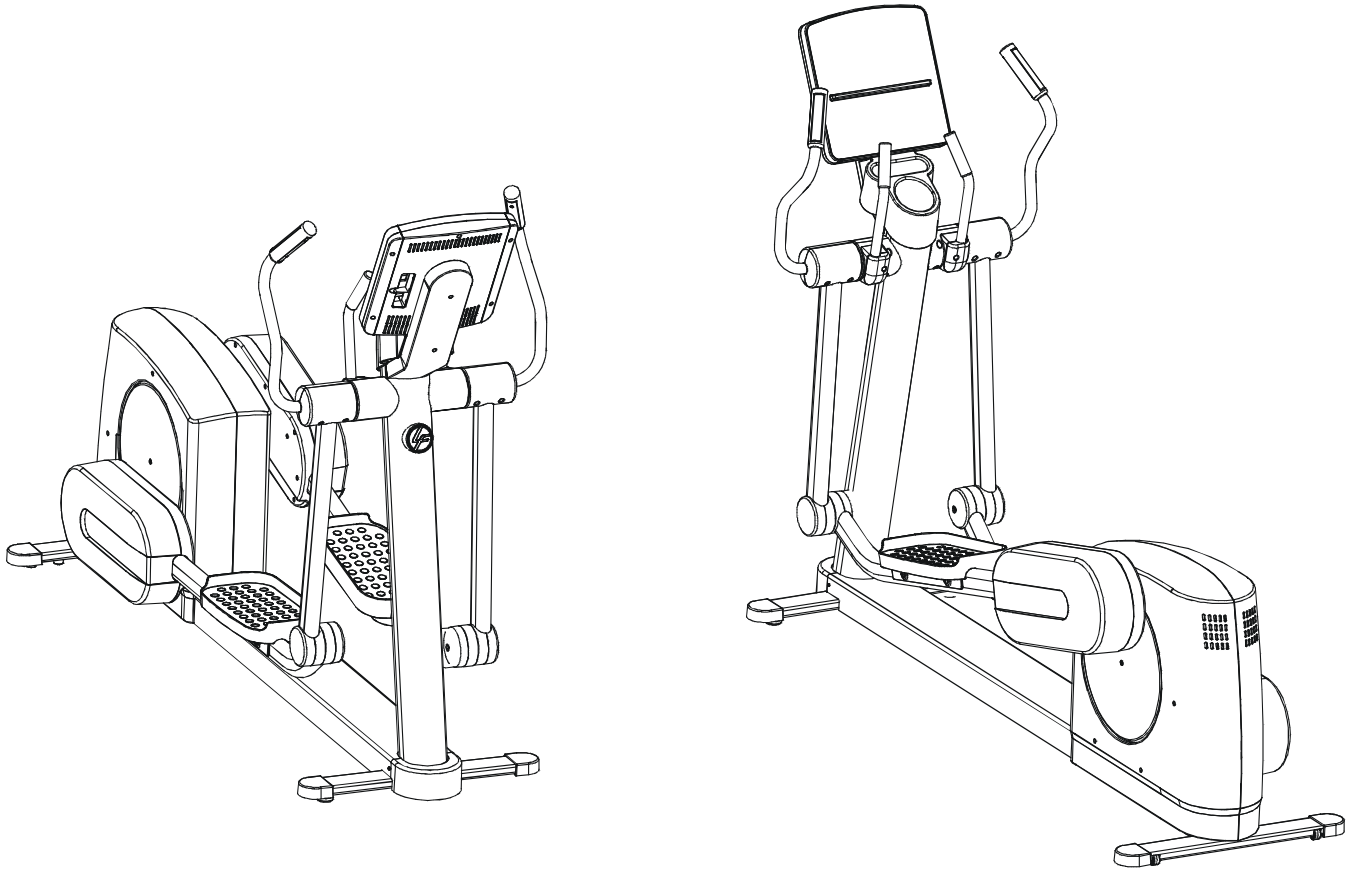


LifeFitness

Cross-Trainers 90X, 93X, 95Xe and 95Xi Fixed Stride Units



Customer Support Services ***SERVICE MANUAL***

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Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

INTRODUCTION

This service manual covers Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi. Information represents typical configuration and may differ slightly from actual equipment. The service manual provides recommendations for safe and efficient approaches to problem situations.

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

Once you have pinpointed the source of the problem, turn to the appropriate "How To..." section and review the proper procedures for removing, replacing or adjusting a part. The "How To..." sections are organized by replaceable part (or assembly) name and each page lists the "Special Tools Required" to complete the specific task.

If you do not have a part in stock, a form to order by FAX has been included in Section V for your convenience or you can call Life Fitness Customer Support Services any Monday through Friday from 8:00 AM to 6:00 PM (CST). When you place a call, in order to speed our response to your particular situation, please have the following information available for the customer service phone technician who will be prepared to assist you:

1. The Lifecycle equipment model number
2. The serial number
3. The symptom of the problem
4. The part name and number to order

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

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

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

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

SPECIAL SERVICE TOOL REQUIREMENTS

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

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

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

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

GLOSSARY

The following words and acronyms are commonly referred to throughout this manual. Take time to familiarize yourself with them.

Connectors	Electrical plugs used to connect wiring into electrical component.
Display Console Board	Electronic board for making settings and monitoring physical output.
EEPROM	Electrically erasable programmable read only memory.
EEROM	Electrically erasable read only memory.
LDC	Load duty cycle.
LED	Light emitting diode used to show a state of operation.
LifePulse	Heart rate sensors on hand grips.
PCB	Power control board regulates voltage to alternator, console, and battery.
Polar Receiver	A device directly in front of the operator that monitors heart rate.
Rear Drive	The area where all the drive components reside.
RPM	A revolution per minute describes the amount of times something turns within a minute of time.

SECTION I

TROUBLESHOOTING GUIDE

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Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
No Power	Faulty Battery	Using Multi-meter, verify that battery the Voltage is greater than 6 Volts DC. Replace battery if voltage is below 6 volts DC
	Main Cable connection	Verify that Main Cable is plugged into both Console and Power Control Board. Check for loose wires at connectors. Replace if necessary.
	Faulty Reed Switch	Using a Multi-meter, verify continuity of Reed Switch Cable Assembly. See wiring diagram. Replace Reed Switch if necessary.
	Magnet	Verify presence of magnet on drive pulley. If not present, install new one.
Console lights and then fails	Faulty battery	Using Multi-meter, verify that battery Voltage is greater than 6 Volts DC. Replace battery if voltage is below 6 volts DC
	Faulty Reed Switch	Using a Multi-meter, verify continuity of Reed Switch Cable Assembly. See wiring diagram. Replace Reed Switch if necessary.
No LEDs or random LEDs lit on display	Faulty battery	Using Multi-meter, verify that battery Voltage is greater than 6 Volts DC. Replace battery if voltage is below 6 volts DC
	Faulty cable connection or damage to Main Cable	Verify that Main Cable is properly plugged into Console. Inspect Main Cable for damage or crimps. Using a Multi-meter, verify continuity on Main Cable.
	Faulty Console or Power Control Board	Using a Multi-meter, verify 6VDC at console connector, pins 4(+) and 11 (GND). If voltage is present, replace console. If not, replace Power Control Board.
Unit Auto starts but does not read RPM	Faulty cable or faulty cable Connection.	Verify cable connections at Console, Power Control Board and Alternator, and check for loose wires and/or loose connectors. Using a Multi-meter. Verify continuity of all cables associated with above components. Replace any defective cables.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Unit does not Auto Start	Faulty Battery	Using Multi-meter, verify that battery the Voltage is greater than 6 Volts DC. Replace battery if voltage is below 6 volts DC
	Magnet	Verify presence of magnet on drive pulley. If not present, install new one.
	No RPM	Operator must be pedaling unit in order for Auto Start feature to activate.
	Faulty Cable Connection at Console, Power Control Board or Reed Switch	Verify that cable connections at Console, Power Control Board and Reed Switch are properly plugged in. Using a Multi-meter, verify continuity on all cables. Replace any defective cables.
	Faulty Power Control Board	Using a Multi-meter verify continuity on the Reed Switch cable and Main Cable. If both are verified as good, the replace the Power Control Board.
No Load	Faulty cables, Power Control Board or Alternator	Verify cable connections at Console, Power Control Board and Alternator, and check for loose wires and/or loose connectors. Using a Multi-meter, verify continuity of all cables associated with above components. Enter diagnostic state 3, execute the field duty cycle test and increase the duty load. If the load does not increase, replace the Alternator.
Noisy during operation	Loose hardware	Verify that all hardware has been tightened, and that Loctite 242 is applied where necessary.
	Pedal Rollers worn or dirty	Inspect pedal rollers for debris or wear and replace if necessary.
	Debris in Pedal Roller track	Clean Pedal Roller track.
	Worn bearings	Replace bearings and associated shaft. Instructions included with kit.
	Alternator	Relieve tension on the Alternator belt. Spin flywheel for smoothness. If thumping occurs, faulty alternator. Replace Alternator

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Erratic Heart Rate from Life Pulse sensors	Life Pulse sensors dirty from usage or from being cleaned with incorrect solution	Clean Life Pulse Sensors with mild soap and water. Replace sensors if condition warrants.
	User is repositioning hands while acquiring Heart rate reading	Instruct user on proper technique for acquiring Heart Rate readings.
	Pinched Heart Rate Cable	Remove Deadshaft Covers and Console. Inspect connection between user arm Heart Rate cables and Console Heart Rate cable. Using a Multi-meter verify continuity from hand sensor to Heart Rate cable connector at back of console. Then check from Hand sensor to frame ground to verify presence of shorts. Replace any defective cables.
No Heart Rate from Life Pulse sensors	Pinched Heart Rate Cable	Remove Deadshaft Covers and Console. Inspect connection between user arm Heart Rate cables and Console Heart Rate cable. Using a Multi-meter verify continuity from hand sensor to Heart Rate cable connector at back of console. Then check from Hand sensor to frame ground to verify presence of shorts. Replace any defective cables.
	Faulty Heart Rate cable connection	Remove Deadshaft Covers and Console. Inspect connection between user arm Heart Rate cables and Console Heart Rate cable. Using a Multi-meter verify continuity from hand sensor to Heart Rate cable connector at back of console. Replace any defective cables.
	Inadequate contact with Life Pulse sensors	Full contact must be maintained on all Life Pulse sensors in order to obtain Heart Rate reading.
	Faulty Life Pulse sensors	Replace sensors. See How To....Replace Life Pulse Sensors
	Faulty Console Board	Replace Console Board. See How To....Replace Console Board.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
No Heart Rate reading using Polar transmitter. (Telemetry equipped units only).	Transmitter is not making good contact with body or positioned incorrectly	Reposition transmitter on chest. Moisten transmitter for better contact with skin to enable it to obtain a stronger signal.
	User is out of monitoring range	User must be within three feet (one meter) of receiver on unit.
	Telemetry option turned off	Verify that Telemetry is turned ON in Diagnostics. See Diagnostics section.
	Faulty connection between Console and Receiver	Verify that Polar Heart Rate cable is properly connected. Using a Multi-meter, verify continuity between receiver jack and cable connector at Console. Replace cable if necessary.
	Faulty Receiver	Swap receiver with known working one. Replace receiver if necessary
	Faulty Transmitter	Test transmitter on known working unit if possible. Replace transmitter if necessary.
	Faulty Console Board	Replace Console Board. See How To....Replace Console Board.
Erratic Heart Rate using Polar transmitter. Telemetry equipped units only.	Cross talk from another transmitter. Possible interference from other electronic devices.	Position Cross Trainer at least three feet or one meter from unit with telemetry or from other electronic devices.
	Faulty Console Board	Replace Console Board. See How To....Replace Console Board.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
TROUBLESHOOTING GUIDE

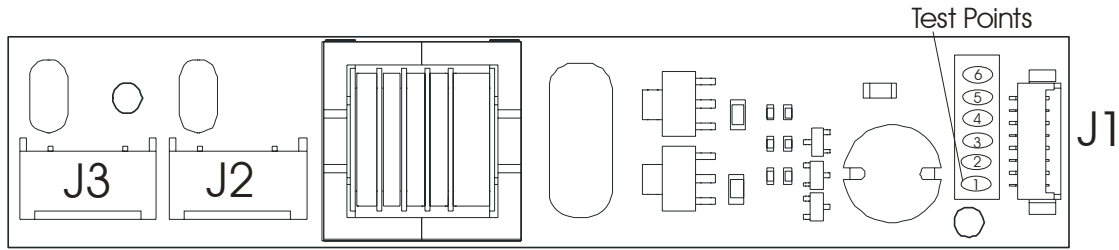
SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Screen is blank	LCD Back-Light	Replace/reconnect LCD/Touch Screen.
	Back-Light Power Inverter bad	Replace/reconnect back-light inverter.
	LCD Screen failure	Replace/reconnect LCD/Touch Screen.
	Problem on the Single Board Computer	Replace Single Board Computer.
Channels do not change.	Keypad malfunction.	Run Keypad test in diagnostics.
	Interface PC board defective	Replace Interface PC board.
Sound does not change.	Keypad malfunction.	Run Keypad test in diagnostics.
	Interface PC Board defective.	Replace Interface PC Board.
No sound.	Faulty Headphones.	Test with known good Headphones. Replace Headphones if necessary.
	Faulty Headphone Jack assembly.	Replace Headphone Jack assembly.
	Faulty cable to Headphone jack assembly	Replace Headphone Jack assembly.
	Problem on the Single Board Computer	Replace Single Board Computer
	Problem on Interface Board	Replace Interface Board.
Unable to receive any channels when using cable.	Air/cable setting may not be correct.	Follow the setup procedures in the Operation Manual.
	Coax cable may be bad	Replace Coax cable
	Coax may be unplugged	Check connection on Coax cable.
Snow and noise appear on the screen.	Air/cable setting may not be correct.	Follow the setup procedures in the Operation Manual.
	Coax cable may be bad	Replace COAX Cable
Screen is dark	LCD Back-Light	Replace and reconnect LCD Touch Screen
	The Back-Light Power Inverter bad.	Replace and reconnect the Back-Light Inverter.
Screen does not respond to touch.	Touch Screen failure	Replace and reconnect the LCD Touch Screen
	Problem with Single Board Computer.	Replace Single Board Computer.
Wrong buttons activate when the screen is touched.	Touch Screen not calibrated correctly.	Calibrate Touch Screen in Diagnostics or replace LCD Touch Screen.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
TROUBLESHOOTING GUIDE – TESTING THE INVERTER BOARD

Special Service Tools Required: Multi-meter

CAUTION! HIGH VOLTAGE ON CONNECTORS J2 AND J3

1.



Remove the Entertainment System Console from the Unit.

2. Remove Rear Cover from the Console Assembly.
3. Plug in Power Supply and Remote Control to the Console
4. Press the Power On Key on the Remote Control.
5. TEST NO. 1: Place the Red Lead from the multi-meter onto Test Point 1 and the Black Lead onto Test Point 3. Voltage should be 12 Vdc (+/- .5V).
6. TEST NO. 2: Place the Red Lead from the multi-meter onto Test Point 5 and the Black Lead to Test Point 3. Voltage should be 12 Vdc (+/- .5V)

PROBLEM	SOLUTION
No Voltage on TP1	Replace Cable, Remote, or Main PC Board.
Voltage present on TP1	Replace the Inverter Board
Voltage on TP1 and TP2 but NO Voltage on TP5	Replace Cable between Inverter Board and Main PC Board

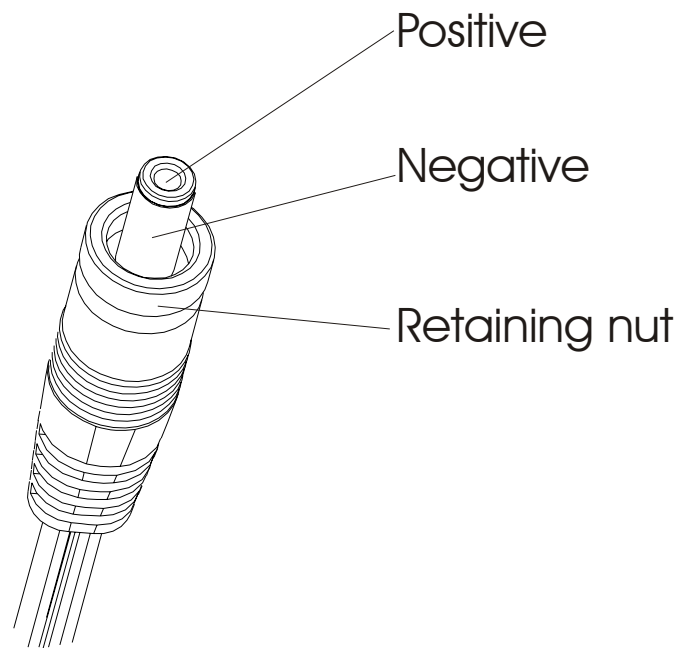
TEST POINT	VOLTAGE	DESCRIPTION	PIN NUMBER
TP 1 & 2	12 Vdc	VIN	1 & 2
TP 3 &4	0 Vdc	Ground	3 & 4
5	12 Vdc	Enable	5
5	0 Vdc	Disable	5
6	Not Used	Not Used	6/7/8

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

TROUBLESHOOTING GUIDE – TESTING THE POWER SUPPLY CABLE

Special Service Tools Required: Multi-meter

1. Unscrew the Retaining Nut securing the Power Cable Plug. Remove the Cable.
2. Using a Multi-meter, touch the Red Lead to the POSITIVE area on the Cable, which is the center of the cable. Next touch the Black Lead to the NEGATIVE area, which is the side of the inner Cable. The voltage should read 12 Vdc.



Notes

SECTION IIA

DIAGNOSTIC MODES FOR LED UNITS

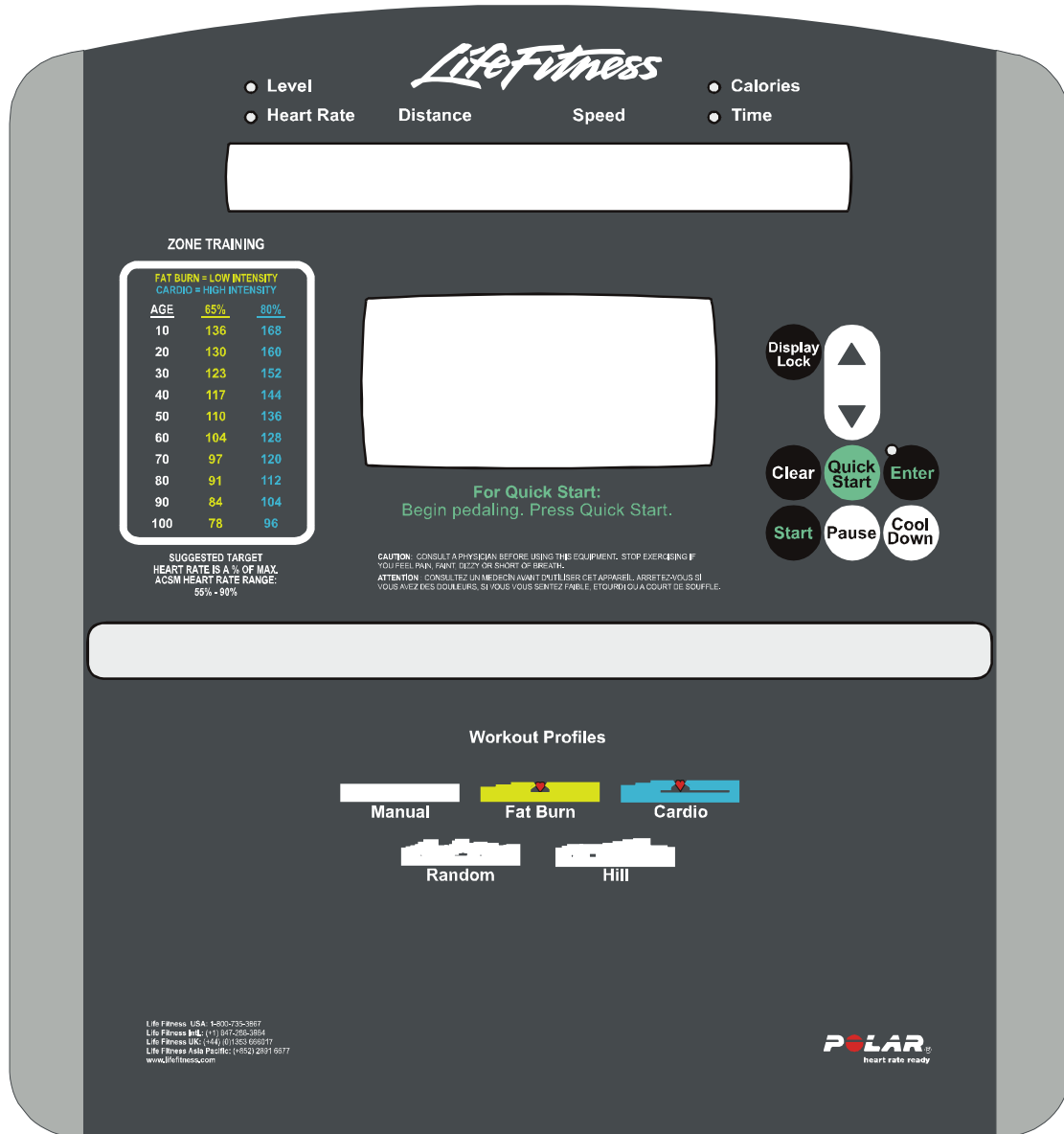
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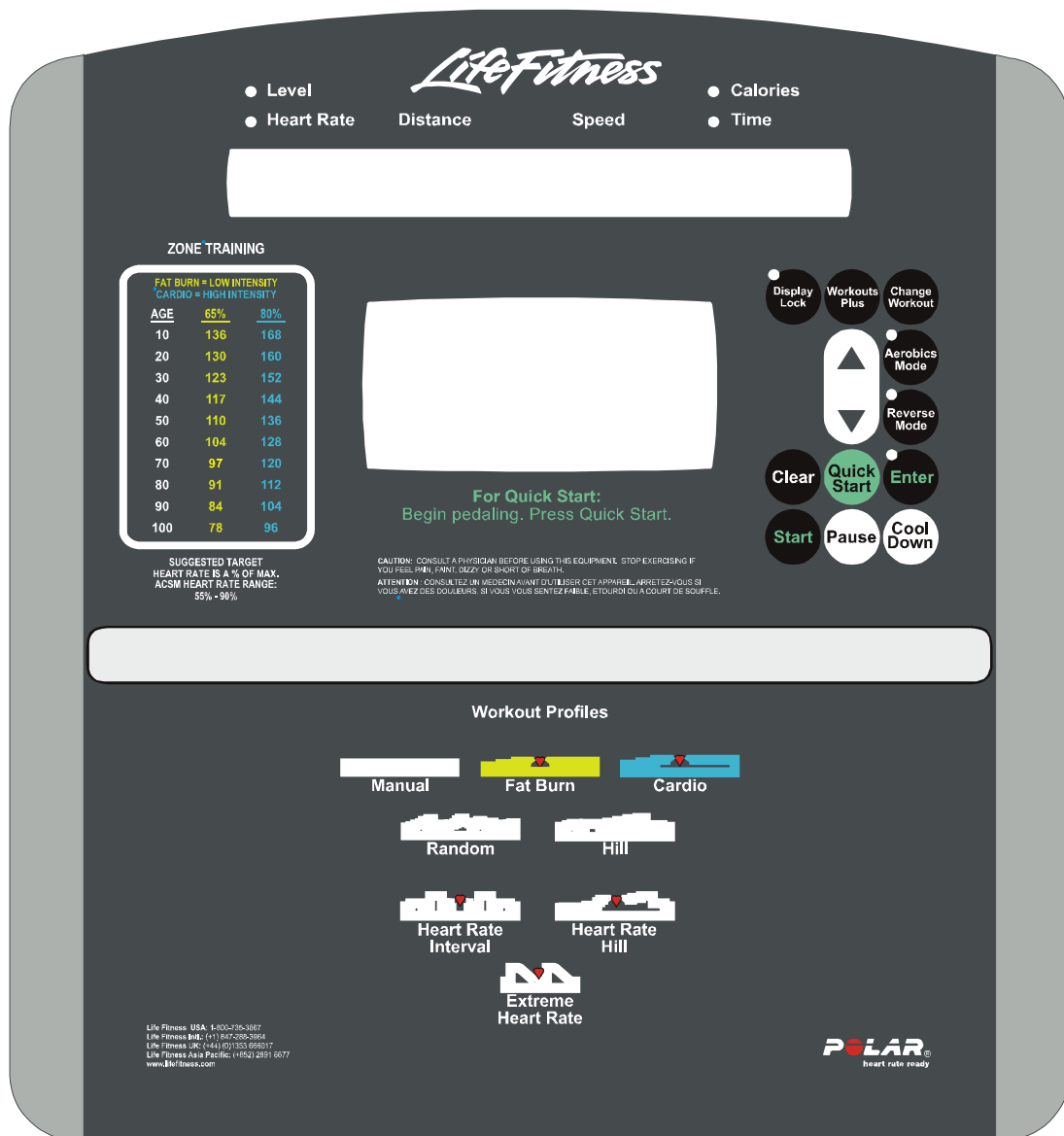
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

90X Display Console



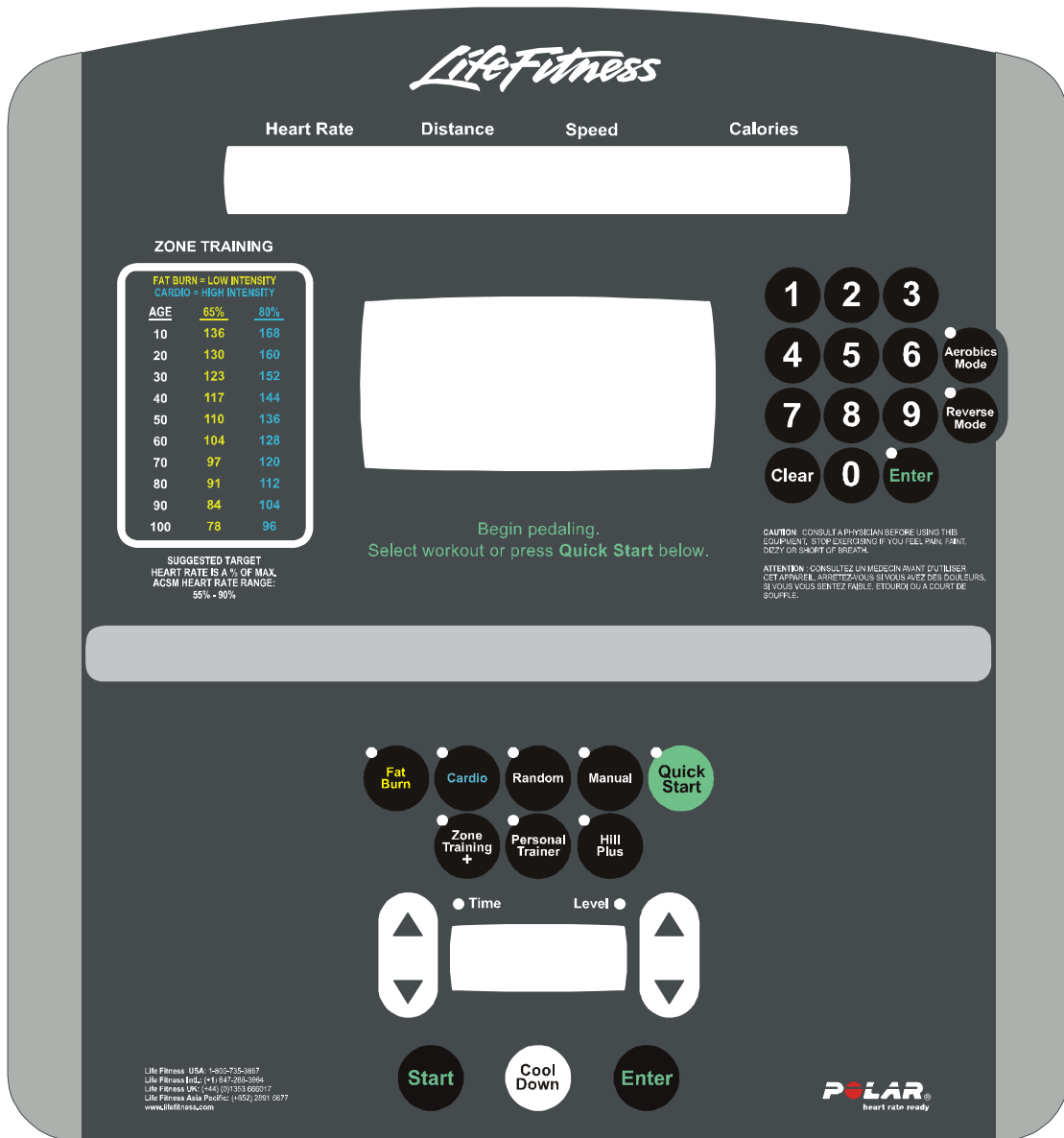
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

93X Display Console



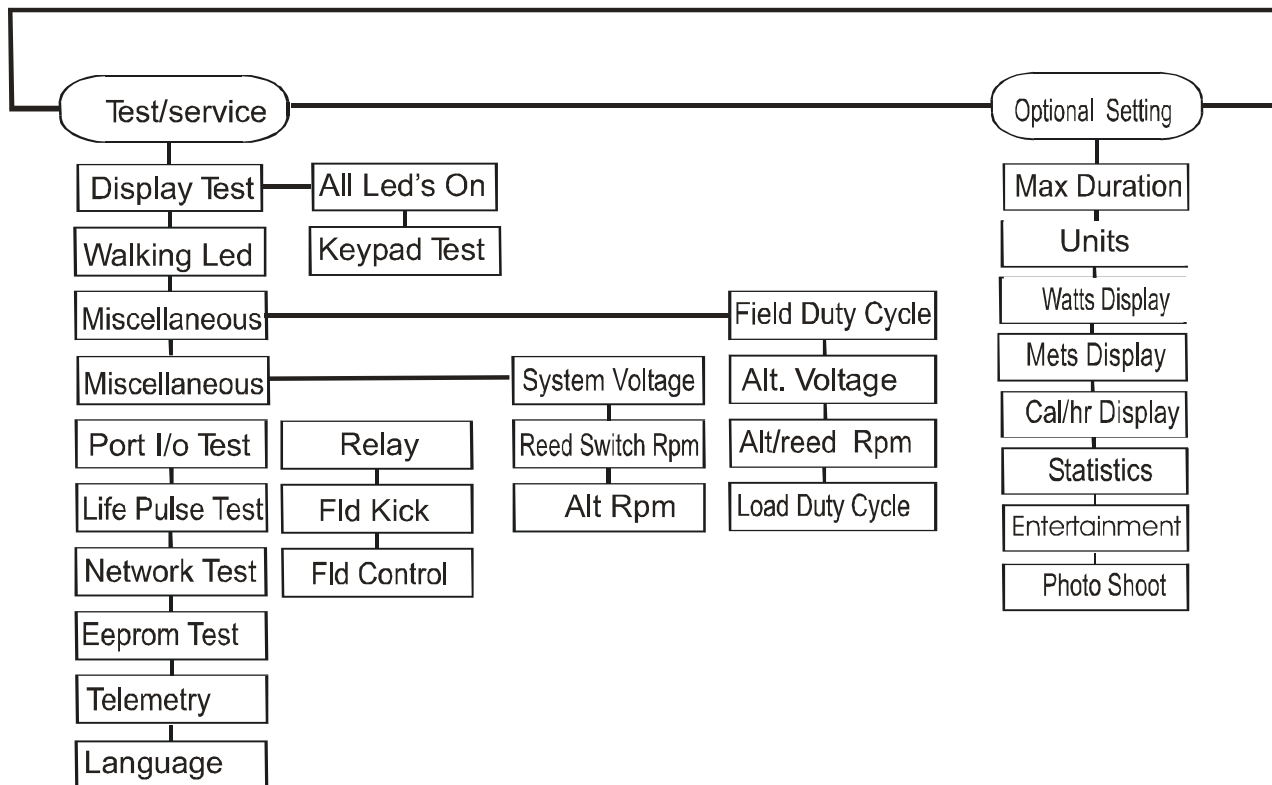
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

95Xi Display Console



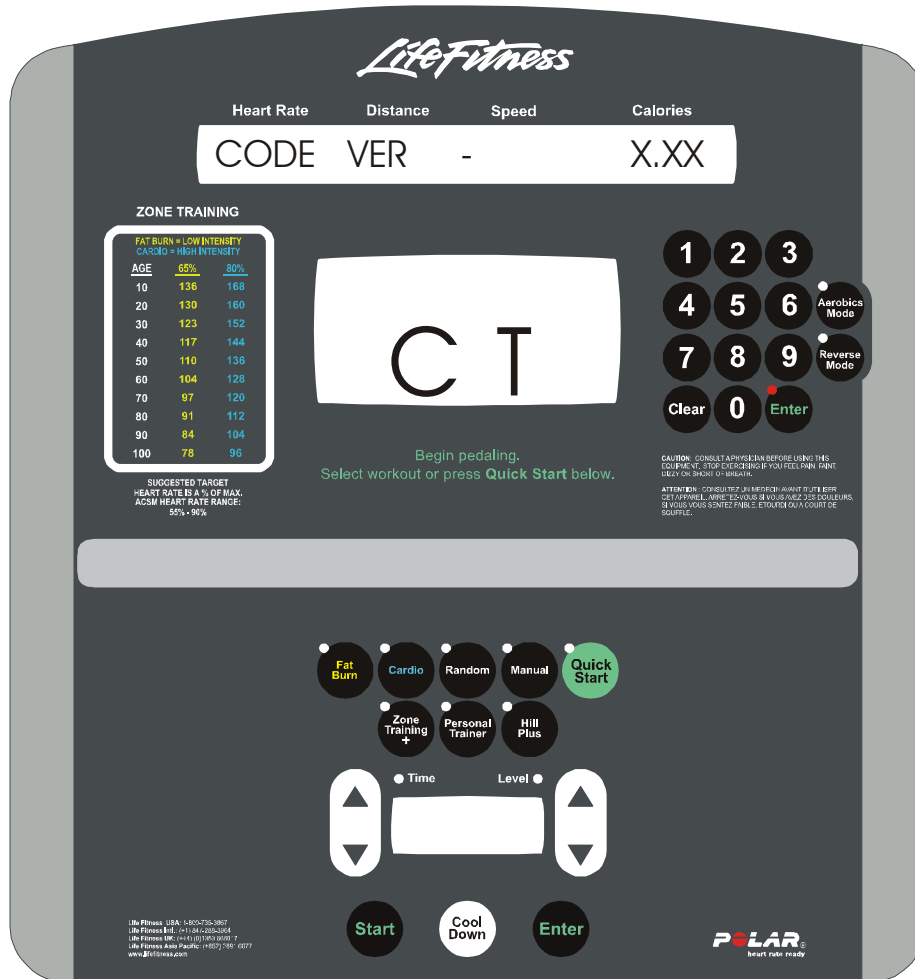
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

MAP



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

ENTRY LEVEL



Hold down the number 5 key on (95Xi and 97Xi) or the UP ARROW key on (90X and 93X) units, then press the CLEAR key twice. Each press of the UP ARROW key will show the following:

CODE VERSION.....ex: CODE VER - X.XX

CSAFE VERSION..... ex: Csafe ver -- X.XX.XX

PART NUMBER.....ex: XXXX—XXXX—0000

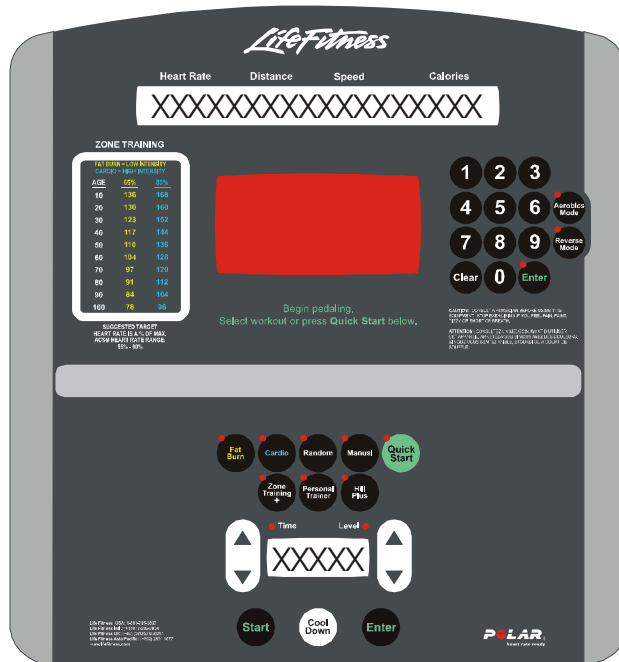
BOOT LOADER VERSION..... ex: BOOT VER -- X

Press ENTER for entry into the OPTIONAL SETTINGS. (see map)

Press and hold COOL DOWN, and then press ENTER for entry into TEST/SERVICE MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

TEST/SERVICE ALL LEDS AND KEYPAD TEST



On entry into this state, all of the LED's will turn ON. Pressing the keys will result in a beep sound for all but the START, ENTER and CLEAR keys, a character repeated across the message center will be displayed.

