STAR TRAC®

Core Health & Fitness

Startrac® Treadmills

SERVICE MANUAL

TABLE OF CONTENTS

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This service manual covers the following products. All products may be covered by US and Foreign Patents and Patents Pending.

Quick Links:

- Identify a product by Serial Number
- General Warranty Terms
- About Extended Warranties

8 Series Treadmills

SKU

9-920X 8-TRx
9-925X 8-TRx

Overall Weight	Running Surface	Width	Length	Height
477 lbs (216 kg)	60″ x 21.5″ (152 x 55 cm)	36″ (91 cm)	85″ (215 cm)	63″ (160 cm)

9-919X 8-TR

Overall Weight	Running Surface	Width	Length	Height
576 lbs (261 kg)	60″ x 21.5″ (152 x 55 cm)	32″ (81 cm)	85″ (215 cm)	60″ (152 cm)

E Series Treadmills

SKU

9-90XX E-TRx
9-911X E-TRxe

Overall Weight	Running Surface	Width	Length	Height
477 lbs (216.4 kg)	60″ x 21.5″ (152 x 55 cm)	36″ (91 cm)	85″ (215 cm)	63″ (160 cm)

9-9101 E-TRxi

Overall Weight	Running Surface	Width	Length	Height
490 lbs (270 kg)	60″ x 21.5″ (152 x 55 cm)	36″ (91 cm)	85″ (215 cm)	79″ (200 cm)

9-900X, 9-915X E-TR
9-9002 E-TRi

E-TR

Overall Weight	Running Surface	Width	Length	Height
575.5 lbs (261.04 kg)	60″ x 21.5″ (152 x 55 cm)	32″ (81.3 cm)	81″ (206 cm)	59.77″ (151.81 cm)

E-TRi

Overall Weight	Running Surface	Width	Length	Height
595 lbs (270 kg)	60″ x 21.5″ (152 x 55 cm)	32″ (81.3 cm)	81″ (206 cm)	75″ (190 cm)

S Series Treadmills

9-35XX S-TRc

Overall Weight	Running Surface	Width	Length	Height
533 lbs (241.7 kg)	60″ x 20″ (152 x 51 cm)	32″ (81.3 cm)	81″ (206 cm)	58″ (147.3 cm)

9-355X
9-356X S-TRx

Overall Weight	Running Surface	Width	Length	Height
514 lbs (233.2 kg)	60″ x 20″ (152 x 51 cm)	32″ (81.3 cm)	81″ (206 cm)	58″ (147.3 cm)

SAFETY INFORMATION

Danger: Treadmill maintenance requires the power to be on.
Please exercise caution when working around live electrical components

Core Health & Fitness requires a dedicated, isolated 20 Amp circuit (no shared grounds, positives, or neutrals) for each treadmill. Please ensure power requirements are met before install. Core also recommends that the treadmill be spaced a minimum of 20.0 inches (0.5 m) apart to allow safe/easy ingress and egress. Even more importantly, there must be at least 48 inches (1.25 m) of free space behind the treadmill.

As with any motorized equipment, the area where treadmills are located must be free of obstructions and fixtures with sharp edges to prevent injury.

DANGER - to reduce the risk of electrical shock:

1. Always unplug the machine from the electrical outlet before cleaning or servicing.
2. This machine is not intended to be serviced by the end user, refer servicing to qualified personnel only.
3. This product will be wired for either 120 VAC nominal power input OR 230 VAC nominal input. It is factory-equipped with a specific electric cord an plug to permit connection to the proper electric circuit. Make sure that the product is connected to a dedicated power line having an outlet with the same configuration as that of the plug.
4. Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product. NO adapter should be used with this product. If the product must be reconnected for use on a different type of electric circuit, the reconnection should be made by qualified service personnel in order to avoid a hazard.
5. If the power supply cord is damaged, it must be re placed by the manufacturer, its service agent, or similarly qualified persons in order to avoid hazard.

WARNING - to reduce the risk of burns, fire, electrical shock, or injury to person:

1. This equipment is designed for use in a commercial gymnasium or health club. To ensure the proper use of the equipment in a safe manner, all users of the equipment should read this manual before using the machine. This machine should be made a part of your club training program in order that the equipment is used by your members in a safe manner as intended. In addition to instructing the club members in the proper use of the equipment, the club member should obtain a complete physical examination form their health care provider before beginning any exercise program.
2. This machine is not intended to be used by children. It is not intended to be used by persons with reduced physical, sensory, or mental capabilities or lack of experience and knowledge, unless given instruction and under the personal supervision concerning use of the machine by a person responsible for their safety. Do not leave children unsupervised around the machine.
3. Assemble and operate the machine on a solid level surface. Position the machine with a minimum of 20 inches (0.5 meters) of clearance on each side to allow for ease of mounting and dismounting. Allow for 48 inches (1.25 meters) of clearance behind the ma chine. These dimensions are the recommended minimum distances. The actual area for access and passage is the responsibility of the facility and should take into account this

training envelope and any other national or local codes or regulations.

4. Keep power cord away from heated surfaces. Unplug power cord when the machine is unattended and before performing any preventative maintenance such as cleaning or replacing a worn part.

5. Familiarize yourself with the location of the STOP buttons on the console. If you experience difficulties during the workout, pushing the STOP button will bring the machine to a stop.

6. Do not exceed the maximum allowable weight limit of 350 lbs. / 158 kg.

7. Use care when getting on or off the machine. Always use the handrails. Do not step off of the machine while it is moving. Press the STOP button and wait for the machine to come to a complete stop before dismounting.

8. Do not over exert yourself during exercise. Stop exercising if you feel pain or tightness in your chest, become short of breath or feel faint. If you feel pain or experience any abnormal symptoms, stop exercising and consult your health care provider.

9. Wear proper exercise clothing and athletic shoes during a workout. Avoid wearing loose clothing. Tie back long hair and keep towels away from the moving parts. Face forward at all times and never attempt to turn around while the machine is moving.

10. Do not operate the machine if the motor shroud is removed or if the power cord is damaged in any manner. Keep all air openings free from dirt or any material that would block the flow of air to the motor.

11. The safety and integrity of this machine can only be maintained when the equipment is regularly examined for damage and wear and repaired. It is the sole responsibility of the owner of this equipment to ensure that regular maintenance is performed. Worn or damaged parts must be replaced immediately or the equipment removed from service until the repair is made.

OTHER MANUALS

Click the links below to load the related complete manuals from our support website. Safety warnings specific to each unit are located in their respective owner's manuals.

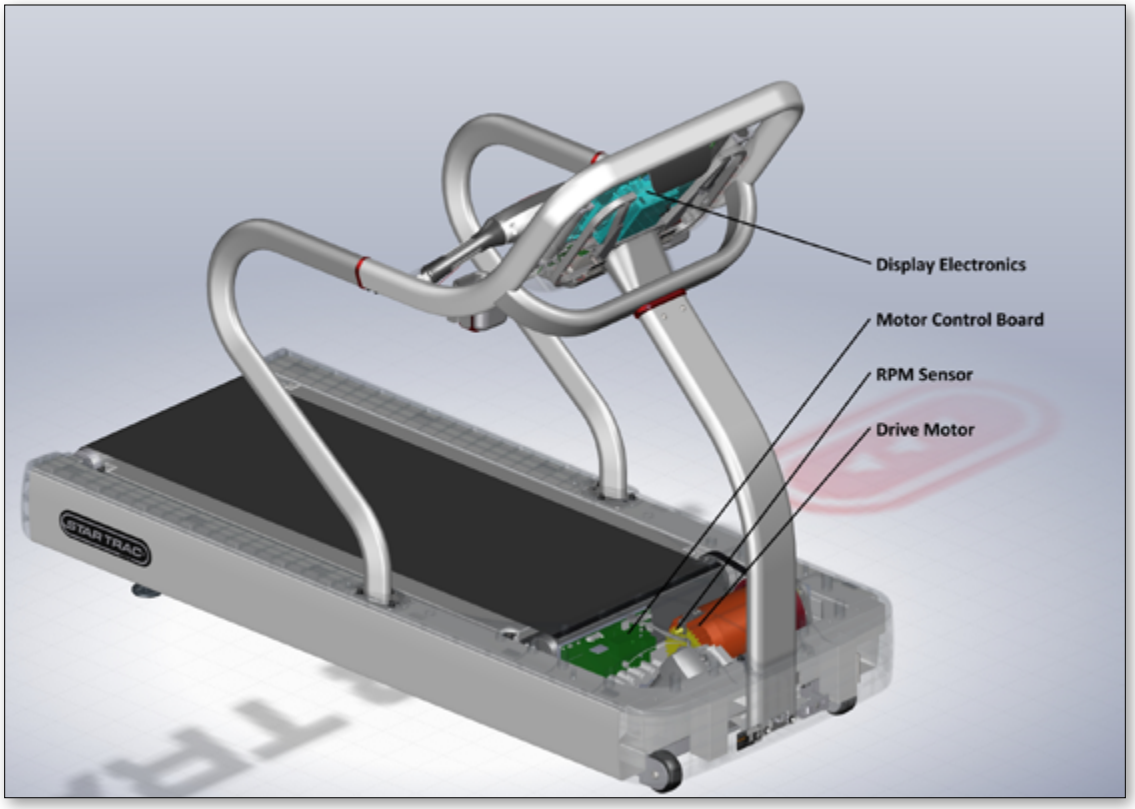
Manuals	Install	Owner's
8-TRx		
8-TRx		
8-TR		
E-TRx		
E-TRxe		
E-TRxi		
E-TR		
E-TRi		
S-TRc		
S-TRx		

Related Installation Manuals

- MYE PVS Brackets Installation

Other Service Manuals

For advanced troubleshooting regarding the OpenHub consoles or general TV signal issues for all touchscreens, please refer to the OpenHub Service Manual.



The drive system is what makes the treadmill running belt move as well as what sends feedback to the display for keeping track of speed. The Display Electronics reads the speed from the RPM Sensor and instructs the Motor Control Board (MCB) to turn the Drive Motor as needed.

Drive System

The MCB controls the power flow throughout the unit based on the commands from the display board. On some models, it also converts the incoming 110V into 220V nominal for the drive motor.

Danger: High voltage in MCB
Exercise extreme caution when working around live electrical components

Pinouts and diagrams are provided for troubleshooting purposes only. Pinout troubleshooting should only be performed by authorized technical personnel.

Motor Control Board (MCB)

8-TRx, 8-TR, E-TRx, & E-TR

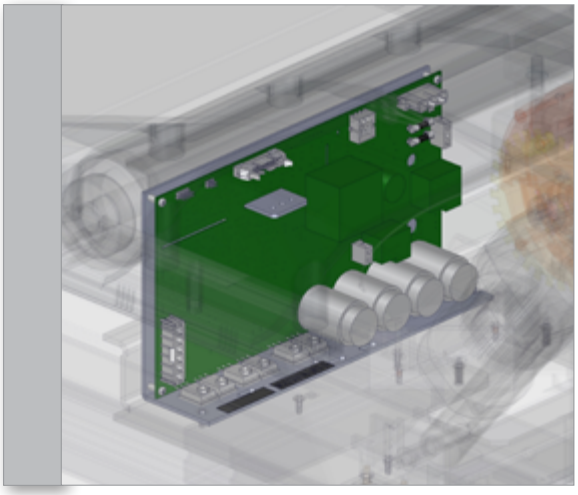
110V Version - Part # 715-3881
220V Version - Part # 715-3880

Pinout

S-TR, S-TRx, S-TRc

110V Version - Part # 740-6002
220V Version - Part # 740-6003

Pinout



Note: click links to load diagram and pinout from our support site

The MCB converts the incoming wall power to power to 12.6 volt VDC to send up the display cable to power the display electronics. On some models with 110V input the MCB transforms the incoming voltage to send 220 VAC to the power the drive motor. The MCB also sends 6 VDC to power the RPM sensor

The MCB sends VAC to power the elevation motor. The power being sent will depend on the input voltage. 110 VAC treadmills have a 110 volt elevation motor. 220 VAC treadmills have a 220 VAC elevation motor. The MCB also sends 5 VDC to the elevation sensor (potentiometer)/

The MCB passes along the input VAC to the power supply. The power supply then converts the input voltage to 12 VDC and sends it up to the display electronics to power the fans (on E & S series PVS kit or embedded touch screen).[1]

Common Issues:

- Reading Diagnostic LEDs
- Reading DFR Codes
- MCB won't power up
- The 20 pin ribbon cable passes all commands from the console to the MCB and back. Damage to this cable is one of the most common causes of many treadmill issues.

