



Service Manual

Experience™ Series 700 line

TRM700-16/18 Treadmills



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Introduction

If you are not a Precor certified servicer, you must not attempt to service any Precor Product. Call your dealer for service information.



WARNING: This service documentation is for use by Precor certified servicer providers only. Personal injury can result from electrical shock and/or mechanical moving parts.

This service manual applies to the TRM700-16/18 Experience™ Series 700 Line treadmills including the 120 VAC¹ and 240 VAC models. This document contains information required to service, repair, troubleshoot, and maintain the machine base.



TRM700-16 Base


Model	TRM700-16 Base Configuration
TRM731	TRM700 base (0.5-12 mph, 0-15% incline) with P30 console
TRM761	TRM700 base (0.5-12 mph, 0-15% incline) with P62 console
TRM781	TRM700 base (0.5-12 mph, 0-15% incline) with P82 console

Separate Base/Console Service Manuals

¹voltage in an alternating current circuit

There are separate service manuals for the machine base and consoles. Use this service manual to service, repair, and maintain the machine base. Refer to the particular console service manual for console service, repair, and maintenance information.

Additional Documentation

There is also an online web version if you have internet access at:  [Online Service Manual](#)

See Also

"General Information" on page 5

Safety Guidelines

"Operation Verification" on page 19

"Standard Service Menus" on page 22

"Adjustment Procedures" on page 49

"Replacement Procedures" on page 68

"Troubleshooting" on page 163

"Theory of Operation" on page 214

"System Wiring Diagram" on page 217

"Parts Exploded View Diagram & Parts List" on page 222

Service Safety Guidelines



WARNING: Only Precor certified servicers and technicians are permitted to service Precor products. Personal injury can result from electrical shock and/or mechanical moving parts.

Review the following safety information prior to servicing the equipment. This safety information will help to prevent personal injury or damage to the equipment while servicing the equipment.

Safety guideline you need to know and follow:

- Read and follow all **Warning** notices to protect yourself from personal injury.
- Read and follow all **Caution** notices to prevent damage to the equipment.
- Read the owner's manual and follow all operating instructions.
- Operate the equipment on a solid, level surface.
- Visually check the equipment before beginning service or maintenance operations. If it is not completely assembled or is damaged in anyway, do not attempt to operate the equipment.
- Never place liquids on any part of the equipment while performing service.
- To prevent electrical shock, keep all electrical components away from water and other liquids.
- Do not use accessory attachments that are not recommended by the manufacturer. Non-OEM accessories can cause injuries.
- Do not stand or climb on the handlebars, display enclosure or cover.
- On a self-powered unit, it will either be necessary to either equip the unit with the optional external power supply or have an assistant pedal on the unit while voltage measurements are being taken. Because of the danger of working on the unit while it is in motion using the optional external power supply is strongly recommended.
- On ATM units when the stairarms are in motion; the generator will operate and produce potentially hazardous voltages even when the battery is disconnected.
- On **AMT**¹ units with Cardio Theater **PVS**² units will have external power supply and coaxial cable routed through the bottom of the unit to the top of the display console. Cord management must be maintained
- On ATM units, a pinching hazard exists when the unit is operated. It is possible to seriously pinch a finger. The AMT can be mechanically locked by inserting a screwdriver through the primary sheave and frame.

¹Adaptive Motion Trainer

²Personal Viewing System display.

- On treadmills, removing the hood exposes high voltage components and potentially dangerous machinery. Exercise extreme caution when you perform maintenance procedures with the hood removed.

When servicing the equipment:

- During service operations you will be very close to moving machinery and voltage bearing components:
 - Remove jewelry (especially from ears and neck),
 - Tie up long hair,
 - Remove neck ties, and
 - Do not wear loose clothing

See Also

"Notices and Safety" on page ii

"Safety Notices" on page ii

General Information

The following information provides general equipment and service information that will help you to use this manual to properly repair and maintain the treadmill.

Model and Serial Numbers

Model and Serial Numbers

Model Numbers

The product model number is a six digit alphanumeric code "AAAXXX" containing the following components. Use the Product Model Number table to interpret the product number code.:

Product model number format: "AAAXXX"

- "AAA" - three alpha character product type designator
- "X" - 1 digit numeric product line designator
- "X" - one digit numeric console type designator
- "X" - one digit numeric feature level designator

Example

Product model number: **TRM833**

- **TRM**¹ - Treadmill
- 8 - Experience Line
- 3 - P30 console
- 3 - Fixed ramp

Product Model Number Table

PRODUCT TYPE	PRODUCT LINE	CONSOLE	FEATURE LEVEL
TRM ¹ : treadmill	8 -Experience, <i>Premium</i>	8 -P80, P82	7 EFX: Fixed Ramp/Moving Arms
EFX ² : elliptical		6 -P62	
AMT ³ : AMT	7 -Experience,	3 -P30, P31	
UBK ⁴ : Upright	6 -Assurance, <i>Stand-</i>	2 -P20	

¹Treadmill

²Elliptical Fitness CrossTrainer

³Adaptive Motion Trainer

⁴Upright Bike

PRODUCT TYPE	PRODUCT LINE	CONSOLE	FEATURE LEVEL
RBK ¹ : Recumbent	<i>ard</i> 4-Precision, <i>Consumer</i> 2-Energy, <i>Consumer</i>	1-P10	<p>5 TRM: High Speed/Decline AMT: Moving Step Height EFX: Moving Ramp/Moving Arms</p> <p>3 TRM: Fixed Ramp AMT: Fixed Step Height EFX: Moving Ramp/Fixed Arms</p> <p>1 EFX: Fixed ramp/Moving Arms</p>

Serial Numbers

About

The serial number uniquely identifies each machine. The serial number is an alphanumeric code comprised of a four character model designator, a 1 letter build month code, a 2 digit day built, a 2 digit year built and a four digit consecutive daily build number.



AGNB F 17 14 0021

PART	MEANING
AGNB	Model
F	Month built
17	Day built
14	Last 2 digits of year built
0021	Consecutive daily build number

- A January
- B February
- C March
- D April
- E May
- F June
- G July
- H August
- I September
- J October
- K November
- L December

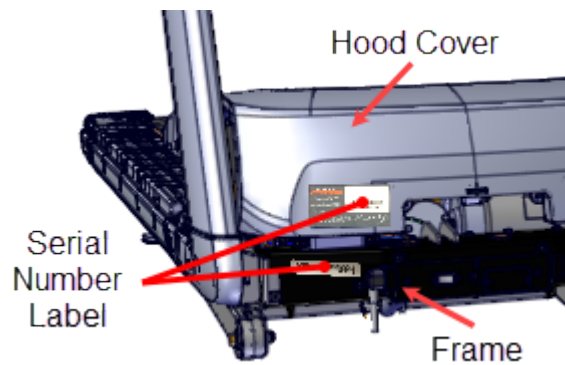
Serial Number Label Location

The serial number label is located on the hood and frame.



Note: Always use the frame serial number label to verify the machine serial number. Do not use a label attached to a plastic cover, the cover may have been replaced from a different machine.

¹Recumbent Bike



Orientation

The equipment orientation (front, right, left, & back) is referenced to an exerciser standing on the machine facing the console.

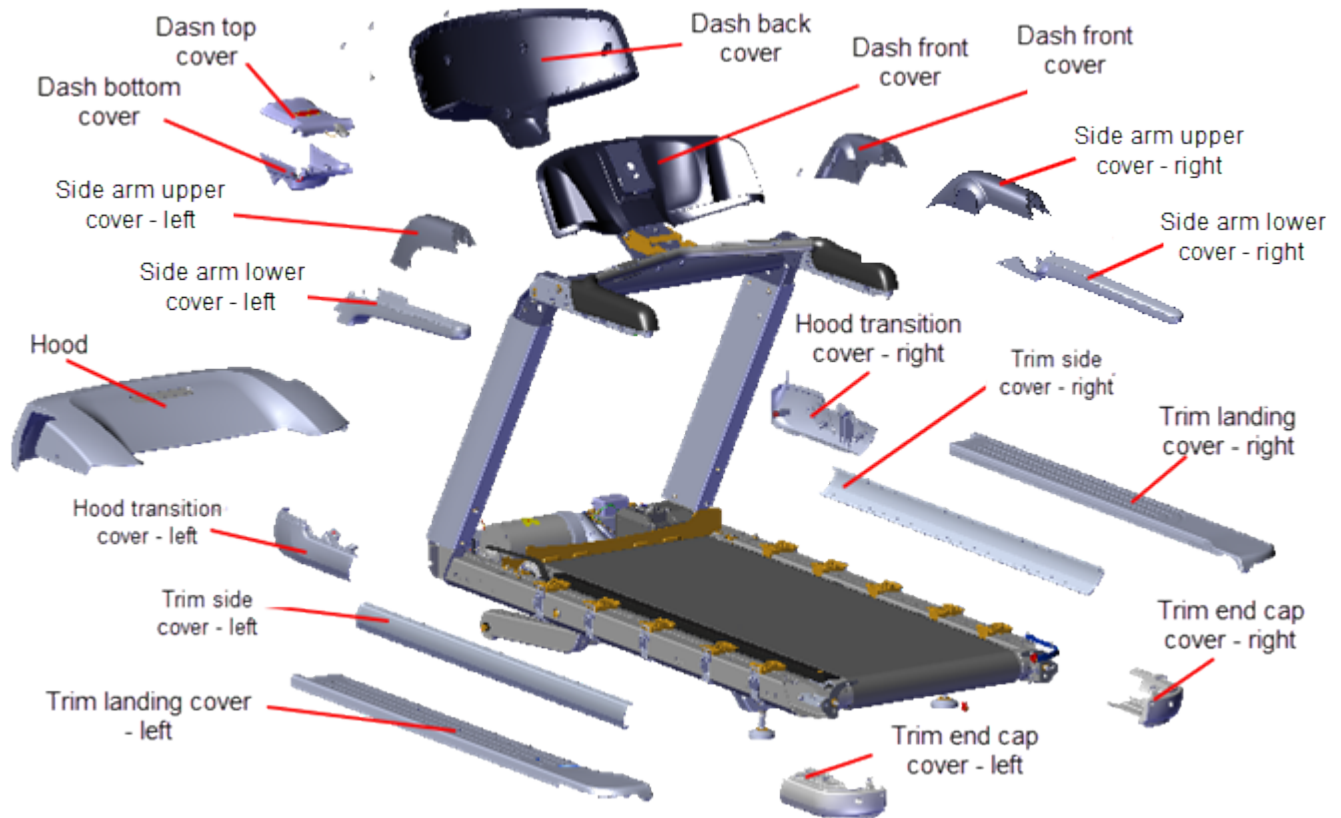


TRM700-16 Base

Covers and Panels

Covers and Panels

Equipment cover and access panel locations.



For cover removal and installation, see ["Covers and Panels Replacement"](#) on page 69.

Tools and Supplies

Tools and supplies required to complete the machine service and repair.

Tools

- US and Metric Hex Key set
- US and Metric socket set
- Us and Metric wrench set
- Cutters
- Rubber mallet
- Tape measure /Straight edge ruler
- Standard straight slot tip screw drive set
- Philips tip screw driver set
- US & metric Allen wrench set
- 7/16" Allen key, socket mounted
- Pliers
- Inner and outer snap ring pliers

- DVM meter
- **AC²** Clamp-on averting current meter
- Belt tension gauge - OTC Tools Model #: 6673
- 2 Running belt tension gauges (Precor PN: PPP000000020007101)
- 12" wonder bar
- ESD wrist strap
- **Torque¹** Wrenches: 9 in lbs to 100 in - lbs (83 ft-lbs)
- DVM Multimeter
- Drive Belt tension Gauge (Kent-Moore BT-33-73-F)
- Compatible HR chest strap or Polar HRM simulator xmitter (Precor PN: PPP000000020045101)
- Vacuum cleaner (recommend ESD safe model)

Supplies

- Super Lube Gel with Teflon by Permatex
- Mobil 1, NLGI 2 Teflon Synthetic Grease
- Loctite 243 Blue Medium Strength Thread-locker
- Cleaning rags
- Cleaner Degreaser (see)
- Cable ties (1- 3/4", 3", 4" lengths)

Specification Summary

Fastener Torque Specification

System component fastener torque specification:

System Component	Specification
RF³ coax connector	2.4 in-lbs (0.271 Nm)
Display mounting fasteners	180 in-lbs (20 Nm)

¹Torque is a measure of the force that can cause an object to rotate about an axis. Bolt/nut example: 5 nM torque is equivalent to 5 newtons of force applied one meter from the center of the bolt, 6 ft-lb is equivalent to 6 lb of force applied 1 foot away from the center of the bolt.

²Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

³Radio Frequency: Identifies electromagnetic signals with frequency spectrum between the 3 kHz (3,000 hertz) to 300 GHz (300 billion hertz) range.

System Component	Specification
Set screws	300 in-lbs (34 Nm)
Plastite screw fasteners	20 in-lbs (2.3 Nm)
Flathead screws	25 in-lbs (2.8 Nm)
Deck front fasteners	27-33 in-lbs (3.1-3.7 Nm)
Deck rear fasteners	50-55 in-lbs (5.6-(6.2 Nm)
Lift Motor Calibration gap	1 1/8 in - 1 3/16 in (2.8 cm - 3.0 cm)

Belt Tension Specification

.Belt tension specification:

System Component	Specification
Drive Belt Tension New Belt ⁽¹⁾	100-120 lbs (45-54 kgs)
Drive Belt Tension Used Belt ⁽¹⁾	80-90 lbs (36-41 kgs)
Drive Motor fasteners	204 in-lbs (17 ft-lbs, 23 N-m)
Ammeraal brand running belt tension (gauge/-percent)	[[[Undefined variable Specifications. TRM14 ¹ -Amer-aalRunBeltTension]]] ⁽²⁾
Forbo brand running belt tension (gauge/percent)	3.55 (0.55%) ⁽²⁾
<p>(1) New belt tension applies to new belt first time installations. Used belt tension applies to reinstalling an existing belt or re-tensioning an existing used belt. (2) Referenced to 3.0 (0.0%).</p>	

Bolt Grade Identification

Bolt grade markings are used to categorize bolts according to the bolt material, manufacturing process, and mechanical properties. The grade of the bolt is stamped on the head of the bolt.

US SAE bolts: The bolt grade markings are determined by the number of the lines stamped on the head of the bolt. The number of lines is always two less than the grade of the bolt. Count the lines, add two, and you can determine the grade of the bolt.

¹TRM800 treadmills mfg. dates 2014 and later.

Metric bolts: On metric bolts, the bolt grade is identified by a bolt grade number stamped on the head of the bolt.



CAUTION: Always replace bolts with the same grade bolt. If you don't know the grade of the replacement bolt - **DO NOT USE THE BOLT.**

Bolt Grade Markings Chart

Example bolt grades used on Precor equipment (may not represent all bolt grades). Always match the replacement bolt grade marking to the removed bolt grade marking.

GRADE	SAE BOLT LINES	BOLT MARKINGS	
		Metric	SAE
Grade 2 Metric 5.8	No Radial Lines		
Grade 5 Metric 8.8	3 Radial lines		
Grade 8 Metric 10.9	6 Radial Lines		

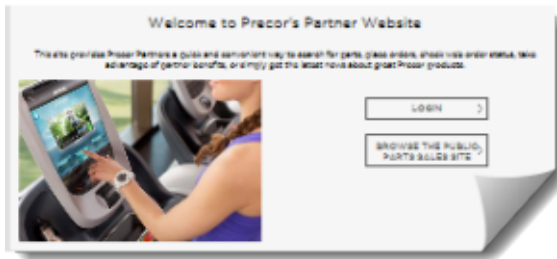
Parts



IMPORTANT: Always purchase OEM replacement parts and hardware from Precor. If you use parts not approved by Precor, you could void the Precor Limited Warranty. Use of parts not approved by Precor may cause injury.

There is a copy of the parts *Exploded View Diagram* and *Parts Identification List* included in the "[Parts Exploded View Diagram & Parts List](#)" on page 222 chapter that you can use as a quick reference. It is recommended that you go to the servicer partners [Precor Connect](#) (or [Precor Connection](#)) website to view the most current parts information including the *Exploded View Diagram* and *Parts Identification List*.

-  [Precor Connect Partner website](#)



Exploded View Diagram and Parts List, see "[Parts Exploded View Diagram & Parts List](#)" on page 222.

Lubricants

Only use products from the following list of approved lubricants:

Lubricant	Description
Grease	Use only NLGI class 2 PTFE synthetic grade grease. Use of unapproved lubricants may void the product warranty. Recommended brands (or equivalent): <ul style="list-style-type: none"> • Mobil 1[®] synthetic grease • Super Lube[®] with Teflon



CAUTION: Do not use petroleum based lubricants on mechanical components such as the lift, as this may result in degradation of nylon gearing mechanisms. Use only synthetic lubricants such as "Super Lube with Teflon" or "Mobile One Synthetic" grease (RED).



CAUTION: Do not apply any lubricants or wax to the deck and belt. Do not use Wax Blast, silicon sprays, or other applied lubricants. The use of these lubricants will quickly degrade the low-friction surface of the deck.

Cleaning Procedure

Only use the following approved cleaning products to safely clean and prevent damage to the machine surfaces.

Approved Cleaning Products:

- **General Equipment Surfaces:**
 - 1 part mild soap to 30 parts water (recommend Simple Green[®] cleaner or equivalent).
 - Athletic equipment cleaner, 9x7 pre-saturated wipes ([ATHLETIX PRODUCTS](#)).

- Envir O Safe oxygen enhanced cleaner or Enviro Safe glass and multitask cleaner concentrate.
- **Consoles and PVS¹**: a diluted solution of one part 91% Isopropyl alcohol to one part water.

Cleaning Procedure

1. Wipe down equipment using a soft lint-free cloth using only the recommended cleaning solution. Always spray cleaning solution directly onto the cleaning cloth and not directly onto the equipment surface to avoid equipment damage due to excessive moisture.



CAUTION: Do not use acidic cleaners and do not spray directly onto the equipment surfaces.

2. Rinse surfaces using a clean lint-free cloth dampened with water only.
 3. Then completely dry with another clean lint-free cloth.
-

Power Requirements

This machine is an externally powered unit that requires the facility to provide good quality input power that satisfies the machine specified power requirements.

Equipment Operating Power Specification

- Nominal 120 **VAC²** models
 - Operating voltage: 90 VAC to 132 VAC.
 - AC frequency range: 47 - 65 **Hz³**
- Nominal 240 VAC Models
 - Rated Operating voltage: 180 VAC - 264 VAC.
 - Frequency: 47- 65 Hz

Facility Input Power Requirements

The facility must provide a good quality stable power signal (not fluctuating or intermittent) to insure performance and trouble free operation.

Individual branch circuit requirement (US and Canada installations)

Each Precor treadmill must be connected to a separate 20 amp individual branch circuit outlet. No other devices can be connected to the same circuit outlet except for one optional PVS

¹Personal Viewing System display.

²voltage in an alternating current circuit

³The hertz (symbol: Hz) is the derived unit of frequency in the International System of Units (SI) and is defined as one cycle per second.

(Personal Viewing System) display if installed.

- **Individual branch circuit:** An individual branch circuit provides a hot conductor and neutral conductor to a receptacle. The conductors must not be looped, "daisy-chained", or connected to any other conductors or receptacles. The circuit must be grounded according to NEC guidelines or local region electric codes.



CAUTION: All NEC (National Electric Code) guidelines or local region electric codes must be complied with.

Plugs and Outlets (US and Canada installations)

US and Canadian installations require 20A current rated power outlets.

Verifying 20 Amp outlet receptacles

You can visually identify a 20A from a 15A rated outlet receptacle by the different style outlet sockets. Make sure the facility wall outlets are the 20A style outlet receptacles.



CAUTION: DO NOT use 20A to 15A power cord adapters to plug the equipment power cord into a 15A wall outlet.

20 Amp rated plugs and outlets

Country	Equipment Voltage	Outlet/ ^{Plug} Type
US & Canada	120 VAC: 50/60 Hz	NEMA 5-20R/5-20P
US & Canada	240 VAC: 50/60 Hz	NEMA 6-20R/6-20P



NEMA 5-20R
120VAC 20A
Duplex Outlet



NEMA 5-20P
120VAC 20A
Plug



NEMA 6-20R
250VAC 20A
Outlet



NEMA 6-20P
250VAC 20A
Plug

Console and PVS Display Power Requirements

LED consoles (P10, P30, P30i and P31)

LED consoles are powered by the machine and do not require an external power supply.

Touchscreen consoles (P62, P80, and P82)

Touchscreen consoles use an AC/DC¹ power adapter to supply the console input power:

AC/DC adapter power specification:

- Input voltage: 100v-240v
- Output power rating: 60W/12Vdc/5A

Powered Machines (Treadmill):

On powered machines, the power adapter is hardwired to the machine input power circuit.

Self-Power Machines (EFX, AMT, UBK/RBK bikes)

¹Direct Current: electrical current that only flows in one direction.

On self-powered machines, the AC/DC power adapter is plugged into the facility wall outlet. Up to ten consoles can be connected to the same 20 amp branch circuit. Only touchscreen consoles can share the same branch circuit, no other devices can be connected to this circuit.

PVS (Personal Viewing System) display

PVS displays use an AC/DC power adapter to power the display.

- On treadmills, the PVS display can be plugged into the same individual branch circuit outlet as the treadmill.
- On self-powered equipment, up to 10 PVS displays can be connected to the same 20A branch circuit. No other devices except PVS displays can be connected to this circuit.

PVS display power: 43W max

AC/DC adapter specification:

- Input voltage: 100v-240v
 - Output power rating: 60W/12V/4.17A or 4.2A
-

Cable TV and Ethernet Input Signal Requirements

Cable TV "CATV" RF input signal power requirements

For touchscreen (P62, P80, and P82) consoles or PVS displays, there is a minimum RF input power requirement to properly supply **CATV**¹ signal to the consoles.

- Analog video power: +5 **dB**² to +10 dB RF power with a +40 dB minimum channel to noise ratio (at each console).
- Digital RF power: -5 dB to 0 dB (at each console).

For MYE displays.

- Analog video power (at each display): - 30 dB to +20 dB RF power with a (+40 dB **C/N**³ (Channel to Noise ratio)).
-

¹Cable Television (aka Community Access Television) is a system of transmitting television programming to consumers via radio frequency (RF) signals transmitted through coaxial cables

²1) DB or DBR: treadmill dynamic break resistor 2) Decibel (dB): In electronic systems, the decibel (dB) is a logarithmic unit of measurement used to express the system power gain (+dB) or loss (-dB) in decibels (dB). $dB(\text{power}) = 10\text{Log}(P_{\text{out}}/P_{\text{in}})$ or, in terms of voltage, $dB(\text{power}) = 20\text{Log}(V_{\text{out}}/V_{\text{in}})$.

³carrier-to-noise ratio: The ratio of power in an RF carrier to the noise power in the channel. CNR is defined as the ratio of the received modulated carrier signal power C to the received noise power N after the receiver filters: in terms of power: $\text{CNR} = C/N$, in terms of decibels $\text{CNR}(dB) = 10\text{Log}(C/N) = C(dBm) - N(dBm)$.

- Digital RF power (at each display): -5 dB to 0 dB.

Using an RF wall outlet

If a wall RF outlet is used to power several consoles in series for a row of equipment there is a minimum RF power requirement at the outlet of +35 dB at +40 dB minimum channel to noise ratio for analog video and a +25 dB for Digital video. RF signal strength of +35 dB can power 17 to 19 consoles in a single row when properly tapped out.

Ethernet (LAN) input signal requirements

Precor recommends a dedicated CAT6 Ethernet feed to each equipment location.

Communication Requirements:

- 512Kb/s up
- 5-10Mb/s down
- Switch Ports: 80, 123, 443

*Touchscreen (P62, P80, and P82) console Preva **PBS**¹ communication protocol*

The touchscreen consoles use a security token for communication to the Precor servers. The security token is a hash string that is sent with every API call from the FE's to the Amazon Cloud. The security token originates after the equipment is registered at the location. The console issues a 'Call' which returns the registration token and the fitness equipment URL. Every event after that uses the URL and the token to validate/authenticate communication with the Amazon servers and Preva Business Suite (PBS).

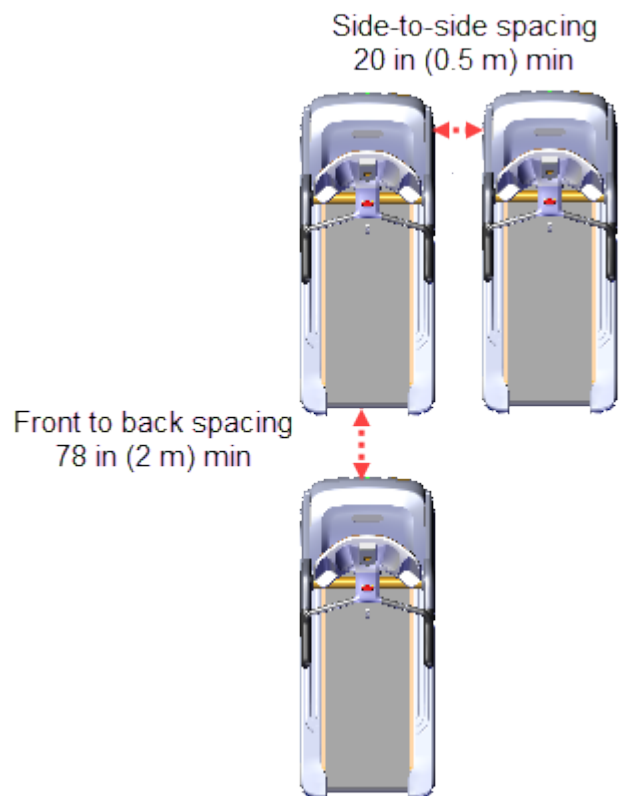
All communication with Precor servers is currently done via outgoing (originating from the console) HTTPS sessions. The console utilizes **NTP**² to set its clock and for synchronization. At no time is Precor connecting to the customers facility network to "push" any data. The console initiates all data requests.

Treadmill Placement and Spacing Requirement

The minimum side to side spacing between treadmills is 20 in (0.5 m) and the minimum front to back spacing is 78 in (2 m).

¹Preva Business Suite

²Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks.



Operation Verification

This section provides a method to verify that the machine is operating correctly and can be returned to service. Do these operation verification tests at the end of a maintenance procedure or whenever it is necessary to ensure that the machine is operating properly.

Operation Verification Tests

Error Code Verification Test

Verify that there are no current active logged error codes:

1. Access either the Error Log (or **CPA**¹ Event Log) and record any current active logged error codes:
 - On P10, P30, P30i and P31 LED consoles, Press & hold down the PAUSE/RESET key for 6 seconds minimum to access the Error Log.
 - On P62, P80, and P82 touchscreen consoles, access Service menu (51765761), select **About > CPA Even Log**.
2. Resolve any current active logged error code issues.
3. Delete resolved error codes:
 - On P10, P30, P30i and P31 LED consoles, clear the Error Log, see "[Error Log & CPA Event Log](#)" on page 170. Press and hold the **PAUSE/RESET** key for 6 seconds minimum to access the Error Log. If there are no logged error codes, the "Stuck Key" message will show. To remove an error code, press/hold down the **QUICK START** key until the "NO ERRORS" message shows.
 - On P62, P80, and P82 touchscreen consoles, error codes cannot be deleted from the CPA Event Log)

Console Verification Tests

Verify the LED console or touchscreen console operation.

LED consoles (P10, P30, P30i and P31) only

1. Access the Diagnostic/Test menu (51765761) and run the following tests:
 - **KEYPAD TEST**: Select KEYPAD TEST and follow prompts to run test.
 - **DISPLAY TEST**: Select DISPLAY TEST and follow prompts to run test.
2. Exit the Diagnostic Test menu (press the **PAUSE/RESET** key).

Touchscreen consoles (P62, P80, and P82) only

1. Access the Service menu (51765761) and perform the following console System Tests (**Settings > System Settings > System Tests**):

¹Touchscreen console Control Processing Assembly.

- **Touchscreen Calibration:** Follow screen prompts to complete test. When the test is completed the console will automatically exit and return to the System Tests menu.
- **Touchscreen Test:** Verify that there is a trace created that follows your finger movement across the touchscreen surface. Select **Finish** to exit. move your finger and verify that a trace follows
- **Backlight Test:** Tests the display backlight brightness. Follow prompts to complete test.
- **RGB Test:** Touch the screen to cycle through the test colors: Red, Green, Blue, White, & Black. Returns to the System Tests menu when completed.
- **Numeric Backlight Test:** Tests the controls numeric display brightness. Returns to the System Tests menu when completed.
- **Numeric Display Test:** Tests the controls numeric display. Returns to the System Tests menu.

2. Exit the Diagnostic Test menu. (press **Back** to exit & return to the banner screen)

Motion Controls Test

Verify the machine operation.

1. Select **QUICKSTART** to begin a manual workout and operate the treadmill at least 5 minutes. While walking on the unit perform the following tests:
2. Operate the **SPEED** motion control from minimum to maximum range while verifying the machine operation.
 - Make sure that the console **SPEED** paddle control operation is smooth and working correctly.
 - Verify that the running belt can reach the maximum speed and then returns to the minimum speed level.
 - Make sure that the running belt speed change is smooth and that there are no unusual noises.
 - Verify that the console **SPEED** indicators and workout displays are showing correct information.
3. Operate the **INCLINE** motion controls from minimum to maximum range while verifying the machine operation.
 - Make sure that the console **INCLINE** paddle controls operation is smooth and working correctly.
 - Verify that the running deck can reach the maximum incline and then return to the minimum incline level.
 - Verify that the lift motor operation is smooth while changing the **INCLINE** from minimum to maximum levels.
 - Verify that the console **INCLINE** level indicators and user workout displays are showing correct information.

Running Belt Test

Verify the running belt alignment and tracking.

1. Step off the running belt and operate the treadmill at 12 mph (19 kph) for one minute.
2. Verify the running belt alignment is centered and tracking.

ESTOP Switch Test

Verify the ESTOP emergency switch operation.

1. While walking on the treadmill, press the **STOP** emergency button and verify that the running belt immediately slows to a stop.
2. While walking on the treadmill, pull the **ESTOP** lanyard and make sure the running belt immediately slows to a stop.
3. Inspect the condition of the **ESTOP** lanyard clip, that the spring is in place and that the clip will firmly hold when attached.

Heart Rate Test

Verify the Heart Rate operation.

LED consoles (P10, P30, P30i and P31) only

1. Access the Diagnostic menu (51765761) and run the following tests:
 - **HEART RATE TEST:** Select HEART RATE TEST and follow prompts run test.

Touchscreen consoles (P62, P80, and P82) only

1. Access the Service menu (51765761) and run the following test.:
 - **HEART RATE TEST:** Select HEART RATE TEST and follow prompts run test (System Tests (select **System Settings** > **System Tests**)).

Return to service

1. Switch the power OFF.
2. Make sure that the machine is setting level and stable.
3. On successful completion of these tests, return to service.

Standard Service Menus

About

The Standardized Service Menus are supported across Precor cardio product lines designed to allow servicers and clubs to manage, configure/setup, and maintain/test the equipment: The service menus are grouped into functional service categories depending on the console type as follows:

- | | |
|---|---|
| <p>LED Consoles
(P10, P30, P30i and P31)</p> <ul style="list-style-type: none"> • Hardware Validation (51765761) • Club Settings (5651565) • Information Display (65) | <p>Touchscreen Consoles
(P62, P80, and P82)</p> <ul style="list-style-type: none"> • Service Menu (51765761) • Club Settings (5651565) |
|---|---|

On LED consoles, there are three service menus grouped by function; the Hardware Validation menu provides a set of automated diagnostic tests used to troubleshoot, calibrate, and verify machine operation, the Club Settings menu is used to configure the equipment workout settings, and the Information Display menu provides information about the equipment hardware, software, usage, and error log data.

On touchscreen consoles, there are two service menus; one intended for service technicians (the Service menu) and one intended for club operators (Club Settings menu). The Service Settings menu provides access to all available equipment service menus used by service technicians to service and maintain the equipment. The Club Settings menu is a subset of service menus directed toward club operation used by club operators to manage, configure, and maintain the equipment.

Each service menu is assigned a unique service access code. To access a service menu, type in the access code at the service menu login, see "[Standard Service Menus](#)" above.

Service Access Codes

Service Access Codes

LED Consoles: P10, P30, P30i and P31

SERVICE ACCESS CODE	SERVICE MENU	FUNCTION
51765761	Hardware Validation	Set of automated diagnostic tests used to troubleshoot, calibrate, and verify machine operation.

SERVICE ACCESS CODE	SERVICE MENU	FUNCTION
5651565	Club Settings	Used to configure the club specific workout, console and maintenance reminder settings.
65	Information Display	Used to access the equipment usage, hardware, software, error code, and maintenance information.







Touchscreen Consoles: P62, P80, and P82

SERVICE ACCESS CODE	SERVICE MENU	FUNCTION
51765761	Service Menus	Service Menu access code provide access to all available equipment service menus used to service, configure, test, and maintain the equipment including the legacy Information Display, Club Settings, and Hardware Validation Diagnostic Tests menus.
5651565	Club Settings	Club Settings access code is a subset of service menus directed toward club operation, used by club operators to manage, configure, and maintain the equipment.

Note: Service access code 65 "Information Display" is not used on touchscreen consoles.

How to Access the Service Menus

P10, P30, P30i and P31 LED consoles

		<i>Menu access:</i>	Press & Release
	Press & Release		Type in the Access
P10 Console		PAUSE	
	Press & Release		Type in the Access
P30 Console		PAUSE	
	Press & Release		Type in the Access
P30i Console		PAUSE	

NOTE: Press/hold **PAUSE/RESET** to quickly access Error Codes.

Steps:

- On P10/P30 consoles: Press the **PAUSE** hardkey and immediately use the keypad to type in the access code.
- On P30i consoles: Press the **PAUSE** hardkey and immediately use the **INCLINE** number keys to type in the access code.

P80 touchscreen console

P80 Console



Menu access:

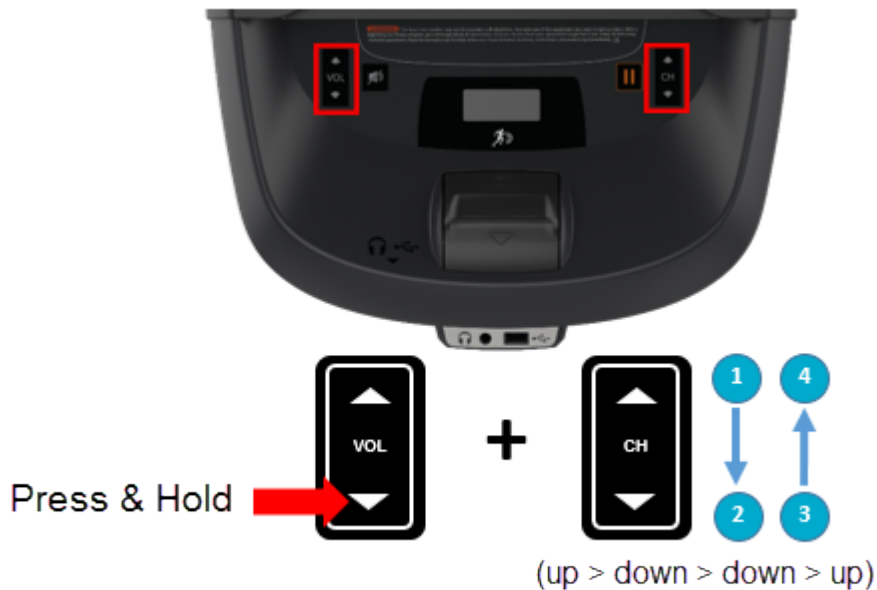


Steps

1. Make sure the P80 is set to the Welcome home page.
2. Press and hold the **Pause** key while pressing **CH up >VOL down > VOL up > CH down**:
3. Use the touch keypad to type in the service access code.

P62 and P82 touchscreen consoles

Diagnostics menu access

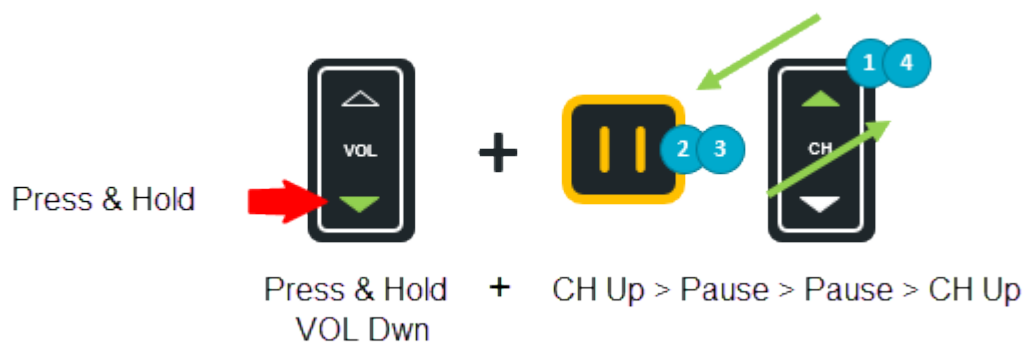


Steps

1. Make sure the console is set to the Welcome banner.
2. Press and hold the **VOL down** key while pressing **CH up > CH down > CH down > CH up**:
3. At the Sign-In screen, type in the service access code.

Touchscreen Calibration shortcut

Console shortcut to access the Touchscreen Calibration test.



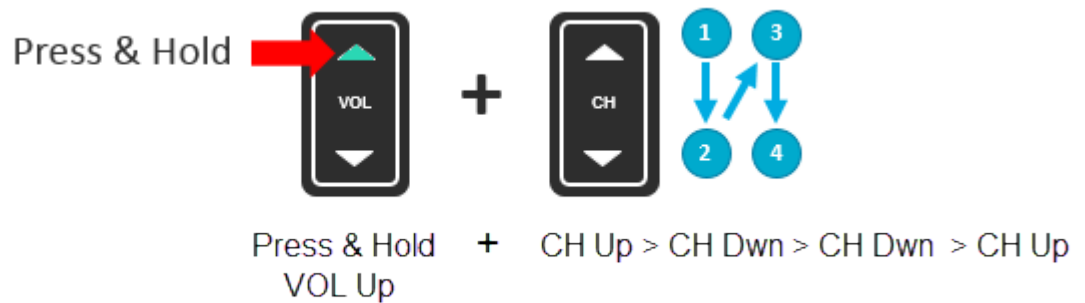
Steps

1. Make sure the console is set to the Welcome banner.
2. Press and hold the **VOL down** hardkey while pressing **CH up > Pause > Pause > CH up**:

3. Touch the designated display positions and follow prompts to complete the touchscreen calibration.

Debug Information Report shortcut

Console shortcut to download an event log debug information report.



Steps

1. Make sure the console is set to the Welcome banner.
2. Insert a **USB¹** flash drive into the Chin USB port.
3. Press and hold the **VOL Up** hardkey while pressing **CH up > CH Dwn > CH Dwn > CH up**:
4. Wait for the download to finish and then remove the USB drive.



IMPORTANT: Do not remove the USB drive until the "Report was successful" message is shown, (approx. 1 min).

¹Short for Universal Serial Bus, is an industry standard developed in the mid-1990s that defines the cables, connectors and communications protocols used in a bus for connection, communication, and power supply between computers and electronic devices.

Navigating the Service Menus

P10, P30, P30i and P31 LED consoles

LED console service menus are organized in a sequential top-menu to sub-menu item architecture. Select the top level menu and sequentially navigate through the sub-menus until the particular item is found. Then return to the top-level menu to select a different menu item. Refer to the following tables for console hardkey and keypad functions.

P10 and P30 consoles

CONSOLE KEY	FUNCTION/DESCRIPTION
Up/Down	Scrolls up and down through the current menu.
OK	Selects the current menu item or confirms settings.
BACK/CLEAR	<ul style="list-style-type: none"> • Returns to the previous menu level without saving changes. • Hold Back to exit the Display test.
PAUSE	<ul style="list-style-type: none"> • Exits service mode • Press and hold PAUSE for greater than 6 sec will open the Error Log or show the "Stuck Key" message when there are no logged errors.
Numeric Keypad	Use to type in numeric inputs (e.g. access codes).

P30i consoles

Available exclusively on the 700 Line Treadmill, the P30i Interval Console is an easy-to-use console that facilitates interval training with one-touch speed and incline keys.

CONSOLE KEY	FUNCTION/DESCRIPTION
SPEED 1/2 - DWN/UP (US std) SPEED 2/4 - DWN/UP (metric)	Use the SPEED numeric 1 & 2 keys to scroll up and down through the current menu.
OK or INCLINE 0	Selects the current menu item or confirms settings.
INCLINE 0	Returns to the previous menu level without saving changes.
PAUSE	<ul style="list-style-type: none"> • Exits service mode • Press and hold PAUSE for greater than 6 sec will open the Error Log or show the "Stuck Key" message when there are no logged errors.
INCLINE numeric keys	Use as the numeric keypad to type in numeric inputs (access codes etc.).

P80 and P82 touchscreen consoles

The P80 and P82 consoles use the touch sensitive touchscreen controls to select items and navigate the service menus. Only one hardkey "Pause" is used to stop a running diagnostic test.

Follow the on-screen prompts to run the diagnostic tests.



CONSOLE KEY	FUNCTION/DESCRIPTION
Touchscreen controls	There are various touch sensitive softkey controls (OK, START, STOP, BACK, etc.) and icon controls (image boxes, buttons, etc.) used to control and operate the console. Make selection by touching the softkey control or icon.
Scroll Up/Dwn	Use your finger to swipe the touchscreen up or down to scroll through menu items. Some menus provide a vertical scroll bar on the screen right side to scroll Up/Dwn.
BACK softkey	<ul style="list-style-type: none"> • Use the touchscreen BACK softkey to return to the previous menu display. • Continue selecting the BACK softkey to exit the service software.
PAUSE hardkey	Stop a running diagnostic test.

P62 touchscreen consoles

The P62 console uses a combination of touchscreen softkeys/icons and keypad hardkeys to select and navigate thru the service and diagnostics menus. The P62 uses the **BACK** keypad button to return to the previous menu and the **PAUSE** hardkey to stop a running diagnostic test.

Follow the on-screen prompts run the diagnostic tests.

CONSOLE KEY	FUNCTION/DESCRIPTION
Touchscreen controls	There are various touch sensitive softkey controls (OK, START, STOP, BACK, etc.) and icon controls (image boxes, buttons, etc.) used to control and operate the console. Make selection by touching the softkey control or icon.
Scroll Up/Dwn	Use your finger to select while swiping your finger Up/Dwn to scroll through menu lists. Some menus provide an on-screen scroll bar to scroll Up/Dwn.

CONSOLE KEY	FUNCTION/DESCRIPTION
<p>BACK</p>	<ul style="list-style-type: none"> • On P62 consoles, use the control keypad BACK  button to go back or return to the previous menu. • Continue selecting the BACK hardkey to exit the service software. <div style="text-align: center;">  <p>P62 Console</p> </div>
<p>PAUSE hardkey</p>	<p>Stop a running diagnostic test.</p>

LED Console Standard Service Menus

Standard service menus for LED consoles (P10, P30, P30i and P31).

Hardware Validation Diagnostics Tests Menu (51765761)

Service Access Code: 51765761 (see "Service Access Codes" on page 22)

menu: **Access code (51765761) > Hardware Validation Tests.**

The Hardware Validation menu provides a set of automated diagnostic tests and hardware calibration routines used to troubleshoot, calibrate, and verify machine operation. The diagnostic tests are customized for the particular equipment type and console configuration.

DIAGNOSTIC TEST	TEST DESCRIPTION
<p>DISPLAY TEST</p>	<p>Tests the console LEDs. Successively press the OK key to verify each group of LEDs and verify that all LEDs illuminate. Press Back to exit the test.</p>

DIAGNOSTIC TEST	TEST DESCRIPTION
KEYBOARD TEST	An illuminated LED map of the function keys will be shown. Press each individual key and verify that the corresponding LED extinguishes. Press and hold BACK to exit the test.
PVS¹ KEY TEST	Not used, OEM test.
HEART RATE	Tests the unfiltered, filtered, and pulse heart rate. Grasp the grips to test the hand held heart rate. Use a Polar heart rate simulator to test the wireless heart rate. Press the BACK button to exit this test.
ACTIVE STATUS LIGHT (1)	The current ASL² status light state (blue, pulsing blue, yellow, & pulsing yellow).
AS LIGHT BRIGHTNESS (1)	Sets the ASL light brightness level and ON/OFF state: HIGH, MED, LOW, and ON/OFF.
MC³ LIGHT	Shows current state of MC LED-Hold Quick Start to reset.
BELT SPEED TEST	menu: MACHINE TEST > BELT SPEED TEST Tests belt operating condition in 0.1 speed increments Test parameters: <ul style="list-style-type: none"> • AMPS IN: Treadmill input Current. • VOLTS IN: Treadmill input Voltage • VBUSS: Treadmill internal buss Voltage • AMPS MTR: Current supplied to the drive motor.
AUTO STOP TEST	menu: MACHINE TEST > AUTO STOP TEST Test parameters; <ul style="list-style-type: none"> • Status - Exerciser detected on or off the running belt. • Step Count - Average # of footplants. Footplant averaging delay reset with each speed change.
INCLINE TEST	menu: MACHINE TEST > INCLINE TEST Test parameters; <ul style="list-style-type: none"> • A/D - lift motor incline position potentiometer A/D number.

¹Personal Viewing System display.

²Active Status Light: Service and maintenance status light.

³Motor controller or motor controller module

DIAGNOSTIC TEST	TEST DESCRIPTION
	<ul style="list-style-type: none"> • SEC - UP/DWN command response delay between the UPCA¹ and LPCA². • Glitches - Momentary failures in the A/D potentiometer output. If there are more than 50 Glitches, the lift motor should be replaced.
<p>STOP KEY TEST</p>	<p>menu: MACHINE TEST > STOP KEY TEST (P10, P30 consoles only) Verifies the Stop Key and E-Stop function Test sequence steps;</p> <ol style="list-style-type: none"> 1. StopKey test - Press the Stop Key 2. Lanyard ESTOP test- Pull the lanyard to trip the emergency stop function. 3. Exit test - Press the Stop button to reset and exit test.

Notes: (1) Only used on machines that support the Active Status Light feature.

Club Settings Menu (5651565)

Service Access Code: 5651565 (see "Service Access Codes" on page 22)

menu: **Club Settings (51765761) > DIAGS - CLUB SETTINGS**

CLUB SETTINGS	DESCRIPTION
<p>SAFETY CODE</p>	<p>Enabled or disabled. When enabled, a user password (xxxx) is required to use the machine. Factory default: disabled.</p>
<p>SELECT LANGUAGE</p>	<p>Sets the default language for all workouts on this machine. Language for single use workouts can also be set by the user from the workout options. Default: English</p>
<p>SET UNITS</p>	<p>Sets units of measure to US standard or Metric. Range: U.S, Metric Default: U.S.</p>

¹Upper PCA board

²Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

CLUB SETTINGS	DESCRIPTION
SET MAX WORKOUT TIME	Sets the maximum allowable user workout time per session. Range: 1 to 240 min, NO LIMIT Default: 60 min
SET MAX PAUSE TIME	Sets how long the equipment remains in a paused banner during a workout before resetting. Range: 1 to 120 sec (All except EFX ¹) Range: 1 to 60 sec (EFX only) Default 30 sec.
SET COOL DOWN TIME	Sets the amount of time that a cool down period will occur at the end of every workout. Factory default is 5 minutes. Settable in 1 minute increments. Range: 1 to 5 min Default: 5 min
SET METRICS DEFAULT	Sets a metric that may be of specific importance to the specific facility or fitness trainer. The selected metric will scroll across the screen at regular intervals during the workout. Default: none
SET SPEED LIMIT	Sets the user maximum speed. Default: 12 mph
SET INCLINE LIMIT	Sets the user maximum speed. Default: 15 %
HIDDEN PROGRAMS	Either enabled or disabled*, the setting allows the unit to access specialized fitness tests designed for police, fire fighters and the military. Default: disabled
REMOTE SPEED CONTROL	Not used.
AUTO STOP CONFIGURE	Sets Auto Stop to On or Off. Default: ON
MAINT CONFIG	(ASL only) Sets the ASL maintenance counter reminder function ON/OFF (ASL pulsing blue light ON/OFF).
SET CUSTOM PROGRAM 1/2	Sets the use of a customized workout program. Range: ON/OFF Default: OFF

¹Elliptical Fitness CrossTrainer

CLUB SETTINGS	DESCRIPTION
	Note: The Total Body Workout can only be turned on in this Club Settings menu.
	Note: * not available on all models.

Information Display (65)

Service Access Code: 65 (see "Service Access Codes" on page 22)

Provides the equipment usage, hardware, software, error code, and maintenance information.

INFORMATION DISPLAY	DESCRIPTION
ODOMETER	The total number of accumulated miles on the unit. This value is stored in the upper PCA ¹ in the console so if the PCA is replaced the accumulated miles would start again from "0".
HOUR METER	The total number of hours that the unit took to accumulate unit miles. This value is stored in the upper PCA in the console so if that PCA is replaced the hours of use would start again from "0".
BELT RATING⁽²⁾	(Treadmills Only) Displays the belt rating from 10 (best) to 0 (worst). Belt rating ≤ 1 replace the running belt ASL equipped machines: A belt rating of 0 or 1 will cause a blue pulsing ASL light indicating that there is a problem with the running belt/deck and requires servicing or replacement. Important: Reset the Belt Rating after replacing with a new running belt and deck (hold down QuickStart).
MAINT COUNTER	Provides machine next maintenance due remaining mileage or hours. Perform preventative maintenance when the maintenance counter reaches 0. Press/Hold the PAUSE/RESET key to reset the counter (treadmills reset to 1000 miles, ellipticals reset to 250 Hrs).

¹Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.

INFORMATION DISPLAY	DESCRIPTION
U-BOOT SW	The console Upper Boot software version information.
U-BASE SW	The console Upper Base software version information.
METRICS BOARD SW	The console Metrics board software version information
SER NUMBER	Displays the model and serial number of the machine. The base serial number can be set using the WinCSAFE computer software. The factory default is NONE.
USAGE LOG	Displays the type of workout programs the users are accessing most frequently.
"Error Log & CPA Event Log" on page 170	<p>Table of stored error event codes.</p> <p>TIP: You can quickly access the Error log by holding down the PAUSE key. Will show the STUCK KEY message when there are no logged error codes.</p>
TREADMILL MAINTENANCE⁽¹⁾	<p>Used to monitor and reset the 1000 mile belt cleaning maintenance reminder. Mileage counter starts at 1000 miles and decreases to 0 miles which triggers a blue pulsing ASL light indicating it's time for belt cleaning maintenance.</p> <p>The maintenance counter and ASL light is reset as follows:</p> <p>P10/P30 console</p> <ol style="list-style-type: none"> 1. Select Treadmill Maintenance. 2. Press and hold QUICKSTART until 1000 Miles is displayed. The ASL light is also reset. 3. Exit the menu by pressing BACK or PAUSE/RESET. <p>P62, P80, and P82 consoles: The maintenance reminder counter reset "Maintenance Due" parameter is located in the Maintenance menu:</p> <ol style="list-style-type: none"> 1. Access the service diagnostics (5,1,7,6,5,7,6,1). 2. Select Maintenance page. 3. Select Next Maintenance Due page > Reset. <p>Note: On P62, P80, and P82 the belt cleaning reminder ASL Blue flashing state can be switched ON or OFF, select Maintenance Reminder > ON/OFF.</p>

(1) Only available on ASL equipped models.

(2) TRM800-14, TRM700-16 models

Touchscreen Console Standard Service Menus

Standard service menus for Touchscreen consoles (P62, P80, and P82).

Touchscreen Console Standard Service Menus

Service Menu (51765761)

Service Access Code: 51765761

Standard service menu access code (51765761) opens to the Settings menu which is the top level service menu providing access to all the equipment service submenus.

menu: **Service Access code (51765761) > Settings**

The Settings menu is the top level service menu providing access to all available equipment service information, diagnostic tests, and maintenance submenus.

SETTINGS MENU	DESCRIPTION
"About menu" on the facing page	menu: Settings > About General information about the machine (serial number, name, type, location, software versions, internet & Wi-Fi ¹ connectivity, and the error codes (Event Log or CPA Event Log)
"" on page 39	menu: Settings > Equipment Usage Machine workout usage information (total workout time & distance, last work start/stop times).
"" on page 39	menu: Settings > Maintenance (ASL equipped machines only) Provides the machine maintenance and operating status information.
"" on page 41	menu: Settings > System Settings Provides settings to configure the console and machine. Also includes the service diagnostic tests.
Software Downloads	menu: Settings > Software Downloads Settings: ON, OFF Enables automatic operating system software downloads: <ul style="list-style-type: none"> • ON: Enables automatic operating system software downloads.

¹Wireless Fidelity - a term defined and Trademarked by the Wi-FiOpen Alliance (formerly known as the Wireless Ethernet Compatibility Alliance - WECA). Wireless LAN equipment carrying the Wi-Fi logo have been interoperability tested for compatibility with one (or more) 802.11 standards, and certified by the Wi-Fi Alliance to be sold under the Wi-Fi brand.

SETTINGS MENU	DESCRIPTION
	<ul style="list-style-type: none"> • OFF: Disables automatic operating system software downloads. <p>Note: Must be connected to the internet and register with PBS¹ (Preva[®] Business Suite).</p>
Partition Configuration	menu: Settings > Partition Configuration OEM use only, contact Precor Customer Service for information.
(No) Available Updates	menu: Settings > No Available Updates or Available Updates <ul style="list-style-type: none"> • No Available Updates: No available software updates can be read from the USB flash drive. • Available Updates: List of available software updates read from the USB flash drive. <p>Used to update the operating system software. The console reads a software update USB flash drive and then changes the menu from No Available Updates to Available Updates. Select Available Updates to view, select, and upload the software, see How to Update the console operating system software.</p>

About menu

About menu

menu: **Service menu (51765761) > Settings > About**

General information about the machine (serial number, name, type, location, software versions, internet & Wi-Fi connectivity, and the event and error codes (Event Log or CPA Event Log)).

ABOUT MENU	DESCRIPTION
Event Log	menu: About > Event Log The Event Log contains all connectivity errors and service maintenance error codes. .Note: For maintenance service and troubleshooting, use the CPA Event Log and not the Event Log to find the machine maintenance error event codes.
CPA Event Log	menu: About > CPA Event Log The CPA Event Log only contains the machine maintenance and

¹Preva Business Suite

ABOUT MENU	DESCRIPTION
	<p>troubleshooting error event codes that are described in the "<i>Error Code Troubleshooting Guide</i>", see "Error Code Troubleshooting Guide".</p> <p>.Note: Use the CPA Event Log and not the Event Log to find the machine maintenance and troubleshooting error event codes.</p>
<p>Console Serial Number</p>	<p>menu: About > Serial Number Console serial number.</p>
<p>Lower Serial Number</p>	<p>menu: About > Serial Number Base serial number.</p>
<p>Friendly Name</p>	<p>menu: About > Friendly Name Friendly name assigned to the equipment by the facility.</p>
<p>Location</p>	<p>menu: About > Location Facility location code.</p>
<p>Release Bundle Version</p>	<p>menu: About > Release Bundle Version Console System Operating software version. Select to show the component system software versions including: the CPA Software, LPCA, Qt App, Boot Kernel, and File System software versions.</p>
<p>Heartbeat Interval</p>	<p>menu: About > Heartbeat Interval OEM use only.</p>
<p>Wired MAC Address</p>	<p>menu: About > Wired MAC Address Wired LAN¹ MAC address</p>
<p>WI-FI MAC Address</p>	<p>menu: About > Wi-Fi MAC Address Wireless Wi-Fi MAC address</p>
<p>Network Time Server1</p>	<p>menu: About > Network Time Server1 NTP² server address</p>
<p>Machine Type</p>	<p>menu: About > Machine Type</p>

¹Local Area Network: A communications network that serves users within a local geographical area, typically over distances of around 100m. Wireless LANs use wireless communications to network devices so there is no need for data cabling.

²Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks.

ABOUT MENU	DESCRIPTION
	Specifies the detected machine type: TRED, AMT ¹ , EFX, UBK ² , RBK ³ .
Legal Notices	menu: About > Legal Notices Specifies the trademarks. trade names, etc.

Equipment Usage menu

menu: **Service menu (51765761) > Settings > Equipment Usage.**

Machine workout usage information: cumulative hours & distance, number of workout sessions, & last work start/stop times.

EQUIPMENT USAGE MENU	DESCRIPTION
Cumulative Workout Hours	menu: Equipment Usage > Cumulative Workout Distance Machine total workout hours.
Cumulative Workout Distance	menu: Equipment Usage > Cumulative Workout Distance Machine total workout distance.
Cumulative Workout Sessions	menu: Equipment Usage > Cumulative Workout Sessions Machine total number of workout sessions.
Last Workout Start Timestamp	menu: Equipment Usage > Last Workout Start Timestamp The most recent workout start time.
Last Workout End Timestamp	menu: Equipment Usage > Last Workout End Timestamp The most recent workout end time.

Maintenance menu

Menu: **Service menu (51765761) > Settings > Maintenance**

Provides machine maintenance related information including: routine maintenance due status, machine operating condition, and ASL state.

¹Adaptive Motion Trainer
²Upright Bike
³Recumbent Bike

MAINTENANCE MENU	DESCRIPTION
<p>Recommended Action menu</p>	<p>menu: Maintenance > Recommended Action Range: None, Inspect</p> <ul style="list-style-type: none"> • None: No maintenance required. • Inspect: Maintenance action required. <p>Used to report that there is a maintenance issue that requires attention; it could indicate routine maintenance is due or that a machine failure (error code) has occurred that required attention.</p>
<p>» Operating Condition</p>	<p>menu: Maintenance > Operating Condition Range: Normal, Inspect</p> <ul style="list-style-type: none"> • Normal: No maintenance required. • Inspect: There is a routine maintenance issue or failure condition (error code) that requires immediate attention. <p>.Important: Reset the ASL light state and Motor Controller (MC) status light after repairs a completed.</p>
<p>» Belt Rating</p>	<p>(Treadmills only) menu: Maintenance > Belt Rating Range: 10 - 0 (10 - New condition, ≤ 1 - Replace running belt) On ASL equipped machines: A belt rating of 0 or 1 will cause a blue pulsing ASL light indicating that there is a problem with the running belt/deck and requires servicing or replacement. .Important: Reset the Belt Rating after replacing with a new running belt and deck (select Replace).</p>
<p>» Next Maintenance Due</p>	<p>menu: Maintenance > Next Maintenance Due Provides machine next maintenance due remaining mileage or hours. Perform preventative maintenance when the maintenance counter reaches 0. .Important: Reset the maintenance interval after completing routine maintenance service, (select Reset). Treadmills reset to 1000 miles, ellipticals reset to 250 Hrs.</p>
<p>Active Status Light (1) (ASL) menu</p>	<p>menu: Maintenance > Active Status Light Indicates the machine operating and maintenance status.</p> <p>Blue Solid: Normal operation Indicates that the ASL has not detected any logged error codes.</p> <p>Blue Pulsing: Preventative maintenance reminder.</p> <ul style="list-style-type: none"> • Treadmills: A belt rating of 0 or 1 will cause a blue pulsing ASL light indicating that there is a problem with the running belt/deck

MAINTENANCE MENU	DESCRIPTION
	<p>and is in need of servicing or replacement.</p> <ul style="list-style-type: none"> • ALL: The maintenance counter starts at 1000 hours counting down to active use hours to 0 indicating preventative maintenance is due. <p>Yellow Solid: Indicates an error has occurred, was self-corrected and the machine can be used. The fault can be cleared.</p> <p>Yellow Pulsing There is a current non-recoverable fault condition, there is a loss of a major function and the machine is out-of-service. Machine service is required.</p>
» AS light Brightness (1)	<p>menu: Maintenance > AS Light Brightness Range: Low, Medium, High Set the ASL brightness level.</p>
» Maintenance Reminder	<p>menu: Maintenance > Maintenance Reminder Range: OFF, ON (default) Switch the maintenance reminder function ON or OFF.</p>
<p>Notes: (1) Only used on machines that support the Active Status Light feature.</p>	

System Settings menu

menu: **Service menu (51765761) > Settings > System Settings.**

Provides settings to configure the console and machine. Also includes the service diagnostic tests.

SYSTEM SETTINGS MENU	DESCRIPTION
System Tests menu	<p>menu: System Settings > System Tests Machine diagnostics tests to verify system hardware operation, see "System Tests menu" on page 46.</p>
Connectivity menu	<p>menu: System Settings > Connectivity Connectivity includes Internet network and Preva[®] Server setup and configuration.</p>
» Network Type	<p>menu: System Settings > Connectivity > Network Type Settings: Wired, Wi-Fi Default: Wired</p>

SYSTEM SETTINGS MENU	DESCRIPTION
	<p>To connect to a network:</p> <ol style="list-style-type: none"> 1. Select Network Type > Wired (or Wi-Fi) > Go. 2. Select Configure > Configuration > select a network from the list and enter your credentials to access that network. 3. Select Back to save settings and return to the Connectivity screen.
» Configuration	<p>menu: System Settings > Connectivity> Configuration Settings: Automatic (recommended), Manual Default: Automatic Specifies internet connection mode.</p>
» Status	<p>menu: System Settings > Connectivity > Status Range: Connected, Not Connected Specifies internet connection status.</p>
» IP Address	<p>menu: System Settings > Connectivity> IP Address Specifies console internet IP address.</p>
» Preva® Server	<p>menu: System Settings > Connectivity> Preva® Server Specifies Precor Preva server URL (na.preva.com).</p>
Display menu	<p>menu: System Settings > Display Console default display configuration settings: language, units, standby delay, .browser and news reader on/off.</p>
» Default Language	<p>menu: System Settings > Display > Default Language Default: English Specifies the default language.</p>
» Measurement Units	<p>menu: System Settings > Display > Measurement Units Range: US Standard, Metric Default: US Standard Specifies the default measurement units.</p>
» Standby Mode Delay	<p>menu: System Settings > Display > Standby Mode Delay Range: 5, 10, 15, 30, 60 minutes Default: 15 minutes Specifies the idle wait time before entering standby mode.</p>
» Browser	<p>menu: System Settings > Display > Browser Range: ON/OFF</p>

SYSTEM SETTINGS MENU	DESCRIPTION
	Default: ON Show (enable) the Browser app.
» News Reader	menu: System Settings > Display > News Reader Range: ON/OFF Default: ON Show (enable) the News Reader app.
TV Settings menu	menu: System Settings > TV Settings Configuration TV settings and channel guide.
» Channel Guide	menu: System Settings > TV Settings > Channel Guide TV channel configuration.
» TV Source	menu: System Settings > TV Settings > TV Source Default: Internal Tuner TV input signal source
» Region	menu: System Settings > TV Settings > Region Specifies the TV input signal modulation format for a particular geographical region.
» Default Channel	menu: System Settings > TV Settings > Default Channel Default: Not set TV default channel.
» Skip Unnamed Channel	menu: System Settings > TV Settings > Skip Unnamed Channels Default: ON Skips over unnamed channels.
» Skip Encrypted Channel	menu: System Settings > TV Settings > Skip Encrypted Channels Default: ON Skips over encrypted channels.
» Analog Channels Aspect Ratio	menu: System Settings > TV Settings > Analog Channels Aspect Ratio Range: 4:3, 16:9 Select the analog channel aspect ratio.
» Extensive Scan	menu: System Settings > TV Settings > Extensive Scan Default: OFF

SYSTEM SETTINGS MENU	DESCRIPTION
	Searches all available channel sources.
» Closed Captioning	menu: System Settings > TV Settings > Closed Captioning Default: On Switches close caption feature ON/OFF.
» Export/Import Channels	menu: TV Settings > Export/Import Channels Export/Import channel mapping using a USB .flash drive.
Audio Settings menu	menu: System Settings > Audio Settings Specify the workout duration and equipment Limits for your facility.
» Default Wired Headphone Volume	menu: System Settings > Audio Settings > Default Wired Headphone Volume Range: 1 to 15 Default: 6 Sets the default wired headphone jack volume level.
» Default Bluetooth ¹ Headphone Volume	menu: System Settings > Audio Settings > Default Bluetooth Headphone Volume Range: 1 to 15 Default: 11 Sets the default bluetooth headphone jack volume level.
Workout Limits menu	menu: System Settings > Workout Limits Specify the workout duration and equipment Limits for your facility.
» Maximum Workout Duration	menu: System Settings > Workout Limits > Maximum Workout Duration Range: 1 to 240 min, NO LIMIT Default: 60 min Sets the maximum allowable user workout time per session.
» Maximum Pause	menu: System Settings > Workout Limits > Maximum Pause Range: 1 to 300 sec Default: 30 sec

¹Bluetooth is a wireless technology standard for exchanging data over short distances (using short-wavelength UHF radio waves in the ISM band from 2.4 to 2.485 GHz from fixed and mobile devices, and building personal area networks (PANs).

