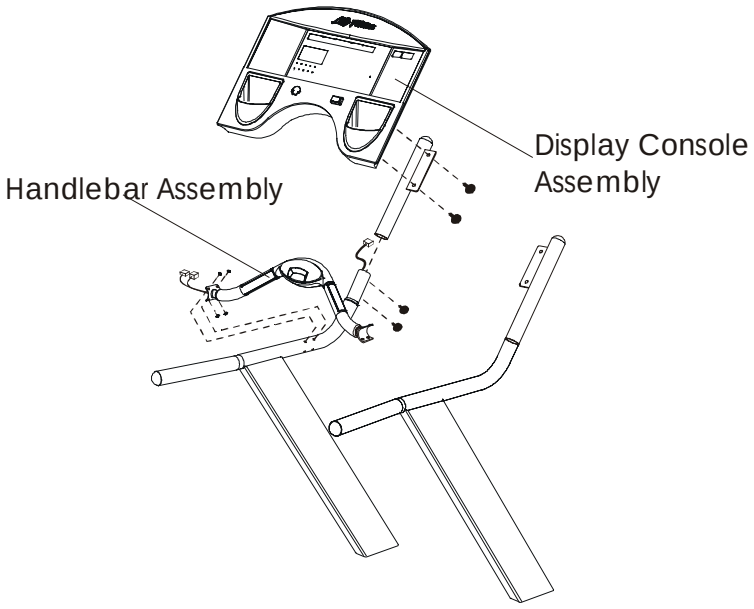
Step 1
Turn the unit power OFF at the switch, then unplug the line cord at the wall outlet.

Step 2 (Life Pulse Model Only)
Remove eight(8) screws from the BACK COVER.

Step 3 (Life Pulse Model Only)
Disconnect all cable connectors from the DISPLAY BOARD.

Step 4 (Life Pulse Model Only)
Remove four(4) console mounting screws from the back of the console, and lift off the DISPLAY CONSOLE ASSEMBLY.

Step 5 (Life Pulse Model Only)
Remove the two screws securing the EXTENSION ARM and guide wire harnesses out from tube.



Life Pulse Model Shown

Step 6
Remove the motor cover.

Step 7
Loosen (do not remove), six(6) 1/2-13 handrail mounting screws.

Step 8
Remove the (8)eight screws securing the HANDLEBAR ASSEMBLY and discard. Note: Carefully guide the wire harness out from the tube on the Life Pulse Models.

Step 9
Install new handlebar assembly in reverse order.

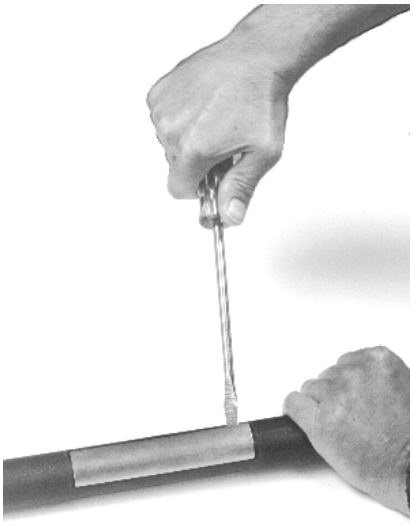
Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills
How To...REMOVE AND REPLACE THE DIGITAL HEART RATE SENSORS

Tools Required: Phillips screwdriver, standard screwdriver, 5/64" hex key wrench

NOTE: ***The kit you have received will come equipped with either 5/64" hex key button head screws or Phillips head pan screws. Either can be used for sensor replacement procedures on all models of Life Fitness exercise equipment equipped with Lifepulse digital heart rate sensors. The treadmill handlebar shown in the photographs are for demonstration purposes only. Replacement procedures as listed will remain the same for all applications. ALWAYS REPLACE BOTH SETS OF SENSORS PROVIDED IN THE KIT.***

Removing the existing Lifepulse digital heart rate sensors:

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



Step 2
Using a standard flat screwdriver, pry off the stainless steel sensor furthest away from you as if you were the user gripping the Lifepulse heart rate monitoring sensors (if screw access holes are already provided in the sensor you wish to replace, simply remove the two screws and continue to Step 2). This will be the sensor on which your fingertips rest during use. This sensor will be referred to as the ***"ground sensor"*** (black or green wire) hereafter in these instructions. The sensor closest to the user, on which the palm rests, will be referred to as the ***"signal output sensor"*** (red or white wire)***.***

Step 3
Pull the ***ground sensor*** gently away from the molded plastic housing, to which it was attached, to reveal a wire harness (black or green wire) with a Faston connector attached to the back of the sensor. Unplug the Faston connector from the ***ground sensor***.

Step 4
Loosen and remove the two screws securing the two sensor molded plastic housings to each other on the assembly. Lift the molded plastic housings away from each other and unplug the Faston connector attached to the back of the ***signal output sensor*** (red or white wire).

How To...REMOVE AND REPLACE THE DIGITAL HEART RATE SENSORS

Tools Required: Phillips screwdriver, standard screwdriver, 5/64" hex key wrench

Step 5
Plug the Faston connector (red or white wire) to the back of the new, pre-assembled ***signal output sensor*** assembly (this will be the assembly without the screw access holes in the sensor) and locate it into position. This sensor will be the sensor on which the palm rests during use.

Step 6
Plug the Faston connector (black or green wire) to the back of the new, pre-assembled ***ground sensor*** assembly (this will be the assembly with the screw access holes in the sensor) and locate it into position. This is the sensor on which the fingertips rest during use.

Step 7
Install the two screws through the access holes in the ***ground sensor*** and torque to 5 - 7 In. Lb. .

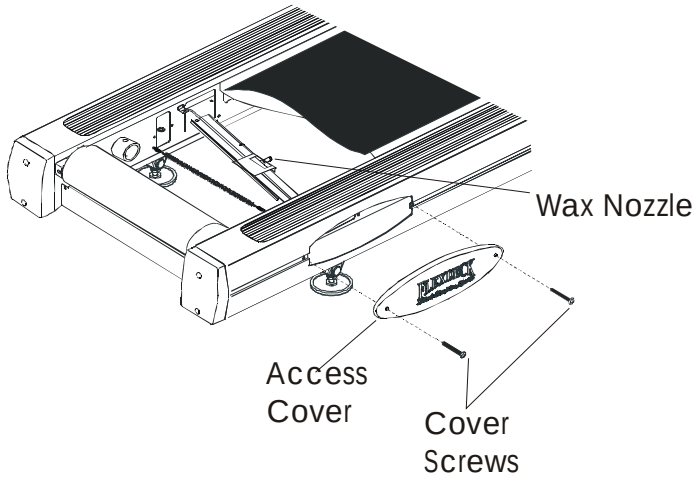
Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills
How To...CLEAN THE WAX NOZZLE

Tools Required: Phillips screwdriver, medium-to-soft bristle brush, and hot water

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

Step 2
Using a Phillips screwdriver, remove the two(2) screws from the access panel on the right side of the unit.

Step 3
Carefully reach inside the unit and locate the wax nozzle. Push the tip of the wax nozzle inward and rotate the nozzle 1/4 turn in a clockwise rotation and remove the nozzle. Note the two(2) flats on the wax nozzle. These flats must be at a horizontal plane upon final installation.

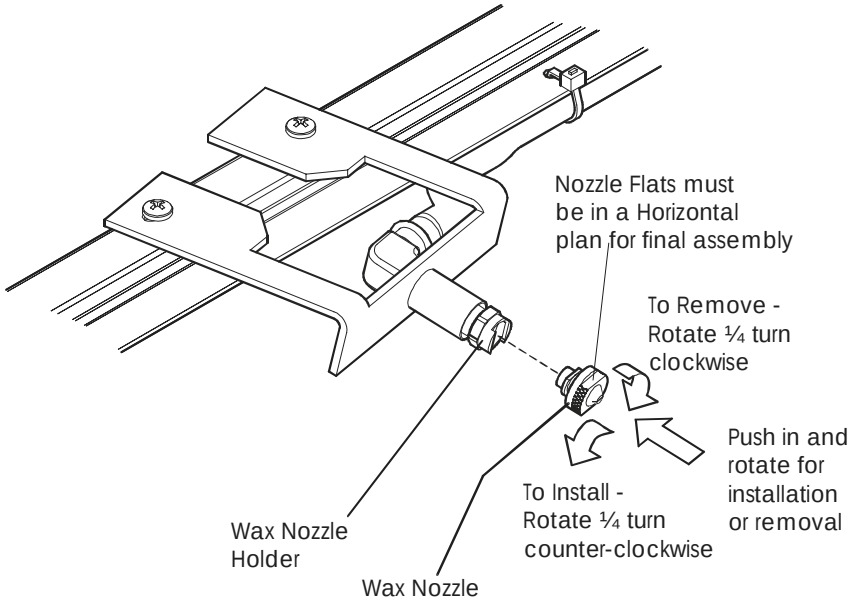


Step 4
Place the nozzle in a container of hot water and let sit for at least 10 minutes or when water has cooled enough to the touch.

Step 5
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.

Step 6
Dry the nozzle off with a lint-free rag.

Step 7
Reinstall the wax nozzle into its holder and while pressing in, rotate the nozzle 1/4 turn counterclockwise.



<u>IMPORTANT:</u> ***MAKE ABSOLUTELY SURE, THAT UPON FINAL ASSEMBLY, THE FLATS ON THE WAX NOZZLE ARE POSITIONED IN A HORIZONTAL PLANE. FAILURE TO DO SO WILL RESULT IN IMPROPER WAX APPLICATION.***

NOTES:

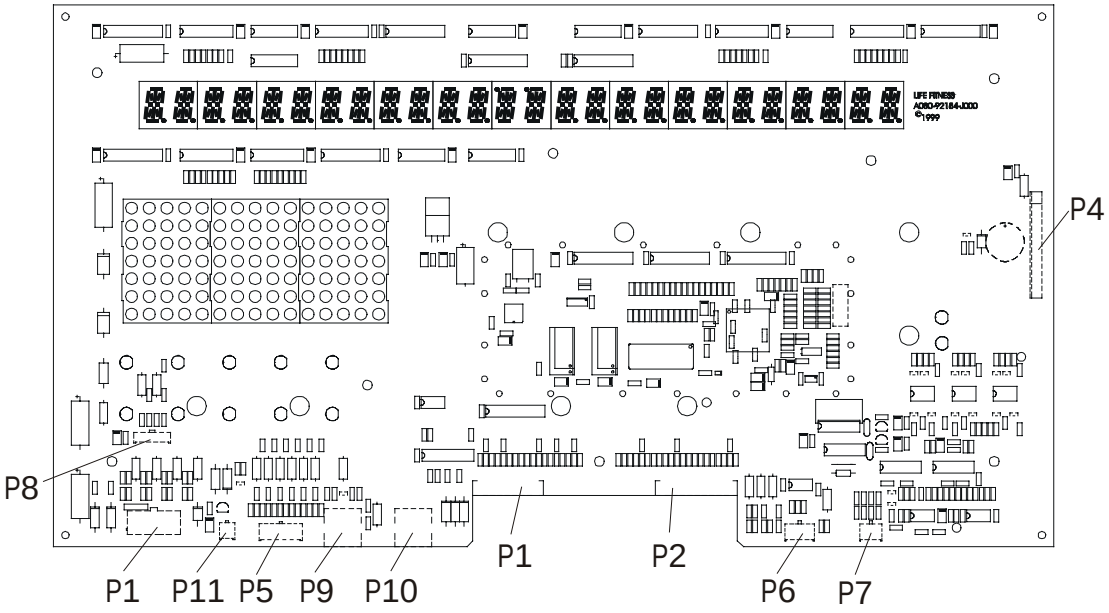
SECTION IV

ELECTRONIC OVERVIEW AND WIRING BLOCK DIAGRAM

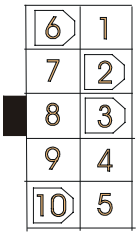
ELECTRONIC OVERVIEW - DISPLAY CONSOLE PCB

Functional Description

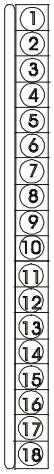
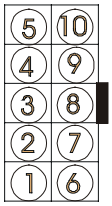
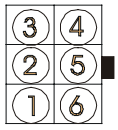
The Display Console PCB is an intelligent display and keypad interface. It works in conjunction with the Wax/Lift and Motor Control Modules. The console board reads the keypad input port to check for user inputs, updates, refreshes the status LEDs, data display, profile display matrix, reads analog voltages from the Lifepulse circuitry, and communicates with the other subsystem modules.