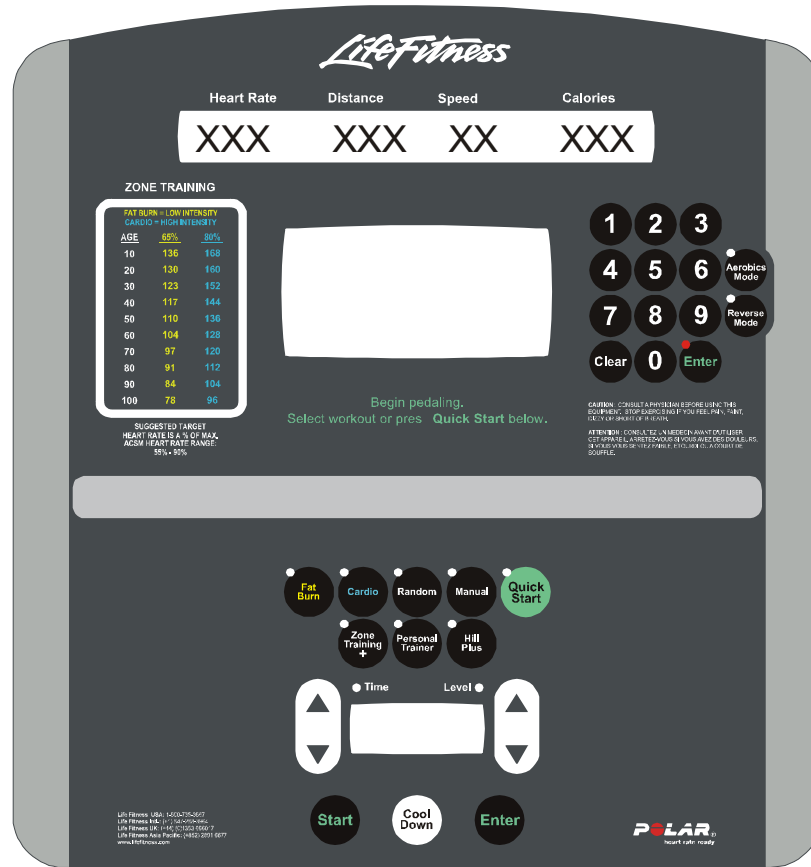
Keys Displayed Character Keys Displayed Character

0	0	Display Lock	L
1	1	Workouts Plus	K
2	2	Change Workout	W
3	3	Up Arrow	U
4	4	Down Arrow	D
5	5	Quick Start	Q
6	6	Cardio	C
7	7	Random	R
8	8	Manual	M
9	9	Fat Burn	F
TIME UP	U	Start	S
TIME DOWN	D	Pause	P
LEVEL UP	^	Cool Down	--
LEVEL DOWN	V	Zone Training	Z
AEROBICS MODE	B	Personal Trainer	T
REVERSE MODE	A	Hill Plus	H

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Repeated pressing of CLEAR key exits diagnostics.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

TEST/SERVICE – MISCELLANEOUS 1 TESTS



The present Field Duty Cycle being applied to the alternator is displayed in the Heart Rate window. This value ranges from 0-255.

The alternator Output Voltage is displayed in the Distance window.

The present alternator RPM will be displayed in the RPM window.

The present Load Duty Cycle applied to the alternator will be displayed in the Calories window. Load duty cycle ranges from 0-250. This value can be adjusted using the Time Up and Time Down arrow keys on the 95Xi and 97Xi and the Up and Down arrow keys on the 90X and 93X.

Pressing the Aerobics Mode key will toggle the speaker ON and OFF. (Not available on 90X).

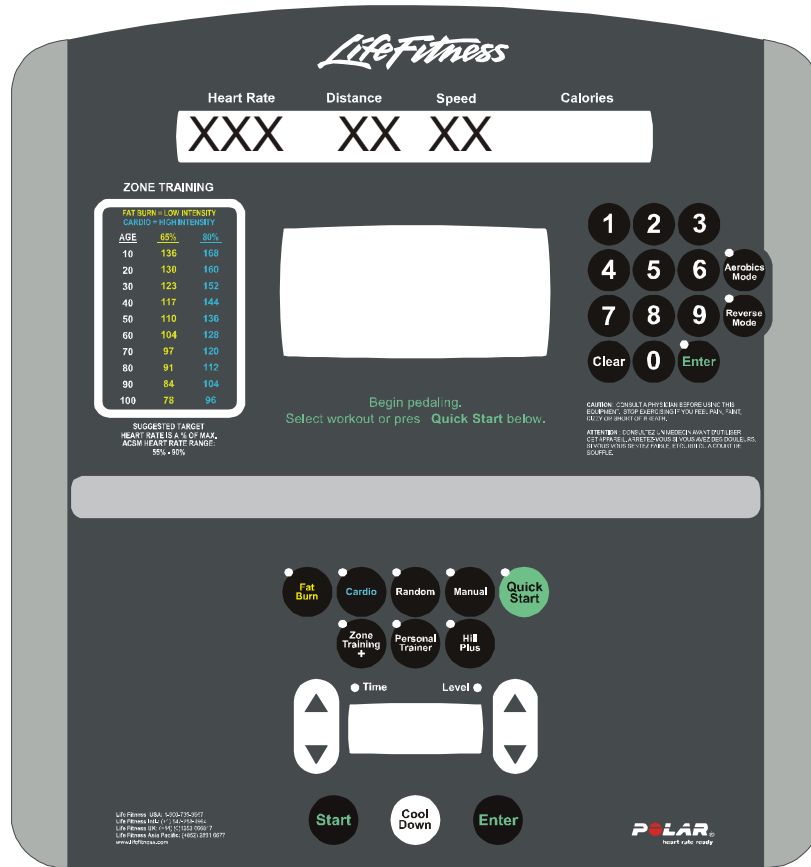
Pressing the '0' key (95Xi and 97Xi) will toggle the RPM display between the alternator RPM and Reed Switch RPM. The Enter key LED will be ON when alternator RPN is displayed. RPM from the Reed Switch will not display when the alternator is running.

Pressing the '5' key (95Xi and 97Xi) will toggle the alternator ON and OFF.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Press the CLEAR key repeatedly to exit diagnostics.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

TEST/SERVICE – MISCELLANEOUS 2 TESTS



The present system voltage (Vsys) supplied to the console will be displayed in the Heart Rate window.

The present Reed Switch RPM will be displayed in the Distance window. The Reed Switch RPM will not display when the alternator is running.

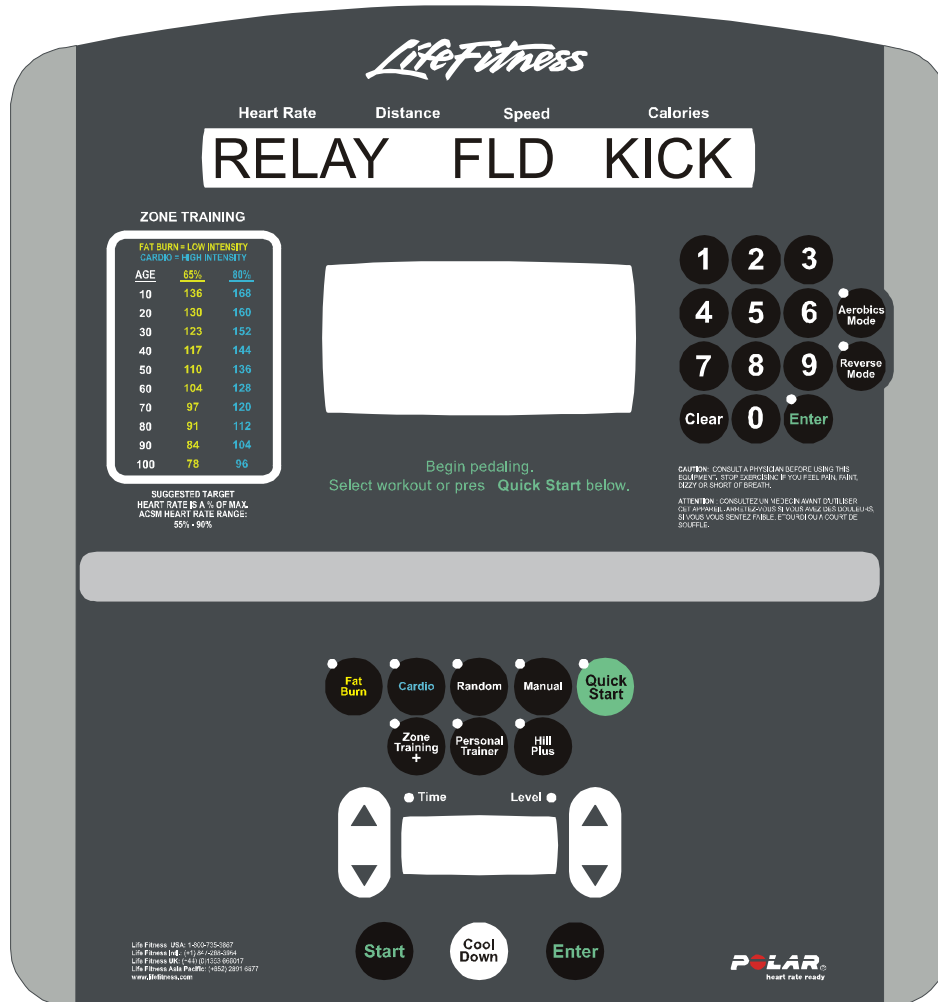
The present alternator RPM will be displayed in the RPM window.

Pressing the '5' key (95Xi and 97Xi) or the Down Arrow key (90x and 93X) will display the value of Vsys at startup (before the alternator is turned on). This is useful because you can get an indication of the battery voltage of the 6v battery. Note: This voltage will be lower than if you read the voltage of the 6v battery directly from its terminals, since the voltage goes through several drops.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Press the CLEAR key repeatedly to exit diagnostics.

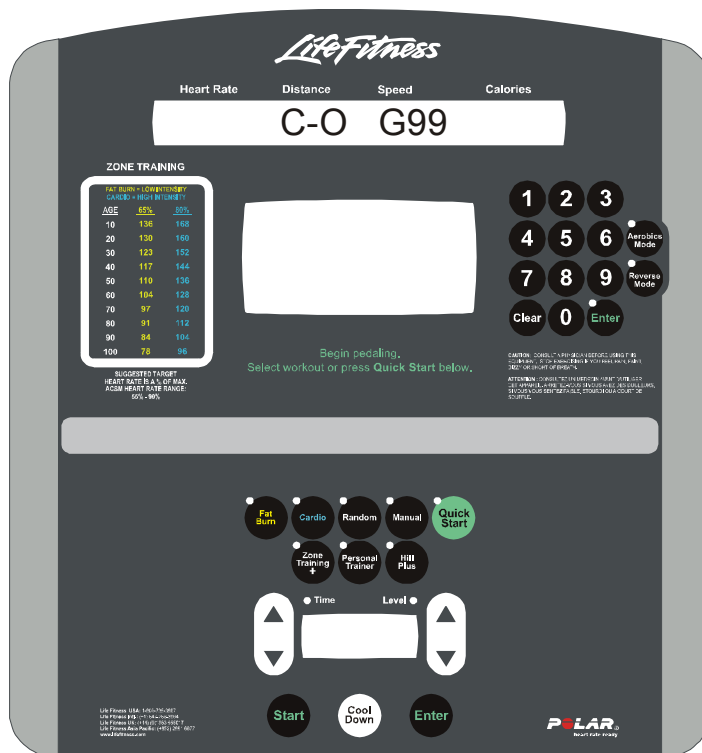
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

TEST/SERVICE – PORT I/O TEST



Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Press the CLEAR key repeatedly to exit diagnostics.

TEST/SERVICE – LIFE PULSE TEST



Upon initial entry to this test, a heart will be displayed in the profile window along with two messages in the message center. The first indicates the Life Pulse software version number. The second is a message concerning the configuration of the Life Pulse communication system being ON or OFF. This setting enables external communications for Life Pulse development only and should be left OFF. Following these messages, the display will change to a mode to display diagnostic information (described below) and the Life Pulse system will be ready to be manually tested.

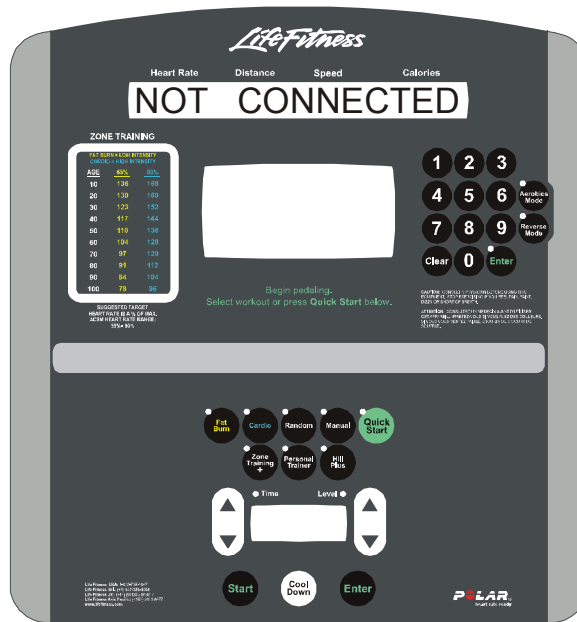
The left and/or right hands on circuitry can be individually tested by grasping the pair of electrodes on that side. When the left sensor detects that a hand is in contact with both electrodes, or when the right sensor detects that a hand is in contact with both electrodes, an 'L' or 'R' respectively will be displayed in the profile window with the heart.

Two timers will begin counting from the time both the left and right hands on condition occurs. The first timer, located on the upper console message center display, will stop counting when Life Pulse computes and displays an initial peak detected heart rate reading. The second timer, located on the lower console display window, will continue counting until Life Pulse can reliably display the users heart rate. These timer readings are used for reference only.

The gain value of the heart rate signal is shown following 'G' in the message center display window. The value ranges from 0-99. A gain value of 99 is considered high and undesirable. A gain value of 0 is considered to be low and undesirable. Gain values between 15-40 are considered normal depending on whether the user is exercising or standing still during the test.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Press the CLEAR key repeatedly to exit diagnostics.

TEST/SERVICE – CSAFE NETWORK TEST



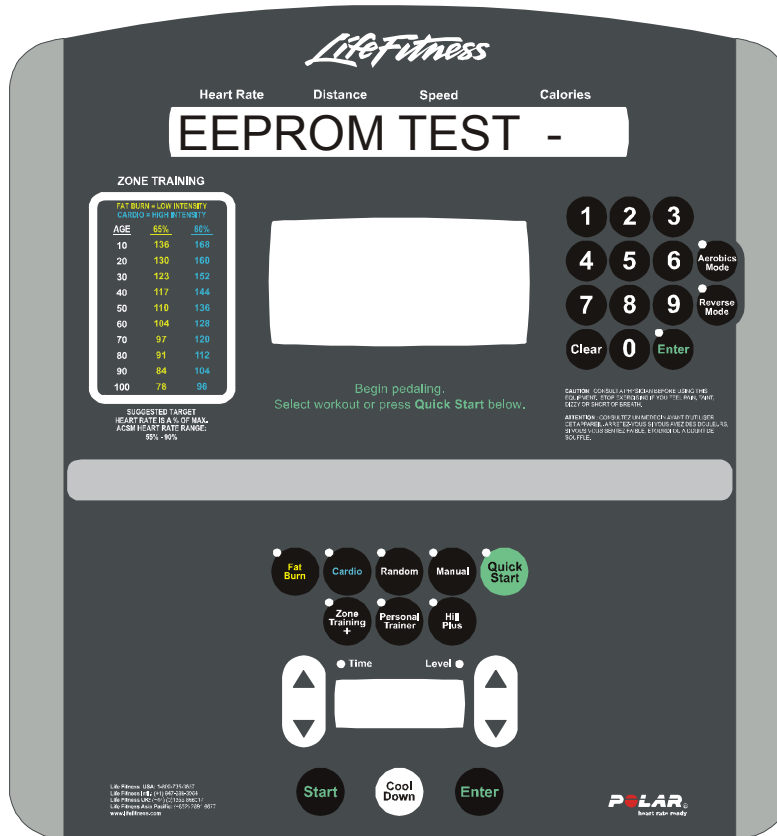
Within this state, the CSAFE network can be tested.

This is how you can check to see if you're receiving any communications from the network system.

- 1) Remain in the CSAFE Test Mode above (by not exiting out of it).
- 2) Make sure the network cable is plugged in.
- 3) Press the COOLDOWN key. This will reset the console and send out the standard power up message to the network. The console should display "RESETTING NETWORK". The power up message to the network is the same one the console sends every time it is turned on (or anytime it is used on self-powered products).
- 4) If the network has received the CSAFE communication packet from the console and the network sends configuration communication packet to the console will display "RECEIVING"
- 5) If the console has been properly configured by the network and is allowed to accept user ID's then the console would show "GET ID MODE XX". The "GET ID" message means where in the get ID mode. This is the mode the network must put the console in before it will ask the user to enter in their ID's. If the console is not put in this mode then the console will not ask for ID's.
- 6) If the network does not respond to the console then the console will display a "NOT CONNECTED" message. This indicates there is a problem with the network cable or network itself. This means the console has not received any valid CSAFE communications from the network.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

TEST/SERVICE – EEPROM TEST

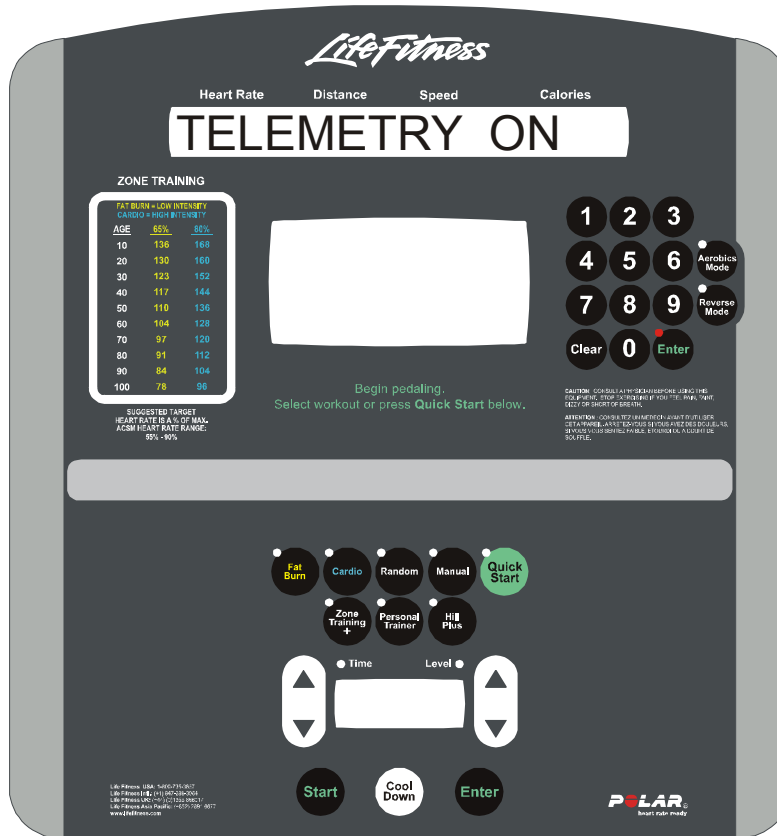


This diagnostic state tests the Display Console EEPROM by reading, writing and replacing all used locations in the Display Console EEPROM. The EEPROM location being tested will appear in the display message center. Pressing the DOWN ARROW will initiate the EEPROM test. If the test completes successfully, the message EEPROM GOOD will appear. If the test fails, the message EEPROM BAD AT XX will display with the bad EEPROM location.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

TEST/SERVICE – TELEMETRY ENABLE/DISABLE



Within this state the TELEMETRY can be turned ON or OFF. If a telemetry heart rate is detected, it will be displayed when telemetry is set to ON.

By default, the cross trainer will have TELEMETRY ON.

The DOWN ARROW will turn OFF the telemetry.

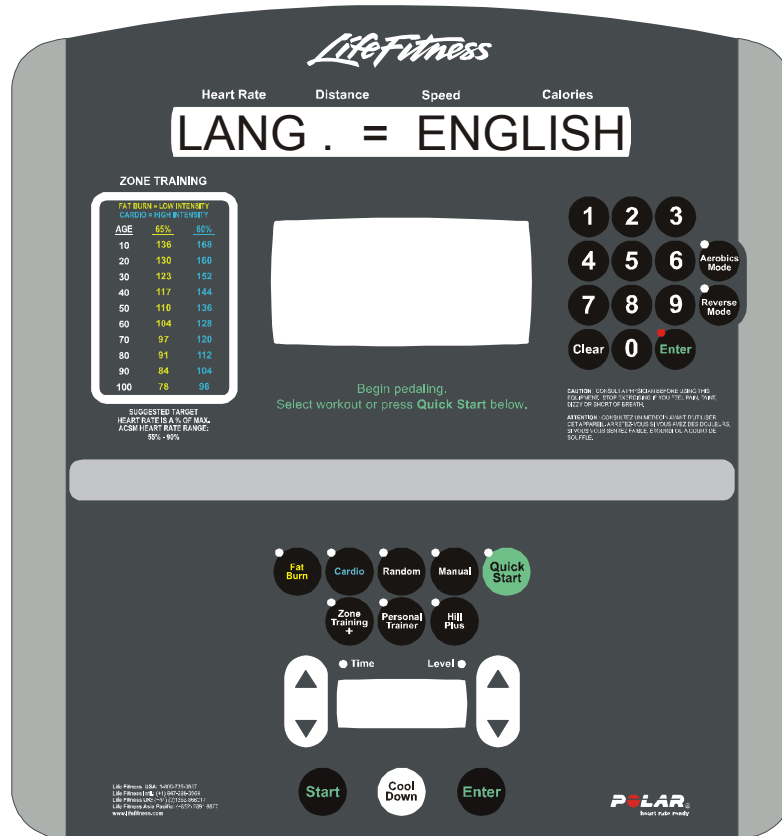
The UP ARROW will turn ON the telemetry and display a heart shape in the program profile window.

The ENTER key LED indicates when the value is at the default setting of TELEMETRY ON. This value is stored in EEPROM and is kept when the unit is not in use.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

TEST/SERVICE - LANGUAGE



Within this state one of seven languages can be selected. They are: English, German, French, Italian, Dutch, Spanish and Portuguese.

The UP ARROW, when pressed, displays the next language in the list.

The DOWN ARROW, when pressed, displays the previous language in the list.

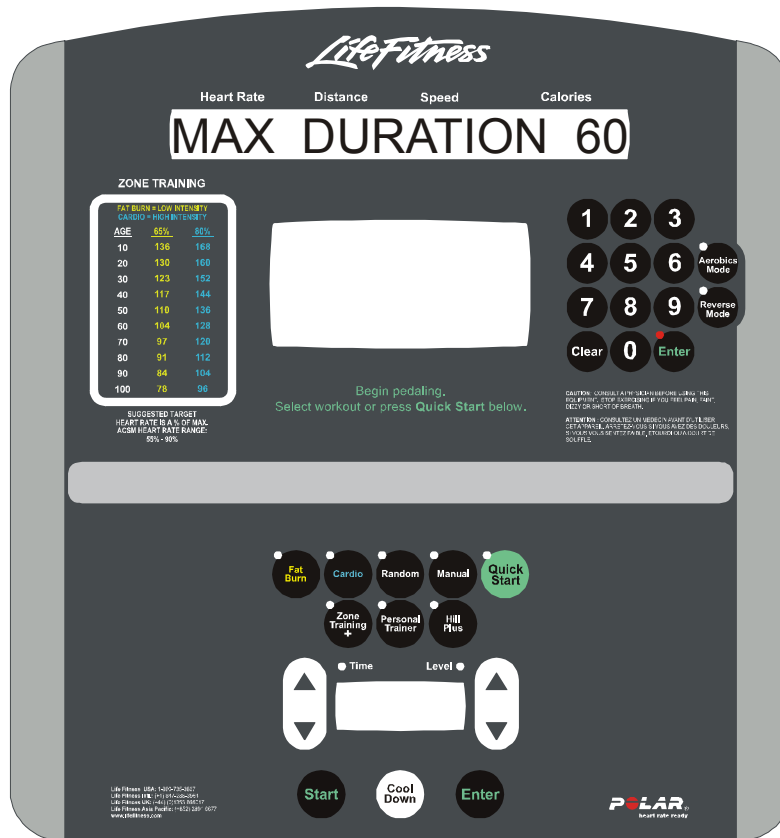
The ENTER key LED indicates when the language is set to the default language of English.

This value is stored in EEPROM and is kept when the unit is not in use.

This is the final diagnostic state in TEST/SERVICE.

Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

OPTIONAL SETTINGS – MAX PROGRAM DURATION



Within this state the MAXIMUM PROGRAM DURATION is displayed and can be adjusted from a range of 10-99 minutes.

The DOWN ARROW will decrease the value by 1 minute. Key will auto-repeat if held.

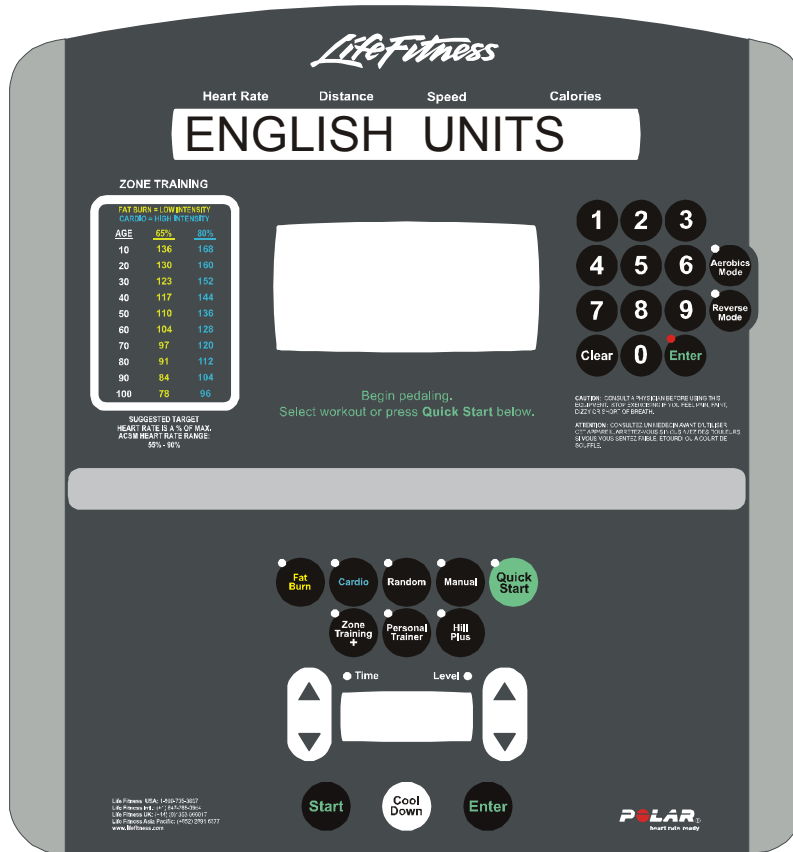
The UP ARROW will increase the value by 1 minute. Key will auto-repeat if held.

The ENTER key LED indicates when the value is at the default of 60 minutes. This value is stored in EEPROM and is kept when the unit is not in use.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

OPTIONAL SETTINGS – ENGLISH/METRIC UNITS



Within this state ENGLISH or METRIC units can be selected.

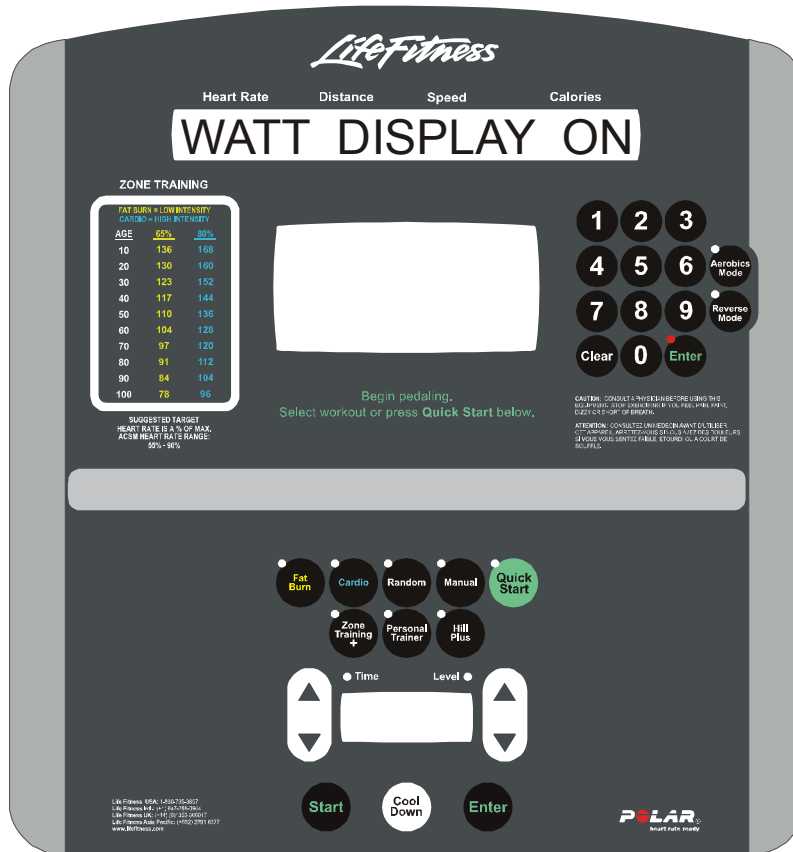
The DOWN arrow will select METRIC units.

The UP arrow will select ENGLISH units.

The ENTER key LED indicates when the value is at the default setting of ENGLISH UNITS. This value is stored in EEPROM and is kept when the unit is not in use.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

OPTIONAL SETTINGS – WATTS DISPLAY ENABLE/DISABLE



If this option is enabled the MESSAGE CENTER displays the Watts equivalent of the workload. This message will only be displayed after a level change.

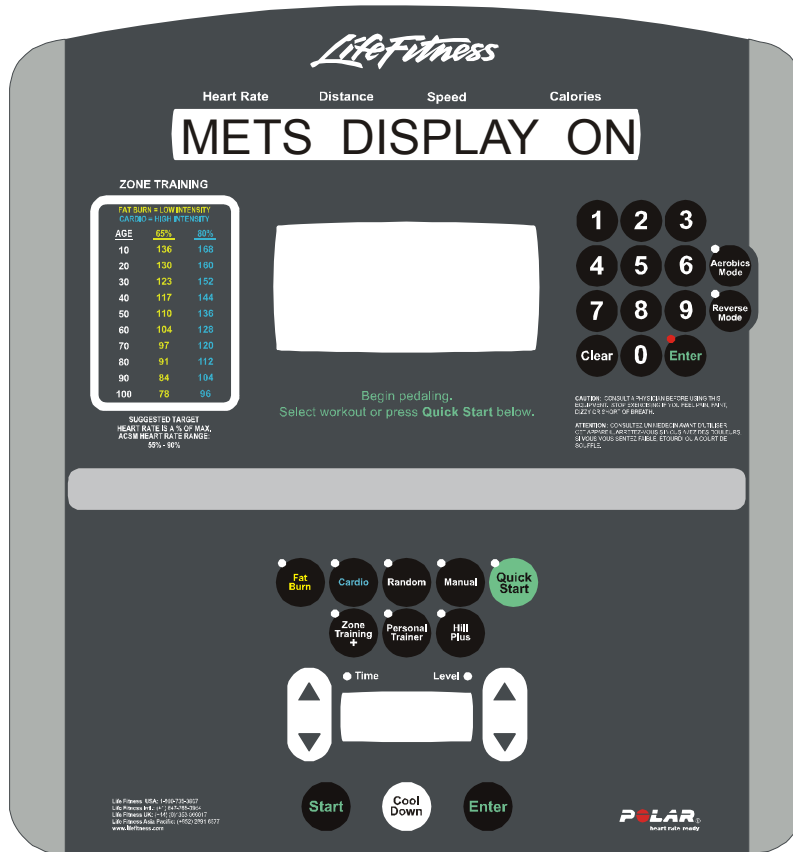
The DOWN arrow will turn OFF the WATTS PROGRAM.

The UP arrow will turn ON the WATTS PROGRAM.

The ENTER key LED indicates when the value is at the default setting of WATTS PROGRAM ON. The value is stored in EEPROM and is kept when the unit is not in use.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

OPTIONAL SETTINGS – METS DISPLAY ENABLE/DISABLE



If this option is enabled the MESSAGE CENTER displays the MET's equivalent of the workout. This message will only be displayed after a level change.

The DOWN arrow will turn OFF the METS PROGRAM.

The UP arrow will turn ON the METS PROGRAM.

The ENTER key LED indicates when the value is at the default setting of METS PROGRAM ON. The value is stored in EEPROM and kept when the unit is not in use.

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

OPTIONAL SETTINGS – CAL/HR DISPLAY ENABLE/DISABLE



If this option is enabled the MESSAGE CENTER displays the Calories/Hour equivalent of the workload. This message will only be displayed after a level change.

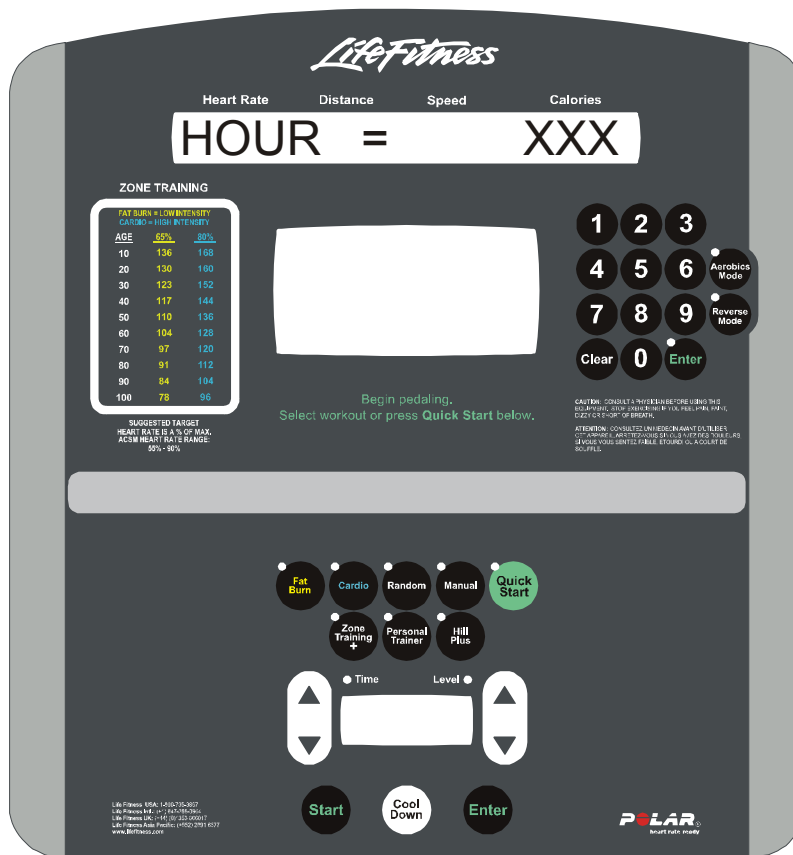
The DOWN arrow will turn OFF the CAL/HR PROGRAM.

The UP arrow will turn ON the CAL/HR PROGRAM.

The ENTER key LED indicates when the value is at the default setting of CAL/HR PROGRAM ON. The value is stored in EEPROM and is kept when the unit is not in use.

Press ENTER to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

OPTIONAL SETTINGS – TOTAL HOURS AND STATISTICS



Upon entry to this state TOTAL HOURS are displayed.

STATISTICS can be displayed using the UP and DOWN arrow keys. The UP arrow allows scrolling through the available programs and shows the number of times each program has been selected. The DOWN arrow backs up through the list of available programs and back to the total hours displayed.

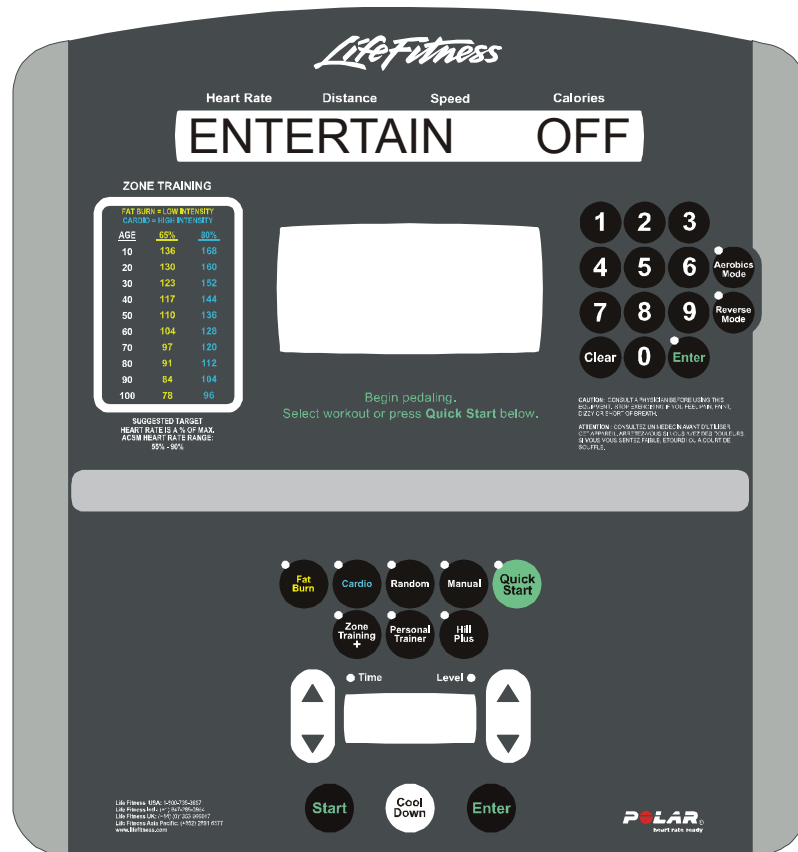
Programs which are available:

- | | |
|---|-----------|
| HOUR = Total hours on the console | MANUAL |
| DIST = Total distance in miles on the console | HEART EXT |
| X-REV | |
| QUICK START | FAT |
| HILL | PRE SET |
| HEART HILL | CARDIO |
| RANDOM | CUSTOM |
| HEART INT | AEROBICS |

Press the ENTER key to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

OPTIONAL SETTINGS – ENTERTAINMENT CONTROLS ON/OFF



The UP and DOWN arrow keys will turn ON or OFF channel and volume controls for third party entertainment systems. (Such as Cardio Theater). The factory default setting is OFF.
 Note: This does not turn power to C-Safe port on and off.

Press ENTER to advance to the next diagnostic state. Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly will exit diagnostics.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

OPTIONAL SETTINGS – PHOTO SHOOT



Data displayed in the MESSAGE CENTER is non-functional and intended only to simulate values for photographic sessions. This is the final diagnostic state.