SYSTEM SETTINGS MENU	DESCRIPTION
	Sets how long the equipment remains in a paused banner during a workout before resetting.
» Summary Time Out	menu: System Settings > Workout Limits > Summary Time Out Sets the time to view the Workout Summary data. Range: 1 to 120 sec Default: 60 sec
» Maximum Speed	menu: System Settings > Workout Limits > Maximum Speed Default: 12 mph Sets the user maximum speed.
» Maximum Incline	menu: System Settings > Workout Limits > Maximum Incline Default: 15 %
» Auto Stop ⁽¹⁾	menu: System Settings > Workout Limits > Auto Stop Default: ON Sets Auto Stop to On or Off.
Register Equipment menu	menu: System Settings > Register Equipment Register console and equipment with Precor Preva [®] Business Suite "PBS". Required information to register the equipment: <ul style="list-style-type: none"> • Location code • Precor technician account name and password • Serial number from the base • Friendly name assigned to the equipment by the facility (Example: Equipment Type-Floor-Row-Number) To complete registration for Preva-networked facilities: <ol style="list-style-type: none"> 1. Enter the Preva server name (na.preva.com for all sites). 2. Enter the assigned account name and password. 3. Follow the onscreen instructions to register the product.
Manage Settings	menu: System Settings > Manage Settings Save and restore the Connectivity, Display, Media, and Workout Limits settings.

(1) Not available on all models.

System Tests menu

System Tests menu

menu: **Service menu (51765761) > System Settings > System Tests.**

Machine diagnostics tests to verify system hardware operation.

SYSTEM TESTS MENU	TEST DESCRIPTION
Auto Stop Test	menu: System Tests > Auto Stop Test Test parameters; <ul style="list-style-type: none"> • Status - User detected on running belt • Step Count - Average # of footplants. Footplant averaging delay reset with each speed change.
Belt Speed Test	menu: System Tests > Belt Speed Test Tests belt operating condition in 0.1 speed increments Test parameters: <ul style="list-style-type: none"> • AMPS IN: Treadmill input Current. • VOLTS IN: Treadmill input Voltage • VBUSS: Treadmill internal buss Voltage • AMPS MTR: Current supplied to the drive motor.
Incline Test	menu: System Tests > Incline Test Test parameters; <ul style="list-style-type: none"> • A/D - lift motor incline position potentiometer A/D number. • SEC - UP/DWN command response delay between the UPCA and LPCA. • Glitches - Momentary failures in the A/D potentiometer output. If there are more than 50 Glitches, the lift motor should be replaced.
USB Test	menu: System Tests > USB Test List the active USB ports.
Touchscreen Test	menu: System Tests > Touchscreen Test Verify touchscreen display.
Touchscreen Calibration	menu: System Tests > Touchscreen Calibration Calibrates touchscreen finger press operation.
Backlight Test	menu: System Tests > Backlight Test Tests the display backlight performance.
RGB Test	menu: System Tests > RGB Test

SYSTEM TESTS MENU	TEST DESCRIPTION
	Tests the display color performance.
Numeric Backlight Test	menu: System Tests > Numeric Backlight Test Tests the movement controls LCD numeric displays backlight brightness level.
Numeric Display Test	menu: System Tests > Numeric Display Test Tests the movement controls LCD numeric displays.
Heart Rate Test	menu: System Tests > Heart Rate Test Tests the handlebar unfiltered, filtered, and pulse heart rate. Grasp the grips to test the hand held heart rate. Use a Polar heart rate simulator to test the wireless heart rate. Press the back button to exit this test.

Club Settings (5651565)

Service Access Code: 5651565

On P62, P80, and P82 touchscreen consoles, Club Settings menu is used by club operators to configure the equipment workouts and to help manage equipment service.

Club Settings Menus

- About menu, see "About menu" on page 37.
- Equipment Usage menu, see "" on page 39.
- Maintenance menu, see "" on page 39.
- System Settings menu, see "" on page 41.
- (No) Available Updates, see "(No) Available Updates" on page 37.

Information Display (65)

Information Display (65): Not supported

The Information Display (65) service menu found on LED consoles (P10, P30, P30i and P31) is NOT supported on touchscreen consoles (P62, P80, and P82).

Refer to the following touchscreen console service menus for similar equipment information:

- About menu, see "About menu" on page 37.
- Equipment Usage, menu see "" on page 39.

- Maintenance menu, see "" on page 39.
-
-

Adjustment Procedures

Adjustment procedures provide you with the step-by-step adjustment instructions to bring systems and components into specification. Perform the adjustment procedures whenever a trouble symptom points to a particular component and after a major component is removed/replaced.

Available Adjustment Procedures

"Drive Belt Tension and Alignment Adjustment" on the next page

"Running Belt Tension and Tracking Adjustment" on page 54

"Lift Motor Calibration" on page 60

Drive Belt Tension and Alignment Adjustment

About

This procedure provides instruction to verify and make adjustments to the Drive Belt alignment and tension. The Drive Belt alignment and tension should be verified anytime the Drive Belt is removed or when unusual belt noises are heard during normal operation.



IMPORTANT: This procedure assumes that the Drive Belt is installed, see "Drive Belt Replacement" on page 116.

Specifications

Belt Condition ⁽¹⁾	Calibration Belt Tension	Verification Belt Tension
New ⁽¹⁾	110 lbs +/- 10 (50 kgs +/- 4.5)	100-120 lbs (45-54 kgs)
Used ⁽¹⁾	85 lbs +/- 5 (39 kgs +/- 2)	80-90 lbs (36-41 kgs)

(1) New belt tension applies to new belt first time installations. Used belt tension applies to reinstalling an existing belt or re-tensioning an existing used belt

Procedure

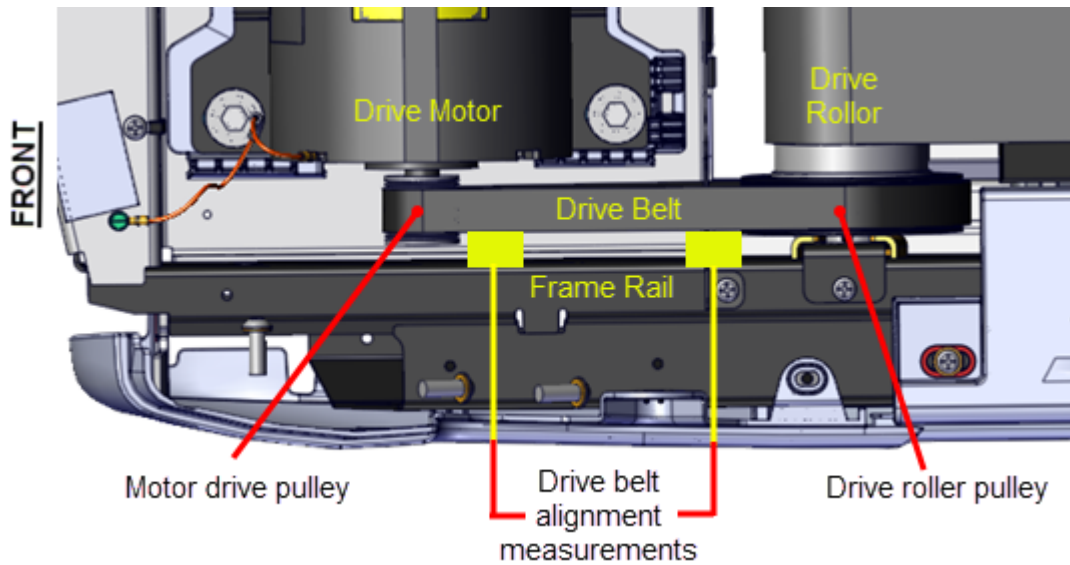
Review entire procedure before starting.

Drive belt alignment adjustment



CAUTION: Improper Drive Belt alignment can cause unusual operating noises and will eventually cause damage to the drive belt and/or the motor or roller pulley hardware.

1. Remove the hood, see "Hood Cover Replacement" on page 71.
2. Make sure that the Drive Belt is aligned parallel to the left side frame rail. Measure the drive belt-to-frame rail distance at two places, at the Roller pulley and at the Drive Motor pulley. The Drive Belt is correctly aligned when the two measured distances are the same:
 - a. If the measurements are not the same, adjust the belt position on the Drive Motor pulley to match the Roller belt distance.
 - b. Run the treadmill at 3 mph (5 kph) for one minute to allow the belt and pulley groves to properly align and seat. Verify the Drive Belt remains aligned. Readjust if alignment has changed.



Drive Belt tension adjustment

Belt tension adjustment is an iterative process that requires removing the Drive Belt for each incremental tension adjustment. The process entails: making a belt tension measurement, removing the Drive Belt from the motor pulley, changing the motor position to adjust the belt tension, reinstalling the belt, and then verifying the adjusted belt tension. The process is repeated until the belt tension meets specification.

Belt tension verification

1. Switch the input power **OFF** and **unplug**¹ the power cord.
2. Place the belt tension gauge onto the Drive Belt mid distance between the motor and roller pulleys.

¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.



3. Verify that the Drive Belt tension is within **New** or **Used** Drive Belt tension **Verification Belt Tension** specification:
 - a. If the belt tension is not within the belt **Verification Belt Tension** specification; continue procedure to adjust tension to the tension **Calibration Belt Tension** specification.
 - b. If the belt tension is within the **Verification Belt Tension** specification; skip the tension adjustment and skip to "[Operation verification](#)" on the facing page.

Belt Condition	Verification Belt Tension
New	100-120 lbs (45-54 kgs)
Used	80-90 lbs (36-41 kgs)

Belt tension calibration adjustment

4. Walk the belt off the Drive Motor pulley. You can use your free hand to move the motor flywheel to rotate the motor pulley and drive belt.
5. Loosen the four 1/2" hex Drive Motor mount fasteners and adjust the motor position as needed (forward to increase tension or rearward to decrease tension) to meet the belt tension **Calibration Belt Tension** specification. Only make small incremental changes in motor position per adjustment to prevent over tensioning the belt.

Belt Condition	Calibration Belt Tension
New	110 lbs +/- 10 (50 kgs +/- 4.5)
Used	85 lbs +/- 5 (39 kgs +/- 2)



CAUTION: Only make small incremental changes to motor position per tension adjustment. Do not over tension the belt which could cause damage to the belt or motor pulley mechanism.

6. Re-tighten the four motor mount fasteners and torque to specification 204 in-lbs (17 ft-lbs, 23 N-m).
7. Reinstall drive belt. Place Drive Belt onto the motor pulley and walk the belt onto the Roller pulley. You can use your free hand to move the motor flywheel to rotate the motor pulley and drive belt.
8. Place the tension gauge onto the belt and remeasure the tension.
 - a. If the tension measurement does not meet the **Calibration Belt Tension** specification, repeat the tension adjustment process until the measured tension is within the **Calibration Belt Tension** specification.
9. Connect the power cord and switch the input power **ON**.
10. Run the treadmill speed at 3 mph (5 kph) for 1 minute.
11. Switch the input power **OFF** and unplug the power cord.
12. Remeasure the belt tension and verify that the tension remains within the **Verification Belt Tension** specification. If not within specification, make adjustments as needed, see ["Belt tension calibration adjustment"](#) on the previous page.

Belt Condition	Verification Belt Tension
New	100-120 lbs (45-54 kgs)
Used	80-90 lbs (36-41 kgs)

13. Verify that the Drive Belt alignment is correct and has not moved out of alignment, see ["Drive Belt Tension and Alignment Adjustment"](#) on page 50.

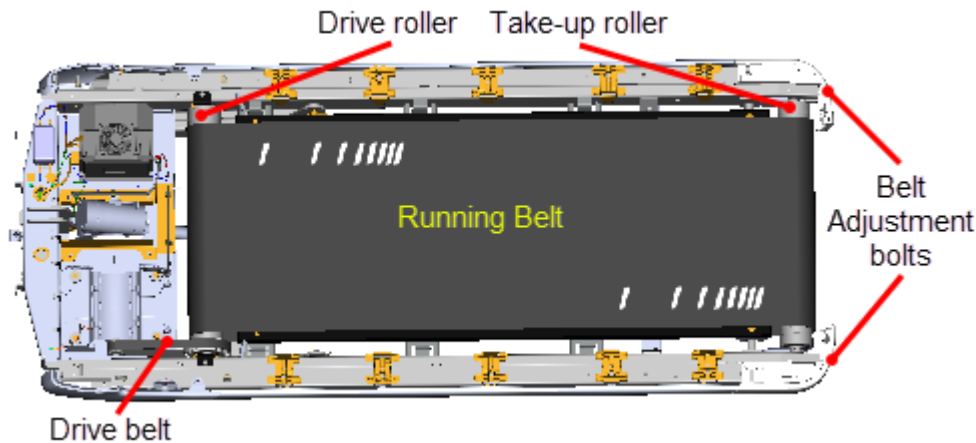
Operation verification

14. Reinstall the hood cover.
15. Connect the power cord and switch the input power **ON**.
16. Do the Operation Verification tests (see ["Operation Verification"](#) on page 19) and return to service.

Running Belt Tension and Tracking Adjustment

About

This procedure provides instructions to verify and make adjustments to the running belt tension and tracking alignment. The running belt tension and tracking should be verified anytime the running belt is replaced or the belt tracking is not centered.



Tools

- 5/16" Hex Key
- (QTY 2) Belt tension gauges (Precor pn PPP000000020007101)



Note: Proper tensioning of the belt requires the use of two tensioning gauges, Precor part number PPP000000020007101.

Specification

System Component	Specification
Ammeraal Beltech brand running belt tension (gauge/percent) ⁽²⁾	[[[Undefined variable Specifications. TRM14 ¹ -AmeraalRunBeltTension]]] ⁽¹⁾
Forbo brand running belt tension (gauge/percent) ⁽³⁾	3.55 (0.55%) ⁽¹⁾
Notes: 1. Referenced to gauge reading 3.0 (0.0%) 2. The Ammeraal Beltech brand running belt must <u>NOT</u> be used with a prewaxed deck. 3. The Forbo brand running belt must be used with a prewaxed deck.	

¹TRM800 treadmills mfg. dates 2014 and later.

Procedure



- CAUTION:**
- 1) The tracking adjustments should only be done in 1/4 turn increments.
 - 2) ONLY use the right side tension bolt to adjust tracking.
 - 3) ONLY use hand tools to adjust tracking.

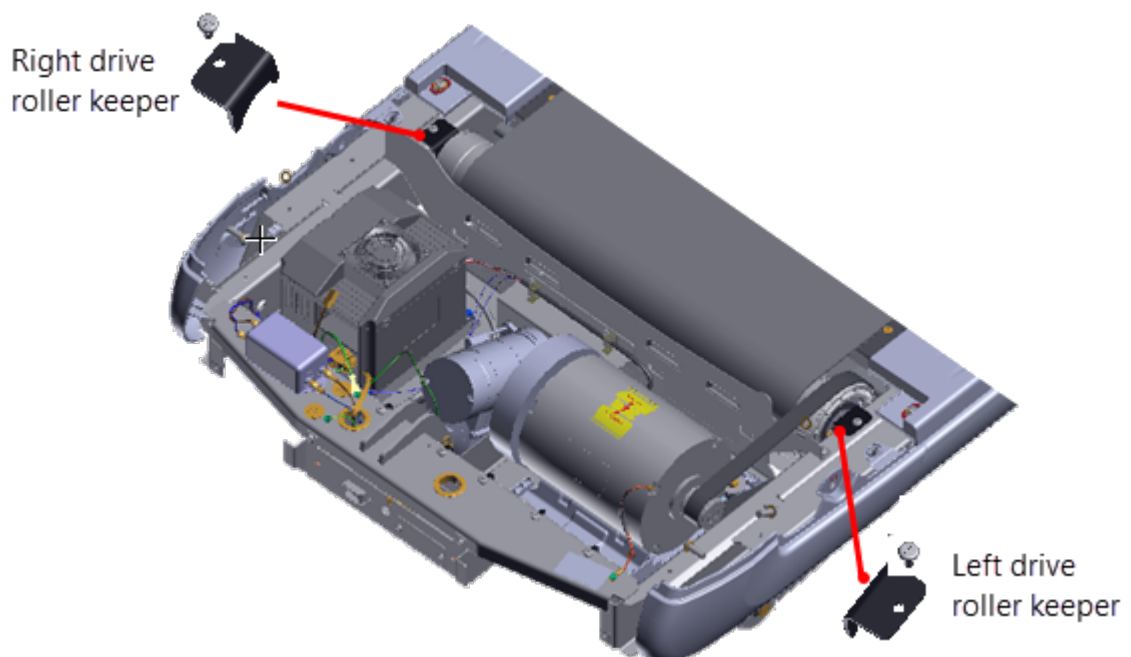
Running belt tension adjustment

Review entire procedure before starting.

1. Clean the running belt and deck, see "Running Belt and Deck Cleaning Procedure" on page 211.
2. Switch the power **OFF** and **unplug**¹ the power cord.
3. Remove the front hood and left/right trim landing covers, see "Covers and Panels Replacement" on page 69.
4. Make sure that the left and right Roller Keeper(s) are installed.



Note: TRM800-16 Treadmills - Some early production TRM800-16 treadmills may only have one or no Roller keepers installed (PPP000000302495102 RIGHT HAND ROLLER KEEPER, PPP000000302495102 LEFT HAND ROLLER KEEPER).



5. Relax the running belt tension by loosening the left and right 5/16" hex key tension adjustment bolts. Alternately loosen the left and right adjustment bolts in 1/4 turn increments to evenly remove tension.

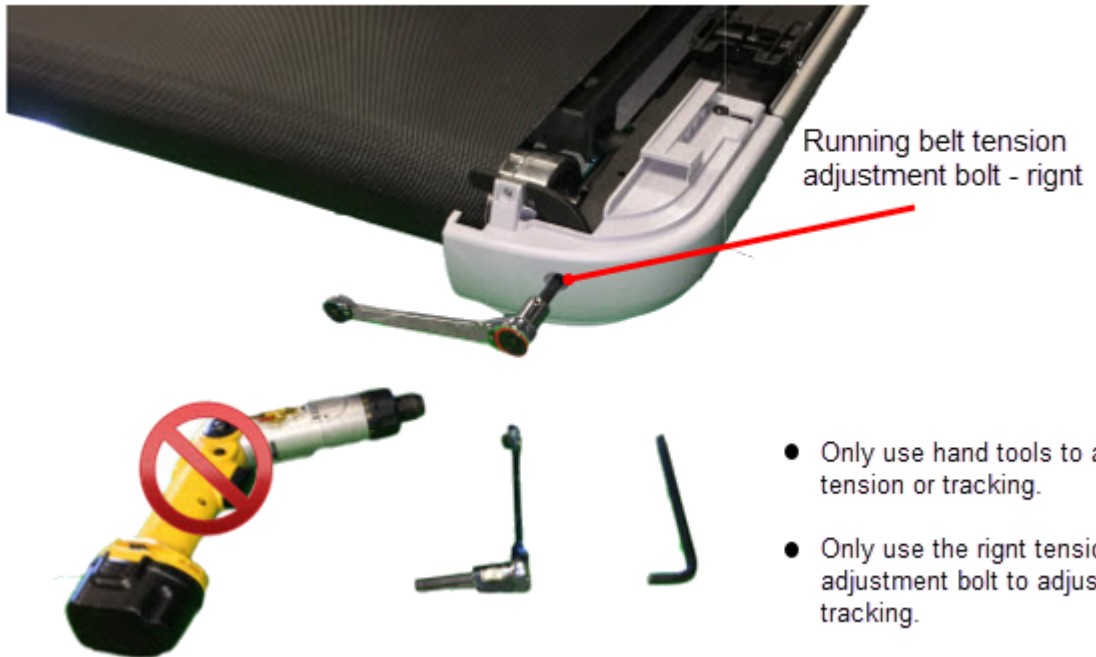
¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.



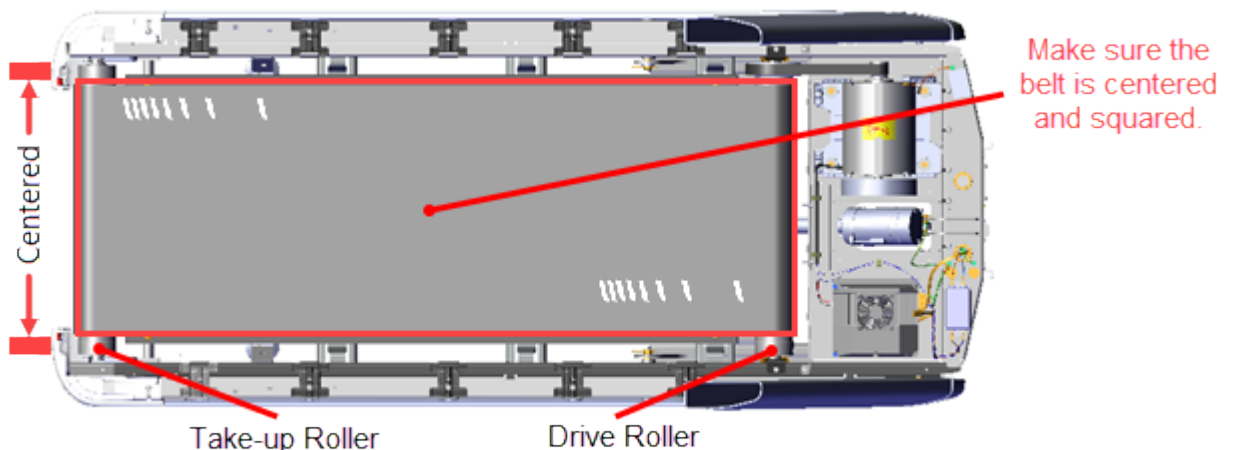
Note: It is not necessary to remove the adjustment bolts. Loosen bolts until the take-up roller adjustment cassette touches the frame. No further loosening is required. If the bolt is removed, remove the trim end cap cover and reinstall the bolt.



CAUTION: Only use hand tools to adjust tension. Power tools can easily over and/or under tension causing damage to the belt and/or tension hardware mechanism.

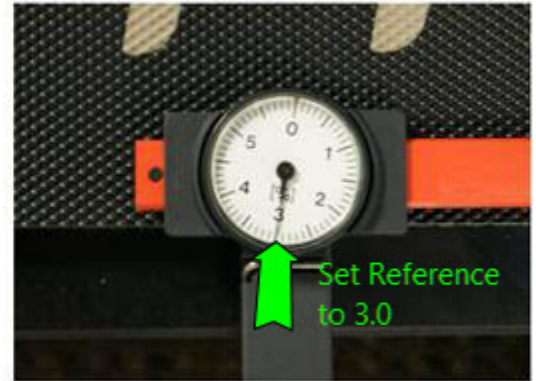
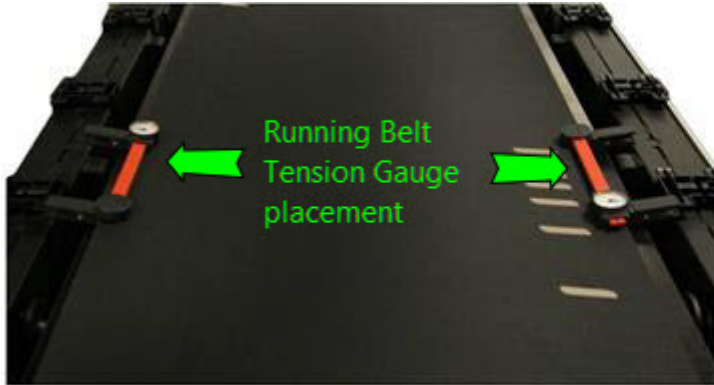


6. Verify that the running belt is centered and squarely positioned from the front Drive roller to rear Take-up roller.



7. Move the running belt so that the seam is positioned underneath the treadmill.

8. Attach a running belt tension gauge on each side of the running belt opposite each other. Place the gauges so that the trim landing mounting brackets do not interfere with the gauge movement.



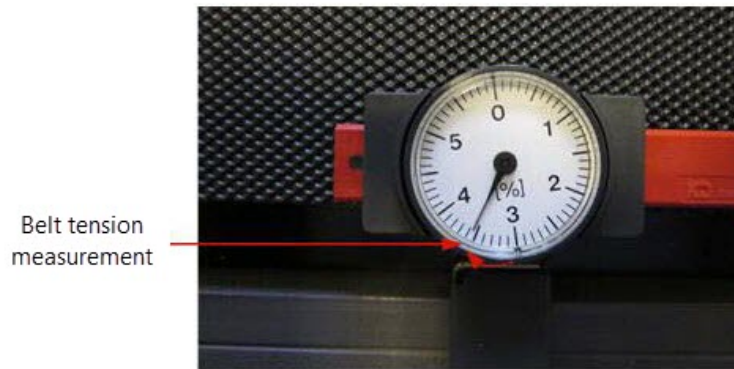
9. Slide the gauge head to set the dial needle as close as possible to 3.0 (0.0%) and clip the gauge onto the belt edge. Then rotate the gauge dial face to fine adjust the needle to precisely 3.0 (0.0%)



Note: Setting the gauge to a 3.0 reference value centers the gauge head travel allowing +/- movement without impeding travel.

10. Alternately tighten the right and left running belt tension adjustment bolts in increments of 0.2 (0.2%) dial divisions so that the belt is evenly tensioned to the manufacturer specification:
 - a. Incrementally and alternately tighten the left and right adjustment bolts until each gauge dial reaches a value of 3.0.
 - b. Tighten the right adjustment bolt to dial setting 3.1, then the left adjustment bolt to 3.2.
 - c. Tighten the right adjustment bolt to dial setting 3.3, then the left adjustment bolt to 3.4.
 - d. Tighten the right adjustment bolt to dial setting 3.55 (0.55%), then the left bolt to 3.55 (0.55%).

Running Belt Brand	Specification
ammeraal brand running belt tension (gauge/percent)	[[[Undefined variable Specifications.TRM14-AmeraalRunBeltTension]]]*
Forbo brand running belt tension (gauge/percent)	3.55 (0.55%)*
Notes: * Referenced to gauge reading 3.0 (0.0%)	



Belt tension
measurement

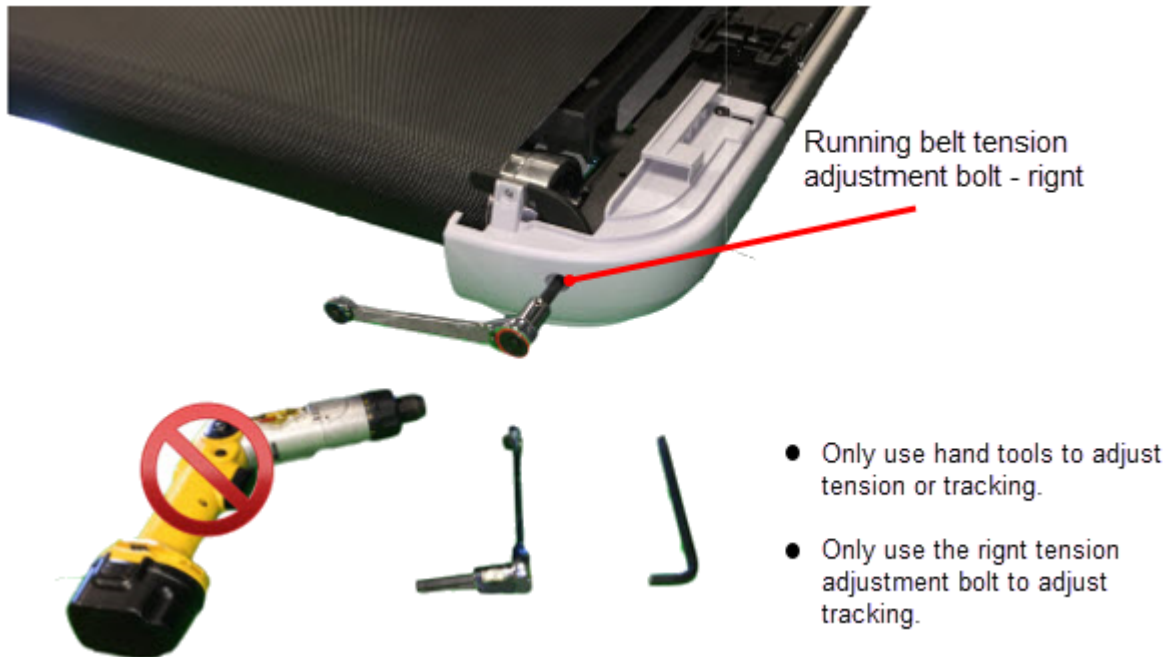
Belt Tension Gauge Measurement

11. Remove the tension gauges.

Running belt tracking adjustment

Review entire procedure before starting.

1. Connect the power cord and switch the power **ON**.
2. Start the treadmill and set the speed to 3 mph (5 kph).
3. Observe and verify that the running belt tracking remains centered, if the belt does not remain centered, follow the following instruction to make adjustments:
 - a. If the belt starts to drift toward the right, slowly turn the right side tension adjustment bolt clockwise in $\frac{1}{4}$ turn increments until the drifting stops.
 - b. If the belt starts to drift toward the left, slowly turn the right side tension adjustment bolt counterclockwise in $\frac{1}{4}$ turn increments until the drifting stops.



4. Increase the speed to 6 mph (10 kph) verify tracking, then increase the speed to 9 mph (14 kph) verify tracking, and finally increase the speed to 12 mph (19 kph) and verify tracking. Make sure that the tracking remains centered at each speed, make small adjustments as needed.
5. Make sure that the treadmill is setting level and stable, adjust the two rear leveling feet as necessary.



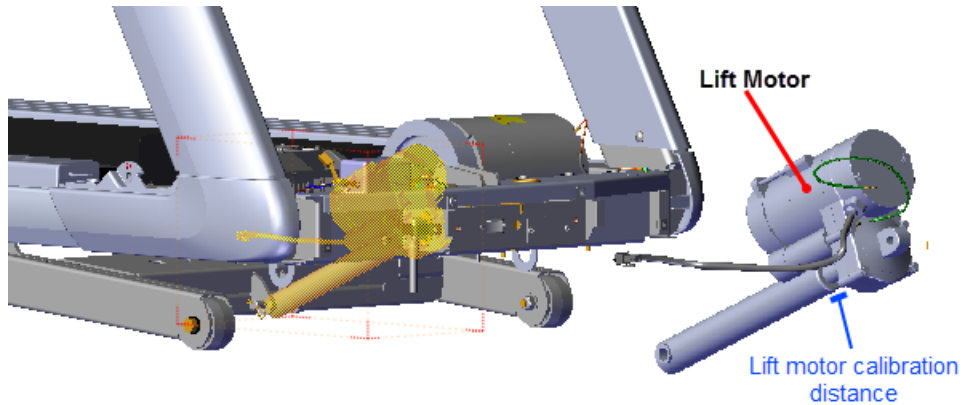
Note: An unlevel unstable treadmill can cause tracking issues with use.

6. Replace the hood and left/right trim landing covers, see "[Covers and Panels Replacement](#)" on page 69.
7. Verify treadmill operation (see "[Operation Verification](#)" on page 19) and return to service.

Lift Motor Calibration

About

This procedure provides instruction to verify and calibrate the Lift Motor and Incline system. The Lift Motor calibration should be verified any time the lift motor is replaced, the lift motor fuse fails, or any incline system component is replaced.



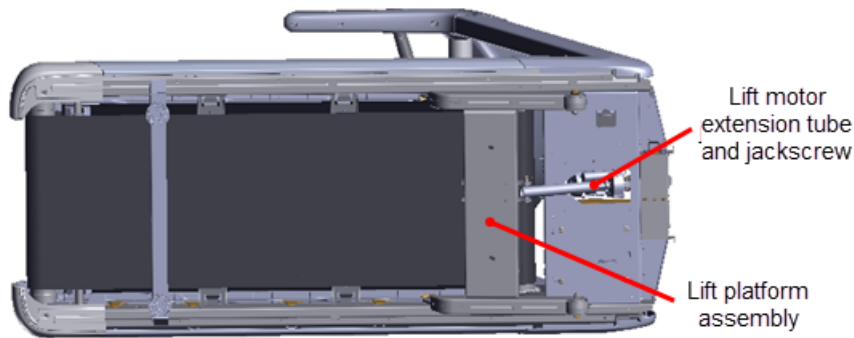
Specifications

System Component	Specification
Lift Motor Calibration Distance*	1 1/8 in - 1 3/16 in (2.8 cm - 3.0 cm)
Note: * Calibration distance is specified at incline level 0.	

Procedure

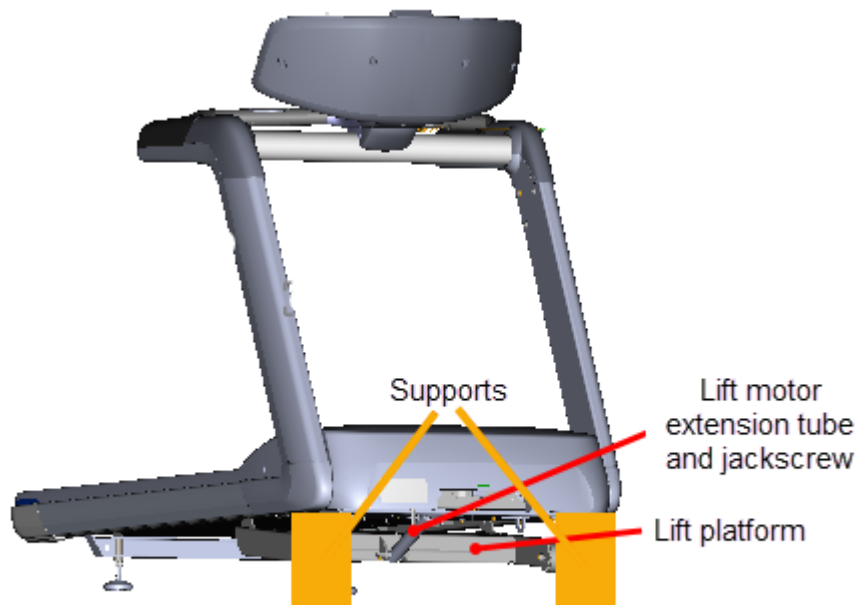
Review entire procedure before starting.

1. Remove the Hood cover, see "[Hood Cover Replacement](#)" on page 71.
2. Choose either the side or front access method to position the treadmill to access the lift motor jackscrew. Go to the following selected side or front access procedures and return to continue the calibration.
 - a. Side lift motor access method, go to "[Side lift platform assembly access](#)" on page 64,



Lift Motor Assembly Side Access

- b. Front lift motor access method, go to "Front lift platform assembly access" on page 66.



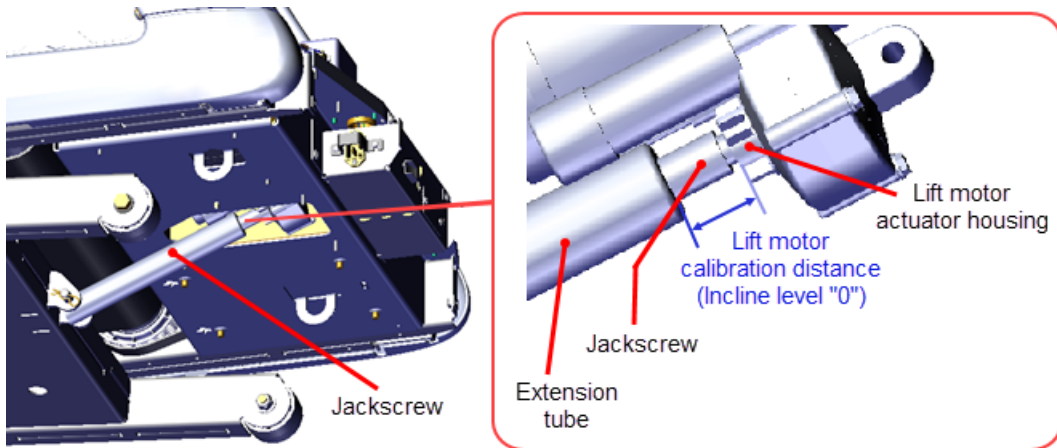
Front Lift Assembly Access



WARNING: Keep hands and appendages clear of the incline platform assembly before switching power **ON**. Switching power **ON** will cause the incline platform to move to the level "0" Home position.

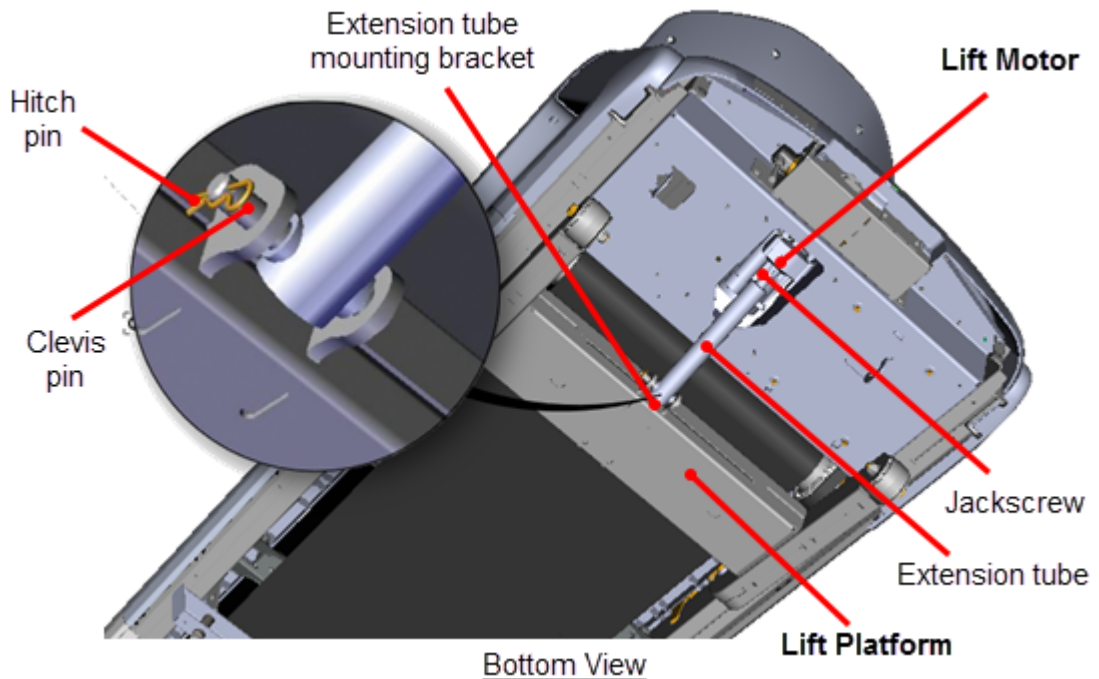
- 3. Measure the lift motor calibration distance between the top of the extension tube nut and the bottom of the lift motor actuator jackscrew housing. Verify that the distance is within the specified limits specification limit 1 1/8 in - 1 3/16 in (2.8 cm - 3.0 cm) (incline level set to "0"):
 - a. If the distance is within the specified limit, calibration is not required. Go to Operation Verification, see "Operation Verification" on page 63.

- b. If the distance is NOT within the specified limit, continue procedure and calibrate the lift motor assembly.

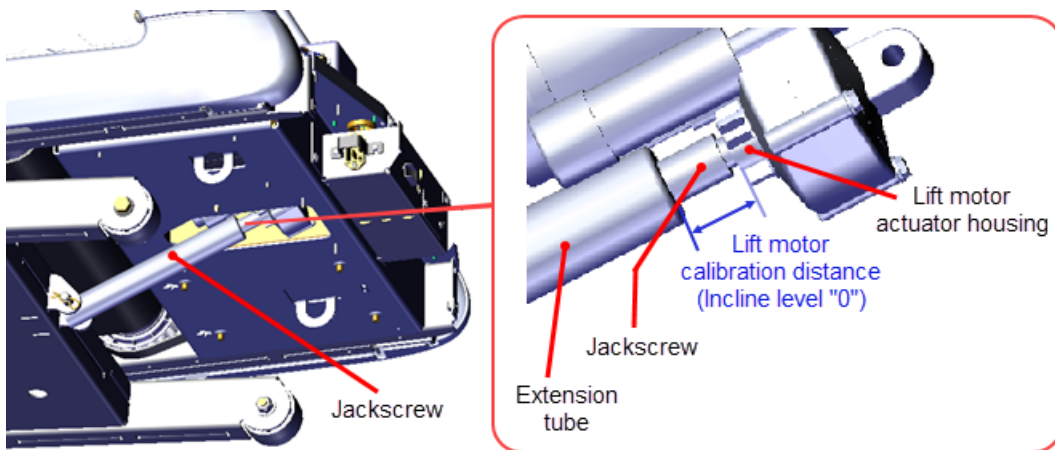


Lift motor calibration adjustment

- 4. Disconnect the extension tube from the lift platform weldment mounting bracket by removing the hitch pin and clevis pin. Retain part(s) and/or fastener(s) for installation.



- 5. Firmly hold the jackscrew and rotate the extension tube to adjust the calibration distance. The calibration distance is measured between the top of the extension tube nut and the bottom of the lift motor actuator housing. Make sure the calibration distance is within the specification limit 1 1/8 in - 1 3/16 in (2.8 cm - 3.0 cm).



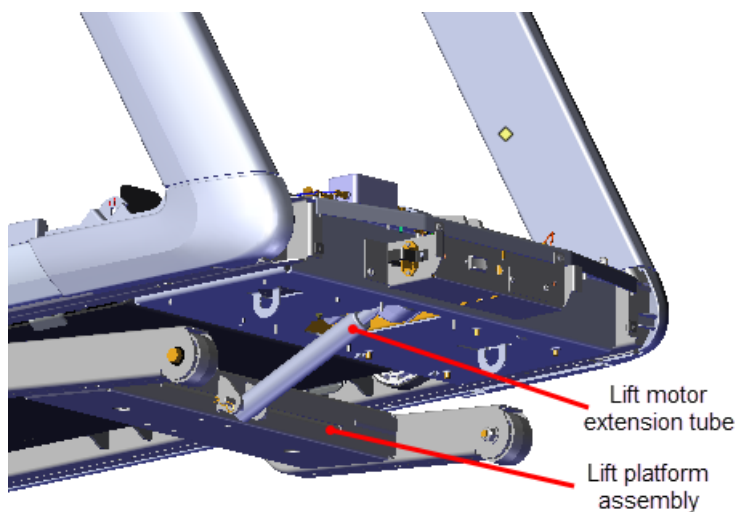
6. Reinstall the extension tube into the lift platform mounting bracket and secure using the hitch pin and clevis pin. It may be necessary to slightly rotate the extension tube to align the clevis pin mounting holes. Choose an adjustment direction that will minimize the change to the extension tube calibration distance. Firmly hold the jackscrew from turning while adjusting (rotating) the extension tube.

Operation Verification

7. Return the treadmill to the default upright position making sure the treadmill is stable and setting level on the floor, see either the ["Side lift platform assembly access"](#) on the next page or the ["Front lift platform assembly access"](#) on page 66.
8. Reinstall the hood.
9. Connect the power cord and switch the power **ON**.
10. Verify incline operation from the minimum to maximum levels.
11. Do the Operation Verification tests (see ["Operation Verification"](#) on page 19) and return to service.

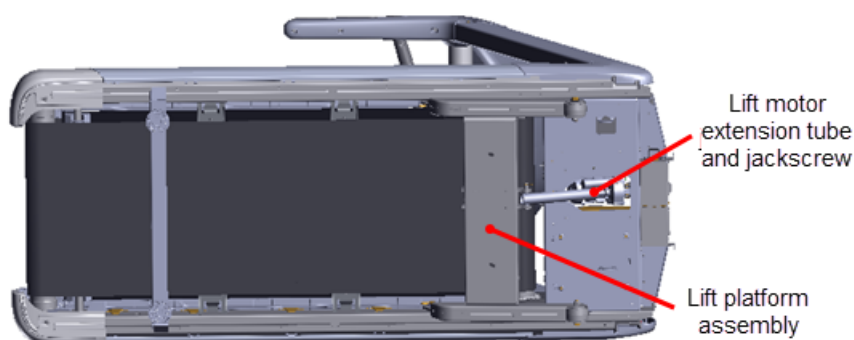
Lift Platform Assembly Access

Servicing the lift platform assembly and lift motor extension tube/jackscrew components require accessing the underside of the treadmill. There are two alternative methods to access the lift platform assembly and connected hardware: 1) side lift platform assembly access or 2) front lift platform assembly access. Review each method and use the process that best fits your particular circumstances.



Side lift platform assembly access

This method accesses the lift platform assembly and connected hardware by laying the treadmill on its side.



Lift Motor Assembly Side Access

Laying the treadmill on its side

1. Toggle the power switch from **OFF** to **ON**. This will reset the incline level to "0" (the incline level "Home" position). Incline level "0" is also the lift motor calibration reference incline level.



IMPORTANT: It is important to set the incline level to "0" (calibration ref level) before switching the power **OFF**.

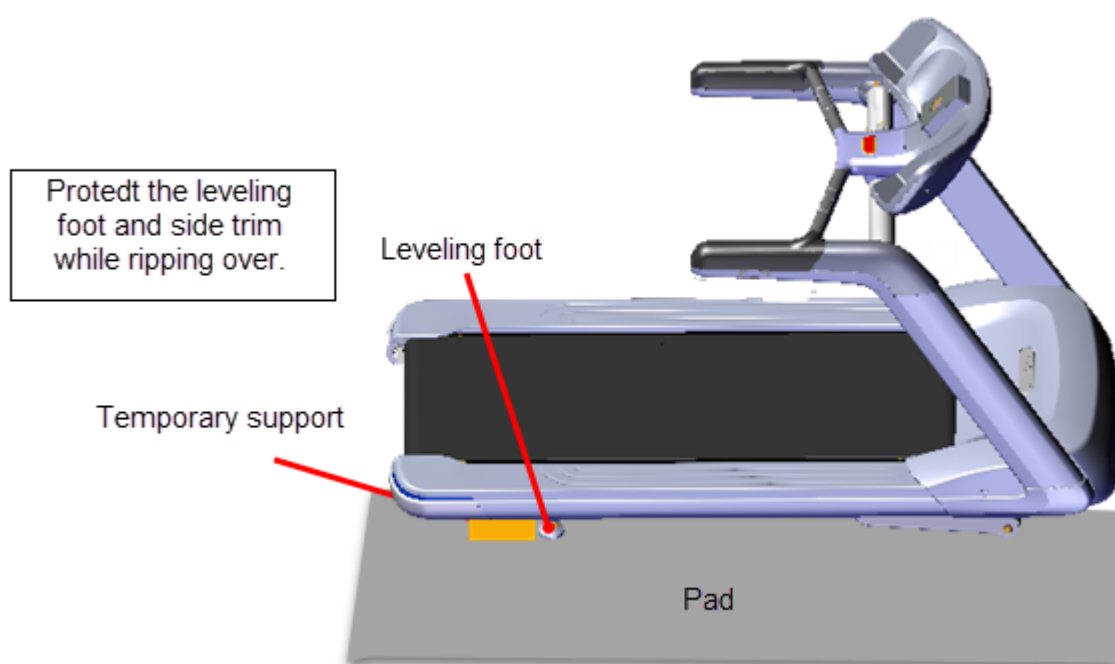
2. Switch the power **OFF** and **unplug**¹ the power cord. Move the power cord so it will not be damaged as the treadmill is laying on its side.

¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

3. If not already removed, remove the Hood cover "Hood Cover Replacement" on page 71.
4. Clear the area of any obstructions or items that could damage or be damaged as the treadmill is tipped on its side.
5. Tip the treadmill on its side while being careful to not damage or break off the rear leveling foot. You can use soft blocking material next to the leveling foot to support the frame weight as the treadmill is being tipped over.



CAUTION: Protect the leveling feet from damage while tipping the treadmill on its side.



Returning the treadmill to the upright position

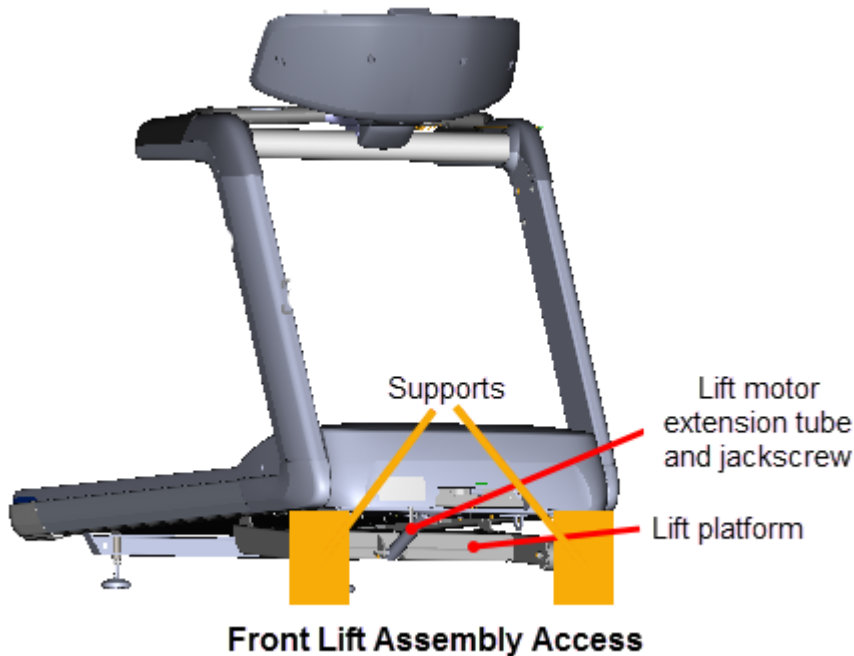
1. Switch the power **OFF** and unplug the power cord. Move the power cord so it will not be damaged as the treadmill is set to the upright position.
2. Clear the area of any obstructions or items that could damage or be damaged as the treadmill is tipped to the upright position.
3. Tip the treadmill to the upright position while being careful to not damage or break off the rear leveling foot. You can use soft blocking material next to the leveling foot to support the frame weight as the treadmill is being tipped over.



CAUTION: Protect the leveling feet from damage while tipping the treadmill to the upright position.

Front lift platform assembly access

This method accesses the lift platform assembly and connected hardware from the front of the treadmill by raising and supporting the treadmill front frame weldment.



Raising and supporting the treadmill

1. Connect the power cord and switch the input power **ON**.
2. Access the service menu (51765761) and select **INCLINE TEST**. Use the incline control to set the incline level to 14.
3. Securely and safely place supports (e.g. car jack stands) under the left and right front corners of the frame weldment.
4. Slowly lower the incline level in 0.5 increments setting the frame onto the supports. Verify the supports are stable carrying the weight of the treadmill and continue lowering the incline level to "0". Incline level "0" is also the lift motor calibration reference incline level.



IMPORTANT: It is important to set the incline level to "0" (calibration ref level) before switching the power **OFF**.

5. Switch the power **OFF** and unplug the power cord.

Removing supports and lowering the treadmill

1. .Connect the power cord and switch the power **ON**. Be aware that switching the power **ON** will cause the incline platform to move and return to the level "0" position.



WARNING: Keep hands and appendages clear of the incline platform assembly before switching power **ON**. Switching power **ON** will cause the incline platform to move to the level "0" Home position.

1. Access the service menu (**51765761**) and select the **INCLINE TEST**. Increase the incline level enough to lift the treadmill frame off the supports.
2. Remove the support stands and clear any other items that might either block the treadmill from lowering or may be damaged as it lowers.
3. Lower the incline to level "0".

Replacement Procedures

Replacement procedures provide you with the step-by-step instructions to remove and install system components.

Available Replacement Procedures

"Covers and Panels Replacement" on the facing page

"Power Cord Replacement" on page 88

"ON/OFF SW Circuit Breaker Replacement" on page 90

"ASL PCA Replacement" on page 94

"E-Stop "Emergency Switch" Replacement" on page 99

"Motor Controller (MC) Replacement" on page 100

"Motor Controller Fan Replacement" on page 111

"Drive Belt Replacement" on page 116

"Drive Motor Replacement" on page 123

"Drive Roller Replacement" on page 130

"Take-up Roller Replacement" on page 135

"Running Belt and Deck Replacement Procedure" on page 139

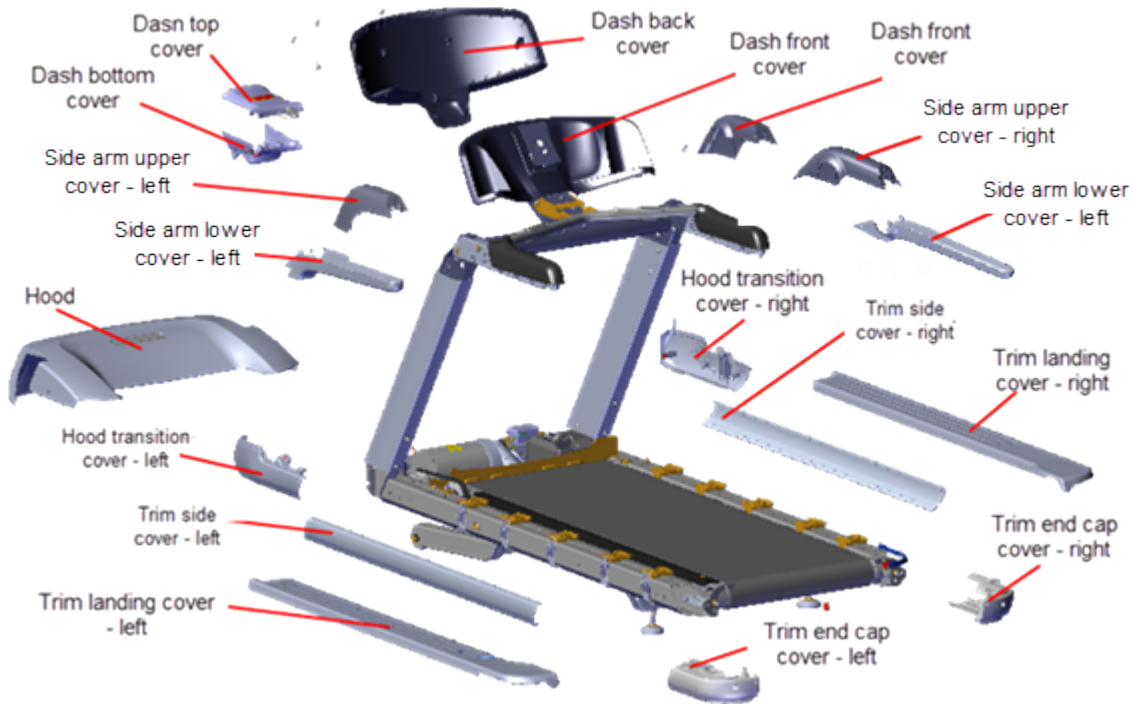
"Lift Motor Replacement" on page 146

"Lift Platform Replacement" on page 157

Covers and Panels Replacement

About

These procedure provides instruction to remove and install the TRM¹ covers and panels.



Cover	Remove/Install Procedure
Hood Cover	"Hood Cover Replacement" on page 71
Hood Transition Cover	"Hood Transition Cover Replacement" on page 72
Trim Landing Covers	"Trim Landing Covers Replacement" on page 74
Trim End Cap Covers	"Trim End Cap Covers Replacement" on page 77
Trim Side Covers	"Trim Side Cover Replacement" on page 79
Dash Back Cover	"Dash Back Cover Replacement" on page 81
Dash Front Cover	"Dash Front Cover Replacement" on page 82
Dash Top Cover	"Dash Top and Bottom Replacement" on page 83

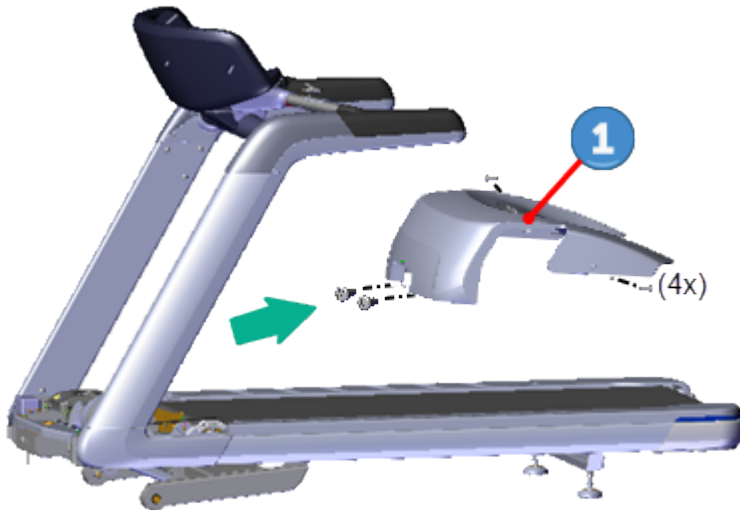
¹Treadmill

Cover	Remove/Install Procedure
Dash Bottom Cover	"Dash Top and Bottom Replacement" on page 83
Side Arm Upper Covers	"Side Arm Upper/Lower Covers Replacement" on page 87
Side Arm Lower Covers	"Side Arm Upper/Lower Covers Replacement" on page 87

Click link to open procedure instructions.

Hood Cover Replacement

Hood Cover Replacement



ID	Description
1	Hood Cover

Removal Instructions

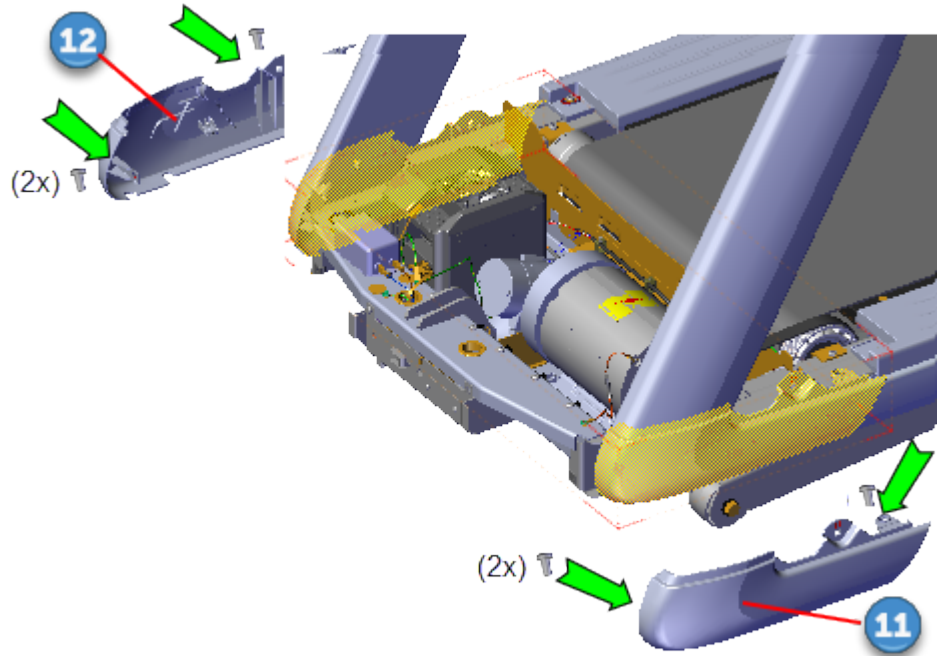
1. Remove the four #3 Phillips hood **1** cover screw fasteners. Retain part(s) and/or fastener(s) for installation.
2. Grasp the lower edge of the hood **1** cover and pull outwards while lifting to release the tab clip fasteners. Then carefully lift and slide the hood towards the back of the treadmill through the targa uprights to remove.

Installation Instructions

1. Position the hood **1** cover over the front motor compartment by sliding the hood front through the targa uprights from the back towards the front. Grasp the bottom edge of the hood cover and pull outwards while pressing down on the cover top at the front and back to snap the tab clip fasteners into place.
2. Secure the hood **1** cover using the four #3 Phillips screw fasteners and fully tighten.

Hood Transition Cover Replacement

Hood Transition Cover Replacement



ID	Description
11	Hood Transition Cover - left
12	Hood Transition Cover - right

Removal Instructions

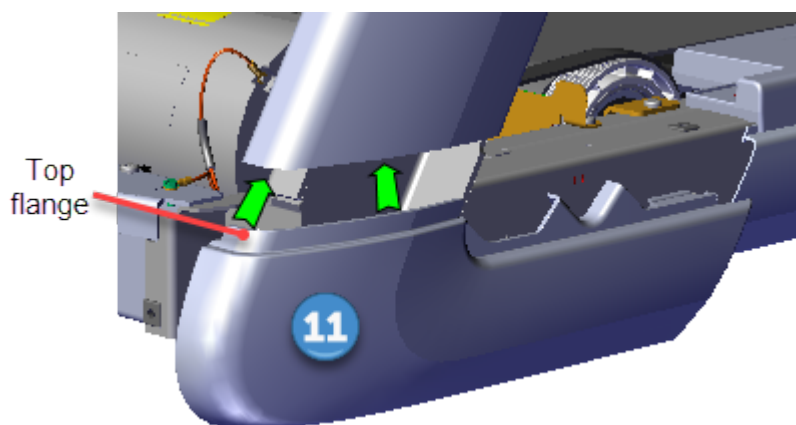
Repeat procedure for both the left and right covers.

1. Remove the hood cover, see "[Hood Cover Replacement](#)" on the previous page.
2. Remove the two #3 Phillips hood transition cover fasteners. Pull down and away from the frame rail to release tab clips and remove the cover.
3. Repeat procedure for both left and right covers.

Installation Instructions

Repeat procedure for both the left and right covers.

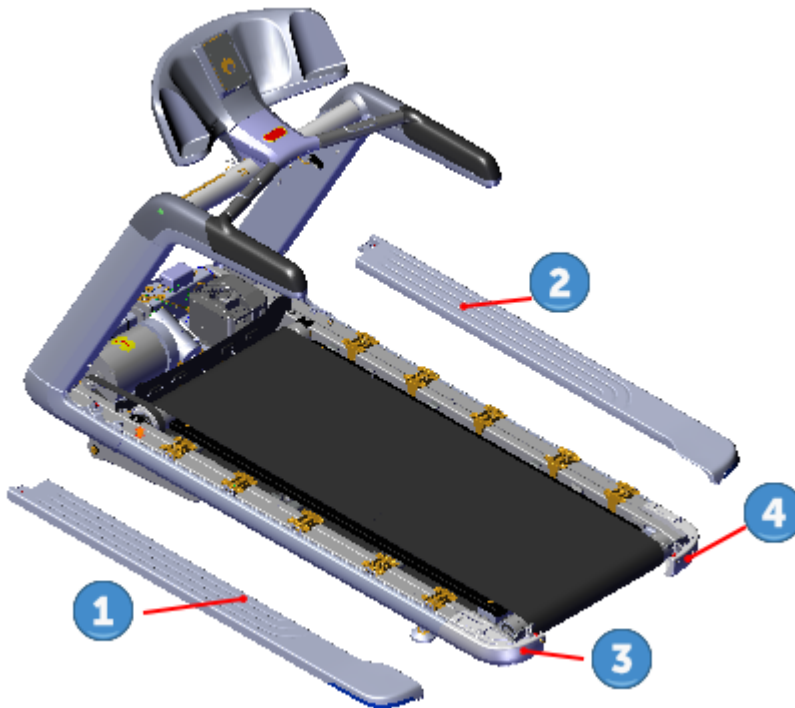
1. Position the hood transition cover top flange under the targa upright and press to lock tab clips in place. Secure using the two #3 Phillips fasteners and fully tighten.