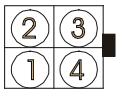
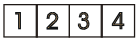
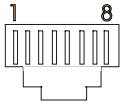
Connector and Pin Functions

Connector	Location	Pin	Functional Description
P1 is a 10 pin connector that connects to the Wax/Lift PCB		1	GND - ground
		2	GND - ground
		3	+8Vdc - LEDs
		4	+8Vdc - LEDs
		5	Reed Sense - Relay No. 1
		6	TXD – transmit data
		7	RXD – data received
		8	Bus_Req (bus request)
		9	+12Vdc – emergency stop switch
		10	Relay Enable
P2 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 PCB

Connector	Location	Pin	Functional Description
P3 is a 10 pin ribbon connector that connects to the Display Console Overlay		1	ESD ground
		2	Switch return 6
		3	Switch strobe 2
		4	Switch return 3
		5	Switch strobe 1
		6	Switch strobe 4
		7	Switch return 5
		8	Switch return 1
		9	Switch return 7
		10	ESD ground
P4 is an 18 pin connector that connects to the Remote Console PCB (TR9700 only)		1	D15 - 'DP' Segment Data
		2	D14 - 'G' Segment Data
		3	D13 - 'F' Segment Data
		4	D12 - 'E' Segment Data
		5	D11 - 'D' Segment Data
		6	D10 - 'C' Segment Data
		7	D9 - 'B' Segment Data
		8	D8 - 'A' Segment Data
		9	ST5 - Digit Strobe 5
		10	ST6 - Digit Strobe 6
		11	ST7 - Digit Strobe 7
		12	Key
		13	ST8 - Digit Strobe 8
		14	ST9 - Digit Strobe 9
		15	ST10 - Digit Strobe 10
		16	ST11 - Digit Strobe 11
		17	+8Vdc (Not used)
		18	Ground (Not used)
P5 is a 10 pin connector that connects to the Serial Peripheral Interface serial communications port		1	MISO - master-in slave-out
		2	MOSI - master-out slave-in
		3	SCK - serial clock
		4	N/U - not use
		5	GND - ground
		6	PCS1 - peripheral chip select 1
		7	PCS2 - peripheral chip select 2
		8	PCS3 - peripheral chip select 3
		9	Open Collector Output
		10	+8Vdc
P6 is a 6 pin connector that connects to the Polar Receiver and end of Session switch		1	+5Vdc
		2	Polar signal
		3	Ground
		4	Stop Switch +
		5	Stop Switch -
		6	N/U

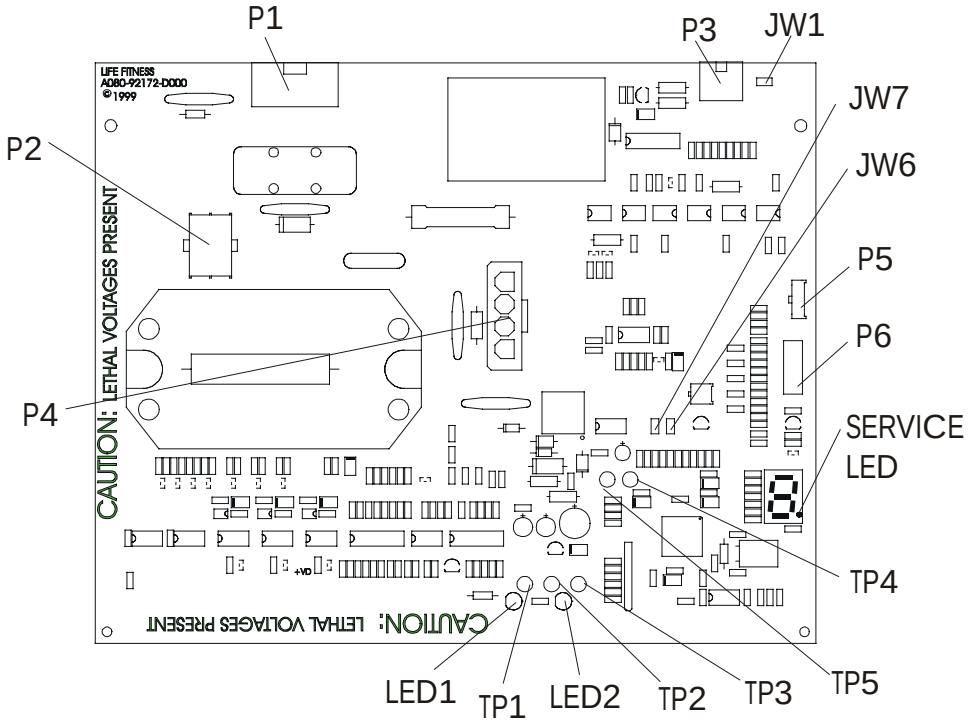
ELECTRONIC OVERVIEW - DISPLAY CONSOLE PCB

Connector	Location	Pin	Functional Description
P7 is a 4 pin connector that connects to the Lifepulse electrodes		1	Left +
		2	Left -
		3	Right -
		4	Right +
P8 is a 4 pin connector that connects to the Smart Stop module		1	Smart Stop Signal
		2	Smart Stop Enable
		3	+8Vdc
		4	Ground
P9 and P10 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 – MOTOR CONTROLLER PCB

Functional Description

The Motor Controller PCB is a single phase AC input PWM variable frequency three(3) phase AC output motor controller. Specifically the controller input is configured as a full wave bridge for 230 volt AC input, and as a voltage doubler for 120 volt AC input. The resultant DC bus voltage is processed through a microprocessor controlled six switch DC to AC inverter. The output is three phase power with pulse width modulation of both voltage and frequency.



NOTE: The motor controller design utilizes a 'hot' supply. This means the entire board will be at elevated potentials relative to earth ground any time the circuit is active. All measurements should be conducted with isolated equipment. Additionally there is considerable energy stored within the circuitry for up to 90 seconds after power is removed from the circuit. Personnel working with this equipment should be trained and adequate precautions should be used whenever working with this equipment.

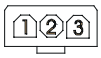
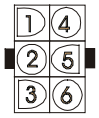
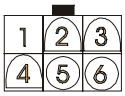
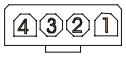
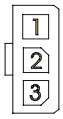
Section IV

LEDs, Test Points, and Jumpers

Description	Location	Function
Service LED	LED1	5 Vdc
	LED2	14 Vdc
	LED3	Service LED
Test Point (TP)	TP1	14 Vdc supplies relay power
	TP2	5 Vdc system voltage
	TP3	Ground (GND)
	TP4	EPROM default
	TP5	Volts (motor parameters)
Jumper (JW)	JW1	Serial interface (IN)
	JW6	Clears continuous error messages and displays EPPROM data (OUT)
	JW7	Determines the wave form applied to the motor (IN)

ELECTRONIC OVERVIEW – MOTOR CONTROLLER PCB

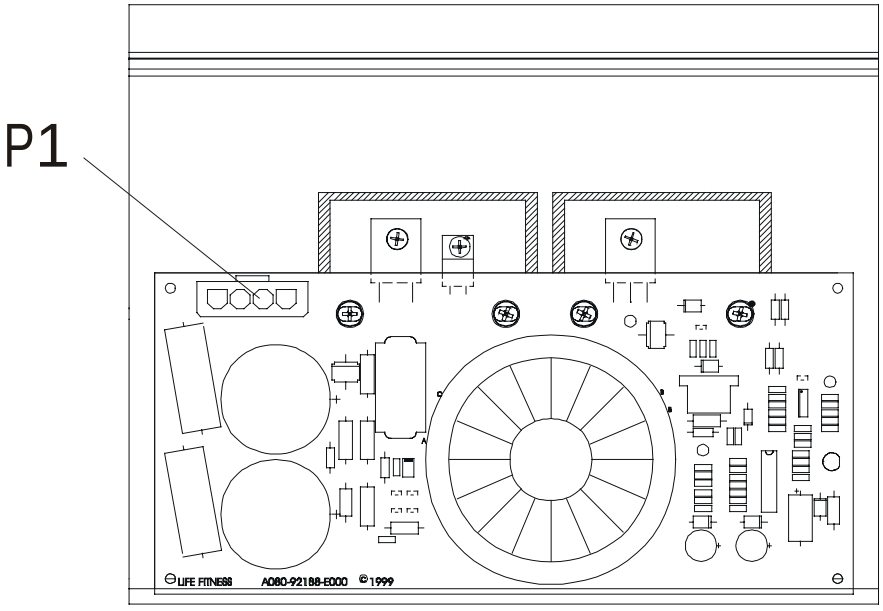
Connector and Pin Functions

Connector	Location	Pin	Functional Description
P1 is a 3 pin connector that connects to AC inputs		1	120/230 Vac input line
		2	120 VAC neutral/230Vac return
		3	Earth ground connection
P2 is a 6 pin connector that connects to the Output Motor		1	Earth ground connection.
		2	Motor phase W
		3	Motor phase V
		4	Motor phase U
		5	Power connection: Motor thermal cutout
		6	Power connection: Motor thermal cutout
P3 is a 6 pin connector that connects to the Control Inputs		1	8VDC
		2	Ground (Console circuit ground)
		3	Emergency stop switch
		4	Bus request
		5	Data receive
		6	Data transmit
P4 is a 4 pin connector that connects to the Power Factor Controller or capacitor board		1	Volt positive (PFC in)
		2	Ground for motor controller circuit
		3	Voltage doubler neutral - no connection for 230Vac or PFC
		4	Volt positive (PFC out)
P5 is a 3 pin connector that connects to the RPM Input		1	Ground for Motor Controller circuit
		2	5VDC (VCC)
		3	Speed sense input
P6 is a 10 pin connector that connects to the Diagnostic Header Inputs Note: Pins 1 and 6 are located closest to P5 on the PCB.		1	Serial output
		2	Serial input
		3	Secure input to 68HC08 processor
		4	Ground for Motor Controller circuit
		5	Bi-directional serial line
		6	PTC4 input
		7	Programming voltage input
		8	DC voltage (+VD)
		9	5VDC (VCC)
		10	5VDC (VCC)

ELECTRONIC OVERVIEW – POWER FACTOR CONTROL PCB

Functional Description

The Power Factor Control PCB was designed to improve the efficiency of power. It is used on the TR9700HR models, and Japanese 100, 200V TR9100 and TR9500.



Red LEDs indicate that power is ON

Connector and Pin Functions

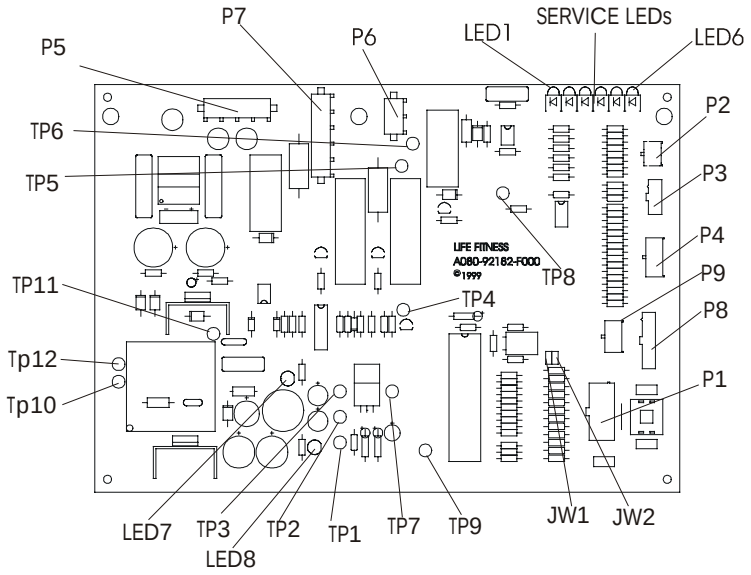
Connector	Location	Pin	Functional Description
P1 is a 4 pin connector that connects to Motor Controller		1	PFC in
		2	Ground for Motor Controller Circuit
		3	NC
		4	PFC out

ELECTRONIC OVERVIEW - WAX LIFT PCB

Functional Description

The Wax /Lift /Power Supply Board acts as a junction board which interfaces with the:

- Display Console,
- Frame Tag,
- Home Switch,
- Lift Motor,
- Wax Motor, and
- Power Supply

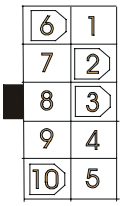
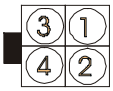
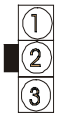
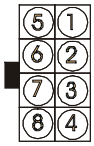


LEDs, Relays, Test Points, and Jumpers

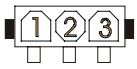
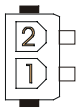
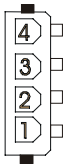
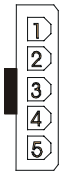
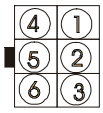
Description	Location	Function
Service LED	LED1	Flashes when the control processor and the main processor are running
	LED2	ON when lift motor is going up
	LED3	ON when lift motor is going down
	LED4	ON when bottom limit switch is engaged
	LED5	ON when negative switch is closed
	LED6	Flashes when Control UP is running
	LED7	Green indicates that +12V output is ON
	LED8	Red indicates that +8V output is ON
Relay Switch	Relay 1 and 2	Drives Lift Motor
	Relay 3 (12Vdc coil)	Drives Wax Pump
	Relay 4 (12Vdc coil):	Relay 4 supplies AC input to the Wax/Lift Circuit
Test Point (TP)	TP1	Ground (GND)
	TP2	8vDC
	TP3	12vDC
	TP4	5vDC
	TP5	Line voltage (neutral)
	TP6	Line voltage (hot wire)
	TP7	5vDC (voltage regulator)
	TP8	Line frequency test (wax motor must be OFF)
	TP9	N/U - not used
	TP10	Ground (GND)
	TP11	Rectifier output (POS)
	TP12	Rectifier output (NEG)
Jumper (JW)	JW1	One(1) wire system
	JW2	Two(2) wire system

ELECTRONIC OVERVIEW - WAX LIFT PCB

Connector and Pin Functions

Connector	Location	Pin	Functional Description
P1 is a 10 pin connector that connects to the Console		1	Ground
		2	Ground
		3	+8VDC
		4	+8VDC
		5	NC
		6	RXD
		7	TXD
		8	BUS request
		9	+12Vdc
		10	Pin relay
P2 is a 4 pin connector that connects to the Lift Motor		1	0 position
		2	Ground
		3	Bottom
		4	Ground
P3 is a 3 pin connector that is not applicable		1	N/U - not used
		2	N/U - not used
		3	N/U - not used
P4 is a 8 pin connector that connects to the Frame Tag PCB		1	+5VDC (VCC)
		2	Ground
		3	MISO
		4	MOSI
		5	SCK
		6	NC
		7	CS
		8	CE

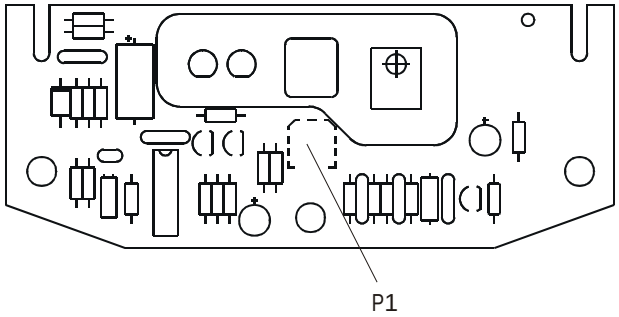
ELECTRONIC OVERVIEW - WAX LIFT PCB

Connector	Location	Pin	Functional Description
P5 is a 3 pin connector that connects to the AC Input Power from Entry Module		1	Hot (120Vac)
		2	Neutral
		3	Ground
P6 is a 2 pin connector that connects to the Wax Pump		1	Neutral
		2	Hot (120 Vac)
P7 is a 4 pin connector that connects to the Lift Motor		1	Down
		2	Hot (120Vac)
		3	Up
		4	Ground
P8 is a 5 pin connector that connects to the Life Link Board		1	+8Vdc
		2	Ground
		3	Bus request
		4	Receive data
		5	Transmit data
P9 is a 6 pin connector that connects to the Motor Control Board		1	+8Vdc
		2	Ground
		3	Pin Relay
		4	Bus Request
		5	Receive data
		6	Transmit data

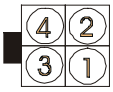
ELECTRONIC OVERVIEW – SMART STOP PCB

Functional Description

The Smart Stop PCB, is designed to sense the presence of a user on the treadmill deck. Infrared light is transmitted twice a second. It is reflected by the user and then is detected by the receiver module. The treadmill console controls the **Enable** pulse and reads the output of the receiver module.