Press the CLEAR key to go back to the previous diagnostic state. Pressing the CLEAR key repeatedly to exit diagnostics.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

Notes

SECTION IIB

DIAGNOSTIC MODES

FOR

95Xe LCD UNITS

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Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

WELCOME SCREEN



LCD Console Welcome Screen

The Welcome Screen initially appears after Power-Up or when the bike is not in use. Touching the Screen will change the screen to the **WORKOUT SELECTION** screen.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi LCD DISPLAY CONSOLE

WORKOUT SELECTION SCREEN

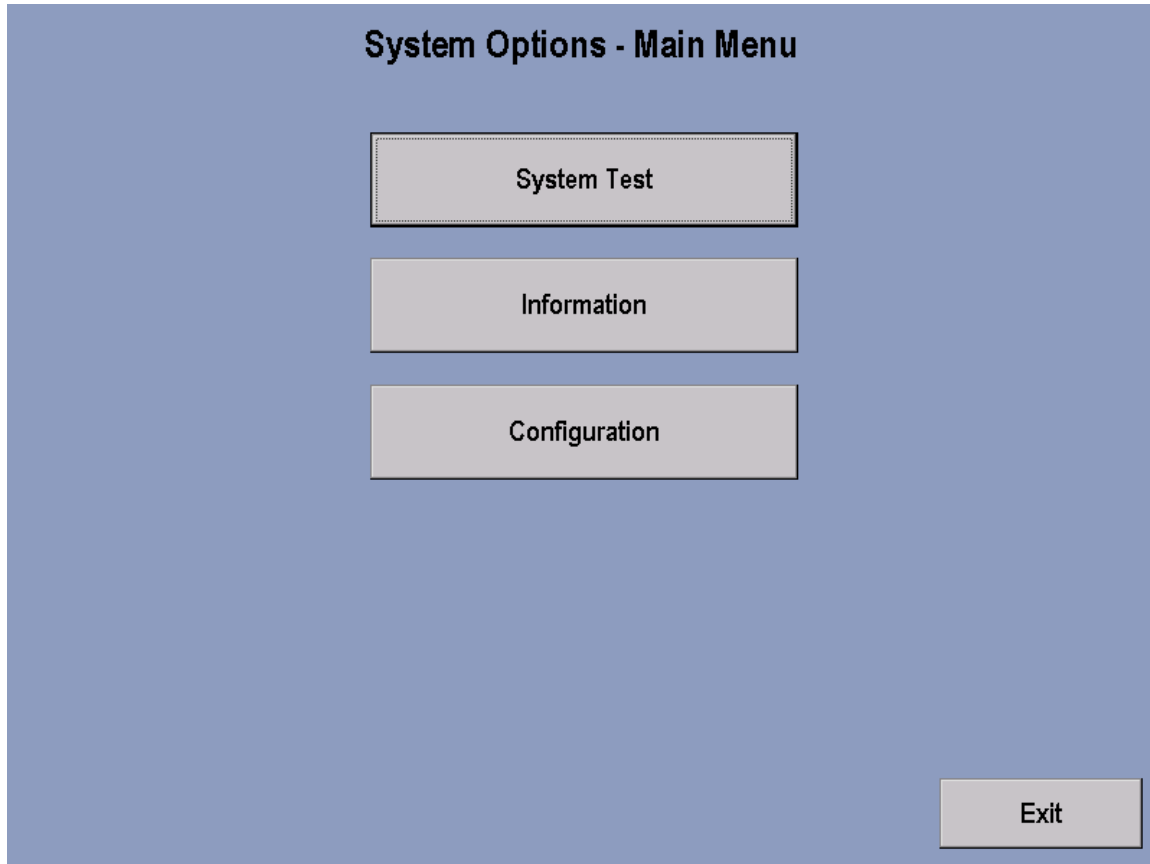


From the Workout Selection Screen you will be able to enter the Systems Option Menu. To enter, go to the Workout Selection Screen then press and hold the COOLDOWN key, and then double-tap the Life Fitness icon.

After entering the System Options the Main Menu will appear. For further information about the programs on this screen, refer to the Operators Manual.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

SYSTEM OPTIONS – MAIN MENU

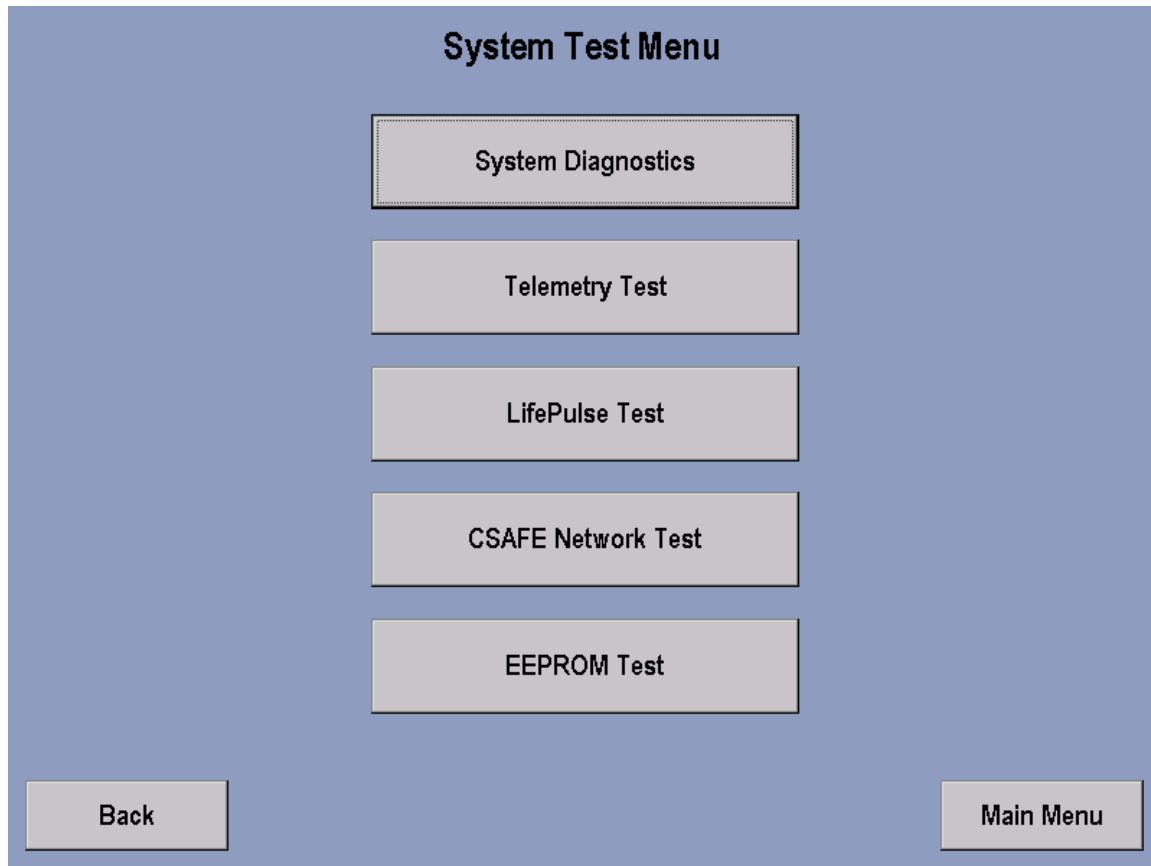


The System Options - Main Menu selections, when pressed, allows access to the System Test Menu, Information Menu, and Configuration Menu.

Pressing the screen Exit key will return you back to the Workout Selection Screen.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

SYSTEM TEST MENU

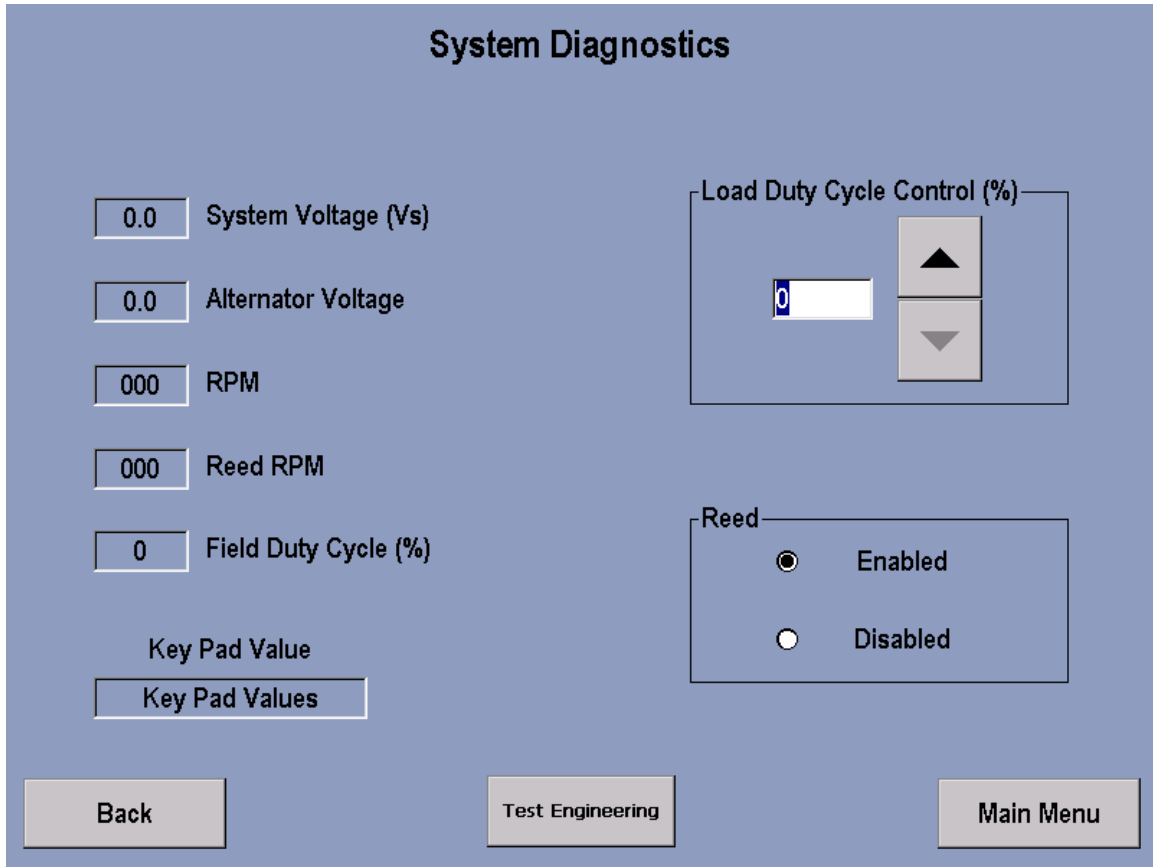


The System Test Menu allows the user to access the above by pressing the appropriate key.

Press the screen Back key will return you to the System Options – Main Menu screen.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

SYSTEM DIAGNOSTICS



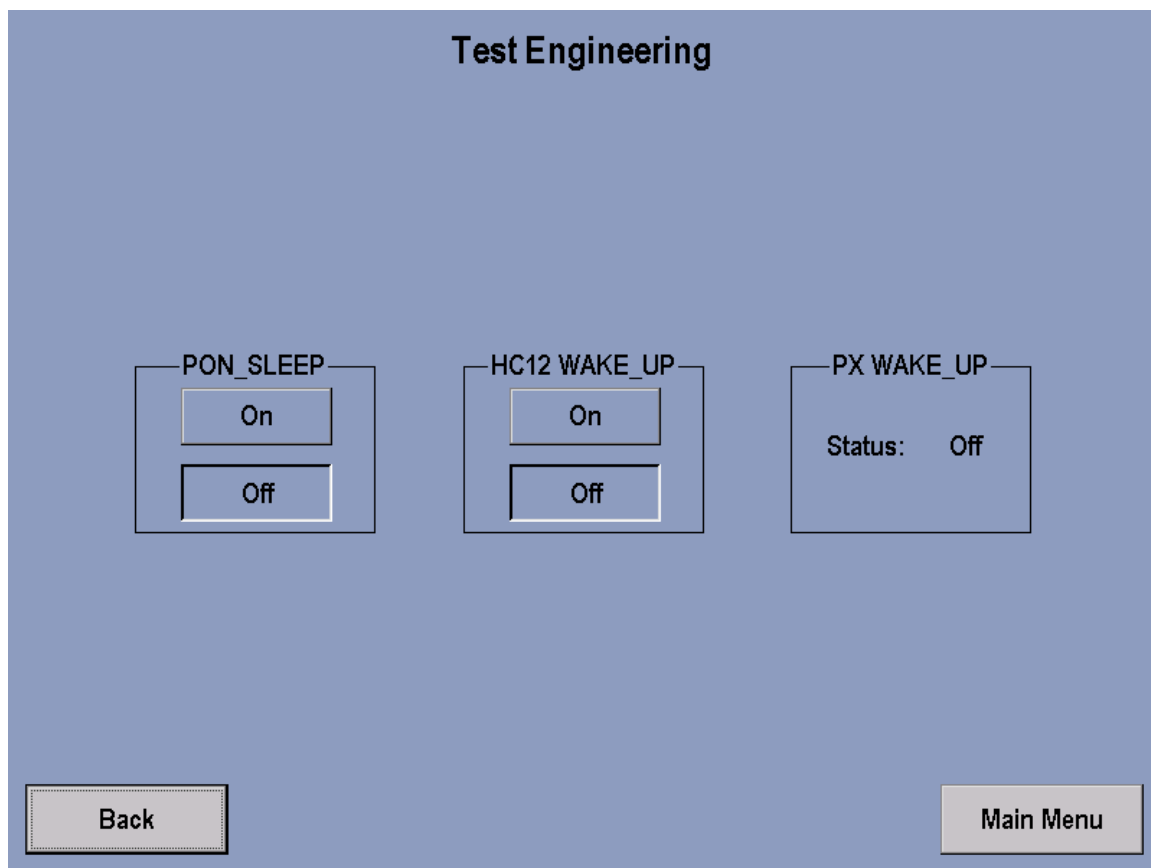
Entry to this screen allows the user to view the following:

SYSTEM VOLTAGE	Displays system voltage present at console.
ALTERNATOR VOLTAGE	Displays voltage output from alternator
RPM	Displays the Pedal Lever RPMs from the Alternator.
REED RPM	Displays the Pedal Lever RPMs from the Reed Switch.
FIELD DUTY CYCLE %	Displays the percentage that the alternator is being activated to produce a load. The higher the number the harder it is to pedal.
KEY PAD VALUE	Displays an acknowledgment when a key is pressed on the console.
LOAD DUTY CYCLE%	Displays the current Load Duty Cycle Control and can be adjusted by using the UP and DOWN arrow keys.
REED	When lit, the circles in the Reed Box indicate that the Reed Switch is Enabled or Disabled. The setting can be toggled by pressing corresponding circle.
TEST ENGINEERING	This test is for engineering purposes and is not applicable to servicing.

To exit Diagnostics press MAIN MENU button followed by EXIT. Pressing the screen Back key will return you to the System Test Menu screen.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

TEST ENGINEERING

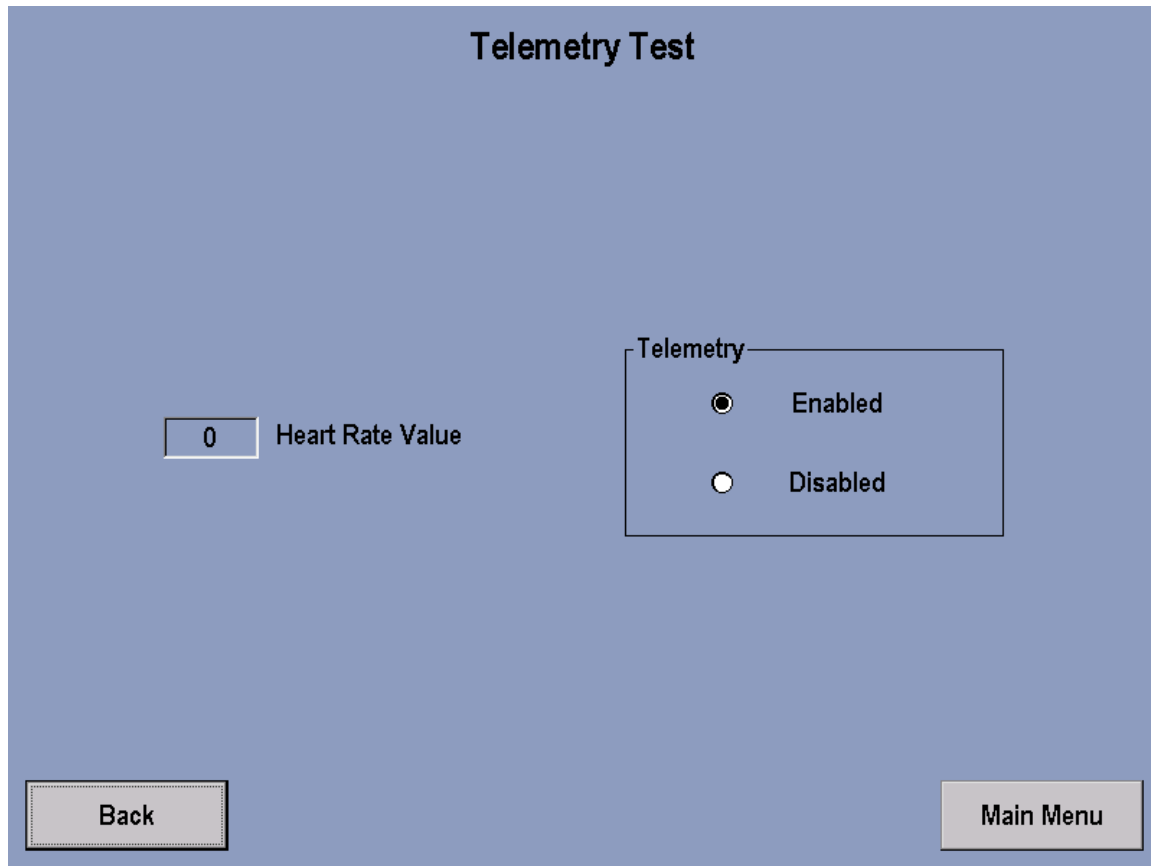


All status windows on this screen should display OFF and should not be changed unless instructed to do so by Life Fitness Customer Support.

Pressing the screen Back key will return you to the System Diagnostics screen.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

TELEMETRY TEST

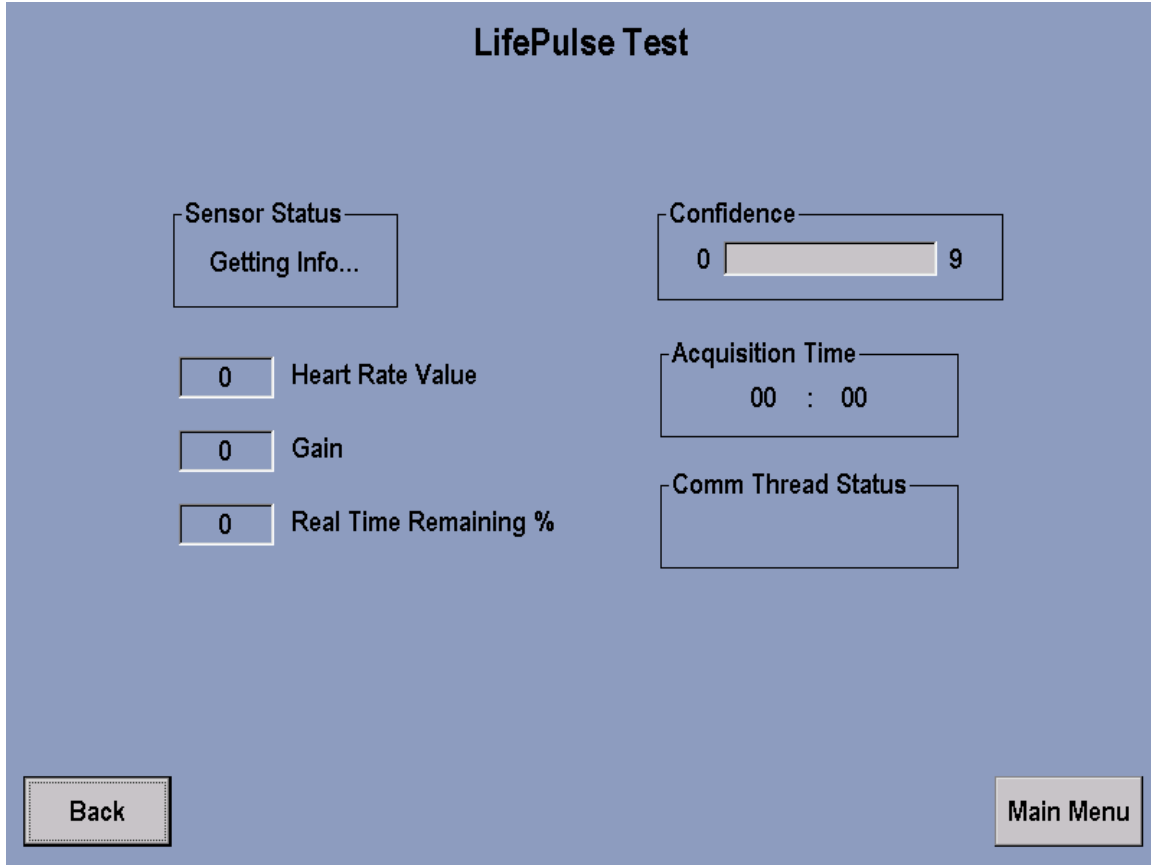


The circles in the Telemetry Box indicate whether Telemetry is Enabled or Disabled. Touching the appropriate circle can enable or disable Telemetry. The Heart rate value window will display the users Heart Rate when Telemetry is enabled.

Pressing the screen Back key will return you back to the previous screen. Pressing the screen MAIN MENU key will return you to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

LIFE PULSE TEST



The Lifepulse™ System can be tested manually. The system will display a “Hands-On” reading when the user has placed their hands on the Lifepulse™ Sensors.

A timer will commence (and will show in the Acquisition Time window) from the time both Hands-On condition occurs to when the LifePulse system can generate a heart rate reading. The timer will stop when a numeric heart rate reading appears in the Heart Rate Value window.

The Gain value and Confidence Level will also be displayed in their appropriate windows. Gain indicates the strength of the heart rate signal being received. A low number indicates a strong signal where as a high number indicates a weak signal. The value ranges for confidence go from 0 to 9, with 0 having the lowest confidence value.

Pressing the screen Back key will return you to the previous screen. Pressing the screen Main Menu key will return you to Main Menu.

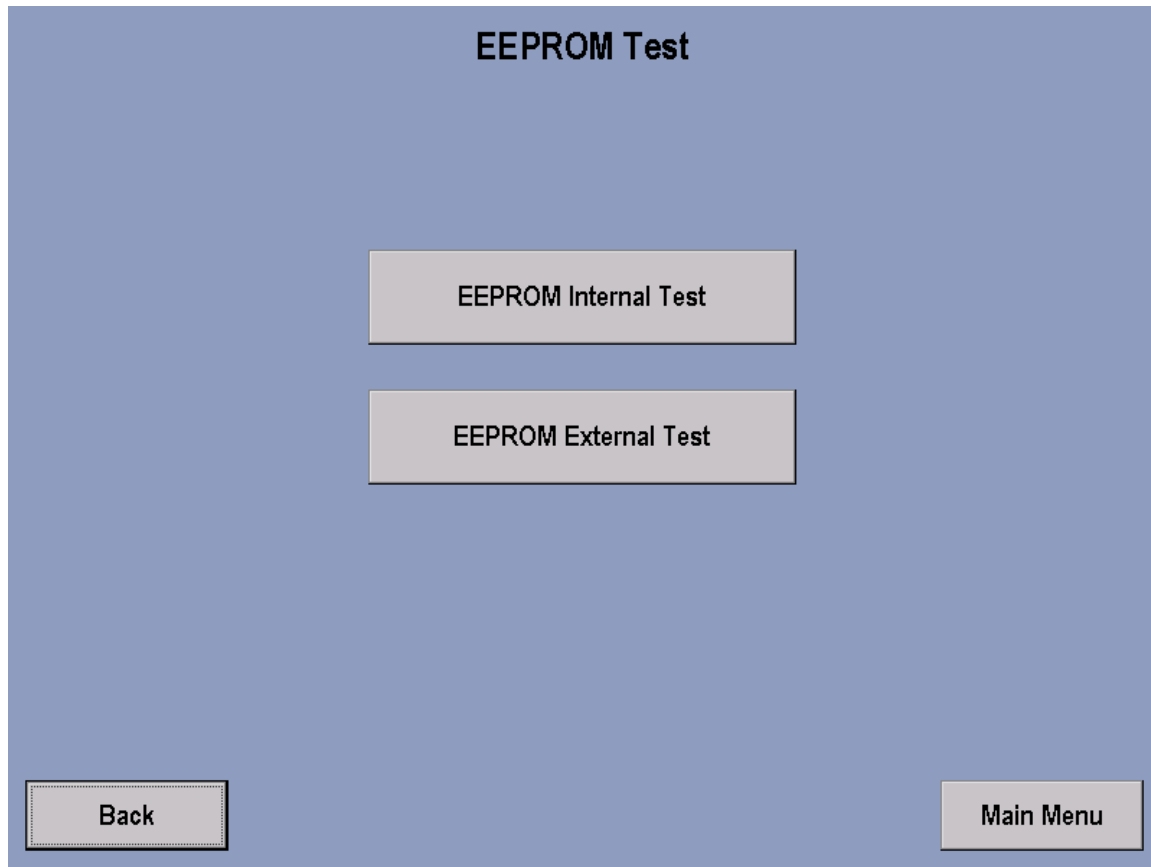
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

CSAFE NETWORK TEST

CSafe Test - Not Available at This Time.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

EEPROM TEST



Pressing the screen EEPROM Internal Test key allows testing of the EEPROM on the Single Board Computer.

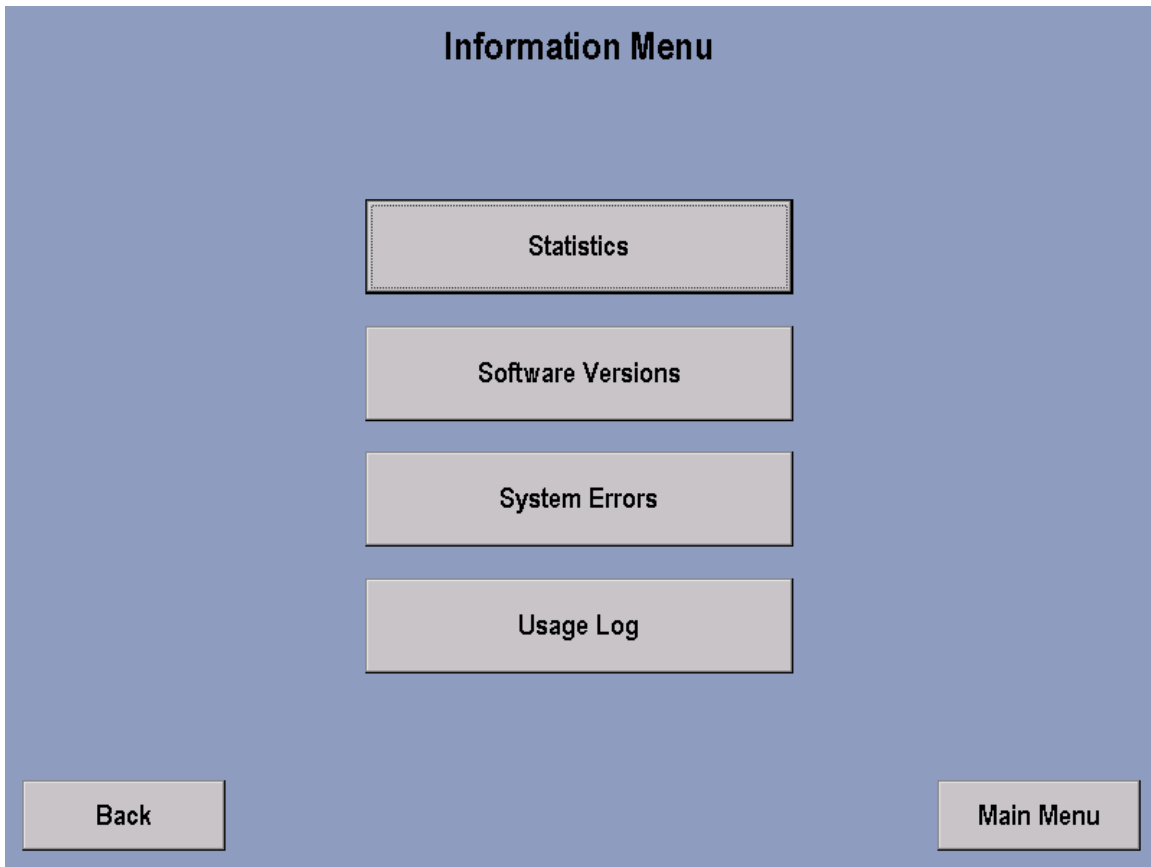
Pressing the screen EEPROM External Test key allows testing of the EEPROM on the Interface Board.

In either instance, a PASS message will appear if the EEPROM is good

Pressing the screen Back button will return you to previous screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

INFORMATION MENU



STATISTICS	Displays various historical data regarding individual workout program usage and critical system power levels.
SOFTWARE VERSIONS	Displays current software version information.
SYSTEM ERRORS	Displays historical information regarding system errors encountered during operation.
USAGE LOG	Displays historical information regarding pedal speeds and user weights.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

INFORMATION STATISTICS

Information Statistics

TOTAL HOURS:	<input type="text" value="0:00"/>	SPORT TRAINING:	<input type="text" value="0"/>
HILL:	<input type="text" value="0"/>	REVERSE:	<input type="text" value="0"/>
RANDOM:	<input type="text" value="58880"/>	AEROBICS:	<input type="text" value="0"/>
MANUAL:	<input type="text" value="0"/>	EZ RESISTENCE:	<input type="text" value="0"/>
FAT BURN:	<input type="text" value="0"/>	PERSONAL TRAINER:	<input type="text" value="0"/>
CARDIO:	<input type="text" value="0"/>	PRESET:	<input type="text" value="0"/>
QUICK:	<input type="text" value="0"/>	TOTAL DISTANCE:	<input type="text" value="0"/>
WATTS:	<input type="text" value="0"/>	CHARGING TIME:	<input type="text" value="655960"/>
METS:	<input type="text" value="0"/>	DISCHARGING TIME:	<input type="text" value="240"/>
HR HILL:	<input type="text" value="0"/>	MINIMUM VOLTAGE:	<input type="text" value="0.00"/>
HR INTERVAL:	<input type="text" value="0"/>	MAXIMUM VOLTAGE:	<input type="text" value="0.00"/>
EXTREME HR:	<input type="text" value="0"/>		

Entry to this screen allows to user to view statistics such as: total hours of use on the unit and hours of use per program used along with other information.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi LCD DISPLAY CONSOLE

SOFTWARE VERSIONS

Software Versions

Console Version	<input type="text" value="1.11"/>	Part #	<input type="text" value="K32A-12601-0000"/>
LifePulse Version	<input type="text" value="9.8"/>		
CSAFE Version	<input type="text" value="0.0.0"/>		
Boot Version	<input type="text" value="0"/>		
Interface Board Version	<input type="text" value="0.00"/>	Part #	<input type="text"/>

BIKE (Nov 20 2003 - 15:09:46)

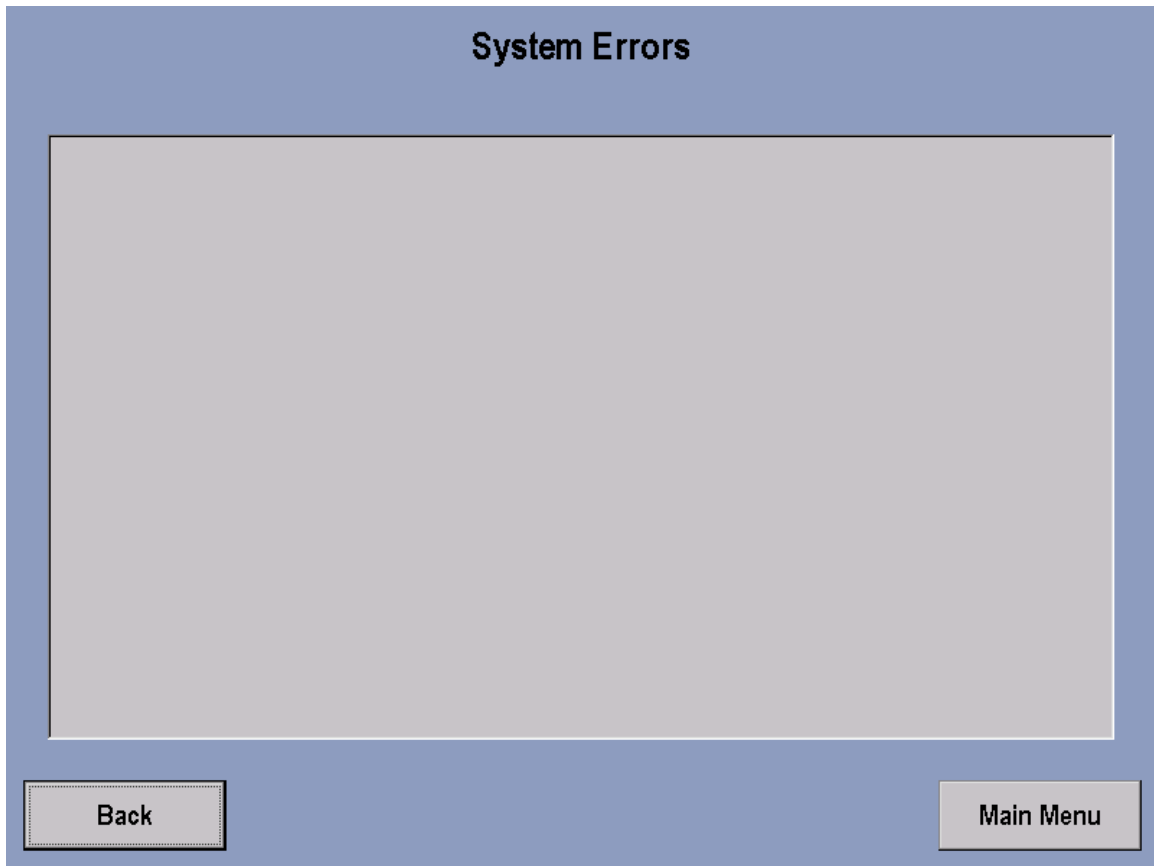
Note: Values shown are for reference only.

This screen allows the user to view the current software programs loaded into the unit along with its corresponding Life Fitness part number if applicable.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

SYSTEM ERRORS



This screen allows the user to view system errors that have been logged into the unit's memory.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

USAGE LOG REPORT

The image shows a screenshot of the 'Usage Log Report' screen on a Life Fitness LCD display. The screen has a blue background. At the top, the title 'Usage Log Report' is centered. Below the title is a table with seven columns: 'RPM', 'Level 0', 'Level 1', 'Level 2', 'Level 3', 'Level 4', and 'Level :'. The 'RPM' column contains a list of ranges: '0 - 27', '28 - 37', '38 - 47', '48 - 57', '58 - 67', '68 - 77', '78 - 87', '88 - 97', '98 - 107', and '108 - 117'. The other columns are currently empty. Below the table is a horizontal scrollbar. At the bottom of the screen, there are two buttons: 'Back' on the left and 'Main Menu' on the right.

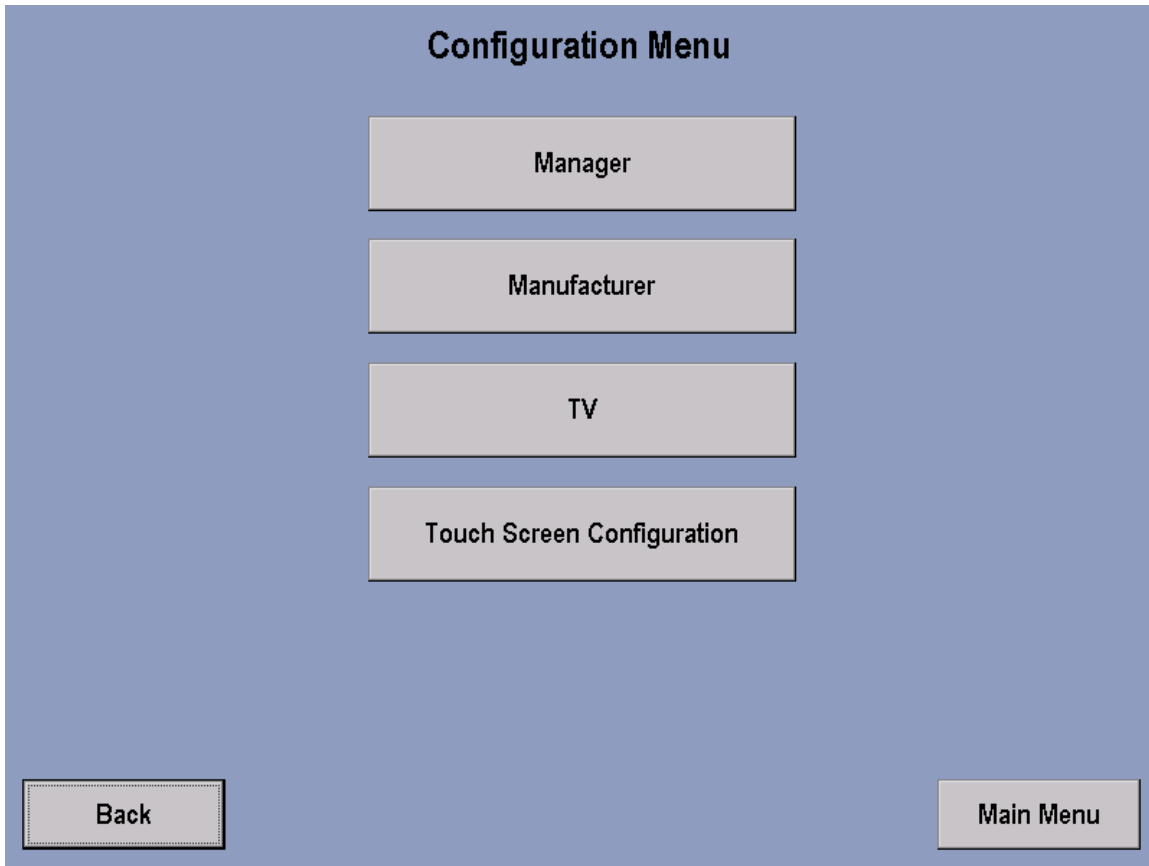
RPM	Level 0	Level 1	Level 2	Level 3	Level 4	Level :
0 - 27						
28 - 37						
38 - 47						
48 - 57						
58 - 67						
68 - 77						
78 - 87						
88 - 97						
98 - 107						
108 - 117						

This screen allows the user to view detailed information in relation to RPMs used at different levels.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

CONFIGURATION MENU

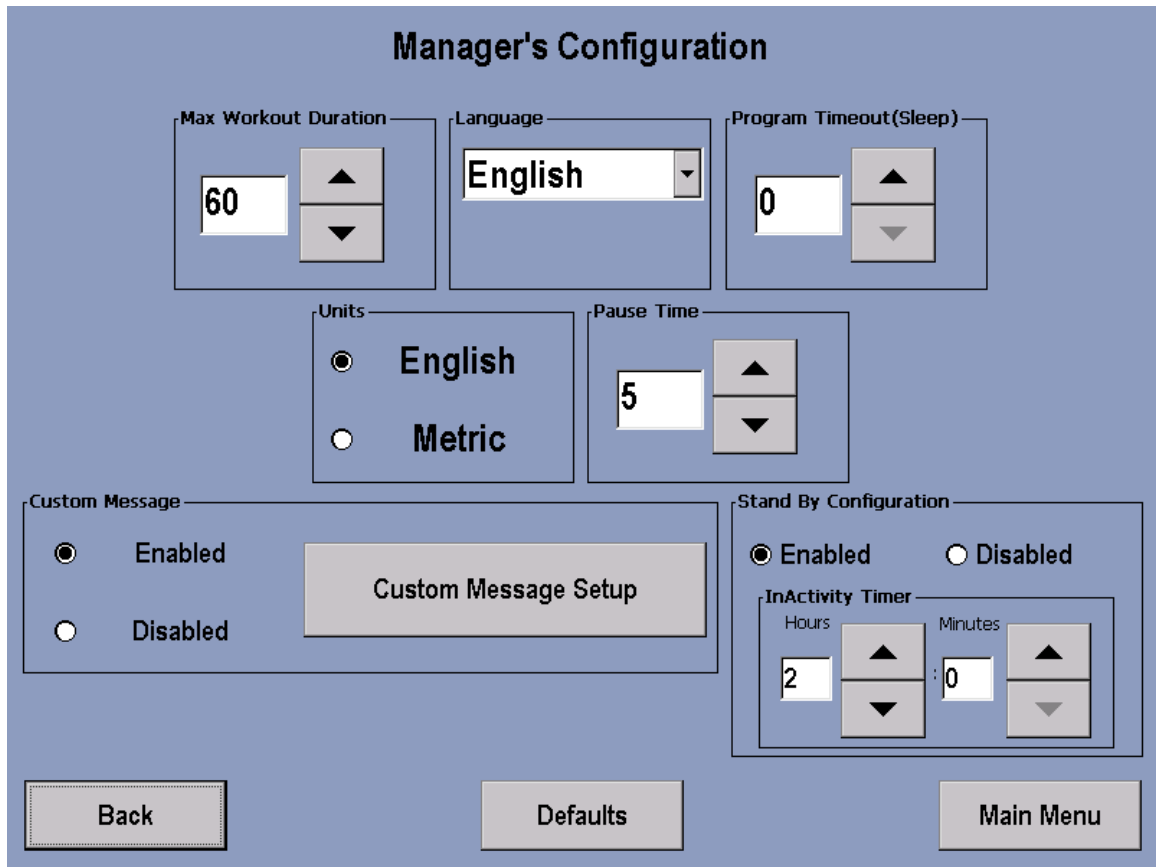


MANAGER	Supervisory workout parameter setup.
MANUFACTURER	Critical system parameter setup.
TV	Television configuration.
TOUCH SCREEN CONFIGURATION	Proximity calibration of touched screen.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

MANAGER'S CONFIGURATION



Maximum Workout Duration: Allows the manager to set a maximum workout limit between 1 and 99 minutes. The time can be modified using the up or down arrow keys. The unit default is 60 minutes.