2. Repeat procedure for both left and right covers.
 3. Replace the hood cover, see "Hood Cover Replacement" on page 71.
-

Trim Landing Covers Replacement

Trim Landing Covers Replacement

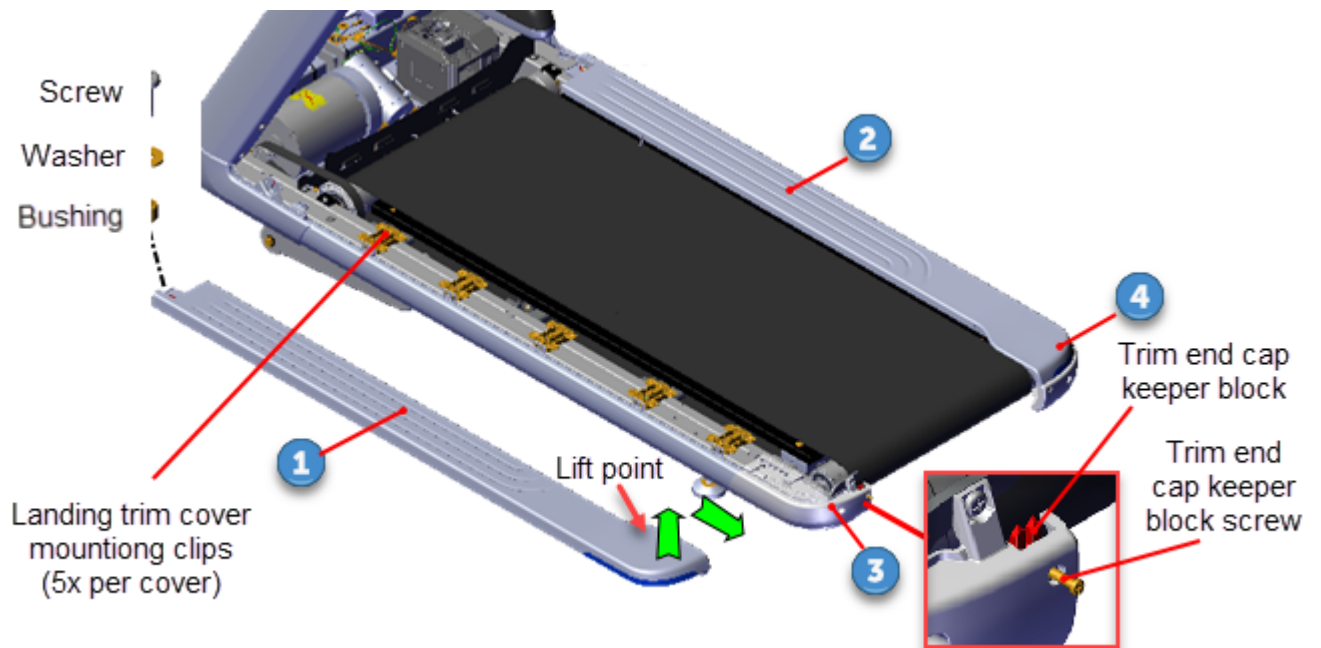


ID	Description
1	Trim Landing Cover- left
2	Trim Landing Cover - right
3	Trim End Cap - left
4	Trim End Cap - right

Removal Instructions

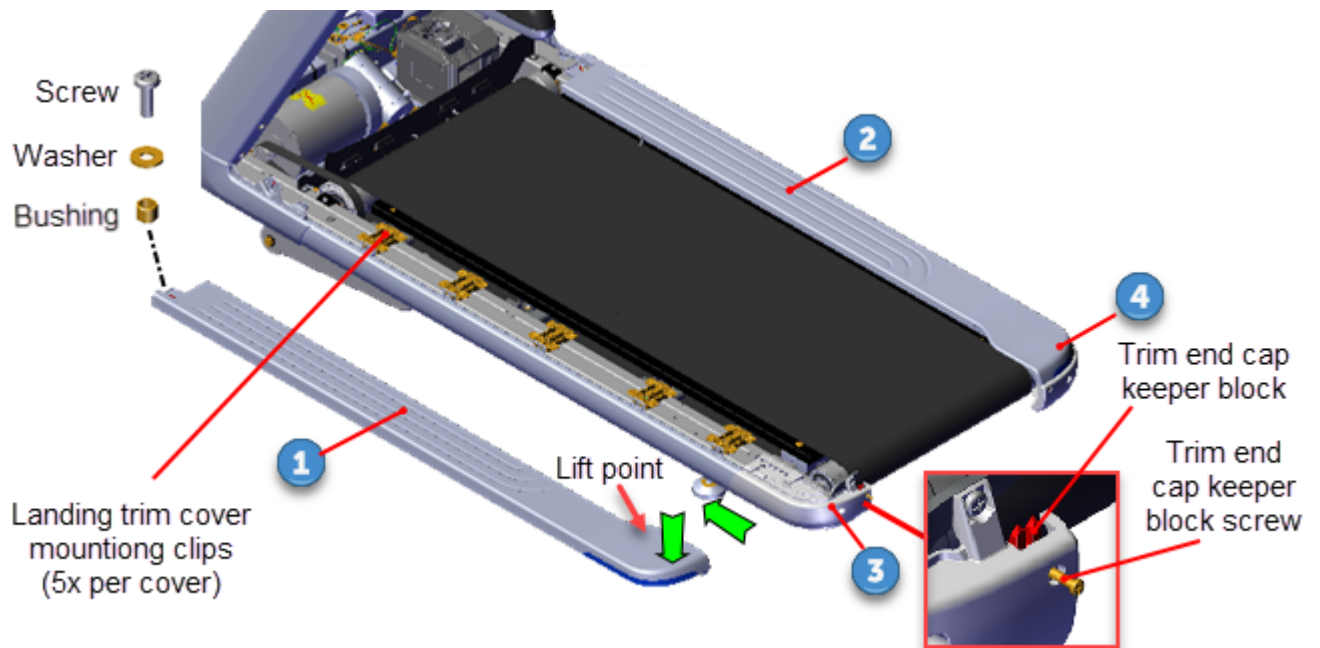
The same procedure applies to both the left 1 and right 2 trim landing covers.

1. Remove the hood cover, see "Hood Cover Replacement" on page 71.
2. Remove the left 1 and right 2 trim landing cover #3 Phillips screw (2x), washer (2x), and bushing (2x) fastener hardware. Retain part(s) and/or fastener(s) for installation.



1. Loosen the #2 Phillips trim end cap (3 left, 4 right) keeper block screw fastener to relax tension on the trim landing rear tab clip. Do not remove the keeper block fastener or the keeper block will fall from the inside cover mount. The trim end cap will need to be removed to reinstall the keeper block.
2. Grab the outer edge and the inside edge at the rear of the trim landing cover (see figure lift point) and lift up to release the rear tab clip. Continue to slide the cover rearward to remove. It requires a strong pull to unsnap and release the cover rear tab clip.
3. Repeat the same process to remove both the left 1 and right 2 trim landing covers.

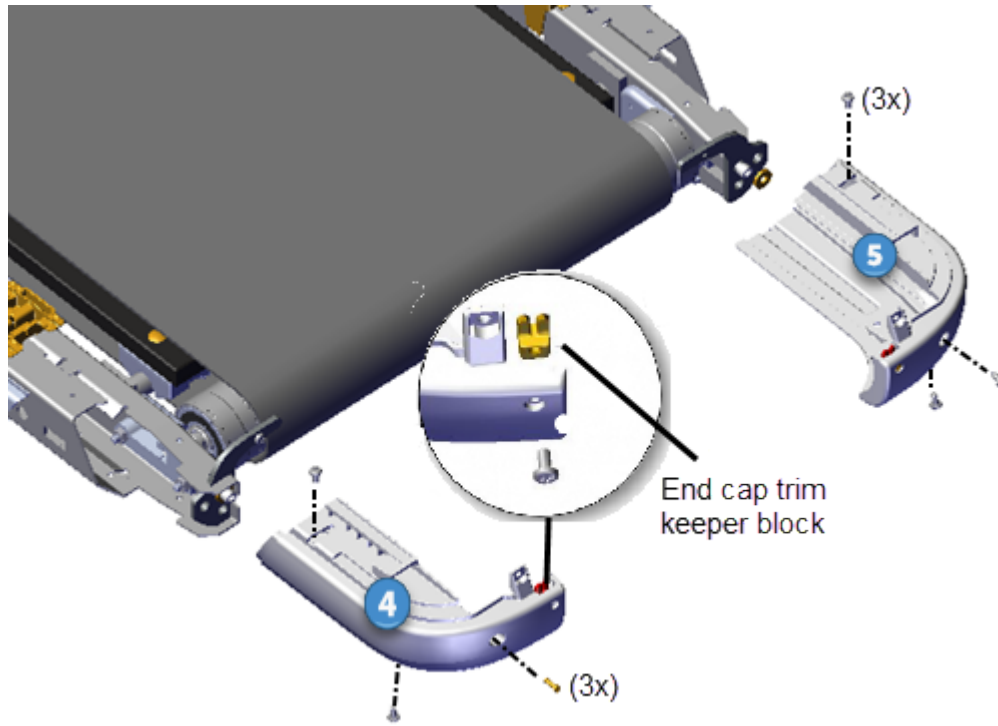
Installation Instructions



1. Install by sliding the cover over the landing trim mounting clips from the back towards the front while pressing down on the cover top. Continue the process until all the landing mount clips lock in place.
2. Press down on the top of the cover at the rear (see figure lift point) to lock the rear cover tab clip in place.
3. Secure the rear tab clip by fully tightening the #2 Phillips keeper block fastener.
4. Secure the front of the trim landing cover using the #3 Phillips screw, washer, and bushing fastener hardware. Fully tighten the fastener.
5. Repeat installation procedure for both the left **2** and right **3** trim landing covers.
6. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71.

Trim End Cap Covers Replacement

Trim End Cap Covers Replacement



ID	Description
4	Trim End Cap - left
5	Trim End Cap - right

Removal Instructions

Repeat procedure for both the left 4 and right 5 end cap covers.

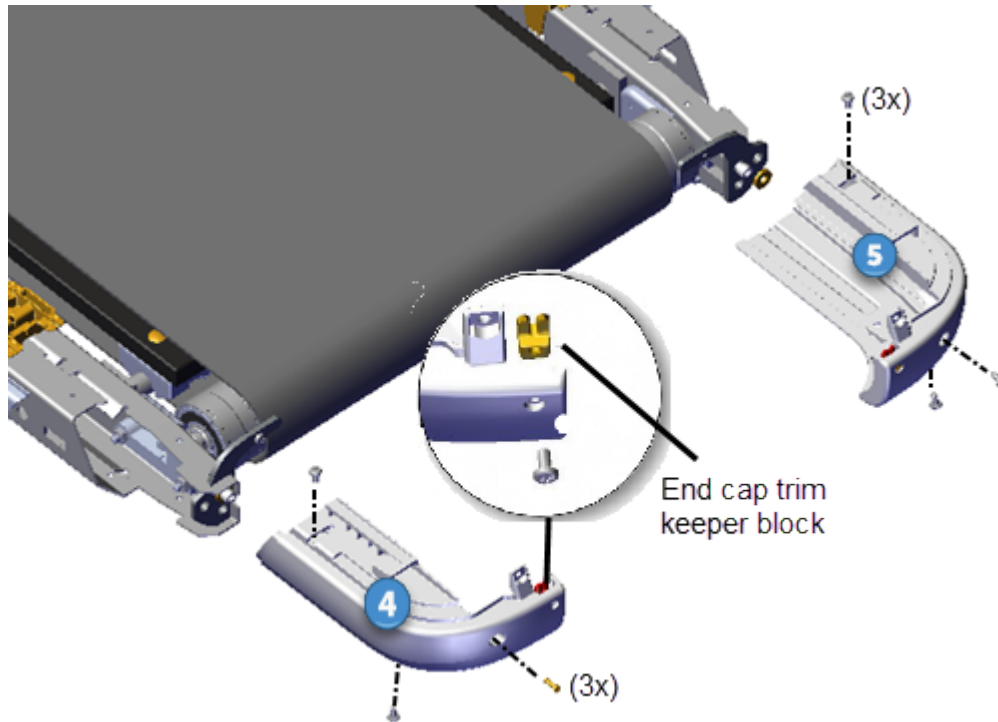
1. Remove the hood cover, see "Hood Cover Replacement" on page 71.
2. Remove the left and right trim landing covers, see "Covers and Panels Replacement" on page 69.
3. Remove the three #3 Phillips left 4 and right 5 trim end cap cover fastener screws. One fastener on the top, one fastener on the end, and one fastener on the bottom. Retain part(s) and/or fastener(s) for installation.



TIP: Use a short stub #3 Phillips screwdriver to remove the bottom end cap fastener.

4. Pull the cover away from the frame to release the cover tabs and remove.
5. Repeat the same removal procedure to remove both the left **4** or right **5** trim end cap covers.

Installation Instructions

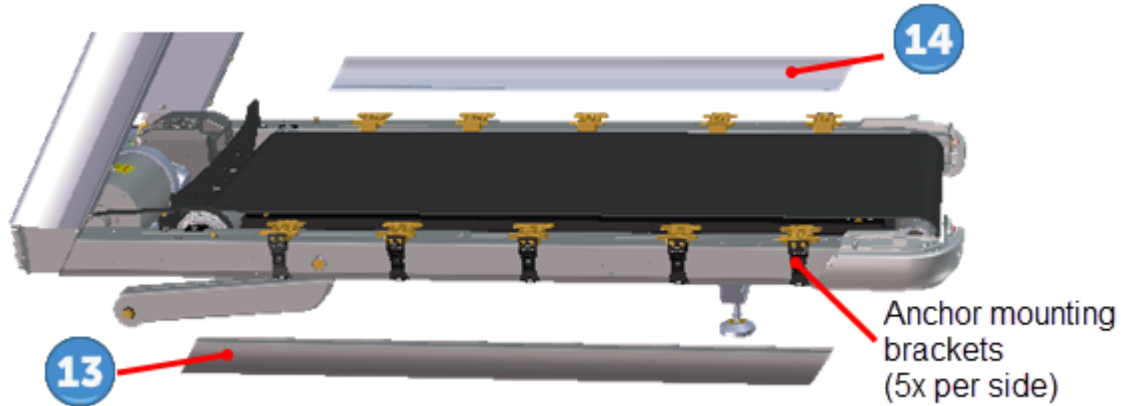


Repeat procedure for both the left **4** and right **5** covers.

1. Reinstall the end cap cover onto the end of the frame rail and press to lock cover tabs in place. Secure using the three #3 Phillips screw fasteners. One fastener on the top, one fastener on the end, and one fastener on the bottom.
2. Repeat procedure for both the left and right end cap covers.
3. Reinstall the left and right trim landing covers, see "[Covers and Panels Replacement](#)" on page 69.
4. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71.
5. Repeat the same installation procedure to install both the left **4** and right **5** trim end cap covers.

Trim Side Cover Replacement

Trim Side Cover Replacement



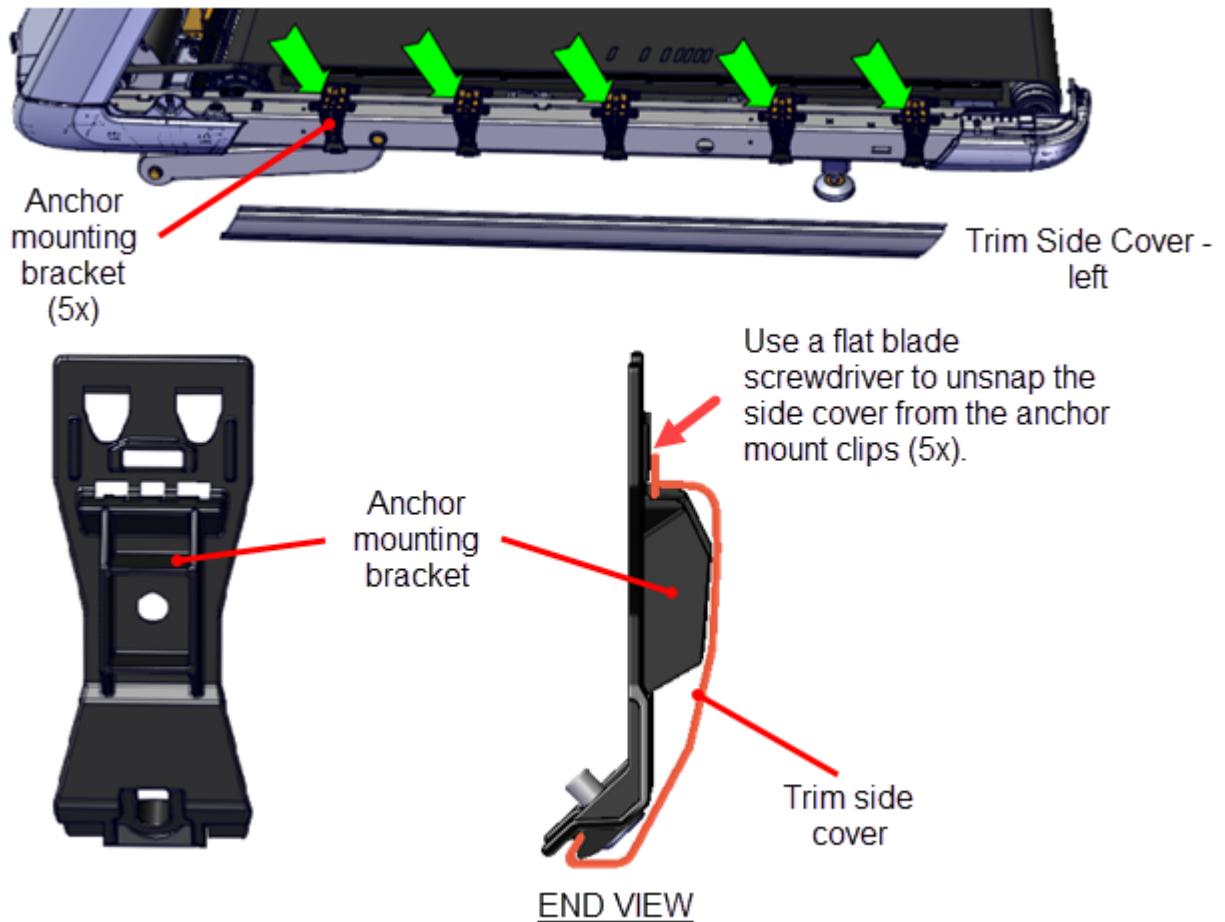
ID	Description
13	Trim Side Cover - left
14	Trim Side Cover - right

Removal Instructions

Repeat the removal procedure for both the left **13** or right **14** side trim covers.

1. Remove the hood cover, see "[Hood Cover Replacement](#)" on page 71.
2. Remove the trim landing cover, see "[Covers and Panels Replacement](#)" on page 69.
3. Remove the hood transition cover, see "[Covers and Panels Replacement](#)" on page 69.
4. Starting from the front moving reward, use a standard flat blade screwdriver to release (unsnap) the top of the trim side cover from five anchor mount clips. Hold cover while releasing the upper anchor bracket clips and then pull down and away from the anchor

mounts to remove the cover.



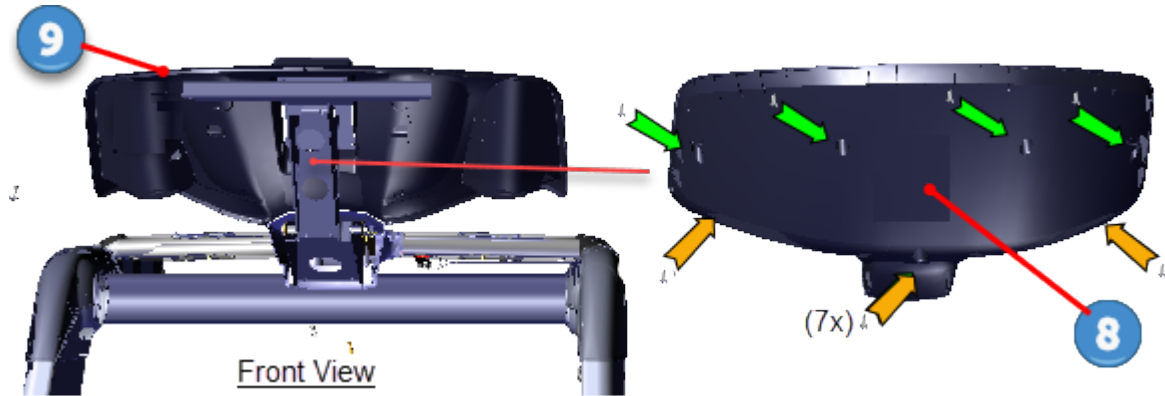
Installation Instructions

Repeat procedure for both the left and right covers.

1. Mount the trim side cover bottom rim flange onto the bottom of the five anchor mounts making sure to fit the rim flange alignment cutout (located at the bottom rear of the cover) into the rear white anchor bracket. Make sure that the cover is securely attached at all five anchor mounts.
2. Next use the palm of your hand to strike the top of the cover at each of the five anchor mounts to engage and lock the cover in place. Make sure that the trim side cover is securely attached at each of the five anchor mounts.
3. Reinstall the hood transition cover, see "[Covers and Panels Replacement](#)" on page 69.
4. Reinstall the trim landing cover, see "[Covers and Panels Replacement](#)" on page 69.
5. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71.

Dash Back Cover Replacement

Dash Back Cover Replacement



ID	Description
8	Dash Back Cover
9	Dash Front Cover

Removal Instructions

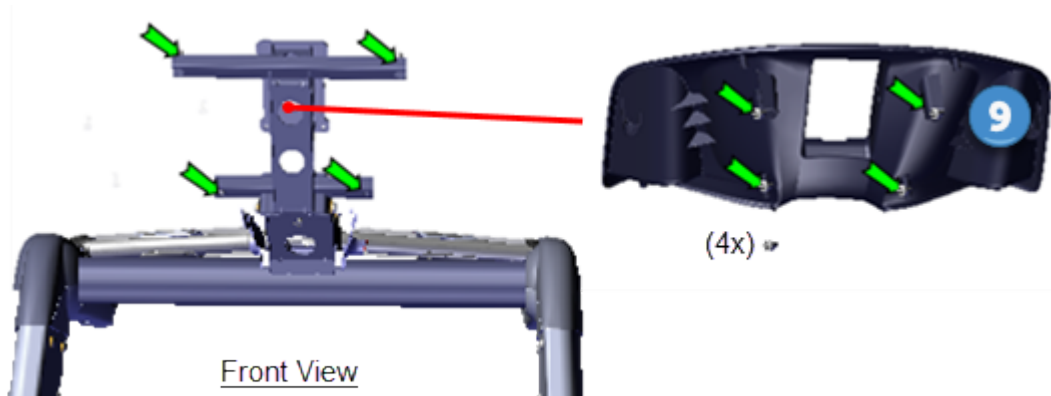
1. Remove the back cover **8**. Start by removing the bottom three #3 Phillips screw fasteners first and then the remaining four top screws. Carefully hold the cover from falling while removing the fasteners. Retain part(s) and/or fastener(s) for installation.

Installation Instructions

1. Reinstall and hold the back cover **8** into position. Then install the top four #3 Phillips screws first followed by the remaining three bottom screws. Fully tighten all fasteners.

Dash Front Cover Replacement

Dash Front Cover Replacement



ID	Description
9	Dash Front Cover

Removal Instructions

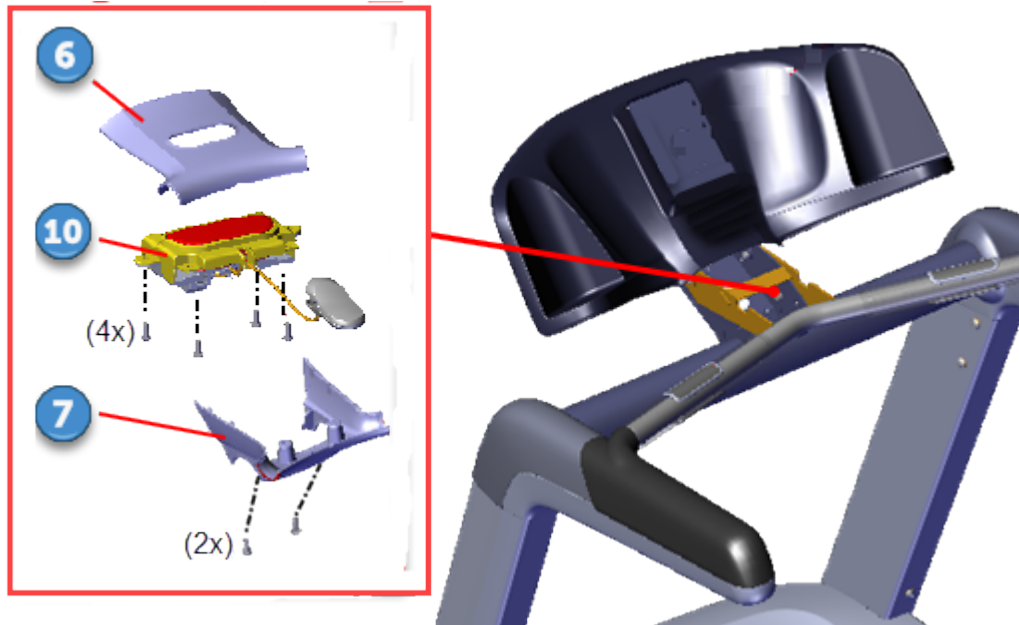
1. Remove the back cover **9**, see "Covers and Panels Replacement" on page 69.
2. Remove the console, refer to the treadmill assembly guide (700 Line Treadmill Assembly Guide P/N 304387-101).
3. Remove the four #3 Phillips screw fasteners and remove the front cover **9**. Retain part(s) and/or fastener(s) for installation.

Installation Instructions

1. Reinstall front cover **9** and secure using the four #3 Phillips screw fasteners.
2. Reinstall the console, refer to the treadmill assembly guide (700 Line Treadmill Assembly Guide P/N 304387-101).
3. Reinstall the back cover **9** and secure using the seven #3 screw fasteners, see "Covers and Panels Replacement" on page 69.
4. Operate the treadmill and verify the console and machine operation.

Dash Top and Bottom Cover Replacement

Dash Top and Bottom Replacement

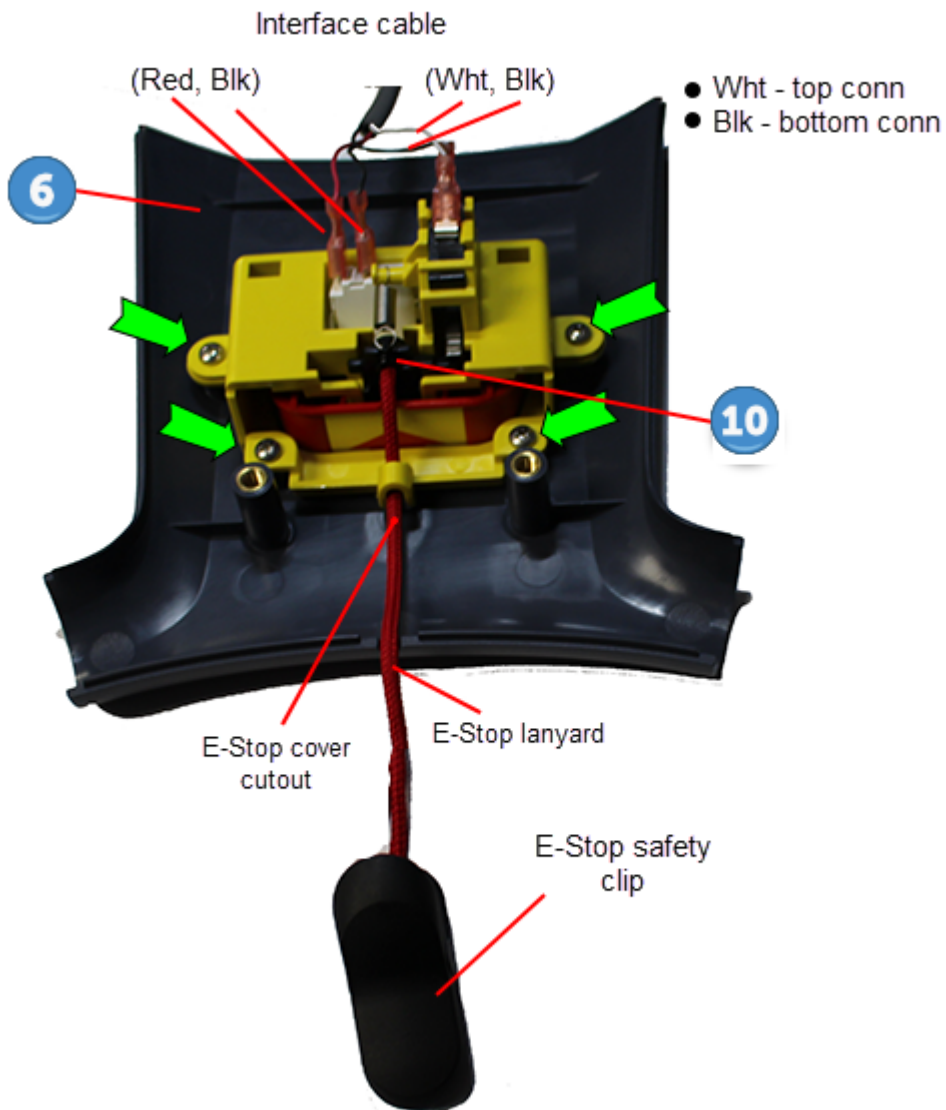


ID	Description
6	Dash Top Cover
7	Dash Bottom Cover
10	E-Stop Switch Assy

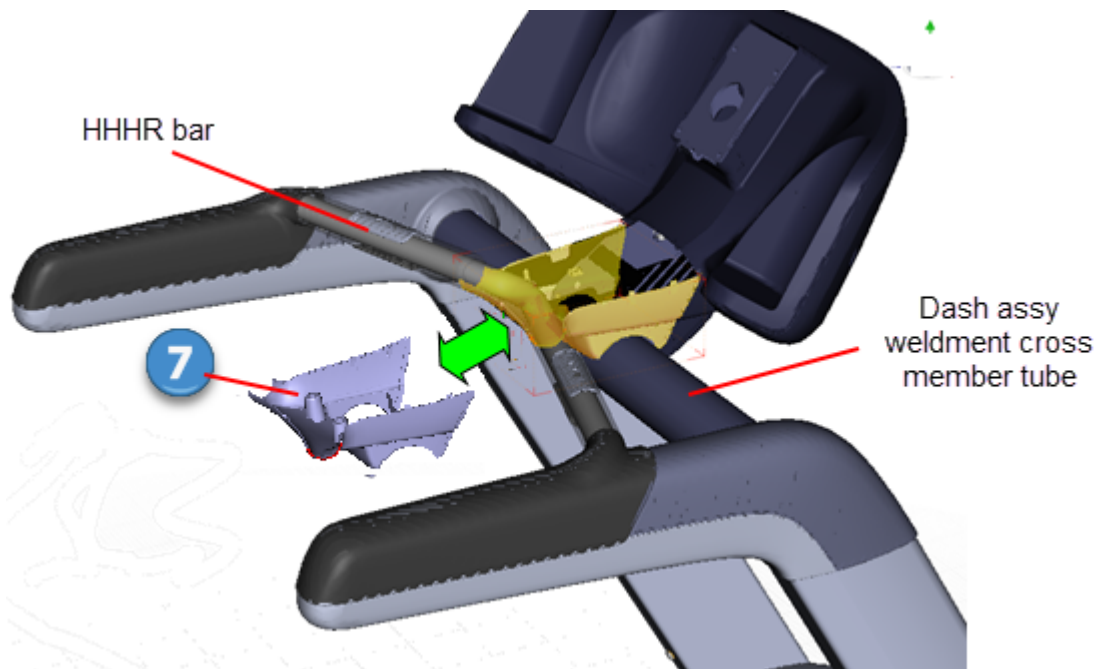
Removal Instructions

1. Remove the two #3 Phillips screw fasteners from the dash assy bottom cover **7**. Retain part(s) and/or fastener(s) for installation.
2. Carefully flip the dash top cover **6** over and remove the four #2 Philips emergency stop switch (E-Stop) **10** fasteners. Carefully lay the E-Stop switch on the **HHHR**¹ assy bracket and remove the dash top cover. Retain part(s) and/or fastener(s) for installation.

¹Hand Held Heard Rate

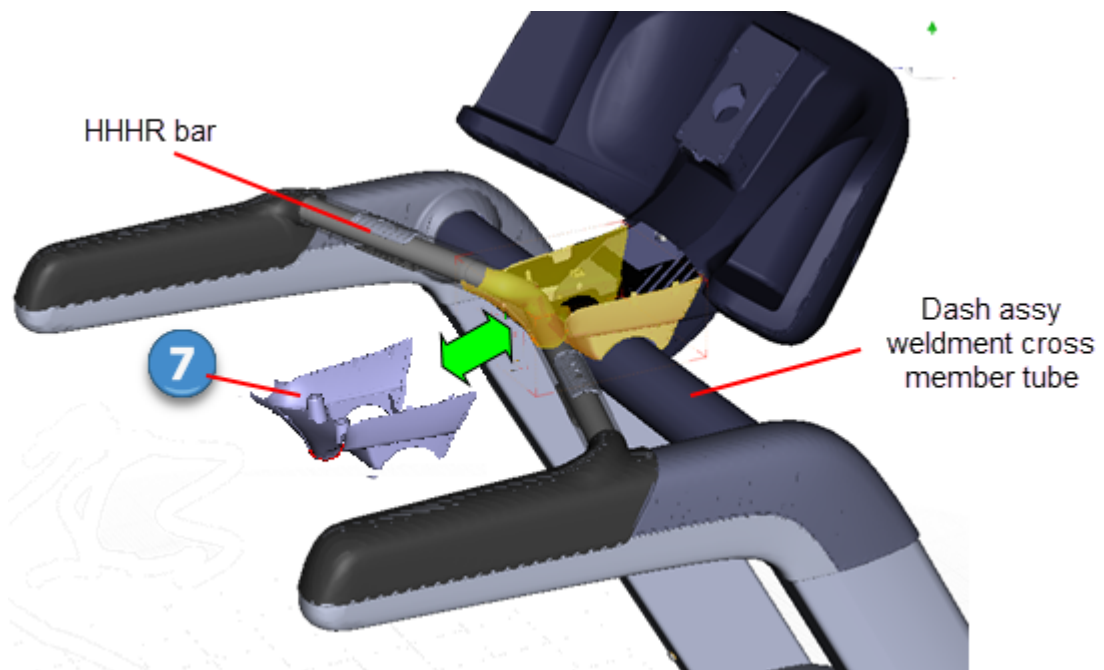


3. Remove the dash bottom cover **7** from between the dash assembly weldment cross member and HHR bar.

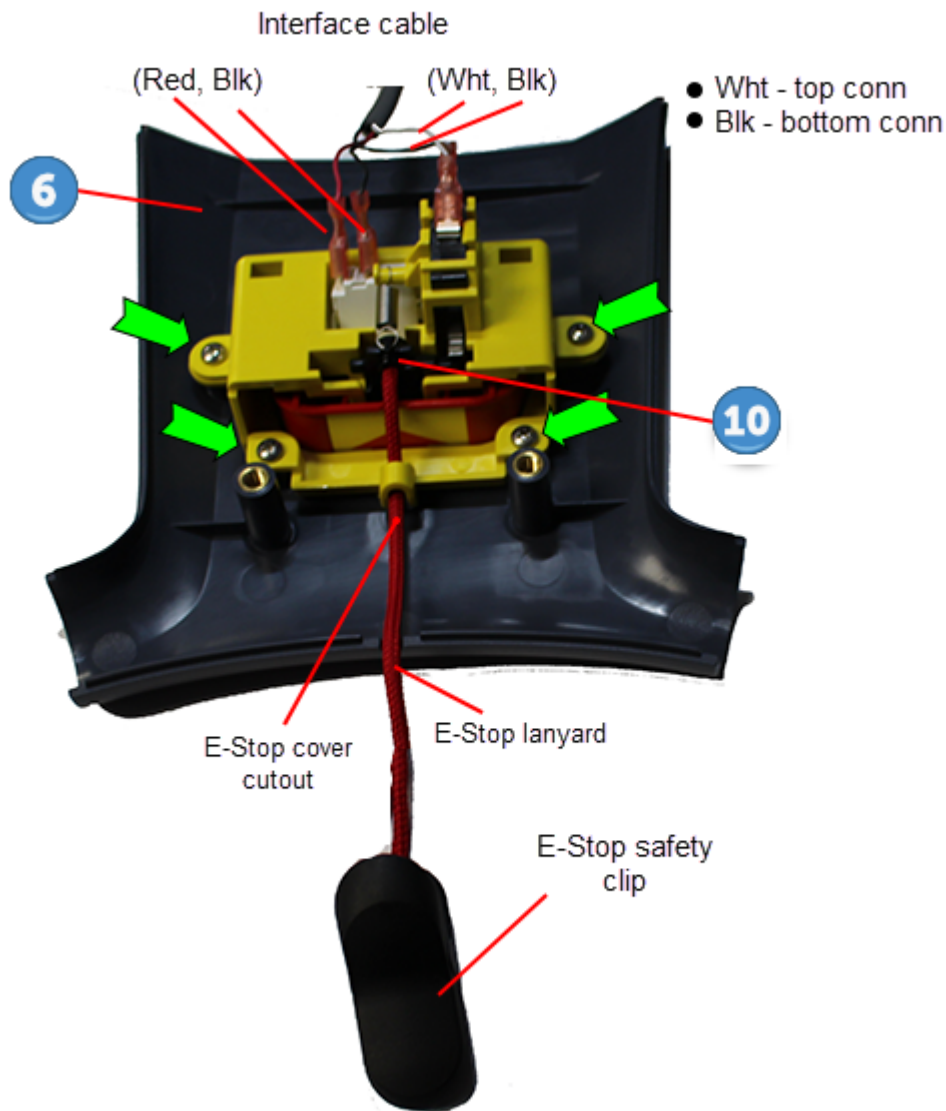


Installation Instructions

1. Install the dash bottom cover **7** into position between the dash assembly weldment cross member and HHR bar.



2. Reinstall the E-Stop switch **10** onto the dash top cover **6** and secure using the four #2 Phillips fasteners. Make sure the interface cable electrical (red/black, white/black) connections are correctly attached and secure.

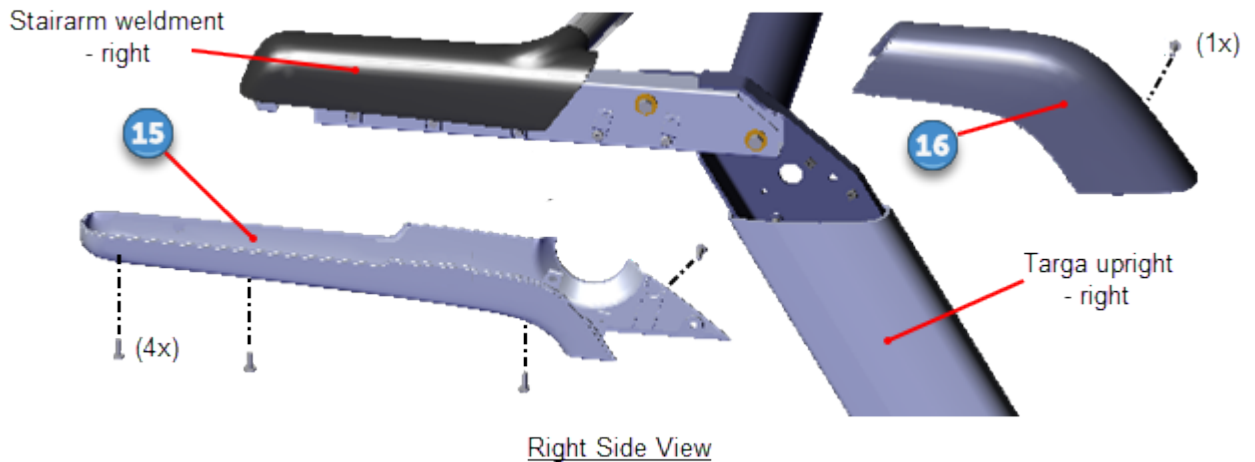


3. Position the dash top cover onto the dash bottom cover and secure using the two #3 Phillips fasteners. Make sure the interface cable is routed correctly and not pinched. Make sure that the stop safety clip lanyard is correctly positioned in the cover cut out, is not pinched, and freely moves when pulled and retracted.

Side Arm Upper/Lower Covers Replacement

Side Arm Upper/Lower Covers Replacement

This procedure replaces the left/right upper and lower side arm covers.



ID	Description
15	Lower Side Arm Cover - right
16	Upper Side Arm Cover - left

Removal Instructions

Repeat procedure for both the left and right upper and lower side arm covers.

1. Remove the four #3 Phillips screw fasteners from the side arm cover 15. Pull the cover down and back to remove. Retain part(s) and/or fastener(s) for installation.
2. Remove the one #3 Phillips screw from the upper side arm cover 16. Pull the cover up and forward to remove. Retain part(s) and/or fastener(s) for installation.

Installation Instructions

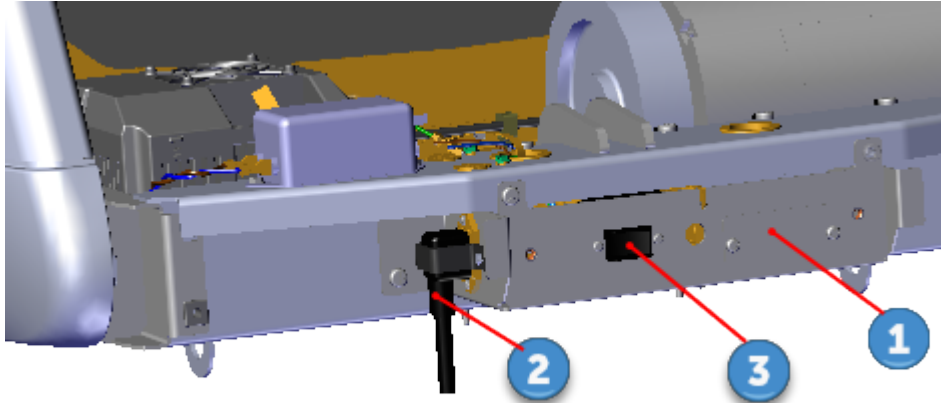
Repeat procedure for both the left and right upper and lower side arm covers.

1. Position the upper side arm cover 16 onto the side arm weldment and press to lock the tab clips in place. Secure using the one #3 Phillips screw,
2. Position the lower side arm cover 15 onto the side arm weldment and press to lock the tab clips in place. Secure using the four #3 Phillips screws.

Power Cord Replacement

About

This procedure provides instruction to replace the power cord.



ID	Description
1	Power Entry Assembly
2	Power Cord
3	ON/OFF SW Circuit Breaker

Procedure

Review entire procedure before starting.

Removal Instructions

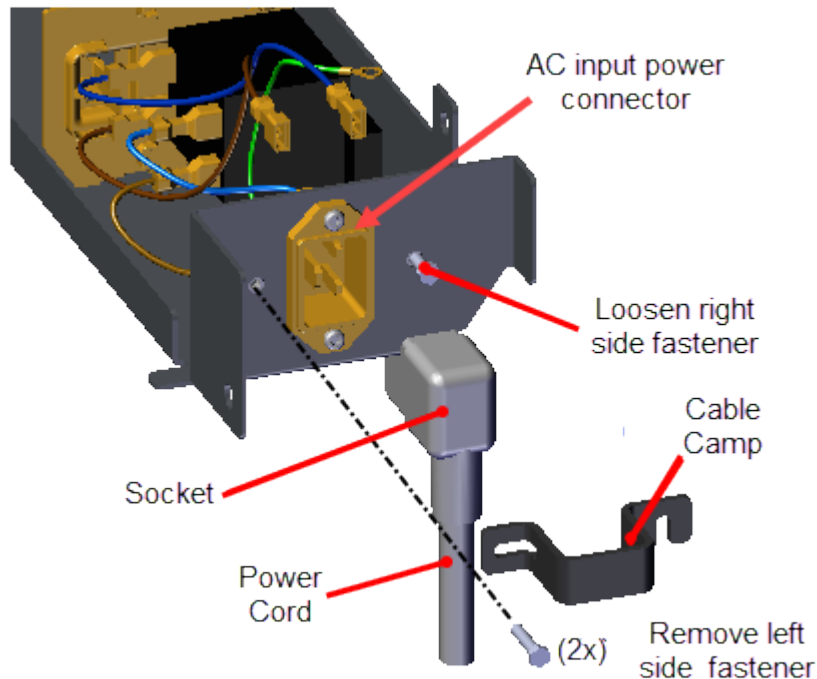
1. Switch the power OFF and **unplug**¹ the power cord.



TIP: For easier access, raise the incline to maximum before removing input power. Access the service Hardware Validation (51765761) and use the **CROSSRAMP/INCLINE Test** to raise the incline and then remove power.

¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

1. Remove the hood cover, see "Hood Cover Replacement" on page 71.



2. Use a 1/4" socket to loosen the right side power cord cable clamp fastener. Then loosen the inner cable clamp fastener until the clamp can be slide over the power cord socket.
3. Then disconnect and remove the power cord. In some cases the inner clamp fastener may need to be completely removed. Retain part(s) and/or fastener(s) for installation.

Installation Instructions

1. Connect the replacement power cord socket into the Power Entry Assembly **AC**¹ input power connector.
2. Position power cord cable clamp over the power cord socket and fully tighten the clamp fasteners.
3. Reinstall the hood cover, see "Hood Cover Replacement" on page 71.
4. Connect the power cord and switch the ON/OFF circuit breaker **ON**.
5. Do the Operation Verification tests (see "Operation Verification" on page 19) and return to service.

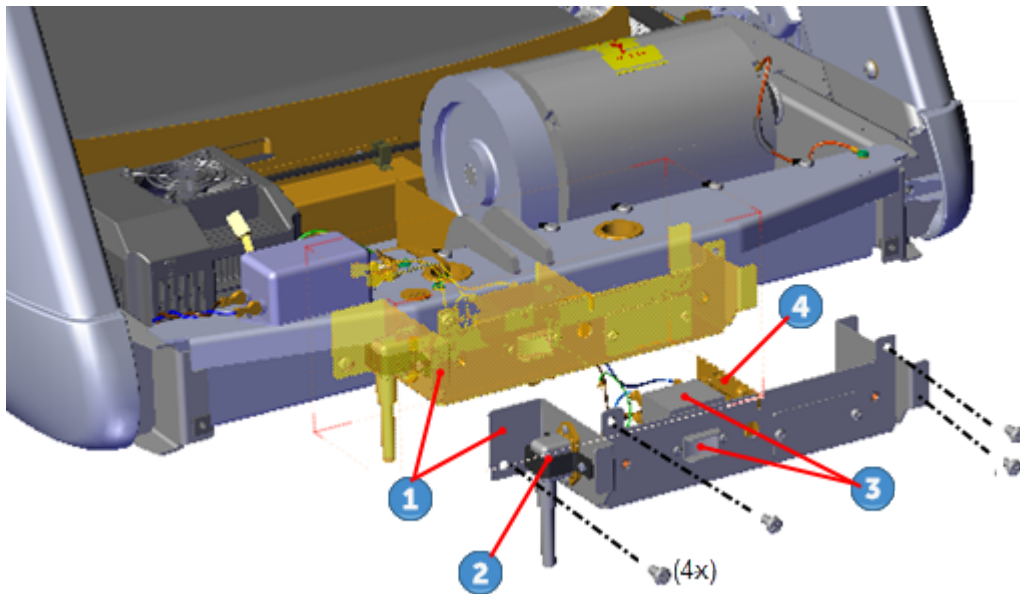
¹Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

ON/OFF SW Circuit Breaker Replacement

About

This procedure provides instruction to replace the ON/OFF SW Circuit Breaker.

The Power Entry Assembly located in the front of the treadmill under the frame weldment cross member contains the Power Cord Inlet Assembly, the ON/OFF SW Circuit Breaker, and the ASL¹ PCA² board. The Power Entry Assembly Bracket must be removed to access these components.



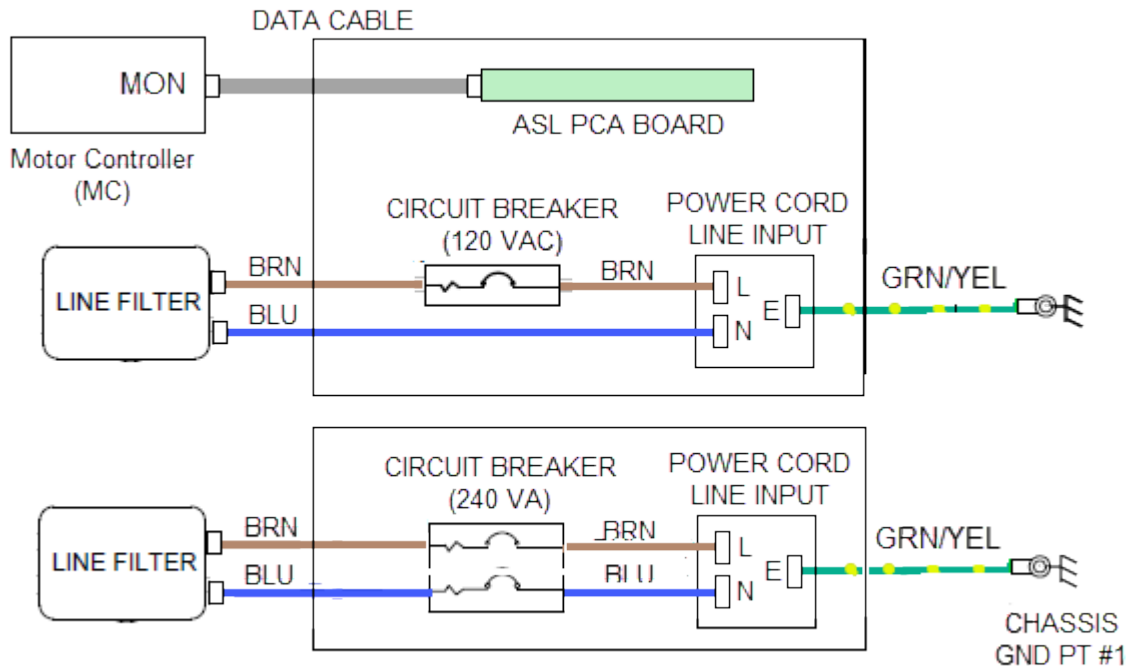
ID	Description
1	Power Entry Assembly Bracket
2	Power Cord Inlet Assy
3	ON/OFF SW Circuit Breaker
4	ASL PCA Board

¹Active Status Light: Service and maintenance status light.

²Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.

Wire Diagram

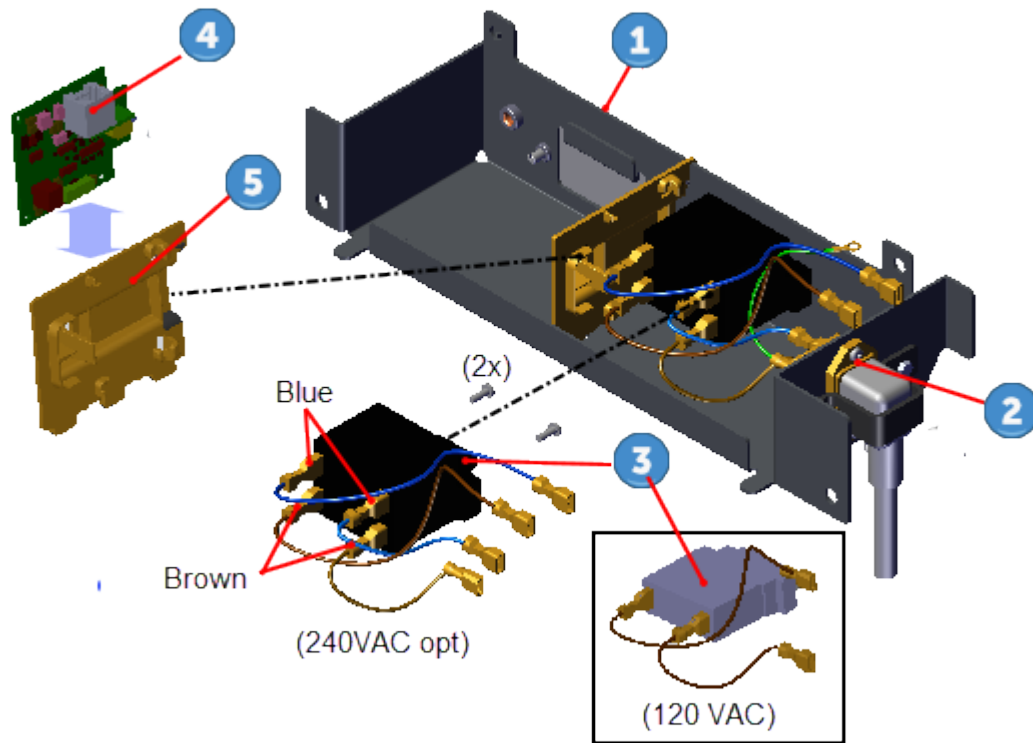
Power Entry Assembly wire diagram.



POWER ENTRY ASSEMBLY WIRE DIAGRAM

Procedure

Review entire procedure before starting.



ID	Description
1	Power Entry Assembly Bracket
2	Power Cord Inlet Assembly
3	ON/OFF SW Circuit Breaker
4	ASL PCA
5	ASL PCA Bracket

Removal Instructions

1. Switch the power OFF and **unplug**¹ the power cord.



TIP: For easier access, raise the incline to maximum before removing power. Access the service Hardware Validation (51765761) and use the **CROSSRAMP/INCLINE Test** to raise the incline and then remove power.

¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

2. Remove the hood cover, see "[Hood Cover Replacement](#)" on page 71.
3. Remove the four #3 Phillips fasteners and remove the Power Entry Assembly bracket **1**. Hold the bracket while removing to prevent wire cable damage. Retain part(s) and/or fastener(s) for installation.
4. Disconnect the two brown wire input power connections (or two brown and two blue wire connections for the 240 Vac option) on the ON/OFF SW Circuit Breaker **3**, see "" on page 90.
5. Remove the two #2 Phillips fasteners and remove the ON/OFF SW Circuit Breaker **3**. Retain part(s) and/or fastener(s) for installation.

Installation Instructions

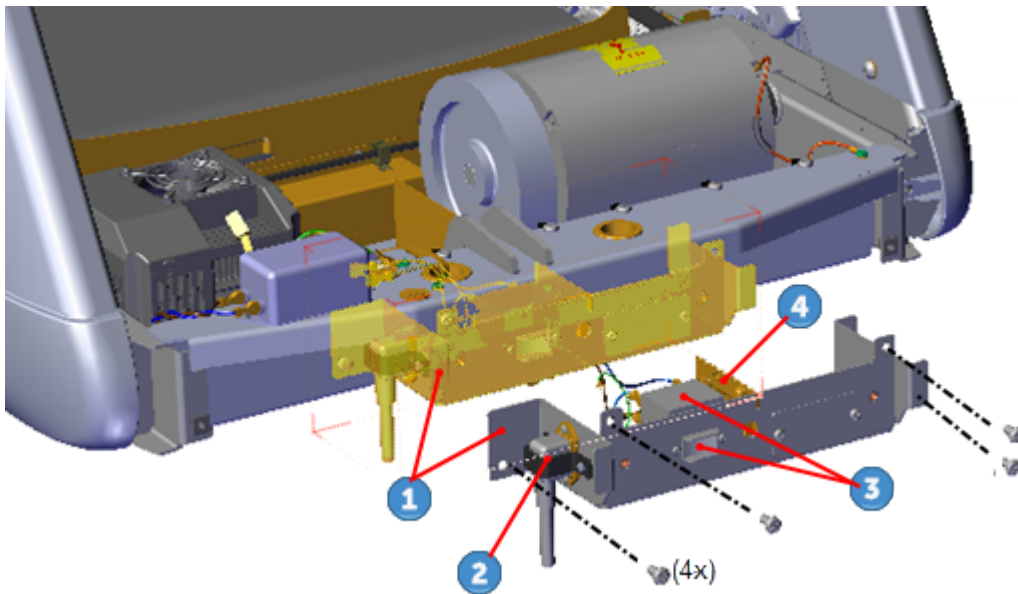
1. Reinstall the ON/OFF SW Circuit Breaker **3** and secure using the two #2 Phillips fasteners.
2. Reconnect the two brown input power wires (or two brown and two blue for the 240 Vac option) on the ON/OFF SW Circuit Breaker **3**, see "" on page 90.
3. Reinstall the Power Entry Assembly bracket **1** and secure using the four #3 Phillips fasteners. Make sure that the wire cables are not pinched or damaged during installation.
4. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71.
5. Connect the power cord and switch the ON/OFF SW Circuit Breaker **ON**.
6. Do the Operation Verification tests (see "[Operation Verification](#)" on page 19) and return to service.

ASL PCA Replacement

About

This procedure provides instruction to replace the **ASL¹ PCA²** board.

The Power Entry Assembly located in the front of the treadmill under the frame weldment cross member contains the Power Cord Inlet Assembly, the ON/OFF SW Circuit Breaker, and the ASL PCA board. The Power Entry Assembly Bracket must be removed to access these components.



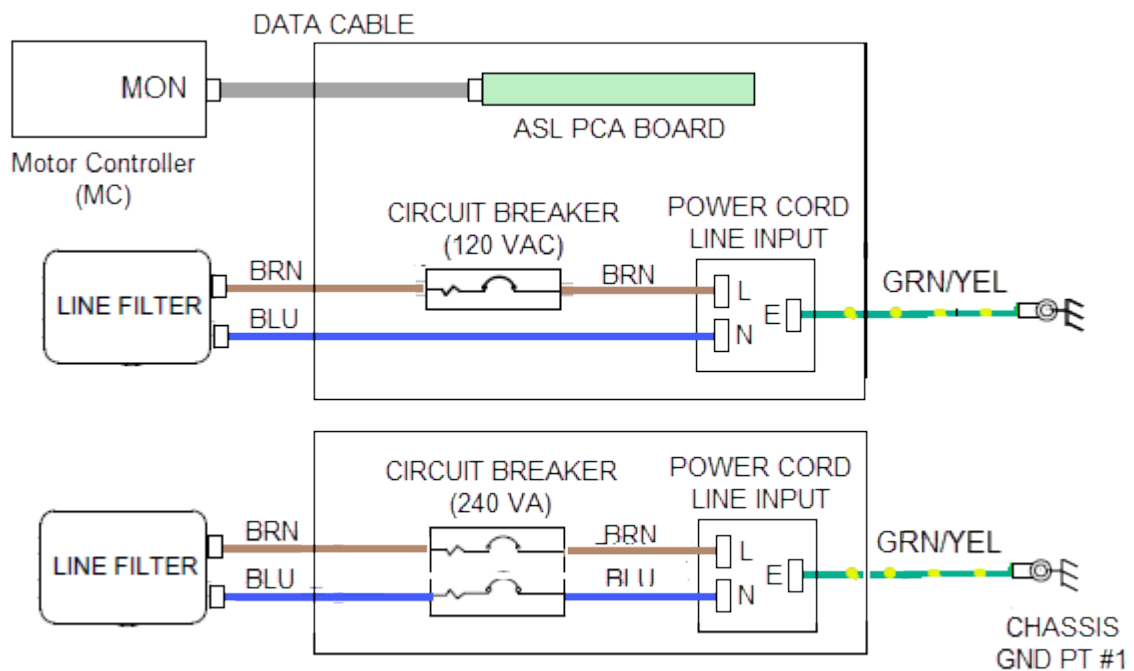
ID	Description
1	Power Entry Assembly Bracket
2	Power Cord Inlet Assy
3	ON/OFF SW Circuit Breaker
4	ASL PCA Board

Wire Diagram

Power Entry Assembly wire diagram.

¹Active Status Light: Service and maintenance status light.

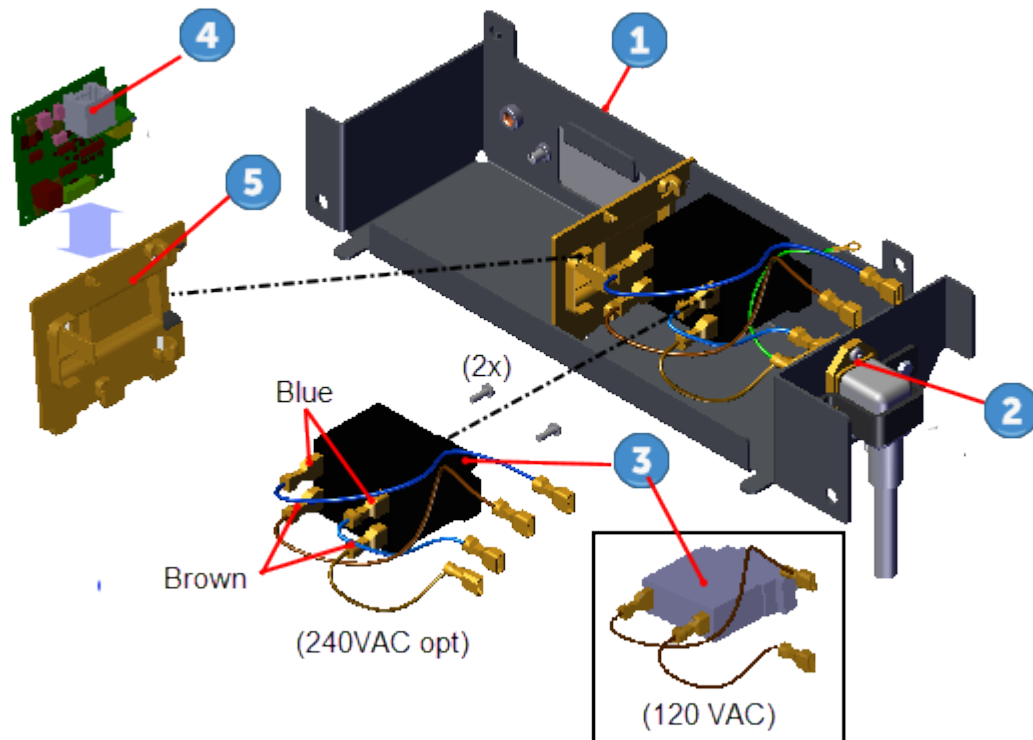
²Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.



POWER ENTRY ASSEMBLY WIRE DIAGRAM

Procedure

Review entire procedure before starting.



ID	Description
1	Power Entry Assembly Bracket
2	Power Cord Inlet Assembly
3	ON/OFF SW Circuit Breaker
4	ASL PCA
5	ASL PCA Bracket

Removal Instructions

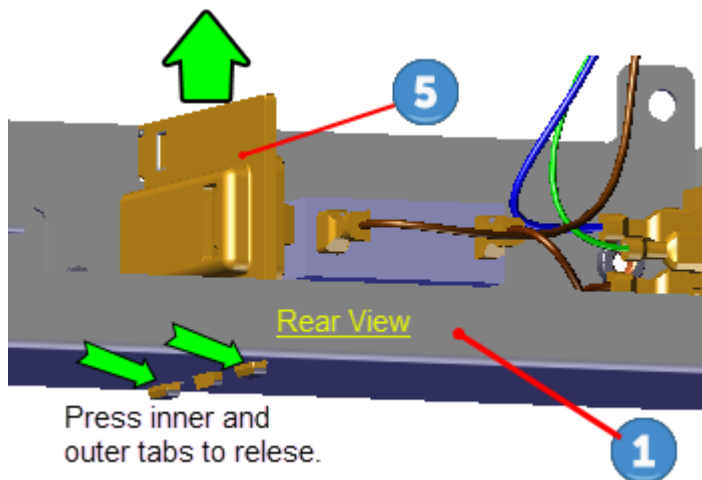
1. Switch the power OFF and **unplug**¹ the power cord.



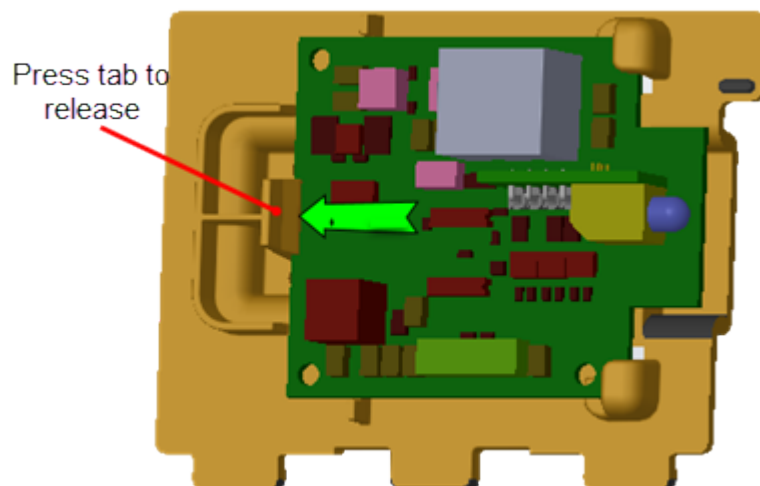
TIP: For easier access, raise the incline to maximum before removing power. Access the service Hardware Validation (51765761) and use the **CROSSRAMP/INCLINE Test** to raise the incline and then remove power.

¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

2. Remove the hood cover, see "Hood Cover Replacement" on page 71.
3. Remove the four #3 Phillips fasteners and remove the Power Entry Assembly bracket **1**. Hold the bracket while removing to prevent wire cable damage. Retain part(s) and/or fastener(s) for installation.
4. Disconnect the ASL interface cable RJ11 connector, see "Wire Diagram" on page 94.
5. Remove the ASL PCA Bracket **5** by pressing the inner and outer tab clips on the bottom (underside) of the Power Entry Assembly Bracket **1** while lifting the ASL bracket.



6. Unsnap the ASL PCA **4** board from the ASL PCA Bracket **5** by pressing the outer tab clip to remove.



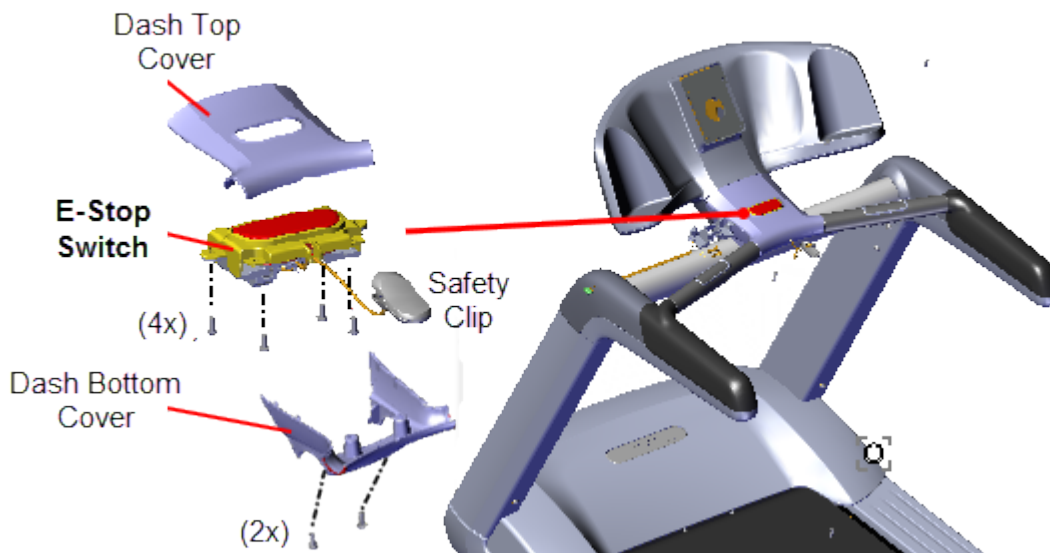
Installation Instructions

1. Reinstall the ASL PCA **4** board onto the ASL PCA Bracket **5**. Securely snap the ASL PCA board into position on the bracket.
2. Reinstall the ASL PCA Bracket **5** by pressing the tabs into the mounting slots on the Power Entry Assembly Bracket **1**.
3. Reconnect the ASL interface cable RJ11 connector, see "[Wire Diagram](#)" on page 94.
4. Reinstall the Power Entry Assembly bracket **1** and secure using the four #3 Phillips fasteners. Make sure that the wire cables are not pinched or damaged during installation.
5. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71.
6. Connect the power cord and switch the ON/OFF circuit breaker **ON**.
7. Verify the ASL light operation:
 - a. Verify that the ASL light is Solid Blue. If the ALS light is Pulsing Blue, Pulsing Yellow, or Solid Yellow, resolve the issue and reset the ASL to Solid Blue.
8. Do the Operation Verification tests (see "[Operation Verification](#)" on page 19) and return to service.

E-Stop "Emergency Switch" Replacement

About

This procedure provides instruction to replace the E-Stop "Emergency Stop Switch".



Procedure

Review entire procedure before starting.

Removal and Installation procedures

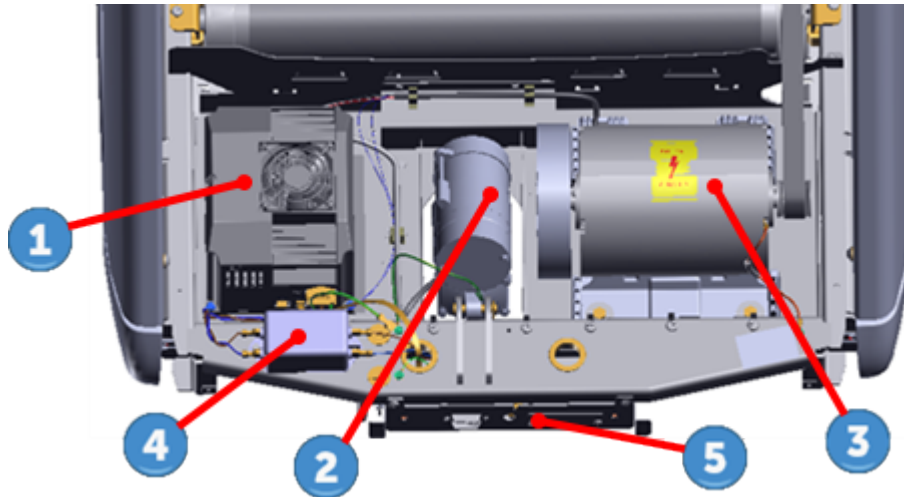
1. The removal and installation procedures are included in the Dash Top and Bottom Cover Removal/Installation procedure, see "[Dash Top and Bottom Replacement](#)" on [page 83](#).
2. Do the Operation Verification tests (see "[Operation Verification](#)" on [page 19](#)) and return to service.

Motor Controller (MC) Replacement

About

This procedure provides instruction to replace the Motor Controller (**MC¹**).

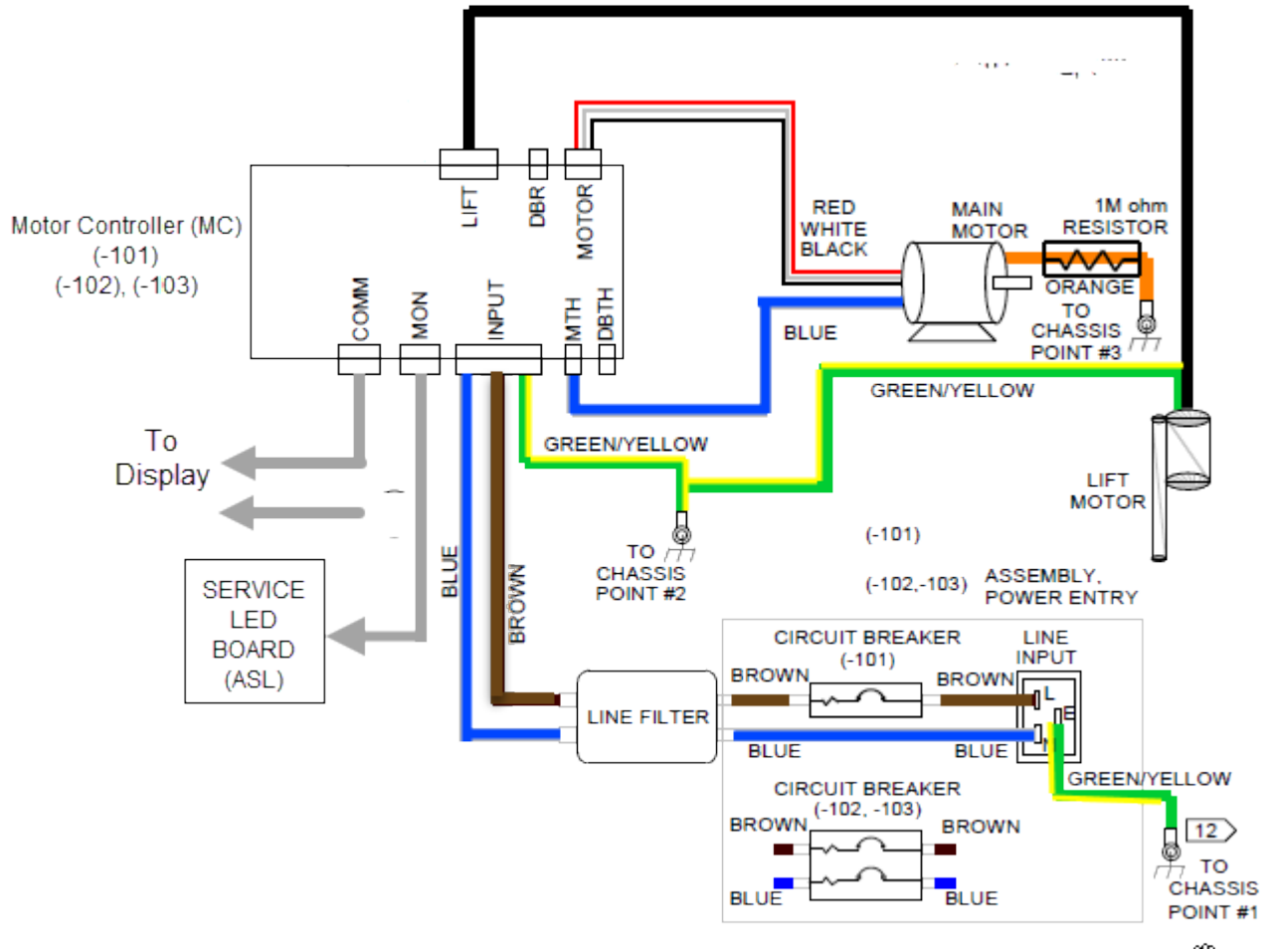
The Motor Controller (MC), is located in the Drive Motor compartment at the front of the treadmill under the hood cover.



ID	Description
1	Motor Controller (MC)
2	Lift Motor
3	Drive Motor
4	Line Filter
5	Power Entry Assy Module

¹Motor controller or motor controller module

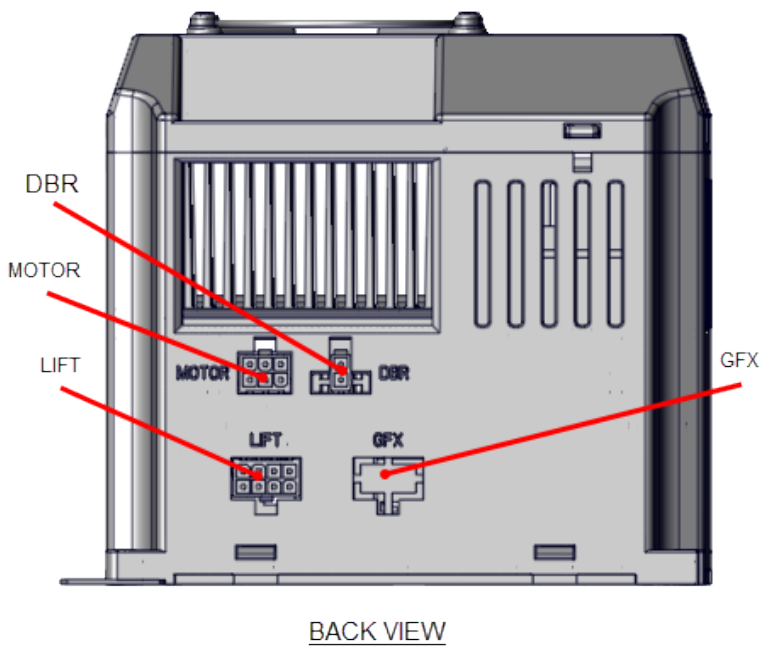
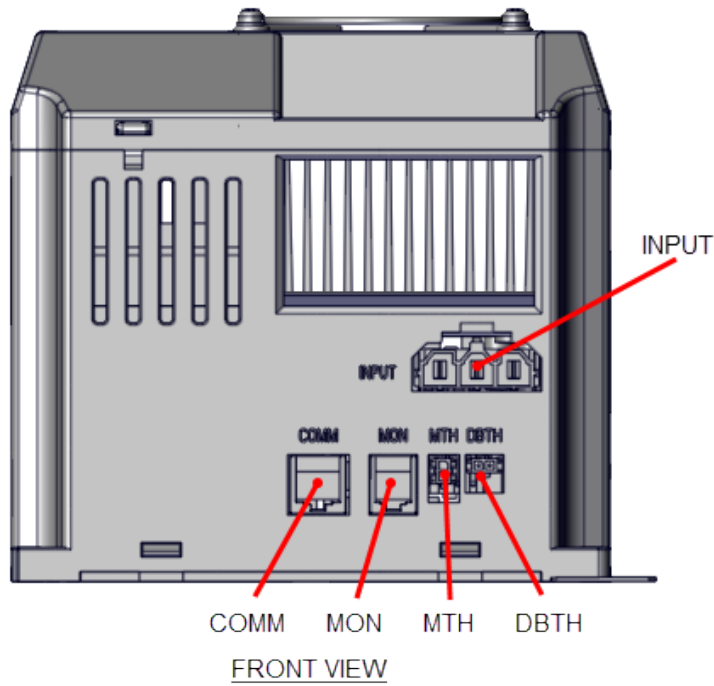
MC Wire Diagram



MC Connector Definition

MC I/O connectors

The MC interface input/output connectors are located on the front and back sides of the MC housing.



Motor Controller (MC) Interface Connections

MC connector pin definitions

CONN ID	NAME	PIN	Description
INPUT	MC AC ¹ INPUT PWR	1	EARTH GROUND
		2	AC LINE 1- LINE AC LINE
		3	AC LINE 2- NEUTRAL
MOTOR	DRIVE MOTOR AC PWR OUT	1	MOTOR PHASE W
		2	MOTOR PHASE V
		3	MOTOR PHASE U
		4	MOTOR PHASE W
		5	MOTOR PHASE V
		6	MOTOR PHASE U
COMM	CONSOLE INTERFACE CABLE	1	DIGITAL GROUND
		2	+8 VDC
		3	TCD DATA OUTPUT
		4	DIGITAL GROUND
		5	+8 VDC
		6	RXD DATA INPUT
		7	DIGITAL GROUND
		8	E-STOP
DBR ²⁽¹⁾	DYNAMIC BRAKE RESISTOR SENSE	1	THERMAL RESISTOR SENSE
		2	THERMAL RESISTOR SENSE
MON	MONITOR (ASL ³ PCA ⁴ INTERFACE CABLE)	1	+8 VDC

¹Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

²⁽¹⁾ DB or DBR: treadmill dynamic brake resistor. 2) DB: power measured in decibels (dB).

³Active Status Light: Service and maintenance status light.

⁴Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.


CONN ID	NAME	PIN	Description
		2	/BOOT_EN
		3	TX
		4	8V GND
		5	D_RESET
		6	RX
MTH	DRIVE MOTOR THERMAL SWITCH	1	THERMAL SWITCH SENSE
		2	THERMAL SWITCH SENSE
DBTH (1)	DYNAMIC BRAKE RESISTER THERMAL SWITCH	1	THERMAL SWITCH SENSE
		2	THERMAL SWITCH SENSE
LIFT	LIFT MOTOR PWR OUT & CONTROL	1	BLK - POTENTIOMETER
		2	RED - POTENTIOMETER
		3	NC
		4	WHITE - MOTOR COMMON
		5	WHITE - POTENTIOMETER WIPER
		6	NC
		7	RED - MOTOR EXTEND
		8	BLK - MOTOR RETRACT
GFX¹	not used	-	not used

Notes: 1) TRM800-14 treadmills only.

¹Ground Effects Impact Control System: Patented treadmill design that out performs a natural running surface, absorbs high-impact movement, reduces joint stress and minimizes fatigue and supports a solid and controlled push off.

MC Fan Motor Connector

The fan motor interface cable connector is located under the MC top cover.

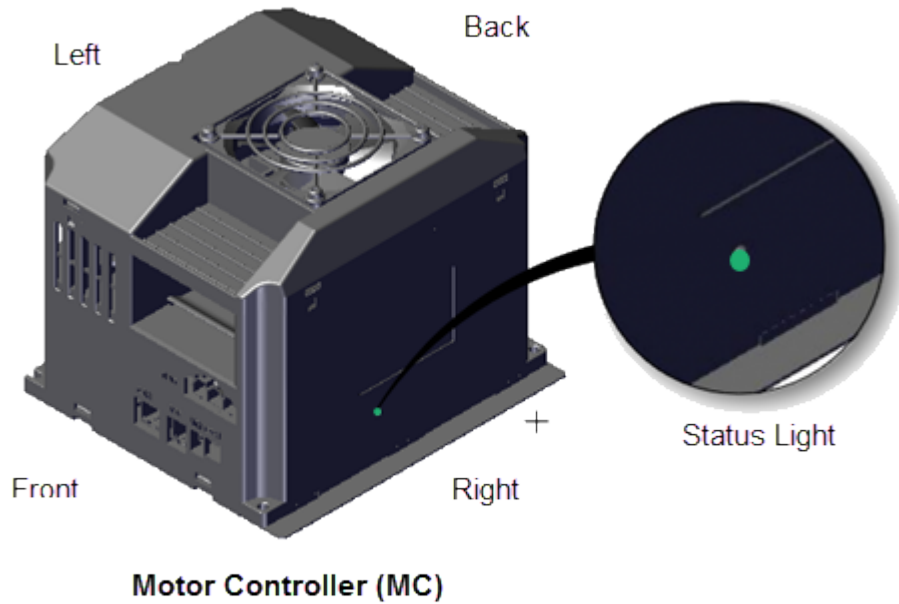
 **Note:** For MC Fan replacement, see "Motor Controller Fan Replacement" on page 111.



Component	PIN	Description
Fan motor	1	Black (24V GND)
	2	Yellow (Fault signal)
	3	Red (+24 Vdc)

MC Status Light

The MC status light is located on the left side of the MC housing.



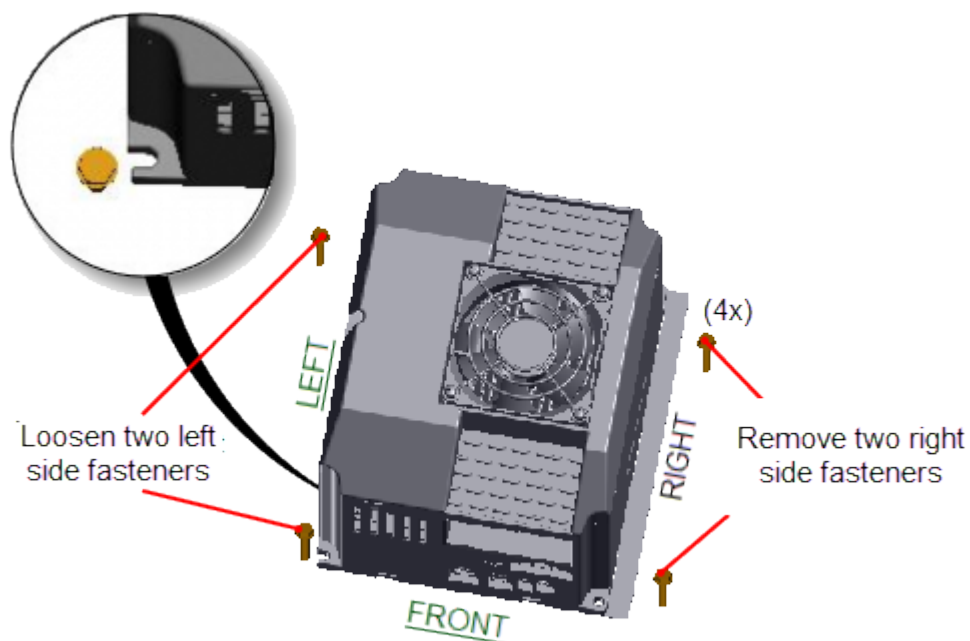
ASL State	DESCRIPTION
Green	Normal operation.
Yellow	Indicates a fault condition has occurred, refer to the error log for more information. The MC may continue to operate after a fault reset or there may be an internal MC fault that needs to be corrected before the MC will operate. The MC status light will not auto-reset after the fault is corrected, the MC status light must be reset to green from the hardware validation diagnostics menu.

Replacement Procedure

Review entire procedure before starting.

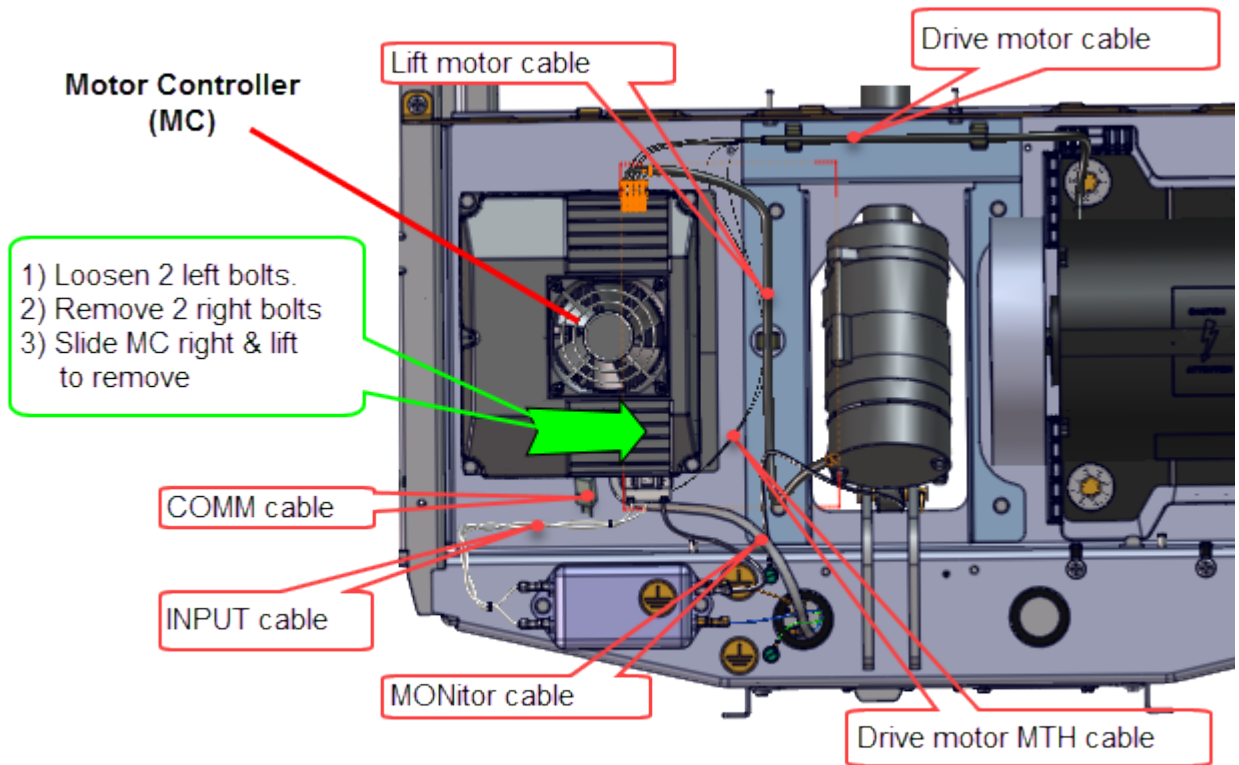
Removal Instructions

1. Switch the power **OFF** and **unplug**¹ the power cord.
2. Remove the hood cover, see "Hood Cover Replacement" on page 71.



3. Facing the front of the treadmill, remove the two right side 5/16" hex fasteners and then loosen the two left side 5/16" hex fasteners (approximately, 4 full turns). Slide the MC base to the right to remove. Retain part(s) and/or fastener(s) for installation.
-

¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.



- Carefully raise front and rear of MC as needed to disconnect the attached I/O¹ interface cable connectors, see "Motor Controller (MC) Replacement" on page 100 .



Note: The COMM connector contacts have an application of dielectric grease to ensure proper electrical contact. Do not wipe off, clean, or remove the dielectric grease.

Installation Instructions

- Place the MC into the drive motor compartment and reconnect the removed MC I/O cable connectors: LIFT motor cable, Drive MOTOR cable, COMM cable, MON ASL cable, Thermal switch MTH cable, power INPUT cable). It will be easier to attach the connectors before installing the MC into the mounting fasteners. Make sure the I/O cable connectors have the correct orientation and alignment before inserting into the receiving MC I/O port.



CAUTION: Take your time and be careful when reconnecting the I/O cable connector plugs. Many of the connector contacts are small and can be easily damaged if incorrectly inserted into the receiving connector plug-in.

¹Input and Output Interface.

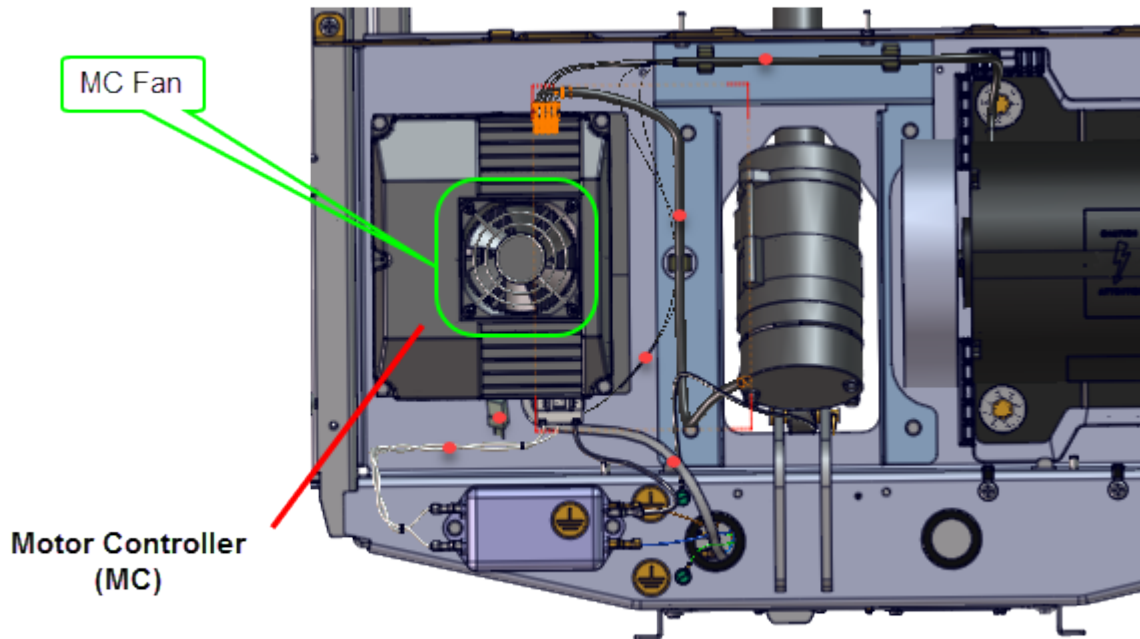
2. Reinstall the MC by sliding the left side base flanges under the two left preinstalled loosened fasteners. Then install the two right side fasteners and fully tighten all four fasteners.
 3. Route cables and secure using the frame cable clamps. Recheck all cable MC connections and make sure that the cables have freedom of movement and clear of any frame or component edges that could pinch or damage the cable wires.
 4. **Plug**¹ in the power cord and switch the power **ON**.
 5. Verify the MC status light is green. If the status light is yellow, reset the status light as follows:
 - P10, P30, P30i and P31
 - a. Clear the Error Log of any stored error codes: Hold down **PAUSE** to access the Error Log > select **OK** to view error codes, and then hold down **QUICK START** to clear the Error Log of all error codes.
 - b. Clearing the Error Log resets the ASL and MC status lights. Verify that the ASL status light is blue and the MC status light is green.
 - P62, P80, and P82
 - a. Reset the ASL and MC status lights: Access the service **Settings** menu (51765761), select **Maintenance > Operating Condition >** and the **Reset** softkey to reset the ASL and MC status lights. Verify the following Maintenance menu parameters:
 - Recommended Action: None
 - Operating Condition: Normal
 - Active Status Light: Solid Blue
 - b. Visually verify that the MC status light is now “green” and the ASL light is “solid blue”.
 - c. Repeat selecting the **Back** softkey to exit and return to the “Welcome” banner home page.
 6. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71.
 7. Do the Operation Verification tests (see "[Operation Verification](#)" on page 19) and return to service.
-

¹Device power cord connector or electrical cable male connector that is inserted into an electrical receptacle "outlet" (also called the plug-in).

Motor Controller Fan Replacement

About

This procedure provides instruction to replace the Motor Controller (**MC**¹) Fan.



MC Fan Connector Definition

The fan motor interface cable connector is located under the MC top cover.



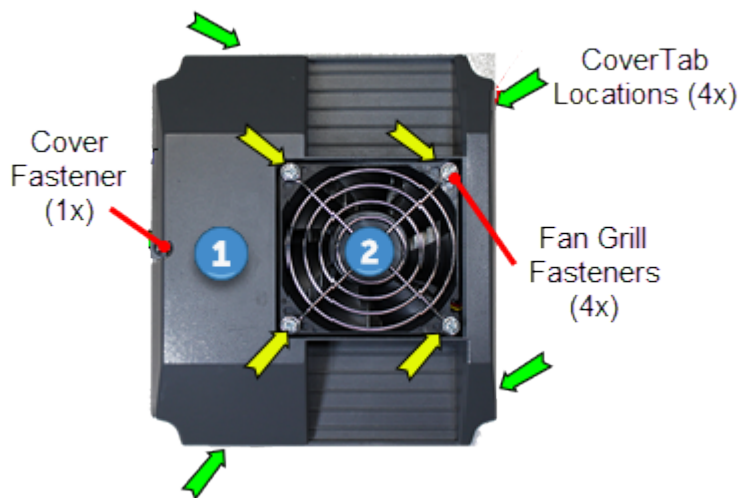
¹Motor controller or motor controller module

Component	PIN	Description
Fan motor	1	Black (24V GND)
	2	Yellow (Fault_signal)
	3	Red (+24 VDC)

Review entire procedure before starting.

Removal Instructions

1. Switch the power **OFF** and **unplug**¹ the power cord.
2. Remove the MC, see "Motor Controller (MC) Replacement" on page 100.
3. Use a #2 Philips screwdriver to remove the MC top cover **1** screw fastener.



4. Use a small standard screwdriver to release the four mounting tabs and carefully lift the MC top cover from the main housing. Disconnect the power cable connector and remove the top cover. Retain fastener for installation.
5. Use a #2 screwdriver to remove the four fan fasteners and remove the fan grill **2**. Retain grill and fasteners for installation.
6. Carefully lift the fan **3** and remove from top cover **1**. Guide the power cable and connector through the cable routing opening while removing. Discard the fan.

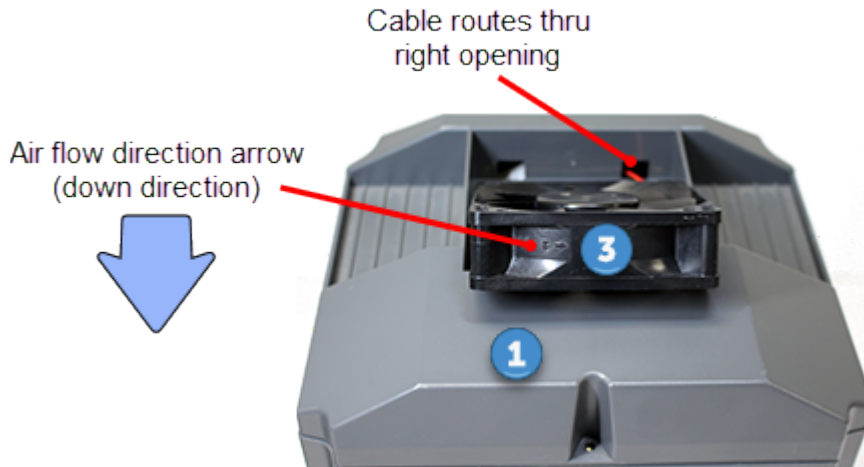
Installation Instructions

1. Make sure that the replacement fan is the most current part number (PPP000000304461101), see service bulletin SB.**TRM**².20161014.
2. The fan must be installed so the air flow is directed into the MC housing. Install the fan so that the embossed air flow indicator arrow points into the MC housing. If replacing the older fan with the newer fan, the new fan cable routing has changed. Feed the

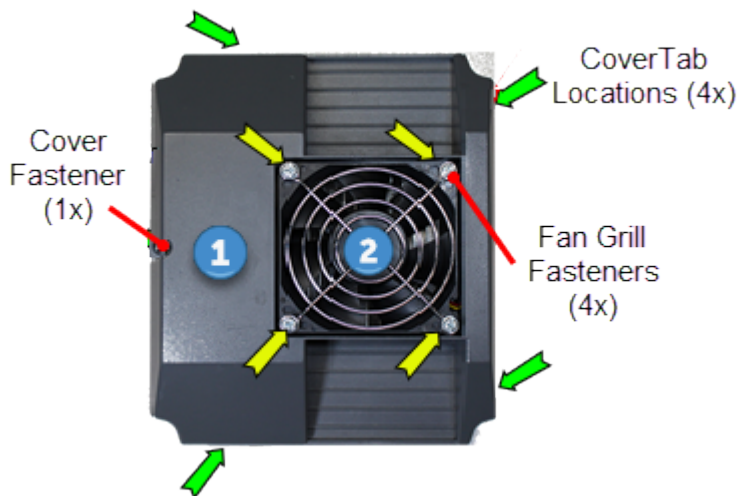
¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

²Treadmill

power cable thru the right cable housing opening (not the left opening) and install the new fan.



3. Reinstall the fan grill onto the fan and secure with the four screw fasteners.



4. Reconnect the fan power cable and install the top cover onto the MC housing. Make sure that the power cable is not pinched or damaged while snapping the top cover into the housing tabs. Secure top cover using the one screw fastener.

5. Reinstall the Motor Controller, see "[Motor Controller \(MC\) Replacement](#)" on page 100.

6. **Plug**¹ in the power cord and switch the power ON.

¹Device power cord connector or electrical cable male connector that is inserted into an electrical receptacle "outlet" (also called the plug-in).

7. P10, P30, P30i and P31 consoles
 - a. Clear the Error Log of any stored error codes: Hold down PAUSE to access the Error Log > select OK to view error codes, and then hold down QUICK START to clear the Error Log of all error codes.
 - b. Clearing the Error Log resets the **ASL**¹ and MC status lights. Verify that the ASL status light is blue and the MC status light is green.
8. P62, P80, and P82 consoles
 - a. Reset the ASL and MC status lights: Select **Operating Condition** > press **Reset** softkey to reset the ASL and MC status lights. Verify the following Maintenance menu parameters:
 - Recommended Action: None
 - Operating Condition: Normal
 - Active Status Light: Solid Blue
9. Verify that the MC status light is now “green” and the ASL light is “solid blue”.
10. Exit service mode.
11. Press **QUICK START** to start a manual workout. Make sure the fan is running, that the air flows into the MC housing, and there are no error code 14 events.



Note: The fan will only run after the running belt is moving.

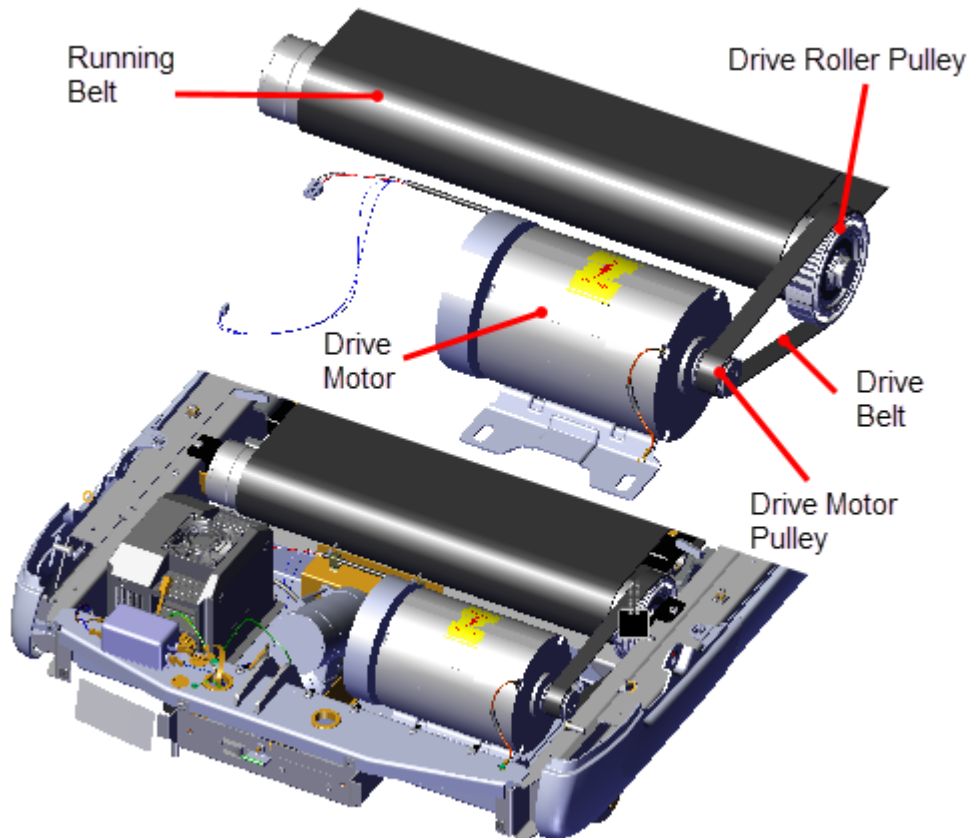
12. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71.
 13. Do the Operation Verification tests (see "[Operation Verification](#)" on page 19) and return to service.
-

¹Active Status Light: Service and maintenance status light.

Drive Belt Replacement

About

This procedure provides instruction to remove and install the Drive Belt



Procedure

Review entire procedure before starting.

Removal Instructions

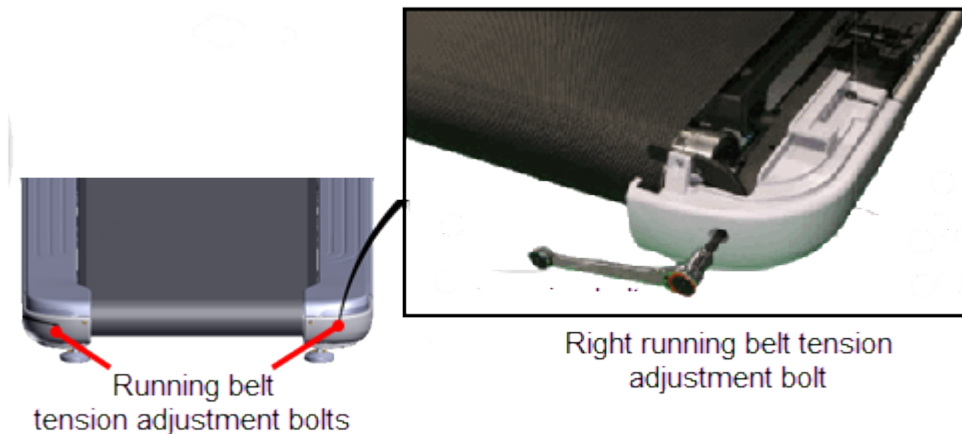
1. Switch the power **OFF** and **unplug**¹ the power cord.
2. Remove the hood cover, see "Covers and Panels Replacement" on page 69.
3. Remove the left and right trim landing covers, see "Trim Landing Covers Replacement" on page 74.

¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

- Relax the running belt tension by loosening the left and right 5/16" hex key tension adjustment bolts. Alternately loosen the left and right adjustment bolts in 1/4 turn increments to evenly remove left and right tension. Only use hand tools and not power tools which can easily over or under tension the belt causing damage to the belt and/or take-up roller tension mechanism.



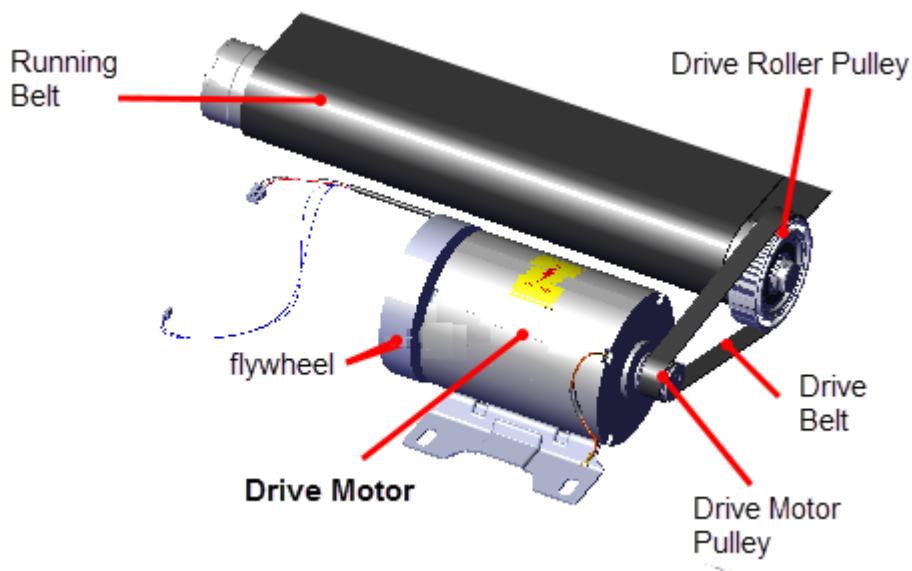
CAUTION: Only use hand tools to adjust tension. Power tools can easily over and/or under tension causing damage to the belt and/or tension hardware mechanism.



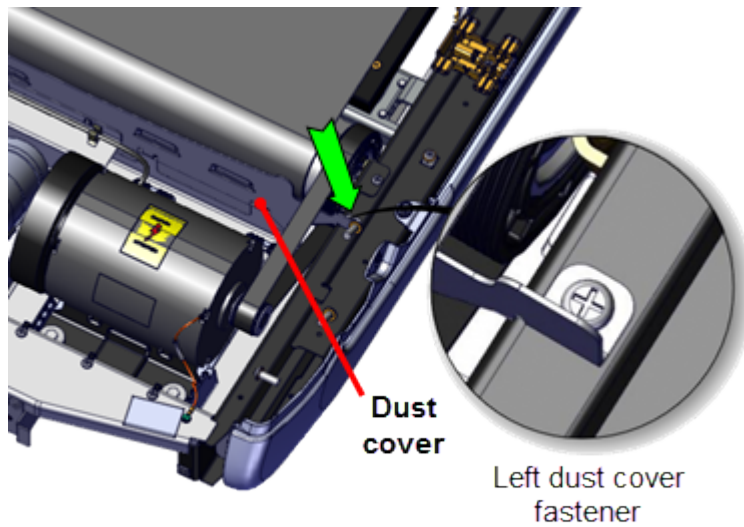
- Walk the Drive Belt off the Drive Roller pulley and then the Drive Motor pulley. Temporarily place the Drive Belt on the inside of the Drive Roller pulley.



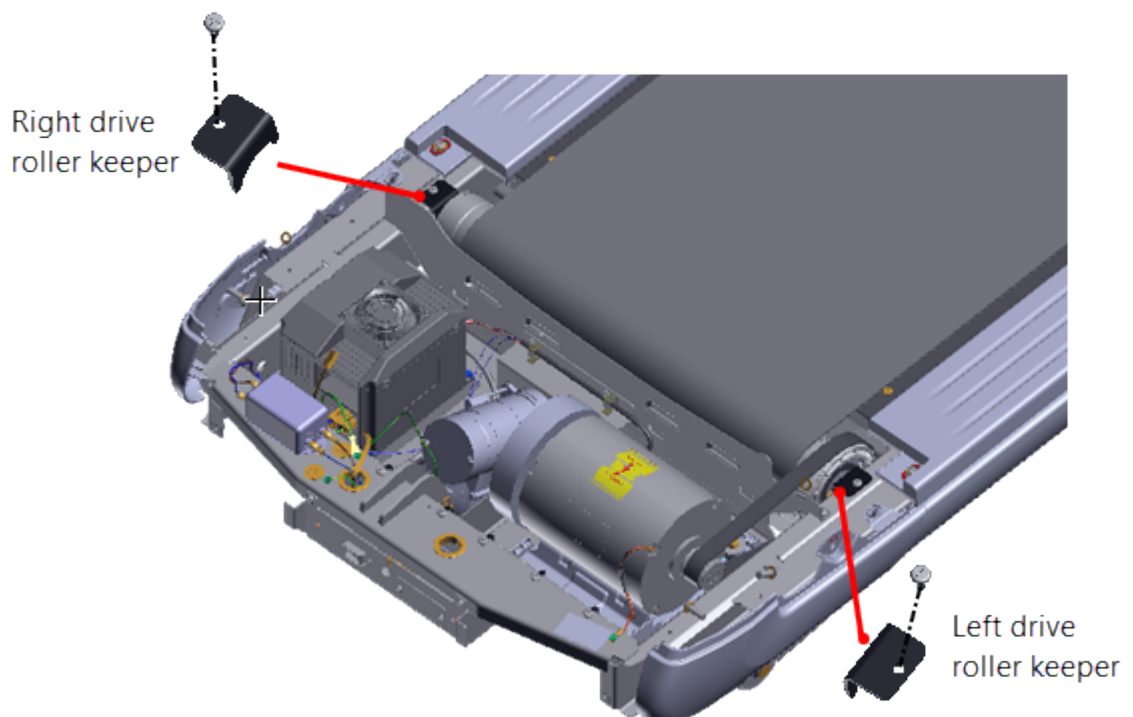
TIP: Use (turn) the Drive Motor flywheel to make it easier to turn the motor pulley and help walk the belt onto or off the Drive Motor and Drive Roller pulleys.



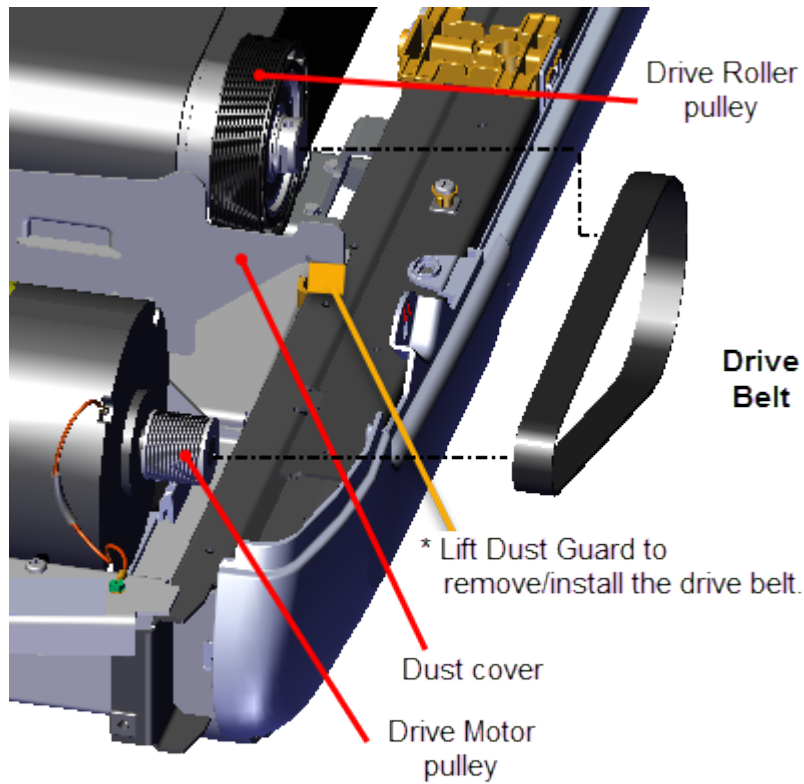
6. Remove the left side Dust Guard #3 Phillips screw fastener. Retain fastener hardware for installation.



7. Remove the left and right Drive Roller Keepers (one #3 Phillips screw per keeper). Retain fastener hardware for installation.

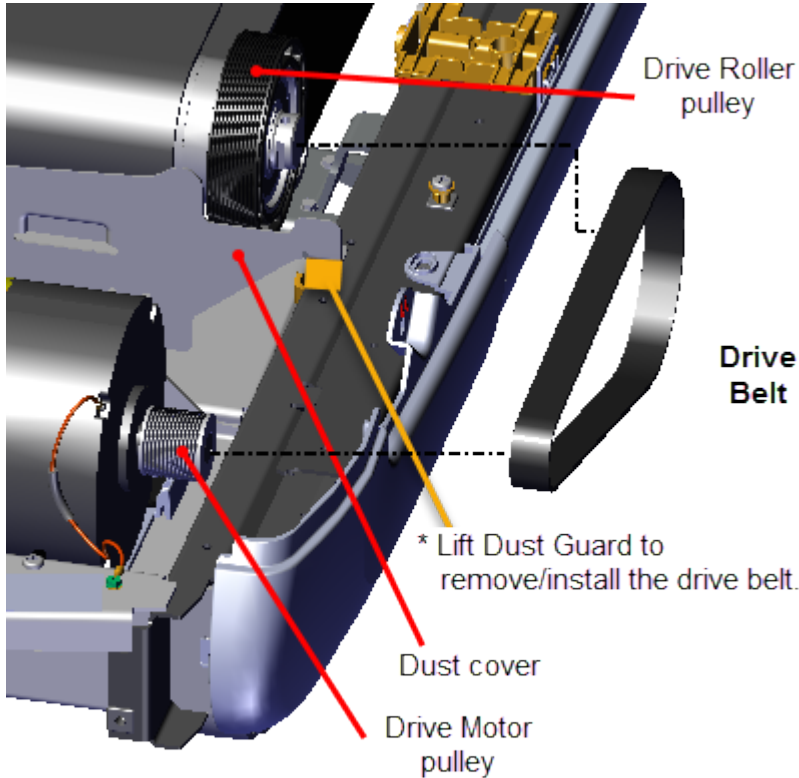


8. Lift the Drive Roller enough to remove the Drive Belt off the pulley. Lift the left side of the Dust Guard enough to slide the belt from the Dust Guard and remove from the treadmill.

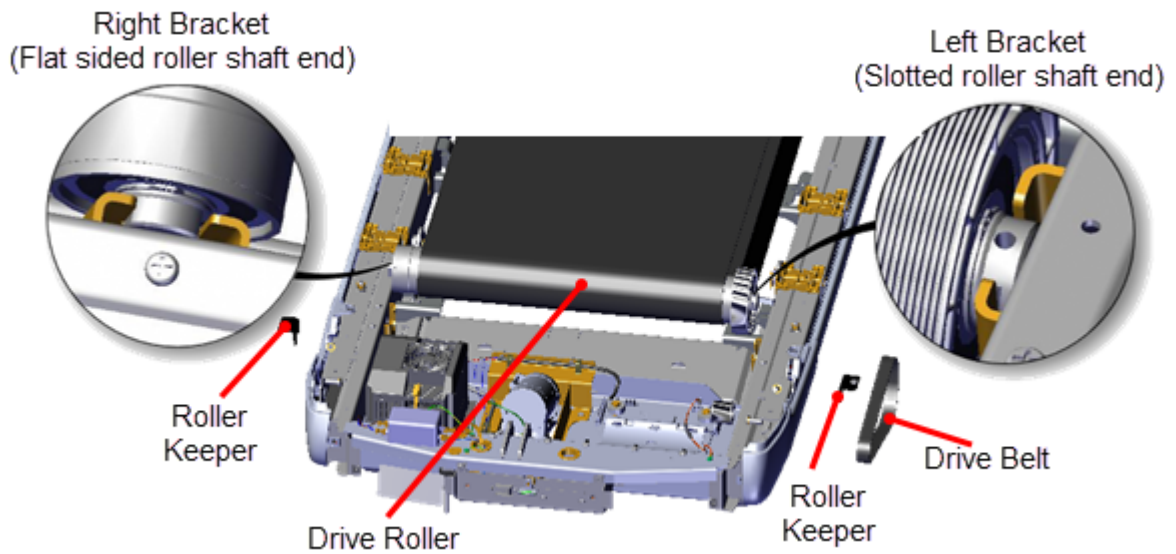


Installation Instructions

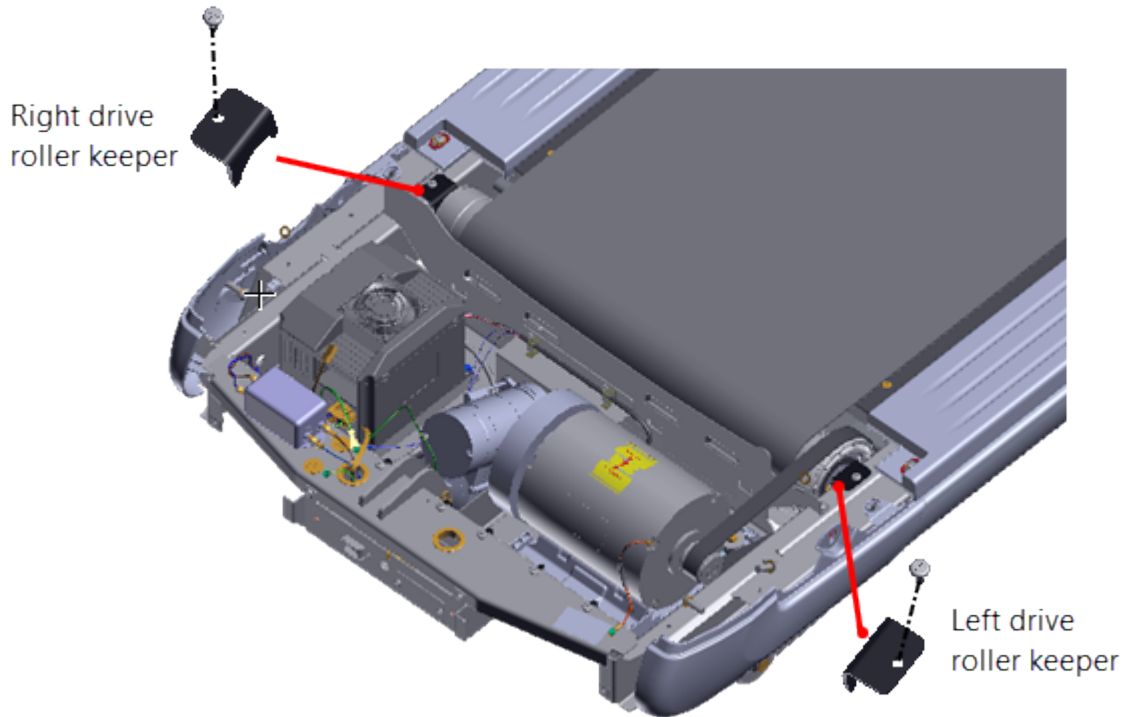
1. Lift the left side of the Dust Guard enough to install the Drive Belt over the Dust Guard.



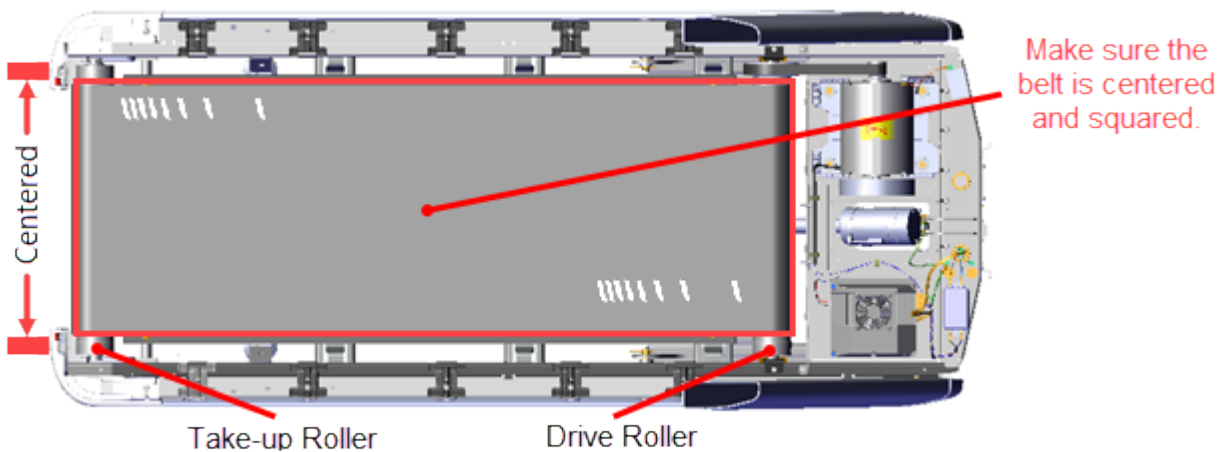
2. Lift the Drive Roller enough to place the Drive Belt onto the Drive Roller pulley. Reinstall the Drive Roller into the left and right mounting brackets.



1. Reinstall the left and right Drive Roller Keepers and secure using the #3 screw fasteners (one fastener per Keeper).



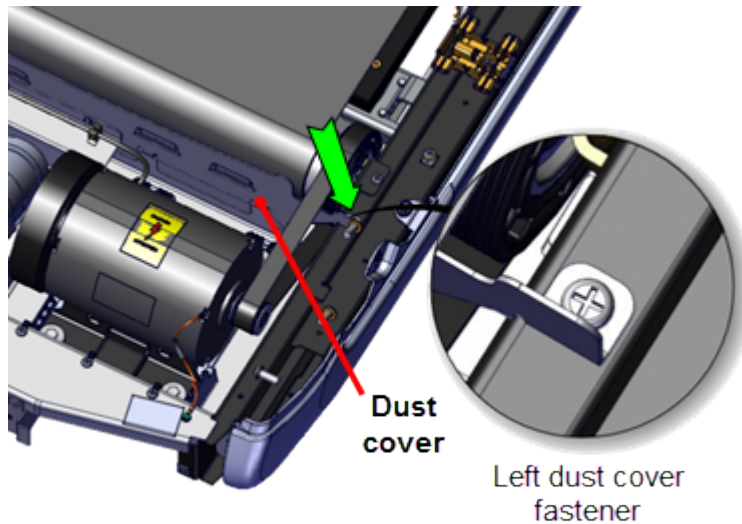
2. Center and square the running belt on the Drive and Take-up Rollers. Tension the running belt to specification, see "[Running Belt Tension and Tracking Adjustment](#)" on [page 54](#). Do not verify tracking or apply power at this step in the process, the running belt tracking will be verified after the Drive Belt is installed.



3. Install the drive belt. Place the Drive Belt onto the drive pulley and then walk the belt onto the Drive Motor pulley.

i **TIP:** Use (turn) the Drive Motor flywheel to make it easier to turn the motor pulley and help walk the belt onto or off the Drive Motor and Drive Roller pulleys.

4. Reinstall the left side Dust Guard #3 Phillips fastener and fully tighten.



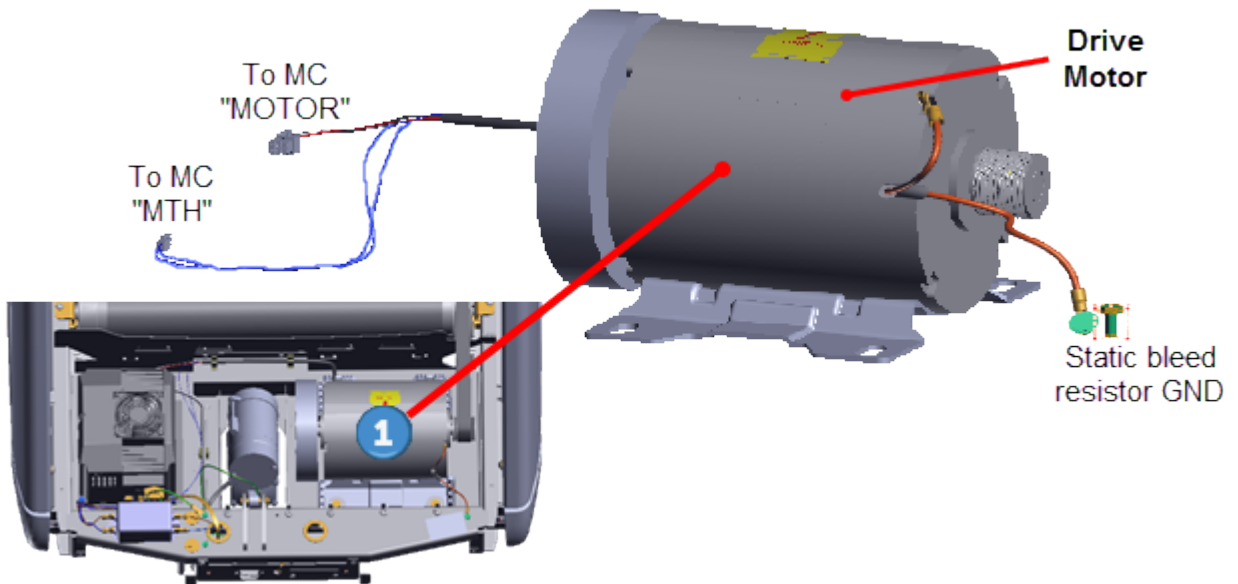
5. Make sure the Drive Belt pulley alignment is correct and then tension the Drive Belt to specification. see "[Drive Belt Tension and Alignment Adjustment](#)" on page 50.
6. Connect the power cord and switch the power **ON**.
7. Operate the treadmill and verify the running belt tracking, see "[Running Belt Tension and Tracking Adjustment](#)" on page 54.
8. Reinstall the left and right trim landing covers, see "[Trim Landing Covers Replacement](#)" on page 74.
9. Reinstall the hood cover, see "[Covers and Panels Replacement](#)" on page 69.
10. Do the Operation Verification tests (see "[Operation Verification](#)" on page 19) and return to service.

Drive Motor Replacement

About

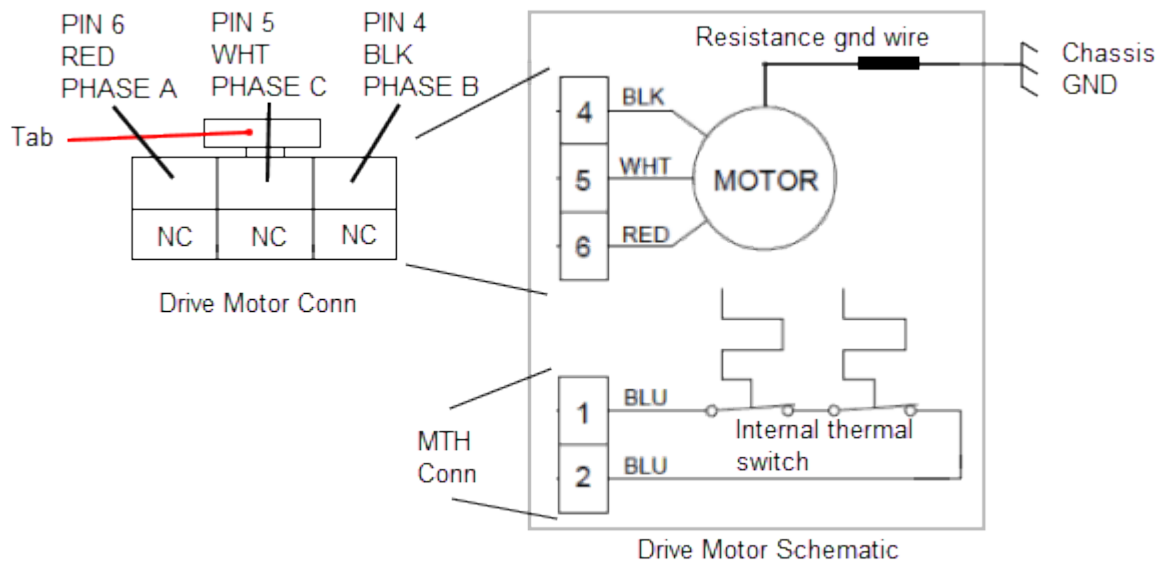
This procedure provides instruction to replace the Drive Motor.

The Drive Motor is located in the Drive Motor compartment at the front of the treadmill under the hood cover.



ID	Description
1	Drive Motor

Drive Motor Cable Schematic



Drive Motor Schematic

Procedure

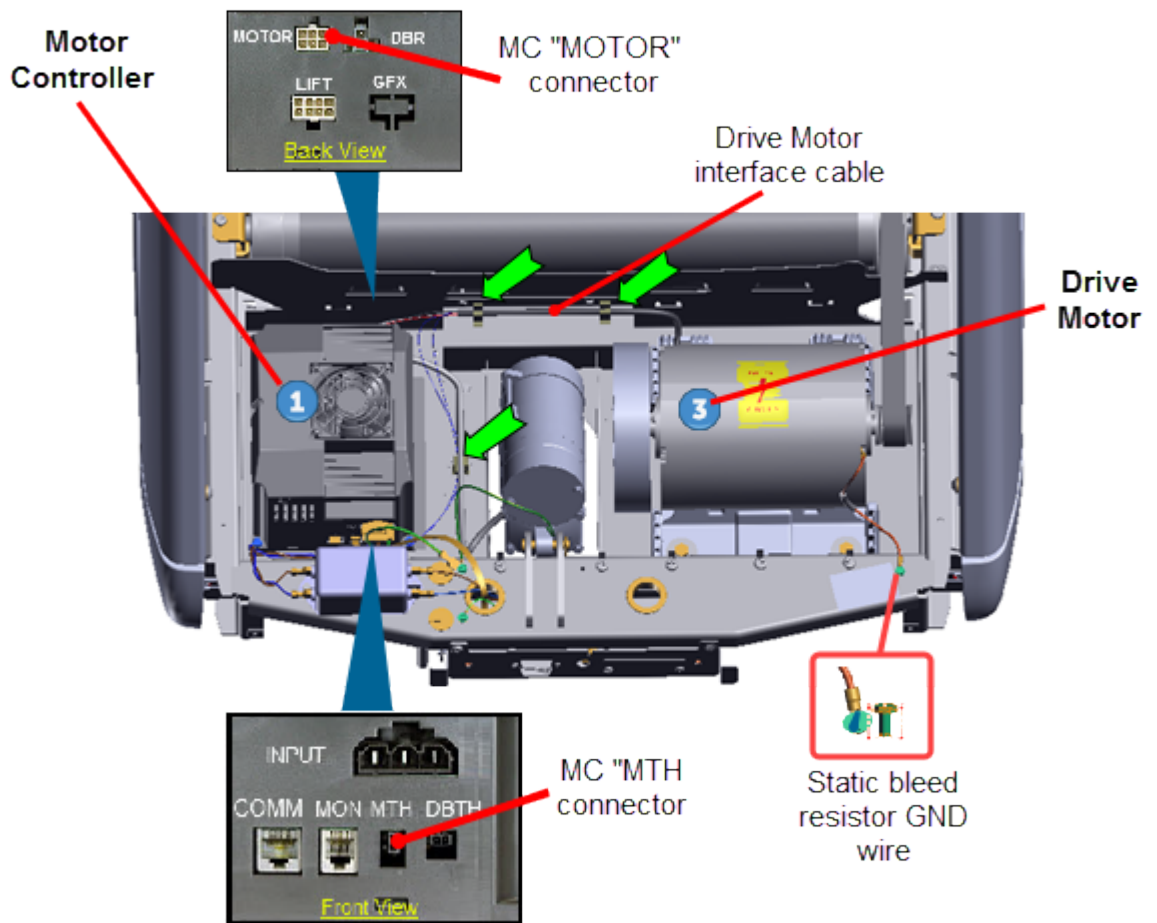
Review entire procedure before starting.

Removal Instructions

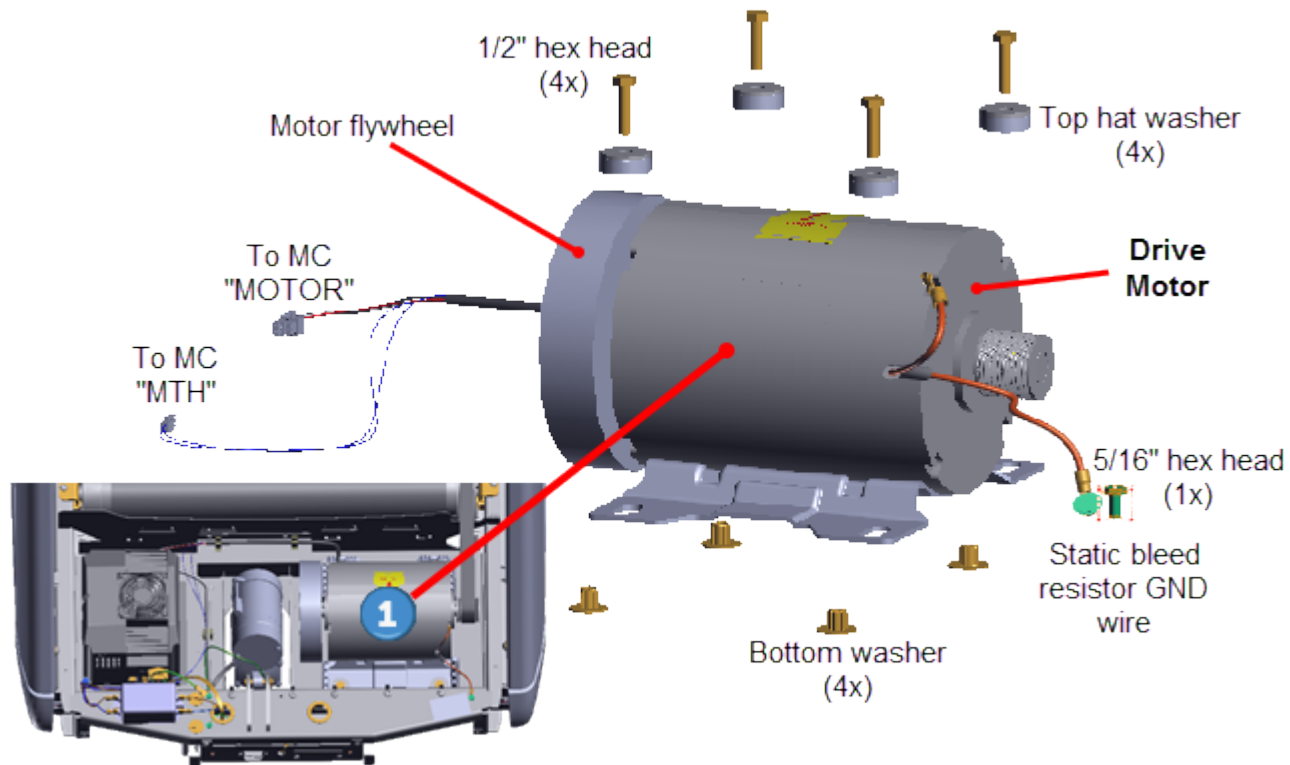
1. Switch the power **OFF** and **unplug**¹ the power cord.
2. Remove the hood cover, see "[Hood Cover Replacement](#)" on page 71.
3. Disconnect the Motor Controller "MTH" and "MOTOR" electrical connections:
 - a. Remove the **MC**² base from the mounting fasteners to allow connector access, see "[Motor Controller \(MC\) Replacement](#)" on page 100.
 - b. Disconnect the MC "MTH" and "MOTOR" interface cable connectors, see "[Motor Controller \(MC\) Replacement](#)" on page 100.
 - c. Remove the motor interface cable from the three frame cable clamps.

¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

²Motor controller or motor controller module



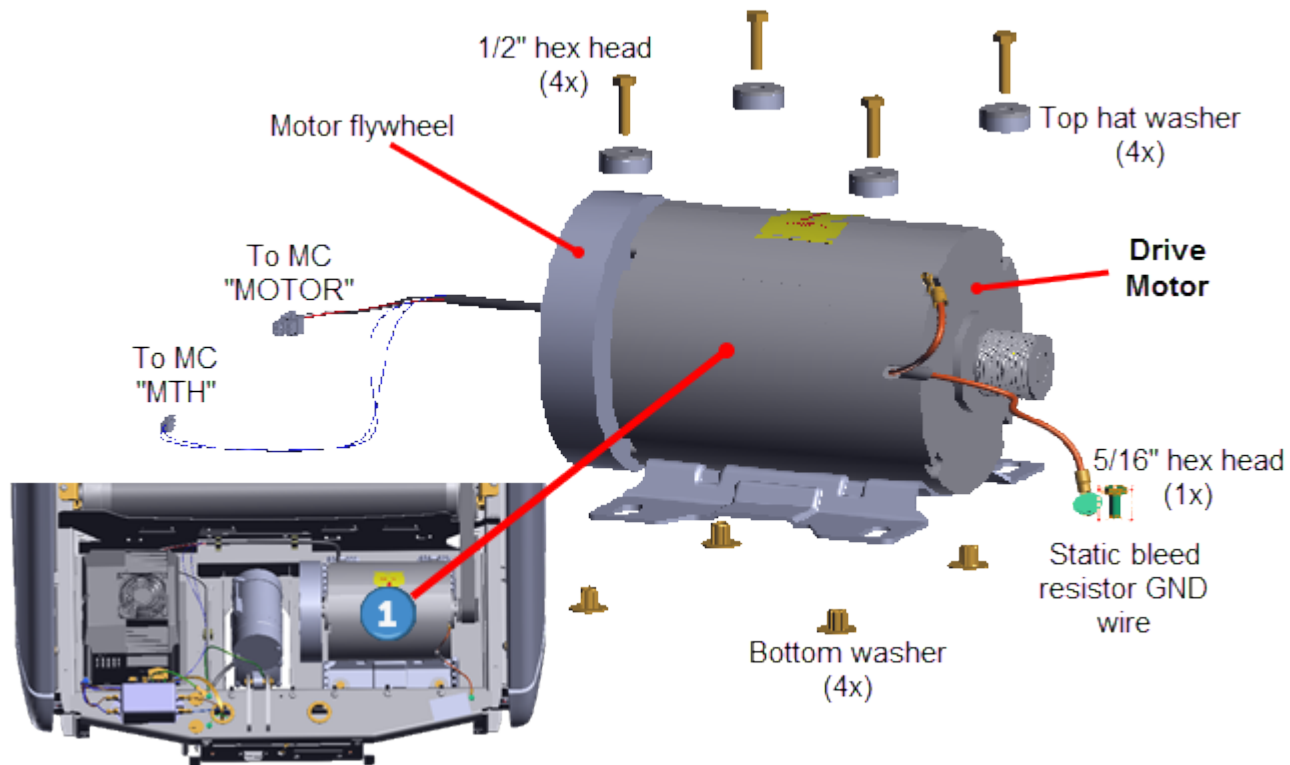
4. Use a 5/16" socket (or nut driver) to remove the Drive Motor static bleed resistor ground wire (Orange wire). Retain part(s) and/or fastener(s) for installation.
5. Use tape or marker to make a motor base position reference mark. This reference mark will be used to help position the replacement motor installation position.
6. Remove Drive Belt tension by loosening the four Drive Motor **3** 1/2" hex head fasteners. Remove the Drive Belt by walking the belt off the Roller pulley and then the motor pulley.



7. Remove the four 1/2" hex head bolts, plastic top hat washers, and bottom washers fastener hardware. Remove the drive motor. Retain part(s) and/or fastener(s) for installation.

Installation Instructions

1. Install the replacement Drive Motor into the motor isolation tray and secure using the four 1/2" hex fasteners, plastic top hat washers, and bottom washers fastener hardware.
 - a. If you made a motor base install reference mark prior to removal, adjust the Drive Motor base position to the motor base install reference mark and fully tighten the four 1/2" hex head fasteners
 - b. If you did not make a motor base install reference mark prior to removal, position the motor base to the rear tab stops (minimum belt tension position) and fully tighten the four 1/2" hex head fasteners.



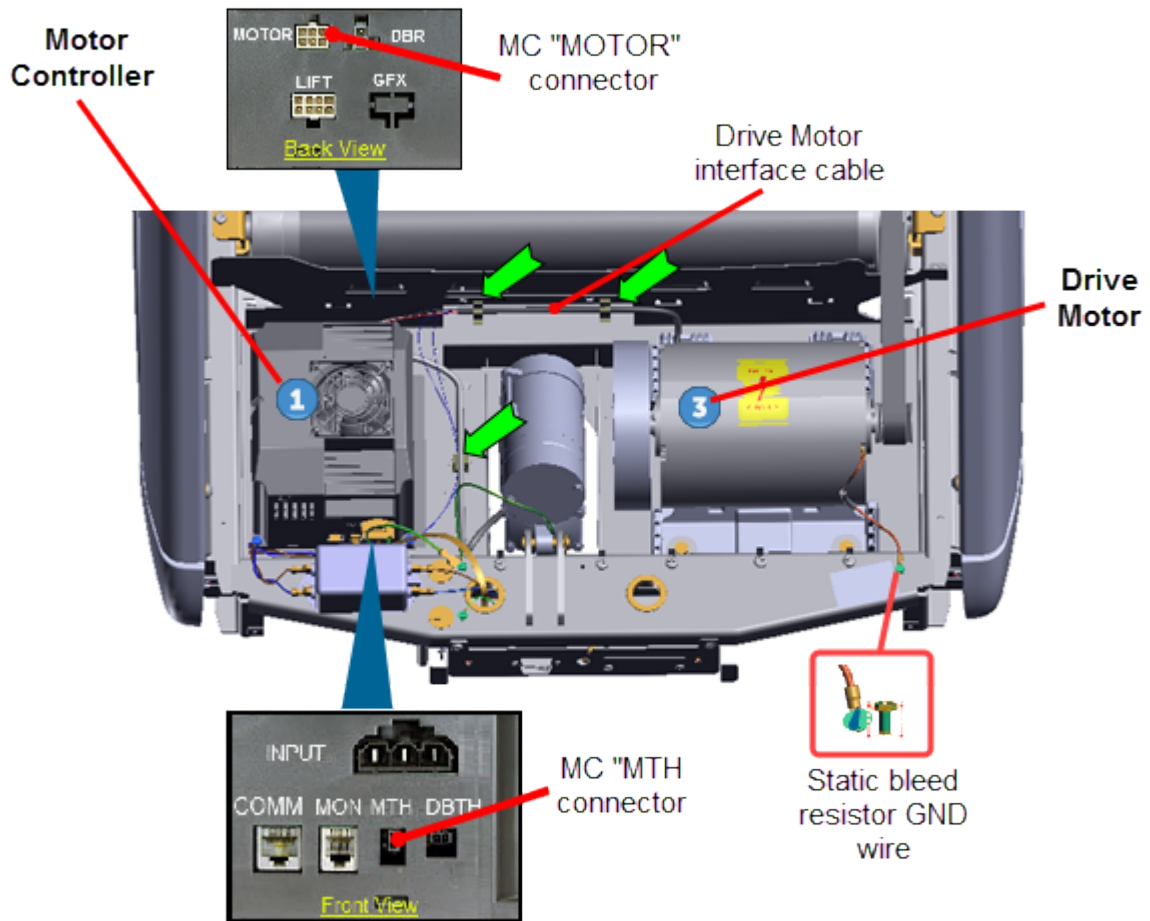
2. Reconnect the motor static bleed resistor ground wire and secure using the 5/16 " hex head fastener. Fully tighten the fastener to ensure good electrical contact with the frame weldment.



WARNING: Static electric shock hazard. Make sure the motor static bleed resistor ground wire is securely connected to the frame. When the ground wire is not connected, touching the motor housing could cause static charge electrical shock and personal injury.

3. Reconnect the Motor Controller "MTH" and "MOTOR" cable connectors , see "[Motor Controller \(MC\) Replacement](#)" on page 100. Make sure the cable connectors have the correct orientation and alignment before inserting into the MC I/O¹ connector.

¹Input and Output Interface.



CAUTION: Take your time and be careful when reconnecting the MC cable connectors. Many of the connector contacts are small and can be easily damaged if incorrectly inserted into the MC connector.

4. Reinstall the MC by sliding the left side base flange under the two left preinstalled loosened fasteners. Then install the two right side fasteners and fully tighten all four 1/2" hex fasteners, see "[Motor Controller \(MC\) Replacement](#)" on page 100.
5. Route cables and secure using the three frame cable clamps. Recheck all cable MC connections and make sure that the cables have freedom of movement and clear of any frame or component edges that could pinch or damage the cable wires.
6. Reinstall the drive belt. Place the Drive Belt onto the Roller pulley and walk the belt onto the Drive Motor pulley.



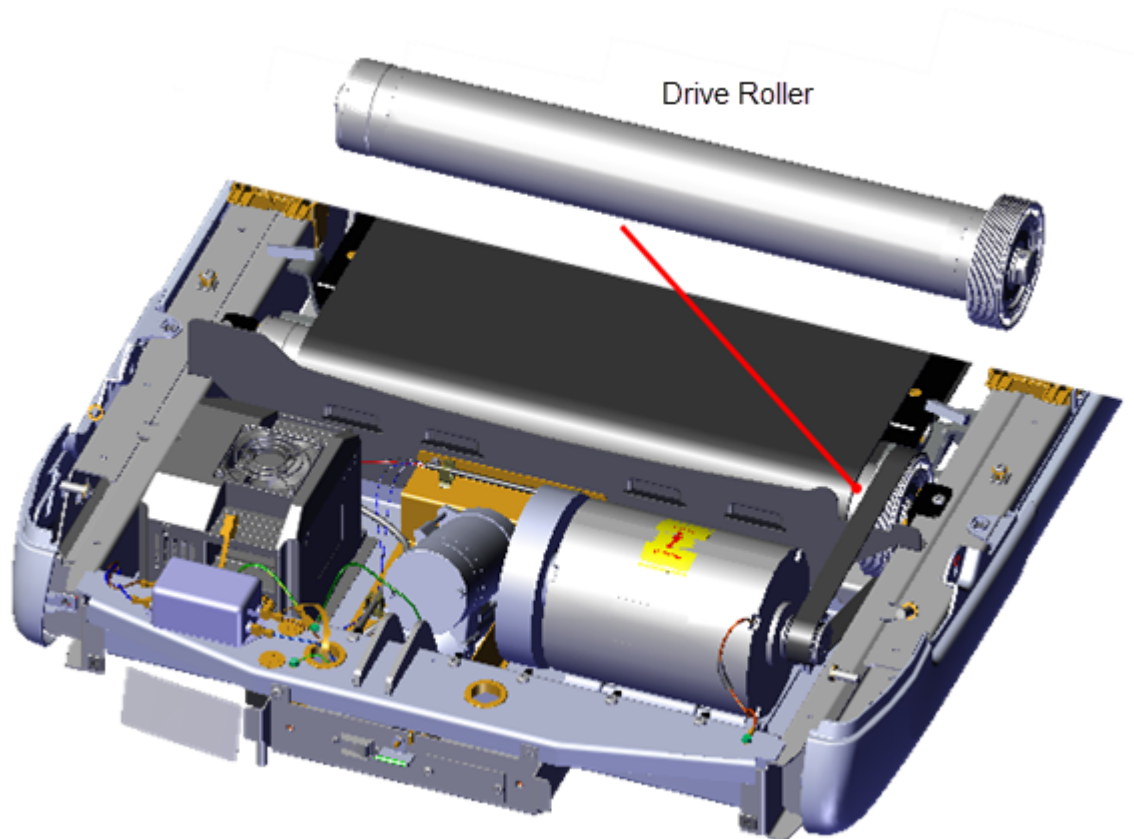
TIP: Use (turn) the Drive Motor flywheel to make it easier to turn the motor pulley and help walk the belt onto or off the Drive Motor and Drive Roller pulleys.

7. Connect the power cord and switch the power **ON**.
8. Verify the Drive Belt alignment and tension to specification. see "[Drive Belt Tension and Alignment Adjustment](#)" on page 50.
9. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71.
10. Do the Operation Verification tests (see "[Operation Verification](#)" on page 19) and return to service.

Drive Roller Replacement

About

This procedure provides instruction to remove and replace the Drive Roller.



Procedure

Review entire procedure before starting.

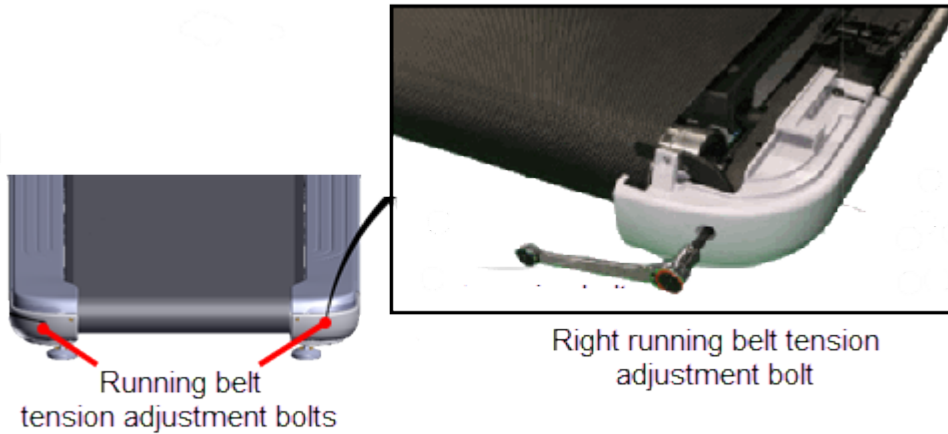
Removal Instructions

1. Switch the power **OFF** and **unplug**¹ the power cord.
2. Remove the hood cover, see "Covers and Panels Replacement" on page 69, and left/right Landing Trim covers, see "Covers and Panels Replacement" on page 69.
3. Relax the running belt tension by loosening the left and right 5/16" hex key tension adjustment bolts. Alternately loosen the left and right adjustment bolts in 1/4 turn increments so that the running belt tension is evenly removed. Only use hand tools and not power tools which could cause damage to the take-up roller tension mechanism.

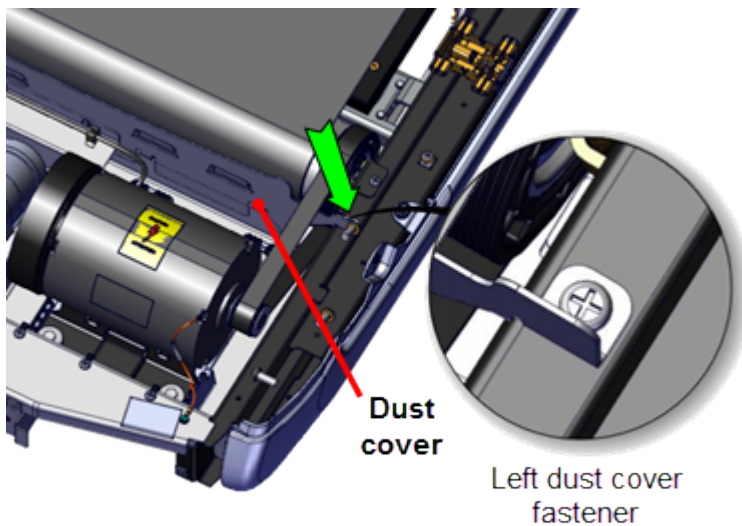
¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.



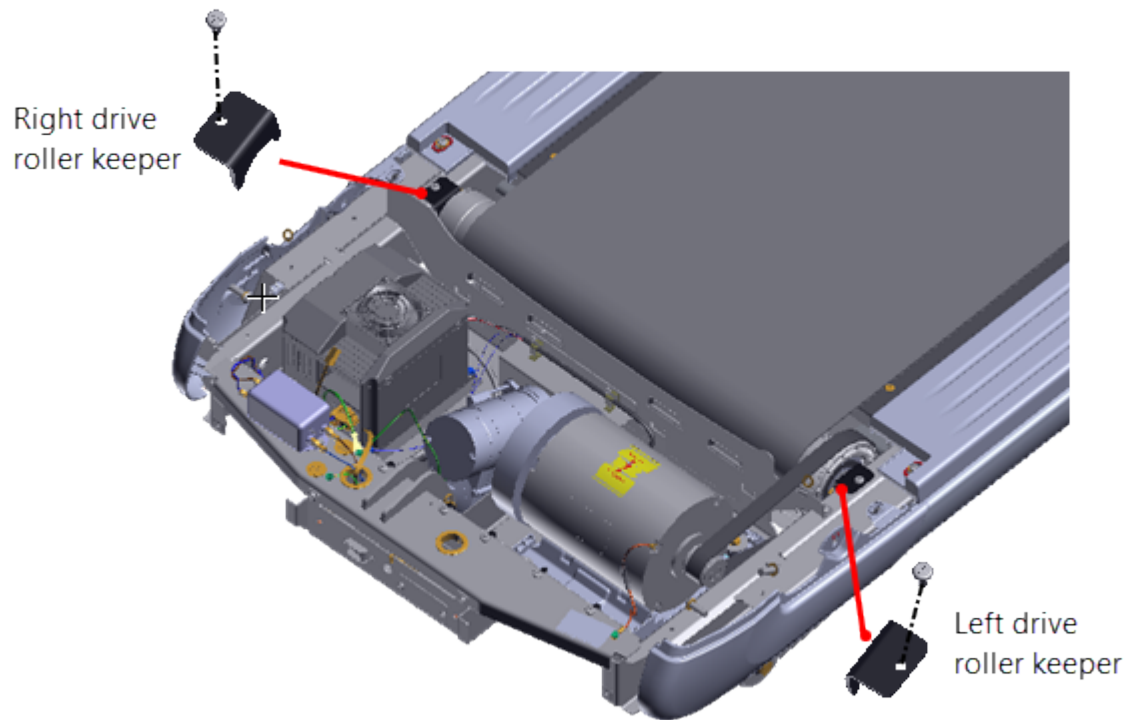
CAUTION: Only use hand tools to adjust tension. Power tools can easily over and/or under tension causing damage to the belt and/or tension hardware mechanism.



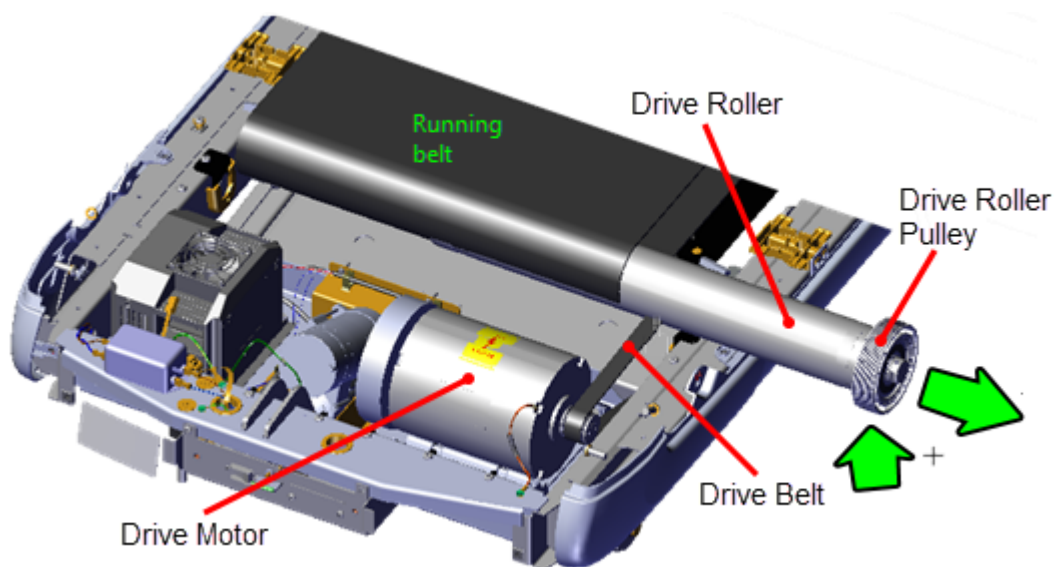
4. Remove the two #3 Phillips screws and two 7/16" hex head fasteners and remove the Dust Guard . Retain fastener hardware for installation.



5. Remove the Drive Belt. Walk the belt off the Drive Roller pulley and remove.
6. Remove the one #3 Phillips screw fastener per keeper and remove the left and right Roller keepers. Retain fastener hardware for installation.

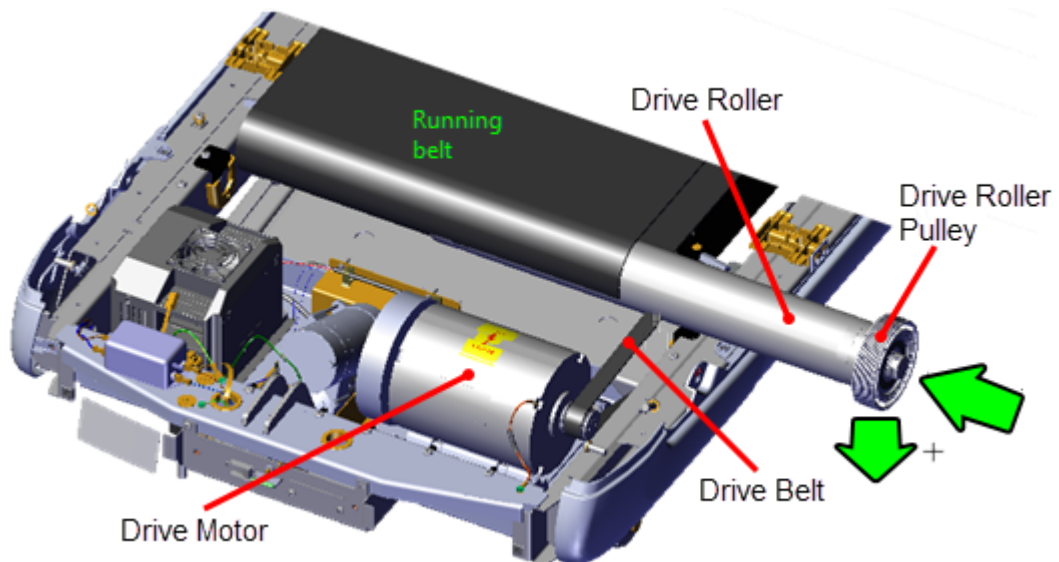


7. Loosen the Take-up Roller tension adjustment bolts enough to allow the freedom of movement required to lift the Drive Roller from the mounting brackets. Slide the Drive Roller through the running belt and remove.

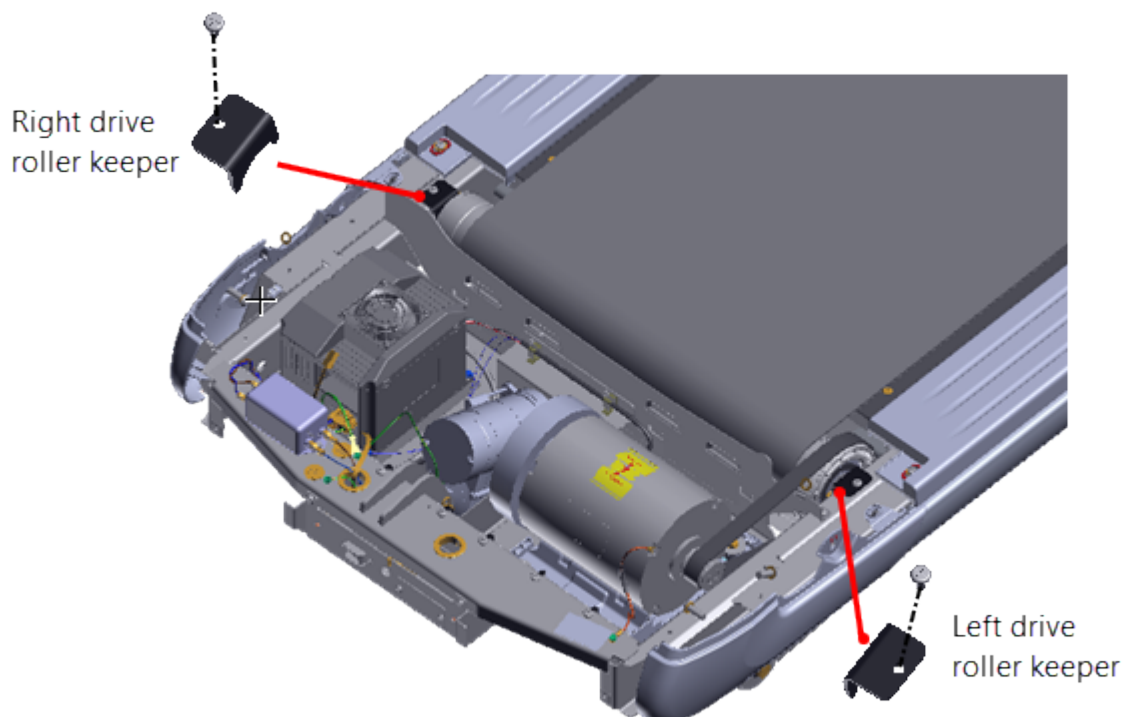


Installation Instructions

1. Place the Drive Roller thru the Running Belt and then set the Roller back into position in the mounting brackets.



2. Reinstall the left and right Roller Keepers and secure using the #3 screw fasteners (one fastener per Keeper).

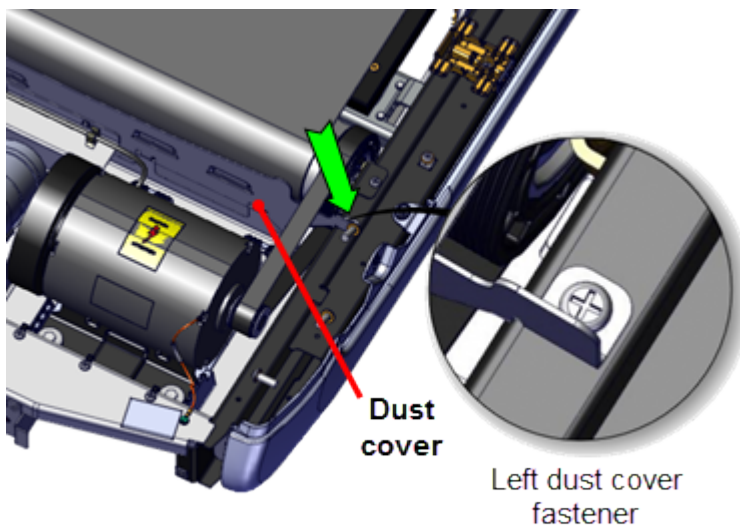


- Center and square the running belt onto the Take-up and Drive rollers and tension to specification, see ["Running Belt Tension and Tracking Adjustment"](#) on page 54. Do not verify tracking or apply power at this step in the process, the running belt tracking will be verified after the Drive Belt is installed.



Note: 1) The running belt tension adjustment is performed with the drive pulley: removed.
2) Tension the running belt to specification prior to adjusting the Drive Belt tension.

- Install the drive belt. Place the Drive Belt onto the Roller pulley and then walk the belt onto the Drive Motor pulley.
- Reinstall the Dust Guard and secure using the two #3 Phillips and two 7/16" hex head fasteners. Make sure to insert the left Dust Guard bracket through the Drive Belt pulley before securing the fasteners.

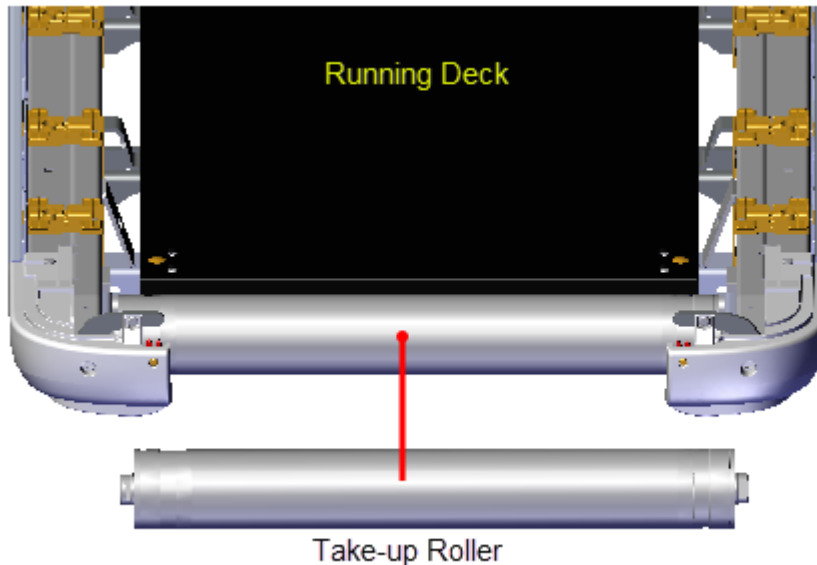


- Make sure the Drive Belt pulley alignment is correct and then tension the Drive Belt to specification. see ["Drive Belt Tension and Alignment Adjustment"](#) on page 50.
- Connect the power cord and switch the ON/OFF circuit breaker to **ON**.
- Operate the treadmill and verify the running belt tracking, see ["Running Belt Tension and Tracking Adjustment"](#) on page 54.
- Reinstall the hood cover, see ["Covers and Panels Replacement"](#) on page 69, and left/right Landing Trim covers, see ["Covers and Panels Replacement"](#) on page 69.
- Do the Operation Verification tests (see ["Operation Verification"](#) on page 19) and return to service.

Take-up Roller Replacement

About

This procedure provides instruction to remove and replace the Take-up Roller.



Procedure

Review entire procedure before starting.

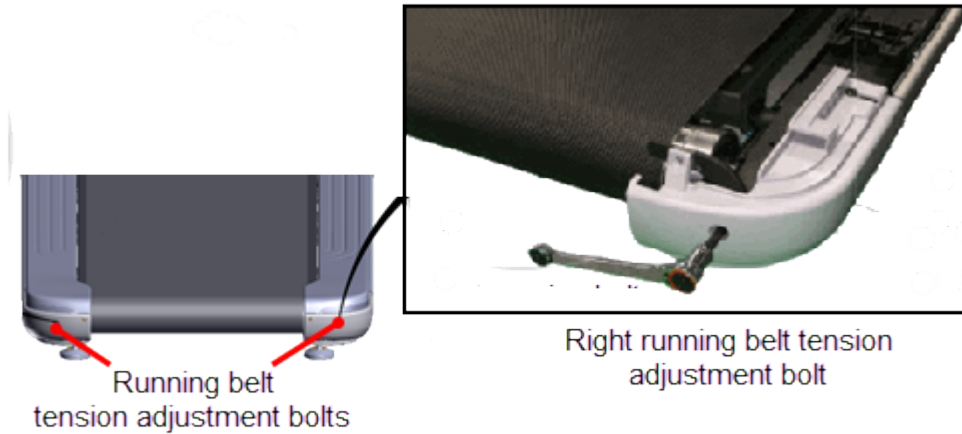
Removal Instructions

1. Switch the power **OFF** and **unplug**¹ the power cord.
2. Remove the hood cover, see "[Covers and Panels Replacement](#)" on page 69, and left/right Landing Trim covers, see "[Covers and Panels Replacement](#)" on page 69.
3. Remove the running belt tension by loosening the left and right 5/16" hex key Take-up roller tension adjustment bolts. Alternately loosen the left and right adjustment bolts in 1/4 turn increments so that the running belt tension is evenly removed. Only use hand tools and not power tools to adjust tension.



CAUTION: Only use hand tools to adjust tension. Power tools can easily over and/or under tension causing damage to the belt and/or tension hardware mechanism.

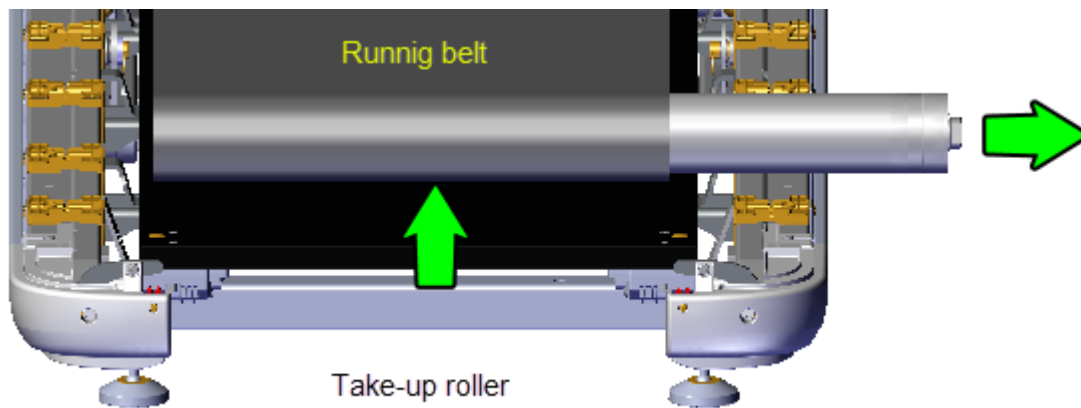
¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.



- Continue to loosen the Take-up roller tension bolts enough to allow the freedom of movement required to lift the Take-up roller from the mounting brackets. Lift the Take-up roller while removing from the inside of the running belt. Make sure the Take-up roller does not drag across the deck surface.



CAUTION: Make sure the Take-up roller does not drag across the deck surface while removing causing damage to the deck surface.

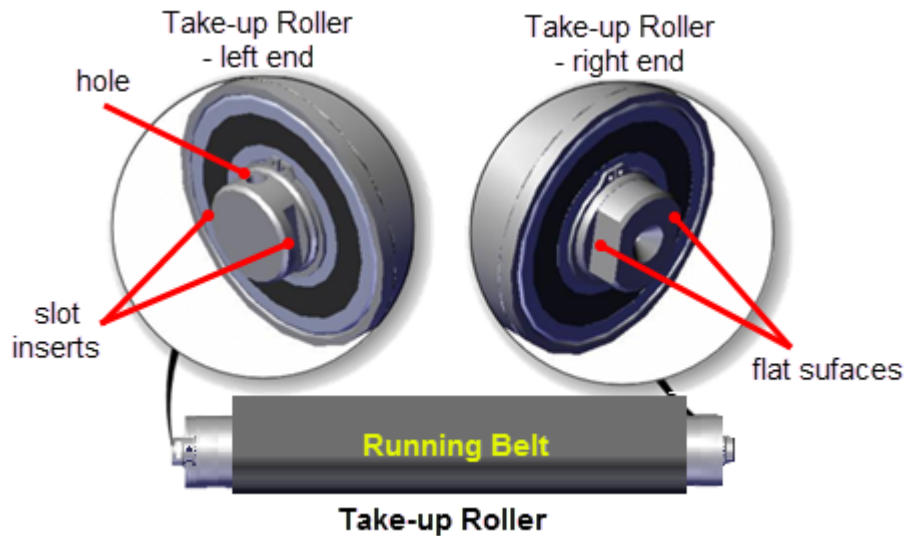


Installation Instructions

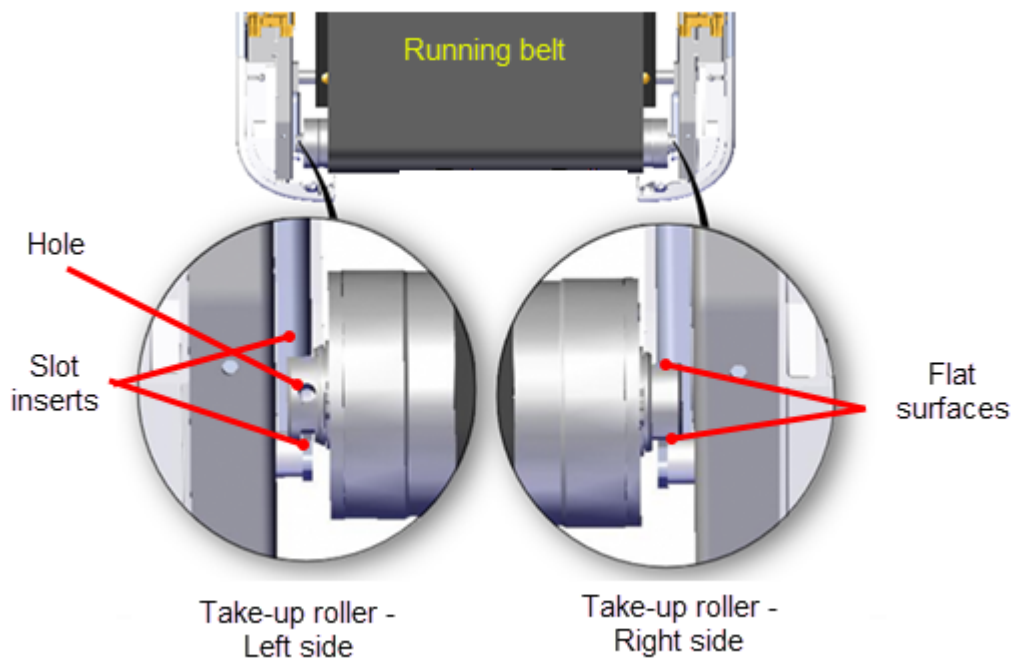
- Insert the Take-up roller through the running belt so that the roller shaft end with the hole and slot inserts is on the left side and the end with the flat sided roller shaft is on the right.



CAUTION: Make sure the Take-up roller does not drag across the deck surface while inserting through the running belt causing damage to the deck surface.



2. Set the Take-up roller into the left and right mounting brackets.



3. Connect the power cord and switch the ON/OFF circuit breaker to **ON**.
4. Center and square the running belt between the Drive and Take-up rollers. Tension to specification and verify tracking, see ["Running Belt Tension and Tracking Adjustment"](#) on page 54.
5. Reinstall the left and right Landing Trim covers, see ["Covers and Panels Replacement"](#) on page 69 and hood cover, see ["Covers and Panels Replacement"](#) on page 69,.

6. Do the Operation Verification tests (see "Operation Verification" on page 19) and return to service.

Running Belt and Deck Replacement Procedure

About

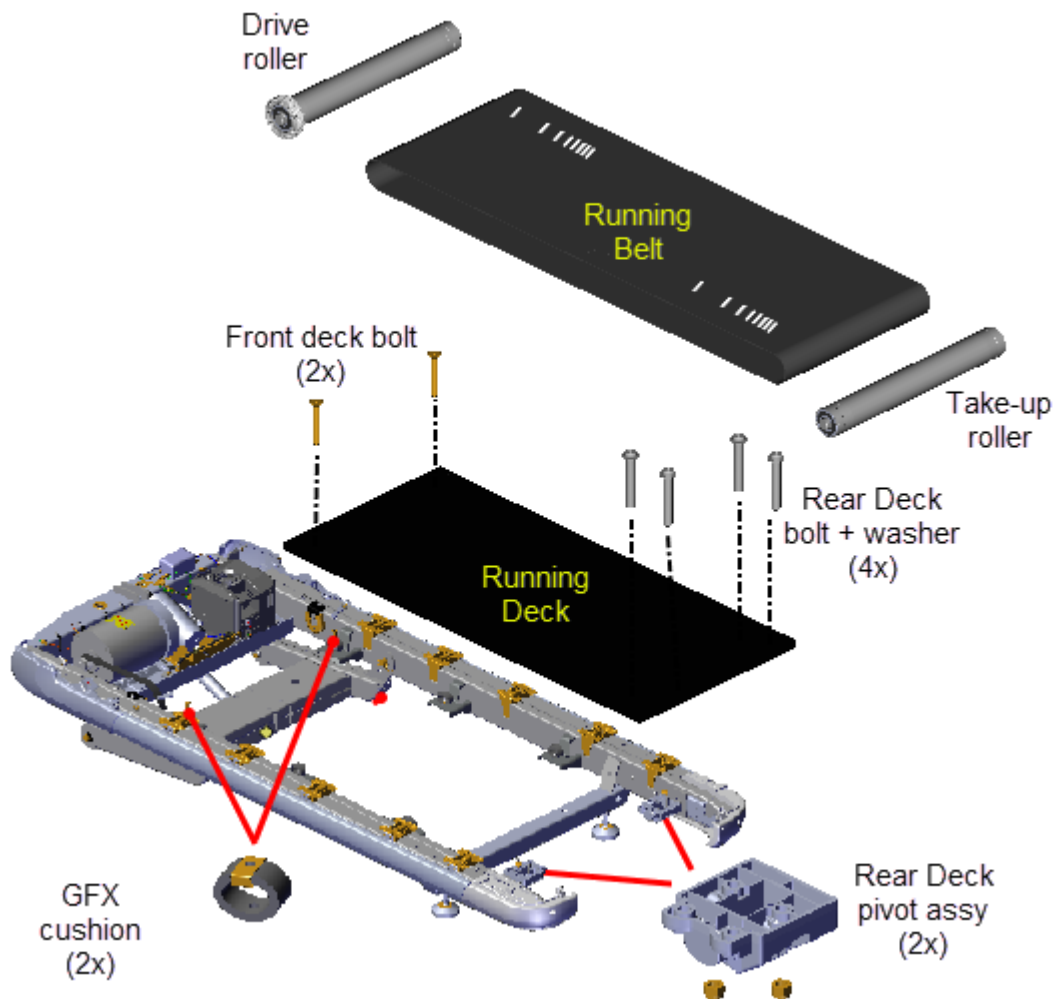
This procedure provides instruction to remove and replace the Running Belt and Deck.

There are two different running belt brands and deck combinations available for use on Precor treadmills; Ammerall Beltech and Fobo brand running belts; Ammeraal Beltech and Forbo brand running belts.

- The Ammeraal Beltech running belt is a wax infused belt and must NOT be used with a prewaxed deck.
- The Forbo brand running belt must be used with a prewaxed deck.

Procedure

Review entire procedure before starting.

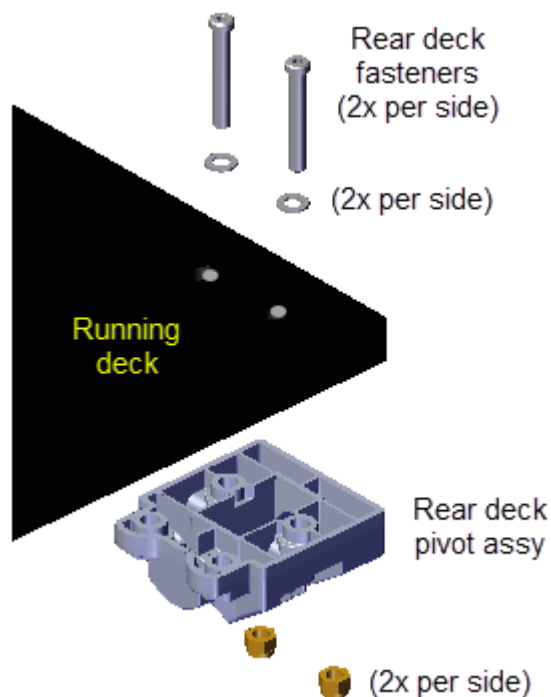


Removal Instructions

1. Switch the power **OFF** and **unplug**¹ the power cord.
2. Remove the hood cover, see "Covers and Panels Replacement" on page 69, and left/right Trim Landing covers, see "Covers and Panels Replacement" on page 69.
3. Remove the Take-up Roller, see "Take-up Roller Replacement" on page 135.
4. Remove the Drive Roller, see "Drive Roller Replacement" on page 130.
5. Remove the four 5/32" hex key bolt and washer rear deck fasteners. These fasteners attach to the left and right rear deck pivot assemblies. The 1/2" fastener nuts are press fit into the bottom of the deck pivot housing, be aware that the nuts can fall from the housing as the bolts are being removed. If this happens, reinsert the nut into the pivot housing. Retain part(s) and/or fastener(s) for installation.

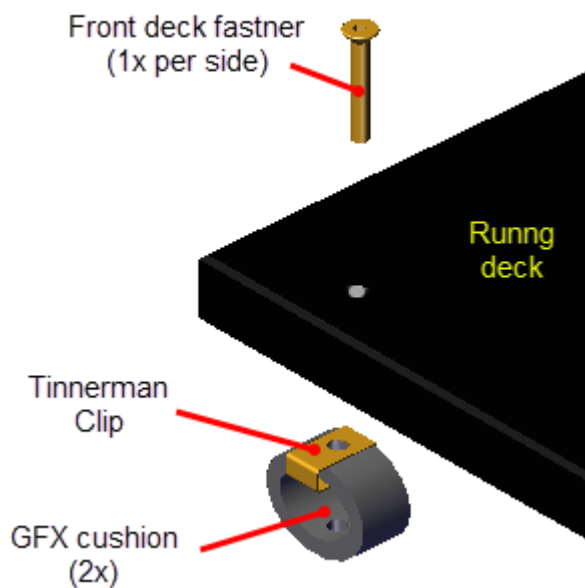
¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

i **TIP:** Avoid applying downward pressure on the bolts while removing. Pressing down on the bolts can push the nuts out of the pivot housing. Reinstall the nut into the pivot housing if this occurs.



- Remove the two 5/32" hex key bolt front deck fasteners. These fasteners are attached to the left and right front **GFX**¹ Cushion tinnerman clips. Retain fastener hardware for installation.

¹Ground Effects Impact Control System: Patented treadmill design that out performs a natural running surface, absorbs high-impact movement, reduces joint stress and minimizes fatigue and supports a solid and controlled push off.



7. Carefully lift the deck and belt out of the treadmill frame.
8. Remove the running belt from the deck and discard. A new deck surface must be used with each new belt replacement.
 - a. Both sides of the running deck are designed to be used. Flip the deck over and verify the condition of the flipped side of the deck. If the condition is new you can reuse the removed deck. If both sides of the removed deck are used, discard the deck and replace with a new deck.

Installation Instructions



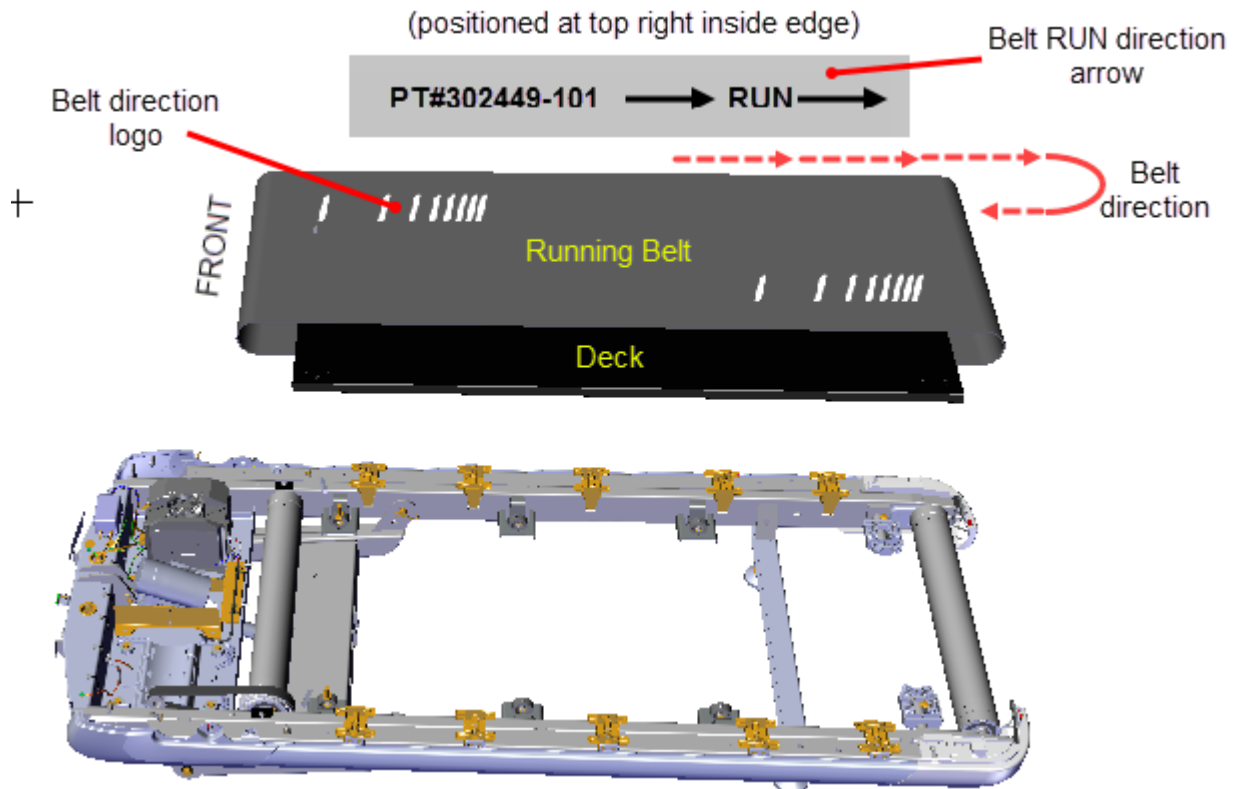
CAUTION: A new deck surface must used with each new running belt replacement.



CAUTION: Make sure the correct running belt brand and deck combination are installed together:

- The Ammeraal Beltech running belt is a wax infused belt and must NOT be used with a prewaxed deck.
- The Forbo brand running belt must only be used with a prewaxed deck.

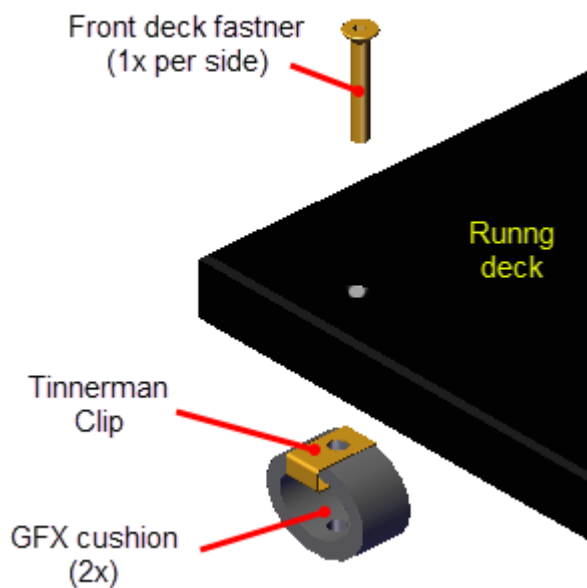
1. Reinstall the deck into the running belt. Make sure the running belt direction is correct. There are two direction indicators, the belt logo and the **Run** direction arrow printed on the inside of the belt right edge. Make sure that the belt direction logo and **Run** arrow are installed as shown.



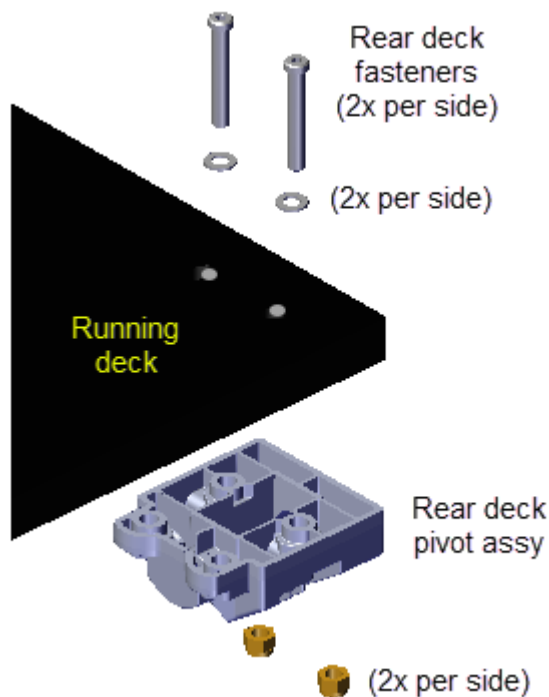
2. Reinstall the Deck/Belt into the treadmill frame. Make sure to verify that the bottom of the belt is not caught on any frame weldment brackets (GFX cushion brackets) or other frame hardware that could impede belt movement.
3. Reinstall the two 5/32" hex key bolt front deck fasteners and torque to specification 27-33 in-lbs (3.1-3.7 Nm). Its important to correctly torque these fasteners or they may loosen with use. Retain fastener hardware for installation.

IMPORTANT: Its important to correctly torque the front deck fasteners at each deck replacement and every **PM**¹ service interval. or the screws may prematurely loosen.

¹Preventative Maintenance: Daily, Weekly, Monthly, and Quarterly scheduled maintenance.



- Reinstall the four 5/32" hex key bolt and washer rear deck fasteners, torque to 50-55 in-lbs (5.6-(6.2 Nm).
These fasteners attach to the left and right rear deck pivot assemblies. The 1/2" fastener nuts are press fit into the bottom of the deck pivot housing. Be aware that the nuts can fall from the housing as the bolts are being installed and fall to the floor. You may need to hold the nuts in place while tightening these fasteners.

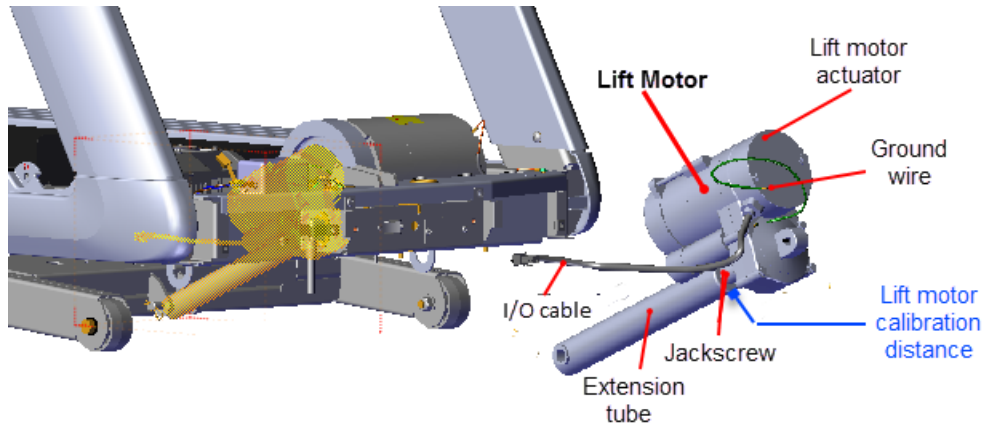


5. Reinstall the Drive Roller, see "Drive Roller Replacement" on page 130.
6. Reinstall the Take-up Roller, see "Take-up Roller Replacement" on page 135.
7. Center and square the running belt onto the Take-up and Drive rollers, tension the belt to specification and verify the belt tracking, see "Running Belt Tension and Tracking Adjustment" on page 54.
8. Reinstall the hood cover, see "Covers and Panels Replacement" on page 69, and left/right Landing Trim covers, see "Covers and Panels Replacement" on page 69.
9. Connect the power cord and switch the ON/OFF circuit breaker **ON**.
10. Reset the maintenance **Belt Rating** after a new deck/belt replacement. Open the Maintenance **Belt Rating** screen and select **Replacement** (Access **Hardware Validation** service menu (51765761) , select : **Maintenance > Belt Rating > Replacement**).
11. Do the Operation Verification tests (see "Operation Verification" on page 19) and return to service.

Lift Motor Replacement

About

This procedure provides instruction to remove and replace the Lift Motor.



Specification

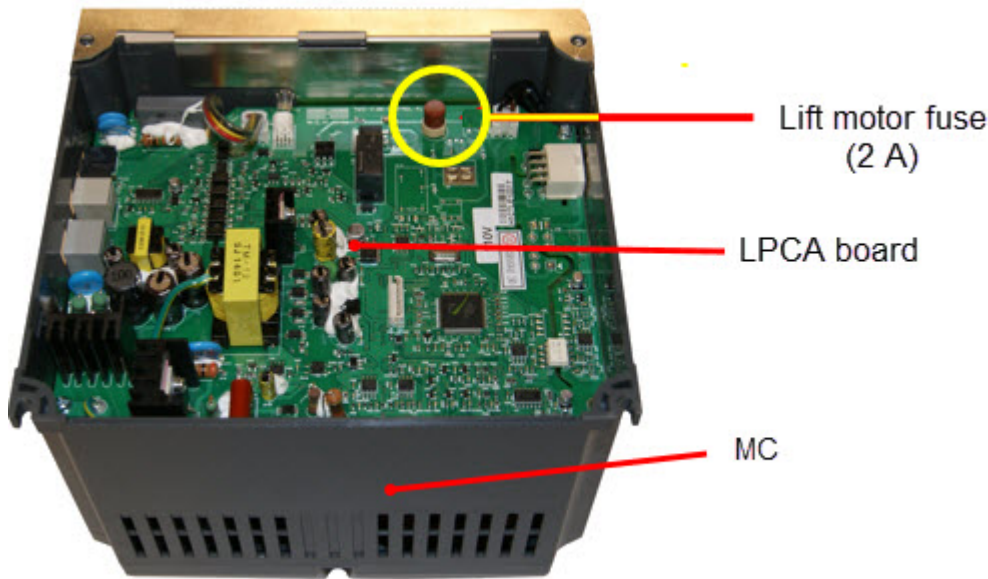
System Component	Specification
Lift Motor Calibration Distance*	1 1/8 in - 1 3/16 in (2.8 cm - 3.0 cm)
Note: * Calibration distance is specified at incline level 0.	

Lift Motor Fuse

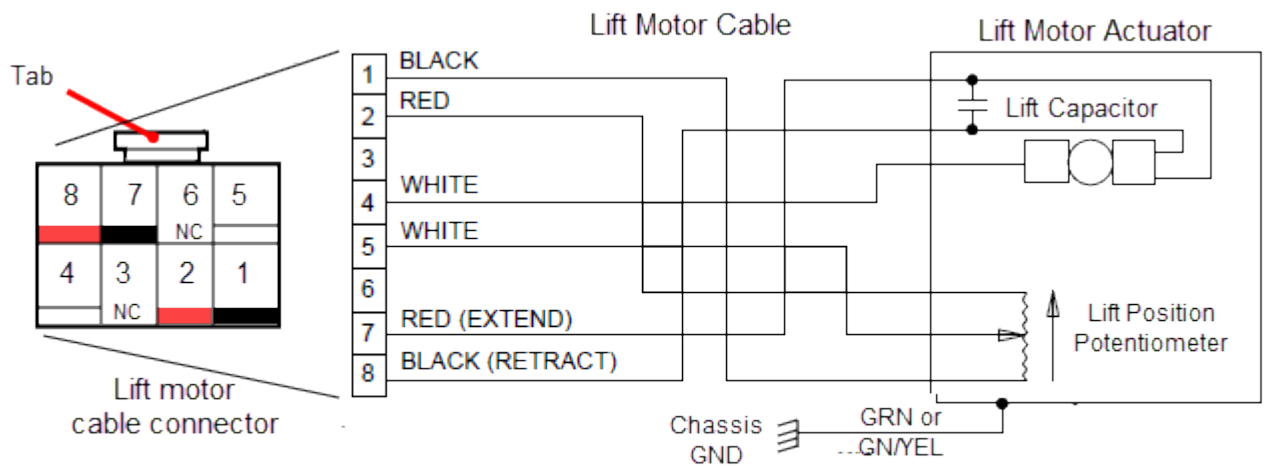
The lift motor fuse (2 Amp) is located on the **LPCA**¹ board in the **MC**² module. Remove the MC bottom cover to access the fuse. Use a small standard screwdriver to unsnap the clip fasteners and remove the cover.

¹Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

²Motor controller or motor controller module



Lift motor cable schematic



Lift Motor Schematic

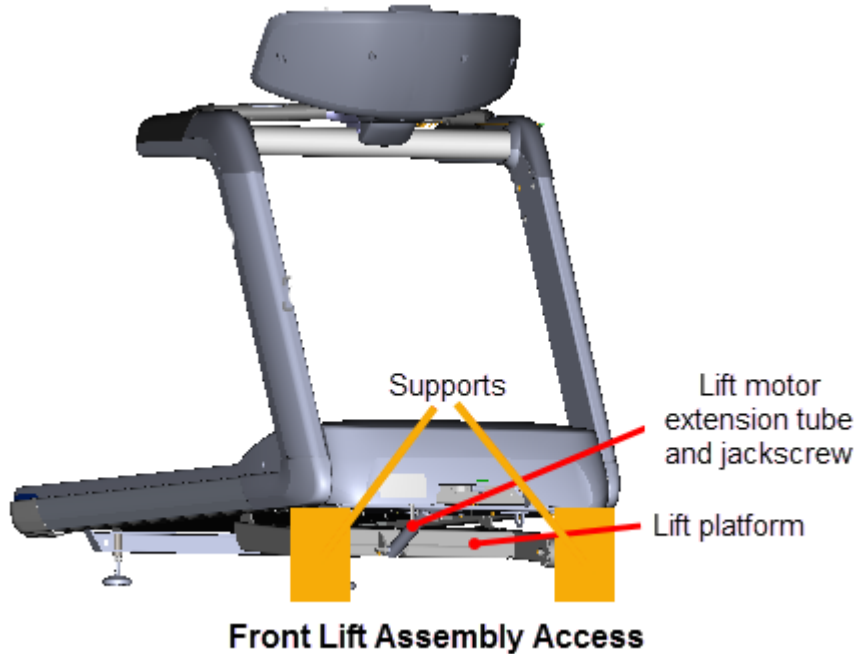
Procedure

Removal Instructions

Review entire procedure before starting.

1. Remove the hood cover, see "Hood Cover Replacement" on page 71.
2. You can access the lift motor jackscrew in one of two methods: 1) by raising the treadmill providing access from the front of the treadmill or 2) by laying the treadmill on its

side. This procedure uses the front access method. If you do not have supports available, then use the alternative side access method, see "Side lift platform assembly access" on page 64 procedure.



Note: You can also access the jackscrew by laying the treadmill on its side, see "Side lift platform assembly access" on page 64 procedure.

3. Access the service menu (51765761) and select **INCLINE TEST**. Use the incline control to set the incline level to 14.
4. Securely and safely place supports (e.g. car jack stands) under the left and right front corners of the frame weldment.
5. Slowly lower the incline level in 0.5 increments until the complete weight of the frame is setting on the supports. Verify the supports are stable and secure carrying the weight of the treadmill. Continue lowering the incline level to "0". Incline level "0" is the lift motor calibration reference incline level.

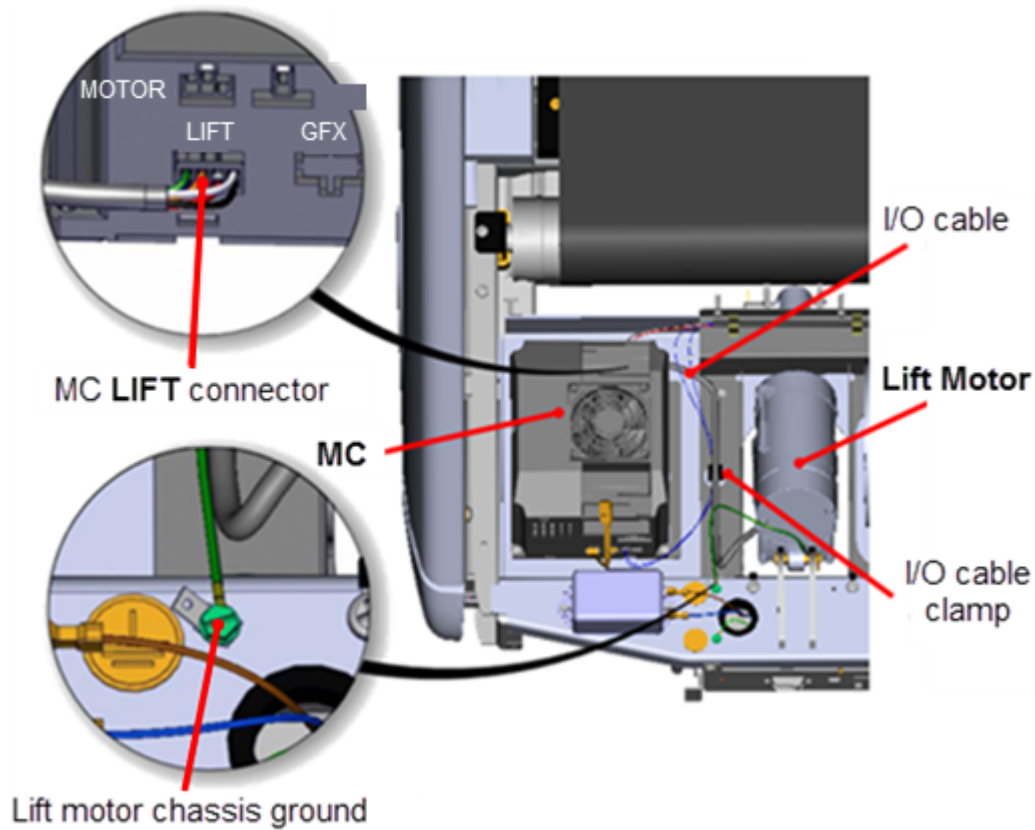


IMPORTANT: Its important to set the incline level to "0" (calibration ref level) before switching the power **OFF**.

6. Switch the power OFF and **unplug**¹ the power cord.
7. Disconnect the lift motor interface cable from the MC "LIFT" connector. Remove the interface cable from the cable routing clamp.

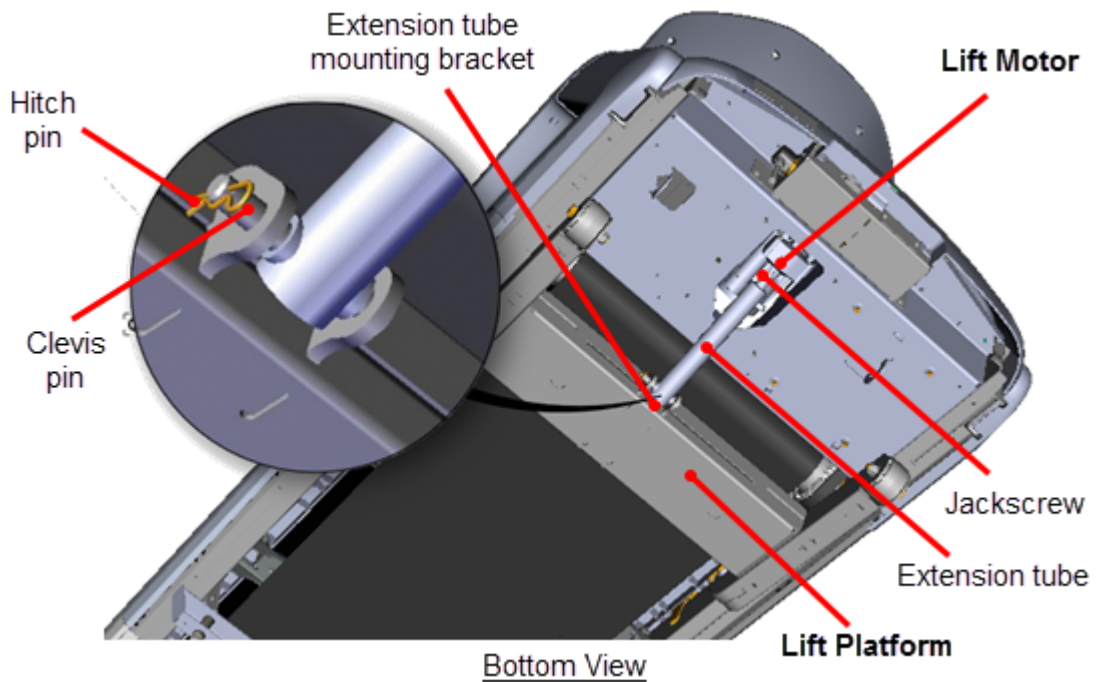
¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

i **TIP:** Remove the MC fasteners so that the MC module can be raised to allow easy access to disconnect and connect the I/O¹ connectors.

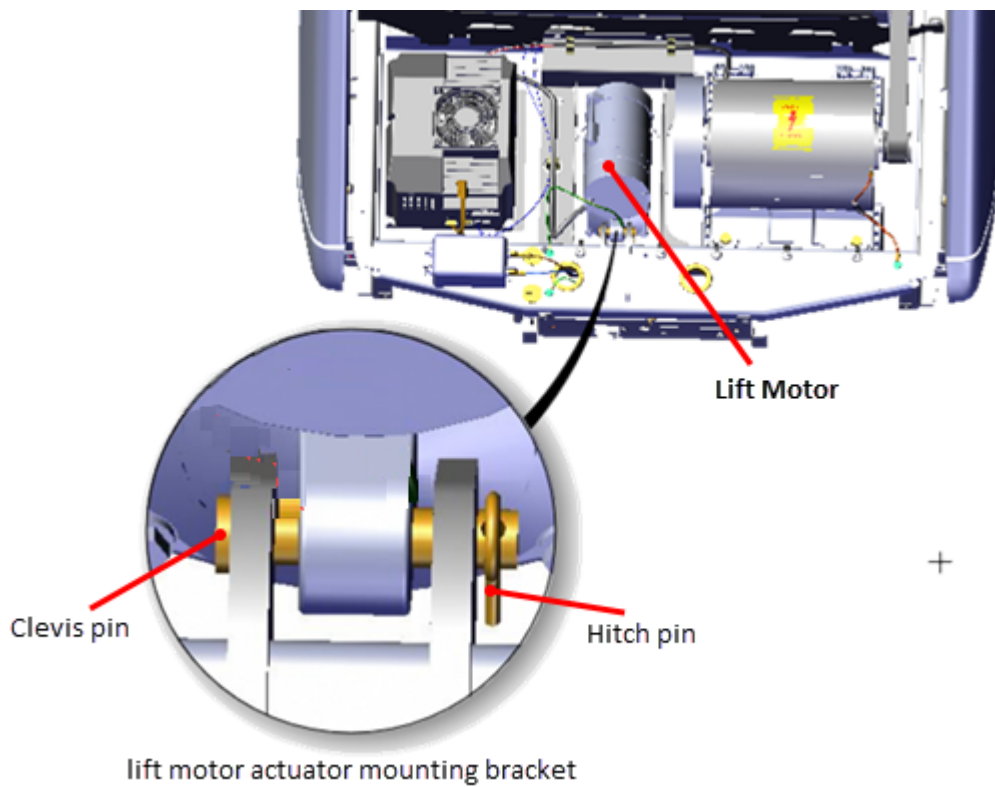


8. Remove the lift motor ground wire (GRN or GRN/YEL) from the frame chassis ground screw fastener.
9. Remove the extension tube hitch pin and clevis pin fastener hardware from the lift platform mounting bracket. Hold the lift platform while removing the clevis pin and carefully rest on the floor.

¹Input and Output Interface.



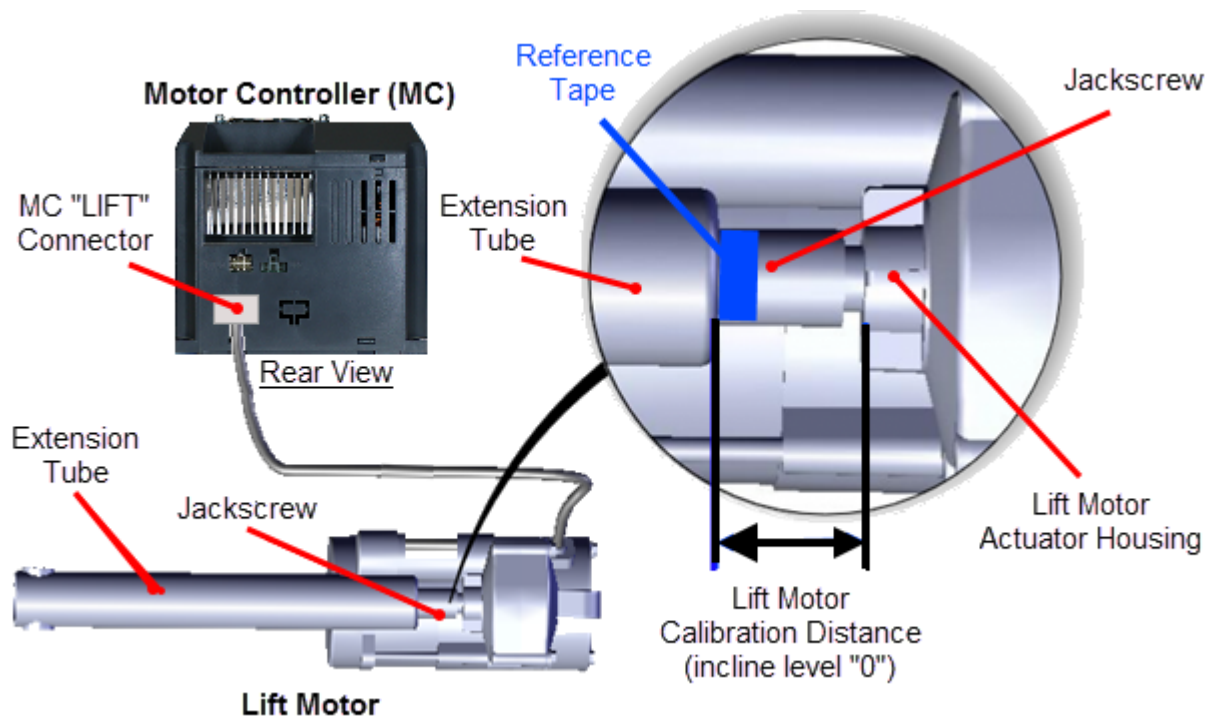
10. Remove the lift motor actuator housing mount hitch pin and clevis pin fastener from the frame pan mounting bracket. Hold the lift motor while removing fasteners and carefully remove from the treadmill.



Installation Instructions

Lift motor calibration

1. Lay replacement lift motor on the floor in front of treadmill. Connect the the lift motor interface cable to the MC "LIFT" connector.



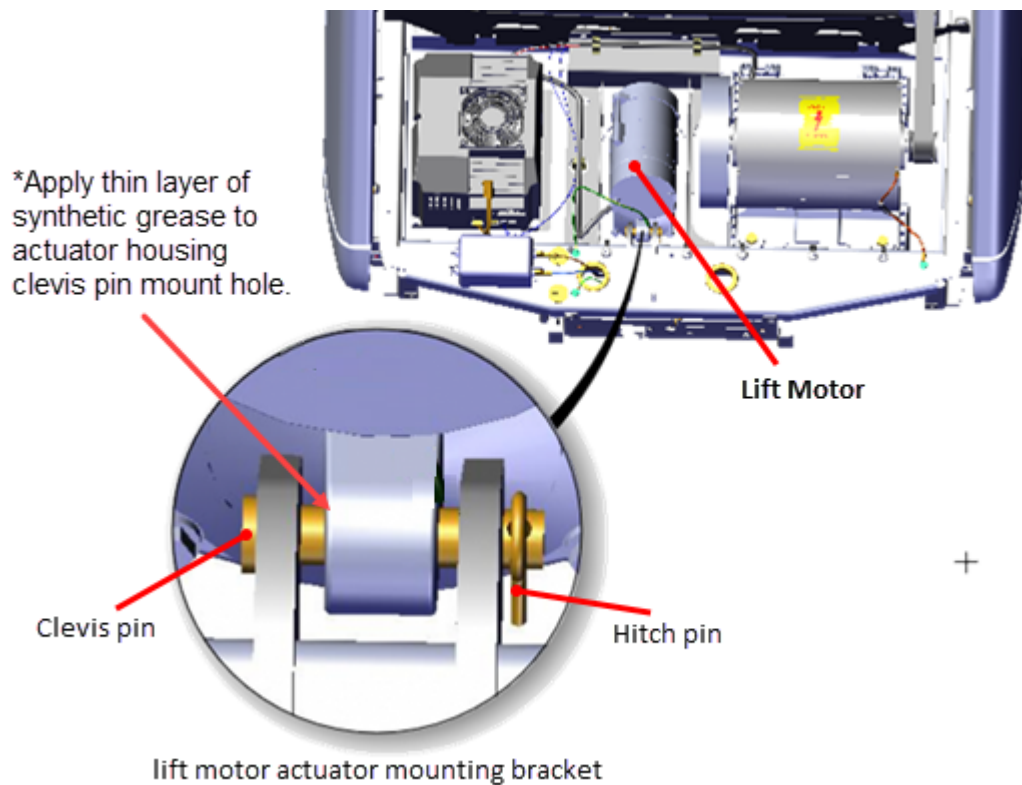
2. Connect the power cord and switch the power from **OFF** to **ON**. This will set the lift motor to the calibration reference incline level "0".
3. Switch the power **OFF** and unplug the power cord.
4. Disconnect the MC "LIFT" connection.
5. Firmly hold the jackscrew and rotate the extension tube to adjust the calibration distance. The calibration distance is measured between the top of the extension tube nut and the lift motor actuator housing. Adjust the calibration distance to specification between 1 1/8 in - 1 3/16 in (2.8 cm - 3.0 cm).



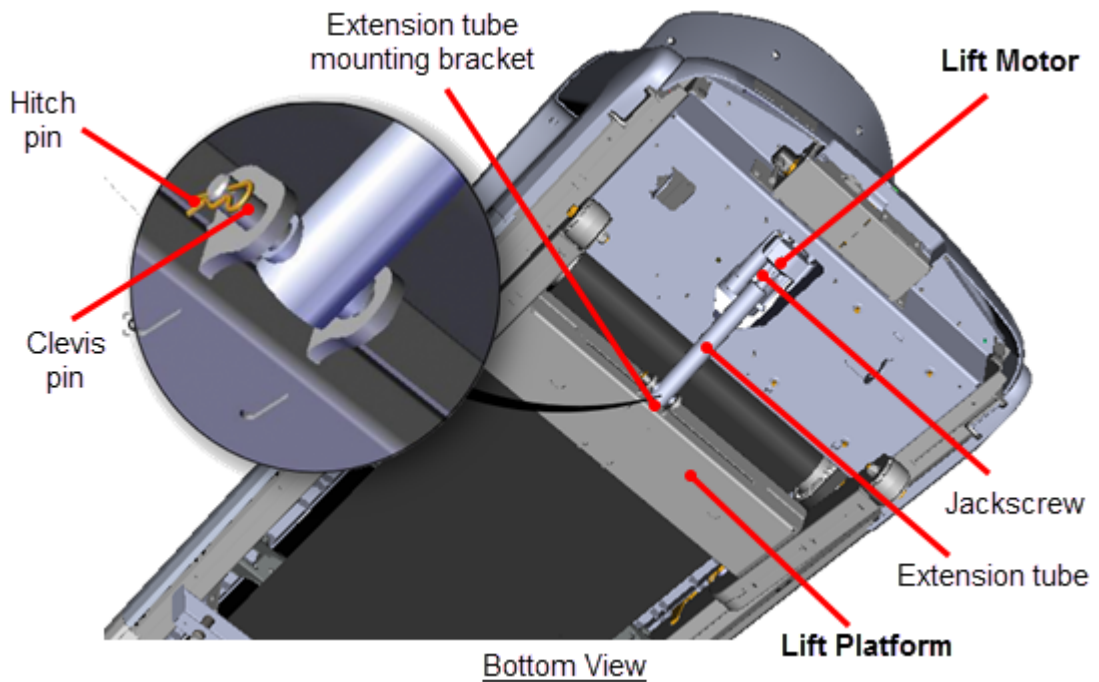
IMPORTANT: Make sure the extension tube does not rotate after setting the calibration distance. Use tape to mark the extension tube position on the jackscrew.

Lift motor installation

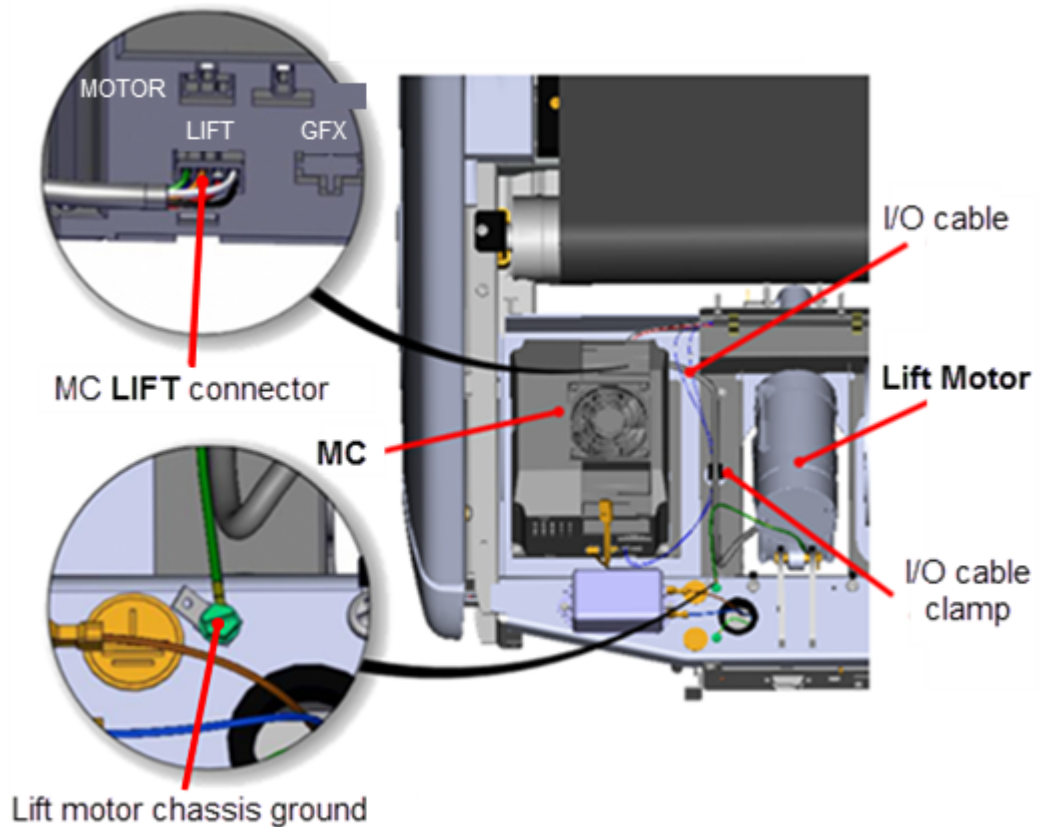
6. Clean and apply a thin layer of synthetic grease to the inside of the lift motor actuator housing clevis pin mounting hole. Then install the pre-calibrated lift motor placing the treadmill actuator housing mount into the frame pan mounting bracket. Secure using the clevis pin and hitch pin.



7. Place the extension tube into the lift platform mounting bracket and secure using the hitch pin and clevis pin. It may be necessary to slightly rotate the extension tube to align the clevis pin mounting holes. Choose an adjustment direction that will minimize the change to the extension tube calibration distance. Firmly hold the jackscrew from turning while adjusting (rotating) the extension tube.



8. Connect the lift motor I/O cable MC "LIFT" connector. Route cable and secure in the frame routing cable clamp. Connect the ground wire (GRN or GRN/YEL) to the chassis ground screw and fully tighten.



9. If the MC was loosened or removed, install the MC and secure fasteners, see "[Motor Controller \(MC\) Replacement](#)" on page 100.

Remove blocking and lower treadmill



Note: If you used the side access method, then refer to the "Side lift motor jackscrew access" procedure to upright the treadmill, see "[Side lift platform assembly access](#)" on page 64.

10. .Connect the power cord and switch the power **ON**. Be aware that switching the power **ON** will cause the incline platform to move and return to the level "0" position.



WARNING: Keep hands and appendages clear of the incline platform assembly before switching power **ON**. Switching power **ON** will cause the incline platform to move to the level "0" Home position.

11. Access the service menu (51765761) and select the **INCLINE TEST**. Increase the incline level enough to lift the treadmill frame off the supports.
12. Remove the supports and clear any other items that might either block the treadmill from lowering or may be damaged as it lowers.
13. Lower the incline to level "0".

Operation Verification

14. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71., .
15. Verify the treadmill incline operation from minimum to maximum levels. Make sure that there are no active Incline function related error codes.
16. Do the Operation Verification tests (see "[Operation Verification](#)" on page 19) and return to service.

Lift Platform Replacement

About

This procedure provides instruction to remove and replace the Lift Platform.

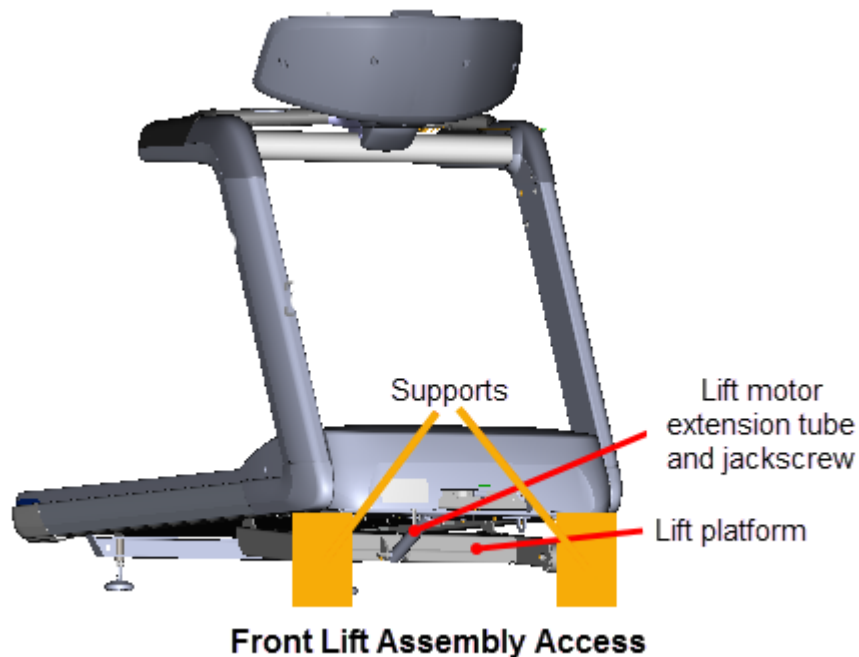


Procedure

Removal Instructions

Review entire procedure before starting.

1. Remove the hood cover, see "[Hood Cover Replacement](#)" on page 71.
2. Remove the left/right trim landing covers, see "[Trim Landing Covers Replacement](#)" on page 74.
3. Remove the left and right trim side covers see "[Covers and Panels Replacement](#)" on page 69.
4. You can access and remove the lift platform from the front of the treadmill or by laying the treadmill on its side. This procedure uses the front access method. If you do not have supports available, then use the alternative side access method, see "[Side lift platform assembly access](#)" on page 64 procedure.

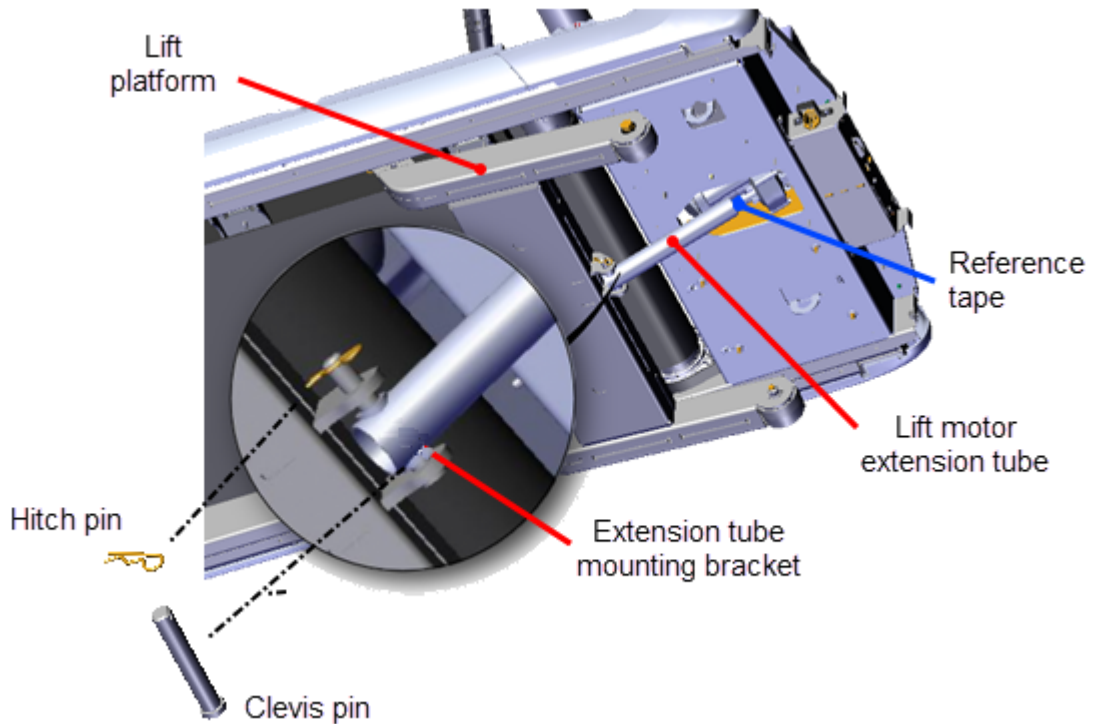


Note: You can alternatively access the lift platform assembly by laying the treadmill on its side, see ["Side lift platform assembly access"](#) on page 64 procedure.

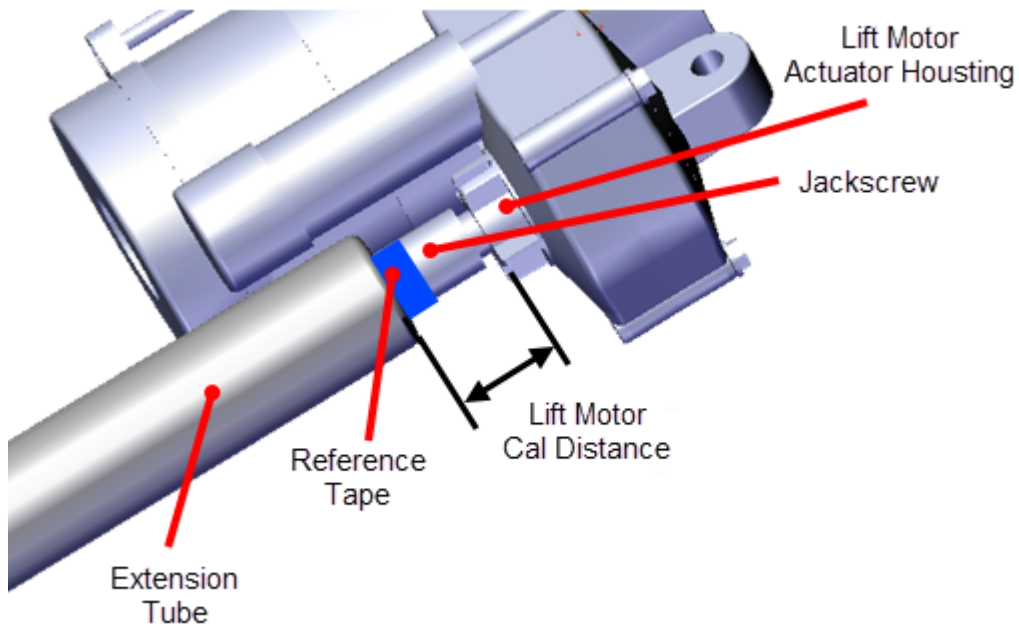
5. Access the service menu (51765761) and select **INCLINE TEST**. Use the incline control to set the incline level to 14.
6. Securely and safely place supports (e.g. car jack stands) under the left and right front corners of the frame weldment.
7. Then lower the incline level in 0.5 increments until the lift platform wheels no longer touch the floor and the treadmill frame is completely resting on the supports. Keep the wheels as close to floor as possible without touching the floor making sure all the weight of the treadmill is carried by the supports. Verify the supports are stable and secure carrying the weight of the treadmill.

Remove the lift platform

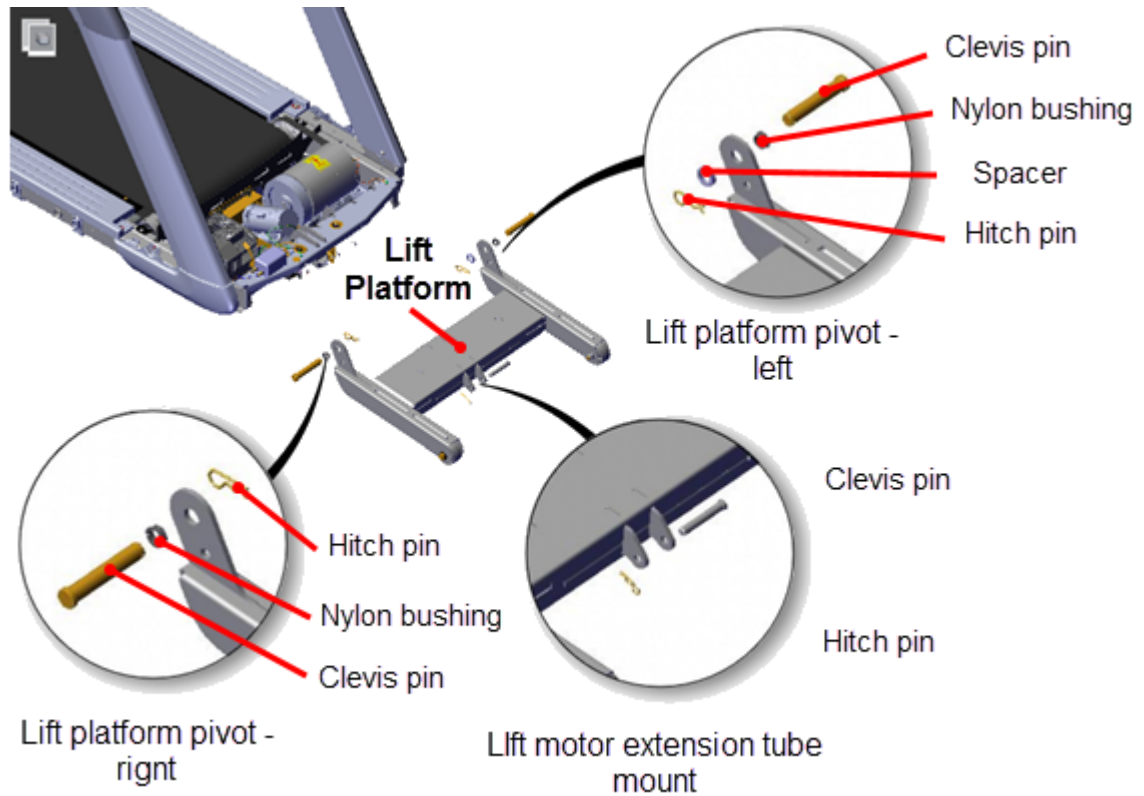
8. Use tape to mark the location of the extension tube on the jackscrew . Then remove the lift motor extension tube hitch pin and clevis pin fastener from the lift platform mounting bracket. Hold the lift platform while removing the clevis pin and carefully rest on the floor. Keep the extension tube from rotating while disconnecting from the mounting bracket. Retain part(s) and/or fastener(s) for installation.



Do not allow the lift motor extension tube to move.
Make sure the lift motor extension tube does not rotate on the jackscrew during removal and remains at the same position for installation. Use tape to mark the extension tube position on the jackscrew . Allowing the extension tube to rotate will change the calibration distance nullifying the calibration. If the extension tube is rotated, recalibrate the lift motor before reinstalling.

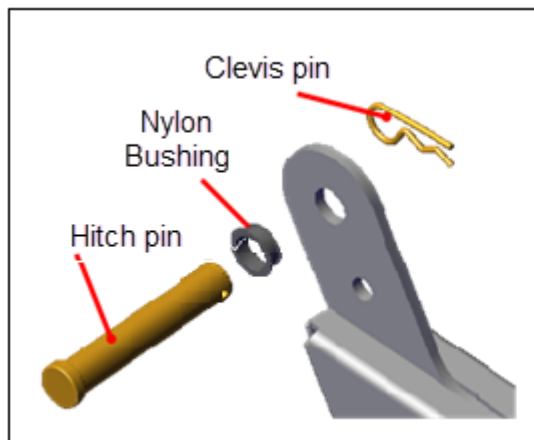


9. Remove right lift platform pivot hitch pin. Remove left lift platform pivot hitch pin and spacer. Carefully push the right and left clevis pins outward enough to allow the lift platform to be removed. Retain part(s) and/or fastener(s) for installation.

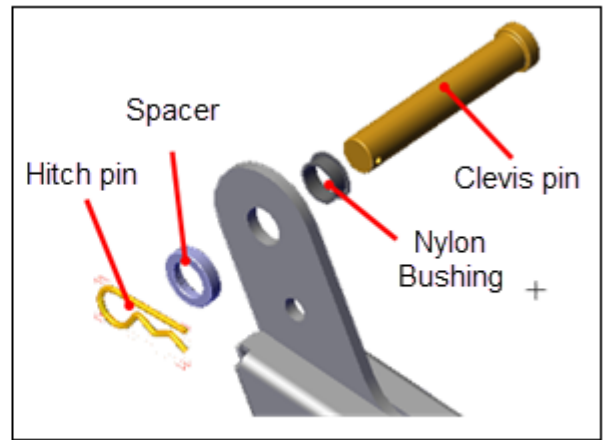


Installation Instructions

1. Install the lift platform left and right pivot brackets into position and insert the right and left clevis pins. Add the spacer to the left clevis pin and secure using the hitch pin. Secure the right clevis pin with the hitch pin.

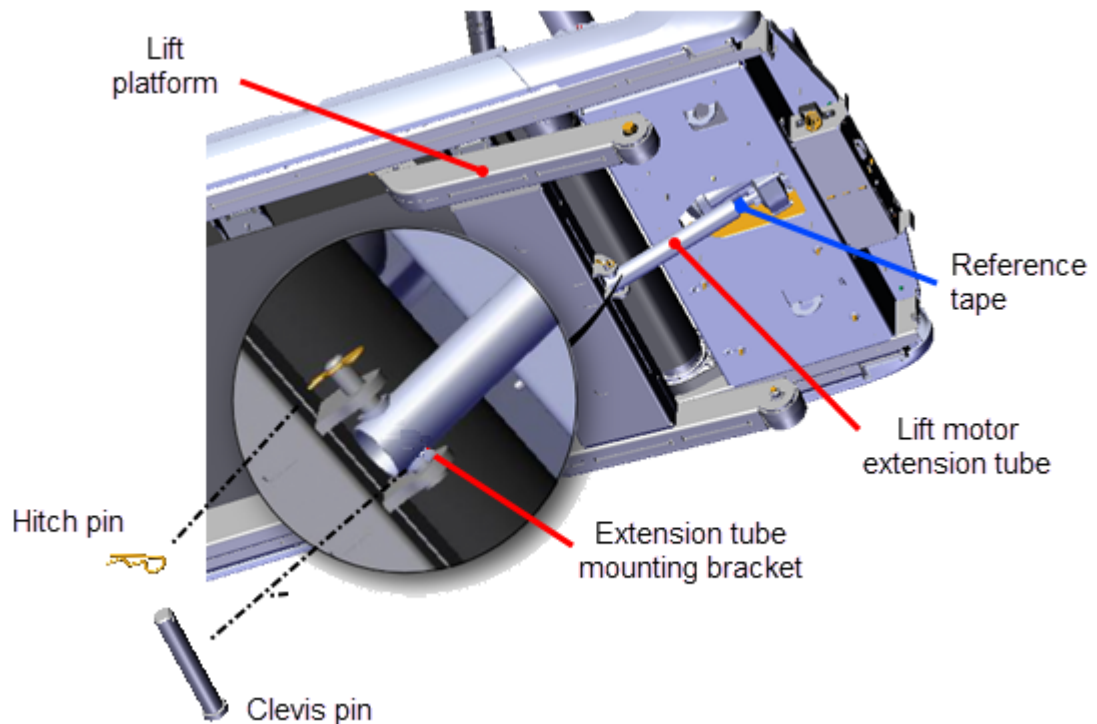


Right Pivot Bracket



Left Pivot Bracket

- Place the extension tube into the lift platform mounting bracket and secure using the hitch pin and clevis pin. It may be necessary to slightly rotate the extension tube to align the clevis pin mounting holes. If the extension tube has been rotated during or after it was removed, recalibrate the lift motor prior to installation, see "[Lift Motor Calibration](#)" on page 60.



Remove supports and lower the treadmill

1. Connect the power cord and switch the power **ON**. Be aware that switching the power **ON** will cause the incline platform to move and return to the level "0" position. If you are using the side access method, see "[Side lift platform assembly access](#)" on page 64 to upright the treadmill.



WARNING: Keep hands and appendages clear of the incline platform assembly before switching power **ON**. Switching power **ON** will cause the incline platform to move to the level "0" Home position.

2. Access the service menu (**51765761**) and select the **INCLINE TEST**. Increase the incline level enough to lift the treadmill frame off the supports.
3. Remove the supports and clear any other items that might either block the treadmill from lowering or may be damaged as it lowers.
4. Lower the incline to level "0".

Operation Verification

5. Verify the treadmill incline operation from minimum to maximum levels. Make sure that there are no active Incline function related error codes.
6. Reinstall the left and right trim side covers see "[Covers and Panels Replacement](#)" on page 69.
7. Reinstall the left/right trim landing covers, see "[Trim Landing Covers Replacement](#)" on page 74.
8. Reinstall the hood cover, see "[Hood Cover Replacement](#)" on page 71.
9. Do the Operation Verification tests (see "[Operation Verification](#)" on page 19) and return to service.

Troubleshooting

About

This section contains troubleshooting information to help you identify, isolate, and resolve component and system issues.

Review the *Introduction To Troubleshooting* section below to learn about the troubleshooting process, troubleshooting best practices, and other pertinent information that will help you efficiently troubleshoot issues and return the equipment to service.

Information that will help you troubleshoot:

- Review the "[Introduction To Troubleshooting](#)" below section below.
- Review the Error Log for active error codes, see the "[Error Log & CPA Event Log](#)" on [page 170](#) and "[Standard Error Codes](#)" on [page 167](#) topics.
- Refer to the [Error Code Troubleshooting Guide](#) for error code description and troubleshooting repair information.
- If the machine supports the Active Status Light feature, review the [ASL¹](#) topic (see "[Active Status Light \(ASL\)](#)" on [page 174](#)).
- Review the System Troubleshooting Procedures topic for possible related issue fixes or repairs, see "[System Troubleshooting Procedures](#)" on [page 180](#).

Introduction To Troubleshooting

Troubleshooting issues is an investigative process best implemented utilizing a systematic approach that efficiently targets the issue cause allowing correct equipment repairs and return to service. The following information will help you to systematically troubleshoot and resolve issues.

Basic Steps

Validate the customer reported issue:

The failure that is reported may differ from your observations as a trained technician. Many reported failure are not true failures and can be fixed without a customer visit.

- (powered units only) Always ask the customer if the unit power is connected and switched ON.
- Further interrogate the customer to determine if this is the real issue requiring an on-site visit or possibly a different issue that can be simply resolved over the phone.

¹Active Status Light: Service and maintenance status light.

Verify the Input Power (Powered units only)

Always begin by verifying the input power cord is connected and the equipment power is switched "ON".

If the unit does not power up or runs poorly, verify the following conditions:

- Make sure there is power at the outlet receptacle and that the power is within the specified voltage and current Limits. If not:
 - The power outlet circuit wire run from the outlet to the circuit panel may be too long causing a large voltage drop.
 - The outlet circuit wire gauge may be too small to carry the required machine load current.
- Make sure that the outlet receptacle power is good quality (the input power is NOT intermittent or has fluctuating voltage levels or frequency). Poor quality input power can cause operational failures.
- Make sure that only one machine is plugged into the outlet receptacle (only one receptacle per outlet receptacle).



IMPORTANT: Always make sure the input power is good quality before troubleshooting the machine. A poor quality input power signal may be the cause of the machine issue or operating failure.

Verify that the console is operating correctly

1. On LED consoles (P10, P30, P30i and P31) make sure the console powers up and is working correctly, perform the following verification tests:
 - a. If the console does not power up, make sure the Data COMM cable is properly connected at the console and **LPCA**¹ and in good condition.
 - b. Run the console Display, and Keypad diagnostic tests (see "[Hardware Validation Diagnostics Tests Menu \(51765761\)](#)" on page 30). Resolve any failures.
2. On Touchscreen consoles (P62, P80, and P82) make sure the console powers up and is working correctly, perform the following verification tests:
 - a. If the console does not power up, make sure the external **AC²/DC³** power adapter is plugged in and connected to the console. Also make sure the AC/DC adapter brick is in good condition.

¹Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

²Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

³Direct Current: electrical current that only flows in one direction.

b. Run the following console System Tests (see [System Tests](#)):

- Touchscreen Test
- Touchscreen Calibration
- Backlight Test
- RGB Test
- Numeric Backlight Test
- Numeric Display Test



Note: Keep in mind that if a key on the console keypad does not function, the LPCA will not receive a user initiated request for action. For failed console key problems, the machine failure is not caused by a problem with the LPCA or the machine base. In these types of console failures, no error codes will be triggered and logged.

Review the Error Log or CPA Event Log for any active error codes

Always review the Error Log or CPA Event Log when troubleshooting an issue. The error logs will contain any triggered error code events and related information. You can then refer to [Error Code Troubleshooting Guide](#) to help resolve the issue. Also, when calling Precor customer service for assistance, refer to the Error Log or CPA Event Log for additional information to help the representative resolve the issue.

Refer to the [Error Code Troubleshooting Guide](#) for error code descriptions and repair information.



IMPORTANT: Error code descriptions and troubleshooting information can be found in the *Error Code Troubleshooting Guide*, see [Error Code Guide.pdf](#).



Note: Not all failures trigger an error event code. Many issues are purely mechanical in nature and therefore cannot trigger an error event code.

Verify (reproduce) the issue.

Operate the unit in normal user mode and attempt to reproduce the reported failure. Determine if the error is a repeatable or intermittent type failure. Make note of any additional observations (noises, vibrations, etc.) that occur at the time of the failure which may then be used to help resolve the issue.



Note: It is important to keep in mind that some issues are weight (load) related. You may need to test the unit at minimum and maximum load limits to reproduce the failure.

Perform hardware validation diagnostic tests

Perform the equipment [Hardware Validation Tests](#) (LED consoles) or [System Tests](#) (Touchscreen consoles) to help isolate the cause of the issue. These tests will help identify failed system components. Resolve any resulting failures.

Verify Club Settings

Verify that one of the workout limit settings are not causing a failure, see [Club Settings](#) (LED consoles) or [System Settings Workout Limits](#) (Touchscreen consoles). If a failure is observed while using the machine but passes the hardware validation system tests, this could be an indication that one of the club parameters Limits settings is causing the issue.

Verify that there are no new error codes

After correcting the issue, reopen the Error Log and verify that there are no remaining active error codes. This will verify that the original error codes are not reoccurring and that there are no new error code issues. If the error code is reoccurring, the issue may be mileage related, review the error code odometer history to verify if the error event is related to mileage intervals.

On P10, P30, P30i and P31 consoles, clear the error log by pressing and holding the "Quick Start" key.



Note: If there is no logged error codes and the issue persists, you will need to use observable and audible indicators to identify the source of the failure. Also make sure that there are no related service bulletins that may resolve the issue. Browse the list of available Troubleshooting procedures for related Troubleshooting information.

Verify service bulletins

Review the list of machine service bulletins and tech-tips and verify that there are no current bulletins that may fix the issue.

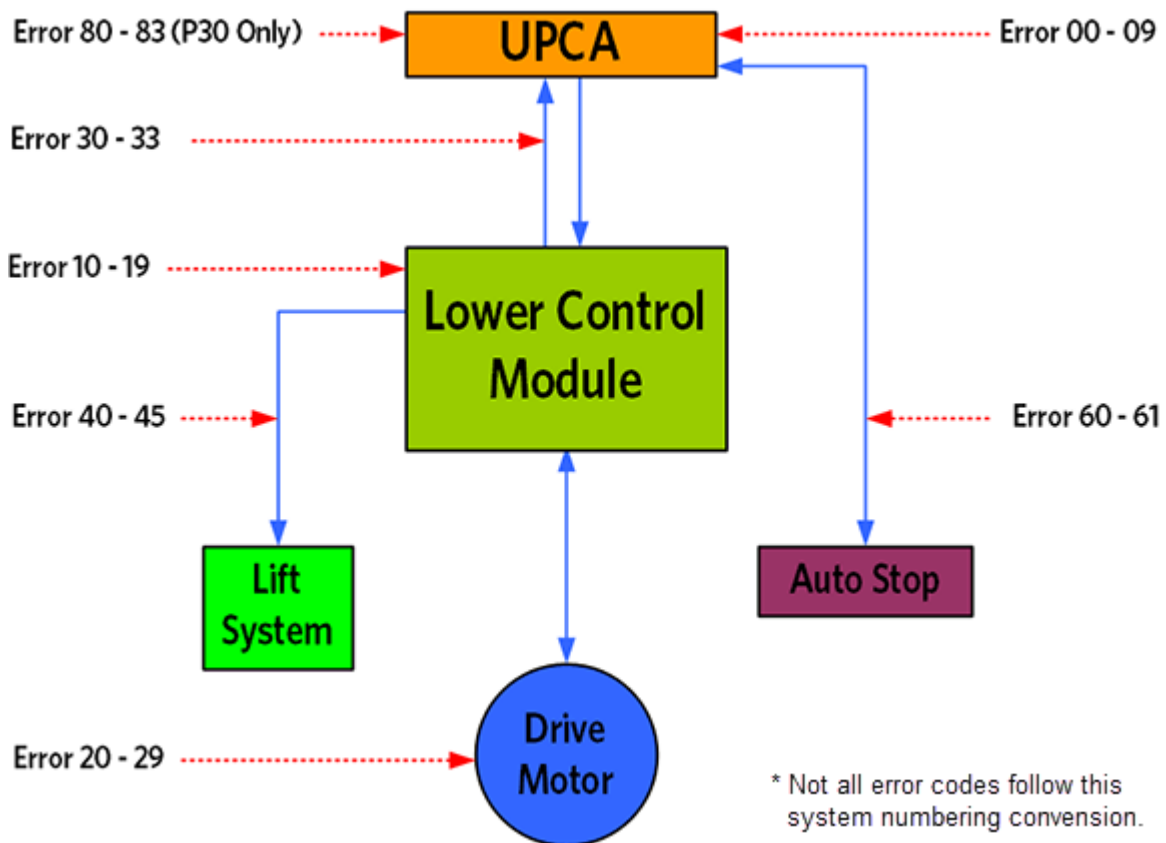
Standard Error Codes

About

There is a set of standard error codes implemented across Precor cardio exercise equipment. Error codes are system generated codes that identify specific machine fault conditions. The maintenance software monitors error code event conditions, when a fault is detected, the error code is generated and stored in the Error Log (or CPA¹ Event Log) along with related machine metrics, such as, the machine mileage (or hours), the time, drive motor current, etc.

Error code numbers range from 01 to 99. There are also a small number of alpha and alpha-numeric codes. Most, but not all error codes are grouped into numeric ranges to help easily identify common system issues. Refer to the [Error Code Troubleshooting Guide](#) for a complete list of error codes and troubleshooting information.

IMPORTANT: Error code descriptions and troubleshooting information can be found in the *Error Code Troubleshooting Guide*, see [Error Code Guide.pdf](#).



¹Touchscreen console Control Processing Assembly.

Viewing Error Codes (Error Log & Event Log)

Error event codes are logged, stored, and viewed in either the **Error Log** on LED consoles (P10, P30, P30i and P31) or the **CPA Event Log** on touchscreen consoles (P62, P80, and P82), see [Error Log & CPA Event Log](#).

How to access the Error Log:

- On LED consoles (P10, P30, P30i and P31): access the **Information Display (65)** > select **Error Log**.
- On touchscreen consoles (P62, P80, and P82): access the **Service Settings menu (51765761)** > select **About > CPA Event Log**



TIP: Error codes can be deleted from the Error Log on LED consoles (P10, P30, P30i and P31). Press and hold the **PAUSE/RESET** key for a minimum of 6 seconds to open the Error Log and view all logged error codes. If there are no logged error codes, the "Stuck Key" message will show. To remove error codes, select the error code and press/hold the **QUICK START** key until the "NO ERRORS" message shows.



Note: On touchscreen consoles (P62, P80, and P82), error codes cannot be deleted from the CPA Event Log (or Error Log).

Error Code and Troubleshooting Guide

Use the *Error Code Troubleshooting Guide* to learn about the error code and to help troubleshoot and repair the machine. The *Error Code Troubleshooting Guide* provides a complete list of all supported error codes and information about the error code including the code description, related issues and symptoms associated with the error, troubleshooting steps, and repair procedures, see [Error Code Troubleshooting Guide](#).

- The error code description.
- The affected system components.
- The Issues and Symptoms associated with the fault condition.
- Troubleshooting steps and repair instructions.

Troubleshooting with Error Codes

Getting Started

You will need a copy of the "*Error Code Troubleshooting Guide*" to learn Information about the error codes including the code description, related issues/symptoms, troubleshooting and repair information, click [Error Code Troubleshooting Guide](#).

Using Error Codes to troubleshoot

1. Review the equipment Error Log (or CPA Event Log) to identify any current active error codes. Also review the error code history for any past error codes that may provide

insight to the current active error code issue.

2. Next go to the error code topic in the *Error Code Troubleshooting Guide* and review the error code troubleshooting and repair information.



Note: Be aware that not all machine failures will cause an error code event. Use physical observation and mechanical troubleshooting skills to resolve non error code issues.

Error Log & CPA Event Log

About

The Error Log is a service maintenance display used to store "log" and view detected error codes. On LED consoles (P10, P30, P30i and P31) you use the "Error Log" to view error codes. However, on touchscreen consoles (P62, P80, and P82) you use the "CPA¹ Event Log" and not the "Event Log" to view error codes.



IMPORTANT: On touchscreen consoles (P62, P80, and P82), use the **CPA Event Log** and not the **Event Log** to view maintenance error codes. The Event Log includes additional error codes that are not included in the *Error Code Troubleshooting Guide*.

The maintenance software monitors error code event conditions, when a fault is detected, the error code is generated and stored in the Error Log (or CPA Event Log) along with related machine metrics, such as, the machine mileage (or hours), the time, the drive motor current when applicable, etc.

Error event codes are sequentially stored as a table in memory on a First-In Last-Out basis, the newest error code is stored in the number one position pushing any stored error codes down one position. When the memory is full, the next code is stored pushing the oldest error code from the table removing it from memory.

Special circumstances (repeating errors)

When an error event is detected, the error code information will be stored into the error log. However, when multiple instances of the same error code event occur within the same hour or odometer reading, only the first occurrence will be logged. One of the following conditions must occur to cause a repeating error code to be subsequently logged:

- the elapsed time must exceed one hour from the first occurrence
- or the odometer mileage must change from the first occurrence
- or a different intervening error code is logged



Note: Multiple repeating instances of the same error code event occurring during the same hour or odometer reading will only be logged as a single error code event.

Troubleshooting

Always review the Error Log or CPA Event Log when troubleshooting an issue. The error logs will contain any triggered error code events and related information. You can then refer to the *Error Code Troubleshooting Guide* error code topic to help resolve the issue. Also, when calling Precor customer service for assistance, refer to the Error Log or CPA Event Log for additional information to help the representative resolve the issue.

¹Touchscreen console Control Processing Assembly.



Note: Be aware that not all machine failures will cause an error code event. Use physical observation and mechanical troubleshooting skills to resolve non error code issues.

LED Console (P10, P30, P30i and P31) Error Log

menu: **Information Display (65) > Error Log.**

On LED consoles (P10, P30, P30i and P31), error codes are viewed on the **Error Log**.

Understanding Error Codes

Each logged error event code will be shown on the console message display. The individual data parameters will scroll across the display. Use the Up/Down keys to scroll thru and view the individual error codes.

Typical Error Log data:

- Error Log sequential line item number, 1 thru "n" (1 is the newest error code and "n" is the oldest)
- [Error Code](#) Number
- [Error Code](#) Description
- Odometer
- Hours
- Motor Current*
- .Input Line Current*
- Input line voltage*
- Buss Voltage*

Note: * machine dependent parameter.

Removing Error Event Codes:

To remove an error code, select the error code to be removed and press/hold the **QUICK START** key for a minimum of 6 secs until the ."NO ERRORS" message shows.



TIP: Error code delete shortcut: Press and hold the **PAUSE/RESET** key for a minimum of 6 seconds to open the Error Log and view all logged error codes. If there are no logged error codes, the "Stuck Key" message will show. To remove error codes, select the error code and press/hold the **QUICK START** key until the "NO ERRORS" message shows.

Touchscreen Console (P62, P80, and P82) CPA Event Log

menu: **Service menu (51765761) > About > CPA Event Log**

On touchscreen consoles (P62, P80, and P82) you will use the **CPA Event Log** to view the relevant error codes and not the **Event Log**. The CPA Event Log only include machine error codes included in the *Error Code Troubleshooting Guide*.

Understanding the error code data result

The touchscreen console (P62, P80, and P82) CPA Event Log provides the same error code data found in the LED console (P10, P30, P30i and P31) Error Log plus the event occurrence date & time information. The error code "CPA ERROR" identifier indicates that this is a machine fault error code that can be used along with the *Error Code Troubleshooting Guide* to help resolve the issue.

Date/Time Stamp	CPA Error identifier	Error Code #	Description
2017-05-29 14:09:38 RTC:1496092178	<8c010020> CPA ERROR:	LPCA Er 32	NO COMM US TO DS - sev: 1 -

CPA Event Log - Error Code Data Result

Typical CPA Event Log data:

- Error Code Data
 - Event Time & Date Stamp
 - [Error Code](#) Number
 - [Error Code](#) Description
 - Odometer
 - Hours
 - Motor Current*
 - .Input Line Current*
 - Input line voltage*
 - Buss Voltage*
 - OEM Factory only data

Note: * machine dependent parameter.

Removing Error Codes

Unlike the Error Log used on LED consoles (P10, P30, P30i and P31), you cannot manually delete (clear) error codes from the touchscreen console (P62, P80, and P82) CPA Event Log or the Event Log.



Note: On touchscreen consoles (P62, P80, and P82), error codes cannot be deleted from the CPA Event Log or the Event log.

Active Status Light (ASL)

(Only applies to machines that support the **ASL**¹ feature)

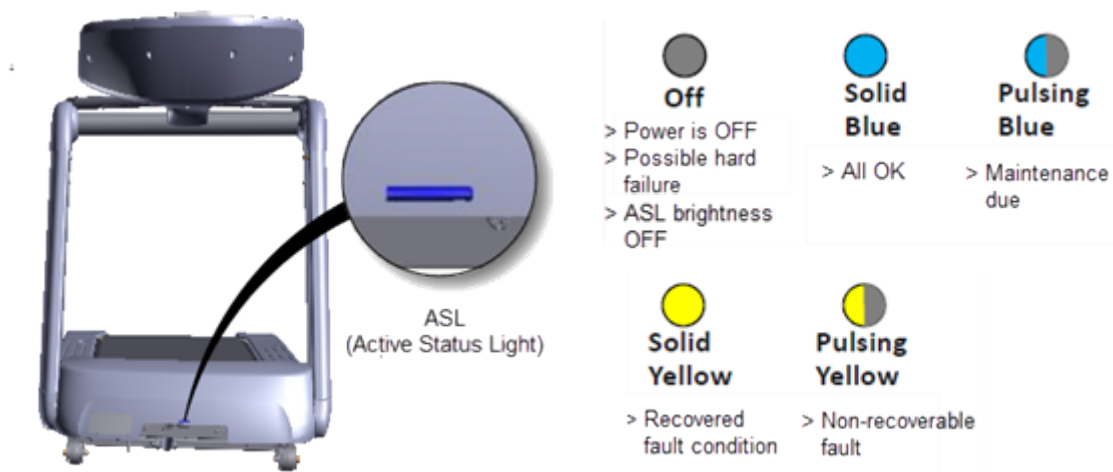
About

The Active Status Light (ASL) is a service and maintenance status light that provides a visual indication of the machine operational status. The current implementation supports four states: 1) Solid blue - indicates normal operation, 2) pulsing blue - indicates preventative maintenance is required; 3) Solid yellow - indicates an error has occurred but the machine is useable; and 4) pulsing yellow - indicates a loss of major function was detected.

The console can be used to control the ASL functions including, settings the light brightness level, viewing the ASL state, resetting the ASL states, enable/disable the maintenance reminder, and viewing the maintenance due remaining mileage (or hours), see "" on page 176.

ASL Light Equipment Location

On treadmills, the Active Status Light (ASL) is a service and maintenance status light located on the front lower center of the front hood cover.



ASL Overview






- An externally visible indicator of the current machine operational status. There are four supported states: 1) solid blue - indicates normal operation, 2) pulsing blue - indicates preventative maintenance is required; 3) solid yellow - indicates an error has occurred but the machine is useable; and 4) pulsing yellow - indicates a loss of major function was detected.

¹Active Status Light: Service and maintenance status light.

- Because only one status color and state can be shown at a time, the condition states are prioritized as follows from lowest to highest: Blue Solid (lowest), Blue Pulsing, Yellow Solid, Yellow Pulsing (highest). Higher priority states are always shown before a lower priority state, until cleared.
- The console **UPCA**¹ determines the ASL state using inputs from the error log and maintenance counter. During active operation (workout in progress) or during the pause state, the console transmits the ASL state to the lower control board (**LPCA**²).
- Only direct error code and maintenance counter data is used to determine the current machine ASL state. No special algorithms (e.g., user behavior) are utilized to determine the status.
- Error code operation: A logged system error code will cause the ASL to begin pulsing yellow. If the error self-corrects, the ASL will change from pulsing to solid yellow. Depending on the error code type, after the end of a workout, the solid yellow light will either revert back to blue (or pulsing blue), or require the operator to do a manual reset from the service menu.
- Maintenance counter operation: The counter starts at 1000 miles and counts down the miles of active use to 0 miles. When the counter reaches zero, the ASL will begin pulsing blue indicating preventative maintenance is due.

ASL States

The ASL utilizes a combination of blue and yellow lights to indicate the current operational machine status.

 Off > Power is OFF > Possible hard failure > ASL brightness OFF	 Solid Blue > All OK	 Pulsing Blue > Maintenance due	 Solid Yellow > Recovered fault condition	 Pulsing Yellow > Non-recoverable fault
--	--	---	---	---

ASL State	DESCRIPTION
OFF	The unit is powered OFF or there is no power to the LPCA or some other hard failure. On P10, P30, P30i and P31 consoles the ASL brightness is set to OFF.

¹Upper PCA board

²Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

ASL State	DESCRIPTION
Blue Solid	Normal operation Indicates that the ASL has not detected any logged error codes.
Blue Pulsing	Preventative maintenance reminder. Treadmills: A belt rating of 0 or 1 will cause a blue pulsing ASL light indicating that there is a problem with the running belt/deck and is in need of servicing or replacement. Ellipticals: The maintenance counter starts at 1000 hours and counts down the active use hours to 0. When the counter reaches zero hours, the ASL will begin pulsing blue indicating preventative maintenance is due.
Yellow Solid	Indicates an error has occurred, was self-corrected and the machine can be used. The fault can be cleared.
Yellow Pulsing	There is a current non-recoverable fault condition, there is a loss of a major function and the machine is out-of-service. Machine service is required.

ASL Settings and Functions

Setting the ASL light brightness level

The ASL Light Brightness level settings are HIGH, MEDIUM, and LOW. On P10, P30, P30i and P31 consoles, the light brightness level can be switched OFF.

- On P10, P30, P30i and P31 consoles, the OFF setting switches the ASL light brightness OFF for all ASL state conditions. Setting the ASL Light Brightness OFF only switches the ASL light brightness OFF and not the ASL active status functionality.
- Regardless of the brightness level setting (including OFF), you can view the current ASL state (blue, yellow, etc.) in the service access menus, see "[Viewing the current ASL state](#)" on the facing page.

P10, P30, P30i and P31 consoles:

Access **Hardware Validation** (51765761) > **AS LIGHT BRIGHTNESS** > select **HIGH, MED, LOW, or OFF**.

P62, P80, and P82 consoles:

Access **Hardware Validation** (51765761) > **Maintenance** menu > **AS LIGHT BRIGHTNESS** > select **HIGH, MED, or LOW**.

Disabling the ASL Maintenance Reminder

When set to ON, the ASL maintenance reminder - pulsing blue light state is triggered ON when the maintenance counter counts down to zero miles (or zero hours). When set to OFF, the ASL Maintenance Reminder counter is ignored and the ASL state is not changed to pulsing blue.

- The "OFF" setting effectively disables the ASL "blue pulsing" state without affecting the yellow or pulsing yellow fault states.
- When set to OFF, the Maintenance Reminder counter continues counting down the miles (or hours) remaining which can be viewed in the service access menu, see "[Viewing the current ASL state](#)" below.
- Error code events will still affect the ASL state condition even when the Maintenance Reminder is set to OFF.

P10, P30, P30i and P31 consoles:

Access **Club Settings (5651565)** > **MAINT CONFIG** > select **ON** or **OFF**.

P62, P80, and P82 consoles:

Access **Club Settings (5651565)** > **Maintenance** menu > **Maintenance Reminder** > select **ON** or **OFF**.

Viewing the current ASL state

The current ASL state (solid blue, pulsing blue, solid yellow; or pulsing yellow) can be viewed using the service menu **ACTIVE STATUS LIGHT** parameter.

P10, P30, P30i and P31 consoles:

Access **Hardware Validation (51765761)** > **ACTIVE STATUS LIGHT** > current ASL state.

P62, P80, and P82 consoles:

Access **Club Settings (5651565)** > **Maintenance** menu > **ACTIVE STATUS LIGHT** > current ASL state.

Viewing the ASL maintenance counter remaining miles (or hours)

P10, P30, P30i and P31 consoles:

Access **Information Display (65)** > **MAINT COUNTER**: remaining miles (or hours) to zero.

P62, P80, and P82 consoles:

Access **Service Software (51765761)** > **Maintenance** menu > **Next Maintenance Due**

The maintenance counter shows the remaining miles (or hours) until the machine maintenance is due. Reaching zero triggers the ASL pulsing blue "maintenance due" state.

Clearing the Blue Pulsing ASL State (Maintenance Counter reset)

Resetting the maintenance counter clears the blue pulsing ASL state and sets the ASL state to solid blue. The maintenance counter is also reset to the default value (treadmills reset to 1000 miles, ellipticals reset to 250 Hrs).

P10, P30, P30i and P31 consoles:

1. Access **Information Display (65)**.
2. Scroll to **MAINT COUNTER > OK**.
3. Press and hold down the **QUICKSTART** key (on the P30i, press down the **START** key) for 3 secs or more until the maintenance counter is reset. The "HOLD TO RESET MAINTENANCE COUNTER" message will show and the maintenance counter is reset to the default setting. The ASL state is reset to the blue solid state

P62, P80, and P82 consoles:

1. Access **Service Settings (51765761) > Maintenance** menu.
2. Select **Next Maintenance Due > Reset**.

Clearing the Yellow & Yellow Pulsing ASL states

An ASL pulsing yellow state is triggered when an error code event occurs and is logged. To clear a pulsing yellow state, the error condition causing the ASL pulsing yellow must first be resolved either manually or the machine may resolve and self-clear the issue. A manually or machine self-cleared error code will change the ASL state from pulsing yellow to the solid yellow state.

Clearing the pulsing yellow ASL state

An ASL pulsing yellow state is triggered when an error code event occurs and is logged. To clear a pulsing yellow state, the error condition causing the ASL pulsing yellow must first be resolved either manually or the machine may resolve and self-clear the issue. A manually or machine self-cleared error code will change the ASL state from pulsing yellow to the solid yellow state.

Clearing the solid yellow ASL state

P10, P30, P30i and P31 consoles:

On P10, P30, P30i and P31 consoles, clearing the error code from the Error Log resets the ASL state from solid yellow to the solid blue state.

P62, P80, and P82 consoles:

1. On P62, P80, and P82 consoles, the **Maintenance > Operating Condition** parameter must be reset from the **Inspect** condition to the **Normal** condition. After resetting the Operating Condition to Normal, the ASL state will change from solid yellow to the solid blue state.
2. Then go to the **CPA¹ Event Log** and clear the error code by selecting the **Clear** control.



Note: Clearing the CPA Event Log does NOT clear the error codes from the Event Log.

¹Touchscreen console Control Processing Assembly.

System Troubleshooting Procedures

System Troubleshooting procedures provide information and procedures to help you troubleshoot and repair treadmill system issues .

Available System Troubleshooting Procedures

- "Tripped Circuit Breaker" on the facing page
- "Input Power Troubleshooting" on page 185
- "Console Power Troubleshooting" on page 187
- "Communications Error Troubleshooting" on page 190
- "Machine Controls Troubleshooting" on page 192
- "Auto Stop Troubleshooting" on page 194
- "E-Stop not Communicating Troubleshooting" on page 195
- "Heart Rate Monitor Troubleshooting" on page 196
- "Drive Motor System Troubleshooting" on page 199
- "Incline Lift System Troubleshooting" on page 203
- "Input Power Troubleshooting" on page 185
- "Running Belt Troubleshooting" on page 208

See Also

"Troubleshooting" on page 163

"Standard Error Codes" on page 167

"Error Log & CPA Event Log" on page 170

Tripped Circuit Breaker

Troubleshooting a tripped treadmill ON/OFF circuit breaker or facility power distribution panel circuit breaker. Review the electrical requirements, see "" on page 13 and "Power Entry Assembly Wire Diagram" on page 221.

It is extremely important to know whether the tripped circuit breaker is the treadmill ON/OFF circuit breaker or the facility wall outlet circuit breaker. It is also extremely important to know when the breaker trip occurs, note which one of the following events best describes when the circuit breaker tripped:

- Immediately on power up
- After the belt starts but before the exerciser walks onto the belt
- After the exerciser walks onto the belt.

If the facility outlet circuit breaker trips

- Measure the facility wall outlet voltage. If the is approximately 0 Vac, the wall breaker has tripped.
- If there is power at the wall outlet, inspect the power cord, if damaged, replace the line cord. If the line cord is not damaged continue with the following steps.
- Verify whether there is more than one treadmill using the same outlet circuit breaker. This will be especially evident if two or more treadmills shutdown at the same time. To verify if multiple treadmills are sharing the same wall breaker, manually switched OFF the facility outlet circuit breaker. If more than one treadmill loses power, the treadmills are on the same breaker:
 - If YES, advise the customer to have the facility wiring upgraded to provide one individual branch circuit outlet per machine, see Precor specifications, see ."" on page 13.
 - If NO, continue Troubleshooting.



IMPORTANT: If the AC¹ circuit providing the treadmill power is found to be a non-dedicated branch circuit or a circuit equipped with a capacity of less than 20 amps, the AC circuit must be corrected before any reliable Troubleshooting can be performed. More importantly, a non-dedicated branch circuit may constitute a safety hazard to the treadmill operator .

- Verify the wall outlets do not share neutral wiring and that each wall outlet is on an individual branch circuit. An individual branch circuit will have its own load line, neutral line and ground line. Have a certified electrician verify that each treadmill is powered from an individual branch circuit, see "" on page 13
 - If YES, advise the customer to have the facility wiring upgraded to provide one individual branch circuit outlet per machine, see Precor specifications, see ."" on

¹Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

page 13.

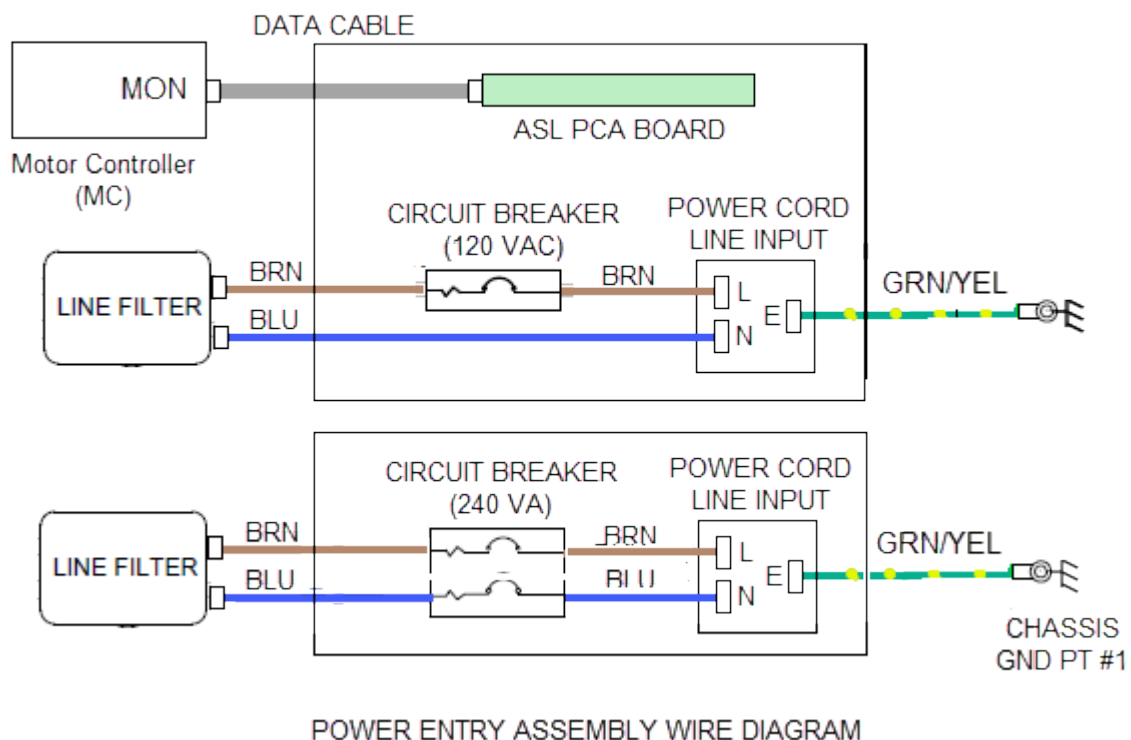
- If NO, continue Troubleshooting



CAUTION: The treadmill requires a 20-amp individual branch circuit grounded per NEC (National Electric Code) guidelines or local region electric code.

- Measure the AC input voltage with the treadmill running and no exerciser on the belt "unloaded." Then repeat the voltage measurement "loaded", an exerciser on the belt during the measurement. The difference between the two measurements should be no more than approximately 6 volts RMS and ideally less:
 - If the voltage variance is more than 6 volts RMS, the distance from the outlet to the power distribution panel circuit breaker may be too long or the wire gauge diameter may be smaller than required. Request the facility to have an electrician verify the circuit wiring from the outlet to the power distribution panel.
 - If NO, continue Troubleshooting.
- Overloading is the most frequent cause of a tripped treadmill circuit breaker. Overloading is most often caused by worn belt/deck excess friction. The circuit breaker tripping point can also be increased by poor input line voltage. Overloading most often occurs with heavier exercisers running at high speeds, but never when lighter exercisers are walking. Verify the deck and belt wear, replace as needed. The treadmill tripped circuit breaker event is often accompanied by "Drive Motor Current Overloading" error codes 27, 28, or 29, see "[Error Code Troubleshooting Guide](#)".

If the treadmill ON/OFF circuit breaker is tripped:



- Verify the wall outlets **do not** share neutral wiring and that each wall outlet is on an individual branch circuit. An individual branch circuit outlet will have its own load line, neutral line, and ground line. Have a certified electrician verify the treadmill is powered from an individual branch circuit:
 - If YES, advise customer to have their facility wiring upgraded per Precor specifications.
 - If NO, continue Troubleshooting.



CAUTION: The treadmill requires a 20-amp individual branch circuit grounded per NEC (National Electric Code) guidelines or local region electric code.

- Verify that the wire gauge is not too small to carry the required 20 amp load for long distance input power wire runs, the distance from the outlet to the facility power distribution panel:
 - If YES, advise customer to have their facility wiring upgraded per Precor specifications.
 - If NO, continue Troubleshooting.
- Verify that the input line voltage is not below the minimum required voltage level. For 120 **VAC**¹ (U.S.) installations; the minimum acceptable line voltage is 108 Vac. For 240 VAC installations (international), the minimum acceptable line voltage is 200 Vac. Measure the treadmill input voltage with the circuit breaker switched "ON" and the running belt stopped. Record the voltage. Then measure the voltage again using the instantaneous voltage drop using the min/max function on your volt meter while someone is running on the treadmill at 7.0 MPH or higher:
 - If any measurement is below 108 Vac (US -120 Vac) or 200 VAC (International - 240Vac), advise the customer to have the facility wiring inspected by an electrician.
 - If the measurements are at or above 108 Vac (US) or 200 Vac (International), continue troubleshooting.
- Does the treadmill ON/OFF circuit breaker trip immediately on power up:
 - If YES, it is likely that there is a shorted electrical component, inspect the input line filter and lower control module for faulty/shorted wiring.
 - If NO, continue with the following steps.
- Does the treadmill power up normally and then the ON/OFF circuit breaker trips after the motor is started:
 - If YES, it is likely that there is a defective roller or a bad drive motor.
 - If NO, continue with the following steps.
- Does the Drive Motor start up normally and then the ON/OFF circuit breaker trips after an exerciser walks/runs on the running belt:

¹voltage in an alternating current circuit

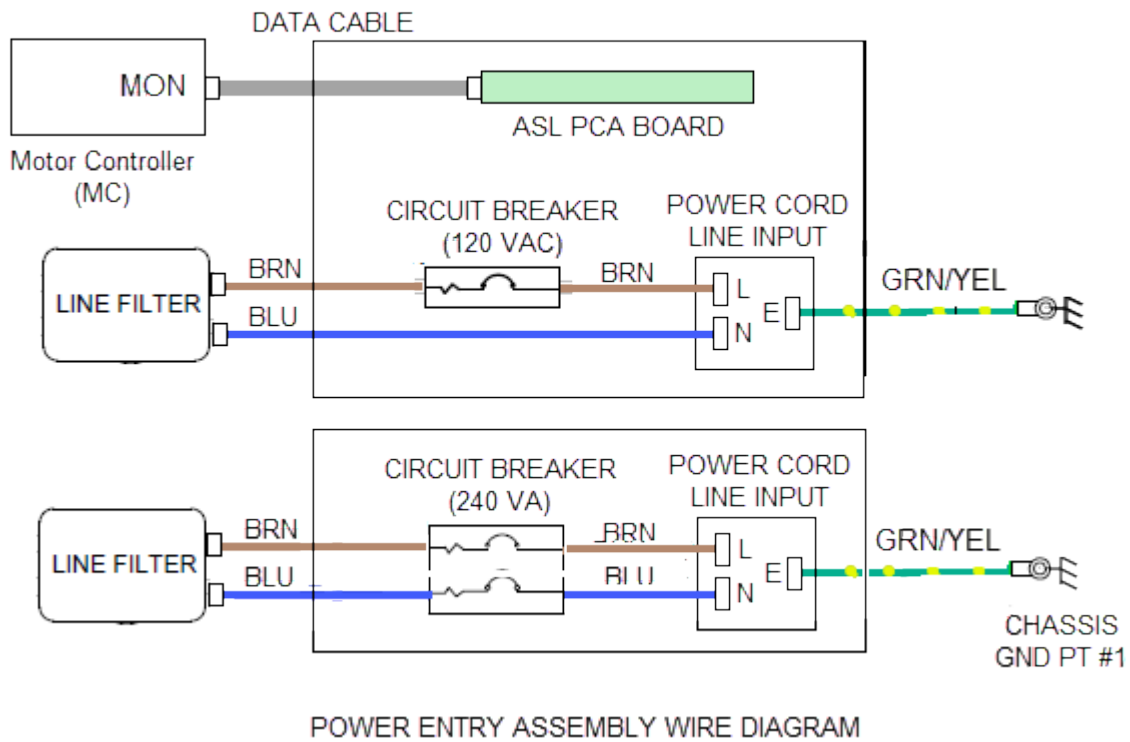
- If YES, overloading is the most frequent cause of making the treadmill shut down. Overloading most often occurs when heavy exercisers are running on a worn belt. The deck/belt friction issue is also worsened by poor input line voltage. Overloading is often accompanied by error codes 27, 28, or 29. Verify the running belt condition.

See Also

"System Troubleshooting Procedures" on page 180

Input Power Troubleshooting

The machine requires reliable stable input power for proper operation. Poor input power issues such as low/high line voltage levels, incorrect or unstable frequency, intermittent power, power spikes, etc, can cause machine operating issues. The following error codes are related to poor input power issues:



Related Error Codes

RELATED ERROR CODE	DESCRIPTION
10	Line Frequency Out Of Acceptable Range
11	Low Voltage Watchdog (Upper PCA ¹)
12	MC ² / LPCA ³ Software Watchdog (Lower PCA ⁴)

¹Upper printed circuit assembly; generally refers to the console.

²Motor controller or motor controller module

³Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

⁴Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

RELATED ERROR CODE	DESCRIPTION
14	Fan Fail (Lower PCA ¹)
15	DC ² Bus Over Voltage
16	AC ³ Input Voltage Too Low

Troubleshooting Procedure

Review the machine Error Log or **CPA**⁴ Event Log and note any one of the possible related error codes. Then use the *Error Code and Troubleshooting Guide* to learn about these error codes and procedures to troubleshoot and repair the issue, see [Error Code Troubleshooting Guide](#).

Input Power Verification

Verify that the facility outlet wiring is an individual branch circuit voltage, the voltage level is within limits, and that the frequency is within limits, see "" on page 13.

Tripped machine or facility circuit breakers

If either the machine or facility power panel circuit breakers trip, see "Tripped Circuit Breaker" on page 181 for troubleshooting help.

See Also

"System Troubleshooting Procedures" on page 180

¹Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.

²Direct Current: electrical current that only flows in one direction.

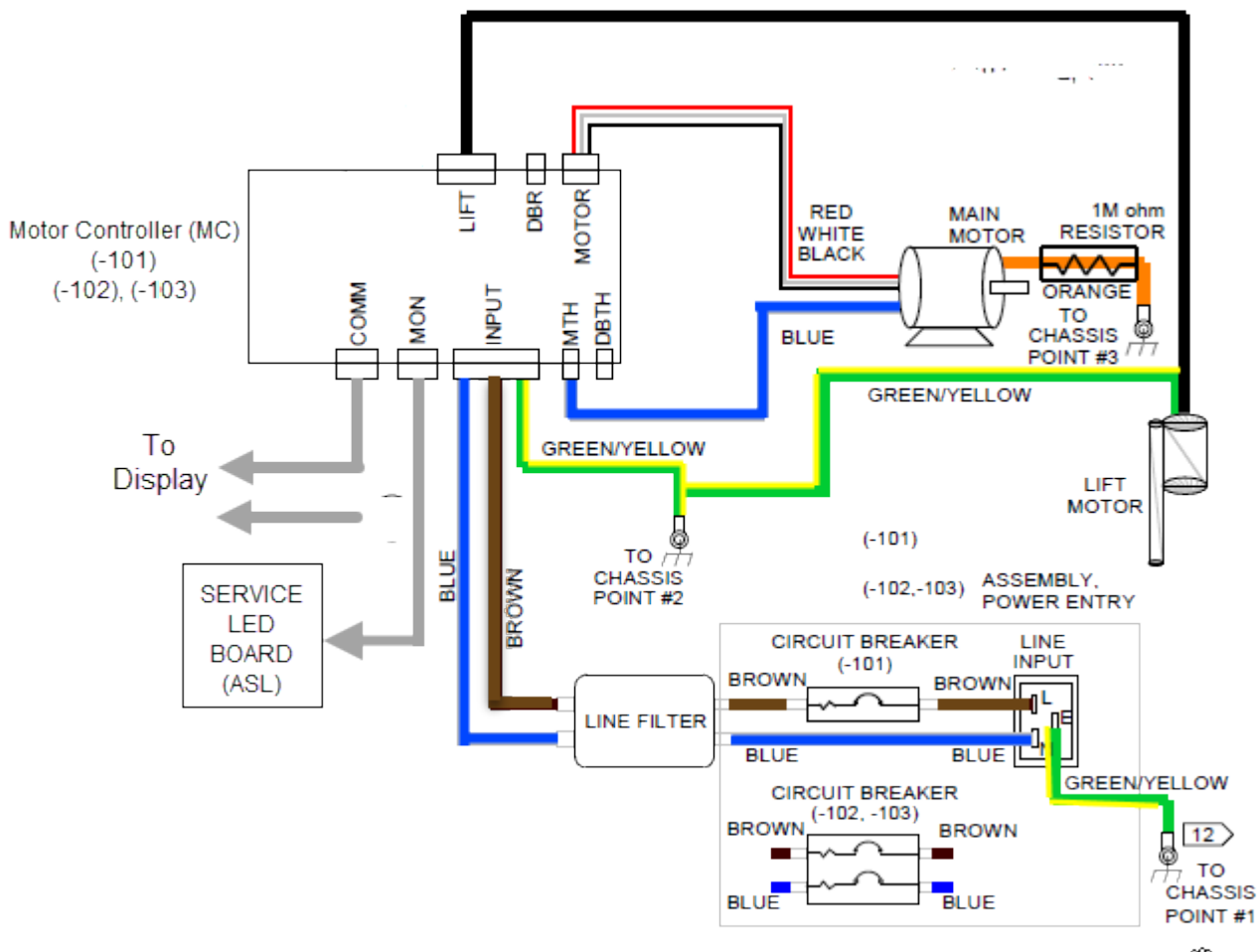
³Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

⁴Touchscreen console Control Processing Assembly.

Console Power Troubleshooting

Machine powered consoles (Standard, P10, P30, P30i and P31).

1. Using a multimeter, verify that the facility outlet **AC**¹ voltage is within required limits, see "" on page 13.
 - a. If NO, ask facility to have an electrician check the power panel circuit breaker and outlet power.
 - b. If YES, continue procedure.
2. Remove the treadmill hood, switch power ON and measure the AC voltage at the input side of the line filter. Verify that line voltage is within operating limits, see "" on page 13.



- a. If NO, replace the breaker switch.
- b. If YES, continue troubleshooting.

¹Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

3. Measure the AC voltage at the output side of the line filter. Verify that line voltage is present when the breaker switch is turned on.
 - a. If NO, replace the line filter.
 - b. If YES, continue troubleshooting.
4. Replace the unit console and COMM cable with known good parts. Switch the power ON, does the test console power-up?
 - a. If NO, replace the **MC**¹ unit.
 - b. If YES, continue troubleshooting.
5. If the test console powered up, reconnect the test good COMM cable to the unit console. Switch the power ON, does the original console power-up?
 - a. If YES, replace the COMM cable.
 - b. If NO, the problem is with the console. Troubleshoot the console and replace if the console is not field repairable.

Self-powered consoles (P62, P80, and P82).

1. Disconnect the power supply and verify that the console power supply has power at the output cable connector, Reconnect the cable to the console, does the console power up?
 - If NO, replace the console power supply.
 - If YES, continue procedure.
2. Obtain a known good console and communication cable. First reconnect the communications cable from the motor controller "MC" to the console and then the power supply cable. Does the test console power-up without error?
 - a. If NO, replace the MC module (**IFT**² drive)".
 - b. If YES, re-connect the good test communications cable and power supply to the original console. Does the original console power up?.
 - If YES, replace the original Communications cable.
 - If NO, replace the console **Upper PCA**³ board.



CAUTION: Do not swap a good MC to troubleshoot a suspect bad MC which could damage the good replacement MC. The issues that damaged the original MC may also damage the good swapped MC.

¹Motor controller or motor controller module

²Integrated Footplant Technology: IFT recognize this change in speed when your foot strikes the belt and adjust to match every stride, resulting in a smooth, fluid feel that enhances the workout experience.

³Upper printed circuit assembly; generally refers to the console.

See Also

"System Troubleshooting Procedures" on page 180

Communications Error Troubleshooting

Errors 30 through 33 all indicate the loss of communications or erratic communications between the **Upper PCA**¹ "UPCA"² and the **Lower PCA**³ "LPCA"⁴.

The main reason for a general communication error is a faulty interconnect cable, either it is not connected securely, or it has become damaged. Error 30 can be caused by an overloaded or shorted +3.3 Vdc or +5 Vdc on the lower PCA⁵, which can be caused by an external component plugged into the lower PCA. Error 32 is often caused right after service or installation, when the interconnect cable is unplugged from the upper PCA while the lower PCA is powered. It is also caused when the cable is plugged into the **CSAFE**⁶ port on the upper PCA.

Related Error Codes

Communications error codes: 30 through 33.

RELATED ERROR CODE	DESCRIPTION
30	Error 30 is defined as upper PCA is active, the lower PCA is not communicating
31	Error 31 is defined as faulty data received from lower PCA (extremely rare)
32	Error 32 is defined as lower PCA is active, the upper PCA is not communicating
33	Error 33 is defined as faulty data received from upper PCA (extremely rare)

Troubleshooting Procedure

Review the machine Error Log or **CPA**⁷ Event Log and note any possible issue related error codes. Then use the *Error Code and Troubleshooting Guide* to learn about these error codes and procedures to troubleshoot and repair the issue, see [Error Code Troubleshooting Guide](#).

¹Upper printed circuit assembly; generally refers to the console.

²Upper PCA board

³Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

⁴Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

⁵Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.

⁶Communication Specification for Fitness Equipment protocol.

⁷Touchscreen console Control Processing Assembly.

See Also

"System Troubleshooting Procedures" on page 180

Machine Controls Troubleshooting

Applies To: P30 consoles

The main symptoms caused by bad machine incline and speed controls are lack of control for incline and speed (treadmills) or resistance and crossramp (ellipticals & AMTs). Machine control error codes will occur when the machine controls no longer provide reliable mechanical inputs to the console machine control software. The controls communicate through an 8-pin connection. Pins 1-3 are incline controls; pins 6-8 are drive (speed or resistance) controls.

Using dielectric grease

A common issue with machine controls is pin contact contamination in cable connector due to sweat and moisture. Verify that the machine control cable connector contacts are not contaminated. Clean contacts and apply a thin coat of dielectric grease to the pin contacts.

The following error codes can be caused by bad machine control hardware:

RELATED ERROR CODE	DESCRIPTION
80	Error 80 - Incline (or crossramp) will stop at current incline. Error 80 is displayed when there is a missing incline signal on pins 1 or 2. Restart is not needed to clear the error, self-recovery possible when the control is returned to the center position.
81	Error 81 - Incline (or crossramp) will stop at current incline. Error 81 is displayed when there is a missing incline signal on pin 3. Restart is not needed to clear the error, self-recovery possible when the control is returned to the center position.
82	Error 82 - Speed will decrease at 0.1 mph per key press until belt stops. Error 82 is displayed when there is a missing drive signal on pins 6 or 7. Restart is not needed to clear the error, self-recovery possible when the control is returned to the center position.
83	Error 83 - Speed will remain at current speed. Error 83 is displayed when there is a missing drive signal on pin 8. Restart is not needed to clear the error, self-recovery possible when the control is returned to the center position.

Troubleshooting Procedure

Review the machine Error Log or **CPA**¹ Event Log and note any possible issue related error codes. Then use the *Error Code and Troubleshooting Guide* to learn about these error codes and procedures to troubleshoot and repair the issue, see [Error Code Troubleshooting Guide](#).

¹Touchscreen console Control Processing Assembly.

See Also

"System Troubleshooting Procedures" on page 180

Auto Stop Troubleshooting

Apple To: TRM800-14, TRM700-16 and later treadmill models

This troubleshooting procedure only applies to TRM800-14, TRM700-16 and later treadmill models that utilize software and drive motor current input to manage the auto stop function. For early production models like the **TRM10**¹ treadmill that utilize mechanical magnetic sensor input to manage the auto stop function, refer to the [Error Code Troubleshooting Guide](#) for troubleshooting information.

Auto stop is a safety feature that shuts off a treadmill that has been abandoned while the belt is running. Exclusive of the first sixty seconds after a workout has begun or resumed, any 30 second window with no user detected will prompt a 10 second countdown and then a full stop. The detection is accomplished through software, and is rated to detect persons weighing 50 lbs (22.7kg) or greater walking with a normal cadence.

The feature is selectable ON or OFF in the facility settings menus. It is default from the factory set to ON, and it is recommended to be set ON.

Related Error Codes

RELATED ERROR CODE	DESCRIPTION
none	

Troubleshooting Procedure

Access the Hardware Validation (51765761), and select the **Auto Stop** test.

P10, P30, P30i and P31 consoles:

When the feature is enabled, the "USER DETECTED" message is shown if motion is detected from the running deck or NO USER DETECTED if no motion is detected. It may take 5 or 6 steps for the USER DETECTED message to be displayed. This cycle will start over if the speed is changed.

P62, P80, and P82 consoles:

When **START** is pressed, after a few steps the status line will show USER DETECTED and the STEP COUNT will indicate the number of steps. If steps are not detected, the NO USER DETECTED message will be shown in the status field.

If the Auto Stop Feature did not pass the test replace the motor controller module.

See Also

["System Troubleshooting Procedures" on page 180](#)

¹TRM800 treadmills mfg. dates 2010 thru 2014.

E-Stop not Communicating Troubleshooting

An error 37 may occur after an E-STOP event. If the E-STOP event is not successfully cleared in the lower PCA¹ and the upper display believes the E-STOP has been cleared, a error 37 will occur. Possible causes include pulling and resetting the E-STOP twice within the 10 second time-out period, pulling the E-STOP, turning off the treadmill, turning the treadmill back on, and then starting a course, or pulling the E-STOP, turning off the treadmill, reset the E-STOP, turning the treadmill back on, and then starting a course. Also possible is a break in the E-STOP line, or a loose cable connection.

Related Error Codes

RELATED ERROR CODE	DESCRIPTION
37	E-STOP Upper PCA ² /Lower PCA ³ Mismatch

Troubleshooting Procedure

Review the machine Error Log or CPA⁴ Event Log and note any possible issue related error codes. Then use the *Error Code and Troubleshooting Guide* to learn about these error codes and procedures to troubleshoot and repair the issue, see [Error Code Troubleshooting Guide](#).

See Also

"System Troubleshooting Procedures" on page 180

¹Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.

²Upper printed circuit assembly; generally refers to the console.

³Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

⁴Touchscreen console Control Processing Assembly.

Heart Rate Monitor Troubleshooting

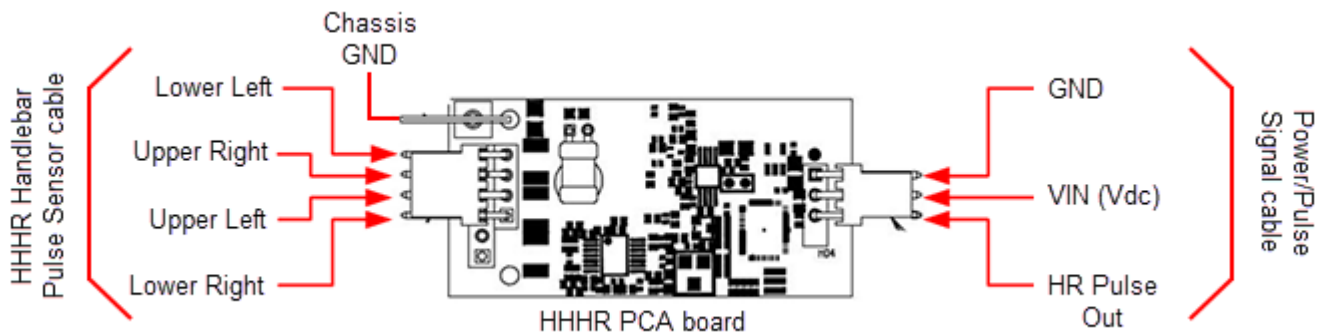
Hand Held Heart Rate Does not Work

1. Place your hands on the handlebar **HHHR**¹ (Hand Held Heart Rate) hand held pulse sensors, making full contact with both top and bottom pulse sensors for at least 15 seconds.
 - a. If the console displays the heart rate, no problem exists.
 - b. If the console does not display a heart rate, continue procedure.
2. Set the ON/OFF switch to OFF, wait 10 seconds, then toggle the ON/OFF switch to ON. Grasp the hand held HHHR pulse sensors for a minimum of 15 seconds.
 - a. If the console displays the heart rate, then the cycling the power reset the HHHR processor and the issue is fixed.
 - b. If the HHHR does not function correctly, continue procedure.
3. Verify that the 4-pin handlebar pulse assembly input cable connector and the Power-/Pulse signal cable connectors are correctly plugged into the HHHR **PCA**² board connectors. Make sure that all pins fit properly into the connectors and that there are no damaged or shorted pins.
 - a. If the cable connectors are damaged, replace the cable.
 - b. If the HHHR PCA connectors are damaged, replace the HHHR PCA board.
 - c. If the HHHR feature does not function correctly, continue procedure.
4. Verify the chassis ground cable is connected to the HHHR PCA board. Also verify the ground cable is connected to the console weldment and provides a zero resistance ground path to the chassis (a short, zero resistance to ground).
 - a. If the HHHR functions correctly, the issue is fixed.
 - b. If the HHHR does not function correctly, continue procedure.
5. GEN-06 treadmill only: Verify that there is a ferrite bead around the cable from the HHHR board to the upper PCA. If missing, add the ferrite bead and verify HHHR operation. If this repair does not fix the issue, continue procedure.
6. Verify that the machine does not display a heart rate with only one hand grasping a given left or right handlebar HHHR pulse sensor. This would indicate static damage, and require replacement of the heart rate board.
7. Remove the left (top & lower) and right (top & lower) handlebar pulse sensor assemblies and verify that the hand pulse sensors and electrical connections are free of corrosion and have good electrical contact.
 - a. If the pulse sensors and/or electrical connection contacts have corrosion, replace the corroded HHHR hand pulse assembly.

¹Hand Held Heart Rate

²Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.

- b. If the hand pulse sensors and/or electrical contacts do not have corrosion, continue procedure.
- 8. Verify that the HHR handlebar pulse sensor cable is not damaged and that it is correctly installed. Verify the four HHR PCA pulse sensor input connector pins (left top, left lower , right top , and right lower) are attached to their respective handlebar pulse sensor terminal, (see HHR PCA schematic below). Also inspect the cable for any visual cable wire damage or connector pin damage.
 - a. If this did not fix the problem, verify that each one of the four pulse sensor wires (left top, left lower , right top , and right lower) has connector pin-to-pin continuity, use a multimeter to measure the cable connectors pin-to-pin resistance.
 - b. If the wiring is correct, continue procedure.
- 9. Verify that the HHR board has the correct operating input voltage. Remove the Power/Pulse Signal cable from the HHR PCA 3-pin connector and measure the Vdc voltage between the VIN (pin 2) and the GND (pin 1) pins. The voltage should measure between 4.5 and 5 Vdc (see HHR PCA schematic below).
 - a. If no voltage, make sure the Power/Pulse Signal cable 3-pin plug is correctly connected to the UPCA¹ board connector. Remeasure Vdc, if no voltage, Verify the cable is not damaged by checking the pin-to-pin wire continuity, If the cable is not damaged, replace the UPCA board or console.
 - b. If there is correct Vdc input voltage and the HHR does not function correctly, continue procedure.
- 10. If the above procedures do not correct the problem, replace the heart rate HHR PCA board.



Wireless Heart Rate Does not Work

- 1. Grasp the handlebar HHR pulse sensors and verify that the hand held HHR feature is functioning correctly, showing a correct heart rate.

¹Upper PCA board

- a. If not, go the Hand Held HHHR troubleshooting procedure to fix the problem.
 - b. If yes, continue procedure.
2. Verify the wireless heart rate function using a known good chest strap transmitter or test transmitter. If the heart rate reading is erratic, incorrect, or absent, continue.



Note: It may be necessary to temporarily move closer to the console to allow the receiver to acquire the heart rate transmitter signal.

3. Identify possible sources of wireless signals that are transmitting in close proximity to the machine that may cause HHHR transmitter signal interference. Possible types of products that can cause signal interference include:
 - **Wi-Fi**¹ Network Routers
 - Cordless Telephones
 - Cell Phones
 - Electronic Dog Fences
 - Garage Door Remotes
 - Florescent light ballasts
4. Power OFF any possible sources of signal interference while using the wireless HHHR chest transmitter and note if the problem is fixed.
 - a. If yes, either do not use that device or move it far enough away from the machine so that it does not interfere with the wireless HHHR transmitter.
 - b. If NO, continue procedure.
5. If the preceding procedures do not correct the problem, replace the heart rate HHHR PCA board.

See Also

["System Troubleshooting Procedures" on page 180](#)

¹Wireless Fidelity - a term defined and Trademarked by the Wi-FiOpen Alliance (formerly known as the Wireless Ethernet Compatibility Alliance - WECA). Wireless LAN equipment carrying the Wi-Fi logo have been interoperability tested for compatibility with one (or more) 802.11 standards, and certified by the Wi-Fi Alliance to be sold under the Wi-Fi brand.

Drive Motor System Troubleshooting

About

This procedure applies to 3-phase drive motor systems. Occasionally, there may be issues or failures of the drive system that do not generate error codes. This procedure provides additional information to troubleshoot and repair these types of issues.

If there is a Drive Motor system error code from 20 through 29 in the error log, go to the Error Code Troubleshooting Guide, see the [Error Code Troubleshooting Guide](#), for Troubleshooting and repair information.

If there are no errors in the error log and there are Drive Motor system related issues (such as failure to start or jittery motion) then continue with troubleshooting procedure.

Related Error Codes

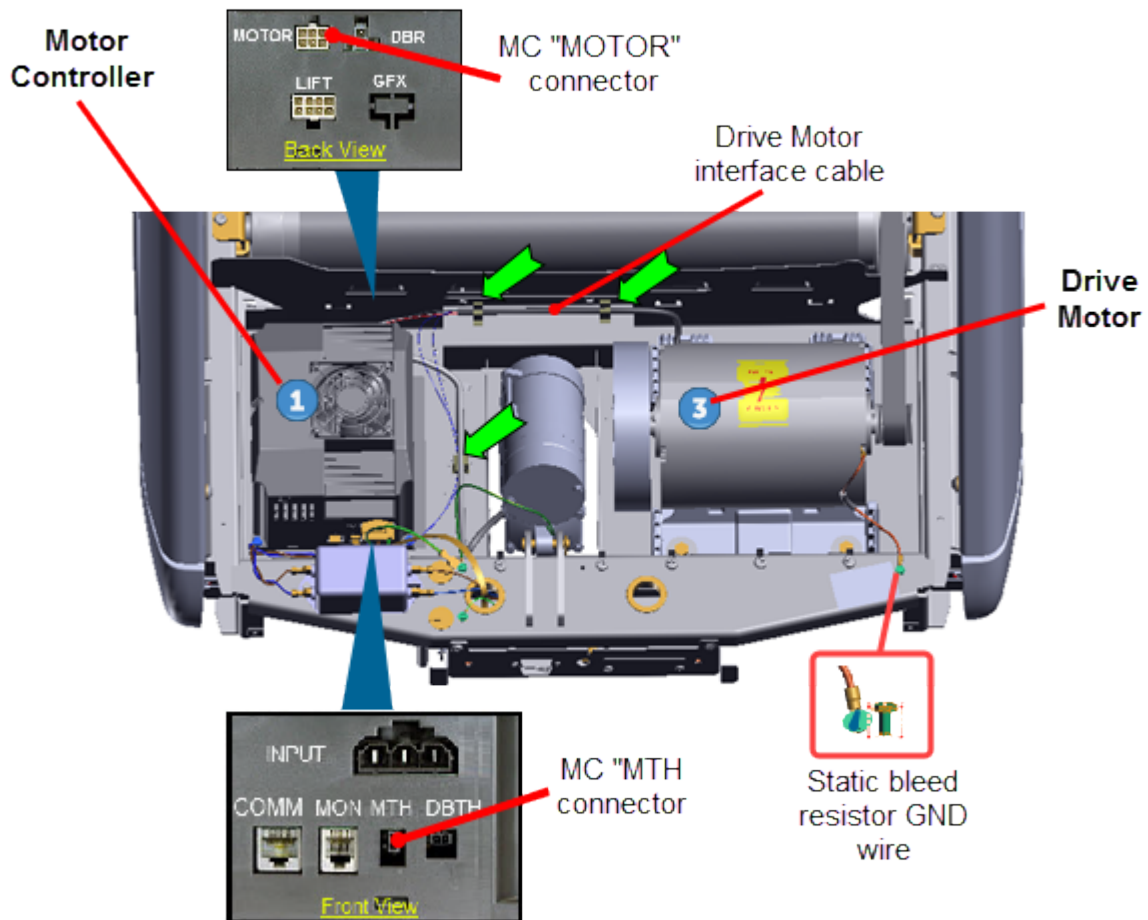
Drive system error codes: 20 through 29, refer to the [Error Code Troubleshooting Guide](#).

RELATED ERROR CODE	DESCRIPTION
20	Motor Will Not Start / No Motor Movement Detected
21	too Many Maximum Consecutive Power Requests
22	Error 22 indicates that the drive motor has been instructed to start, by either manual or program control, and the monitoring system has not received any response from the speed sensing system indicating that the drive motor has started.
23	Error 23 indicates that the speed sensor signal was lost while the treadmill was in operation.
25	Motor Controller / LPCA ¹ Hardware Error
26	Error 26 monitors the speed sensor signal and verifies the speed sensor signal is appropriate for the requested speed. If the speed sensor signal is incorrect or erratic an Error 26 will be displayed.
27	motor current too high)
28	Electronics Temperature Too High
29	Excessive AC ² Input Current

¹Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

²Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

Troubleshooting Procedure

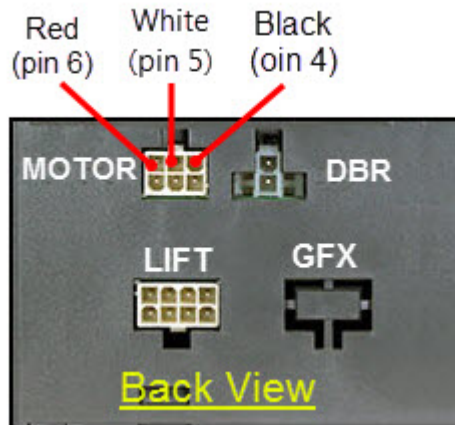


Motor Controller module "MC1" output power test

1. Switch treadmill ON/OFF switch to OFF Disconnect the Drive Motor cable Motor connector from the Motor Controller "MOTOR" connector.
2. Set the multimeter to measure AC voltage. Switch the treadmill ON/OFF switch to ON. Press the **QUICK START** key and immediately measure the voltage between the red wire (pin 4) & the white wire (pin 5) of the MC MOTOR connector. If the MC is supplying output power, you will momentarily (approx 2 sec) read an AC voltage value. Make a note of the voltage and switch the treadmill ON/OFF to OFF

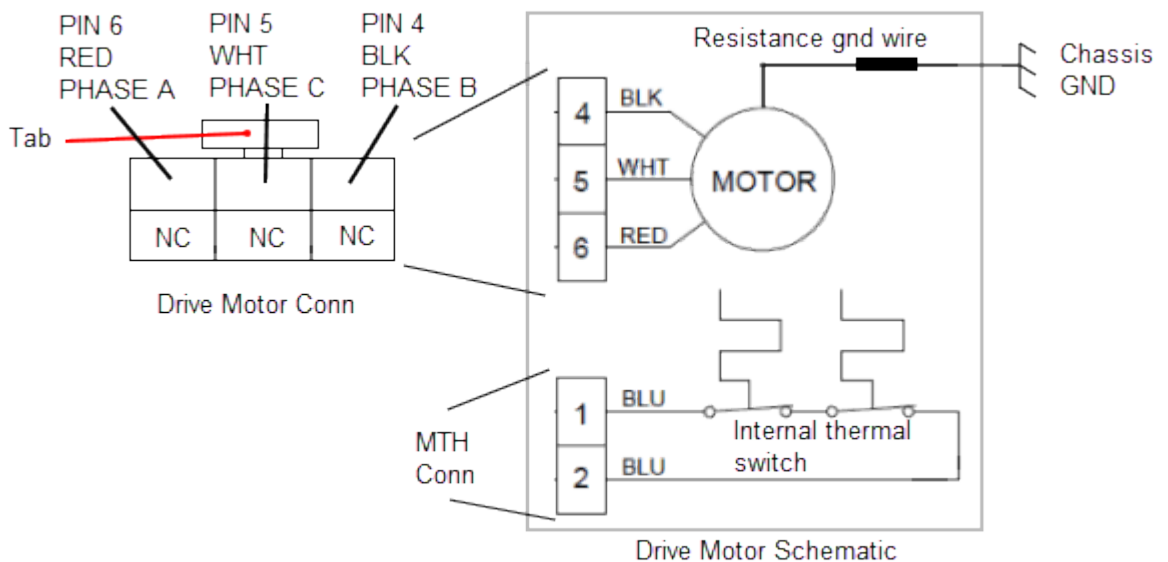
Note: If the drive motor does not start, the Motor Controller will only apply voltage for a couple of seconds before it shuts down. Therefore the voltage readings in the following steps must be taken within the first couple of seconds after the treadmill is commanded to start the running belt. (A multimeter with a hold feature is helpful for these measurements).

¹Motor controller or motor controller module



3. Repeat the AC voltage measurement between the MC MOTOR connector red wire (pin 4) & the black wire (pin 6). The measured voltage should be the approximately the same value as the previously measured red wire (pin 4) & white wire (pin 5) voltage. Set the treadmill ON/OFF switch to the OFF position.
4. Repeat the AC voltage measurement between the MC MOTOR connector white wire (pin 5) & the black wire (pin 6). The measured voltage should read approximately the same value as the previously measured voltage between the red (pin 4) & black (pin 6) wires. Set the treadmill's ON/OFF switch to the OFF position.
5. If one or more of the previous MC MOTOR output voltage measurements are not present or very different, replace the MC. If the voltage measurements are approximately the same, continue the procedure.

Drive motor Phase winding test



Drive Motor Schematic



CAUTION: All resistance measurements must be performed with power removed from the machine. Performing the resistance measurements with voltage applied to the circuit can damage the multimeter.

6. Switch the treadmill ON/OFF switch to OFF. Disconnect the Drive Motor cable connector from the MC MOTOR output connector. Set the multimeter to measure resistance (ohms). Measure resistance between the Drive Motor cable MC MOTOR connector between the red wire (pin 4) & white wire (pin 5), the red wire (pin 4) & black wire (pin 6) and the white wire (pin 5) & black wire (pin 6). Each measurement should be approximately 2.5 ohms. If any one of the measurements are significantly high (an open circuit) or zero (a short circuit), replace the Drive Motor.



CAUTION: Connector pin terminals can be easily sprung and damaged. Take care and use light probe contact pressure when making multimeter measurements. DO NOT insert large diameter probes into the plug terminals which will spring and damage the pin terminals.

7. If the Drive Motor passed the motor winding resistance test, inspect the female pins of the Drive Motor cable MC MOTOR connector. Verify that the pins are not spread apart "sprung" beyond the point of making good contact with the MC MOTOR connector male pins. If the Drive Motor connector pins are damaged, attempt to repair the connector terminals using a crimp tool for a MOLEX plug #39--01-2060 with pin terminals MOLEX #45750-3111 (recommended MOLEX pn 0457503112 crimp tool). If the connector cannot be repaired, replace the Drive Motor.
8. If you have performed all of the procedures above and have been unable to correct the problem, call Precor customer support.

See Also

["System Troubleshooting Procedures" on page 180](#)

Incline Lift System Troubleshooting

The incline Lift system consists of an **AC**¹ voltage driven lift motor (120 Vac or 240 Vac) and an internal 1 K ohm potentiometer for lift position monitoring.

The first step in troubleshooting the lift system is to review the error log for any lift system error codes. Then determine whether the problem is related to a lift movement issue or a lift position sensor issue. If the lift does not move, then the problem is most likely related to defective lift motor windings or the **MC**² lift motor control circuitry. If the issue is with the lift platform position, then most likely the issue is due to a defective lift position sensor potentiometer.

Use the lift motor related error codes 40 thru 45 to help isolate and repair the fault.

Related Error Codes

RELATED ERROR CODE	DESCRIPTION
40	No Lift Motion Detected
42	Lift Position Out Of Range
44	Un-commanded Lift Motion
45	Lift Moving In the Wrong Direction

Troubleshooting Procedure

Error code events are generated when the lift system has been commanded to move and no and/or incorrect lift motion has been detected.

Review the machine Error Log or **CPA**³ Event Log and note any lift system related error codes (codes 40 thru 45). Then use the *Error Code and Troubleshooting Guide* to learn about these error codes and procedures to troubleshoot and repair the issue, see [Error Code Troubleshooting Guide](#).

Operating the lift motor for troubleshooting

In normal operating mode, the treadmill requires the running belt to be moving to operate the lift. Therefore, it is recommended to operate the lift motor from the service Hardware Validation > Machine Test > Incline Test diagnostic test (see "[Hardware Validation Diagnostics Tests Menu \(51765761\)](#)" on page 30) .

¹Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

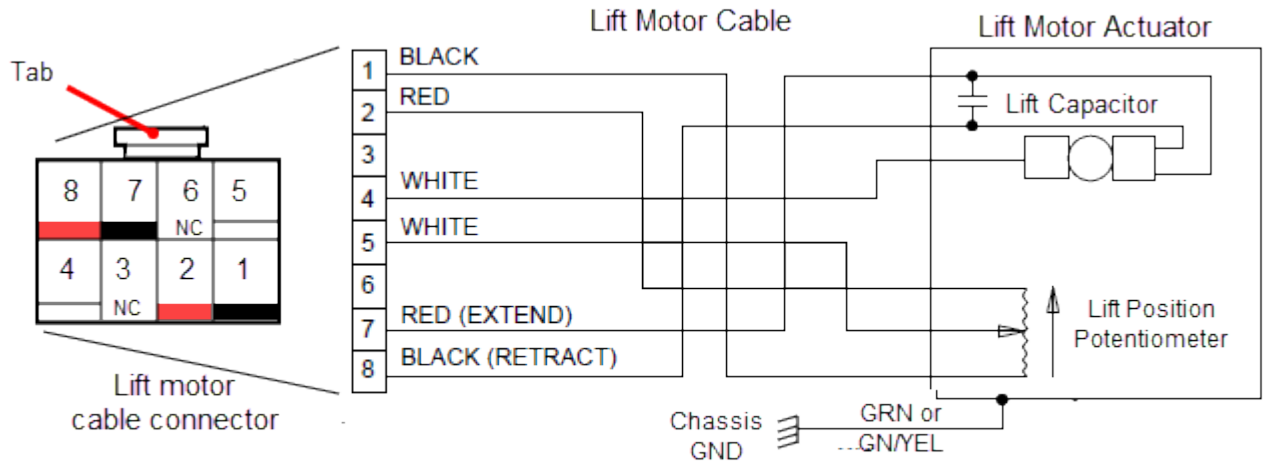
²Motor controller or motor controller module

³Touchscreen console Control Processing Assembly.

The Incline Test diagnostic test will allow the incline to be changed without the running belt movement requirement. The Incline Test also allows lift incline control during an out-of-range lift position fault. This allows recovery from an out-of-range fault condition.

Lift motor schematic

"Lift Platform Replacement" on page 157



Lift Motor Schematic

Procedure

1. Switch the input power OFF. Visually inspect the lift motor cable wires for damage (torn insulation, bare wires, shorted/open wires, etc.) and MC module I/O¹ connectors for any damaged pins, shorted pins, or improperly crimped connections.
2. Switch the power ON. Verify the lift system operation, If there are still faults with the lift system, continue procedure.
3. Review the Error Log and record any current and past lift system error codes. Then use the *Error Code Troubleshooting Guide* (see [Error Code Troubleshooting Guide](#)) to isolate and resolve the fault condition.
 - a. Along with the Error Code and Troubleshooting Guide, review the following supplemental information to help troubleshoot and resolve any failures.

Additional Information

Use the following additional troubleshooting information along with the *Error Code and Troubleshooting Guide* to help troubleshoot and resolve any failures

Error Code 40 "NO Lift Motion Detected"

Use the *Error Code Troubleshooting Guide* (see [Error Code Troubleshooting Guide](#)) for troubleshooting and repair information.

¹Input and Output Interface.

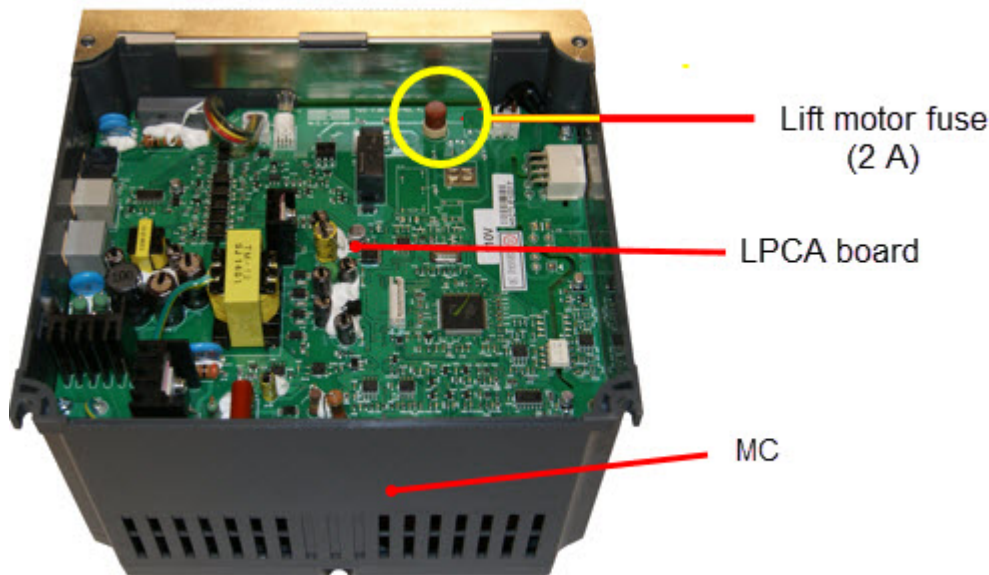
Possible Fault Causes:

- Lift motor cable connector pins damaged or not properly seated (plugged in)
 - Damaged lift motor windings.
 - Lift platform is physically jammed and unable to move.
 - Lift fuse is blown (open).
 - Bad MC lift motor control circuitry.
1. Check for damaged lift motor cable wiring and/or connectors:
Inspect the lift motor cable wires and connector pins for damage which could cause an open or short circuit condition. Make sure the cable connector is properly connected and seated to the MC LIFT connector. Test the incline lift system operation. If the lift system does not correctly operate, continue procedure.
 2. Switch the input power OFF. Disconnect the MC LIFT connector. With an ohmmeter, measure between terminals 5 (white) & 1 (black) and 5 (white) & 2 (red) of the lift motor cable LIFT connector. Both readings should be approximately 12 ohms for a 120VAC lift motor and approximately 24 ohms for a 240 VAC¹ lift motor. If either reading is significantly high or open replace the lift motor
 3. Disconnect the lift motor tube from the lift platform. If the lift platform is jammed, disconnect the lift motor from the lift platform. If the lift tube or lift nut is jammed against the motor housing, rotate the lift nut or lift tube away from the motor housing:
 - a. If the lift motor was jammed, make sure the lift fuse is good. Do the *Check for a blown lift motor fuse* step.
 - b. If the lift motor was jammed, recalibrate the lift motor and reinstall the lift motor into the lift platform, see "[Lift Motor Calibration](#)" on page 60.
 - c. Verify the lift movement and operation. If there are remaining lift motor fault conditions, continue procedure.
 4. Check for a blown lift motor fuse:
 - a. Remove the MC, see "[Motor Controller \(MC\) Replacement](#)" on page 100.
 - b. The lift motor fuse (2 Amp) is located on the LPCA² board in the MC module. Remove the MC bottom cover to access the fuse. Use a small standard screwdriver to unsnap the clip fasteners and remove the cover.
 - c. Remove the fuse and use a multimeter to measure the resistance across the fuse leads. The resistance will read almost zero ohms for a good fuse. Any high or infinite resistance reading indicates the fuse is bad (open circuit).
 - d. Replace the fuse if bad. Switch the power ON. If the fuse immediately blows after power up, troubleshoot the issue causing the blown fuse including: lift motor

¹voltage in an alternating current circuit

²Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

cable wires or connector pins short circuiting (inspect cable), a short circuited lift motor capacitor (see *Verify the lift motor capacitor* step), or a bad MC lift switch can cause the lift platform to jam which in turn can cause a blown lift fuse (see *Lift motion in only one direction* step).



5. Verify the lift motor capacitor.

The lift capacitor is mounted inside the lift motor. If the lift capacitor is shorted, the lift fuse will blow (open). If the lift capacitor is leaky, it may work for lighter people and not for others. If the lift capacitor is open, the lift platform will not move.

- a. Shorted lift motor capacitor test: Disconnect the lift motor connector from the MC and using an ohmmeter measure between pins 7 (red) 8 (Black) of the lift motor connector. If the resistance is 0 ohms, replace the lift motor.
- b. Leaky or Open lift motor capacitor test: Connect the lift motor cable connector to the MC. With the incline below 15% (to allow room for lift travel), measure the AC voltage between pins 7 (red) and 8 (Black) of the lift motor connector. Select the manual running program and press the INCLINE UP control. The AC voltmeter should momentarily read between 1.5 to 2.0 times the AC line voltage. If this reading is significantly low, replace the lift motor. Note that the AC line voltage reading will only be present for a short period before an error condition is displayed

6. Lift motion in only one direction:

A failed MC lift switch or failed lift motor winding can cause this failure.

- a. A shorted MC lift switch will cause uncommanded UP or DOWN lift movement as soon as the machine is powered up. Typically this fault will cause the lift platform to be jammed and it will also probably cause the MC lift fuse to blow. If the lift moves as soon as the power is turned on and eventually jams, the MC must be replaced. Refer to error code 44 for more information.

- b. An open MC lift switch will cause the lift to only move in one direction. Perform the following steps to determine if the switch is open:
 - i. Move the incline below 15% to allow room for lift upward travel. Disconnect the MC LIFT connector and connect an AC voltmeter between terminals 4 (white) & 7 (red) of the MC LIFT connector (see lift motor schematic). Select the manual program mode and press the INCLINE UP control. The AC voltmeter should read AC line voltage (either 120VAC or 240VAC). Note that the AC line voltage reading will only be present before an error condition is displayed. A correct reading verifies that the lift UP switch is working properly. If the UP switch test failed, replace the MC.
 - ii. Move the incline above 80% to allow room for lift downward travel. Connect an AC voltmeter between terminals 4 (white) & 8 (black) of the MC LIFT connector. Set the treadmill in the manual program and press the INCLINE DOWN control. The AC voltmeter should read the AC line voltage (either 120VAC or 240VAC). Note that the AC line voltage reading will only be present before an error condition is displayed. A correct reading verifies that the DOWN switch is working properly. If the DOWN lift switch test fails, replace the MC.
 - c. If the MC lift switch is good, then the lift motor winding is bad. The lift will not operate in one or both UP/DOWN directions depending on the exact fault in the motor, replace the lift motor.
7. If the lift system does not work after performing the previous troubleshooting tests, remove the bad lift motor and place on the floor in front of the treadmill. Substitute a known good lift motor. Make sure the MC Lift fuse is good and then verify incline operation.
- a. If the good lift motor works, replace the original bad lift motor.
 - b. If the good lift motor does no work, replace the MC module.



CAUTION: Do NOT substitute MC modules or the replacement MC could be damaged.

See Also

"System Troubleshooting Procedures" on page 180

Running Belt Troubleshooting

The TRM700/800 series treadmill provide the following diagnostic tools to help isolate and resolve running belt issues:

- Belt Rating parameter that indicates the condition of the running belt.
- Diagnostics Belt Speed Test can be used to monitor the drive motor load current (Higher than typical motor current indicates a worn belt/deck condition)
- On P62, P80, and P82 consoles, the Club Setting > Maintenance menu provides additional diagnostics to help determine the condition of the running belt and deck: Recommended Action, Operating Condition, and Belt Rating status information.

Belt Rating Information

- Belt Rating indicates the condition of the belt ranging from 10 (New) to 0 (Fully worn):
 - 10 - New Belt
 - 1 or 0:- Fully worn, replace the belt
- Belt Rating parameter can be viewed in the following menus:
 - P10, P30, P30i and P31: **Information Display (65): > Belt Rating**
 - P62, P80, and P82: **Club Settings (5651565) > Maintenance menu > Belt Rating**
- The amount of belt/deck friction increases as the belt rating number approaches 0. As the friction increases so does the amount of motor current required to move the belt. Typically cleaning the belt and deck will reduce friction causing the drive motor to work less resulting in a higher belt rating number.
- Belt rating is an algorithm that incorporates the average drive motor load current (and other parameters) of the last 100 5.5 mph to 12.5 mph workouts to derive the belt rating wear number.
- P10, P30, P30i and P31: The Belt Rating menu is also used to clear the history and reset the belt rating number of averages to 10. The service tech should reset the belt rating after each belt/deck replacement (hold **QUICKSTART** down).
- When the belt rating reaches 1 or 0, the **ASL**¹ (Active Status Light) state will go to the blue flashing state.
- The ASL will automatically change back to blue solid when the belt rating has moved above 1 (2 thru 10).

Procedure

1. Go to the console service menu and read the **Belt Rating** parameter:

P10, P30, P30i and P31 consoles: Information Display (65) > Belt Rating

¹Active Status Light: Service and maintenance status light.

P62, P80, and P82 consoles: Club Settings (5651565) > Maintenance menu > Belt Rating

2. Do the troubleshooting instruction for the current Belt Rating number:

Belt Rating 2 thru 10:

1. Clean the belt and deck, see "[Running Belt and Deck Cleaning Procedure](#)" on page 211.
2. On P10, P30, P30i and P31 consoles. Reset the Belt rating to 10 by holding down the **QUICKSTART** key while viewing the Information Display > Belt Rating parameter.
3. On P62, P80, and P82 consoles: Reset the Next Maintenance Due (**Club Settings (5651565) > Maintenance > Recommended Action > Next Maintenance Due**) and Operating Condition (**Club Settings (5651565) > Maintenance > Recommended Action > Operating Condition**).
4. Run a manual workout between 6 and 11 mph and verify that the Belt Rating is a higher number and that the ASL has returned to Solid Blue.
5. If the ASL light has returned to the Pulsing Blue state, replace the belt and deck surface (either flip the deck or replace deck if both surfaces are used.).

Belt Ratings 1 and 0:

1. Replace the belt and deck surface (either flip the deck or replace deck if both surfaces are used.).
2. On P10, P30, P30i and P31 consoles. Reset the Belt rating to 10 by holding down the **QUICKSTART** key while viewing the Belt Rating parameter (**Information Display > Belt Rating**).
3. On P62, P80, and P82 consoles: Reset the Next Maintenance Due (**Club Settings (5651565) > Maintenance > Recommended Action > Next Maintenance Due**) and Operating Condition (**Club Settings (5651565) > Maintenance > Recommended Action > Operating Condition**).
4. Run a manual workout between 6 and 11 mph and verify that the Belt Rating is a higher number and that the ASL state has returned and remains Solid Blue.

Preventive Maintenance

About

Preventative maintenance is proven to extend the life of the equipment, improve the user experience, and keep maintenance problems and service calls to a minimum.



IMPORTANT: It is the responsibility of the owner to maintain equipment in accordance with the Precor recommended preventative maintenance schedule. Following the preventative maintenance schedule is required to maintain warranty coverage.

Maintenance Schedule

Preventative maintenance tasks are grouped into Daily, Weekly, Monthly, Quarterly, and Semi-annual scheduled maintenance tasks (scheduled maintenance tasks are equipment model specific). Refer to the equipment maintenance guide for schedule and maintenance task information:

Preventative Maintenance Guide: [Cardio Equipment Maintenance Guide](#)

Preventative Maintenance Guide: [Console and PVS Maintenance Guide](#)



TIP: You can also download the Preventative Maintenance Guide from the [Precor.com](#) equipment home page.



IMPORTANT: If you determine that the equipment needs service, disconnect all power connections (television, Ethernet, and power) and move the equipment away from the exercise area. Place an OUT OF SERVICE sign on the equipment and make it clear to all patrons and other users that they must not use it.

Precor Preventative Maintenance Plan

Precor offers a Preventative Maintenance Service Plan that uses Precor-certified technicians to perform the equipment regularly scheduled weekly, monthly, quarterly, and semi-annual maintenance tasks. For more information and to sign up, visit the [Preventative Maintenance Program](#) web site.

Running Belt and Deck Cleaning Procedure

Review the entire procedure before beginning.

1. Verify the proper operation of the safety **Stop** key.
 - a. Stand to one side of the treadmill - Do not stand or allow others to stand on the treadmill running belt during this procedure. Ensure that the stop key tether is hanging straight down and is not wrapped around the handle bars.
 - b. Select **Quick Start** and wait for the running belt to begin moving
 - c. When the running belt is moving, push the **SAFETY STOP** key.
 - d. Ensure the running belt stops moving, then reset the **SAFETY STOP** key.
 - e. Turn the power switch to OFF. The **ON/OFF** switch is located at the front of the treadmill.



WARNING: If the running belt does not stop, turn off the power using the ON/OFF switch at the front of the treadmill and **unplug**¹ the power cord. The treadmill must remain out of service until the stop switch is repaired.

2. Get a clean, dry cotton towel that is at least 36 inches (1 meter) in length and fold it in half lengthwise.
 - a. Lift the running belt and push the towel through to the other side so that both ends of the towel extend an equal distance over the deck trim on both sides.
 - b. Push the towel forward to the front of the machine so it is located beneath the **SAFETY STOP** key.
 - c. Turn the power switch to **ON**.
3. Stand on the machine straddling the running belt placing your feet on the left and right trim landings. Attach the stop key tether clip. Do not stand on the running belt at any time. Stand firmly on both ends of the towel keeping your feet off the treadmill running belt. Brace yourself using the handlebars or side hand rails. Push the **Quick Start** button once in position.

¹Disconnect a device power cord plug or cable connector from the power receptacle or outlet.



CAUTION: You have approximately 3 seconds before the treadmill running belt begins to move after pressing Quick Start. Ensure you are in the proper position.



WARNING: Press the safety stop key if the towel becomes loose to prevent it from being pulled into the treadmill's rollers.

4. The treadmill will begin to run at 1 mph. Allow the treadmill to run for one minute while keeping the towel firmly in place.



WARNING: Do not adjust the treadmill's speed or run it higher than 1 mph.

5. After one minute, stop the treadmill by pressing the **STOP** button.
6. When the belt has fully stopped moving, remove the **STOP** key tether, exit the treadmill, and turn the power switch to **OFF**.

7. Grasp both sides of the towel and run it up and down the length of the belt several times to clean the top of the deck.
8. Remove the towel from beneath the belt.
9. Turn the power switch to **ON**.
10. Verify operation and return to service.

Theory of Operation

What's New

The TRM700-16 features and differences from previous generation TRMs including:

- Updated self lubricating running belt with no wax deck
- No Dynamic Brake Resister (**DBR**¹)
- Redesigned dash and arms
- Service/maintenance Active Status Light (**ASL**²)
- Supports the P30, P62, and P82 consoles
- TRM700-16 and TRM800-14 use common base platform
- Ground Effects Impact Control System (**GFX**^{3®})
- Integrated Footplant Technology (**IFT**^{4™})

Console Upper PCA and Base Lower PCA Operation

Console - Upper PCA board (UPCA)

The console provides the user interface operational control inputs, the metric indicator information, and the console-to-base communication interface. The console **Upper PCA**⁵ board (**UPCA**⁶) sends the input control commands to the base **Lower PCA**⁷ board (**LPCA**⁸). The console also receives error code data from the base which is used to maintain the Error Log

¹1) DB or DBR: treadmill dynamic break resistor. 2) DB: power measured in decibels (dB).

²Active Status Light: Service and maintenance status light.

³Ground Effects Impact Control System: Patented treadmill design that out performs a natural running surface, absorbs high-impact movement, reduces joint stress and minimizes fatigue and supports a solid and controlled push off.

⁴Integrated Footplant Technology: IFT recognize this change in speed when your foot strikes the belt and adjust to match every stride, resulting in a smooth, fluid feel that enhances the workout experience.

⁵Upper printed circuit assembly; generally refers to the console.

⁶Upper PCA board

⁷Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

⁸Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

service menu. The console also controls and sends the **ASL**¹ status state (based on the received error codes) to the base.

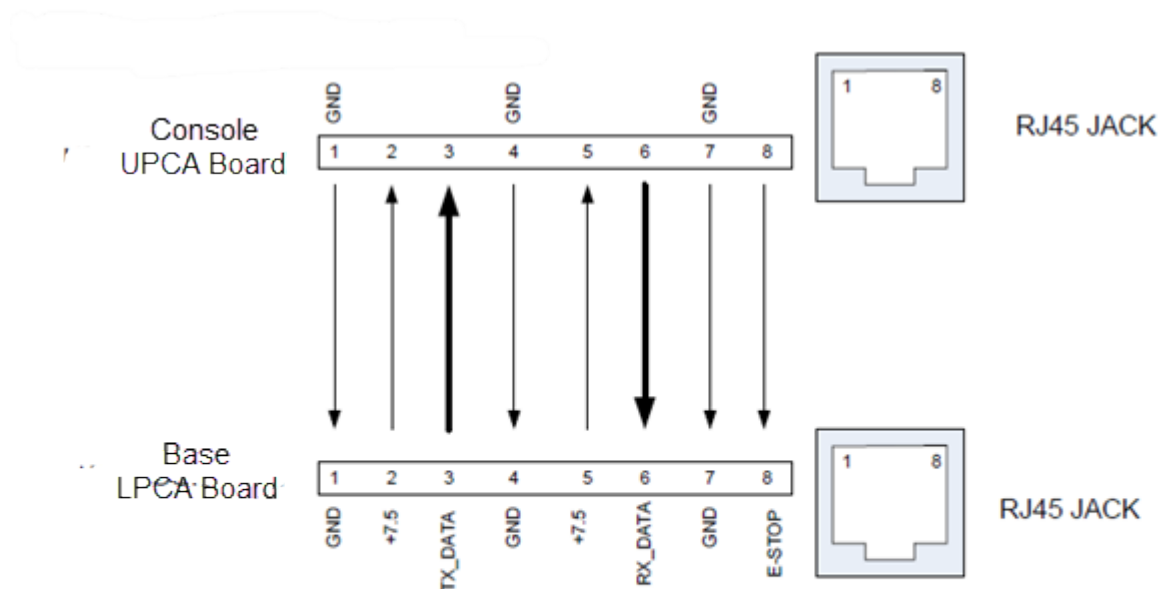
The LPCA makes use of two main processors: the Master (also referred to interchangeably as “Major”) and Slave (also as “Minor”).

Base - Lower PCA board (LPCA)

The base Lower **PCA**² (**LPCA**³) receives machine control commands from the console and directly executes the commands to control the braking, lift operation, and power ON/OFF. The LPCA also monitors error conditions and sends the detected error event code information to the console.

The LPCA makes use of two main processors: the Master (also referred to interchangeably as “Major”) and Slave (also as “Minor”).

COMM Communication Interface Cable



- TX and RX ----- 9600 baud, 8 data bits, 1 stop bit, no parity
- TX and RX signals are TTL (5 volt) levels, with 0V (start bit) to 5V (stop bit) range
- Power is provided by the Lower Control Board
 - +7.5 VDC +/- 5%
 - 1.5 amps

¹Active Status Light: Service and maintenance status light.

²Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.

³Lower printed circuit assembly; generally this refers to the lower board. On treadmills, this is the motor controller unit (MCU), and on self-powered units, it is the main board in the lower section.

Active Status Light (ASL)

Active Status Light: similar to Treadmill ASL, except that operation has been changed for self-powered machines. A separate microprocessor and software on the LPCA control the color and flashing of the LED. A button near the light is used to wake up the entire system temporarily to check its color, and to clear the status color if pressed long enough. Active Status Light processor receives simple commands from the Console, see "[Active Status Light \(ASL\)](#)" on page 174.



Off

- > Power is OFF
- > Possible hard failure
- > ASL brightness OFF



**Solid
Blue**

- > All OK



**Pulsing
Blue**

- > Maintenance due



**Solid
Yellow**

- > Recovered fault condition

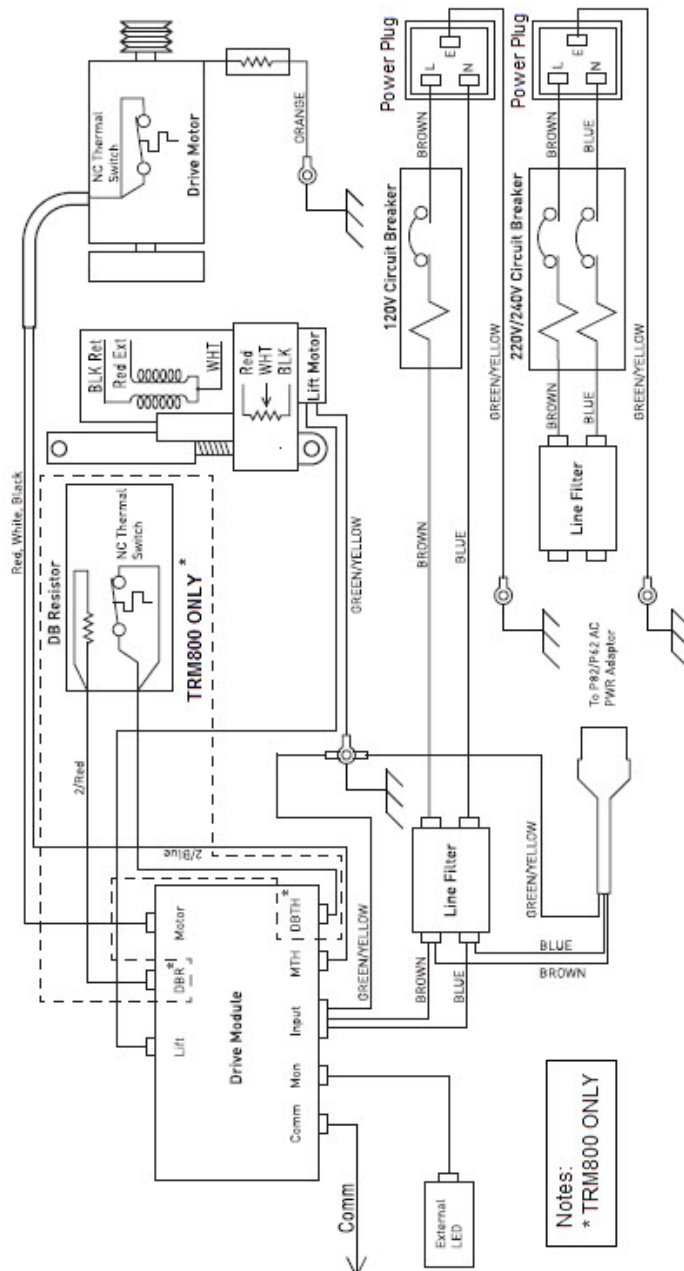


**Pulsing
Yellow**

- > Non-recoverable fault

System Wiring Diagram

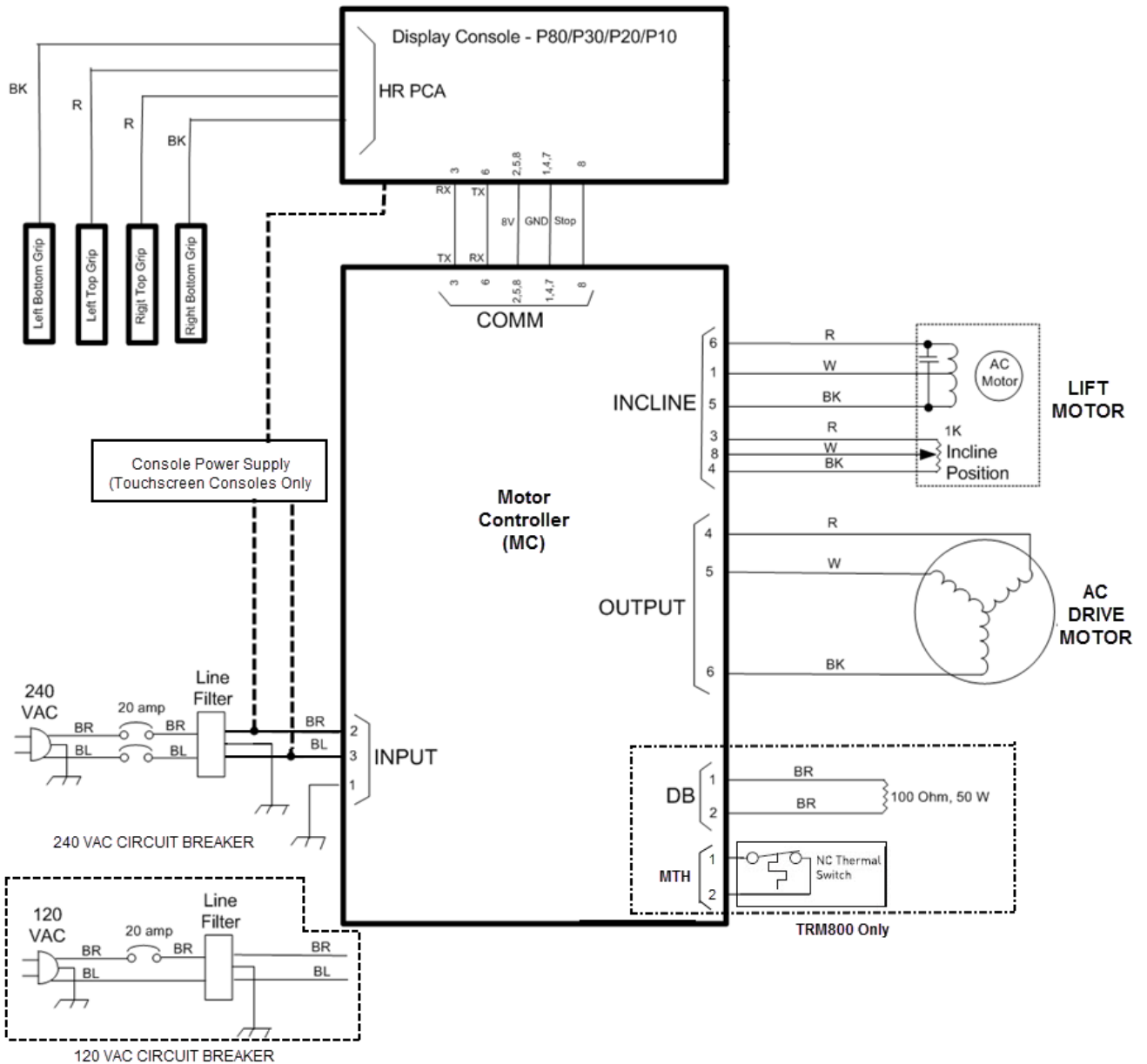
System Wire Diagram Overview



TRM800/TRM700 SYSTEM WIRE DIAGRAM

Notes:
* TRM800 ONLY

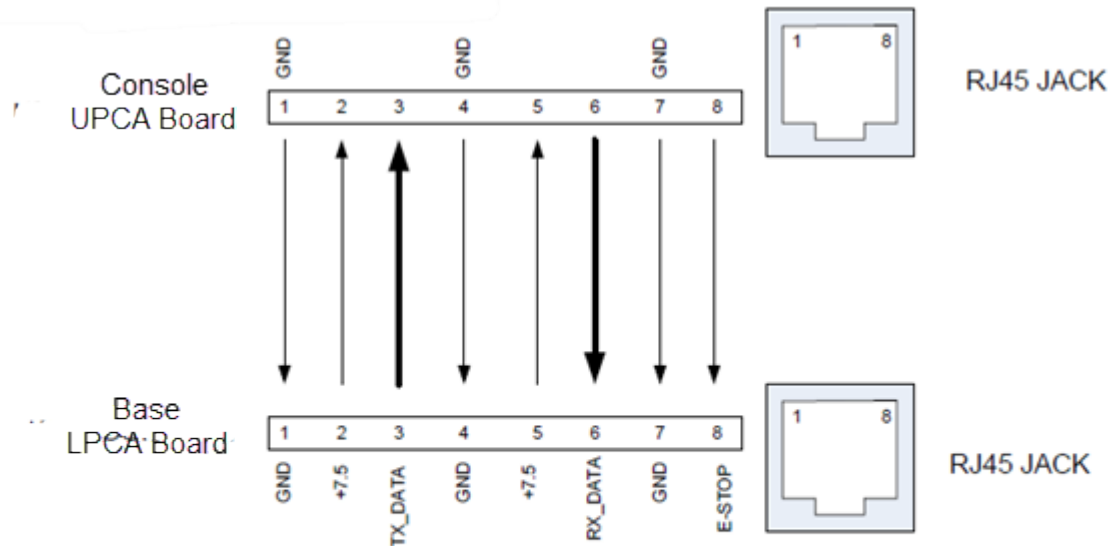
System Wire Diagram - Connector Pins



TRM800 SYSTEM WIRE DIAGRAM - CONNECTOR PIN CALLOUTS

COMM Cable Wire Diagram

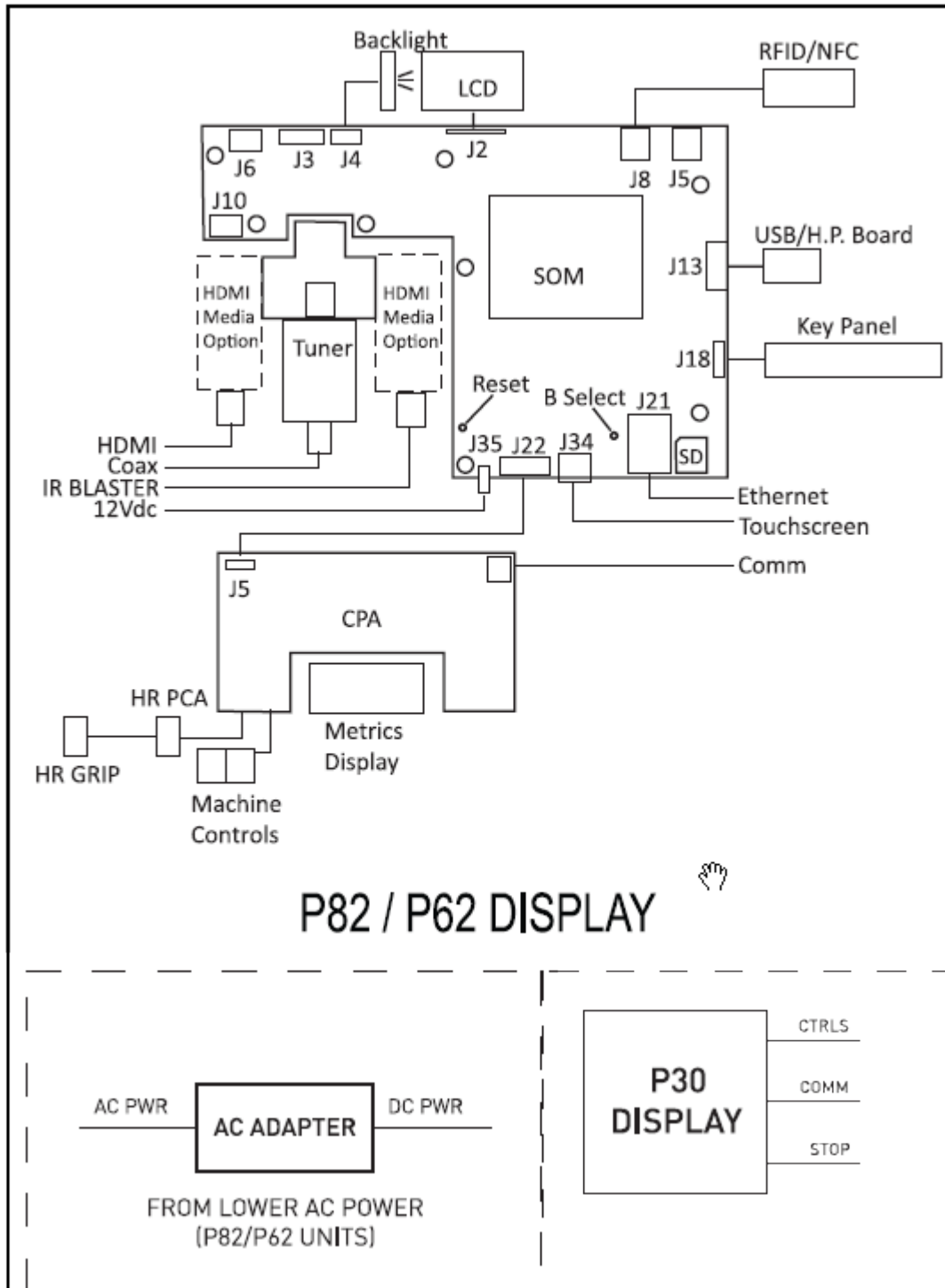
COMM Cable Wire Diagram



- TX and RX ----- 9600 baud, 8 data bits, 1 stop bit, no parity
- TX and RX signals are TTL (5 volt) levels, with 0V (start bit) to 5V (stop bit) range
- Power is provided by the Lower Control Board
 - +7.5 VDC +/- 5%
 - 1.5 amps

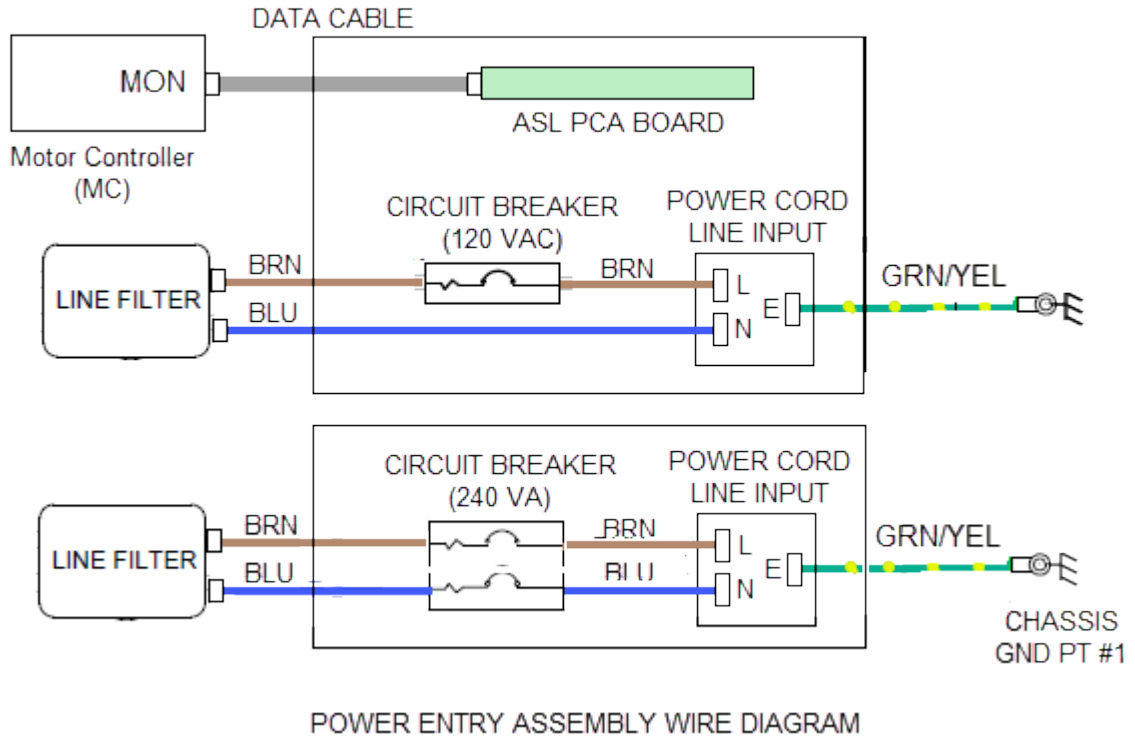
Console Wire Diagram

Console Wire Diagram



Power Entry Assemble Wire Diagram


Power Entry Assembly Wire Diagram



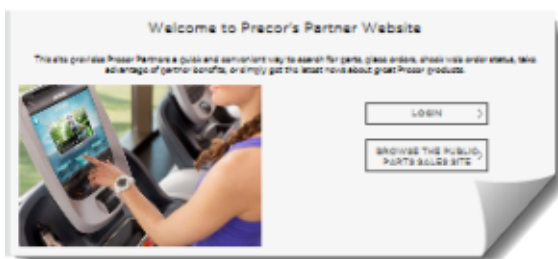
Parts Exploded View Diagram & Parts List

About

The following copies of the equipment "*Exploded View Diagram*" and "*Parts List*" are provided for you to use as a quick reference.

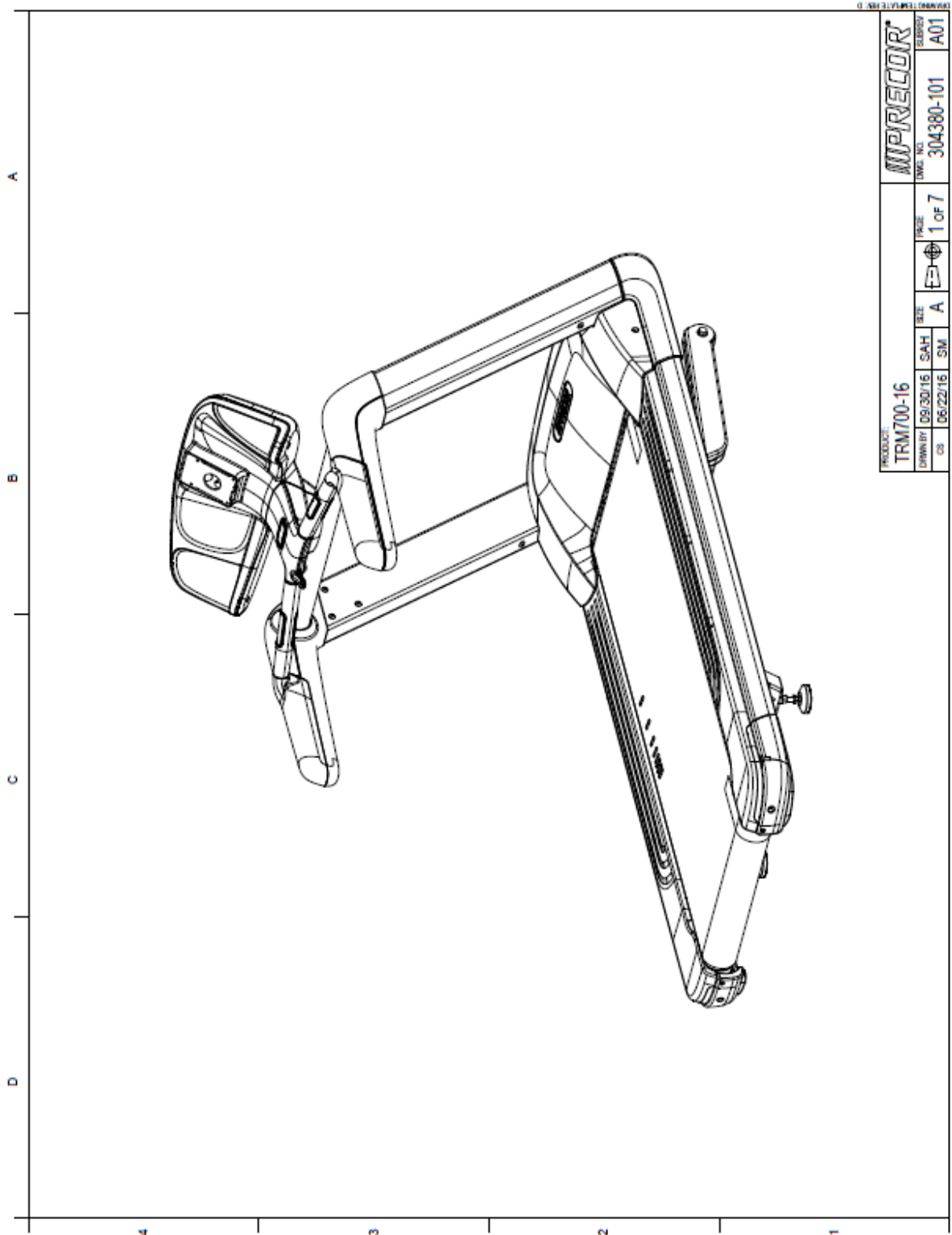
It is recommended that you go to the servicer partners  [Precor Connect](#) website to view the most current *Exploded View Diagram* and *Parts Identification List* information.

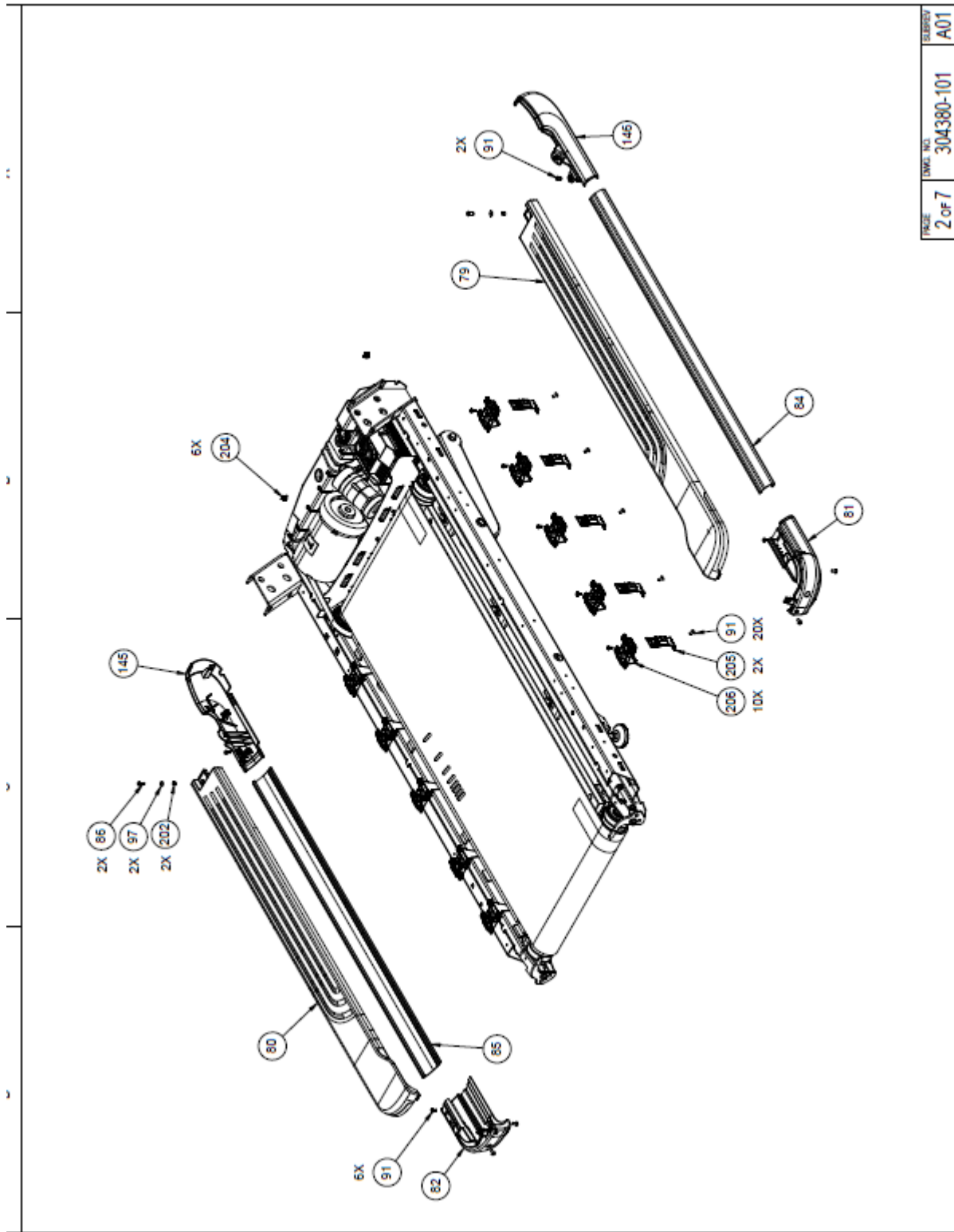
-  [Precor Connect Partner](#) website

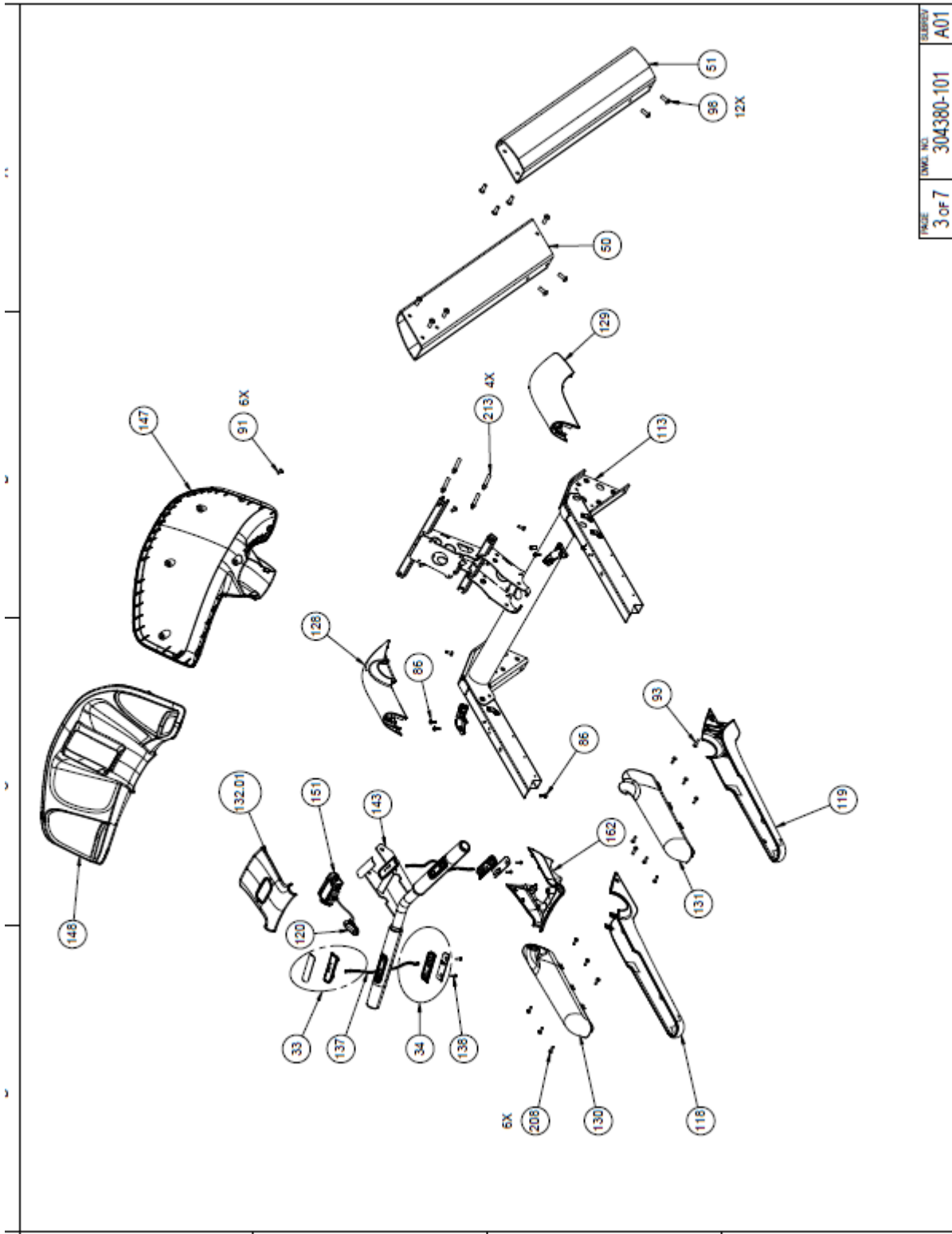


IMPORTANT: Always purchase OEM replacement parts and hardware from Precor. If you use parts not approved by Precor, you could void the Precor Limited Warranty. Use of parts not approved by Precor may cause injury.

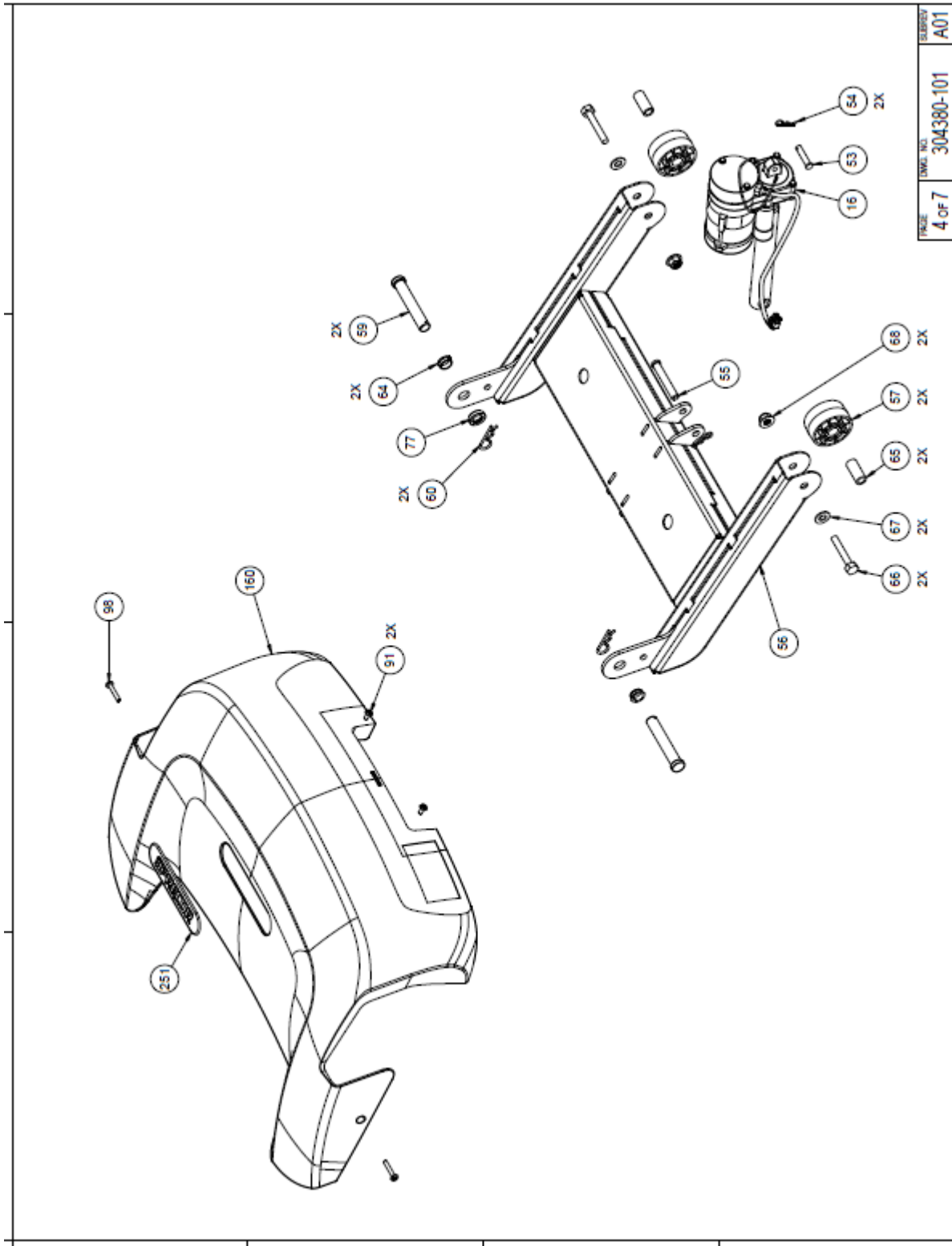
Exploded View Diagram







PAGE	3 of 7	DRAWING NO.	304380-101	SUBJECT	A01
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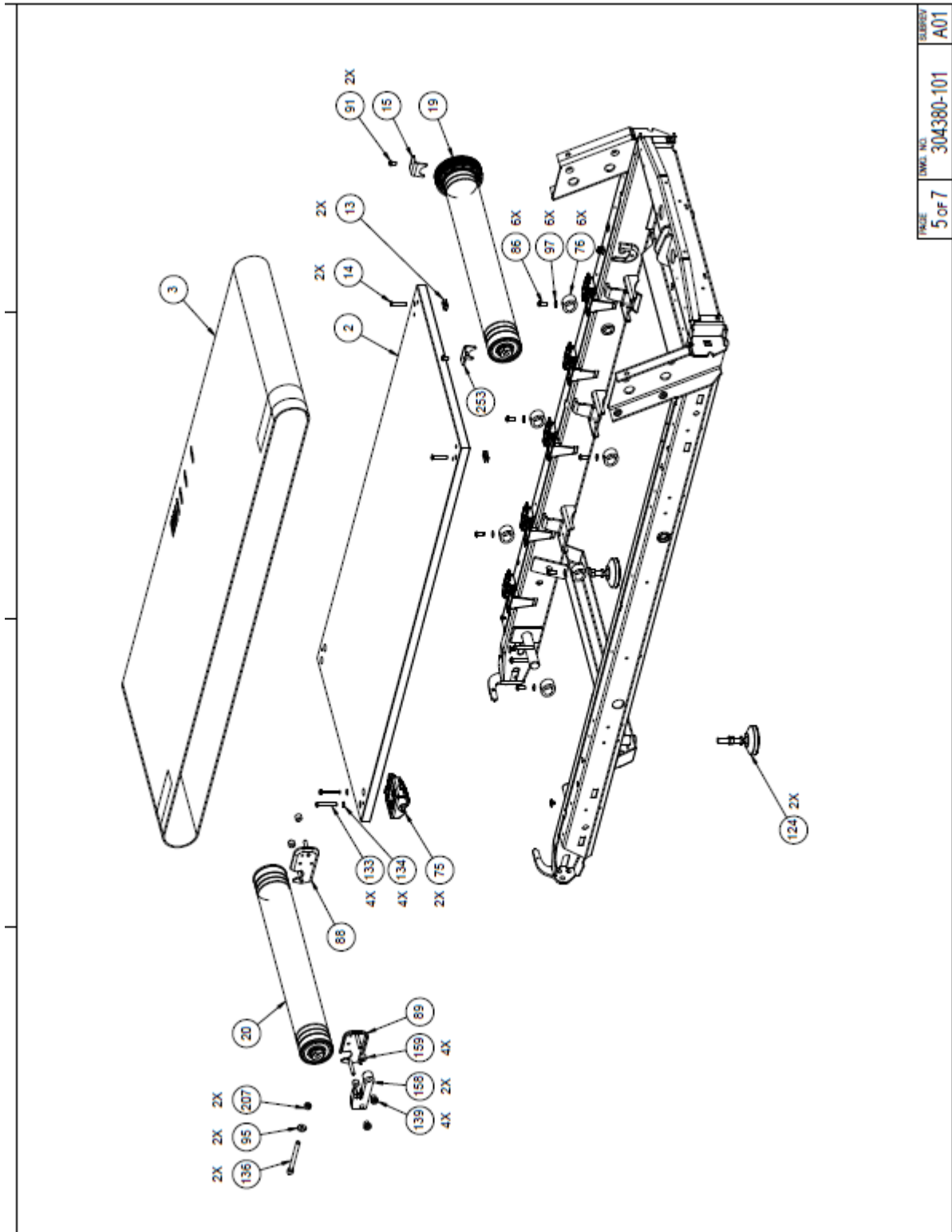
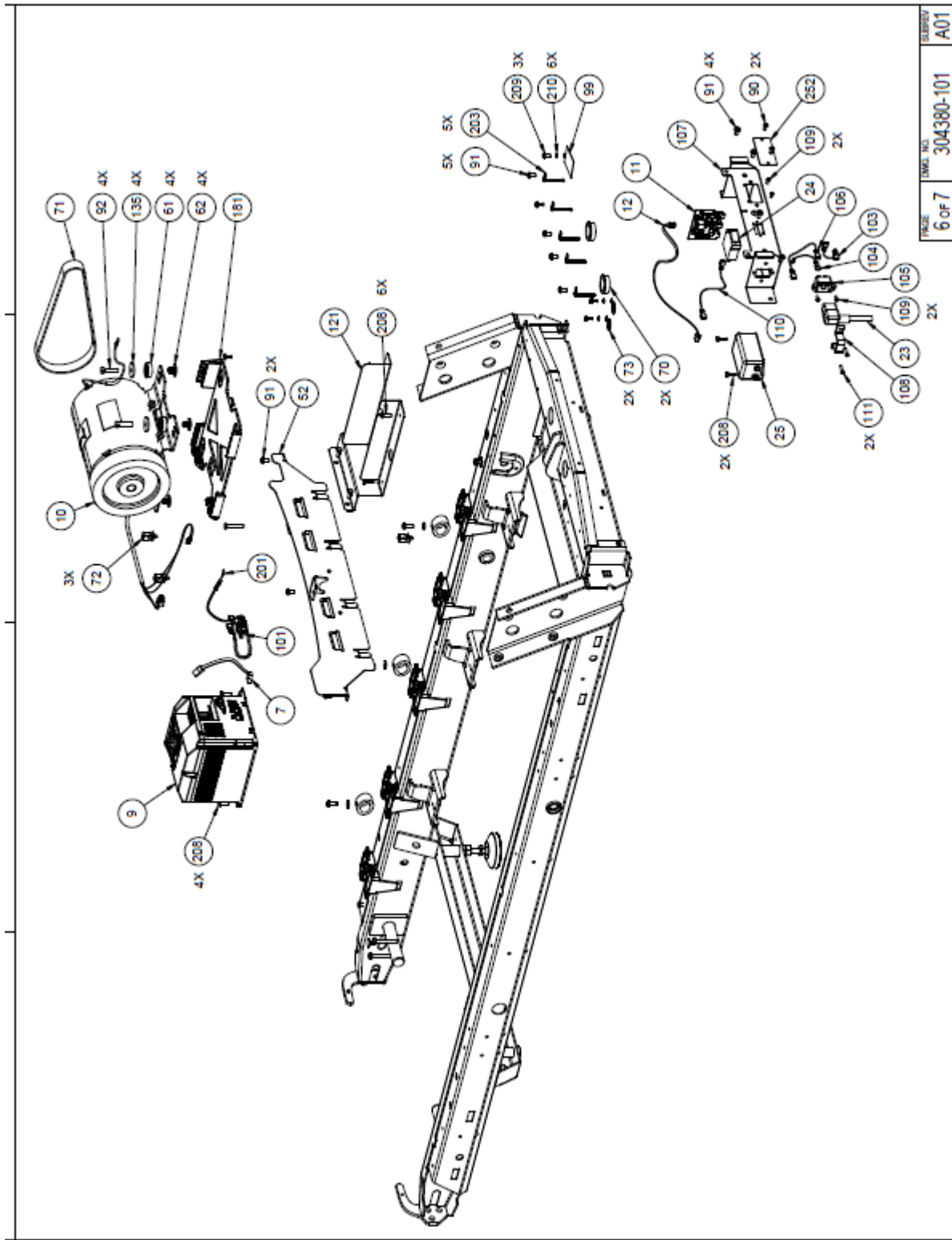


IMAGE	IMAGE NO.	SUBVIEW
5 of 7	304380-101	A01



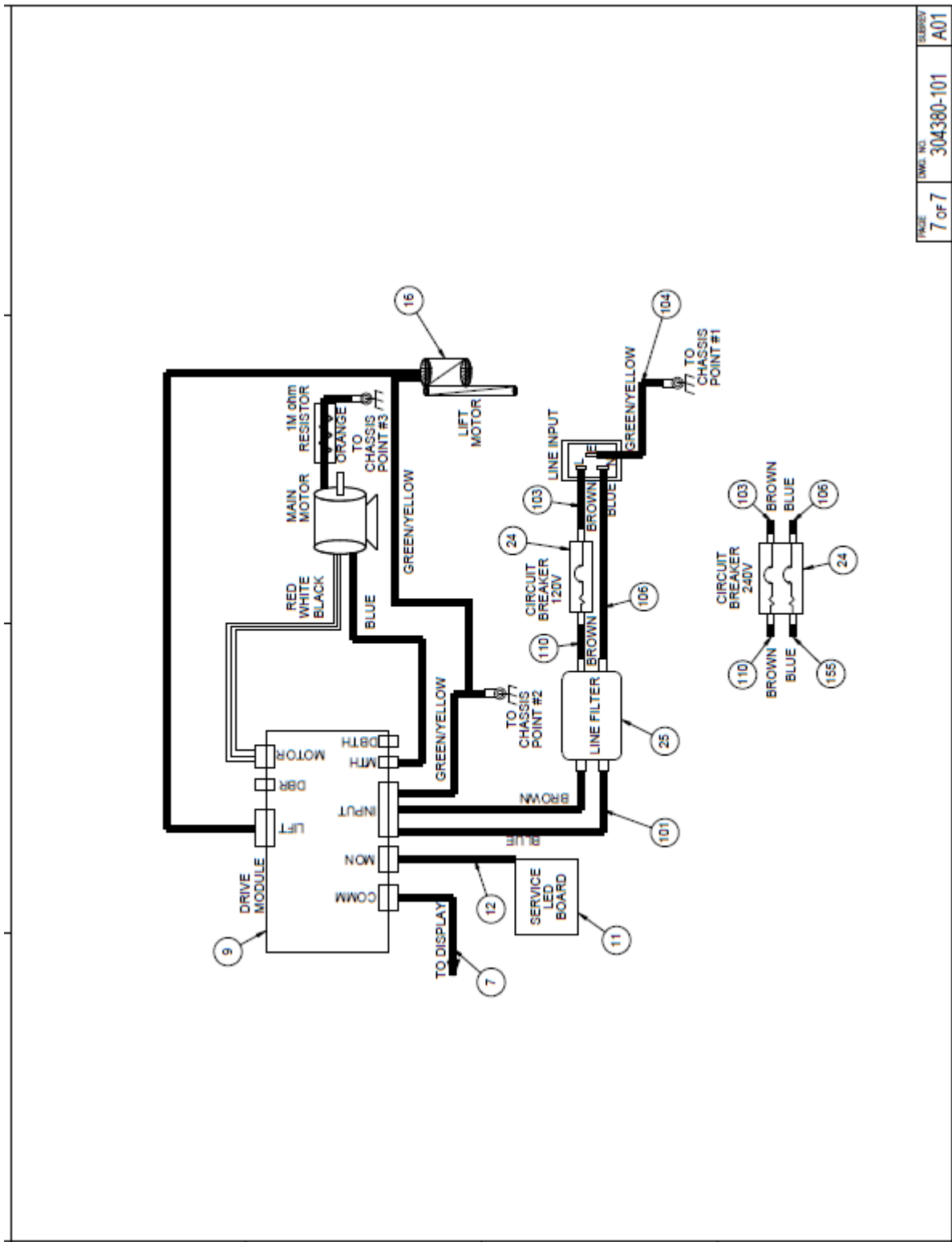


FIGURE 7 of 7
 DWG. NO. 304380-101
 RELEASED A01

Parts List

Continue to view the hard copy version.

Bubble Numbers	Item Description	SAP Material #
2	DECK W/SHIPPER,	PPP00000058097102
3	RUNNING BELT	PPP000000302449101
7	ASSY,CBL,MOD,8P8C,1-1,SILVER,108" ASSY,ADT-	PPP000000044905108
9	DRIVE,COMMERCIAL,TRM700,120V,FIXED CONFIG	PPP000000304285107
11	ASSY, SERVICE LED BOARD	PPP000000302497101
12	ASSY,CBL,MOD,6P4C,1-1,SILVER,18"	PPP000000041605018
13	CLIP, U TYPE, SPRING STEEL, KEYHOLE SLOT, 1/4-20	PPP000000013277101
14	SCREW, FLAT HD SOCKET CAP, 1/4-20 X 1.63S L, BLK SHRP	PPP0000MACTN025163
15	ROLLER KEEPER, LH	PPP000000302495101
16	MOTOR, LIFT ACTUATOR, 120V, 282S POTENTIOMETER	PPP000000302625105
19	ASSEMBLY, ROLLER, DRIVE	PPP000000302420106
20	ASSEMBLY, ROLLER, TAKE UP	PPP000000302421105
23	PWR CORD,125VAC,20A,NEMA 5-20RA45/IEC 60320 C19RA(L),144"	PPP000000047429144
24	SCKT BRKR,250V,MAGNETIC,ROCKER,1 POLE,LONG DELAY,20A,W/O GUARD	PPP000000011462143
25	FILTER, POWER LINE, #10 PANEL MOUNT, 250VAC, 16A	PPP000000011350101
33	HANDLEBAR ASSEMBLY W/ PULSE ASSY	PPP00000RX3AUH000
34	HANLDEBAR ASSEMBLY WHAND US AS	PPP00000RX3AUK000
50	TARGA EXTRUSION, LEFT, PAINTED, TRM700	PPP000000302529101
51	TARGA EXTRUSION, RIGHT, PAINTED, TRM700	PPP000000302529102
52	DUST GUARD	PPP000000302508101
53	PIN,CLEVIS, 3/8 X 1.75, ZINC	PPP000000010401106
54	PIN, HITCH, .093 DIA, ZINC, #203	PPP000000010400103
55	PIN, LIFT PIVOT, 3.34, MUSHROOM HEAD	PPP000000045669107
56	WELDMENT, LIFT PLATFORM, PAINTED	PPP000000302468101
57	WHEEL, LIFT	PPP000000044270101
59	PIN, LIFT PIVOT	PPP000000302485101
60	PIN, HITCH, .125 DIA, ZINC, #216	PPP000000010400106
61	WASHER, TOP HAT, MOTOR	PPP000000302616103
62	WASHER, BOTTOM, MOTOR	PPP000000302617102
64	BUSHING,SNAP-IN,THOMSON NYLINER,7283A- 642	PPP000000013221101
65	BUSHING, SPANNER	PPP000000036192101
66	SCREW,HEX,GR 5,1/2-13X2-3/4,BLK SHRPRZD	PPP00000HCTN050275
67	WASHER,FLAT,SAE TYP A,1/2,STL,BLK CVS	PPP00000WBZN050008
68	NUT, HEX FLANGE, NYLON INSERT, 1/2, BLK ZN	PPP0000KBTKN050055
70	BUSHING, SNAP	PPP000000010178112
71	BELT, DRIVE, 280J10 POLY V, TEM	PPP000000010214101
72	CABLE CLAMP,INSERT	PPP000000011278101
73	LABEL, SAFETY, GROUND SYMBOL	PPP000000033984101
75	ASSY, PIVOT, REAR DECK	PPP000000303380101
76	CUSHION, GFX	PPP000000302482101

Bubble Numbers	Item Description	SAP Material #
77	SPACER, LIFT PLATFORM	PPP000000302475101
79	ASSY,TRIM LANDING W/INSERT PACBL,RH	PPP000000302540104
80	ASSY,TRIM LANDING W/INSERT PACBL,LH	PPP000000302540103
81	ASSEMBLY, END CAP & TRIM KEEPER, RIGHT	PPP000000302589102
82	ASSEMBLY, END CAP & TRIM KEEPER, LEFT	PPP000000302589101
84	EXTRUSION, SIDE TRIM, RH, TITANIUM GRAY	PPP000000304036102
85	EXTRUSION, SIDE TRIM, LH, TITANIUM GRAY	PPP000000304036101
86	SCREW,SELF-TAP,TRI,PAN HD PHIL,1/4-20 X .75,STL,BLK SHRP	PPP0000PANTN025075
88	PLATE, REAR ROLLER ADJUSTMENT (INNER) LH	PPP000000302481105
89	PLATE, REAR ROLLER ADJUSTMENT (INNER) RH	PPP000000302481106
90	SCREW,SELF-TAP,TRI,PAN HD PHIL,10-24 X .50,STL,BLK SHRP	PPP0000PANTN019050
91	SCREW,SELF-TAP,TRI,PAN HD PHIL,1/4-20 X .50,STL,BLK SHRP	PPP0000PANTN025050
92	HHCS,5/16-18 X 1.25,GR5 STL,CLR ZN	PPP00000HCCN031125
95	WASHER,FLAT,TYPA,3/8,STL,CLR ZN	PPP0000WAVCN038015
97	WASHER,FLAT,1/4,STL,CLR ZN	PPP00000WNCN026006
99	LABEL, WARNING, BLEED DOWN CABLE ATTACH	PPP000000302542101
101	CABLE, FILTER TO DRIVE MODULE,10"	PPP000000303042010
102	LABEL, CHASIS NEUTRAL	PPP000000037436101
103	ASSY,CBL,1C,12AWG,250X032 QD RECP(X2),BROWN,5"	PPP000000040193005
104	CBL,1C,14AWG,.,#10 RING,250X032 QD RECP,GRN/YEL,8"	PPP000000040195008
105	IEC 16/20A POWER CORD INLET	PPP000000045381101
106	ASSY,CBL,1C,12AWG,250X032 QD RECP(X2),BLUE,9"	PPP000000302226009
107	BRACKET, POWER ENTRY	PPP000000302466101
108	BRACKET, POWER ENTRY CABLE CLAMP	PPP000000302479101
109	SCREW,PAN HD PHIL,6-32 X .375,STL,CLR ZN	PPP00000MGCN013038
110	ASSY,CBL,1C,12AWG,250X032 QD RECP(X2),BROWN,9"	PPP000000040193009
111	HHCS,MCH,#8-32 X .75,STL,CLR ZN	PPP00000HNCN016075
121	SHIELD COVER, BRAKE RESISTOR	PPP000000302622101
123	SCREW,SELF-TAP,TRI,PAN HD PHIL,#8 X .50,PLASTITE,STL,BLK SHRP	PPP0000PARTN016050
123	SCREW,SELF-TAP,TRI,PAN HD PHIL,#8 X .50,PLASTITE,STL,BLK SHRP	PPP0000PARTN016050
124	FOOT, REAR LEVELING	PPP000000302579102
133	SCREW, LOW PROFILE SHCS, ALLOY STEEL, BLK SHARPERIZE,5/16-18 X 2	PPP00000YCTN031200
134	WASHER,FLAT,NARROW,5/16,GR8 STL,BLACK SHARPERIZED	PPP00000WRTN031009
135	WASHER,FENDER,EXTRA THICK,HARDENED 5/16,1.25 OD,STL,CLR ZN,	PPP0000WABCN031011
136	BOLT, BELT TENSION, GRADE 8	PPP000000013245102

Bubble Numbers	Item Description	SAP Material #
139	NUT, BARREL	PPP000000013246101
158	EXTRUSION, REAR ROLLER ADJUSTMENT (OUTER)	PPP000000302487101
159	SPACER, REAR ROLLER ADJUSTMENT	PPP000000302493101
160	ASSY, HOOD	PPP000000302549101
161	INDICATOR, STATUS, LIGHT PIPE	PPP000000302552101
163	SCREW, SELF-TAP, TRI, PAN HD PHIL, #10 X 3/8, PLASTITE 48-2, STL, CLR ZN	PPP0000PARCN019038
181	ISOLATOR, PLASTIC MOTOR	PPP000000302614101
202	HARDWARE, COMPRESSION LIMITER 6MM X 8MM, ZINC PLATED	PPP000000013216101
203	WIRE CLAMP, .25 INCH FASTENER, METAL WRAP STYLE	PPP000000013217101
204	SQUARE PLASTI-GROMMET, 1/4 IN FSTNR, .375 SQ X .156 MAX THCK	PPP000000013222101
205	ANCHOR, SIDE TRIM	PPP000000302440101
206	TRIM LANDING, ANCHOR, MOUNTING BLOCK	PPP000000302520101
207	NUT, HEX, 3/8-24, STL, GRADE 8, CLEAR ZN	PPP0000KBPCN038034
208	SCREW, SELF-TAP, TRI, WASHER HD HEX, 10-24 X .75, STL, CLR ZN, ERIELUBE	PPP0000PBDCA019075
209	SCREW, SELF-TAP, TYPF, WASHER HD HEX/SLOT, 10-24 X .05, STL, CLR ZN, GRN	PPP0000PBJCG019050
210	WASHER, EXTERNAL TOOTH LOCK, #10, STL, CLR ZN	PPP0000WAMCN019002
251	LABEL, HOOD, ALUMINUM, NEW LOGO	PPP000000300678101
252	BLANKING PLATE, INTERFACE	PPP000000303538101
253	ROLLER KEEPER, RH	PPP000000302495102
301	BELT TRACKER, PLATED	PPP000000013486201

Appendix A : Edition Information

Edition

Title: Experience Series 700 Line Treadmills Service Manual

P/N: 20039-207

Publish Date: May 2019

Additional Documentation

You can also view the service manual online at [Online Service Manual](#)

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Appendix B : Notices and Safety

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Safety Notices

Warning and Caution notices indicate an activity that could be dangerous and cause personal injury and/or equipment damage if not adhered to. Always follow Warning and Caution instructions.

¹Adaptive Motion Trainer

²Elliptical Fitness CrossTrainer

Warning

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood.

Caution

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood.

Service Safety Guidelines

Prior to doing any machine service, review the Service Safety Guidelines, see "[Service Safety Guidelines](#)" on page 3.