PRECOR®

Service Manual

Experience™ Series 700 line

TRM700-16/18 Treadmills



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Introduction

Only Precor certified technicians are authorized to service Precor equipment. 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 VAC 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 with P30 console: (0.5-12 mph, 0-15% incline)
TRM761	TRM700 base with P 62 console: (0.5-12 mph, 0-15% incline)
TRM781	TRM700 base with P82 console (0.5-12 mph, 0-15% incline)

Service manual contents

The service manual contains information to service, repair, troubleshoot, and maintain the machine base.

This manual does not include console service and repair information, refer to the console service manual for service and repair information. However, the service manual does include information about how to use the console standard service menus, diagnostic tests, and error code log to help troubleshoot and repair machine issues.

Common Frame Update

Precor has implemented a new common frame weldment starting 05/14/2019 that is used on the TRM600, TRM700, and TRM800 Experience™ Series treadmills. This manual will provide separate service information for both the original "Legacy" frame and new "Common" frame" configurations. For more detailed information, see "TRM600/700/800 Common Frame Overview" on page 293.

Additional Service Documentation and Videos

There are additional literature and video resources available that can help you to use, service, troubleshoot, and repair the machine. Refer to *Product Literature & Videos* topic:

- "Product Literature & Videos" on page 306

See Also

"General Information" on page 5

"Product Literature & Videos" on page 306

Safety Guidelines

"Operation Verification" on page 27

"Standard Service Menus" on page 31

"Adjustment Procedures" on page 63

"Replacement Procedures" on page 91

"Troubleshooting" on page 228

"Preventive Maintenance (PM)" on page 283

"Theory of Operation" on page 290

"System Wiring Diagram" on page 301

"Parts " on page 309

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 **AMT**[1] units when the stairarms are in motion; the generator will operate and produce potentially hazardous voltages even when the battery is disconnected.
- On AMT 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 AMT 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.

[1]Adaptive Motion Trainer

[2]Personal 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.
  - Do not wear loose clothing.

See Also

"Notices and Safety" on page ii

"Safety Notices" on page iii

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.

Features

The equipment operating specifications.

Feature	Specification
Consoles	LED[1] consoles: P30, P30i and P31 Touchscreen consoles: P62 and P82
Incline	Elevation system generates up to 1000 lb / 453.6 kg of thrust and operated in compression for reliable operation. Range: -3% to 15% in 0.5% increments.
Speed	Range: 0.0 - 16 mph in 0.5 increments (0 -25.7 kph) in 0.1 kph increments)
Belt/Deck	The treadmill supports two belt/deck options: • Forbo brand running belt with pre-waxed deck. (The Forbo running belt must be used with a pre-waxed deck.) • Ammerall Beltech running belt with non-waxed deck. (The Ammeraal Beltech running belt is a wax infused belt and must NOT be used with a pre-waxed deck.)
Auto Stop	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.

[1] light-emitting diodes.

Feature	Specification
Drive Motor	1.5 kW, 230 VAC, 6.6 A , 3-phase **AC**[1] induction motor. The motor controller (**MC**[2]) implements Integrated Foot Plant Technology™ and sensorless variable frequency drive technology for high reliability and accurate speed control.
Emergency Stop (**ESTOP**[3])	Exerciser safety clip and lanyard connected to the stop switch to immediately switch off power bringing the treadmill to a stop.
Heart Rate	Heart rate sensor types: • Touch Handheld Handlebar Heart Rate sensors (**HHHR**[4]). • Telemetry Equipped for wireless heart rate monitoring using a chest strap.
Ground Effects® Impact Control System (**GFX**[5®])	Progressive shock absorption system that absorbs high impact movements and supports a solid and controlled push off.
Frame	There are two supported frame assemblies: • original legacy frame. • new common frame released 05/29/2019 used on the TRM600/700/800 models. Common frame differences: • larger size running deck: • different drive roller and frame mounts. • different take-up roller, backward compatible replacement part for the legacy frame. • different take-up roller running belt adjustment mechanism. • Added a new drive motor belt adjustment bolt mechanism. • Added a redesigned front compartment dust guard for easy

[1]Alternating Current: electric current which periodically reverses direction between positive and negative polarity.
[2]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.
[3]Emergency Stop: Safety clip and lanyard attached to the stop switch to immediately turn off power bringing the machine to a stop.
[4]Handheld Handlebar Heart Rate
[5]Ground 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.

Feature	Specification
	drive belt removal. • New landing trim and end cap covers
Max User Weight	Maximum exerciser weight: 350 lbs (159 kgs)
Dimension/Weight	Length 83 in / 211 cm Width 35 in / 89 cm Height 68.5 in / 174 cm Equipment Weight 412 lb / 187 kg

Model and Serial Numbers

Model and Serial Numbers

Model Numbers

The product model number is a six digit alphanumeric code "AAAXXX" containing the product type, product line, console type, and feature level designator:

- "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: TRM[1]833

- TRM – Treadmill
- 8 – Experience Line
- 3 – P30 console
- 3 – Fixed ramp

Product Model Number Designator Definitions

[1]Treadmill

PRODUCT TYPE	PRODUCT LINE	CONSOLE	FEATURE LEVEL	
TRM: treadmill **EFX**[1]: elliptical **AMT**[2]: AMT **UBK**[3]: Upright **RBK**[4]: Recumbent **SCL**[5] StairClimber	**8**-Experience Premium **7**-Experience *Standard* **6**-Experience *Good* **6**-Assurance *Standard* **4**-Precision, *Consumer* **2**-Energy, *Consumer*	**8**-P80, P82 **6**-P62 **4**-R40 **3**-P30, P31 **2**-P20/R20 **1**-P10	**7**	EFX: Mov Ramp/Cnvrt Arms
			5	TRM: High Speed/Decline AMT: Moving Step Height EFX: Mov Ramp/Mov Arms RBK: Standard features UBK: Standard features **SBK**[6] Standard features
			3	TRM: Fixed Ramp AMT: Fixed Step Height EFX: Moving Ramp/Fixed Arms
			2	EFX: Man Ramp/Mov Arms
			1	EFX: Fixed Ramp/Moving Arms

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.

[1]Elliptical Fitness Crosstrainer
[2]Adaptive Motion Trainer
[3]Upright Bike
[4]Recumbent Bike
[5]StairClimber
[6]Spinner Indoor Cycle



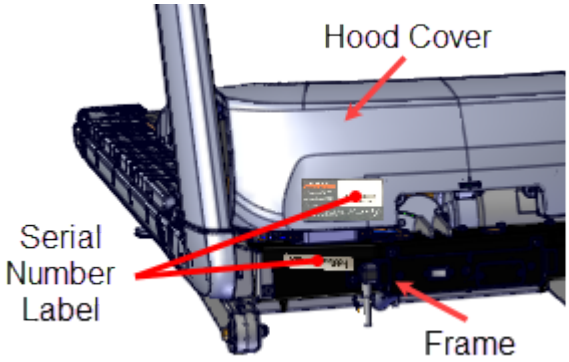
PART	MEANING
AGNB	Model
F	Month built
17	Day built
14	Last 2 digits of year built
0021	Consecutive daily build number

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

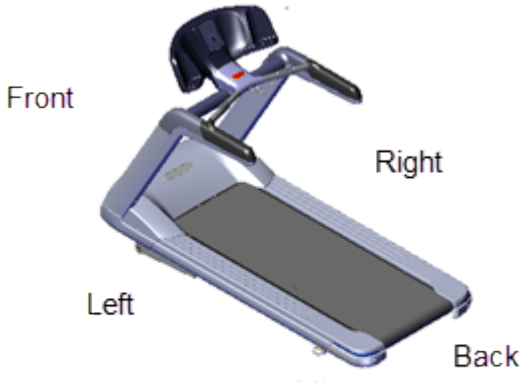
The serial number label is located on the left side of the hood and on the left side of the front frame weldment underneath the hood.

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.



Orientation

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

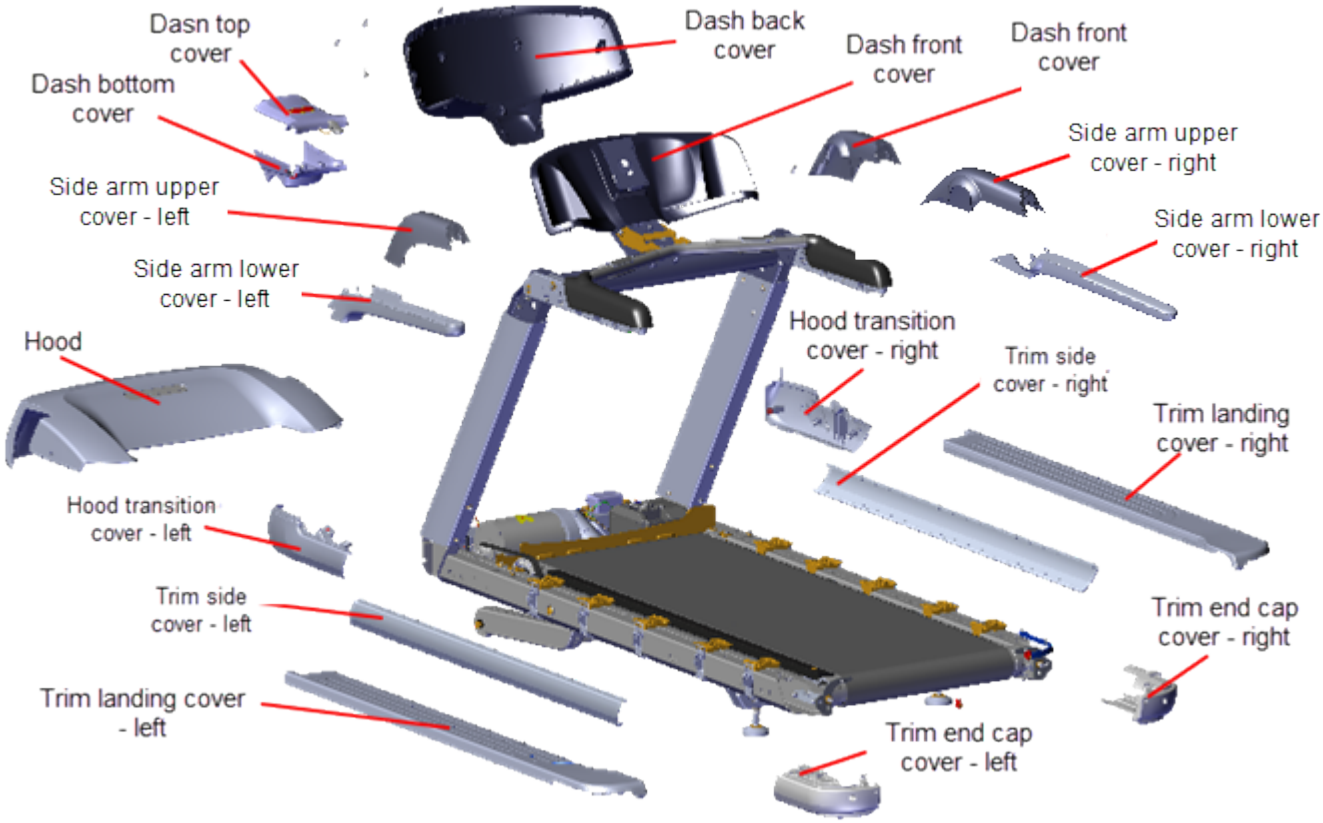


TRM700-16 Base

Covers and Panels

Covers and Panels

Equipment cover and access panel locations.



For cover removal and installation, see "Covers and Panels Replacement" on page 92.

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
- **DVM**[1] meter
- AC 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
- Standard straight slot tip screw drive set
- Philips tip screwdriver set
- US & metric Allen wrench set
- 7/16” Allen key, socket mounted
- Pliers
- Inner and outer snap ring pliers
- **Torque**[2] 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**[3] chest strap or Polar HRM simulator xmitter (Precor PN: PPP000000020045101)
- Vacuum cleaner (recommend **ESD**[4] safe model)

Supplies

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

[1]digital volt meter

[2]Torque 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 newton's of force applied one meter from the center of the bolt, 6 ft-lb is equivalent to 6 lbs of force applied 1 foot away from the center of the bolt.

[3]Heart Rate

[4]Electrostatic Discharge or Electrostatic Sensitive Device.

locker

Specification Summary

Fastener Torque Specification

System component fastener torque specification:

System Component	Specification
RF[1] coax connector	2.4 in-lbs (0.271 Nm)
Display mounting fasteners	180 in-lbs (20 Nm
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)
Drive Motor fasteners	204 in-lbs (17 ft-lbs, 23 N-m)

Calibration Specification

System calibration specification:

System Component	Specification
Lift Motor Jackscrew 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)

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

System Component	Specification
Drive Motor fasteners	204 in-lbs (17 ft-lbs, 23 N-m)
Ammeraal brand running belt tension (gauge/-percent)	0.7% - 0.8% (dial 3.7 - 3.8)(2)
Forbo brand running belt tension (gauge/-percent)	0.5% - 0.6% (dial 3.5 - 3.6)(2)
Habasit brand running belt tension	0.70% - 0.80% (dial 3.70 - 3.80)(2)
(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 0.0% (dial 3.0).	

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.

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

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 chapter (see Parts)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*.

Online parts information using Precor Connect

- Precor Connect Partner website

Local hard copies

- Exploded View Diagram and Parts List, see "Parts " on page 309.

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): • 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 and procedures to safely clean and prevent damage to the machine surfaces.

Approved Cleaning Products

Approved equipment and console 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).
  - Enivir O Safe oxygen enhanced cleaner or Enviro Safe glass and multitask cleaner concentrate.
- **Consoles and PVS[1] displays**: a diluted solution of one part 91% Isopropyl alcohol to one part water.

Cleaning Procedure

Generic cleaning procedure applicable to all Precor equipment:

TIP: There are many product specific **PREVENTATIVE MAINTENANCE** cleaning videos available on the Precor Connect **SERVICE VIDEOS** web page. Log in to your Precor Connect servicer account and select SERVICE VIDEOS, see

[1]Personal Viewing System display.

SERVICE VIDEOS.

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

Equipment Power Requirements

Electrical Recommendation for 120 V and 240 V Treadmills.

Note: This is a recommendation only. NEC (National Electric Code) guidelines or local region electric codes must be followed.

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

Power Specification

- Nominal 120 VAC models
  - Operating voltage: 90 VAC to 132 VAC.
  - AC frequency range: 47 - 65 **Hz**[1]
  - 20 amp individual branch circuit
- Nominal 240 VAC Models
  - Rated Operating voltage: 180 VAC - 264 VAC.
  - Frequency: 47- 65 Hz
  - 20 amp individual branch circuit

Treadmill Grounding

The treadmill must be grounded. If the equipment malfunctions or breaks down, grounding draws off electric current and reduces the risk of electric shock. The power cord on the treadmill is equipped with a grounding conductor and a three-pin grounding plug. This plug must

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

be inserted into an outlet that is properly installed and grounded in accordance with all local codes and ordinances. Failure to ground the treadmill properly may void the Precor Limited Warranty.



CAUTION: Improper connection of the grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are not sure whether the equipment is properly grounded. DO NOT modify the plug provided with the treadmill. If the plug does not fit the outlet, have a proper outlet installed by a qualified electrician.

Frame Grounding Requirement

For operator safety and to minimize electrostatic discharge conditions have a certified electrician verify that the AC frame ground continuity to be a low resistance connection to the AC distribution ground bar



CAUTION: To avoid electrostatic discharge shock, make sure that there is AC frame ground continuity.

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 (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)

Your equipment comes with a power cable that meets your local electrical code requirements along with the equipment. Precor commercial treadmills must be connected to a 20 amp individual branch circuit that can be shared only with one PVS.

The power cord on the treadmill is equipped with a grounding conductor and a three-pin grounding plug. This plug must be inserted into an outlet that is properly installed and grounded in accordance with all local codes and ordinances. Failure to ground the treadmill properly may void the Precor Limited Warranty.



CAUTION: Improper connection of the grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are not sure whether the equipment is properly grounded. DO NOT modify the plug

provided with the treadmill. If the plug does not fit the outlet, have a proper outlet installed by a qualified electrician.

Verifying 20 Amp outlet receptacles

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

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	Receptacle/Plug[1] Type
US & Canada	120 VAC: 50/60 Hz	Dedicated 120V/20A circuit with 5-20R NEMA receptacle
US & Canada	240 VAC: 50/60 Hz	Dedicated 220V- 240V/20A circuit with 6-20R NEMA receptacle
International	240VAC	IEC 320-C19 inlet supporting applicable country-specific power cord



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 & PVS Display Power Requirements

LED consoles (P10, P30, P30i and P31)

LED console power is supplied by the machine. An external power supply is not required.

- Self-powered machines: The machine generator and/or battery is used to power the console. The machine must be continuously operated to power ON and use the console functions.
- Powered machines: The machines internal power supply is used to power the console. The machine power cord must be plugged in and switched ON to power up and use the console. The console power is independent of the machine workout operation.

Touchscreen consoles (P62, P80, and P82)

Touchscreen consoles use an AC/DC[1] power adapter to supply the console input power.

- Self-power machines: the AC/DC adapter input power cord is plugged into the facility wall outlet. Up to ten consoles can be connected to the same 20 amp individual branch circuit. Only touchscreen consoles can share the same individual branch circuit, no other devices can be connected to this circuit.
- Powered machines: the AC/DC adapter is powered by the machines internal power supply which is hardwired to the machine input power circuit.

AC/DC adapter specification:

AC/DC Adaptor	Specification
input voltage	100v-240v
output power rating	60W/12Vdc/5A

PVS 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 specification:

PVS Display	Specification
input power	43 W max

AC/DC adapter specification:

AC/DC Adaptor	Specification
input voltage	100v-240v
output power rating	60W/12Vdc/5A

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

Cable TV RF Power Requirements

There is a minimum Cable TV "**CATV**[1]" RF signal input power level requirement for the touchscreen (P62, P80, and P82) consoles and PVS displays. There are also RF signal power requirements at the facility RF cable wall outlet coax connector:

Touchscreen consoles (P62, P80, and P82)

Touchscreen console RF Input Power specification

Touchscreen	RF Input Power
Analog video power	- 30 **dB**[2] to +20 dB RF power with a (+40 dB **C/N**[3] (Channel to Noise ratio)
Digital RF power	-5 dB to 0 dB

MYE - PVS displays

MYE display RF Input Power specification

PVS	RF Input Power
Analog video power	+5 dB 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)

RF cable TV wall outlet power requirements

When a RF cable TV wall outlet is used to power several equipment consoles in series, there is a minimum RF power requirement of +35 dB at +40 dB minimum channel to noise ratio for analog video and a +25 dB for Digital video.

An RF signal strength of +35 dB can power 17 to 19 consoles connected in series using properly connected splitters tapped to each individual console.

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

[2]1) Dynaamic Brake or 2) Decibel (dB): In electronic systems, the decibel (dB) is a of measurement used to express the system power gain (+dB) or loss (-dB) in decibels (dB). dB (power) = 10Log Pout/Pin) or, in terms of voltage, dB (power) = 20Log (Vout/Vin).

[3]carrier-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: CNR = C/N, in terms of decibels CNR (dB) = 10Log(C/N) = C (dBm) – N (dBm).

Ethernet (LAN) Input Signal Requirements

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

Communication Requirements:

Ethernet (LAN[1])	Specification
upload bit rate	512 Kbps min upload
download bit rate	5-10 Mbps min download
switch ports	80, 123, 443

*Touchscreen (*P62, P80, and P82*) console Preva PBS[2] communication protocol*

The touchscreen consoles P62, P80, and P82) 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).

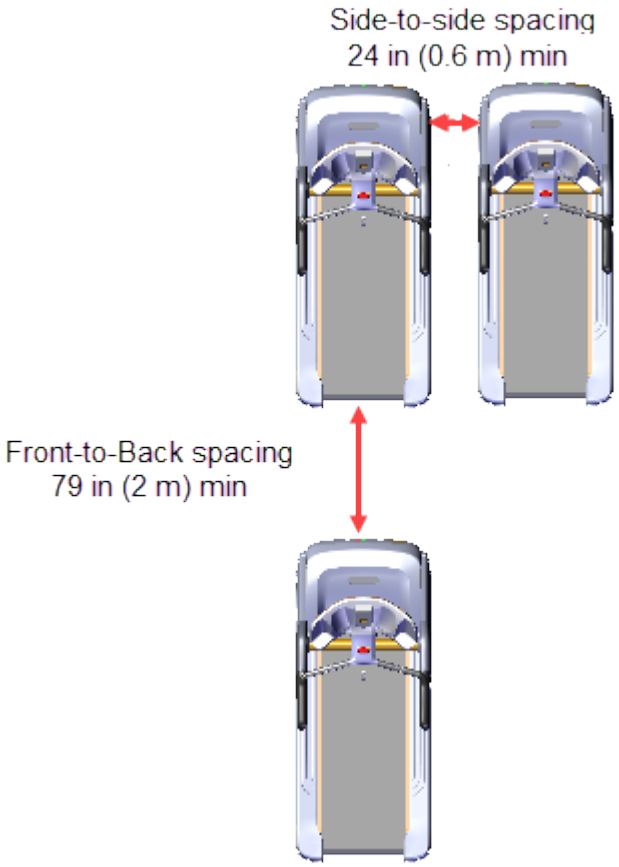
All communication with Precor servers is currently done via outgoing (originating from the console) HTTPS sessions. The console utilizes NTP[3] to set its clock and for synchronization. At no time is Precor connecting to the customers facility network to "push" any data. The console initiates all data requests.

Equipment Spacing Requirement

The minimum side to side spacing between treadmills is 23.6 in (0.6 m) and the minimum front to back spacing is 79 in (2 m).

[2]Preva Business Suite

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



How To Safely Move The Treadmill

Treadmill Moving Procedure Using a Movers Dolly

Typically you would lift the back and use the front wheels to move and position the treadmill.

However, situations may occur when space is tight and it may become very difficult to safely lift and use the front wheels to move the treadmill. This procedure provides an alternative method using a 4-caster movers dolly to safely move a treadmill with minimal effort, risk of muscle strain, or injury. This moving procedure does not requiring the technician to lift the treadmill.

Tool required

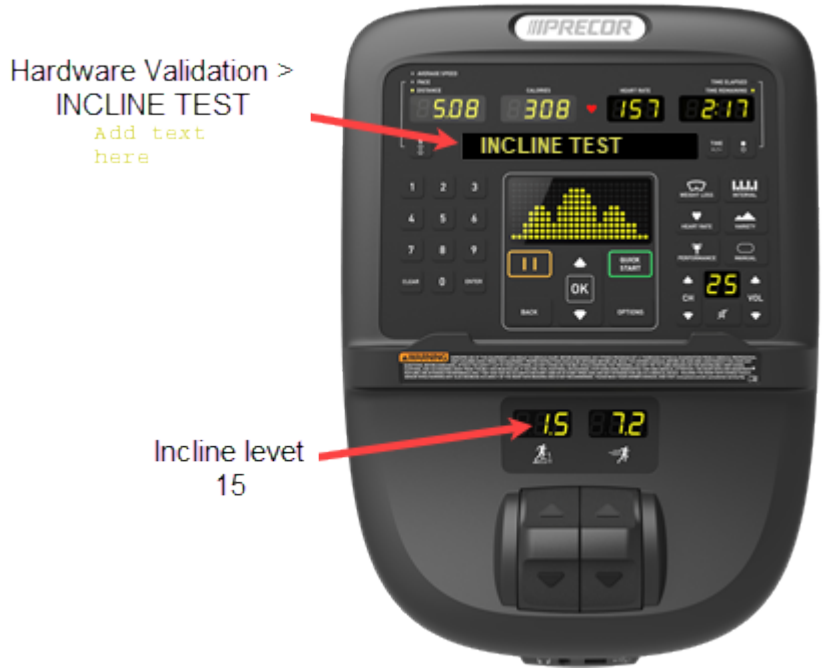
Movers Dolly	Hardwood rubber end dolly with 4-swivel casters (recommended: Uline

H-1792, 750 lb capacity)
Dimensions: Length 30” (76 cm) X Width 14 – 18” (36 – 46 cm) X Height 6.25” (15 cm)
Load Capacity: minimum 600 lbs (272 kgs).



Procedure

1. Access the **INCLINE** Hardware Diagnostic Test (**Hardware Diagnostic Test 51765761** > **INCLINE** test) and raise the level to 15.0.



2. Slide the movers dolly under the treadmill. Ensure the rubber ends are evenly spaced under the left and right frame rails. Lift the front end of the dolly and position the dolly as close as possible midway between the front and back ends of the treadmill.



3. Lower the **INCLINE** to 0.0. Then verify the rear leveling feet are not contacting the floor. If the feet are touching the floor, reposition the movers dolly.
4. Use the side arms to easily move and position the treadmill as needed.



5. Reverse the steps to install the dolly and remove the dolly.
6. Verify and level the treadmill as need.

7. Verify operation and return to service.

Operation Verification

The Operation Verification tests verify that the machine is operating correctly and, upon successful completion of each test, 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 (**LED**[1] consoles) or **CPA**[2] Event Log (touchscreen consoles) and record any current active logged error codes:
   - On P10, P30, P30i and P31 LED consoles, Press & hold down the **PAUSE** key for 6 seconds minimum to access the Error Log.
   - On P62, P80, and P82 touchscreen consoles, access **Service menu (51765761)**, select **About** > **CPA Event Log**.
2. Resolve any current active logged error code issues.
3. Delete resolved error codes:
   - On P10, P30, P30i and P31 LED consoles, access the **Information Display (65)** > scroll to **Error Log**.> select **OK** hardkey to view the Error Log. 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, access the **CPA Event Log** (access the **Service menu (51765761)** > select **About** > **CPA Event Log**). Then select the **CLEAR** softkey to remove all error codes.

☐ **Console Verification Tests**
Verify the LED console or touchscreen console operation.
LED consoles (P10, P30, P30i and P31) only

1. Access the Hardware Validation Diagnostic Test menu (51765761) and run the following tests:
   - **KEYPAD or KEYBOARD 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 **STOP** key.

Touchscreen consoles (P62, P80, and P82) only

[1]light-emitting diodes.

[2]Touchscreen console Control Processing Assembly.

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

☐ **Machine Operation Test**

This test verifies the console motion controls, metric indicators and machine operation.

1. Select **QUICKSTART** to begin a manual workout. Do this test while walking on the machine and the set to 0% incline:
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. Set the SPEED between 2-3 mph and walk on the belt while performing this test.
    - Make sure that the console **INCLINE** paddle control 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**
(Internet Only)

Verify the running belt condition

1. Visually Inspect the belt condition: no surface rips, tears, or frayed edges. Also check the seam for damage.

INSPECTING THE RUNNING BELT CONDITION

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 and tracking remains centered.

RUNNING BELT ALIGNMENT AND TRACKING PROCEDURE

☐ **ESTOP[1] Switch Test**
Verify the ESTOP emergency stop switch operation.

1. While walking on the treadmill, press the emergency **STOP** 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: make sure that the clip spring is installed and that the clip tension will firmly hold when attached to the runner.
4. Make sure that the lanyard clip is properly stowed. The lanyard string is looped with the clip attached near the ESTOP cover to hold in place, freely hanging from the ESTOP switch cover. Do **NOT** wind the lanyard string and clip around the handlebars, see ESTOP TEST video.

ESTOP TEST

☐ **Heart Rate Monitor Test**
Verify both the Handheld Handlebar Heart Rate (**HHHR**[2]) and wireless **HR**[3] monitor operation.

1. **Handheld Handlebar Heart Rate (HHHR) monitor verification**

   LED consoles (P10, P30, P30i and P31) only: Access the Diagnostic menu (51765761) > select **HEART RATE TEST** and follow prompts to run the test:

   Touchscreen consoles (P62, P80, and P82) only: Access the Service menu

[1]Emergency Stop: Safety clip and lanyard attached to the stop switch to immediately turn off power bringing the machine to a stop.
[2]Handheld Handlebar Heart Rate
[3]Heart Rate

(51765761), select **System Settings** > **System Tests** > **HEART RATE TEST** and follow prompts to run the test.

2. **Wireless Heart Rate monitor verification**.

   Use a wireless heart rate monitor chest strap (pn PPP000000038819103 or **ANT+**[1] wireless compatible HR chest strap) and verify that the console heart rate icon is flashing, and the HR indicator is showing the heart rate beats per minute (bpm).

☐ **Return to service**

1. Switch the power OFF.
2. Make sure that the machine is setting level and stable.

   MACHINE LEVELING PROCEDURE

3. Make sure that any external power cords or interface cables are properly routed, connected, and safe from being damaged.
4. On successful completion of all verification tests, return to service.

[1]ANT+ (pronounced ant plus) is a wireless protocol for monitoring sensor data such as a person's heart rate or a bicycle's tire pressure

Standard Service Menus

About

There is a set of equipment Standard Service Menus that 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:

On **LED**[1] consoles (P30, P30i and P31), there are three service menus:

- **Hardware Validation (51765761)** menu provides a set of automated diagnostic tests used to troubleshoot, calibrate, and verify machine operation.
- **Club Settings (5651565)** menu is used to configure the equipment workout settings.
- **Information Display (65)** menu provides information about the equipment hardware, software, usage, and error log data.

On touchscreen consoles (P62, P80, and P82), there are two service menus:

- **Service Settings (51765761)** menu intended for service technicians. The Service Settings menu provides access to all available equipment service menus used by service technicians to service and maintain the equipment.
- **Club Settings (5651565)** intended for club operators. The Club Settings menu is a subset of service menus used by club operators to manage, configure, and maintain the equipment.

Steps to access the Standard Service Menus:

On LED consoles you first press a specific sequence of console hardkeys and then quickly type in the Service Menu Access code. The access code will show on the console display as you type. The console hardkey sequence varies between console models, see (see "How to Access the Standard Service Menus" on page 33).

On Touchscreen consoles you press a specific sequence of console hardkeys which opens the Service Access Code login screen. Then type in the Service Menu Access Code to open the service menu (see "How to Access the Standard Service Menus" on page 33).

Service Menu Access Codes

Service Menu Access Codes

[1] light-emitting diodes.

LED Consoles: P10, P30, P30i and P31

SERVICE MENU ACCESS CODE	SERVICE MENU	FUNCTION
51765761	**Hardware Validation**	Set of automated diagnostic tests used to troubleshoot, calibrate, and verify machine operation.
5651565	**Club Settings**	Used to customize the equipment user interface localization, Workouts configuration, and maintenance default 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 Settings**	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. The Information Display menus are integrated into the Service Settings menus.		

How to Access the Standard Service Menus

P10, P30, P30i and P31 LED consoles

CONSOLE		HARDKEY	
 P10 Console	Press & Release	 PAUSE	Type in the Access Code
 P30 Console	Press & Release	 PAUSE	Type in the Access Code
 P30i Console	Press & Release	 PAUSE	Type in the Access Code
 P31 Console (*except StairClimber)	Press & Release	 PAUSE	Type in the Access Code
 P31 "StairClimber" Console	Press & Release	 STOP	Type in the Access Code

CONSOLE	STEPS
P10/P30/P31 consoles*	1. Press (2-3 sec) and release the **PAUSE** hardkey. 2. Immediately type in the access code.
P30i consoles:	1. Press (2-3 sec) and release the **PAUSE** hardkey. 2. Immediately use the **INCLINE** number keys to type in the access code.
P31 StairClimber consoles**	1. Press (2-3 sec) and release the console **STOP** hardkey. 2. Immediately type in the access code.
Notes: *Except for P31 StairClimber machines. **On SCL800 StairClimber P31 consoles, the console PAUSE key is replaced with a STOP key.	

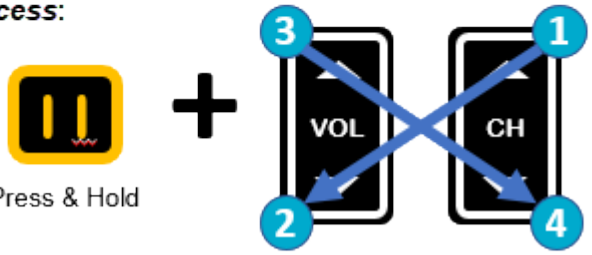
P80 touchscreen console

Have the service access code ready and then use the following instructions to access the

P80 console



Menu access:



standard service menu:

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

Have the service access code ready and then use the following instructions to access the standard service menu:

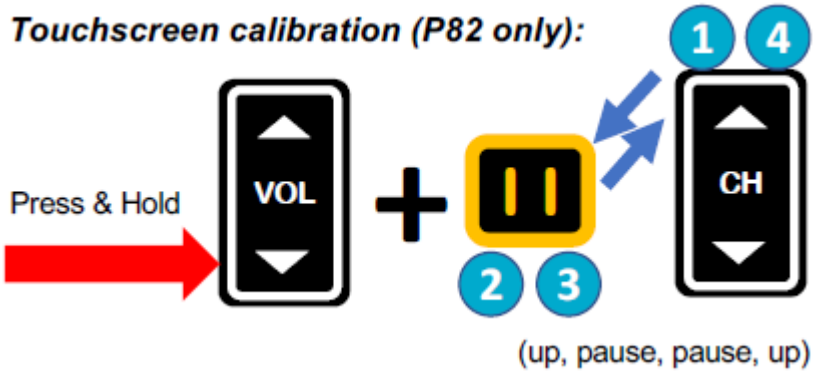


Steps

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 Display Calibration shortcut

Console shortcut to access the **Touchscreen Calibration** test.

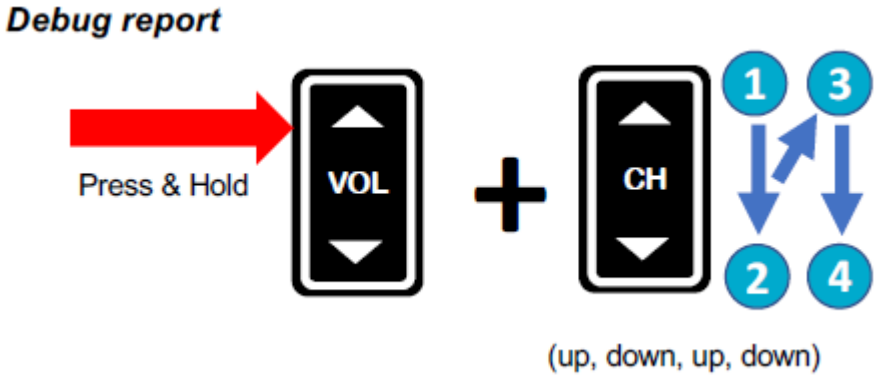


Steps

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 touch-screen 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 **USB**[1] flash drive into the Chin USB port.
3. Press and hold the **VOL up** hardkey while pressing **CH up > CH down > CH down > CH up**:
4. Wait for the download to finish and then remove the USB drive.

[1]Short 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.

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

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 operation 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, P30 and P31 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	• Returns to the previous menu level without saving changes. • Hold **BACK** to exit the **DISPLAY** test.
PAUSE (STOP[3])	• Press **PAUSE** once to pause a workout session. • (SCL800 StairClimber*) Press **STOP** once to pause a workout and stop the stairs, except for the fitness tests WFI and CPAT, where pressing **STOP** terminates the workout. • Access Service menus: Press/Release **PAUSE** (**STOP** for StairClimber*) and type in the access code • Press and hold **PAUSE** (**STOP** for StairClimber*) for greater than 6 sec will open the Error Log or show the "Stuck Key" message when there are no logged errors.
Numeric Keypad[1]	Use to type in numeric inputs (e.g. access codes).
INCLINE Keypad[2]	On P3oi consoles, use the INCLINE keys to type in numeric inputs (e.g. access codes).

1. On all consoles, except the P30i console, use the Numeric keypad to enter numeric inputs.
2. On P30i console, use the INLINE keys to enter numeric inputs.
3. On P31 SCL800 StairClimber consoles, the PAUSE key is replaced with the STOP key. There is also an additional handlebar grip Remote STOP key that performs the same functions.

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	• 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 is 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	• 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 is 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.
BACK	• 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.  P62 Console
PAUSE hardkey	Stop a running diagnostic test.

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 Menu Access Codes" on page 31)

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

The Hardware Validation menu provides a set of automated hardware diagnostic tests and calibration procedures 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
DISPLAY TEST	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.
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.
HEART RATE	Tests the Unfiltered and Filtered pulse heart rate. Grasp the grips to test the handheld heart rate. Use a Polar heart rate simulator to test the wireless heart rate. Press the **BACK** button to exit this test. Results: F xxx U xxx (F-filtered, U-unfiltered)
ACTIVE STATUS LIGHT (1)(2)(3)	(Located in the Information Display on some models) The current **ASL**[1] light state (blue. pulsing blue, yellow, pulsing yellow) or switched OFF on some models.
AS LIGHT BRIGHTNESS (1)(2)(4)	(Located in Club Settings > SET ASL BRIGHTNESS on some models) Sets the ASL light brightness level and ON/OFF state: HIGH. MED, LOW, and OFF on selected models.
MC[2] **LIGHT**(2)	**Machines with ASL functionality** Indicates the current fault status of the MC: • Green - OK • Yellow: Fault condition

[1]Active Status Light: Service and maintenance status light.

[2]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.

DIAGNOSTIC TEST	TEST DESCRIPTION
	Hold the **Quick Start** hardkey to reset. **Machines without ASL functionality**(2) Used as an ON/OFF light:
BELT SPEED TEST	menu: **MACHINE TEST** > **BELT SPEED TEST** Tests belt operating condition in 0.1 speed increments Test parameters: • 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: • 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: • **A/D**[1] - lift motor incline position potentiometer A/D number. • SEC - UP/DWN command response delay between the **UPCA**[2] and **LPCA**[3]. • Glitches - Momentary failures in the A/D potentiometer output. If there are more than 50 Glitches, the lift motor should be replaced. .
STOP KEY TEST	menu: **MACHINE TEST** > **STOP KEY TEST** (P10, P30 consoles only) Verifies the Stop Key and E-Stop function Test sequence steps: 1. StopKey test - Press the Stop Key 2. Lanyard **ESTOP**[4] test- Pull the lanyard to trip the emer-

[1]analog to digital converter

[2]Upper PCA board

[3]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

[4]Emergency Stop: Safety clip and lanyard attached to the stop switch to immediately turn off power bringing the machine to a stop.

DIAGNOSTIC TEST	TEST DESCRIPTION
	gency stop function. 3. Exit test - Press the Stop button to reset and exit test.
(1) Only included on products that have the ASL feature. (2) Not included on the EFX600 series or TRM600 series products. (3) Moved to the Information Display on some models. (4) Moved to the Club Settings on SCL800 StairClimber.	

Club Settings Menu (5651565)

Service Access Code: 5651565 (see "Service Menu Access Codes" on page 31)

Used to customize the equipment user interface localization, Workouts configuration, and maintenance default settings.

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

CLUB SETTINGS	DESCRIPTION
SAFETY CODE	Enabled or disabled. When enabled, a user password (xxxx) is required to use the machine. Factory default: Disabled. Default safety code: 1234 When the equipment is shipped from the factory, the safety code feature is disabled. An enabled safety code requires users to enter the code 1 2 3 4 to use the equipment.
SELECT LANGUAGE	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
SET UNITS **or** **SELECT UNITS**	Sets the measurement units to U.S. Standard or Metric. Default: U.S.
SET MAX WORKOUT TIME	Specifies the maximum workout time per session. Range: 1 to 240 minutes (or NO LIMIT) Default: 60 minutes
SET MAX PAUSE TIME	Limits how long equipment remains paused during a workout before it resets to the Welcome banner. Range: 1 to 60 seconds (1 to 120 seconds for treadmills). Default 120 seconds for treadmills and 60 seconds for all other equipment.

CLUB SETTINGS	DESCRIPTION
SET COOL DOWN TIME	Sets the amount of time that a cool down period will occur at the end of every workout. Range: 0 to 5 minutes in 1 minute increments. 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: OFF
SET SPEED LIMIT	(Treadmill only) Sets the user maximum speed. Range: Varies by model. Default: 12 mph
SET INCLINE LIMIT	(Treadmill only) Sets the user maximum incline level. Range: 15 max Default: 15
REMOTE SPEED CONTROL	(Treadmill only) Not used.
AUTO STOP CONFIGURE	Automatically stops the machine if an exerciser is not detected. Sets Auto Stop to On or Off. Default: ON
SET CUSTOM PROGRAM 1/2 **or** **SET CUSTOM WORKOUTS 1 AND 2**	You can create and save two custom workouts on your treadmill and one custom workout on your other Precor equipment. Range: ON/OFF Default: OFF Note: The Total Body Workout can only be turned on in this Club Settings menu.
MAINT CONFIG **or** **MAINTENANCE CONFIGURE** **or** **MANINTENANCE COUNTER**	(ASL equipped machines only) Switch ON or OFF the ASL pulsing blue light maintenance counter reminder function: Range: ON - Enable, OFF - Disable Default: ON
SET DISPLAY BRIGHTNESS	(not available on all models) Sets the display light brightness level. Settings: Low, Medium, High

CLUB SETTINGS	DESCRIPTION
	Default: HIGH
SET ASL BRIGHTNESS	(Located in Hardware Validation > AS LIGHT BRIGHTNESS on some models) Sets the ASL light brightness level. Settings: Low, Medium, High, (**EFX**[1] includes OFF) Default: Medium
(1) Only used on products that have the ASL feature. (2) Not included on all equipment models.	

Information Display (65)

Service Access Code: 65 (see "Service Menu Access Codes" on page 31)

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

INFORMATION DISPLAY	DESCRIPTION
ODOMETER	The odometer provides the accumulated machine usage to date in units applicable to the type of equipment being used. • **TRM**[2] / **AMT**[3]: Cumulative units logged to date. AMT also displays vertical strides. • EFX: Strides logged to date • Bike: Revolutions logged to date • Climber/**SCL**[4]: Floors climbed
HOUR METER	The total number of hours that the unit took to accumulate unit miles (Steps on SCL800 StairClimbers) . This value is stored in the upper **PCA**[5] in the console so if that PCA is replaced the hours of use would start again from "0".
BELT RATING[(1)]	(Treadmills with the ASL feature only)

[1]Elliptical Fitness Crosstrainer
[2]Treadmill
[3]Adaptive Motion Trainer
[4]StairClimber
[5]Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.

INFORMATION DISPLAY	DESCRIPTION
	Shows the belt rating ranging from 10 (best-new belt) to 0 (worst-replace belt). Belt Rating: 0-1: replace the running belt. 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** key while the Belt Rating is visible to reset the Belt Rating to 10.
MAINTENANCE COUNTER(1)	Provides machine next maintenance due remaining mileage, steps, or hours. Perform preventative maintenance when the maintenance counter reaches 0. Press & hold down the **PAUSE, START** (P31i), or **STOP (**SCL800 P31) key for 3 secs or more to reset the counter: • Treadmills reset to 1000 miles, • Ellipticals reset to 250 Hrs, • StairClimbers reset to 1,100,000 steps).
U-BOOT SW **or** **BOOT LOADER SW***	The console upper boot software version information. *P31 console only.
U-BASE SW **or** **MAIN CONSOLE SW***	The console upper base software version information. *P31 console only.
L-ASL SW **or** **ASL SW(1)**	The LPCA Active Status Light processor software version information.
SER NUMBER **or** **SERIAL NUMBER**	Shows the serial number of the machine if input. The base serial number can be set using the WinCSAFE computer software. Factory default: NONE.
USAGE LOG	Provides the total number of times a particular workout has been used and the total elapsed Time used for the workout. Use the up/down arrows to scroll thru the available workouts.

INFORMATION DISPLAY	DESCRIPTION
Error Log	Table of stored error event codes, see "Error Log & CPA Event Log" on page 238. **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.
TREADMILL MAINTENANCE(1)	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. The maintenance counter and ASL light is reset as follows: P10/P30 console 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. P62, P80, and P82 consoles: The maintenance reminder counter reset "Maintenance Due" parameter is located in the Maintenance menu: 1. Access the service diagnostics (5,1,7,6,5,7,6,1). 2. Select Maintenance page. 3. Select Next Maintenance Due page > Reset. 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**.
MODEL	Machine detected model. Result: SCL800

INFORMATION DISPLAY	DESCRIPTION
ACTIVE STATUS LIGHT	(Located in the Hardware Validation menu on some models) Showa the current ASL state color (blue. pulsing blue, yellow, pulsing yellow) or switched OFF on some models:
(1) ASL equipped machines only. (2) TRM600 series treadmills only. (3) SCL800 StairClimber only. (4) Not used on SCL800 models.	

Touchscreen Console Standard Service Menus

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

Touchscreen Console Standard Service Menus

Service Settings Menu ((51765761)

Service Access Code: 51765761

Service Settings 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 page 51	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)
Safety Code menu:	menu: **Settings > Safety Code** (SW version 8.2 and later) A 4-Digit PIN safety code that must be entered to use the equipment. Settings: • OFF (default): Does NOT require safety code PIN to use the machine • ON: Does require safety PIN code to use the machine. Default PIN: 1234 The default PIN can be changed and user specified. If the PIN is forgotten, you can go to the Safety Code menu and switch OFF the feature or create a new PIN without knowing the current PIN.
"" on page 53	menu: **Settings > Equipment Usage**

[1]Wireless Fidelity - a term defined and Trademarked by the Wi-Fi Open Alliance. 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
	Machine workout usage information (total workout time & distance, last work start/stop times).
"" on page 53 (1)	menu: **Settings > Maintenance** (ASL equipped products only) Provides the machine maintenance and operating ASL status information.
"" on page 55	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: • ON: Enables automatic operating system software downloads. • OFF: Disables automatic operating system software downloads. Note: Must be connected to the internet and register with **PBS**[1] (Preva® Business Suite).
Partition Configuration	menu: **Settings > Partition Configuration** OEM use only, contact Precor Customer Service for information.

[1]Preva Business Suite

SETTINGS MENU	DESCRIPTION
(No) Available Updates	menu: **Settings > No Available Updates** or **Available Updates** • **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. 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.

(1) Not included on elliptical or treadmill products that do not have the maintenance and ASL features. Not included on the EFX600 series, the TRM600 series, or the **TRM800-10**[1] (**TRM10**[2]/GEN06) series products.

About menu

About menu

menu: **Service Setting 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 troubleshooting error event codes that are described in the "*Error Code Troubleshooting Guide*", see Error Code Troubleshooting

[1]TRM800 version 1 treadmills mfg. dates 2010 thru 2014.
[2]TRM800 version 1 treadmills mfg. dates 2010 thru 2014.

ABOUT MENU	DESCRIPTION
	Guide. .Note: Use the CPA Event Log and not the Event Log to find the machine maintenance and troubleshooting error event codes.
Console Serial Number	menu: **About > Serial Number** Console serial number.
Lower Serial Number	menu: **About > Serial Number** Base serial number.
Friendly Name	menu: **About > Friendly Name** Friendly name assigned to the equipment by the facility.
Location	menu: **About > Location** Facility location code.
Release Bundle Version	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.
Heartbeat Interval	menu: **About > Heartbeat Interval** OEM use only.
Wired MAC Address	menu: **About > Wired MAC Address** Wired **LAN**[1] MAC address
WI-FI MAC Address	menu: **About > Wi-Fi MAC Address** Wireless Wi-Fi MAC address
Network Time Server1	menu: **About > Network Time Server1** **NTP**[2] server address
Machine Type	menu: **About > Machine Type** Specifies the detected machine type: TRED, AMT, EFX, **UBK**[3], **RBK**[4].
Legal Notices	menu: **About > Legal Notices** Specifies the trademarks. trade names, etc.

[1]Local 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.
[2]Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks.
[3]Upright Bike
[4]Recumbent Bike

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(1)

Menu: **Service menu (51765761) > Settings > Maintenance(1)**

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

MAINTENANCE MENU(1)	DESCRIPTION
Recommended Action menu(1)	menu: **Maintenance > Recommended Action** Range: None, Inspect • None: No maintenance required. • Inspect: Maintenance action required. 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.

MAINTENANCE MENU[1]	DESCRIPTION
» Operating Condition[1]	menu: **Maintenance > Operating Condition** Range: Normal, Inspect • Normal: No maintenance required. • Inspect: There is a routine maintenance issue or failure condition (error code) that requires immediate attention. .***Important***: Reset the ASL light state and Motor Controller (MC) status light after repairs a completed.
» Belt Rating[1]	(Treadmills only, not supported on TRM600) menu: **Maintenance > Belt Rating** Range: 10 - 0 (10 - New condition, ≤ 1 - Replace running belt) (ASL equipped products only) 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**).
» Next Maintenance Due[1]	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.
Active Status Light (ASL menu)[1]	menu: **Maintenance > Active Status Light** Indicates the machine operating and maintenance status. **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. • ALL: The maintenance counter starts at 1000 hours counting down to active use hours to 0 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 id out-of-service. Machine service is required.
» AS light Bright-	menu: **Maintenance > AS Light Brightness**

MAINTENANCE MENU[(1)]	DESCRIPTION
ness [(1)]	Range: Low, Medium, High Set the ASL brightness level.
» Maintenance Reminder[(1)]	menu: **Maintenance > Maintenance Reminder** Range: OFF, ON (default) Switch the maintenance reminder function ON or OFF.

(1) Not included on elliptical or treadmill products that do not have the maintenance and ASL features. Not included on the EFX600 series, the TRM600 series, or the TRM800-10 (TRM10/GEN06) series products.

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	menu: **System Settings > System Tests** Machine diagnostics tests to verify system hardware operation, see "System Tests menu" on page 59.
Connectivity menu	menu: **System Settings >Connectivity** Connectivity includes Internet network and Preva® Server setup and configuration.
» Network Type	menu: **System Settings > Connectivity > Network Type** Settings: Wired, Wi-Fi Default: Wired To connect to a network: 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	menu: **System Settings > Connectivity> Configuration** Settings: Automatic (recommended), Manual Default: Automatic

SYSTEM SETTINGS MENU	DESCRIPTION
	Specifies internet connection mode.
» Status	menu: **System Settings > Connectivity > Status** Range: Connected, Not Connected Specifies internet connection status.
» IP Address	menu: **System Settings > Connectivity> IP Address** Specifies console internet IP address.
» Preva® Server	menu: **System Settings > Connectivity> Preva® Server** Specifies Precor Preva server URL (na.preva.com).
Display menu	menu: **System Settings > Display** Console default display configuration settings: language, units, standby delay, .browser and news reader on/off.
» Default Language	menu: **System Settings > Display > Default Language** Default: English Specifies the default language.
» Measurement Units	menu: **System Settings > Display > Measurement Units** Range: US Standard, Metric Default: US Standard Specifies the default measurement units.
» Standby Mode Delay	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.
» Browser	menu: **System Settings > Display > Browser** Range: ON/OFF 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

SYSTEM SETTINGS MENU	DESCRIPTION
» 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 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.

SYSTEM SETTINGS MENU	DESCRIPTION
» 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 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	menu: **System Settings > Workout Limits > Auto Stop** Automatically stops the machine if an exerciser is not detected. Sets Auto Stop to On or Off.

[1]Bluetooth 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
	Default: ON
GEM Settings menu	menu: **System Settings > GEM Settings** Enable/Disable Apple® Gymkit™ Smart Watch connectivity.
» GEM Module	menu: **System Settings > GEM Settings > Gem Module** Range: ON/OFF Default: OFF ON: Enables the GEM module and Smart Watch connectivity for the Apple Watch®.
» Enable Developer	menu: **System Settings > GEM Settings > Enable Developer** OEM use only.
Register Equipment menu	menu: **System Settings > Register Equipment** Register console and equipment with Precor Preva® Business Suite "PBS". Required information to register the equipment: • 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: 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.

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: • 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: • 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: • 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** Tests the display color performance.
Numeric Backlight Test	menu: **System Tests** > **Numeric Backlight Test** Tests the movement controls **LCD**[1] numeric displays backlight brightness level.
Numeric Display Test	menu: **System Tests** > **Numeric Display Test** Tests the movement controls LCD numeric displays.

[1]liquid crystal display.

SYSTEM TESTS MENU	TEST DESCRIPTION
Heart Rate Test	menu: **System Tests** > **Heart Rate Test** Tests the handlebar unfiltered and filtered pulse heart rate. Grasp the grips to test the handheld heart rate. Use a Polar heart rate simulator to test the wireless heart rate. Press the back button to exit this test.

(1) Not included on elliptical or treadmill products that do not have the maintenance and ASL features. Not included on the EFX600 series, the TRM600 series, or the TRM800-10 (TRM10/GEN06) series products.

Club Settings (5651565)

Service Access Code: 5651565

On P62, P80, and P82 touchscreen consoles, Club Settings menu is used localize the console user interface (language, measurement units, etc.), customize the equipment workout parameters (workout times and limits), and to help manage equipment service.

Club Settings Menus

- **About menu**, see "About menu" on page 51.
- **Equipment Usage menu**, see "" on page 53.
- **Maintenance menu**(1), see "" on page 53.
- **System Settings menu**, see "" on page 55.
- **(No) Available Updates**, see "(No) Available Updates" on page 51.

(1) Not supported on EFX600 or TRM600 product lines.

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 51.
- **Equipment Usage**, menu see "" on page 53.
- **Maintenance** menu, see "" on page 53.

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 73

"Lift Motor Calibration" on page 81

Drive Belt Tension and Alignment Adjustment

About

This procedure provides instruction to verify and make adjustments to the Drive Belt tension and alignment for both the legacy frame and common frame treadmills. 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.

There are separate procedures for the legacy and common frame machines (see "Theory of Operation" on page 290), The new common frame has improved the drive belt adjustment process by adding a drive belt adjustment bolt mechanism. The new procedure is faster, easier, and less prone to error.

IMPORTANT: This procedure assumes that the Drive Belt is installed, see "Drive Belt Replacement" on page 148.

Specifications

Belt Condition(1)	Calibration Belt Tension	Drive 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

There is a replacement procedure for the legacy frame and common frame configurations.

- Legacy Frame, see "Legacy Frame Drive Belt Tension and Alignment" below
- Common Frame, see "Common Frame Drive Belt Tension and Alignment" on page 67

Legacy Frame Drive Belt Tension and Alignment

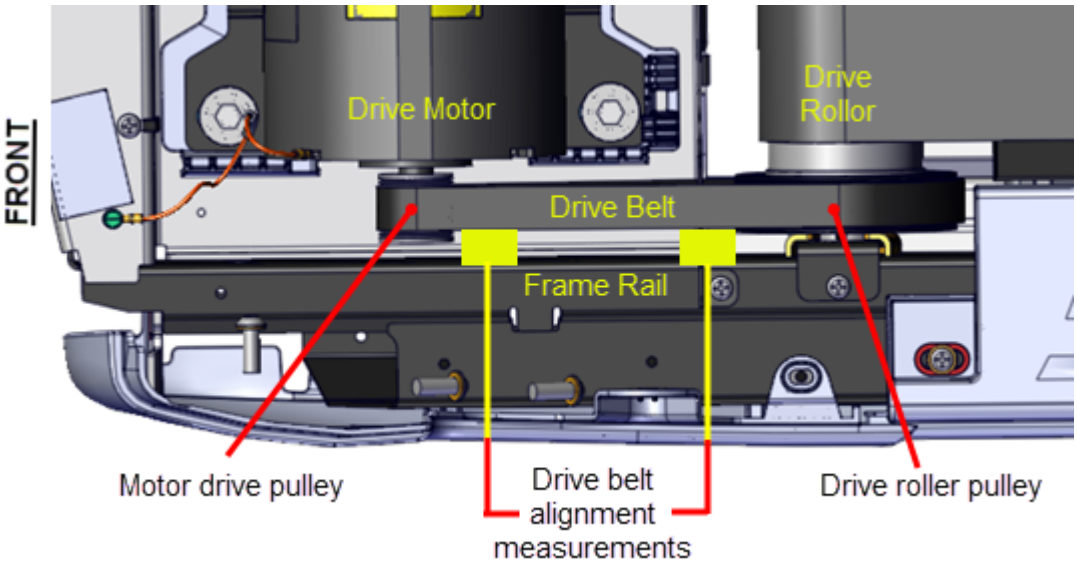
Review entire procedure before starting.

Drive belt alignment

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 94.

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 the Drive Motor pulley and the Drive Roller pulley. The Drive Belt is correctly aligned when the two measured distances are the same:
    a. If the measurements are not the same. Use one hand to move the motor flywheel which rotates the motor pulley and the other hand to move the drive belt on the drive motor pulley to the left or right as needed to adjust the belt-to-frame rail distance to match the drive roller pulley distance.
    b. Move the motor flywheel to so that the drive belt moves several rotations around the drive roller and drive motor pulleys. Verify that the drive belt is correctly seated in the drive motor and drive roller pulley groves. Then remeasure the drive belt-to-frame rail distances and verify that the drive belt remains aligned. If not, repeat procedure until the drive belt is properly aligned.



Drive belt tension adjustment

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 drive motor and drive roller pulleys.

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



3. Verify that the measured Drive Belt tension is within the belt condition New or Used tension specification:
    a. If the tension is not within the belt tension specification; continue procedure to adjust the tension to specification.
    b. If belt tension is within the drive belt tension specification; verify the machine operation and return to service, see "Operation Verification" on page 27.

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

4. Walk the belt off the drive motor pulley. Use one hand to move the motor flywheel which rotates the motor pulley and the other hand to walk the belt off the motor drive pulley.
5. Loosen the four 1/2" hex Drive Motor mount fasteners, Then slide the motor position either forward or rearward as needed to adjust the tension to the calibration tension specification. Only make small incremental changes in the 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 drive roller pulley. Use one hand to move the motor flywheel which rotates the motor pulley and the other hand to walk the belt onto the drive roller pulley.
8. Place the tension gauge onto the belt and remeasure the tension.
    a. If the tension measurement is not within specification, repeat the tension adjustment process until the measured tension is within the drive belt tension specification.

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

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. Repeat the belt tension measurement and verify that the tension remains within the drive belt tension specification. If not within specification, repeat the drive belt tension adjustment procedure until the drive belt is within specification.

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

13. Verify that the drive belt alignment has not moved out of alignment during the belt tensioning process,, see "Drive belt alignment" on page 64.

Operation verification

14. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.
15. Connect the power cord and switch the input power **ON**.
16. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

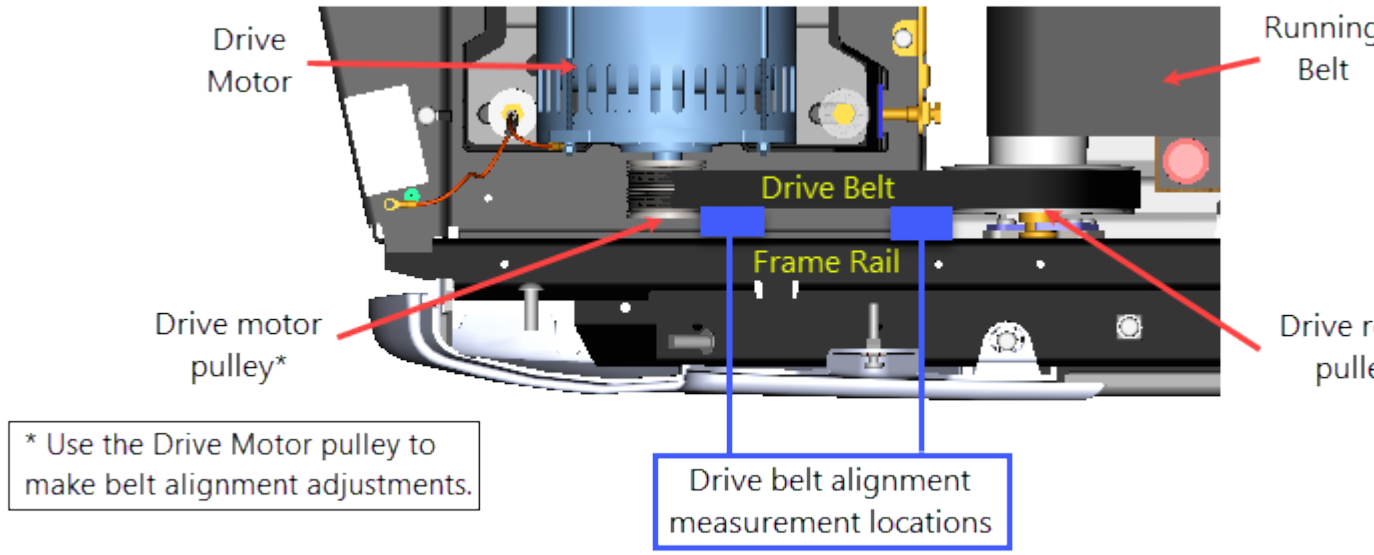
Common Frame Drive Belt Tension and Alignment

Review entire procedure before starting.

Drive belt alignment

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. Switch the power **OFF**.
2. Remove the hood, see "Hood Cover Replacement" on page 94.
3. Make sure that the Drive Belt is aligned parallel to the left side frame rail. Measure the drive belt-to-frame rail distance at the Drive Motor pulley and the Drive Roller pulley. The Drive Belt is correctly aligned when the two measured distances are the same:
   a. If the measurements are not the same. Use one hand to move the motor flywheel which rotates the motor pulley and the other hand to move the drive belt on the drive motor pulley to the left or right as needed to adjust the belt-to-frame rail distance to match the drive roller pulley distance.
   b. Move the motor flywheel to so that the drive belt moves several rotations around the drive roller and drive motor pulleys. Verify that the drive belt is correctly seated in the drive motor and drive roller pulley groves. Then remeasure the drive belt-to-frame rail distances and verify that the drive belt remains aligned. If not, repeat procedure until the drive belt is properly aligned.



Drive Belt tension adjustment

4. Place the belt tension gauge onto the Drive Belt mid distance between the drive motor and drive roller pulleys.



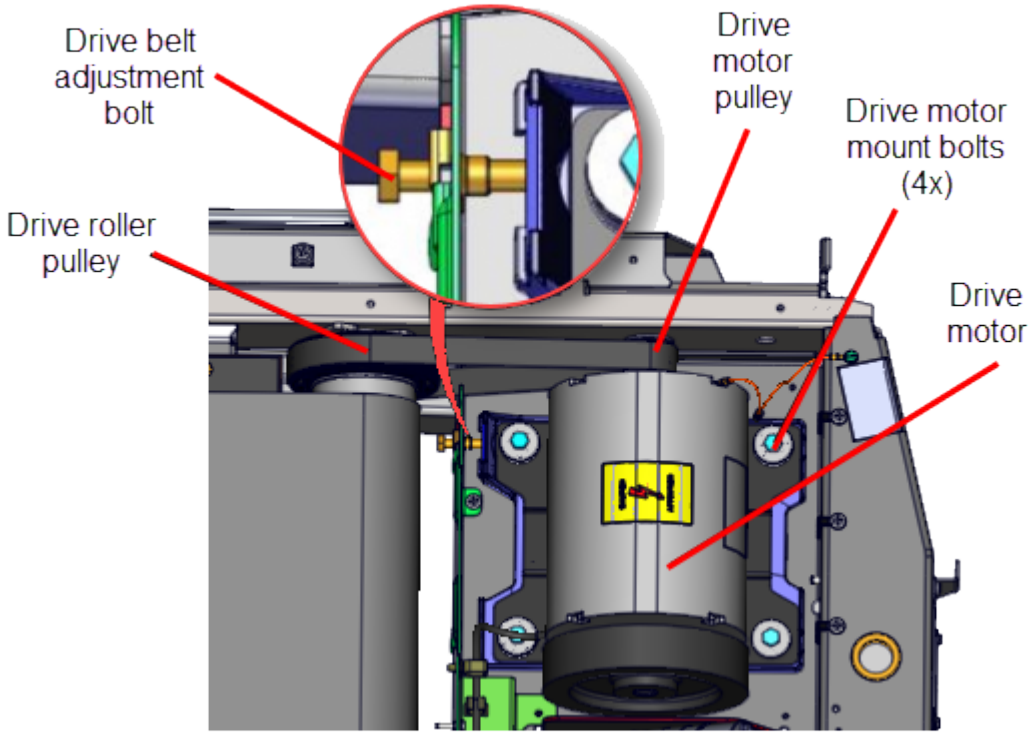
5. Verify that the measured Drive Belt tension is within the belt condition New or Used tension specification:
    a. If the tension is not within the belt tension specification; continue procedure to adjust the tension to specification.
    b. If the belt tension is within the belt tension specification; verify the machine operation and return to service, see "Operation Verification" on page 27.

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

6. Place the belt tension gauge onto the Drive Belt mid distance between the drive motor and drive roller pulleys.



7. Adjust the belt tension to specification:



   a. Use a 1/2" socket with 6" extension to loosen the four Drive Motor mount bolts enough so that the motor can slide forward and/or rearward in the mounting tray.

b. Use a 1/2" wrench to adjust the drive belt tension adjustment bolt as needed to set the belt tension to the calibration tension specification. Monitor the tension gauge value while making adjustments. Slide the motor forward to tighten the tension and rearward to loosen the tension.

c. Remove the tension gauge. Then manually push the running belt so that the drive belt moves several rotations around the drive roller and drive motor pulleys. Then remeasure and verify that the belt tension remained within specification. If the belt tension has changed, repeat the tension adjustment procedure until the belt tension remains within specification.

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 the motor position per tension adjustment. Do not over tension the belt which could cause damage to the belt or motor pulley mechanism.

8. Remove the tension gauge.
9. Fully tighten the four 1/2" hex head motor mount bolts and torque to specification 204 in-lbs (17 ft-lbs, 23 N-m).
10. Switch the input power **ON**.
11. Select **QUICKSTART** and operate the treadmill at 3 mph (5 kph) for 1 minute.
12. Stop the workout and switch the input power **OFF**.
13. Remeasure the belt tension and verify that the tension remained within specification. If not within specification, repeat the belt tension adjustment procedure until the belt tension remains within specification.

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

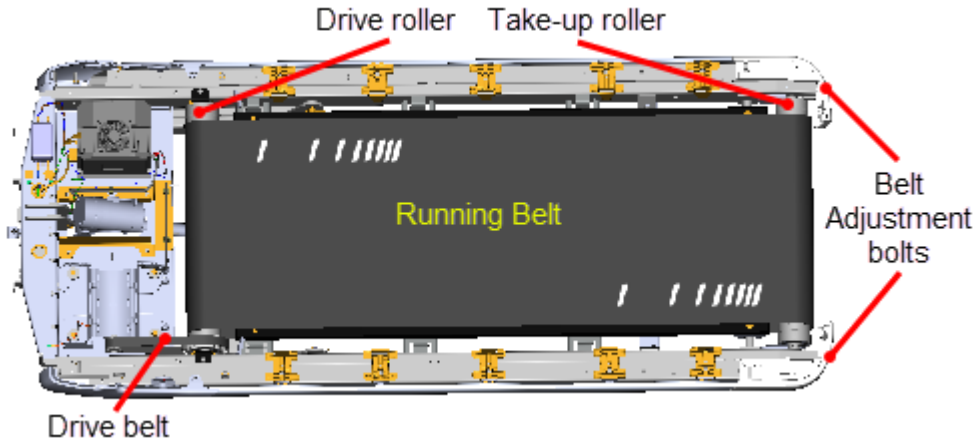
14. Verify that the Drive Belt alignment remains properly aligned and has not moved out of alignment during the tension adjustment process, see "Drive belt alignment" on page 67.
15. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.
16. Switch the input power **ON**.
17. Verify operation and return to service, see "Operation Verification" on page 27).

Running Belt Tension and Tracking Adjustment

About

This procedure provides instructions to adjust the running belt tension and tracking alignment to manufacturers specification on legacy and common frame configurations. The running belt tension and tracking should be adjusted anytime the running belt is removed/reinstalled, replaced, or when there is any detectable belt or tracking issues.

There are two different frame weldment implementations, the original legacy frame and the updated **TRM**[1] 600/700/800 common frame introduced in 2019, see "TRM600/700/800 Common Frame Overview" on page 293. Even though the take-up roller mounting/adjustment mechanisms are different, the same common running belt tension adjustment procedure is used. Any minor procedural steps that are unique to a specific frame will be identified as such.



Videos

RUNNING BELT ALIGNMENT PROCEDURE

Tools

QTY	TOOL
1	5/16" Hex Key Socket and Ratchet
2	Belt Tension Gauge[1] (PPP000000020007101 or equivalent)
(1) Proper tensioning of the belt requires the use of two tensioning gauges, Precor part number PPP000000020007101or equivalent.	

[1]Treadmill

Specification

System Component	Specification
Ammeraal Beltech brand running belt tension(2)	0.7% - 0.8% (dial 3.7 - 3.8) (1)
Forbo brand running belt tension(3)	0.5% - 0.6% (dial 3.5 - 3.6) (1)
Habasit brand running belt tension(3)	0.70% - 0.80% (dial 3.70 - 3.80)(1)
Notes: 1. Referenced to gauge reading 0.0% (dial 3.0) 2. The Ammeraal Beltech brand running belt must be used with a non-waxed deck surface (no break-in wax). 3. The Forbo &Habasit brand running belt must be used with a pre-waxed deck surface.	

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

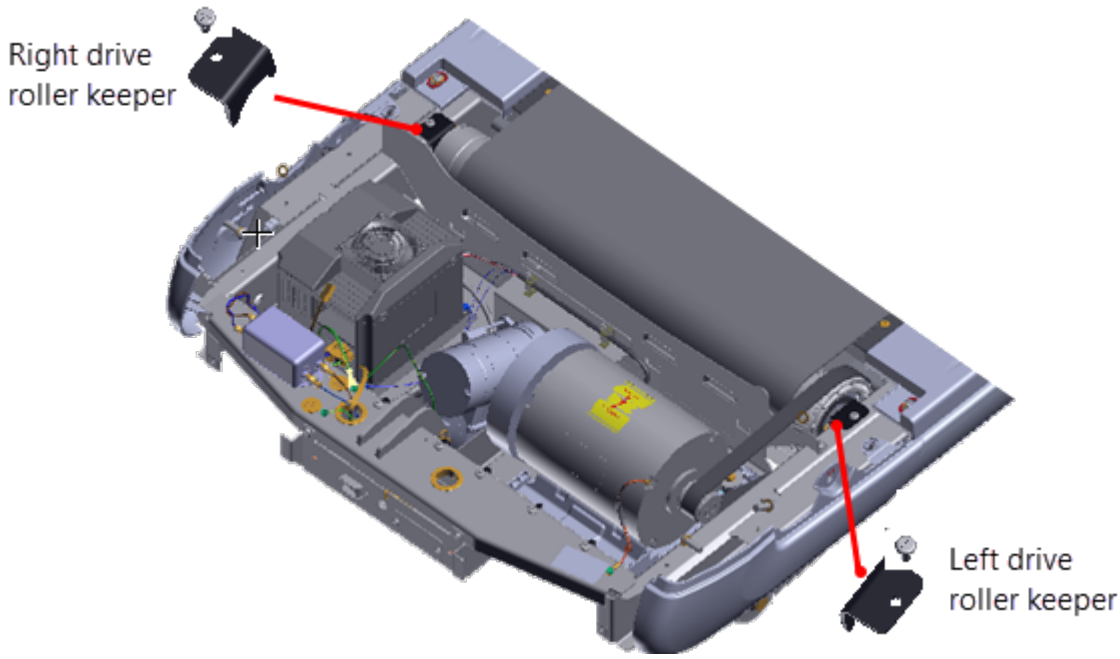
CAUTION: 1) ONLY use hand tools for belt tension adjustment.
2) Final belt tension adjustments should only be done in 1/4 turn increments.

Review entire procedure before starting.

1. Clean the running belt and deck, see "Running Belt and Deck Cleaning Procedure" on page 287.
2. Switch the power **OFF** and **unplug**[1] the power cord.
3. Remove the front hood, see "Covers and Panels Replacement" on page 92.
4. Remove the left and right trim landing covers, see "Covers and Panels Replacement" on page 92.
5. Legacy frame configuration:
   Make sure that the left and right front Drive Roller Keeper(s) are installed.

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

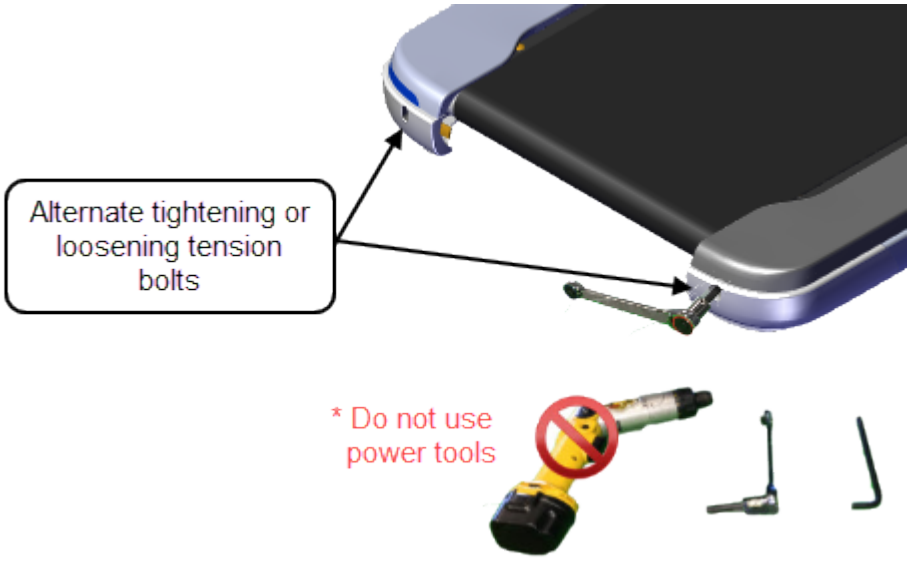
Note: Some early production treadmills may only have one or no Roller keepers installed. Install missing Roller Keepers as needed(PPP000000302495102 RIGHT HAND ROLLER KEEPER, PPP000000302495102 LEFT HAND ROLLER KEEPER).



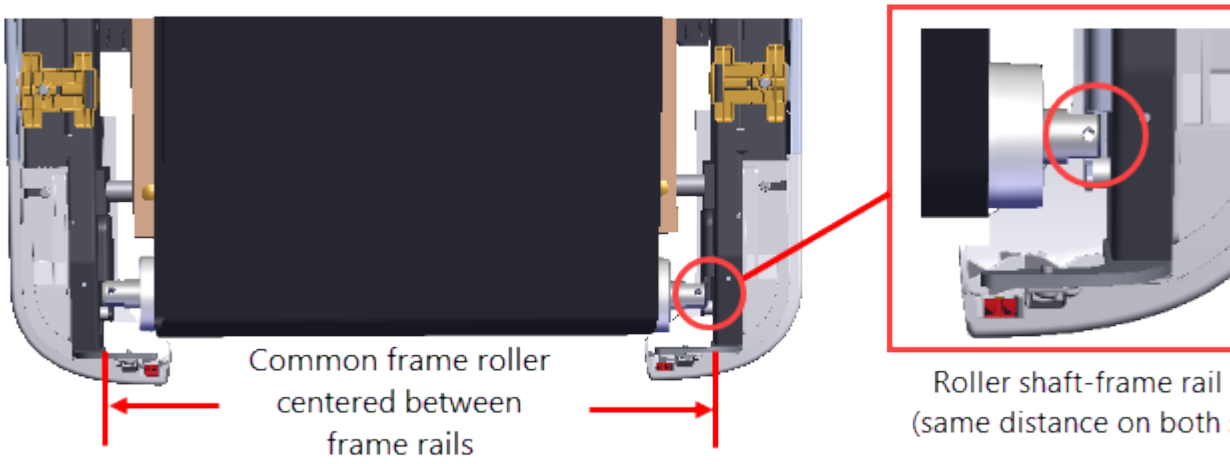
6. Slowly relax the running belt tension using a 5/16" hex key driver and ratchet (only use hand tools and not power tools). Alternately loosen the left and right adjustment bolts in 1/4 turn increments so that the running belt tension is evenly relaxed. Continue loosening the tension adjustment bolts until all tension is removed from the belt and stop, do not remove the bolts.

Note: It is not necessary to remove the adjustment bolts. Loosen bolts until all tension is removed from the belt and stop. If the bolt was removed, remove the trim end cap cover, and reinstall the bolt.

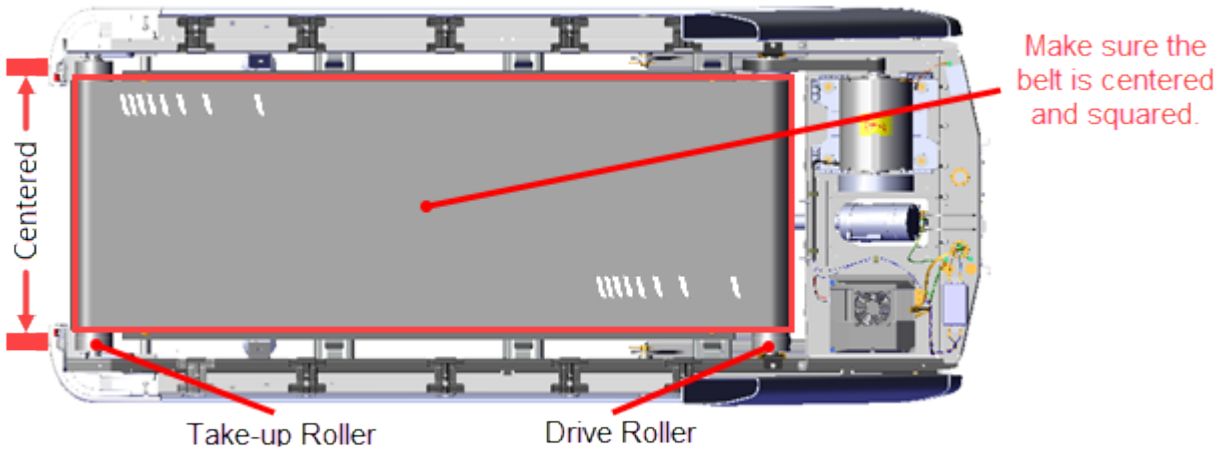
CAUTION: Only use hand tools to adjust tension. Power tools can easily over and/or under tension causing damage to the belt and/or tension hardware mechanism.



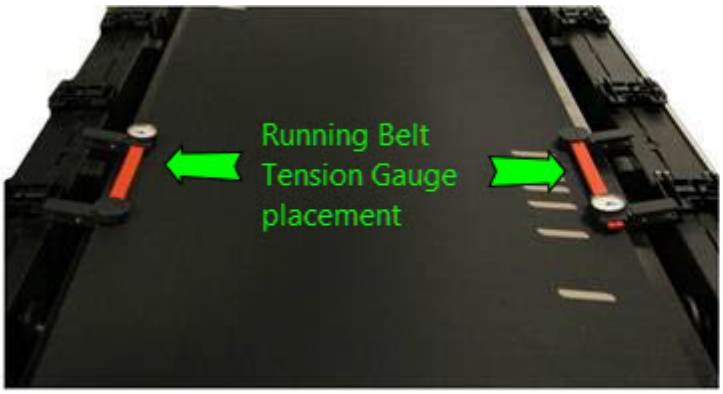
7. Legacy frame with common frame Take-up roller:
   a. If this is a common frame take-up roller installed on a legacy frame weldment configuration, then make sure that the roller is centered between the inside of the left and right frame rails. Note that on legacy frame weldment configurations, the belt tension holds the common frame take-up roller in position.