Standby Configuration: Sets the desired amount of time of inactivity before the system automatically turns the LCD screen backlight off. The LCD screen will illuminate the next time activity is detected. Inactivity Timer can be set from 0 to 24 hours.

Program Timeout: Sets the amount of time the user can go without touching the Touchscreen while setting up their workout, before the console resets back to the Welcome Screen. Program Timeout can be set from 20 to 255 seconds. The unit default is 60 seconds.

Pause Time: Set the amount of time the unit can be inactive before it reverts back to the Welcome Screen. Pause Time can be set from 1 to 99 minutes. The unit default is 1 minute.

Units: Choose between English and Metric.

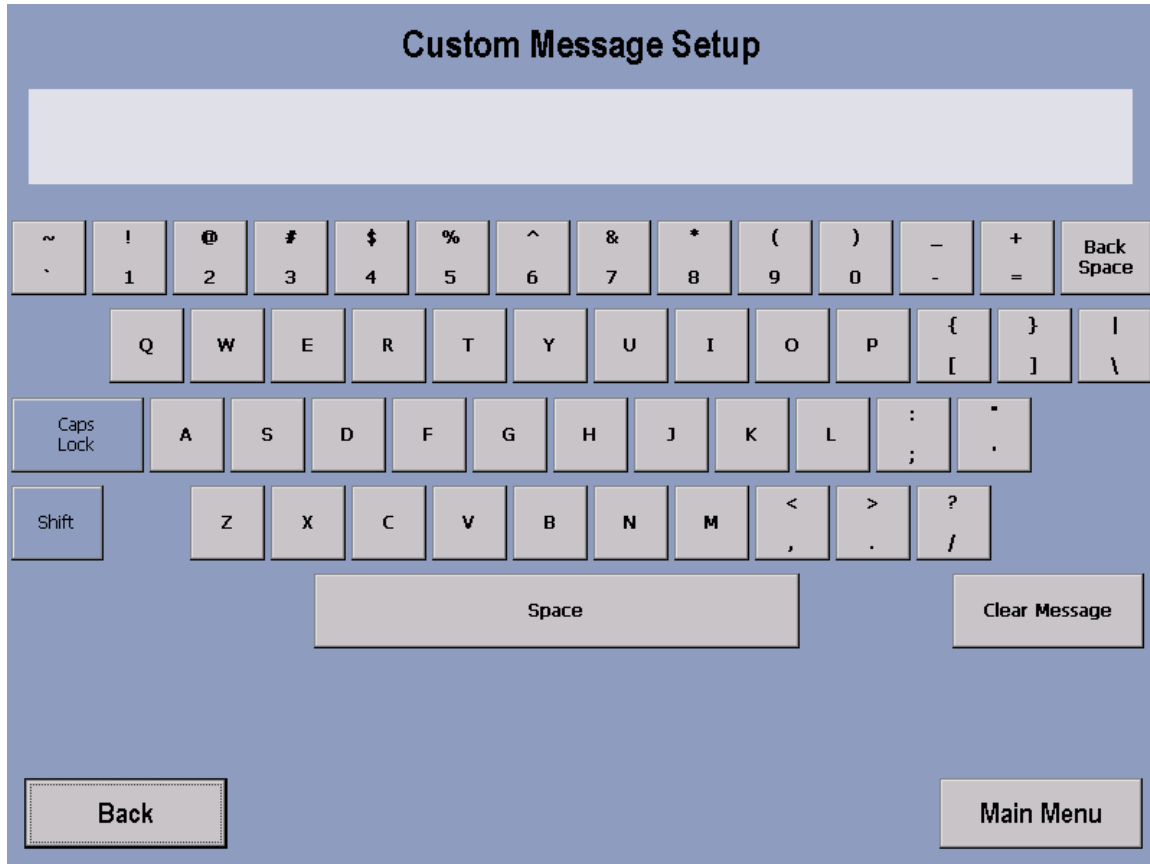
Language: The language of the message area display. Choices include English, Portuguese, Spanish, Dutch, Japanese, Italian, French, and German.

Custom Message Setup: Allows for a custom message to be displayed across the Welcome Screen.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

CUSTOM MESSAGE SETUP



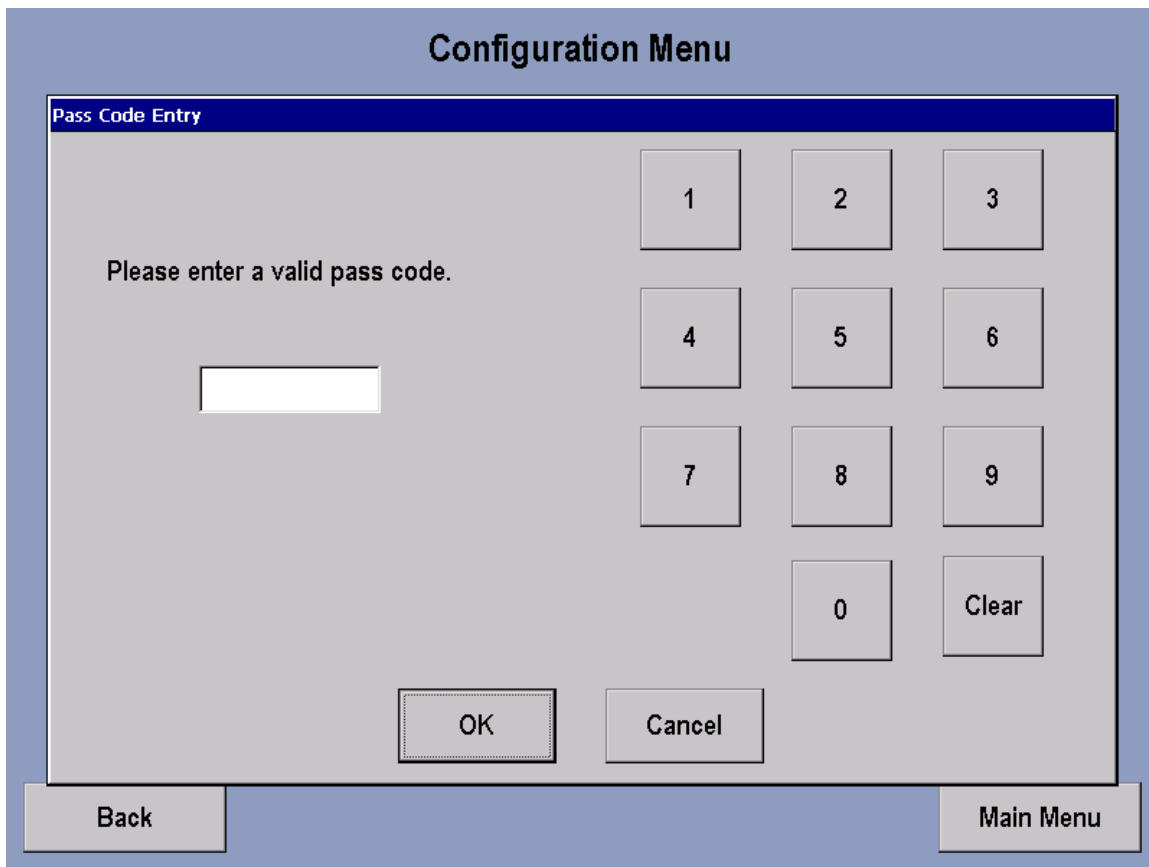
This configuration allows for a custom message to be displayed across the Welcome Screen. Creating/changing a Custom Message—after entering the Manager’s Configuration, check to make sure that Custom Message is enabled, and then select Custom Message Setup. Upon entering the setup screen, a message can be entered using the on-screen keyboard. Use the Shift button to input special characters and capital letters. The message will scroll across the top of the screen as the message is being inputted, giving real time feedback. Accepting a Custom Message—To accept the Custom Message, simply select the Main Menu button.

Erasing a Custom Message—to erase a Custom Message, enter the Custom Message Setup screen. Then select Clear Message and then Main Menu.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

MANUFACTURERES CONFIGURATION MENU



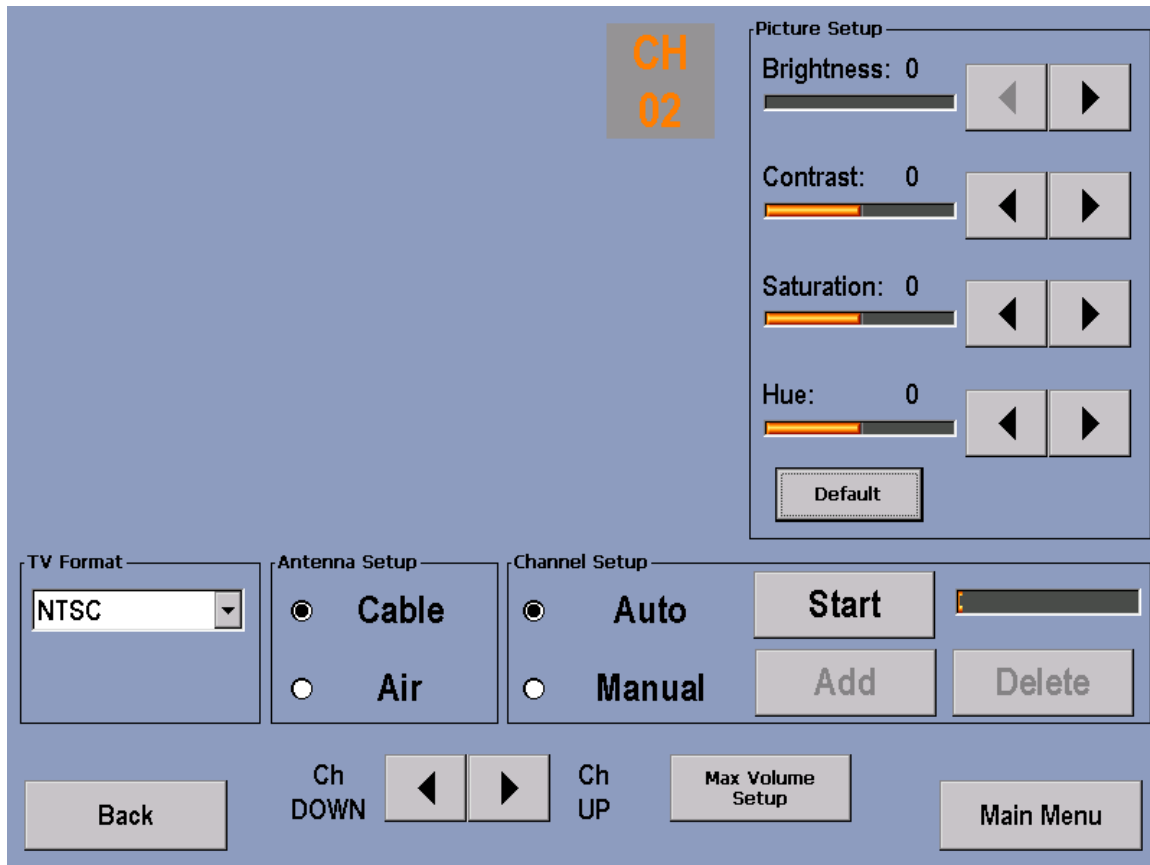
Access to this screen will only be available to Life Fitness certified technicians.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

LCD DISPLAY CONSOLE

TV SET UP



This screen brings up the TV screen and allows adjustment of brightness, contrast, saturation and hue. Also allows the choice of TV format, antenna setup and channel setup. To Set up channels: Select Auto in Channel Setup and then press Start.

To delete an unwanted channel: Select Manual in Channel Setup window, then press Manual, then use the channel controls on the Control Panel to choose the channel to be deleted, press Delete and then press Auto to return Channel Setup to Auto.

To restore a channel: Press the Manual key in Channel Setup, use the the channel controls to choose the channel to be restored, press the Add key and the press Auto to return Channel Setup to Auto.

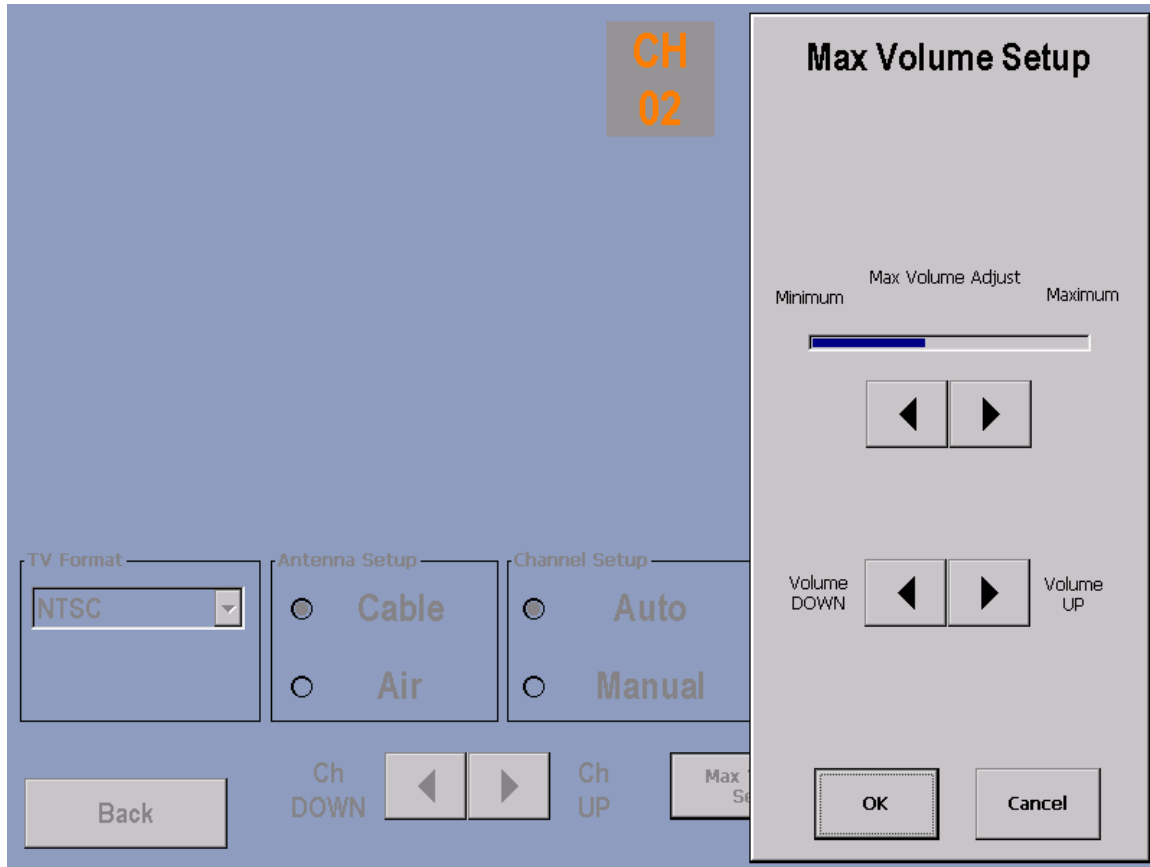
To Adjust Picture Setup: Brightness, Contrast, Saturation and Hue can be adjusted by using the corresponding arrow buttons. To return to the unit default settings, press Default key. The default settings are: Brightness-180, Contrast-71, Saturation-64 and Hue-0.

Press the Max Volume Setup key to adjust volume.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

MAX VOLUME SETUP



Entry to this screen allows the user to adjust Volume by using the Arrow keys.

Note: Headphones must be used for this function.

The upper set of arrows adjusts the volume capacity higher or lower, allowing clubs to compensate for average noise levels within the club. The maximum volume returns to this default after each workout. The Volume Down, Volume Up arrows control the volume of the unit for the current usage. After each session ends, the unit resets to mid-range volume corresponding to the maximum volume setup.

Pressing the screen Back key will return you to System Options – Main Menu screen. Pressing the screen MAIN MENU key will return you back to the MAIN MENU.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
LCD DISPLAY CONSOLE

TOUCH SCREEN CONFIGURATION

Entry into this screen will allow to user to reconfigure the Touch Screen. The display will show a blank screen with a + sign in the middle. Follow the directions at the top of the screen to properly reconfigure the Touch Screen. This procedure may have to be repeated more than once. Once the screen has been successfully calibrated the screen will exit calibration state automatically.

SECTION III

HOW TO...SERVICE AND REPAIR

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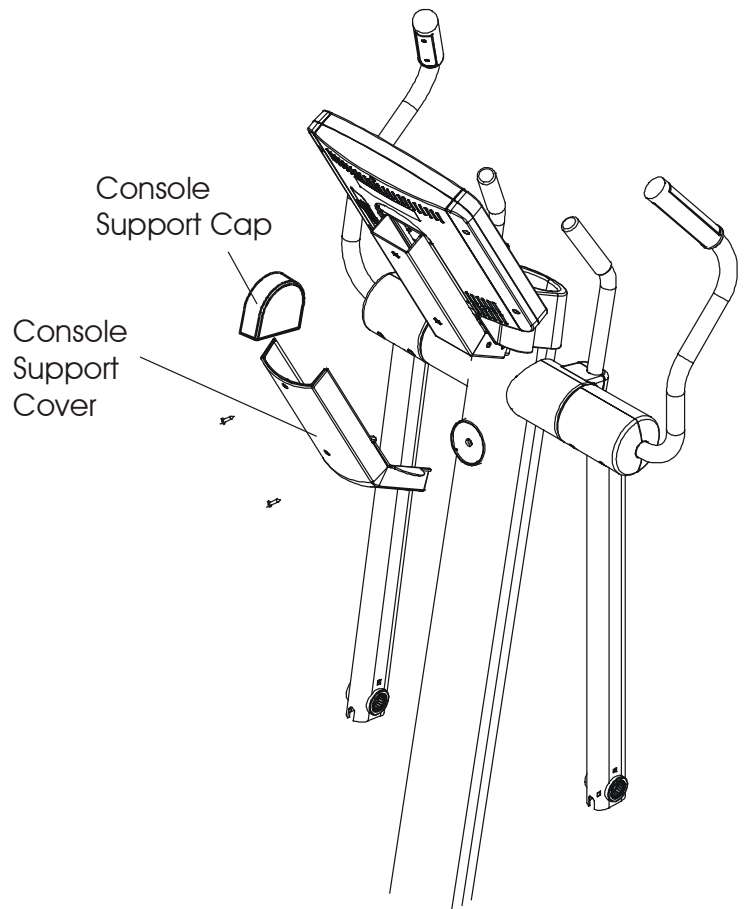
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

NOTES

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi **How To... Replace the Console Support Cover**

Special Service Tools Required: NONE

1. Remove the Console Support Cap by squeezing the sides and pulling it away from the Console Support.
2. Remove the two Phillips screws securing the Console Support Cover to Console Support.
3. Install the new Console Support Cover in reverse order.

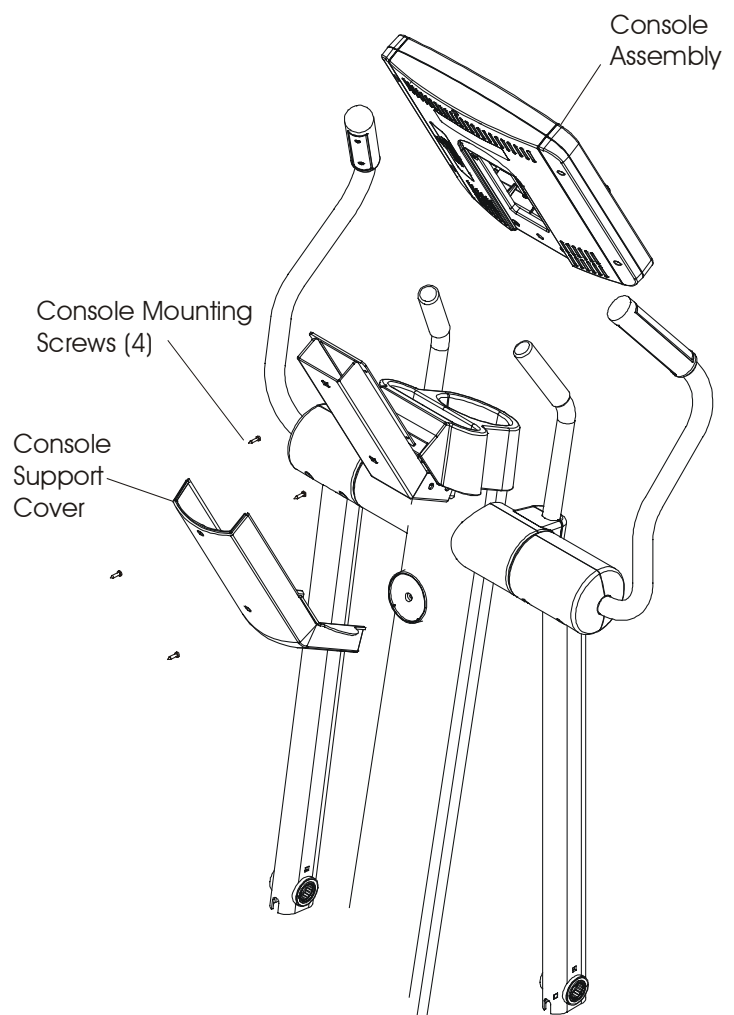


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Console Assembly

Special Service Tools Required: NONE

1. Remove the Console Support Cover. See "How To..." in this section.
2. Remove the four Phillips screws securing the Console to the Console Support.
3. Disconnect the Main Cable and the Heart Rate Cable, if present, from the rear of the console.
4. Install the new Console in reverse order.

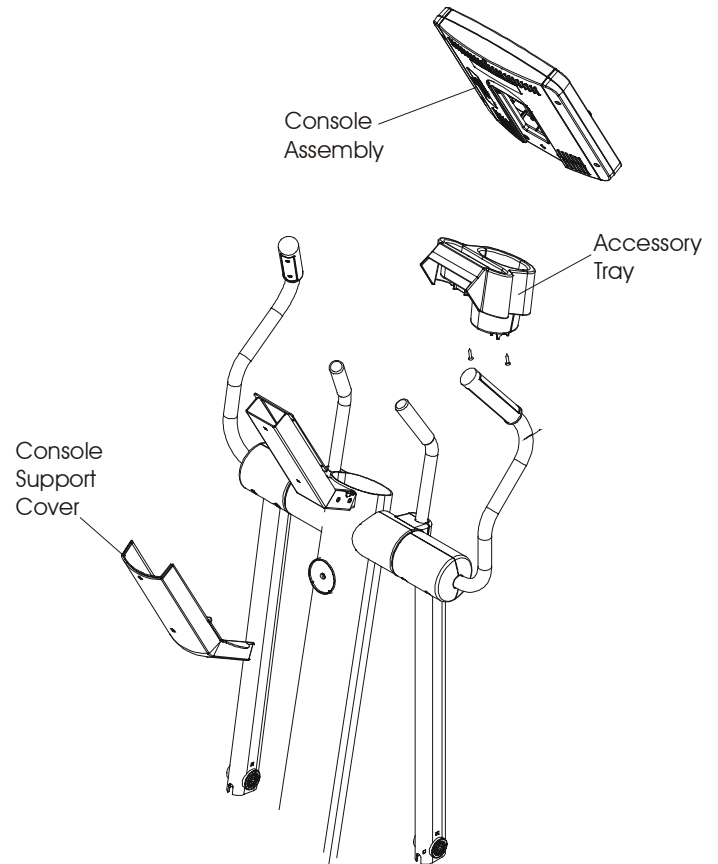


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Accessory Tray

Special Service Tools Required: NONE

1. Remove the Console Support Cover. See “How To...” in this section.
2. Remove the Console. See “How To...” in this section.
3. Remove the two Phillips screws securing the Accessory Tray to the Console Support.
4. Lift the Accessory Tray up and out of the Main Upright.
5. Install the new Accessory Tray in reverse order.

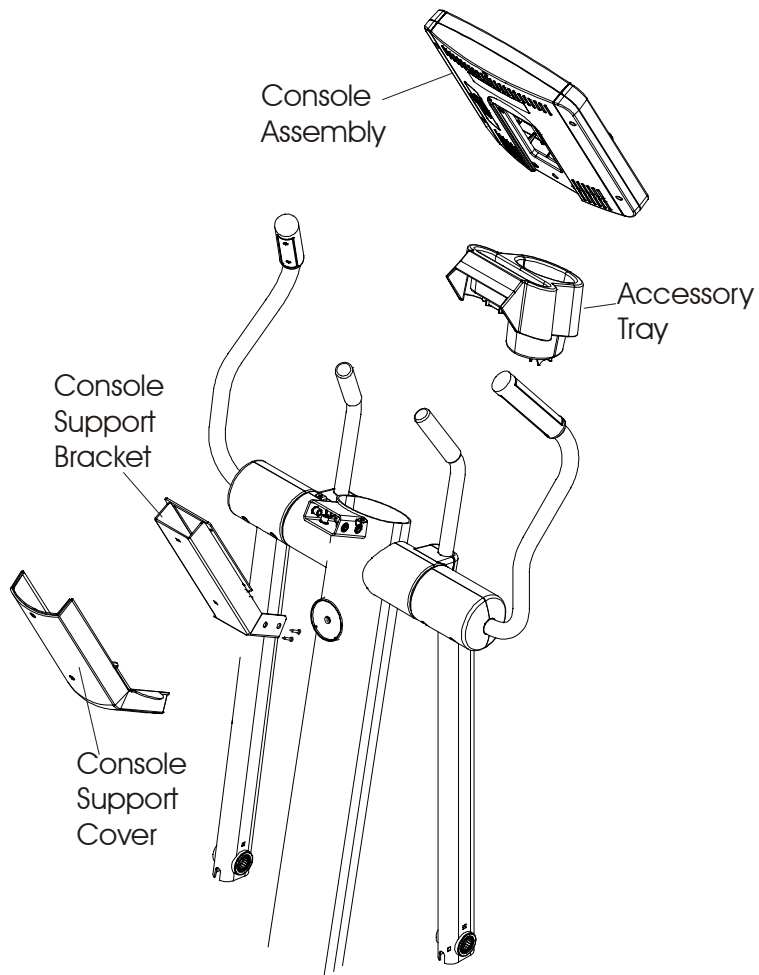


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Console Support Bracket

Special Service Tools Required: NONE

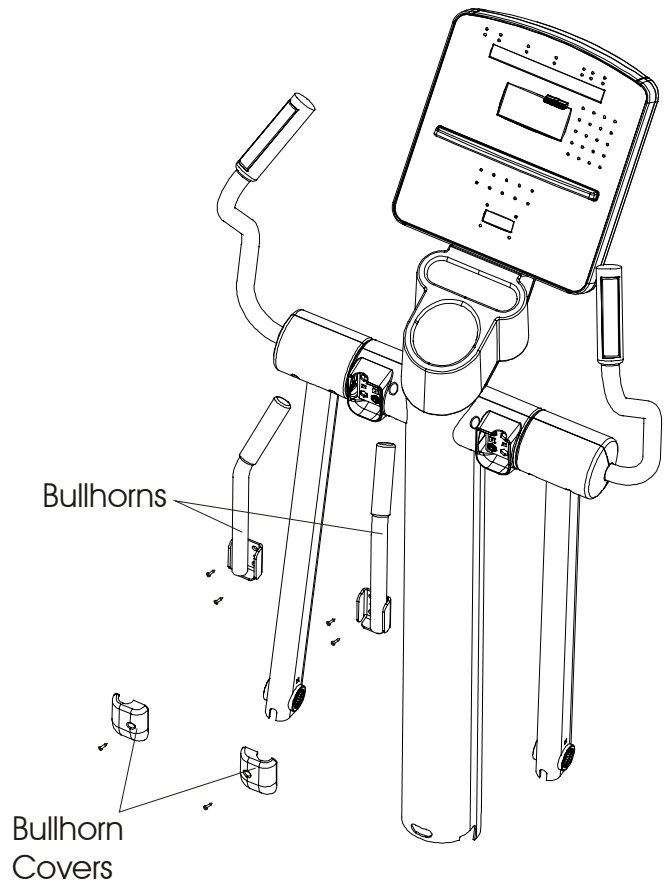
1. Remove the Console Support Cover. See "How To..." in this section.
2. Remove the Console. See "How To..." in this section.
3. Remove the Accessory Tray. See "How To..." in this section.
4. Remove the six Allen bolts securing the Console Support to the Main Upright.
5. Install the new Console Support in reverse order.



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi **How To... Replace the Bullhorns**

Special Service Tools Required: NONE

1. Remove the Phillips screw securing the Bullhorn Cover to the Bullhorn.
2. Remove the two Allen bolts securing the Bullhorn to the Deadshaft.
3. Install the Bullhorns and Bullhorn Covers in reverse order.



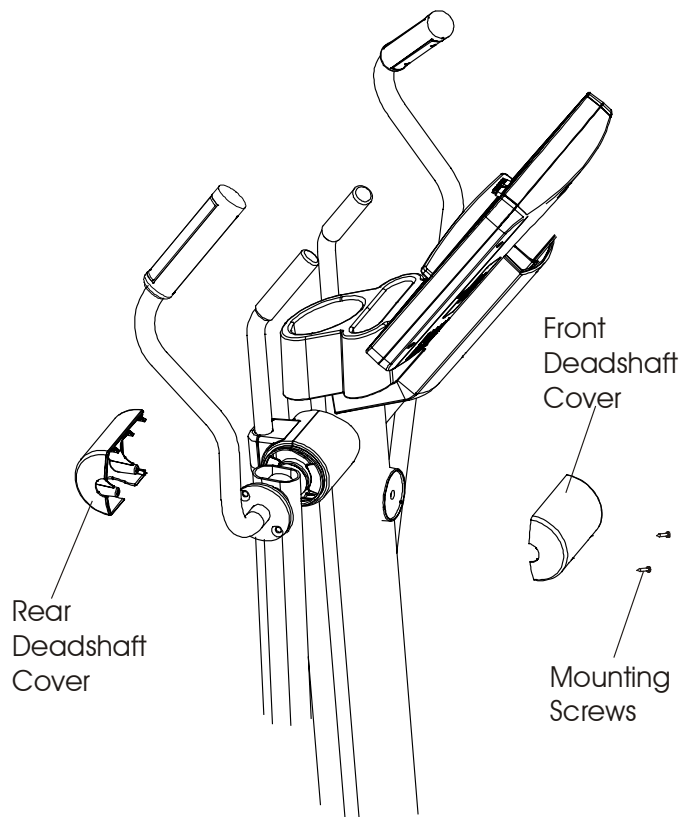
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Deadshaft Covers

Special Service Tools Required: NONE

1. Remove the two screws securing Deadshaft Covers to each other.
2. Install the new Deadshaft Covers in reverse order.

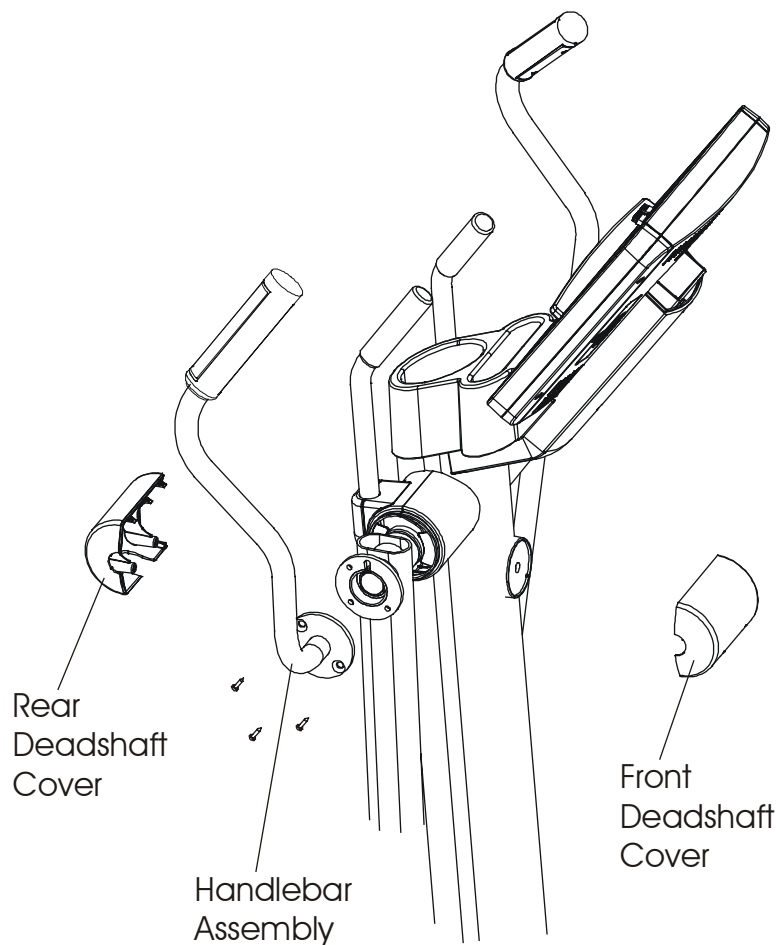
Note: Make sure the Heart Rate cables, if present, do not get pinched when installing the covers.



How To... Replace the Handlebars

Special Service Tools Required: NONE

1. Remove the Outside Deadshaft Covers.
See "How To..." in this section.
2. Remove three Allen bolts securing the Handlebar to the end of the Deadshaft. Disconnect the Heart Rate cable if present.
3. Install new Handlebar in reverse order. If the Heart Rate cable is present, use caution to prevent pinching the cable.

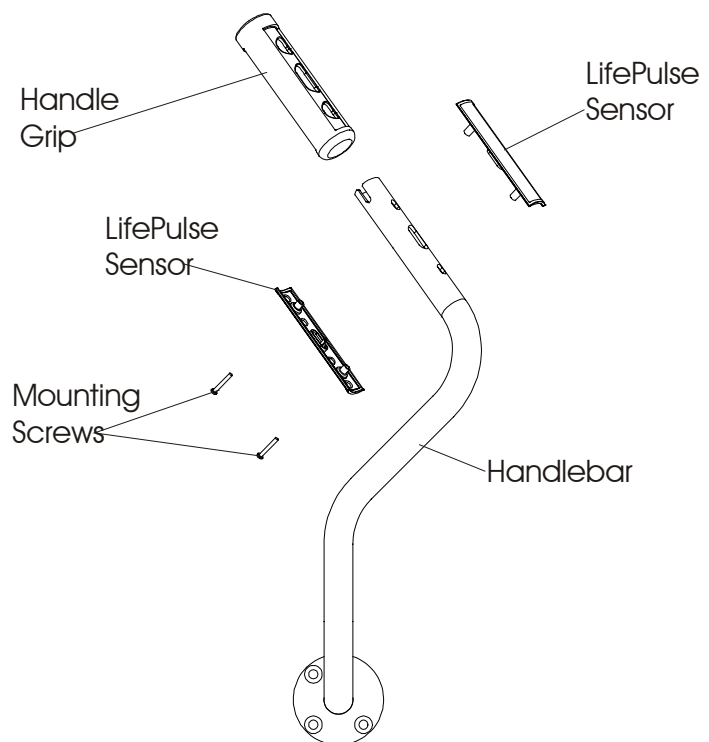


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the LifePulse Sensors

Special Service Tools Required: NONE

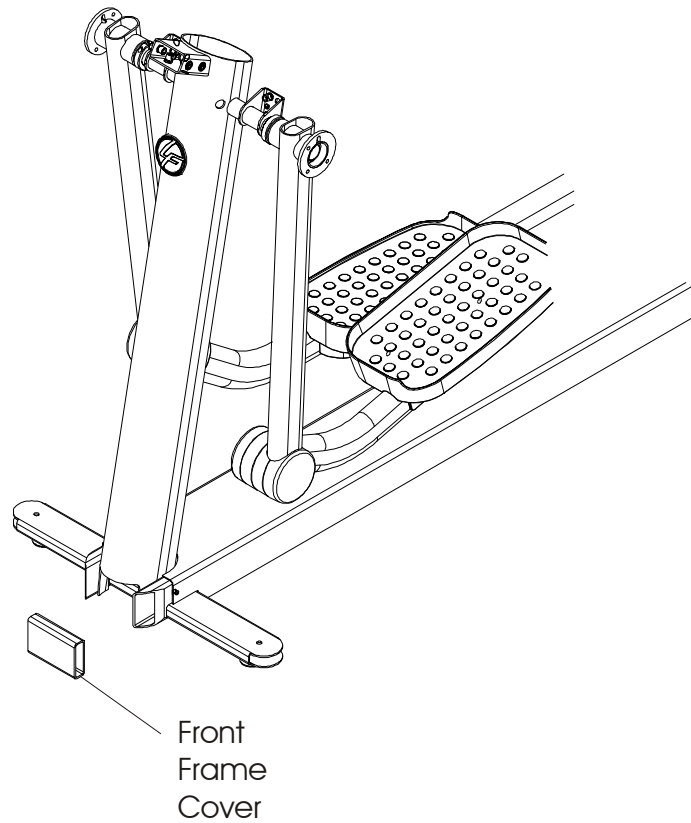
1. Remove the two screws securing the LifePulse sensors to the Handlebar.
2. Disconnect the Heart Rate Cable from the LifePulse sensors.
3. Install the new LifePulse sensors in reverse order.



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi **How To... Replace the Front Frame Cover**

Special Service Tools Required: NONE

1. Remove the two screws securing the Front Frame Cover to the Frame.
2. Slide the Front Frame Cover forward until free of the Ladder Frame Cover.
3. Install the new Front Frame Cover in reverse order.



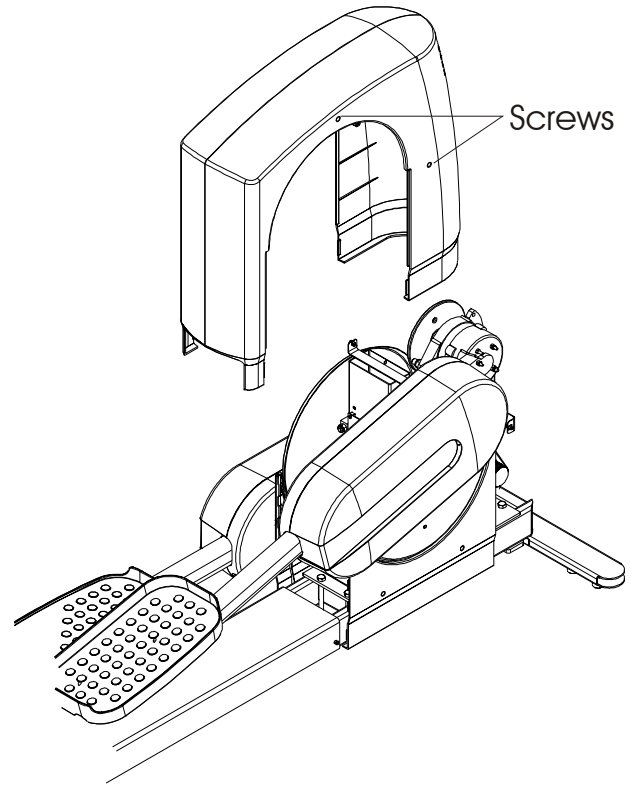
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Main Shroud

Special Service Tools Required: NONE

1. Remove the four Phillips screws (two on each side) securing the Main Shroud to the Drive Frame Assembly.
2. Remove the Main Shroud by lifting them straight up.
3. Install the Main Shroud in reverse order.

Note: Make sure the Main Shroud fits into the grooves in the Lower Shroud Panels.

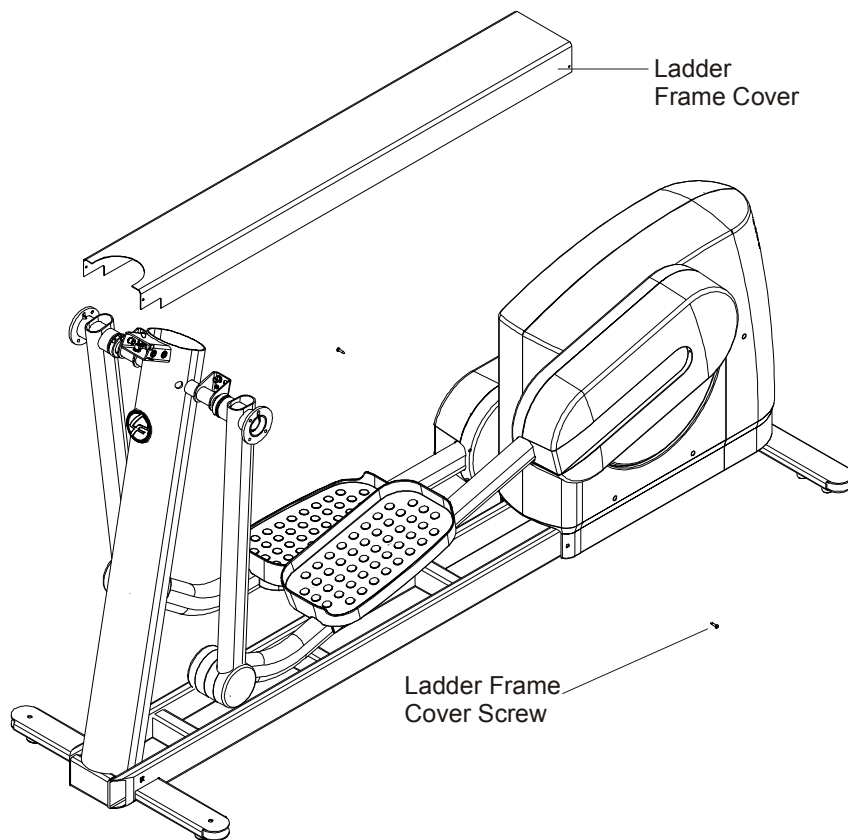


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Ladder Frame Cover

Special Service Tools Required: NONE

1. Remove the Front Frame Cover. See "How To..." in this section.
2. Remove the Main Shrouds. See "How To..." in this section.
3. Remove the two Phillips screws securing the Ladder Frame Cover to the Ladder Frame.
4. Remove the Ladder Frame Cover.
5. Install new Ladder Frame Cover in reverse order.

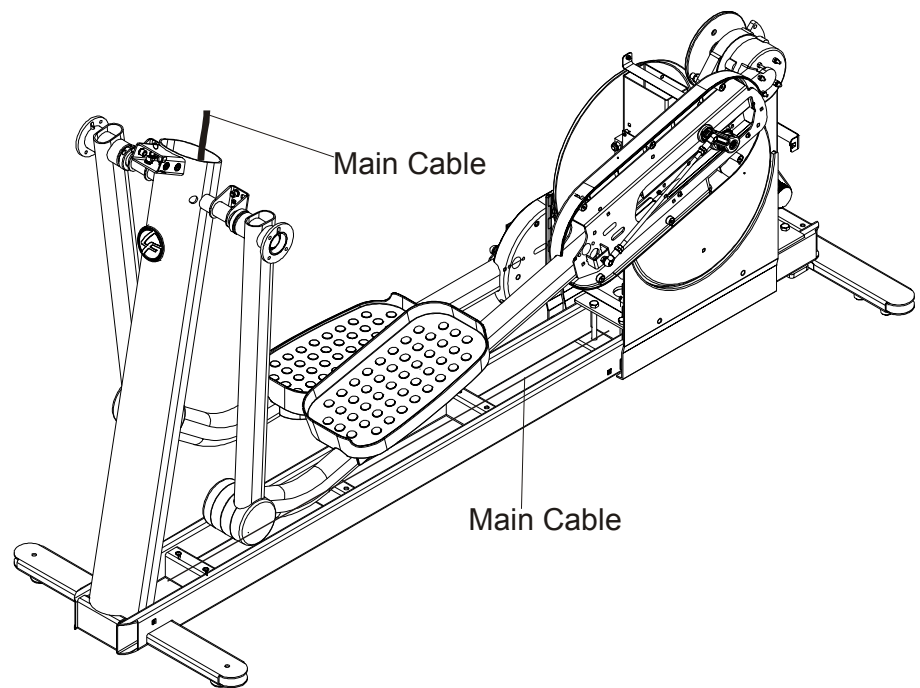


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Console Cable Assembly

Special Service Tools Required: NONE

1. Remove the Front Frame Cover. See "How To" in this section.
2. Remove the Main Shroud. See "How To" in this section.
3. Remove the Ladder Frame Cover. See "How To" in this section.
4. Remove the Console Support Cover. See "How To..." in this section.
5. Remove the Console Assembly. See "How To..." in this section.
6. Disconnect the Console Cable Assembly from the Console and the Power Control Board.



7. Remove cable ties securing the Console Cable Assembly to the Ladder Frame.

Note: It is recommended that you fasten one end of the new cable to one end of the old cable before removing from unit. This will enable you to route the new cable through the Upright more easily.

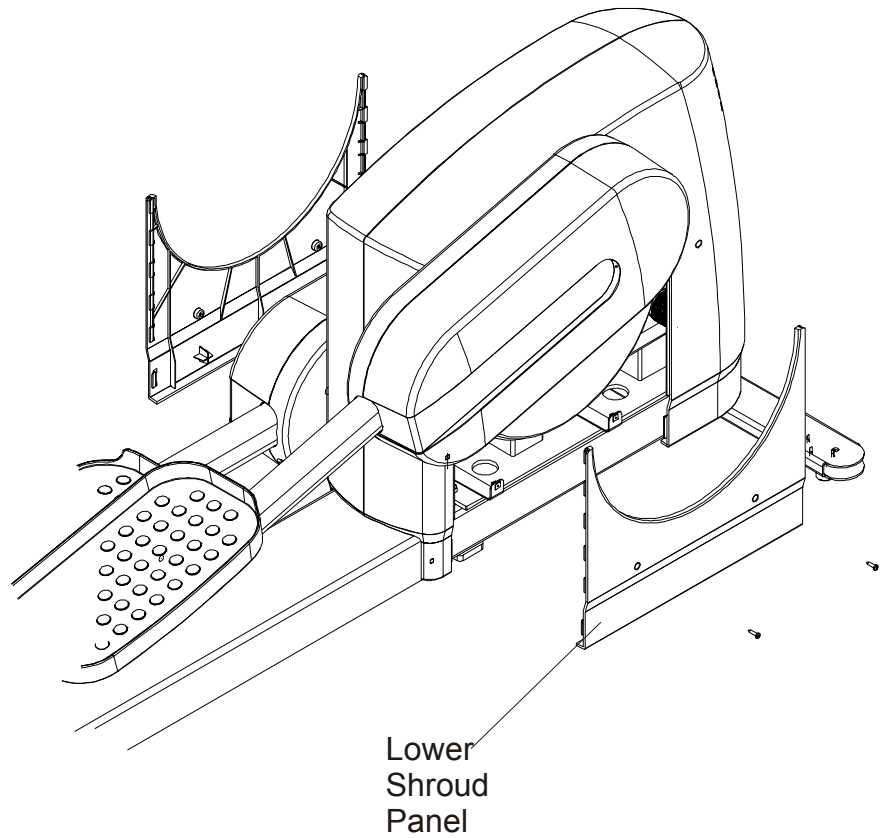
8. Install the new Console Cable Assembly in reverse order.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Lower Shroud Panels

Special Service Tools Required: NONE

1. Remove the two Phillips screws securing the Lower Shroud Panels to the Drive Frame Assembly.
2. Install new Lower Shroud Panels in reverse order.



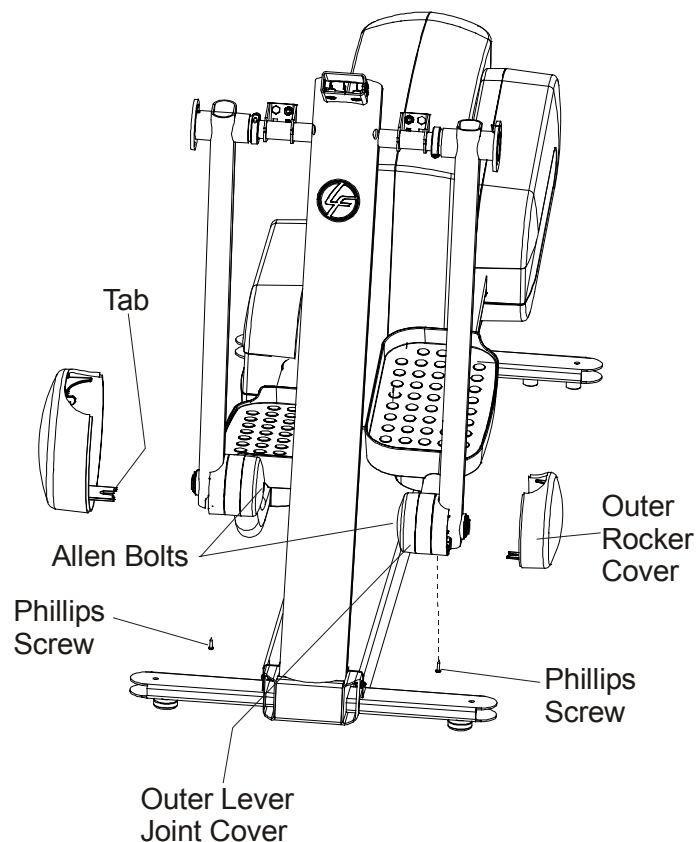
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Outer Lever Joint Cover and Rocker Arm Cover

Special Service Tools Required: NONE

1. Remove the Phillips screw securing the Outer Rocker Cover to the Inner Rocker Cover.
2. Remove the Allen bolt securing the Outer Pedal Joint Cover to the Pedal and Rocker Shaft.
3. Install the new Outer Pedal Joint Cover and Rocker Arm Cover in reverse order.

Note: Each Cover has a tab on it, which must be inserted into either the square hole in the Rocker Arm or the locking tab on the Inner Lever Joint Cover. Once the tab has been engaged seat the cover and tighten with the screw.



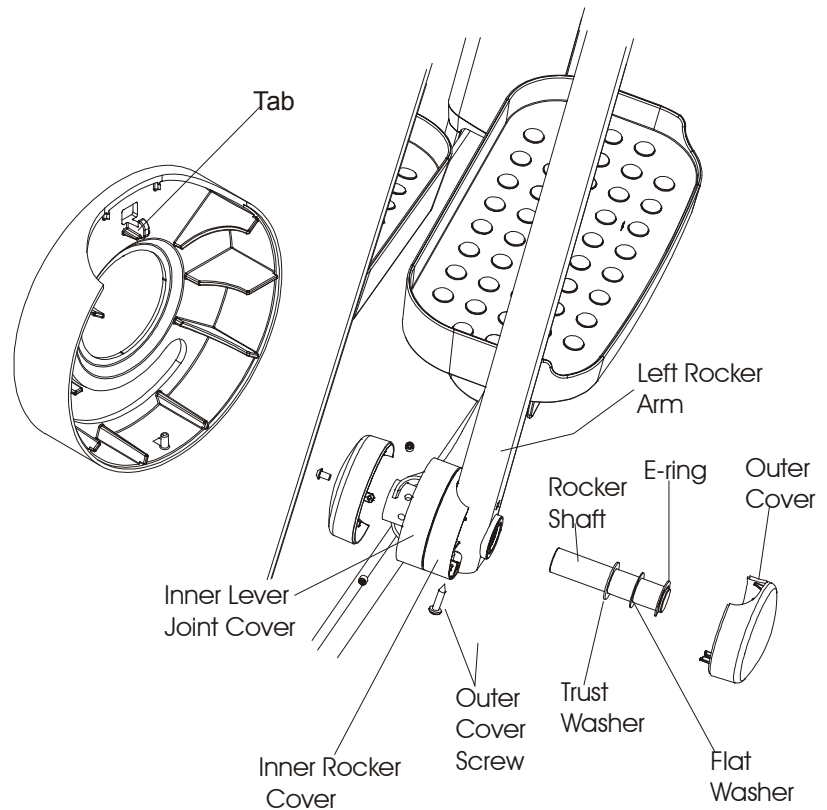
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace Inner Lever Joint Cover and Inner Rocker Arm Cover

Special Service Tools Required: NONE

1. Remove the Outer Lever Joint and Rocker Arm Covers. See "How To..." in this section.
2. Remove the two Allen bolts securing the Pedal/Rocker Shaft to the Pedal Lever Assembly and slide the Pedal/Rocker Shaft out of both the Pedal Lever and Rocker Arm.
3. Carefully separate the Pedal Lever from the Rocker Arm. The Inner Covers will remain on each assembly.
4. Remove the Inner Pedal Lever Cover and Inner Rocker Arm Cover.
5. Install the new Inner Pedal Lever Cover and Inner Rocker Arm Cover in reverse order.

Note: Each Cover has a tab on it, which must be inserted into either the square hole in the Rocker Arm or the Pedal Lever Assembly. Once the tab has been engaged, then seat the cover and complete the installation.

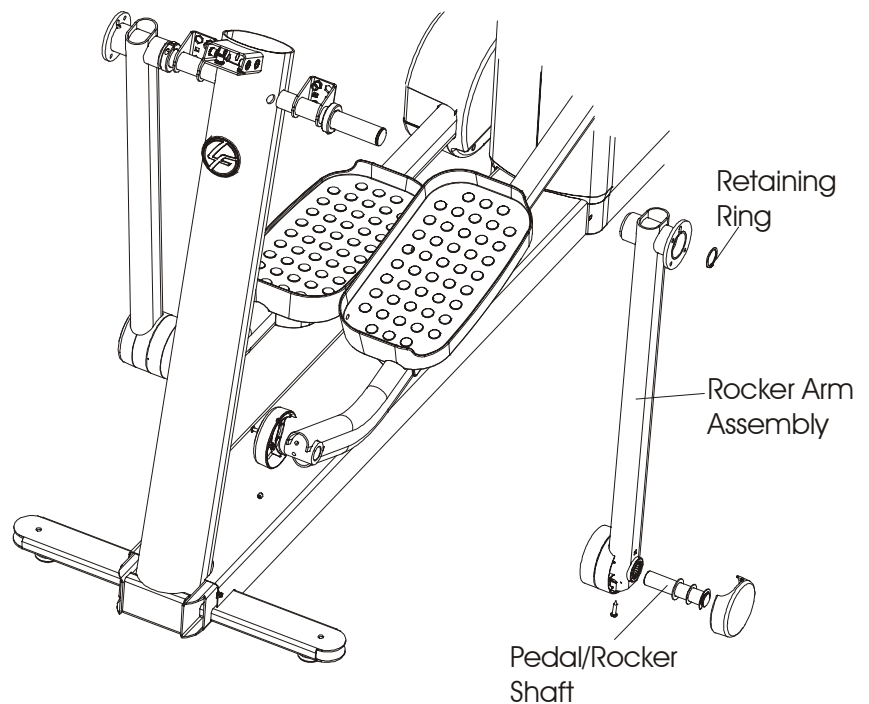


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Rocker Arm

Special Service Tools Required: NONE

1. Remove the Outer Deadshaft Covers. See "How To..." in this section.
2. Remove the Handlebar. See "How To..." in this section.
3. Remove the Outer Lever Joint Cover and Rocker Arm Cover. See "How To..." in this section.
4. Remove the Retaining Ring and washer securing the Rocker Arm to the Deadshaft.
5. Remove the Allen screws securing the Pedal/Rocker Shaft to the Pedal Lever, and then slide the Pedal/Rocker Shaft out of both the Pedal Lever and Rocker Arm.
6. Carefully slide the Rocker Arm off of the Deadshaft.
7. Install the new Rocker Arm in reverse order.

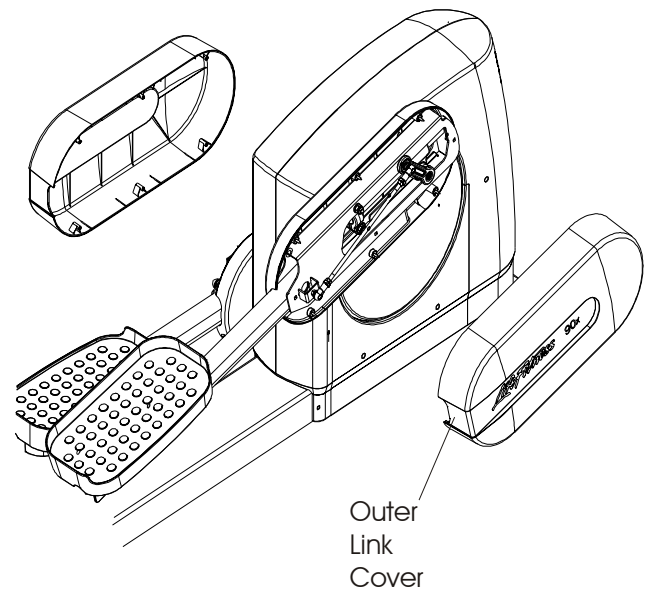


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Outer Link Cover

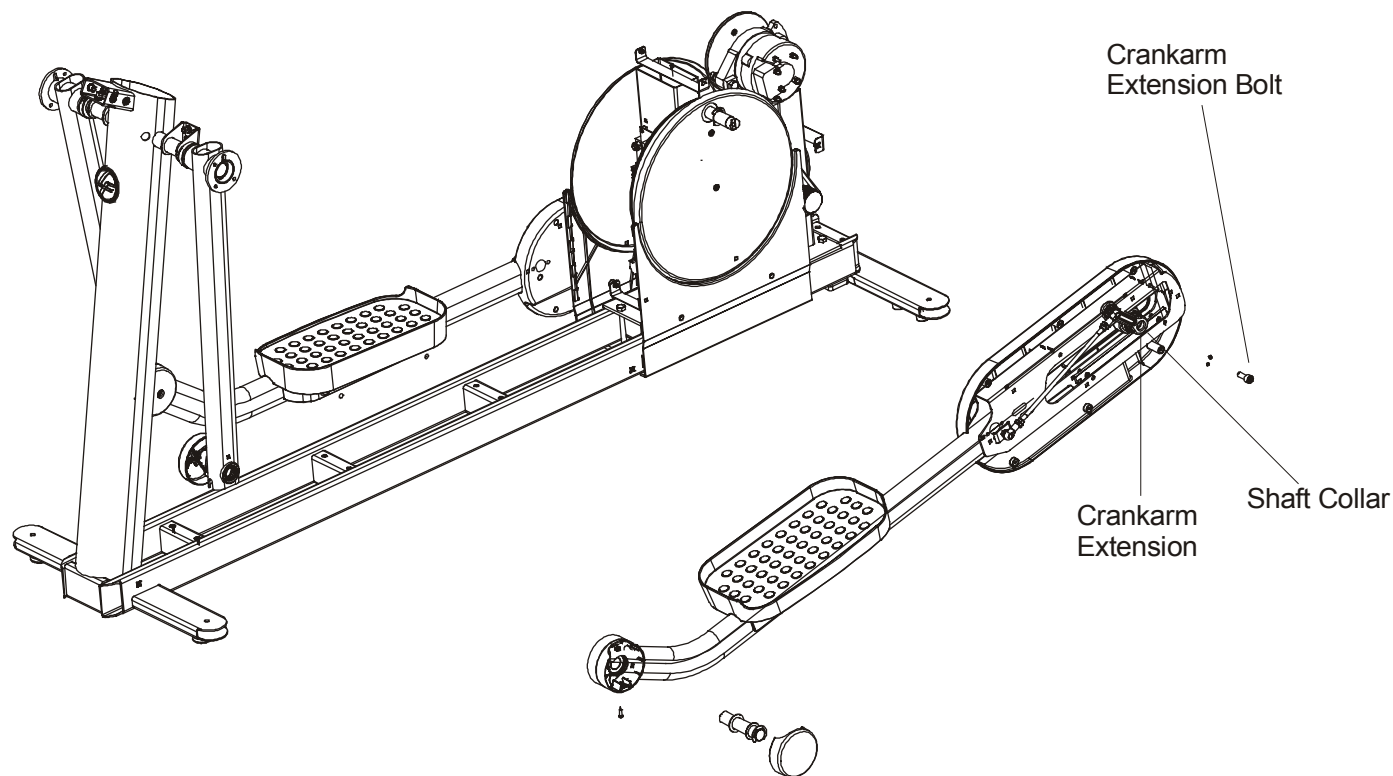
Special Service Tools Required: NONE

1. Remove the Main Shrouds. See “How To...” in this section.
2. Remove the six Phillips screws (three at the top, three at bottom) securing the Outer Link Cover to the Inner Link Cover.
3. Install the new Outer Link Cover in reverse order.



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi How To... Replace the Pedal Lever Assembly

Special Service Tools Required: NONE

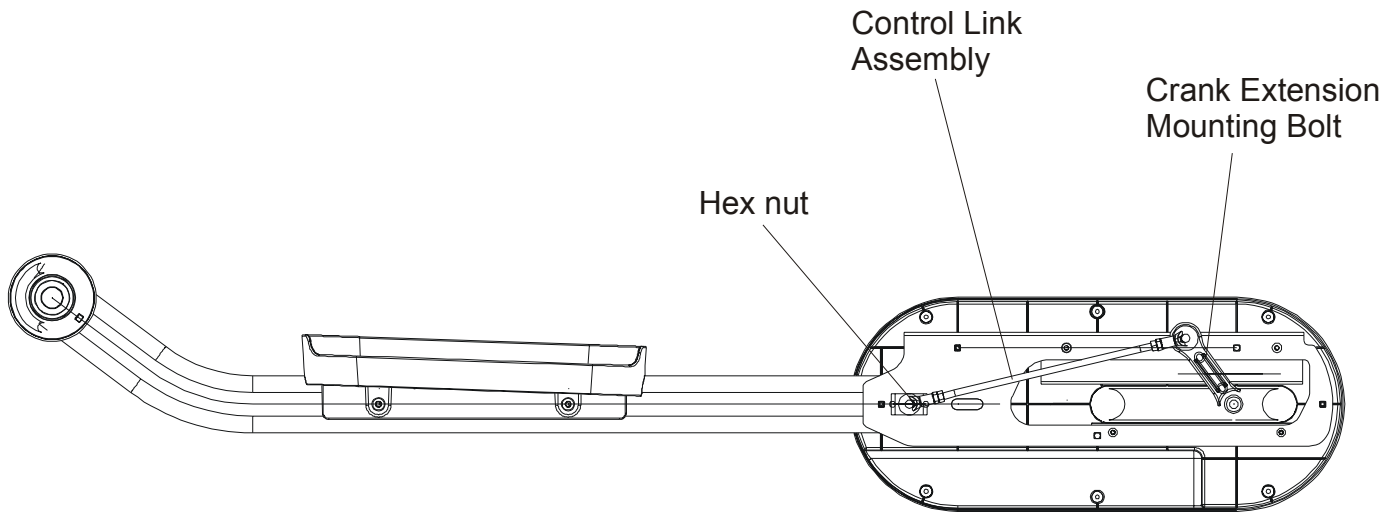


1. Remove the Main Shrouds. See “How To...” in this section.
2. Remove the Outer Link Cover. See “How To...” in this section.
3. Remove the Outer Lever Joint and Rocker Covers. See “How To...” in this section.
4. Remove the screws securing the Pedal/Rocker Shaft to the Pedal Arm.
5. Slide the Pedal/Rocker Shaft out of both the Pedal Lever Assembly and the Rocker Arm.
6. Remove the bolt securing the Crank Extension to the Crankarm.
7. Remove the set screws securing the Shaft Collar to the Crankarm.
8. Remove the Pedal Lever Assembly.
9. Install the new Pedal Lever Assembly in reverse order.

Note: Apply Loctite 242 to the Torx bolt securing the Crank Extension to the Crankarm.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi **How To... Replace the Control Link Assembly**

Special Service Tools Required: NONE



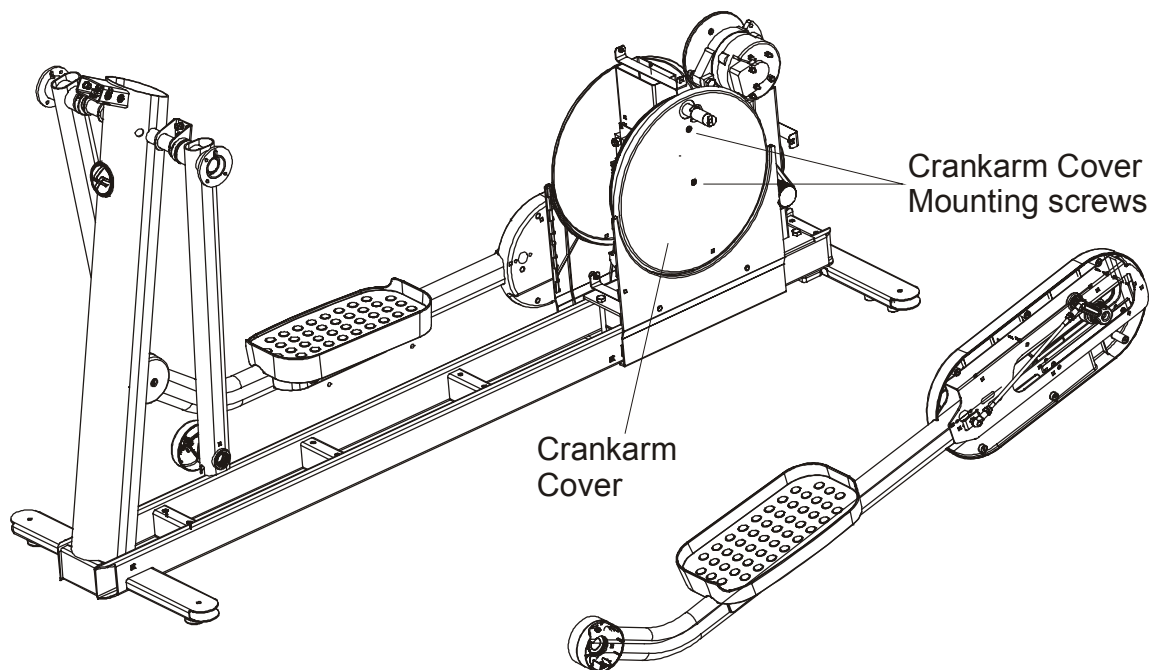
1. Remove the Main Shrouds. See “How To...” in this section.
2. Remove the Outer Link Cover. See “How To...” in this section.
3. Remove the Hex Nut securing the front end of the Control Link Assembly to the Pedal lever.
4. Remove the Crank Extension Mounting Bolt securing the rear of the Control Link assembly.
5. Assemble the new Control Link Assembly in reverse order.

Note: Apply Loctite 242 to Torx bolts and nuts securing the Control Link and Crank Extension to unit.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace Crankarm Cover

Special Service Tools Required: NONE

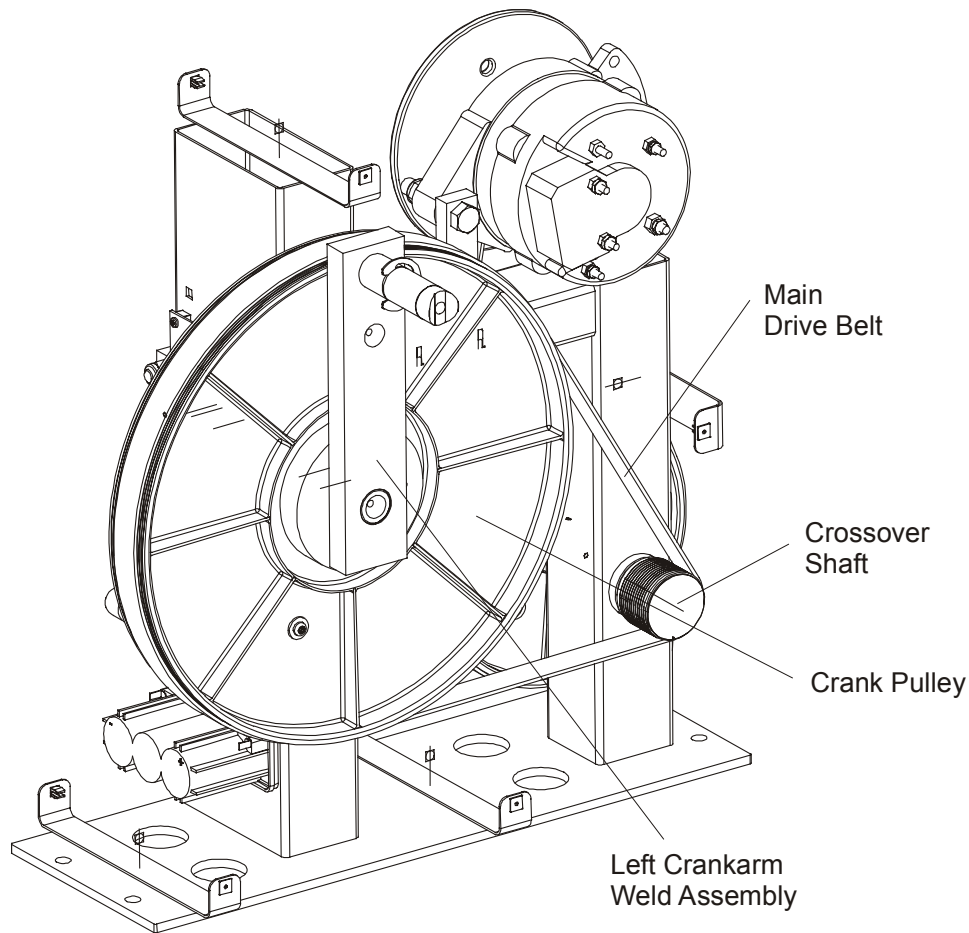


1. Remove the Main Shroud. See "How To..." in this section.
2. Remove the Outer Link Cover. See "How To..." in this section.
3. Remove the Outer Lever Joint Cover. See "How To..." in this section.
4. Remove the Pedal Lever Assembly. See "How To..." in this section.
5. Remove the Allen bolts securing the Crankarm Cover to the Crankarm
6. Install the new Crankarm Cover in reverse order.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Main Drive Belt

Special Service Tools Required: NONE

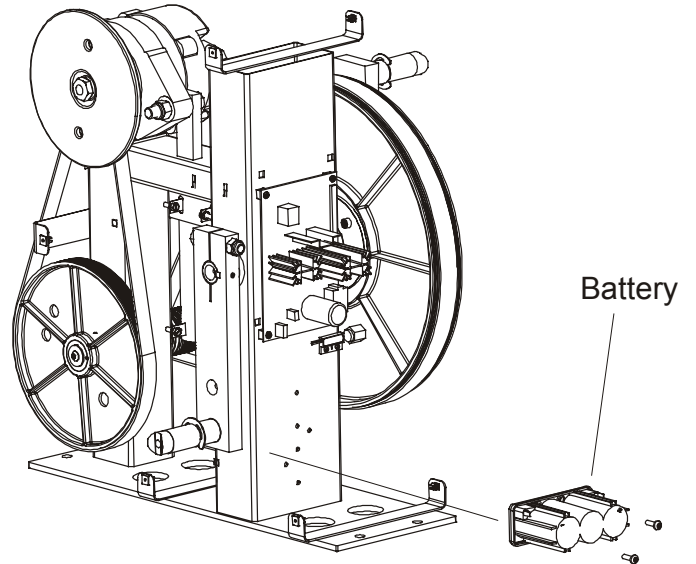


1. Remove the Main Shrouds. See “How To...” in this section.
2. Remove the Left Outer Link Cover. See “How To...” in this section.
3. Remove the Outer Lever Joint and Rocker Arm Cover on right Pedal Lever Assembly. See “How To...” in this section.
4. Remove the Right Pedal Lever Assembly. See “How To...” in this section.
5. Remove the Right Crankarm Cover. See “How To...” in this section.
6. Walk the Main Drive Belt off the Crossover Shaft, and remove the Main Drive Belt from unit.
7. Install the new Main Drive Belt in reverse order by installing the belt around the Crossover shaft first and then walking it onto the Crank Pulley.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi **How To... Replace the Battery**

Tools Special Service Tools Required: NONE

1. Remove the Main Shrouds. See "How To..." in this section.
2. Disconnect the Red and Black wires from the Battery.
3. Remove the two screws securing the Battery to the Drive Module.
4. Install the new Battery in reverse order.

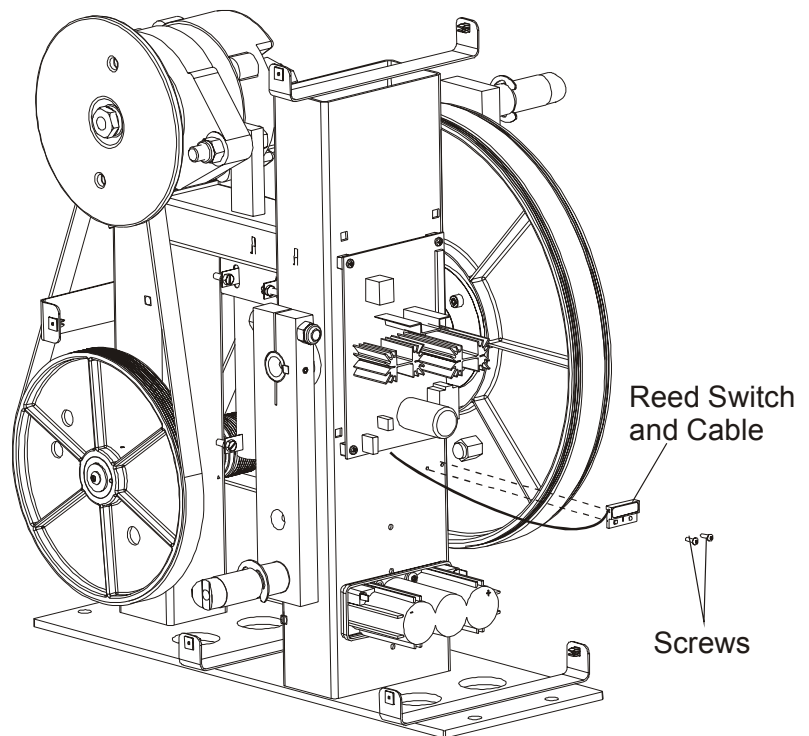


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Reed Switch Cable Assembly

Special Service Tools Required: NONE

1. Remove the Main Shrouds. See "How To..." in this section.
2. Disconnect the Reed Switch Cable from the Power Control Board.
3. Remove the two screws securing the Reed Switch to the Drive Module.
4. Install the new Reed Switch Cable Assembly in reverse order.

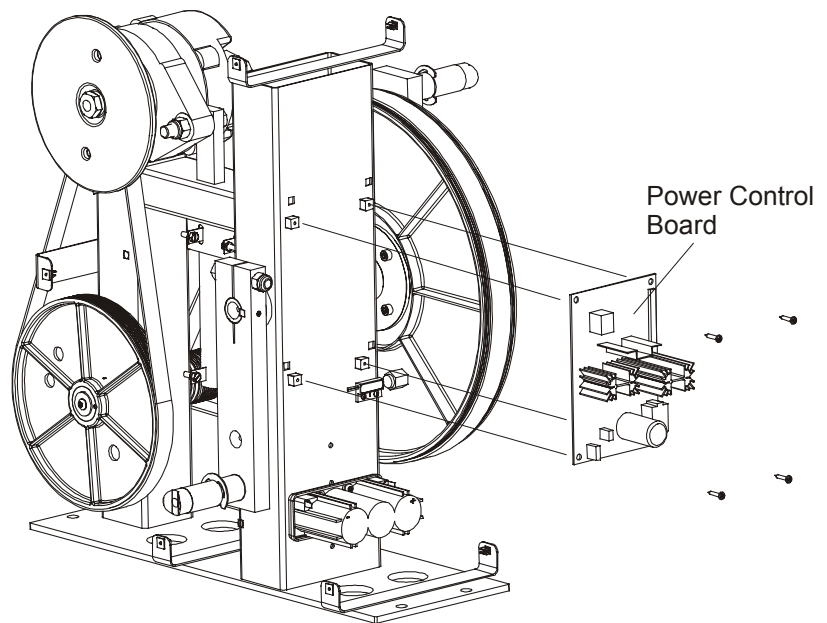


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Power Control Board

Special Service Tools Required: NONE

1. Remove the Main Shrouds. See "How To..." in this section.
2. Tag and identify wiring at Power Control Board, and then disconnect from the Power Control Board.
3. Remove the four screws securing the Power Control Board to the Drive Module.
4. Install the new Power Control Board in reverse order.
5. Reconnect wiring to the Power Control Board as marked.

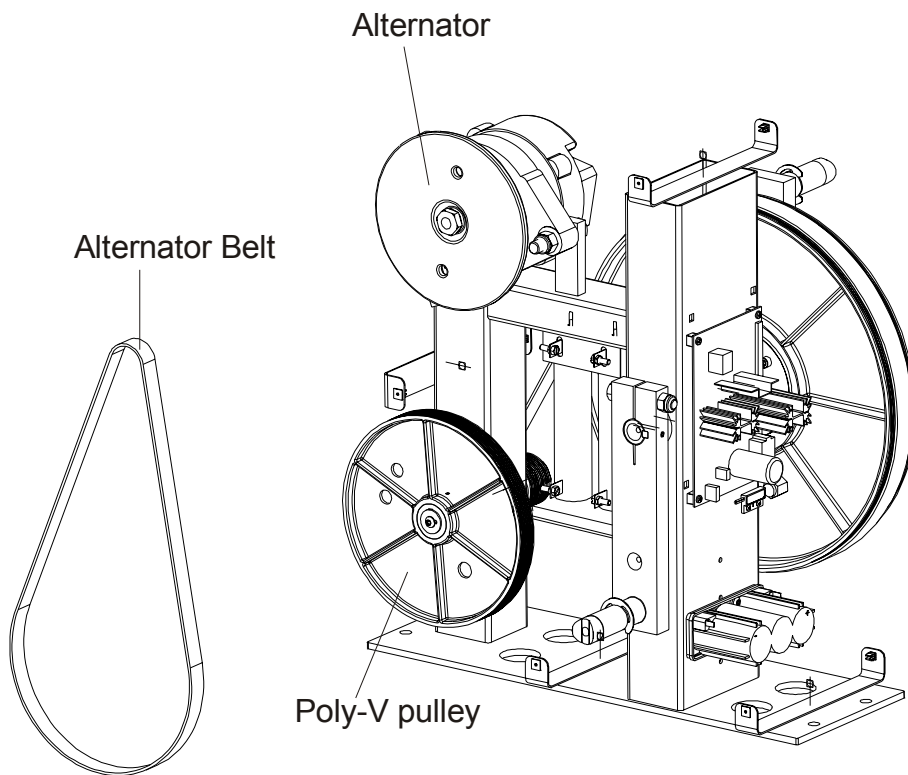


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Alternator Belt

Special Service Tools Required: NONE

1. Remove the Main Shrouds. See "How To..." in this section.
2. Walk the Alternator Belt off the Poly-V Pulley and remove the Belt.
3. Place the new Alternator Belt around the Alternator Pulley and slowly walk the Belt onto the Poly-V Pulley until centered.
4. Re-Install the Main Shrouds.

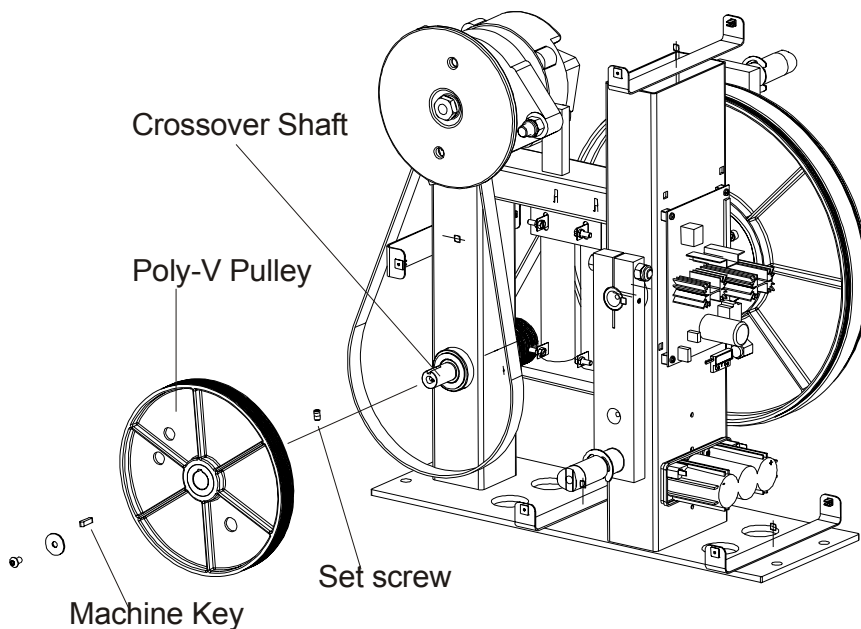


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Poly-V Pulley

Special Service Tools Required: NONE

1. Remove the Main Shrouds. See "How To..." in this section.
2. Remove the Right Lower Panel Shroud. See "How To..." in this section.
3. Walk the Alternator Belt off the Poly-V Pulley and remove the belt.
4. Remove the Allen screw and washer securing the Poly-V Pulley to the Crossover Shaft.
5. Remove the Set Screws securing the Poly-V Pulley to the Machine Key.
6. Slide the Poly-V Pulley off the Crossover Shaft.
7. Install the new Poly-V Pulley in reverse order ensuring that the machine key is in place when tightening set screws.



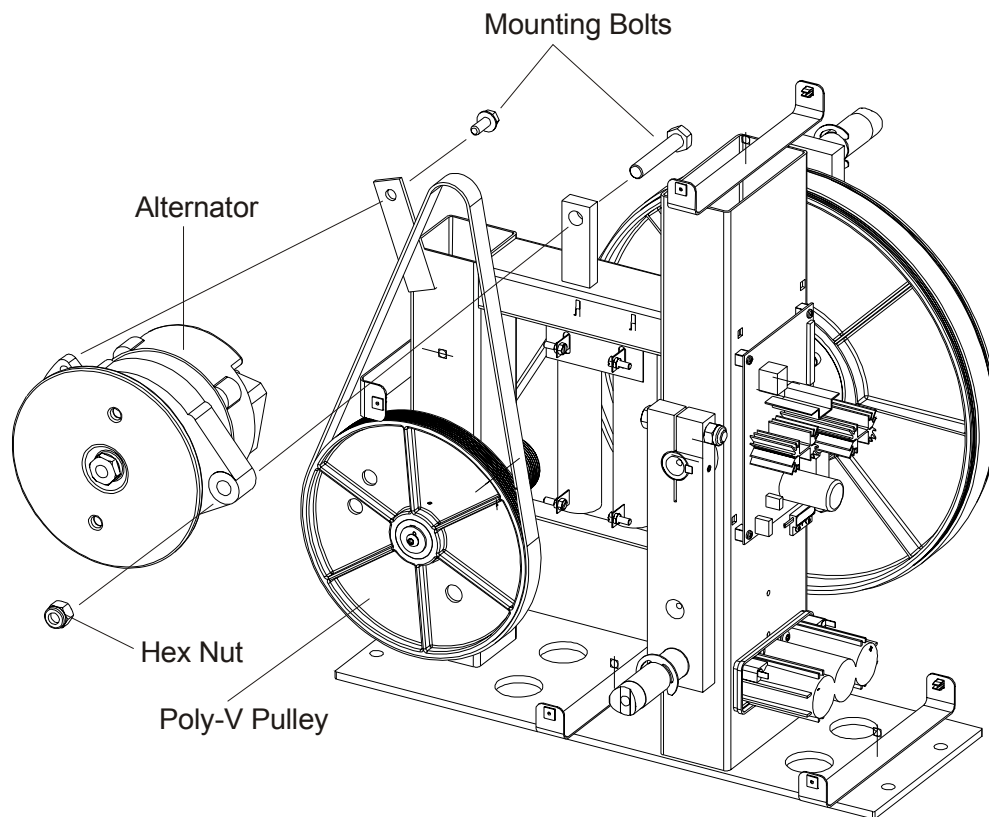
Note: Apply Loctite 242 to all screws securing the Poly-V Pulley to the Crossover Shaft.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Alternator

Special Service Tools Required: NONE

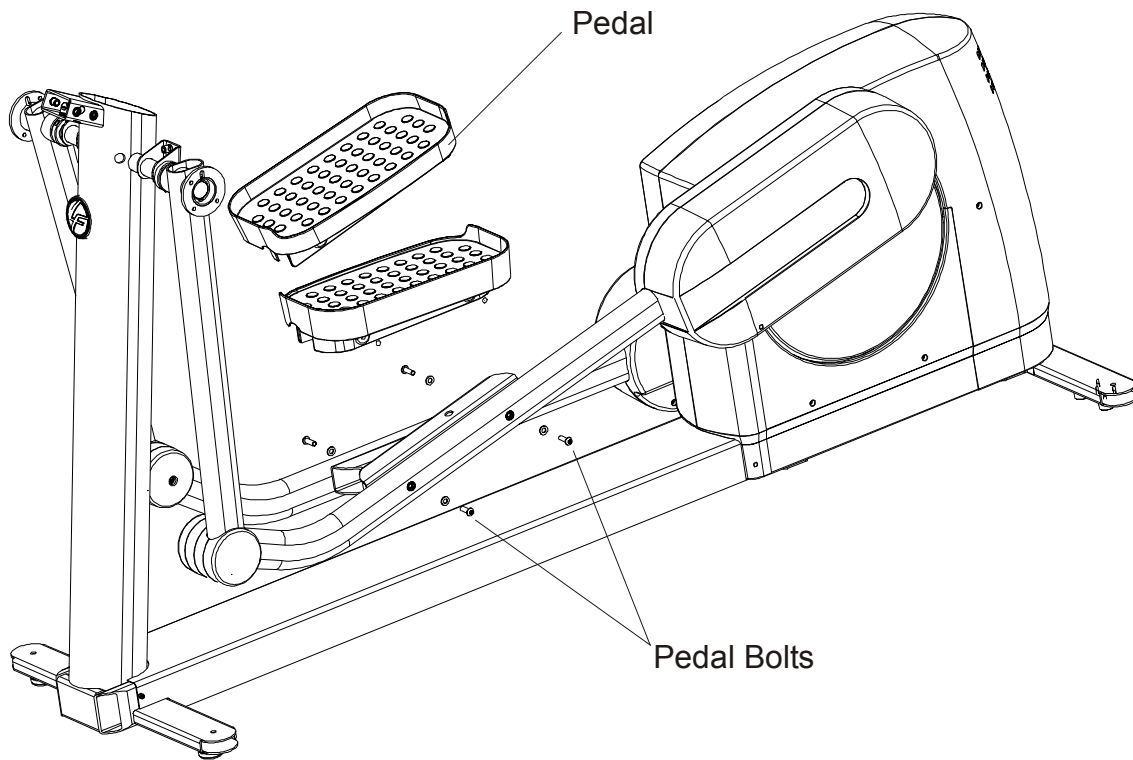
1. Remove the Main Shrouds. See "How To..." in this section.
2. Walk the Alternator Belt off of the Poly-V Pulley and remove the Alternator Belt.
3. Disconnect all of the wires attached to the Alternator, marking where each of the wires terminates on the Alternator.
4. Remove the hex nut and mounting bolts securing the Alternator to the Drive module.
5. Install the new Alternator in reverse order ensuring that all wires are connected to their proper terminals.



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Pedal

Special Service Tools Required: NONE



1. Remove the four Torx bolts securing the Pedal to the Pedal Lever Assembly.
2. Re-install the new Pedal in reverse order.

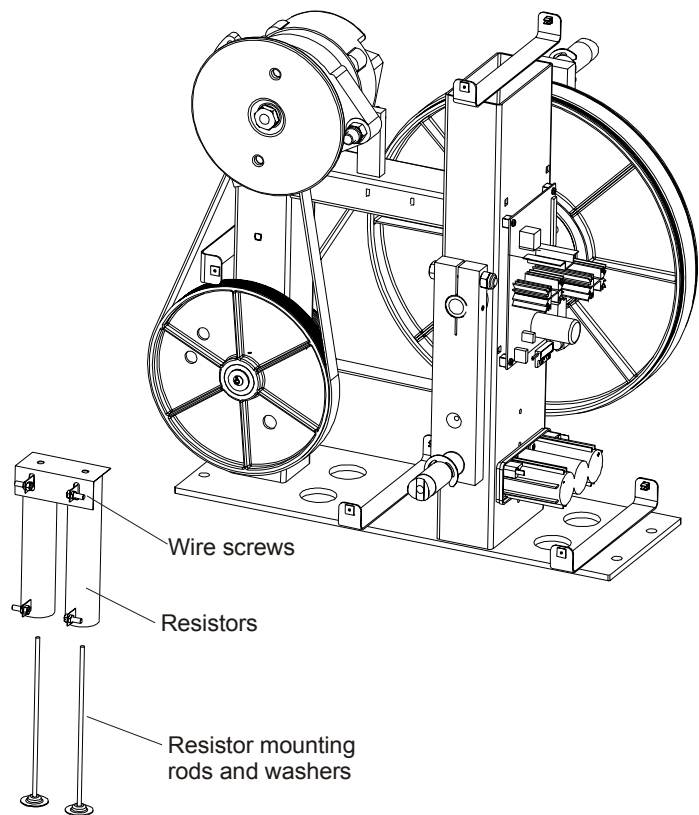
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Resistors

Special Service Tools Required: NONE

1. Remove the Main Shrouds. See “How To...” in this section.
2. Remove the Lower Shroud Panels. See “How To...” in this section.
3. Disconnect the wires from the Resistors by removing the screws securing the wires to the Resistors. Mark the proper terminal point for proper reassembly.
4. Remove the Resistor Mounting Rods securing the Resistors to the Drive Module.
5. Install the new Resistors in reverse order .

Note: Make sure that the wires are properly installed.

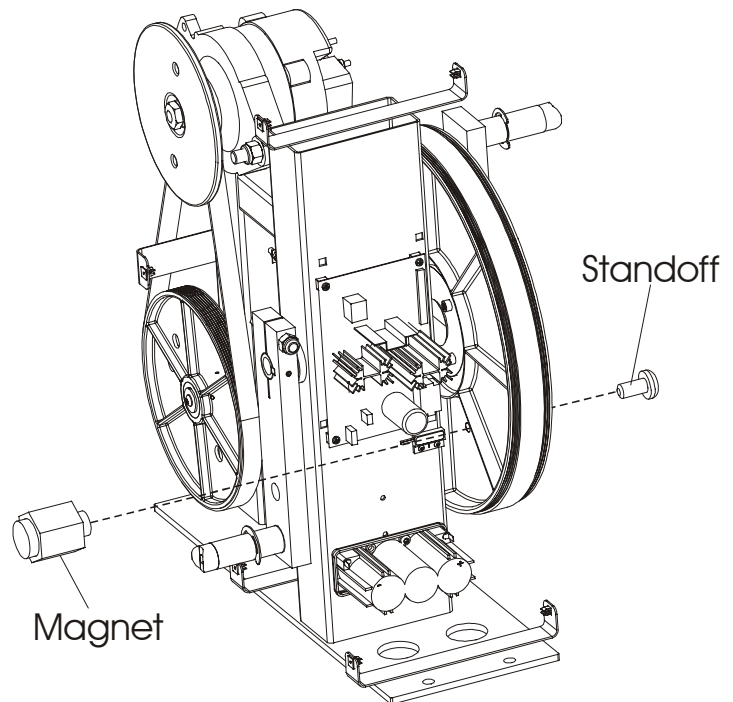


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Magnet and Standoff Assembly

Special Service Tools Required: NONE

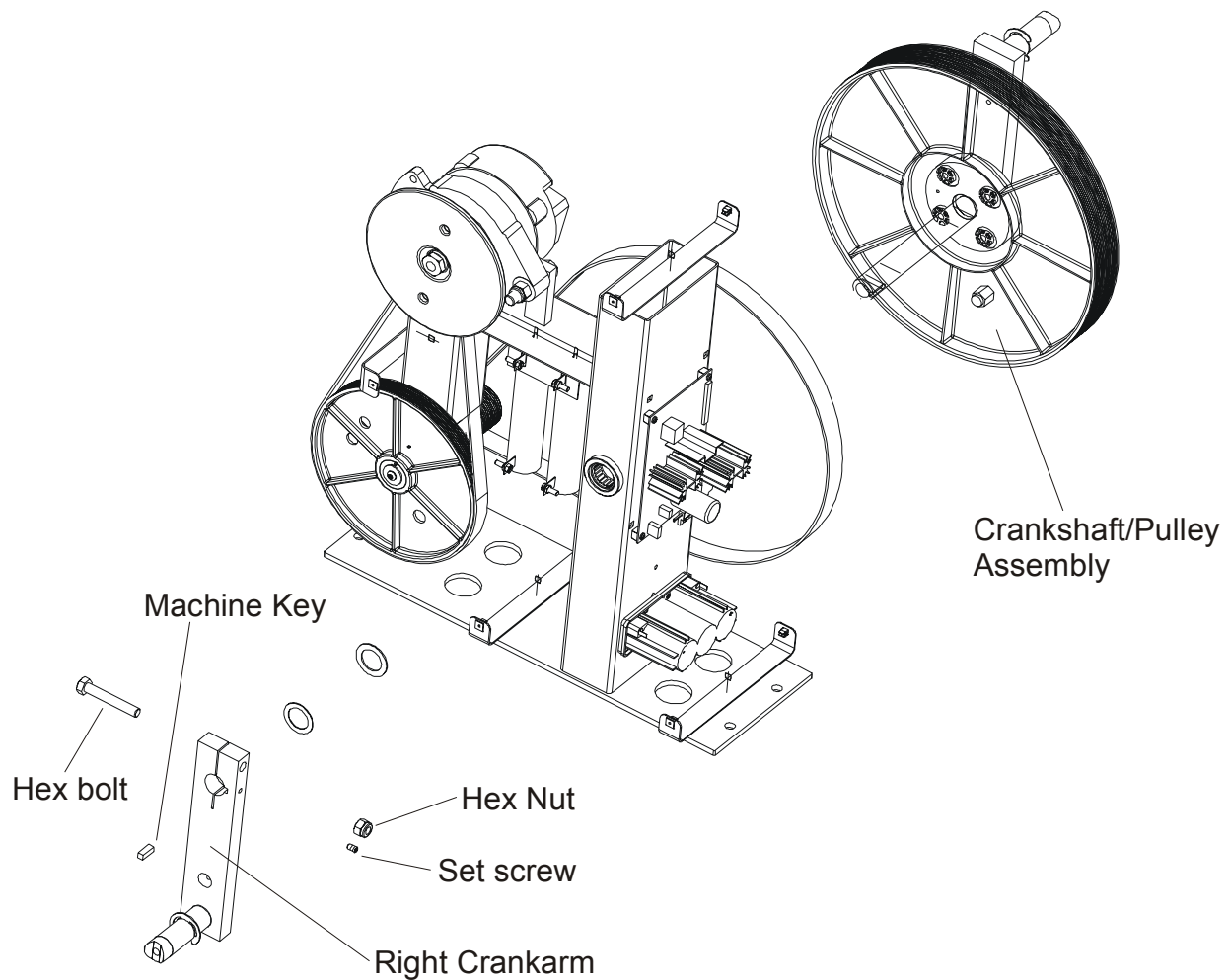
1. Remove the Main Shrouds. See “How To...” in this section.
2. Remove the Left Outer Link Cover. See “How To...” in this section.
3. Remove the Left Pedal Lever Assembly. See “How To...” in this section.
4. Remove the Crankarm Cover. See “How To...” in this section.
5. Remove the screw securing the Magnet/Standoff Assembly to the Main Drive Pulley.
6. Install the new Magnet/Standoff Assembly in reverse order.



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Right Crankarm

Special Service Tools Required: NONE



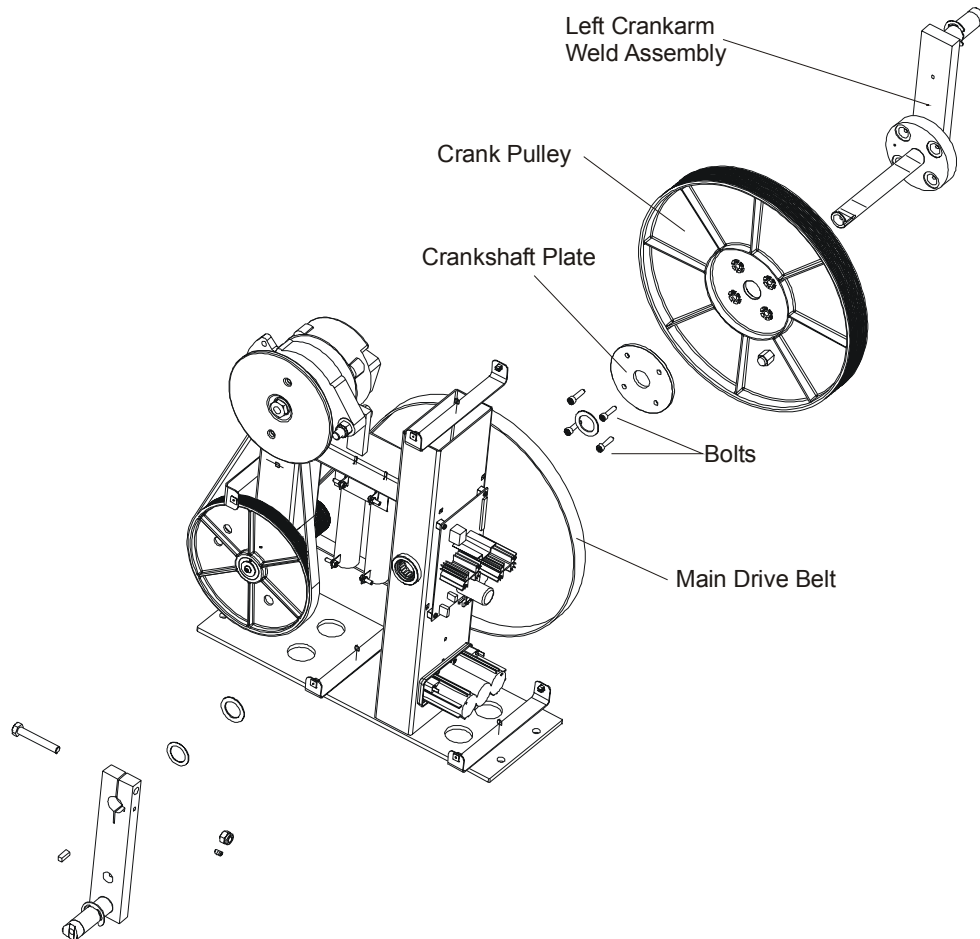
Remove the Main Shrouds. See "How To..." in this section.

2. Remove the Right Outer Link Cover. See "How To..." in this section.
3. Remove the Right Pedal Lever Assembly. See "How To..." in this section.
4. Remove the Right Crankarm Cover. See "How To..." in this section.
5. Loosen the Hex Bolt and Nut securing the Right Crankarm to the Crankshaft/Pulley Assembly.
6. Loosen the set screw securing the Machine Key to the Crankshaft/Pulley Assembly.
7. Slide the Right Crankarm off the Crankshaft/Pulley Assembly.
8. Install the new Right Crankarm in reverse order.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Crankshaft and Pulley Assembly

Special Service Tools Required: NONE



1. Remove the Main Shrouds. See "How To..." in this section.
2. Remove the Outer Link Covers. See "How To..." in this section.
3. Remove the Pedal Lever Assemblies. See "How To..." in this section.
4. Remove the Crankarm Covers. See "How To..." in this section.
5. Walk the Main Drive Belt off of the Crank Pulley.
6. Remove the Right Crankarm. See "How To..." in this section.
7. Slide the Crankshaft/Pulley Assembly out of the left side of the Drive Frame.

Note: At this time you can separate the Crank Pulley from the Left Crankarm Weld Assembly by removing four Allen bolts. (The Crankshaft/Pulley Assembly consists of the Crank Pulley and Left Crankarm Weld Assembly assembled together).

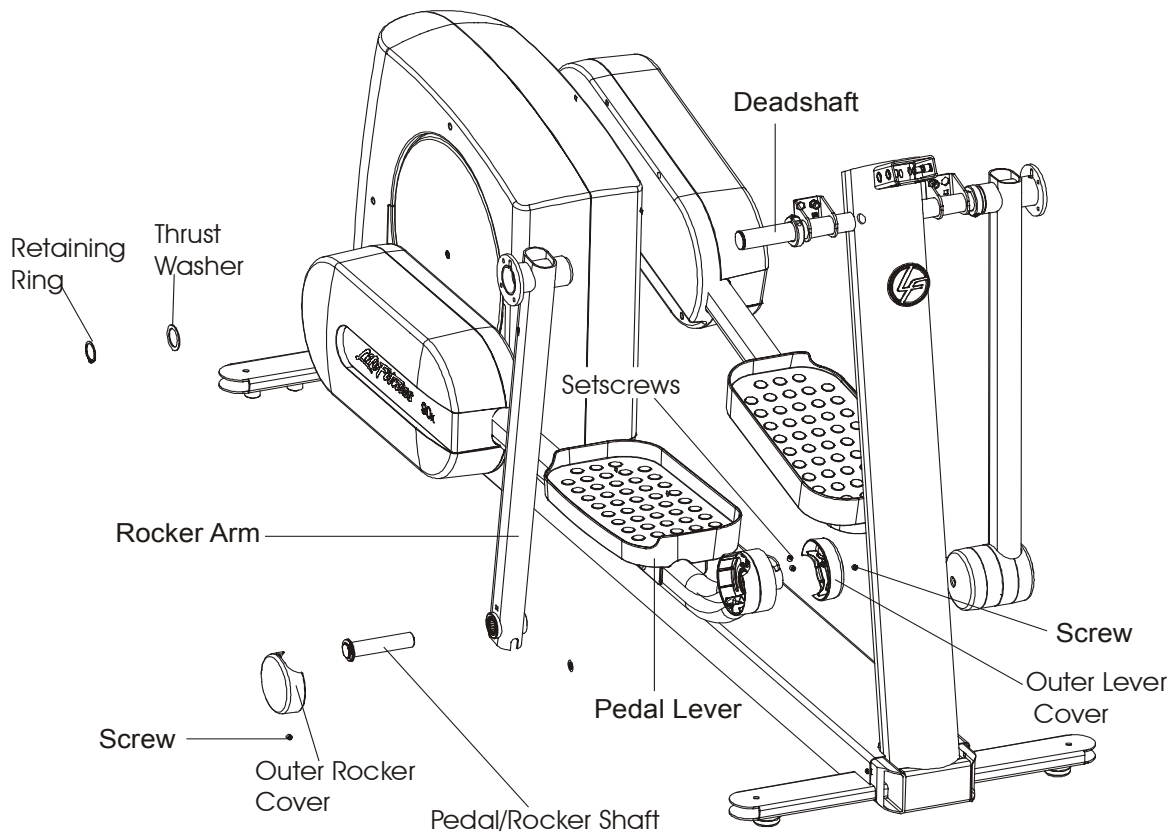
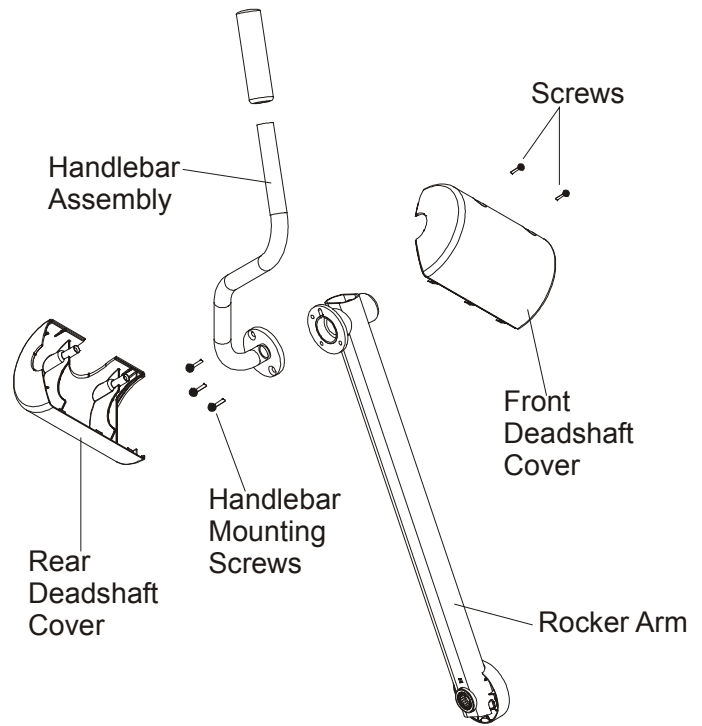
8. Install the new Crankshaft/Pulley Assembly in reverse order.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To...Replace the Pedal/Rocker Shaft Bearings

Special Service Tools Required: BEARING TOOL KIT

1. Remove the Front and Rear Deadshaft Covers.
2. Remove three bolts securing Handlebar to Rocker Arm and remove the Handlebar. If equipped, disconnect the Heart Rate Cable.
3. Remove the Retaining Ring and Washer securing the Rocker Arm to the Deadshaft.
4. Remove the Outer Pedal Lever Cover and Outer Rocker Arm Cover.
5. Remove two Allen screws securing Pedal Lever to Pedal/Rocker Shaft and remove the Pedal.
6. Remove the Rocker Arm unit and discard the Pedal/Rocker Shaft.

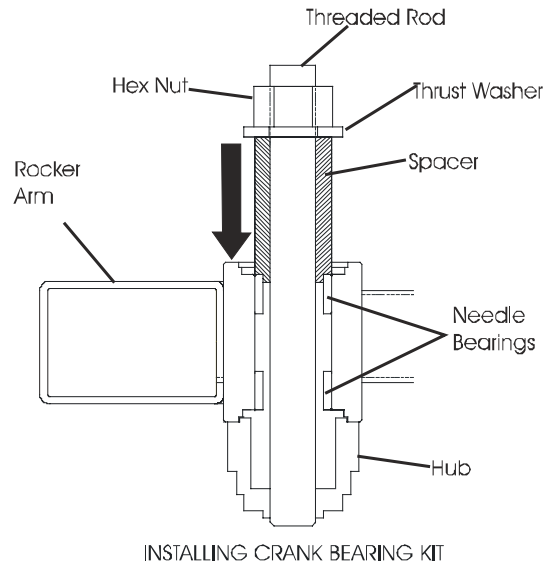


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To...Replace the Pedal/Rocker Shaft Bearings – Continued

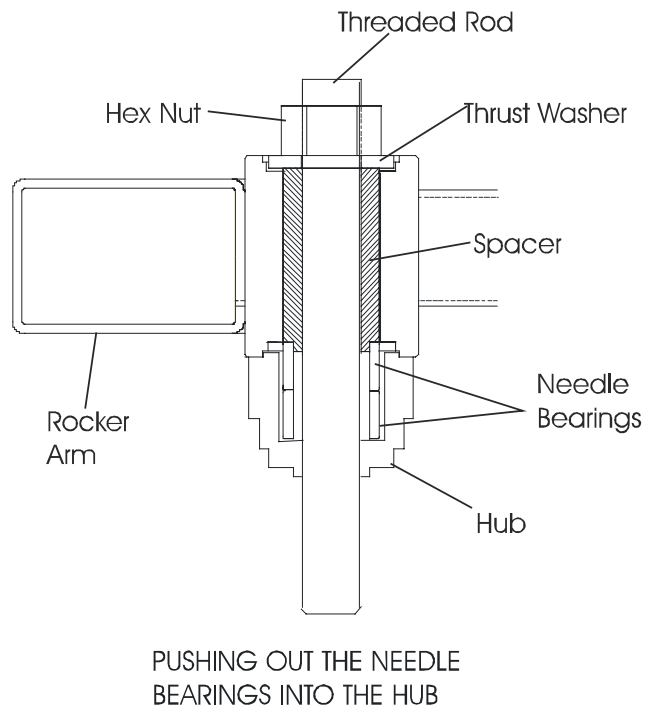
Special Service Tools Required: BEARING TOOL KIT

7. Install the bearing puller on the Rocker Arm as shown.



8. Press-out the needle bearings by rotating the hex nut Clockwise until the bearings drop into puller. Once the bearings are out of the Rocker Arm, disassemble the puller assembly, and discard the bearings.

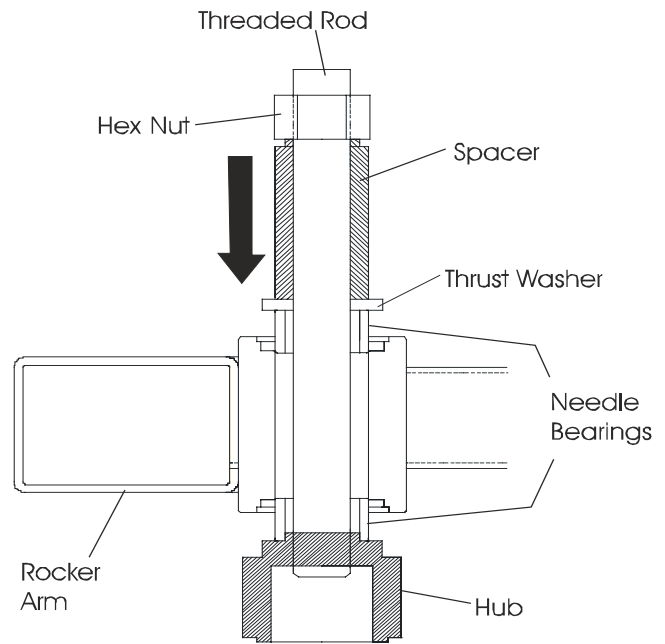
9. Clean housing before installing new bearings.



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
How To...Replace the Pedal/Rocker Shaft Bearings – Continued

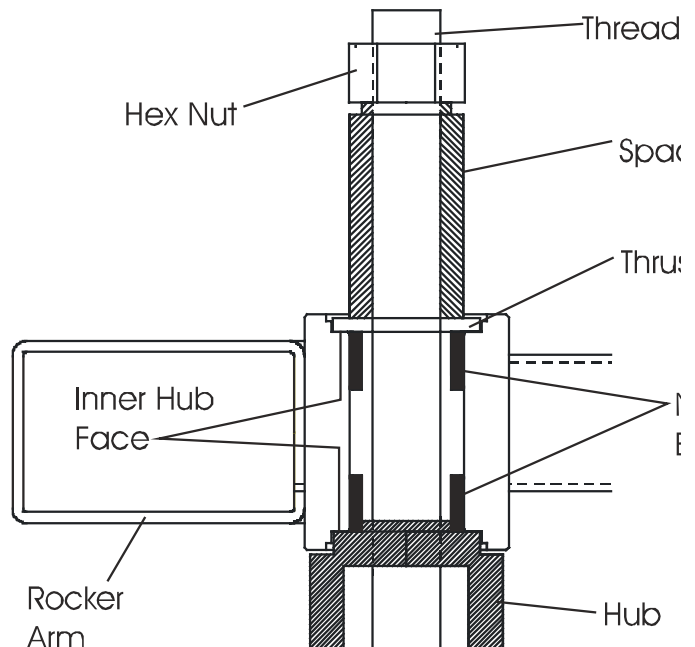
Special Service Tools Required: BEARING TOOL KIT

- Position the new needle bearings and bearing tool as shown. Make sure bearings are aligned and squared with the bearing markings, which should be facing outward.



INSTALLING NEW NEEDLE BEARINGS

- Start to tighten the hex nut. You may have to hold the spacer to keep it from turning.
- Continue pressing in the new needle bearings until the thrust washer and hub stop against the rocker arm housing.
- Reassemble shaft, Rocker Arm, Handlebar Assembly and Covers.



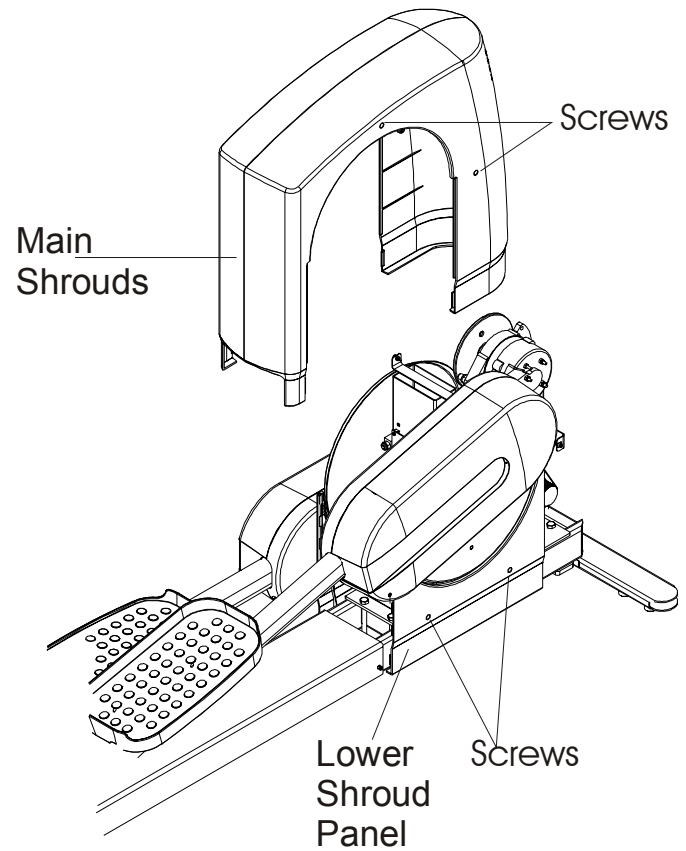
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To...Replace the Crossover Shaft and Bearings

Special Service Tools Required: BEARINGTOOLKIT

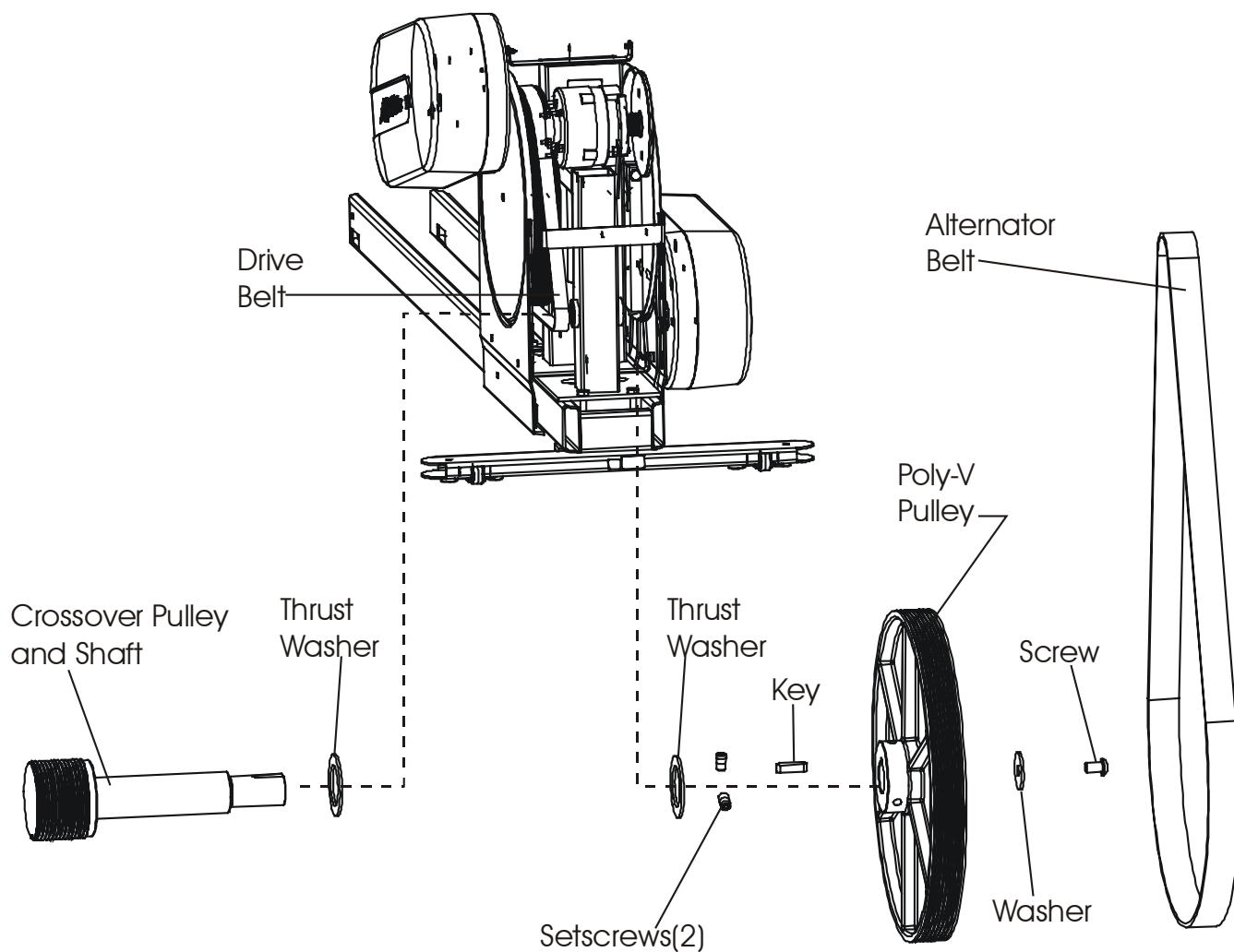
Note: Replace the Crossover Shaft at the same time Bearings are replaced.

1. Remove screws securing Main Shrouds to frame. Two screws per shroud.
2. Remove screw securing Lower Shroud Panels to frame. Two screws per shroud.



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi How To...Replace the Crossover Shaft & Bearings – Continued

Special Service Tools Required: BEARING TOOLKIT

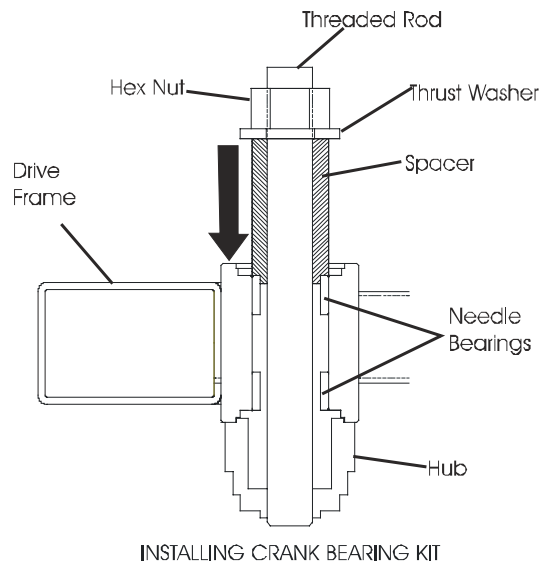


3. Walk off Alternator Belt from Alternator and Ploy-V pulley.
4. Walk off Main Drive belt from Crank Pulley and crossover pulley.
5. Remove screw and washer securing Poly-V pulley to Crossover shaft.
6. Remove two M6 set screws securing Poly-V pulley to Crossover shaft.
7. Remove Poly-V pulley and thrust washer from Crossover shaft.
8. Slide Crossover shaft out of users left side of frame. Discard Crossover shaft.

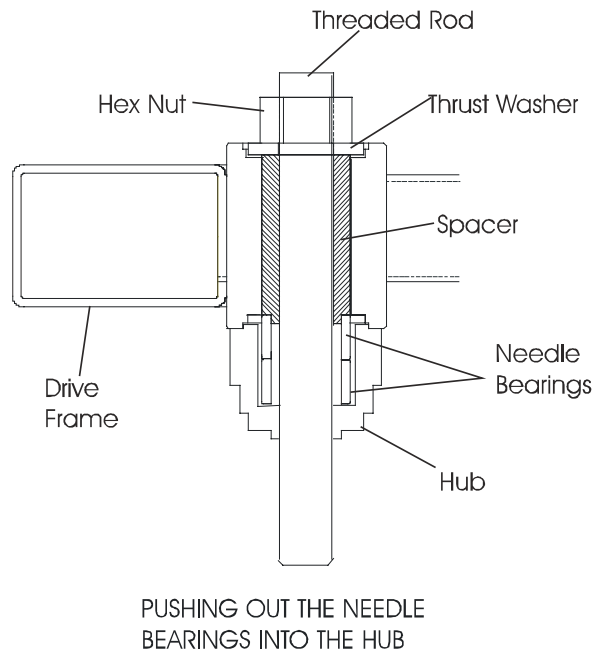
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
How To...Replace the Crossover Shaft & Bearings – Continued

Special Service Tools Require: BEARING TOOLKIT

9. Install bearing puller on drive frame as shown.



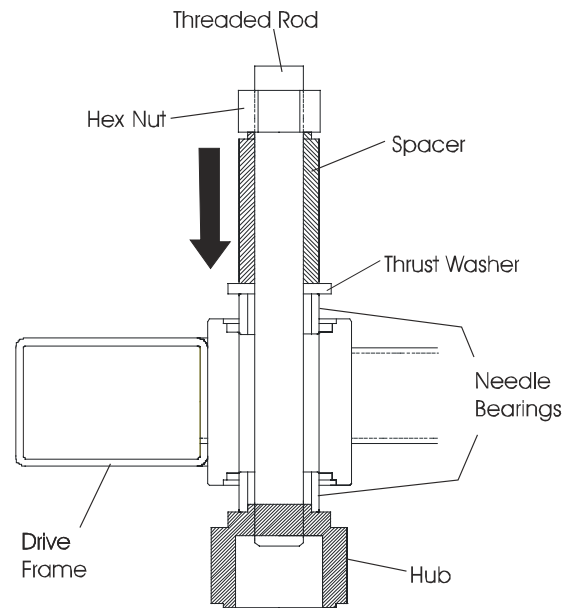
10. Press out the needle bearings by rotating the hex nut clockwise until the bearings drop into the puller hub. Once the bearings are out of the frame, disassemble the Puller assembly, and discard the bearings.



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
How To...Replace the Crossover Shaft and Bearings – Continued

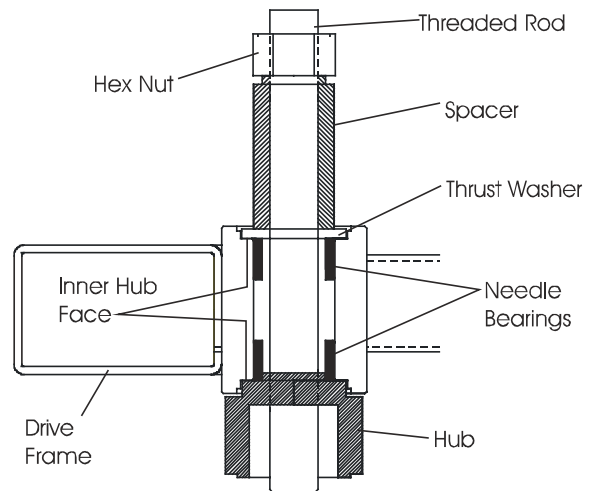
Special Service Tools Require: BEARING TOOLKIT

11. Clean the housing before installing new needle bearings.
12. Position the new needle bearings and bearing tool as shown. Make sure bearings are aligned and square, with bearing markings facing outward.



INSTALLING NEW NEEDLE BEARINGS

13. Start tightening the hex nut. You may have to hold the spacer to keep it from turning.
14. Continue pressing in the new needle bearings until the; thrust washer and hub stop against the frame housing shoulder.
15. Reassemble the Crossover pulley/shaft, Poly-V Pulley, belts and shrouds in reverse order.



PRESSING IN NEW BEARINGS

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

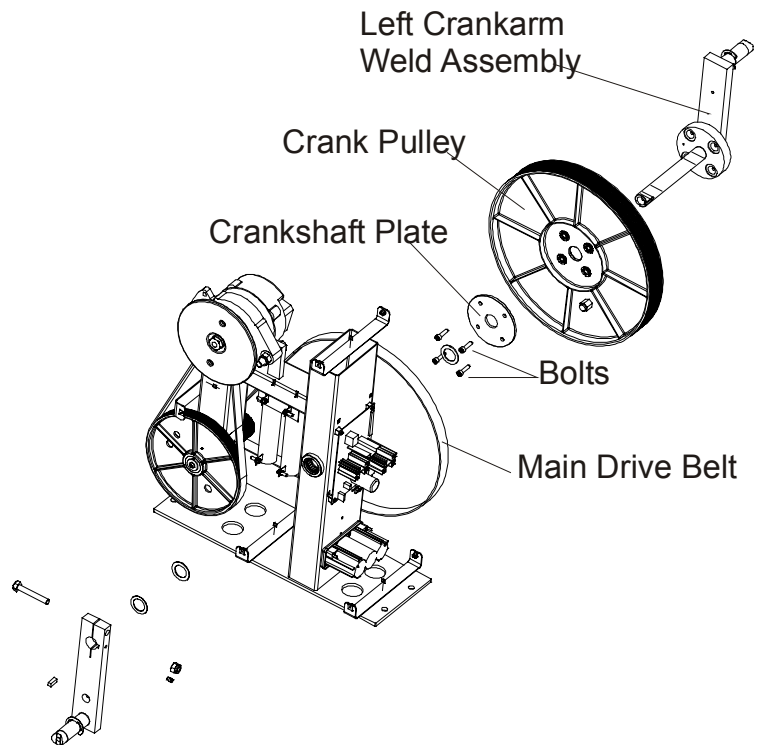
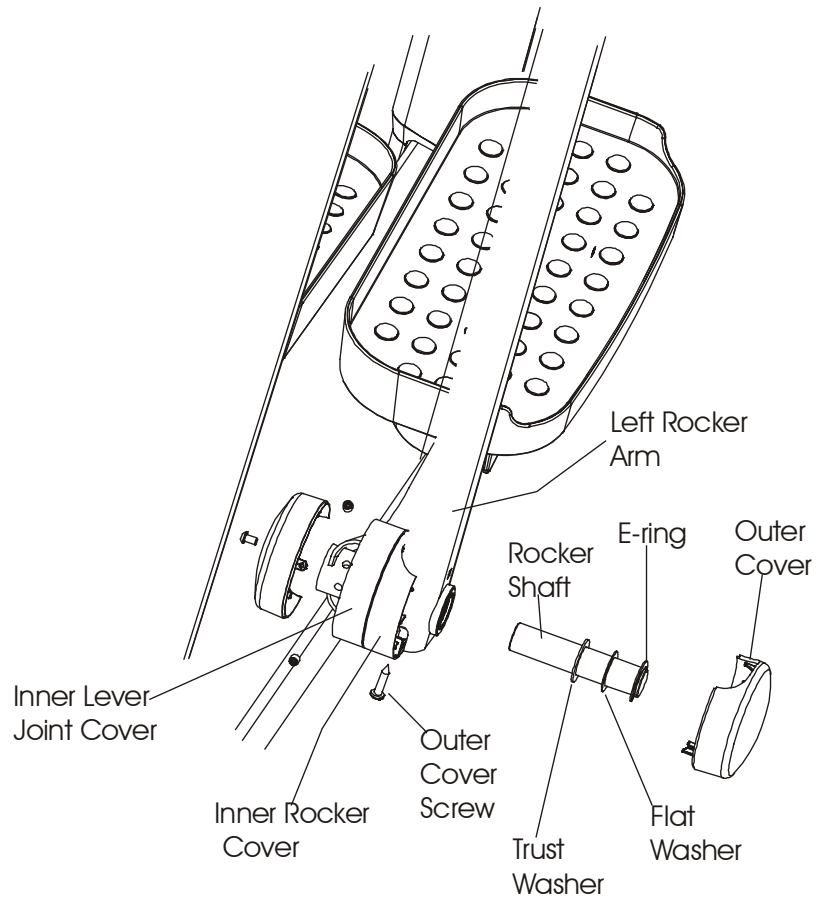
How To...Replace the Crank Shaft and Bearings

Special Service Tools Require: BEARING TOOLKIT

Note: Replace both Crank Shaft and Bearings.

1. Remove the Outer Lever Joint and Rocker Arm Covers from the Pedal Arm and Rocker Arm Joint.
2. Remove the Outer Link Covers.
3. Remove the Pedal Arms from the unit by removing two Allen bolts.
4. Remove the bolt securing the Crank Extension to Crankarm.
5. Remove the Shaft Collar from the Crankarms.
6. Remove the Main Shrouds and Crank Covers.
7. Remove the Poly-V Belt from the Crank Pulley by walking it off the pulley.
8. Remove the right Crankarm by loosening the hex nut, bolt, and Allen screw secured to the Crankshaft assembly.
9. Remove the Crankshaft and Pulley from the left side of the frame.

Remove the bolts securing the Pulley to the left Crankarm and Shaft weldment and discard.

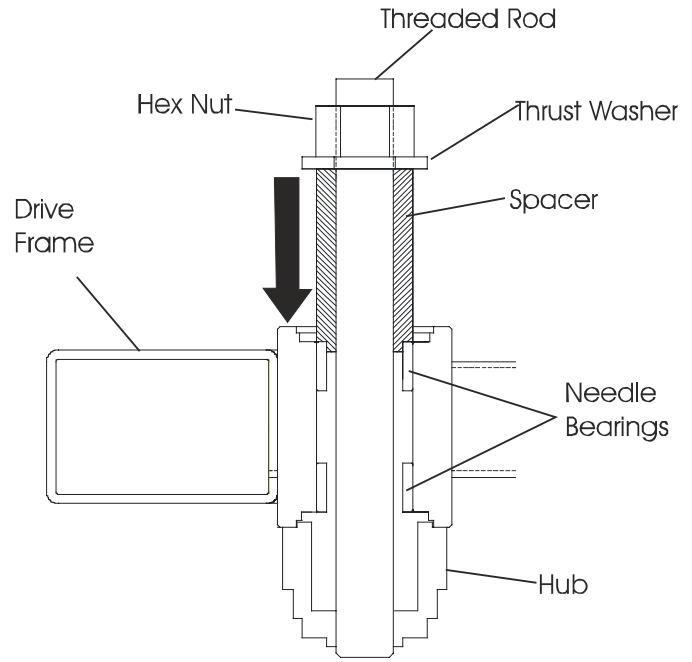


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To...Replace the Crank Shaft and Bearings – Continued

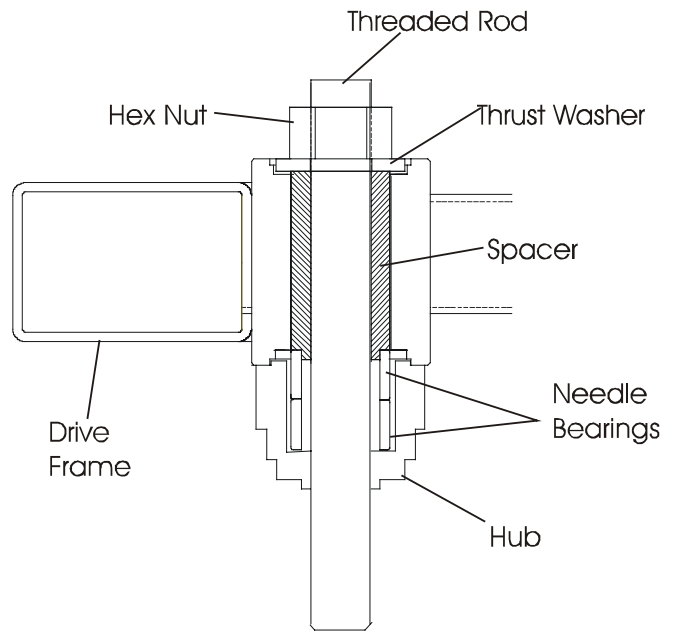
Special Service Tools Require: BEARING TOOLKIT

- 10. Install Bearing Puller on the Drive Frame as shown.
- 11. Press out the Needle Bearings by rotating the Hex Nut clockwise until the bearings drop into the frame. Once the bearings are out of the frame, disassemble the puller assembly, and discard the bearings.



INSTALLING CRANK BEARING KIT

- 12. Clean the housing before installing the new Needle Bearings.



PUSHING OUT THE NEEDLE BEARINGS INTO THE HUB

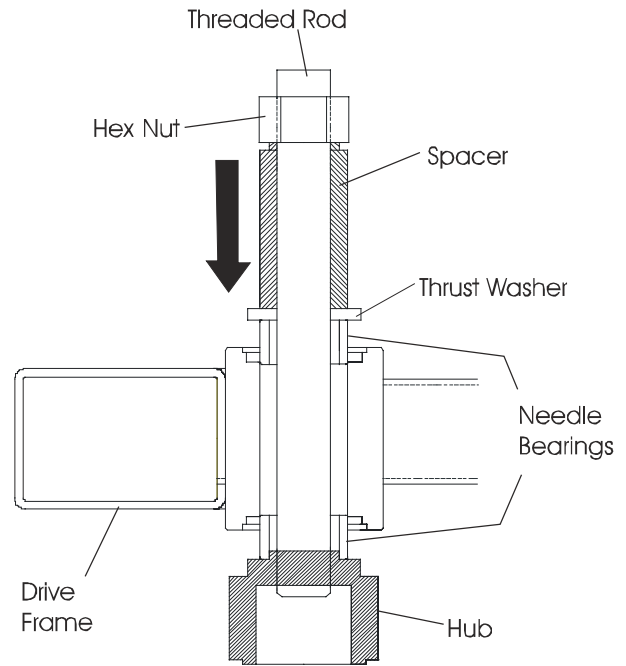
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To...Replace the Crank Shaft and Bearings – Continued

Special Service Tools Require: BEARING TOOLKIT

13. Position the new Needle Bearings and Bearing Tool as shown. Make sure bearings are aligned and square with bearing markings facing outward.

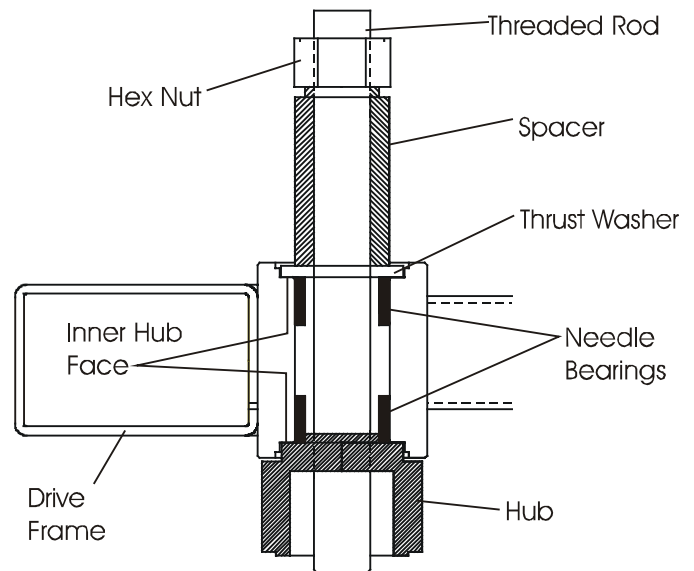
14. Start tightening the Hex Nut. You may have to hold the spacer to stop it from turning.



INSTALLING NEW NEEDLE BEARINGS

15. Continue pressing in the new Needle Bearings until the Thrust Washer and the Hub stop against the Frame Housing Shoulder.

16. Reassemble the Crankshaft and Pulley Assembly in reverse order of removal.



PRESSING IN NEW BEARINGS

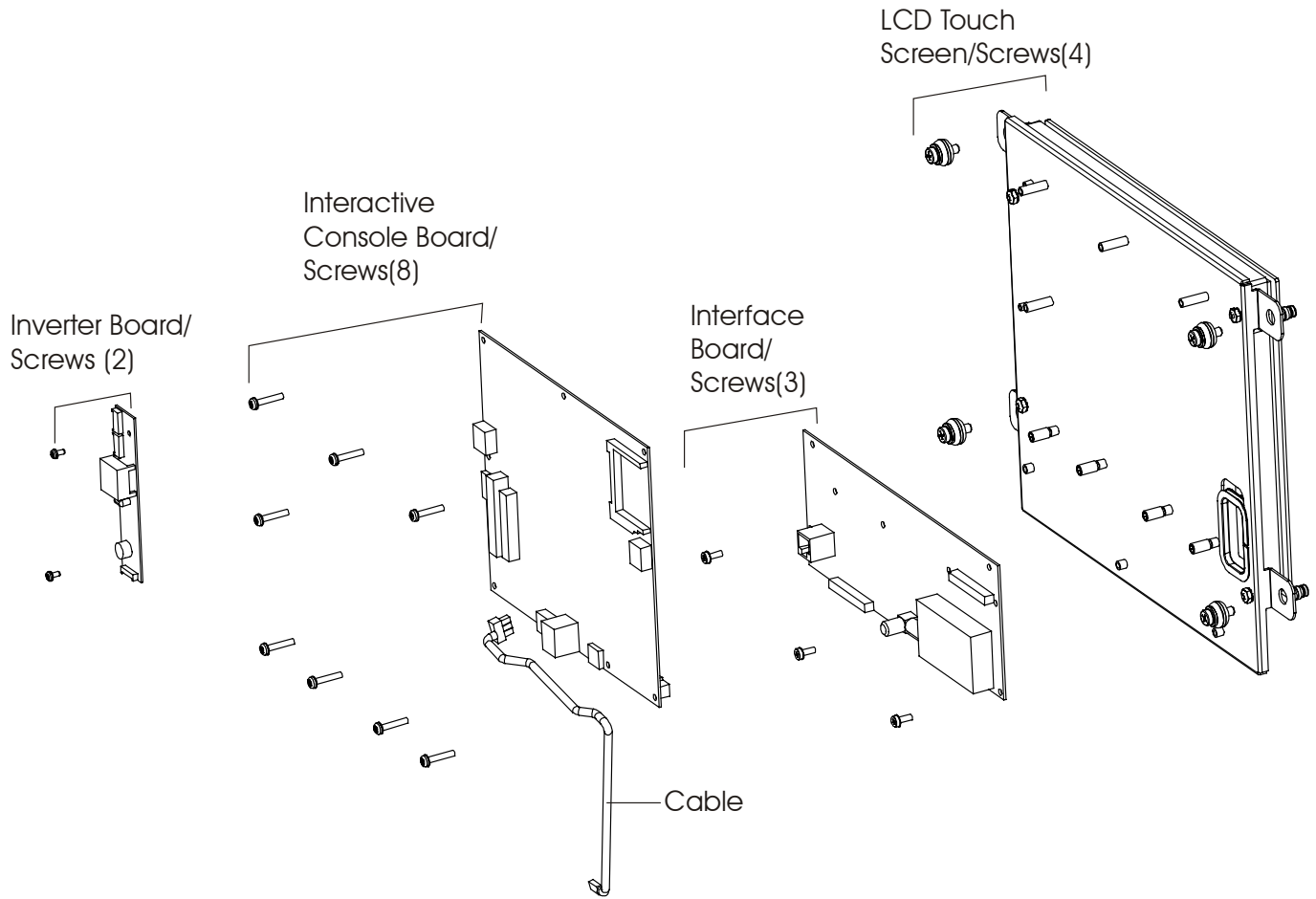
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

LCD Integrated Console Overview

Special Service Tools Required: NONE

CAUTION! BEFORE REPLACING CIRCUIT BOARD(S), GROUND YOURSELF TO THE MACHINE USING AN ANTI-STATIC GROUND STRAP.

NOTE: The following pages provide service procedures for servicing the LCD Integrated Console. While the Console Housings may differ between the various products, the internal components, which make up the Console, are identical. Use the exploded view below to help identify parts and component location during service.



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

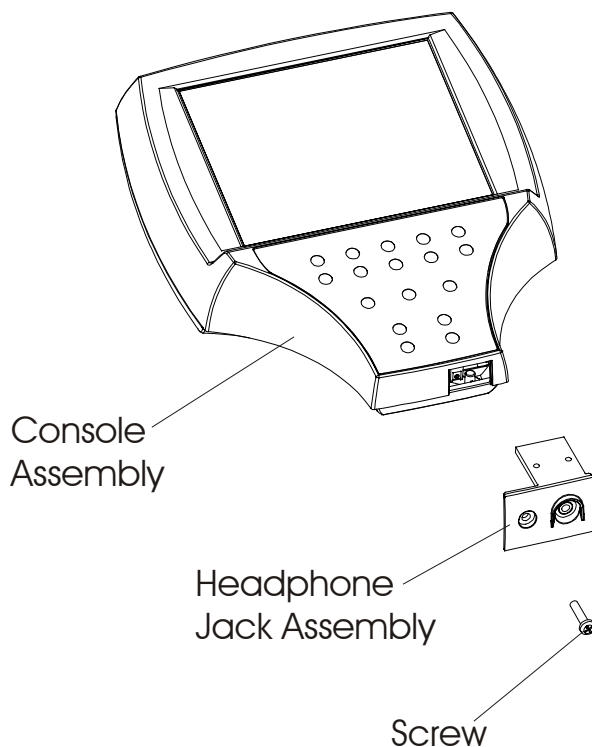
How To... Replace the Headphone Jack

Special Service Tools Required: NONE

CAUTION! BEFORE REPLACING CIRCUIT BOARD(S), GROUND YOURSELF TO THE MACHINE USING AN ANTI-STATIC GROUND STRAP.

Note: For clarity purposes the Console is shown off the unit. Headphone Jack replacement does not require removal of the Console from the unit.

1. At the bottom of the Console, remove the Phillip Screw securing the Headphone Jack.
2. Remove the Headphone Jack from the Console.
3. Install new Headphone Jack in reverse order.



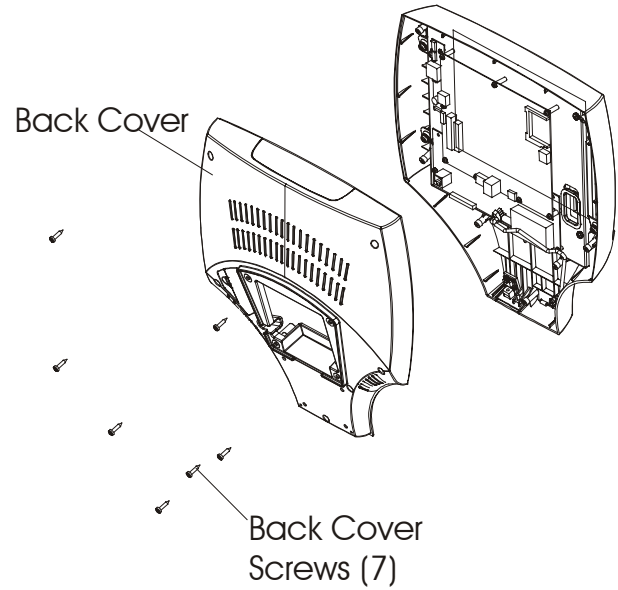
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Inverter Board

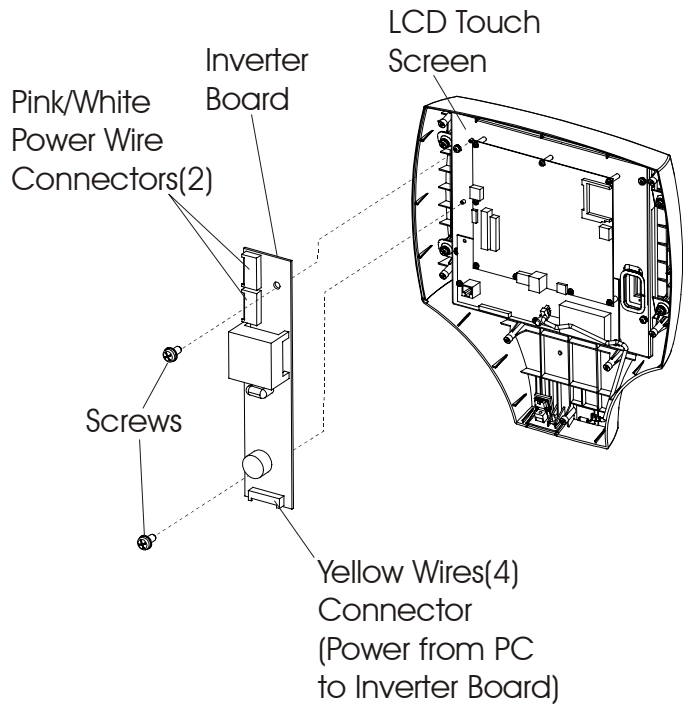
Special Service Tools Required: NONE

CAUTION! BEFORE REPLACING CIRCUIT BOARD(S), GROUND YOURSELF TO THE MACHINE USING AN ANTI-STATIC GROUND STRAP.

1. Remove the console from the unit.
2. Remove seven screws from the Back Cover and lift the Back Cover off the front half of the Console.



3. Disconnect the two Pink/White Power Wire Connectors from the top of the Inverter Board, and the four Yellow Wires Connector, which receives Power from the PC to the Inverter, at the bottom of the Inverter Board.
4. Remove two Phillips screws securing the Inverter Board to the back of the LCD Touch Screen and lift it out.
5. Install new Inverter Board in reverse order.

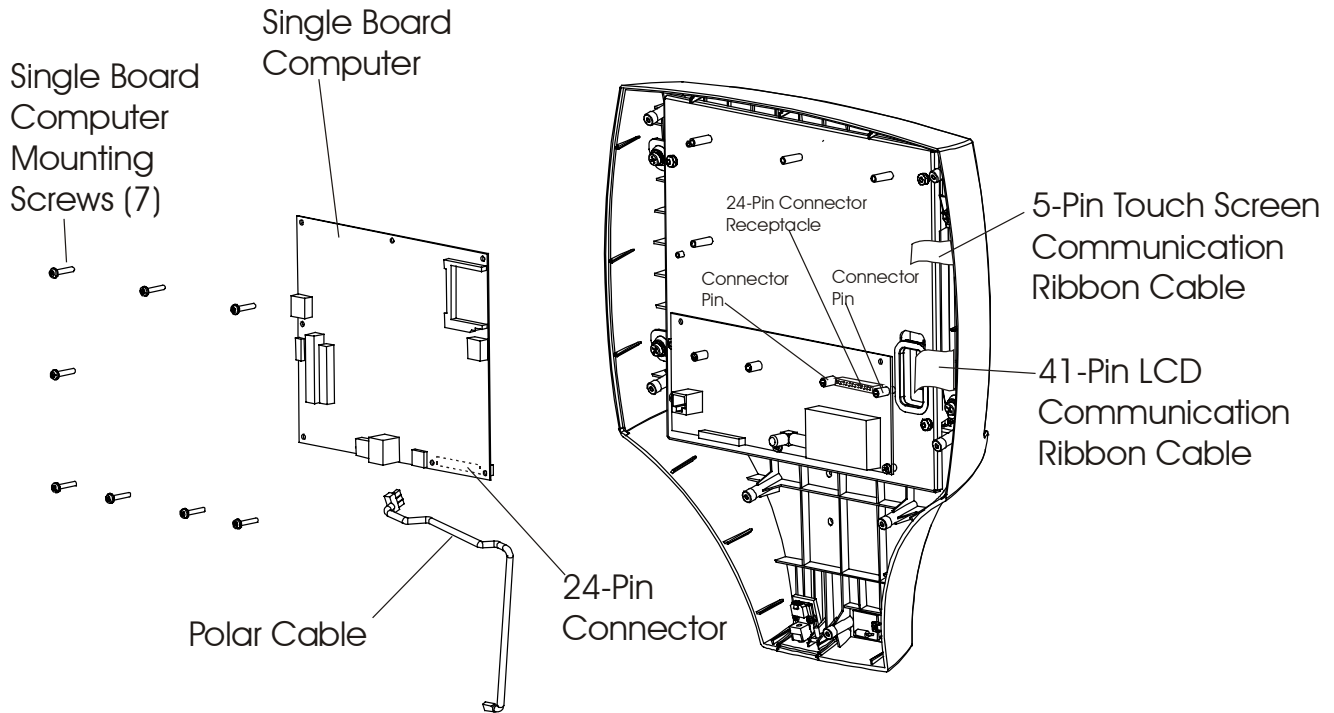


Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Single Board Computer

Special Service Tools Required: NONE

CAUTION! BEFORE REPLACING CIRCUIT BOARD(S), GROUND YOURSELF TO THE MACHINE USING AN ANTI-STATIC GROUND STRAP.



1. Remove the Console from the unit. See "How To..." in this section
2. Remove the Console Back Cover. See "How To..." in this section.
3. Disconnect all of the cables from the Single Board Computer.
4. Remove seven screws securing the Single Board Computer to the back of the LCD Touch Screen. The Single Board Computer remains engaged into a 24-Pin Connector Receptacle, which is located between two Connector Pins on the Interface Board. Carefully wiggle the Single Board Computer up and out of the Interface Board Connector Receptacle and Connector Pins.
5. Install Board in reverse order. Be careful on connecting the single board computer to the machine interface board.

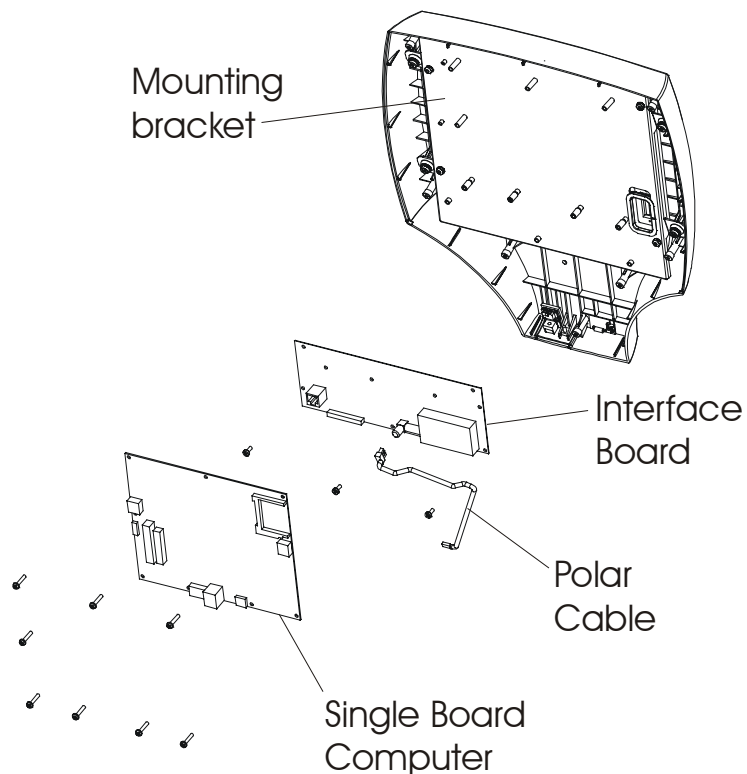
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Interface Board

Special Service Tools Required: NONE

CAUTION! BEFORE REPLACING CIRCUIT BOARD(S), GROUND YOURSELF TO THE MACHINE USING AN ANTI-STATIC GROUND STRAP.

1. Remove console from unit. See "How To..." in this section.
2. Remove the Console Back Cover. See "How To..." in this section.
3. Remove Single Board Computer. See "How To..." in this section.
4. Disconnect all Cables from the interface board.
5. Remove five screws securing the Interface Board to the mounting bracket.
6. Remove the Interface Board.
7. Install new Interface Board in reverse order. Be careful on connecting the single board computer to the machine interface board.



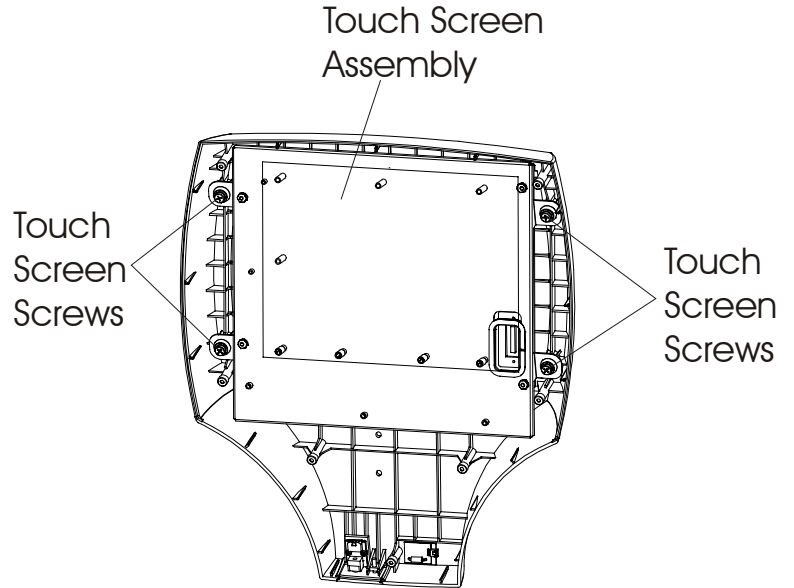
Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

How To... Replace the Touch Screen Assembly

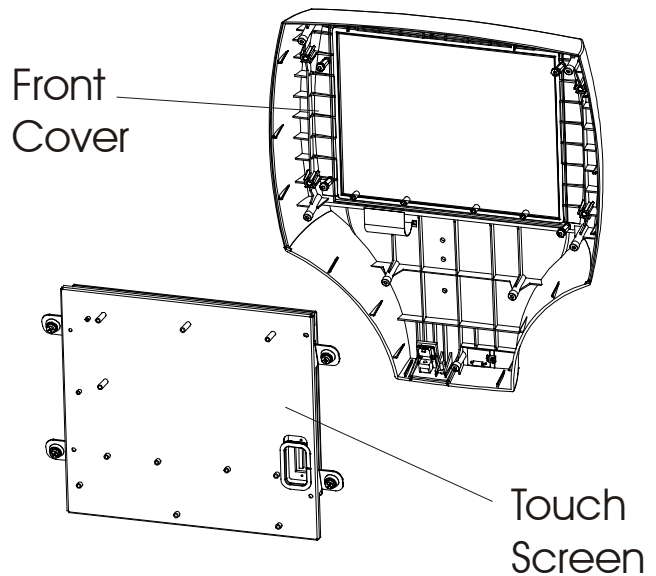
Special Service Tools Required: NONE

CAUTION! BEFORE REPLACING CIRCUIT BOARD(S), GROUND YOURSELF TO THE MACHINE USING AN ANTI-STATIC GROUND STRAP.

1. Remove the Console. See “How To...” in this section.
2. Remove the Console Back Cover. See “How To...” in this section.
3. Remove the Single Board Computer. See “How To...” in this section.
4. Remove the Interface Board. See “How To...” in this section.
5. Remove the Inverter Board. See “How To ...” in this section



6. Remove four screws securing the Touch Screen Bracket Assembly to the bezel Assembly. Remove the Touch Screen Assembly from the Console.
7. Remove the four nuts securing the LCD/touch screen to the bracket then separate the bracket from the assembly.
8. Install new Touch Screen in reverse order.



SECTION IV

ELECTRONICS AND WIRING DIAGRAMS

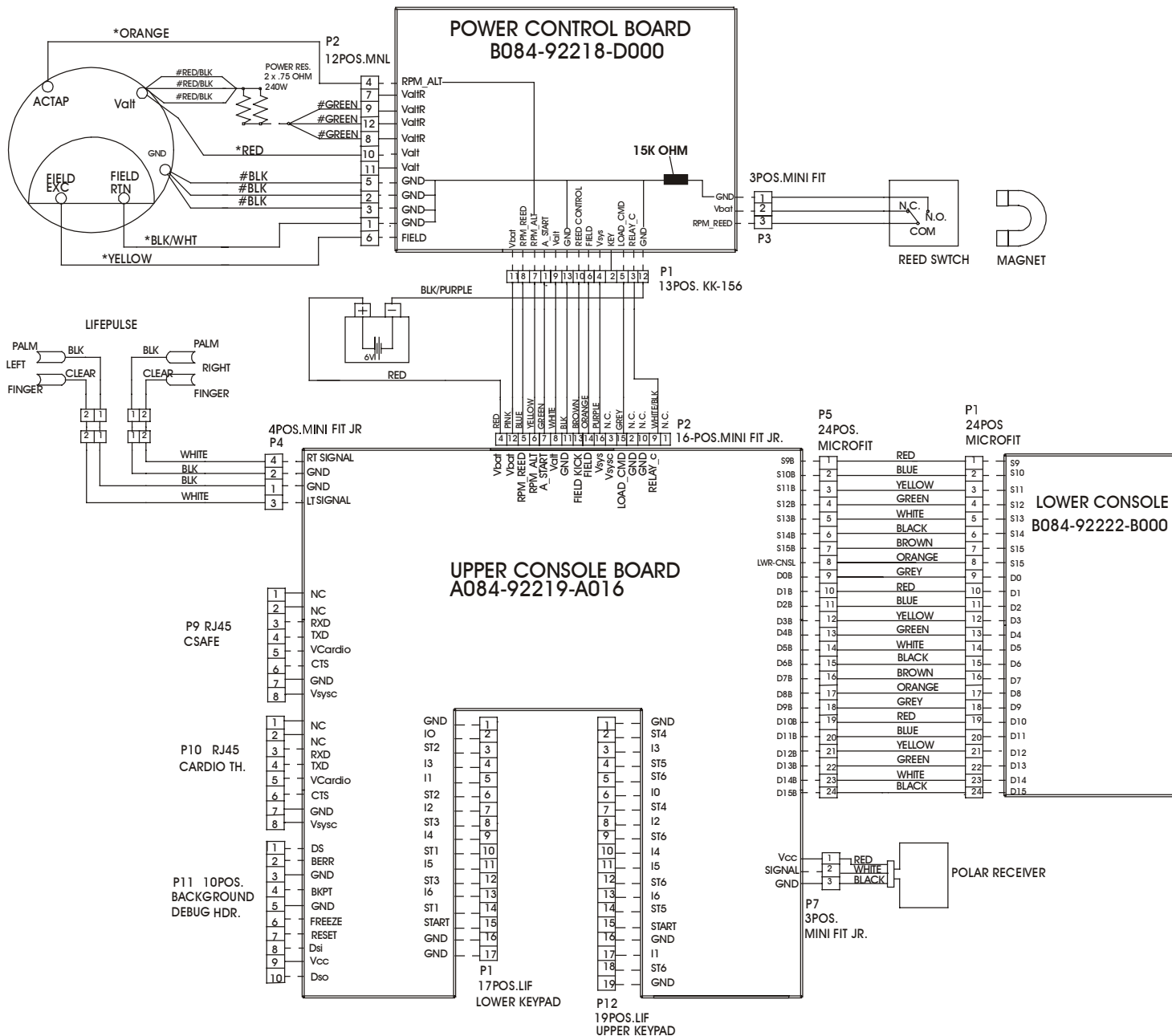
	Page
Wiring Block Diagram – Models 90x And 93x	3
Wiring Block Diagram – Model 95xi	4
Wiring Block Diagram – Model 95xe	5
Notes	6

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

Notes

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

WIRING BLOCK DIAGRAM - MODEL 95Xi



WIRING BLOCK DIAGRAM – MODELS 95Xe

PENDING

NOTES

SECTION V

MISCELLANEOUS

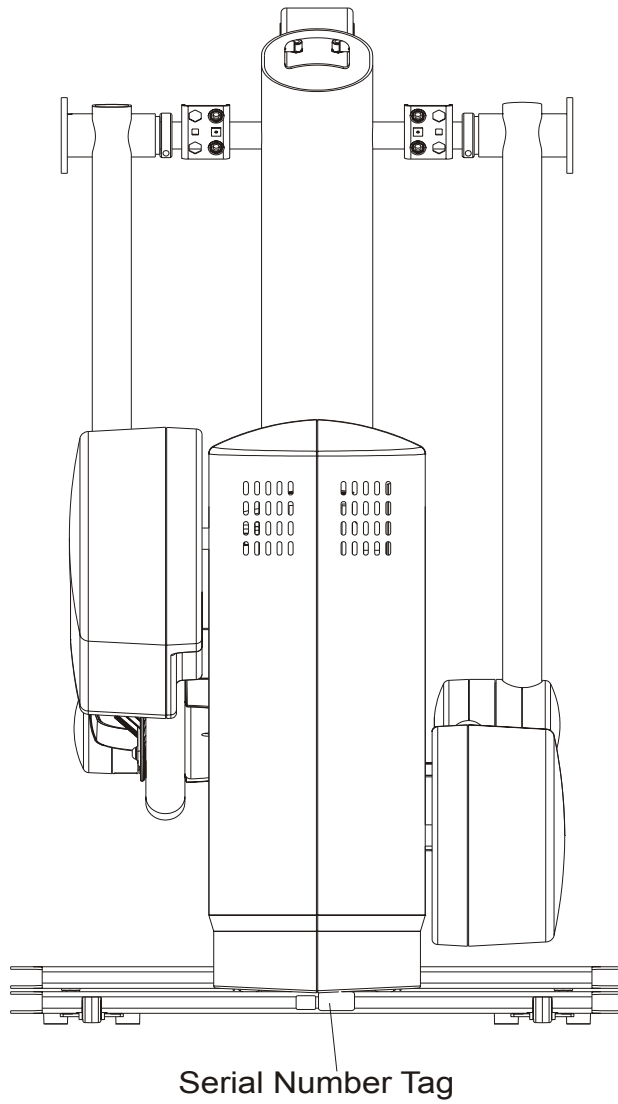
	Page
Model Identification and Serial Number Location.....	3
Preventive Maintenance Tips	4
Safety Instructions.....	5
Notes	6

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

Notes

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

MODEL IDENTIFICATION and SERIAL NUMBER LOCATION



Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi
PREVENTIVE MAINTENANCE TIPS

Preventive Maintenance Schedule

	<i>DAILY</i>	<i>MONTHLY</i>	<i>BI-ANNUALLY</i>
Housing			
Inside			Clean
Outside	Clean		
Power Control			
Heatsink			Clean
Connectors			Inspect
Board			Inspect
Console Assembly			
Overlay	Clean		
Mounting Bolts		Inspect	
Connectors			Inspect
Alternator			
Belt Tension			Inspect
Brushes			Inspect
Flywheel			Clean/Inspect
Mechanical			
Main Drive Belt		Inspect	
Pedals		Clean	
Drive Pulley			Clean/Inspect
Heart Rate			
Sensors	Clean	Clean	Clean

SAFETY INSTRUCTIONS!

- ⇒ ***DO NOT*** locate the Cross-Trainer outdoors, near swimming pools, or in areas of high humidity.
- ⇒ ***DO NOT*** operate your Cross-Trainer if it has been dropped, damaged, or even partially immersed in water. Contact Life Fitness Customer Support Services at the number in the Operation Manual.
- ⇒ ***DO NOT*** locate the Cross-Trainer any closer than 30 inches (76 cm) to a television set.
- ⇒ ***DO NOT*** locate additional Cross-Trainers any closer than a minimum of 42 inches (107 cm) from center to center to avoid interference (cross talk) between Heart Rate monitors.
- ⇒ ***DO*** keep the area around your Cross-Trainer clear of any obstructions, including walls and furniture.
- ⇒ ***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 in the Operation Manual. 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.

Life Fitness Cross-Trainers 90X, 93X, 95Xe, and 95Xi

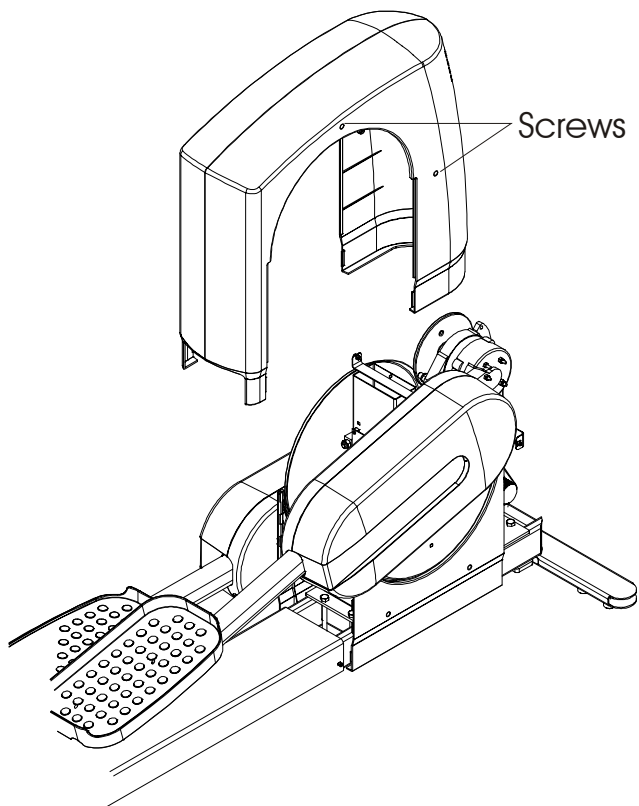
Notes

How To... Replace Control Link Hardware

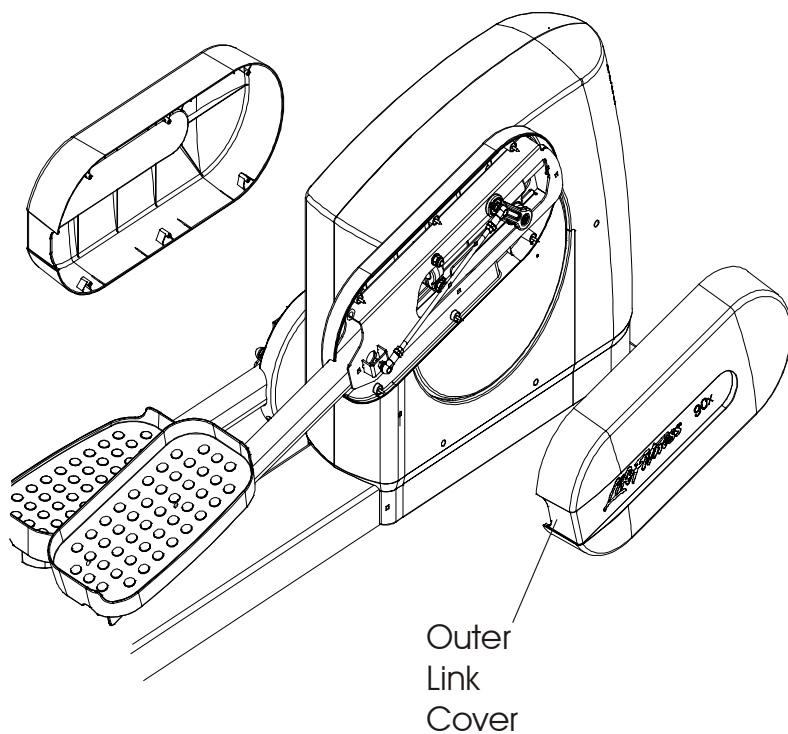
Service Kit: GK62-00002-0015

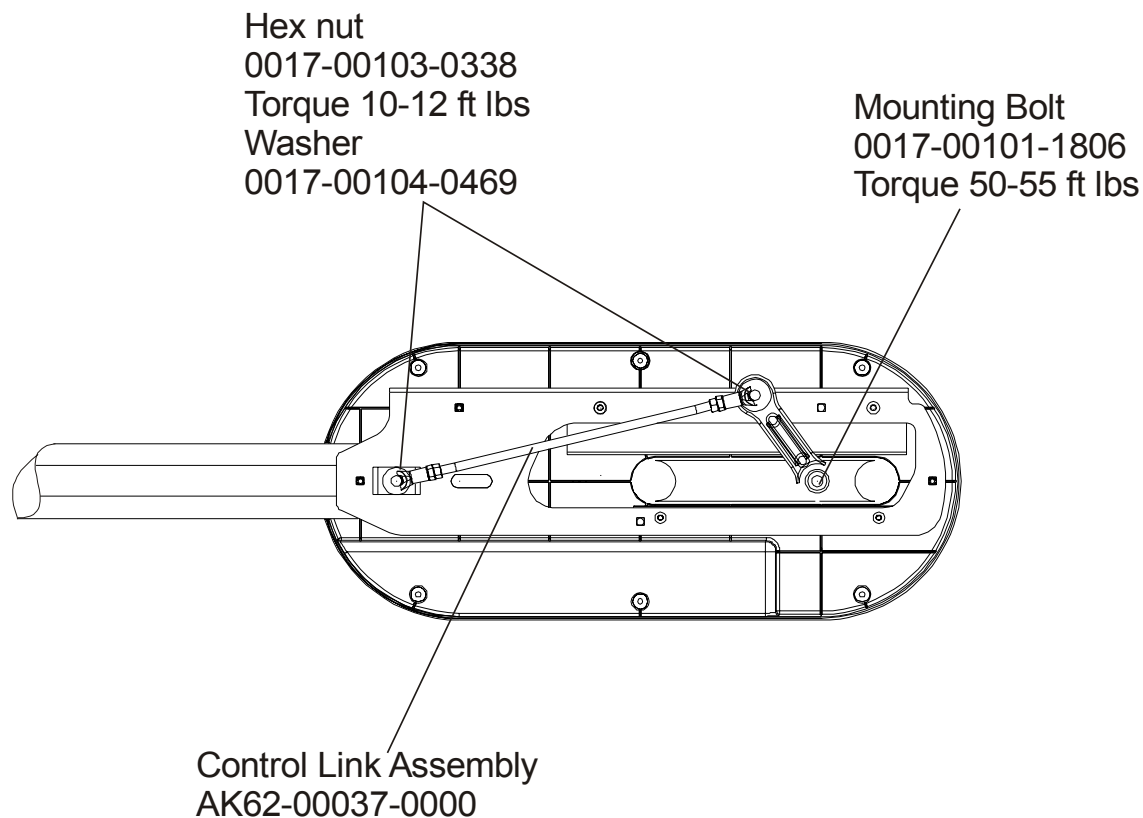
Note: Replacement of hardware is to be performed on both Control Link Assemblies.

1. Remove the Main Shroud from the unit.



2. Remove the Outer Link Covers from the Link Arm Assembly.

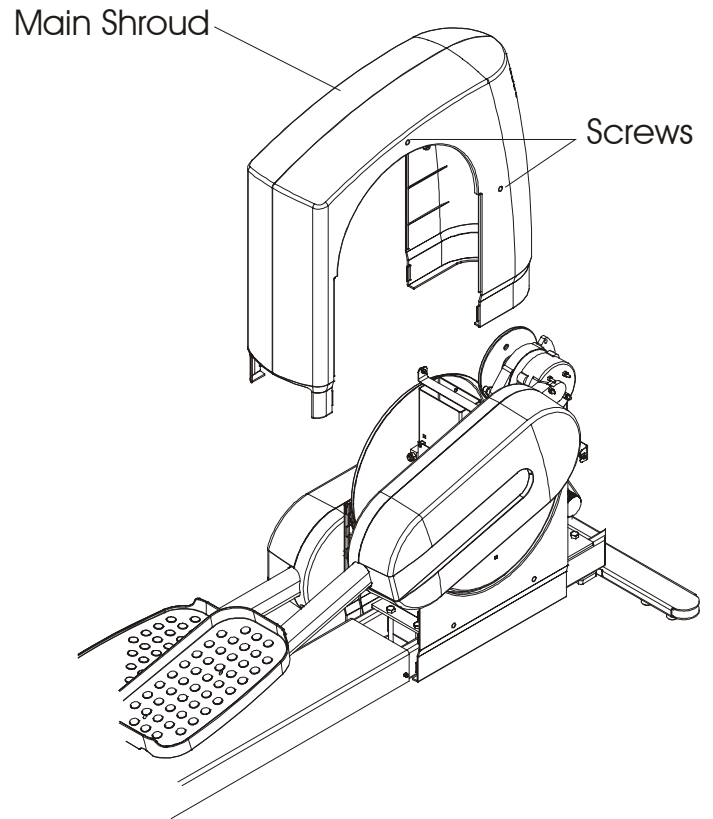




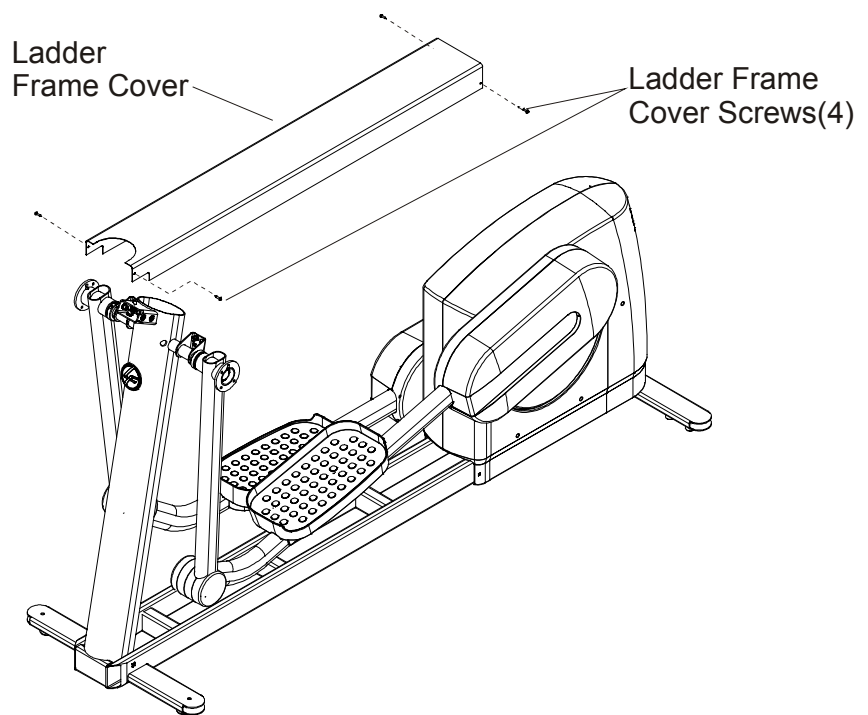
3. Remove the Hex Nut, Washer, and Mounting Bolt securing the Control Link Assembly, and then discard the hardware.
4. Inspect the threads on both ends of the Control Link Assembly for damage. If damaged, replace the Control Link.
5. Clean out any grease or debris from threads in Crank Arm.
6. Apply additional LOCTITE 242 to Mounting Bolt 0017-00101-1806. Install new hardware supplied in the Service Kit.
7. Re-install Outer Link Covers and Main Shrouds.

Special Service Tools Required: Phillips Screwdriver and T-30 TORX Bit

1. Remove the Main Shroud by removing two screws on each side of the shroud, and then lift off the Main Shroud.



2. Remove the Ladder Frame Cover by removing two screws on each side of the cover, and then lift off the Ladder Frame Cover.

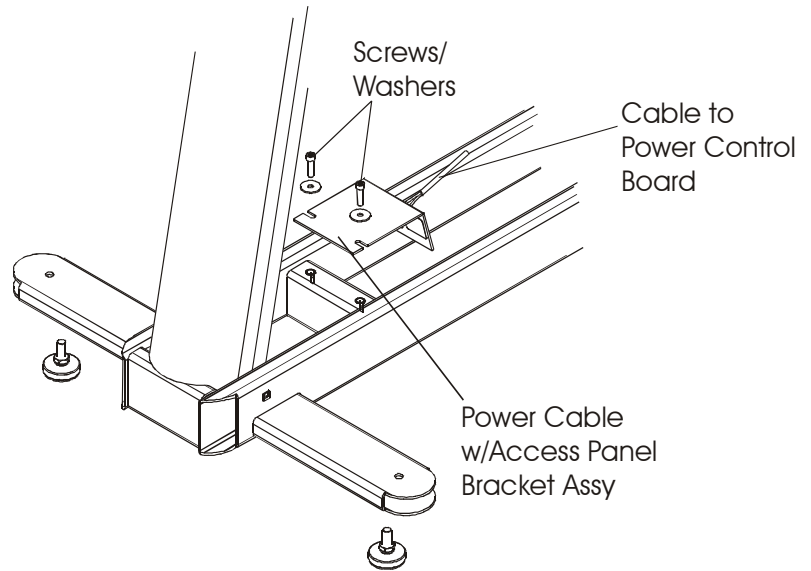


How To... Install Plug-In Option Kit

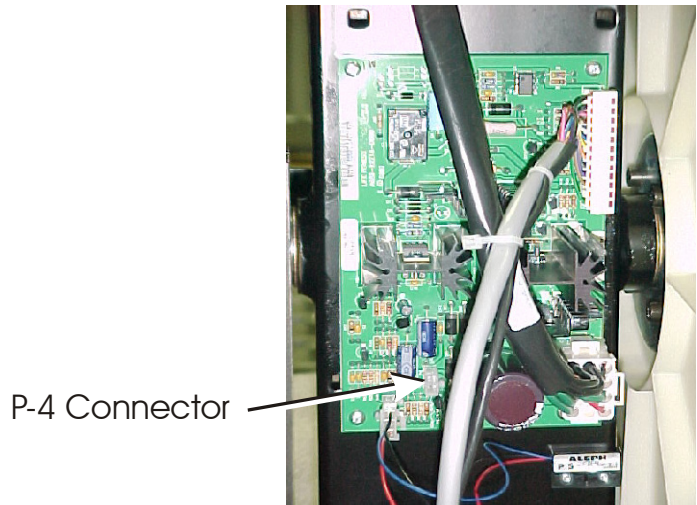
Service Kit: GK62-00002-0018,19, 20 & 21

Special Service Tools Required: Phillips Screwdriver and T-30 TORX Bit

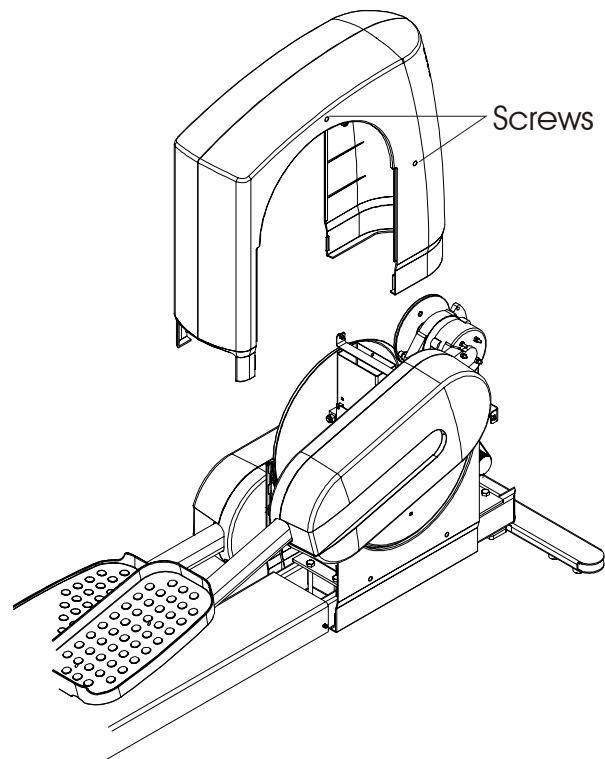
- 3. Install the Plug-In Option Kit as shown using hardware supplied.



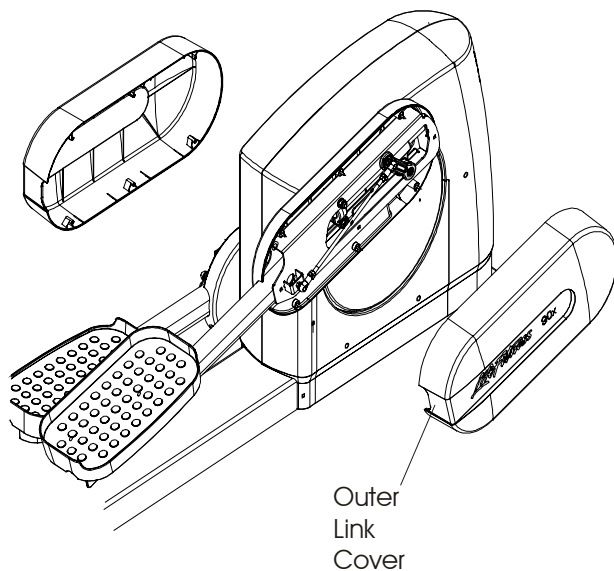
- 4. Connect the Power Cable coming from the Access Panel Bracket and connect it to the P-4 Connector on the Power Control Board.
- 5. Connect the External Power Supply to the Access Panel Bracket, and then route the cable under the Frame and out to the wall outlet.
- 6. Re-assemble the Main Shroud and Ladder Frame Covers.



1. Remove the Main Shrouds.



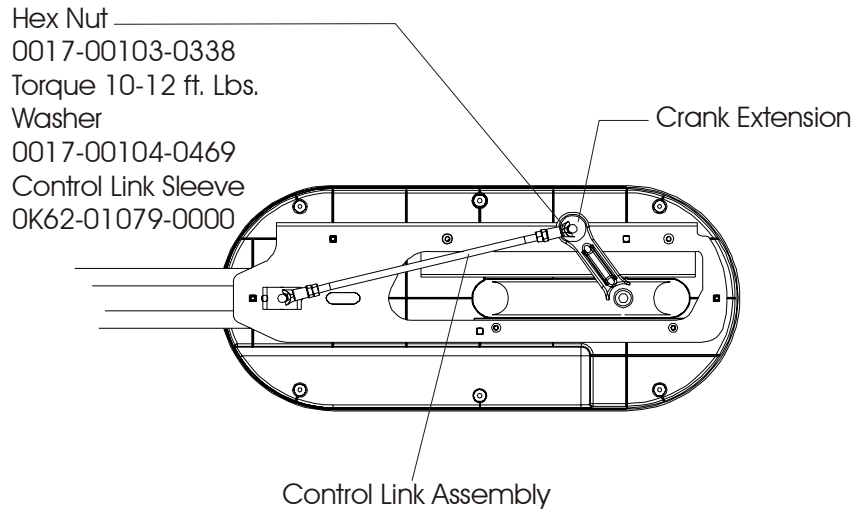
2. Remove the Outer Link Covers.



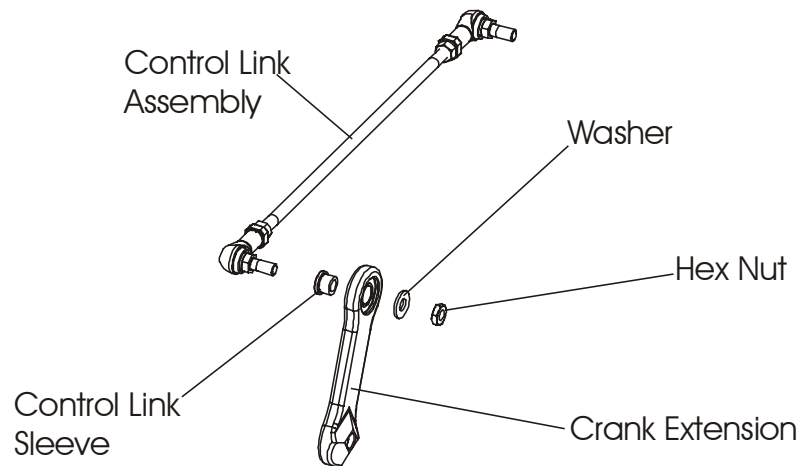
How To... Replace Control Link Sleeve

Service Kit: GK62-00002-0022

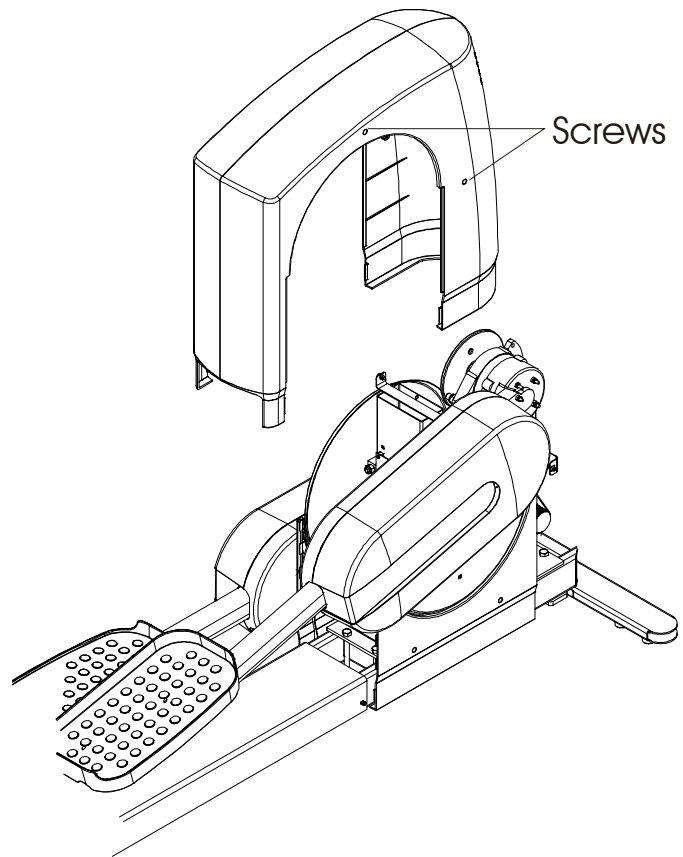
- 3. Remove the Bolt securing the Crank Extension to Crankshaft. Remove the Hex Nut, Bolt, Washer, and Control Link Sleeve securing the Crank Extension to Control Link Assembly.
- 4. Discard the Control Link Sleeve only.
- 5. Save the hardware.



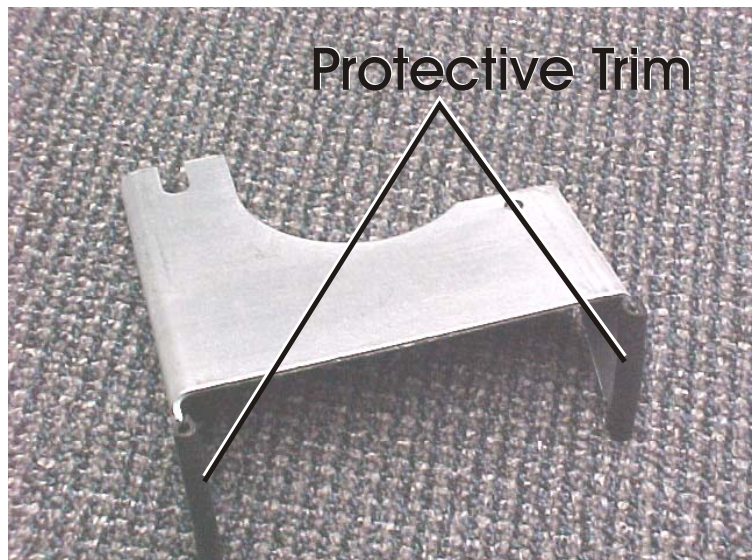
- 6. Install the new Control Link Sleeve and secure with the existing Nut and Washer. Torque the Nut 10-12 ft. lbs. Secure the Crank Extension to the Crankshaft using the existing Bolt and torque 50-55 ft. lbs.
- 7. Repeat this procedure for the remaining Control Link.
- 8. Reinstall the Outer Link Covers and Main Shrouds in reverse order.



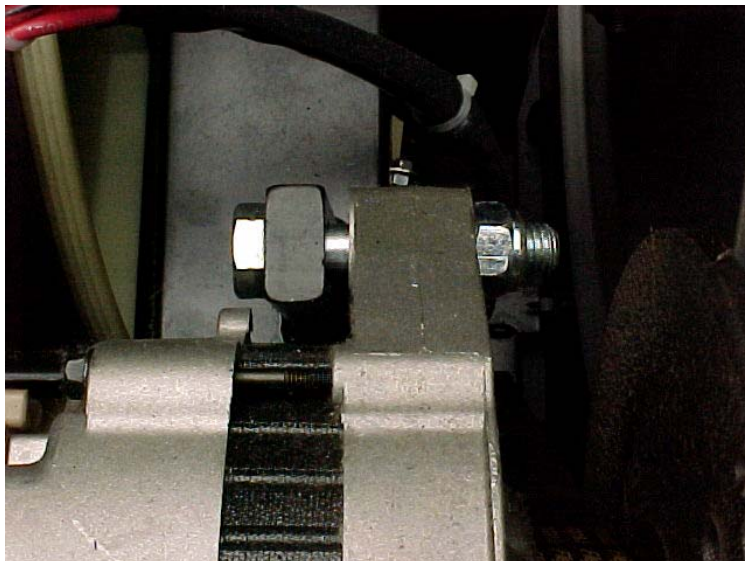
1. Remove the Main Shrouds.



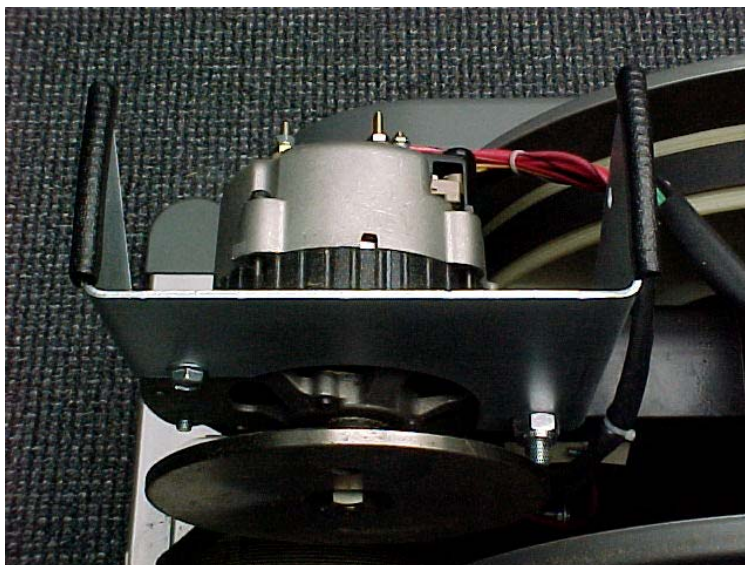
2. Place two pieces of Protective Trim on bracket.



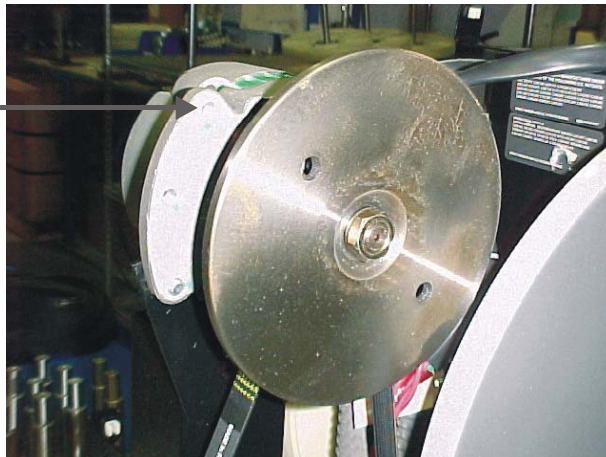
3. Loosen the Alternator Mounting Bolt.



4. Use the 5/16 hex bolt supplied in the kit and with the existing Alternator Mounting bolt, fasten the Shroud Support Bracket to Alternator and tighten the bolts.



Use top hole on Alternator to mount Support Bracket



5. Clean inside surface of shrouds around each set of locking tabs using the Wet Pad portion (Alcohol wipe), and then open the Dry Pad portion to wipe the area dry.



6. Install the adhesive tape around each locking tab as shown.
7. Re-install the Main Shrouds.