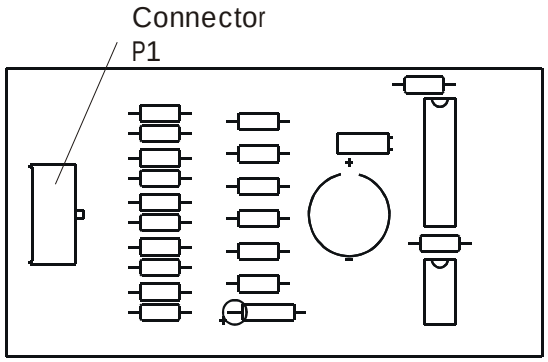
Connector and Pin Functions

Connector	Location	Pin	Functional Description
P1 is a 4 pin connector that connects to the Display PCB		1	Ground
		2	+8Vdc
		3	/Enable Input Active
		4	U_Detect Output Pulsed Active Low

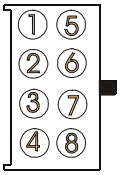
ELECTRONIC OVERVIEW – FRAME TAG PCB

Functional Description

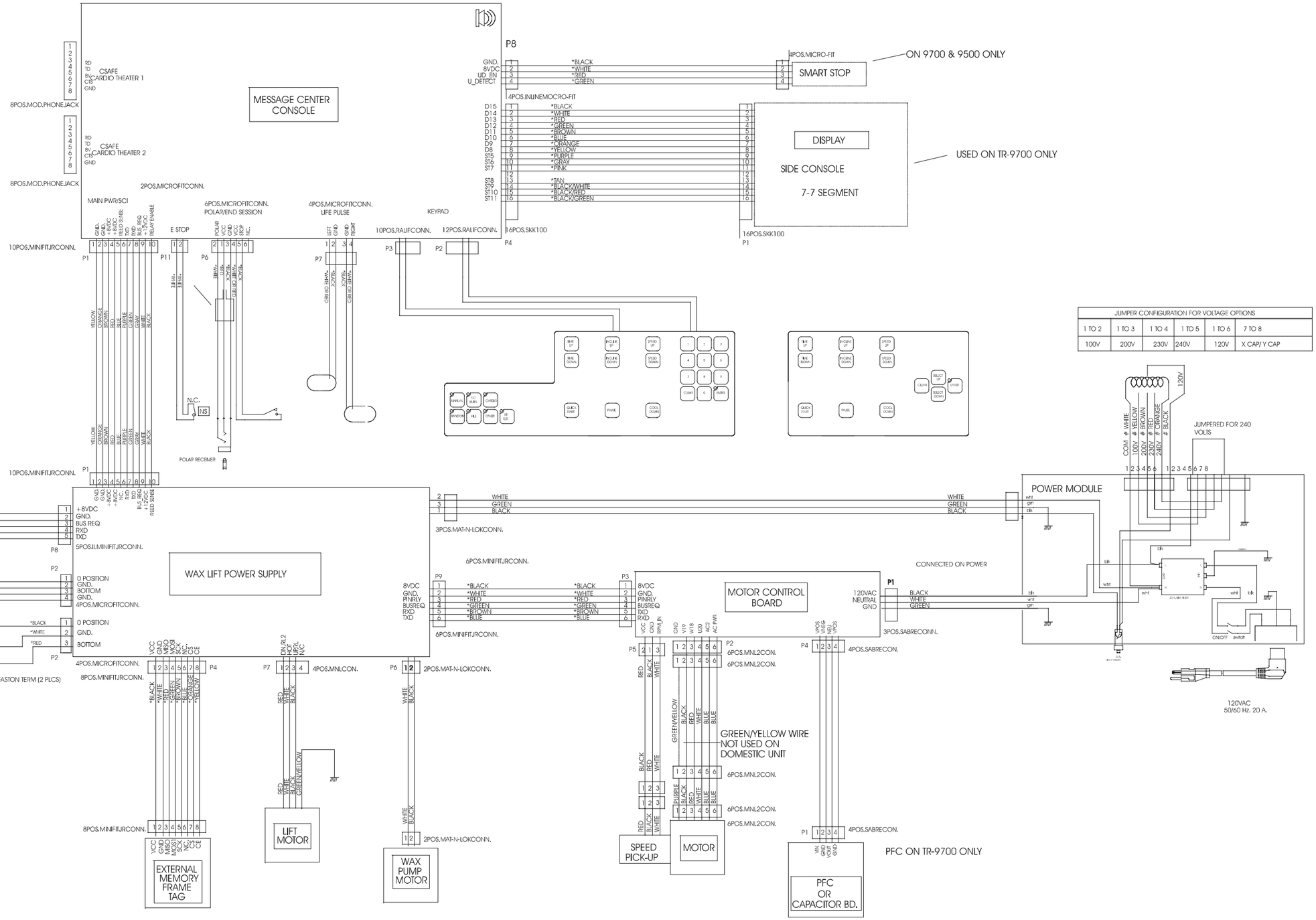
The Frame Tag board identifies the unit track from date of manufacture and provides a place to record information significant to the history of the unit.



Connector and Pin Functions

Connector	Location	Pin	Functional Description
P1 is an 8 pin connector that connects to the Frame Tag PCB		1	VCC - +5 Vdc
		2	GND - ground
		3	MISO - master-in slave-out
		4	MISI - master-in slave-in
		5	SCK - serial clock
		6	NU - not used
		7	CS - chip select
		8	CE - chip enabled

ELECTRONIC OVERVIEW – BLOCK DIAGRAM



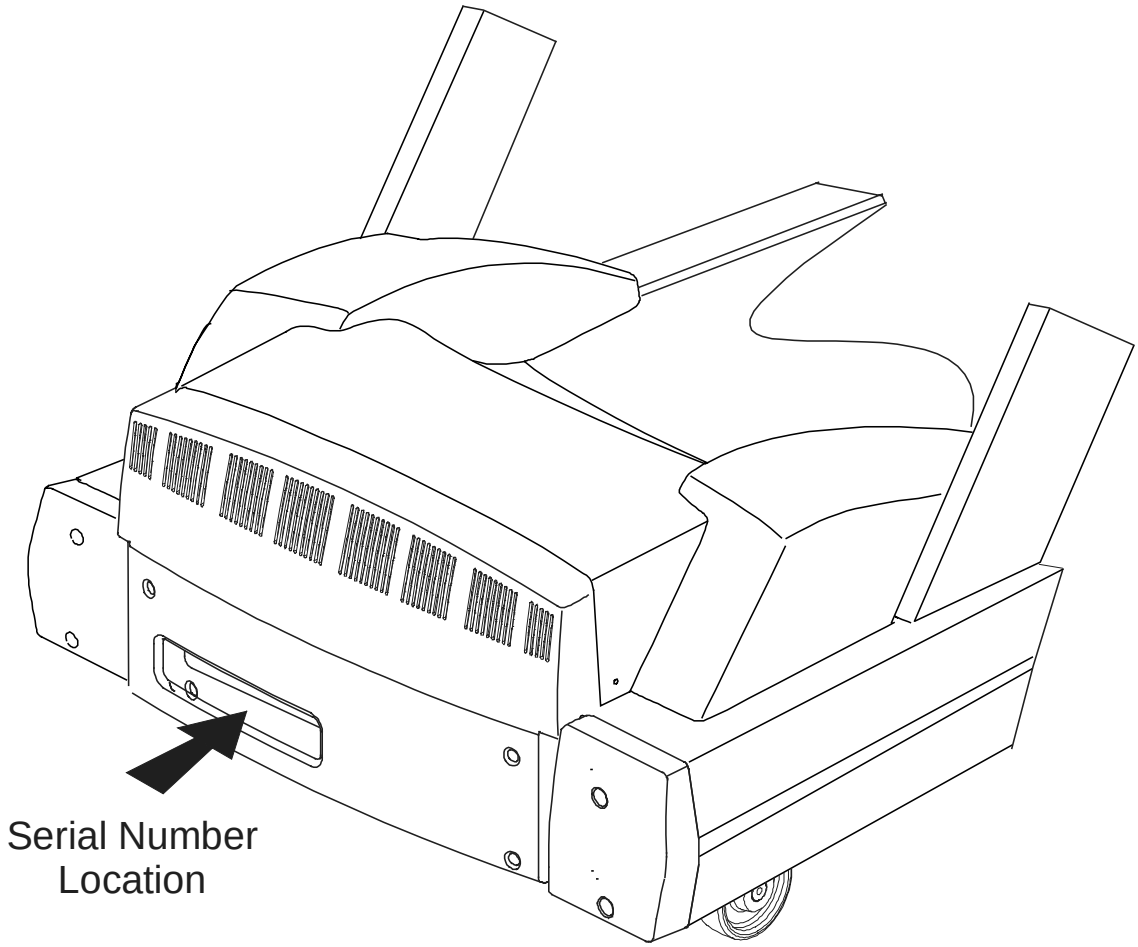
JUMPER CONFIGURATION FOR VOLTAGE OPTIONS					
1 TO 2	1 TO 3	1 TO 4	1 TO 5	1 TO 6	7 TO 8
100V	200V	230V	240V	120V	X CAP/ Y CAP

NOTES:

SECTION V

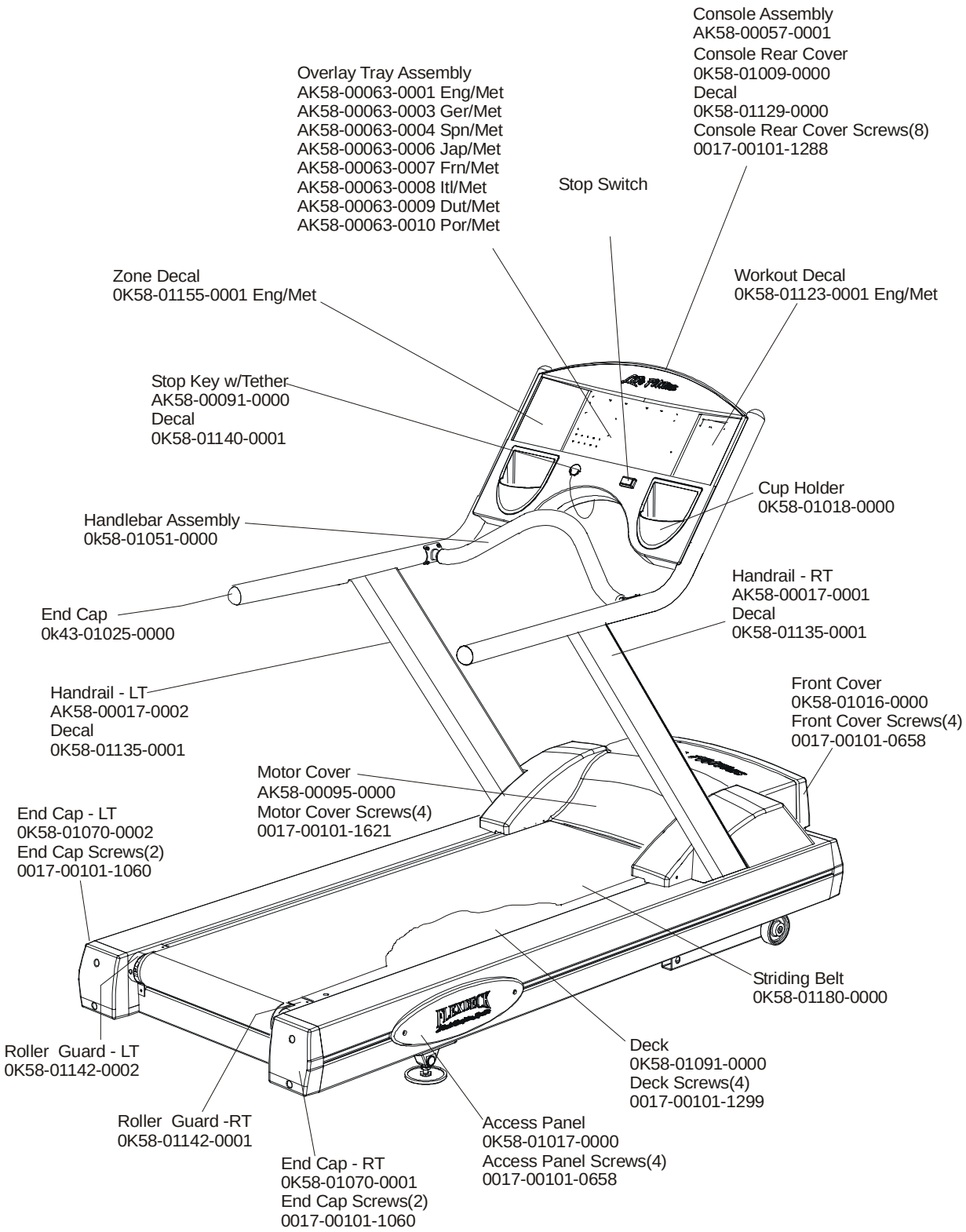
PARTS INDENTIFICATION

Model and Serial Number Identification



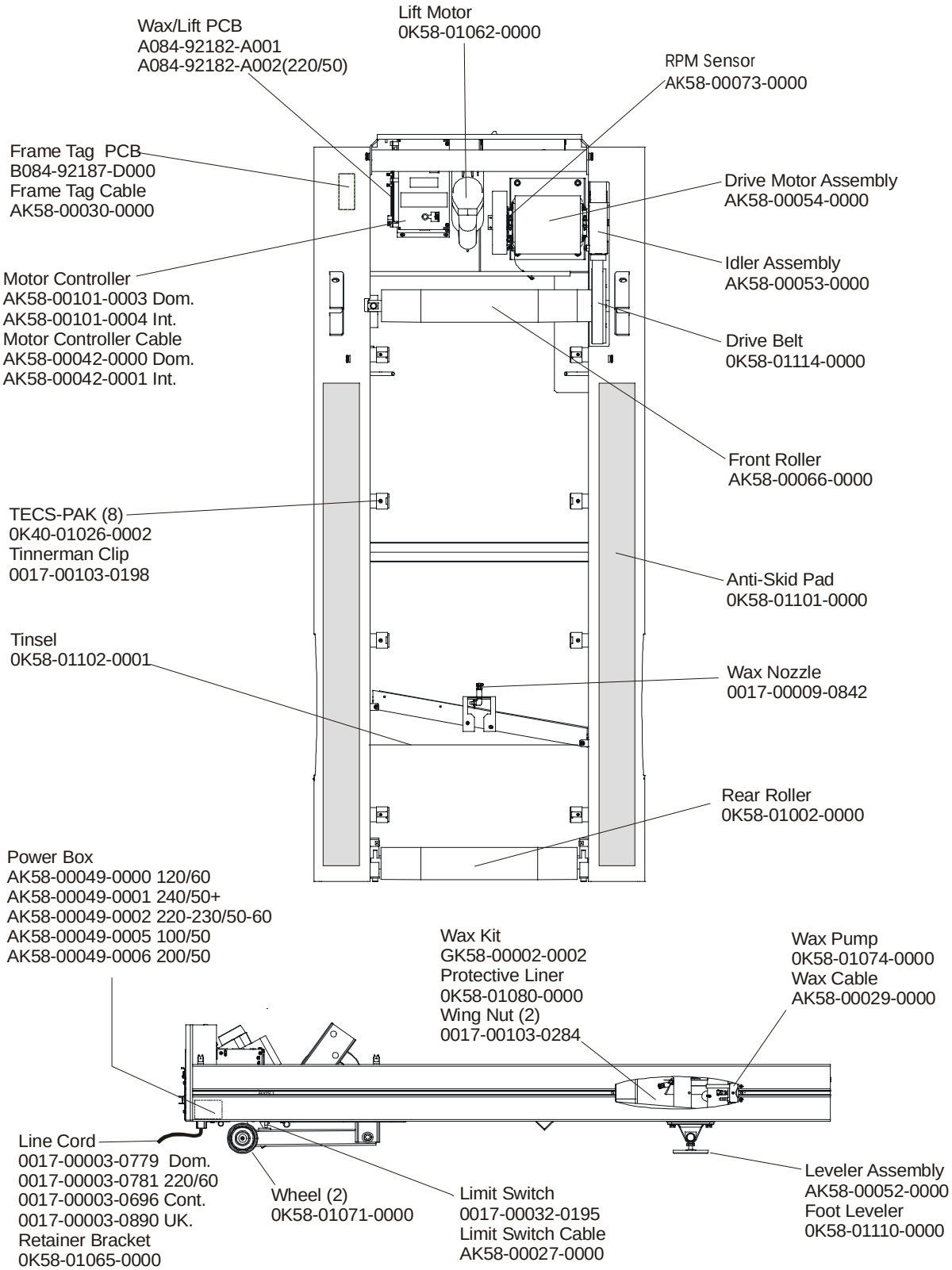
Life Fitness Models 9100
TR91-0100-34

Serial number 379000 and up



Life Fitness Models 9100
TR91-0100-34

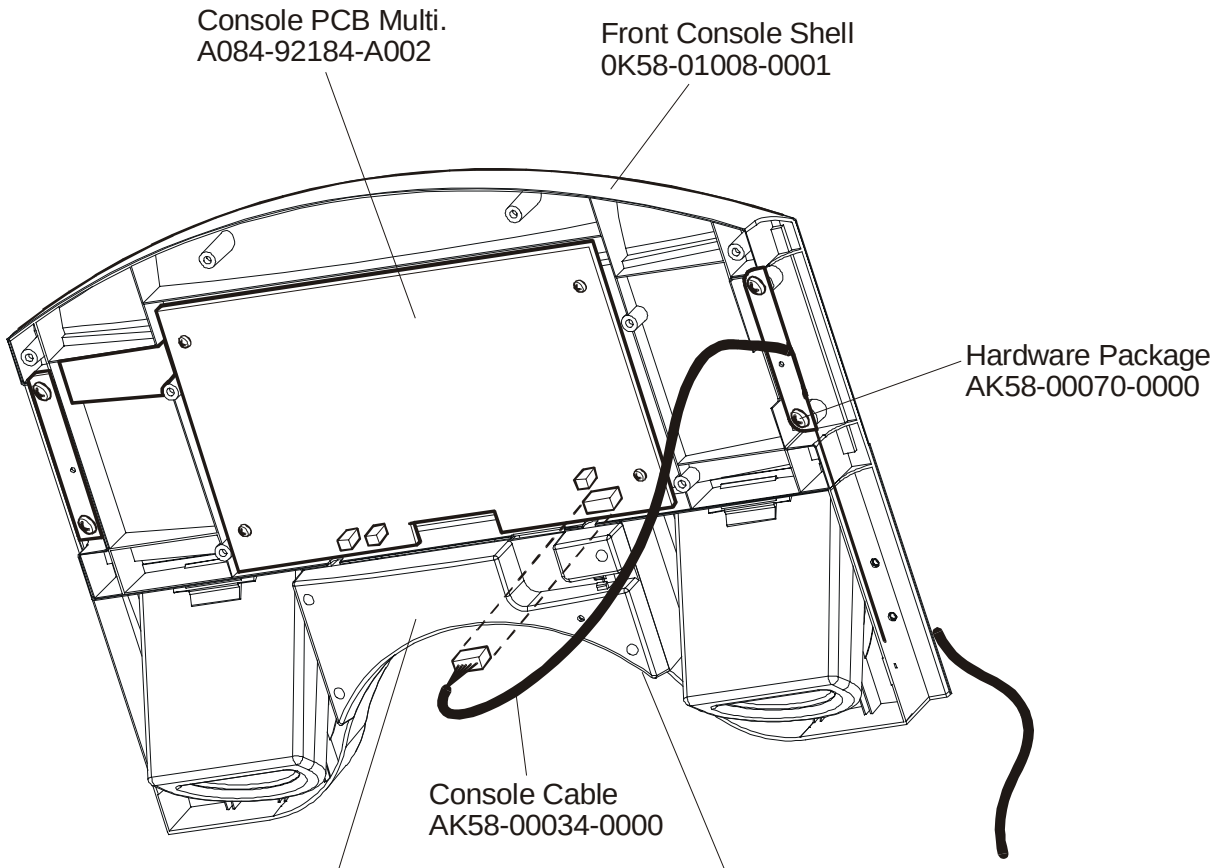
Serial number 379000 and up



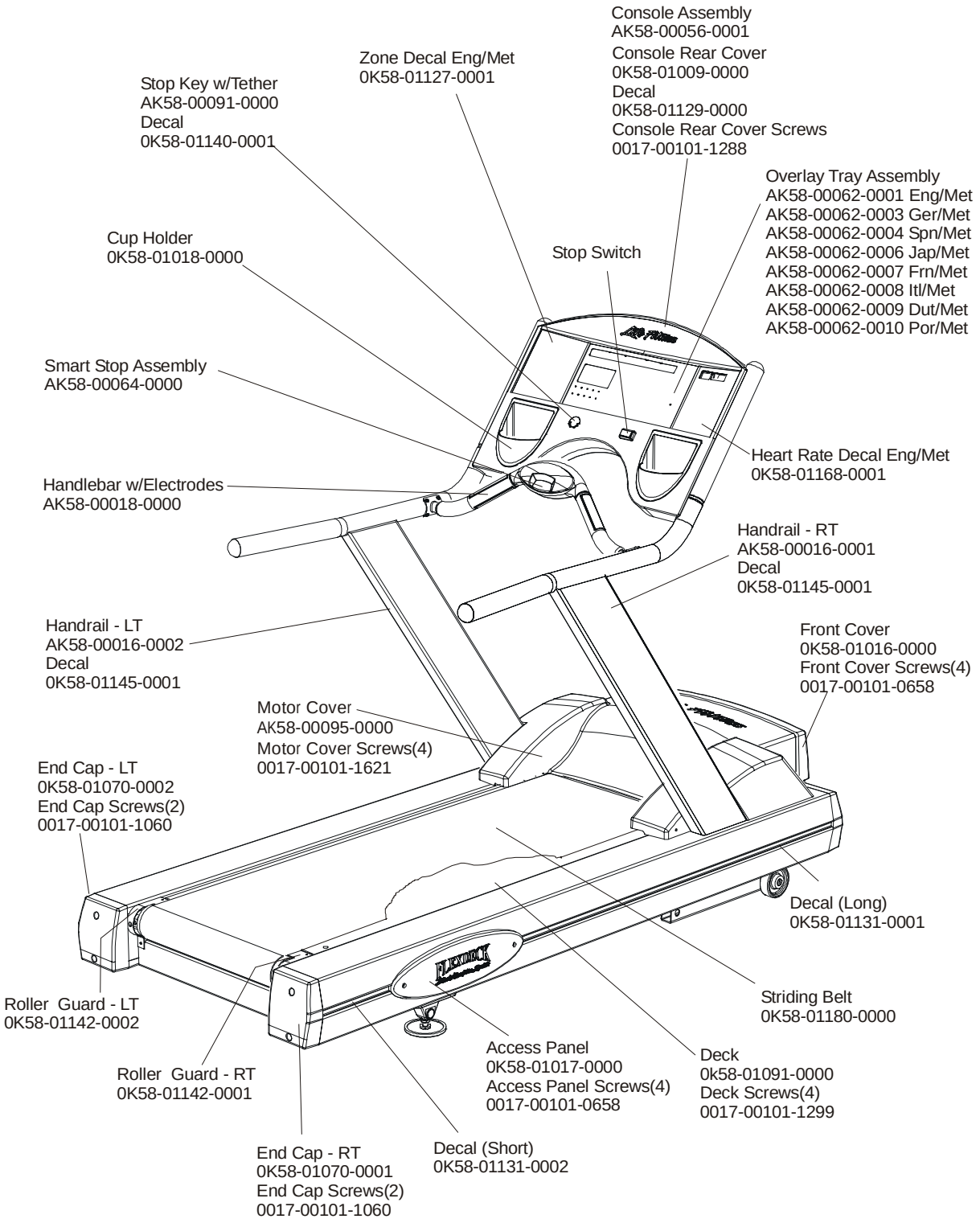
Life Fitness Models 9100

TR91-0100-34

Serial number 379000 and up