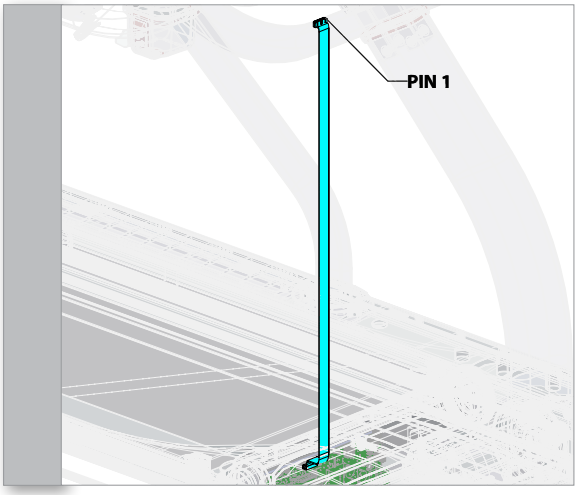
1 To identify the correct shroud for E-Series units with "U" in the serial, see 637-4434.

Main Data Cable

All

Part # 715-4046

Pinout



Note: click links to load diagram and pinout from our support site

Drive Motor

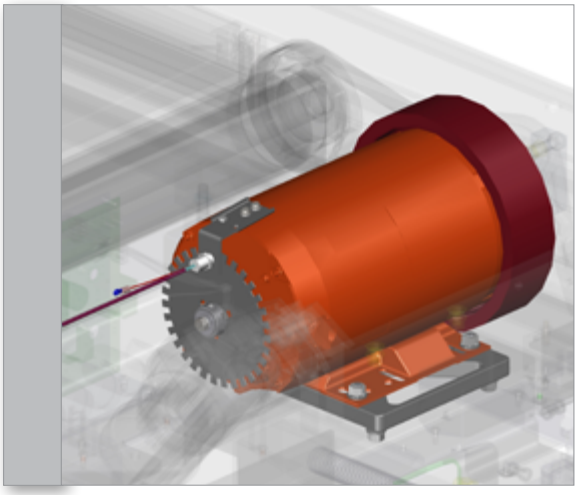
8-TRx, 8-TR, E-TRx, & E-TR

Part # 715-3885

Note: For E-TRx units built prior to 2009 click here.

S-TR, S-TRx, S-TRc

110V Version - Part # 740-6157
220V Version - Part # 740-6158



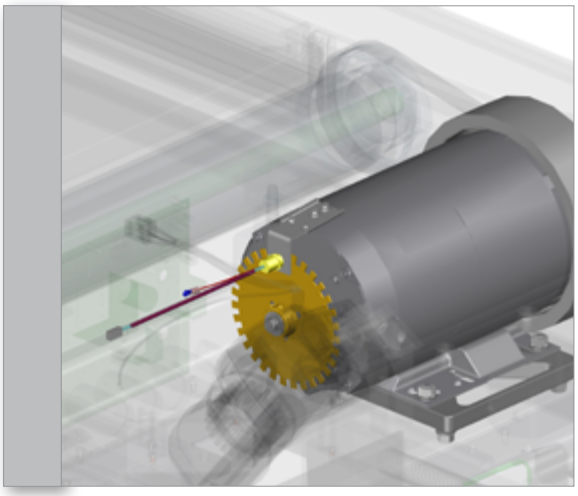
RPM Sensor

Note: On some older models not covered in this manual there is no external RPM sensor.

All

Part # 560-0069

Pinout



RPM Disk Assembly

8-TRx, 8-TR, E-TRx, & E-TR

Part # 715-3574

S-TR, S-TRx, S-TRc

Part # 740-6216

Display Electronics

The display electronics consist of either a single board in the case of the LED screens that have both the processor and the LED's, or in the case of embedded screens, the display electronics refer collectively to the Upper Board that has the processor and the Digitizer, which displays the image and responds to touch.

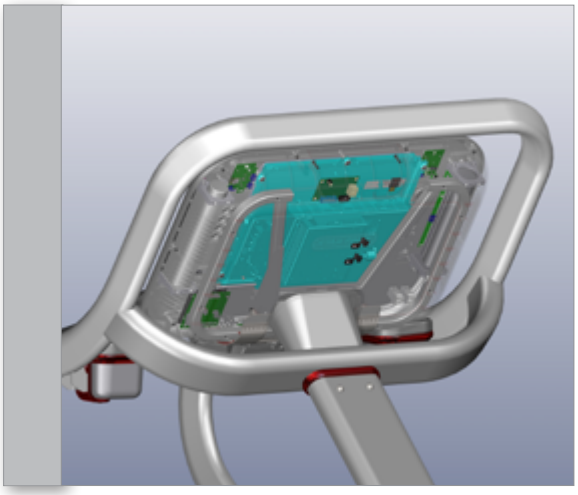
Embedded Display Electronics

8TR/TRx

Part # 701-0098-XX

Others

Part # 715-3883-XX



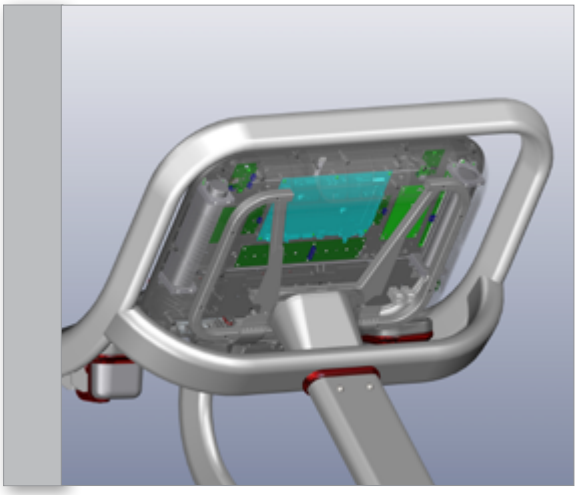
LCD/LED Display Board

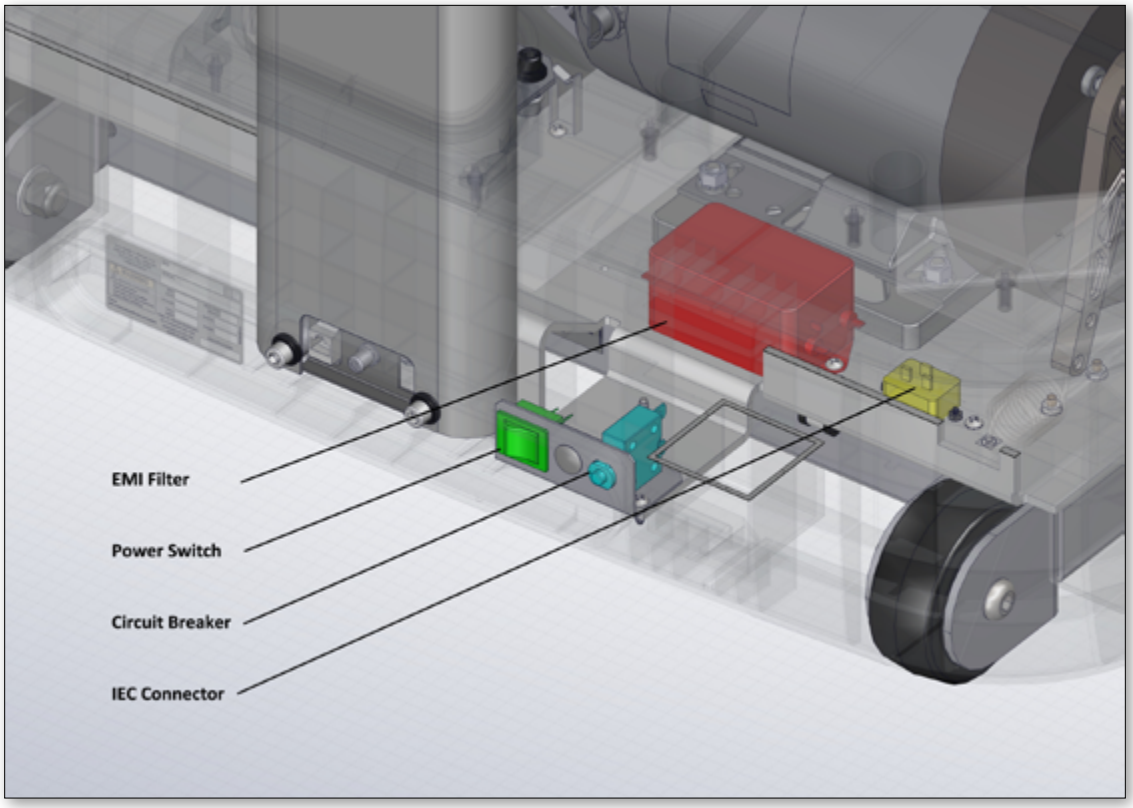
8TR/TRx

Part # 701-0046

Others

Part # 715-3845





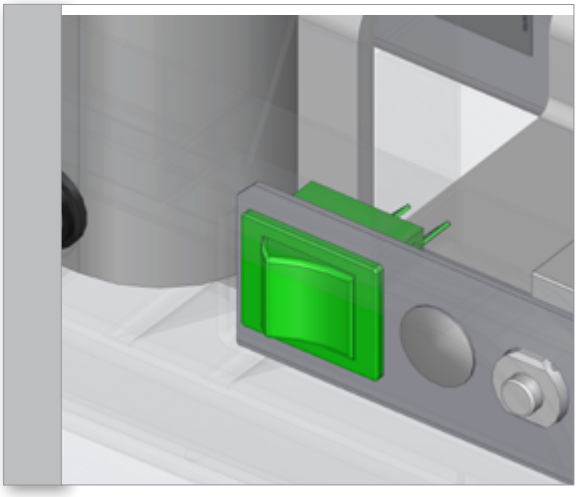
Power System

The power system supplies AC and DC voltage to different components of the treadmill. There are two parts of the power system, external power and internal power. All external components beyond the power cable are not covered by this manual and are assumed to be working in any trouble-shooting step. The internal components include the following parts.

Power Switch

All

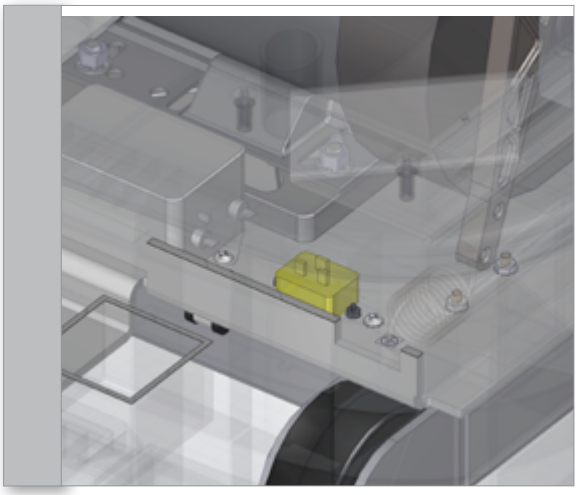
Part # 740-6116



IEC Connector

All

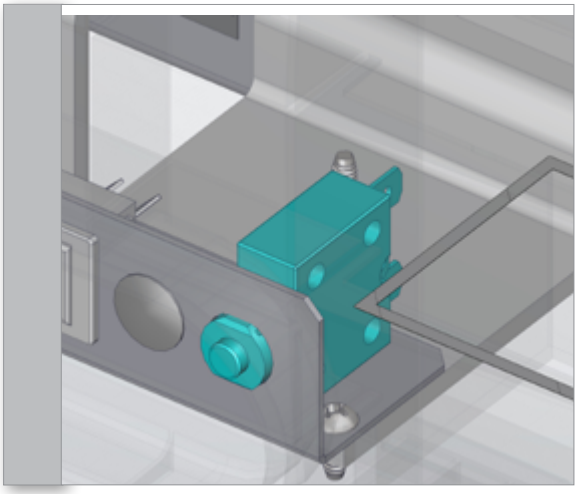
Part # 740-6083



Circuit Breaker

All

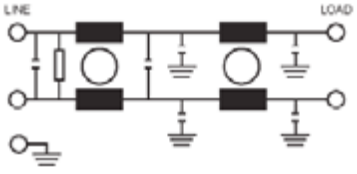
110V Version - Part # 470-0417
220V Version - Part # 470-0415



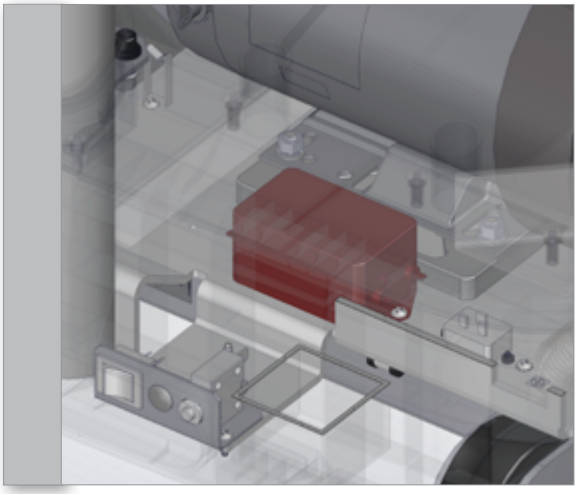
EMI Filter

All

Part #440-0257



Basic Diagram

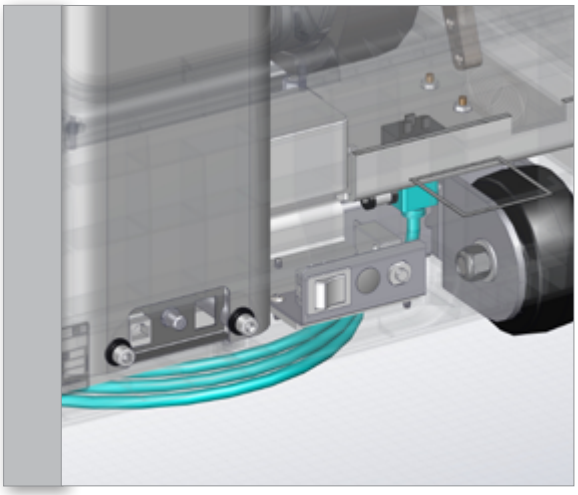


Power Cord

All

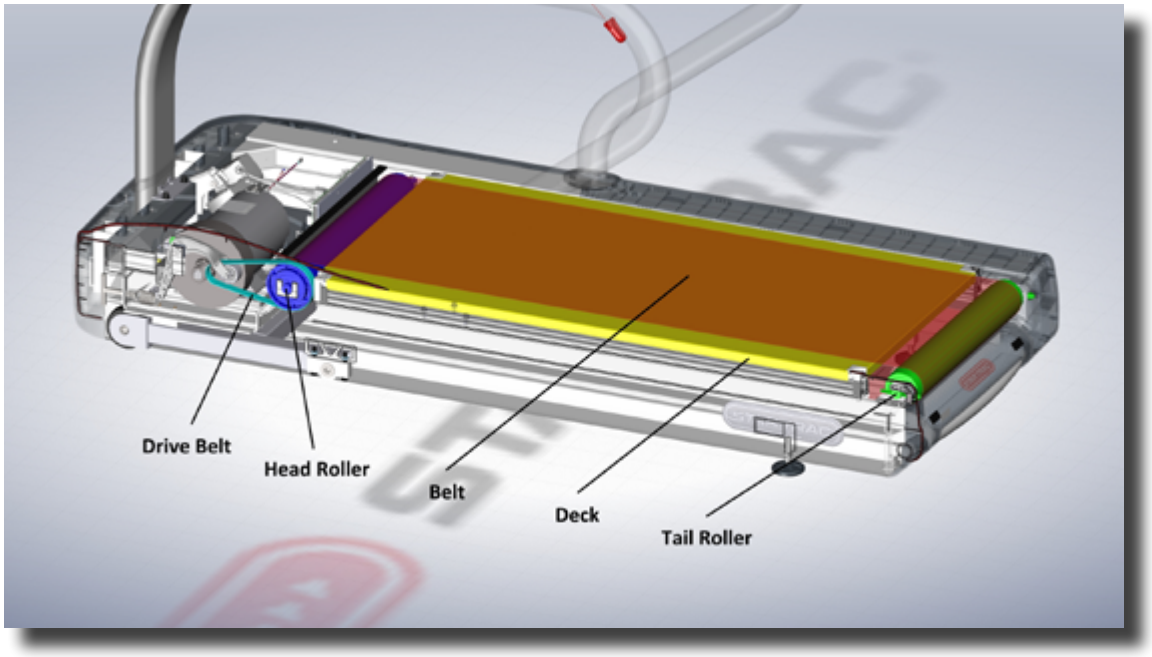
110V Version - Part # 220-0278
220V Version - Part # 220-0277

Pinout



All US units in this manual come with one of the cords shown above or equivalent. Complete list of alternate cords is below:

220-0270	US	ADAPTER, CORD LINE, NEMA 5-15
220-0271	US	ADAPTER, CORD LINE, NEMA 6-15
220-0272	EU	ADAPTER, CORD LINE, CEE 7/7
220-0273	UK	ADAPTER, CORD LINE, BS1363
220-0274	AS/NZS	LINE CORD 220V,IEC-AS/NZS3112
050-0235	China	ADAPTER, CORD LINE, BBS 1363
220-0291	Brazil	LINE CORD, 220V, NBR-14136
700-0136	Israel	KIT, LINE CORD, DOCS, ISRAEL, S-TR



Belt/Deck Detail

Belt & Deck System

The belt and deck system is the main function of the treadmill. The drive belt connects the drive motor to the head roller. The tail roller is used for tensioning and tracking of the running belt. The running belt goes around the two rollers and the deck. The deck is the hard surface that the running belt slides on. The user runs on the belt and deck which are wear items.

You must install a new running belt and new deck surface together. Most Startrac decks are double-sided so they can be flipped to utilize both sides. Failure to install a new running belt over a fresh deck surface will cause the running belt to burn along the center walking area, the edges will curl, electrical components will create so much heat as to begin to fail, and damage will not be covered under warranty. If replacing a deck due to wear, it is advisable to replace the running belt as well, because wear is commonly caused in conjunction with the running belt.

During a non-belt and/or deck related service, if a running belt and/or deck are removed, it may be acceptable to re-install the belt and deck as long as no visible signs of wear are present or the situation does not require replacement.

If you have questions on whether or not to replace a running belt and/or deck, contact Customer Support. Components of the belt & deck system include the following parts:

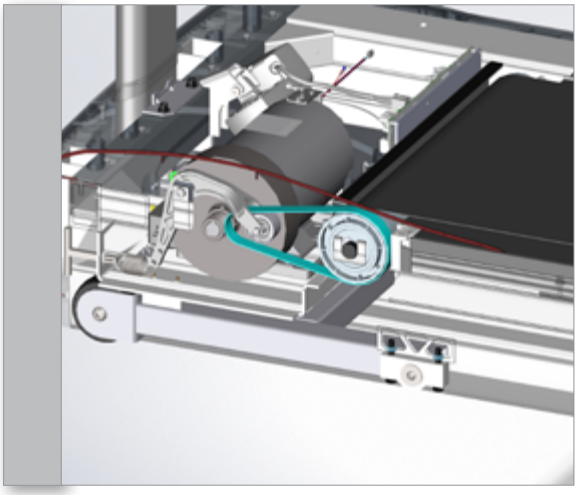
Drive Belt

All

8-TRx, 8-TRx
Part # 130-1695

8-TR, E-TR, & GEN 2 S-TR, S-TRc, S-TRx
Part # 130-0121

GEN 1: S-TR, S-TRx, S-TRc
Part # 130-0120



Head Roller

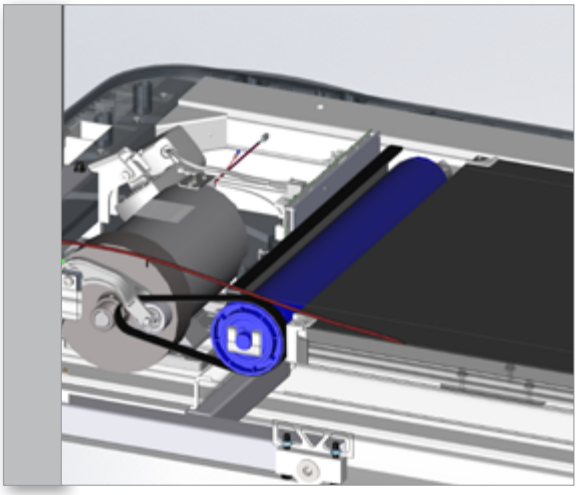
All

8-TRx, E-TRx
Part # 715-3637

E-TR, & 8-TR, & GEN 2 S-TRc
Part # 740-8421

GEN 1: S-TR, S-TRx, S-TRc
Part # 740-6055

GEN 2: S-TR, S-TRx, S-TRc
Part # 715-3897



Running Belt

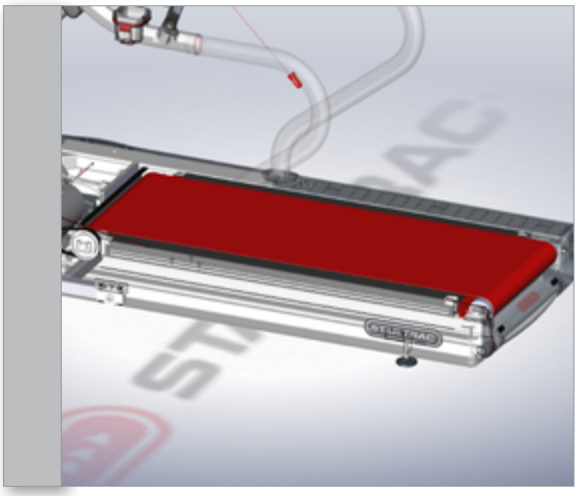
All

8-TRx, 8-TR, E-TRx, & E-TR
Part # 130-1759

GEN 1: S-TR, S-TRx, & S-TRc
Part # 130-1708

Note: Click Here for units prior to serial TRSC1307-L01095 (110V) or TRSC1306-L01000 (220V)

GEN 2: S-TR, S-TRx, & S-TRc
Part # 740-6174



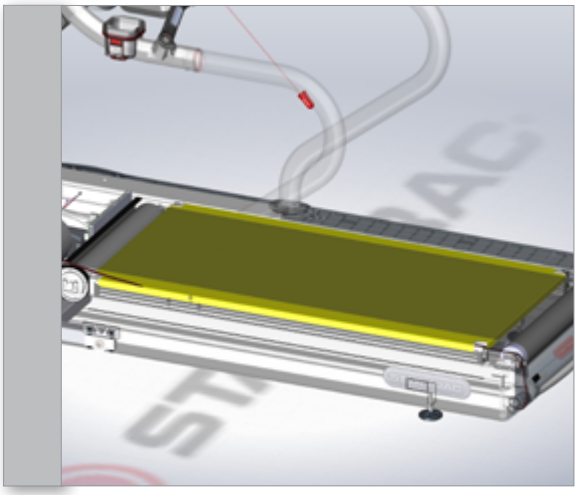
Deck

All

8-TRx, 8-TR, E-TRx, & E-TR
Part # 715-3689-KT

GEN 1: S-TR, S-TRx, & S-TRc
Part # 800-3874

GEN 2: S-TR, S-TRx, & S-TRc
Part # 715-3689-KT



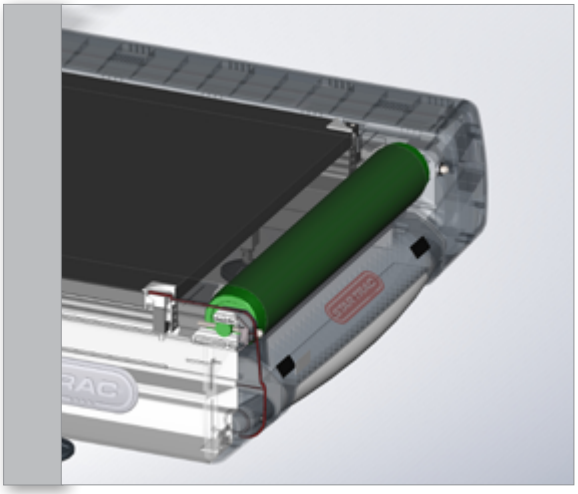
Tail Roller

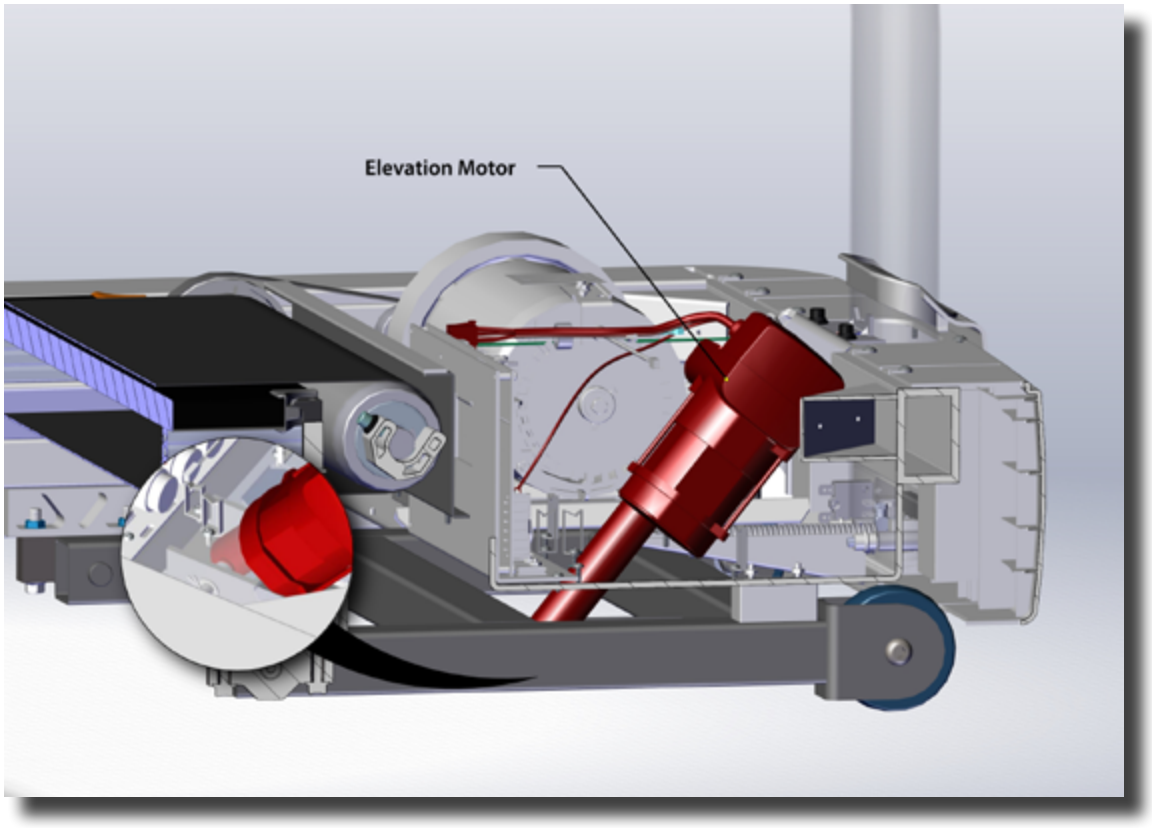
All

8-TRx, 8-TR, E-TRx, & E-TR
Part # 715-3635

GEN1: S-TR, S-TRx, S-TRc
Part # 740-6056

GEN 2: S-TR, S-TRx, S-TRc
Part # 715-3695





Elevation Detail

Elevation System

The elevation system controls the incline of the treadmill. Components include the display electronics, Data Cable, MCB, & Elevation Motor which includes the Elevation Sensor (Potentiometer)

Elevation Motor

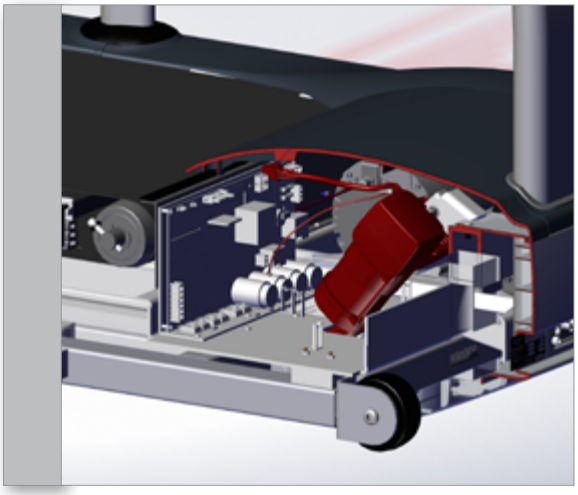
All

8-TRx & E-TRx
110V Version Part # 260-0941
220V Version Part # 260-0942

8-TR & E-TR
110V Version Part # 740-8415
220V Version Part # 740-8440

S-TR, S-TRx, S-TRc
GEN 1 110V Version Part # 740-6005
GEN 1 220V Version Part # 740-6006

S-TR, S-TRx, S-TRc
GEN 2 110V Version Part # 260-0950
GEN 2 220V Version Part # 260-0951



Wiring Diagrams

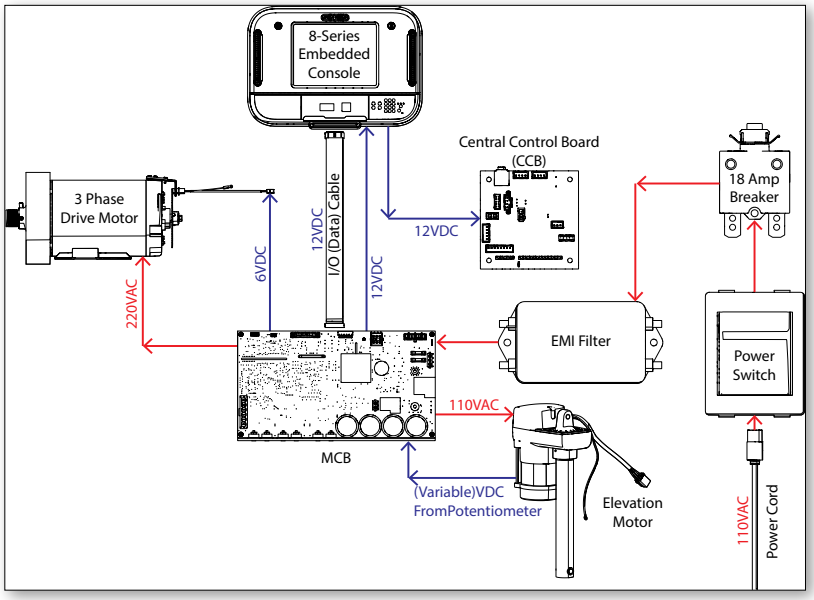
The power flow is generally the same across all versions of treadmill in this manual. The 8-Series treadmills are used for examples. For specific differences across models, open the wiring diagram for the specific unit below. For additional information about the wiring, signal and power flow on the 8-Series OpenHub consoles, please refer to the OpenHub Service Manual.

Embedded Screen Treadmill Power Flow

110V Version

Click on an icon to open the diagram in a new window. Click the ↑ button in the upper right to close the new view and return to the service manual.

Note: these buttons will not work in a browser window. ***Right click > Save As*** *or click the button in your browser to save this manual to your PC.*



8 Series Diagrams

8-TRx - 110v Base

8-TRx - 220v Base

8-TRx - LCD Display

8-TRx - Embedded Display

8-TRxi (Israel) - 220v Base

Click on an icon to open the diagram in a new window. Click the ⓘ button in the upper right to close the new view and return to the service manual.

Note: these buttons will not work in a browser window. **Right click > Save As** *or click the*  *button in your browser to save this manual to your PC.*

E-Series Diagrams

E-TRx - 110V Base (18A Standard)

E-TRx - 220V Base

E-TRx LED Display

E-TRx Embedded Display

E-TRx - 110V Base (14A Variant)

E-TRx Embedded Display (Heartrate Detail)

Entertainment

E-TRx - MyE

E-TRx – MyE PVS

E-TRx - PVS

E-TRx - Updated MyE G1

E-TRx – Tatung PVS

E-TRx – MyE G2

Click on an icon to open the diagram in a new window. Click the ⓘ button in the upper right to close the new view and return to the service manual.

Note: these buttons will not work in a browser window. **Right click > Save As** *or click the*  *button in your browser to save this manual to your PC.*

S-Series Diagrams

S-TRx - 110v Base

S-TRx - 220v Base

S-TRx - LED Display

S-TRc - 110v Base

S-TRc - 220v Base

S-TRc - LED Display (with C-Safe)

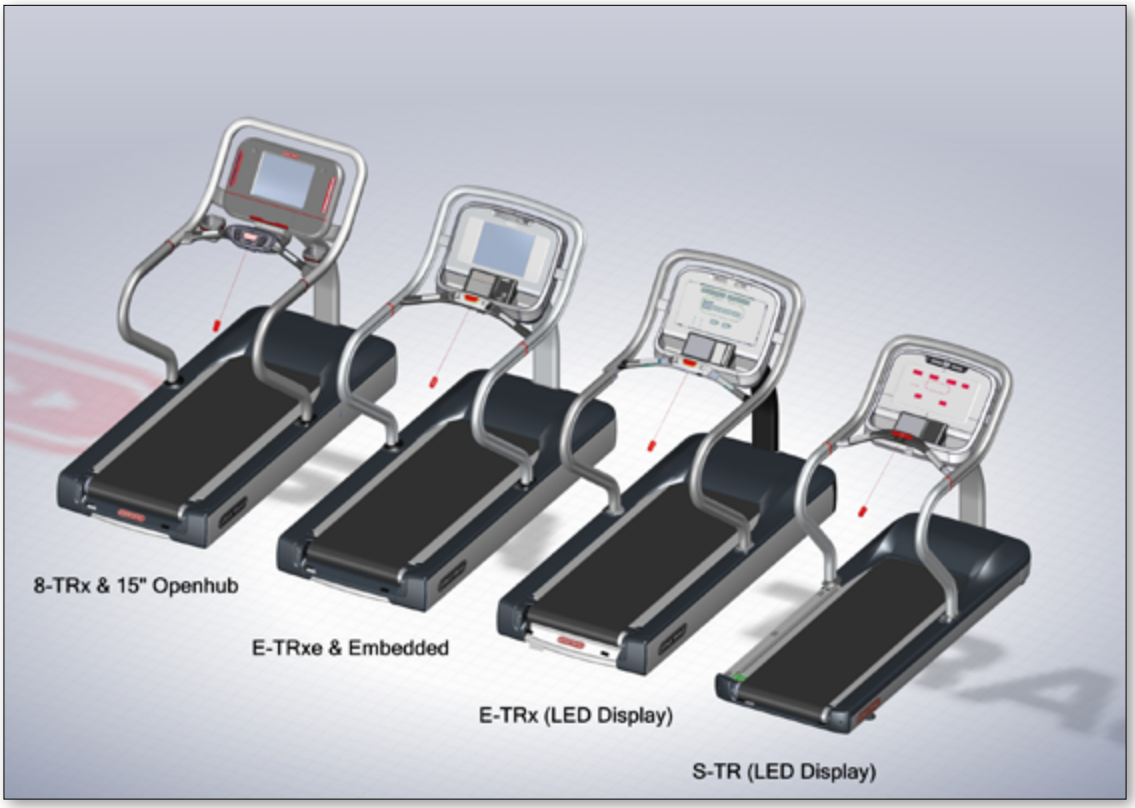
S-TRc - LED Display (no C-Safe)

S-TRci (Israel) - 220v Base

S-TRci - Display

Entertainment

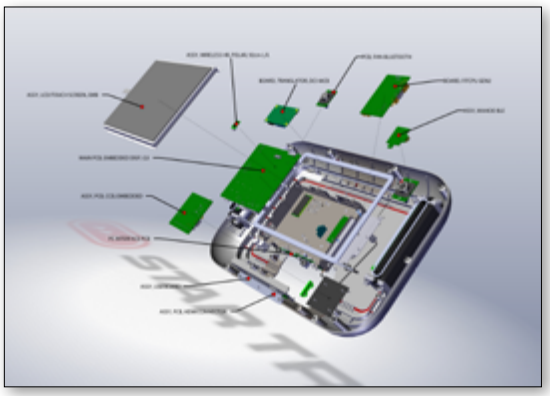
S-TRci - MyE PVS



The 8 Series treadmills in this manual use the OpenHub consoles. Although the 15" Embedded version is pictured above, the OpenHub also includes other variations for embedded and LCD screens. Complete details on the OpenHub manuals as well as all troubleshooting for them are located in the OpenHub Service Manual.

The console controls and commands most of the functions of the treadmill. It is the user interface and the brain of the treadmill. The console itself consists of the "Display Electronics", the "Data Cable" and one or more keypads.[1]

Console Boards
Not all consoles have all boards, please check the console diagrams for your specific unit. Various boards within consoles perform the following functions:



Console Detail (OpenHub 15" Embedded shown)

1 For a complete guide to identify keypads, please see: Secondary Keypad Options on page 37

Embedded Computer / Display Electronics (Main PCB)	• +11 volts input supplied by MCB/LCB • Microprocessors for display software • All calculations processed from display software (speed/ distance/ calories/ heart rate features/ incline percentage/ users program control/ etc.) • Communicates RPMs in PWM format when commanding the MCB to generate speed • Processes speed to MPH calibration and store the values • Retrieves the speed sensor signal from the MCB (sensor feedback for speed calculation) • Output voltage to heart rate control board • Output C-Safe voltage for Cardio Theater, Broadcast Vision, Fitlinx, etc. • Input signal for uploading display software • Stores maintenance mode parameters • Stores manager mode settings
Wireless Heart Rate (HR)	• Wiring from HR contact board on Fit CPU to HR grip plates • HR contact board & wireless HR Polar board
Translator Board	• Process MCB commands for Fit CPU • Analog to digital converter • Elevation controller • Converts serial communication to PWM signal • Process RPM from MCB so Fit CPU can measure speed
Fit CPU	• Microprocessor for Fit CPU software • Link between converter board and Fit CPU • All calculations determined from display software (speed/ distance/ calories/ heart rate features/ incline percentage/ users program control/ scales functions/ etc.) • Processes speed to MPH calibration and store the values • Retrieves the speed sensor signal from the Translator board (sensor feedback for speed calculation) • Input Heart Rate Signal for contact board and, or wireless Polar signal • Input signal for uploading Fit CPU software • Fan controller and power • Emergency stop controller
Center Console Board (CCB)	• HDMI and USB link to computer interface • Provides power to USB port • Process RPM from MCB so Fit CPU can measure speed • Detects all key strokes • Audio output connections
Fan Control/Bluetooth Receiver	• Fan keypad signal control • Link with FitCPU and CCB • PC Interface board to Main PCB to control the 2 fans • Bluetooth to Main PCB
USB/HDMI Boards	• Interface through PC Interface Board to CPU • Individually replaceable

Console Sub-Systems
The console is responsible for interactions with the following 5 sub-systems:

- Treadmill Operation: The functions and components that the user interacts with while working out on the treadmill. Includes:
  - Main Keypad (Display Panel)
  - Display Electronics
  - Data Cable

- Watch Dog: The watch dog is the circuit/software inside the display electronics that monitors the different systems in the treadmill. If there are any anomalies, the watch dog triggers any of the various codes that will show up on the screen.
- Personal Cooling Fans
- Heart Rate: The users have 2 types of heart rate to use, contact or Polar. Contact heart rate is used by grabbing onto to the metal contacts on the hot/warm bar. Polar is a wireless system that requires the user to wear the Polar chest strap.
- Hot Bar/Warm Bar: The Hot/Warm bar is the bar that is right in front of the user that has multiple functions and components. A bar is a **Hot Bar** if it includes machine controls (see below).

Hot Bar Example

Warm Bar Example

a. Hot Bar Components:
   1. *Stop Button*
   2. *Emergency Stop (lanyard)*
   3. *Contact Heart Rate Grips*
   4. *Speed Control*
   5. *Elevation Control*
   6. *Headphone jack (for units with entertainment)*

b. Warm Bar Components:
   1. *Stop Button*
   2. *Emergency Stop (lanyard)*
   3. *Contact Heart Rate Grips*

E-Series & S-Series Consoles

Embedded Console

Both E & S Series units use this console

Part # 715-3883

LED Console

S Series Only

Part # 740-6041

LED Console

E Series Only

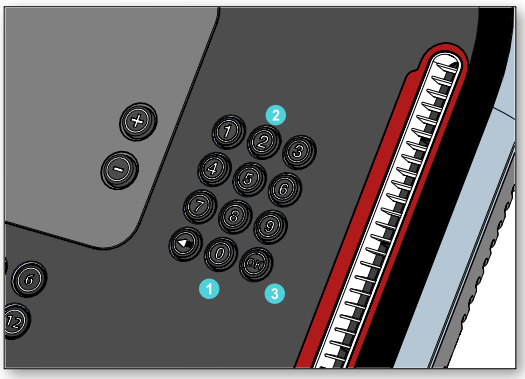
Part # 715-3734

Maintenance Mode allows access to service and diagnostic information, as well as provides the ability to adjust certain program default parameters that alter how the treadmill performs. Embedded displays and E-Series LED's also have a reduced option "Manager Mode" intended for settings that can be changed for the club/facility or country for which the treadmill has been installed.

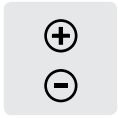
LED Consoles

To enter Maintenance Mode:

1. Press and hold the 0, 2 and OK keys together.
2. A beep will sound and "MAINTENANCE MODE" will display momentarily in the Information Window.
3. Release all keys. "SERIAL NO #####" will display in the Information Window.



The following keys are available in MAINTENANCE MODE:



Increase and Decrease LEVEL Keys: Adjust the value of the displayed parameter up and down, respectively, in increments of 1 unit (OpenHub) or Navigate between different console settings (E-Series & S-Series). These keys do not save the new value - see OK Key below.

Note: In older StarTrac documentation, you will also see these keys represented by the following icons:

Increase and Decrease SPEED Keys (**E Series & S Series**): Adjust the value of the displayed parameter up and down, respectively, in increments of 1 unit. These keys do not save the new value - see OK Key below.

Numeric Keypad: Allows you to enter specific values for numeric parameters. These keys do not save the new value - see OK Key below.

OK Key: Updates (saves) the values of all parameters in non-volatile memory, and exits Maintenance Mode.

STOP/Pause Key (**E Series & S Series**)**:** is used to exit a sub-menu or exit the maintenance mode.

NOTE: To exit Maintenance Mode without saving any values or settings, press the QUICK START key.

The Maintenance mode has a 30 second time limit after the last key has been hit. After 30 seconds, it will automatically exit the Maintenance Mode.

8 Series: A complete list of the items that you may display and change in Maintenance Mode:

Item	Min	Max	Default	Notes
Vx.xx Sum	N/A	N/A	V958 6C92FBD4	
Update software	N/A	N/A		Update console software via USB
contrast	0	100	100	Display contrast setting
backlight	10	200	200	Display backlight setting
WD	N/A	N/A	on/off	
pd time	N/A	N/A	on/off	Person Detect
Burn in mode			N/A	(Manufacture Only)
Elev Calibration				Elevation calibration function
motor calibration				Motor calibration function
cal values				Resets Console to default factory settings
error list				List of last errors
error stats	N/A	N/A		Count of errors
serial # port tests	N/A	N/A		Access to Serial Port Test function
heartrate test	N/A	N/A		Access to Heart Rate System Test function
keypad test	N/A	N/A		Access to Keypad Test function
display test	N/A	N/A		Access to LCD Test function
program stats	N/A	N/A		Access to program usage counts
last belt	0	65,535	0	Number of miles since belt was last replaced
last deck	0	65,535	0	Number of miles since deck was last replaced
model	N/A	N/A	1 or 2	Choose Model 1 for 8-TR, Model 2 for 8-TRx
deccel time	0	60	25	
accel time	25	60	30	

Item	Min	Max	Default	Notes
max speed	5.0/5.0	15.0/24.0 (12.5/20.0 for 8-TR)	12.5/20	Max speed (MPH/KMH)
min speed	0.5/0.8	2.0/3.2	0.5/0.8	Min speed (MPH/KMH)
lockout ID	1	999	999	Treadmill lockout ID
Lockout EN	-	-	OFF	Enable or disable treadmill lockout
Csafe	-	-	OFF	Turns CSAFE function ON or OFF
Elevation	-	-	ON	Enable/Disable Elevation function
Ant +	-	-	OFF	Turns ANT PLUS function ON or OFF
Auto fan	-	-	ON	Turns AUTO FAN function ON or OFF
Pause time	30	120	45	Pause duration, in seconds, during a program
Mets	-	-	OFF	Enable/Disable METS display
Lang	-	-	english	Language is English (ENGL), German (GERM), Spanish (SPAN), Dutch (DUCT), Portuguess (PORT), French (FREN), Italian (ITAL), Swedish(SWED), Katakana (KATA) or Russian (RUS).
Weight	50	500/226	155/70	Default user weight used in calorie calculations if not entered by user (lbs/kg)
Max time	5	99	99	Max workout time allowed
units	-	-	english	English = pounds, feet; Metric = kilograms, meters
distance	0	65,535	0	Total distance (miles) since last reset
Op hours	0	65,535	0	Total operating hours since last reset
serial #	-	-		

E-Series & S-Series: A complete list of the items that you may display and change in Maintenance Mode:

Item	Description
MC1	This is the version of the "Primary" software in the display. It will show the version of software as well as the Check Sum number. Example: MC1 V1.82A CKSM 1F2E. This setting is fixed.
MC2	This is the version of the "Secondary" software in the display. It will show the version of software as well as the Check Sum number. Example: MC2 V1.32A CKSM AFD6. This setting is fixed.
Serial Number	This is the last five digits of the serial number. It is used for reference only and does not have any warranty implications and is set manually.
Operating Hours	This is the number of hours the product has been used. (Logged)
Distance Logged	The number miles (km) that the treadmill has gone. (Logged)
Units	Shows which unit of measurement is being used. Options are: • English (mph) • Metric (km/h)
Time	The maximum number of minutes that a program can run. The time my may changed by the facility. The range is from 5 – 99.
Weight	The default weight of a user when the 'Quick Start' program is used. This value is used in the calorie count algorithm and can be changed.
Language	The user interface language. The options are: Set A – English, Spanish, French, German, Portuguese Set B – English, Dutch, Swedish, Italian, Katakana
METS	A MET is a "Metabolic Equivalent" which is another way of measuring exercise effort. This option can be turned 'on' or 'off'.
Pause Duration	The amount of seconds that the pause mode will last. The options are: • 30 • 45 • 60 • 90 • 120
Auto Fans	Auto Fans will turn the fans on automatically at after one minute into the work out. This function can be turned 'on' or 'off'.
Elevation	This settings allows the elevation to be turned off (if there were an issue) so users can still run on treadmill. This function can be turned 'on' or 'off'.
Auto Stop	This option must always be set to OFF. Turning this option 'on' may cause the running belt to stop on users prematurely. This is a testing value and should not be used.

Item	Description
CSAFE	Allows the CSAFE port to be turned on for external systems like Fitlinxx. This option can be turned 'on' or 'off'.
PVS	Valid only on Version 1 PVS screens. The setting has fixed options which can be changed.
Lock Out	The lock out function allows the treadmill to be disabled unless the Lock Out ID code is entered. This function can be turned 'on' or 'off'.
Lock Out ID	This is the Lock Out ID code used to make a treadmill functional if the Lock Out is turned on. The default Lock Out ID is 54321 and can be changed.
Minimum Speed	This determines what the minimum start up speed will be. The range can be set between .5 mph – 2.0 mph (.8 km/h - 3.2 km/h)
Maximum Speed	This determines what the maximum speed will be. The range can be set 5.0 mph – 15.0 mph (5.0 km/h – 24.0 km/h)
Acceleration Time	This determines the amount of time, in seconds, that it takes the running belt to go from the minimum speed to the maximum speed. The range can be set 25 – 60.
Deceleration Time	This determines the amount of time, in seconds, that it takes the running belt to go from the maximum speed to stop. The range can be set 20 – 60.
Model	Should be set to the model of the treadmill for which the display is on. This will automatically set some of the key settings to for the model to which it is set.
Date	This should be set to the month and year that the treadmill was manufactured. Example: 12.10 would be December 2010. It is used for reference only and does not have any warranty implications and is set manually.
Stop Switch	This must always be set to 'E-STOP'. If set to 'Lanyard', the treadmill will not function. This is a testing value and should not be used.
Last Deck	This is the number of miles or km since the deck has been flipped or replaced. **This is for reference only and must be manually reset each time.**
Last Belt	This is the number of miles or km since the running belt has been replaced. **This is for reference only and must be manually reset each time.**
Program Stats	Programs Stats has a sub-menu containing all the programs and the a counter for how many times each program has been used. The list of available programs depends on model. The programs are: • Quick Start • Manual • Alpine Pass • Random Hill • 5K Loop • Dynamic HR • Constant HR
LED Test	This is a test used to verify that all the LED (lights) on the display are operational. When toggled, all lights on the display will turn on.

Item	Description	
Keypad Test	This is a test used to verify that all the keys are responding on the display. When toggled, every subsequent key press will display the name of the key on the display.	
Heart Rate Test	This is a test used to verify that the contact and/or telemetry heart rate is working.	
Serial Port Test	Manufacture test only.	
Error Stats	Error Stats has a sub menu containing all the error codes and a counter for how many times each error code has occurred. The errors are: • Key Down • Check Motor System • Check Speed System • No Rail Stop • Speed Change • Elevation Stall • Elevation Range • Elevation Lost • Fuse Bits Error	
Last Error List	The Last Error List has a sub menu that displays the last 5 errors that have occurred on the treadmill as well as other details about how the treadmill was performing at the time of the error.	
Calibration Values	Calibration Values has a sub menu of settings that are related specifically to elevation or speed calibration.	
	10 Rev	This the distance (in inches) that the running belt moves for ever ten rotations of the flywheel. This number is critical for accurate speed calculations.
	CNT/RV	This is the number of counts (of the RPM sensor) that equal one revolution of the flywheel (which is 31). This number must never change.
	Minimum PWM	This is the PWM number at the minimum speed. This number is set automatically during motor calibration.
	½ Maximum	This is the PWM number at half the max speed. This number is set automatically during motor calibration.
	Maximum PWM	This the PWM number at the maximum speed. This number is set automatically during motor calibration.
	Person Detect 1	This setting has no function.
	Person Detect 2	This setting has no function.
	Person Detect 3	This setting has no function.
	Elevation Zero	This is the incline value of the elevation motor at 0% elevation. It can be manually adjusted.
	Elevation Max	This is the incline value of the elevation motor at max elevation. It can be manually adjusted.

Item	Description
Motor Calibration	This is the calibration program that is run to calibrate the drive motor for steady transitions between speeds.
Elevation Calibration	This is the calibration program that is run to calibrate the minimum and maximum calibration values.
Burn In Mode	Manufacture test only.
CCB	When a PVS CCB is properly connected, the version of software in the CCB will be display.
USB	When a PVS CCB is properly connected, the version of software for the USB is displayed.

Manager Mode (E-TR & E-TRx Only)

From the idle screen (unit is powered on but not in a program), press and hold the 0, 1 and OK keys together. The word "MANAGER" will temporarily show in the marquee window and then go to the first setting. The Manager Mode has only limited settings to change where the Maintenance Mode contains all available settings.

Touchscreen & OpenHub Consoles

To enter maintenance mode on a 15" touchscreen display, simultaneously press the Vol UP, Channel UP and the number 3 on the media center keypad.

To enter maintenance mode on the 10" touchscreen display, in sequence press the top left corner, then center of screen, then top left corner.

The maintenance menus for the touchscreen displays contain many of the same options as for the LCD displays, as well as a few extra options related directly to touchscreens, such as touchscreen calibration. A limited Manager Mode is also available on the touchscreens.

Refer to the OpenHub Service Manual for more information and complete instructions on maintenance and manager mode.

SERVICE MENU

To access Service Menu options:

1. While in Home Screen, press "**VOL Up, CH/TRK Up, and 3**" simultaneously. W
2. Service Menu will now be displayed.
3. Select a sub-menu from the list (i.e. Maintenance Mode), a pop up window appears requesting a Password.

4. Enter password **218** to gain access to the sub-menu (i.e. Maintenance Mode).

MAINTENANCE MODE

While in Maintenance Mode, the following information can be accessed and/or modified:

- **SW versions** - The latest software version loaded in the system. The abbreviation of the versions are as follows:
  - G = GUI (Graphical User Interface) Software version
  - CV = Cardio Vascular Software version
  - FT = FIT CPU Software version
  - CCB = CCB (Center Control Board) Software version
  - xCB = Translator Board Software version on Treadmills; LCB Software version on Bikes/TBT/Stepper
- **Serial Number** - The last five digits of the display serial number.
- **Model** - The product type (treadmill, bike, etc.).
- **Units** - The units of measurement (English or Metric).
- **Language** - The language that the messages are displayed in.
- **Max Time** - The maximum time allowed for a single workout.
- **Weight** - The default user weight used for Quick Start programs.
- **Oper Hours** - The cumulative amount of usage hours.
- **Dist Logged** - The cumulative distance logged.
- **METs Display** - Allows the manager/owner to select the METs Availability (ON or OFF).
- **Pause Time** - Allows the manager/owner to select the length of the pause (30, 45, 60, 90, or 120 seconds).
- **Auto Fan** - Allows the manager/owner to select the Auto Fans Functionality (ON or OFF).
- **Lock Out** - Allows the manager/owner to select the Lock Out Function (ON or OFF).
- **Lock Out ID** - Allows manager/owner to set a password for the Lock Out feature.
- **Max Speed** - English (From 5.0 to 15.0) or Metric (From 5.0 to 24.1).
- **Accel Time** - Allows the manager/owner to set the Acceleration Time of treadmill (From 25 to 60 seconds).
- **Decel Time** - Allows the manager/owner to set the Deceleration Time of treadmill (From 20 to 60 seconds).
- **Club ID** - Allows the manager/owner to set a Club ID.

The new elevation calibration procedure[1] is used to calibrate 8 Series (LED Screens), E-Series and S-Series (LCD Screens) treadmill elevation. The procedure replaces the earlier procedure where specific values needed to be entered. For complete details on embedded screen maintenance modes, see the OpenHub Service Manual. Embedded Calibration instructions are the same for all units.

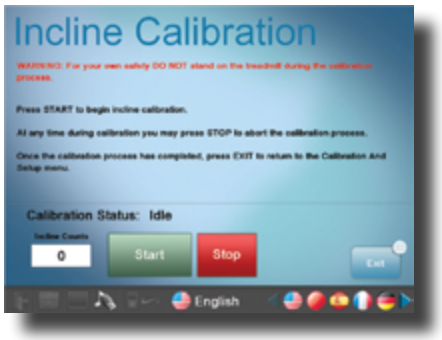
Warning: Belt in motion is dangerous

Do not stand on or straddle belt during a calibration procedure.

Embedded Screen Elevation Calibration Procedure

Calibrates the incline of the treadmill:

1. While in Home Screen, press "**VOL Up, CH/TRK Up, and 3**" simultaneously.
2. Service Menu will now be displayed.
3. Select the Calibration and Setup sub-menu from the list
4. Enter the password **218** on the pop up window requesting a Password.



5. Select Incline Calibration on the Calibration and Setup screen.
6. Press **START** to begin the calibration.
7. After the Incline Calibration is completed, press **EXIT**; The Calibration And Setup screen appears.
8. Press **Cancel** to exit and go back to the Home Screen.
9. The Incline Calibration has been completed.

1 Procedure is duplicated from https://support.corehandf.com/637-8469, check online for any updates after publication.

8 Series & E Series LED/LCD Elevation Calibration Procedure

1. From the idle screen (unit is powered on but not in a program), press and hold the 0, 2 and OK keys together.

2. The word "MAINTENANCE" will temporarily show in the marquee window, then go to the first setting.

3. Press the  until the marquee window reads "MODEL". Verify that the model shown on the right side of the information window matches the base it is installed on (i.e. 8TR vs 8TRx).

   Note: If the model is not correct use the  to toggle between model types then press OK when the correct one is showing.

4. Press the ↓ until the marquee window reads "ELEVATION CALIBRATION", then press OK. The information window will display the message "USE INCLINE +/- TO MOVE ELEVATION"

5. Press the ↓ key until the treadmill stops at its lowest elevation.
6. Press the ↑ lowering the elevation count on the information screen by 3-4 numbers, which will slightly raise the treadmill.

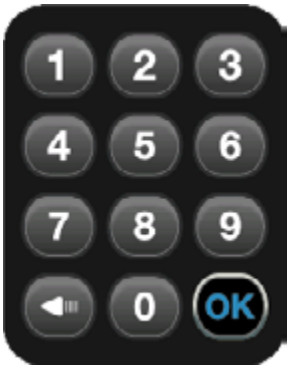
   ***Example**: if the elevation number stops at 232, then press the incline button until the elevation number reads 229 or 228.*
7. Press 1. to save the minimum elevation.

8. Press the ↑ key until the treadmill stops at its highest elevation.
9. Press the ↓ raising the elevation count on the information screen by 3-4 numbers, which will slightly lower the treadmill.

   ***Example**: if the elevation number stops at 8, then press the incline button until the elevation number reads 11 or 12.*
10. Press 2. to save the maximum elevation.
11. Press the STOP twice to return to the user screen.
12. To verify treadmill functionality, use quickstart to start the unit. With unit in motion, elevate the unit to the maximum, then wait 10 seconds. Then return to minimum and wait another 10.

S Series Elevation Calibration Procedure

1. From the idle screen (unit is powered on but not in a program), press and hold the 0, 2 and OK keys together. "MAINTENANCE" will scroll across the display.



2. Press 8 to enter into Motor Test mode, which will display MTT

3. Use the elevation up key to raise the treadmill until it stops.

4. Press the 0 key to toggle between upper and lower elevation settings. When adjusting the upper limit, the line should be at the top.

5. With the treadmill elevated at its highest point, use the elevation down key to lower the treadmill 4 numbers from its high point reading. This will increase the number displayed (i.e. decreasing elevation will display from 30 to 34).

6. Press the Burn Calories button to save the upper limit, the display will say UPDATING.

7. Press the 0 key to toggle between upper and lower elevation settings. When adjusting the lower limit, the line should be at the bottom as shown.

8. Press the elevation down key to lower the elevation until it stops.

9. With the treadmill lowered at its lowest point, use the elevation up key to raise the treadmill 4 numbers from its low point reading. This will decrease the number displayed (i.e. increasing elevation will display from 236 to 232).

10. Press the Burn Calories button to save the lower limit, the display will say UPDATING.

11. Now the upper and lower limits have been set, the elevation is calibrated. Press the STOP twice to return to the user screen.

Embedded Screen Speed Calibration Procedure

Calibrates the speed of the treadmill:

1. While in Home Screen, press "**VOL Up, CH/TRK Up, and 3**" simultaneously.
2. Service Menu will now be displayed.
3. Select the Calibration and Setup sub-menu from the list
4. Enter the password **218** on the pop up window requesting a Password.

5. Select Speed Calibration on the Calibration and Setup screen.
6. Press **START** to begin the calibration.
7. After the Speed Calibration is completed, press **EXIT**; The Calibration And Setup screen appears.
8. Press **Cancel** to exit and go back to the Home Screen.
9. The Speed Calibration has been completed.

All LED/LCD Console Speed Calibration Procedure

1. From the idle screen (unit is powered on but not in a program), press and hold the (0), (2) and (OK) keys together.

2. The word "MAINTENANCE" will temporarily show in the marquee window, then go to the first setting.

3. Press the  until the marquee window reads "SPEED CALIBRATION", then press (OK). Belt will start to move.

4. When calibration is complete press  twice to exit completely out of the Maintenance Mode.

5. To exit completely out of the Maintenance Mode, press  twice.

For troubleshooting steps on any failure point see Troubleshooting Triage.

LCD Consoles - All Versions

Error Code	System	Possible Failure Points
Key Down	Display System	• User presses and holds a key for more than 20 second. • A key on the main keypad is stuck. • The 'Quick Start' or 'Stop' key on the small keypad is stuck. • The speed and/or incline controls on the hot bar are stuck (8-TR/8-TRx, and 8G only) • The fan keypad is stuck.
CHK MTR	Drive System Belt and Deck System Power System	• The running belt and deck are dirty or worn. • The treadmill is not on a dedicated circuit or power from wall is not sufficient. • Bleeder wire is broken or missing.
CHK SPD **SP Change**	Drive System	• RPM sensor gap is too big. • RPM sensor is not plugged in to the MCB. • RPM sensor is not completely plugged into the MCB. • MCB is not sending power to the RPM sensor.
Rail Stop	Hot bar	• Emergency stop switch depressed. • Emergency stop switch failure or corrosion. • Emergency stop switch wire harness failure or corrosion.
ELV Stall	Display System Elevation System	• The display cable is damaged. • The display electronics are faulty. • The Elevation 0% incline number is set too low. • The Elevation Max number is set too high. • The elevation motor has over heated. • The elevation is below 0%. • Check potentiometer.
ELV Range	Display System Elevation System	• The display cable is damaged. • The elevation sensor (potentiometer) is damaged.

Error Code	System	Possible Failure Points
ELV Lost	Display System Elevation System	• The display cable is damaged. • The elevation motor is not plugged in to the MCB. • The elevation sensor (potentiometer) is damaged.
LCB Comm **Console is having difficulty communicating with lower board**	Display System Lower Board	• Console firmware needs to be updated to the latest version. • Correct unit model needs to be selected in the service menu. • Lower board needs the latest firmware update via FISP. • Lower board to console wire harness is damaged or not fully connected. • Lower board failure. • Console failure. • Related docs: 637-4297
Treadle ERR **(Treadclimbers only)**	Drive system Lower board failure	• Treadle optical sensors • Treadle optical sensor wire harness • Lower board. • This error can be triggered as a user walks and the range of motion is limited which prevents one of the optical sensors from triggering. This is a soft error that will not interrupt user operation – see 637-1534.
Batt Low	Power system	• Battery is dead and needs to be charged. • Machine is not being used enough to keep battery charged. • Battery is not being sufficiently charged by drive system. • Battery wire harness is damaged or not fully connected.
SPM Overflow	Drive System Maximum steps per minute exceed maximum range for a specific level.	• Alternator • Alternator brushes • Speed sensor

Embedded Consoles - All Versions

Error Code	Name	Description	Diagnosis	Command Used
1	ERR_DISP_WATCHDOG_TIMEOUT	Display watchdog timeout. This is reported when there is no communication between the Display and the FitCPU for more than 2 seconds.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	FIT_ERROR
2	ERR_XCB_WATCHDOG_TIMEOUT	XCB watchdog timeout. This is reported when there is no communication between the FitCPU and the xCB for more than 2 seconds.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the xCB . 3) If the problem still persists change the comms cable.	FIT_ERROR
3	ERR_DISP_READY_TIMEOUT	Timeout waiting for touch display ready. This is reported when the FitCPU does not receive a touch ready message from the display during boot up.	(This error is currently disabled and will not be seen on any units)	FIT_ERROR
4	ERR_DISP_QRYID_RESP_TIMEOUT	Timeout waiting for query id response from display. This is reported when the FitCPU does not receive a query id response from the display during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	FIT_ERROR
5	ERR_ALL_QRYID_RESP_TIMEOUT	No query id response received from display or XCB. This is reported when the FitCPU does not receive a query id response from both the display and xCB during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cables between the FitCPU and the Display and xCB . 3) If the problem still persists change both of the comms cable.	FIT_ERROR
6	ERR_XCB_QRYID_RESP_TIMEOUT	Timeout waiting for query id response from XCB. This is reported when the FitCPU does not receive a query id response from the xCB during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the xCB . 3) If the problem still persists change the comms cable.	FIT_ERROR
7	ERR_INVALID_SYSTEM_COMBINATION,	Invalid display and XCB combination. This is reported when the FitCPU detects an invalid display and xCB combination during boot up.	(This error is currently disabled and will not be seen on any units)	FIT_ERROR
8	ERR_GUI_QUEUE_CREATE	Error creating GUI queue. This is reported when the computer has an internal error during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
9	ERR_FIT_FIFO_OPEN	Error opening Fit FIFO. This is reported when the computer has an internal error during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR

Error Code	Name	Description	Diagnosis	Command Used
10	ERR_FIT_FIFO_READ	Error reading Fit FIFO. This is reported when the computer has an internal error during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
11	ERR_CV_QUEUE_CREATE	Error creating CV queue. This is reported when the computer has an internal error during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
12	ERR_CCB_FIFO_OPEN	Error opening CCB FIFO. This is reported when the computer has an internal error during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
13	ERR_CCB_FIFO_READ	Error reading CCB FIFO. This is reported when the computer has an internal error during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
14	ERR_CCB_QRY_RESP_TIMEOUT	Timeout waiting for query id response from CCB. This is reported when the Display does not receive a query id response from the CCB during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms/power cable between the Display and the CCB . 3) If the problem still persists change the comms/power cable.	DISP_ERROR
15	ERR_CCB_READ_TIMEOUT	Timeout during EEPROM read from CCB. This is reported when the Display times out waiting for a read from the EEPROM on the CCB.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the Display and the CCB . 3) If the problem still persists change the comms cable.	DISP_ERROR
16	ERR_CCB_READ_FAILED	CCB reports EEPROM read failure. This reports an EEPROM read failure on the CCB.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the CCB.	DISP_ERROR
17	ERR_CCB_WRITE_TIMEOUT	Timeout while writing to EEPROM on CCB. This is reported when the Display times out waiting for a write to the EEPROM on the CCB.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the Display and the CCB . 3) If the problem still persists change the comms cable.	DISP_ERROR
18	ERR_CCB_WRITE_FAILED	CCB reports EEPROM write failure. This reports an EEPROM write failure on the CCB.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the CCB.	DISP_ERROR
19	ERR_CCB_INVALID_CONFIG	Invalid config data received from CCB. This reports that invalid configuration data was received from the CCB.	(This error is currently disabled and will not be seen on any units)	DISP_ERROR
20	ERR_CCB_INVALID_STATS	Invalid stats data received from CCB. This reports that invalid statistics data was received from the CCB.	(This error is currently disabled and will not be seen on any units)	DISP_ERROR

Error Code	Name	Description	Diagnosis	Command Used
21	ERR_FIT_DISP_READY_RESP_TIME-OUT	Timeout waiting for query id from FitCPU. This is reported when the Display times out waiting for a query id command from the FitCPU during boot up.	1) Re-boot the unit and see if the prob-lem goes away . 2) If the problem persists, check the comms cable between the Display and the FitCPU . 3) If the problem still persists change the comms cable . 4) If the problem still persists change the FitCPU board.	DISP_ERROR
22	ERR_DISP_STARTUP_TIMEOUT	Timeout during startup hand shaking. This is reported when the Display times out waiting for a go to idle com-mand from the FitCPU during boot up.	1) Re-boot the unit and see if the prob-lem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the xCB . Also check the comms cable between the Display and FitCPU . 3) Also check the error code that is being flashed on the FitCPU . It may be different than the one being displayed on the display . Check this error code in the error codes table . 4) If the problem still persists change both of the comms cable.	DISP_ERROR
23	ERR_FIT_WDG_RESP_TIMEOUT	Fit CPU watchdog response timeout. This is reported when there is no com-munication between the Display and the FitCPU for more than 2 seconds.	1) Re-boot the unit and see if the prob-lem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	DISP_ERROR
24	ERR_FIT_INVALID_PROG_PARAME-TERS	Fit reports invalid program parame-ters. This indicates that the program parameters were reported as invalid by the FitCPU.	1) Re-boot the unit and see if the prob-lem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	DISP_ERROR
25	ERR_FIT_INVALID_PROG_PROFILE	Fit reports invalid program profile. This indicates that the program profile was reported as invalid by the FitCPU.	1) Re-boot the unit and see if the prob-lem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	DISP_ERROR
26	ERR_FIT_DISP_OUT_OF_SYNC	Fit CPU and Display are out of sync. This is reported if the FitCPU and Display workout modes are not syn-chronized.	1) Re-boot the unit and see if the prob-lem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	DISP_ERROR

Error Code	Name	Description	Diagnosis	Command Used
27	ERR_FIT_PROG_PARAMETERS_RESP_TIMEOUT	Timeout waiting for a program parameters response from the Fit CPU. This is reported when the display times out waiting for a program parameters response from the FitCPU.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	DISP_ERROR
28	ERR_FIT_PROG_PROFILE_RESP_TIMEOUT	Timeout waiting for a program profile response from the Fit CPU. This is reported when the display times out waiting for a program profile response from the FitCPU.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	DISP_ERROR
29	ERR_GUI_QUEUE_WRITE	Error writing to gui queue. This is reported when the computer has an internal error.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
30	ERR_CV_QUEUE_WRITE	Error writing to cv queue. This is reported when the computer has an internal error.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
31	ERR_FIT_FIFO_WRITE	Error writing to Fit FIFO. This is reported when the computer has an internal error.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
32	ERR_CCB_FIFO_WRITE	Error writing to CCB FIFO. This is reported when the computer has an internal error	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
33	ERR_INVALID_PROD_ID	Invalid Product Id. This is reported if the product id is invalid.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, replace the computer.	DISP_ERROR
34	ERR_FIT_SET_MODE_TIMEOUT	Timeout waiting for the Fit CPU to change mode. This is reported when the Display times out waiting for the FitCPU to change to the specified service mode.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	DISP_ERROR
35	ERR_FIT_DURATION_RESP_TIMEOUT	Timeout waiting for duration response from Fit CPU. This is reported when the Display times out waiting for the FitCPU to respond to a new duration time command.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	DISP_ERROR
36	ERR_FIT_INVALID_DURATION	Fit CPU reports invalid duration setting. This indicates that the duration parameter was reported as invalid by the FitCPU.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the FitCPU and the Display . 3) If the problem still persists change the comms cable.	DISP_ERROR

Error Code	Name	Description	Diagnosis	Command Used
37	ERR_CCB_CONFIG_MSG_RESP_TIMEOUT	Timeout waiting for CCB config message response. This is reported when the Display does not receive a config message response from the CCB during boot up.	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the comms cable between the Display and the FitCPU . 3) If the problem still persists change the comms cable.	DISP_ERROR
38	ERR_MCB_INCL_CAL_VAL_OUT_OF_RANGE	Fit CPU reports MCB error status:- Incline calibration value out of range	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the Product Model in Maintenance Mode and ensure it is correct . 3) Re-calibrate the Incline.	FIT_ERROR
39	ERR_MCB_SPD_CAL_VAL_OUT_OF_RANGE	Fit CPU reports MCB error status:- Speed calibration value out of range	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the Product Model in Maintenance Mode and ensure it is correct . 3) Re-calibrate the Speed.	FIT_ERROR
40	ERR_MCB_SPEED_LOST	Fit CPU reports MCB error status:- Speed lost (RPM Sensor)	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the Product Model in Maintenance Mode and ensure it is correct . 3) Re-calibrate the Speed . 4) If the problem persists check the speed sensor . Rotate the flywheel on the motor and ensure that the speed sensor LED on the MCB blinks as the flywheel is moving.	FIT_ERROR
41	ERR_MCB_INCL_FDBACK_OUT_OF_RANGE	Fit CPU reports MCB error status:- Incline feedback out of range	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the Product Model in Maintenance Mode and ensure it is correct . 3) Re-calibrate the Incline . 4) If the problem persists, check to see that the Incline Counts value in the Incline Calibration Screen is changing during incline calibration . The Incline Counts should go down as the elevation goes up . 5) If the Incline Counts is not changing during calibration, then the cable from the elevation motor to the MCB should be checked . If the cable is OK then the elevation motor should be replaced.	FIT_ERROR

Error Code	Name	Description	Diagnosis	Command Used
42	ERR_MCB_INCL_STUCK	Fit CPU reports MCB error status:- Incline stuck	1) Re-boot the unit and see if the problem goes away . 2) If the problem persists, check the Product Model in Maintenance Mode and ensure it is correct . 3) Re-calibrate the Incline . 4) If the problem persists, check to see that the Incline Counts value in the Incline Calibration Screen is changing during incline calibration . The Incline Counts should go down as the elevation goes up . 5) If the Incline Counts is not changing during calibration, then the cable from the elevation motor to the MCB should be checked . If the cable is OK then the elevation motor should be replaced.	FIT_ERROR
43	ERR_MCB_UNKNOWN_ERROR	Fit CPU reports MCB error status:- Unknown error status from MCB	(This error is a place holder for future error codes from the MCB)	FIT_ERROR
255	ERR_E_STOP	Fit CPU detected emergency stop condition	1) Reset the E-Stop switch and the product will become operational again . 2) If the problem persists, check the cables/connections in the Hot Bar . Also check the e-stop cable from the Hot Bar that plugs into the FitCPU . 3) If the problem still persists check the comms cable between the FitCPU and the Translator Board . 4) If all of the above is OK then replace the Translator Board.	FIT_ERROR

This page lists out all procedures embedded in this manual. Use the icon to open the procedure in a new browser window. **Internet connection is required.**

Power Issues	Procedure	Link	Note
Understanding facility power requirements for treadmills	637-8490		
There is tension on the power cord, or the power cord pulls itself out over time	637-4340		E-Series Only
Selecting the correct replacement power cord on an 8 Series	637-8485		8 Series Only
The power cord is loose (E-TR & S-TRc only)	637-1589		
The power cord is loose (Other E-Series & S-Series)	637-1308		
Installing the IEC Power Cord Tension Relief kit on an E-TRx	637-4240		
The reset button on the warm bar is sticking	637-1347		
A 220v S-TRc manufactured in 2011 is failing auto-calibration or giving Check Speed System errors.	637-1407		

Mechanical Issues	Procedure	Link	Note
The drive motor is making a rumbling sound in use or the running belt has a jerky motion.	637-1327		
The drive belt walks itself off of a pulley	637-4389		
The drive belt is wearing down prematurely	637-1450		
Adjusting the head stop roller bracket (S-TRc Only)	637-1481		Serial prior to TRSC1207-L01000
Ordering the correct motor shroud for an E-TR 9-9021 model	637-4434		
Running Belt			
The running belt slips on the head roller or movement isn't smooth	637-1445		
The running belt isn't centered on the rollers	637-1445		
The running deck makes a squeaking noise when in use	637-1546		
The running belt is lifting on the sides or ripping at the seam	637-1445		
The physical speed of the running belt is noticeably higher or lower than the display shows.	637-1343		
Elevation			
Performing an Elevation Calibration (LED/LCD Consoles)	637-8469		
The elevation assembly is making a grinding or knocking noise when in use.	637-4497		
Resolving various elevation errors including: • Elevation Stall Error • Elevation Range Error • Elevation Lost Error • Error 38 or 41 on an embedded screen	637-4301		

Mechanical Issues	Procedure	Link	Note
The console is displaying "Elevation Stall" but not Error 38	637-1261		
Diagnostics			
Reading MCB Diagnostic LEDs and resolving DFR Codes	637-1390		
Accessing and recording the information from the **Last Error List** on an 8-Series Treadmill (link only)	637-8598		
Diagnosing a Check Speed/Check Motor error or DFR Code	637-4467		
Identifying MCB changes in 2010 MCB's	637-1338		Legacy: prior MCB's are no longer produced
Resolving Specific DFR Codes			
• DFR Code 0 or 1	637-1441		
• DFR 80 or 800	637-1445		
• DFR Code 1000	637-1442		
• DFR Code 1,000,000	637-1364		E-Series Only
MCB Troubleshooting			
Setting up a FISP for use	635-4091		
Downloading software for a FISP on a PC	635-4092		
Loading software onto a FISP from a PC	635-4093		
Updating MCB Software	637-1438		MCB SKU 718-3880 and 718-3881 Only
Finding the power pin on a MCB data cable & MCB Cable Pinout	637-8601		

Mechanical Issues	Procedure	Link	Note
Finding MCB cable technical details	637-8602		

Treadmill Version 2 MCB Troubleshooting including:
• Loose Components on 2011 MCBs
• MCB Transformers from 2010
• Specific troubleshooting for errors
  • Check Speed System
  • Check Motor System
  • DFR 100,000
  • DRF 1,000,000
  • Error Code 40
  • Treadmill won't calibrate
  • MCB won't power up
  • Speed Fluctuation
  • Treadmill will reset
	637-1394		

Electrical Issues	Procedure	Link	Note
Identifying the correct MCB software version • 8 Series Units • E-Series Units	637-4359 637-4358		
Performing a Power Trace	637-4474		
The Embedded Display won't turn on but there is power to the MCB • Version 1 MCB's • Version 2 MCB's	637-1381		
• Testing without MCB Power	637-1380		
• No Power Flowchart (Additional Troubleshooting)	637-1383		
A treadmill resets shortly after starting a program	637-1364		
Testing a LED Keypad for working buttons	637-1373		
MCB Will Not Power Up	637-1378		
LED Fans won't turn on (E-Series with a Version 1 MCB Only)	637-1379		E-Series Only
LED Lights are disabled only on the Fan Keypad	637-1357		Units prior to 2011
Hotbar functionality is intermittent	637-4353		
Testing CSAFE Voltage	637-4412		

Console Issues	Procedure	Link	Note
The Quick Start/Stop keypad suffers moisture damage	637-4228		
The Display Resets in Middle of Use	637-1406		
An embedded console is showing an error code (all codes)	637-4388		
A console displays a Key Down error	637-4492		
The user fan doesn't function or the fan button isn't blue	637-8481		OpenHub Only
LED has a horizontal line across the display	637-4232		Console serial prior to **EDEN1410-0000** only
Step-By-Step for Specific Embedded Error Codes			
• Error Code 6	637-1420		
• Error Code 14	637-4543		
• Error Code 17	637-4544		
• Error Code 21	637-4545		
• Error Code 23	637-4340		
• Error Code 38	637-1329		
• Error Code 42	637-1334		
Choppy Video and Out of Sync Audio	637-4257		
An embedded console continuously beeps on boot	637-1410		

Console Issues	Procedure	Link	Note
An embedded screen will not turn on after a power trace was successful	637-1382		
An embedded screen will not turn on for an E-Series with a Version 1 MCB	637-1379		
An embedded console gets stuck in a GRUB loading screen or shuts down shortly after showing it.	637-1408		
An embedded console is missing the Coach.	637-4211		
Coach video or audio not working	637-1329		
Coach audio works for a few minutes then stops working.	637-1408		
A heartrate appears on the console when not being used	637-4550		
An E-Series treadmill will not perform auto calibration	637-1364		
No sound from the Headphone Jack	637-4535		E-TRxe Only
A 10" Embedded can't be calibrated	637-4556		

Console Procedures	Procedure	Link	Note
Identifying the correct software version on an 8-Series unit	637-4359		For Display Software, GUI Software, FitCPU, MCB, CCB, CV, and Translator/xCB
Identifying the correct software version on an E-Series unit	637-4358		
Identifying the correct GUI version on an E-Series unit	637-1422		
Identifying the correct keypad for a unit	637-4505		
Accessing the Maintenance Mode	637-4540		
Accessing the Diagnostic Mode	637-4533		
Accessing the Manager Mode	637-4534		
Accessing the Last Error List	637-1395		
Accessing the Service Menu	637-4542		
Accessing and reading the Usage Statistics	637-4541		
Performing a Touchscreen Calibration	637-4532		
Determining Made for iPod Compatibility	637-1330		
Performing a Channel Scan	637-4538		
Importing TV Channels on a Gen3 Embedded	637-4236		
Using Screen Shot Mode (Embedded Only)	637-4539		

Console Procedures	Procedure	Link	Note
Software Updates			
Setting up a FISP for use	635-4091		
Downloading software for a FISP on a PC	635-4092		
Loading software onto a FISP from a PC	635-4093		
Updating the Coach on a Gen3 Embedded	637-1370		
E-Series: Updating the GUI to version 5.58	637-4475		
Updating the CCB, FitCPU, Translator Board or for the GUI	637-1307		
Step-by-Step: Updating the GUI	637-4537		
Updating the PVS controller software	637-4549		S-Series Only
Updating the PVS software on a Made For iPod PVS	637-4547		
Updating S-Series LCD with FISP	637-4548		S-Series Only
Step-by-Step: Updating Software on S Series Treadmills	637-4548		S-Series Only

Entertainment Issues	Procedure	Link	Note
900MHz Cannot Engage Programming Mode	637-1549		
Troubleshooting other 800/900 MHz Errors including: • Keys not responding • No channels found during scan • Poor audio quality • 800/900 MHz Wiring Diagrams	637-8489		
A video has unusual artifacts such as tearing or snow	637-1415		
PVS will not turn on (E-Series Power Supply Testing)	637-1379		
Installing new PVS on Legacy Equipment	637-4356		
Installing iPod Cable Port Plugs	637-1467		iPod Ready units only.
Understanding Nike+ and eFitness Requirements	637-1337		
Only One Headphone Jack Working	637-1433		
Parental Locks Stuck On	637-1388		
Troubleshooting other PVS Errors including: • Poor Screen Connection with Poor Picture Quality • Determining the Screen Type • Bypassing the Coax in the Unit • Using an External Power Supply for PVS Screens	637-1401		

Entertainment Issues	Procedure	Link	Note
Various TV Channel Issues including: • Channel Scan options do not display at all • Only digital channels are available. • Only Analog channels are available. • Only 12 channels are available. • Some channels have a black screen. • Some channels state they are not available. • Some channels only get audio. • During a TV scan some channels are missing. • Poor Sound Quality • TV/Embedded Screen is entirely Green • No Channels Found/No TV Icon	637-4422		

Part Replacement Procedures	Procedure	Link	Note
Step-by-Step: Replacing the Deck, Belt, and Rollers	637-4552		
Replacing the Drive Motor	637-4553		
Step-by-Step: Replacing the Drive Motor	637-4241		
Step-by-Step: Replacing the Elevation Motor	637-4555		
Replacing the Idler Arm on an S-Series or E-Series Treadmill	637-4273		
Replacing the iPod Cable on a E-TRxe Embedded Display	637-4529		
Step-by-Step: Replacing the RPM Sensor	637-4551		
Step-by-Step: Replacing the Rubber Deck Cushions	637-1473		

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