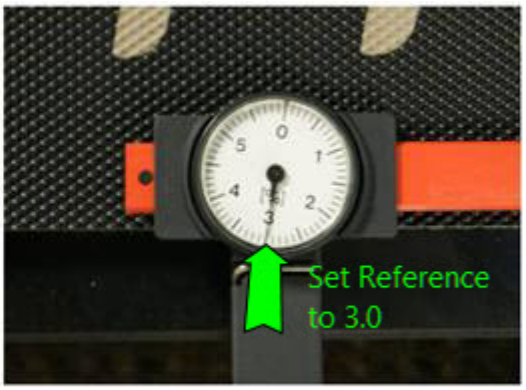


8. Center and square the belt between the Drive and Take-up rollers.
   A properly centered belt does not mean that the belt is perfectly centered on the deck and rollers. It is a belt that tracks steady and does not touch or rub the landing trim or any other frame or hardware parts. Always attempt to position the belt as close as possible to the center of the deck and rollers.



9. Move the running belt so that the seam is positioned underneath the treadmill.
10. 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.

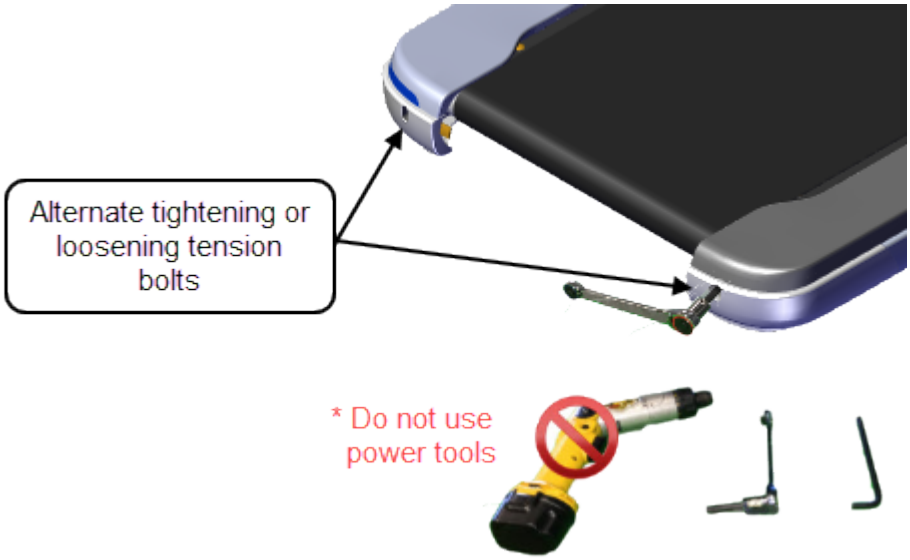




11. Slide the gauge head to set the dial needle as close as possible to 0.0% (dial 3.0) and clip the gauge onto the belt edge. Then use your fingers to rotate the outer gauge dial face to fine adjust the needle to precisely 0.0% (dial 3.0)

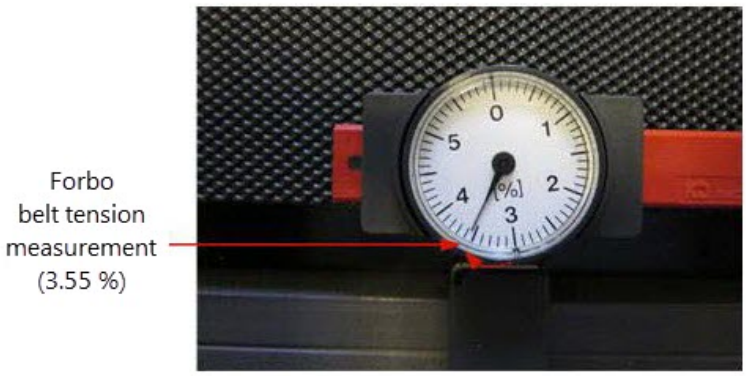
Note: Setting the gauge to a 3.0 reference value centers the gauge head travel allowing +/- movement without impeding travel.

12. Tension the belt to OEM specification:
    a. First remove the belt slack by alternately tightening the right and left 5/16” hex key belt tension adjustment bolts to the point where the belt tension just starts to exceed 3.0 (0 % ref) for each gauge. Do not exceed 3.0 (0 %) reference.



b. At this point the tension pressure has increased significantly and care must be taken to not damage the adjustment hardware and/or belt. The tension gauge will be used to determine when to alternate the left and right bolt tension adjustment rather than the alternating 1/4 turn bolt method. Alternately adjust the left and right side tension in increments of 0.2 (0.2%) gauge divisions until the manufacturer tension specification is reached.

Running Belt Brand	Specification
Ammeraal brand running belt tension (PPP000000303765103)	0.7% - 0.8% (dial 3.7 - 3.8)*
Forbo brand running belt tension (PPP000000302449101 or PPP000000036355141)	0.5% - 0.6% (dial 3.5 - 3.6)*
Notes: * Referenced to gauge reading 0.0% (dial 3.0)	



Belt Tension Gauge Measurement

13. Remove the tension gauges.

Alignment and tracking adjustment

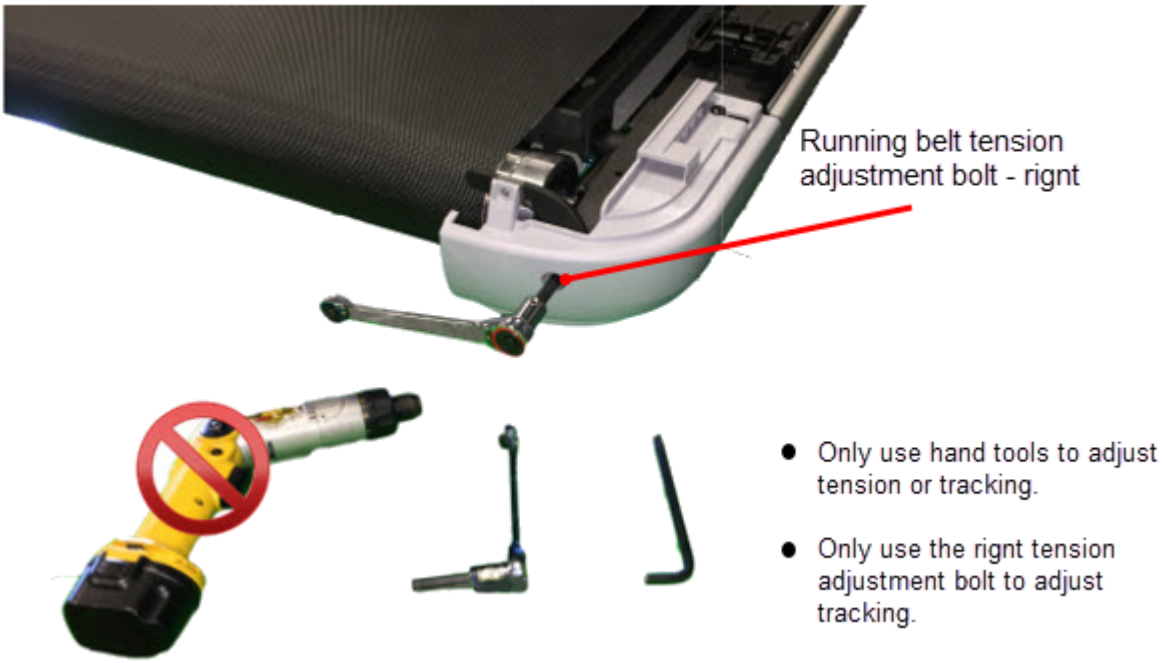
CAUTION: 1) ONLY use hand tools for belt tracking adjustment
2) The tracking adjustments should only be done in 1/4 turn increments.
3) ONLY use the right side tension bolt to adjust tracking.

Video:

RUNNING BELT ALIGNMENT PROCEDURE

Review entire procedure before starting.

1. Connect the power cord and switch the power **ON**.
2. Start the manual workout and set the speed to 3 mph (5 kph).
3. Observe and verify that the running belt tracking remains centered. If not, make minor adjustments to the right tension adjustment bolt to center the belt tracking. Only use the **right** tension adjustment bolt to adjust the tracking as follows:
   a. Belt drifts right:
   Slowly turn the right side tension adjustment bolt **clockwise** in ¼ turn increments until the drifting stops. You may need to recenter the belt by carefully bumping the belt to the left.
   b. Belt drifts left:
   Slowly turn the right side tension adjustment bolt **counterclockwise** in ¼ turn increments until the drifting stops. You may need to recenter the belt by carefully bumping the belt to the right.



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.

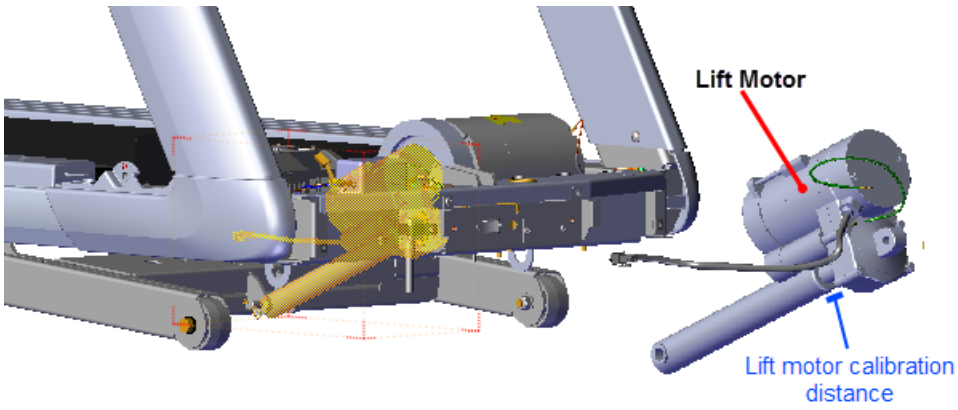
Note: An unlevel unstable treadmill can cause tracking issues with use.

6. Replace the left/right trim landing covers, see "Covers and Panels Replacement" on page 92.
7. Replace the hood, see "Covers and Panels Replacement" on page 92.
8. Verify treadmill operation (see "Operation Verification" on page 27) 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.



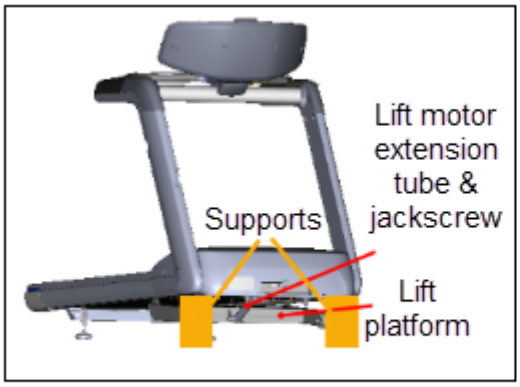
Specifications

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.	

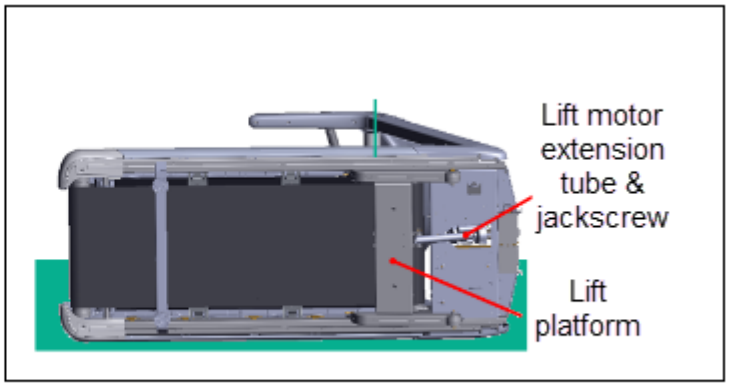
Procedure

Review entire procedure before starting.

1. Remove the Hood cover, see "Hood Cover Replacement" on page 94.
2. Prepare the treadmill for service. Choose one of two methods to access the lift extension tube and jackscrew components: 1) front access (by raising and blocking the frame) or side access (by laying the treadmill on its side). Review each method and use the method that best fits your particular circumstances.
    a. "Front access" on page 86 (recommended)
    b. "Side access" on page 88.



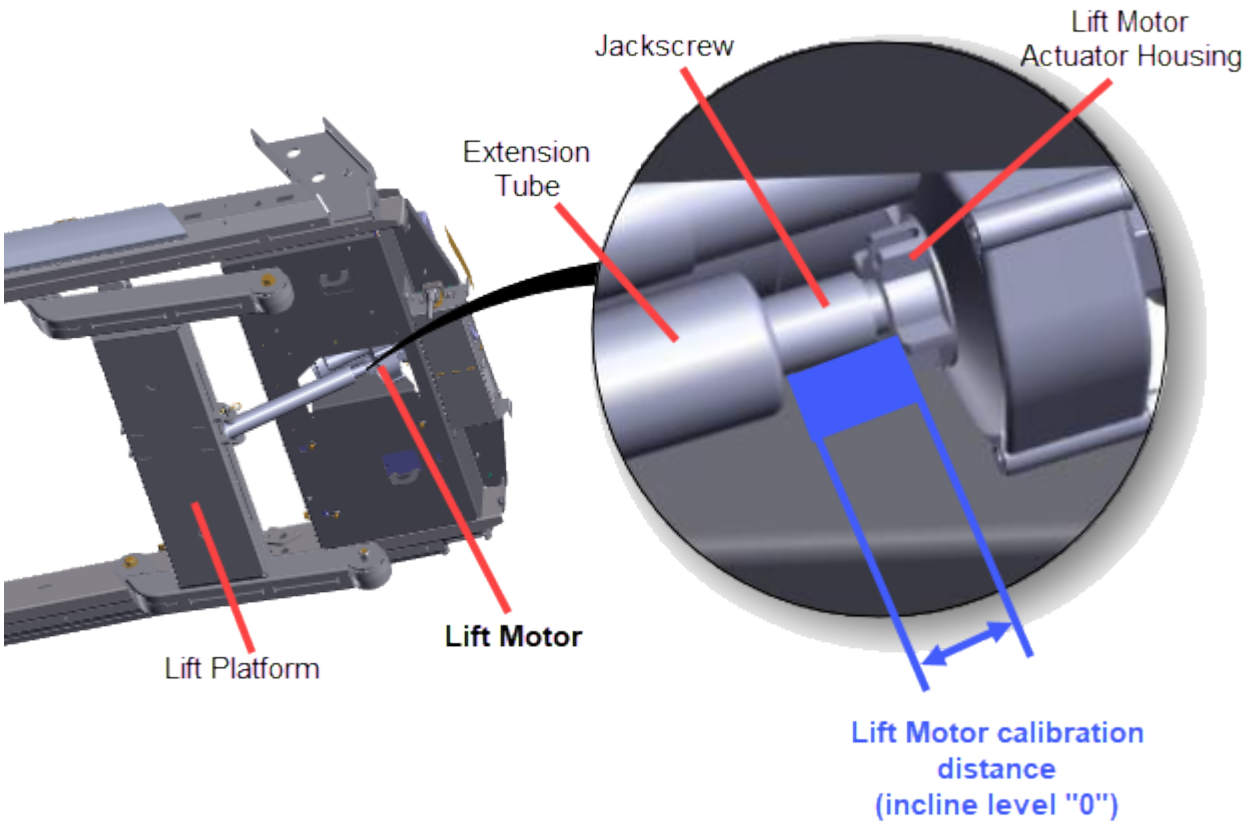
Front Access



Side Access

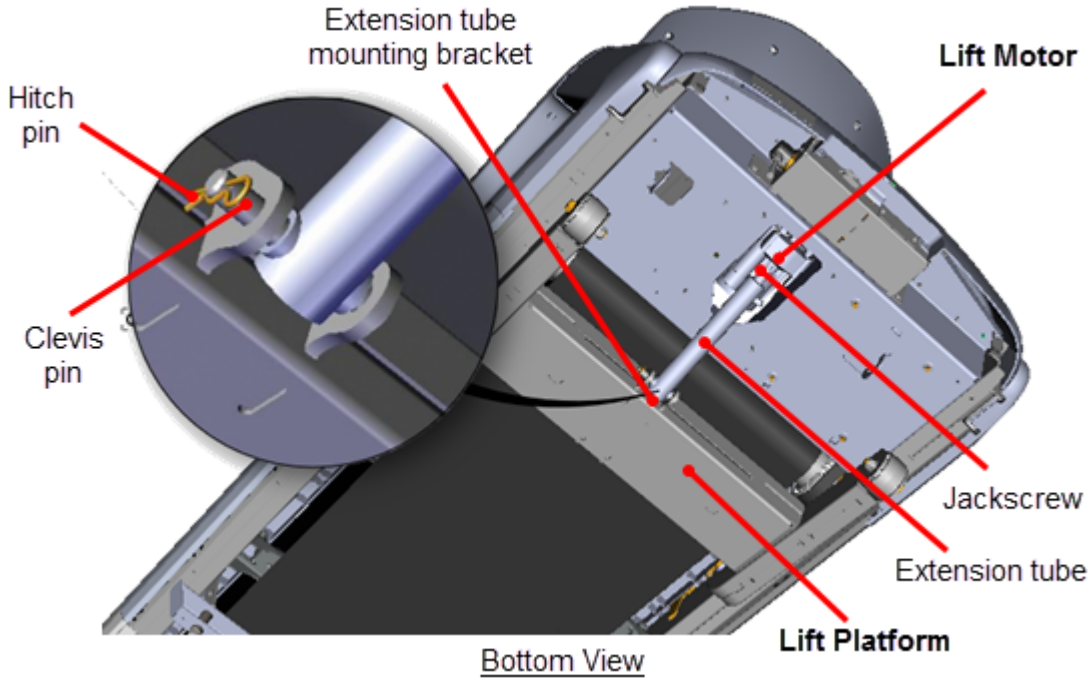
WARNING: Keep hands and appendages clear of the lift platform assembly before switching power **ON**. Switching power **ON** will cause the incline platform to move to the level "0" Home position.

3. If the incline level is not set to "0", then set the incline to "0":
   a. If the power is OFF, connect the power cord and switch the power ON.
   b. Access the service menu (**51765761**) and select **INCLINE TEST**. Use the INCLINE control to set the incline level to "0".
4. Switch the power OFF and disconnect the power cord.
5. 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 **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 85.
   b. If the distance is NOT within the specified limit, continue procedure and calibrate the lift motor assembly.

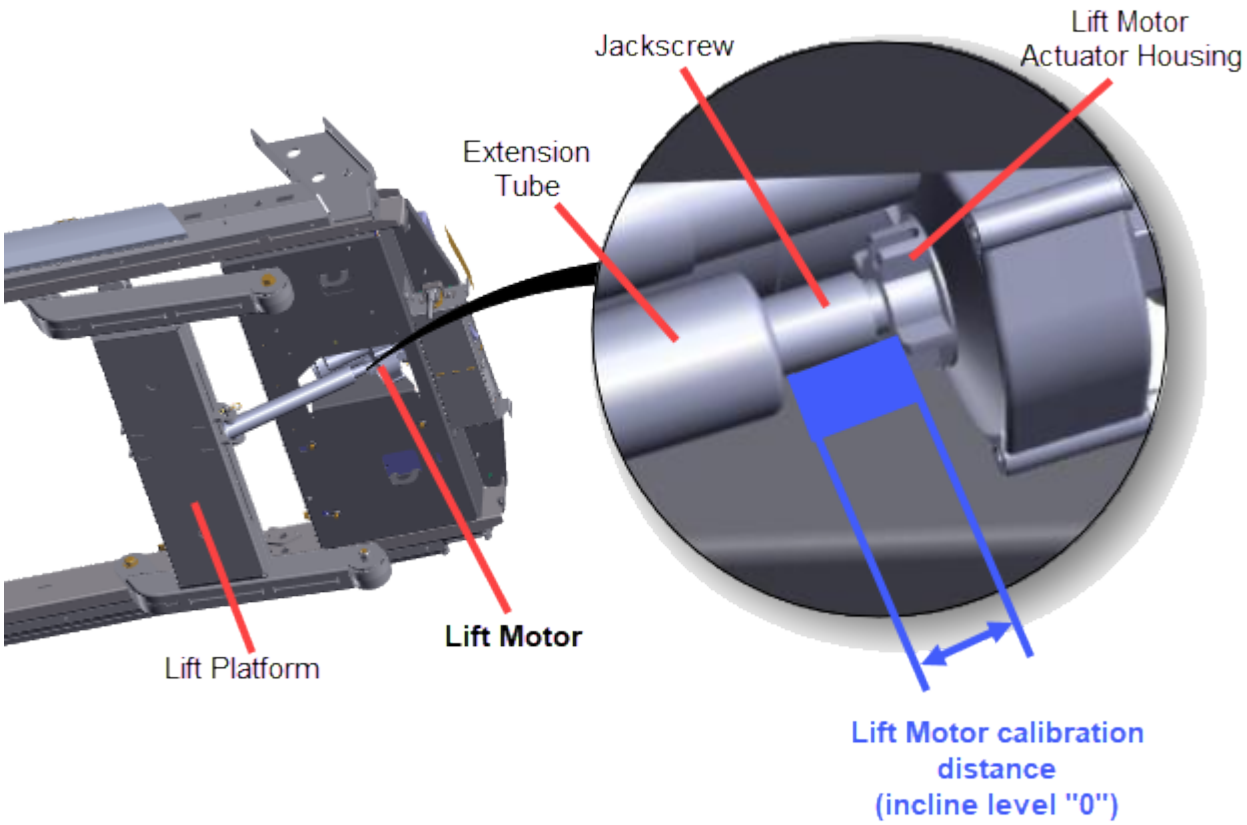


Lift motor calibration adjustment

6. 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.



7. 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)**.



8. 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.

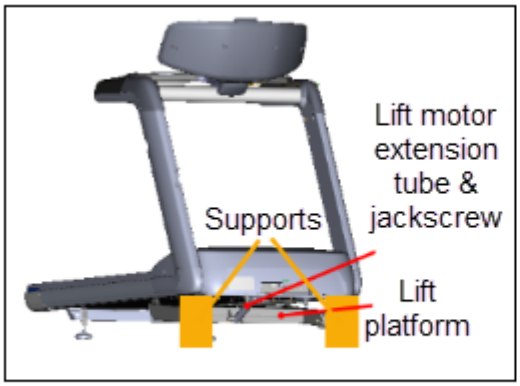
Operation Verification

9. Return the treadmill to the upright position making sure the treadmill is stable and setting level on the floor, see either the "Side access" on page 88 or the "Front access" on the next page.
10. Reinstall the hood.
11. Connect the power cord and switch the power **ON**.
12. Verify incline operation from the minimum to maximum levels. Verify that the incline reaches maximum and minimum levels and the up/down movement is smooth. Verify that there are no unusual noises.
13. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

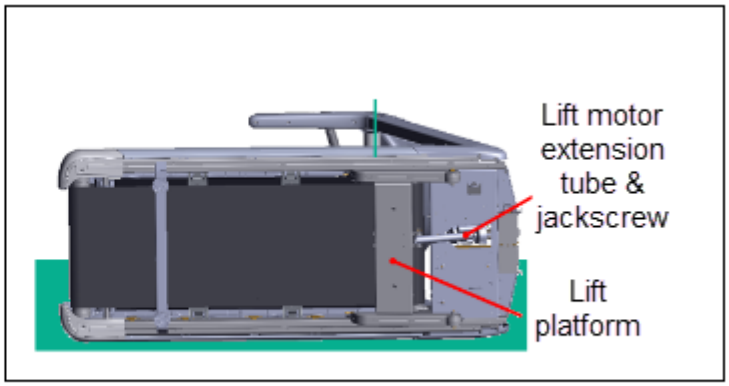
How to Access the Lift Extension Tube & Jackscrew

Servicing the lift motor extension tube/jackscrew or lift platform assembly requires accessing the underside of the treadmill. There are two methods to choose from: 1) front access (by raising and blocking the frame) or side access (by laying the treadmill on its side). Review each method and use the method that best fits your particular circumstances.

- "Front access" below (recommended)
- "Side access" on page 88



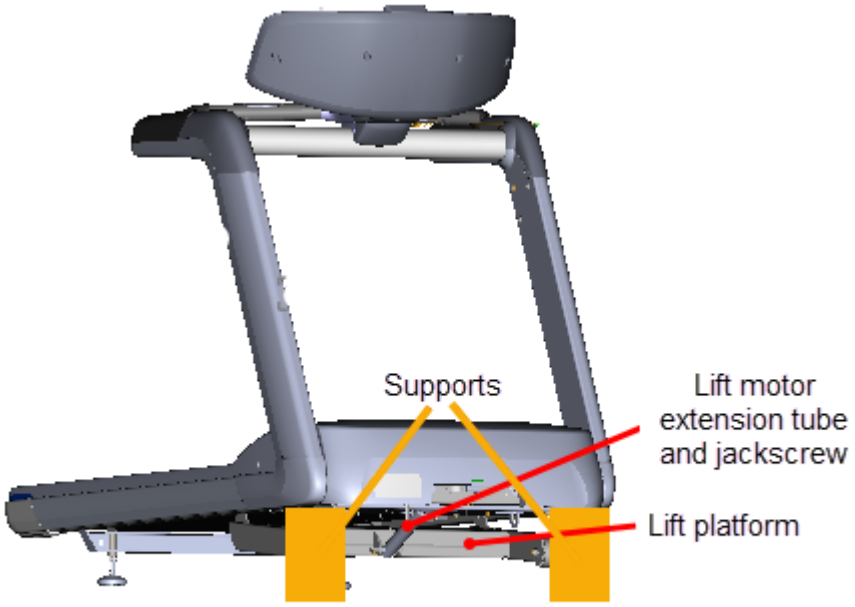
Front Access



Side Access

Front 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.



Front Lift Assembly Access

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**[1] the power cord.

Removing supports and lowering the treadmill

6. .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.

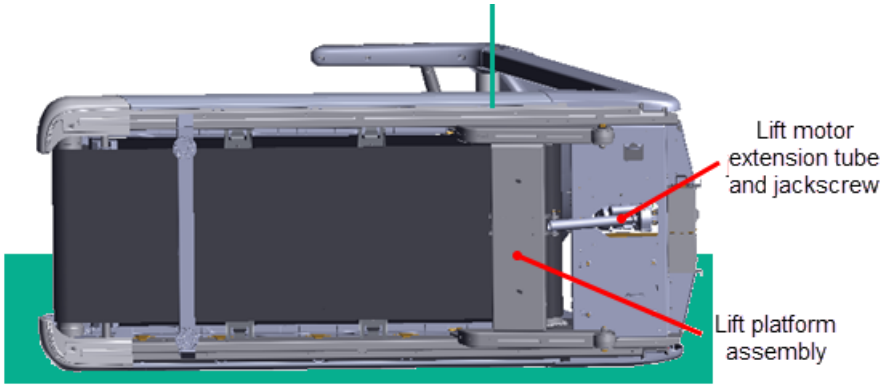
[1]Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

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

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

Side access

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



Lift Motor Assembly Side Access

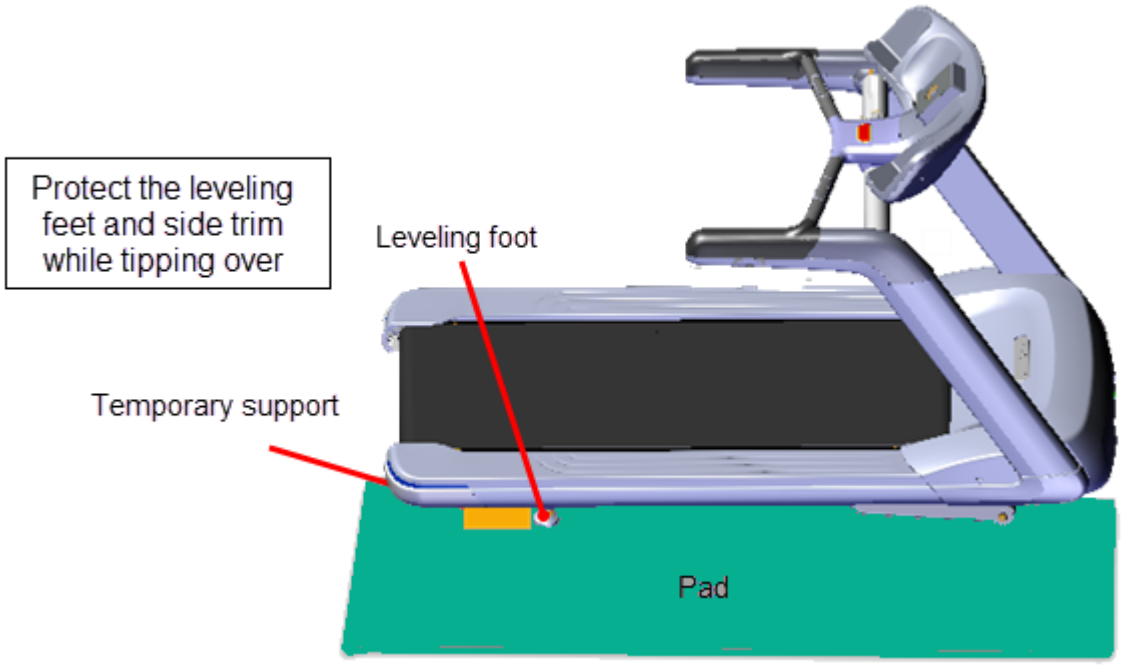
Laying the treadmill on its side

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 the power cord. Move the power cord so it will not be damaged as the treadmill is laying on its side.
3. If not already removed, remove the Hood cover "Hood Cover Replacement" on page 94.
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.

See Also

"Lift Motor Replacement" on page 208

"Lift Platform Replacement" on page 219

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 next page

"Power Cord Replacement" on page 117

"ON/OFF SW Circuit Breaker Replacement" on page 119

"ASL PCA Replacement" on page 123

"E-Stop "Emergency Switch" Replacement" on page 128

"Motor Controller (MC) Replacement" on page 129

"Motor Controller Fan Replacement" on page 143

"Drive Belt Replacement" on page 148

"Drive Motor Replacement" on page 160

"Drive Roller Replacement" on page 174

"Take-up Roller Replacement" on page 185

"Running Belt and Deck Replacement Procedure" on page 195

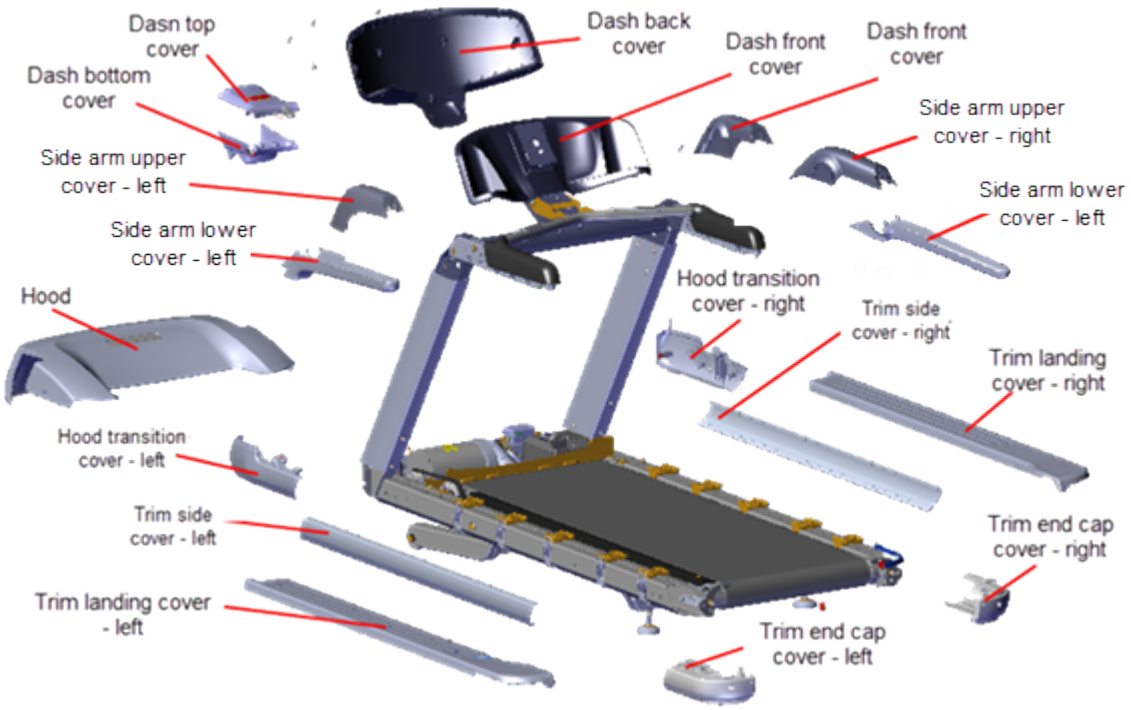
"Lift Motor Replacement" on page 208

"Lift Platform Replacement" on page 219

Covers and Panels Replacement

About

These procedures provide instruction to remove and install the **TRM**[1] covers and panels.



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Cover	Remove/Install Procedure
Hood Cover	"Hood Cover Replacement" on page 94
Hood Transition Cover	"Hood Transition Cover Replacement" on page 95
Trim Landing Covers	"Trim Landing Covers Replacement" on page 97
Trim End Cap Covers	"Trim End Cap Covers Replacement" on page 103
Trim Side Covers	"Trim Side Cover Replacement" on page 107
Dash Back Cover	"Dash Back Cover Replacement" on page 110
Dash Front Cover	"Dash Front Cover Replacement" on page 111

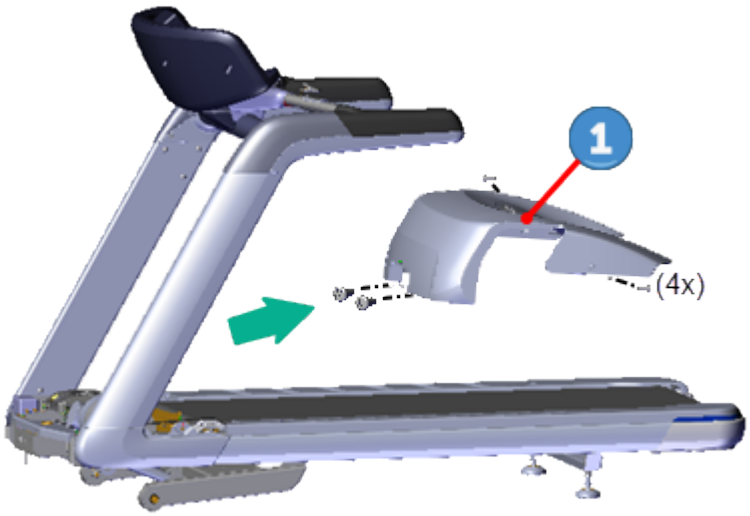
[1]Treadmill

Cover	Remove/Install Procedure
Dash Top Cover	"Dash Top and Bottom Replacement" on page 112
Dash Bottom Cover	"Dash Top and Bottom Replacement" on page 112
Side Arm Upper Covers	"Side Arm Upper/Lower Covers Replacement" on page 116
Side Arm Lower Covers	"Side Arm Upper/Lower Covers Replacement" on page 116

Click link to open procedure instructions.

Hood Cover Replacement

Hood Cover Replacement



ID	Description
1	Hood Cover

Removal Instructions

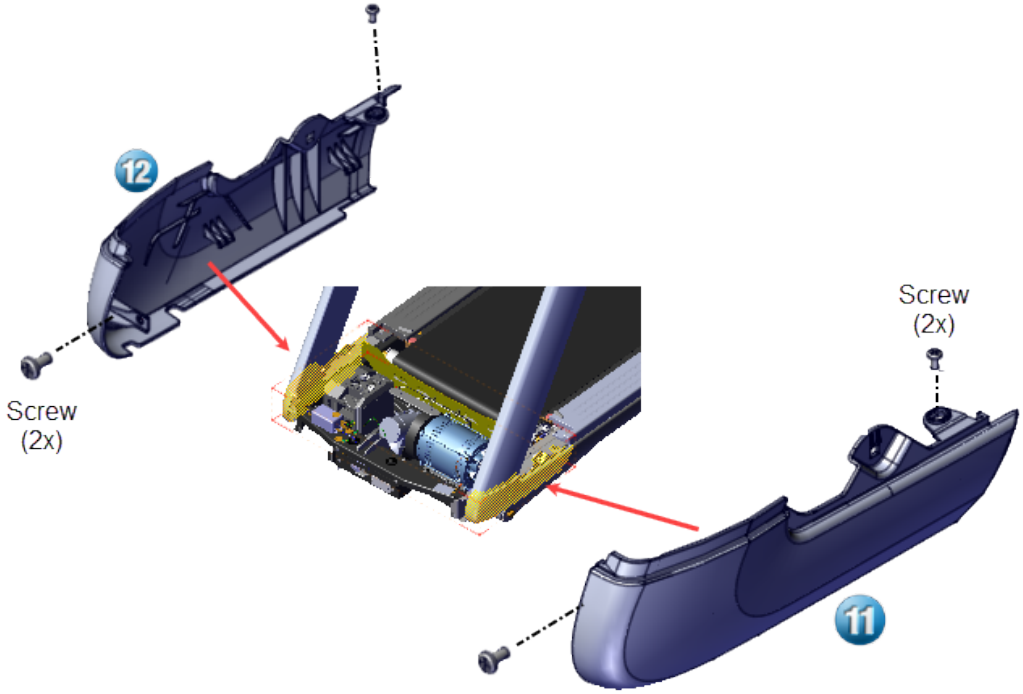
1. Remove the four #3 Phillips hood 1 cover screw fasteners. Retain part(s) and/or fastener(s) for installation.
2. Grasp the lower edge of the hood 1 cover and pull outwards while lifting to release the tab clip fasteners. Then carefully lift and slide the hood towards the back of the treadmill through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

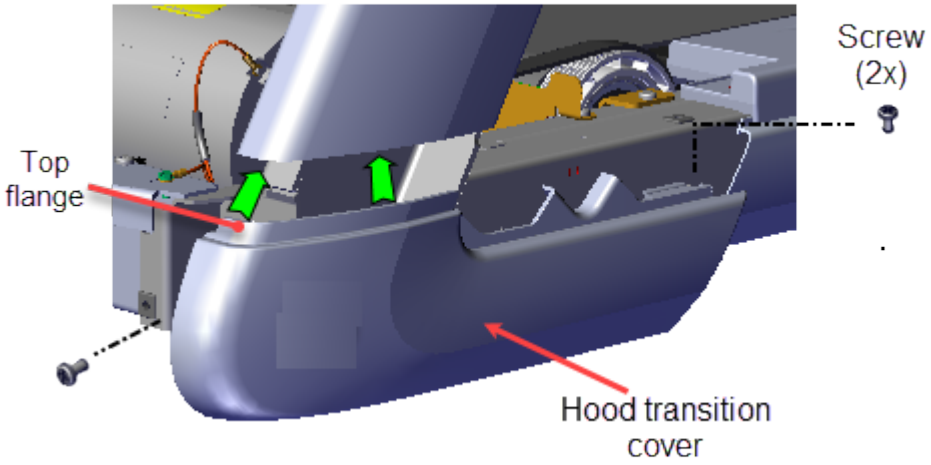
Repeat procedure for both the left and right covers.

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.

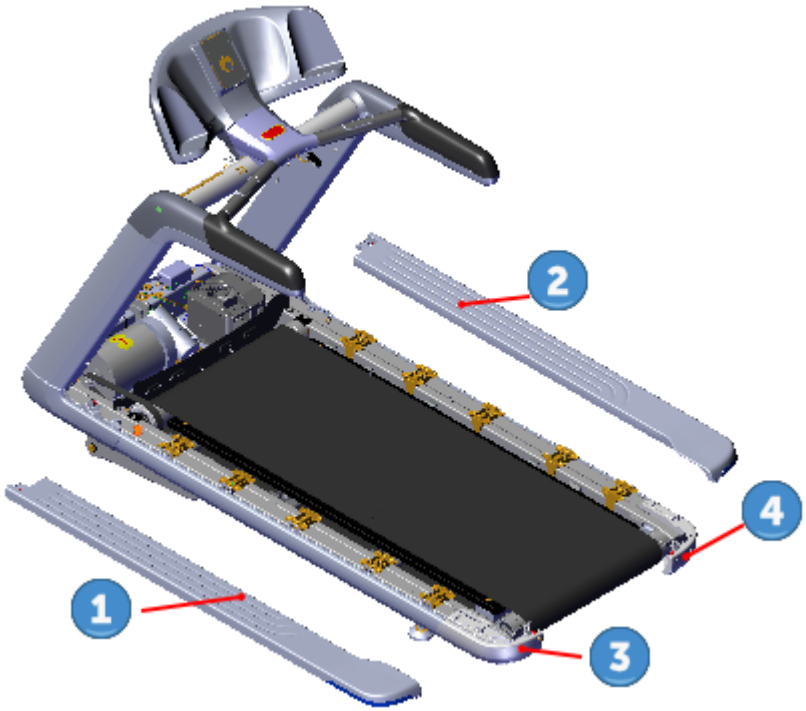


2. Repeat procedure for both left and right covers.
3. Replace the hood cover, see "Hood Cover Replacement" on page 94.

Trim Landing Covers Replacement

Trim Landing Covers Replacement

Legacy Frame Models



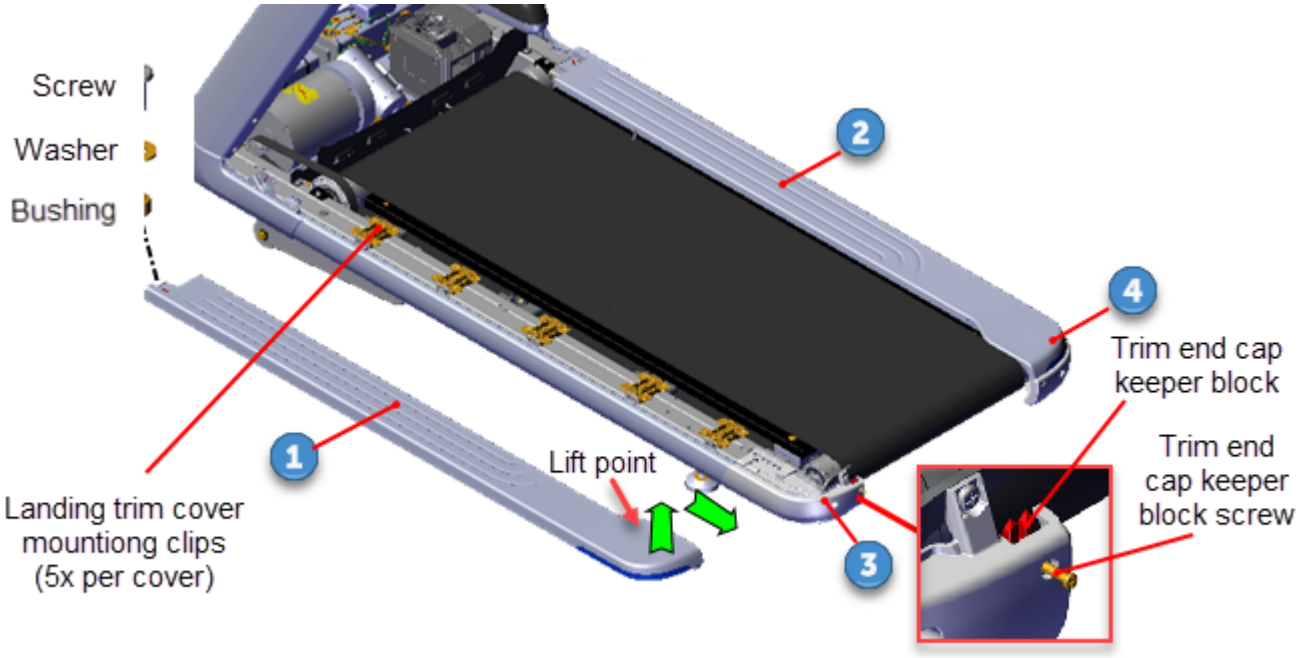
ID	Description
1	Trim Landing Cover- left
2	Trim Landing Cover - right
3	Trim End Cap - left
4	Trim End Cap - right

Removal Instructions

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

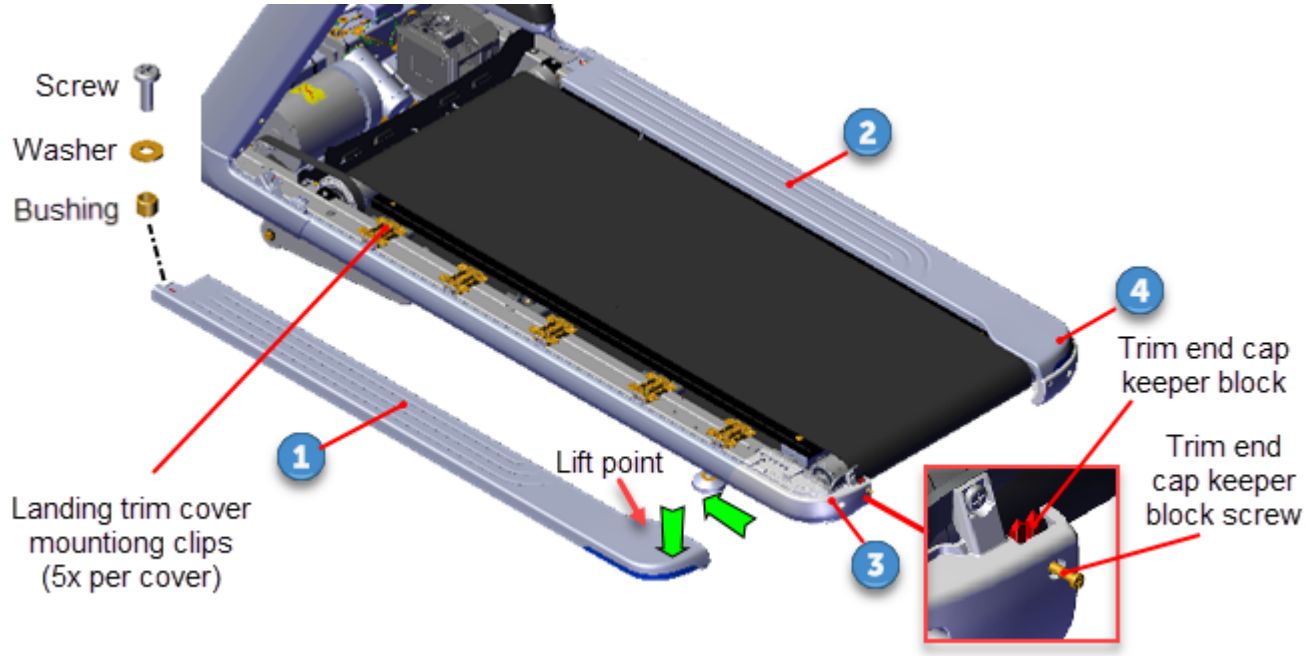
1. Remove the hood cover, see "Hood Cover Replacement" on page 94.

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.



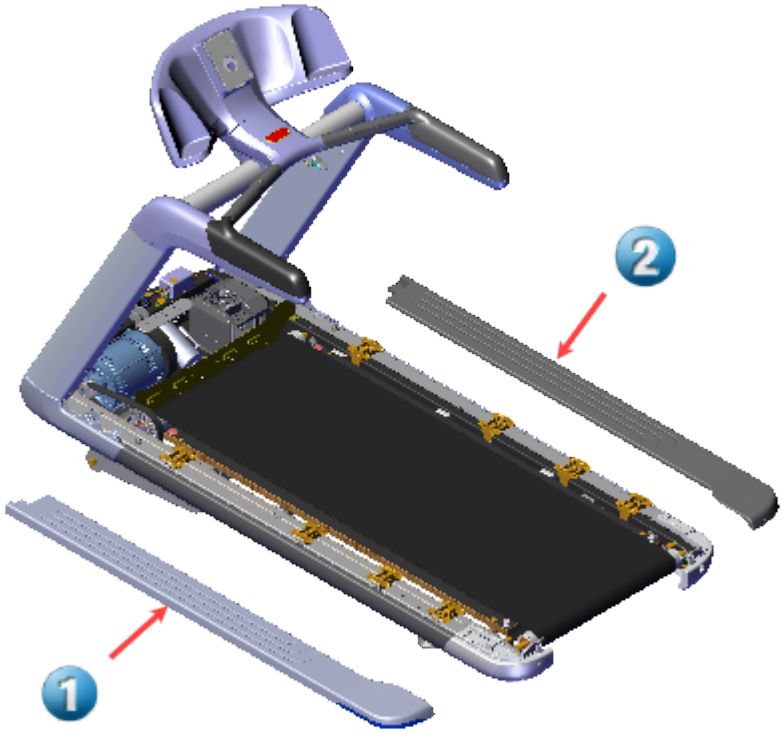
1. Loosen the #2 Phillips trim end cap (3 left, 4 right) keeper block screw fastener to relax tension on the trim landing rear tab clip. Do not remove the keeper block fastener or the keeper block will fall from the inside cover mount. The trim end cap will need to be removed to reinstall the keeper 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 94.

Common Frame Models

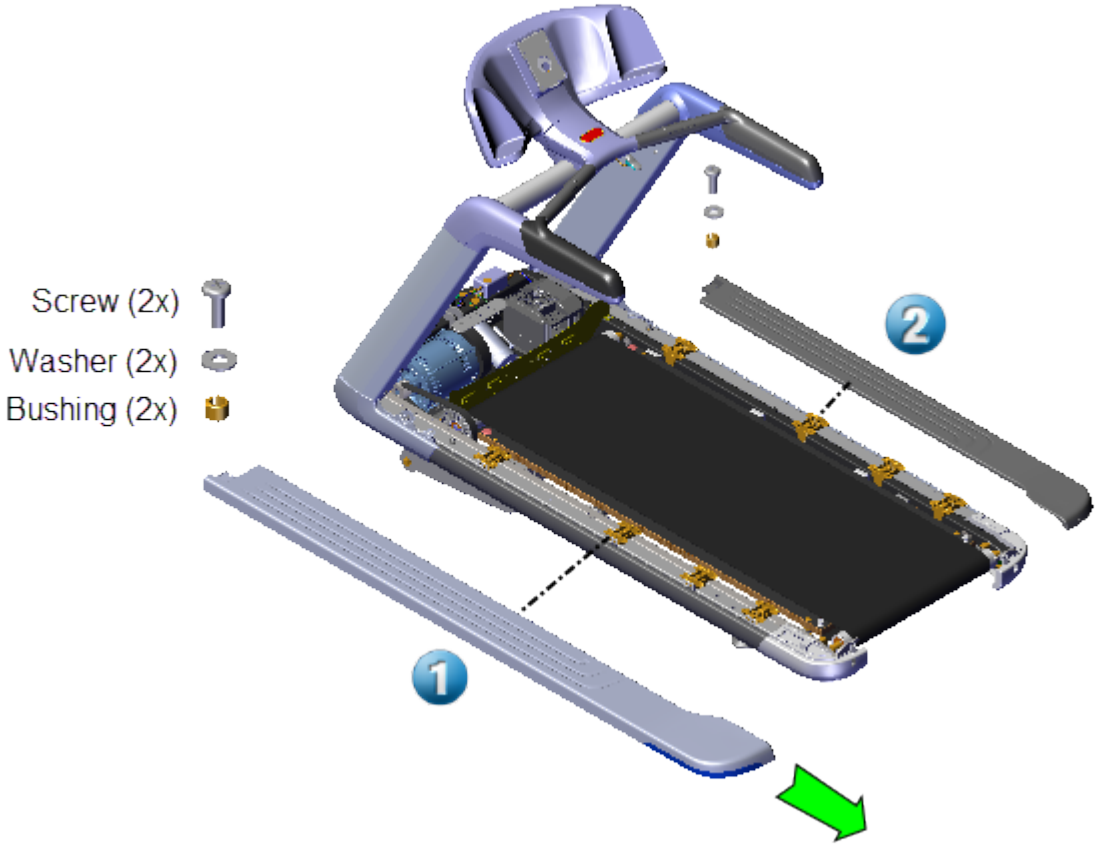


ID	Description
1	Trim Landing Cover- left
2	Trim Landing Cover - right

Removal Instructions

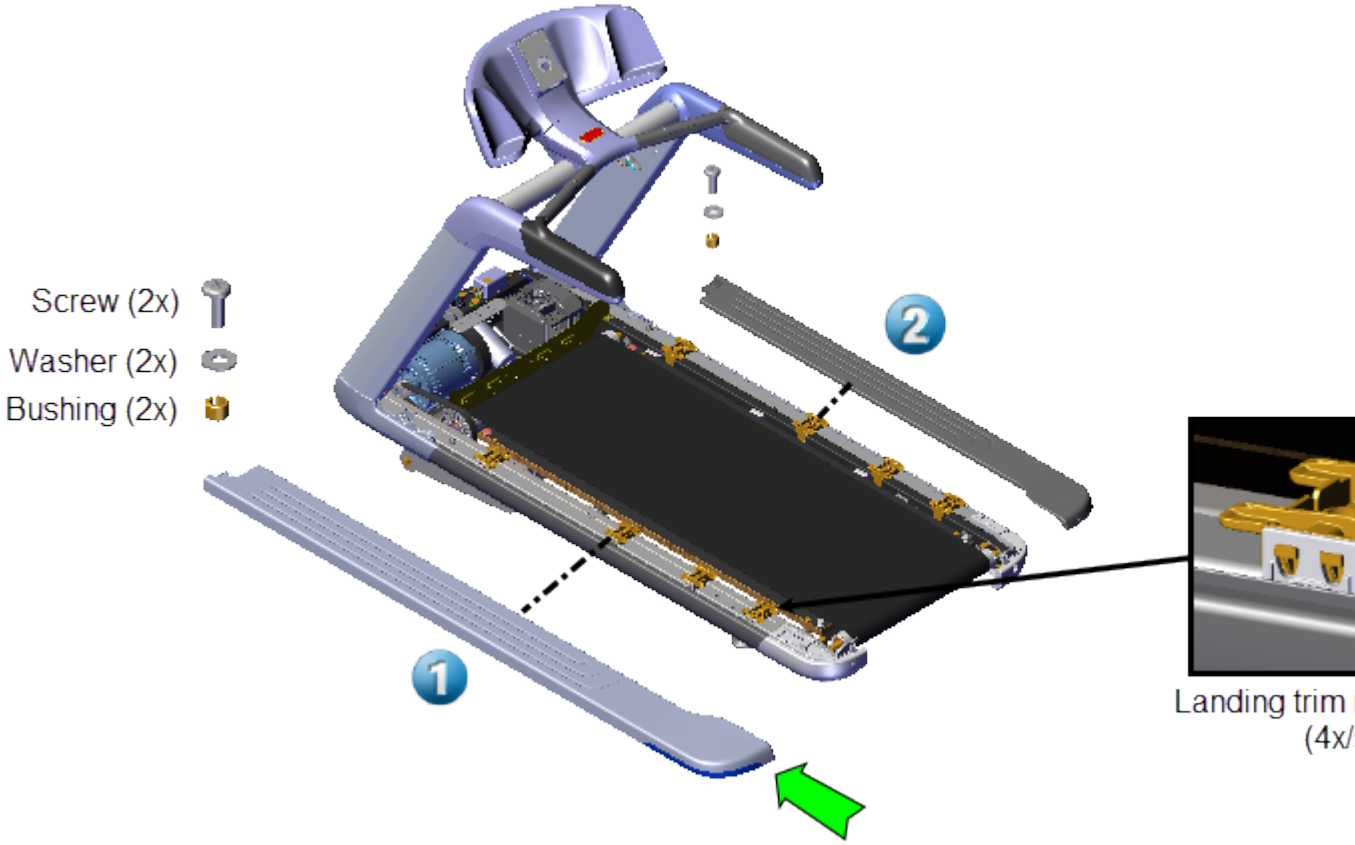
The same procedure applies to both the left 1 and right 2 trim landing covers.

1. Remove the hood cover, see "Hood Cover Replacement" on page 94.
2. Remove the trim landing cover #3 Phillips screw, washer, and bushing fastener hardware. Retain part(s) and/or fastener(s) for installation.



3. Then slide the cover rearward and lift to remove.
4. Repeat the same process to remove the left 1 and right 2 trim landing covers.

Installation Instructions

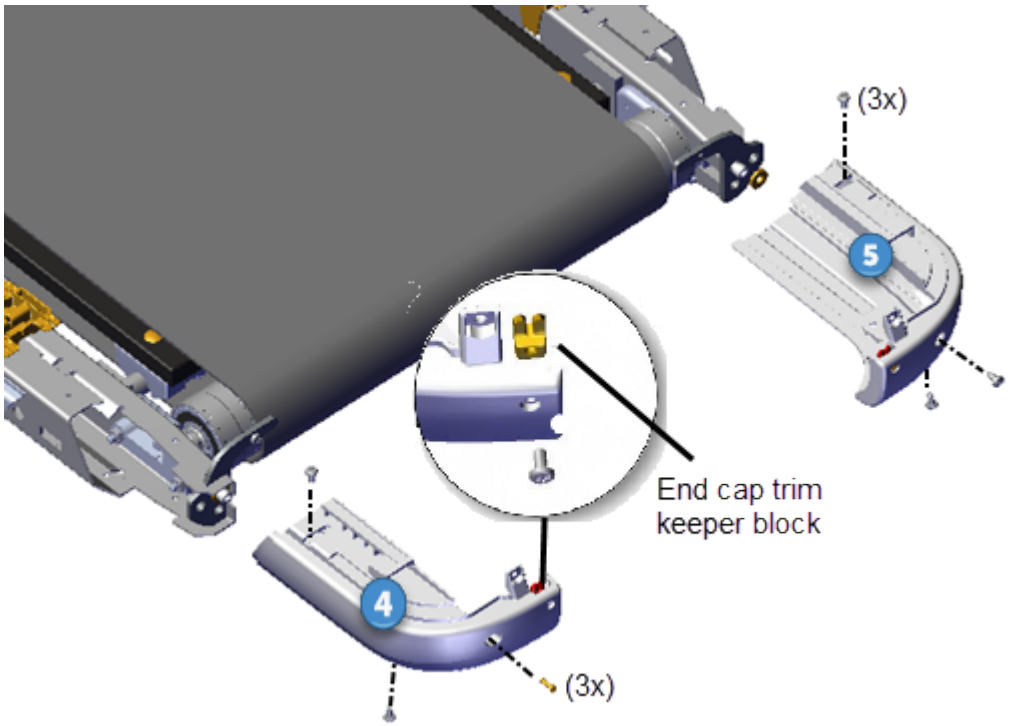


1. Position trim landing cover on top of the frame rail so that the cover clip mounts are behind the frame landing trim mounting clips. Then press down and slide the cover forward to lock the cover into the frame trim landing mounting clips.
2. Secure the trim landing cover using the #3 Phillips screw, washer, and bushing. Fully tighten the screw.
3. Repeat installation procedure for both the left 2 and right 3 trim landing covers.
4. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.

Trim End Cap Covers Replacement

Trim End Cap Covers Replacement

Legacy Frame Models



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

Removal Instructions

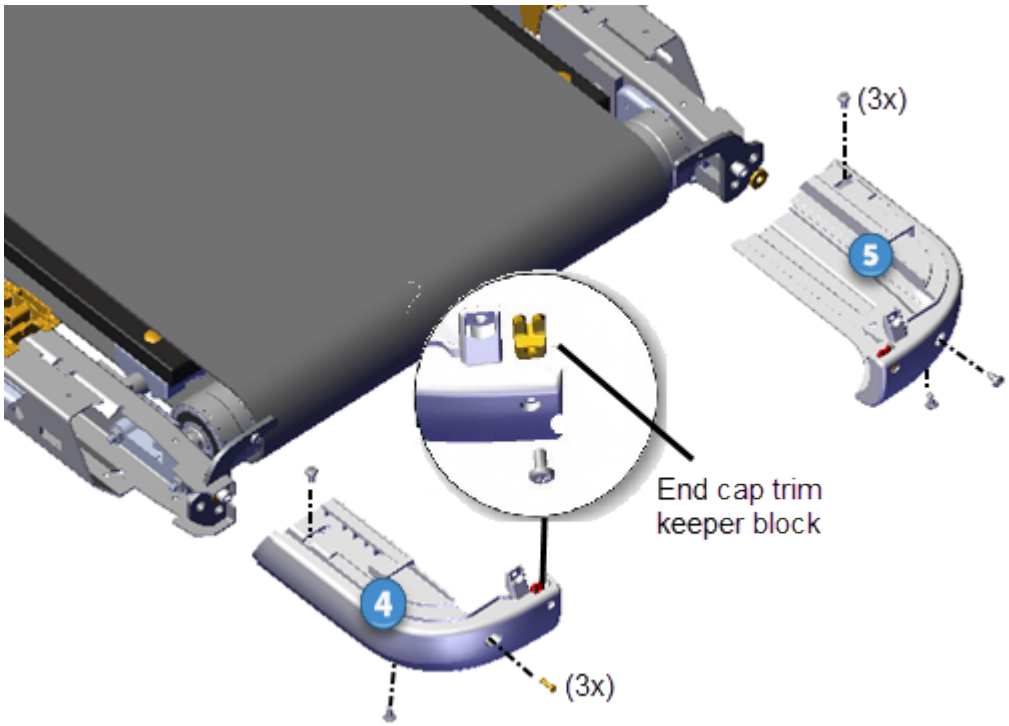
Repeat procedure for both the left 4 and right 5 end cap covers.

1. Remove the hood cover, see "Hood Cover Replacement" on page 94.
2. Remove the left and right trim landing covers, see "Covers and Panels Replacement" on page 92.
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.

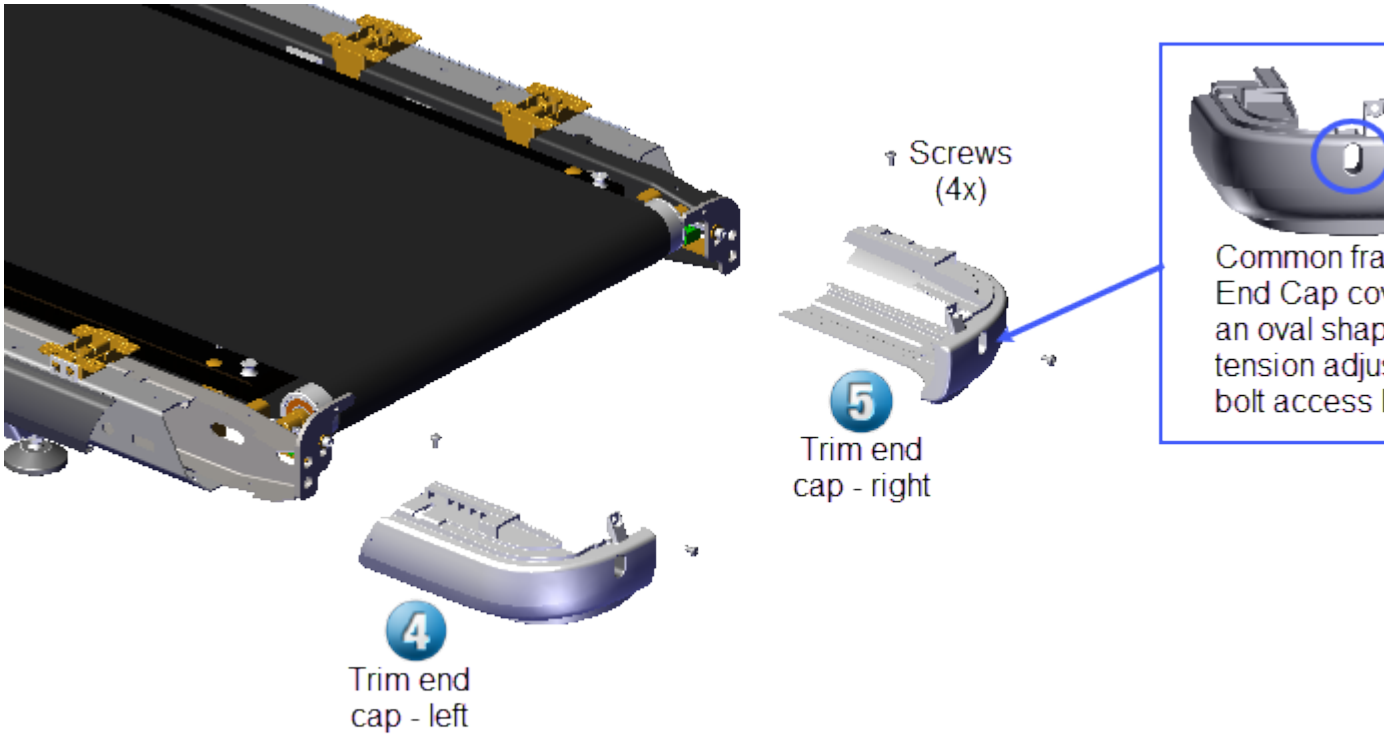
Installation Instructions



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 the same installation procedure to install both the left 4 and right 5 trim end cap covers.
3. Reinstall the left and right trim landing covers, see "Covers and Panels Replacement" on page 92.
4. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.

Common Frame Models



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 94.
2. Remove the left and right trim landing covers, see Trim Landing Cover Replacement.
3. Remove the two #3 Phillips trim end cap cover fastener screws. One screw on the top and one screw on the back of the cover. Then slide the cover rearward to remove. 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. Repeat the same removal procedure to remove both the left 4 or right 5 trim end cap covers.

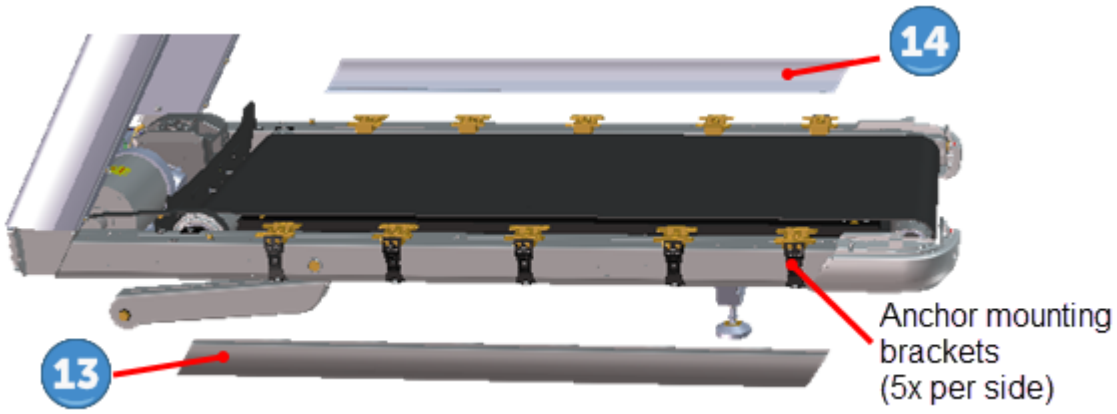
Installation Instructions

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

5. Reinstall the end cap cover onto the end of the frame rail and press to lock cover tabs in place.
6. Secure using two #3 Phillips screw fasteners. One screw on the top and one screw on the back. Fully tighten both screws.
7. Repeat the same installation procedure to install both the left 4 and right 5 trim end cap covers.
    1. Remove the back cover 9, see "Covers and Panels Replacement" on page 92.
    2. Remove the console, refer to the treadmill assembly guide on precor.com.
    3. Remove the four #3 Phillips screw fasteners and remove the front cover 9. Retain part(s) and/or fastener(s) for installation.
8. Reinstall the left and right trim landing covers, see Trim Landing Cover Replacement.
9. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.

Trim Side Cover Replacement

Trim Side Cover Replacement



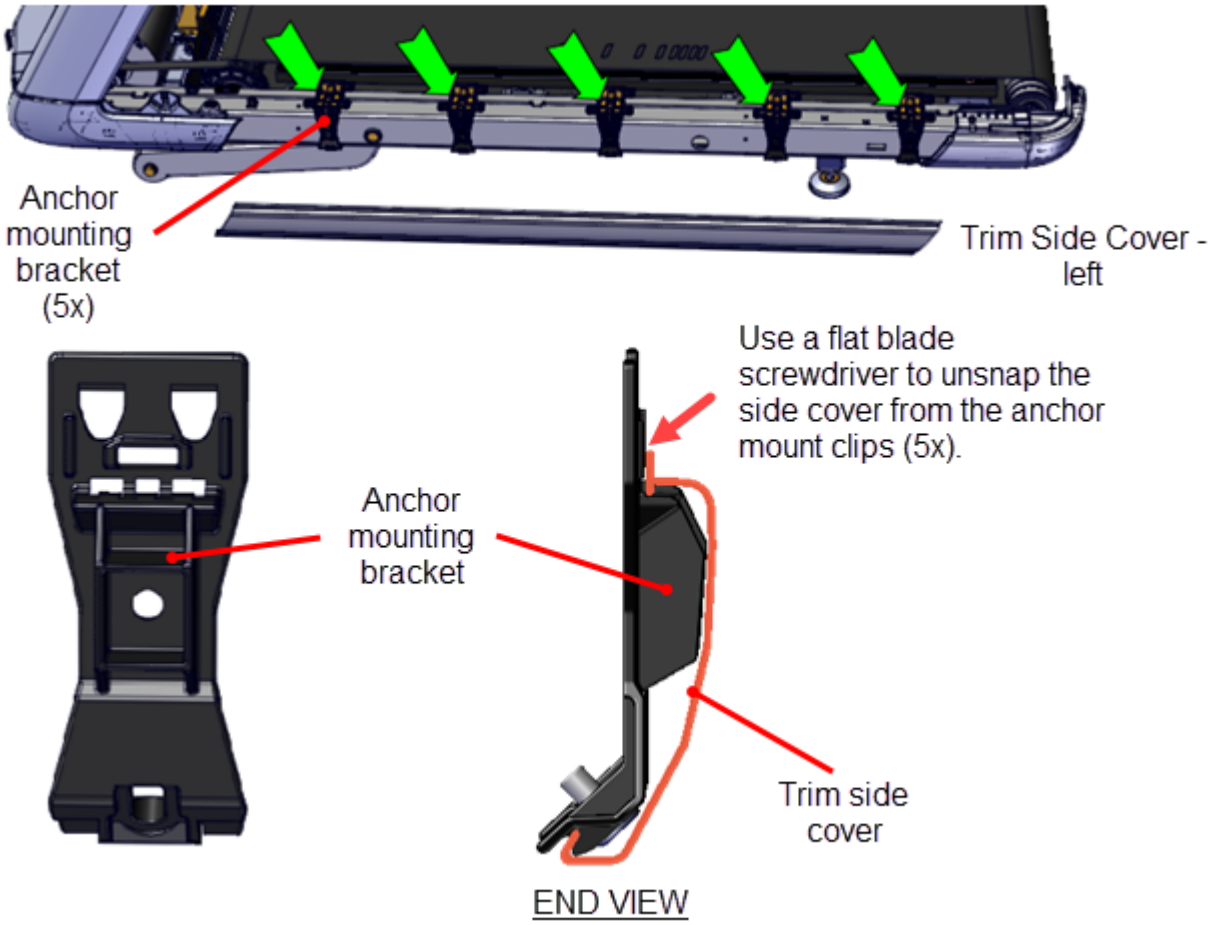
ID	Description
13	Trim Side Cover - left
14	Trim Side Cover - right

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 94.
2. Remove the trim landing cover, see "Covers and Panels Replacement" on page 92.
3. Remove the trim end cap covers, see "Trim End Cap Covers Replacement" on page 103.
4. Remove the hood transition cover, see "Covers and Panels Replacement" on page 92.
5. 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

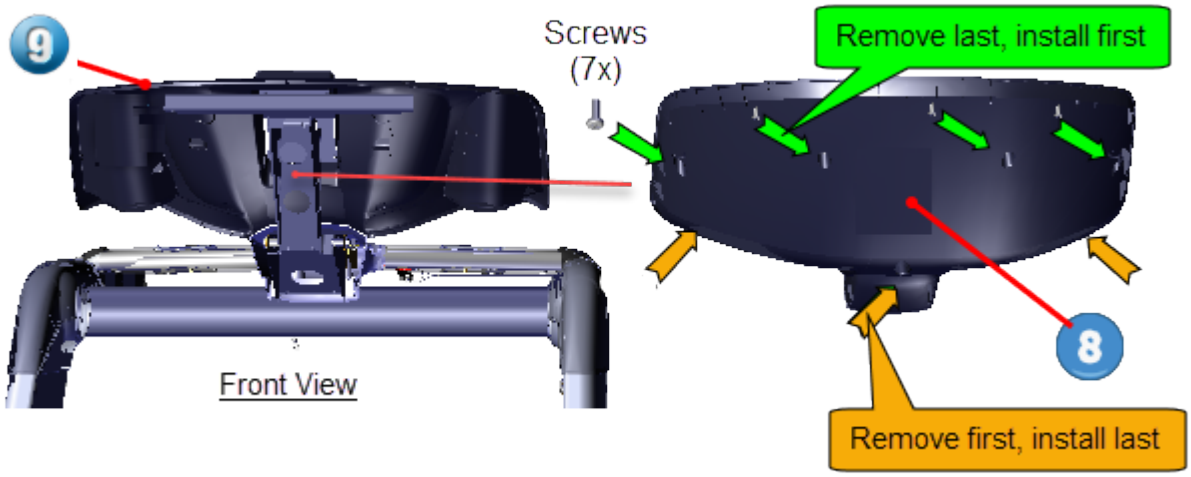
Repeat procedure for both the left and right covers.

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 92.
4. Reinstall the trim end cap covers, see "Trim End Cap Covers Replacement" on page 103.

5. Reinstall the trim landing cover, see "Covers and Panels Replacement" on page 92.
6. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.

Dash Back Cover Replacement

Dash Back Cover Replacement



ID	Description
8	Dash Back Cover
9	Dash Front Cover

Removal Instructions

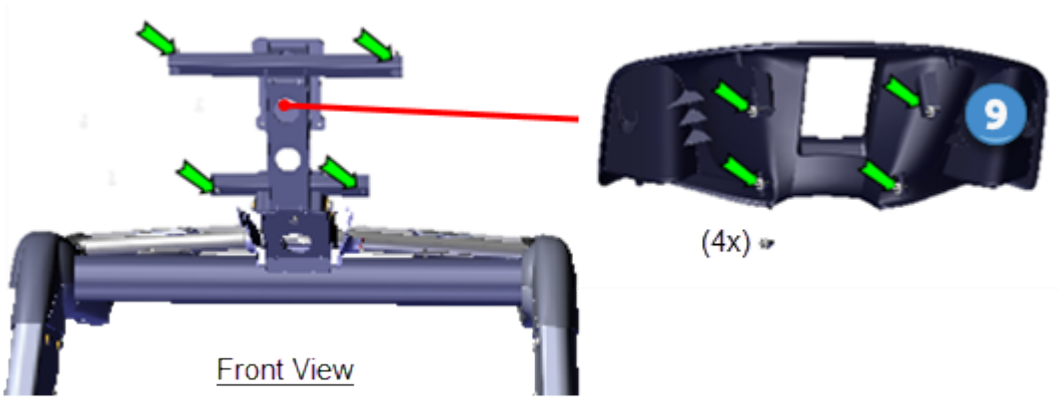
1. Remove the back cover 8. Start by removing the bottom three #3 Phillips screw fasteners first and then the remaining four top screws. Carefully hold the cover from falling while removing the fasteners. Retain part(s) and/or fastener(s) for installation.

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

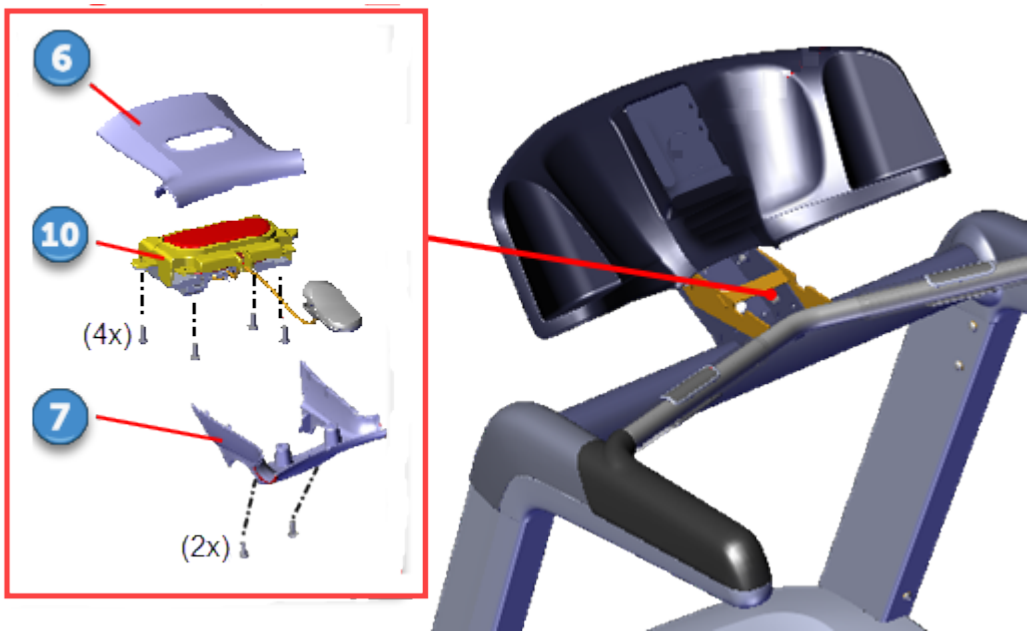
1. Remove the back cover 9, see "Covers and Panels Replacement" on page 92.
2. Remove the console, , refer to the treadmill assembly guide on precor.com.
3. Remove the four #3 Phillips screw fasteners and remove the front cover 9. Retain part(s) and/or fastener(s) for installation.

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 on precor.com.
3. Reinstall the back cover 9 and secure using the seven #3 screw fasteners, see "Covers and Panels Replacement" on page 92.
4. Operate the treadmill and verify the console and machine operation.

Dash Top and Bottom Cover Replacement

Dash Top and Bottom Replacement

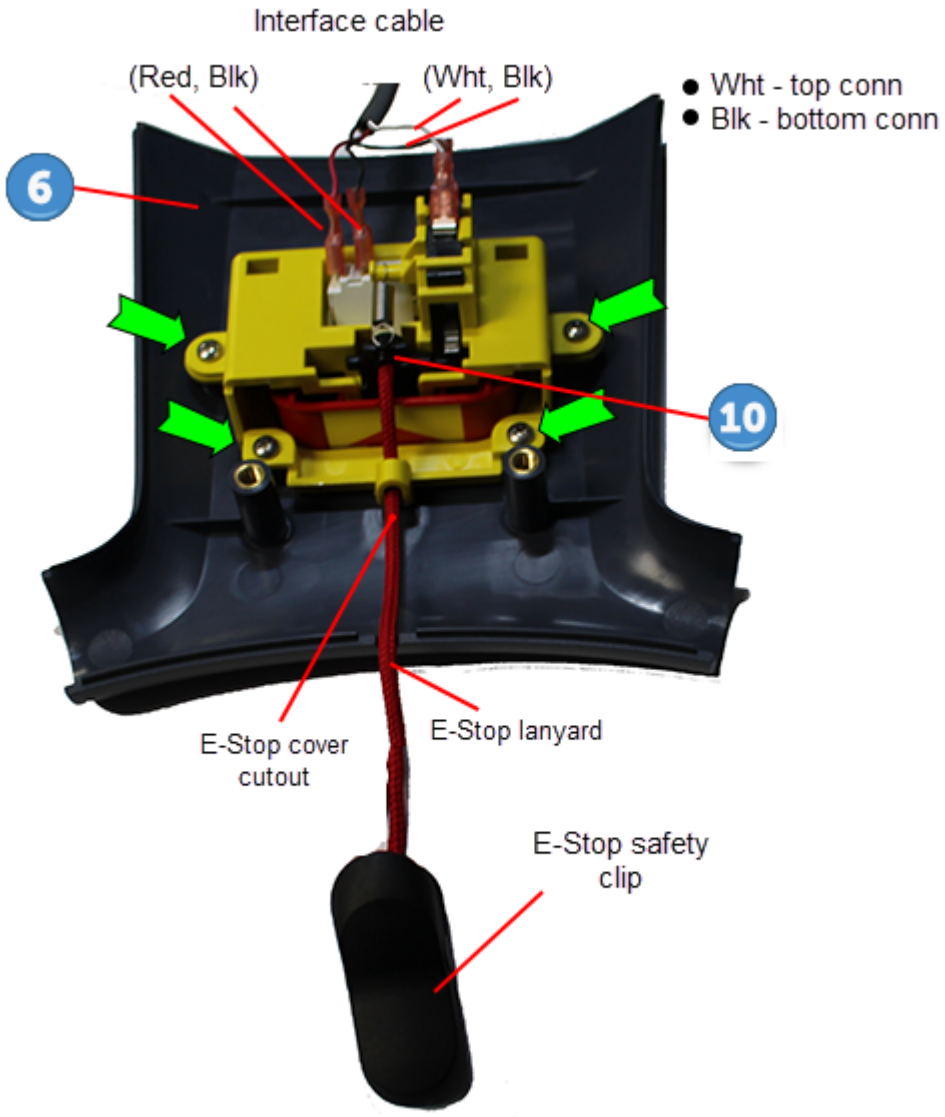


ID	Description
6	Dash Top Cover
7	Dash Bottom Cover
10	E-Stop Switch Assy

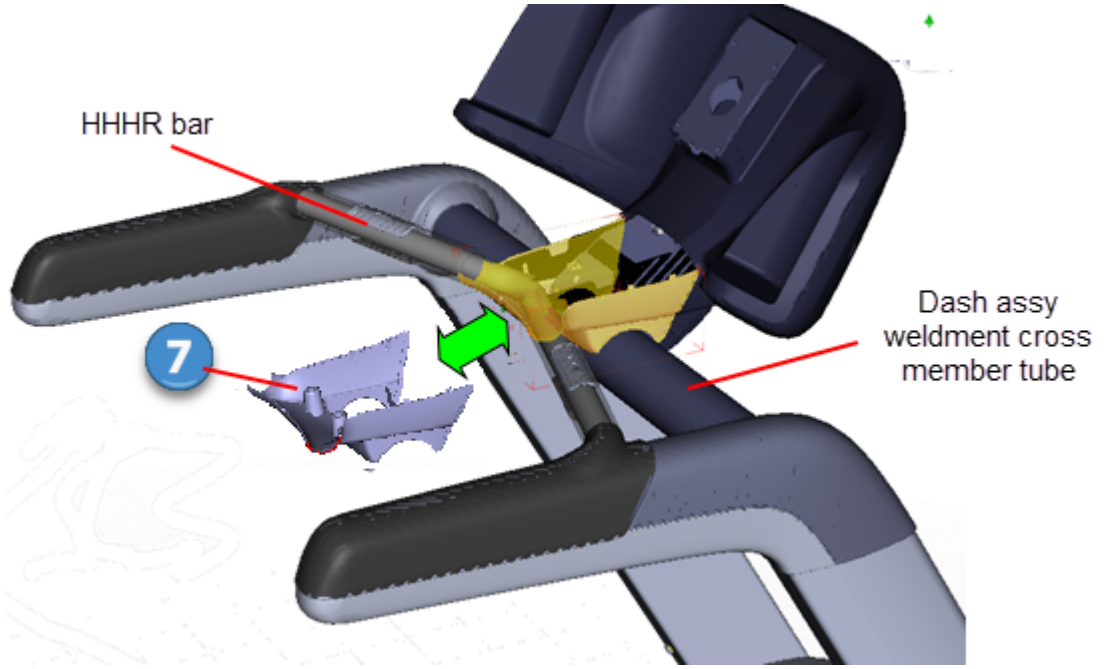
Removal Instructions

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.

[1]Handheld Handlebar Heart Rate

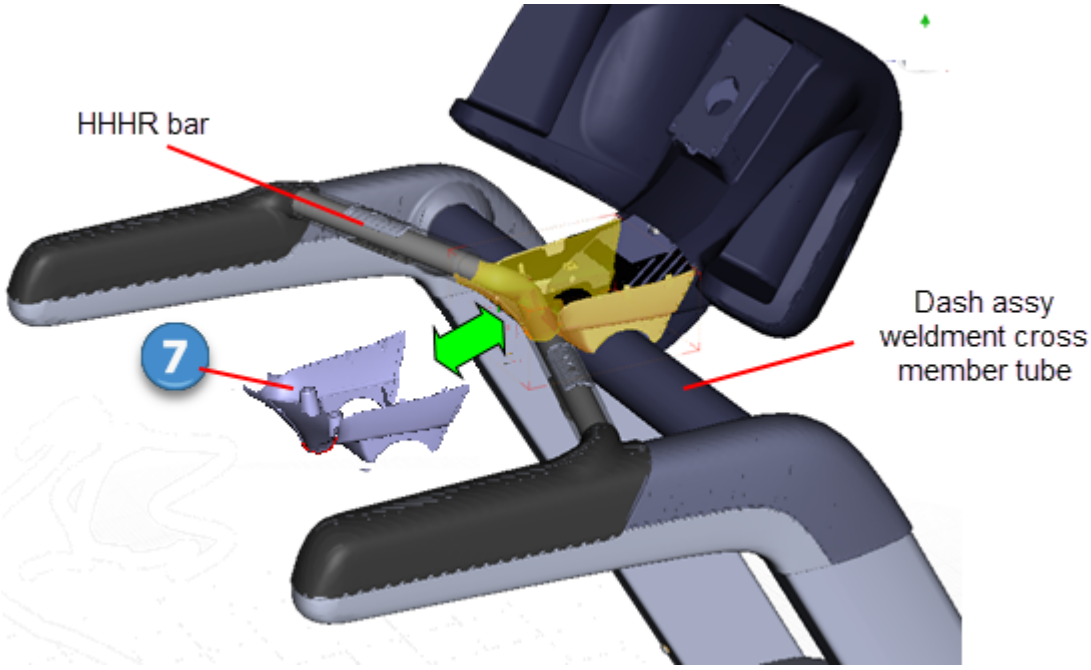


3. Remove the dash bottom cover 7 .from between the dash assembly weldment cross member and HHHR bar.

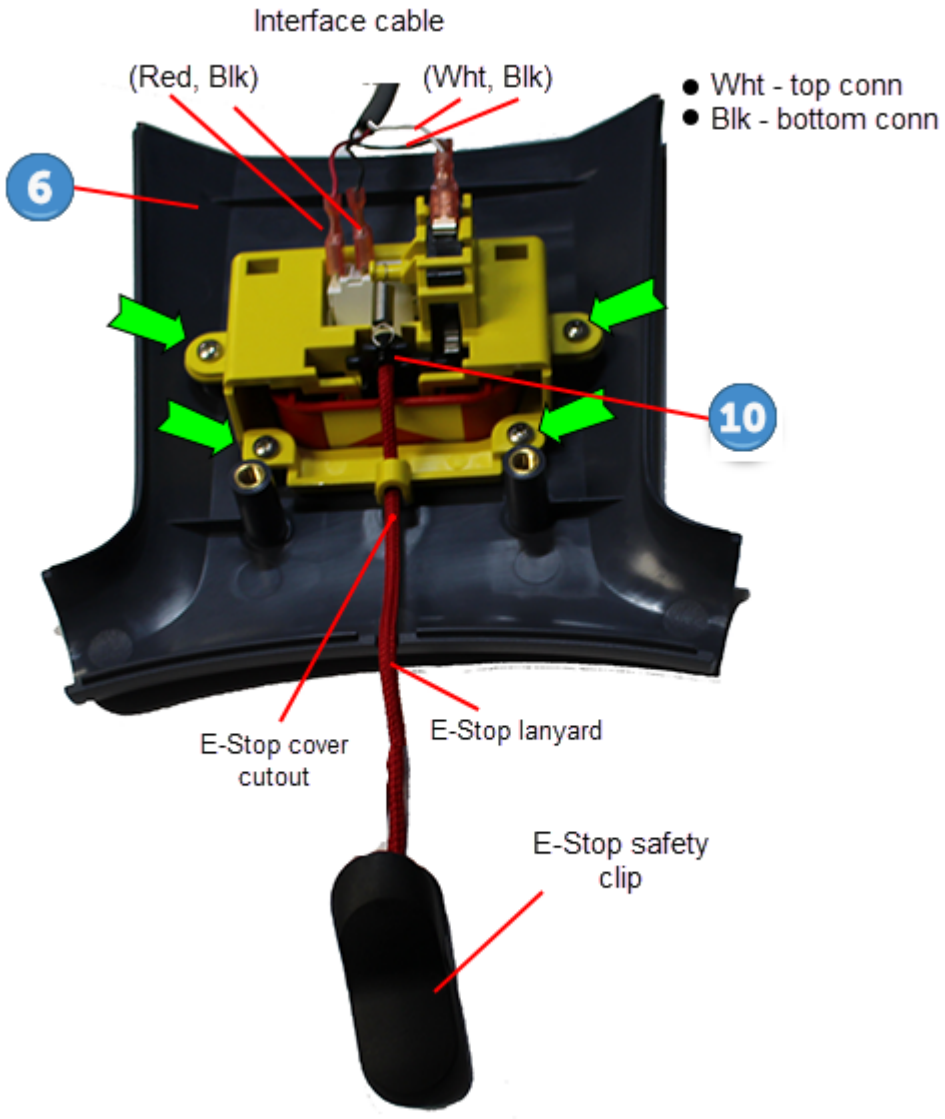


Installation Instructions

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



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

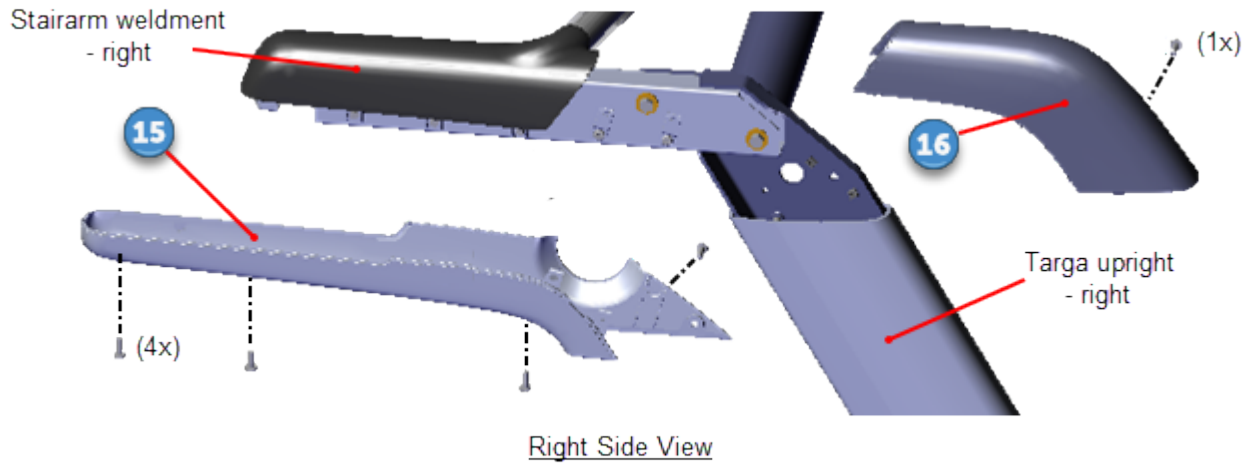


3. Position the dash top cover onto the dash bottom cover and secure using the two #3 Phillips fasteners. Make sure the interface cable is routed correctly and not pinched. Make sure that the stop safety clip lanyard is correctly positioned in the cover cut out, is not pinched, and freely moves when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



Right Side View

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 backward 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

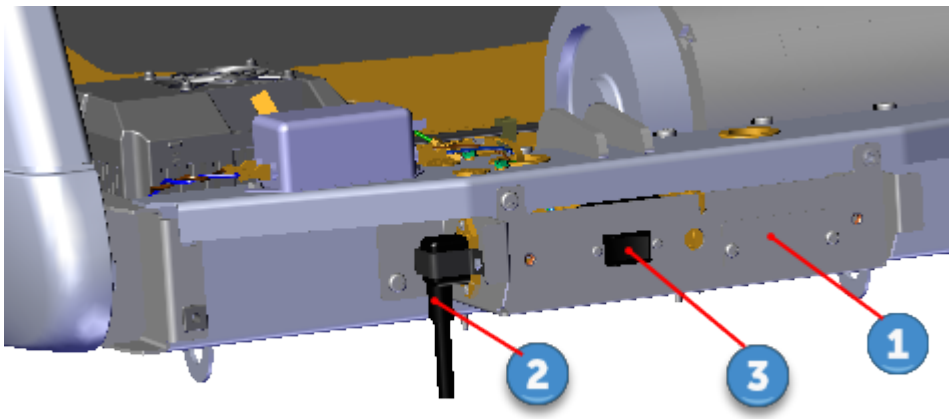
Repeat procedure for both the left and right upper and lower side arm covers.

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.

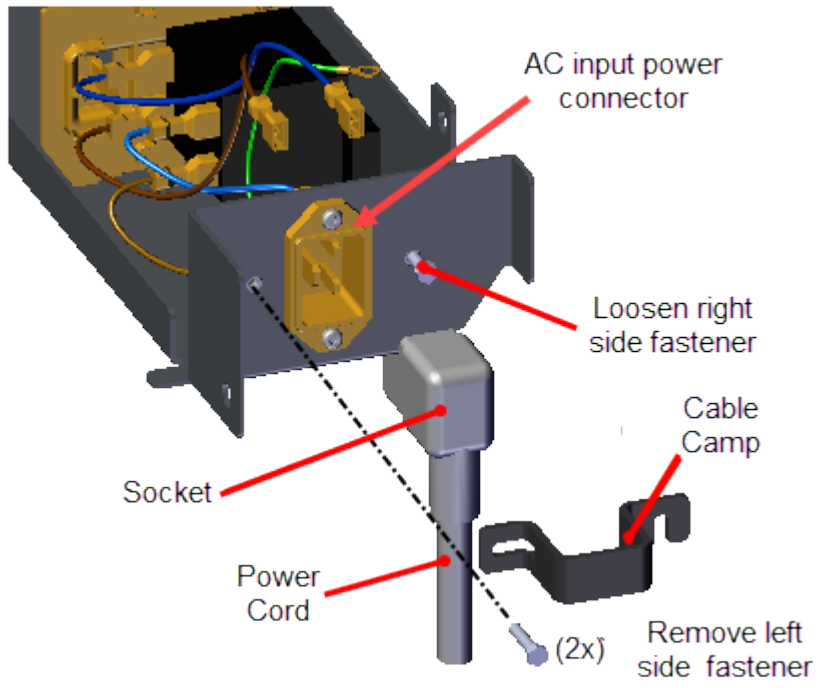
Removal Instructions

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.

[1]Disconnect 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 94.



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 94.
4. Connect the power cord and switch the ON/OFF circuit breaker **ON**.
5. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

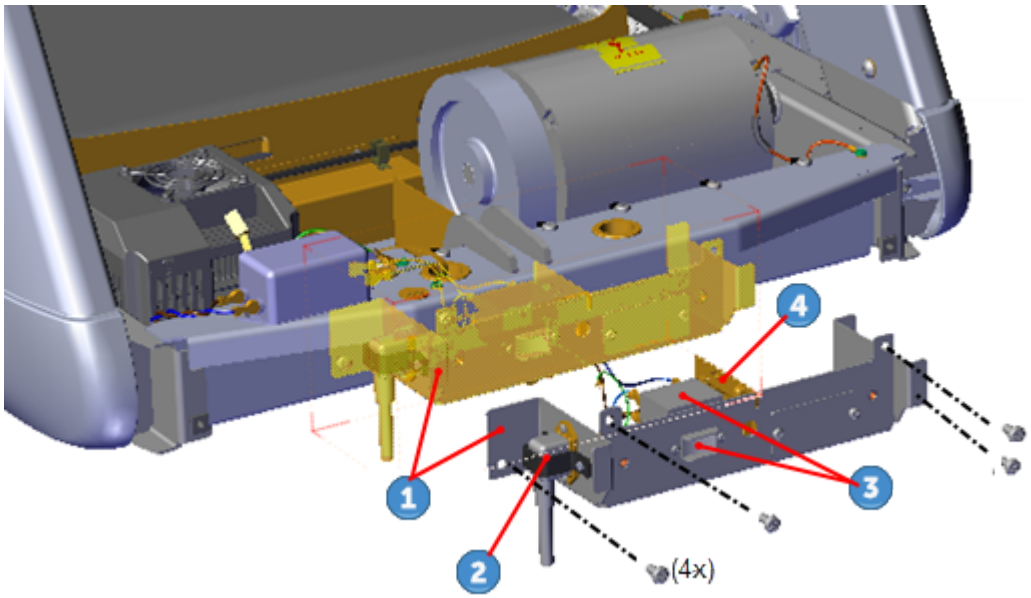
[1]Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

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 **ASL**[1] **PCA**[2] board. The Power Entry Assembly Bracket must be removed to access these components.



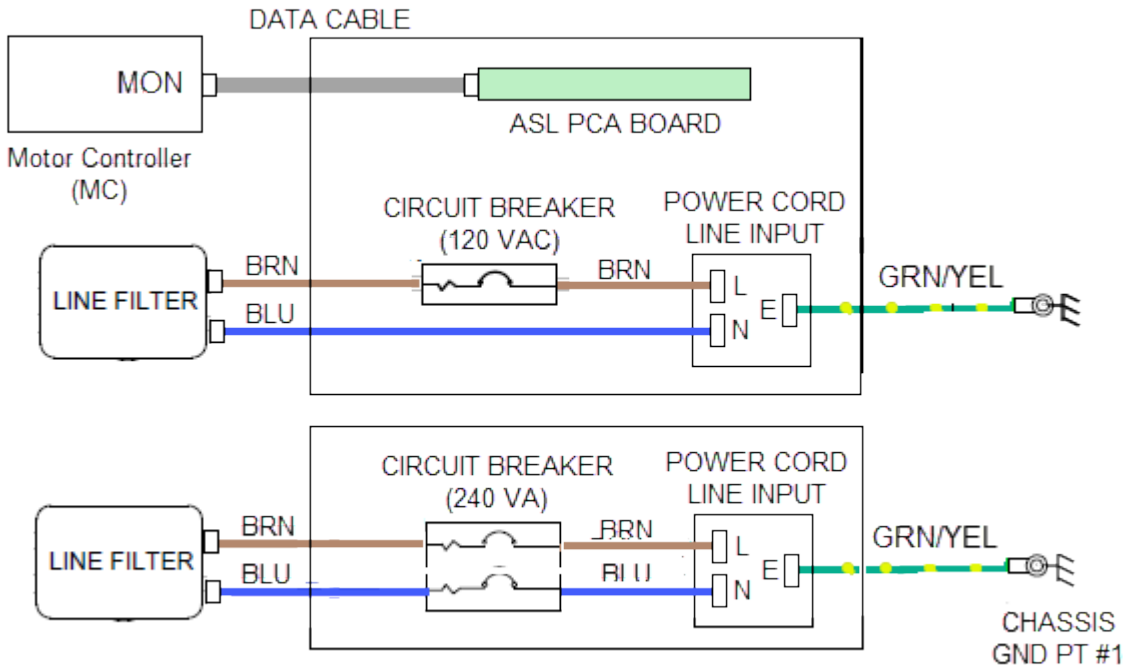
ID	Description
1	Power Entry Assembly Bracket
2	Power Cord Inlet Assy
3	**ON/OFF SW Circuit Breaker**
4	ASL PCA Board

[1]Active Status Light: Service and maintenance status light.

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

Wire Diagram

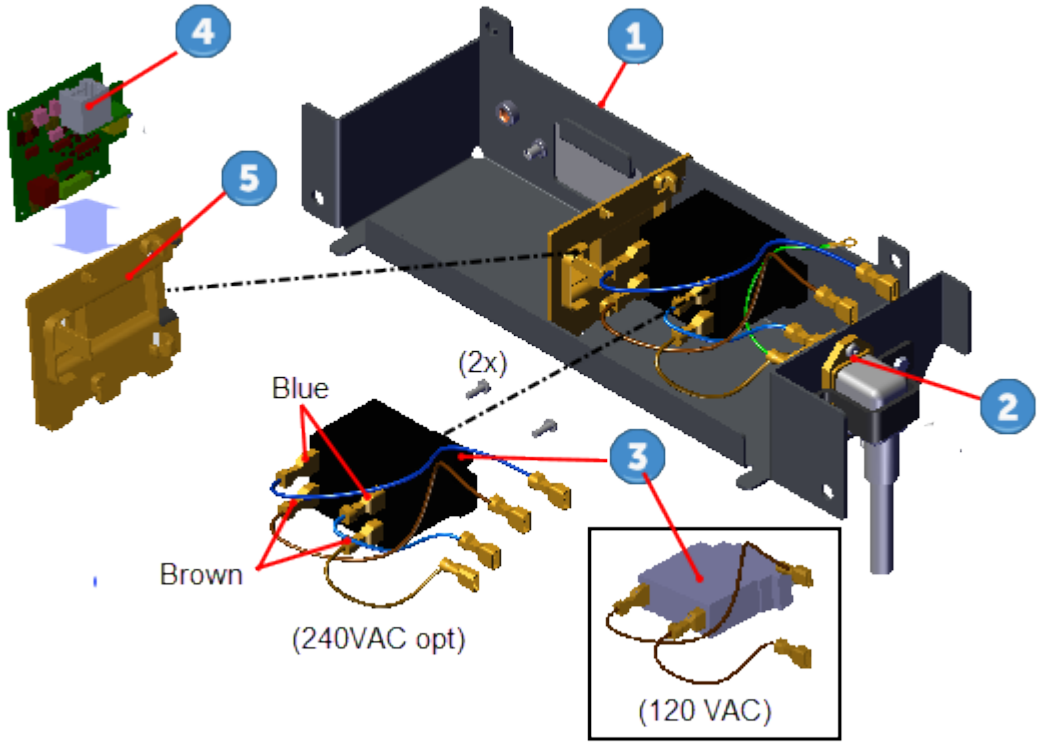
Power Entry Assembly wire diagram.



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.

[1]Disconnect 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 94.
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 119.
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

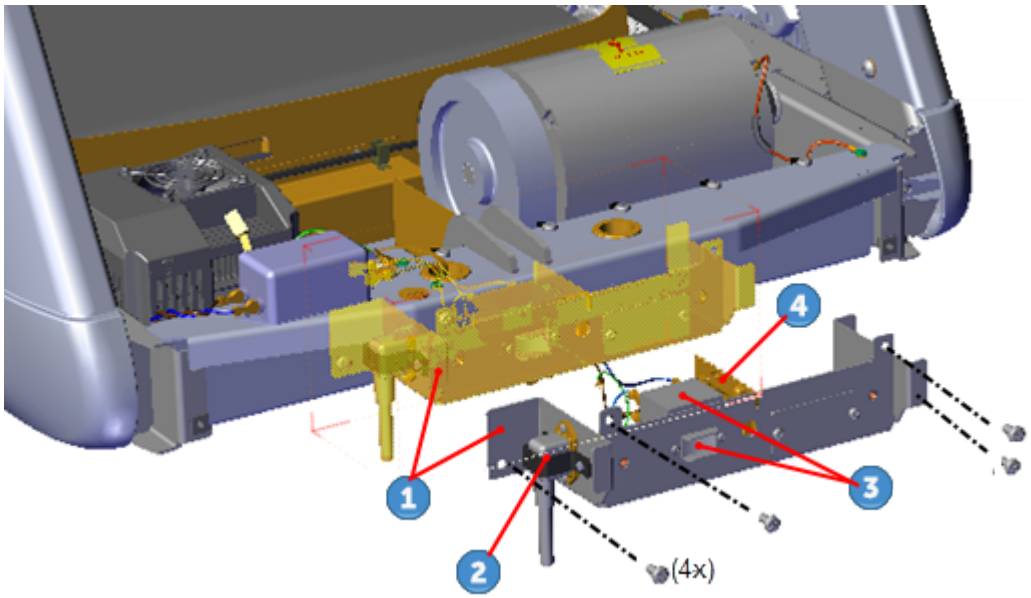
1. Reinstall the ON/OFF SW Circuit Breaker (3) and secure using the two #2 Phillips fasteners.
2. Reconnect the two brown input power wires (or two brown and two blue for the 240 Vac option) on the ON/OFF SW Circuit Breaker (3), see "" on page 119.
3. Reinstall the Power Entry Assembly bracket (1) and 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 94.
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 27) and return to service.

ASL PCA Replacement

About

This procedure provides instruction to replace the **ASL**[1] **PCA**[2] 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.

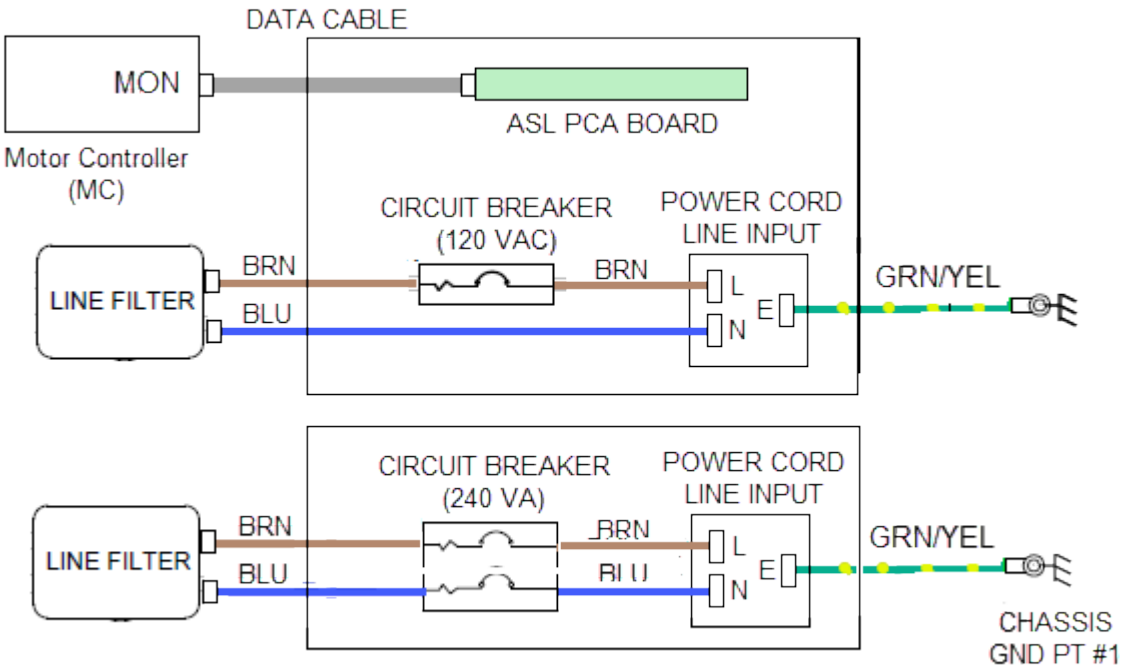


ID	Description
1	Power Entry Assembly Bracket
2	Power Cord Inlet Assy
3	ON/OFF SW Circuit Breaker
4	**ASL PCA Board**

Wire Diagram

Power Entry Assembly wire diagram.

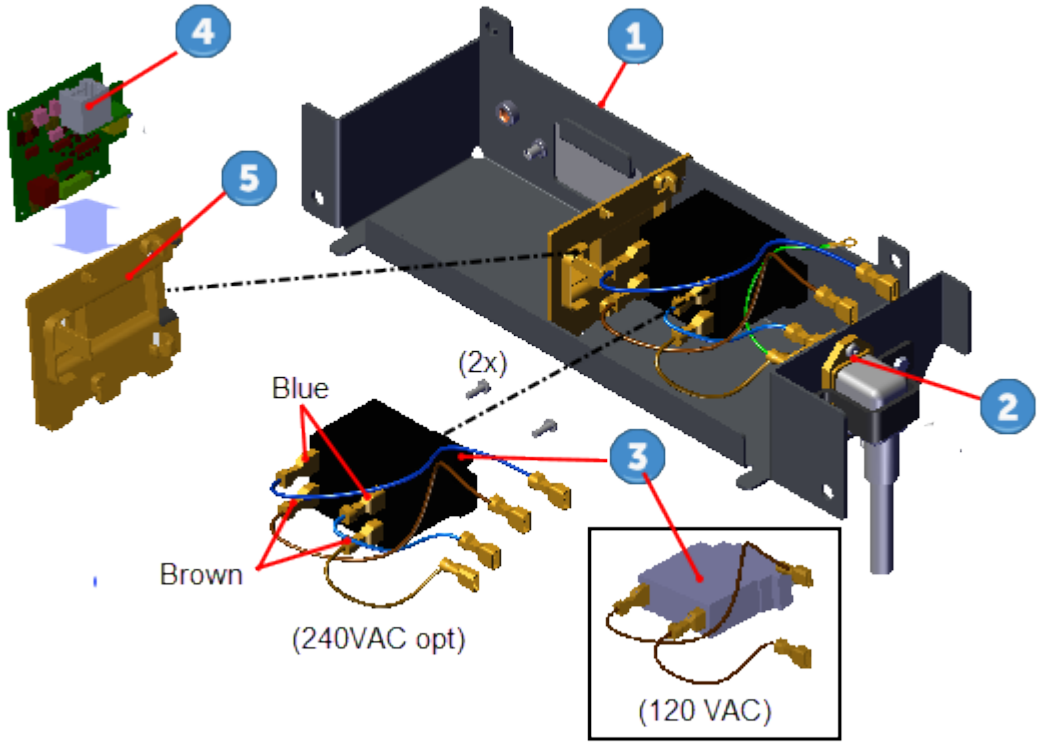
[1]Active Status Light: Service and maintenance status light.
[2]Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.



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

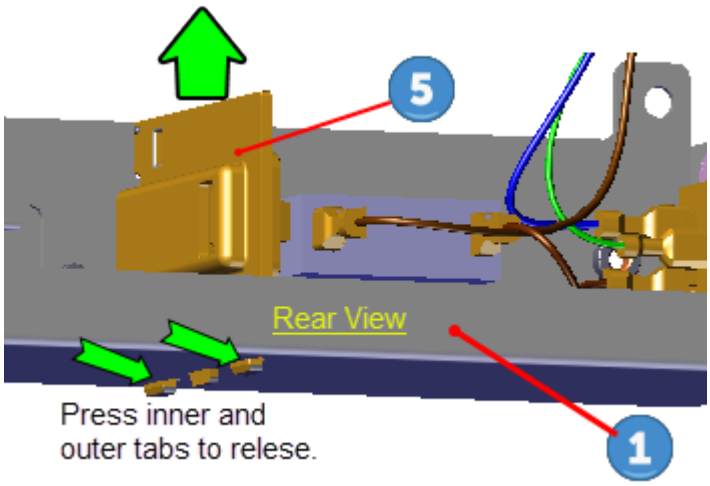
Removal Instructions

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

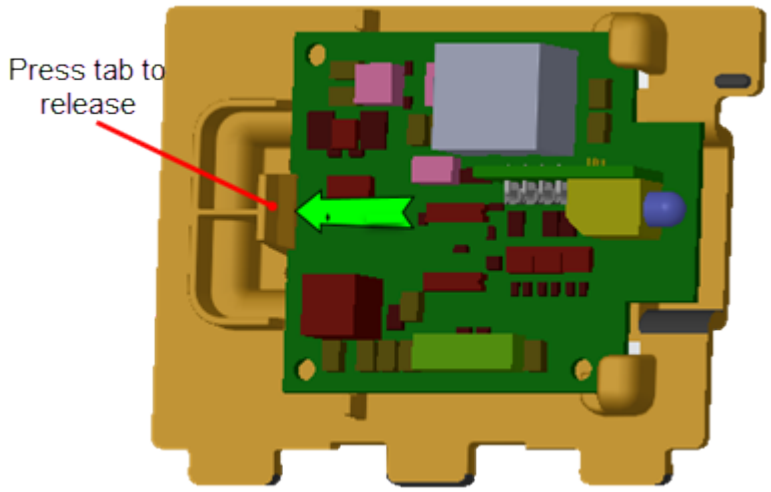
TIP: For easier access, raise the incline to maximum before removing power. Access the service Hardware Validation (51765761) and use the **CROSSRAMP/INCLINE Test** to raise the incline and then remove power.

[1]Disconnect 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 94.
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 123.
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.



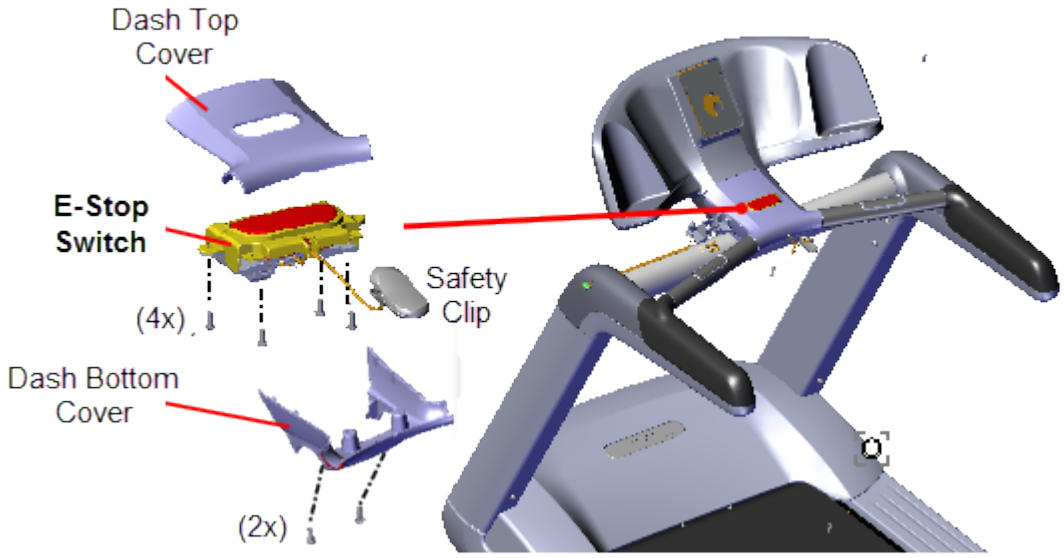
Installation Instructions

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 123.
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 94.
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 27) 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/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 112.
2. Verify operation and return to service, (see Operation Verification).

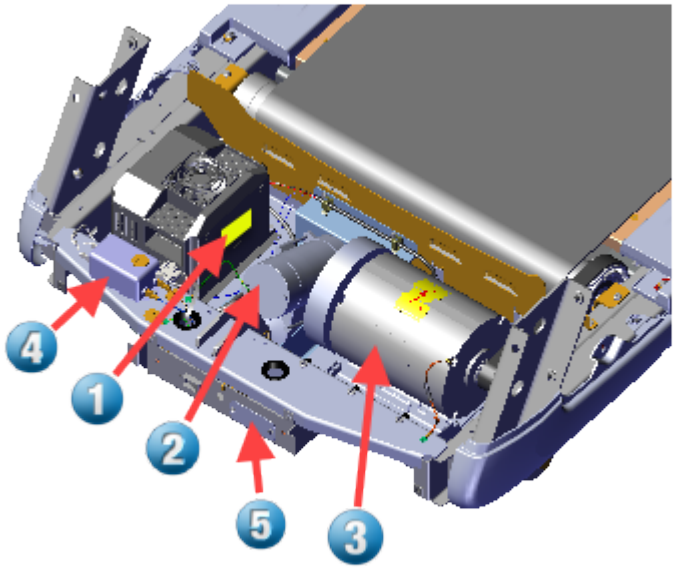
Motor Controller (MC) Replacement

About

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

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

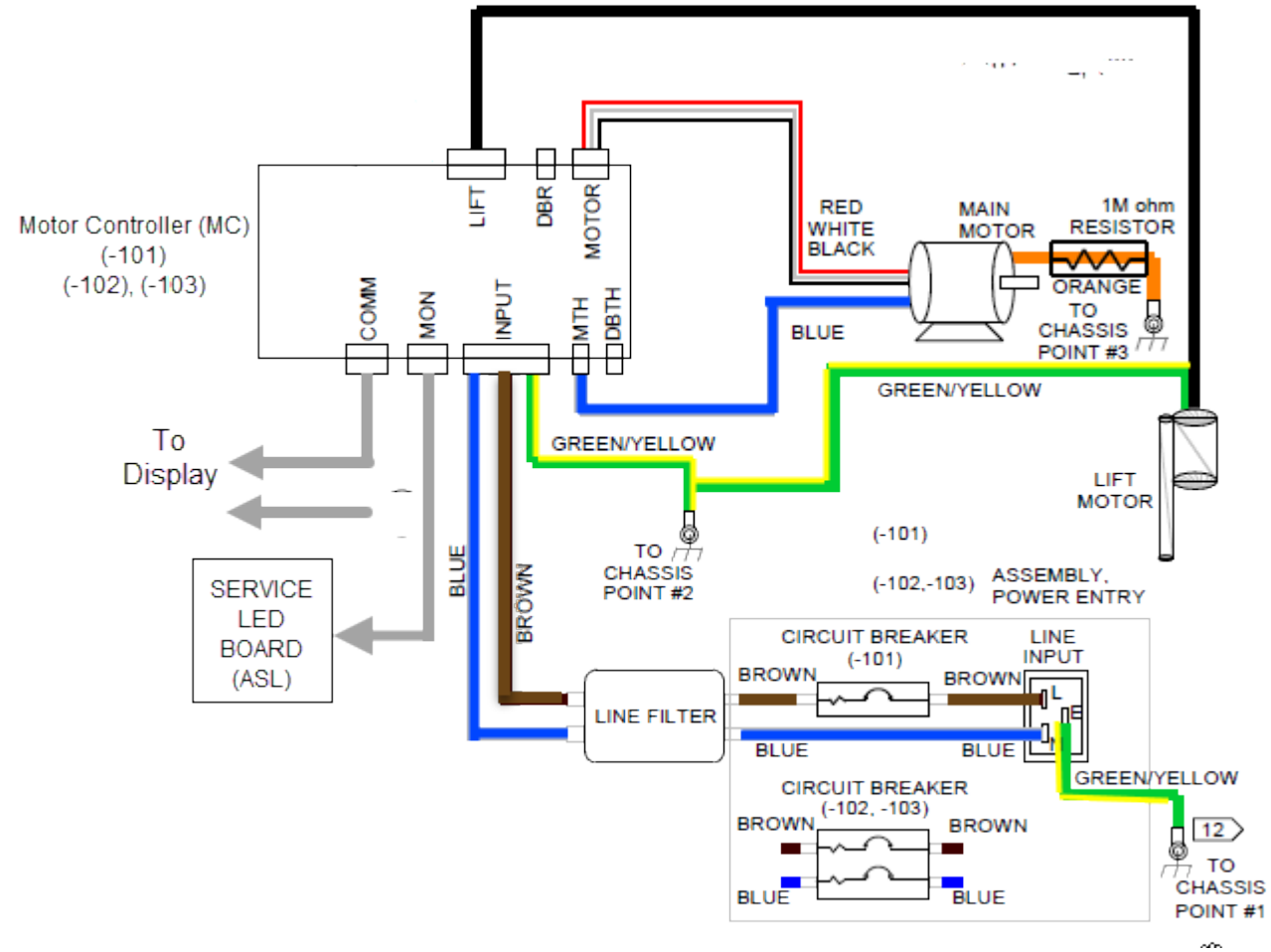
Note: The TRM600/700/800 have different colored MC product labels: the TRM600 label is **orange**, the TRM700 label is **yellow**, and the TRM800 label is **silver**.



ID	Description
1	**Motor Controller (MC)** • TRM600 MC product label color: Orange • TRM700 MC product label color: Yellow • TRM800 MC product label color: Silver
2	Lift Motor
3	Drive Motor
4	Line Filter
5	Power Entry Assy Module

[1]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.

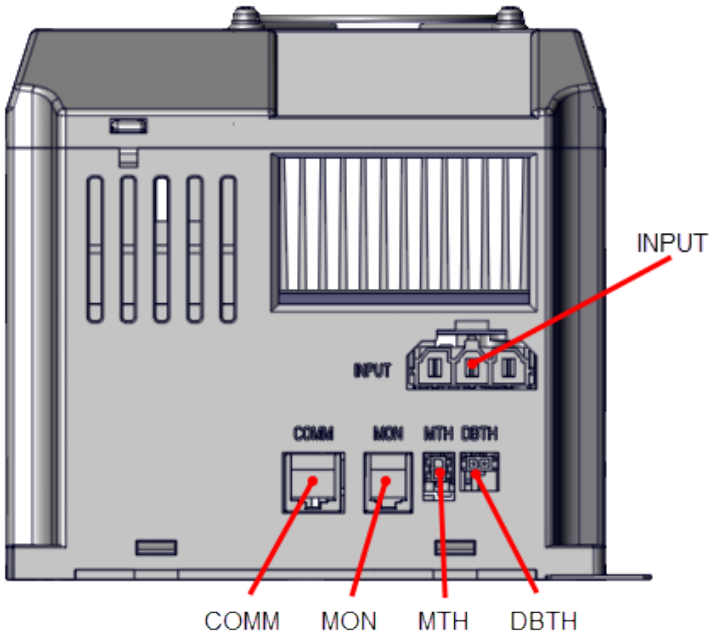
MC Wire Diagram



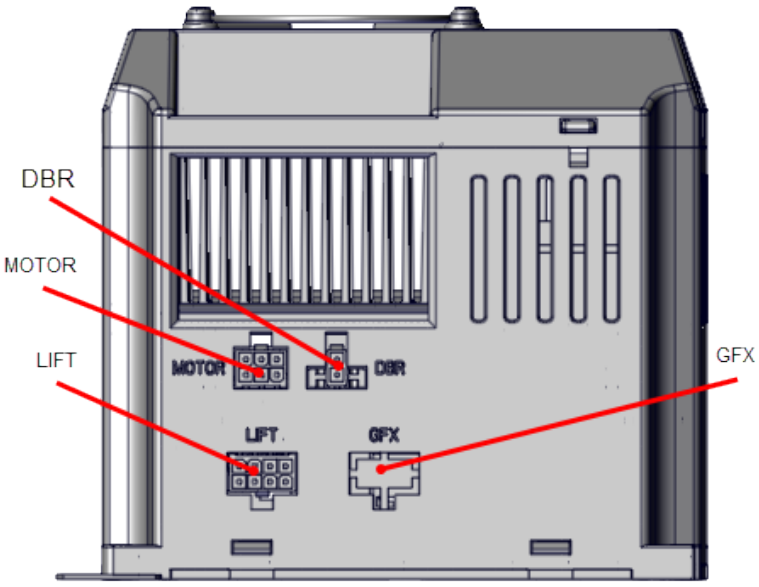
MC Connector Definition

MC I/O connectors

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



FRONT VIEW



BACK VIEW

Motor Controller (MC) Interface Connections

MC connector pin definitions

CONN[1] ID	NAME	PIN	Description
INPUT	MC AC[2] INPUT PWR	1	EARTH GROUND
		2	AC LINE 1- LINE AC LINE
		3	AC LINE 2- NEUTRAL
MOTOR	DRIVE MOTOR AC PWR OUT	1	NC
		2	NC
		3	NC
		4	BLACK MOTOR PHASE B
		5	WHITE MOTOR PHASE C
		6	RED MOTOR PHASE A
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[3]
DBR[4(1)]	DYNAMIC BRAKE RESISTOR SENSE	1	THERMAL RESISTOR SENSE

[2]Alternating Current: electric current which periodically reverses direction between positive and negative polarity.
[3]Emergency Stop: Safety clip and lanyard attached to the stop switch to immediately turn off power bringing the machine to a stop.
[4]treadmill dynamic break resistor.

CONN[1] ID	NAME	PIN	Description
		2	THERMAL RESISTOR SENSE
MON(2)	MONITOR (ASL[2] PCA[3] INTERFACE CABLE)	1	+8 VDC
		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

[2]Active Status Light: Service and maintenance status light.

[3]Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.

CONN[1] ID	NAME	PIN	Description
			EXTEND
		8	BLK - MOTOR RETRACT
GFX[2]	not used	-	not used

Notes:
1) Not used on TRM600-XX and TRM700-XX series treadmills.
2) Not used on TRM600-XX series treadmills (no ASL function).

[2]Ground 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.

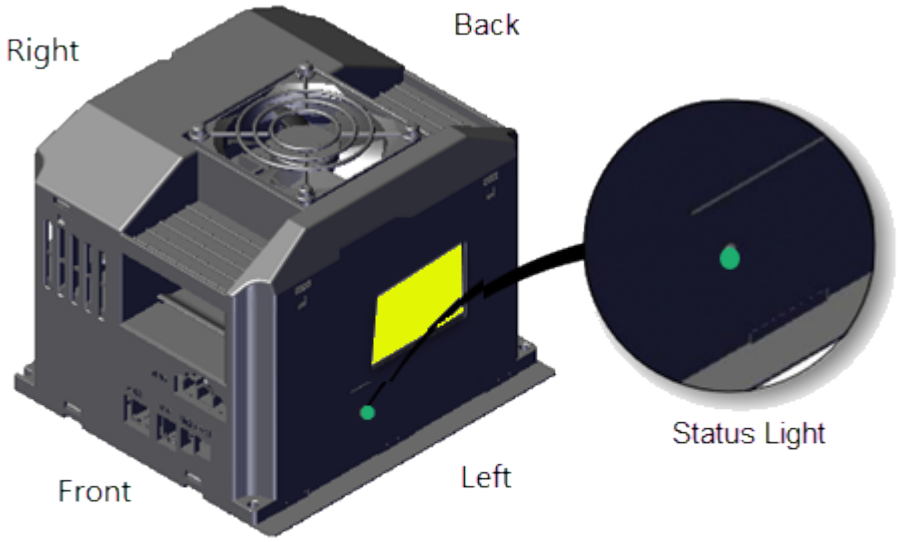
Note: For MC Fan replacement, see "Motor Controller Fan Replacement" on page 143.



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.



Motor Controller (MC)

ASL State	DESCRIPTION
Green	Normal operation.
Yellow	Indicates a fault condition has occurred, go to the Error Log or **CPA**[1] Event Log to view the current error codes (see "Error Log & CPA Event Log" on page 238 and the Error Code Troubleshooting Guide). To reset the MC status light, first repair the error condition and then clear the error log. Recycle power and verify that the MC light has returned to green.
*The TRM600 and P31 console do not support the MC status light.	

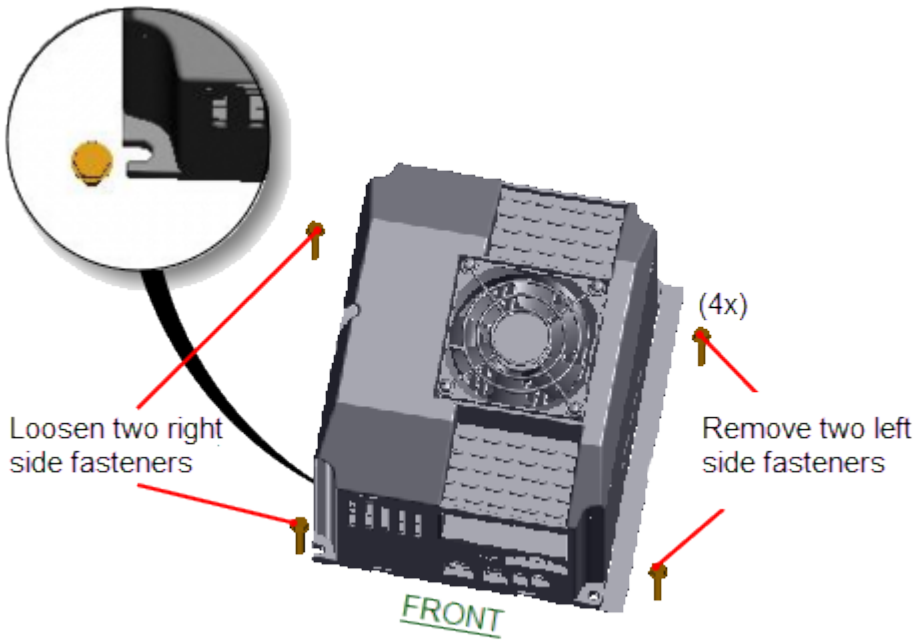
[1]Touchscreen console Control Processing Assembly.

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 94.
3. Remove the two left side 5/16" hex head fasteners. Then loosen, but do not remove, the two right side 5/16" hex head fasteners approximately 4 full turns. Slide the MC base to the left to free the base from the two right side mounting bolts. Retain part(s) and/or fastener(s) for installation.



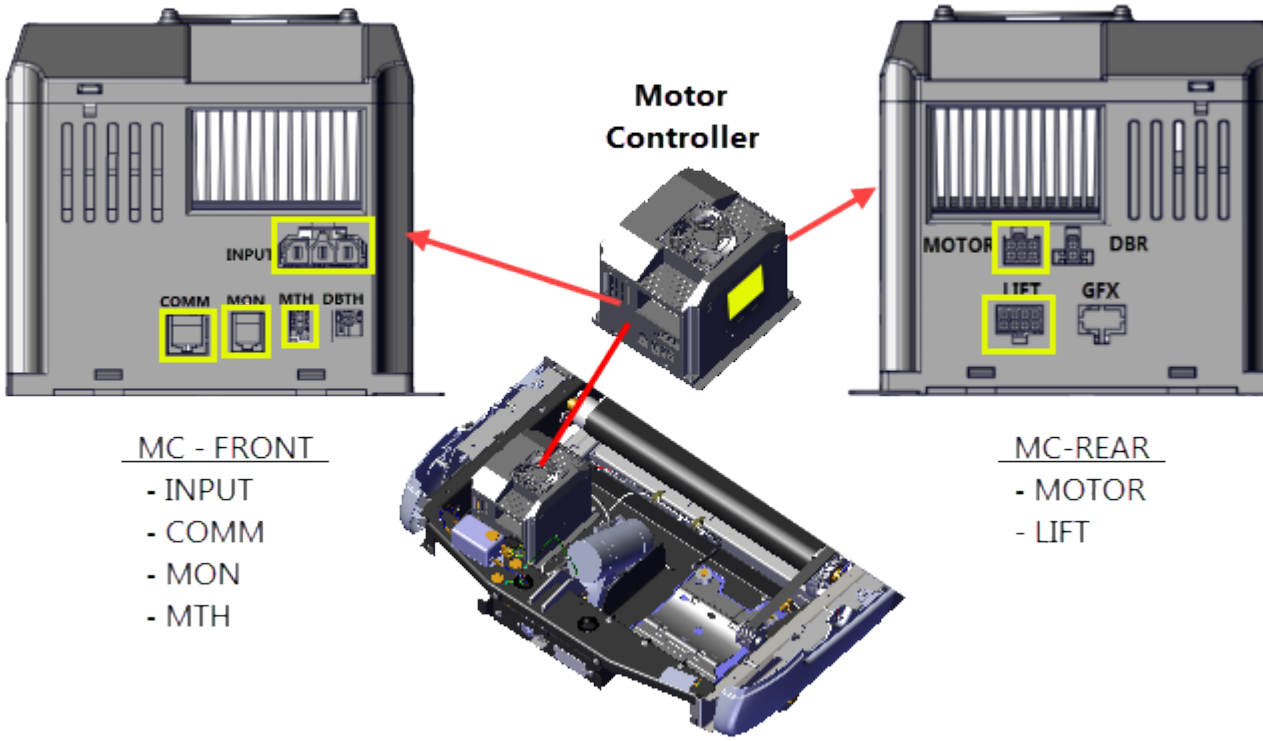
4. Carefully raise the front and rear of the MC as needed to disconnect the attached **I/O**[2]

[1]Disconnect a device power cord plug or cable connector from the power receptacle or outlet.
[2]Input and Output Interface.

interface cable connectors. Then remove the MC.

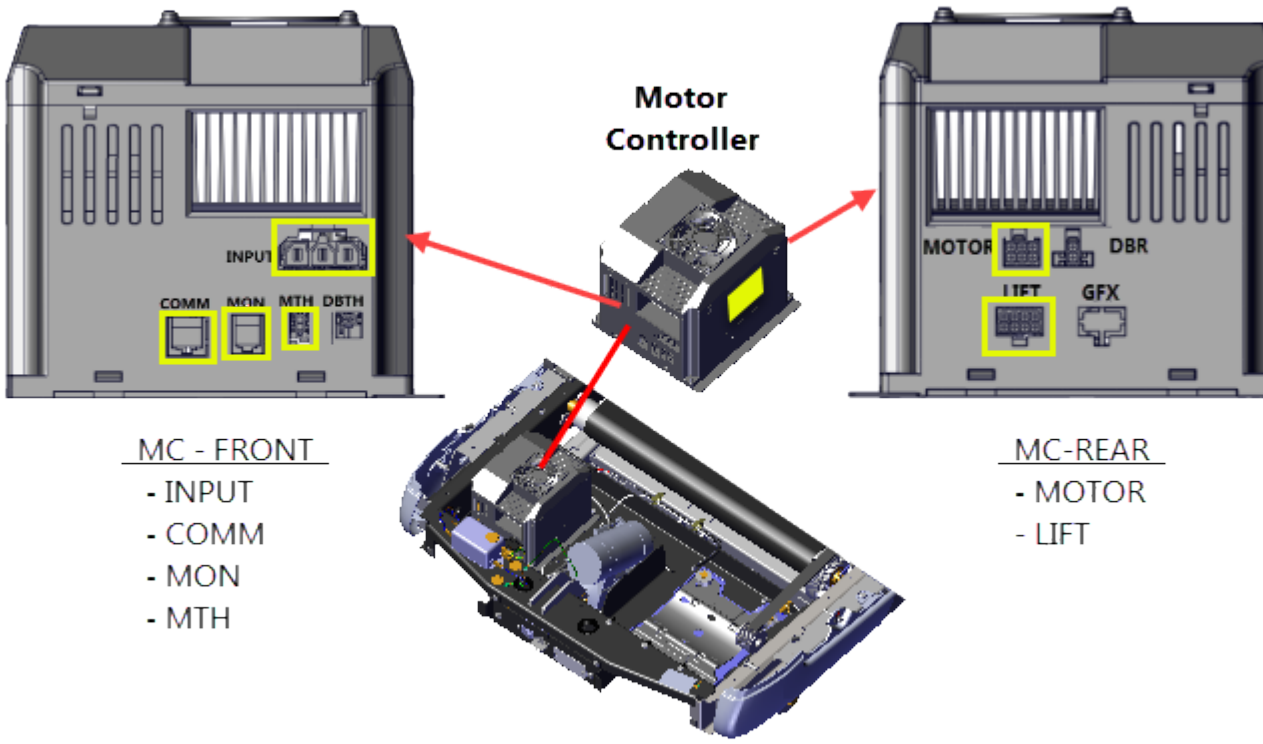
MC FRONT side I/O Cable Connections	MC REAR side I/O Cable Connections
INPUT - Input line power cable	**MOTOR** - Drive motor AC power out cable
COMM - Comm Data cable*	**LIFT** - Lift motor power out/control cable
MTH - Drive motor thermal sw cable	
MON - ASL power/control cable	
* The COMM connector contacts have an application of dielectric grease to ensure proper electrical contact. Do not wipe off, clean, or remove the dielectric grease. When reconnecting, apply dielectric grease as needed.	

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

1. Verify that the MC is the correct part number and correct color product label:
   - TRM600 MC product label color: Orange
   - TRM700 MC product label color: Yellow
   - TRM800 MC product label color: Silver
2. Place the MC on top of the mounting bolts and reconnect the MC I/O cables that were previously disconnected. It will be easier to attach the cable connectors before installing the MC into the mounting bolts. Make sure the I/O cable connectors have the correct orientation and alignment before inserting into the MC I/O port.

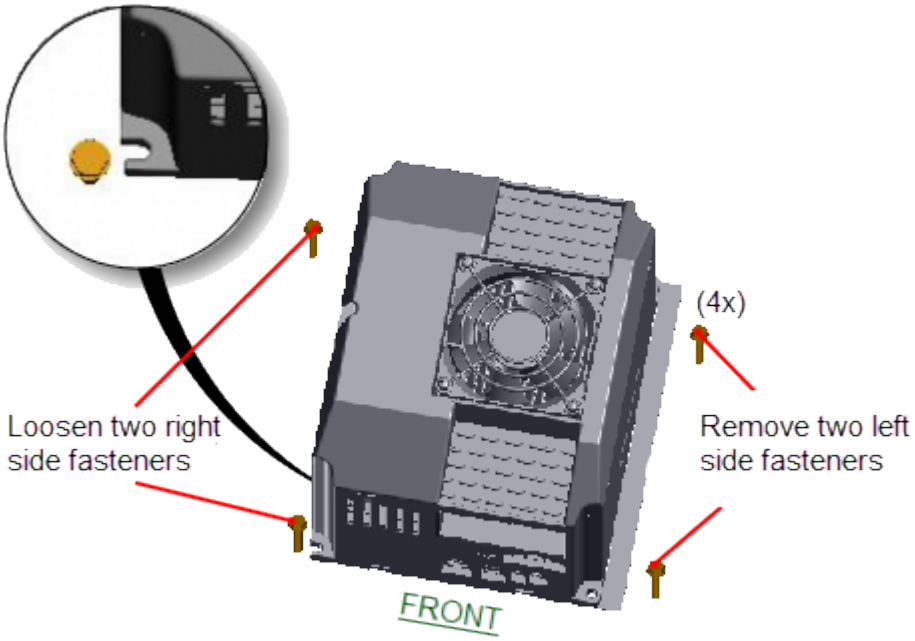


MC FRONT side I/O Cable Connections	MC REAR side I/O Cable Connections
INPUT - Input line power cable	**MOTOR** - Drive motor AC power out cable
COMM - Comm Data cable*	**LIFT** - Lift motor power out/control cable
MTH - Drive motor thermal sw cable	

MC FRONT side I/O Cable Connections	MC REAR side I/O Cable Connections
MON - ASL power/control cable	
* 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. When reconnecting, apply dielectric grease as needed.	

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.

3. Insert the MC right side base mounting flange under the two loosened right side bolt hex heads. Then install the two right side fasteners and fully tighten all four fasteners.



4. Make sure that the interface cables are correctly routed and secured to the frame cable clamps. Verify that all MC cable connections remain properly connected, that the cables have freedom of movement and are not stretched to tight, and that the cables are clear of any frame or component edges that could pinch, chafe, or otherwise damage the cable wires.
5. **Plug**[1] in the power cord and switch the power **ON**.
6. Clear the Error Log or CPA Event Log and reset the ASL light as follows:

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

On LED[1] 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 and MC status lights. Verify that the ASL status light is blue and the MC status light is green.

On touchscreen P62, P80, and P82 consoles

a. Clear the CPA Event Log: Access the service **Settings** menu (51765761), select **About** > **CPA Event Log**. Then select the **CLEAR** softkey to clear the CPA Event Log.

b. Reset the ASL status light: Access the service **Settings** menu (51765761), select **Maintenance** > **Operating Condition** > **Reset** softkey to reset the ASL. Verify the following Maintenance menu parameters:

- Recommended Action: None
- Operating Condition: Normal
- Active Status Light: Solid Blue

c. Visually verify that the MC status light is now “green” and the ASL light is “solid blue”.

d. Exit and return to the “Welcome” banner home screen. select the **Back** softkey.

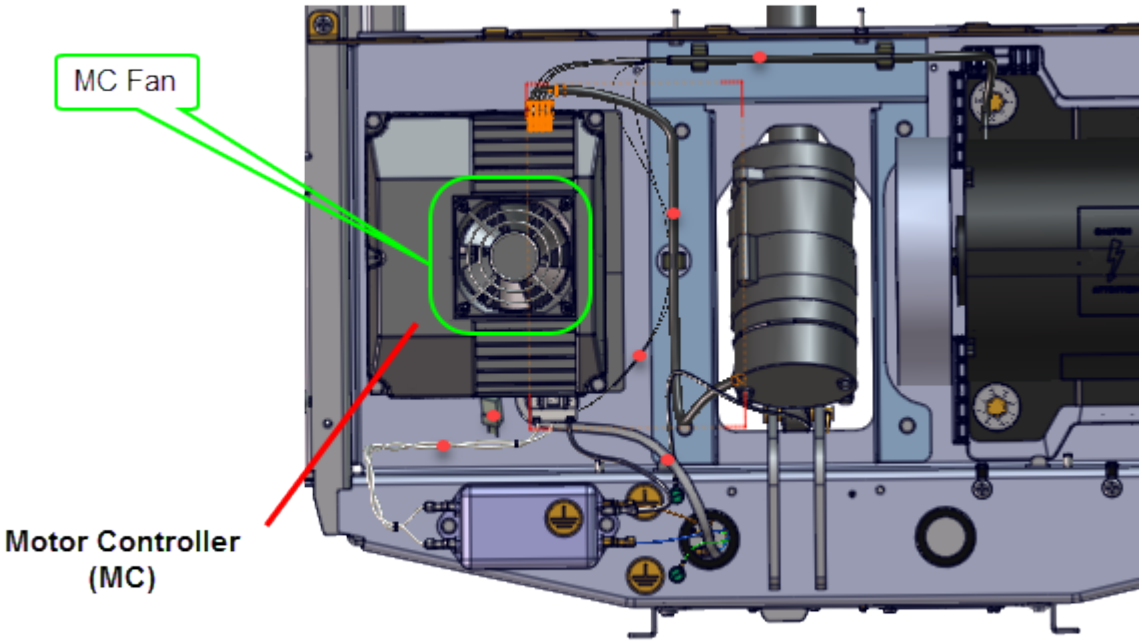
7. Reinstall the Hood cover, see "Hood Cover Replacement" on page 94.
8. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

[1]light-emitting diodes.

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.



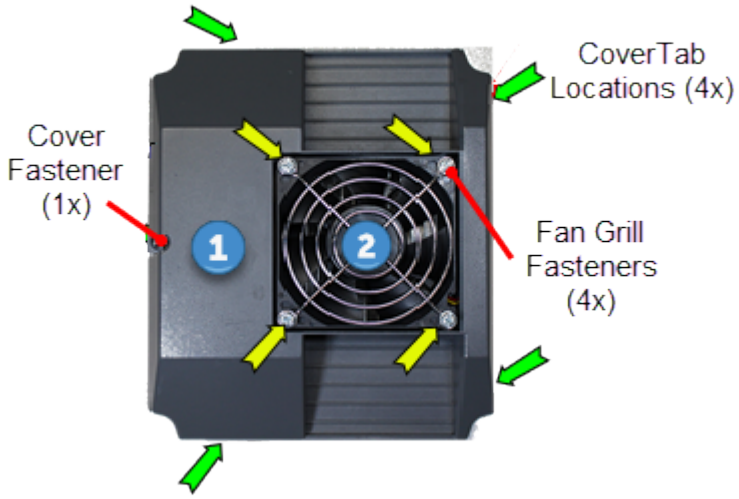
[1]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.

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 129.
3. Use a #2 Philips screwdriver to remove the MC top cover (1) screw fastener.



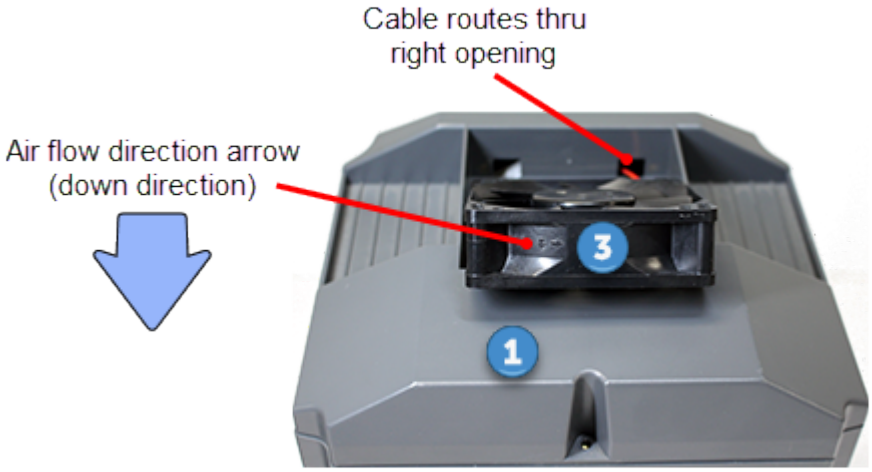
4. Use a small standard screwdriver to release the four mounting tabs and carefully lift the MC top cover from the main housing. Disconnect the power cable connector and remove the top cover. Retain fastener for installation.
5. Use a #2 screwdriver to remove the four fan fasteners and remove the fan 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

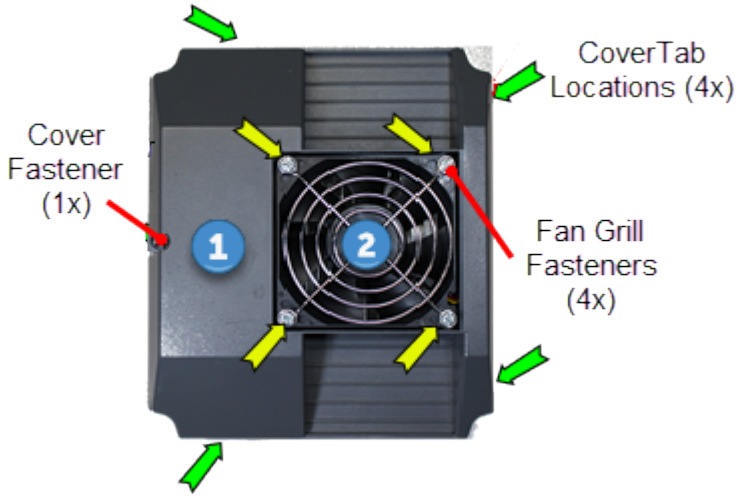
1. Make sure that the replacement fan is the most current part number (PPP000000304461101), see service bulletin SB.**TRM**[2].20161014.
2. The fan must be installed so the air flow is directed into the MC housing. Install the fan so that the embossed air flow indicator arrow points into the MC housing. If replacing the older fan with the newer fan, the new fan cable routing has changed. Feed the

[1]Disconnect a device power cord plug or cable connector from the power receptacle or outlet.
[2]Treadmill

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 129.

6. **Plug**[1] in the power cord and switch the power ON.
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**[2] 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. Clear the **CPA**[3] Event Log: Access the service **Settings** menu (51765761), select **About** > **CPA Event Log**. Then select the **CLEAR** softkey to clear the CPA Event Log.
    b. Reset the ASL status light: Access the service **Settings** menu (51765761), select **Maintenance** > **Operating Condition** > **Reset** softkey to reset the ASL. Verify the following Maintenance menu parameters:
        - Recommended Action: None
        - Operating Condition: Normal
        - Active Status Light: Solid Blue
    c. Visually verify that the MC status light is now “green” and the ASL light is “solid blue”.
    d. Exit and return to the “Welcome” banner home screen. select the **Back** softkey.
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 94.
13. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

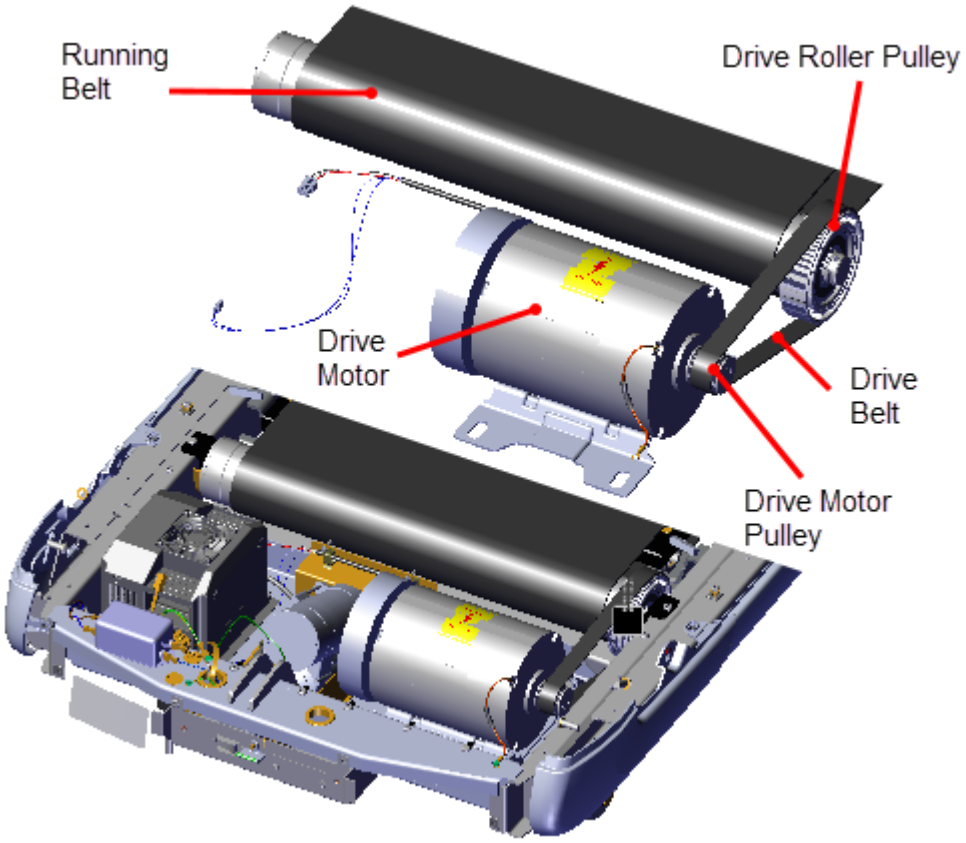
[1]Device power cord connector or electrical cable male connector that is inserted into an electrical receptacle "outlet" (also called the plug-in).
[2]Active Status Light: Service and maintenance status light.
[3]Touchscreen console Control Processing Assembly.

Drive Belt Replacement

About

This procedure provides instruction to remove and install the Drive Belt for both the legacy and common frame weldment machines

Note: Common & Legacy Frame information, see "TRM600/700/800 Common Frame Overview" on page 293.



Procedure

There are separate procedures for the legacy and common frame machines:

- Legacy Frame, see "Legacy Frame Drive Belt Replacement" below
- Common Frame, see "Common Frame Drive Belt Replacement" on page 155

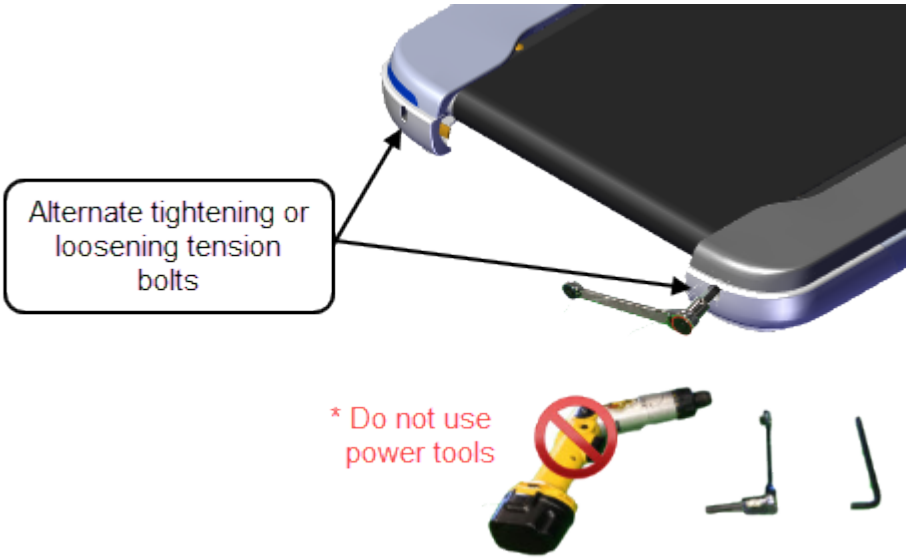
Legacy Frame Drive Belt Replacement

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 92.
3. Remove the left and right trim landing covers, see "Trim Landing Covers Replacement" on page 97.
4. Use a 5/16" hex key socket and ratchet to relax the running belt tension by alternately loosening the left and right belt tension adjustment bolts in 1/4 turn increments until the tension is fully removed. Use this method to evenly remove the left and right belt tension. Do not use power tools which can make it difficult to control the left/right 1/4 turn incremental bolt loosening requirement. Uneven belt tension removal can cause damage to the running belt or tension adjustment hardware.

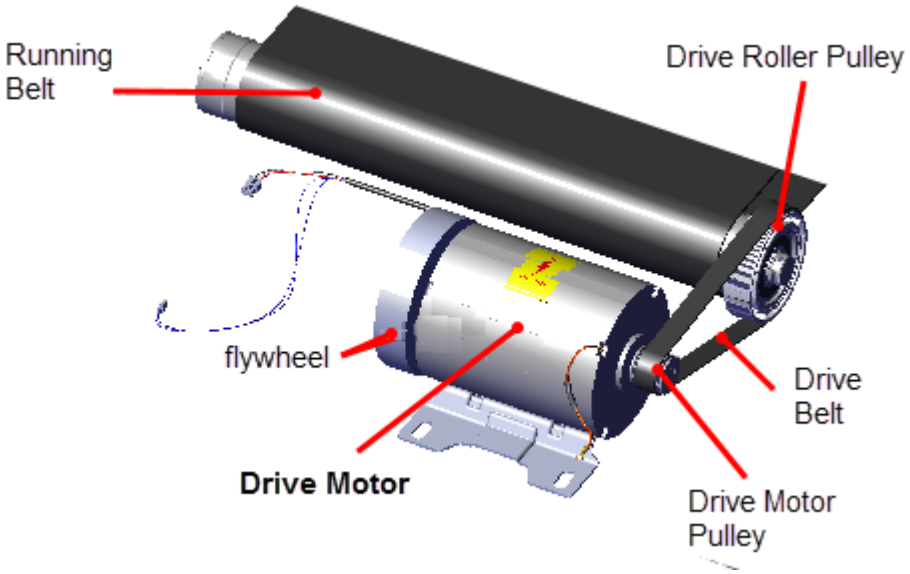
CAUTION: Only use hand tools to adjust tension. Power tools can easily over and/or under tension causing damage to the belt and/or tension hardware mechanism.



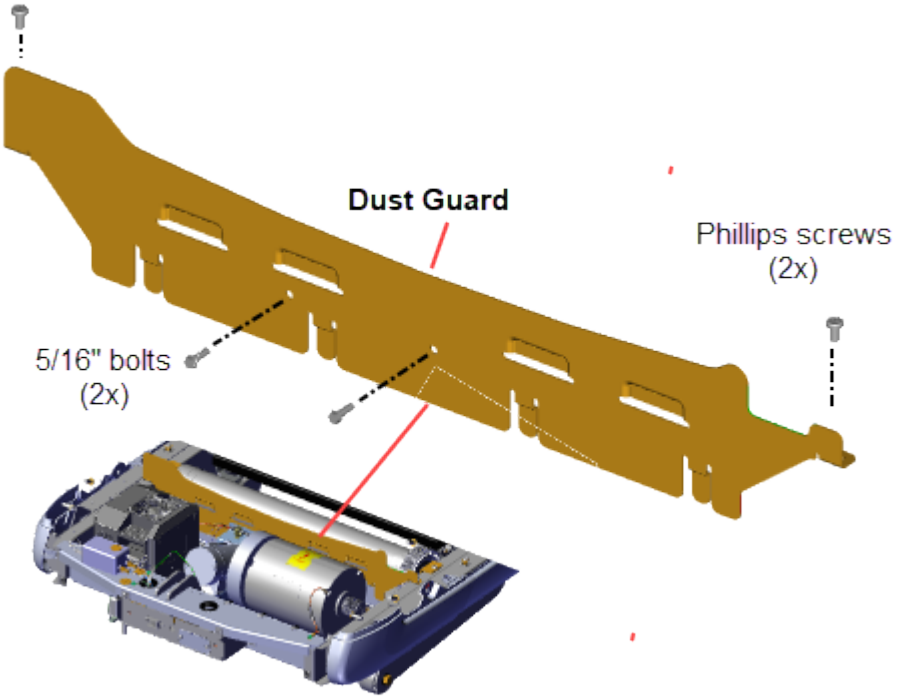
5. Walk the Drive Belt off the Drive Roller pulley and then the Drive Motor pulley. Temporarily place the Drive Belt on the inside of the Drive Roller pulley.

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.

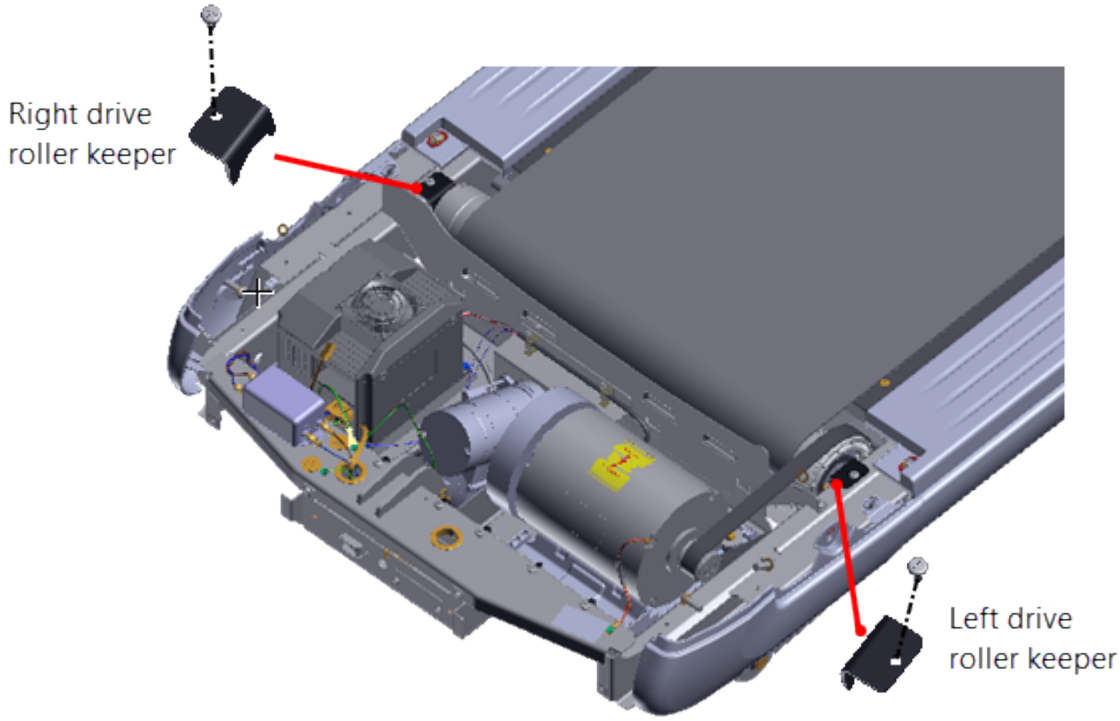
[1]Disconnect a device power cord plug or cable connector from the power receptacle or outlet.



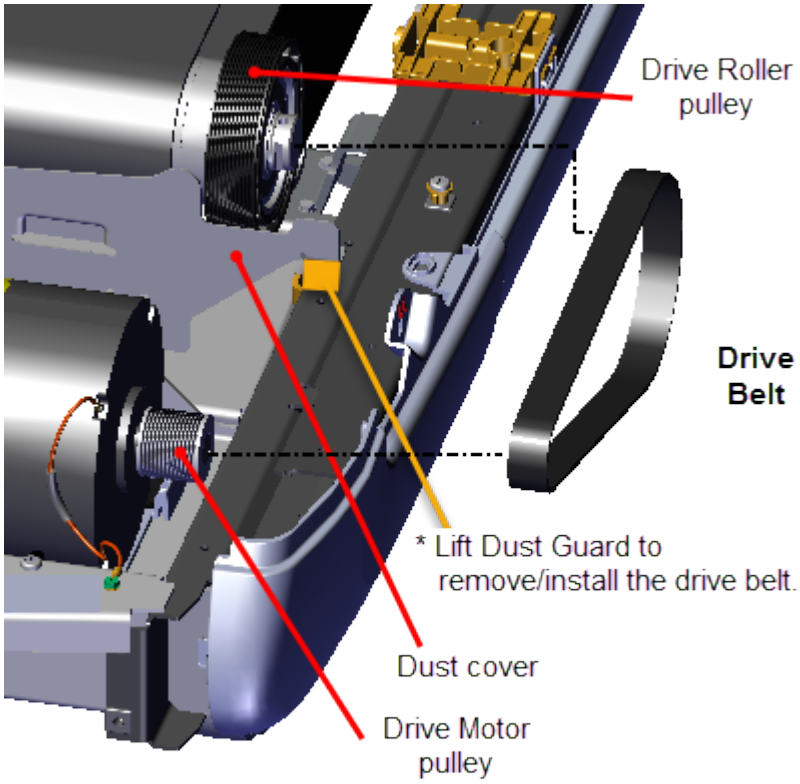
6. Remove the left side Dust Guard #3 Phillips screw fastener. Retain fastener hardware for installation.



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

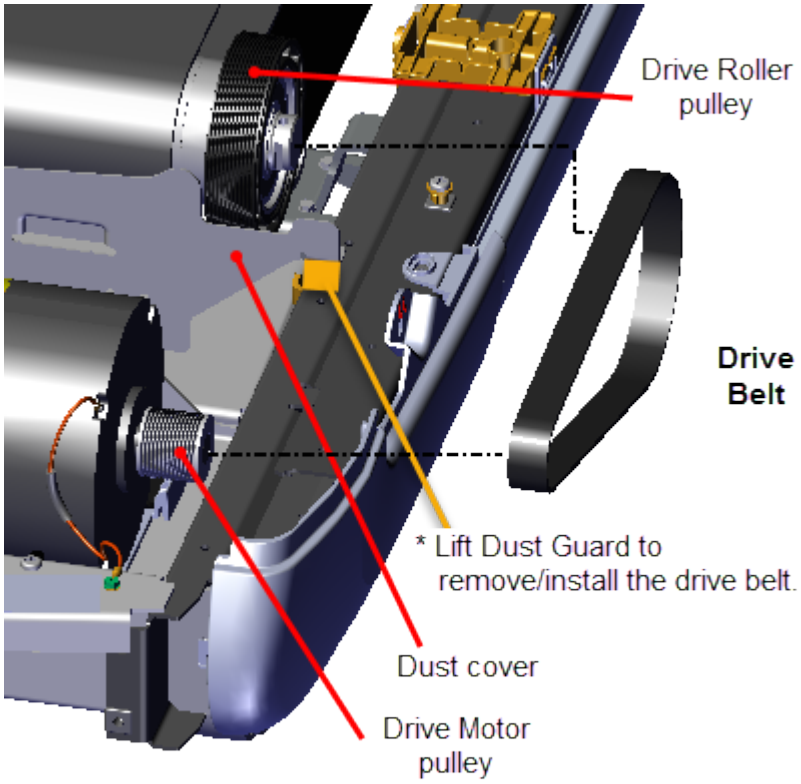


8. Lift the Drive Roller enough to remove the Drive Belt off the pulley. Lift the left side of the Dust Guard enough to slide the belt from the Dust Guard and remove from the treadmill.

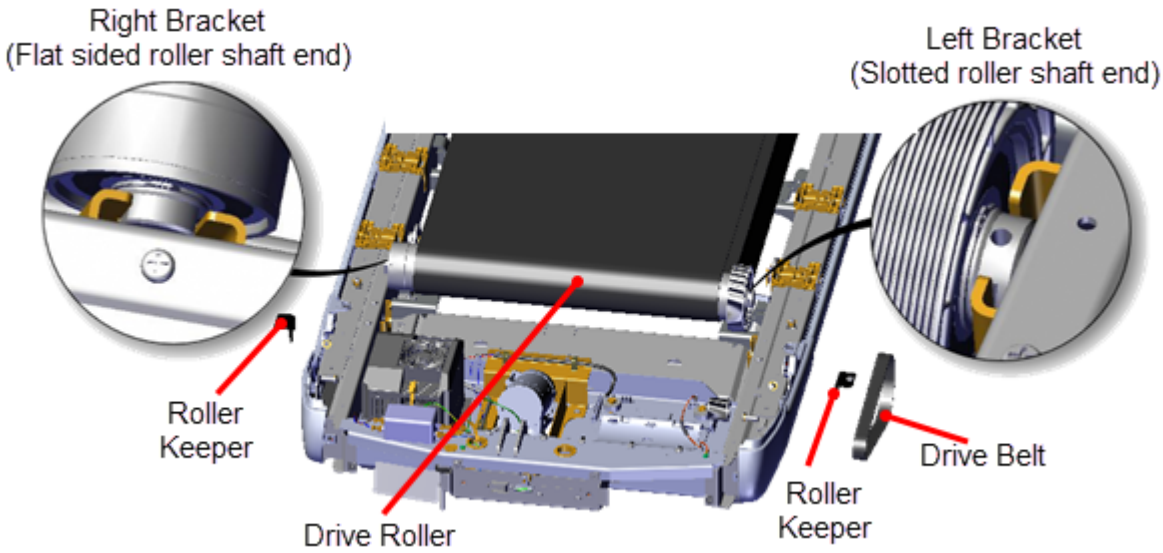


Installation Instructions

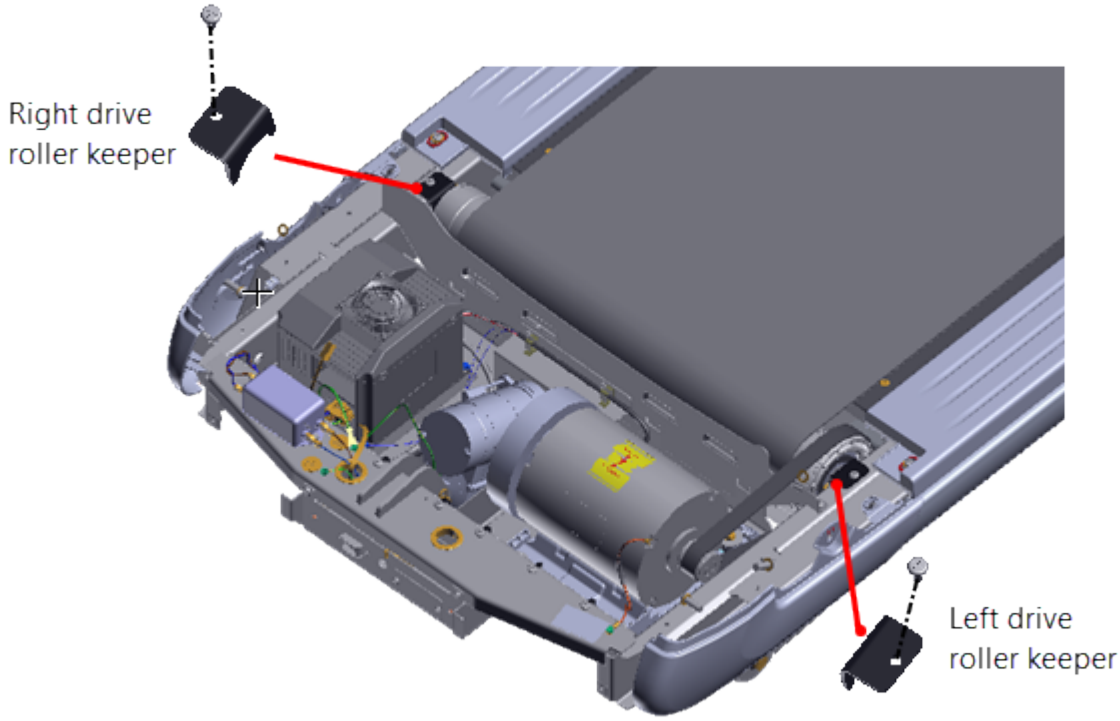
1. Lift the left side of the Dust Guard enough to install the Drive Belt over the Dust Guard.



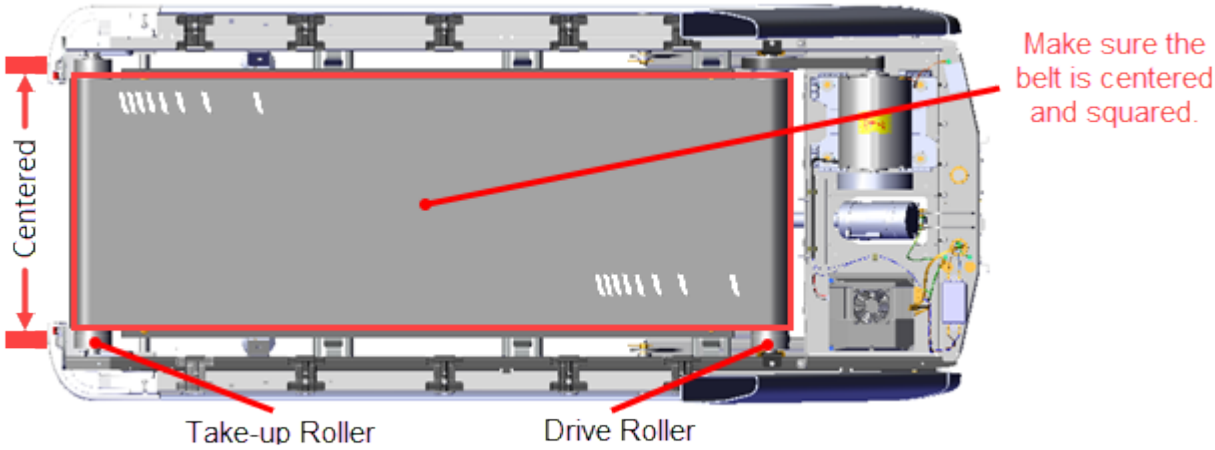
2. Lift the Drive Roller enough to place the Drive Belt onto the Drive Roller pulley. Reinstall the Drive Roller into the left and right mounting brackets.



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



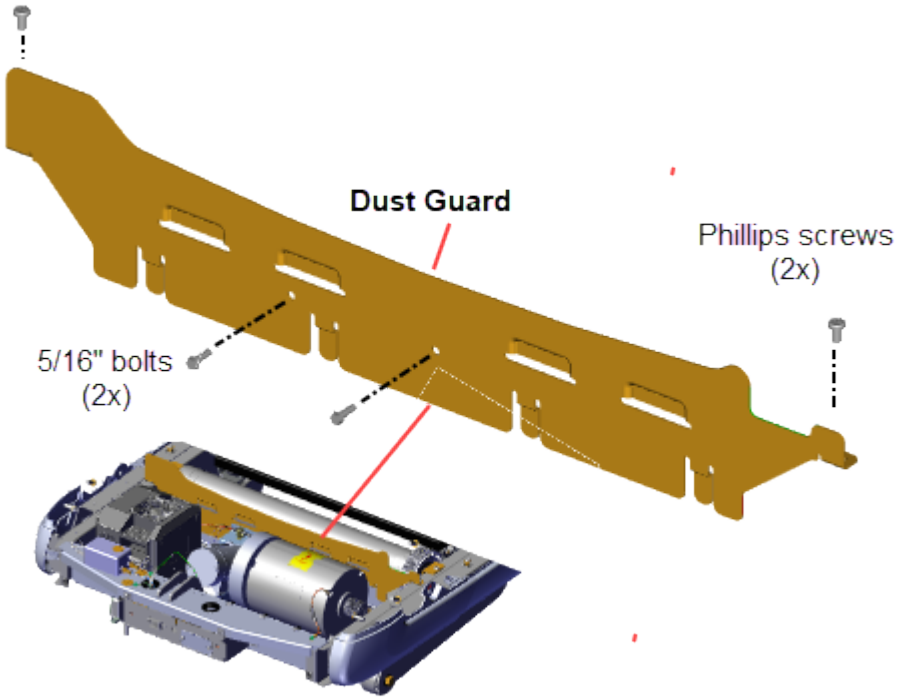
2. Center and square the running belt on the Drive and Take-up Rollers. Tension the running belt to specification, see "Running Belt Tension and Tracking Adjustment" on page 73. **DO NOT** apply power or verify belt tracking at this step in the process, the running belt tracking will be verified after 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.

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 verify that the belt tension is within specification. see "Legacy Frame Drive Belt Tension and Alignment" on page 64. If the belt is not within specification, tension to specification.
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 73.
8. Reinstall the left and right trim landing covers, see "Trim Landing Covers Replacement" on page 97.
9. Reinstall the hood cover, see "Covers and Panels Replacement" on page 92.
10. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

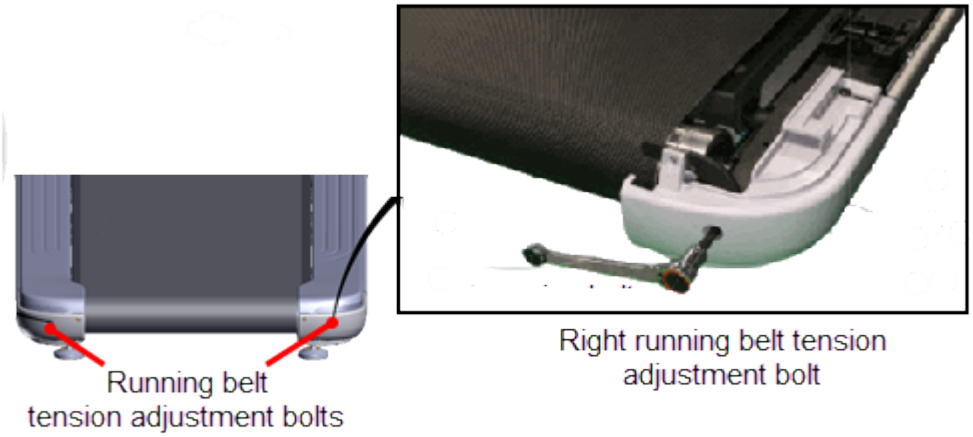
Common Frame Drive Belt Replacement

Review entire procedure before starting.

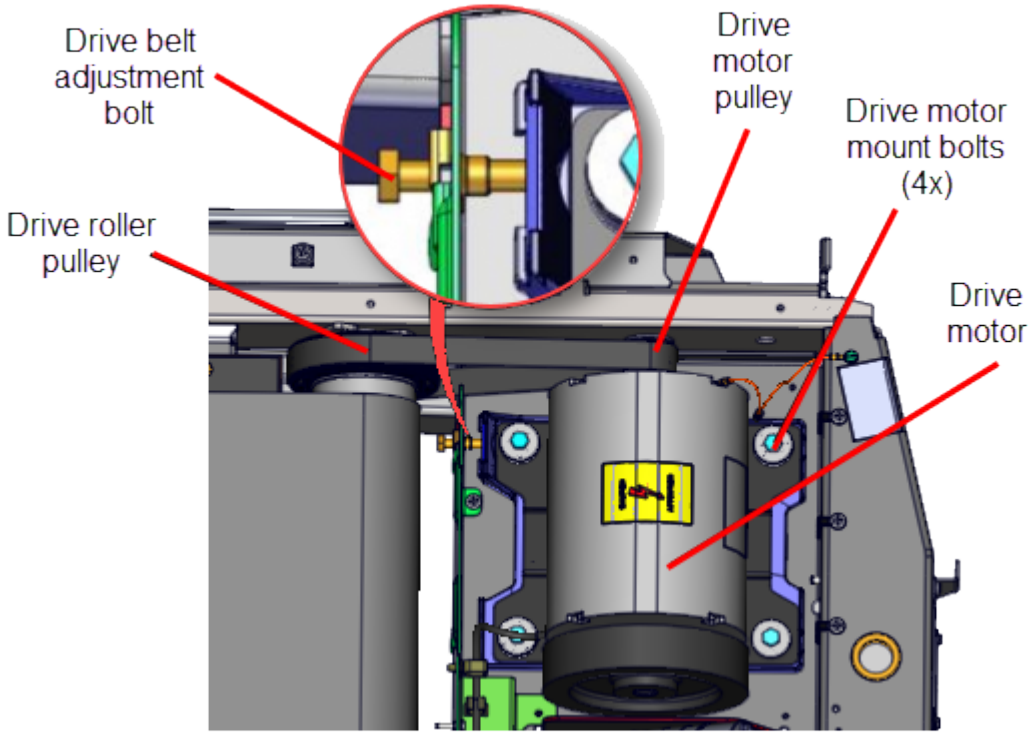
Removal Instructions

1. Switch the power **OFF** and unplug the power cord.
2. Remove the hood cover, see Covers and Panels Replacement.
3. Use a 5/16" hex key socket and ratchet to relax the running belt tension by alternately loosening the left and right belt tension adjustment bolts in 1/4 turn increments. Use this method to evenly remove the left and right belt tension. Do not use power tools which can make it difficult to control the left/right 1/4 turn incremental bolt loosening acquirement. Uneven belt tension removal can cause damage to the running belt or tension adjustment hardware.

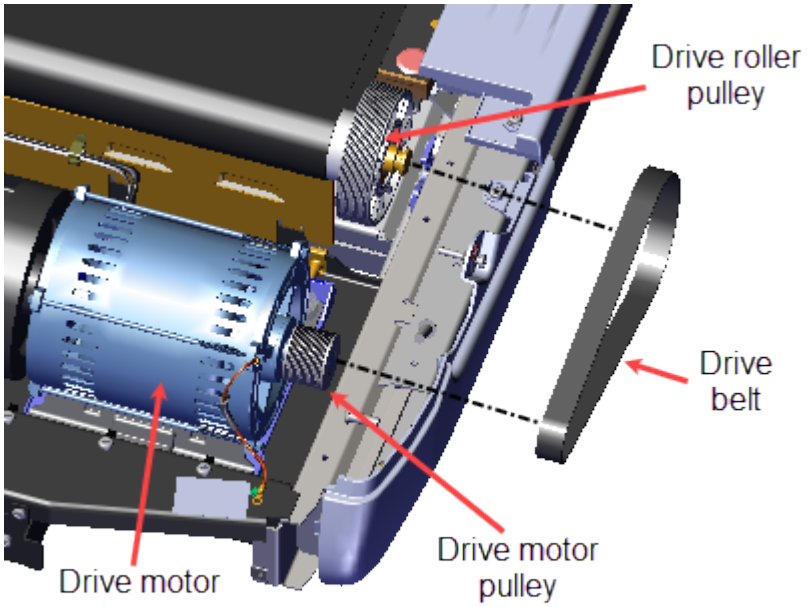
CAUTION: Only use hand tools to adjust tension. Power tools can easily over and/or under tension causing damage to the belt and/or tension hardware mechanism.



4. Use a 1/2" socket with 6" extension to loosen the four Drive Motor mount bolts enough so that the motor can slide forward and rearward in the mounting tray.

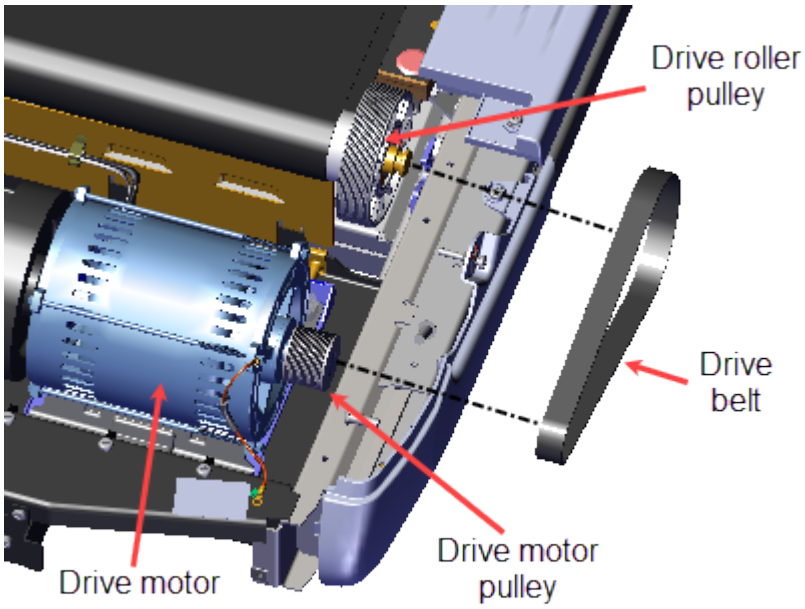


5. Loosen the 1/2" drive belt tension adjustment bolt to remove the belt tension. Then walk the belt off the drive motor pulley.
6. Lift the drive roller from the frame mounting brackets and remove the belt off the drive roller pulley. Remove the drive motor belt and reinstall the roller into the frame mounting brackets.



Installation Instructions

1. Lift the drive roller from the frame mounting brackets enough to install the belt onto the drive roller pulley. Reinstall the drive roller into the frame mounting brackets.

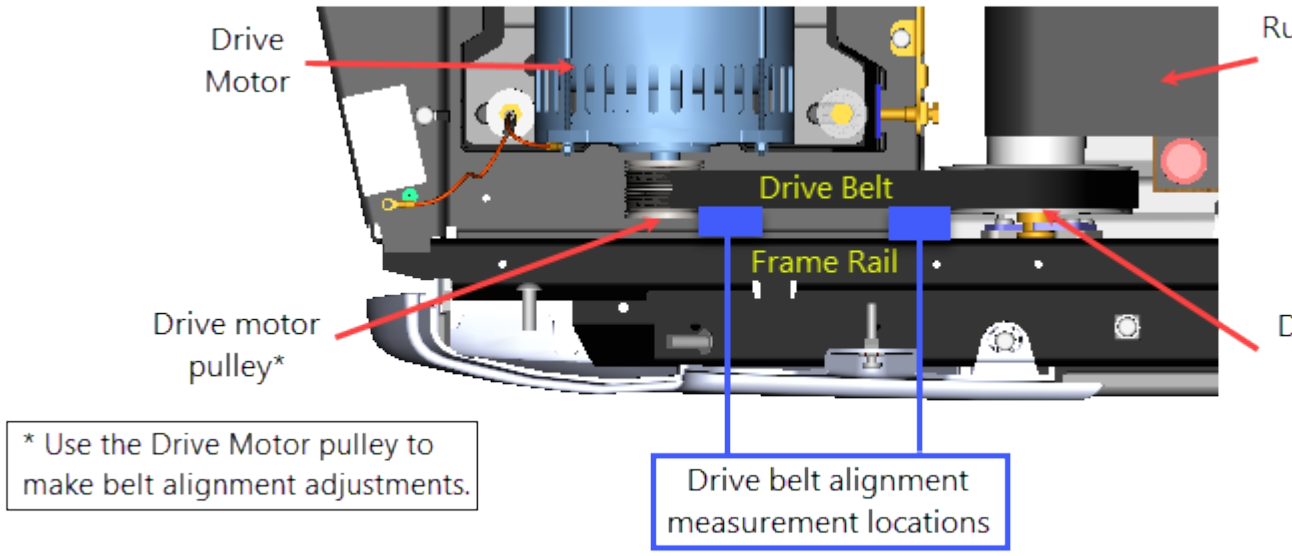


2. Square the running belt on the drive and take-up rollers and tension the running belt to specification, see "Running Belt Tension and Tracking Adjustment" on page 73. **DO NOT** apply power or verify the running belt tracking at this step in the process, the running belt tracking will be verified after the Drive Belt is installed.

IMPORTANT: It is necessary to tension the running belt prior to tensioning the drive belt.

3. Install the drive belt onto the drive motor pulley (walk the belt onto the drive motor pulley).
4. Make sure the drive belt is properly aligned by verifying that the drive belt is parallel to the left frame rail. Measure the drive belt-to-frame rail distance at the drive roller pulley and at the drive motor pulley. The drive belt is correctly aligned when the two

measured distances are the same



CAUTION: A misaligned drive belt can cause high pitch belt noises, damage to the belt, and possible drive motor pulley or drive roller pulley hardware damage.

5. Tension the drive belt to specification per the *Common Frame: Drive Belt Tension and Alignment* procedure, see "Common Frame Drive Belt Tension and Alignment" on page 67.

Drive Belt Condition(1)	Drive 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.		

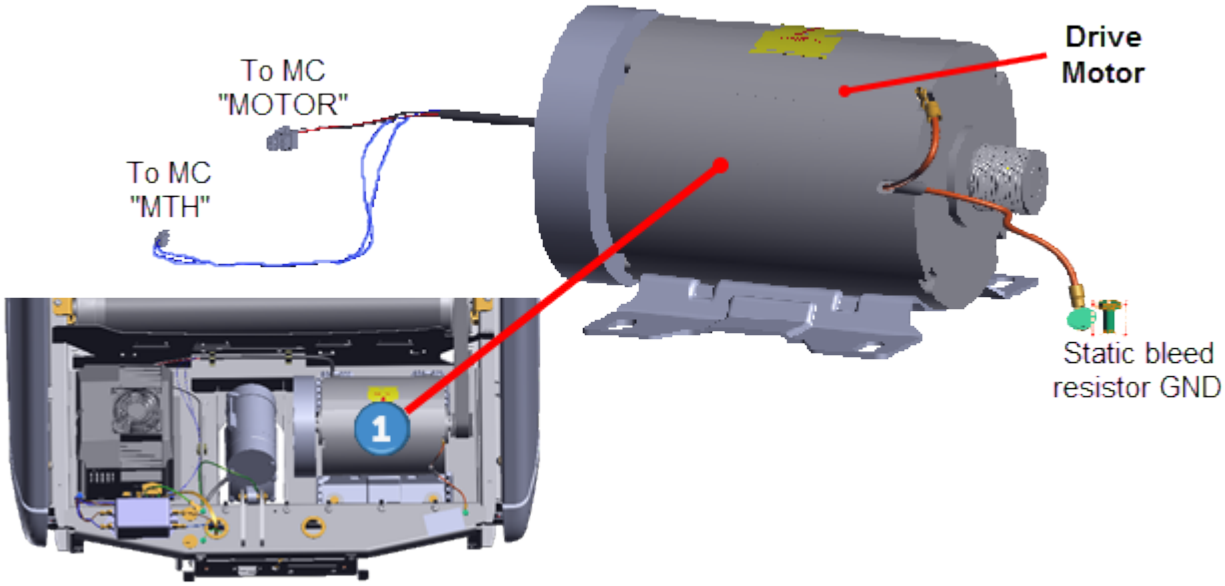
6. Complete the running belt installation by verifying the running belt alignment and tracking, see "Running Belt Tension and Tracking Adjustment" on page 73.
7. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.
8. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

Drive Motor Replacement

About

This procedure provides instruction to remove and replace the Drive Motor for both the legacy and common frame weldment machines

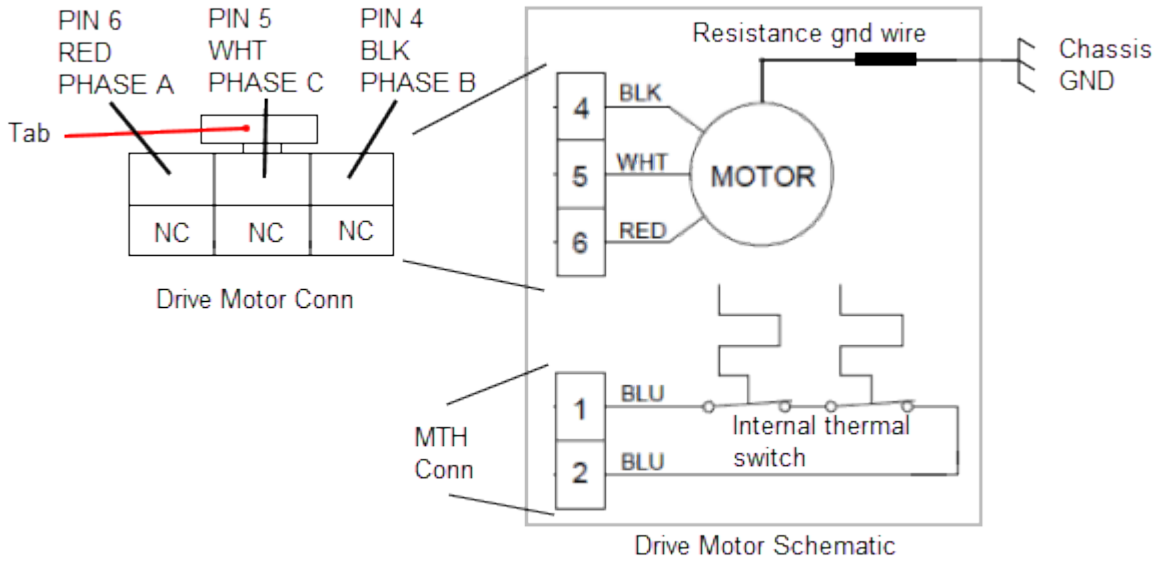
Note: Common & Legacy Frame information, see "TRM600/700/800 Common Frame Overview" on page 293.



ID	Description
1	Drive Motor

Drive Motor Cable Schematic

Drive Motor Cable Schematic



Drive Motor Schematic

Procedure

There is a replacement procedure for the legacy frame and common frame configurations.

- Legacy Frame, see "Legacy Frame Drive Motor Replacement" below
- Common Frame, see "Common Frame Drive Motor Replacement" on page 166

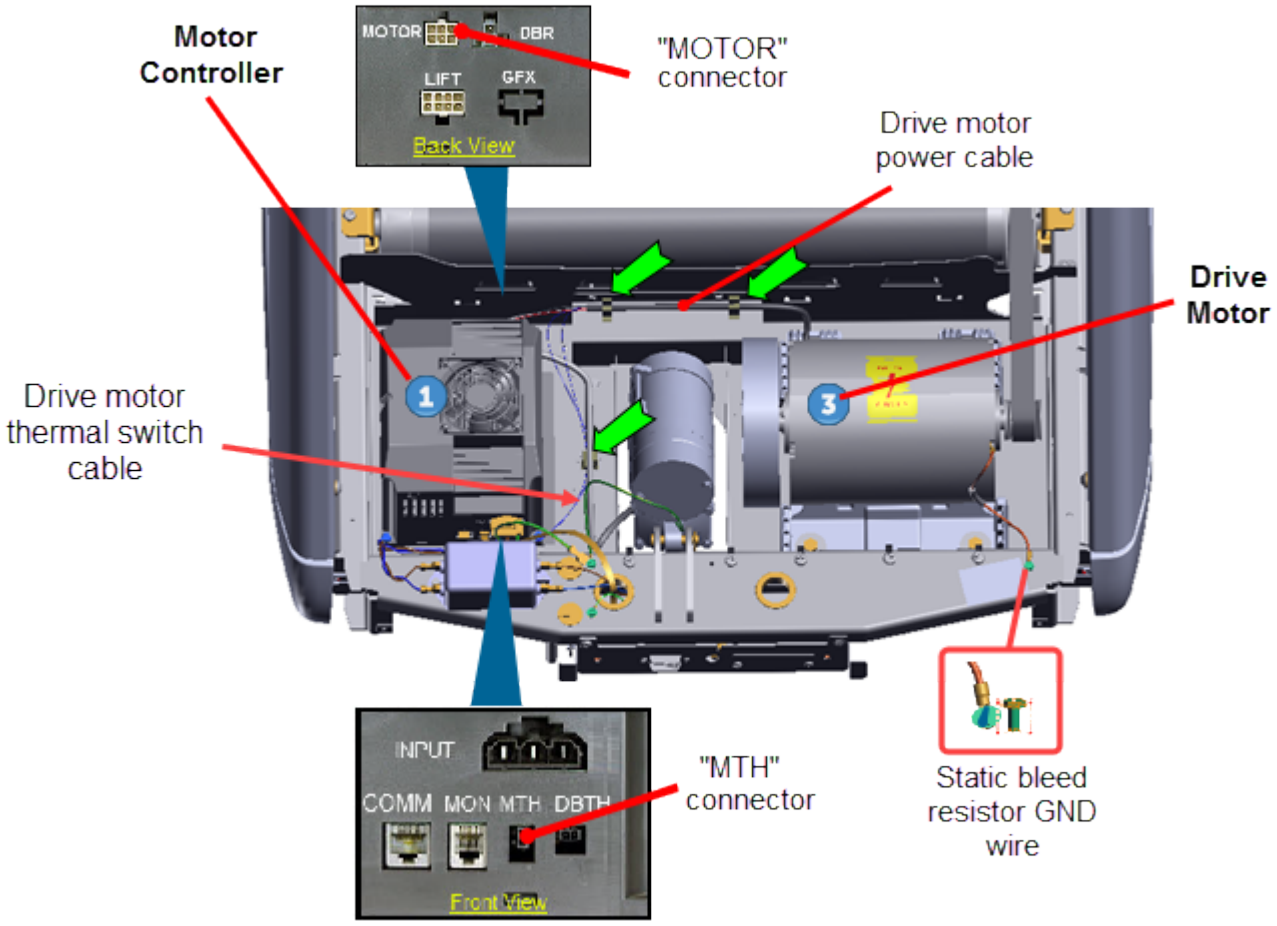
Legacy Frame Drive Motor Replacement

Review entire procedure before starting.

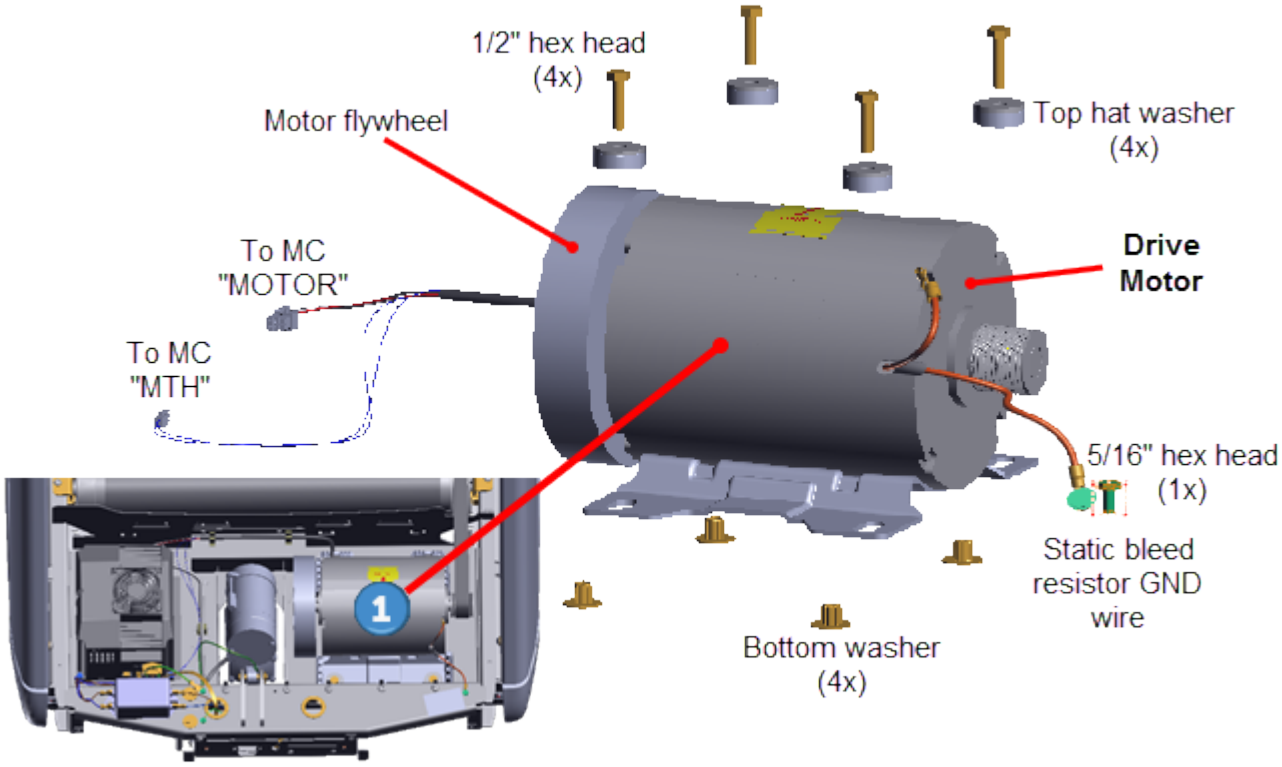
Removal Instructions

1. Switch the power **OFF** and **unplug**[1] the power cord.
2. Remove the hood cover, see "Hood Cover Replacement" on page 94.
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 129.
   b. Disconnect the MC "MTH" and "MOTOR" interface cable connectors, see "Motor Controller (MC) Replacement" on page 129.
   c. Remove the MOTOR power cable from the three frame cable clamps.

[1]Disconnect a device power cord plug or cable connector from the power receptacle or outlet.
[2]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.



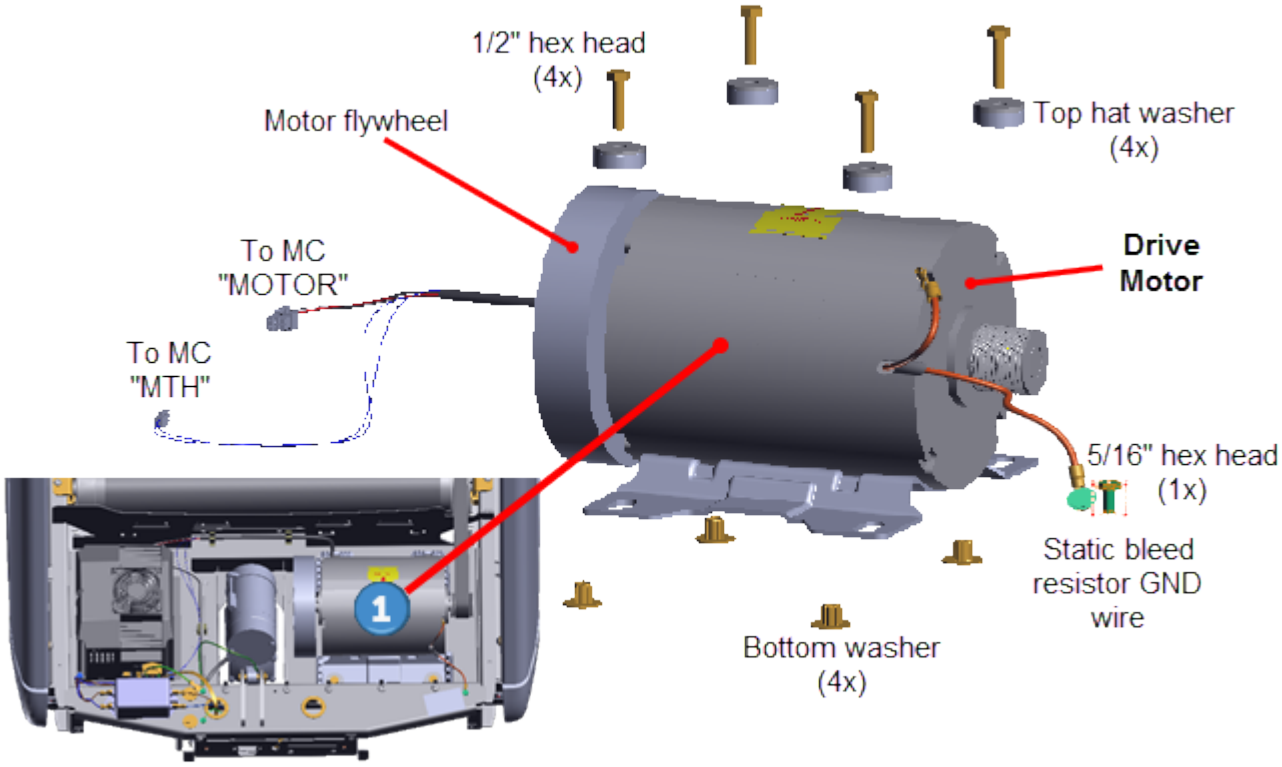
4. Use a 5/16" socket (or nut driver) to remove the Drive Motor static bleed resistor ground wire (Orange wire). Retain part(s) and/or fastener(s) for installation.
5. Use tape or marker to make a motor base position reference mark. This reference mark will be used to help position the replacement motor 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.

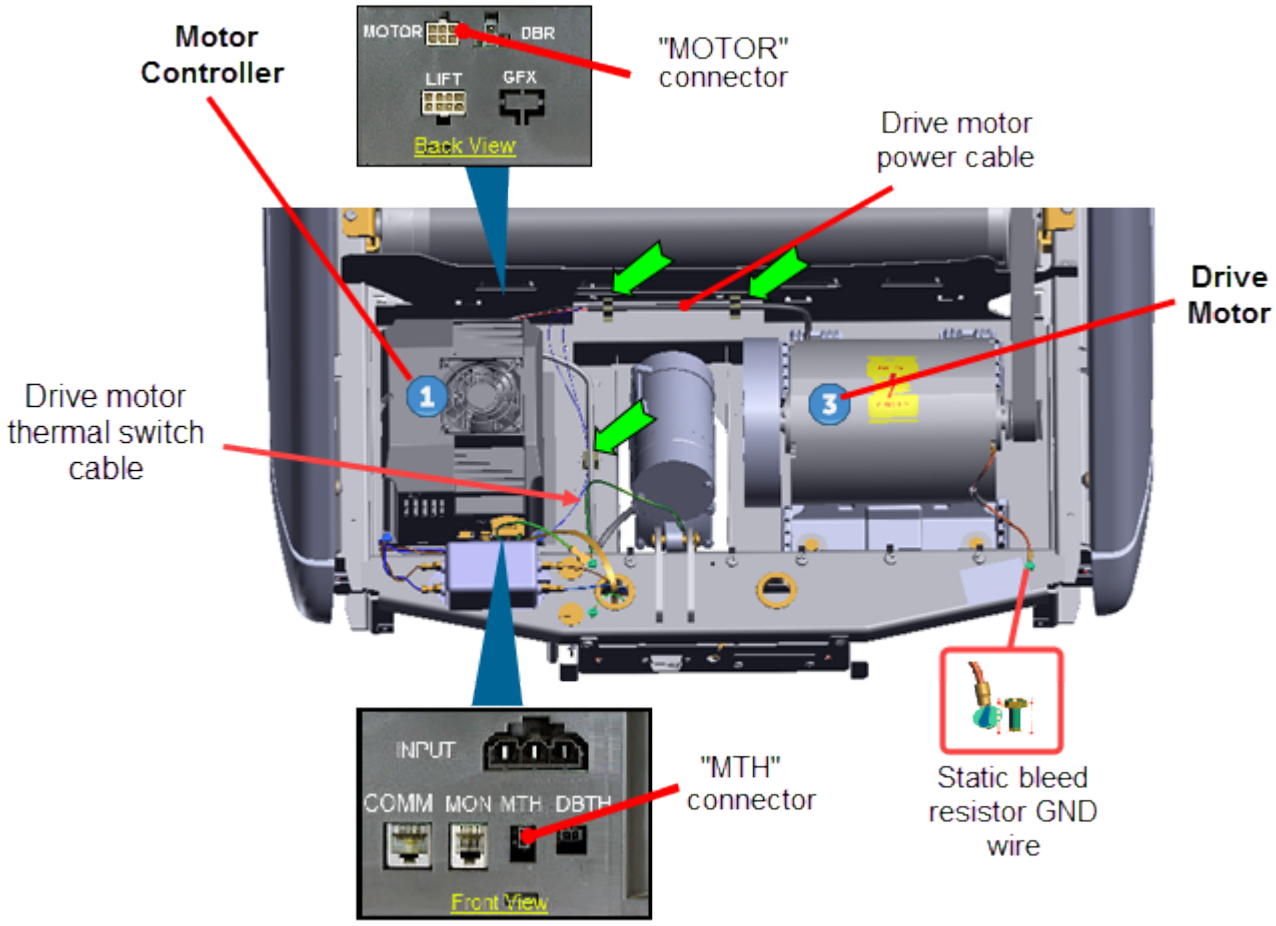


2. Reconnect the motor static bleed resistor ground wire and secure using the 5/16 " hex head fastener. Fully tighten the fastener to ensure good electrical contact with the frame weldment.

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 129. Make sure the cable connectors have the correct orientation and alignment before inserting into the MC **I/O**[1] connector.

[1]Input 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 129.
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.

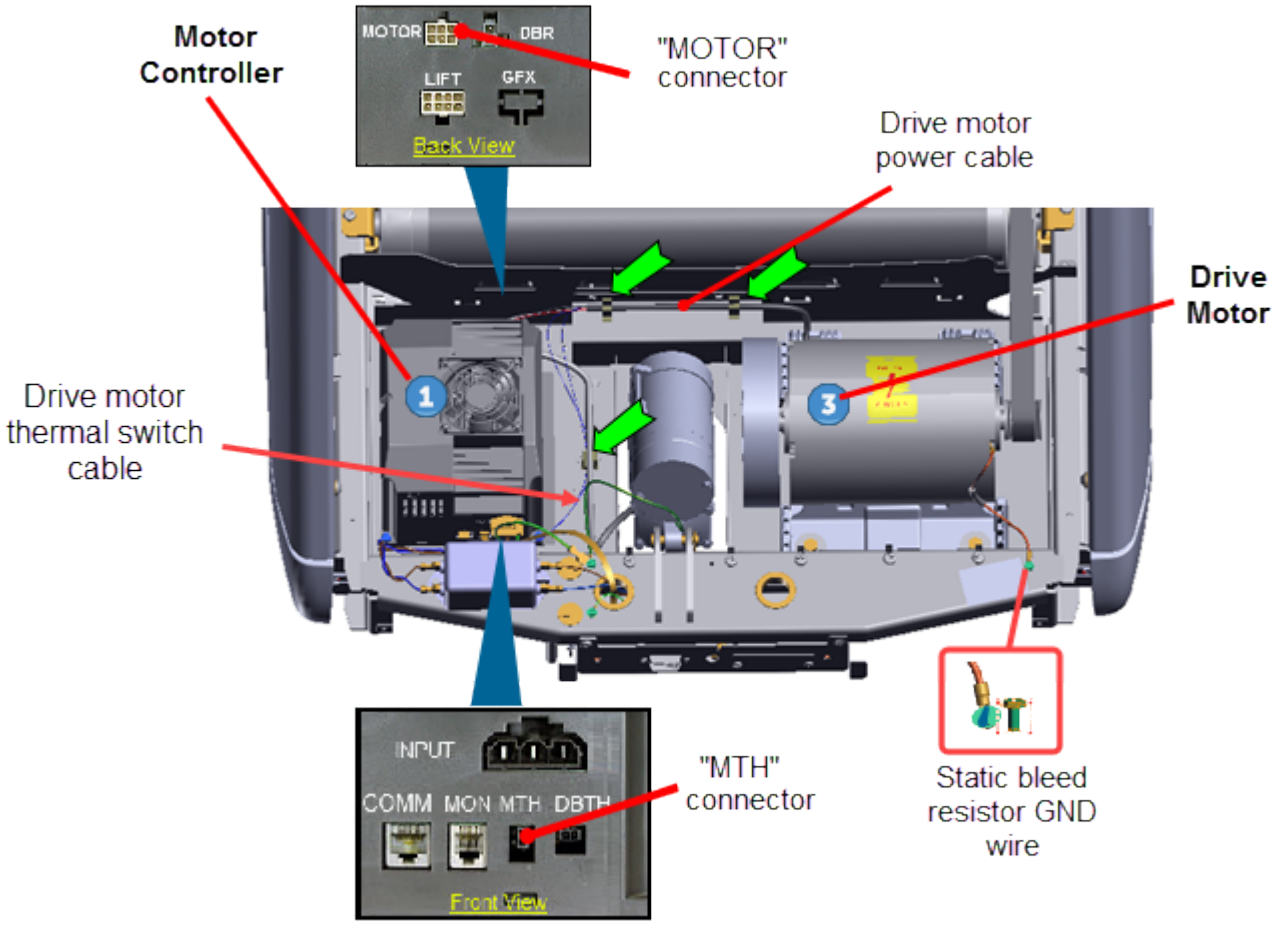
7. Connect the power cord and switch the power **ON**.
8. Verify the Drive Belt alignment and tension to specification. see "Drive Belt Tension and Alignment Adjustment" on page 64.
9. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.
10. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

Common Frame Drive Motor Replacement

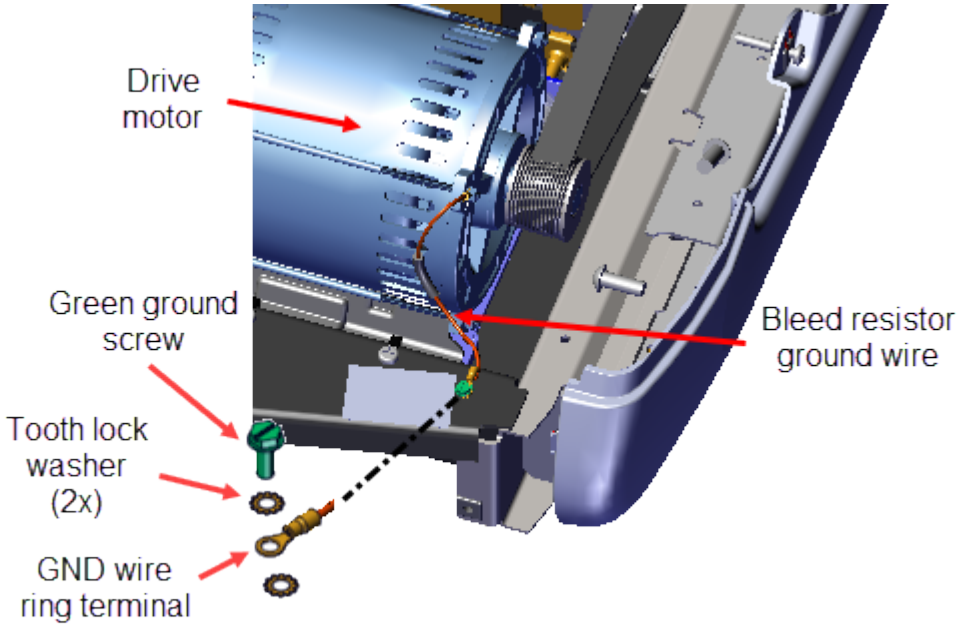
Review entire procedure before starting.

Removal

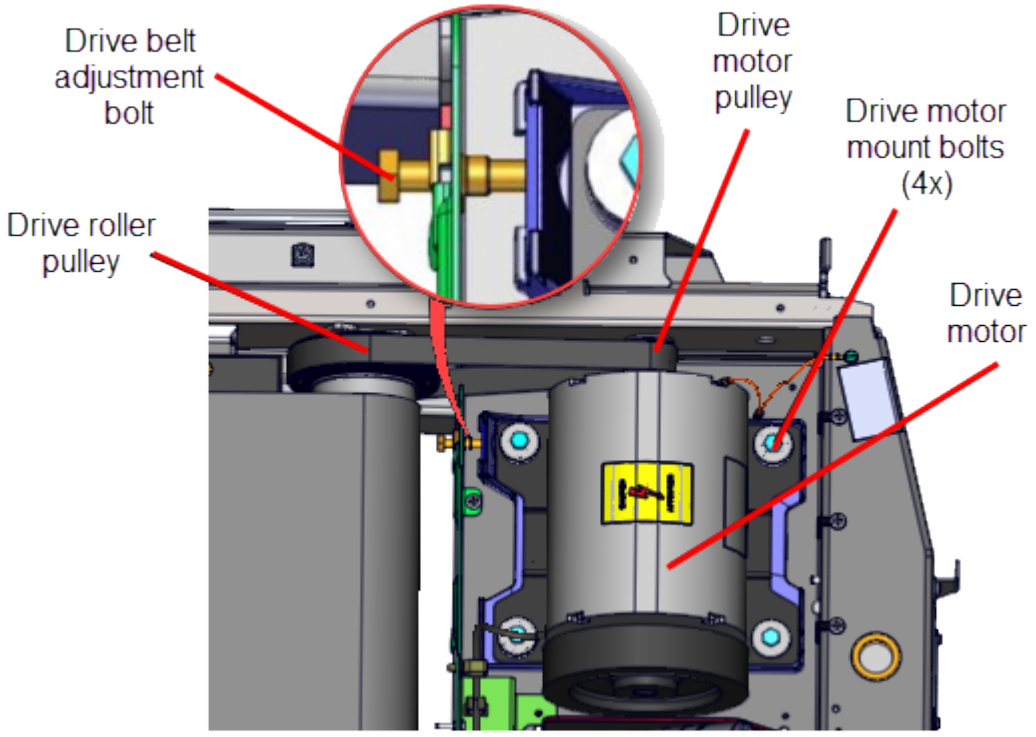
1. Switch the power **OFF** and unplug the power cord.
2. Remove the hood cover, see "Hood Cover Replacement" on page 94.
3. Disconnect the Motor Controller "MTH" and "MOTOR" electrical connections:
    a. Remove the two left side MC fasteners and loosen the two right side fasteners. Then slide the MC base to the left and remove the MC from the fasteners, see "Motor Controller (MC) Replacement" on page 129.
    b. Lift the front of the MC just enough to access and disconnect the MC "MTH" I/O connector. Then lift the rear of the MC just enough to access and disconnect the MC "MOTOR" I/O connector.
    c. Remove the MOTOR interface cable from the three frame routing cable clamps.



4. Remove the Drive Motor static bleed resistor frame chassis ground wire (Orange wire). Use a 5/16" socket (or nut driver) to remove the green ground screw and two tooth lock washers. Retain part(s) and/or fastener(s) for installation.

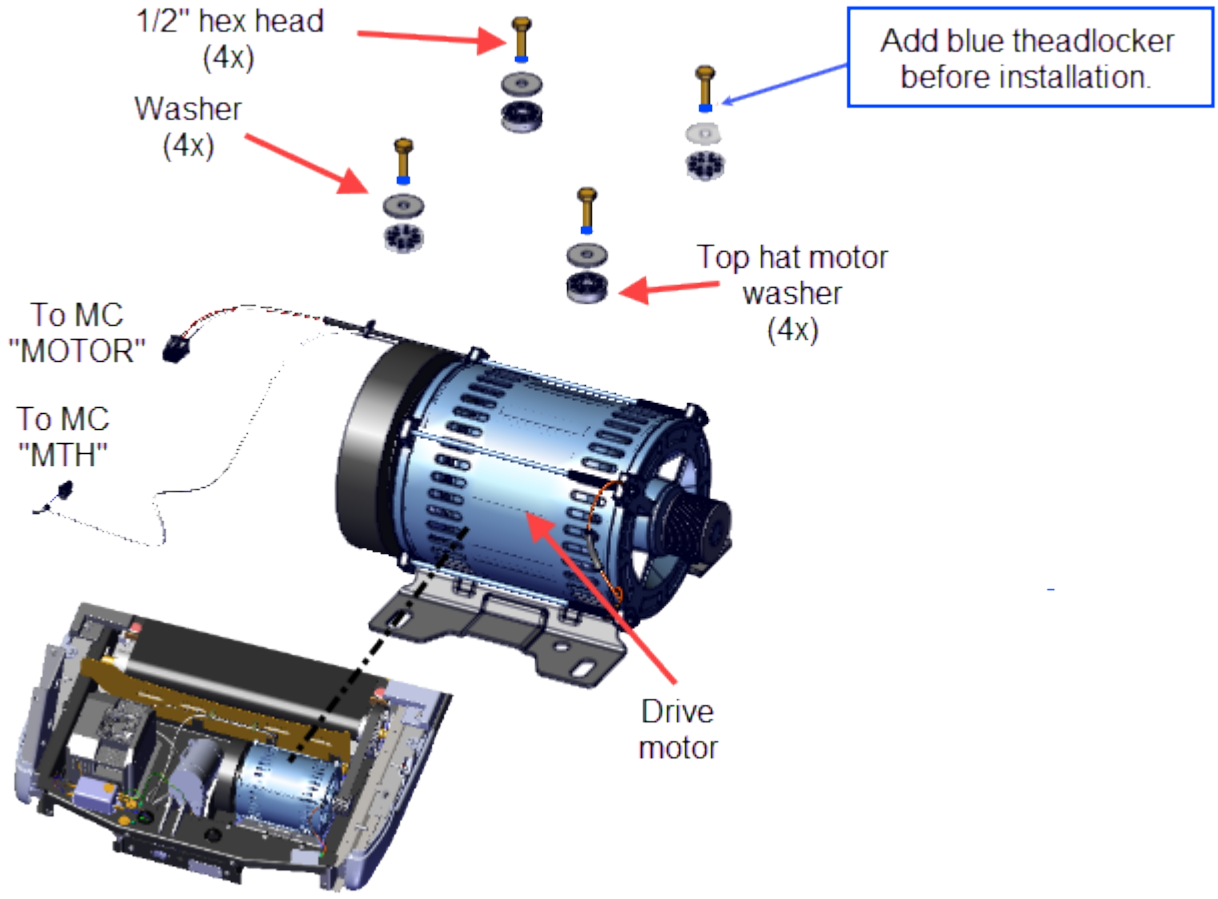


5. Use a 1/2" socket with 6" extension to loosen the four Drive Motor mount bolts enough so that the motor can slide forward and rearward in the mounting tray.



6. Loosen the 1/2" drive belt tension adjustment bolt to remove the drive belt tension.
7. Then walk the belt off the drive motor pulley.

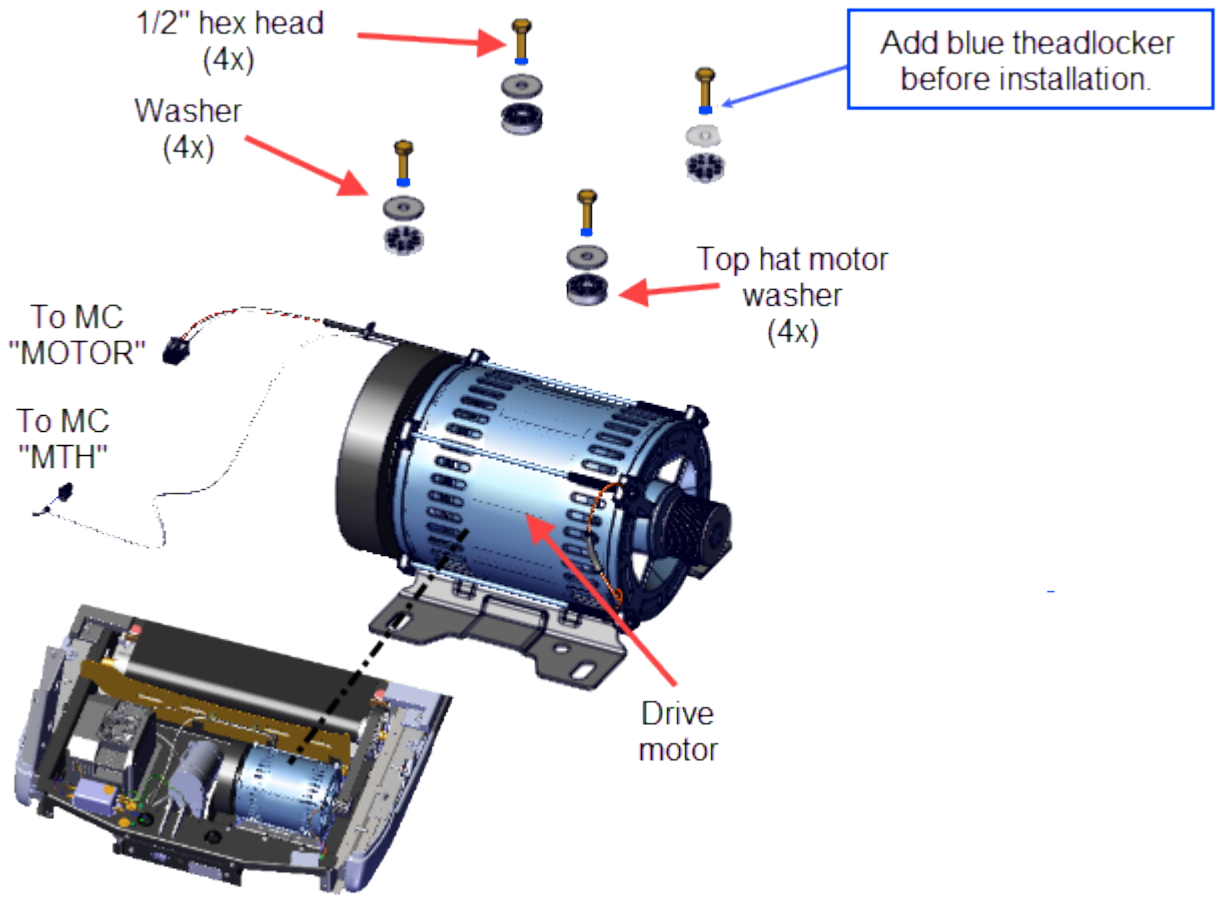
8. Use a 1/2" socket with 6" extension to remove the four 1/2" hex head bolts, washers, and plastic top hat washers. Remove the drive motor. Retain part(s) and/or fastener (s) for installation.



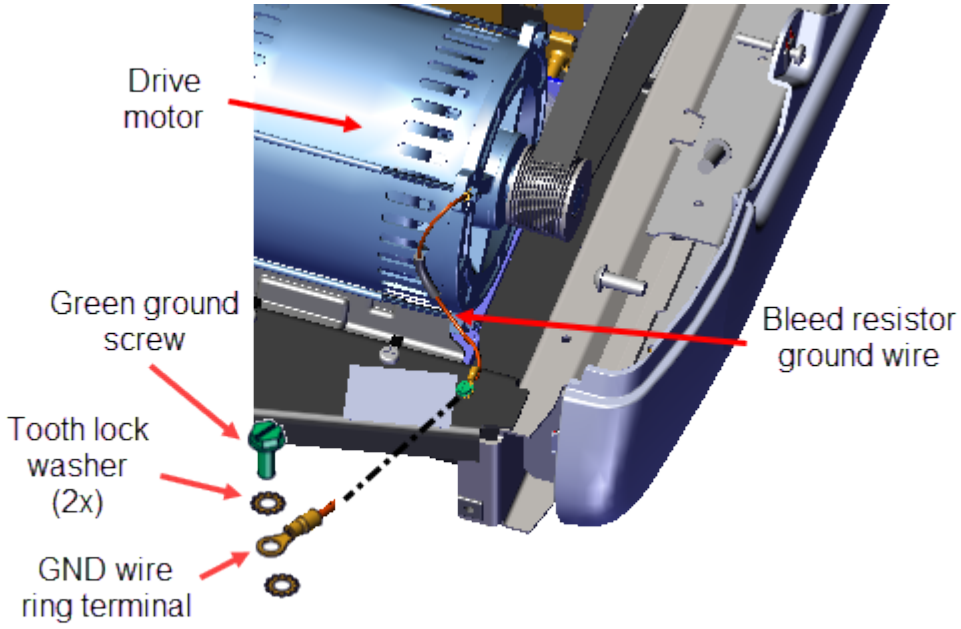
Installation

1. Install the Drive Motor into the motor isolation tray and secure using the four 1/2" hex head bolts, washers, and plastic top hat washers. DO NOT fully tighten the mounting bolts, the motor must be able to slide forward and rearward for drive belt tension adjustment. Add Loctite 243 threadlocker to each of the four 1/2" hex bolts.

IMPORTANT: Add Loctite 243 to the 1/2" hex head motor mount bolts.

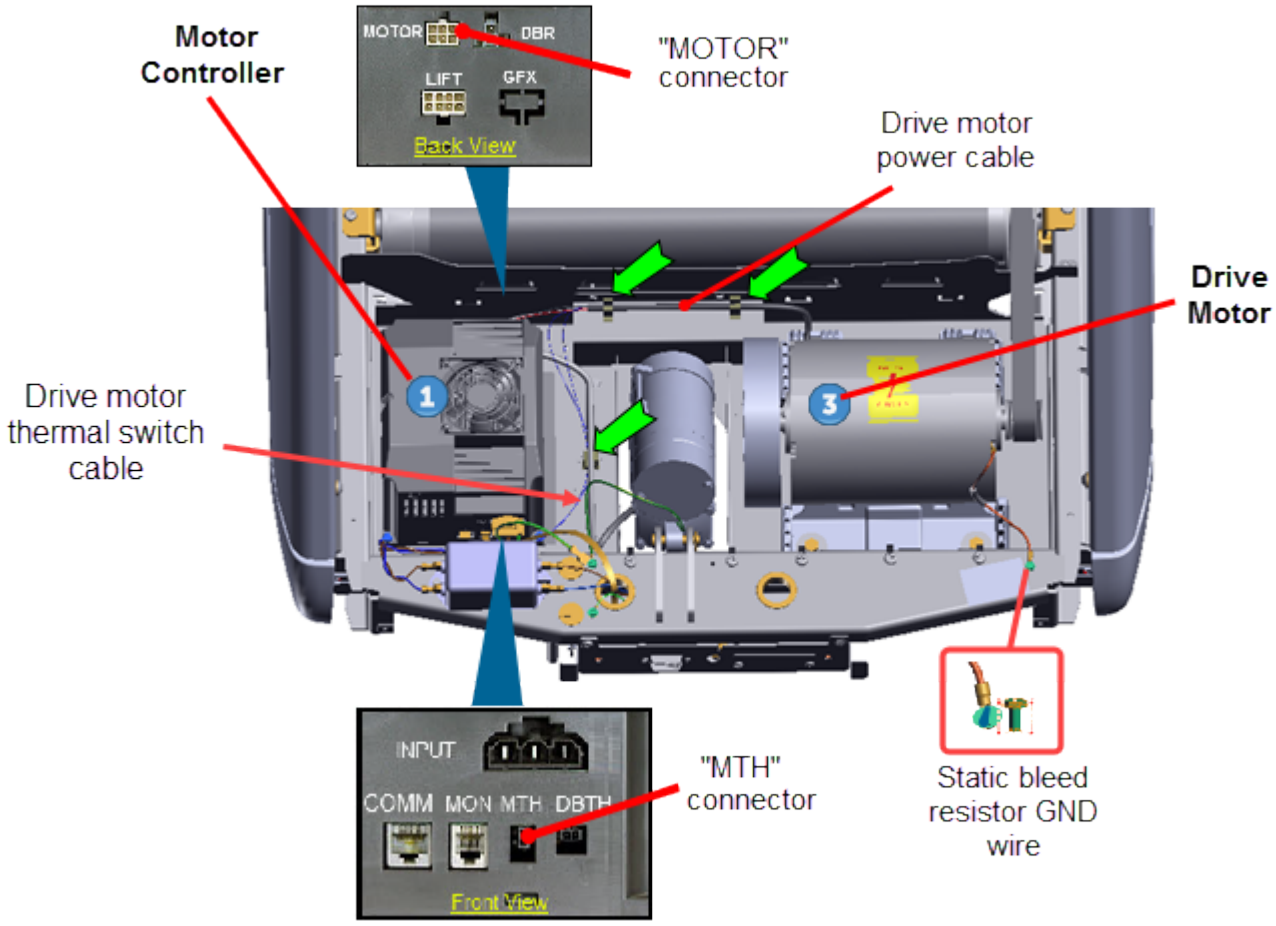


1. Reconnect the motor static bleed resistor ground wire placing the green ground screw through one of the tooth lock washers, the ground wire ring terminal, and the second tooth lock washer in that order. Fully tighten using the 5/16 " hex head socket (or nut driver). Make sure to include the two tooth lock washers to ensure good electrical contact with the frame weldment.



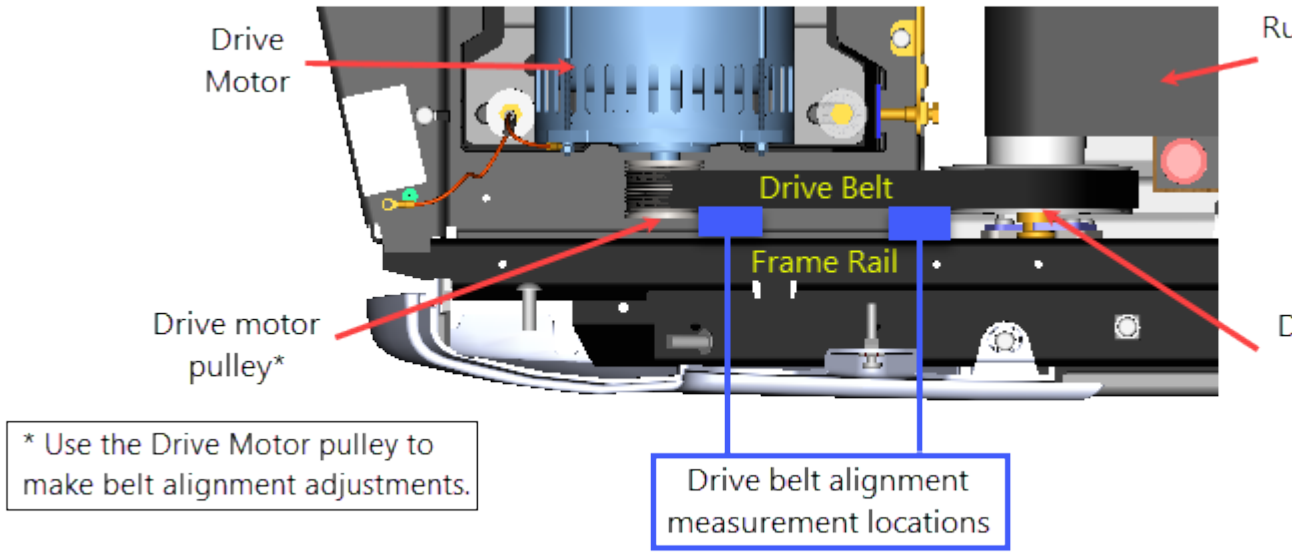
WARNING: Static electric shock hazard. Make sure the motor static bleed resistor ground wire is securely connected to the frame. When the ground wire is not connected, touching the motor housing could cause static charge electrical shock and personal injury.

2. Reconnect the Motor Controller "MTH" (front side) and "MOTOR" (rear side) cables, see Motor Controller (MC) Replacement. Slightly lift the MC to make it easier to reconnect the cables to the MC I/O ports. Make sure the cable connectors have the correct orientation and alignment before inserting into the MC I/O port.



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 I/O connector.

3. Secure the MC by sliding the right side base flange under the two right side pre-installed loosened fasteners. Then install the two left side fasteners and fully tighten all four 1/2" hex fasteners use a 1/2" socket with 6" extension, see "Motor Controller (MC) Replacement" on page 129.
4. Route the "MOTOR" power and "MTH" motor ethereal switch cables and secure to the frame using the frame mounted cable clamps. Two places for the "MOTOR" power cable and three places for the "MTH" motor thermal switch cable. Recheck all MC I/O cable connections. Make sure that the cables have freedom of movement and are clear of any frame or component edges that could pinch, chafe, or damage the cable wires.
5. Install the drive belt onto the drive motor and drive roller pulleys. Make sure the belt is properly aligned, see "Drive Belt Replacement" on page 148.



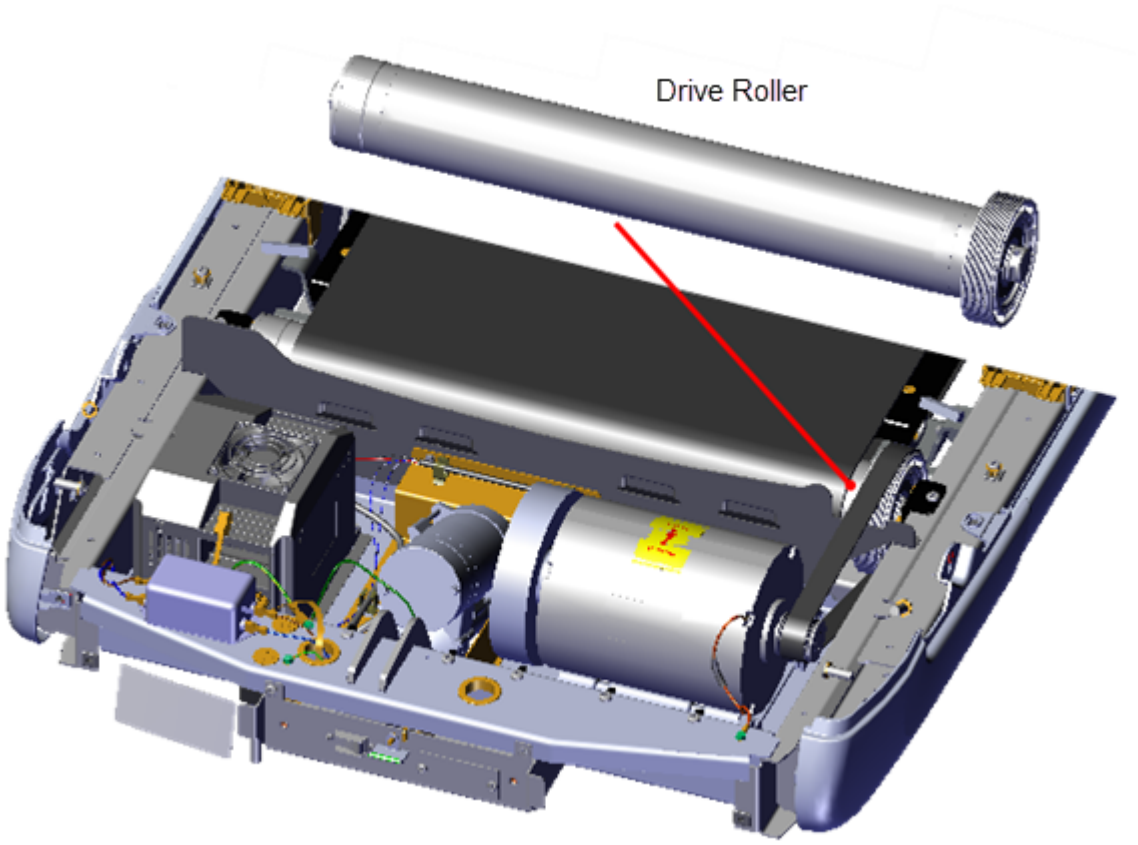
6. Tension the drive belt to specification, see "Drive Belt Tension and Alignment Adjustment" on page 64.
7. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.
8. Connect the power cord and switch the power **ON**.
9. Verify machine operation (see "Operation Verification" on page 27) and return to service.

Drive Roller Replacement

About

This procedure provides instruction to remove and replace the Drive Roller for both the legacy and common frame weldment machines

Note: Common & Legacy Frame information, see "TRM600/700/800 Common Frame Overview" on page 293.



Procedure

There are separate procedures for the legacy and common frame machines:

- Legacy Frame, see "Legacy Frame Drive Roller Replacement" below
- Common Frame, see "Common Frame Drive Roller Replacement" on page 180

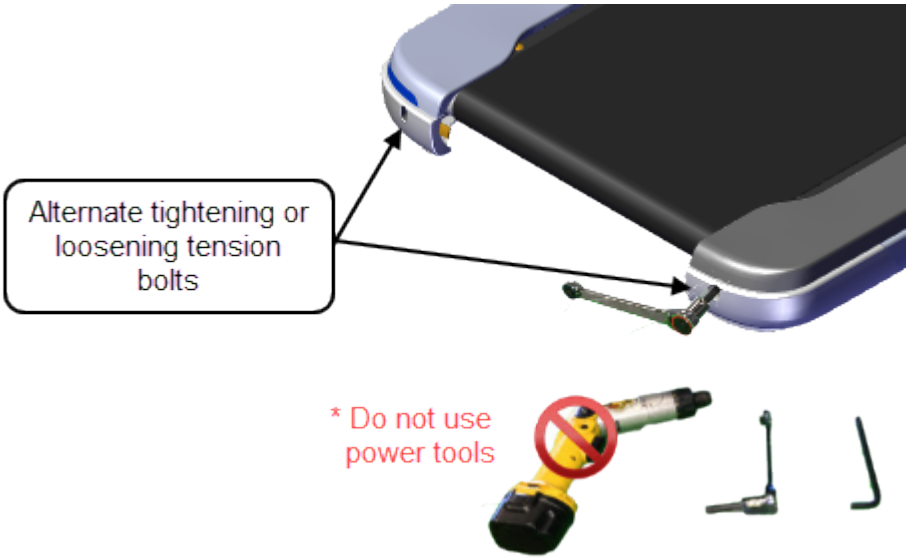
Legacy Frame Drive Roller Replacement

Review entire procedure before starting.

Removal

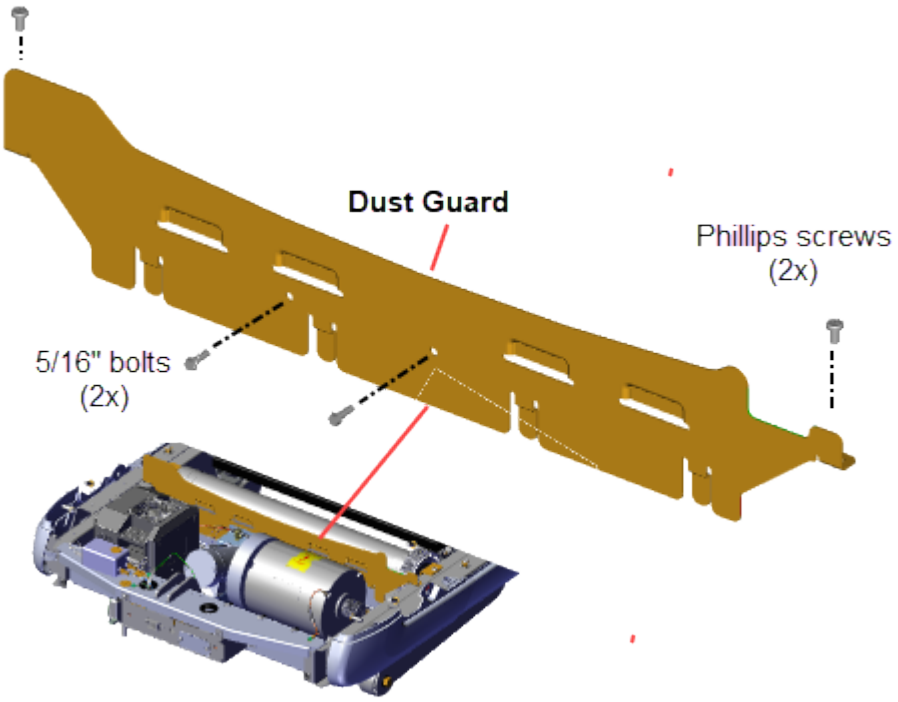
1. Switch the power **OFF** and **unplug**[1] the power cord.
2. Remove the hood cover, see "Covers and Panels Replacement" on page 92, and left/right Landing Trim covers, see "Covers and Panels Replacement" on page 92.
3. Relax the running belt tension by loosening the left and right 5/16" hex key tension 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.

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.

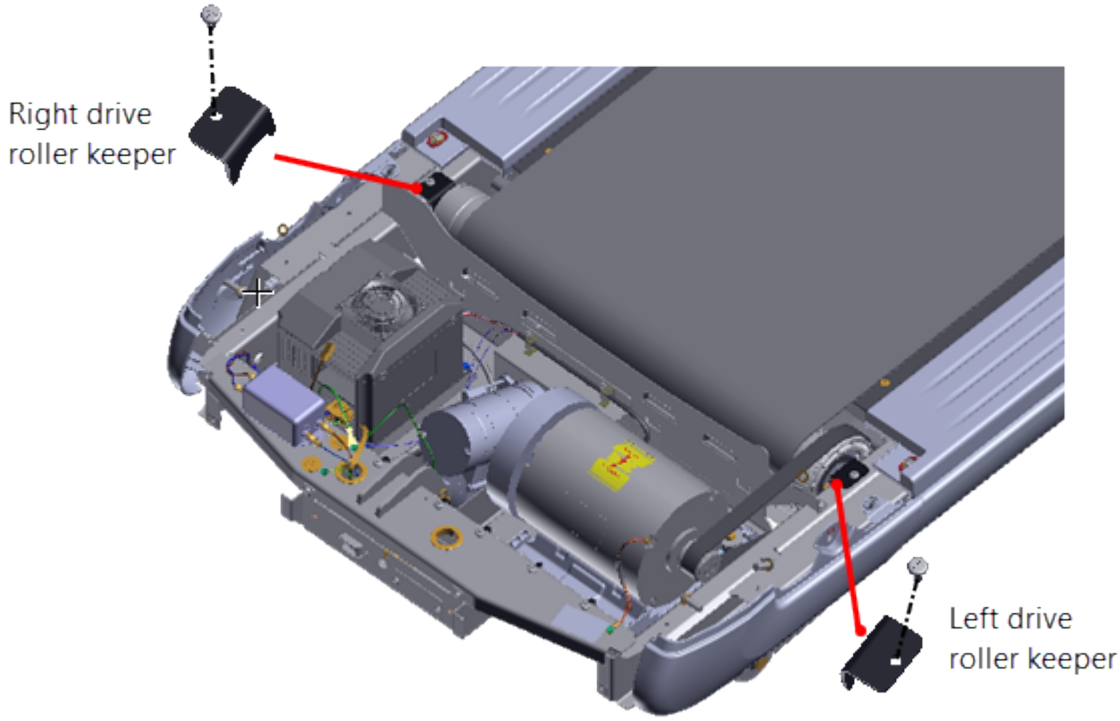


4. Remove the two #3 Phillips screws, two 7/16" hex head fasteners and remove the Dust Guard . Retain fastener hardware for installation.

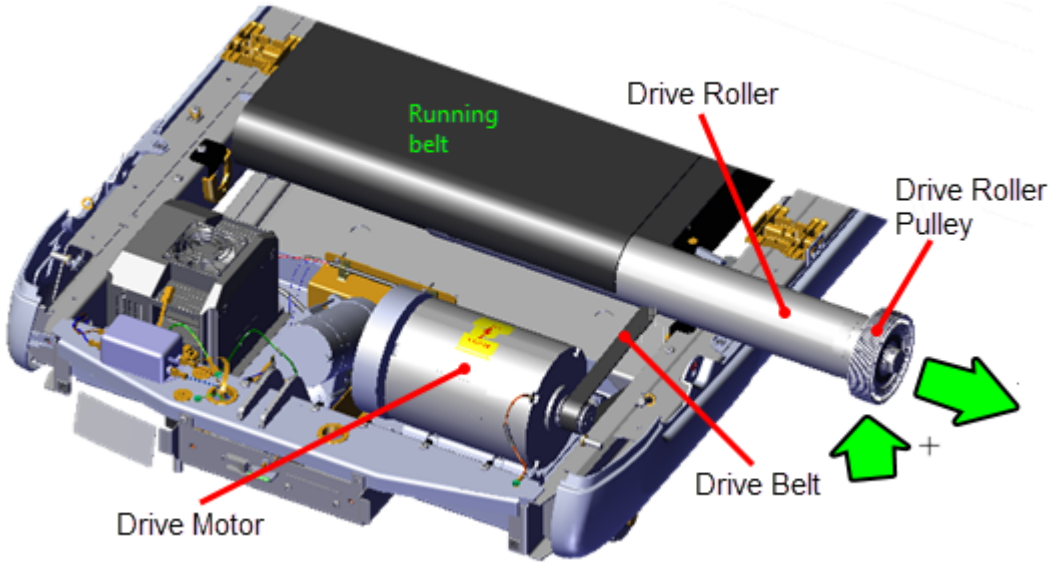
[1]Disconnect a device power cord plug or cable connector from the power receptacle or outlet.



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.

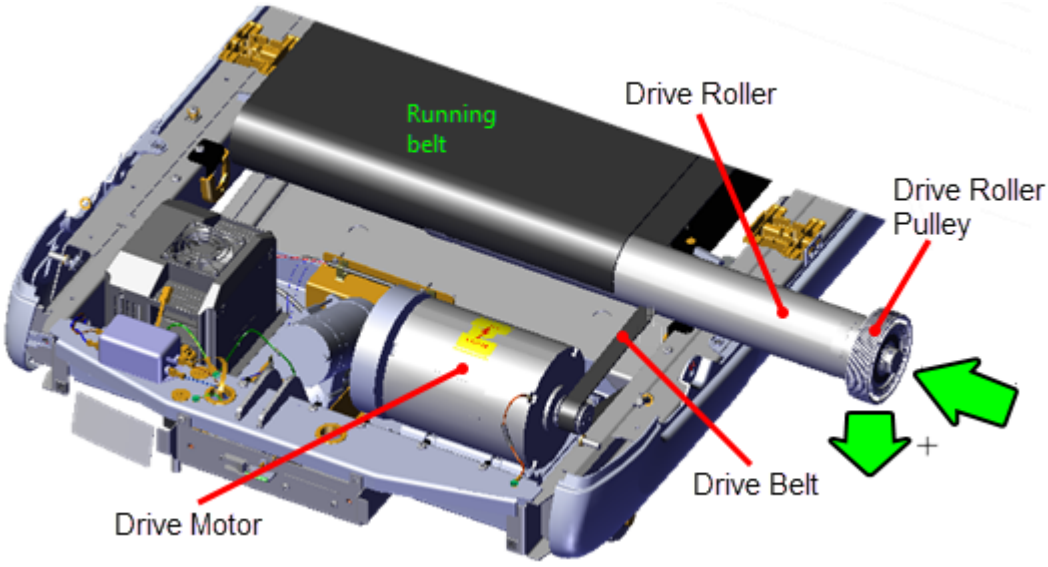


7. Loosen the Take-up Roller tension adjustment bolts enough to allow the freedom of movement required to lift the Drive Roller from the mounting brackets. Slide the Drive Roller through the running belt and remove.

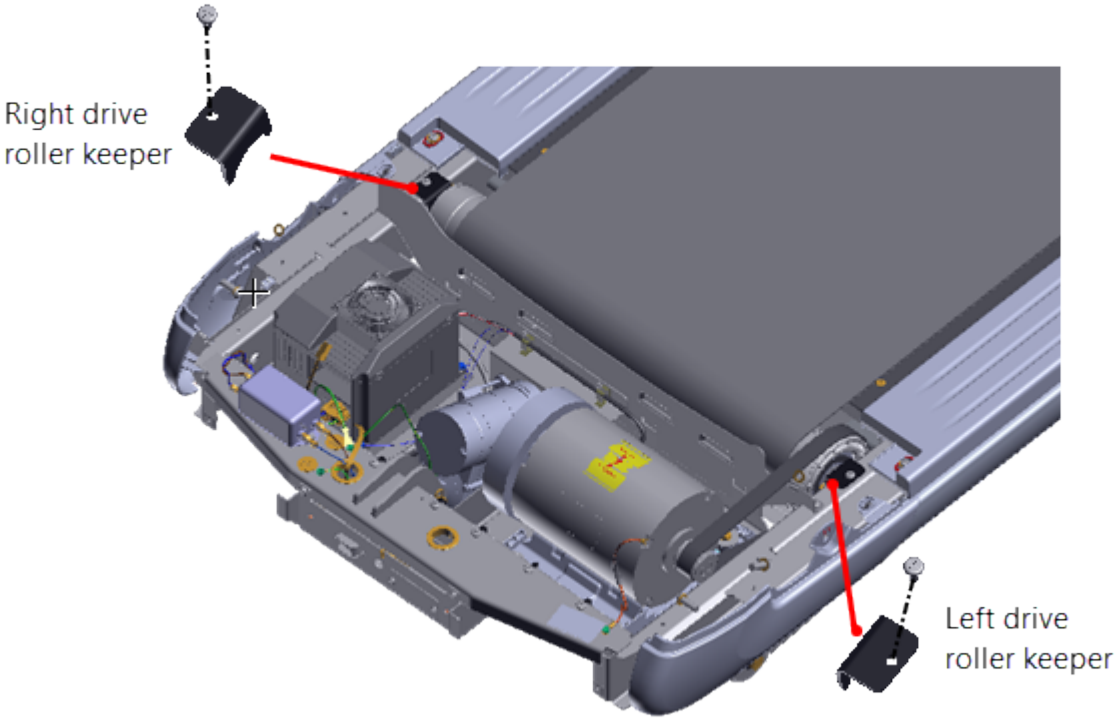


Installation

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).

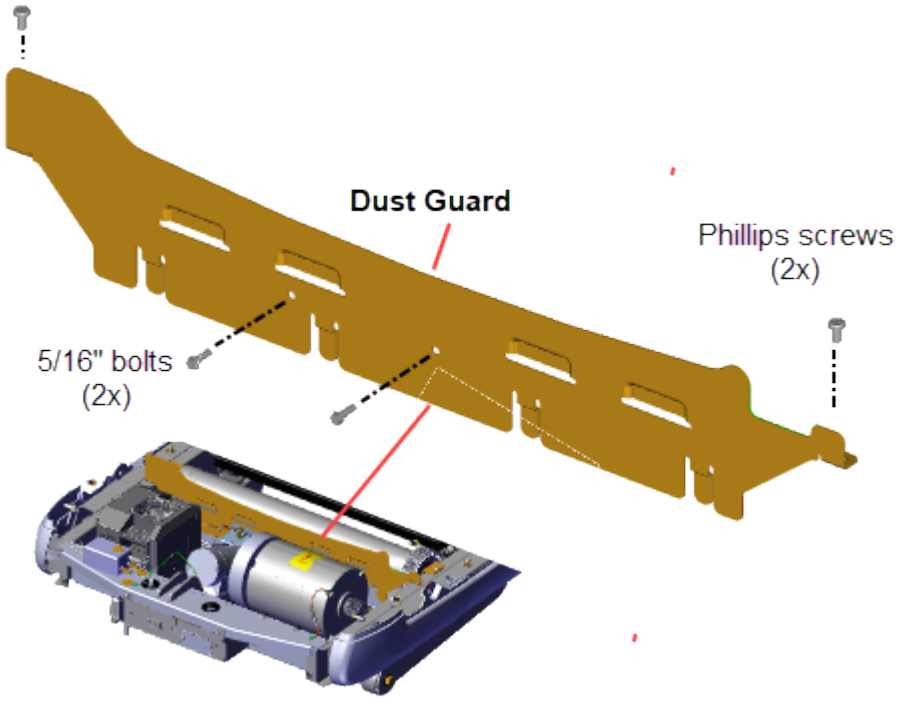


3. Center and square the running belt onto the Take-up and Drive rollers and tension to specification, see "Running Belt Tension and Tracking Adjustment" on page 73. Do

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.

4. Install the drive belt. Place the Drive Belt onto the Roller pulley and then walk the belt onto the Drive Motor pulley.
5. 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.



6. 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 64.
7. Connect the power cord and switch the ON/OFF circuit breaker to **ON**.
8. Operate the treadmill and verify the running belt tracking, see "Running Belt Tension and Tracking Adjustment" on page 73.
9. Reinstall the hood cover, see "Covers and Panels Replacement" on page 92, and left/right Landing Trim covers, see "Covers and Panels Replacement" on page 92.
10. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

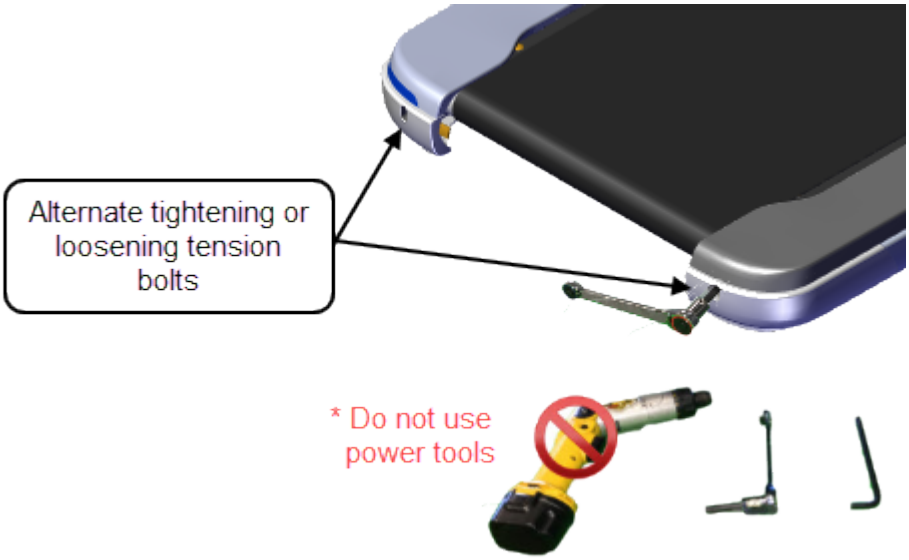
Common Frame Drive Roller Replacement

Review entire procedure before starting.

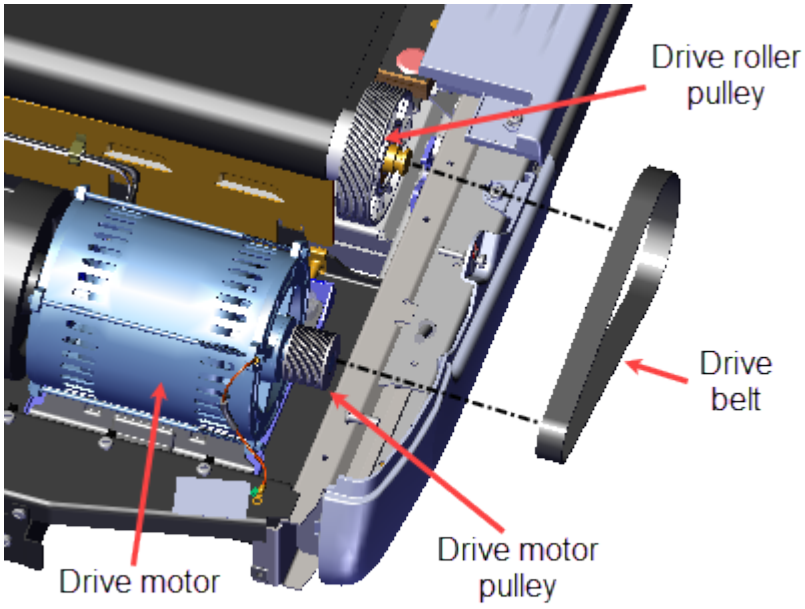
Removal

1. Switch the power **OFF** and unplug the power cord.
2. Remove the hood cover (see "Hood Cover Replacement" on page 94), and the left & right Landing Trim covers (see "Trim Landing Covers Replacement" on page 97).
3. Alternately loosen the left and right 5/16" hex key tension adjustment bolts (use a hex key socket and ratchet) in 1/4 turn increments so that the running belt tension is evenly relaxed. Continue loosening the tension adjustment bolts until all tension is removed from the belt.

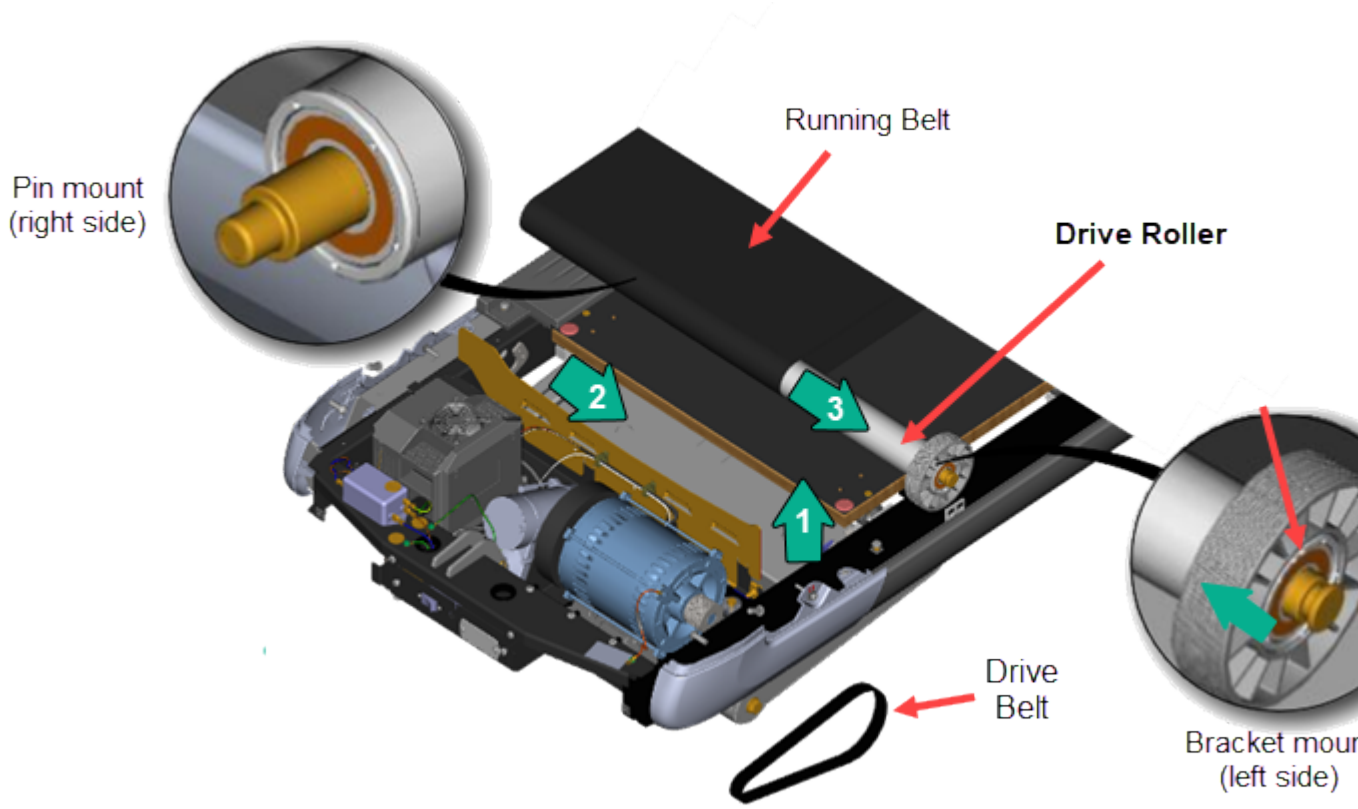
CAUTION: Only use hand tools to adjust tension. Power tools can easily over and/or under tension causing damage to the belt and/or tension hardware mechanism.



4. Loosen the drive belt tension and remove the Drive belt off the drive roller pulley, see "Running belt tension adjustment" on page 74.
    a. Use a 1/2" socket with 6" extension to loosen the four Drive Motor mount bolts enough so that the motor can slide forward and/or rearward in the mounting tray.
    b. Loosen the 1/2" drive belt tension adjustment bolt to remove the drive belt tension.
    c. Then walk the belt off the drive motor and drive roller pulleys.

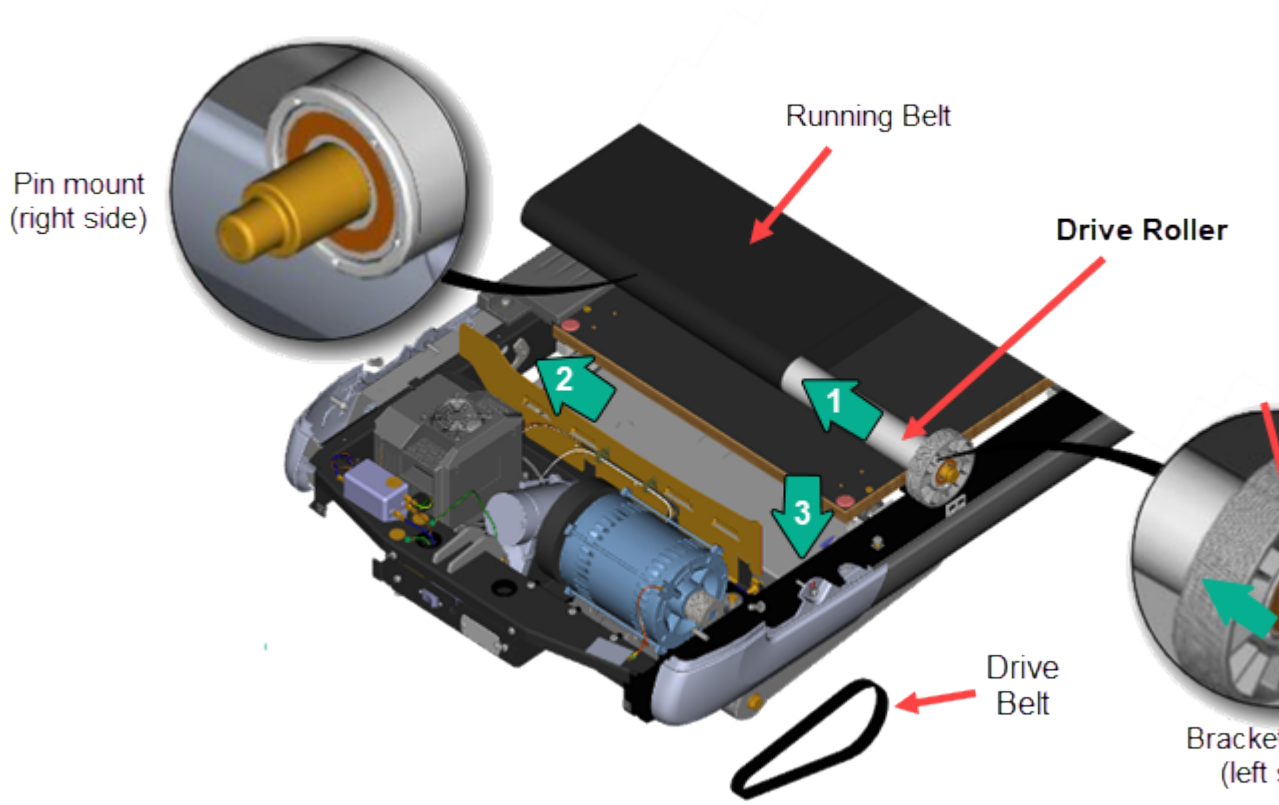


5. Lift the drive roller and running belt from the frame. Lift the roller left side from the frame bracket mount and then slide the roller right side from the frame pin mount and lift to remove. Then carefully slide the Drive Roller through the running belt to remove. Be careful to not drag the roller across the deck surface while removing which will scratch and damage the deck.
    a. If the running belt tension is too tight to allow the drive roller to be lifted, loosen the Take-up Roller tension adjustment bolts enough to allow the roller to be lifted.

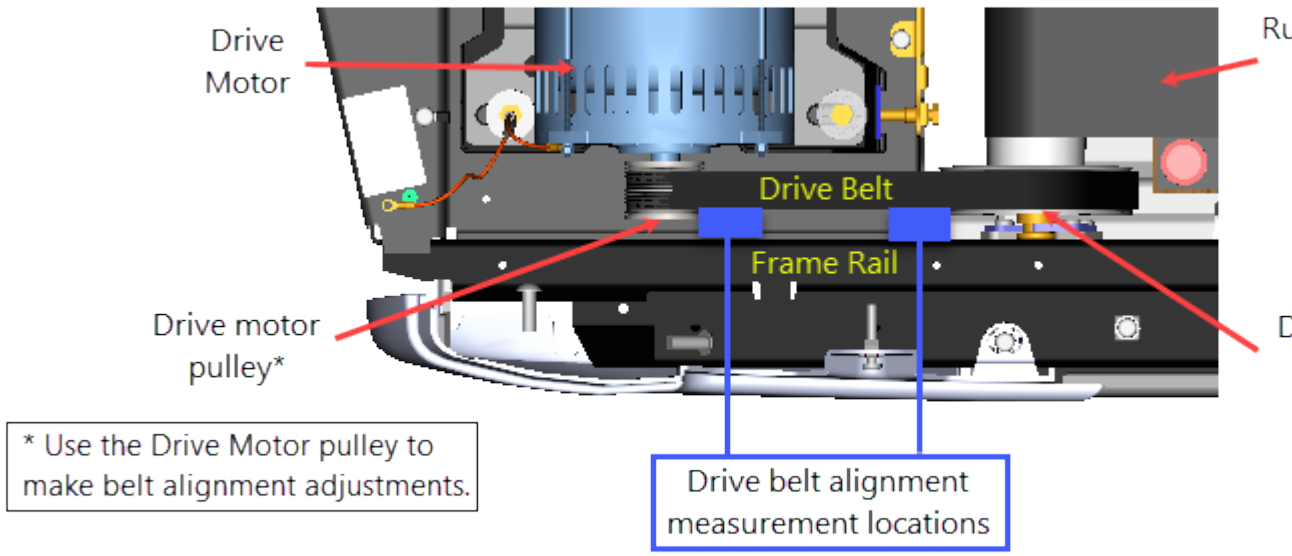


Installation

1. Slide the Drive Roller thru the Running Belt and then set the roller back into position in the frame mounting brackets. Slide the roller right side into the frame pin mount and then set the roller left side into the frame bracket mount.



2. Install the drive belt onto the drive motor and drive roller pulleys. Make sure the belt is properly aligned, see "Drive Belt Replacement" on page 148.



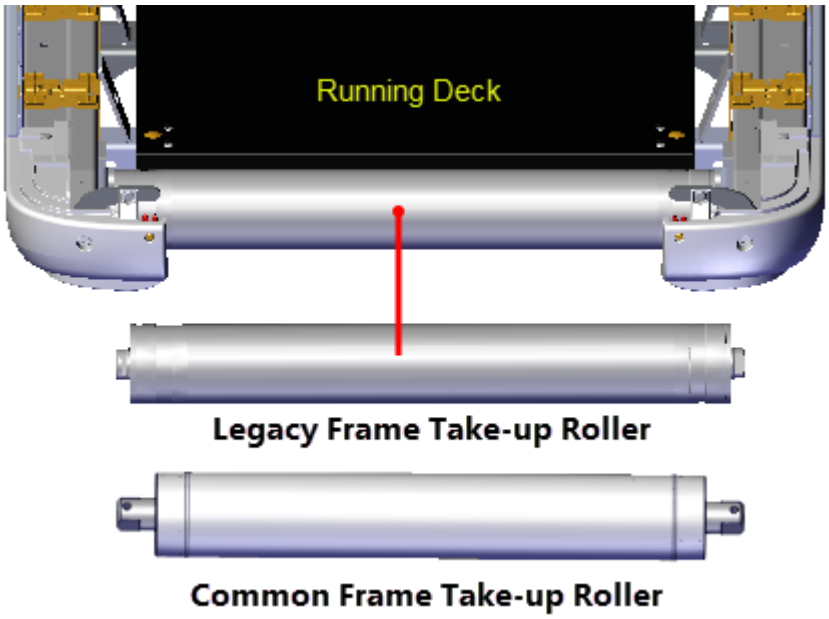
3. Tension an align the Drive Belt to specification, see "Drive Belt Tension and Alignment Adjustment" on page 64. DO NOT switch the power ON at this step, the Drive Belt operation will be verified later in the procedure.
4. Tension the Running Belt to specification and verify tracking, see "Running Belt Tension and Tracking Adjustment" on page 73.
5. Do a manual workout and verify the drive belt alignment and operation. Make sure that the belt remains centered and that there are no unusual noises or squeaking sounds.
6. Reinstall the left & right Landing Trim covers, see "Trim Landing Covers Replacement" on page 97 and the hood cover, see ."Hood Cover Replacement" on page 94
7. Verify Operation (see "Operation Verification" on page 27) and return to service.

Take-up Roller Replacement

About

This procedure provides instruction to remove and replace the Take-up rollers for both the legacy and common frame weldment machines.

Note: Common & Legacy Frame information, see "TRM600/700/800 Common Frame Overview" on page 293.



Common Frame Take-up roller

There are two different frame weldment implementations of the treadmill. There is the original release legacy frame weldment and the redesigned TRM600/700/800 common frame introduced in 2019. Each frame uses a different take-up roller part; however, the common frame take-up roller part is backward compatible and can be used on both the legacy and common frame weldments.

Legacy Frame Weldment: The legacy frame take-up roller is specific to the legacy frame (cannot be used on the common frame). The legacy frame uses a cassette style take-up roller mounting and belt tension adjustment mechanism.

Common Frame Weldment: The common frame uses a redesigned take-up roller that is also backward compatible with the original legacy frame. The mounting system and belt tension adjustment mechanism has changed and is similar to the previous generation **TRM10**[1]

[1]TRM800 version 1 treadmills mfg. dates 2010 thru 2014.

model treadmills which use the tension adjustment bolt to both secure and adjust the belt tension.

Procedure

Review the entire procedure before starting.

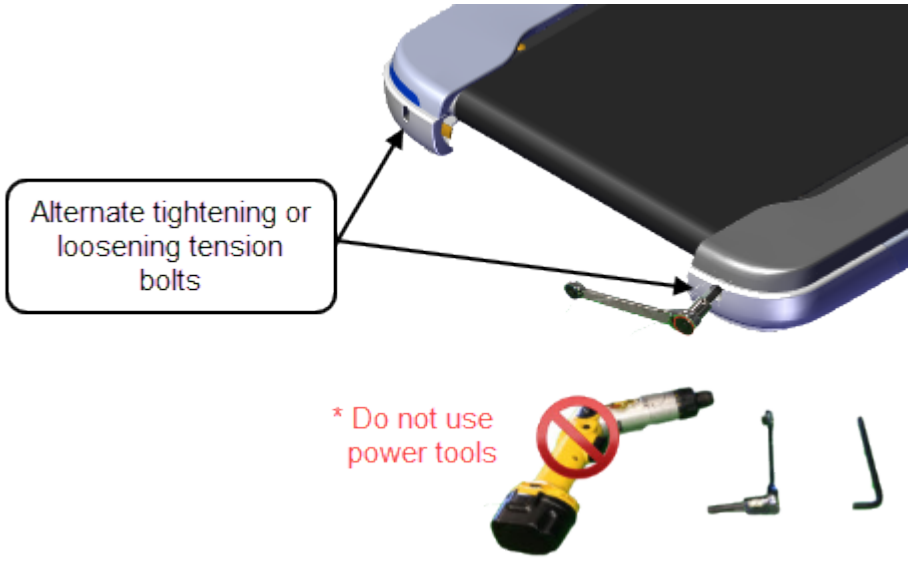
Removal

Removal

Review entire procedure before starting.

1. Switch the power **OFF** and **unplug**[1] the power cord.
2. Remove the hood cover, see "Covers and Panels Replacement" on page 92, and left/right Landing Trim covers, see "Covers and Panels Replacement" on page 92.
3. Slowly relax the running belt tension using a 5/16" hex key driver and ratchet (only use hand tools and not power tools). Alternately loosen the left and right tension adjustment bolts in 1/4 turn increments so that the running belt tension is evenly relaxed. Continue until all tension is removed.

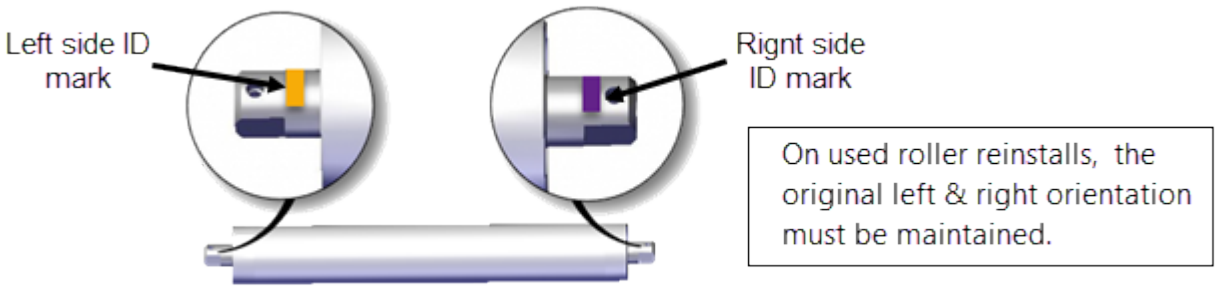
   CAUTION: Only use hand tools to adjust tension. Power tools can easily over and/or under tension causing damage to the belt and/or tension hardware mechanism.



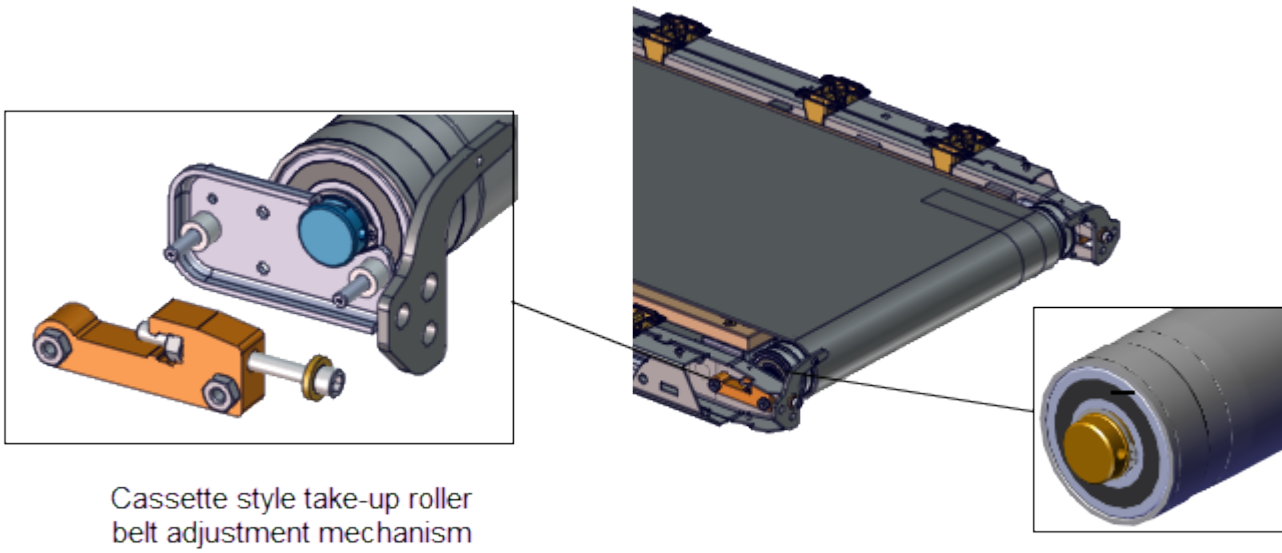
4. Use a pen or tape to mark the left and right ends of the roller prior to removal. The roller must be reinstalled with the same left/right orientation.

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

IMPORTANT: Make sure to mark the left and right end of the common frame take-up roller prior to removal. The roller must be reinstalled with the same left/right orientation.



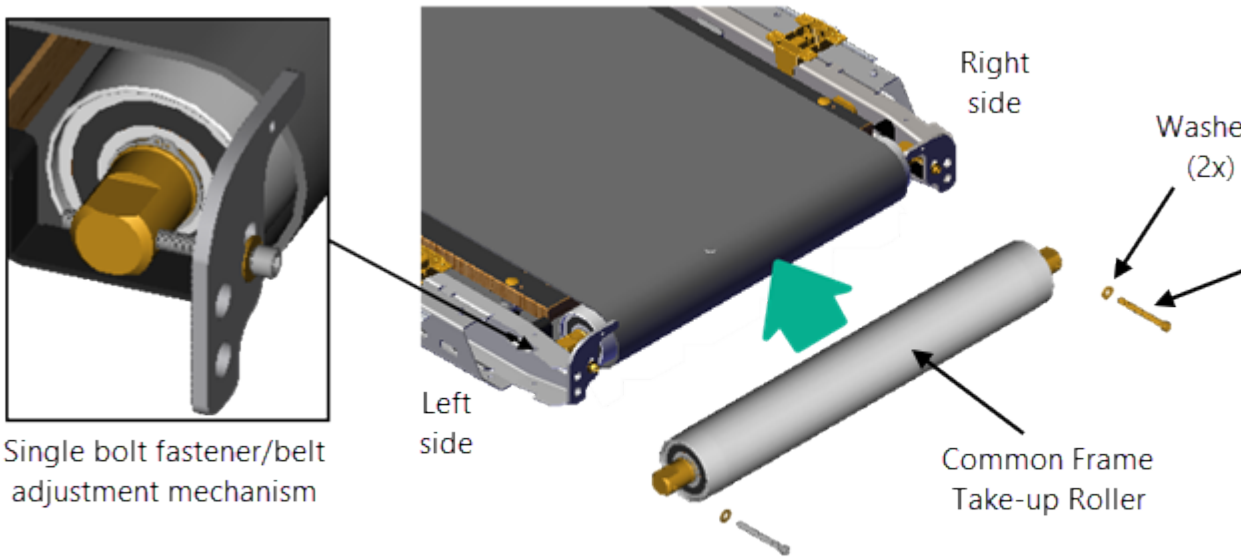
5. On legacy frame weldments, loosen the tension enough so that the Take-up roller can be lifted from the cassette roller mount.



TRM700/800 Legacy Frame - Take-up Roller Installation

6. On common frame take-up rollers, use a 5/16" hex key socket and ratchet to remove the two Take-up roller tension bolts (2x) and washers (2x). Retain part(s) and/or

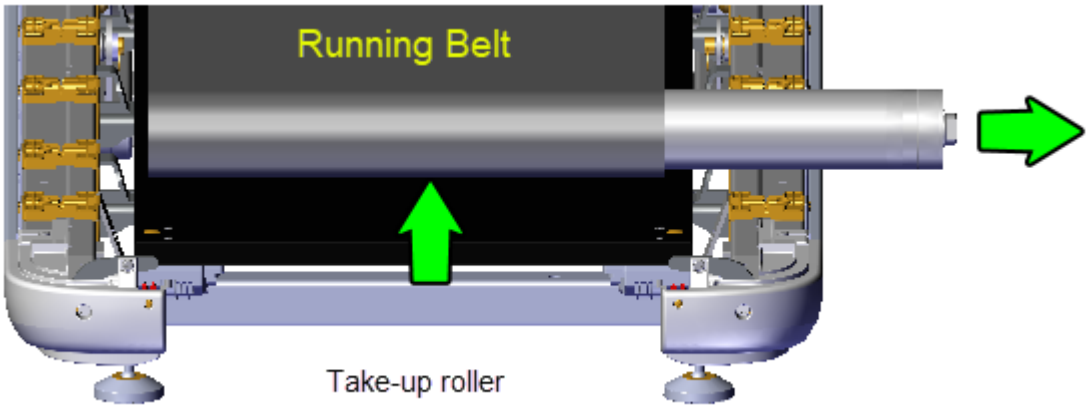
fastener(s) for installation.



TRM700/800 Common Frame - Common Take-up Roller Installation

7. Lift the roller from the frame brackets and remove the roller from the inside of the running belt. The roller is heavy, so be careful to not scratch the deck surface or inside belt surface while removing the roller.

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



Installation

Select the installation procedure for your particular configuration.

Legacy Frame - "Legacy Take-up Roller" Installation

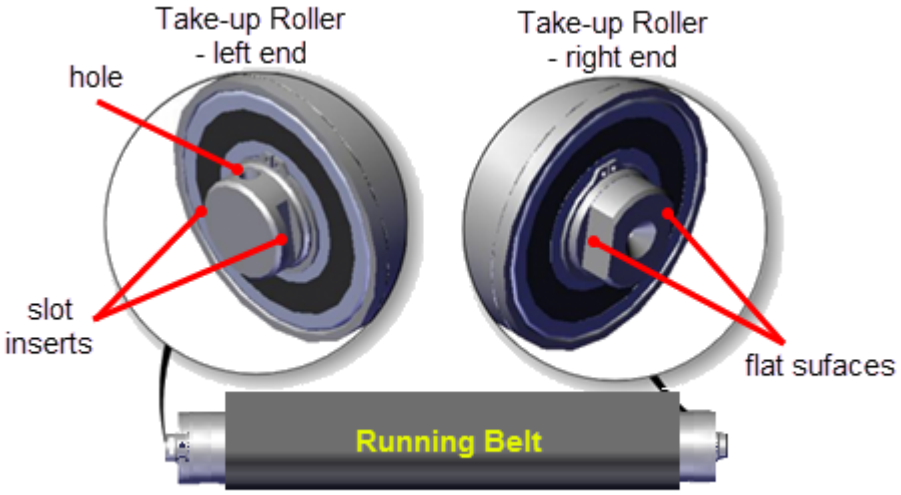
Legacy Frame with "Legacy Take-up Roller" Installation

Use this procedure to install the legacy frame take-up roller onto a legacy frame weldment.

Review entire procedure before starting.

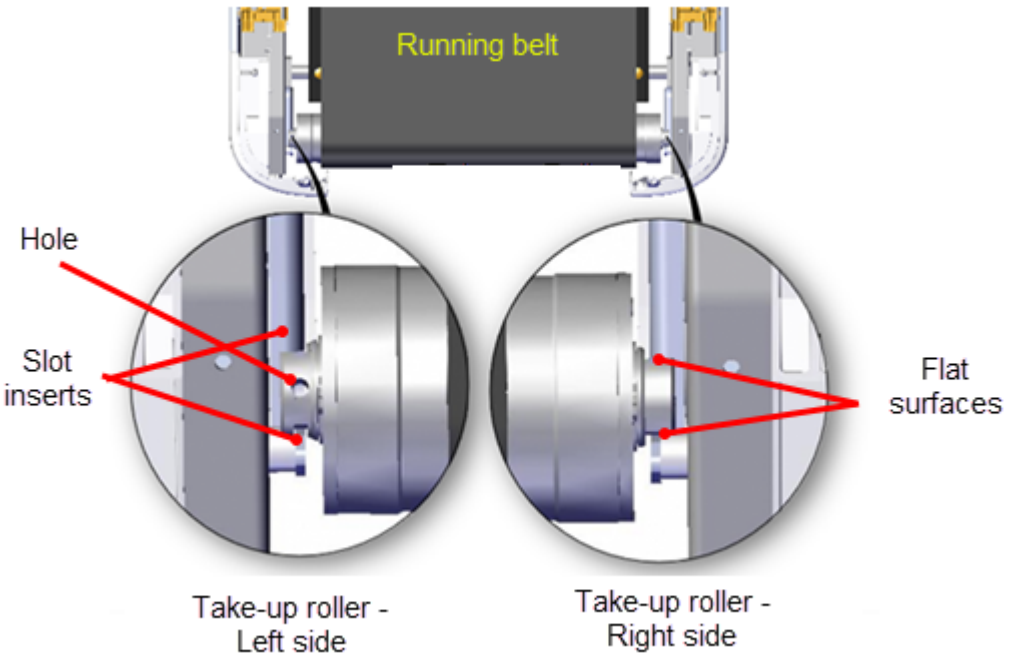
1. Clean the running belt, deck, and Take-up roller.
2. Insert the Take-up roller through the running belt so that the roller shaft end with the hole and slot inserts is on the left side and the end with the flat sided roller shaft is on the right.

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.



Legacy Frame Take-up Roller

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



4. Use the 5/16" hex key socket and ratchet to alternately hand tighten the running belt tension adjustment bolts until snug and stop.
5. Tension the running belt to specification and verify alignment and tracking, see "Running Belt Tension and Tracking Adjustment" on page 73.
6. Reinstall the left and right Landing Trim covers, see "Covers and Panels Replacement" on page 92 and hood cover, see "Covers and Panels Replacement" on page 92,.
7. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

Legacy Frame with "Common Take-up Roller" Installation

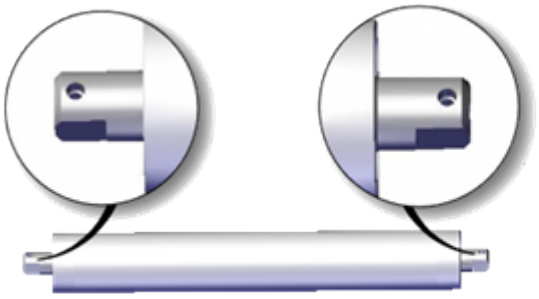
Legacy Frame - "Common Take-up Roller" Installation

Use this procedure to install the common frame take-up roller onto a legacy frame weldment.

Review entire procedure before starting.

1. Clean the running belt, deck, and Take-up roller.
2. Install the Take-up roller through the running belt:

a. New (first time) roller installations:
Insert either end of the common frame take-up roller through the inside of the running belt. Be careful to not scratch or damage the deck surface or inside of the belt while installing the roller. On new installations, It does not matter which end of the new roller is installed on the frame, both the left and right roller shaft and frame mounting hardware is the same.

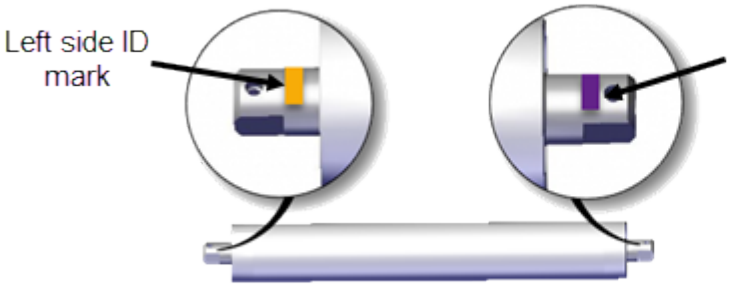


On new installations, the orientation does not matter.

Common Frame Take-up Roller: New Installation

b. Used roller installations (reinstalling the removed roller):
The roller must be reinstalled with the same right/left orientation as it was originally installed. Insert the common frame take-up roller through the inside of the running belt so that the left/right orientation is the same as it was prior to being removed. Be careful to not scratch or damage the deck surface or inside of the belt while installing the roller.

CAUTION: Make sure the take-up roller does not drag across and possibly damage the deck surface or belt while inserting the roller through the running belt.

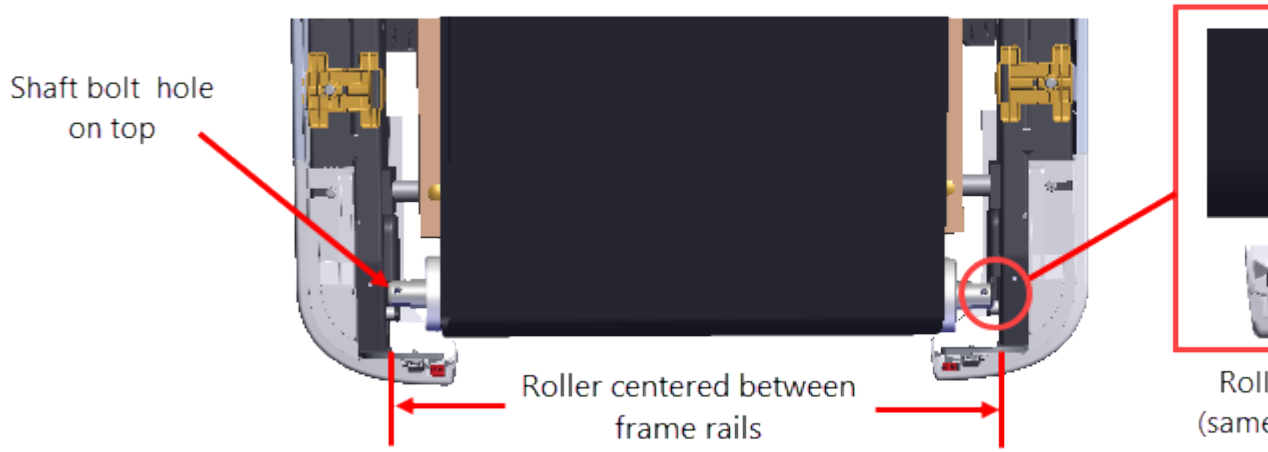


On used roller reinstalls, the original left & right orientation must be maintained.

3. Install the Take-up roller onto the frame mounting brackets.

a. Position the roller shaft ends so that the shaft mounting bolt threads and flat sides are vertical. Then set the roller onto the left and right frame mounting brackets.

b. Next center the roller shaft ends between the inside of the left and right frame rails. The common frame roller does not have shaft mounting slots to center and hold the roller in position. The belt tension will hold the roller in position



4. Use the 5/16" hex key socket and ratchet to alternately hand tighten the running belt tension adjustment bolts until snug and stop.
5. Tension the running belt to specification and verify alignment and tracking, see "Running Belt Tension and Tracking Adjustment" on page 73.
6. Reinstall the left and right Landing Trim covers, see "Covers and Panels Replacement" on page 92 and hood cover, see "Covers and Panels Replacement" on page 92,.
7. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

Common Frame with "Common Take-up Roller" Installation

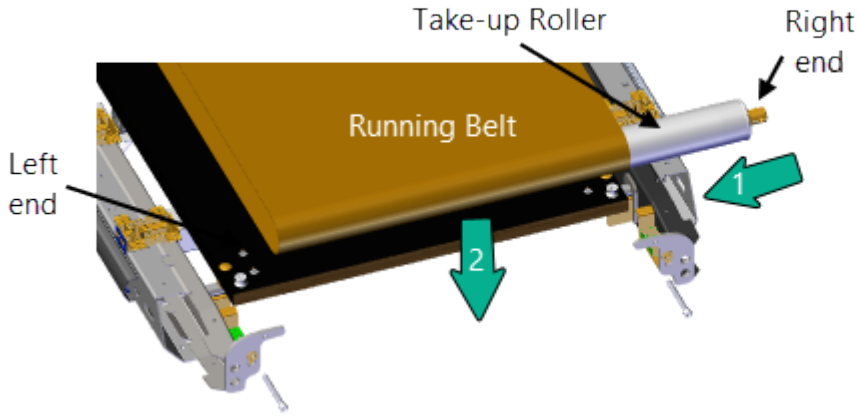
Common Frame - "Common Take-up Roller" Installation

Use this procedure to install the common frame take-up roller onto a common frame weldment.

Review entire procedure before starting.

1. Clean the running belt, deck, and Take-up roller.
2. Carefully insert the Take-up roller through the running belt:
   a. On new take-up roller installations, the left and right orientation does not matter,

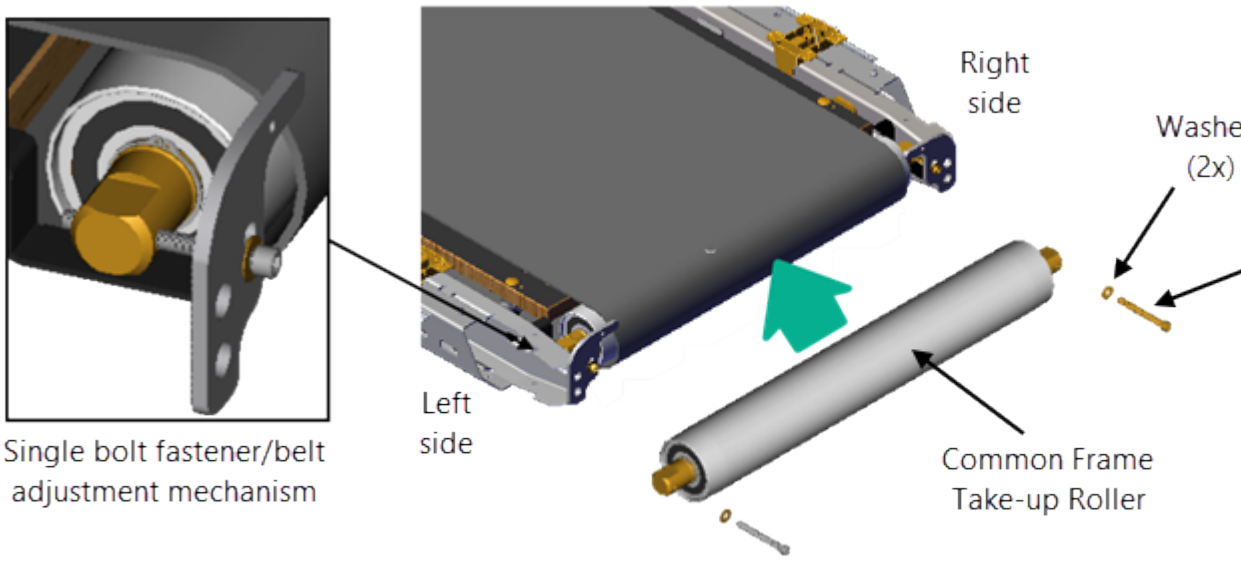
b. On used rollers that are being reinstalled, insert the roller so that the marked left roller end is on the frame left side and the marked right roller end is on the frame right side.



On reinstalled Rollers
Make sure the right end and left ends are correctly oriented.

CAUTION: While inserting the take-up roller, make sure the roller does not drag across the deck causing damage to the deck and/or belt surfaces.

3. Set the flat side of the roller shaft onto the frame mounting bracket with the tension adjustment bolt threads facing rearward.



TRM700/800 Common Frame - Common Take-up Roller Installation

4. Hand start and reinstall the left and right 5/16" hex key running belt tension adjustment bolts (2x) and washers (2x). Alternately tighten the left and right tension bolts until snug and stop.

5. Tension the running belt to specification and verify alignment and tracking, see "Running Belt Tension and Tracking Adjustment" on page 73.
6. Reinstall the left and right Landing Trim covers, see "Covers and Panels Replacement" on page 92 and hood cover, see "Covers and Panels Replacement" on page 92,.
7. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

Running Belt and Deck Replacement Procedure

About

This procedure provides instruction to replace the Running Belt and Deck on both the legacy frame and the common frame configurations.

Note: Common & Legacy Frame information, see "TRM600/700/800 Common Frame Overview" on page 293.

The TRM700 and TRM800 common frame deck is approximately 1” larger in length and width than the legacy frame deck. The TRM700/800 common frame deck is not compatible with the TRM600 common frame. However, the larger TRM700/800 common frame deck uses the same running belt as the smaller size legacy frame deck.

There are two different running belt brands (Ammerall Beltech and Forbo) and deck combinations available for use on the TRM700/800 treadmills. The two belt and deck configurations are not interchangeable. Only non-prewaxed decks can be used with Ammeraal belts and only pre-waxed decks can be used with Forbo belts:

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

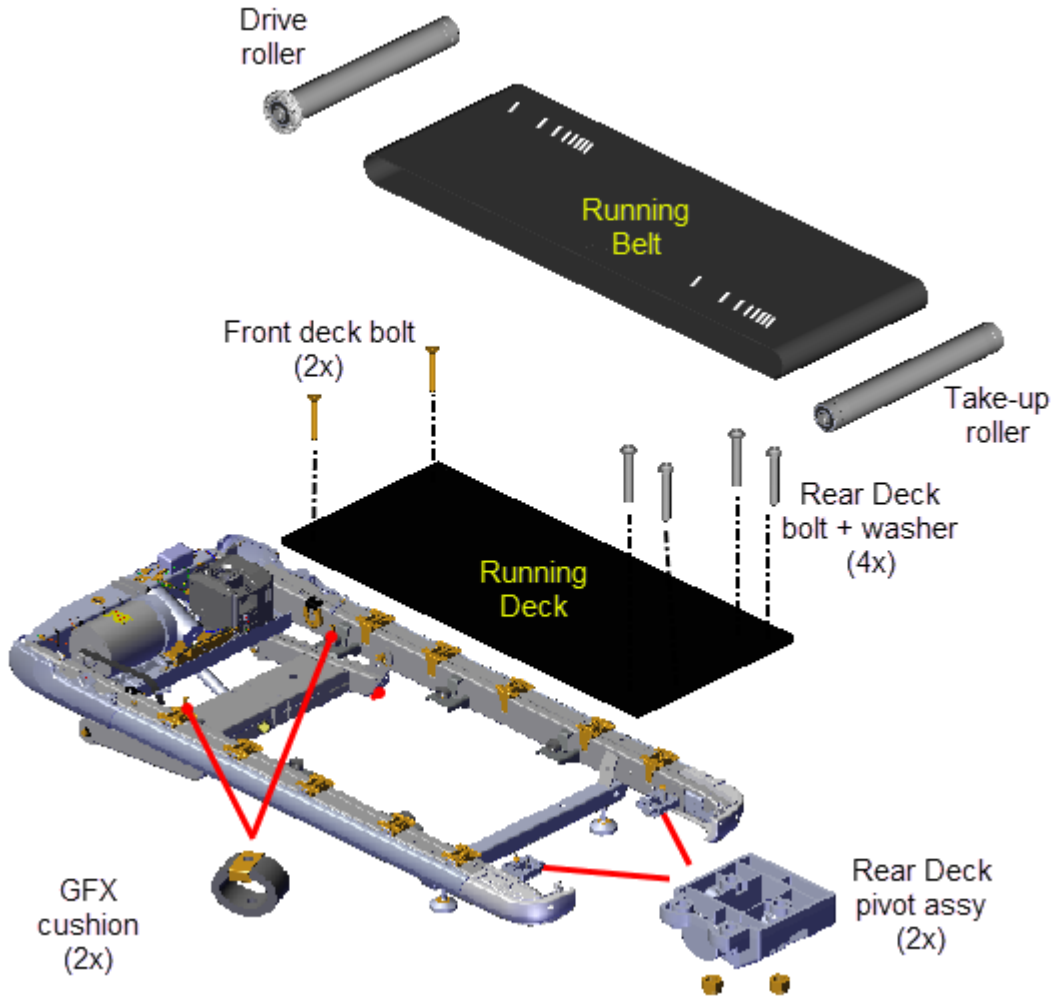
Procedure

There are separate procedures for the legacy and common frame machines:

- Legacy Frame, see "Legacy Frame Belt and Deck Replacement" belowe
- Common Frame, see "Common Frame Belt and Deck Replacement" on page 201

Legacy Frame Belt and Deck Replacement

Review entire procedure before starting.

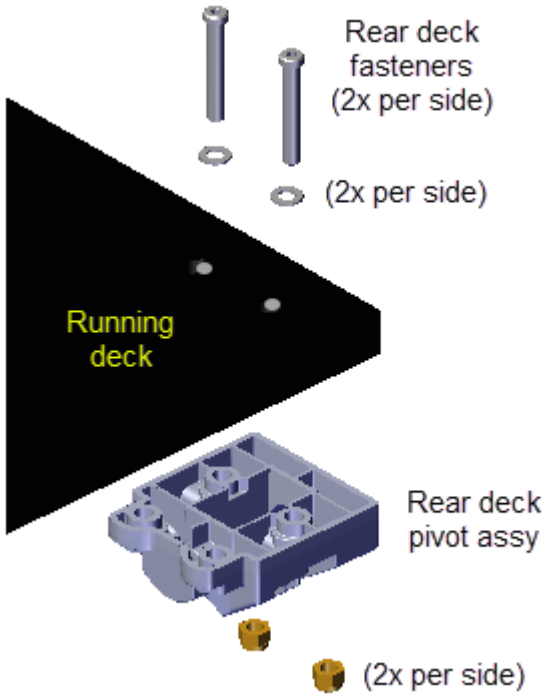


Removal Instructions

1. Switch the power **OFF** and **unplug**[1] the power cord.
2. Remove the hood cover, see "Covers and Panels Replacement" on page 92, and left/right Trim Landing covers, see "Covers and Panels Replacement" on page 92.
3. Remove the Take-up Roller, see "Take-up Roller Replacement" on page 185.
4. Remove the Drive Roller, see "Drive Roller Replacement" on page 174.
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.

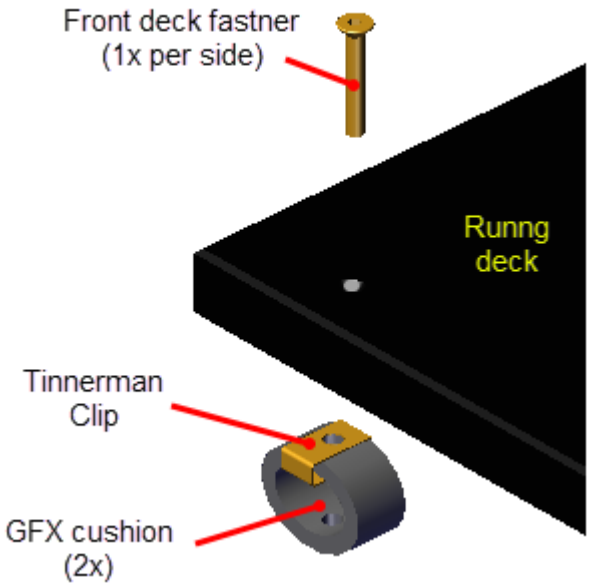
[1]Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

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.



6. 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.

[1]Ground 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.

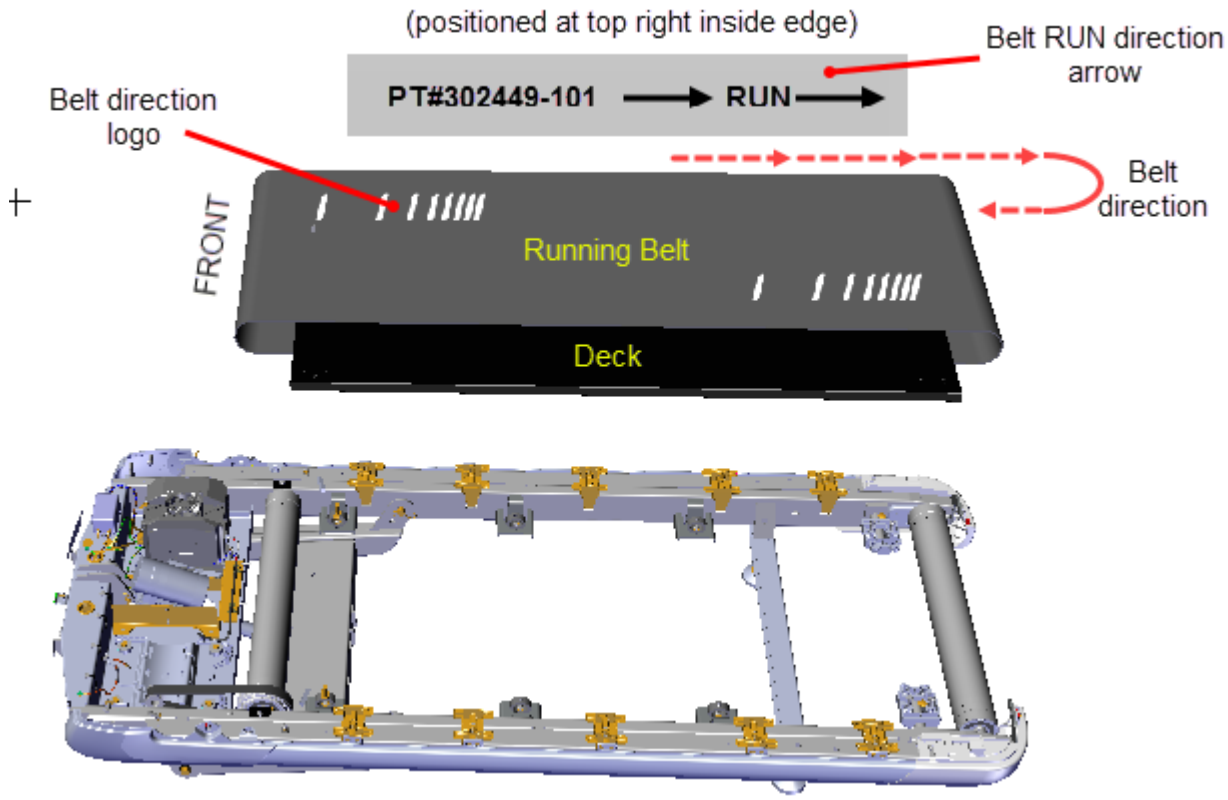
Installation Instructions

CAUTION: A new deck surface must be 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 self-lubricating belt used with a non-waxed deck.
- The Forbo brand running belt is not self-lubricating and must be used with a pre-waxed deck.

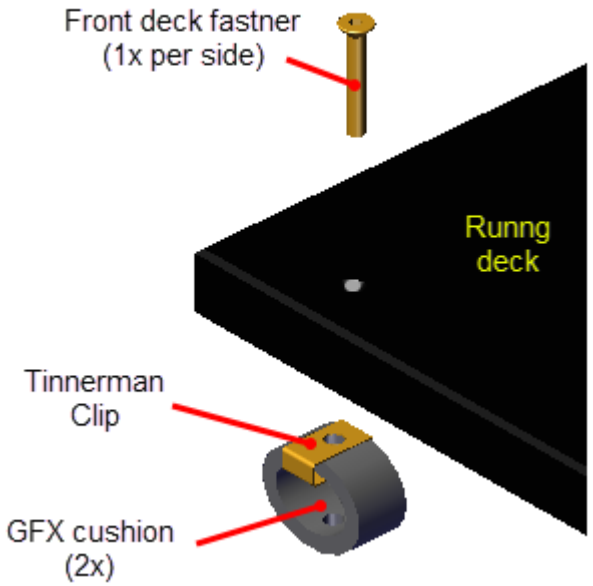
1. Reinstall the deck into the running belt. Make sure the running belt direction is correct. There are two direction indicators, the belt logo and the **Run** direction arrow printed on the inside of the belt right edge. Make sure that the belt direction logo and **Run** arrow are installed as shown.



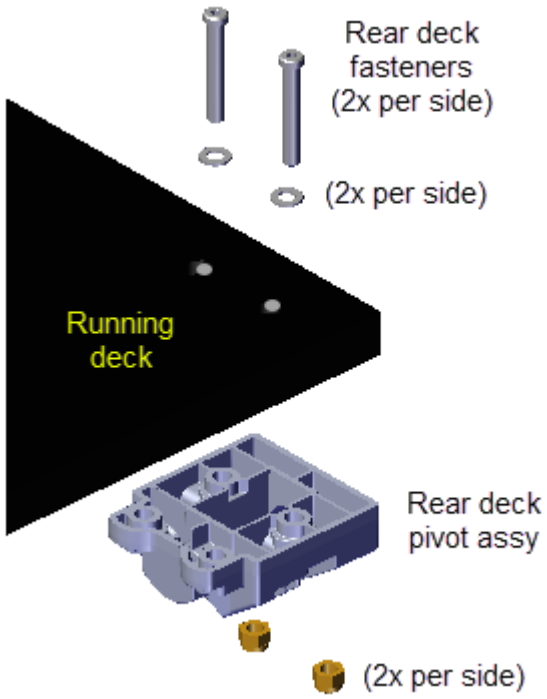
2. Reinstall the Deck/Belt into the treadmill frame. Make sure to verify that the bottom of the belt is not caught on any frame weldment brackets (GFX cushion brackets) or other frame hardware that could impede belt movement.
3. Reinstall the two 5/32" hex key bolt front deck fasteners and torque to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

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

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



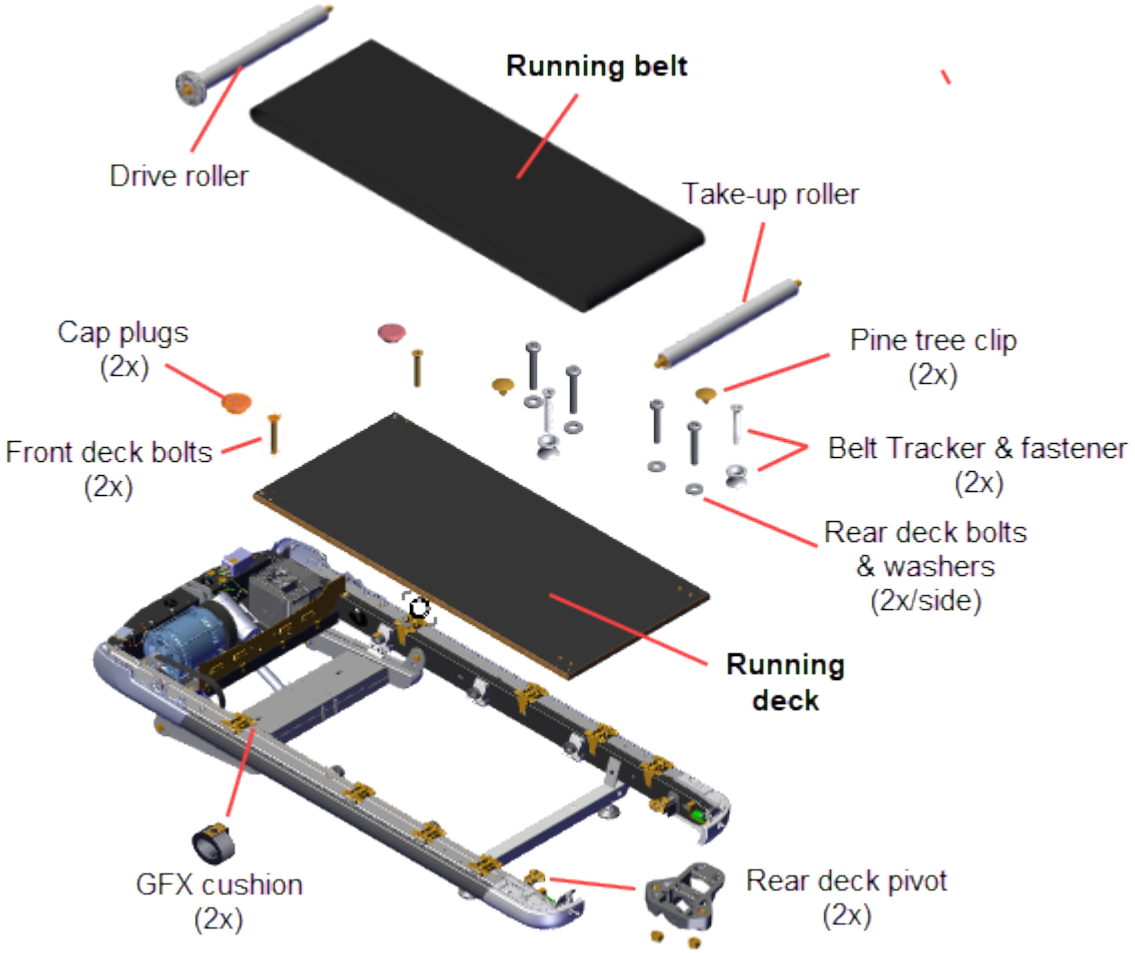
4. Reinstall the four 5/32" hex key bolt and washer rear deck fasteners, torque to 50-55 in-lbs (5.6-(6.2 Nm).
   These fasteners attach to the left and right rear deck pivot assemblies. The 1/2" fastener nuts are press fit into the bottom of the deck pivot housing. Be aware that the nuts can fall from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



5. Reinstall the Drive Roller, see "Drive Roller Replacement" on page 174.
6. Reinstall the Take-up Roller, see "Take-up Roller Replacement" on page 185.
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 73.
8. Reinstall the hood cover, see "Covers and Panels Replacement" on page 92, and left/right Landing Trim covers, see "Covers and Panels Replacement" on page 92.
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 27) and return to service.

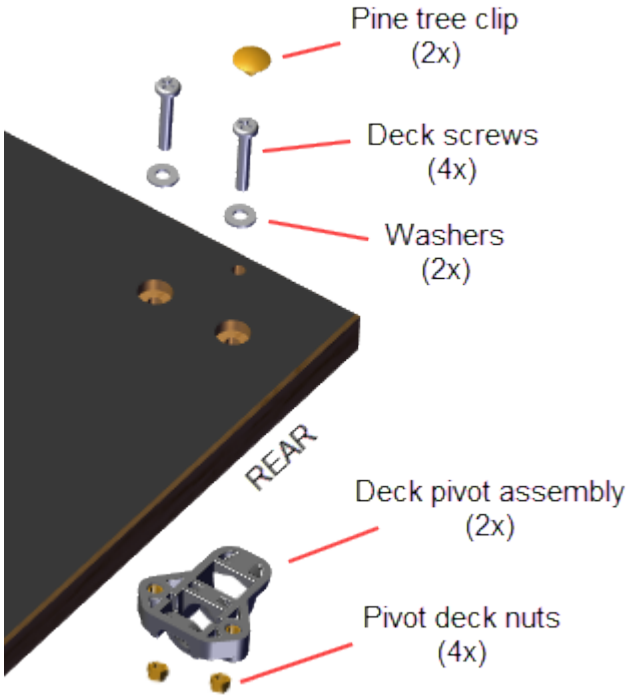
Common Frame Belt and Deck Replacement

Review entire procedure before starting.

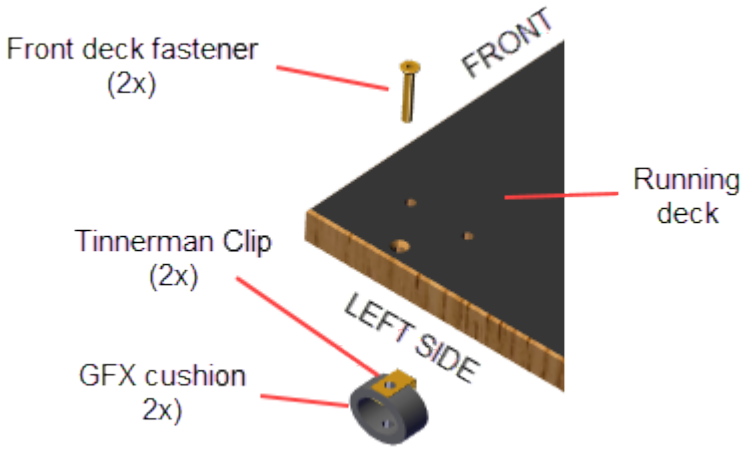


1. Switch the power **OFF** and unplug the power cord.
2. Remove the hood cover, see "Covers and Panels Replacement" on page 92, and left/right Trim Landing covers, see "Covers and Panels Replacement" on page 92.
3. Remove the Take-up Roller, see "Take-up Roller Replacement" on page 185.
4. Remove the Drive Roller, see "Drive Roller Replacement" on page 174.
5. Remove the left/right rear deck fastener hardware:
    a. Remove the left/right #3 Phillips rear deck fasteners (4x) and washers (4x). 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.
    b. If the deck is being flipped or replaced, use a plastic putty knife sharp edge to pry up and remove the pine tree clips (2x). Alternatively you can pop the pine tree clips from the back side after the deck is removed. Retain part(s) and/or fastener(s) for installation.

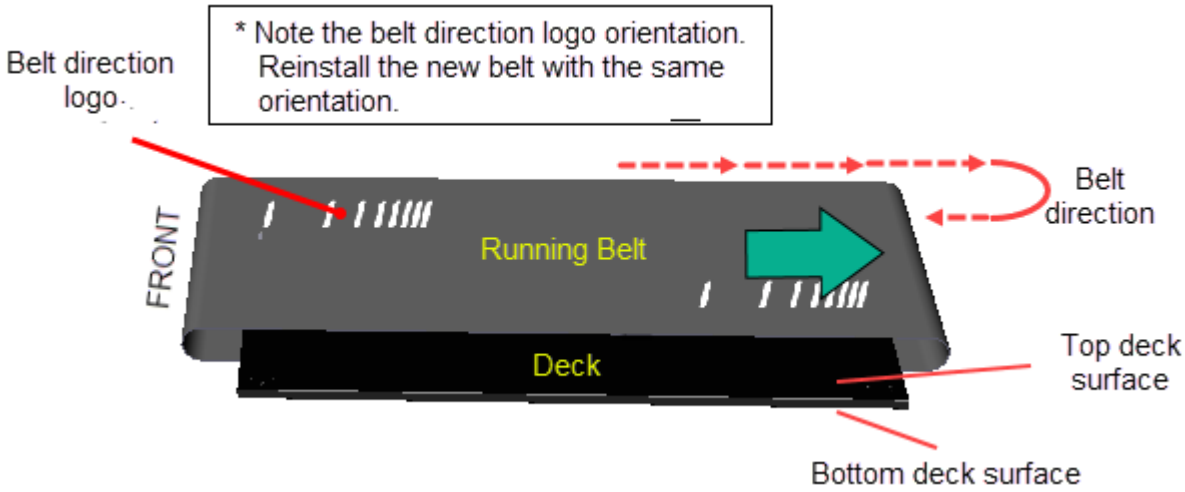
TIP: Avoid applying downward pressure on the bolts while removing. Pressing down on the bolts can push the nuts out of the pivot housing .reinstall the nut into the pivot housing if this occurs.



6. Remove the left and right #3 Phillips front deck screws. These screws are attached to the front GFX Cushion Tinnerman clips. Retain fastener hardware for installation.



7. Carefully lift the deck and belt out of the treadmill frame.
8. Remove the running belt from the deck.

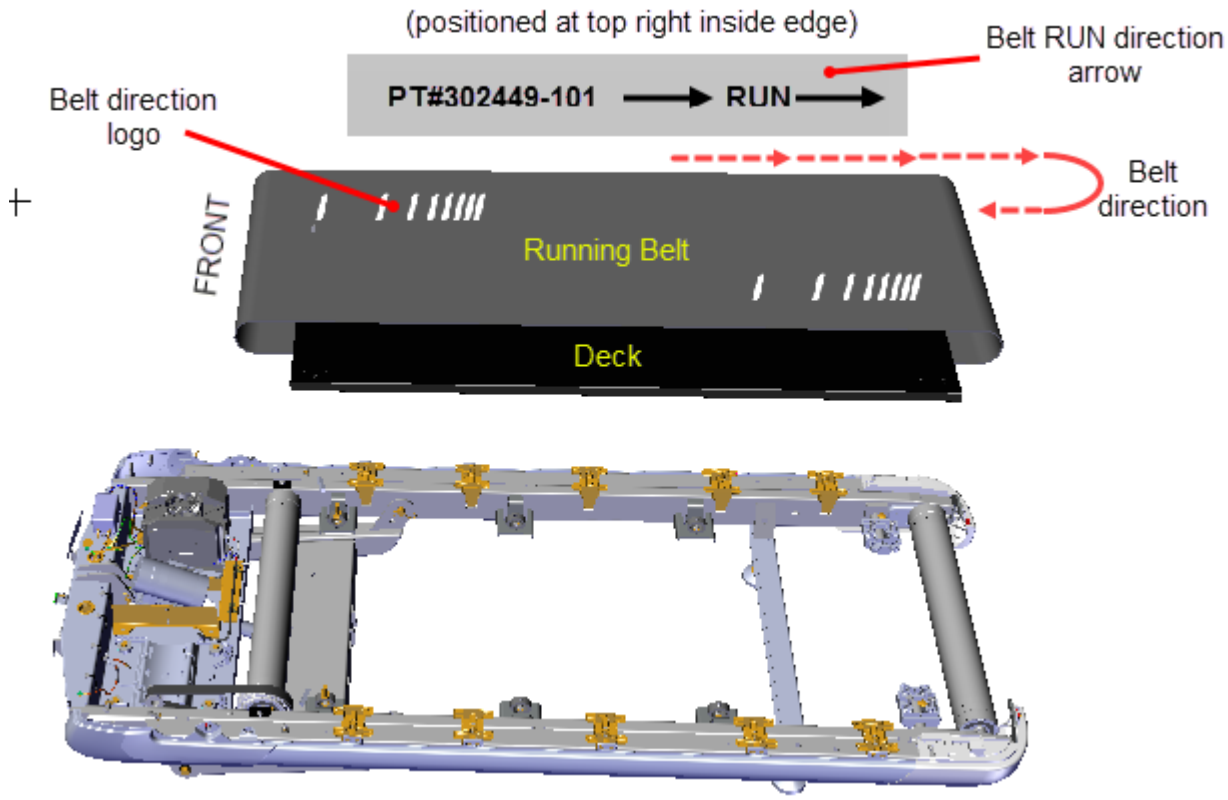


9. Check the condition of the belt and deck surfaces:
    a. If the belt is worn, discard and replace with a new belt.
    b. If the belt is replaced with a new belt, the top deck surface must also be new: Check the condition of the deck bottom (flipped) surface:
        i. If the bottom deck surface is in new condition, flip and reuse the deck (new side on top).
        ii. If the bottom deck surface is not in new condition, discard the deck and replace with a new deck.

Installation Instructions

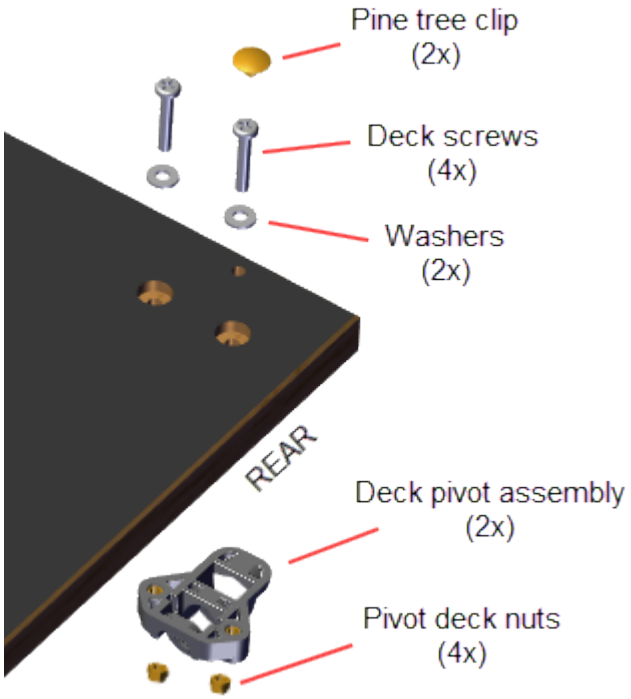
CAUTION: A new running belt replacement also requires a new deck surface. A used deck can be reinstalled if the flipped side deck surface is new condition. if not new, replace the deck.

1. Install the deck into the running belt making sure that the deck and belt direction is correctly oriented. :
    a. Deck Orientation: For new belt installations, a new deck surface must be used. If the removed deck bottom side (flip side) is new condition, then flip the deck and reuse (new surface on top). If the bottom side (flip side) of the deck used (worn, not new), then discard the used deck and replace with a new deck.
    b. Running Belt Orientation: The running belt must be Installed with the correct direction of travel or the belt will be damaged. The top of the belt must travel from the front to the rear of the treadmill. Use the following two direction indicators to correctly determine the belt travel direction:
    1) The **Run direction arrow** (printed on the inside of the belt right edge) is pointing to the rear of the treadmill when positioned on the top of the deck.
    2) The distance between the slashes in the **Precor Direction Logo** get closer together as the logo progresses towards the rear of the machine, see the following figure.

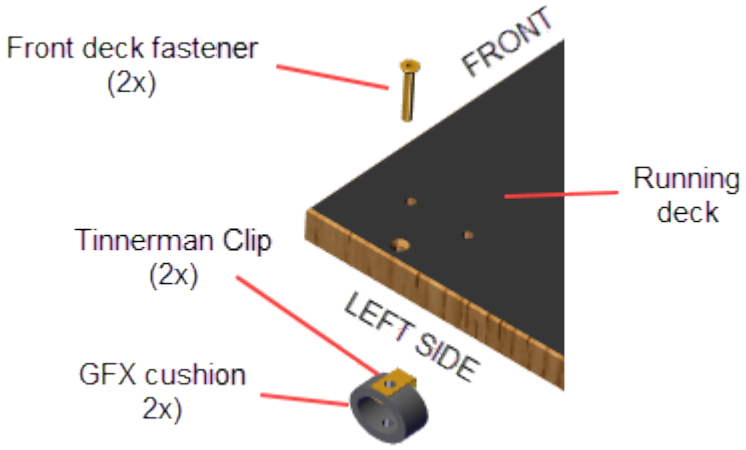


2. Reinstall the combined Deck & Belt into the treadmill frame aligning the left/right rear and left/right front deck mounting holes to the frame bracket bolt threads. Verify that the bottom of the belt is not caught on any frame weldment brackets (such as the GFX cushion brackets) or any other frame hardware that could impede belt movement.
3. Secure the left and right rear sides of the deck to the pivot assemblies using the four #3 Phillips screws (4x) and washers (4x). Note that the rear deck fasteners screw into the pivot assembly press fit nuts. Pressing to hard could cause the nuts to fall from the pivot assembly housing. If this occurs, find and reinsert the nut into the pivot housing.

   TIP: Avoid applying heavy downward pressure on the pivot assembly bolts while installing. Pressing down to hard could push the nuts out of the pivot housing. If this occurs, .reinstall the nut into the pivot housing.
4. Reinstall the left/right rear deck pine tree clips (2x).



5. Secure the left/right deck front using the two #3 Phillips front deck screws and fully tighten.



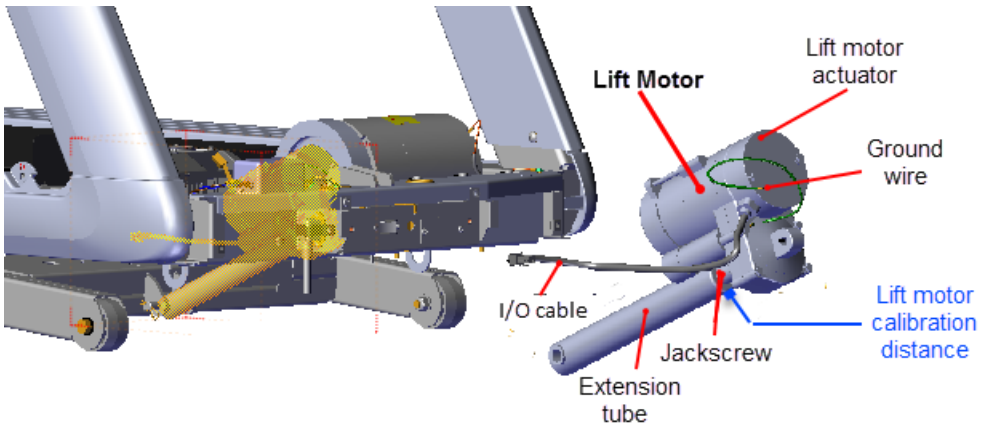
6. Reinstall the Drive Roller and Drive Belt, see "Drive Roller Replacement" on page 174.
7. Reinstall the Take-up Roller, see "Take-up Roller Replacement" on page 185.
8. Center and square the running belt onto the Take-up and Drive rollers, tension the belt to specification and verify the belt tracking, see "Running Belt Tension and Tracking Adjustment" on page 73.

9. Reinstall the hood cover, see "Covers and Panels Replacement" on page 92, and left/right Landing Trim covers, see "Covers and Panels Replacement" on page 92.
10. Connect the power cord and switch the ON/OFF circuit breaker **ON**.
11. 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**).
12. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

Lift Motor Replacement

About

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



Videos

LUBRICATE THE LIFT MOTOR JACKSCREW

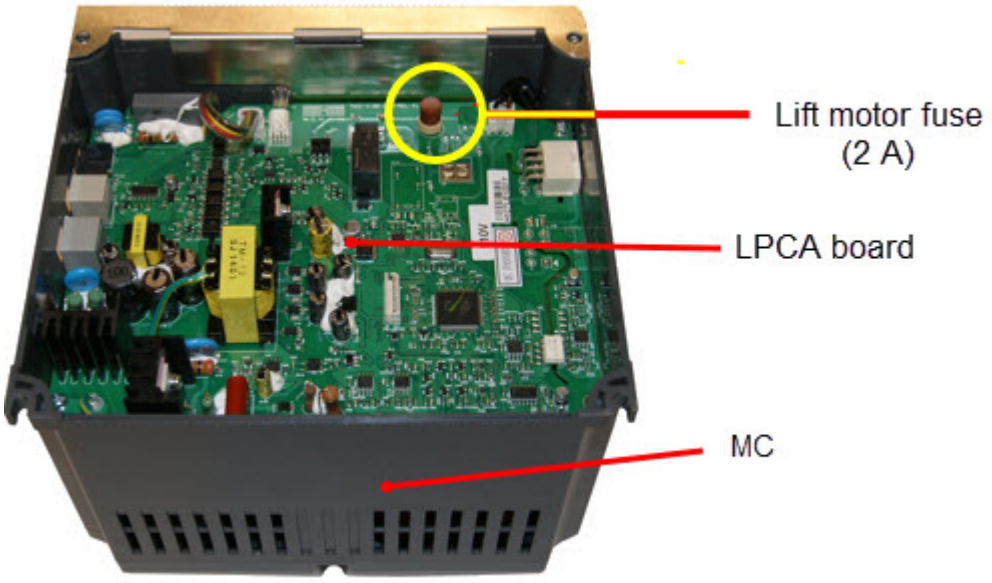
Specification

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.	

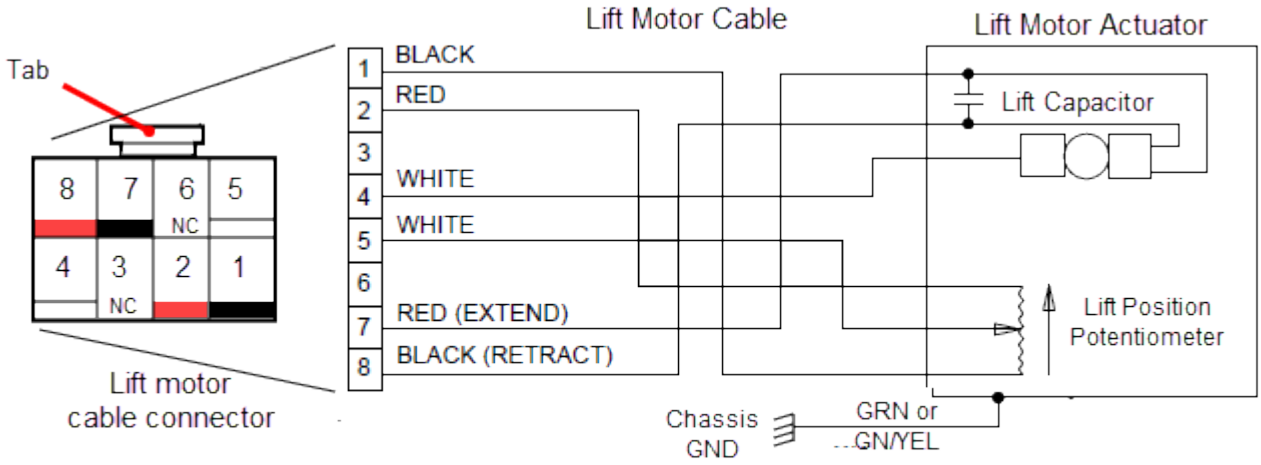
Lift Motor Fuse

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.

[1]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.
[2]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.



Lift motor cable schematic



Lift Motor Schematic

Procedure

Removal Instructions

Review entire procedure before starting.

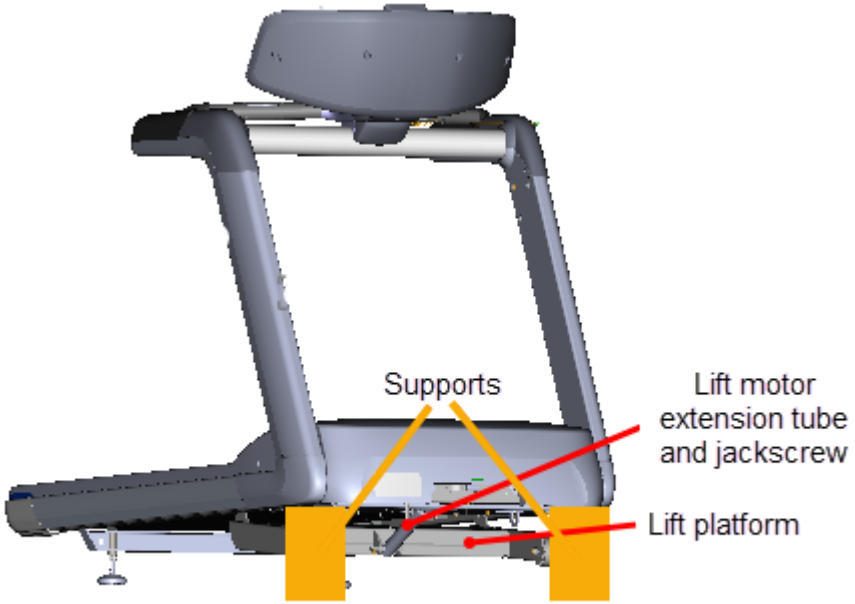
1. Remove the hood cover, see "Hood Cover Replacement" on page 94.
2. Prepare the treadmill for service. To provide access to the lift extension tube removal, raise and block the front of the treadmill per the Front Access instructions, see "Front

access" on page 86.

a. Access the service menu (**51765761**) and select **INCLINE TEST**. Use the incline control to set the incline level to 14.

b. Securely and safely place supports (e.g. car jack stands) under the left and right front corners of the frame weldment.

c. 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.



Front Lift Assembly Access

Note: You can also access the jackscrew by laying the treadmill on its side, see "Side access" on page 88 procedure.

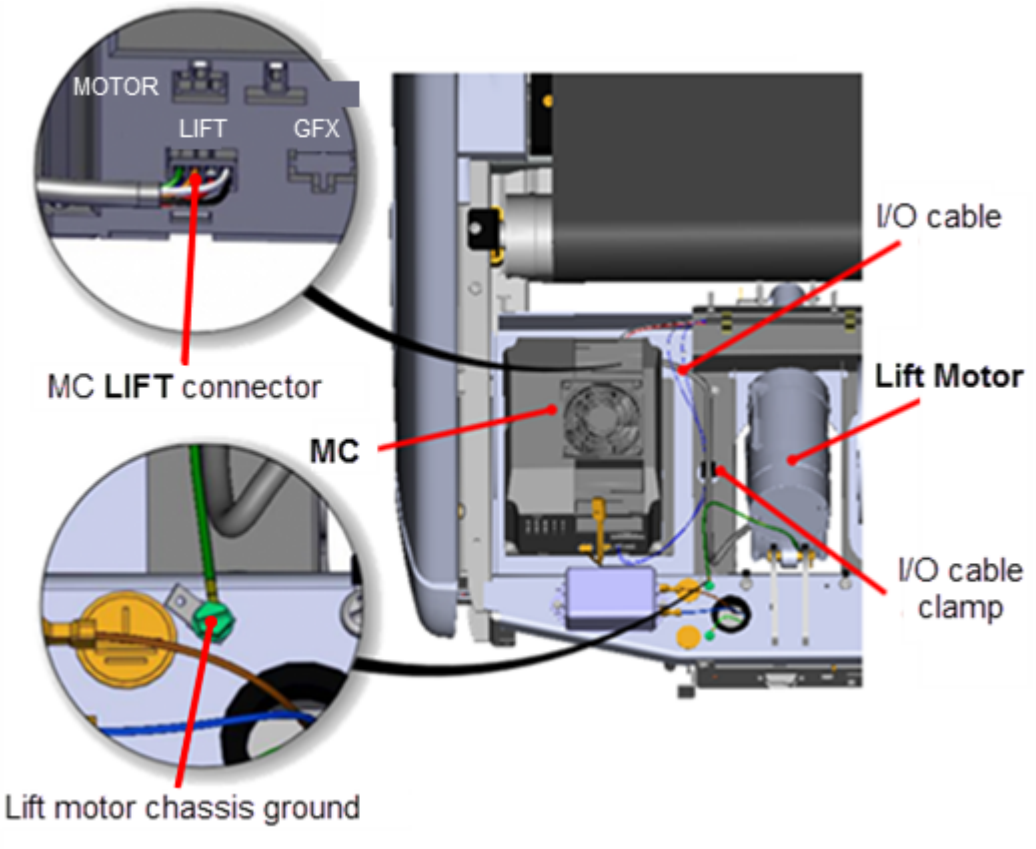
3. Switch the power OFF and **unplug**[1] the power cord.

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

4. Disconnect the lift motor interface cable from the MC "LIFT" connector. Then remove the interface cable from the frame cable routing clamp.

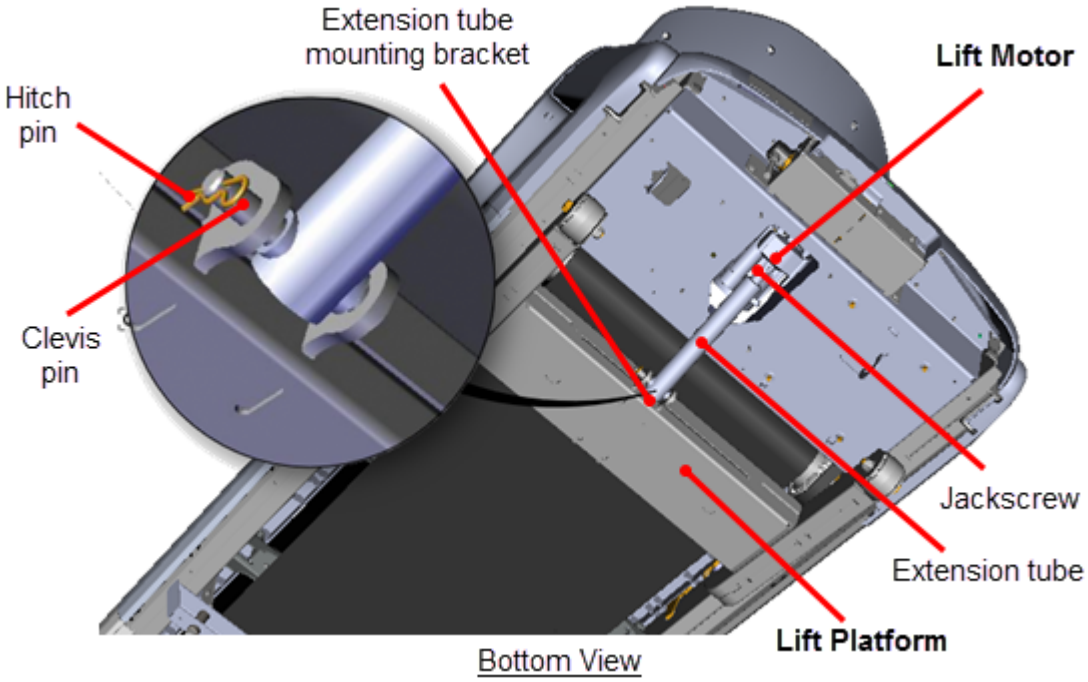
[1]Disconnect a device power cord plug or cable connector from the power receptacle or outlet.

TIP: Remove the MC fasteners so that the MC module can be raised to allow easy access to disconnect and connect the **I/O**[1] connectors.

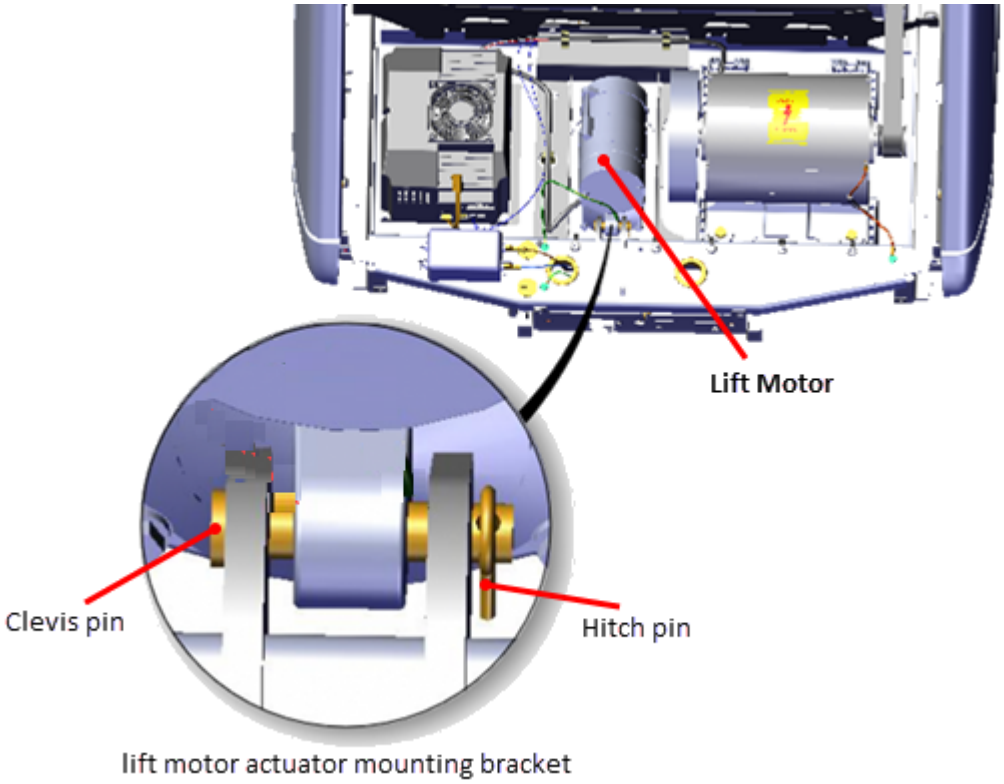


5. Remove the lift motor ground wire (GRN or GRN/YEL) from the frame chassis ground screw fastener.
6. Remove the extension tube hitch pin and clevis pin fastener hardware from the lift platform mounting bracket. Hold the lift platform while removing the clevis pin and carefully rest on the floor.

[1]Input and Output Interface.



7. 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.



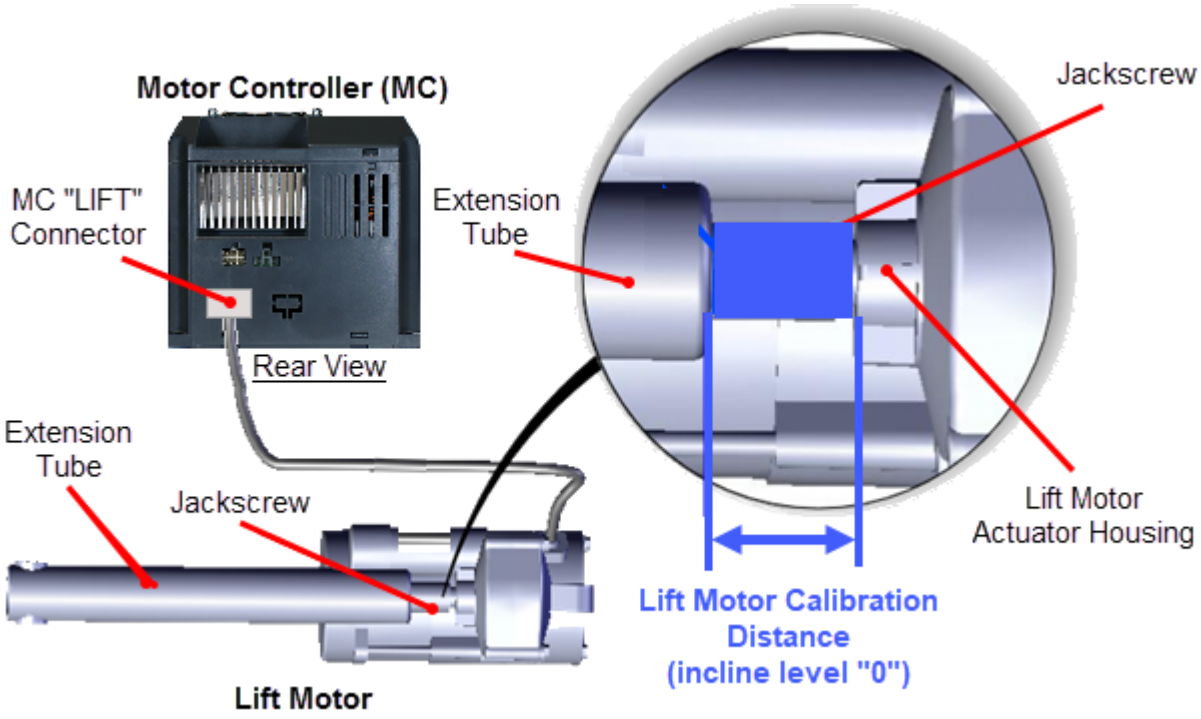
Installation Instructions

Lift motor calibration

1. If this is a used lift motor replacement, clean and apply a thin layer of synthetic lubricant to the jackscrew. Unscrew the extension tube to expose the jackscrew threads. The jackscrew threads should be pre-lubricated on new lift motors, lubricate if not lubricated.

   LUBRICATE THE LIFT MOTOR JACKSCREW

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

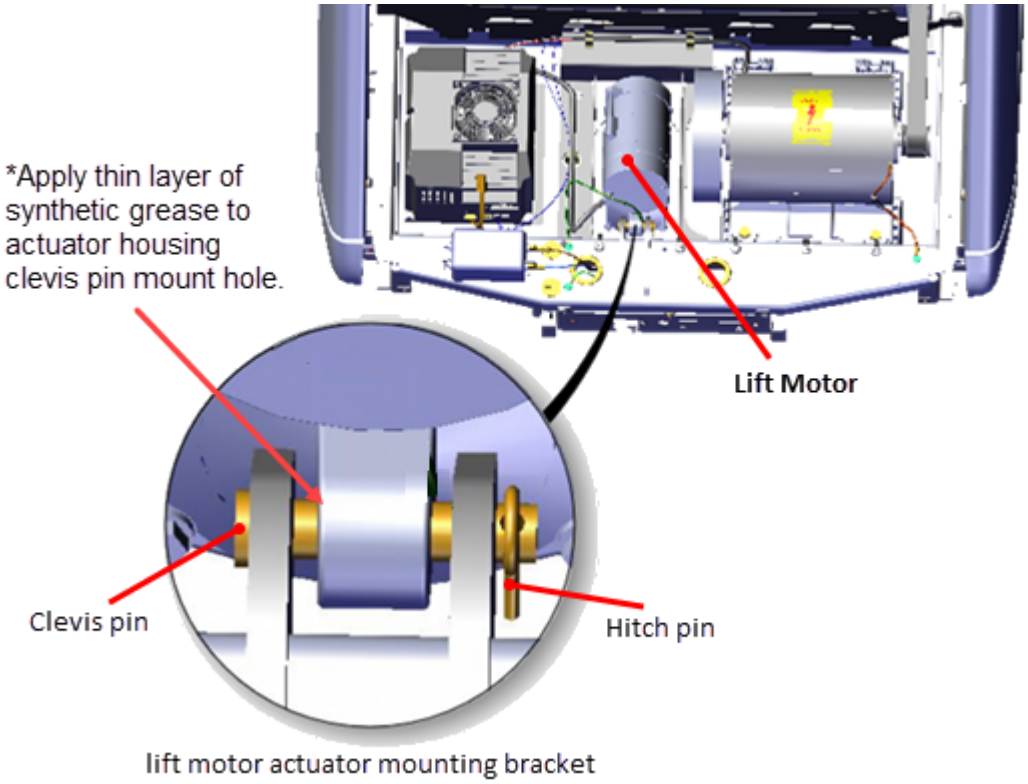


3. Connect the power cord and switch the power **ON**.
4. Set the INCLINE level to "0". The lift motor will move the jackscrew to the "0" calibration reference level.
5. Switch the power **OFF** and unplug the power cord.
6. Disconnect the MC "LIFT' connection.
7. Firmly hold the jackscrew and rotate 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).

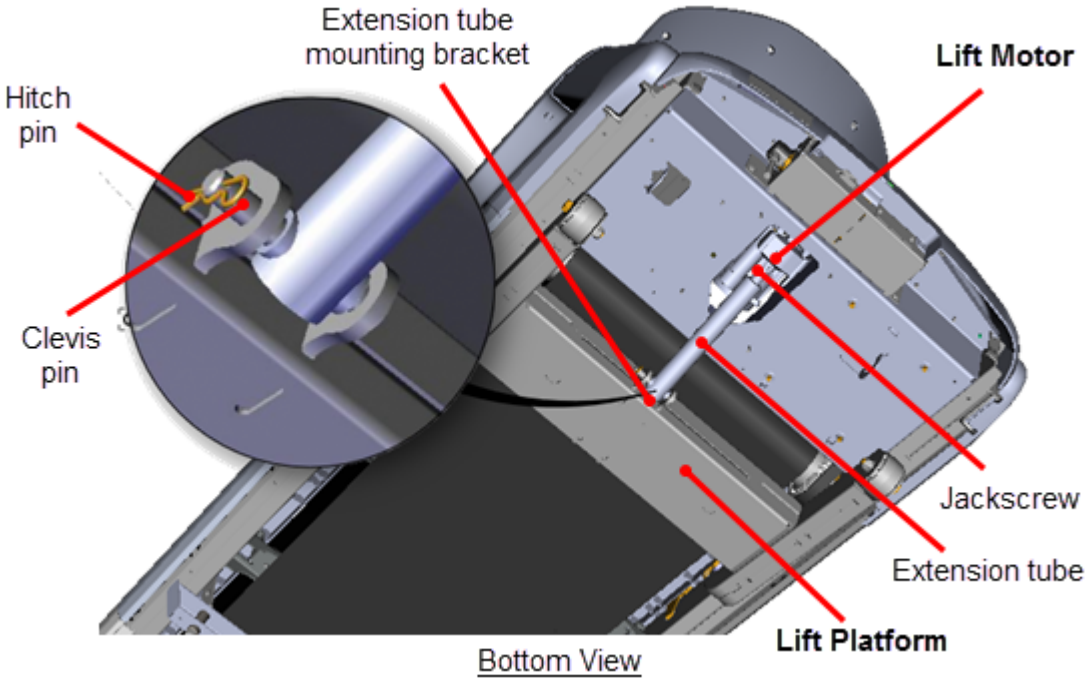
IMPORTANT: Make sure the extension tube does not rotate after setting the calibration distance. Use tape to mark the extension tube position on the jackscrew.

Lift motor installation

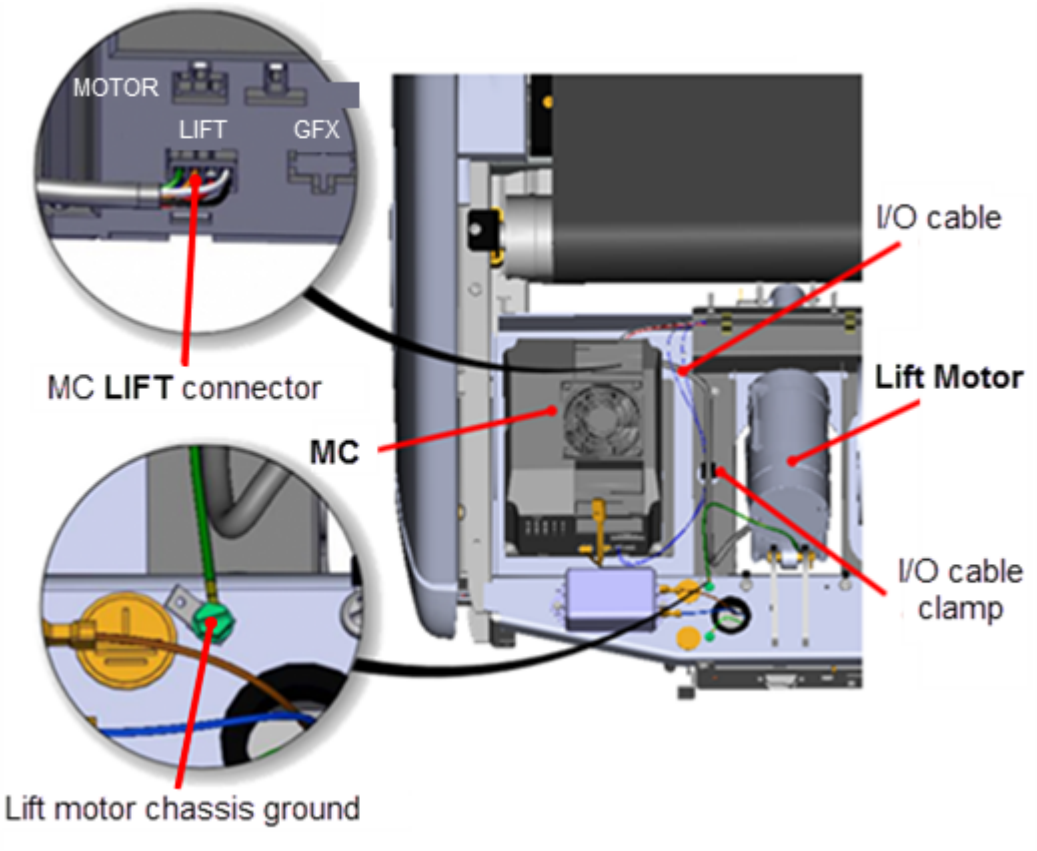
8. Clean and apply a thin layer of synthetic grease to the inside of the lift motor actuator housing clevis pin mounting hole . Then install the pre-calibrated lift motor placing the treadmill actuator housing mount into the frame pan mounting bracket. Secure using the clevis pin and hitch pin.



9. Clean and apply a thin layer of synthetic grease to the inside of the lift platform mounting bracket clevis pin holes. 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.



10. 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.



11. If the MC was loosened or removed, install the MC and secure fasteners, see "Motor Controller (MC) Replacement" on page 129.

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 access" on page 88.

12. .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 lift platform assembly before switching power **ON**. Switching power **ON** will cause the incline platform to move to the level "0" Home position.

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

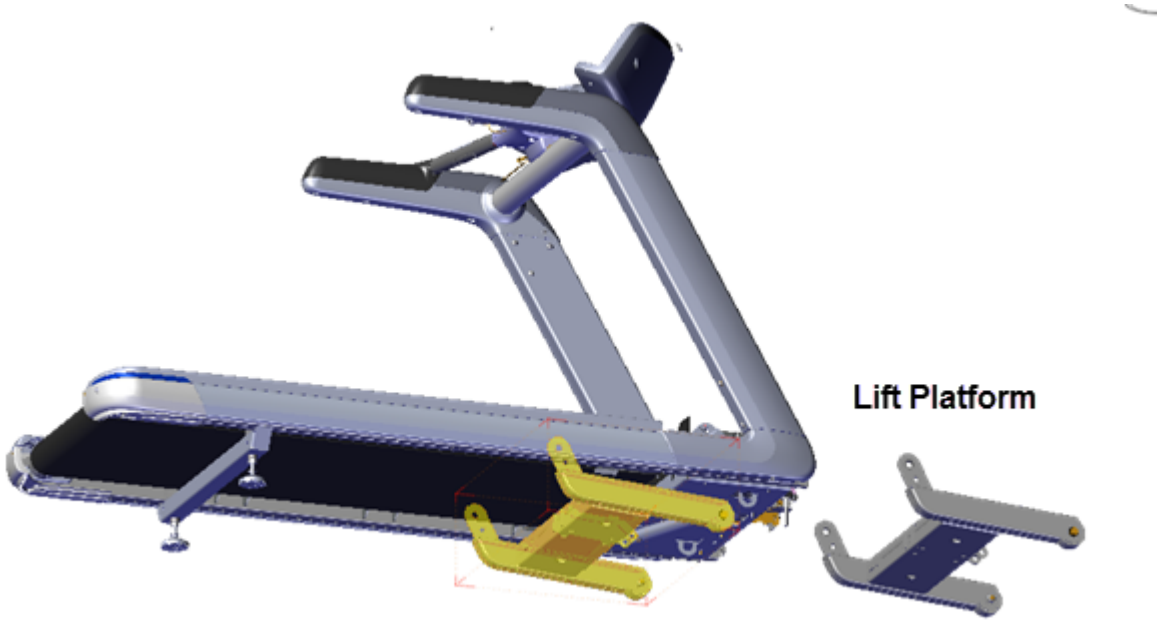
Operation Verification

16. Reinstall the hood cover, see "Hood Cover Replacement" on page 94., .
17. Verify the treadmill incline operation from minimum to maximum levels. Make sure that there are no active Incline function related error codes.
18. Do the Operation Verification tests (see "Operation Verification" on page 27) and return to service.

Lift Platform Replacement

About

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



Procedure

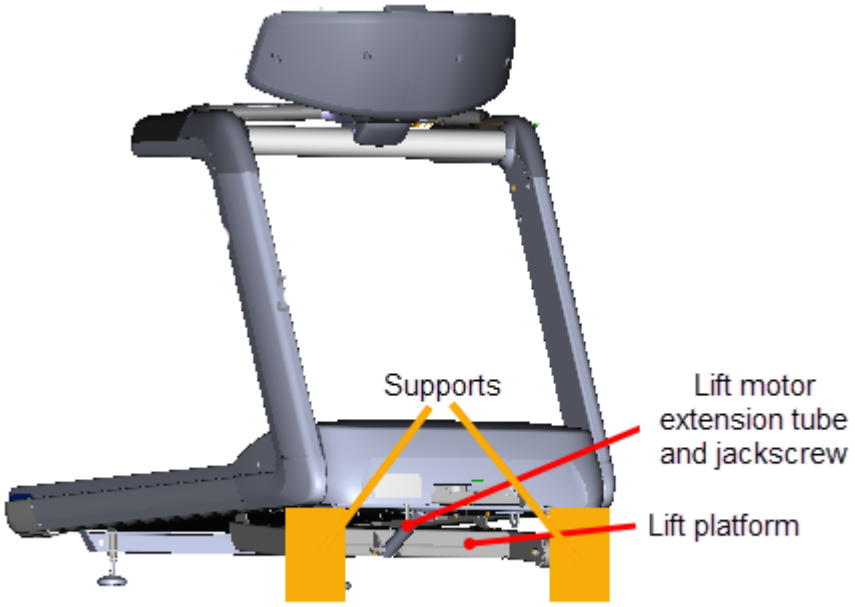
Removal Instructions

Review entire procedure before starting.

1. Remove the hood cover, see "Hood Cover Replacement" on page 94.
2. Remove the left/right trim landing covers, see "Trim Landing Covers Replacement" on page 97.
3. Remove the left and right trim side covers see "Covers and Panels Replacement" on page 92.
4. Prepare the treadmill for service. This procedure gains access to the lift platform from the front of the treadmill. However you can alternatively access the lift platform by laying the treadmill on its side, see Side access.
    a. Access the service menu (**51765761**) and select **INCLINE TEST**. Use the incline control to set the incline level to 14.
    b. Securely and safely place supports (e.g. car jack stands) under the left and right front corners of the frame weldment.

c. Slowly lower the incline level in 0.5 increments until the full weight of the frame is setting on the supports (the front wheels are not touching the floor). Verify the supports are stable and secure carrying the full weight of the treadmill.

d. Continue lowering the incline level to "0". Incline level "0" is the lift motor calibration reference incline level.



Front Lift Assembly Access

Note: You can also access the jackscrew by laying the treadmill on its side, see "Side access" on page 88 procedure.

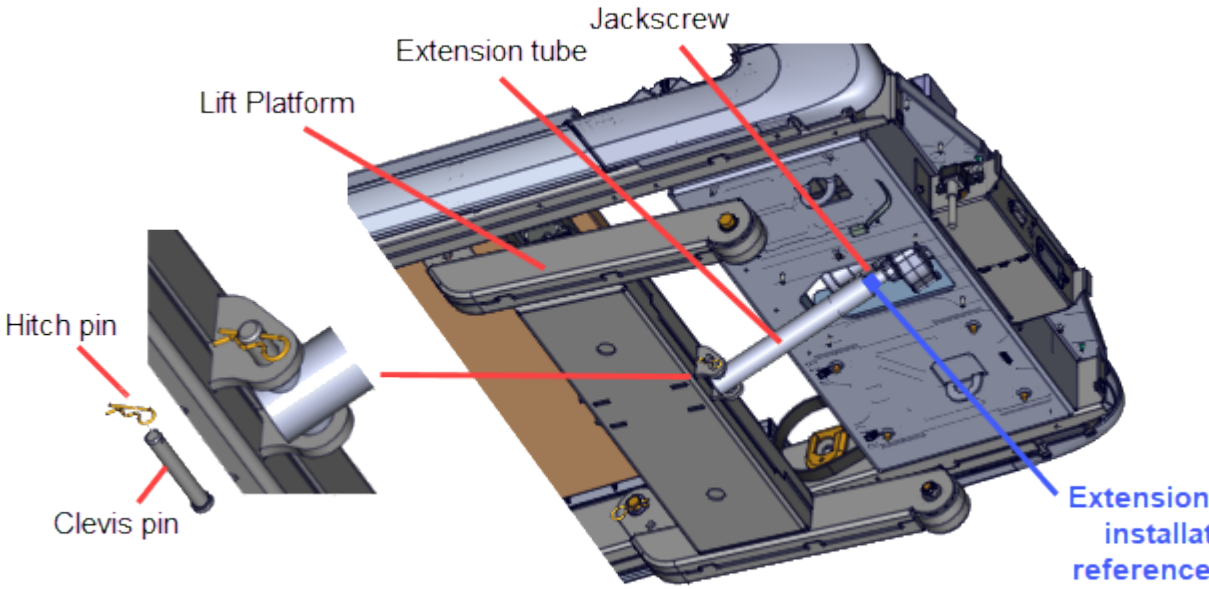
1. Switch the power OFF and **unplug**[1] the power cord.

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

Remove the lift platform

1. Remove the lift motor extension tube from the lift platform:
   a. Use painters tape to mark the current location of the extension tube nut on the jackscrew prior to removal. This will be the "extension tube installation reference mark".

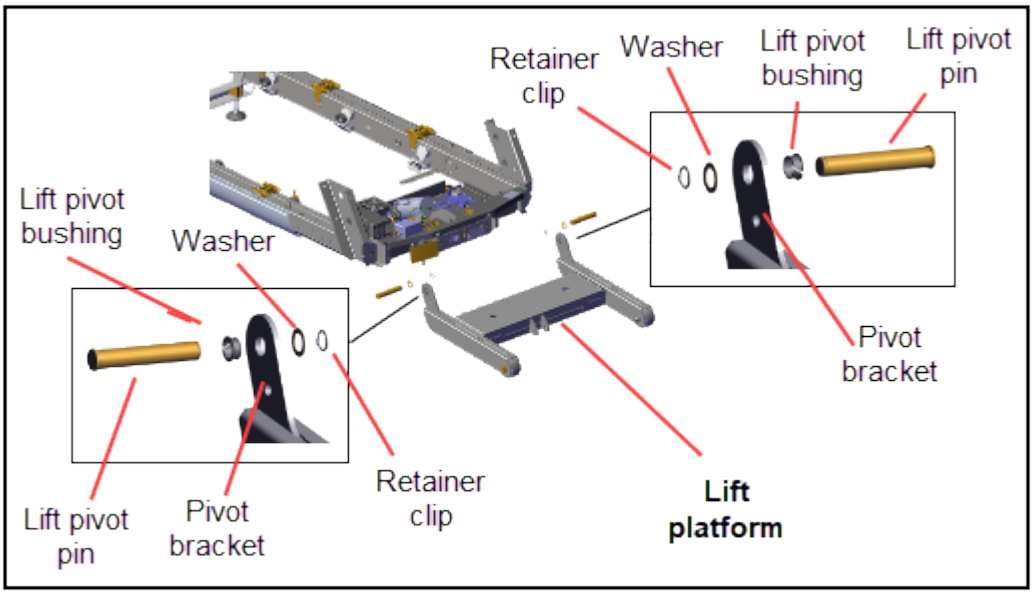
[1]Disconnect a device power cord plug or cable connector from the power receptacle or outlet.



b. Then remove the extension tube hitch pin and clevis pin from the lift platform mounting bracket. Hold the lift platform with one hand while removing the clevis pin with the other hand. Rest the platform onto the floor. Keep the extension tube from rotating during the removal and installation procedures. Retain part (s) and/or fastener(s) for installation.

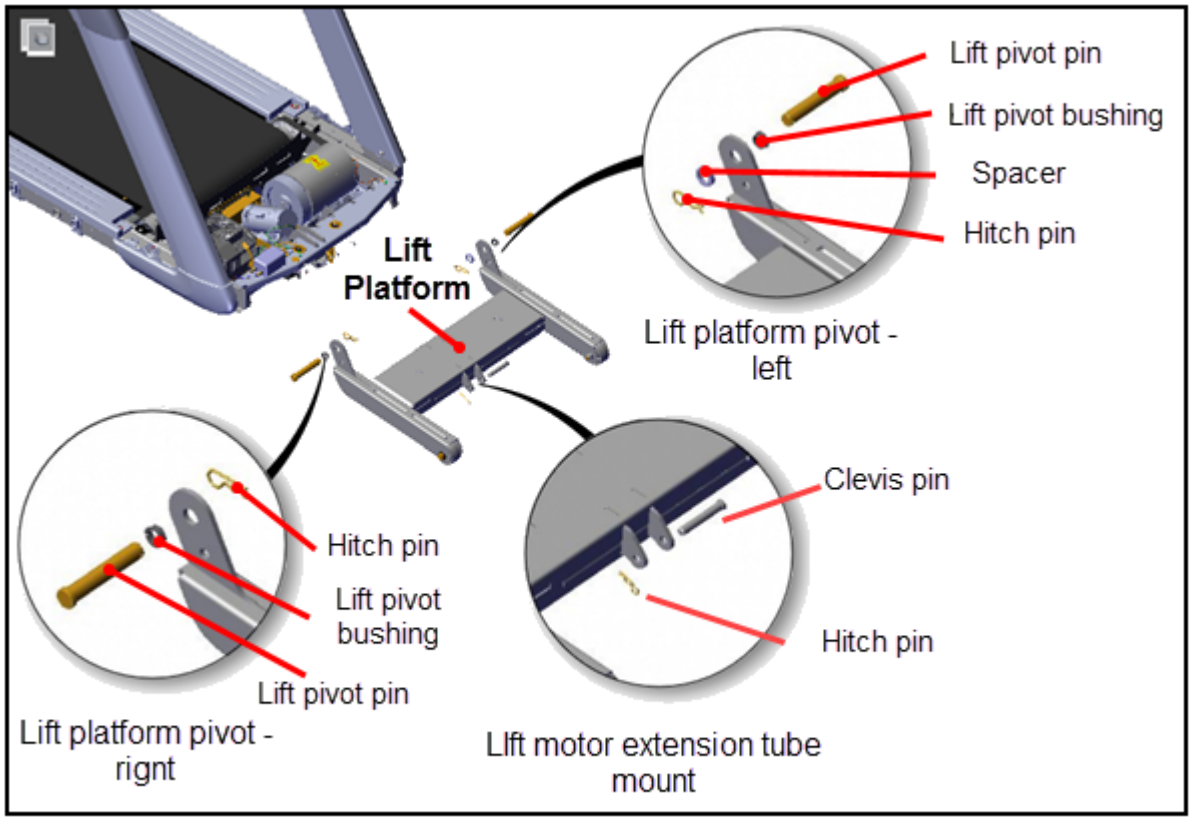
IMPORTANT: **Mark the extension tube position on the jackscrew prior to removal.**
Make sure the extension tube jackscrew position is marked prior to removal. Also do not rotate the extension tube during the removal and installation process which will nullify the current lift motor calibration.

2. Common Frame configurations:
Remove the left and right lift pivot pin retainer clips (2x) and washers (2x). Retain part (s) and/or fastener(s) for installation.



Common Frame Lift Platform

3. Legacy Frame configurations:
   Remove the left side hitch pin and spacer. Then remove the right side hitch pin. Retain part(s) and/or fastener(s) for installation.

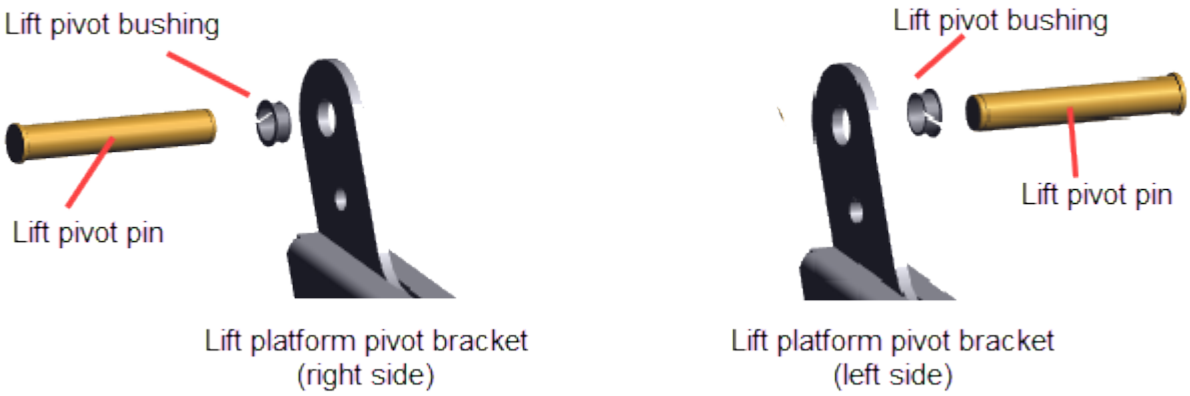


Legacy Frame Lift Platform

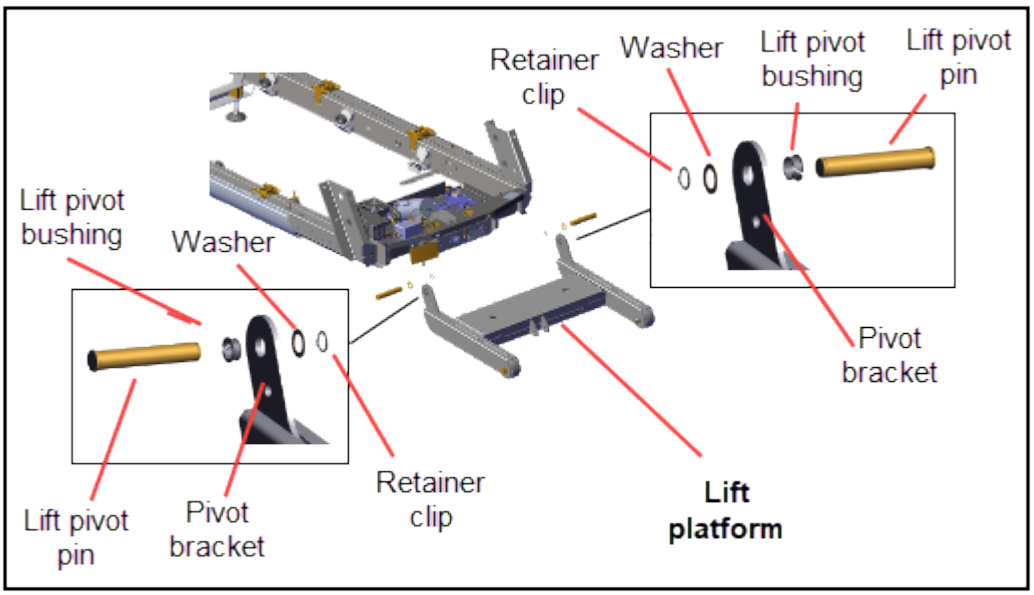
4. While holding the lift platform with one hand, carefully push/pull the left and right lift pivot pins outward through the pivot brackets enough to allow the lift platform to drop and be removed.
5. Remove the two lift pivot pins from the frame rails. Retain part(s) and/or fastener(s) for installation.

Installation Instructions

1. Inspect the left and right lift platform pivot bushings for wear. Use the lift pivot pin to check the fitment. If the fitment is not snug or irregular, then replace the bushings.

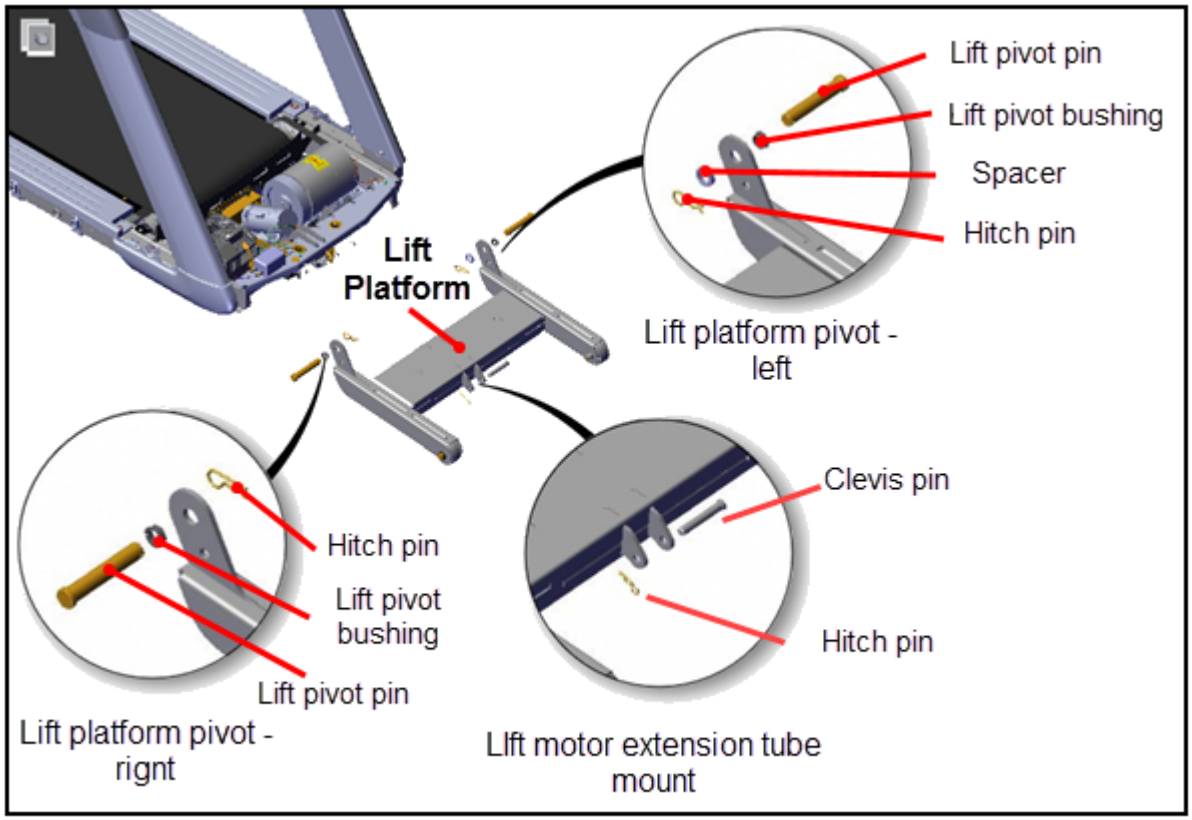


2. Common Frame configurations:
3. Insert the left and right lift pivot pins into the frame rail and stop at the inside edge of the frame rail. Then place the lift platform into position and slide the left and right lift pivot pins through the lift platform pivot brackets. Secure using the washers (2x) and retainer clips (2x).



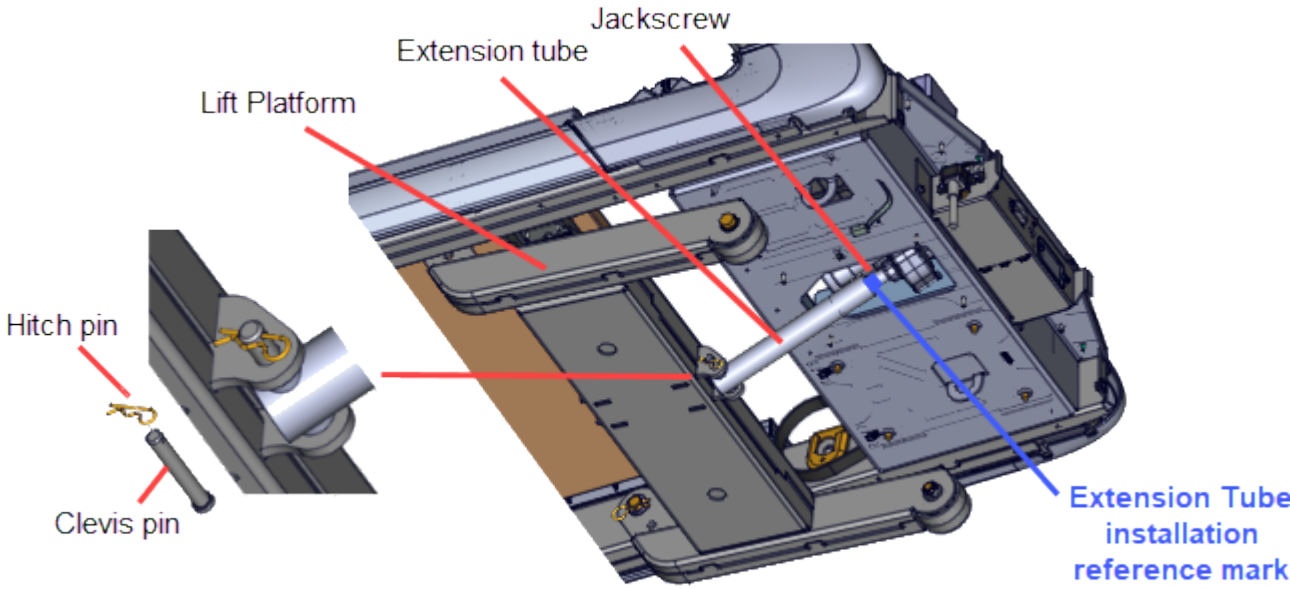
Common Frame Lift Platform

4. Legacy Frame configurations: Insert the left and right lift pivot pins into the frame rail and stop at the inside edge of the frame rail. Then place the lift platform into position and slide the left and right lift pivot pins through the lift platform pivot brackets. On the left side, secure using the washer and hitch pin. On the right side secure using the hitch pin.



Legacy Frame Lift Platform

5. Reinstall the lift motor extension Tube:
    a. Make sure that the extension tube nut is touching the edge of the painters tape "extension tube installation reference mark". If you did not mark the extension tube installation reference prior to removal or the reference is missing, then recalibrate the lift motor before installing, see "Lift Motor Calibration" on page 81.
    b. Raise the lift platform and insert the extension tube into the mounting bracket. Install the clevis pin and secure using the hitch pin. It may be necessary to slightly rotate the extension tube to align the clevis pin mounting holes.
    c. Remove the painters tape. Clean the jackscrew of any residual glue and apply a thin layer of synthetic lubricant.



Remove supports and lower the treadmill

6. 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 access" on page 88 to upright the treadmill.

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

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

Operation Verification

10. Raise the incline to the maximum level. Then clean and apply a thin layer of synthetic lubricant to the jackscrew.

LUBRICATE THE LIFT MOTOR JACKSCREW

11. Verify the treadmill incline operation from minimum to maximum levels. Verify that the movement is smooth and that there are no unusual noises etc. Go to the Error Log and make sure that there are no new active incline function related error codes.

12. Reinstall the left and right trim side covers see "Covers and Panels Replacement" on page 92.
13. Reinstall the left/right trim landing covers, see "Trim Landing Covers Replacement" on page 97.
14. Reinstall the hood cover, see "Hood Cover Replacement" on page 94.
15. Do the Operation Verification tests (see "Operation Verification" on page 27) 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* section below, see "Introduction to Troubleshooting" below.
- Review the machine diagnostics *Error Log* for any current active error codes, see the "Error Log & CPA Event Log" on page 238 and "Standard Error Codes" on page 234 topics.
- Refer to the *Error Code Troubleshooting Guide* for error code description and troubleshooting repair information, see Error Code Troubleshooting Guide.
- If the machine supports the Active Status Light feature, review the **ASL**[1] topic (see " Active Status Light "ASL"" on page 244).
- Make sure that the machine has incorporated all machine specific service bulletins, tech-tips, and software updates, see "Verify service bulletin and software update incorporation" on page 231.

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 basic troubleshooting steps will help you to systematically troubleshoot and resolve issues.

TRM700 treadmills

TRM[2] 800.v2 (TRM800-14[3], TRM800-18[4]) treadmills

The TRM700 model treadmills provide three features that will help you troubleshoot and resolve issues:

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[1]Active Status Light: Service and maintenance status light.

[2]Treadmill

[3]TRM800 version 2 treadmills mfg. dates 2014 thru 2017.

[4]TRM800 version 2 treadmills with new common frame introduced in 2018.

The TRM800-V.2 (TRM800-14, TRM800-18) model treadmills provide three features that will help you troubleshoot and resolve issues:

- ASL "Active Status Light": The Active Status Light (ASL) is located on the lower center of the front cover and provides the current operating condition, maintenance due notification, and fault status information, see ASL "Active Status Light".
- **MC**[1] "Motor Controller" status light: The MC includes a fault status light: It is green for normal operation and yellow when a fault condition has occurred. As a first step, go to the Error Log and review the list of current error codes. Refer to the the *MC replacement procedure* for more information.
- Error Codes: Error codes identify and isolate specific faults. Error codes are stored and viewed in the Error Log which provides a list of the current and past error codes, see "Error Log & CPA Event Log" on page 238. Individual error code descriptions and troubleshooting information is found in the *Error Code Troubleshooting Guide*.

Troubleshooting Steps

Always begin troubleshooting using the most common simplest possible solution first and then systematically trying the next more complex solution until the issue is finally resolved. Use the following basic troubleshooting steps to help guide you through a systematic approach to troubleshoot and resolve equipment issues:

- "Validate the customer reported issue" below
- "Verify Input Power" on the next page
- "Verify (reproduce) the customer issue" on page 231
- "Verify the Club Settings" on page 231
- "Verify service bulletin and software update incorporation" on page 231
- "Verify console operation" on page 232
- "Verify that there are no current active error codes" on page 233
- "Verify hardware validation diagnostic tests" on page 233
- "Verify that there are no new error codes" on page 233

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.

[1]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.

For example, start the troubleshooting process by asking the customer the following questions:

- Powered units only: Always ask the customer if there is power to the machine (power cord connected, circuit breaker ON) and is the machine switched ON.
- Further question 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.

Verify Input Power

On powered equipment and consoles, **always** make sure that the customer has the power properly connected and the equipment is switched "ON".

Powered touchscreen consoles (P62, P80, and P82):

Make sure that the powered touchscreen console (P62, P80, and P82) power brick cord is properly connected.

Powered equipment (treadmills):

Verify the customer has input power cord connected and that the equipment power is switched "ON".

If the machine power is connected and switched ON, but the machine 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, review the following possible causes:
  - Outlet voltage to low: Low out-of-spec outlet voltage can be caused by a large voltage drop in the facility circuit panel-to-wall outlet circuit due to an extremely long circuit wire run. For power requirement information, refer to the *Power Requirements* topic.
  - Input current to low: The power outlet circuit wire gauge may be too small to carry the required machine load current (20 amps/machine).
- 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 in the machine or powered console. For power requirement information, refer to the *Power Requirements* topic.
- Make sure that each Precor treadmill is 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**[1] (Personal Viewing System) display if installed. For power requirement information, refer to the *Power Requirements* topic.

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.

[1]Personal Viewing System display.

Verify (reproduce) the customer issue

If possible, operate the unit in the workout and conditions similar to the customer 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.

Verify the Club Settings

Verify that one of the workout limit settings are not causing a failure, see Club Settings (**LED**[1] 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.

IMPORTANT: Check the following if a failure is observed during a workout but the machine works perfectly when doing a hardware validation test:
• First check the Club settings. Some parameters might be set to limits that can give the appearance of a failure, such as, the incline limit set to 0, or the parameter Units set to Metric or US Standard.
• Attempt to recreate the issue. Some problems are caused by vibration, to much weight, or may be an intermittent issue etc. Various workout conditions and scenarios may be necessary to recreate the issue.

Verify service bulletin and software update incorporation

Make sure that the machine is up to date with all released service bulletins, tech-tips, and software updates before troubleshooting an issue. The list of current service bulletins, tech-tips, and software updates can be viewed and downloaded from the Precor Connect website. Make sure that all released service bulletins/Tech-Tips and software updates have been incorporated.

How to find and download service bulletins and tech-tips:

1. Log in to your Precor Connect Servicer account (Precor Connect Partner's).
2. From the Connect Home page, select the DOCUMENTATION pane > SERVICE BULLETINS link to view the list of the equipment service bulletins and Tech-Tips.

Note: .There may or may not be service bulletins or tech-tips released for this machine.

How to find and download software updates:

[1]light-emitting diodes.

1. Log in to your Precor Connect Servicer account (Precor Connect Partner's).
2. From the Connect Home page, select the DOCUMENTATION pane > CONSOLE SOFTWARE to view the list of available equipment console "**UPCA**[1]" and/or MC "**LPCA**[2]" software updates.

   Use the following software access login Username and Password:

   Username: software
   Password: D0wnl0ads!

Note: .There may or may not be software updates for this machine.

Verify console operation

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 and in good condition.
   b. Run the console Display, and Keypad diagnostic tests (see "Hardware Validation Diagnostics Tests Menu (51765761)" on page 41). 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 **AC**[3]/**DC**[4] power adapter is plugged in and connected to the console. Also make sure the AC/DC adapter brick is in good condition.
   b. Run the following console System Tests (see System Tests):
      - Touchscreen Test
      - Touchscreen Calibration
      - Backlight Test
      - RGB Test
      - Numeric Backlight Test
      - Numeric Display Test

[1]Upper PCA board

[2]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

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

[4]Direct Current: electrical current that only flows in one direction.

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.

Verify that there are no current 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 the Error Code Troubleshooting Guide for information 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 Error Code & CPA Error Log, see "Error Log & CPA Event Log" on page 238.
- Refer to 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 Troubleshooting Guide.

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 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 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 recurring and that there are no new error code issues. If the error code is recurring, the issue may be mileage related, review the error code odometer history to verify if the error event is related to mileage intervals.

Clear the Error Log, see "Error Log & CPA Event Log" on page 238.

Note: If there are 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.

Standard Error Codes

About

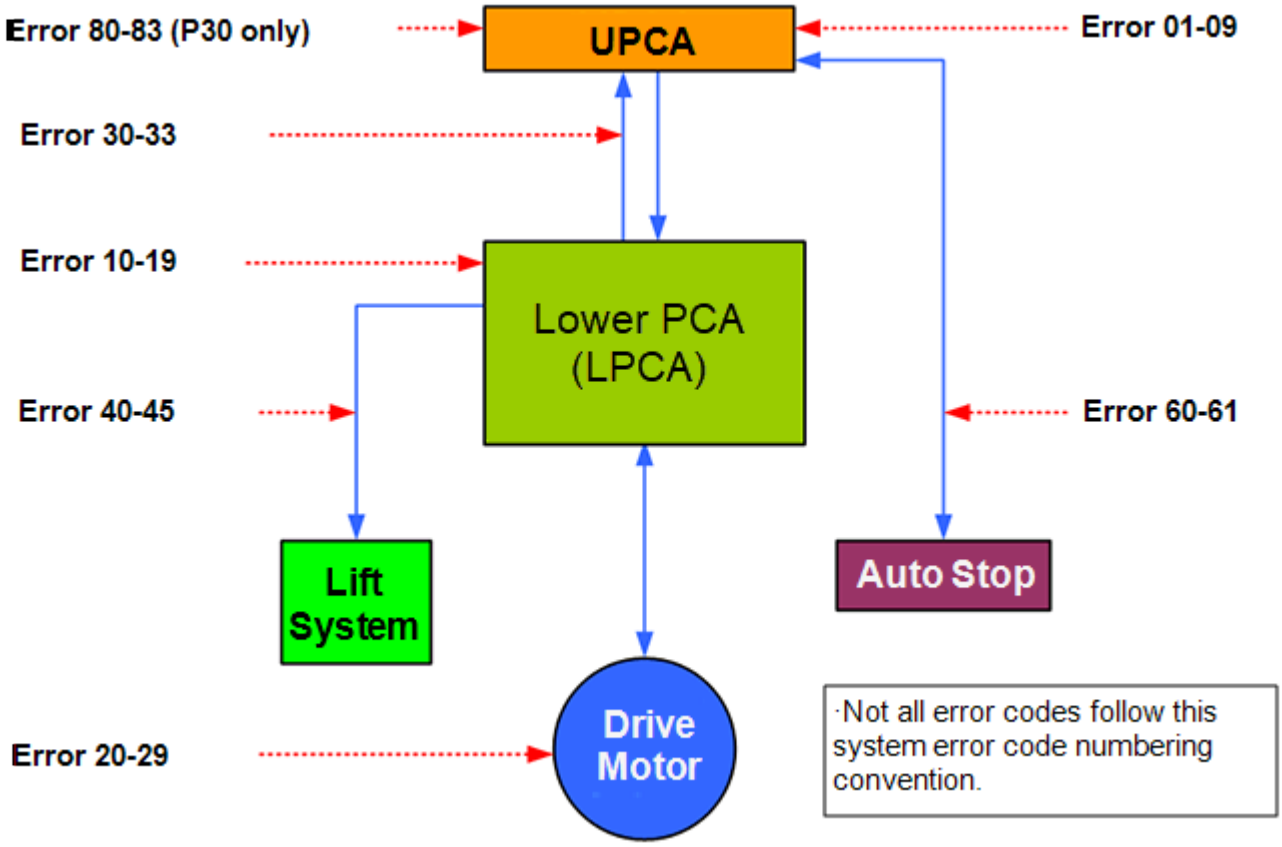
There is a set of standard error codes implemented across Precor cardio exercise equipment. Error codes are system generated codes that identify specific machine fault conditions. The maintenance software monitors error code event conditions, when a fault is detected, the error code is generated and stored in the Error Log (or **CPA**[1] Event Log) along with related machine metrics, such as, the machine mileage (or hours), the time, drive motor current, etc.

On some equipment, error codes have been separated into two categories: Error codes "ERR" and Warning codes "WRN". see Errors and Warnings.

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 Troubleshooting Guide.

[1]Touchscreen console Control Processing Assembly.



How Error Codes Are Generated and Stored

The **Lower PCA**[1] monitors error code event conditions, when a fault is detected, the error code is generated and transmitted to the console **Upper PCA**[2] where it is stored and viewed in the Error Log or CPA Event Log. The error log shows the error code along with related machine metrics, such as, the machine mileage, hours, the time when the event occurred, the date, and other machine specific relevant data.

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

[1]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.
[2]Upper Printed Circuit Assembly board located in the console.

Errors and Warnings

On certain machines, there is a differentiation between errors and warnings. Issues that are noncritical to the operation of the machine have been demoted from Error status to Warning status. Error codes will be formatted with an "ERR" prefix identifier and Warning codes will be formatted with the "WRN" prefix identifier.

- **Error Codes**

  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 CPA Event Log along with pertinent machine metrics, such as, the machine mileage, hours, event time stamp, etc. Error codes are identified with the "ERR' prefix.

- **Warning Codes**

  Warning codes are system generated codes that identify noncritical machine information that in most cases will not require service action. Depending on the Warning, the information could be used by clubs to better utilize and maintain the equipment etc. or provide additional machine information to help the service technician resolve an issue. Warnings will not disable functionality, display to the exerciser, or change the **ASL**[1] light status.

To differentiate between errors and warnings, error codes will be identified with the "ERR" prefix and warning codes will be identified with the "WRN" prefix.

Viewing Error Codes (Error Log & CPA Event Log)

Error event codes are logged, stored, and viewed in either the **Error Log** on **LED**[2] 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**

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

[1]Active Status Light: Service and maintenance status light.

[2]light-emitting diodes.

code description, related issues and symptoms associated with the error, troubleshooting steps, and repair procedures:

Error Code and Troubleshooting Guide: 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 and **CPA**[1] Event Log is used to store "log" and view error and warning codes. On **LED**[2] (P10, P30, P30i and P31 consoles) use the "*Error Log*" to view error codes. On touchscreen consoles (P62, P80, and P82) use the "*CPA Event Log*" to view error/warning codes.

- Error Log, see "Error Log " on the facing page
- CPA Event Log, see " CPA Event Log" on page 241

IMPORTANT: On touchscreen consoles (P62, P80, and P82), use the **CPA Event Log** and not the **Event Log** to view the maintenance error/warning codes. The touchscreen console Event Log includes additional OEM use only error codes.

more....

How Error Codes Are Generated and Stored

The **Lower PCA**[3] monitors error code event conditions, when a fault is detected, the error code is generated and transmitted to the console **Upper PCA**[4] where it is stored and viewed in the Error Log or CPA Event Log. The error log shows the error code along with related machine metrics, such as, the machine mileage, hours, the time when the event occurred, the date, and other machine specific relevant data.

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

Repeating Error Codes

Repeated instances of the same error code will only be logged as a single error code until one of the following conditions occur:

1. Two different errors events occur and are logged
2. There is an "Odometer" and "Hours" change.

[1]Touchscreen console Control Processing Assembly.

[2]light-emitting diodes.

[3]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

[4]Upper Printed Circuit Assembly board located in the console.

Errors and Warnings

On certain machines, there is a differentiation between errors and warnings. Issues that are noncritical to the operation of the machine have been demoted from Error status to Warning status. Error codes will be formatted with an "ERR" prefix identifier and Warning codes will be formatted with the "WRN" prefix identifier.

- **Error Codes**

  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 CPA Event Log along with pertinent machine metrics, such as, the machine mileage, hours, event time stamp, etc. Error codes are identified with the "ERR' prefix.

- **Warning Codes**

  Warning codes are system generated codes that identify noncritical machine information that in most cases will not require service action. Depending on the Warning, the information could be used by clubs to better utilize and maintain the equipment etc. or provide additional machine information to help the service technician resolve an issue. Warnings will not disable functionality, display to the exerciser, or change the **ASL**[1] light status.

To differentiate between errors and warnings, error codes will be identified with the "ERR" prefix and warning codes will be identified with the "WRN" prefix.

Troubleshooting with Error Codes

Always review the Error Log or CPA Event Log when troubleshooting an issue. The error logs will contain all current and past error codes from the last log reset. You can then refer to the *Error Code Troubleshooting Guide* (Error Code Troubleshooting Guide) to for description and troubleshooting information.

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

Error Log

Error Log

Error Log

Applies To: LED (P10, P30, P30i and P31) consoles

About

[1]Active Status Light: Service and maintenance status light.

On LED (P10, P30, P30i and P31) consoles, error codes are stored in the **Error Log**. Error codes are sequentially shown on the console message display one at a time. The individual error code data metrics will scroll across the display. Use the Up/Down keys to scroll thru and view the individual error codes.



LED P31 Console "ERROR LOG"

Event Code Format

The error format will always start with the Error Log entry number, the error type (error "ERR" or warning "WRN"), the Error Number and then additional information specific to the type of fitness equipment, with no commas or other delimiters in between information. Errors will have the identifier ERR and Warnings will have the identifier WRN before the error number.

Example Error Code Format

1	ERR	30	1000 MILES 20 HOURS
2	WRN	70	1000 MILES 20 HOURS

- Error log memory stack number
- Code Type: Error "ERR" or Warning "WRN"
- Error/Warning number
- Description and associated metric values

Typical Error Log data format metrics:

- Error/Warning code entry number: 1 thru "n" (1 is the newest error code and "n" is the oldest)
- Event Type: Error "ERR" or Warning "WRN"

- Error/Warning Code Number
- Error/Warning Code Description
- May include additional pertinent event metric information

How to open the Error Log:

1. Access the **Information Display (65)**
2. Select **Error Log**
3. Select **OK** hardkey

Clearing Error Codes:

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

TIP: **Error code remove shortcut**: Press and hold the **PAUSE** 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.

CPA Event Log

CPA Event Log

CPA Event Log

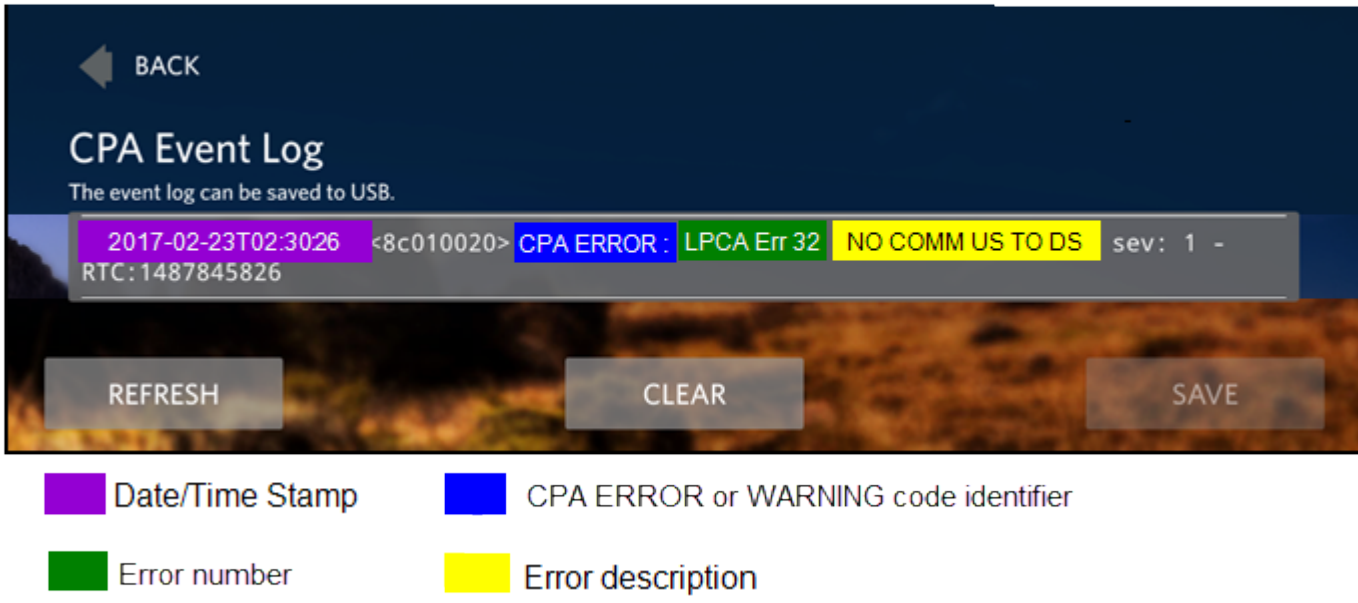
Applies To: Touchscreen (P62, P80, and P82) consoles

About

On touchscreen (P62, P80, and P82) consoles you will use the **CPA Event Log** and not the **Event Log** to view error and warning codes. The **CPA Event Log** only contains service related error and warning codes, whereas the Event Log contains all event code types including additional OEM use only error codes. Maintenance error codes are identified with a "CPA ERROR" tag and warnings are identified with a "CPA WARNING" tag

IMPORTANT: . Make sure to only use the **CPA ERROR** or **CPA WARNING** tagged event codes for service related issues, refer to the Error Code Troubleshooting Guide for description and troubleshooting information.

Touchscreen console "CPA Event Log"



Date/Time Stamp

CPA ERROR or WARNING code identifier

Error number

Error description

Event Code Format

Typical CPA Error and Warning code data format information:

- Date and Time stamp
- Event type: CPA Error or CPA Warning
- Error/Warning Code Number
- Error/Warning Code Description
- May include additional pertinent event metric information

How to open the CPA Event Log:

1. Access the **Service menu (51765761)**
2. Select **About > CPA Event Log**

CPA Event Log Softkeys

The CPA Event Log provides the following function softkeys

Softkey	Description
REFRESH	Refreshes the CPA Event Log with any missing current error codes.
CLEAR	Removes all error codes from the CPA Error Log.

Softkey	Description
SAVE	Typically reserved for Precor use. Saves the CPA Event Log error codes to a **USB**[1] flash drive.

How to Clear CPA Error Codes

1. Access the **Error Event Log**
2. Select the **CLEAR** softkey.

How to Save CPA Error Log Data

The save CPA Event Error Log feature is used by Precor to investigate machine issues. Occasionally, Precor may request you to save the CPA Error Log error code data to a USB flash drive and then send the USB drive to Precor customer service.

1. Access the **CPA Event Log**.
2. Insert a USB flash drive into the USB chin port.
3. Then wait for the **SAVE** softkey to highlight and then select **SAVE**.
4. Follow prompts to complete the save process.
5. Remove the USB flash drive.
6. Insert the USB drive into PC and verify that the error log data file was saved.
7. Return the USB drive as directed by Precor customer service.

[1]Short 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.

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 246.

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

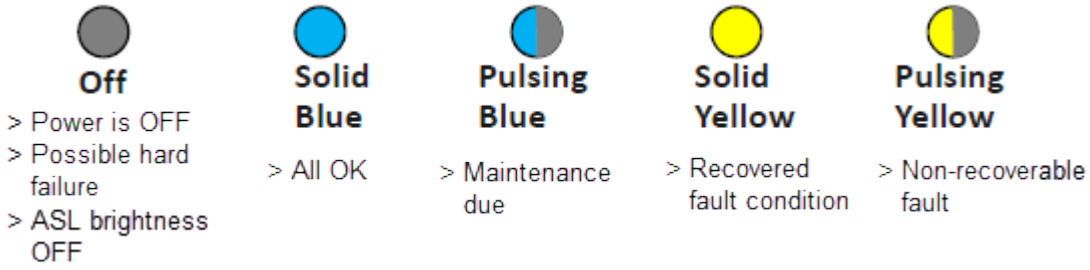
[1]Active Status Light: Service and maintenance status light.

function was detected.

- 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 a steady or pulsing blue, or it might require manually resetting the light 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.



ASL State	DESCRIPTION
OFF	The unit is powered OFF or there is no power to the LPCA or some

[1]Upper PCA board

[2]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

ASL State	DESCRIPTION
	other hard failure. On P10, P30, P30i and P31 consoles the ASL brightness is set to OFF.
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.**

SCL800 P31 Consoles:

Access **Club Settings (5651565)** > **SET ASL 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.

SCL800 P31 Consoles:

Access **Information Display (65)** > **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, hours or steps

P10, P30, P30i and P31 consoles:

Access **Information Display (65)** > **MAINT COUNTER**:

Shows the remaining miles, hours, or steps to zero (maintenance due). Holding down the **PAUSE, START** (P31i), or **STOP** (SCL800 P31) key will reset the counter.

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 resets 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, SCL800 resets to 1,100,000 steps).

P10, P30, P30i and P31 consoles:

1. Access **Information Display (65).**
2. Scroll to **MAINT COUNTER > OK.**
3. Hold down the **PAUSE, START** (P31i), or **STOP** (SCL800 P31) 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:

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. 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 **CPA**[1] **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.

[1]Touchscreen 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 Troubleshooting" on the facing page
- "Input Power Troubleshooting" on page 255
- "Console Power Troubleshooting" on page 258
- "Communications Error Troubleshooting" on page 261
- "Machine Controls Troubleshooting" on page 263
- "Auto Stop Troubleshooting" on page 265
- "E-Stop not Communicating Troubleshooting" on page 267
- "Heart Rate Monitor Troubleshooting" on page 268
- "Drive Motor System Troubleshooting" on page 271
- "Lift System Troubleshooting" on page 276
- "Input Power Troubleshooting" on page 255
- "Running Belt Troubleshooting" on page 281

See Also

"Troubleshooting" on page 228

"Standard Error Codes" on page 234

"Error Log & CPA Event Log" on page 238

Tripped Circuit Breaker Troubleshooting

Troubleshooting a tripped treadmill ON/OFF circuit breaker or facility power distribution panel circuit breaker. Review the electrical requirements, see "" on page 16 and "Power Entry Assembly Wire Diagram" on page 305.

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 16.
    - If NO, continue Troubleshooting.



IMPORTANT: If the **AC**[1] 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 receptacle 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 16
    - If YES, advise the customer to have the facility wiring upgraded to provide one individual branch circuit outlet per machine, see Precor specifications, see .””

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

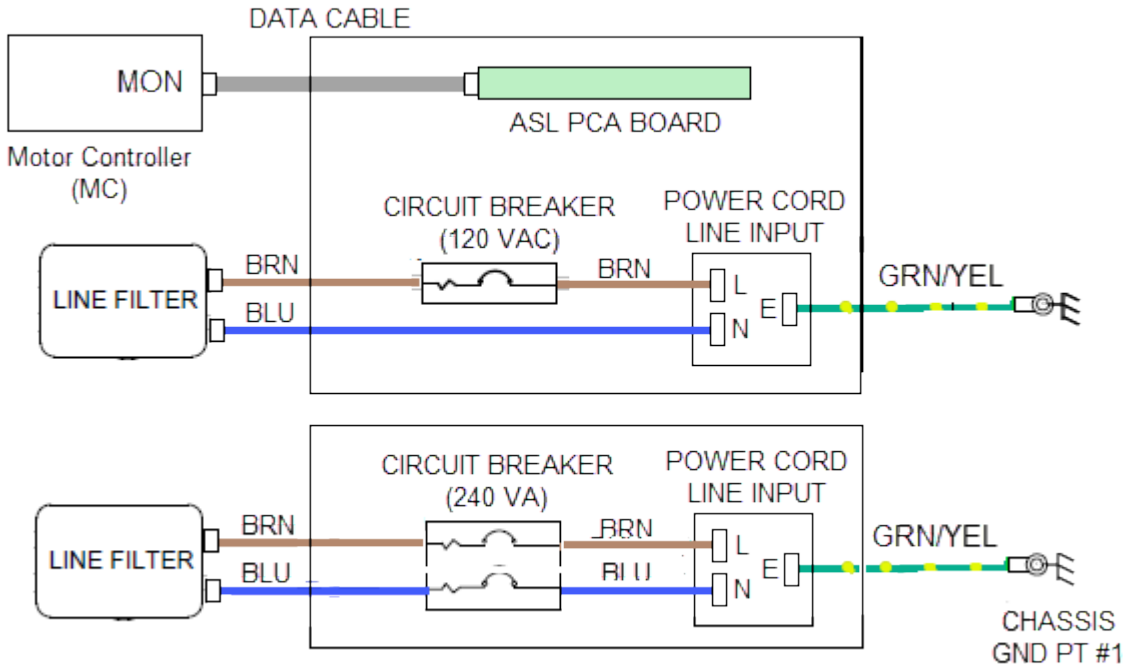
on page 16.

- 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 to long or the wire gauge diameter may be smaller than required. Request the facility to have an electrician verity 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:



POWER ENTRY ASSEMBLY WIRE DIAGRAM

- 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 to 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 (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 voltmeter 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:
    - 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

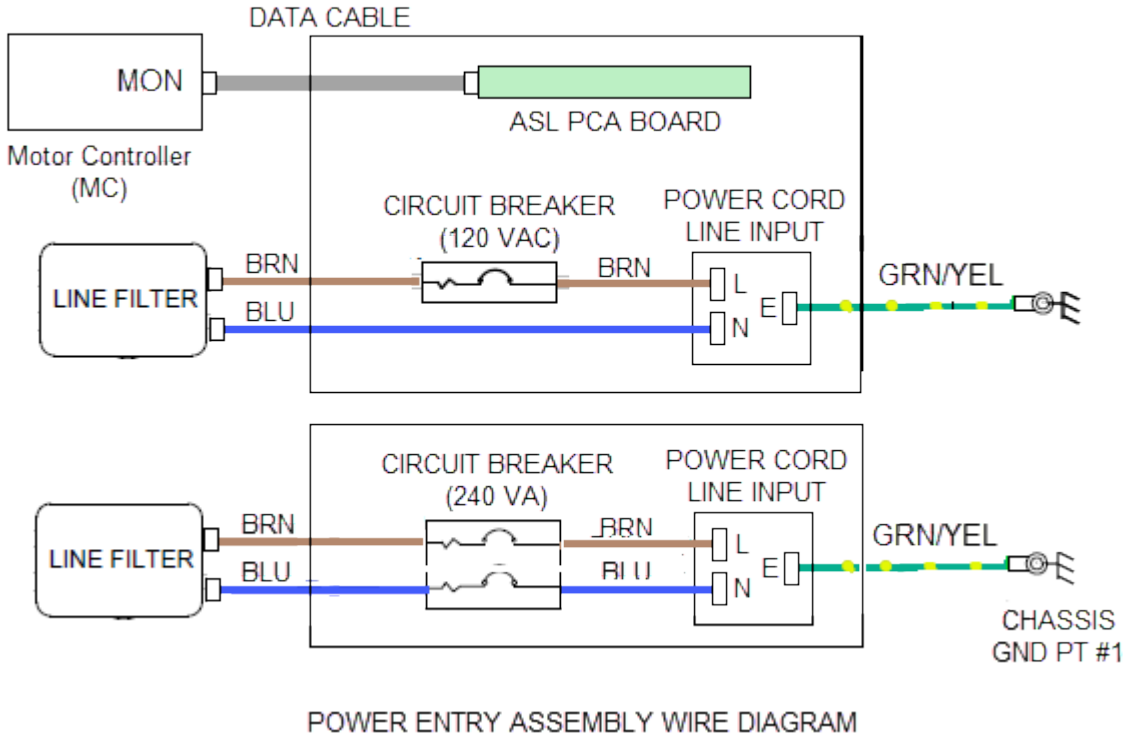
voltage. Overloading is often accompanied by error codes 27, 28, or 29. Verify the running belt condition.

See Also

"System Troubleshooting Procedures" on page 250

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:



POWER ENTRY ASSEMBLY WIRE DIAGRAM

Related Error Codes

RELATED ERROR CODE	DESCRIPTION
10	Line Frequency Out Of Acceptable Range
11	Low Voltage Watchdog (**Upper PCA**[1]

[1]Upper Printed Circuit Assembly board located in the console.

RELATED ERROR CODE	DESCRIPTION
12	MC[1] / LPCA[2] Software Watchdog (Lower PCA[3])
14	Fan Fail (Lower PCA[4])
15	DC[5] Bus Over Voltage
16	AC[6] Input Voltage Too Low

Troubleshooting Procedure

Review the machine Error Log or CPA[7] 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 16.

Tripped machine or facility circuit breakers

If either the machine or facility power panel circuit breakers trip, see "Tripped Circuit Breaker Troubleshooting" on page 251 for troubleshooting help.

See Also

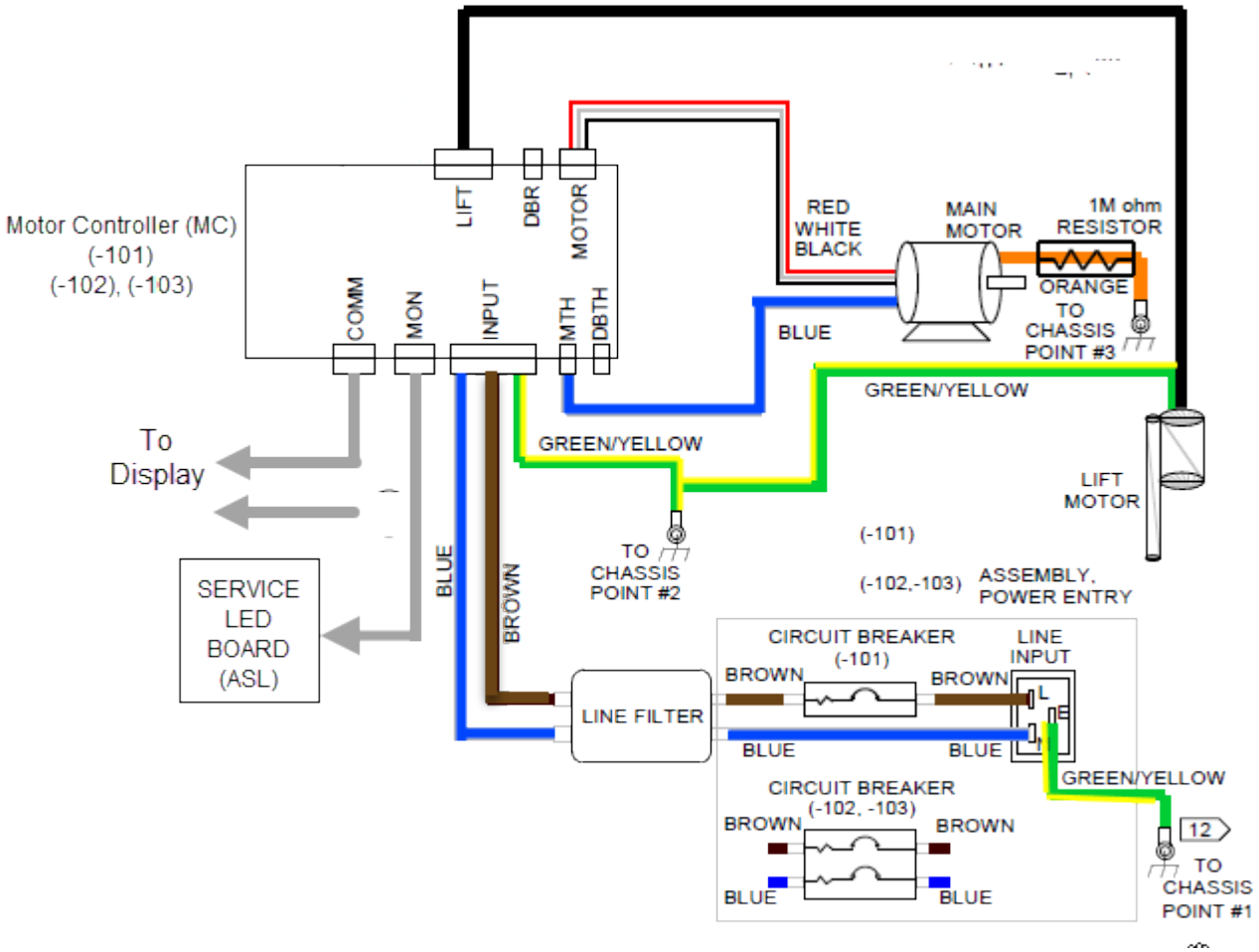
"System Troubleshooting Procedures" on page 250

[1]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.
[2]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.
[3]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.
[4]Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.
[5]Direct Current: electrical current that only flows in one direction.
[6]Alternating Current: electric current which periodically reverses direction between positive and negative polarity.
[7]Touchscreen 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 16.
   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 16.



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

[1]Alternating 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.

[1]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.
[2]Integrated 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.
[3]Upper Printed Circuit Assembly board located in the console.

See Also

"System Troubleshooting Procedures" on page 250

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 over-loaded or shorted +3.3 Vdc or +5 Vdc on the lower **PCA**[5], 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)

[1]Upper Printed Circuit Assembly board located in the console.

[2]Upper PCA board

[3]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

[4]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

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

[6]Communication Specification for Fitness Equipment protocol.

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.

See Also

"System Troubleshooting Procedures" on page 250

[1]Touchscreen console Control Processing Assembly.

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**[1]). 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**[2] Event Log and note any possible issue related error codes. Then use the *Error Code and Troubleshooting Guide* to learn about these error

[1]Adaptive Motion Trainer

[2]Touchscreen console Control Processing Assembly.

codes and procedures to troubleshoot and repair the issue, see Error Code Troubleshooting Guide.

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See Also

"System Troubleshooting Procedures" on page 250

Auto Stop Troubleshooting

Applies To: TRM800-14[1], 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[2] 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

[1]TRM800 version 2 treadmills mfg. dates 2014 thru 2017.
[2]TRM800 version 1 treadmills mfg. dates 2010 thru 2014.

"System Troubleshooting Procedures" on page 250

E-Stop not Communicating Troubleshooting

An error 37 may occur after an **E-STOP**[1] event. If the E-STOP event is not successfully cleared in the lower **PCA**[2] and the upper display believes the E-STOP has been cleared, an 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**[3]/**Lower PCA**[4] Mismatch

Troubleshooting Procedure

Review the machine Error Log or **CPA**[5] 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 250

[1]Emergency Stop: Safety clip and lanyard attached to the stop switch to immediately turn off power bringing the machine to a stop.
[2]Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.
[3]Upper Printed Circuit Assembly board located in the console.
[4]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.
[5]Touchscreen console Control Processing Assembly.

Heart Rate Monitor Troubleshooting

Handheld Heart Rate Does not Work

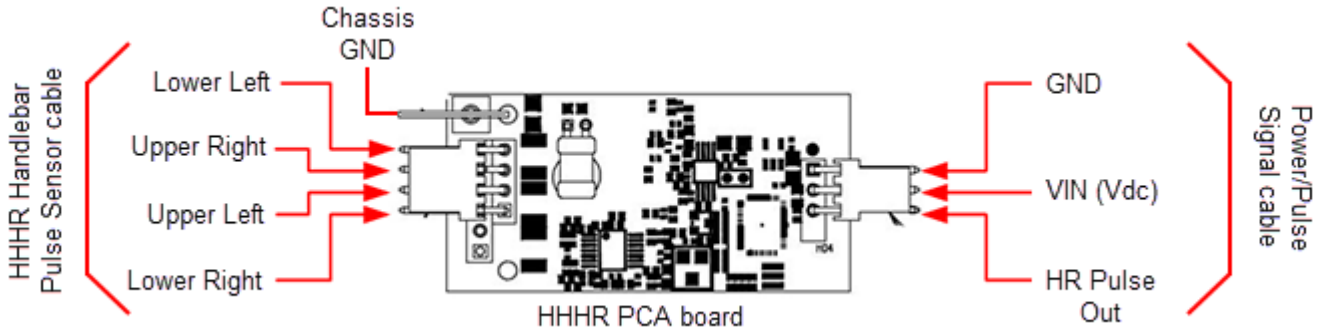
1. Place your hands on the handlebar **HHHR**[1] (Handheld Heart Rate) handheld pulse sensors, making full contact with both top and bottom pulse sensors for at least 15 seconds.
    a. If the console displays the heart rate, no problem exists.
    b. If the console does not display a heart rate, continue procedure.
2. Set the ON/OFF switch to OFF, wait 10 seconds, then toggle the ON/OFF switch to ON. Grasp the handheld 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.

[1]Handheld Handlebar Heart Rate

[2]Printed 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 HHHR handlebar pulse sensor cable is not damaged and that it is correctly installed. Verify the four HHHR 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 HHHR 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 HHHR board has the correct operating input voltage. Remove the Power/Pulse Signal cable from the HHHR 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 HHHR PCA schematic below).
   a. If no voltage, make sure the Power/Pulse Signal cable 3-pin plug is correctly connected to the **UPCA**[1] 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 HHHR does not function correctly, continue procedure.
10. If the above procedures do not correct the problem, replace the heart rate HHHR PCA board.



Wireless Heart Rate Does not Work

1. Grasp the handlebar HHHR pulse sensors and verify that the handheld HHHR feature is functioning correctly, showing a correct heart rate.

[1]Upper PCA board

a. If not, go the Handheld 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 250

[1]Wireless Fidelity - a term defined and Trademarked by the Wi-Fi Open Alliance. 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.

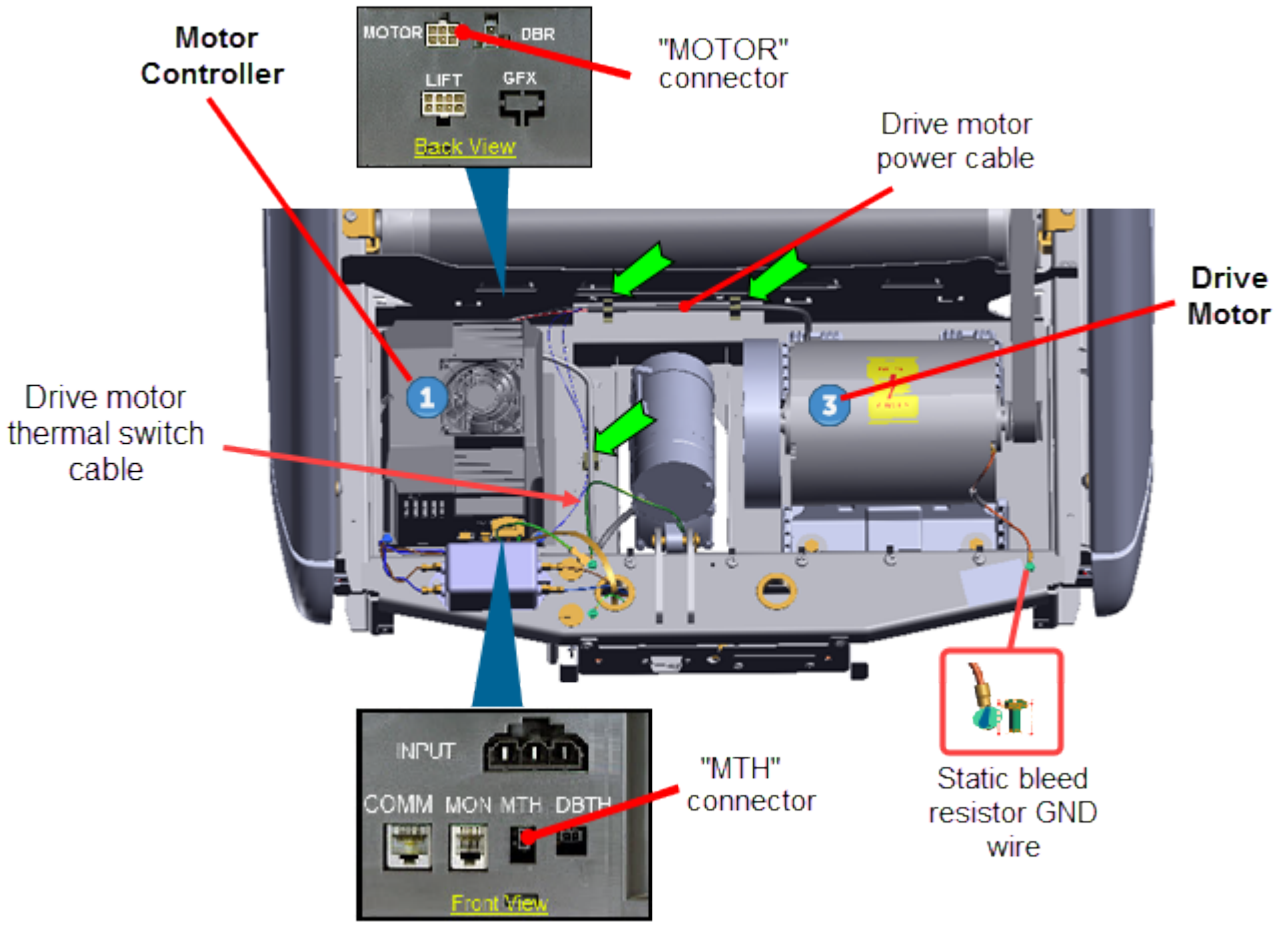
Related Error Codes

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

[1]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.
[2]Alternating Current: electric current which periodically reverses direction between positive and negative polarity.

Troubleshooting Procedure



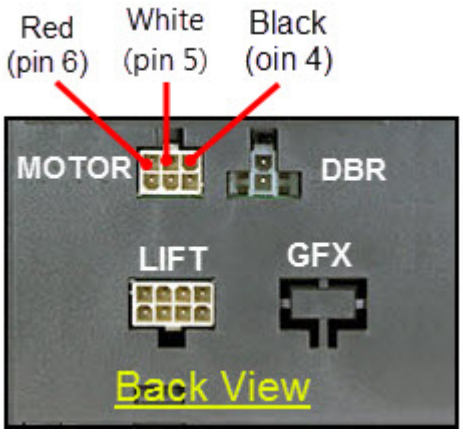
Motor Controller module "MC[1]" output power test

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

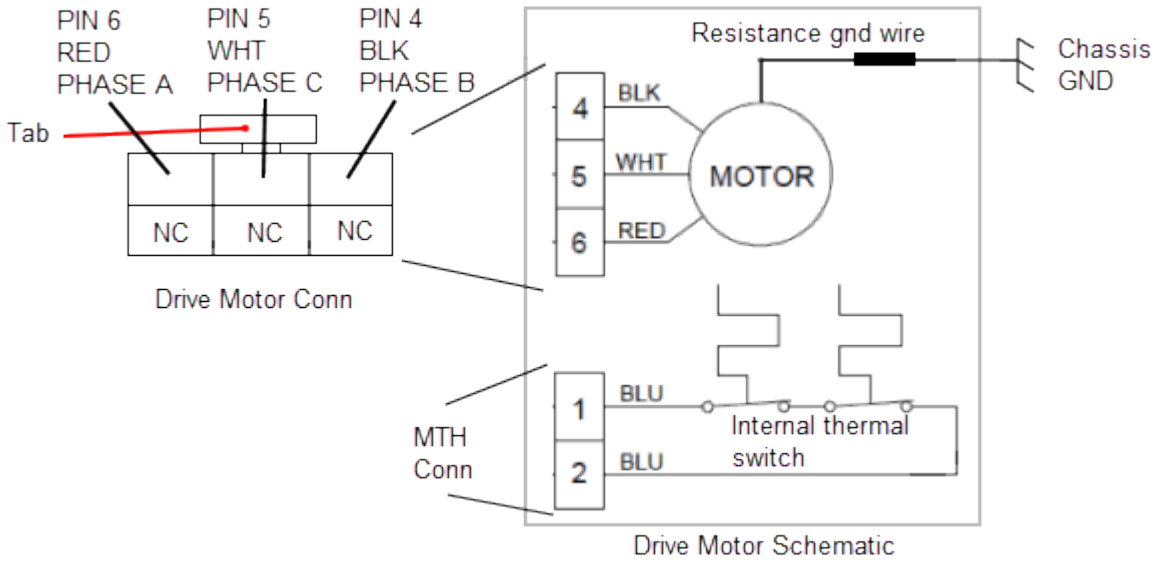
[1]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.

these measurements).



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 250

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

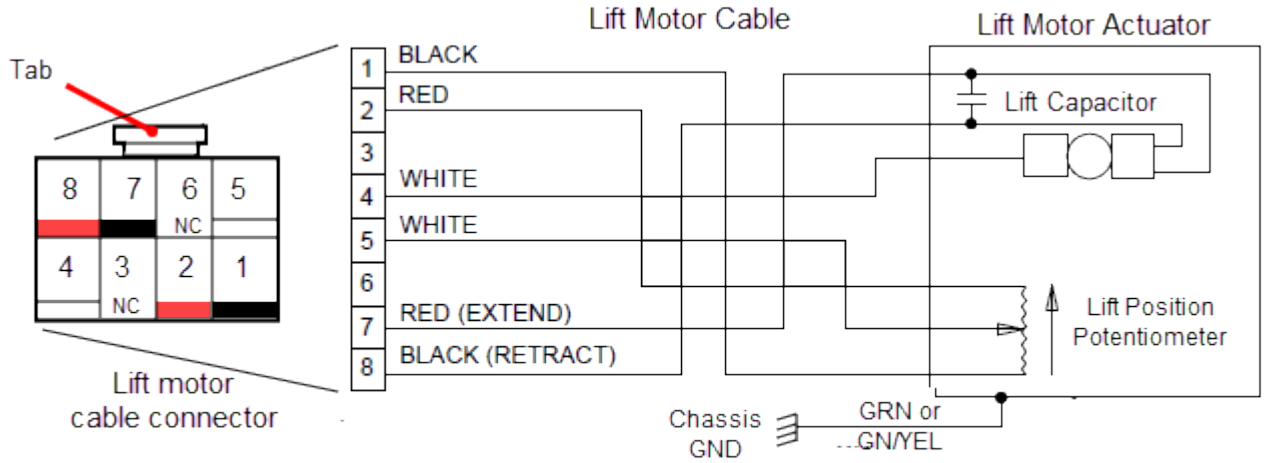
In normal operating mode, the treadmill requires the running belt to be moving to operate the lift. Therefore, it is recommended to operate the lift motor from the service Hardware Validation > Machine Test > Incline Test diagnostic test (see "Hardware Validation Diagnostics Tests Menu (51765761)" on page 41) .

[1]Alternating Current: electric current which periodically reverses direction between positive and negative polarity.
[2]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.
[3]Touchscreen 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 219



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/O**[1] 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.

[1]Input and Output Interface.

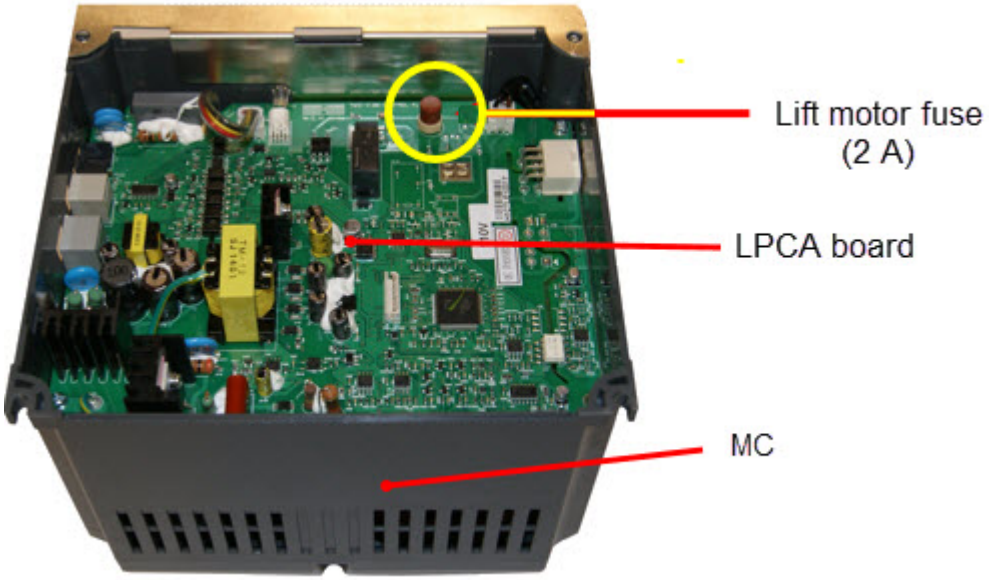
Possible Fault Causes:

- 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 VAC 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 81.
   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 129.
   b. The lift motor fuse (2 Amp) is located on the **LPCA**[1] 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

[1]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

motor 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. It 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 not 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 250

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**

[1]Active 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 287.
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 (PM)

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.

Preventative maintenance (**PM**[1]) 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 specific maintenance guide for schedule and maintenance task information. The PM maintenance manuals are available for download from the Precor product web page, see " PM Guides" below. There are also many PM service task instructional videos available to view from the Precor Connect servicer web site, see " PM Service Videos" on page 285.

Precor Customer PM Plans

Precor also offers PM service plans for customer purchase, see Preventative Maintenance Plans.

PM Guides and Videos

Product PM Guides

PM Guides

The PM maintenance guide provides the required Daily, Weekly, Monthly, Quarterly, and Semi-annual scheduled maintenance tasks needed to satisfy Precor equipment maintenance requirements. The PM guides can be downloaded from the Precor product web page.

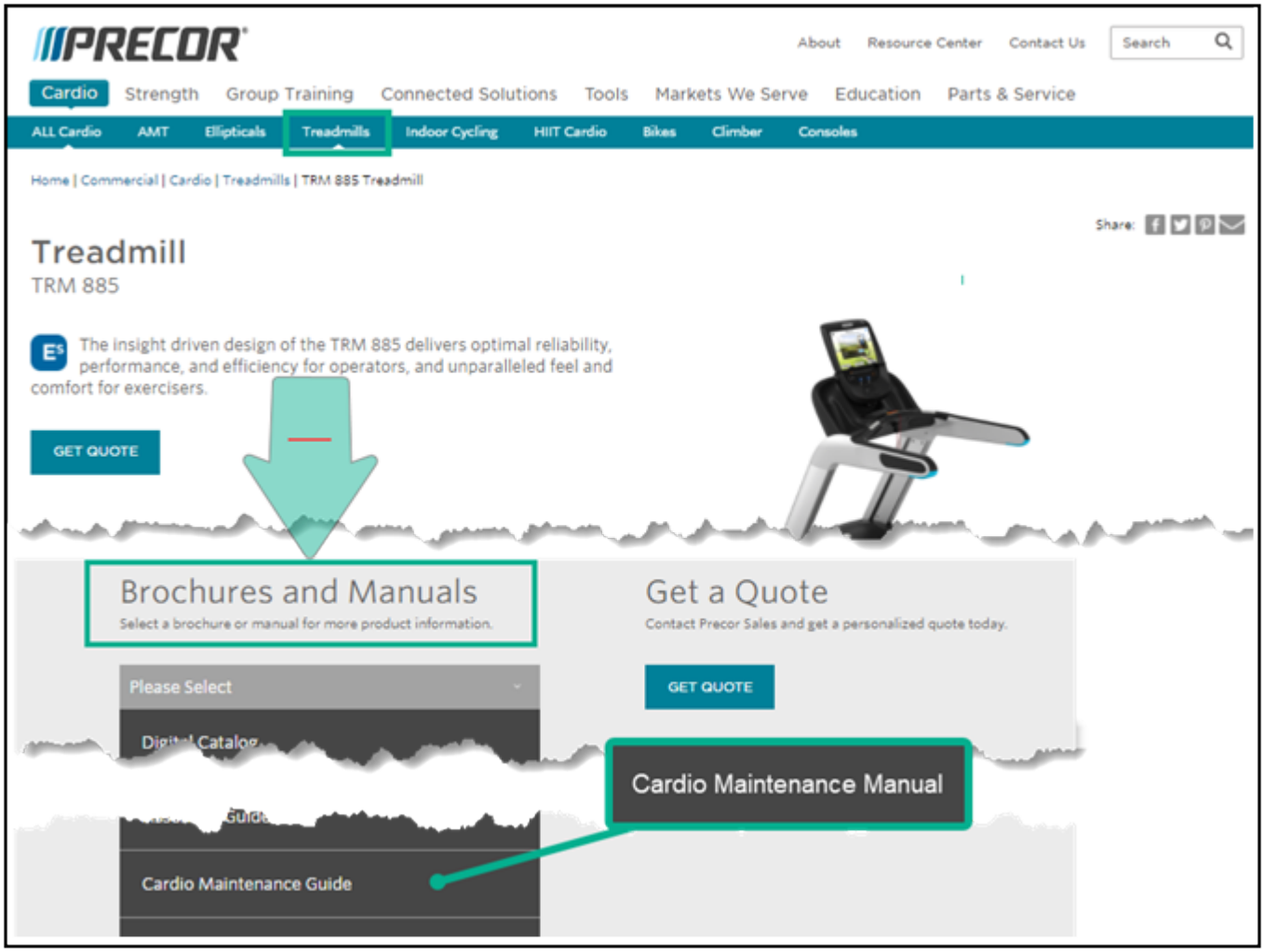
- Cardio Equipment PM Guide

How to find equipment and console PM guides

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

1. Go to the Precor.com website (Precor.com) and navigate to the specific equipment product web page.
2. Then scroll down to the **Brochures and Manuals** section.
3. Click the **Please Select** drop-down box and select the product **Preventative Maintenance Guide** link(s).

TIP: Make sure to review the entire list of manuals. There may be other related product PM guides, such as, console PM guides.



IMPORTANT: If you determine that the equipment needs service, disconnect all power connections (television, Ethernet, and power cables). Then place an OUT OF SERVICE sign on the equipment and make it clear that the machine must not be used.

PM Service Videos

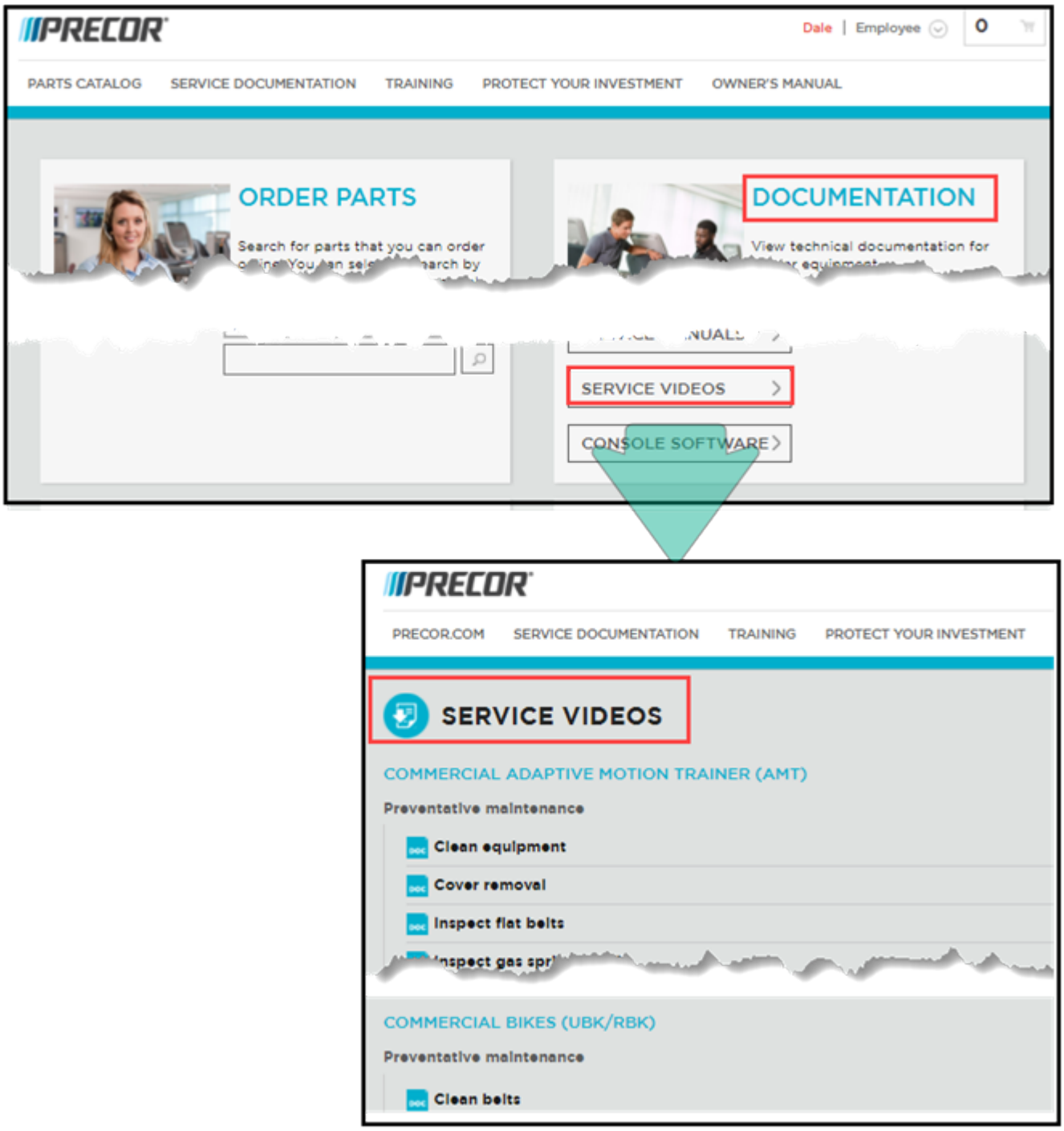
PM Service Videos

There are many products that have specific PM task instructional videos available on the Precor Connect > **SERVICE VIDEOS** web page. Review the SERVICE VIDEOS web page for a list of current available product PM task videos. Not all products currently include PM videos:

- PM Service Videos: SERVICE VIDEOS

How to access PM service videos from Precor Connect:

1. Log in to your Precor Connect Servicer account (Precor Connect Partner's).
2. From the Connect Home page, select DOCUMENTATION > **SERVICE VIDEOS** to view the list of the equipment Service Bulletins and Tech-Tips.


PRECOR
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PARTS CATALOG
SERVICE DOCUMENTATION
TRAINING
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OWNER'S MANUAL
ORDER PARTS
Search for parts that you can order
DOCUMENTATION
View technical documentation for
SERVICE VIDEOS
CONSOLE SOFTWARE
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PRECOR.COM
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TRAINING
PROTECT YOUR INVESTMENT
SERVICE VIDEOS
COMMERCIAL ADAPTIVE MOTION TRAINER (AMT)
Preventative maintenance
Clean equipment
Cover removal
Inspect flat belts
COMMERCIAL BIKES (UBK/RBK)
Preventative maintenance
Clean belts

Running Belt and Deck Cleaning Procedure

Use this procedure to clean the running belt and deck. It is also recommended that you watch the Belt and Deck Cleaning video.

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.

Videos

(Internet access required)

RUNNING BELT AND DECK CLEANING PROCEDURE

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 handlebars.
   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**.

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

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 handrails. Push the **Quick Start** button once in position.



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 was first introduced in 2016 based on the TRM800 model. The purpose was to produce a less expensive commercial grade treadmill. In general, the TRM700 series share the same base (or lower) mechanical and electrical system components. The upper targa, arms, console dash, and covers are different. The TRM700-18 (introduced in 2018) incorporated the new common frame that is shared between the TRM800, TRM700, and TRM600 models, see "TRM600/700/800 Common Frame Overview" on page 293.

TRM700- 16/18 features:

- TRM700-18: Switched from the Forbo running belt with waxed deck to the Ammeraal Beltech self-lubricating running belt with non-waxed deck.
- TRM700-18: New common frame:
  - wider deck and running belt.
  - different running belt adjustment mechanism.
  - new common frame drive and take-up roller.
  - new drive motor and drive belt adjustment mechanism.
- No Dynamic Brake Resister (**DBR**[1]). The **MC**[2] controls excess current overloading.
- Redesigned TRM700 dash and arms.
- Service/maintenance Active Status Light (**ASL**[3]).
- Supports the **LED**[4]P30, P30i and P31 and touchscreen P62 and P82 consoles

Electrical Systems

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]

[1]treadmill dynamic break resistor.

[2]Motor controller, motor controller unit, or motor controller module: used on treadmills, contains the LPCA and motor controller functionality.

[3]Active Status Light: Service and maintenance status light.

[4]light-emitting diodes.

[5]Upper Printed Circuit Assembly board located in the console.

board (**UPCA**[1]) sends the input control commands to the base **Lower PCA**[2] board (**LPCA**[3]). The console also receives error code data from the base which is used to maintain the Error Log service menu. The console also controls and sends the **ASL**[4] 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**[5] (**LPCA**[6]) 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”).

[1]Upper PCA board

[2]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

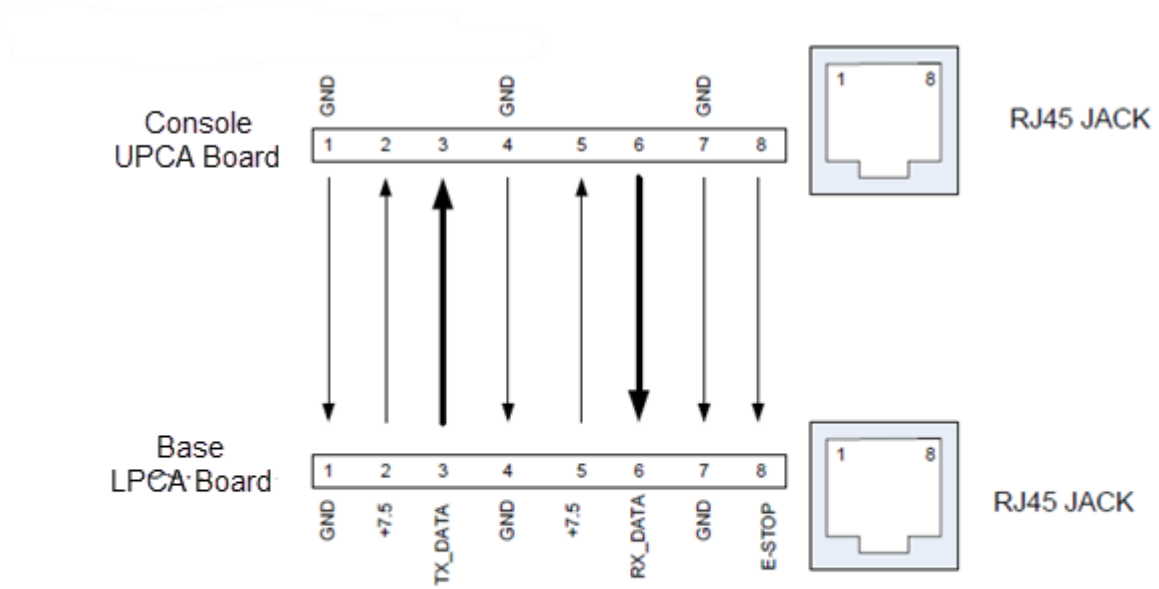
[3]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

[4]Active Status Light: Service and maintenance status light.

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

[6]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.

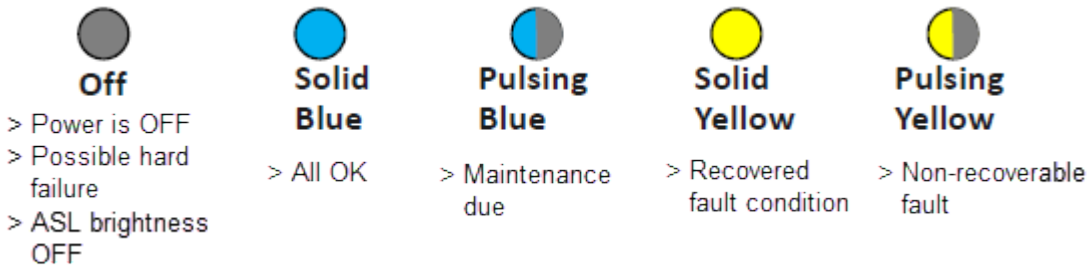
COMM Data Cable



- 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

Active Status Light (ASL)

The Active Status Light is 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 244.



TRM600/700/800 Common Frame Overview

About

Precor has implemented a new common frame weldment that is used on the TRM600, TRM700, and TRM800 Experience™ Series treadmills. The common frame was released on production units beginning 05/14/2019. It is the intent of this document to provide information about how the new common frame update has affected related service and maintenance tasks.

The TRM600 was initially released with a common frame so there are no new common frame updates to report for this product line. However, this is a major frame update for the TRM700 and TRM800 series treadmills. Because the TRM700/800 product lines share the same base system components, any common frame updates will apply equally to both product lines. The following is a summary of the TRM700/800 common frame updates:

- Running belt and deck updates:
  - New common frame drive roller
  - New common frame take-up roller and running belt adjustment mechanism
  - Different size running deck
- New landing trim and end cap covers
- New drive belt tension adjustment mechanism
- Redesigned front compartment dust guard (easier drive belt removal)

Ordering Parts

When ordering parts for the TRM700 and TRM800 series treadmills, you will need to provide the equipment frame type (legacy frame or common frame) to the Precor customer service representative.

Ways to identify the common frame

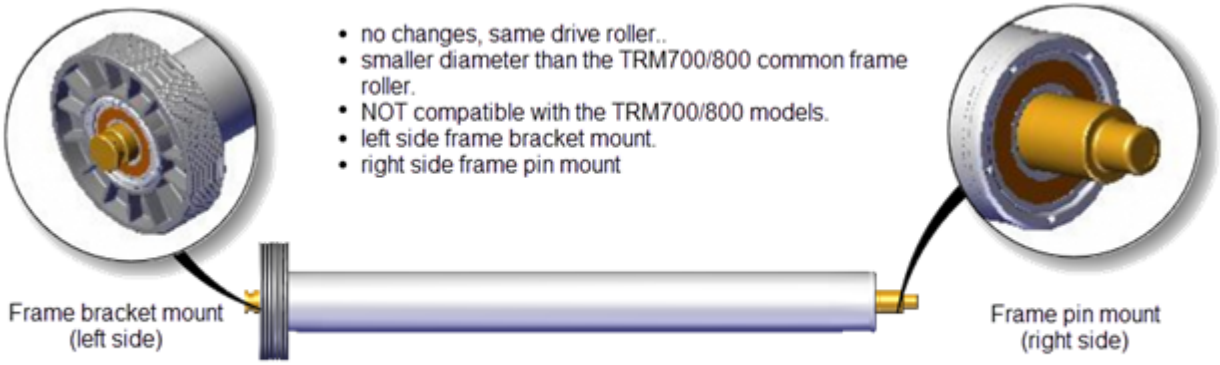
- Use the equipment manufacture date:
  - Treadmills built prior to 5/14/2019 use a legacy frame.
  - Treadmills built on or after 5/14/2019 use the new common frame.
- Visual ques to identify the common frame:
  - Check for a drive belt adjustment bolt (yes - common frame, no - ¬legacy frame).
  - Check the shape of the end cap cover running belt adjustment bolt access hole (oval - common frame, round - legacy frame).

Common Frame Drive Roller

There are two common frame drive rollers, one for the TRM600 and another for the TRM700/800 treadmills. The TRM600 treadmill uses a smaller diameter drive roller and not compatible with the TRM700/800 treadmills. The TRM700 and TRM800 use the same drive roller.

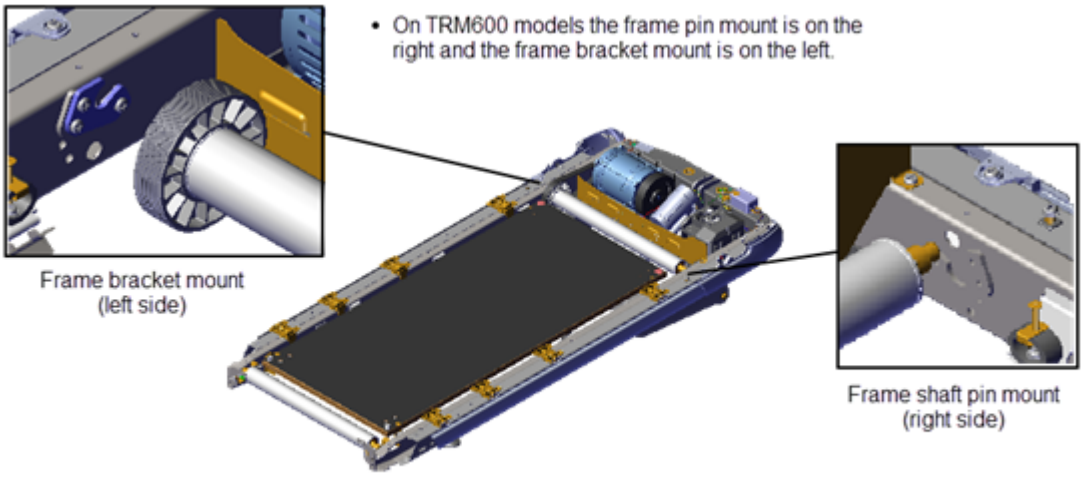
Both the TRM600 and TRM700/800 drive rollers use the same common frame mounting system. One end of the roller shaft is a pin that slides into a frame pin mounting hole. The other end of the shaft is milled to set into a frame mounted bracket. On TRM600 models, the shaft bracket mount is on the left side of the roller and the shaft pin mount is on the right side. On TRM700/800 models the frame roller mounts are switched, the shaft bracket mount is on the right side of the roller and the shaft pin mount is on the left side.

TRM600 Drive Roller



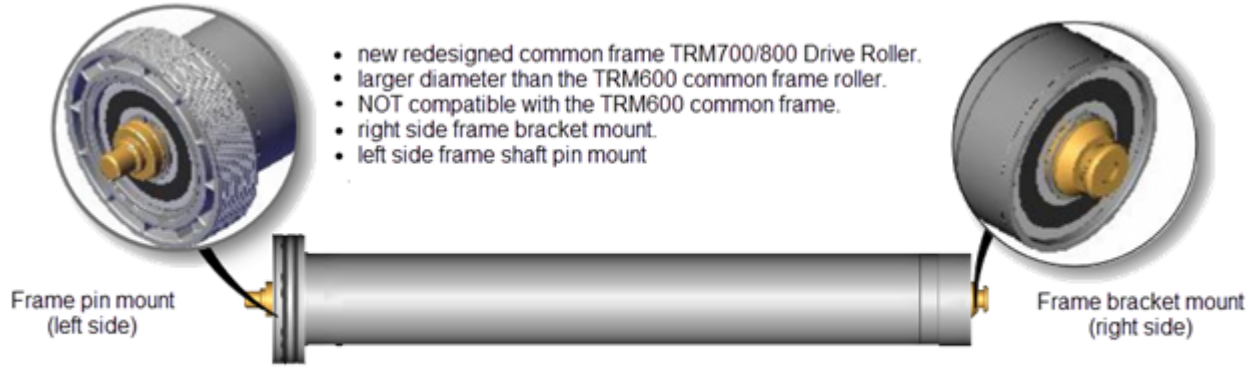
TRM600 Common Frame Drive Roller

TRM600 Drive Roller



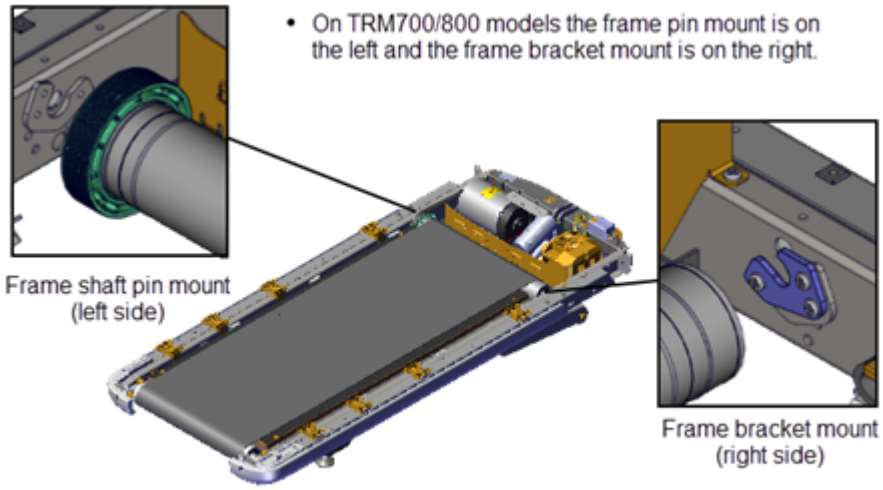
TRM600 DRIVE ROLLER INSTALLATION

TRM700/800 Drive Roller



TRM700/800 COMMON FRAME DRIVE ROLLER

TRM700/800 Drive Roller Installation



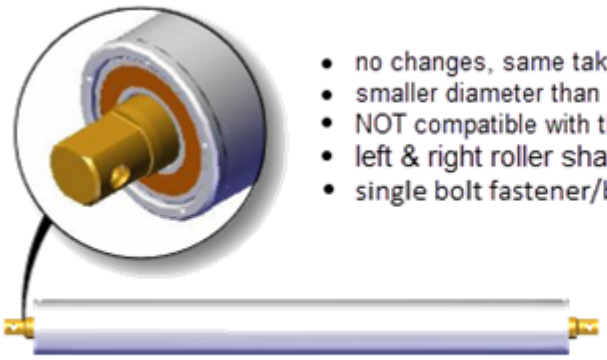
TRM700/800 DRIVE ROLLER INSTALLATION

Common Frame Take-up Roller

There are two different common frame take-up rollers, one for the TRM600 and another for the TRM700/800 treadmills.

TRM600 Take-up Roller

The TRM600 common frame take-up roller has not changed. It is a smaller diameter roller and not compatible with the TRM700/800 treadmills. The roller is designed to use the common frame single bolt fastener/belt tension adjustment mechanism.



- no changes, same take-up roller.
- smaller diameter than the TRM700/800 common frame roller.
- NOT compatible with the TRM700/800 models.
- left & right roller shaft ends are the same.
- single bolt fastener/belt tension adjustment mechanism.

TRM600 Take-up Roller

TRM700/TRM800 Take-up Roller

There is a new redesigned take-up roller for the TRM700/TRM800 common frame. It is a multi-use roller designed to work with the new common frame single bolt fastener/belt tension adjustment mechanism and the legacy frame cassette style belt tension adjustment mechanism. The legacy frame take-up roller part is no longer available, so the common frame roller is now the replacement part for the legacy frame take-up roller.

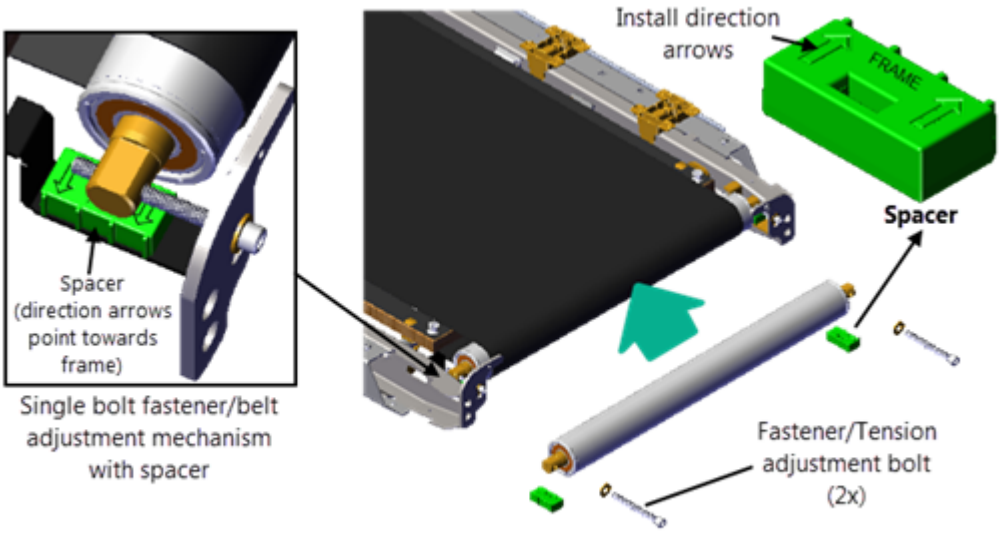


- new redesigned TRM700/800 common frame take-up roller.
- larger diameter roller than the TRM600 common frame roller.
- Not compatible with the TRM600 treadmills
- left and right shaft ends are the same.
- backward compatible with the TRM700/800 legacy frame.
- supports both the new common frame single bolt fastener/belt adjustment mechanism and the legacy frame cassette style fastener/belt adjustment mechanism.

TRM700/800 Take-up Roller

TRM600 Take-up Roller Installation

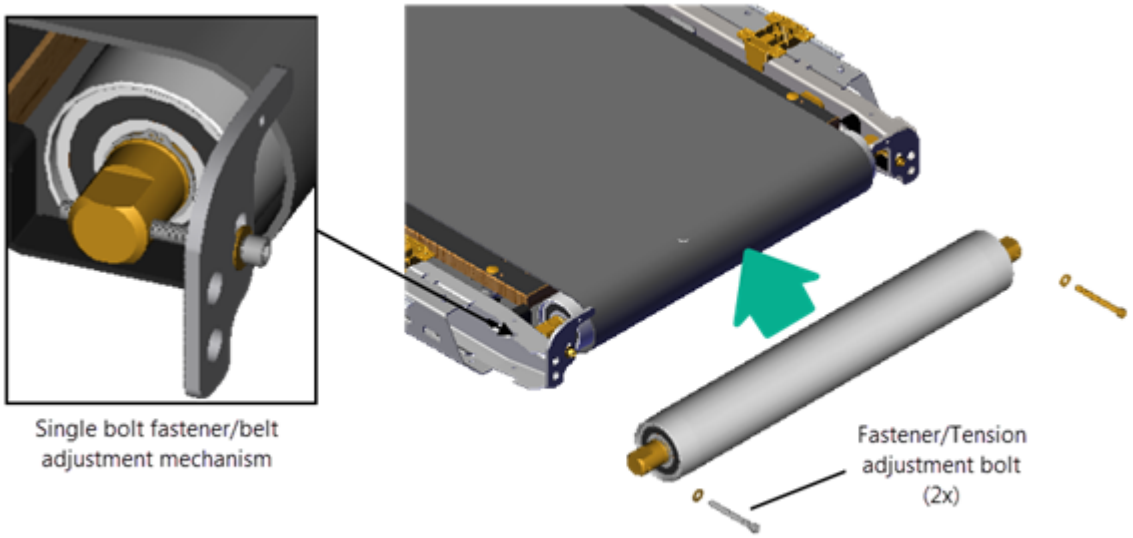
The TRM600 common frame take-up roller installation is slightly different than the TRM700/800 because the TRM600 take-up roller is a smaller diameter roller. A spacer is required to raise the roller to the correct mounting height. Other than that, there is no difference between the TRM600 and TRM700/800 installation and belt adjustment procedure. All common frame treadmills use the single bolt fastener/belt tension adjustment mechanism.



TRM600 Common Frame Take-up Roller Installation

TRM700/800 Take-up Roller Installation

The TRM700/800 common frame take-up roller installation and belt adjustment mechanism has changed from the legacy frame cassette style mechanism to the single bolt fastener/belt tension adjustment mechanism. On the common frame, the running belt tension adjustment bolt is both the take-up roller fastener and the belt tensioner. The downward force from the belt tension holds the roller in place.



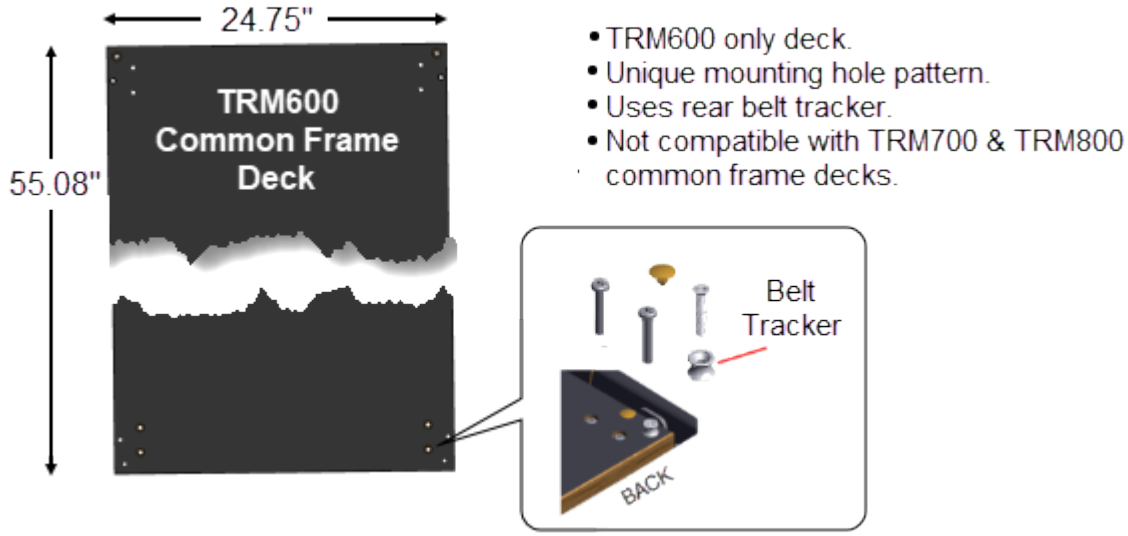
TRM700/800 Common Frame Take-up Roller Installation

Common Frame Running Deck

TRM600 Running Deck

The TRM600 common frame running belt and deck are unique to the TRM600. The TRM600 belt/deck is not compatible with the TRM700 or TRM800 common frame treadmills. The running belt length is shorter due the smaller diameter drive and take-up rollers. Also the deck includes a rear belt alignment tracker.

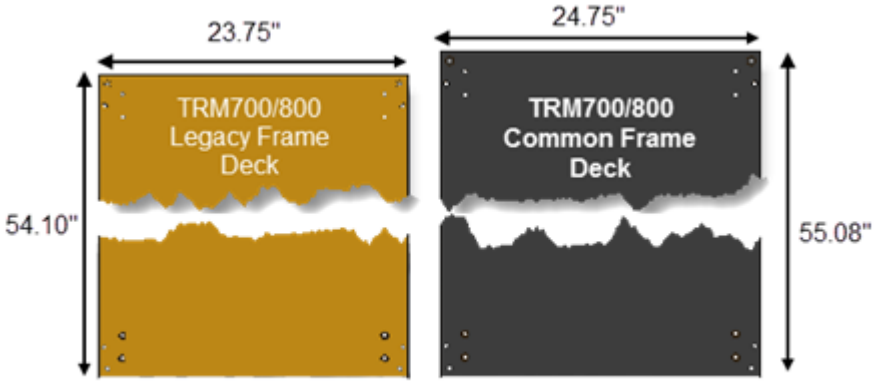
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TRM700/800 Running Deck

There is a new TRM700/800 common frame deck that is not backward compatible with the legacy frame. The common frame deck is approximately 1” larger in length and width than the legacy frame deck. The TRM700/800 common frame deck is not compatible with the TRM600.

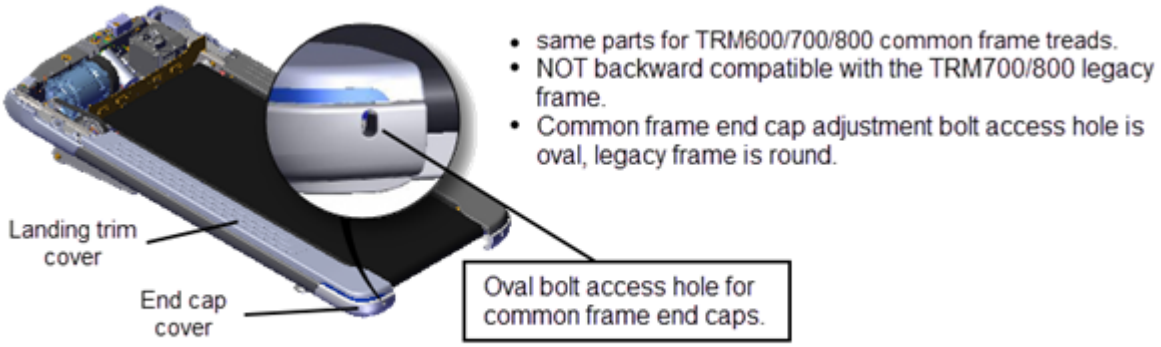
There are no changes to the running belt parts. The larger common frame deck uses the same running belt as the smaller size legacy frame deck. The Forbo belt with a pre-waxed deck or the Ammeraal Beltech belt with a no wax deck.



Common/Legacy Frame Deck Dimension Comparison

Landing Trim End Cap Covers

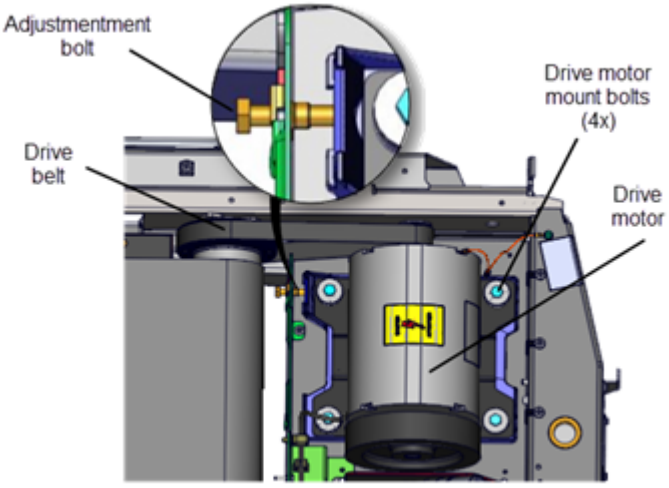
All three TRM600/700/800 series treadmills use the same common frame landing trim and end cap covers. However, on the TRM700/800 series, the common frame covers are not backward compatible with the legacy frame covers. The end cap covers can be used to visually identify a common frame machine. On common frame machines the shape of the belt tension adjustment bolt access hole is oval and on legacy frames round.



TRM600/700/800 LANDING TRIM AND END CAP COVERS

Drive Belt Tension Adjustment

The new common frame has improved the drive belt adjustment process by adding a drive belt adjustment bolt mechanism. The new procedure is faster, easier, and less prone to error. Loosen the four motor mount bolts, use the belt tension adjustment bolt to tension the belt and then re-tighten the motor mount bolts securing the belt tension and motor.

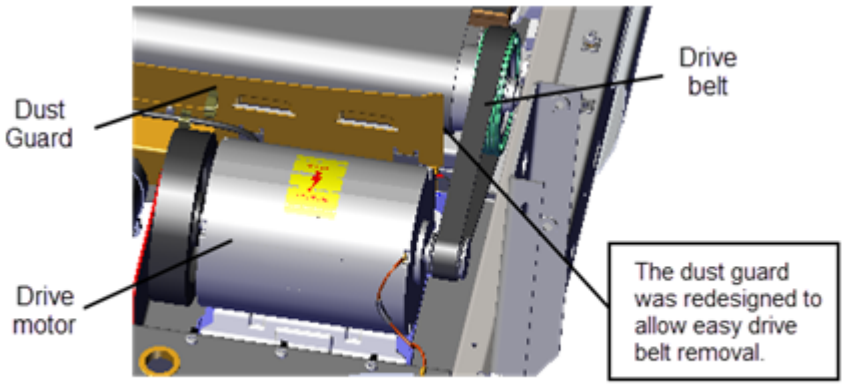


DRIVE BELT ADJUSTMENT MECHANISM

Dust Guard

The common frame dust guard was redesigned (trimmed back on the left side) so that the drive belt can be easily removed. On the legacy frame, the top of the dust guard extends to

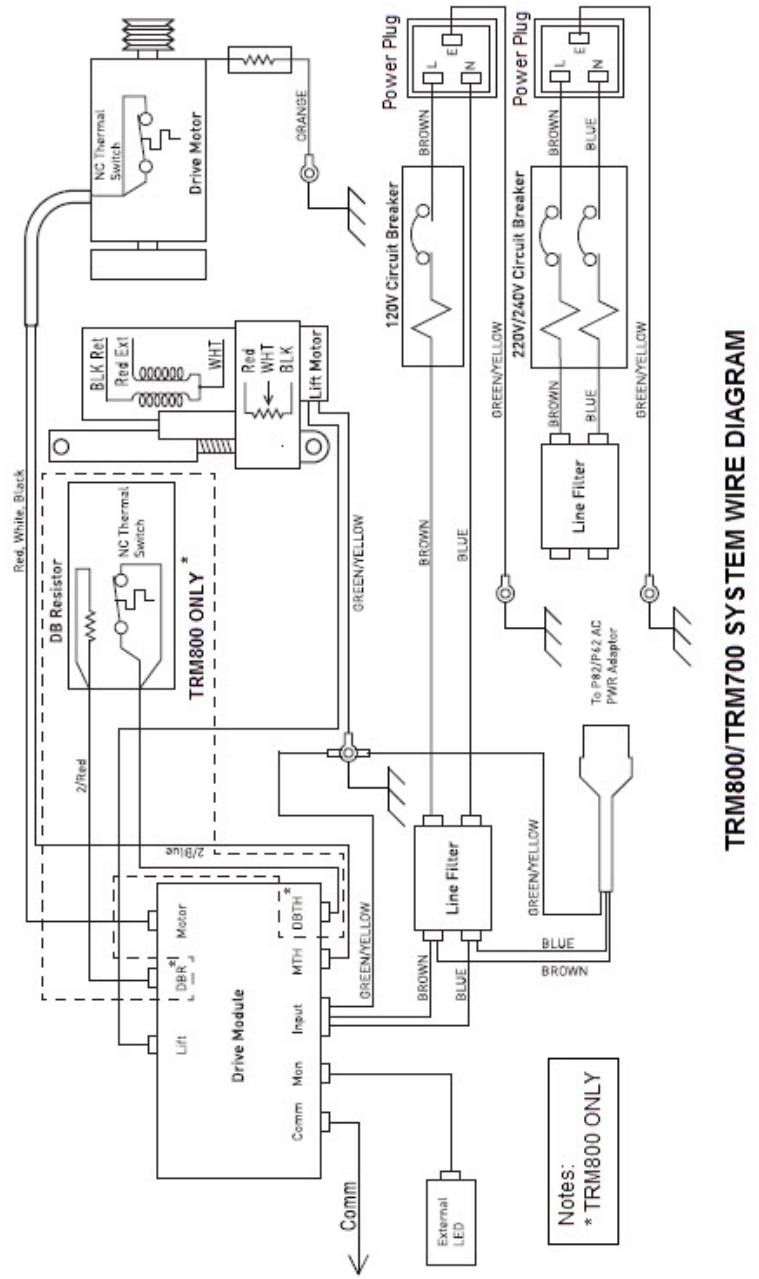
the inside edge of the frame rail blocking the drive belt from being removed. Removing the drive belt required the dust cover to be removed also. On the common frame, the dust cover no longer blocks the belt and does not need to be removed to remove the drive belt.



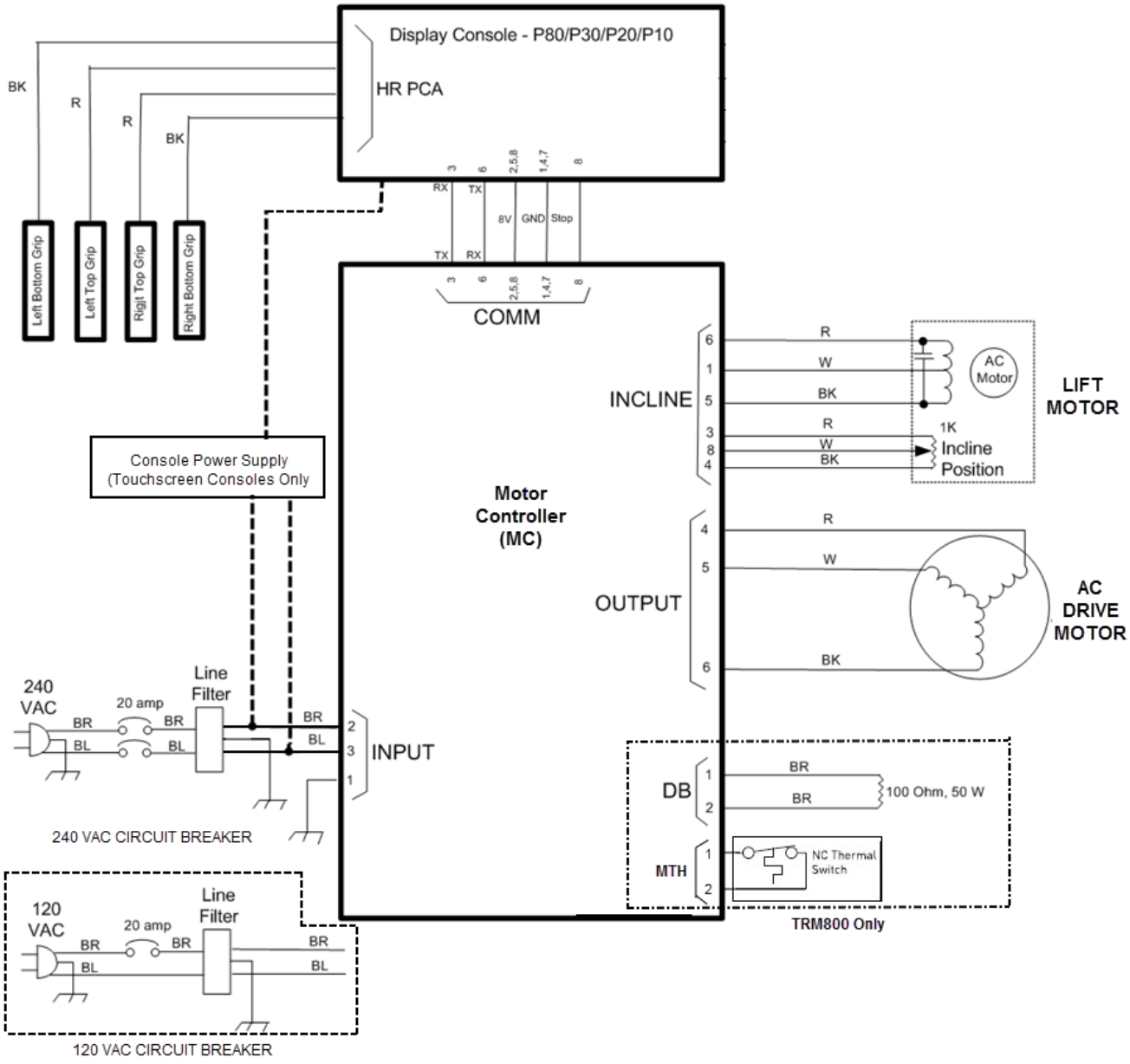
Redesigned Dust Guard

System Wiring Diagram

System Wire Diagram Overview



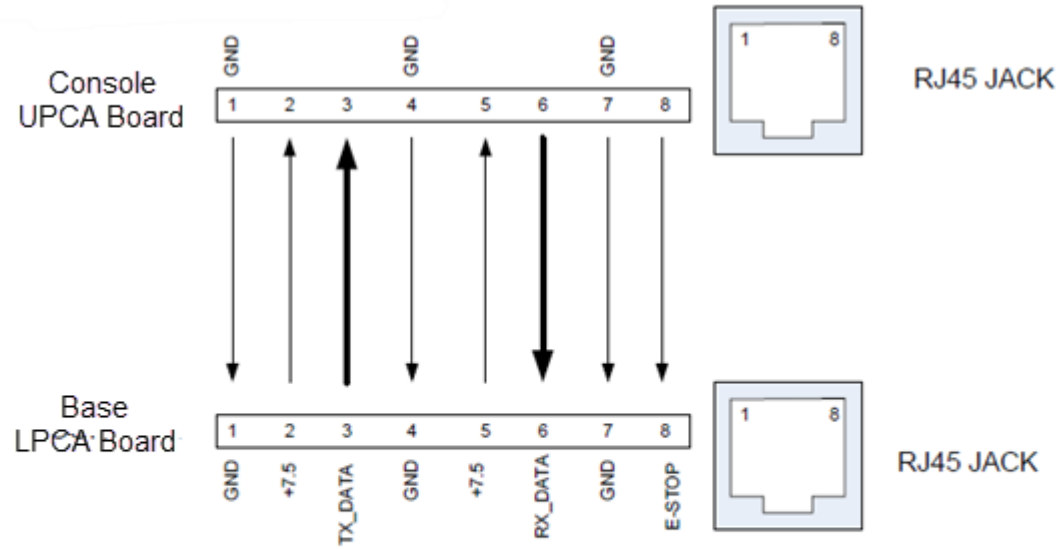
System Wire Diagram - Connector Pins



TRM800 SYSTEM WIRE DIAGRAM - CONNECTOR PIN CALLOUTS

COMM Cable Wire Diagram

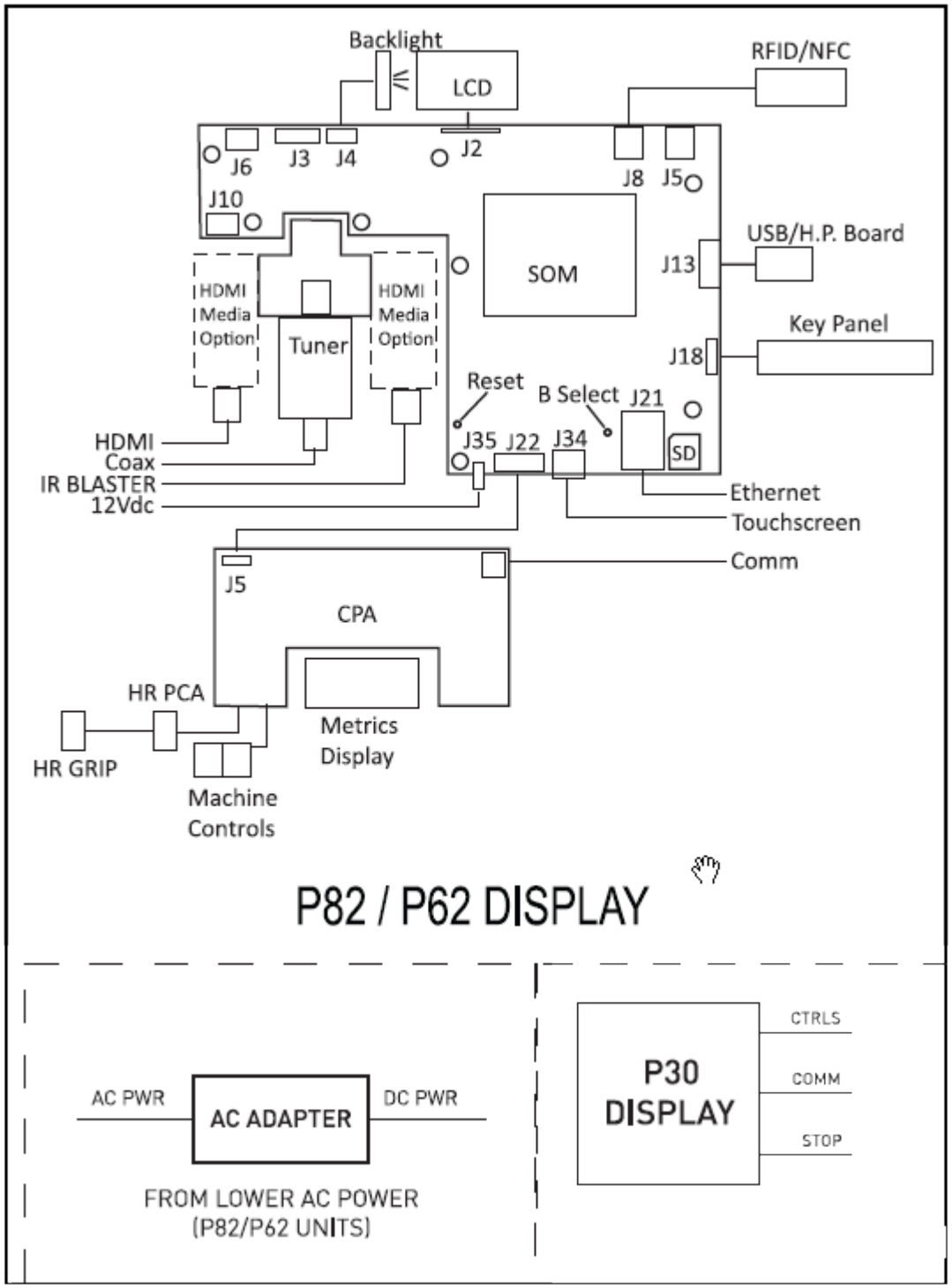
COMM Cable Wire Diagram



- 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

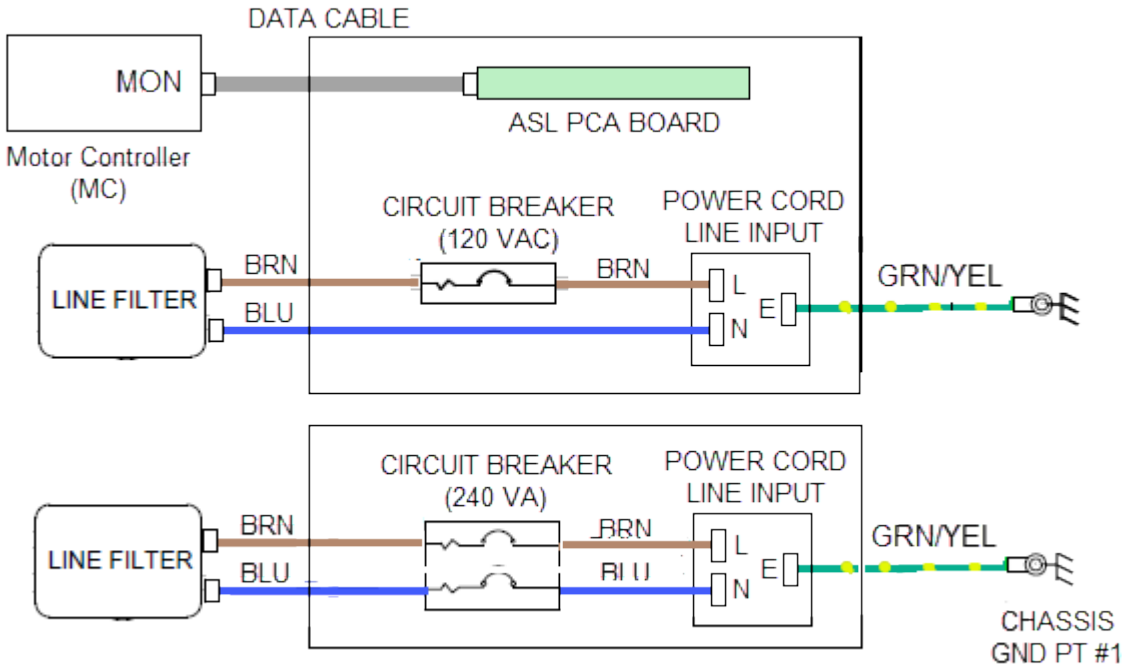
Console Wire Diagram

Console Wire Diagram



Power Entry Assemble Wire Diagram

Power Entry Assembly Wire Diagram



POWER ENTRY ASSEMBLY WIRE DIAGRAM

Product Literature & Videos

Additional product literature and videos that will help you to service and maintain the equipment.

"Service & Maintenance Documentation" below

"Precor Websites" below

"Product Literature & Videos" above

Service & Maintenance Documentation

Document	Link
EFX600-18 Base Service Manual (online version)	Service Manual
Preventative Maintenance Guides	"Preventive Maintenance (PM)" on page 283

Precor Websites

Precor Websites	Link
Precor.com product home page. Available information: • Product Specifications • Assembly Guides • Preventative Maintenance Guides • Console Install & PM Guides	Precor.com
Precor Connect servicer home page*. Available Product information: • Part Numbers • Exploded View Diagrams • Service Bulletins • Software Updates • Service Videos	Connect Login
Precor Technician Certification Training	Service & Install Training
Precor E-Learning Center	E-Learning System

	Precor Websites	Link
	SalesForce Login	SalesForce Login
* Always log in to Precor connect using your Precor Connect account login information.		

Service Videos

	Service Video	Link
	Preventative Maintenance Videos	
	Preventative Maintenance Videos: (not available for all products) • Login to Precor Connect‡. • select **SERVICE VIDEOS** • Navigate to the product equipment PM videos	available on Precor Connect Connect Login
	TRM[1] Service Videos	
	Running Belt & Deck Cleaning procedure	Running Belt & Deck Cleaning
	Running Belt Alignment procedure	Running Belt Alignment
	Hood Cover Removal	Hood Cover Removal
	ESTOP[2] Switch & Lanyard Test	TRM ESTOP Test
	Lift Motor Jackscrew Lubrication Maintenance procedure	Lift Motor Jackscrew Lubrication Procedure
	Machine Leveling procedure	Machine Leveling Procedure
‡ Always log in to your Precor connect servicer account. Guest login users do not have access to all features.		

[1]Treadmill

[2]Emergency Stop: Safety clip and lanyard attached to the stop switch to immediately turn off power bringing the machine to a stop.

Parts

About

How to find part numbers

Equipment replacement part numbers are obtained from the *Exploded View Diagram* and *Parts List* documents. The *Exploded View Diagram* shows a picture of the disassembled machine parts and assigned bubble number. It is used to show how the machine is assembled and to identify machine replacement parts and associated bubble number. The *Parts List* is basically a part number look up table that uses the part bubble number to find the Precor part number.

How to find the machine Precor part number:

- First use the machine *Exploded View Diagram* to identify a machine replacement part and the associated bubble number.
- Then go to the *Parts Identification List* and use the part bubble number to obtain the Precor part number.

The service manual includes copies of the equipment *Exploded View Diagram* and *Parts Identification List*. These documents are primarily intended to be used as a quick reference when servicing the equipment. However, the service manual may not reflect the latest equipment part updates. So always refer to the equipment *Exploded View Diagram* and *Parts Identification List* on Precor Connect to obtain the latest part information.

How to order parts (legacy and common frames)

When ordering parts for the TRM700 and TRM800 series treadmills, you will need to provide the equipment frame type (legacy frame or common frame) to the Precor customer service representative. The serial number does not identify the frame type.

Ways to identify the common frame

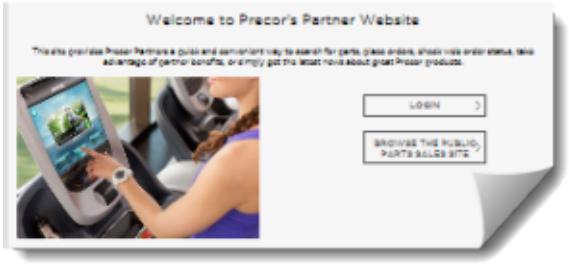
- Use the equipment manufacture date:
  - Treadmills built prior to 5/14/2019 use a legacy frame.
  - Treadmills built on or after 5/14/2019 use the new common frame.
- Visual ques to identify the common frame:
  - Check for a drive belt adjustment bolt (yes - common frame, no - ¬legacy frame).
  - Check the shape of the end cap cover running belt adjustment bolt access hole (oval - common frame, round - legacy frame).

Precor Connect Partner's website

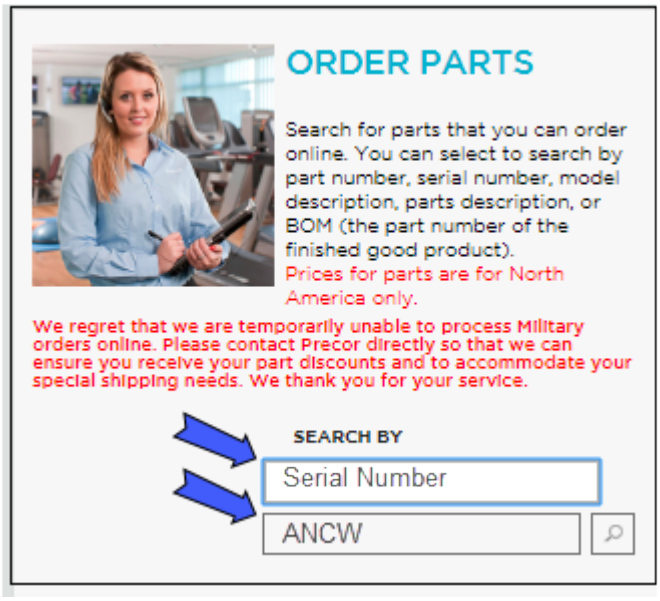
If you have online web access, it is always recommended that you go to the servicer Precor Connect Partner's website to view the equipment's most current *Exploded View Diagram* and *Parts Identification List* information.

How to use Precor Connect to find part Information

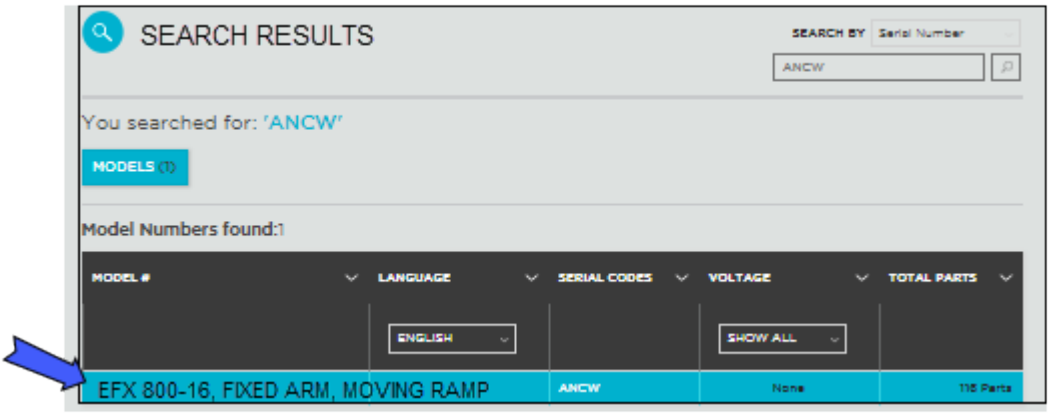
1. Log in to the Precor Connect Partner website.



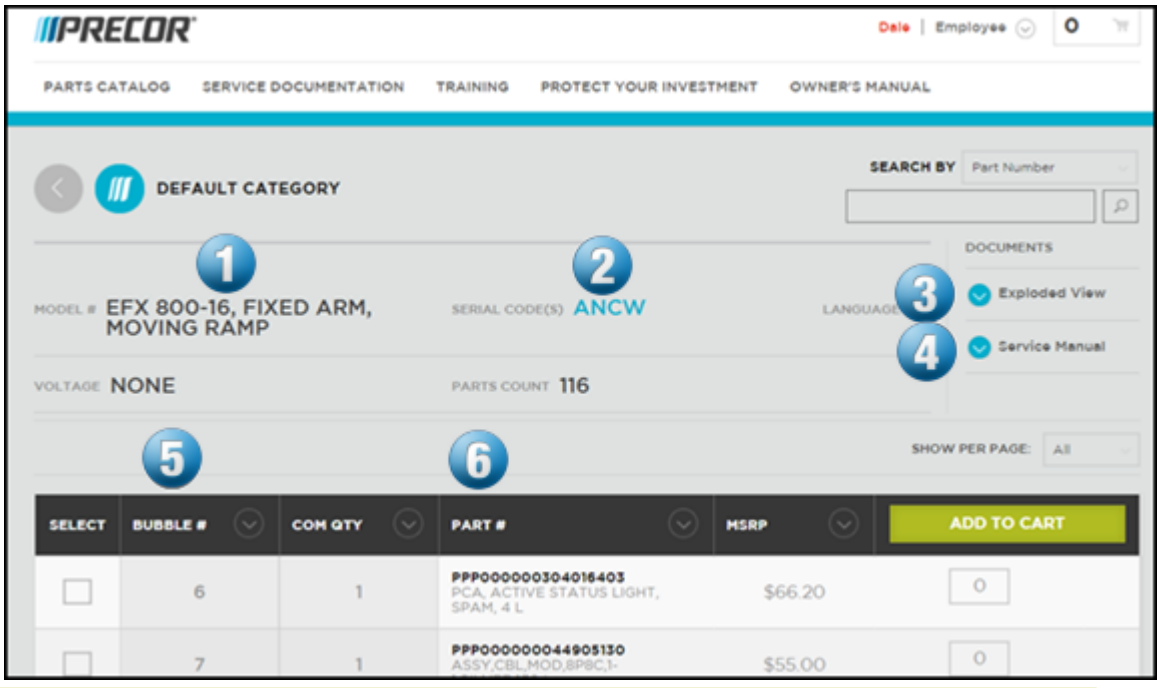
2. Then use the ORDER PARTS "SEARCH BY" function to find the equipment model. You can search by Part Number, Serial Number (first four letters are sufficient), Model Description, or the Parts Description.



3. Select the equipment model from the list of found search results.



4. Finding equipment part numbers:
   a. Verify the MODEL Description 1 and SERIAL CODE 2.
   b. Open the Exploded View Diagram (click the Exploded View link 3) and find the part bubble number.
   c. Then go to the *Parts Identification Table*, locate the bubble number in the "BUBBLE #" column 5 and the associated part number in the "PART #" column 6.



ID	Description	ID	Description
1	Model Description	4	Service Manual Link
2	Serial Code	5	Bubble Numbers
3	Exploded View Link	6	Part Numbers

Exploded View Diagrams and Parts List

Optional PDF version

If you are viewing the manual on a PC, laptop, etc., then use the following links to open the full PDF version of the *Exploded View Diagram* and *Parts Identification List in Adobe Acrobat* Reader. The PDF version is a better option for viewing and printing.

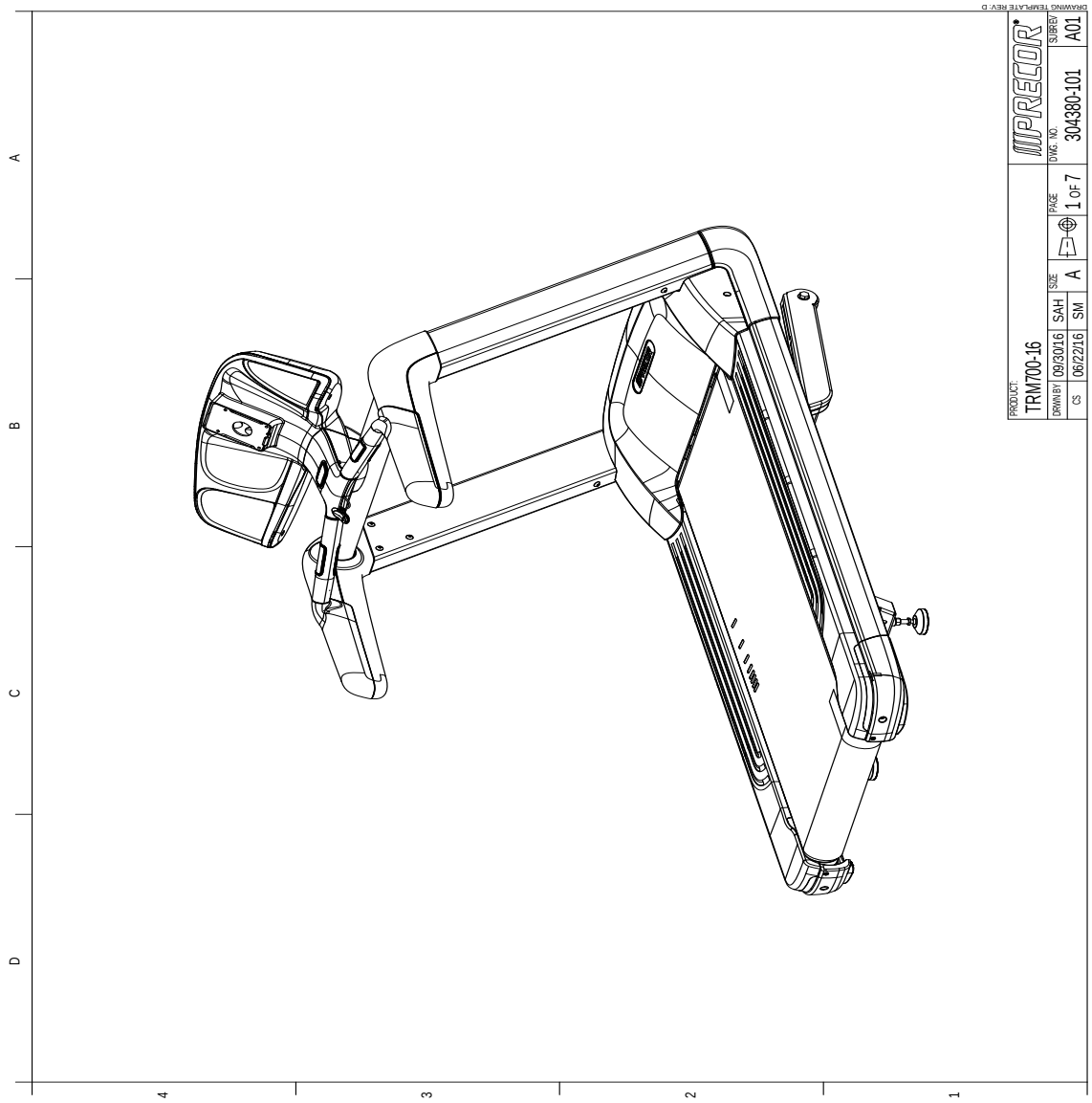
- Exploded View Diagram(1)
  - "Exploded View Diagram - Legacy Frame" on the next page
  - "Exploded View Diagram - Common Frame" on page 324
- Parts Identification List(1)
  - Open Parts List - Legacy Frame
  - " Parts List - Common Frame" on page 331

Note: (1) Not supported on all web browsers, the link may not open the pdf file.

TIP: It is recommended that you go to the Precor Connect servicer website to obtain the most current version of the *Exploded View Diagram* and part number information.

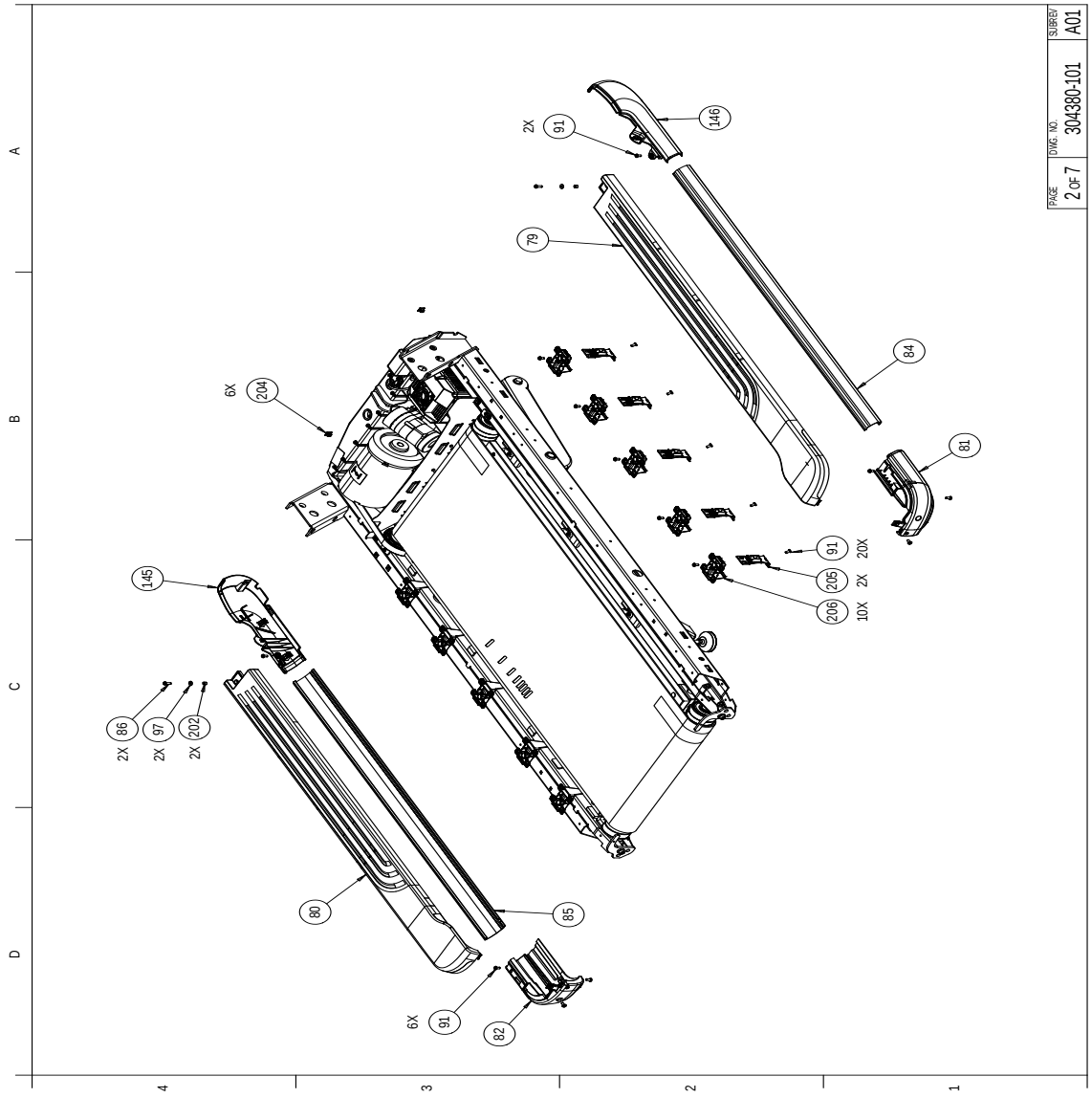
Exploded View Diagram - Legacy Frame

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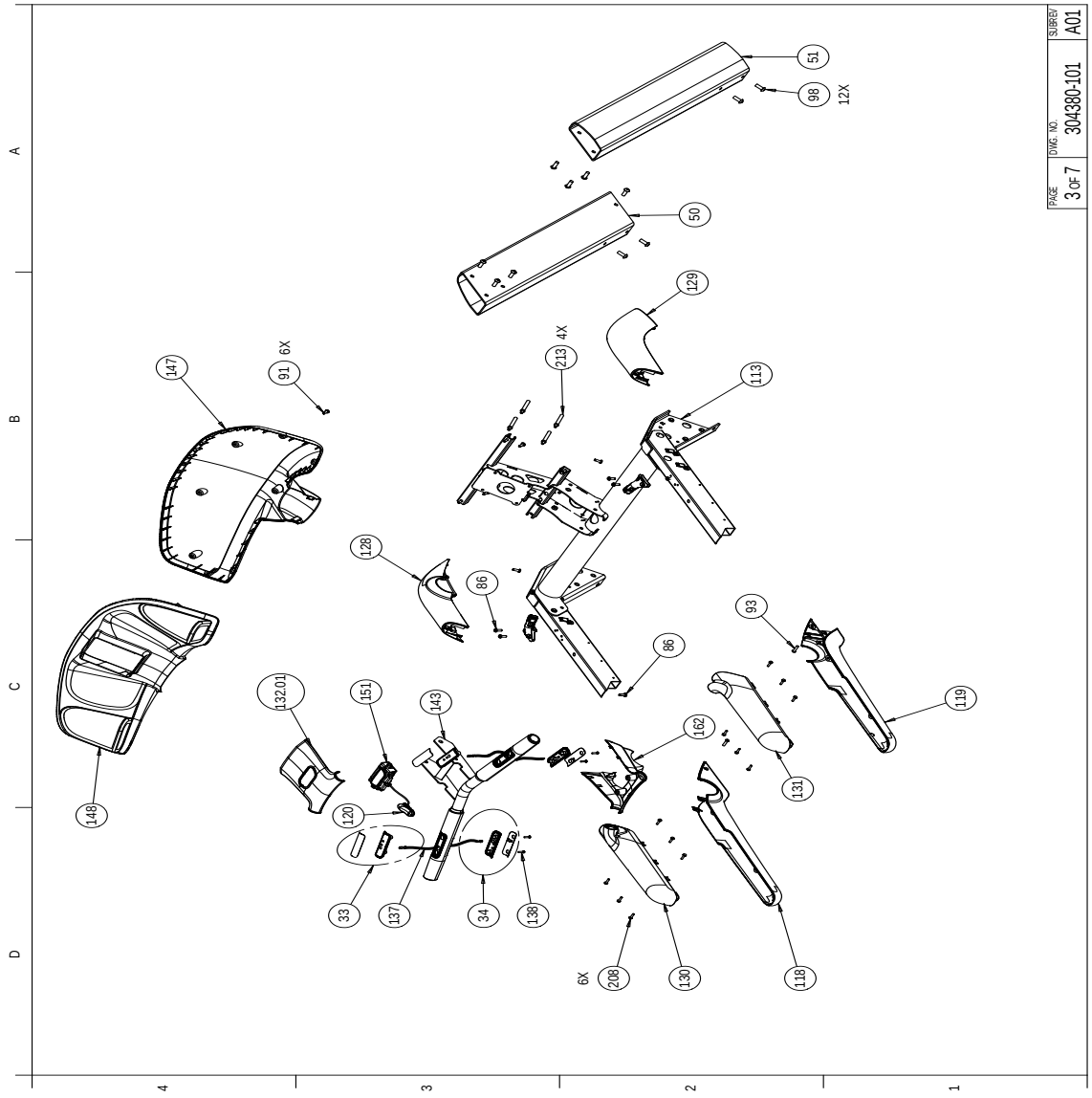
Exploded View Diagram - Legacy Frame

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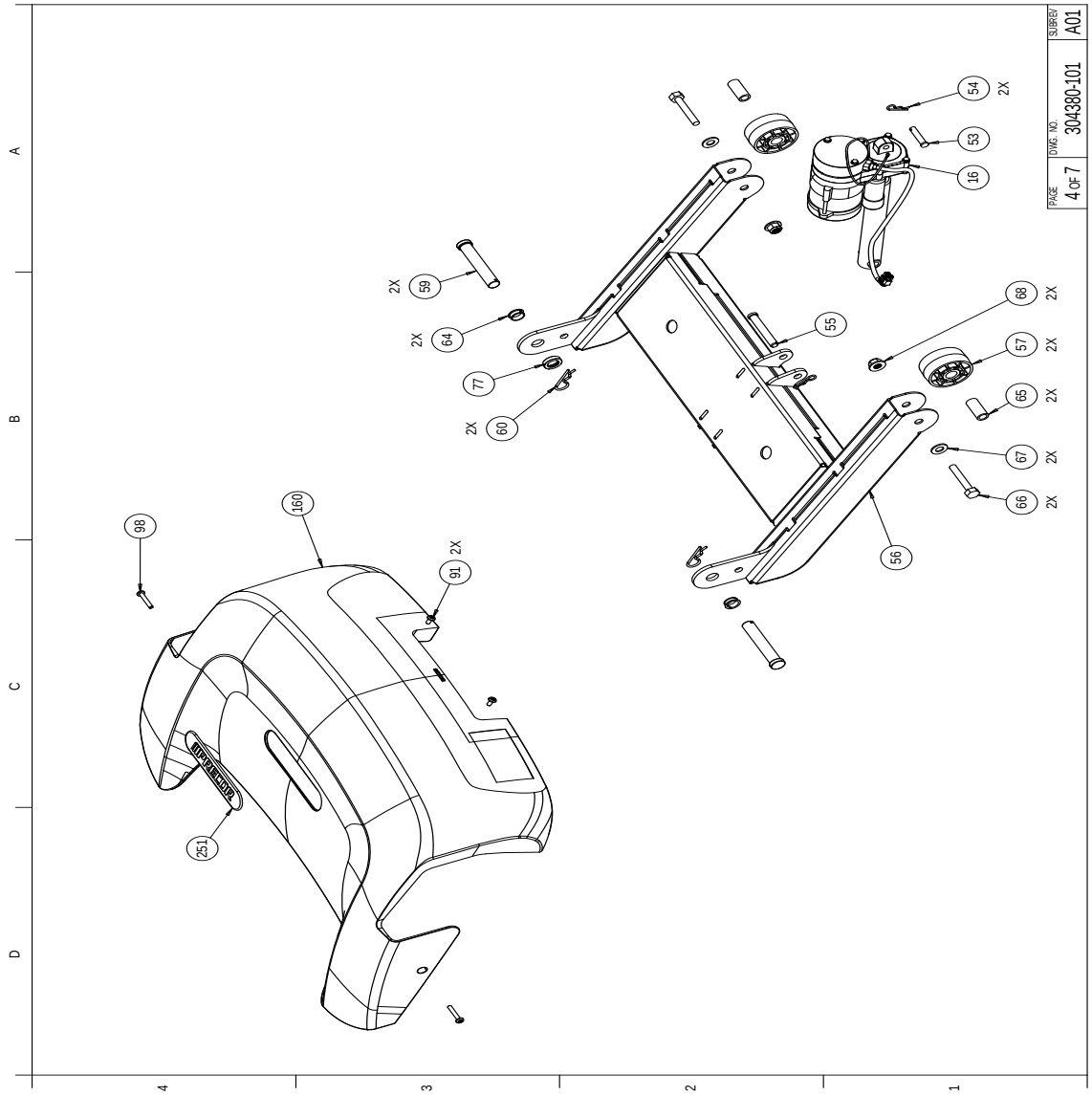
Exploded View Diagram - Legacy Frame

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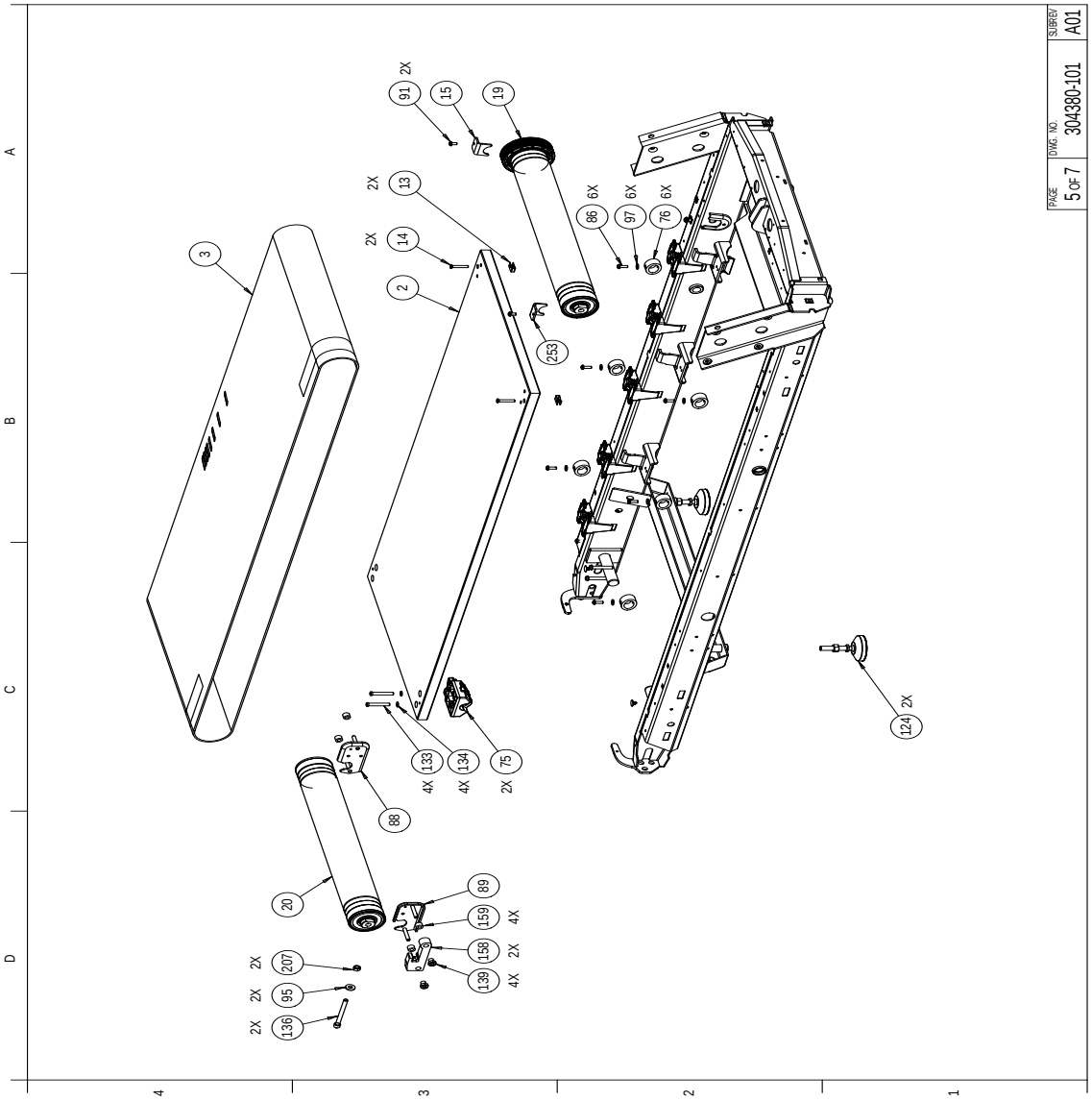
Exploded View Diagram - Legacy Frame

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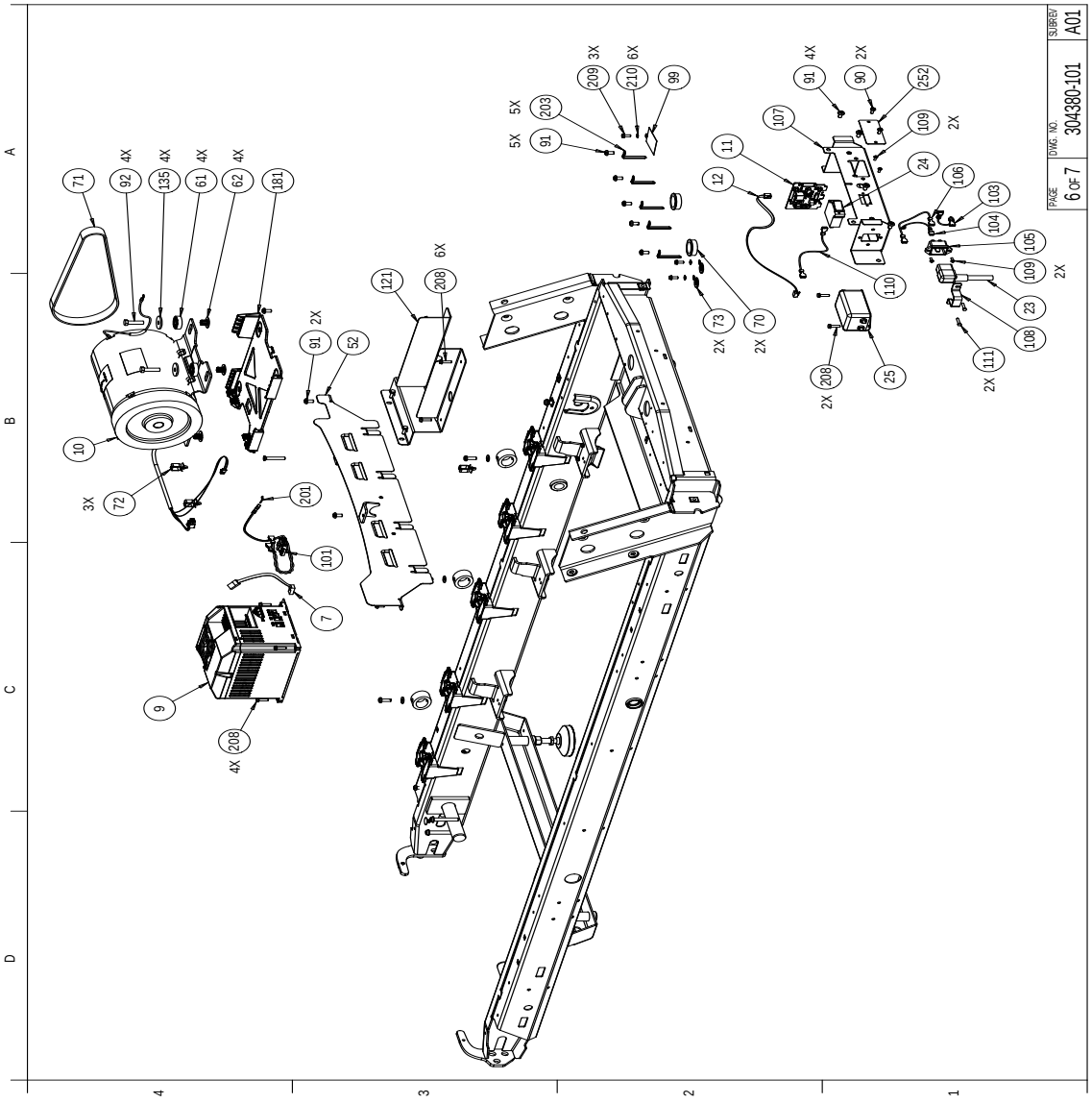
Exploded View Diagram - Legacy Frame

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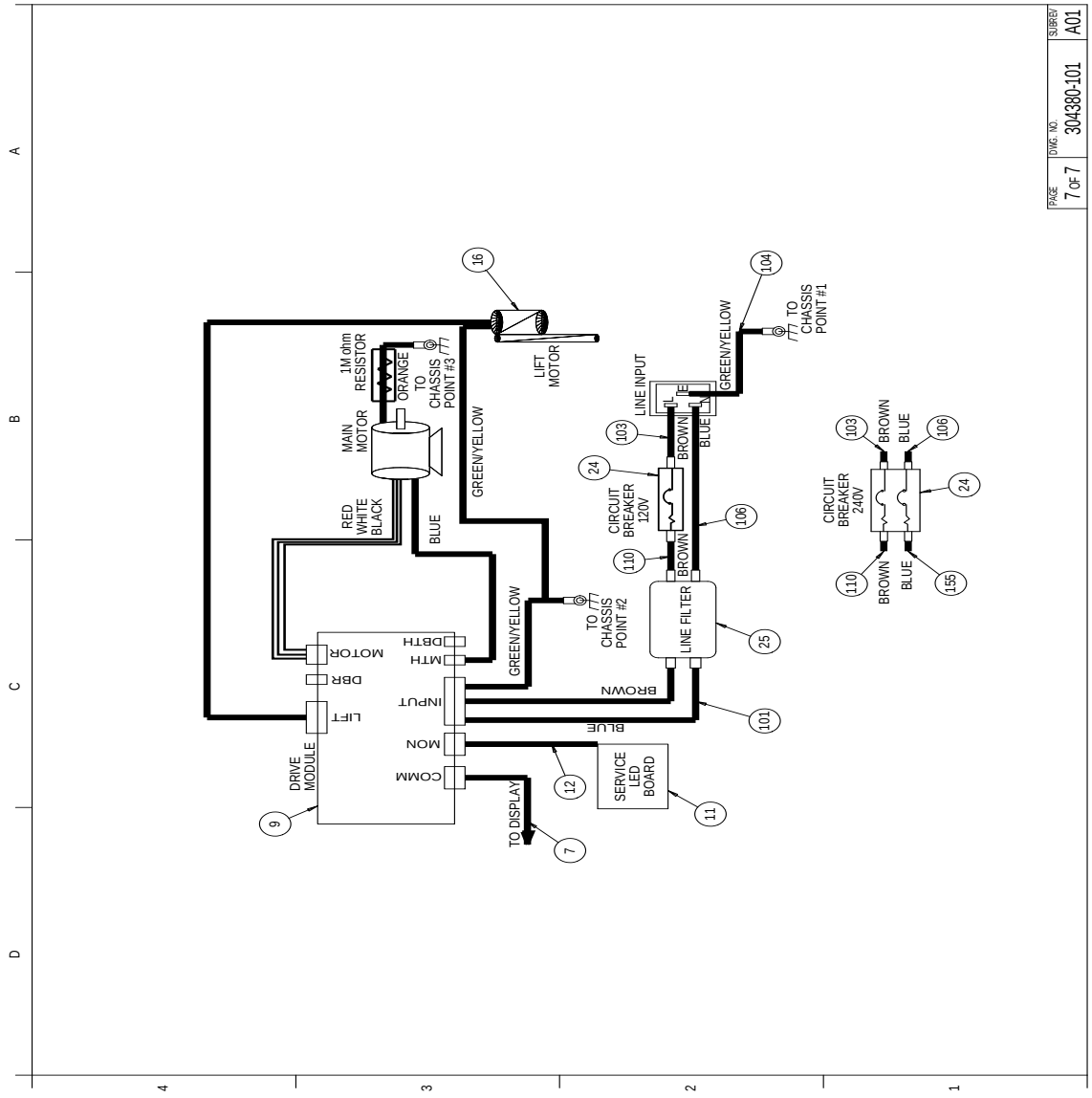
Exploded View Diagram - Legacy Frame

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Exploded View Diagram - Legacy Frame

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Parts List - Legacy Frame

TRM700-16 Legacy Frame
Treadmill Parts List

Bubble Numbers	Item Description	SAP Material #
2	DECK W/SHIPPER,	PPP000000058097102
3	RUNNING BELT	PPP000000302449101
7	ASSY,CBL,MOD,8P8C,1-1,SILVER,108"	PPP000000044905108
9	ASSY,ADT-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 TYPA,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

Parts List - Legacy Frame

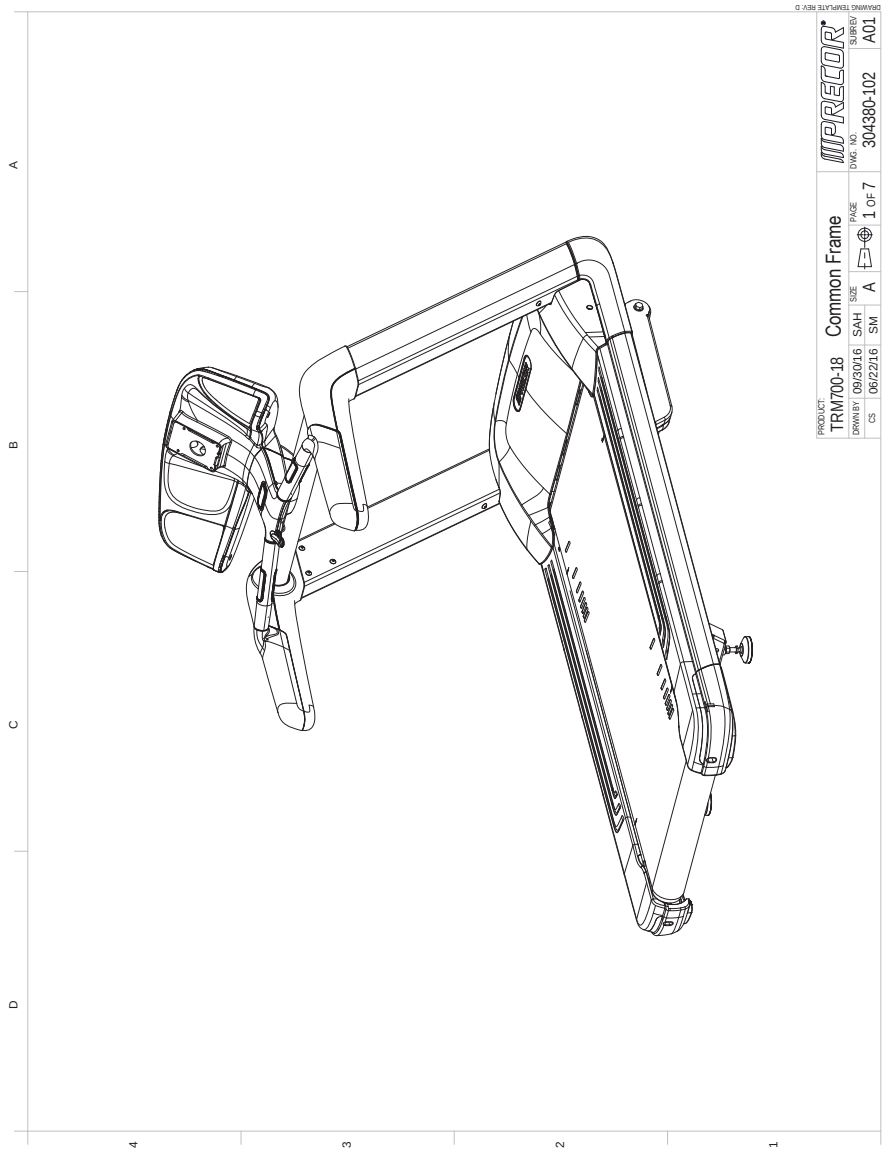
77	SPACER, LIFT PLATFORM	PPP000000302475101
79	ASSY,TRIM LANDING W/INSERT PACBL,RH	PPP000000302540104
80	ASSY,TRIM LANDING W/INSERT PACBL,LH	PPP000000302540103
81	ASSEMBLY, END CAP & TRIM KEEPER, RIGHT	PPP000000302589102
82	ASSEMBLY, END CAP & TRIM KEEPER, LEFT	PPP000000302589101
84	EXTRUSION, SIDE TRIM, 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

Parts List - Legacy Frame

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

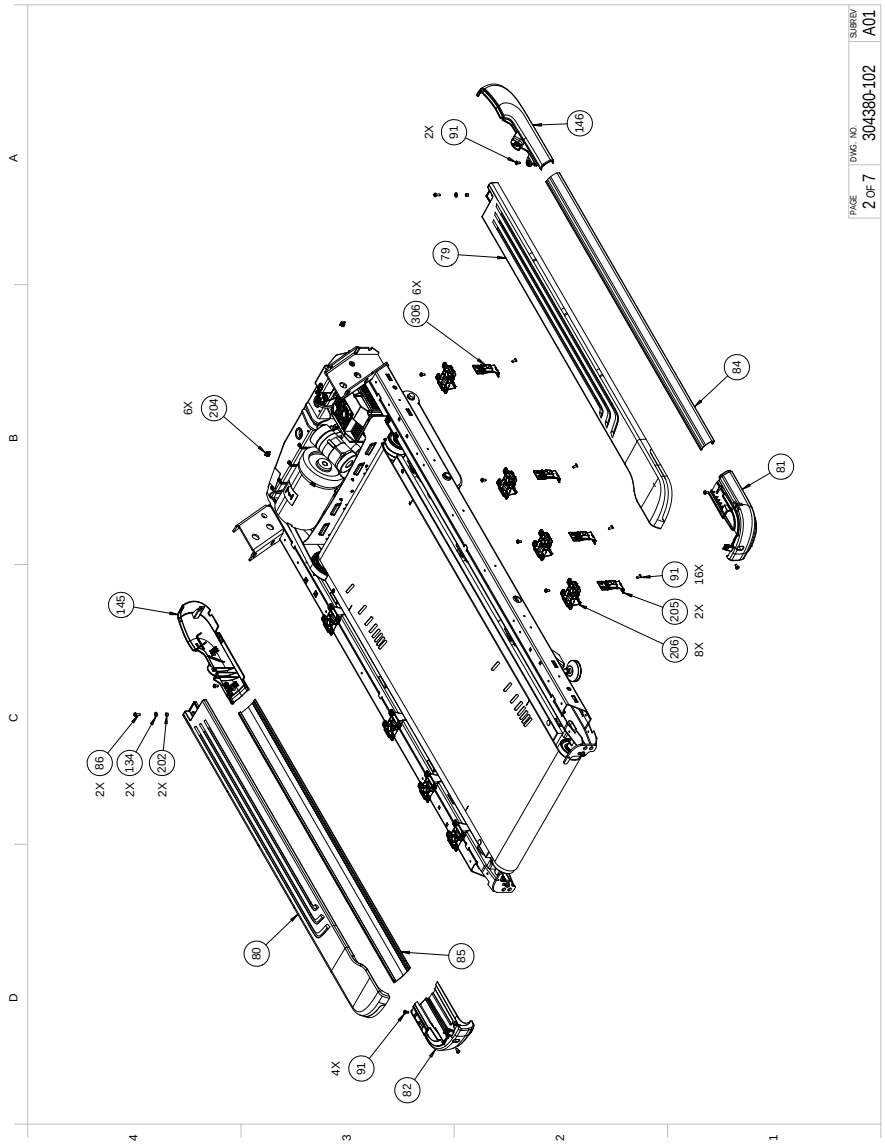
Exploded View Diagram - Common Frame

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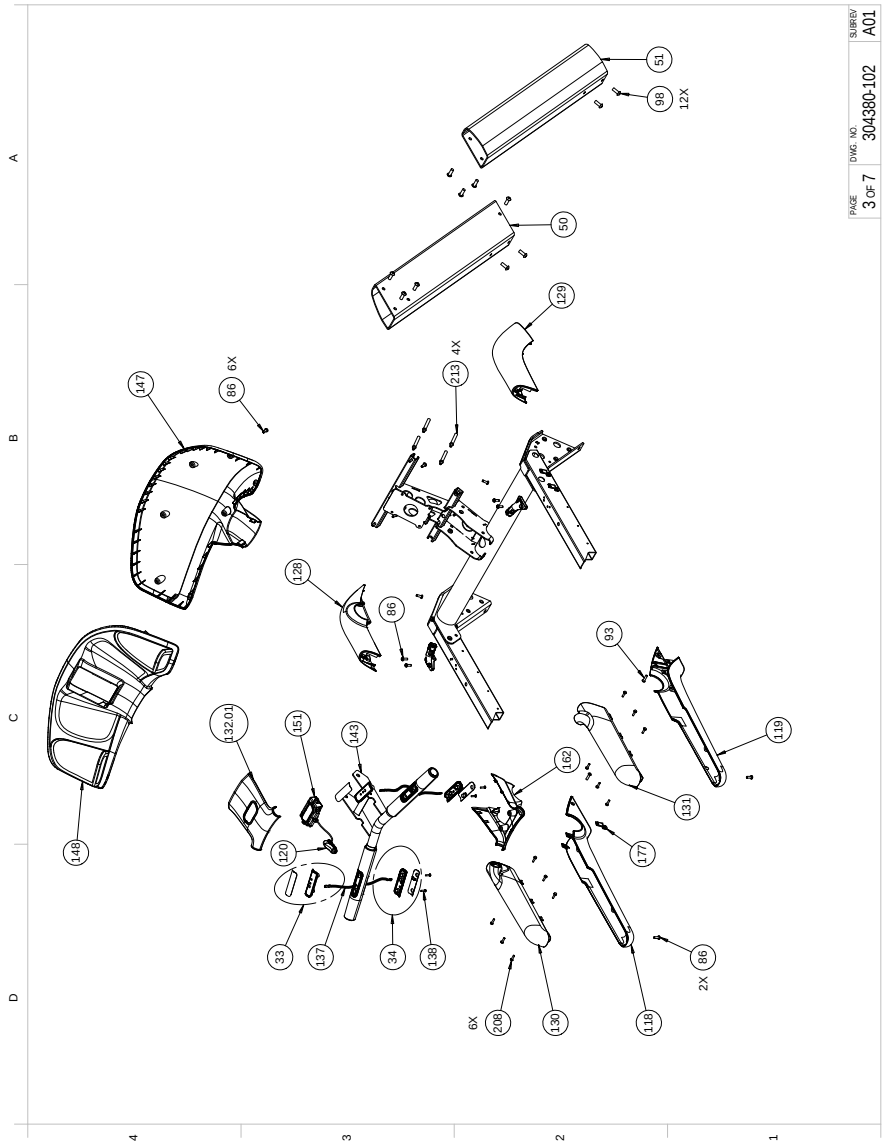
Exploded View Diagram - Common Frame

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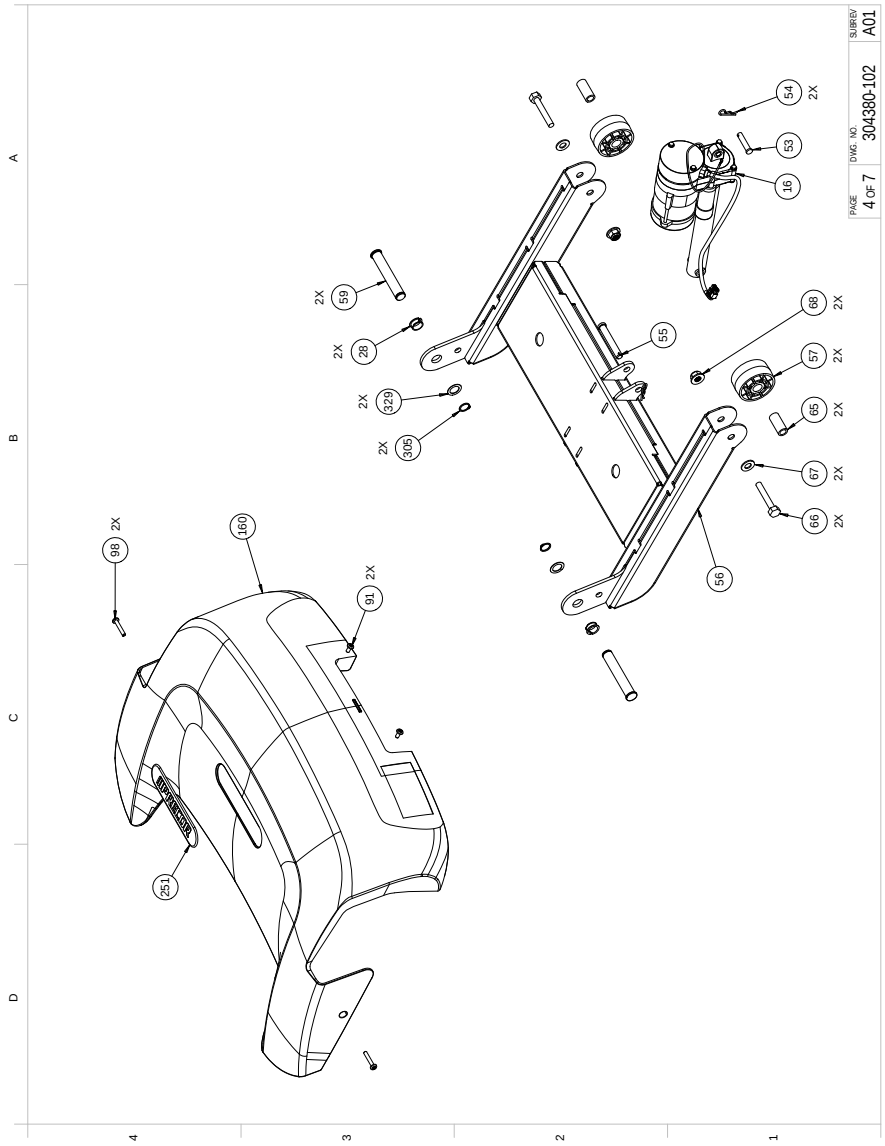
Exploded View Diagram - Common Frame

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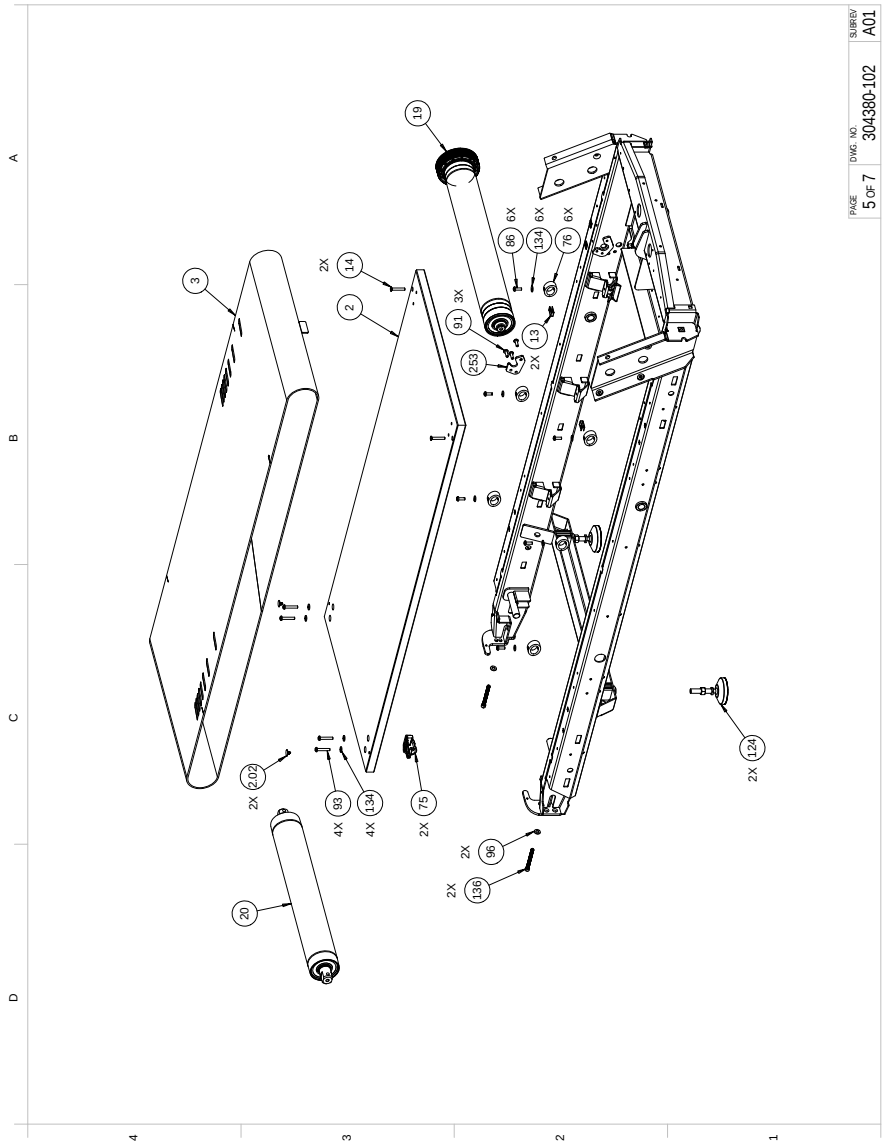
Exploded View Diagram - Common Frame

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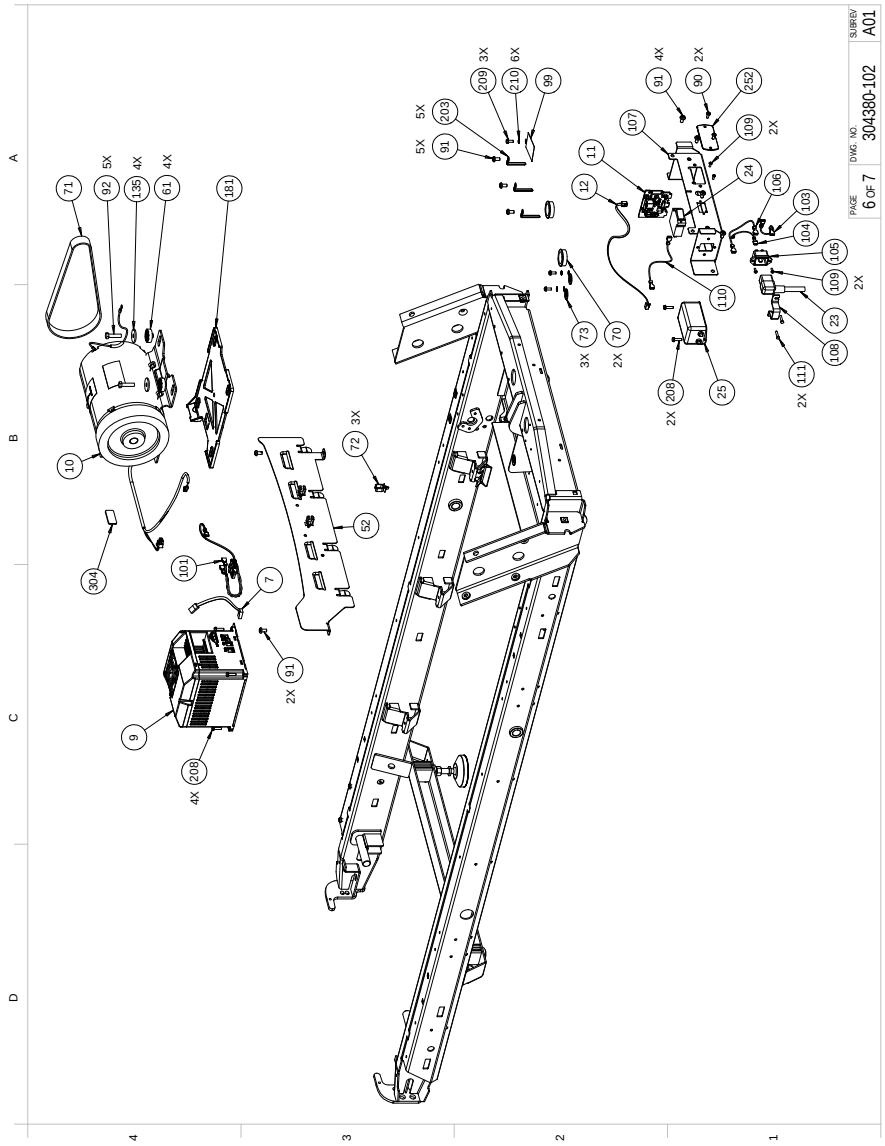
Exploded View Diagram - Common Frame

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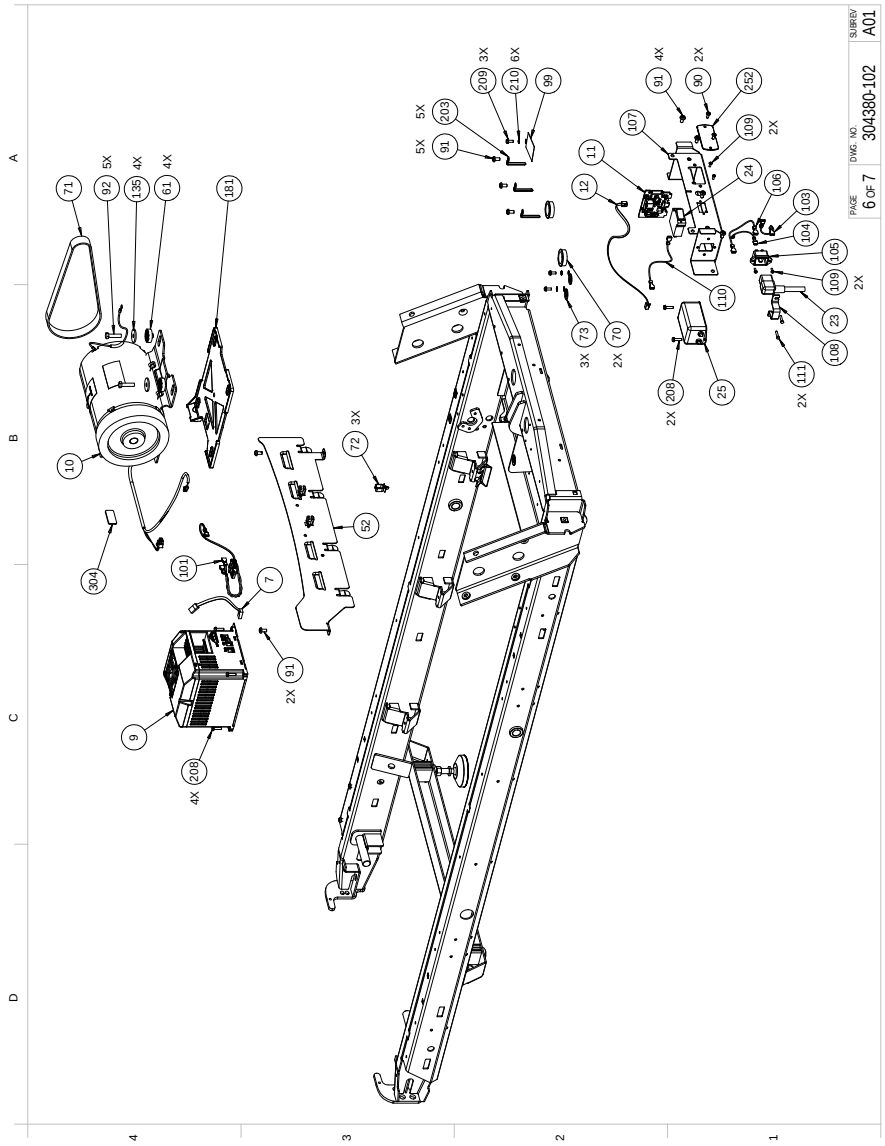
Exploded View Diagram - Common Frame

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Exploded View Diagram - Common Frame

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Parts List - Common Frame

TRM700-18 Common Frame

Part Number	Description	Bubble Number
PPP000000058097104	DECK W/SHIPPER,TRM700-18 (NO WAX)	2
PPP000000013254101	PINE TREE CLIP: REMOVABLE, REUSABLE PANEL FASTENER	2.02
PPP000000303765105	RUNNING BELT, AMMERAAL, ROPANYL LASER-SENS. MATL,	3
PPP000000044905108	ASSY,CBL,MOD,8P8C,1-1,SILVER,108"	7
PPP000000304285107	ASSY,ADT-DRIVE,COMMERCIAL,TRM700,120V,FIXED CONFIG	9
PPP000000058099101	KIT, BOXED, MOTOR DRIVE,COMMERCIAL	10
PPP000000302497101	ASSY, SERVICE LED BOARD	11
PPP000000041605018	ASSY,CBL,MOD,6P4C,1-1,SILVER,18"	12
PPP000000013277101	CLIP, U TYPE, SPRING STEEL, KEYHOLE SLOT, 1/4-20	13
PPP0000MACTN025163	SCREW, FLAT HD SOCKET CAP, 1/4-20 X 1.63S L, BLK SHRP	14
PPP000000302625105	MOTOR, LIFT ACTUATOR, 120V, 282S POTENTIOMETER	16
PPP000000302420107	ASSEMBLY, ROLLER, DRIVE **** UNITS BUILT BEFORE 5/23/19****	19
PPP000000304630103	ASSEMBLY, ROLLER, DRIVE **** UNITS BUILT AFTER 5/23/19 ****	19
PPP000000304650101	ASSEMBLY, ROLLER, TAKE UP, BOLT TENSION	20
PPP000000047429144	PWR CORD,125VAC,20A,NEMA 5-20RA45/IEC 60320 C19RA(L),144"	23
PPP000000011462143	SCKT BRKR,250V,MAGNETIC,ROCKER,1 POLE,LONG DELAY,20A,W/O GUARD	24
PPP000000011350101	FILTER, POWER LINE, #10 PANEL MOUNT, 250VAC, 16A	25
PPP000000RX3AUH000	HANDLEBAR ASSEMBLY W/ HAND PULSE ASS'Y (TOP), RX P/N 10J43AUH	33
PPP000000RX3AUK000	HANDLEBAR ASSEMBLY W/ HAND PLUSE ASS'Y, RX P/N 10J43AUK	34
PPP000000304728105	TARGA, LH, TRM700, BLACK PEARL	50
PPP000000304728106	TARGA, RH, TRM700, BLACK PEARL	51
PPP000000302508102	DUST GUARD	52
PPP000000010401106	PIN,CLEVIS, 3/8 X 1.75, ZINC	53
PPP000000010400103	PIN, HITCH, .093 DIA, ZINC, #203	54
PPP000000045669107	PIN, LIFT PIVOT, 3.34, MUSHROOM HEAD	55
PPP000000302468101	WELDMENT, LIFT PLATFORM, PAINTED	56
PPP000000044270101	WHEEL, LIFT	57
PPP000000302485103	PIN, LIFT PIVOT	59
PPP000000302616104	WASHER, TOP HAT, MOTOR	61
PPP000000036192101	BUSHING, SPANNER	65
PPP00000HCTN050275	SCREW,HEX,GR 5,1/2-13X2-3/4,BLK SHRPRZD	66
PPP00000WBZN050008	WASHER,FLAT,SAE TYPA,1/2,STL,BLK CVS	67
PPP0000KBTKN050055	NUT, HEX FLANGE, NYLON INSERT, 1/2, BLK ZN	68
PPP000000010178112	BUSHING, SNAP	70
PPP000000010214101	BELT, DRIVE, 280J10 POLY V, TEM	71
PPP000000011278101	CABLE CLAMP,INSERT	72
PPP000000033984101	LABEL, SAFETY, GROUND SYMBOL	73
PPP000000304595101	PIVOT, REAR DECK	75
PPP000000302482101	CUSHION, GFX	76
PPP000000304590104	ASSY,TRIM LANDINGS,RIGHT,TUNGSTEN GRAY	79
PPP000000304590103	ASSY,TRIM LANDINGS,LEFT,TUNGSTEN GRAY	80
PPP000000304593104	END CAP, TUNGSTEN GRAY, RIGHT	81
PPP000000304593103	END CAP, TUNGSTEN GRAY, LEFT	82
PPP000000304036108	EXTRUSION, SIDE TRIM, RH, BLACK PEARL	84
PPP000000304036107	EXTRUSION, SIDE TRIM, LH, BLACK PEARL	85
PPP0000PANTN025075	SCREW,SELF-TAP,TRI,PAN HD PHIL,1/4-20 X .75,STL,BLK SHRP	86
PPP0000PANTN019050	SCREW,SELF-TAP,TRI,PAN HD PHIL,10-24 X .50,STL,BLK SHRP	90
PPP0000PANTN025050	SCREW,SELF-TAP,TRI,PAN HD PHIL,1/4-20 X .50,STL,BLK SHRP	91
PPP00000HCCN031125	HHCS,5/16-18 X 1.25,GR5 STL,CLR ZN	92
PPP0000PANTN025150	SCREW,SELF-TAP,TRI,PAN HD PHIL,1/4-20 X 1.50,STL,BLK SHRP	93
PPP00000WBMN031007	WASHER,FLAT,SAE TYPA,5/16,STL,MECH ZN	96
PPP00000WMNN039006	WASHER, AN 960C616L, ID=.390,	97

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PPP0000000303042010	CABLE, FILTER TO DRIVE MODULE,10"	101
PPP0000000037436101	LABEL, CHASIS NEUTRAL	102
PPP0000000040193005	ASSY,CBL,1C,12AWG,250X032 QD RECP(X2),BROWN,5"	103
PPP0000000040195008	CBL,1C,14AWG,,#10 RING,250X032 QD RECP,GRN\YEL,8"	104
PPP0000000045381101	IEC 16/20A POWER CORD INLET	105
PPP0000000302226009	ASSY,CBL,1C,12AWG,250X032 QD RECP(X2),BLUE,9"	106
PPP0000000302466101	BRACKET, POWER ENTRY	107
PPP0000000302479101	BRACKET, POWER ENTRY CABLE CLAMP	108
PPP00000MGCN013038	SCREW,PAN HD PHIL,6-32 X .375,STL,CLR ZN	109
PPP0000000040193009	ASSY,CBL,1C,12AWG,250X032 QD RECP(X2),BROWN,9"	110
PPP00000HNCN016075	HHCS,MCH,#8-32 X .75,STL,CLR ZN	111
PPP0000000302559104	DISPLAY MOUNT, BLACK PEARL	113
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PPP0000000302546104	COVER,LOWER SIDEARM,RH,TUNGSTEN	119
PPP0000000044021104	CLIP ASSEMBLY	120
PPP0000000304623101	FOOT, REAR LEVELING	124
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PPP0000000302545104	COVER,UPPER SIDEARM,RH,TUNGSTEN	129
PPP0000000302547101	ASSY, HAND CONTACT COVER, LEFT	130
PPP0000000302547102	ASSY, HAND CONTACT COVER, RIGHT	131
PPP0000000302539102	COVER,DASH TOP,TUNGSTEN	132.01
PPP00000WBCN025006	WASHER,FLAT,SAE TYPA,1/4,STL,MECH ZN	134
PPP0000WABCN031011	WASHER,FENDER,EXTRA THICK,HARDENED 5/16,1.25 OD,STL,CLR ZN,	135
PPP00000CFCA031300	SHCS,5/16-18 X 3.00,STL FT,CLEAR ZN,ERIELUBE	136
PPP0000000304443052	ASSY, CABLE, CHR PCA TO GRIP, JACKET, 52"	137
PPP000000RX3B0V000	CR. RE. PAN HD. SCREW, M4*0.7-18	138
PPP0000000302571101	OVERMOLD, HHHR BAR	143
PPP0000000302583103	ASSY,HOOD TRANSITION,LH,TUNGSTEN	145
PPP0000000302583104	ASSY,HOOD TRANSITION,RH,TUNGSTEN	146
PPP0000000302536102	COVER,DASH BACK,TUNGSTEN	147
PPP0000000302534103	ASSY,DASH FRONT,TUNGSTEN	148
PPP0000000302525101	ASSY, EMERGENCY STOP SWITCH	151
PPP00000MGCN016050	SCREW,PAN HD PHIL,8-32 X .50,STL,CLR ZN	152
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PPP0000PANCN025075	SCREW,SELF-TAP,TRI,PAN HD PHIL,1/4-20 X .75,STL,CLR ZN	163
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PPP0000000013217101	WIRE CLAMP, .25 INCH FASTENER, METAL WRAP STYLE	203
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PPP0000000302520101	TRIM LANDING, ANCHOR, MOUNTING BLOCK	206
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PPP000000305281101	TRM600/700 COMBINED LITERATURE KIT- FOR PRINT IN BOX ENGLISH ONLY	999

Appendix A : Edition Information

Edition

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Additional Documentation

You can also view the service manual online at Online Service Manuall

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Appendix B : Notices and Safety

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[1]Adaptive Motion Trainer

[2]Elliptical Fitness Crosstrainer

[3]speed

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.

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.