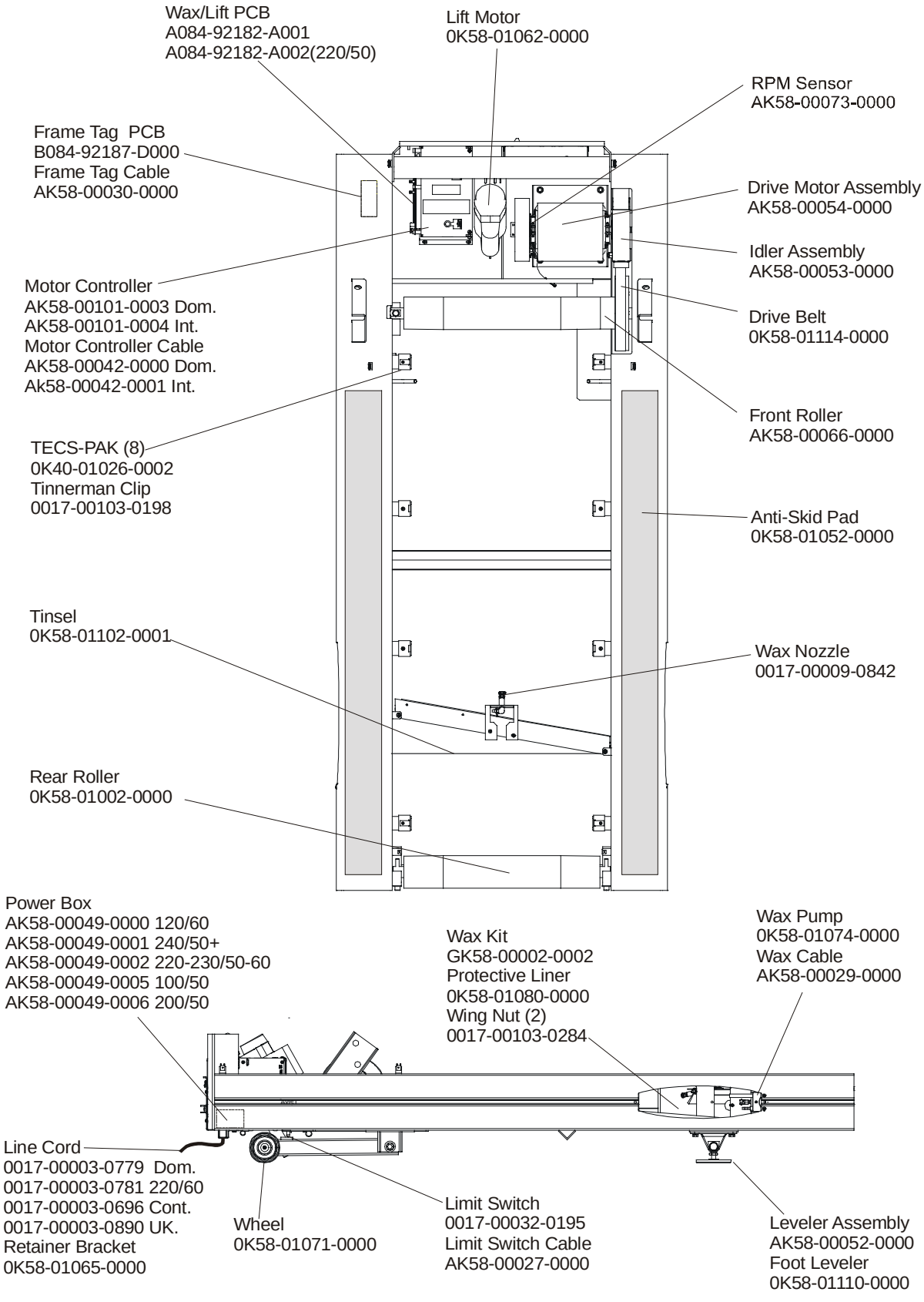


Serial number 320000 and up

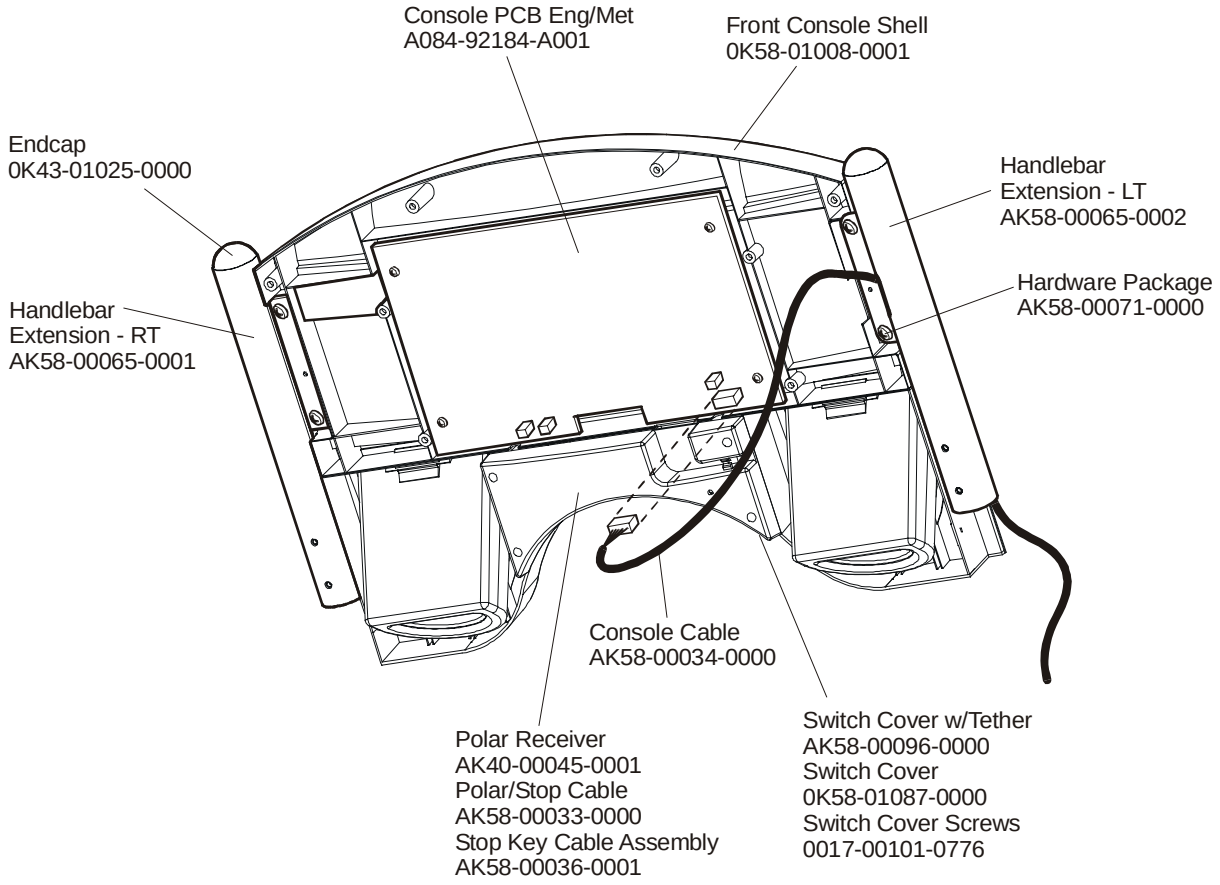


Life Fitness Models 9500HR
TR95-0100-34

Serial number 320000 and up



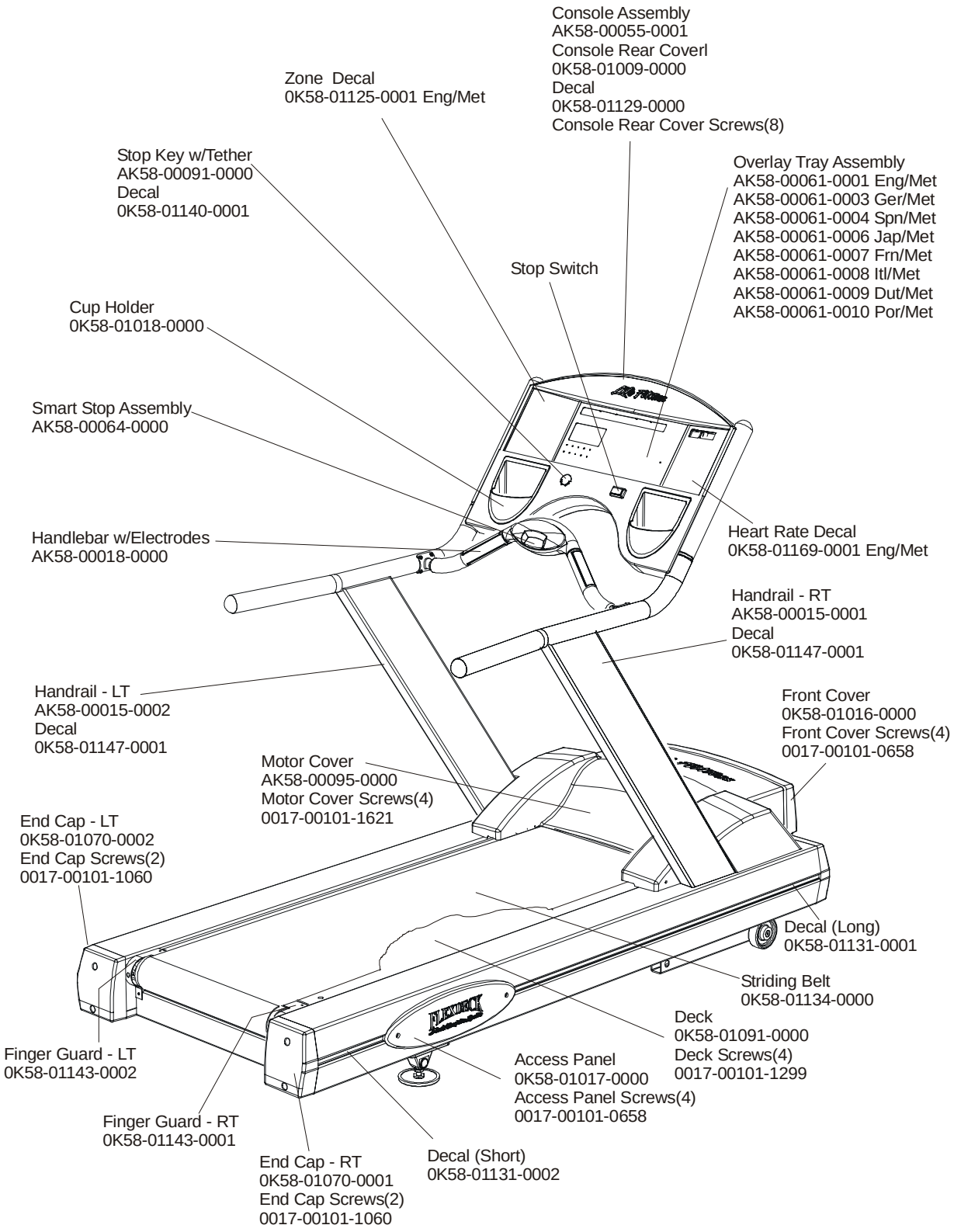
Serial number 320000 and up



Life Fitness Models 9700HR

TR97-0100-01

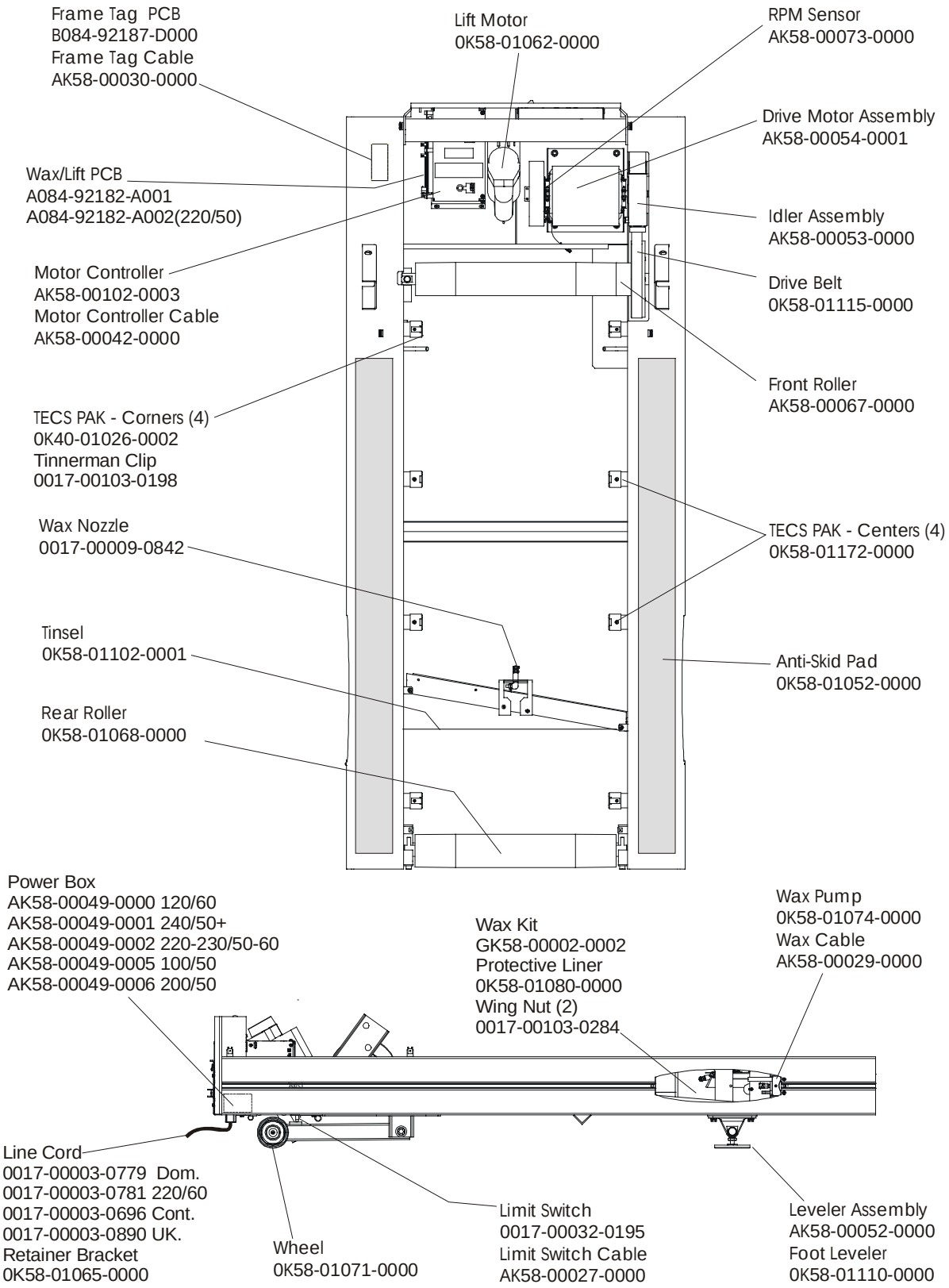
Serial number 970000 and up



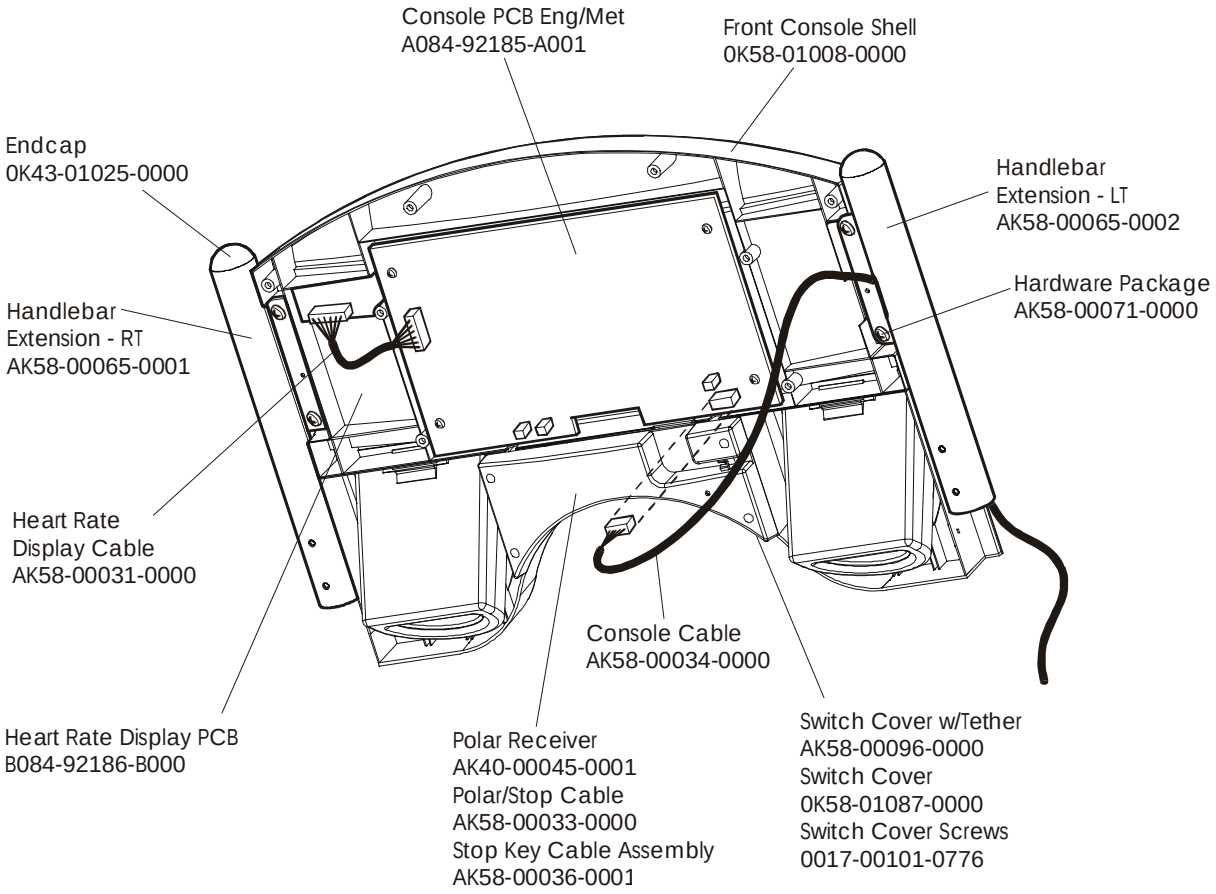
Section V

Life Fitness Models 9700HR
TR97-0100-01

Serial number 970000 and up

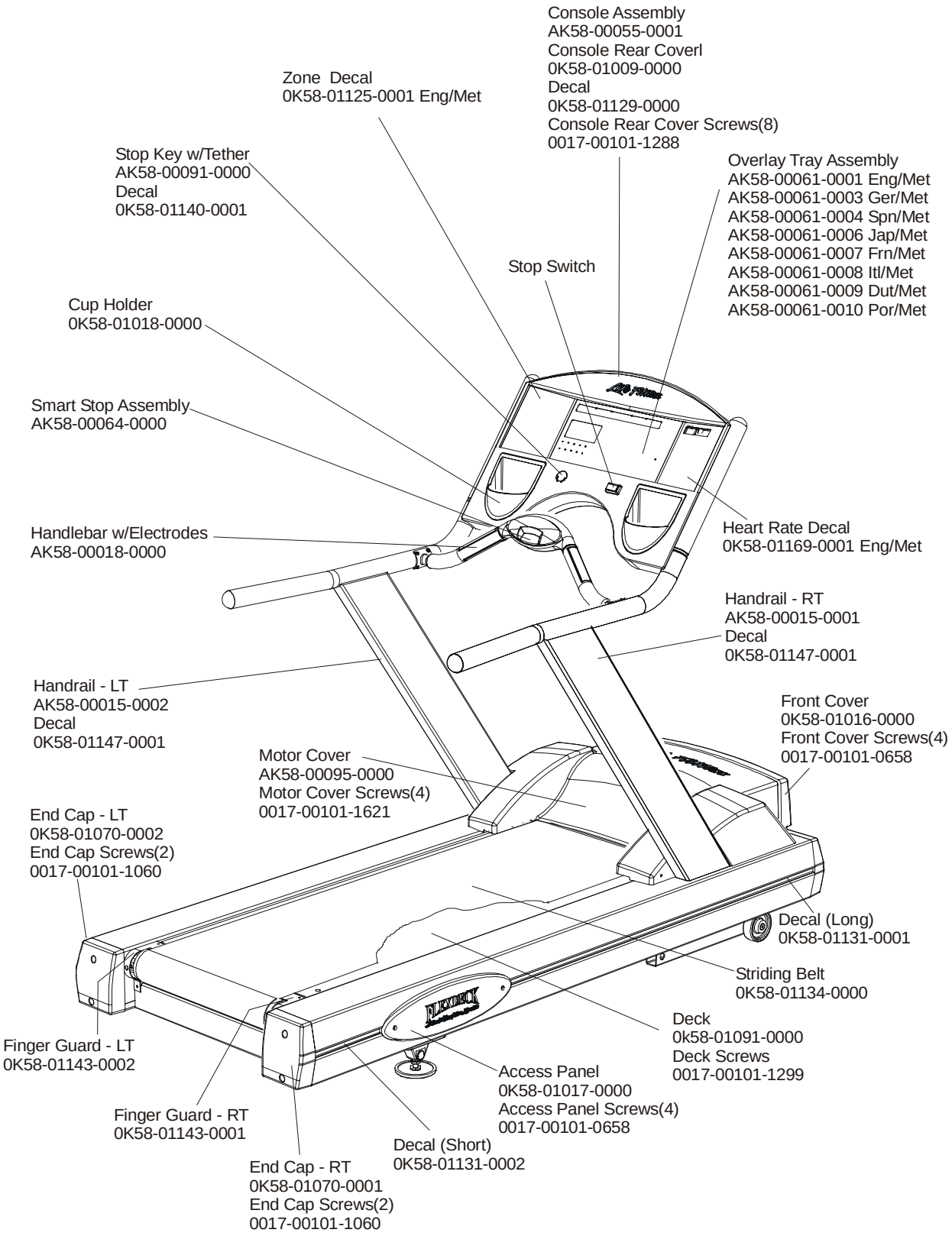


Serial number 970000 and up



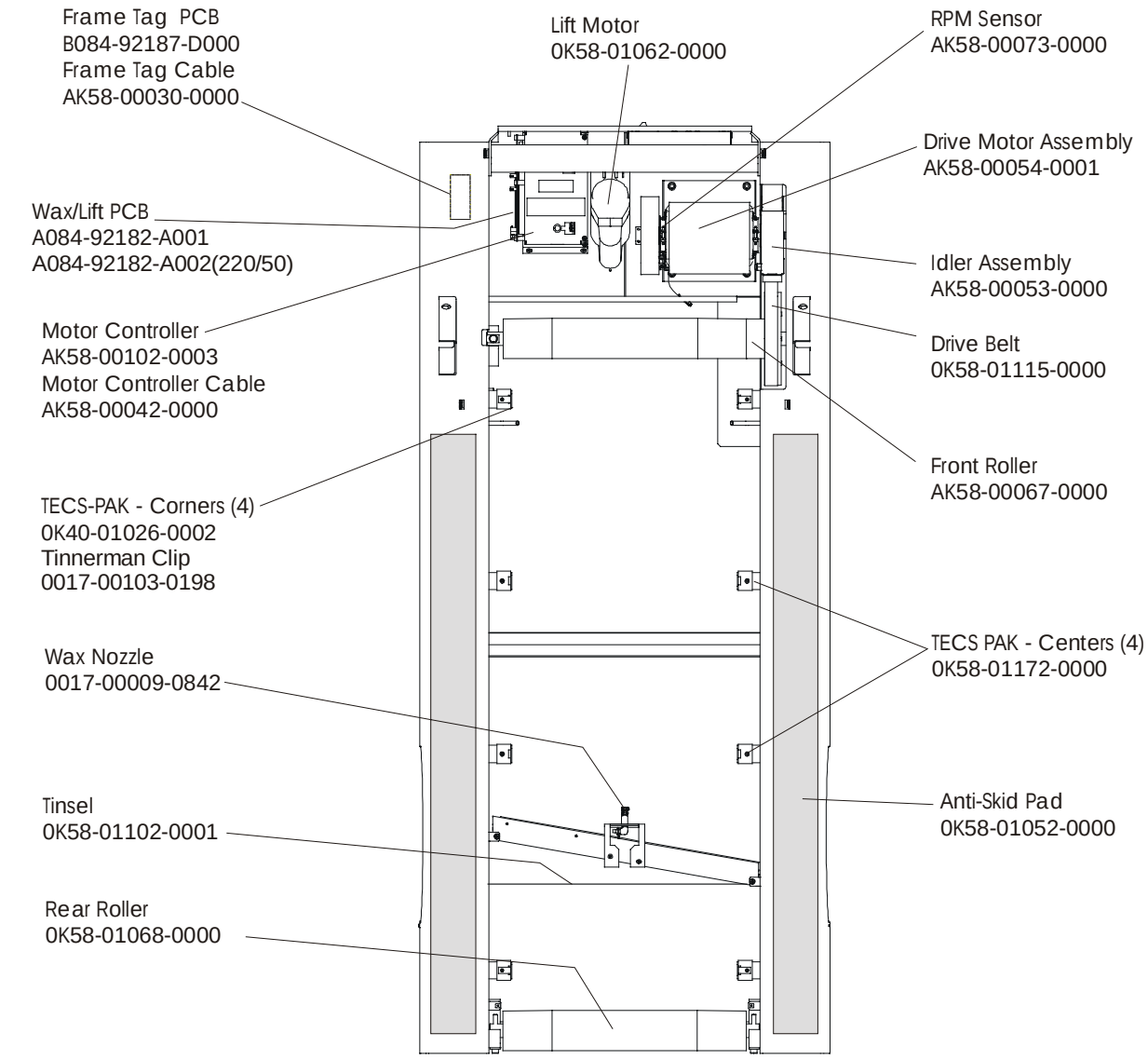
Life Fitness Models 9700HR W/Incline
TR97-0100-02

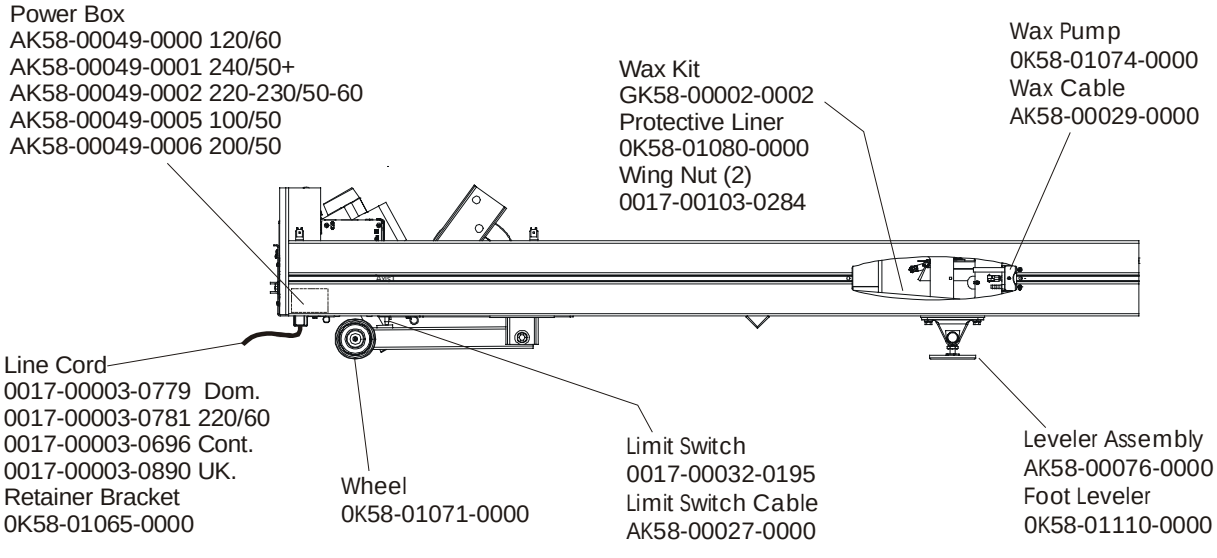
Serial number 970000 and up



Life Fitness Models 9700HR W/Incline
TR97-0100-02

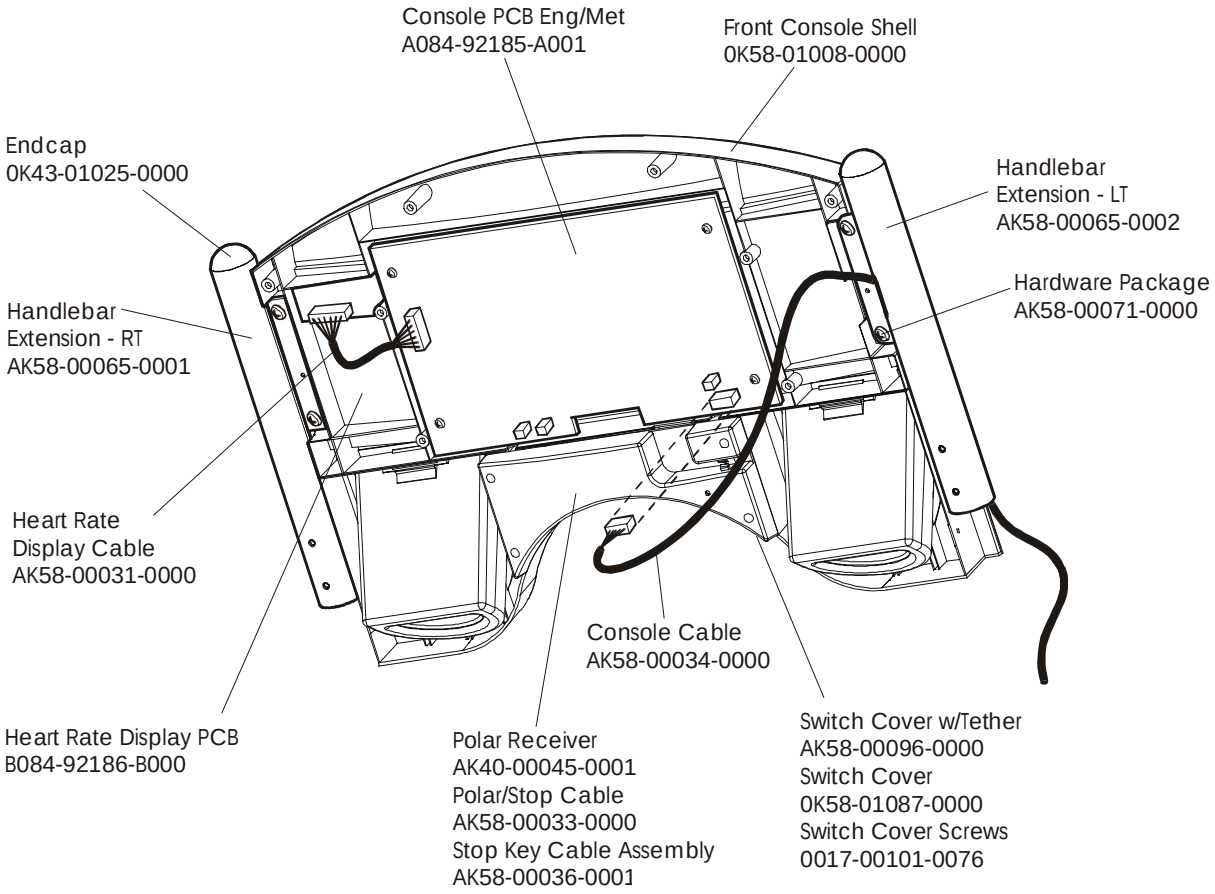
Serial number 970000 and up





Section V

Serial number 970000 and up



NOTES:

SECTION VI

MISCELLANEOUS INFORMATION

Preventive Maintenance Schedule

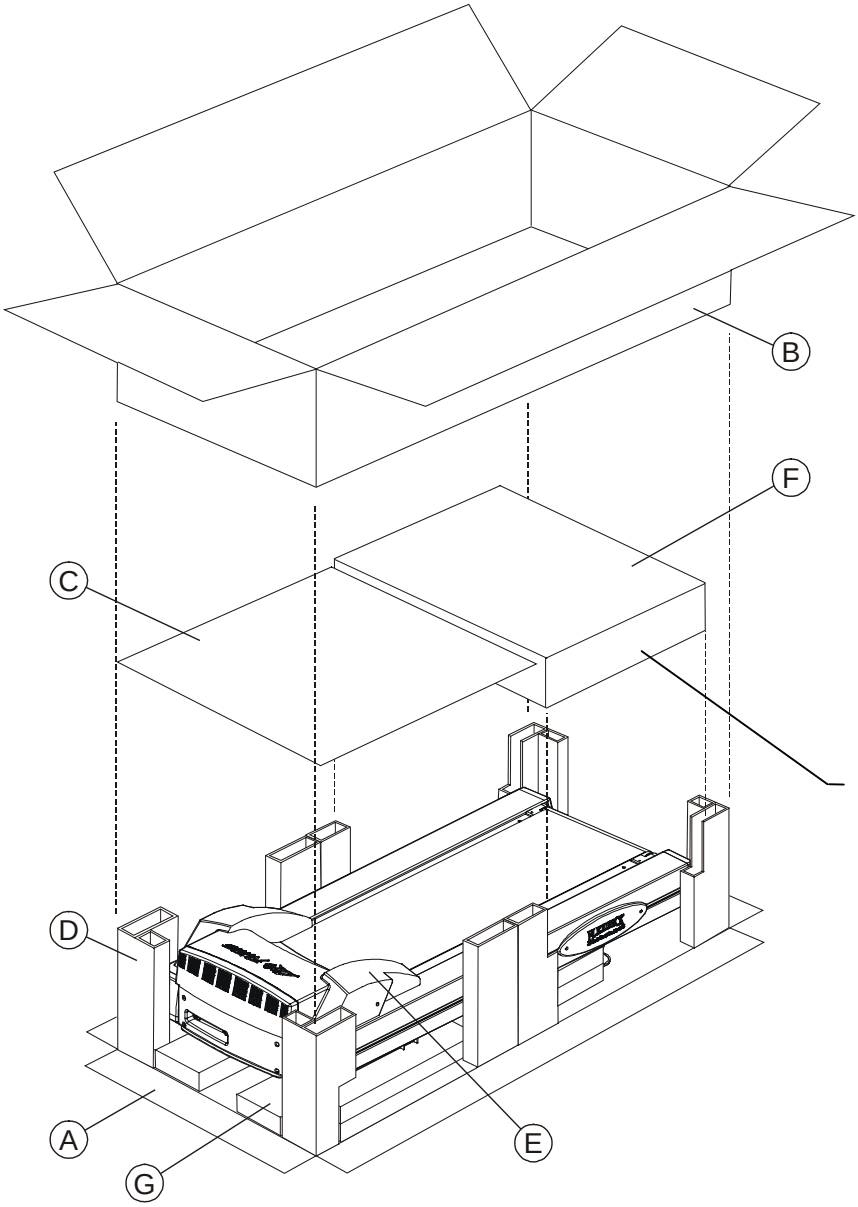
ITEM	WEEKLY	MONTHLY	QUARTERLY	BI-ANNUAL	ANNUAL
DISPLAY CONSOLE ASSEMBLY					
Hardware				Inspect	
Overlay	Clean			Inspect	
Accessory Cups					Inspect
Stop Switch	Clean			Inspect	
Emergency Switch/Key	Clean			Inspect	
HANDLEBAR ASSEMBLY					
Hardware				Inspect	
Handlebar				Inspect	
Side Hand Rails				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				

Life Fitness Models 9100, 9500HR, 9700HR, and 9700HR w/Decline Treadmills
UNPACKAGING INSTRUCTIONS

Step 1
Remove all staples from the corrugated shipping container and fold down the four sides of the base tray (A).

Step 2
Lift and open the top flaps of the shipping container sleeve (B). Lift and remove the motor cover protective liner (C). Lift and remove the two front corner posts (D).

Step 3
With the help of another person, carefully lift the shipping container sleeve (B) up and off of the base tray (A) and over the treadmill (E). Remove the ship kit box (F) from the treadmill deck and set aside. Remove the remaining support posts.



Step 4
Remove the plastic sheet covering the motor cover.

Step 5
Using a screwdriver, remove the front locator pads (G) from the base tray (A).

With the help of another person, carefully lift the rear of the unit and slowly roll the unit forward off of the base tray.

NOTE: ***BE SURE NOT TO DAMAGE THE LINE CORD WHEN MOVING THE TREADMILL OFF OF THE BASE TRAY.***

Step 6
Follow the Installation Instructions included in the parts bag to complete the assembly of your Treadmill.

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.

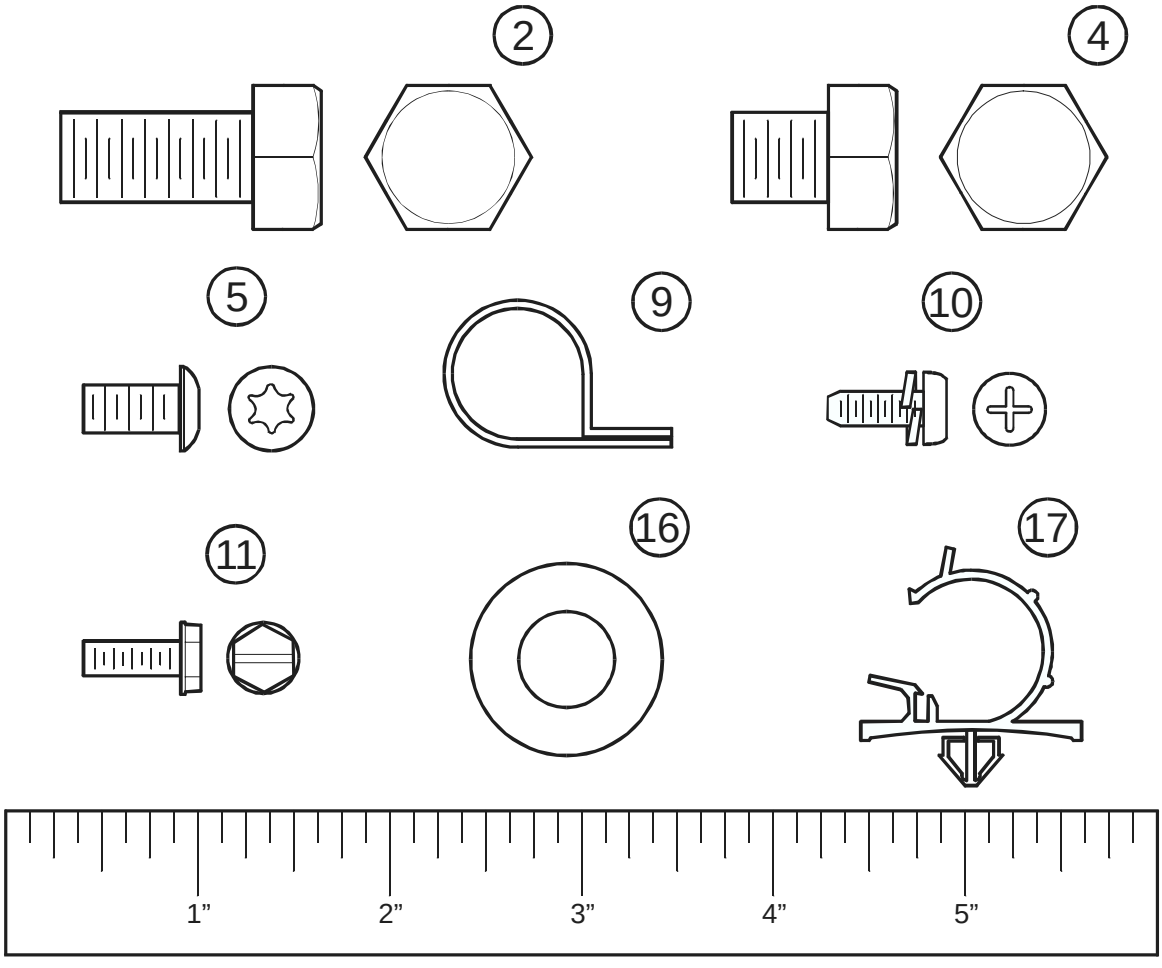
DO *read the entire Operation Manual prior to attempting to operate this machine, as this is essential for proper use. The Manual explains how to properly use the treadmill and helps you to design an aerobic workout tailored to your personal fitness needs or requirements.*

INSTALLATION INSTRUCTIONS – Continued

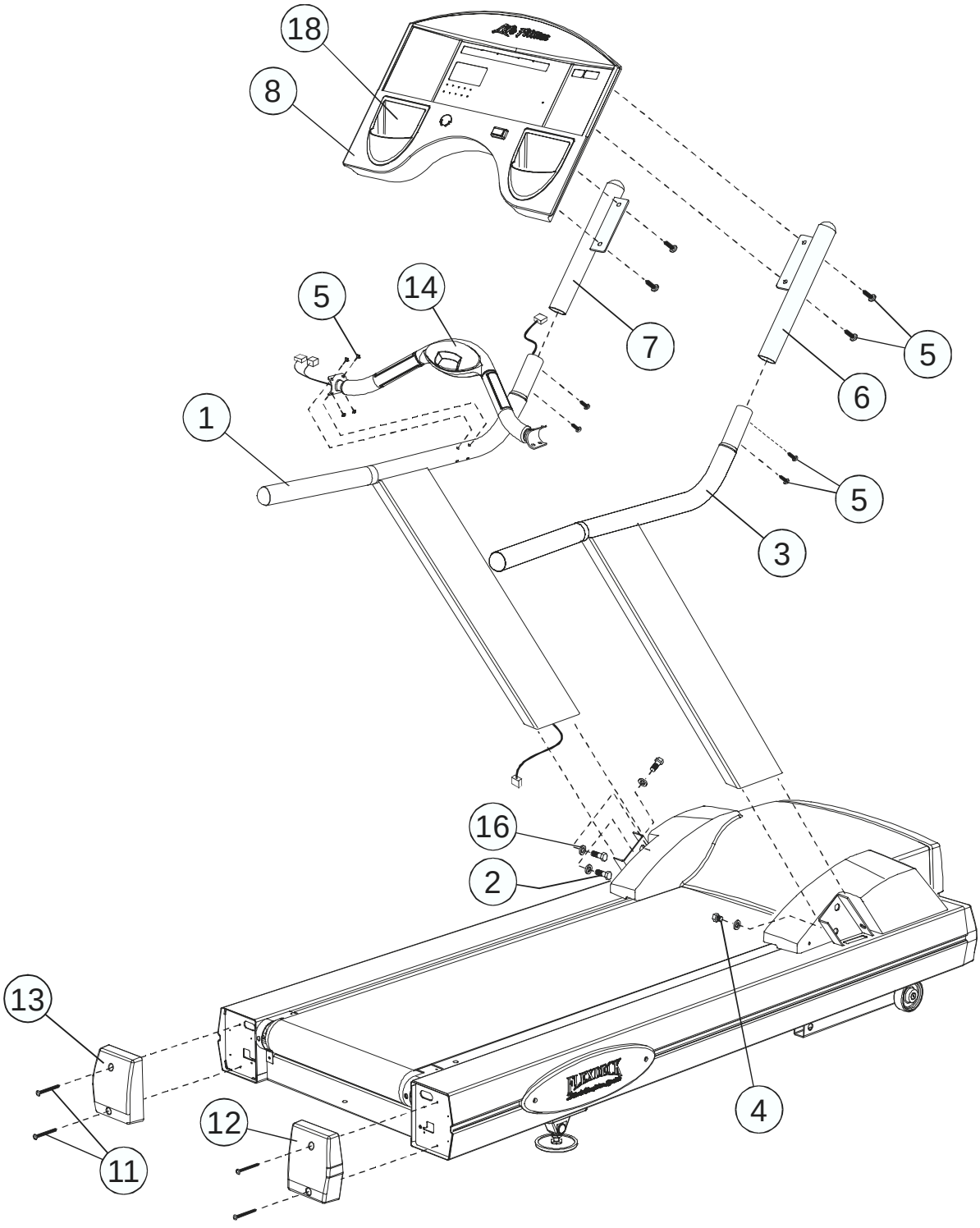
TOOLS REQUIRED: Phillips screwdriver (provided), Torx wrench (provided), 3/4" combination wrench, flat blade screwdriver (or 5/16" nut driver)

PARTS DESCRIPTION

1	USER LEFT HANDRAIL **AK58-00017-0002 (Model 9100)** **AK58-00016-0002 (Model 9500)** **AK58-00015-0002 (Model 9700)**	**Qty: 1**	**2**	HANDRAIL MOUNTING BOLT **1/2 - 13 x 1"** **0017-00101-1620**	**Qty: 5**
3	USER RIGHT HANDRAIL **AK58-00017-0001 (Model 9100)** **AK58-00016-0001 (Model 9500)** **AK58-00015-0001 (Model 9700)**	**Qty: 1**	**4**	HANDRAIL MOUNTING BOLT **1/2 - 13 x 1/2"** **0017-00101-1630**	**Qty: 1**
5	MOUNTING SCREW (9500HR/9700HR) MOUNTING SCREW (9100) **1/4 - 20 x 5/8"** **0017-00101-1640**	**Qty: 18** **Qty: 14**	**6**	USER RIGHT HANDRAIL EXTENSION POST **(Models 9500HR and 9700HR only)** **AK58-00065-0001**	**Qty: 1**
7	USER LEFT HANDRAIL EXTENSION POST **(Models 9500HR and 9700HR only)** **AK58-00065-0002**	**Qty: 1**	**8**	DISPLAY CONSOLE ASSEMBLY	**Qty: 1**
9	CABLE CLAMP **0017-00042-0007**	**Qty: 1**	**10**	CABLE CLAMP SCREW **#10 - 32 x 1/2" (Phillips)** **0017-00101-1265**	**Qty: 1**
11	ENDCAP SCREW **#10 - 32 x 1/2" (Slotted)** **0017-00101-1060**	**Qty: 4**	**12**	RIGHT REAR ENDCAP **OK58-01070-0001**	**Qty: 1**
13	LEFT REAR ENDCAP **OK58-01070-0002**	**Qty: 1**	**14**	FRONT HANDLEBAR ASSEMBLY **OK58-01051-0000 (Model 9100)** **AK58-00018-0000 (Model 9500HR/9700HR)**	**Qty: 1**
15	WAX BAG KIT **GK58-00002-0002**	**Qty: 1**	**16**	FLAT WASHER **1/2 - 1 x 055** **0017-00104-0335**	**Qty: 6**
17	LINE CORD CLIP **0017-00042-0838**	**Qty: 1**	**18**	ACCESSORY TRAY **OK58-01018-0000**	**Qty: 2**



INSTALLATION INSTRUCTIONS – Continued



INSTALLATION INSTRUCTIONS – Continued

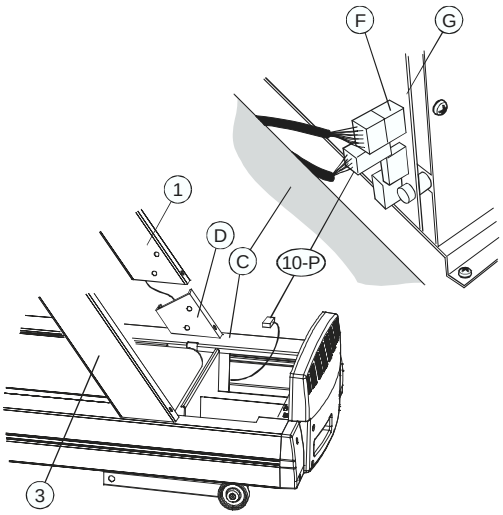
IMPORTANT!

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.

Step 1
Remove the four SCREWS securing the MOTOR COVER to the FRAME (C). Remove the MOTOR COVER.

Step 2
Remove the USER LEFT HANDRAIL (#1)(with wire harness) from the ship kit and lay it on the deck with the rectangular tube end facing the motor compartment and behind the USER LEFT HANDRAIL MOUNTING BRACKET (D).

Step 3
Carefully route the 10-PIN CONNECTOR (10-P) leading from the rectangular tube end of the USER LEFT HANDRAIL (#1) through the opening at the USER LEFT HANDRAIL MOUNTING BRACKET (D) and through the access hole located at the inside FRAME (C) wall.

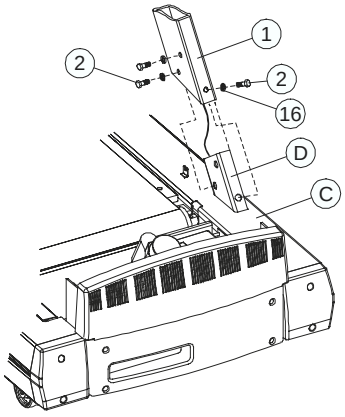


NOTE: ***BE CAREFUL NOT TO DAMAGE THE WIRE HARNESS WHEN ROUTING IT THROUGH THE FRAME MEMBERS.***

Step 4
Raise the USER LEFT HANDRAIL (#1) off the deck and slide the rectangular tube end over the USER LEFT HANDRAIL MOUNTING BRACKET (D) until it rests on the FRAME (C).

CAUTION: ***BE CAREFUL NOT TO PINCH THE WIRE HARNESS.***

Step 5
Install one HANDRAIL MOUNTING BOLT (#2) with one FLAT WASHERS (#16) in the mounting hole located on the top narrow surface of the USER LEFT HANDRAIL (#1). Tighten the bolt until snug. Install two HANDRAIL MOUNTING BOLTS (#2) and FLAT WASHERS (#16) into the remaining two mounting holes located on the inside surface of the USER LEFT HANDRAIL (#1). Leave these two bolts loose at this time.

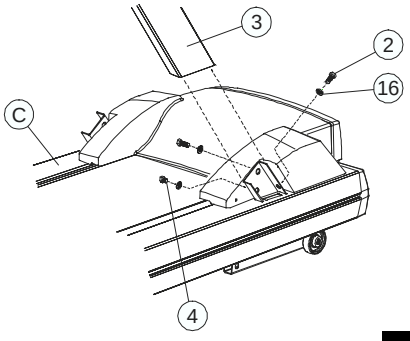


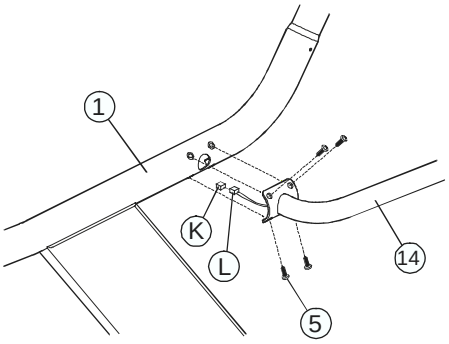
Step 6
Connect the 10-PIN CONNECTOR (E) to the 10-PIN JACK (F) located on the CONTROL BOARD (G).

Step 7
Locate the USER RIGHT HANDRAIL (#3) and slide the rectangular tube end over the USER RIGHT HANDRAIL MOUNTING BRACKET until it rests on the FRAME (C).

Step 8
Install one HANDRAIL MOUNTING BOLT (#2) with one FLAT WASHERS (#16) in the mounting hole located on the top narrow surface of the USER RIGHT HANDRAIL (#3). Tighten the bolt until snug. Install two HANDRAIL MOUNTING BOLTS (#2 & #4) and FLAT WASHERS (#16) into the remaining two mounting holes located on the inside surface of the USER RIGHT HANDRAIL (#3). Leave these two bolts loose at this time.

NOTE: ***HANDRAIL MOUNTING BOLT #4 SHOULD BE LOCATED IN THE LOWER INSIDE MOUNTING HOLE OF THE USER RIGHT HANDRAIL***





Models 9500HR / 9700HR Shown

Step 9
Locate the FRONT HANDLEBAR ASSEMBLY (#14). With the bend facing upward and toward the front of the unit, align the FRONT HANDLEBAR ASSEMBLY with the access hole located on the inside of the USER LEFT HANDRAIL (#1).

(Models 9500HR & 9700HR) Feed the HEART RATE ELECTRODE CABLE (K) and the SMART STOP SYSTEM CABLE (L) through the access hole and up through the top of the USER LEFT HANDRAIL. Carefully feed the CABLES (K & L) into the USER LEFT HANDRAIL while aligning the mounting holes of the FRONT HANDLEBAR ASSEMBLY and the USER LEFT HANDRAIL.

Step 10
Secure the FRONT HANDLEBAR ASSEMBLY (#14) to the USER LEFT HANDRAIL (#1) with four MOUNTING SCREWS (#5). Repeat the mounting procedure for the user right side of the FRONT HANDLEBAR ASSEMBLY and USER RIGHT HANDRAIL (#3). Tighten the MOUNTING SCREWS securely.

INSTALLATION INSTRUCTIONS – Continued

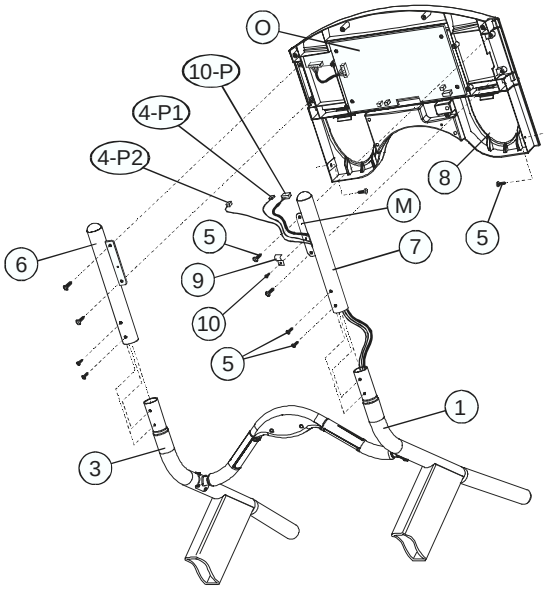
Step 11 (Models 9500HR & 9700HR Only)
Place the USER RIGHT HANDRAIL EXTENSION POST (#6) over the front end of the USER RIGHT HANDRAIL (#3). Feed the cables leading from the USER LEFT HANDRAIL (#1) up through the bottom of the USER LEFT HANDRAIL EXTENSION POST (#7) and out the CABLE ACCESS HOLE located beneath the MOUNTING FLANGE (M). Place the USER LEFT HANDRAIL EXTENSION POST over the front end of the USER LEFT HANDRAIL. Secure the HANDRAIL EXTENSION POSTS to the HANDRAILS with four MOUNTING SCREWS (#5). Tighten until snug only.

CAUTION: ***BE CAREFUL NOT TO PINCH THE WIRE HARNESSES WHEN SLIDING THE HANDRAIL EXTENSION POSTS (#5 and #6) AND HANDRAILS (#1 and #3) TOGETHER.***

Step 12
Locate the DISPLAY CONSOLE ASSEMBLY (#8). Remove the eight SCREWS securing the DISPLAY CONSOLE BACK PANEL to the DISPLAY CONSOLE ASSEMBLY. Carefully remove the DISPLAY CONSOLE BACK PANEL and set it aside.

Step 13
Standing at the front of the unit and with the DISPLAY CONSOLE CIRCUIT BOARD (O) facing the front of the unit, align the DISPLAY CONSOLE ASSEMBLY mounting holes with those of the HANDRAIL MOUNTING FLANGES (M). Secure the DISPLAY CONSOLE ASSEMBLY using six MOUNTING SCREWS (#5). Tighten the SCREWS securely.

(Models 9500HR & 9700HR Only)
Tighten the MOUNTING SCREWS (#5) of the HANDRAIL EXTENSION POSTS (#6 and #7) securely.



Models 9500HR / 9700HR Shown

Step 14 (Models 9500HR & 9700HR Only)
Attach the 4-PIN FLAT CONNECTOR (4-P1) to the 4-PIN FLAT JACK located on the DISPLAY CONSOLE CIRCUIT BOARD (O). Attach the 4-PIN SQUARE CONNECTOR (4-P2) to the 4-PIN SQUARE JACK located on the DISPLAY CONSOLE CIRCUIT BOARD.

Step 15
Attach the 10-PIN CONNECTOR (10-P) to the 10-PIN JACK located on the DISPLAY CONSOLE CIRCUIT BOARD (O).

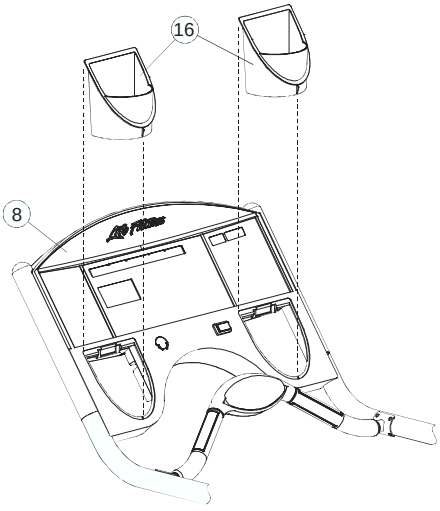
Step 16
Secure the WIRE HARNESS(ES) to the USER LEFT HANDRAIL MOUNTING FLANGE (M) using the CABLE CLAMP (#9) and CABLE CLAMP SCREW (#10).

Step 17
Replace the DISPLAY CONSOLE BACK PANEL and re-install the eight DISPLAY CONSOLE BACK PANEL MOUNTING SCREWS.

CAUTION: ***BE CAREFUL NOT TO PINCH ANY WIRES WHEN REPLACING THE DISPLAY CONSOLE BACK PANEL.***

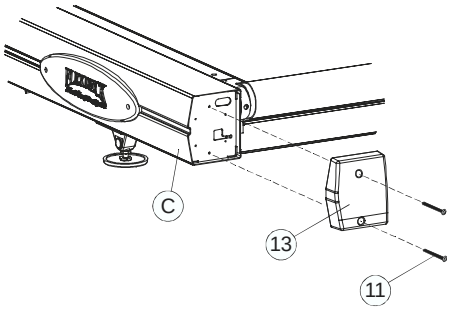
Step 18
Tighten all HANDRAIL MOUNTING BOLTS (#2 & #4) securely.

Step 19
Place the two ACCESSORY TRAYS (#16) into the openings in the DISPLAY CONSOLE ASSEMBLY (#8). Be sure the ACCESSORY TRAYS snap and lock into position.



Step 20
Place the MOTOR COVER back into position and secure it with the four MOTOR COVER SCREWS.

Step 21
Using two ENDCAP SCREWS (#11), attach the LEFT ENDCAP (#13) to the user left FRAME (C) rear. Repeat the process with the RIGHT ENDCAP (#12) and user right FRAME rear.



Step 22
Locate and open the WAX BAG KIT (#15). Follow the included instructions to complete the installation.

Step 23
Refer to the Operation Manual for proper installation of the LINE CORD CLIPS (#17) and proper routing of the LINE CORD.

COMMUNICATING BY FAX

If you would like to submit a parts order, or if you need help troubleshooting a problem, we have included, for your convenience, a FAX form on the following page. Simply make a copy (or copies) of the FAX sheet and fill in the necessary information. You may FAX us at any time, 24 hours a day, to either of the numbers shown. A Life Fitness service representative will process your order, or respond to your problem, as quickly as possible.

LifeFax

CUSTOMER SUPPORT SERVICES

☐ **PARTS ORDER** *(IF BOTH PLEASE INDICATE)* ☐ **SALE**

☐ **PRODUCT TROUBLESHOOTING** ☐ **WARRANTY**

NAME:	CUSTOMER NO:	DATE:
PHONE:	FAX:	CONTACT NAME:

METHOD OF SHIPMENT: ☐ **1 DAY** ☐ **2 DAY** ☐ **GROUND**

PARTS ORDER FORM

ITEM NO.	PART NUMBER	DESCRIPTION	QUANTITY
1			
2			
3			
4			
5			
6			

PRODUCT TROUBLESHOOTING

PRODUCT NAME:	SERIAL NO.
DETAILED DESCRIPTION OF PROBLEM:	
PRODUCT NAME:	SERIAL NO.
DETAILED DESCRIPTION OF PROBLEM:	

TIME RECEIVED:	TIME COMPLETED:	TECHNICIAN NAME:

LifeFitness

CUSTOMER SUPPORT SERVICES
10601 W. Belmont Ave., Franklin Park IL 60131 PHONE (800) 351-3737 Toll Free or (708) 451-0036
FAX (800) 216-8893 Toll-Free or (708) 288-3702

NOTES: