PRECOR

Service Manual

Experience™ Series 800 line

StairClimbers™



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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 Experience™ Series 800 Line StairClimber™ including the 120 VAC and 240 VAC models.



Model	Configuration
SCL835	SCL800-21 base with P31 stairclimber model specific console, standard features.

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. This service manual does include information to use the standard service menus: Hardware Validation Diagnostic Tests, Information Display, and Club Settings service menus.

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 264

See Also

"General Information" on page 5

"Operation Verification" on page 18

"Standard Service Menus" on page 22

"Adjustment Procedures" on page 52

"Replacement Procedures" on page 78

"Troubleshooting" on page 240

"Preventive Maintenance (PM)" on page 258

"System Wiring Diagram" on page 260

"Product Literature & Videos" on page 264

"Parts " on page 267

"Edition Information" on page i

"Service Safety Guidelines" on the facing page

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
Console	P31 with optional **PVS**[1] (personal viewing system) SCL800 model specific console: The PAUSE key is replaced with a STOP key. Functions as a typical P31 PAUSE key plus as a manual emergency stair stop key.
Speed (step rate)	Range: 20 - 165 **SPM**[2] (steps per minute) Levels: 30 levels, 5 spm increments Note: Numeric keypad: Can be used to set the speed to any value between 20 - 165 spm.
StairClimber Metrics	Steps/Min, Average Steps/Min, Total Steps, Floors (16 steps/-floor), Elevation Gain, Step Rate Levels (1 - 30)
Manual Stop keys	There is a console STOP key and a handlebar Remote STOP key. Pressing either STOP key initiates a pause and immediately slows and stops the stairs. Exception: Pressing the Stop key once during a workout starts the Pause session, except for the fitness tests (WFI and CPAT), where pressing Pause terminates the workout.
Auto Stop	The stairs will stop when weight is removed from the stairs.
Drive System & Speed Control	The drive system is comprised of a low friction, two-stage drive system with a proven electro-mechanical EMS braking system. The first "resistance brake" stage uses a belt drive system. The second "stair step" drive stage uses a heavy duty 428 O-Ring motorcycle chain drive system. The step drive uses the weight of the user and a resistance brake (EMS brake) to control the step speed. The minimum weight of the

[1]Personal Viewing System display.

[2]steps per minute

Feature	Specification
	user is rated at 90 lbs (41 kgs) and the maximum weight is 400 lbs (181.5 kgs). The speed of the steps is controlled by the resistance brake (EMS brake). The resistance brake keeps the stairs from going faster than the console target SPM. *Dismounting and Offloading* • Dismounting – the user completely takes off their weight from the Stairclimber, and the stairs slowly come to a stop. • Offloading – the user takes some weight off the stairs, so there is not enough weight to maintain the speed and the stairs slow down. Some speed can still be maintained during an offload situation. When the exerciser returns more than 90 lbs on the stairs (reloads), the speed will return to the target SPM. During an offload situation the SPM display will show the target speed if the SPM is within 10 SPM of target or will show the actual speed if it is more than 10 SPM from the target speed. If the SPM slows to much, the machine will go into pause mode. If the user attempts to make SPM changes during an offload condition, the target SPM will be set to the actual SPM of the unit. The user will be unable to make target SPM changes until enough weight has been applied to the stairs for the actual and target SPM to be within 5 SPM. If a workout has preprogrammed SPM changes, the target SPM will continue to change. The rate of speed change that occurs with offloading and reloading will be controlled at a linear rate and not immediately returned to the previously set target SPM.
Drive Belt Replacement	The drive belt must be replaced every 39 million steps of use. A belt replacement notification message will show prior to reaching the 39 million step interval. The machine will be disabled "out-of-service" if the drive belt has not been replaced.
Obstruction Sensor	There is an Obstruction "**OBS**[1]" sensor located at the bottom of the stairs. There is an **IR**[2] emitter sensor on the left side and an IR receiver sensor on the right side. When an obstruction is detected (blocked IR beam), the workout is paused, and an OBSTRUCTION DETECTED" message is shown. The workout will resume when the obstruction is removed.

[1]Obstruction sensor.

[2]Infrared Radiation: Electromagnetic radiation with wavelengths longer than those of visible light. It is therefore invisible to the human eye. IR is generally understood to encompass wavelengths from the nominal red edge of the visible spectrum around 700 nanometers (frequency 430 THz), to 1 millimeter (300 GHz).

Feature	Specification
Heart Rate	Two Heart Rate sensor types: • Touch Handheld Handlebar Heart Rate sensors (**HHHR**[1]). • Telemetry equipped for wireless chest strap heart rate monitoring.
Active Status Light	Active Status Light "**ASL**[2]" enabled. Alerts facility staff the operating condition of the machine.
Power Requirements	The StairClimber requires input power to operate the console, system electronics and resistance brake system. **Input**: 100 V-240 V, 50-60 **Hz**[3], 2.0-0.8 Amps **Power cord**: A locking power cord is used to prevent accidental disconnect.
Stair Dimensions	Step Height: 8" (20 cm) Tread: 20.8" W x 11" D
Min and Max User Weight	Minimum user weight: 90 lbs (41 kgs) Maximum exerciser weight: 400 lbs (181 kgs)
Frame	Multi-model common frame (TRM600, TRM700, TRM800).
Dimension/Weight	Weight: 375 lbs (170 kgs Dimensions: 59" L x 31.7" W x 84" H (150 cm L x 81 cm W x 213 cm H) Recommended Minimum Facility Ceiling Height: 9' 9" (3.0 m)

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:

[1]Handheld Handlebar Heart Rate

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

[3]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.

- "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

PRODUCT TYPE	PRODUCT LINE	CONSOLE	FEATURE LEVEL	
TRM: treadmill **EFX**[2]: elliptical **AMT**[3]: AMT **UBK**[4]: Upright **RBK**[5]: Recumbent **SCL**[6] 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**[7] 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

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

Serial Numbers

About

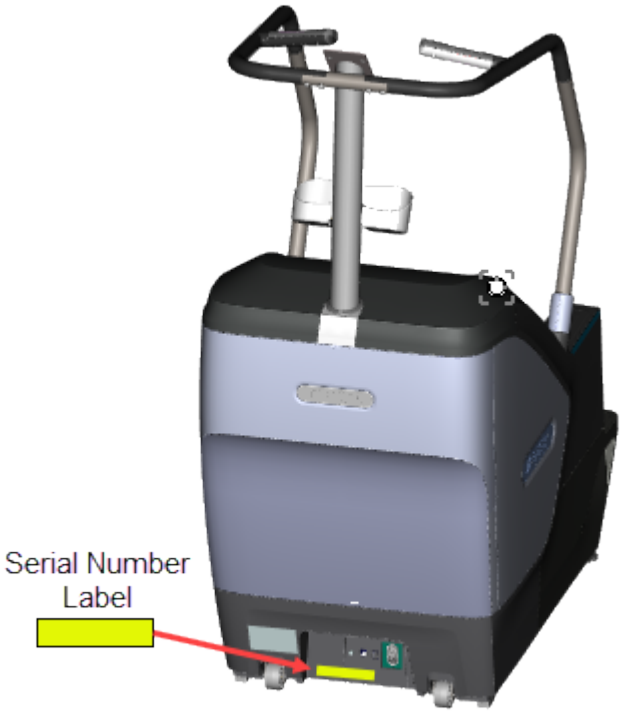
The serial number uniquely identifies each machine. The serial number is an alphanumeric code comprised of a four character model designator, a 1 letter build month code, a 2 digit day built, a 2 digit year built and a four digit consecutive daily build number.



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

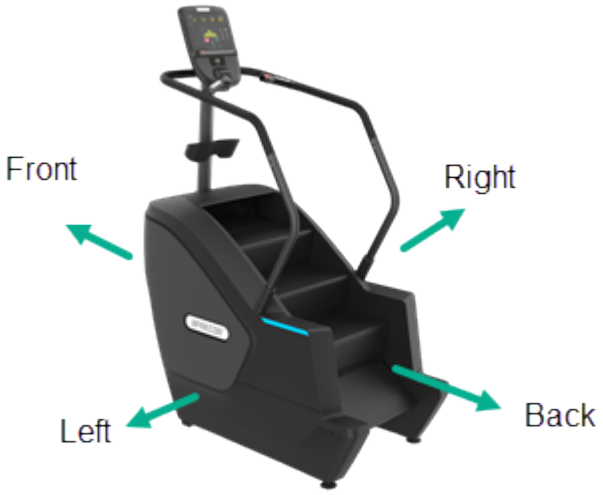
Serial Number Label Location



SCL800 StairClimber

Orientation

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



SCL800 Line StairClimber

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
- Wire Cutters
- Rubber mallet
- Tape measure /Straight edge ruler
-
- Master Link Clip Pliers
- Standard straight slot tip screw drive set
- Philips tip screwdriver set
- US & metric Allen wrench set
- Hex key socket set
- Pliers
- Inner and outer snap ring pliers
- **Torque**[1] Wrenches: 9 in lbs to 100 in - lbs (83 ft-lbs)
- **DVM**[2] Multimeter

[1]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.
[2]digital volt meter

- ESD[1] wrist strap and pad
- 12 " wonder bar
- Smart Phone (iOS or Android) with the Gates Carbon Drive™ Mobile App
- Smart phone external mic (recommend Lavalier lapel smart phone mic)
- Vacuum cleaner (recommend ESD safe model)
- Compatible Heart Rate chest strap or Polar HRM simulator xmitter (Precor PN: PPP000000020045101)
-

Supplies

- Super Lube Gel with Teflon by Permatex (1)
- Loctite 243 Blue Medium Strength Thread-locker
- Cable tie assortment (1 3/4", 3", 4" lengths)
- Cleaning rags
- Cleaner Degreaser (see "" on page 15)

(1) or equivalent synthetic Teflon based grease (Mobil 1, NLGI 2 Teflon Synthetic Grease).

Specification Summary

Fastener Torque Specification

System component fastener torque specification:

System Component	Specification
RF[2] coax connectors	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)

[1]Electrostatic Discharge or Electrostatic Sensitive Device.

[2]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
Flathead screws	25 in-lbs (2.8 Nm)
Intermediate Assy Shaft Nylok blue-patch bolt	180 in-lbs (15 ft-lbs, 20.3 Nm).

Calibration Specification

System calibration specification:

System Component	Specification
Drive Belt Adjustment	Belt Tension: 124 Hz +/- 10 Hz*
Drive Chain Adjustment	Tension Gap: 3/8" (10 mm) Pinch Point Distance: Min 1" (2.5 cm
Step Chain Tension	The rear step shaft chain link is within the top half of the step chain tension adjustment slot.
Notes: * Sonic belt tension frequency (Hz).	

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 267.

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).

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 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 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.

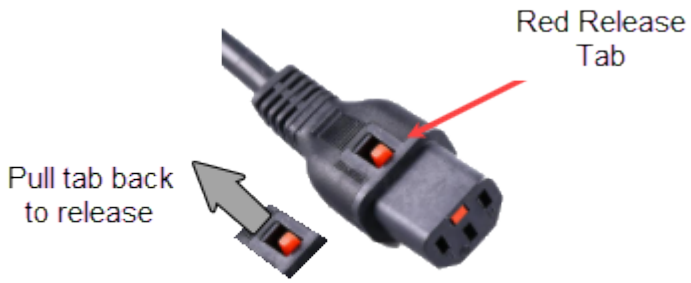
2. Rinse surfaces using a clean lint-free cloth dampened with water only.
3. Then completely dry with another clean lint-free cloth.

Power Requirements

The StairClimber requires input power to operate the console, system electronics and resistance brake system.

Input: 100 V-240 V, 50-60 Hz, 2.0-0.8 Amps

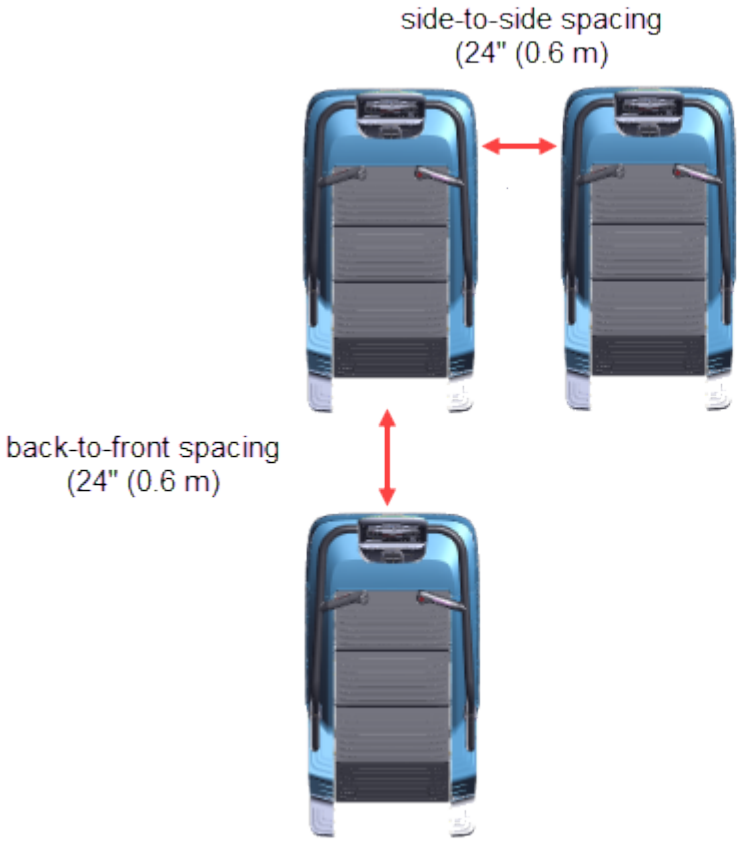
Power cord: A locking power cord is used to prevent accidental disconnect.



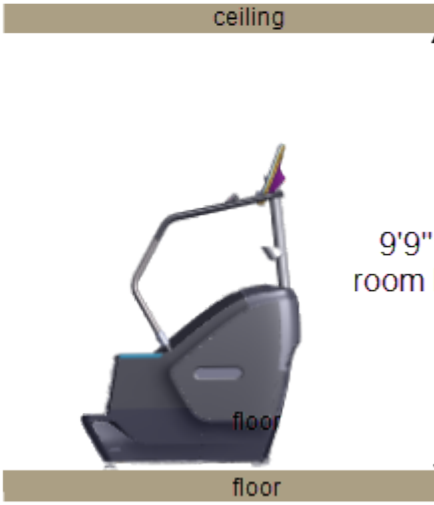
Locking Power Cord

Equipment Spacing Requirement

The minimum side to side spacing between StairClimbers is 20 in (60 m) and the minimum front to back spacing is 20 in (60 m).



Minimum Seperation Requirement



Minimum Height Requireme

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 (**STOP** key for SCL800 StairClimber) 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.

[1]light-emitting diodes.

[2]Touchscreen console Control Processing Assembly.

- **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. 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 Motion Control 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:

   Console Speed Control

2. Operate the console **SPEED** motion control from minimum to maximum range (20 - 165 **SPM**[1]) while verifying the machine speed operation.
   - Make sure that the console SPEED paddle control operation is smooth and working correctly.
   - Verify that the stairs can reach the maximum speed and then returns to the minimum speed level.
   - Make sure that the stairs speed change is smooth and that there are no unusual noises.

[1] steps per minute

- Verify that the console SPM speed indicators, workout displays, and message display are showing correct information.

Handlebar Remote Speed Control

3. Operate the left handlebar grip **Remote SPEED** motion control from minimum to maximum range (20 - 165 SPM) while verifying the machine operation.
   - Make sure that the console SPEED paddle control operation is smooth and working correctly.
   - Verify that the stairs can reach the maximum speed and then returns to the minimum speed level.
   - Make sure that the stairs speed change is smooth and that there are no unusual noises.
   - Verify that the console SPM speed indicators, workout displays, and message display are showing correct information.

STOP Switch Test
Verifies the console STOP key and right handlebar Remote STOP key control operation.

1. Start a manual workout. While walking on the treadmill, press the console **STOP** button and verify that the stairs immediately slow to a stop.
2. Start a manual workout. While walking on the treadmill, press the right handlebar Remote **STOP** button and verify that the stairs immediately slow to a stop.

Obstruction Sensor Test
Verifies the obstruction sensor operation.

1. Access **Hardware Validation Diagnostic Test** (51765761) and perform the **OBSTRUCTION TEST**.
2. Follow prompts to verify operation.

CAUTION: Personal injury is possible while blocking the Obstruction sensor **IR**[1] beam due to close proximity to moving stairs. Keep hands and fingers clear of moving stairs and stair pinch points.

☐ **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

[1]Infrared Radiation: Electromagnetic radiation with wavelengths longer than those of visible light. It is therefore invisible to the human eye. IR is generally understood to encompass wavelengths from the nominal red edge of the visible spectrum around 700 nanometers (frequency 430 THz), to 1 millimeter (300 GHz).
[2]Handheld Handlebar Heart Rate
[3]Heart Rate

(51765761) > select **HEART RATE TEST** and follow prompts to run the test:

Touchscreen consoles (P62, P80, and P82) only: Access the Service menu (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. Make sure that the machine is setting level and stable.
2. Make sure that any external power cords or interface cables are properly routed, connected, and safe from being damaged.
3. 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 24).

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 24).

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.	

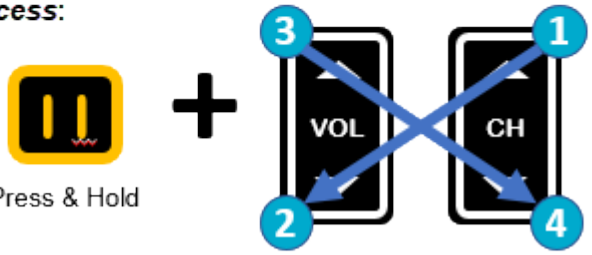
P80 touchscreen console

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:

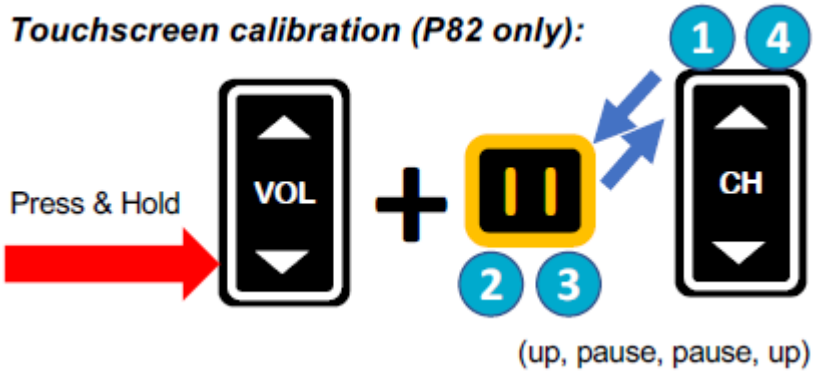


Steps

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.

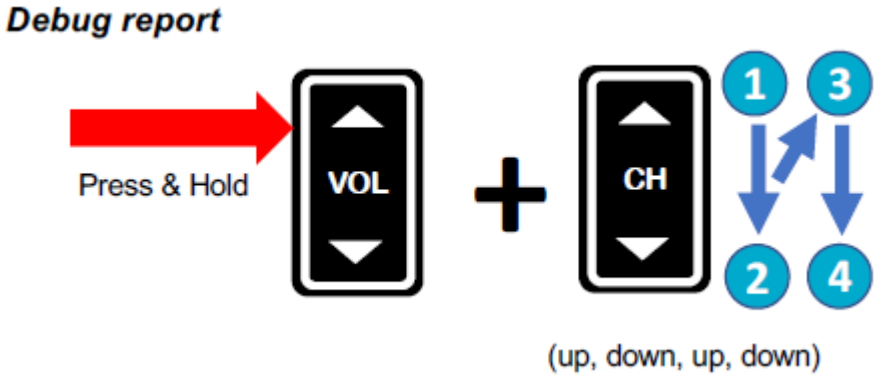


Steps

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 22)

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.
SPM[2]	menu: **MACHINE TEST** > **SPM** Tests the "A" and "B" speed sensor coils on the Speed Sensor **PCA**[3] board. Results: • SPMA xxx: the A spm sensor.

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

[2]steps per minute

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

DIAGNOSTIC TEST	TEST DESCRIPTION
	• SPMB xxx: the B spm sensor. • DELTA xxx: the spm difference between the "A" and "B" sensors.
RESISTANCE BRAKE TEST	menu: **MACHINE TEST** > **RESISTANCE BRAKE TEST** Tests the EMS brake resistance current at various speeds (spm). Low speeds require more current than high speeds (min spm = max brake current, max spm = min brake current). Results: MAMP xxx (milliamps xxx)
OBSTRUCTION TEST	menu: **MACHINE TEST** > **OBSTRUCTION TEST** Tests the "**OBS**[1]" Obstruction sensors: • SENSOR BLOCKED: the **IR**[2] beam is blocked. • SENSOR CLEAR: the IR beam is not blocked.
HOLDING BRAKE	menu: **MACHINE TEST** > **HOLDING BRAKE** Tests the holding brake lever (handle) "ON" and "OFF" position: • LEVER NORMAL: ON position (fully forward) • LEVER RELEASED: OFF position (fully back)
LINE VOLTAGE	menu: **MACHINE TEST** > **LINE VOLTAGE** Result: Input line voltage (Vac).
MANUAL STOP	menu: **MACHINE TEST** > **MANUAL STOP** Tests the console STOP and handlebar Remote Manual STOP button functionality. The stairs must come to a complete stop when pressed. Follow prompts to complete the test.
STEP COUNT RESET	Resets the drive belt usage counter to zero. The drive belt counter is used as a maintenance tool to indicate when it is time to replace the drive belt in terms of total steps from reset. The drive belt must be replaced at 39 million steps intervals. Only reset the step count when the drive belt is replaced with a new drive belt. Scroll to **STEP COUNT RESET** > **OK** • Select **QUICK START** to reset the drive belt counter, see **WARNING**. • Select **BACK** to EXIT and NOT reset the drive belt counter.

[1]Obstruction sensor.

[2]Infrared Radiation: Electromagnetic radiation with wavelengths longer than those of visible light. It is therefore invisible to the human eye. IR is generally understood to encompass wavelengths from the nominal red edge of the visible spectrum around 700 nanometers (frequency 430 THz), to 1 millimeter (300 GHz).

DIAGNOSTIC TEST	TEST DESCRIPTION
	WARNING: Only reset the step count when the drive belt is replaced with a new belt. The drive belt could break if used in excess of the 39 million steps limit. ***Affected Parameters***: The following **Information Display** parameters are affected by **STEP COUNT RESET**: **> BELT STEP COUNT** resets to zero. **> ODOMETER AT LAST RESET** records the step count. **> STEP COUNT RESETS** increments the number of resets by 1.
(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 22)

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.

CLUB SETTINGS	DESCRIPTION
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.
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 MAX STEP RATE	Sets the maximum step speed(steps per minutes) Range: 60 - 165 spm Default: 165 spm
SET REMOTE STEP RATE	Sets the maximum remote step rate. Settings: Disable/Enable Default: Disabled
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 Default: HIGH

CLUB SETTINGS	DESCRIPTION
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 22)

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

INFORMATION DISPLAY	DESCRIPTION
BELT USAGE(3): **> BELT STEP COUNT** **> STEP COUNT RESETS** **> ODOMETER AT LAST RESET**	menu: **INFORMATION DISPLAY > BELT USAGE** > ..... Provides the drive belt usage information (use **STEP COUNT RESET** to reset the drive belt steps to zero, see **Hardware Validation** menu > **STEP COUNT RESET**): **> BELT STEP COUNT**: xx STEPS, Total number of steps to date. Range: 0-167,777,721 steps **> STEP COUNT RESETS**: xx RESETS Total number of STEP COUNT RESETs. **> ODOMETER AT LAST RESET**: xxxx STEPS . Number of steps since new or since the last step count reset occurred. Used to track the belt replacement number of steps. Reset the belt step count after each belt replacement.
ODOMETER	The odometer provides the accumulated

[1]Elliptical Fitness Crosstrainer

INFORMATION DISPLAY	DESCRIPTION
	machine usage to date in units applicable to the type of equipment being used. • **TRM**[1] / **AMT**[2]: Cumulative units logged to date. AMT also displays vertical strides. • EFX: Strides logged to date • Bike: Revolutions logged to date • Climber/**SCL**[3]: 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 in the console so if that PCA is replaced the hours of use would start again from "0".
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.
MAJOR SW	The **LPCA**[4] Major processor software version information.

[1]Treadmill

[2]Adaptive Motion Trainer

[3]StairClimber

[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.

INFORMATION DISPLAY	DESCRIPTION
MINOR SW	The LPCA Minor processor software version information. Note: The Minor software versions can only be viewed doing a workout. If the user is NOT stepping, then the software will be displayed as "----------".
L-ASL SW **or** **ASL SW**(1)	The LPCA Active Status Light processor software version information.
METRICS BOARD SW	The console Metrics board 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.
Error Log	Table of stored error event codes, see "Error Log & CPA Event Log" on page 246. **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.
MODEL	Machine detected model. Result: SCL800
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 41	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 43	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 43 (1)	menu: **Settings > Maintenance** (ASL equipped products only) Provides the machine maintenance and operating ASL status information.
"" on page 45	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**[1]) 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 con-

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

MAINTENANCE MENU(1)	DESCRIPTION
	dition, there is a loss of a major function and the machine id out-of-service. Machine service is required.
» AS light Brightness (1)	menu: **Maintenance > AS Light Brightness** 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 49.
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.

SYSTEM SETTINGS MENU	DESCRIPTION
» Configuration	menu: **System Settings > Connectivity> Configuration** Settings: Automatic (recommended), Manual Default: Automatic 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.

SYSTEM SETTINGS MENU	DESCRIPTION
» TV Source	menu: **System Settings > TV Settings > TV Source** Default: Internal Tuner TV input signal source
» Region	menu: **System Settings > TV Settings > Region** Specifies the TV input signal modulation format for a particular geographical region.
» Default Channel	menu: **System Settings > TV Settings > Default Channel** Default: Not set TV default channel.
» Skip Unnamed Channel	menu: **System Settings > TV Settings > Skip Unnamed Channels** Default: ON Skips over unnamed channels.
» Skip Encrypted Channel	menu: **System Settings > TV Settings > Skip Encrypted Channels** Default: ON Skips over encrypted channels.
» Analog Channels Aspect Ratio	menu: **System Settings > TV Settings > Analog Channels Aspect Ratio** Range: 4:3, 16:9 Select the analog channel aspect ratio.
» Extensive Scan	menu: **System Settings > TV Settings > Extensive Scan** Default: OFF 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

SYSTEM SETTINGS MENU	DESCRIPTION
	Sets the default wired headphone jack volume level.
» Default Bluetooth[1] Headphone Volume	menu: **System Settings > Audio Settings > Default Bluetooth Headphone Volume** Range: 1 to 15 Default: 11 Sets the default bluetooth headphone jack volume level.
Workout Limits menu	menu: **System Settings > Workout Limits** Specify the workout duration and equipment Limits for your facility.
» Maximum Workout Duration	menu: **System Settings > Workout Limits > Maximum Workout Duration** Range: 1 to 240 min, NO LIMIT Default: 60 min Sets the maximum allowable user workout time per session.
» Maximum Pause	menu: **System Settings > Workout Limits > Maximum Pause** Range: 1 to 300 sec Default: 30 sec 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
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**

[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
	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
Brake Test	menu: **System Tests > Brake Test** If the brake is operational, provides the following operating information: • PWRB XXX: The current power bits. • RPM: Brake generator RPM.

SYSTEM TESTS MENU	TEST DESCRIPTION
	• VBUS XX: Bus Voltage used to drive the brake. • M-AMPS XX: **DC**[1] brake current.
Battery Test	menu: **System Tests > Battery Test** Shows the current battery voltage level as "XX.X VDC Y". Where: XX.X is the measured DC battery voltage (nominal 12.6 - 14.6 Vdc). There can be an additional "Y" suffix indicating the following condition: "C" an external **AC**[2] charger is connected. "L" the battery is low (less than 11.5 Vdc). "CL" charger is connected and the battery is low.
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**[3] numeric displays backlight brightness level.
Numeric Display Test	menu: **System Tests** > **Numeric Display Test** Tests the movement controls LCD numeric displays.
Heart Rate Test	menu: **System Tests** > **Heart Rate Test** Tests the handlebar unfiltered 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]Direct Current: electrical current that only flows in one direction.

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

[3]liquid crystal display.

(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 41.
- **Equipment Usage menu**, see "" on page 43.
- **Maintenance menu**(1), see "" on page 43.
- **System Settings menu**, see "" on page 45.
- **(No) Available Updates**, see "(No) Available Updates" on page 41.

(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 41.
- **Equipment Usage**, menu see "" on page 43.
- **Maintenance** menu, see "" on page 43.

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.

The belt tension is measured sonically using the “Gates Carbon Drive™ Mobile APP, see " Gates® Carbon Drive™ Mobile App User Guide" on page 71 for more information..

Available Adjustment Procedures

"Drive Belt Tension Adjustment" on the facing page

"Drive Chain Tension Adjustment" on page 60

"Step Chain Tension Adjustment" on page 66

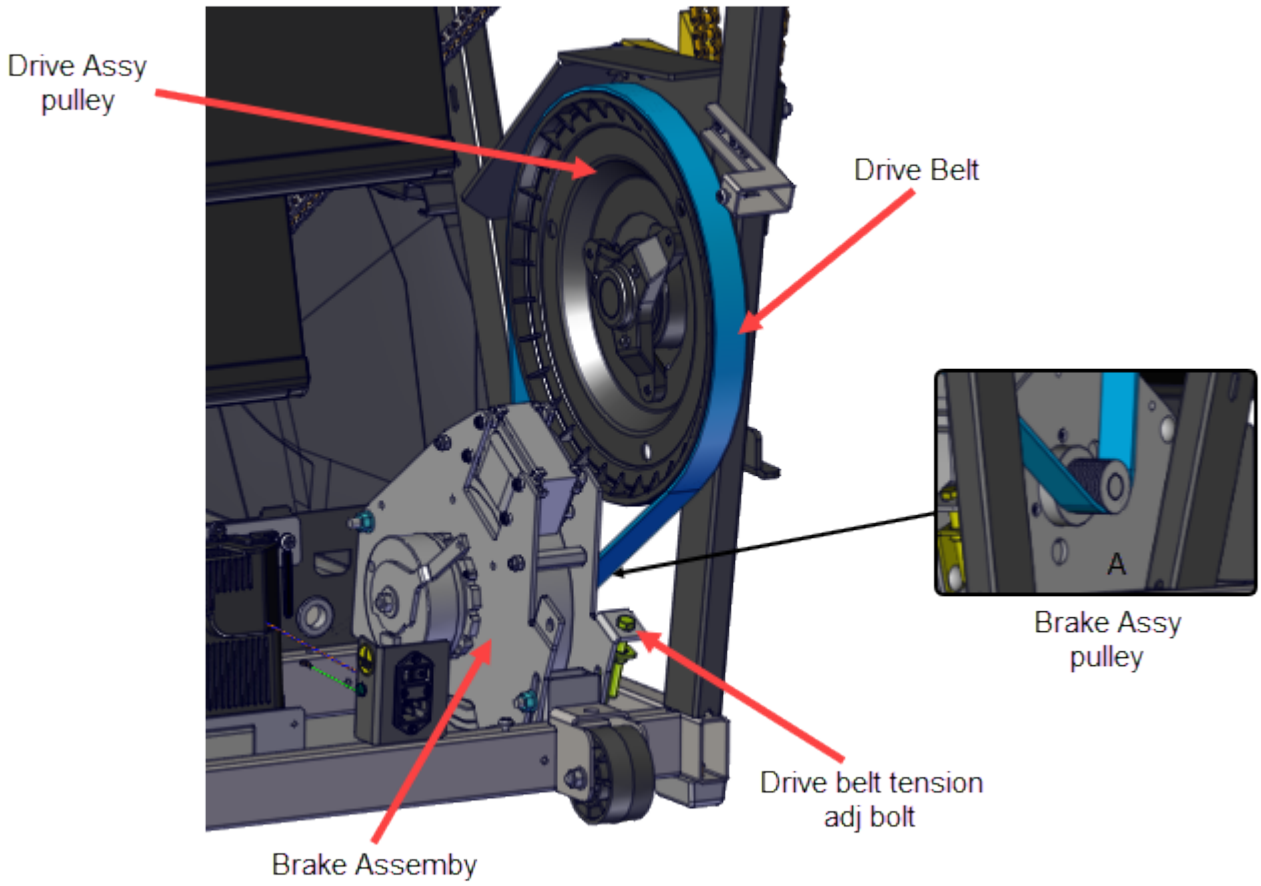
" Gates® Carbon Drive™ Mobile App User Guide" on page 71

Drive Belt Tension Adjustment

About

This procedure provides instruction to adjust the Drive Belt tension to specification. The belt alignment and tension should be verified anytime the belt is replaced or when there are any belt related issues (unusual noises, drive belt slippage, etc.) during normal operation.

The Drive belt connects the Drive Assy pulley to the EMS Brake Assy pulley.



About Sonic belt tension adjustment

The “Gates Carbon Drive™" mobile app is used to measure the belt tension sonically using the belt vibration frequency (**Hz**[1]). Pluck the belt like a guitar string to create the belt vibration sound wave and a smart phone running the “Gates Carbon Drive™" app to measure the belt tension frequency (Hz), see " Gates® Carbon Drive™ Mobile App User Guide" on page 71.

[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.

Specialized Tools

- Smart Phone (iOS or Android)
- Smart phone external mic (recommend Lavalier lapel smart phone mic)
- Gates Carbon Drive™ Mobile App

Specifications

System Component	Specification
Drive Belt Drive Tension	124 Hz +/- 10 Hz*
Notes: * Sonic belt tension frequency (Hz).	

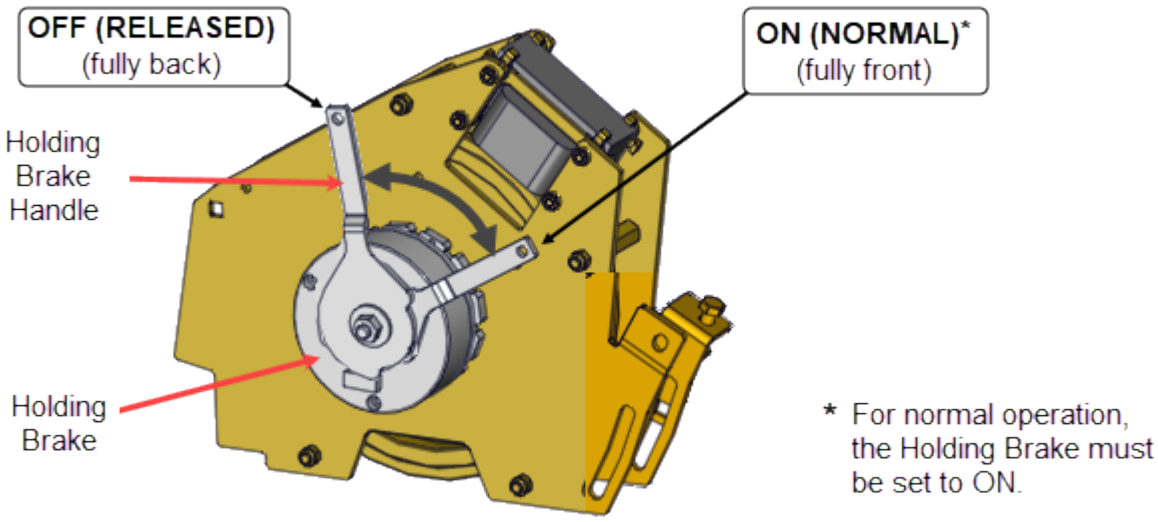
Service Videos

Service Video	Link
Drive Belt Tension Adjustment	Drive Belt Cal

Procedure

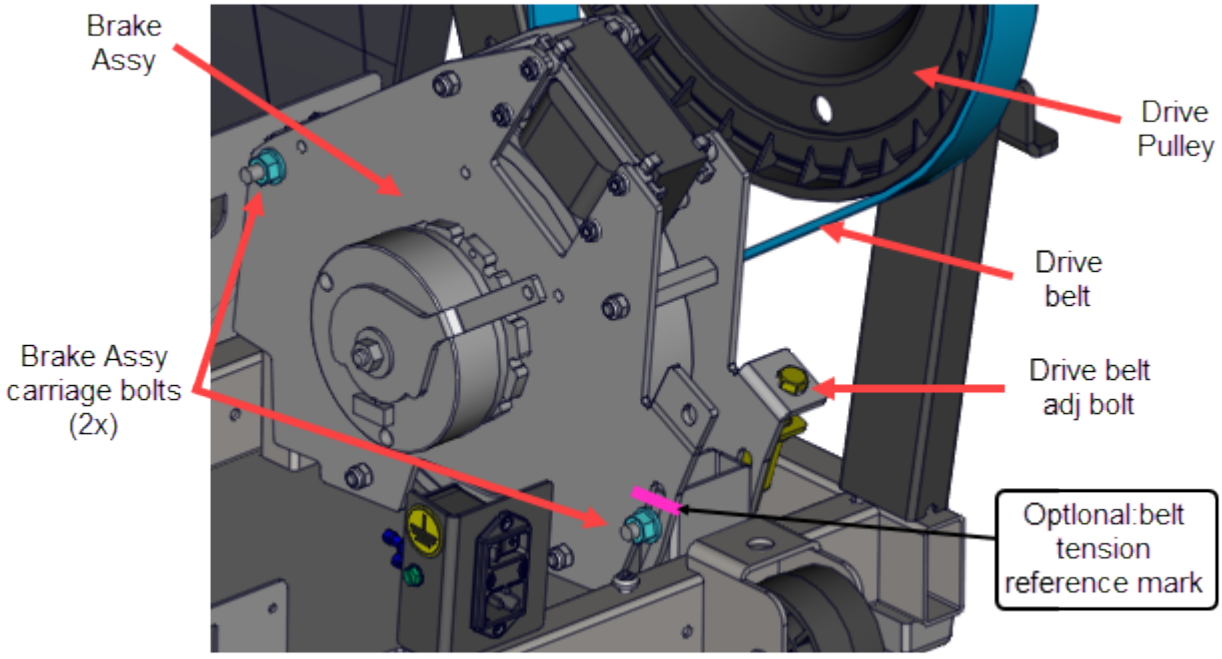
Review entire procedure before starting.

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81).
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88).
   - Side Access Covers (see "Side Access Covers Replacement" on page 92).
   - Base cover (see "Base Cover Replacement" on page 95).
3. Remove the Drip Shield, see "Drip Shield Replacement" on page 122.
4. Set the Holding Brake handle to OFF (all the way back). This will allow the drive belt and stairs to move when the power is OFF.

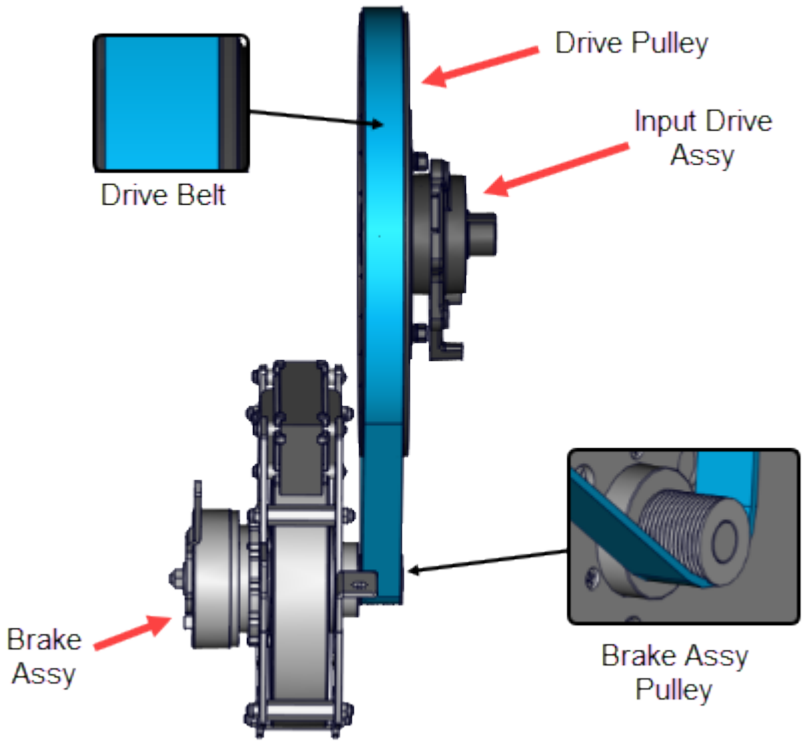


Brake Assy

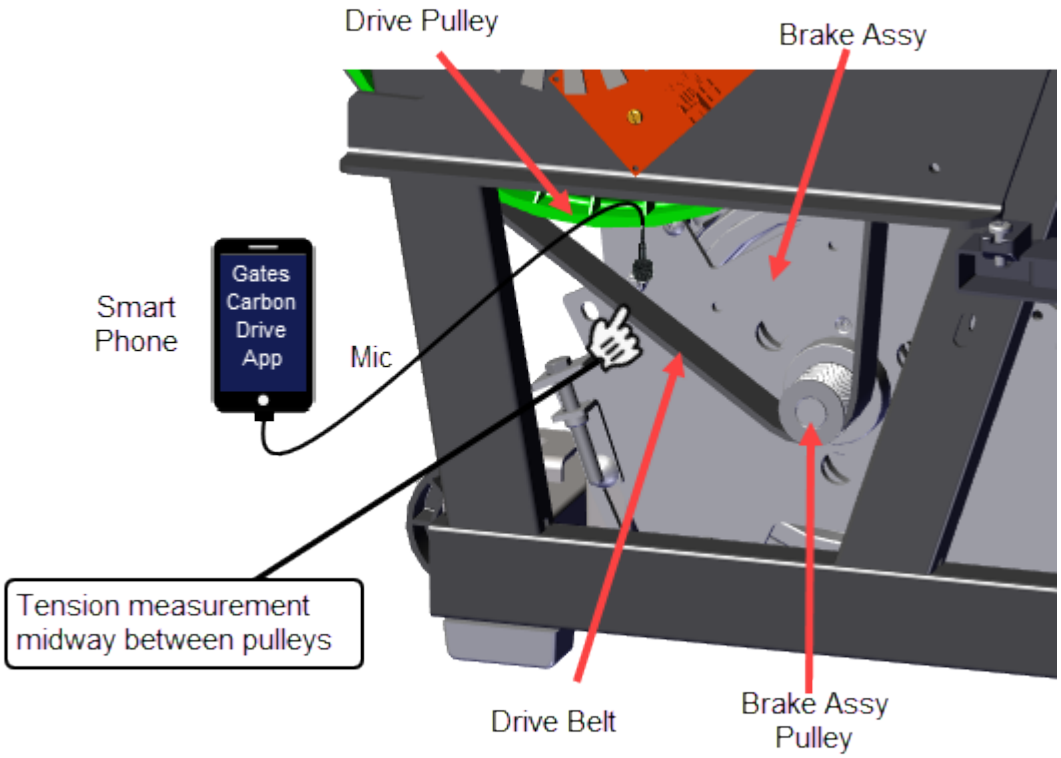
1. Loosen the two Brake assembly 1/2" carriage bolt nuts (left side) enough to allow brake assembly movement. Do not remove the carriage bolt nuts.



2. Use the Gates Carbon Drive™ app to measure the Drive belt sonic belt tension frequency "FREQUENCY AVERAGE", see " Gates® Carbon Drive™ Mobile App User Guide" on page 71. Make the measurement from the left side of the stairclimber midway between the Drive and Brake assembly pulleys. Review the following steps:
    a. Rotate the pulleys several rotations to make sure the belt is properly seated and aligned.



b. Measure the sonic belt tension frequency (FREQUENCY AVERAGE) using the Gates® Carbon Drive Mobile™ App, see " Gates® Carbon Drive™ Mobile App User Guide" on page 71. Make the measurement midway between the Drive and Brake Assy pulleys. Include three consistent frequency measurements per FREQUENCY AVERAGE result.

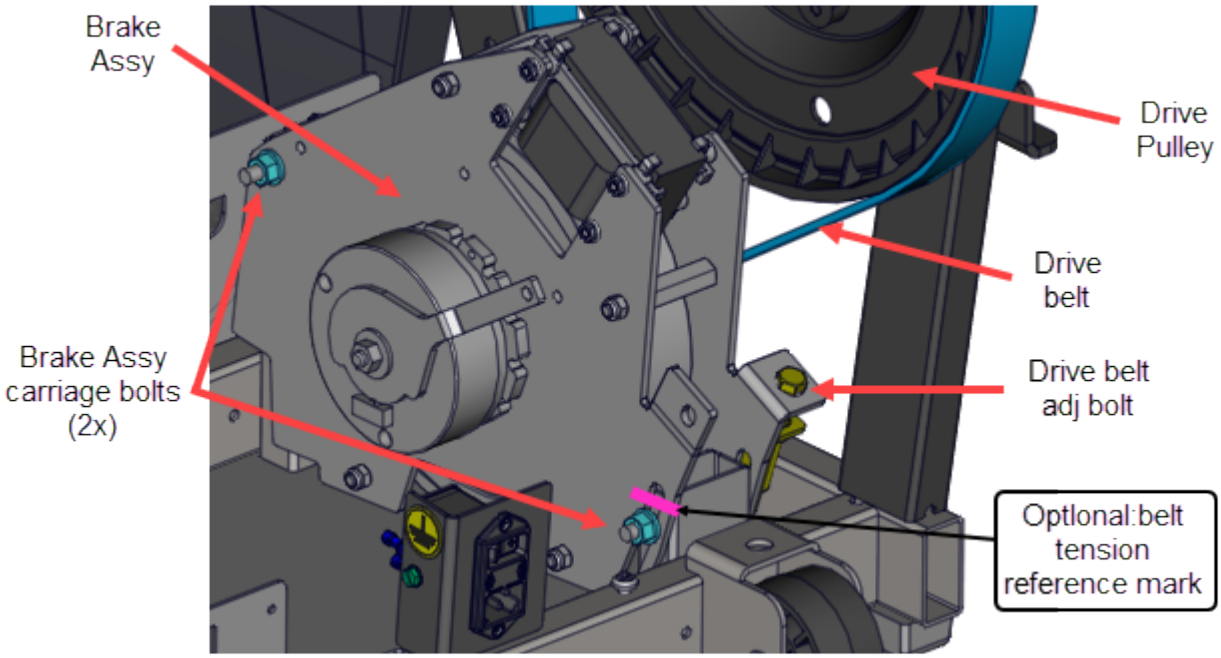


3. Compare the measured sonic belt tension frequency "FREQUENCY AVERAGE" to the drive belt tension specification **124 Hz +/- 10 Hz,** .
    a. If the belt tension frequency is not within specification, continue procedure to adjust the belt tension.
    b. If the belt tension is within specification, go to Return To Service.
4. Make a small incremental adjustment to the belt tension and then measure the adjusted sonic belt tension frequency. Use a 1/2" wrench to adjust the Drive belt tension adjustment bolt:
    a. If the tension is too high, loosen (rotate **CCW**[1]) the drive belt adjustment bolt to reduce tension.
    b. If the tension is too low, tighten (rotate **CW**[2]) the drive belt adjustment bolt to increase the tension.
    c. Rotate the pulleys a couple of rotations to seat the belt. Do this between each belt tension adjustment.
    d. Make a Carbon Drive™ app sonic belt tension frequency measurement (FREQUENCY AVERAGE), see " Gates® Carbon Drive™ Mobile App User Guide" on page 71.

[1]Counter clockwise direction
[2]Clockwise direction

e. If the adjusted belt tension frequency is NOT within specification **124 Hz +/- 10 Hz,** repeat the belt tension adjustment process.

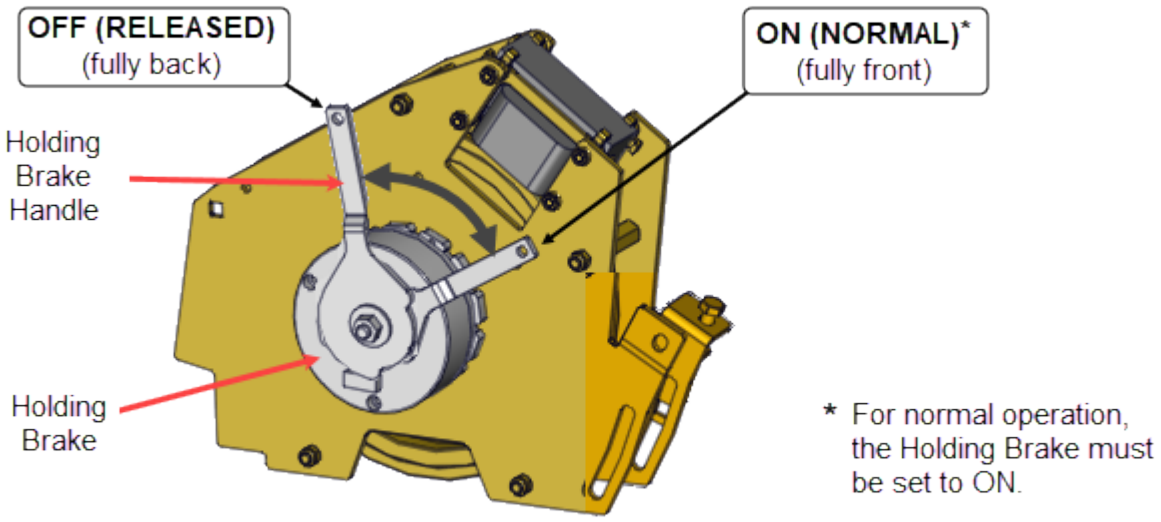
5. Fully tighten the two 1/2" Brake assembly carriage bolts.



6. After tightening the carriage bolts, remeasure the belt tension at three Drive pulley locations: 0°, 120°, and 240°. Verify that belt tension remains within specification 124 Hz +/- 10 Hz. If the belt tension is out-of-specification, repeat the belt tension adjustment process.

Return to service

7. Set the Holding Brake handle to ON (all the way forward).



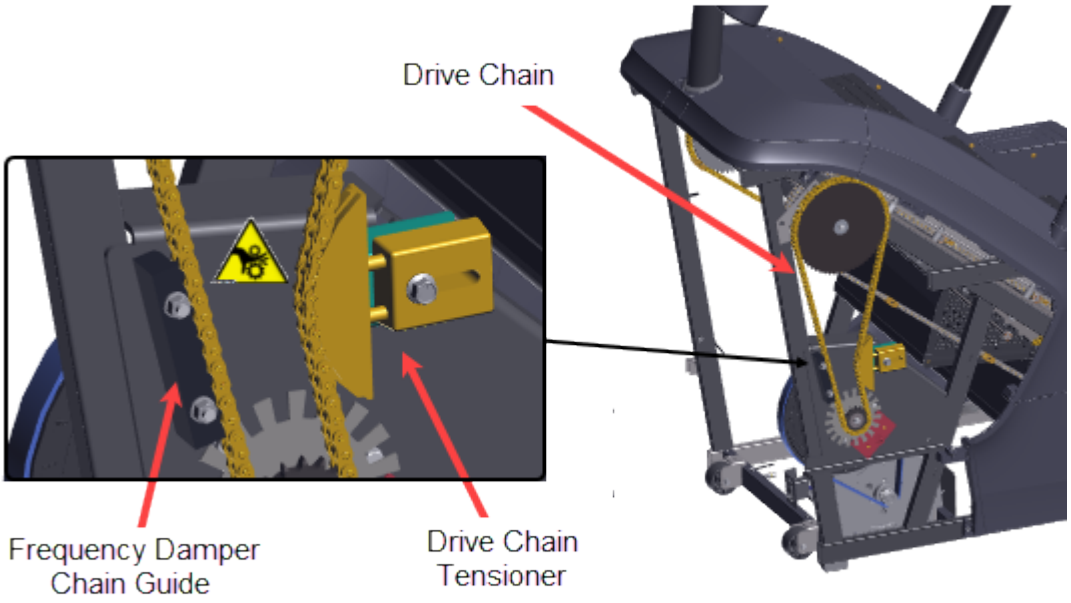
Brake Assy

8. Reinstall the Drip Shield, see "Drip Shield Replacement" on page 122.
9. Reinstall the following covers:
   - Base cover (see "Base Cover Replacement" on page 95).
   - Side Access Covers (see "Side Access Covers Replacement" on page 92).
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88).
   - Top cover (see "Top Cover Replacement" on page 81).
10. Connect the power cord and switch the power ON.
11. Verify machine operation and return to service, see "Operation Verification" on page 18.

Drive Chain Tension Adjustment

About

This procedure provides instruction to adjust the Drive Chain tension to specification.



Specifications

System Component	Specification
Drive Chain Tensioner Gap	3/8" (10 mm)
Minimum Pinch Point Distance	1" (2.5 cm

Service Videos

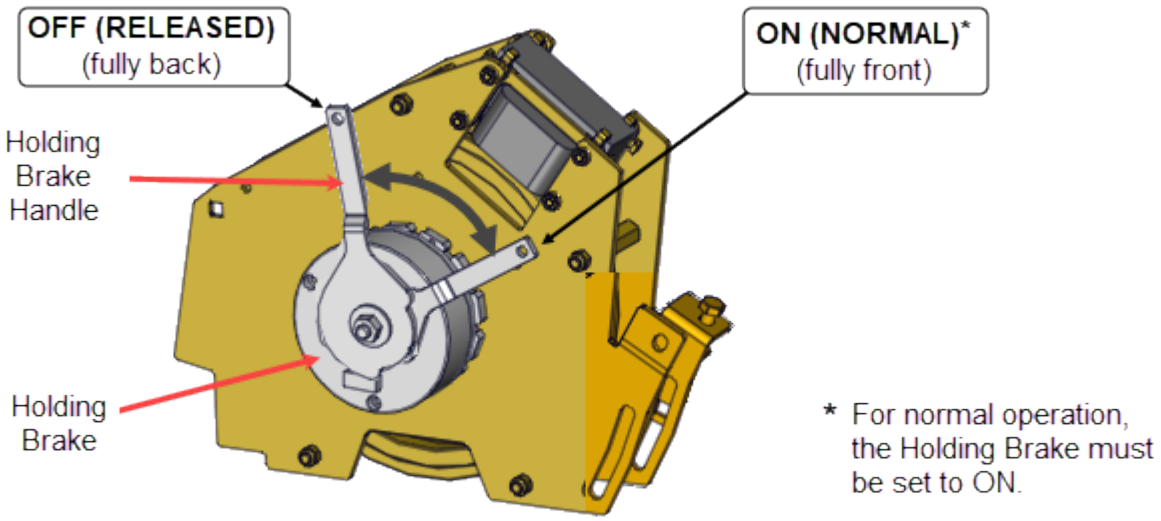
Service Video	Link
Drive Chain Tension Adjustment	Drive Chain Adjustment

Procedure

Review entire procedure before starting.

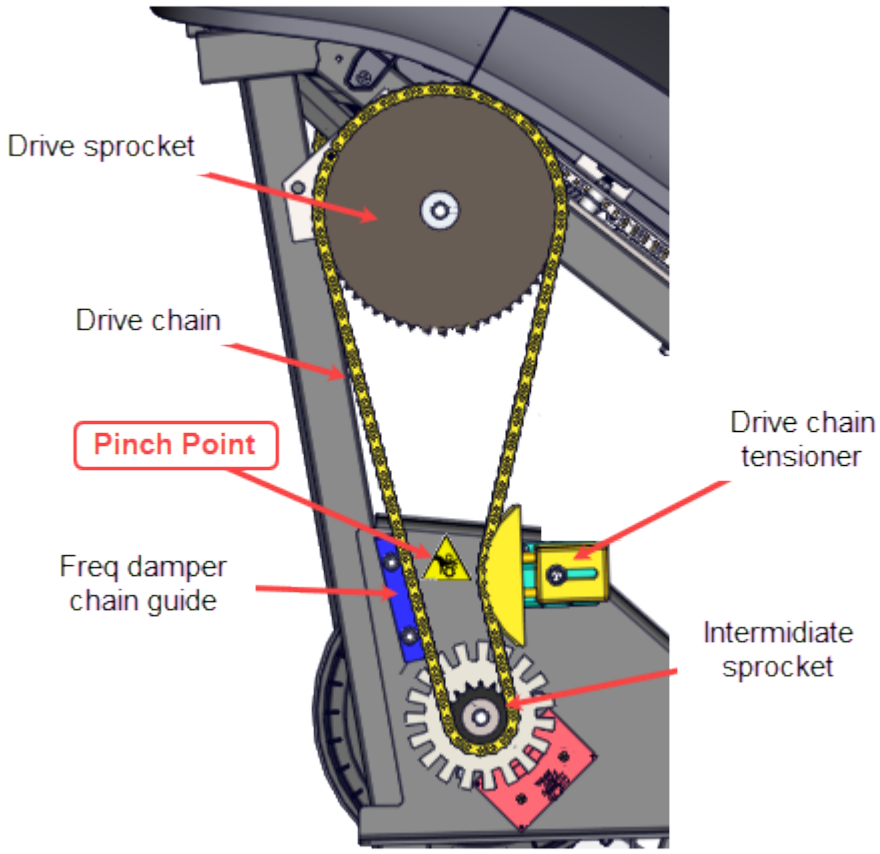
1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).

2. Remove the following covers:
    - Top cover (see "Top Cover Replacement" on page 81).
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88).
    - Side Access Covers (see "Side Access Covers Replacement" on page 92).
    - Base cover (see "Base Cover Replacement" on page 95).
3. Set the Holding Brake handle to OFF (all the way back). This will allow chain and stairs to move when the power is OFF.



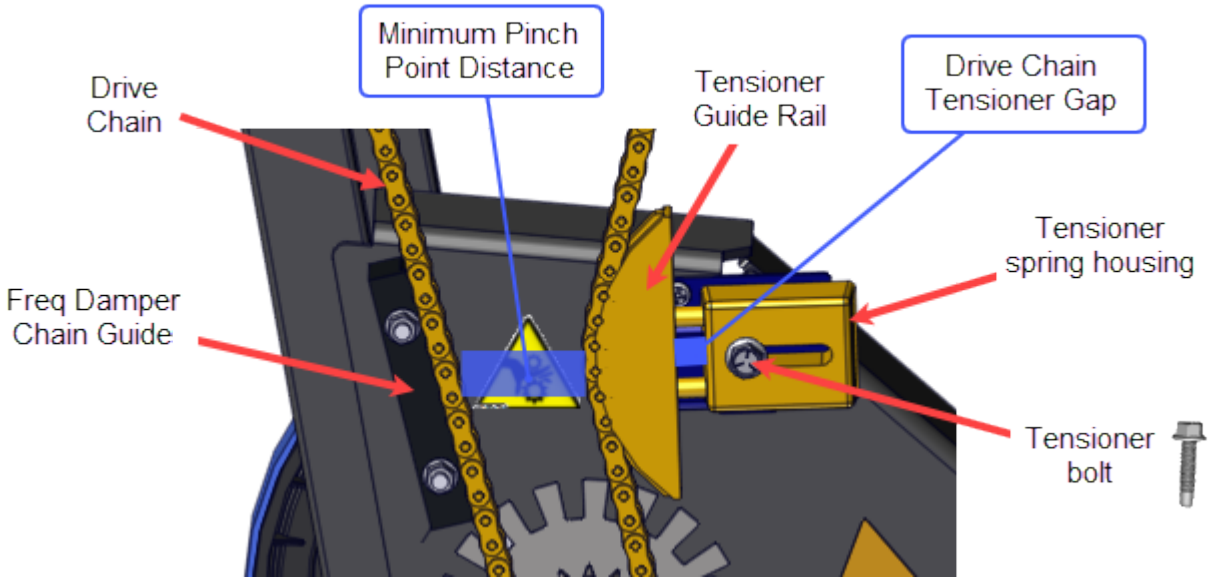
Brake Assy

4. Do a general inspection of the Drive Chain system components: the Tensioner assembly: the Frequency Damper Chain Guide, the Drive Chain, the upper Drive Sprocket, and the lower Intermediate Sprocket. Replace any worn or damaged parts.



Chain Tension Adjustment

5. Measure the Drive Chain Tensioner Gap; The distance between the right edge of the tensioner guide rail and the left edge of the tensioner spring housing, should be 3/8" (10 mm),:
    a. If NOT within specification**,** continue procedure to adjust the tension.
    b. If within specification, verify the minimum pinch point distance, see Pinch Point Distance Measurement.

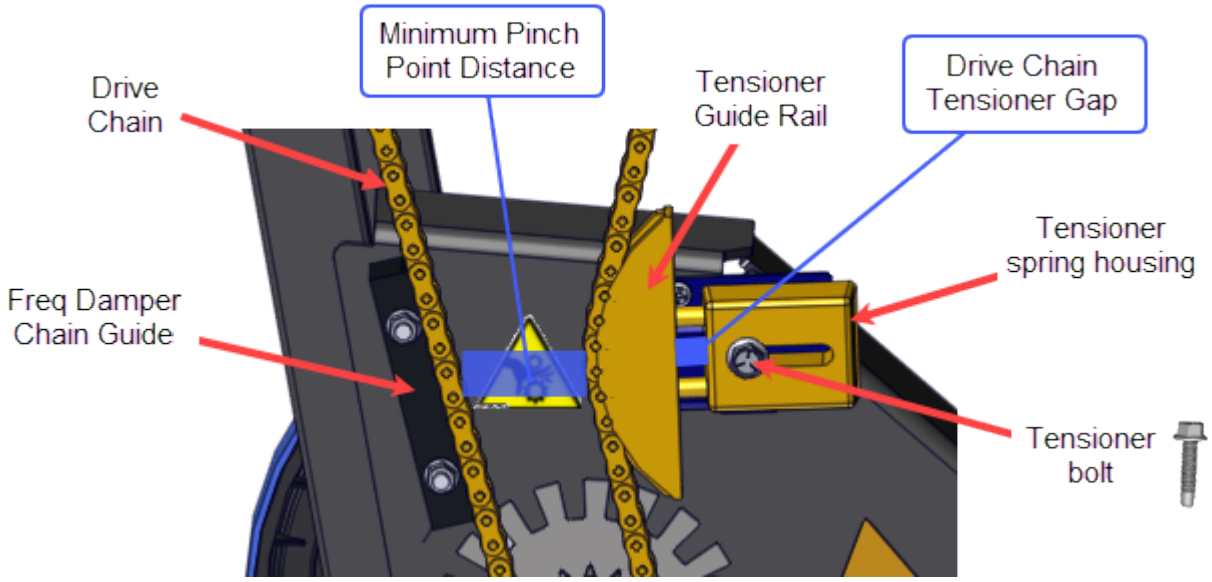


6. While holding the tensioner spring housing, slowly loosen the chain tensioner 9/16" mounting bolt enough to allow movement. Make a distance adjustment and tighten the mounting bolt making sure the Tensioner is positioned parallel to the mounting bracket and perpendicular to the Drive Chain. Then remeasure the Tensioner Gap. Continue this process until the Tensioner Gap is within specification **3/8" (10 mm).** ...

Note: The Drive Chain Tensioner is spring loaded under tension. Always use one hand to hold and keep the spring housing from snapping rearward while loosening the mounting bolt.

Pinch Point Distance Measurement

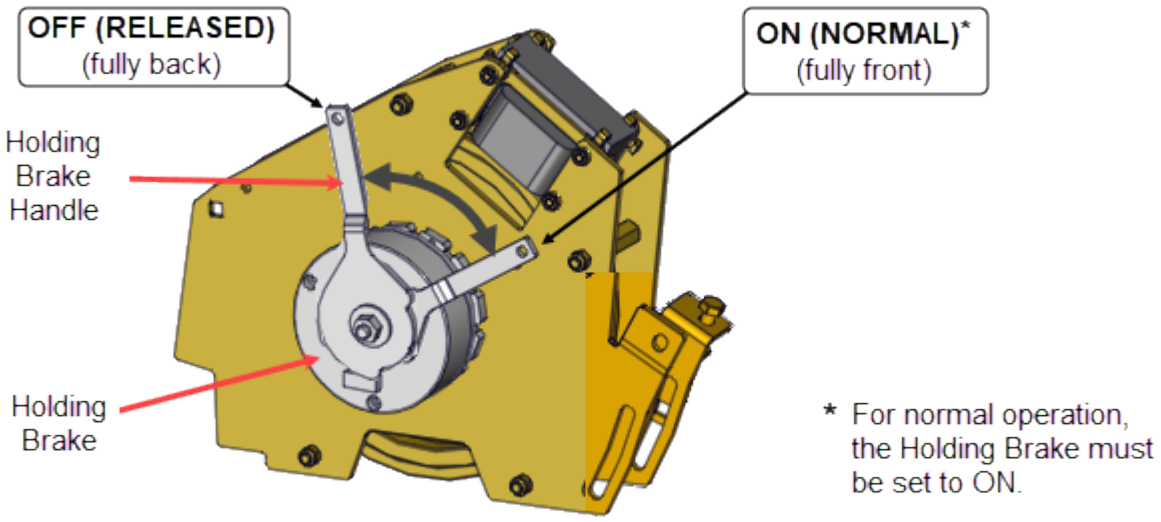
7. Measure the Minimum Pinch Point Distance; the distance between the drive chain where it passes over the "Frequency Damper Chain Guide" and the "Chain Tensioner Guide Rail." Verify the Minimum Pinch Point Distance is equal to or greater than the specified Minimum Pinch Point Distance **1" (2.5 cm.**
    a. If not within specification, continue to the next step.
    b. If within specification, go to Return To Service.



8. There is no mechanical Pinch Point adjustment mechanism. The out -of-spec condition could be caused by either the Chain Tensioner being incorrectly tensioned or installed, or a worn or damaged Drive Chain assembly part. Possible Minimum Pinch Point Distance adjustment fixes:
    a. Verify that the Drive Chain Tensioner is correctly spec'd and properly mounted.
    b. Inspect the upper Drive Sprocket and the lower Intermediate Sprocket for ware and damage. If worn or damaged, replace the defective sprocket. Replace damaged sprocket and verify the specification.
    c. Inspect the Drive Chain for ware, and damage. The chain length may have stretched so that the minimum pinch point distance cannot be met. Replace the chain and verify the specification.

Return to service

9. Set the Holding Brake handle to ON (all the way forward).



Brake Assy

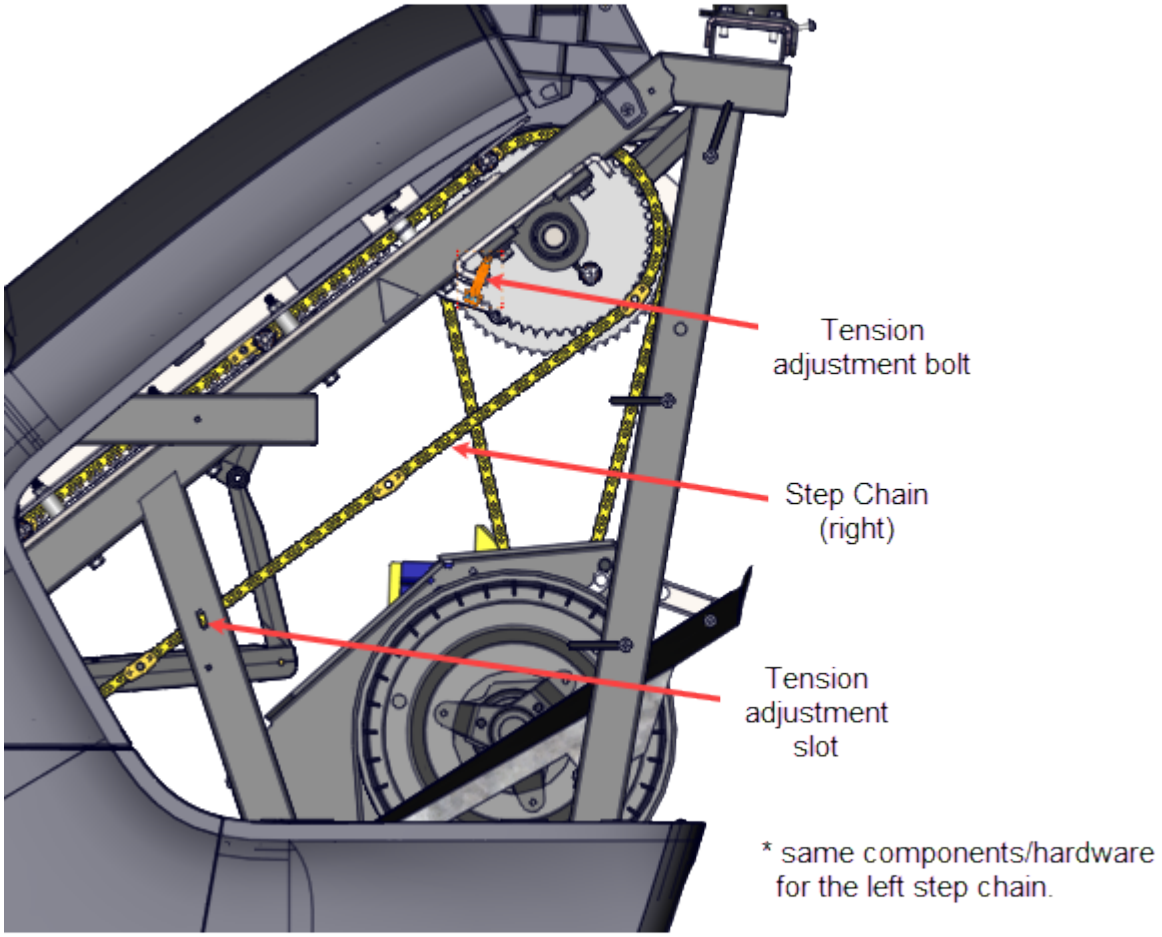
10. Connect the power cord and switch the power ON.
11. Start a manual workout and operate the SPEED from minimum to maximum speed. Press the STOP key at several speeds to verify the braking operation. While doing these tests, verify that the drive chain and stairs operate as expected: smooth movement, no unusual noises, etc.
12. Switch the power OFF.
13. Reinstall the removed covers:
    - Base cover (see "Base Cover Replacement" on page 95).
    - Side Access Covers (see "Side Access Covers Replacement" on page 92).
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88).
    - Top cover (see "Top Cover Replacement" on page 81).
14. Verify full machine operation and return to service, see "Operation Verification" on page 18.

Step Chain Tension Adjustment

About

This procedure provides instruction to verify and adjust the left and right Step Chain tension.

IMPORTANT: Always verify both the left and right step chain tension when either chain is being adjusted..



Specifications

System Component	Specification
Step Chain Tension	The rear step shaft chain link is within the top half of the step chain tension adjustment slot.

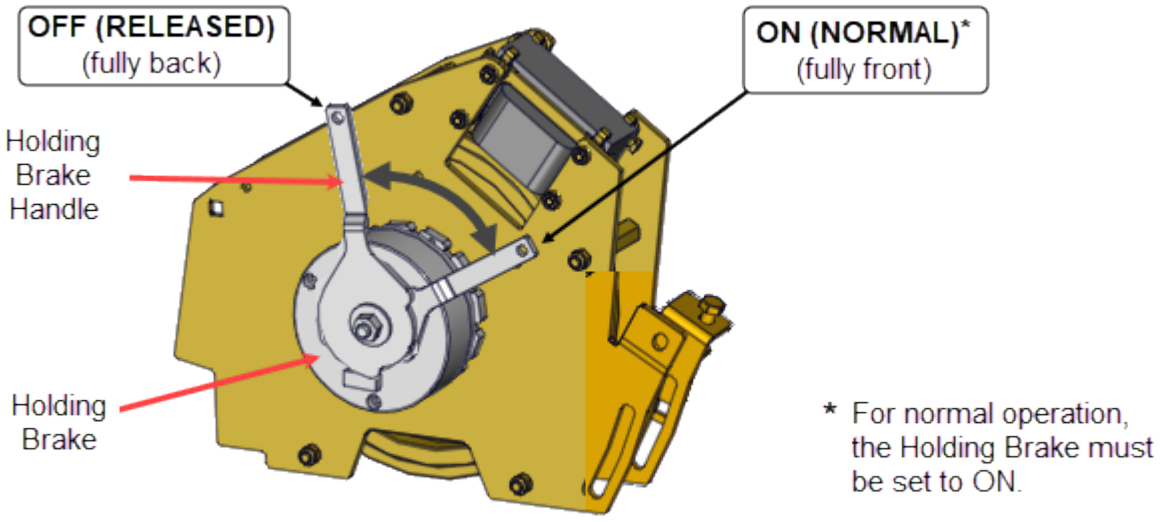
Service Videos

	Service Video	Link
	Step Chain Tension Adjustment	Step Chain Adjustmen

Procedure

Review entire procedure before starting. The left and right step chain tension adjustment procedure is the same.

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81).
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88).
   - Side Access Covers (see "Side Access Covers Replacement" on page 92).
3. Set the Holding Brake handle to OFF (all the way back). This will allow chain and stairs to move when the power is OFF.



Brake Assy

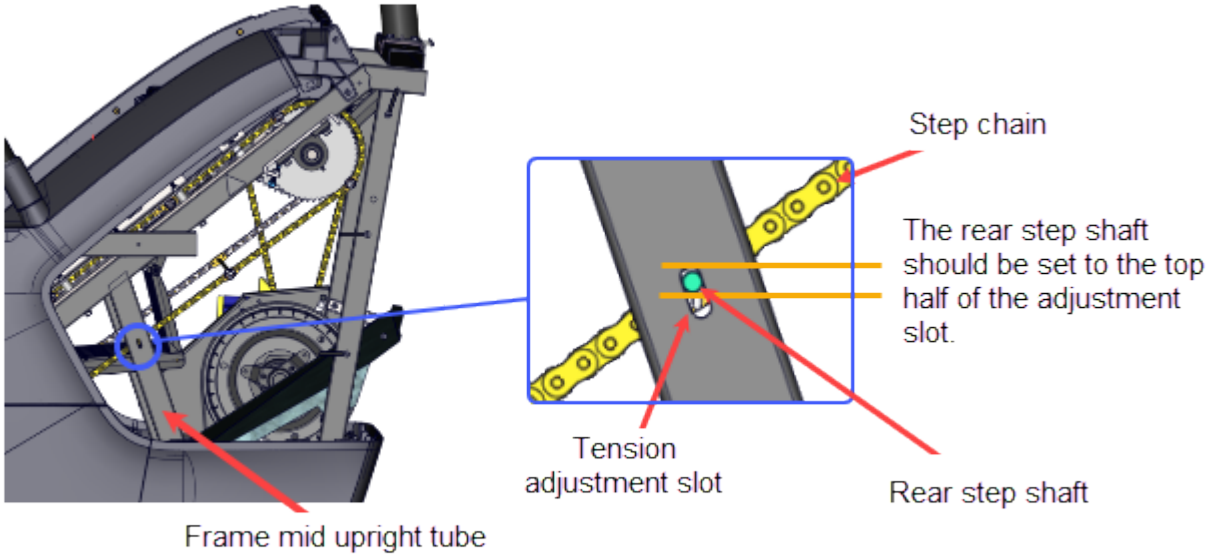
Step Chain Tension Verification

4. Verify the current step chain tension. Move the chain so that the rear step shaft (shaft that connects the steps to the chain) can be viewed in the tension adjustment slot (located on the frame right/left mid upright tube). Verify that the step chain is within specification: The rear step shaft chain link is within the top half of the step chain tension

adjustment slot.. The step chain tension adjustment slot is located on the frame weldment mid upright tube.

a. If the current tension is within specification, go to Return to service.

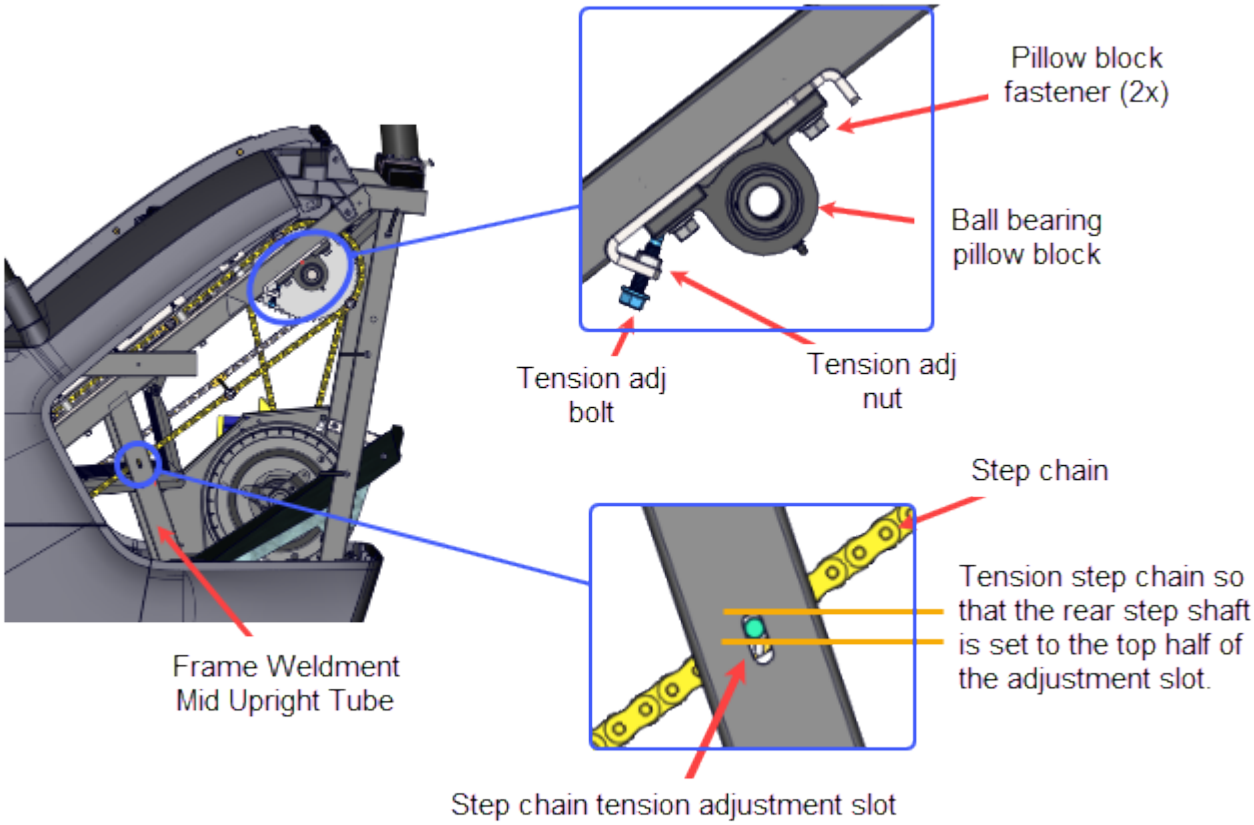
b. If the current tension is NOT within specification, continue to adjust the step chain tension.



.

Step Chain Tension Adjustment

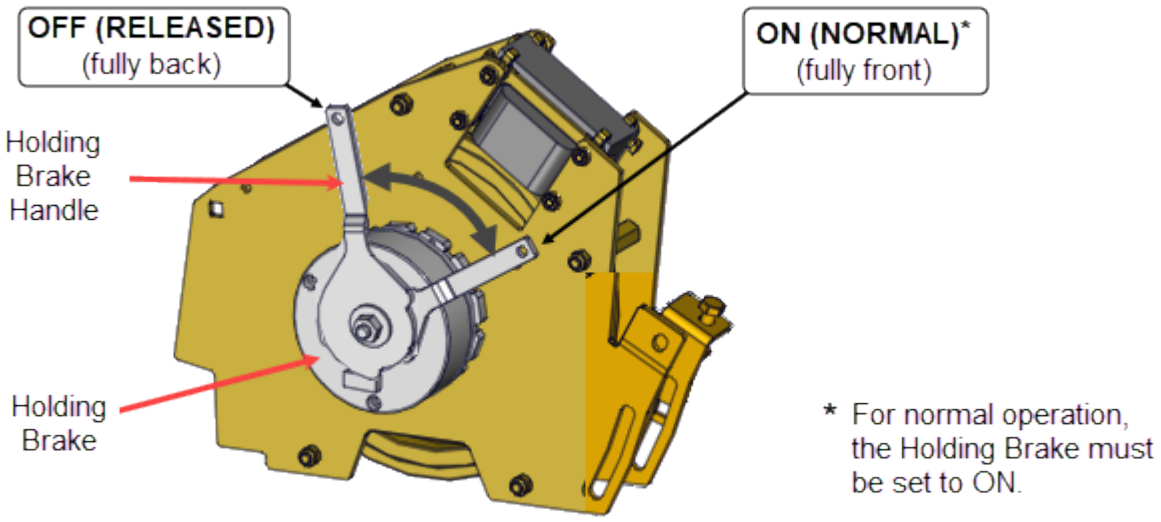
5. Move the chain so that the rear step shaft (shaft that connects the steps to the chain) can be viewed in the tension adjustment slot (located on the frame right and left mid upright tubes).



6. Loosen the two ball bearing pillow block bolts just enough to allow back and forth movement.
7. Make small incremental adjustments to the step chain tension adjustment bolt as needed to either tighten or release chain tension. Verify the step chain tension after each tension bolt adjustment. Continue process until the step chain is within spec: The rear step shaft chain link is within the top half of the step chain tension adjustment slot..
8. Fully tighten the two ball bearing pillow block bolts.
9. Repeat the tension verification and adjustment for both the left and right step chains.

Return to service

10. Set the Holding Brake handle to ON (all the way forward).

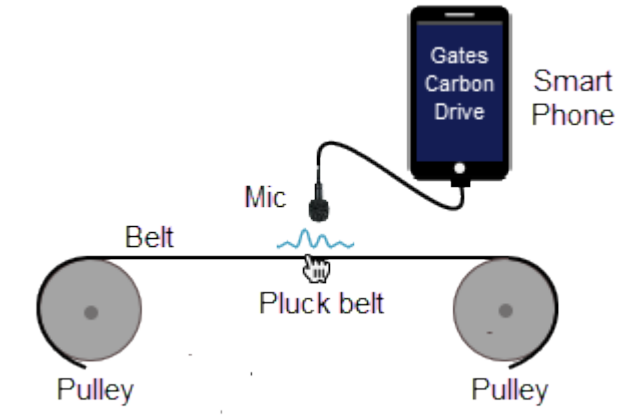


Brake Assy

11. Connect the power cord and switch the power ON.
12. Start a manual workout and operate the SPEED (from minimum to maximum speed) and STOP braking functions. Verify that the step right and left step chains and stairs operate normally.
13. Switch the power OFF.
14. Reinstall the removed covers:
    - Side Access Covers (see "Side Access Covers Replacement" on page 92).
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88).
    - Top cover (see "Top Cover Replacement" on page 81).
15. Verify full machine operation and return to service, see "Operation Verification" on page 18.

Gates® Carbon Drive™ Mobile App User Guide

The “Gates Carbon Drive™ Mobile app measures the belt tension sonically. Pluck the belt like a guitar string and the smart phone mic inputs the vibration sound wave. The app then uses to sound wave to compute the resultant belt tension vibration frequency in hertz (**Hz**[1]). An external microphone is used to improve measurement repeatability and accuracy.



The room must be quiet

There is an important test condition stipulation to successfully use the Carbon Drive™" app, "*This app must be used in a quiet environment*." The app uses the sound of the belt vibration to compute the belt tension frequency. Any external noises picked up by the microphone will interfere with and affect the accuracy of the measurement results.

IMPORTANT: This app must be used in a quiet environment.

Gates Carbon Drive™ Mobile App Download

The “Gates Carbon Drive™ Mobile” App is a free app that can be downloaded from the “APP Store” or from the *Gates Carbon Drive* website.

Website download instructions

Direct link. Gates Carbon Drive App download

[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.

- Home page: Open the Gates Carbon Drive website, then select **RESOURCES** > **TENSIONING APP** > **iPHONE** or **ANDROID** app to download .

Gates Instructional Video

Gates Instructional Video

We recommend that you watch the Gates Carbon Drive U – Measuring Belt Tension instructional video. The video will show you how to use the Gate Carbon Drive app to make a sonic belt tension measurement. It does take a little finesse and practice to learn how to make a good sonic belt tension measurement. Take note of the gentle but firm belt plucking technique (like plucking a guitar string), the position on the belt where you pluck the belt (half way between the pulleys), and the position of the microphone (approx. 1”/2.5 cm away from the vibration center). Select the video for your particular smart phone type

There is a difference in the Gates video hardware setup, we require the use of an external microphone rather than relying on the internal smart phone mic. An external microphone makes it easier to physically do the measurement, the ability to place the microphone into tight spaces, and to help isolate the belt vibration sound from surrounding noises resulting in more repeatable and accurate measurements.

Note: The Carbon Drive U - Measuring Belt Tension instructional videos are provided by the Gates® corporation and available to view on YouTube.

Check the Gates Carbon Drive website for video updates.

There are separate video versions for Apple iPhones and Android smart phones:

• iPhone: Carbon Drive U - Measuring Belt Tension (iPhone App)

• Android: Carbon Drive U – Measuring Belt Tension (Android App)

Measurement Guidelines:

Review the following measurement guidelines:

- The “FREQUENCY AVERAGE” result is the sonic belt tension frequency used to spec the belt.
- The “FREQUENCY AVERAGE” is the average of three individual belt tension "FREQUENCIES" measurement results. Always include three frequency results in the “FREQUENCY AVERAGE” result.

- Do NOT include measurement frequency outliers (results that are obviously out-of-range) in the computed “FREQUENCY AVERAGE” result. Remeasure or delete the outlier measurement, see "" on page 76.
- Only use an external smart phone microphone and not the smart phone internal mic. An external microphone makes it easier to physically do the measurement, the ability to place the microphone into tight spaces, and, more importantly, to help isolate the belt vibration sound from surrounding noises resulting in more repeatable and accurate measurements.
- The room must be quiet to achieve good measurement results. External sounds will interfere with the belt tension vibration sound resulting in inaccurate measurement results. The external microphone will help to lessen the effects of surrounding noise interference.
- Be as consistent as possible between measurements. Pluck the belt in the same manner and hold the microphone in the same position for each measurement.
- Practice make perfect. Do not get frustrated, it takes practice to learn the best sonic belt tension measurement technique. The plucking technique and position of the mic can make a big difference in the measurement results. Also, each belt application has its own unique properties. Plucking the belt like a guitar string is a good starting point firm but not to hard. Hold the mic facing the belt approximately 1" from the belt. Continue to practice until your technique produces reasonable consistent frequency results.

Specialized Tools

Specialized Tools

- Smart Phone (iOS or Android)
- Smart phone external mic. (recommend Lavalier lapel smart phone mic)
- Gates Carbon Drive™ Mobile App

Procedure

Procedure

Review the entire procedure before starting.



TIP: It is recommended that you watch the Gates Carbon U - Measuring Belt Tension instructional video (iOS or Android).

1. If the app is not installed, install the Gates Carbon Drive™ Mobile App , see Gates Carbon Drive™ Mobile App.

2. Connect an external microphone to the smart phone (recommend Lavalier lapel smart phone mic). An external microphone makes it easier to physically do the measurement, to place the microphone into tight spaces, and to help isolate the belt vibration sound resulting in more repeatable and accurate measurements.

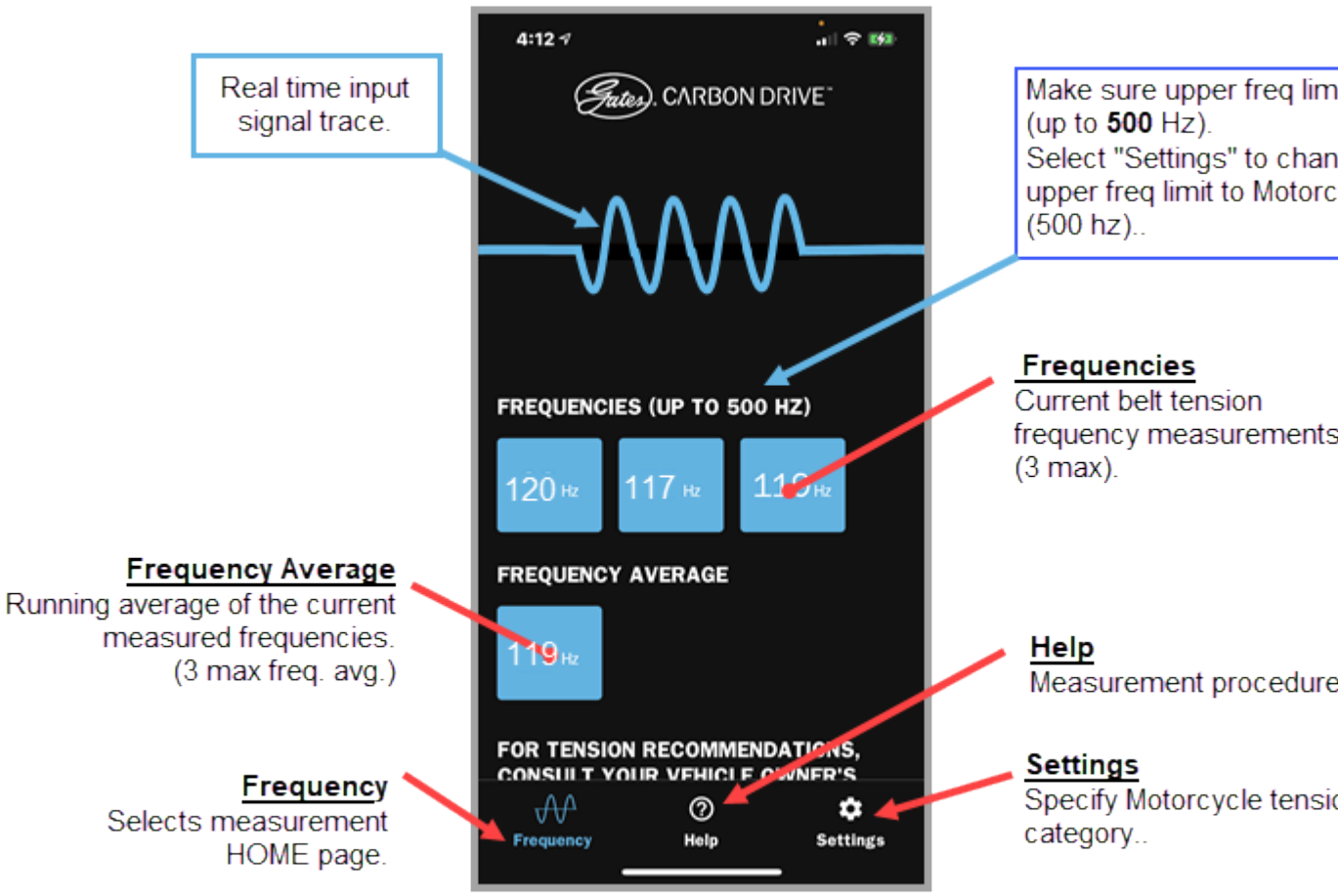


3. When the app opens, from the "*What type of belt are you tensioning?*" page, select **Motorcycle/Scooter**. Do NOT select "Bicycle."



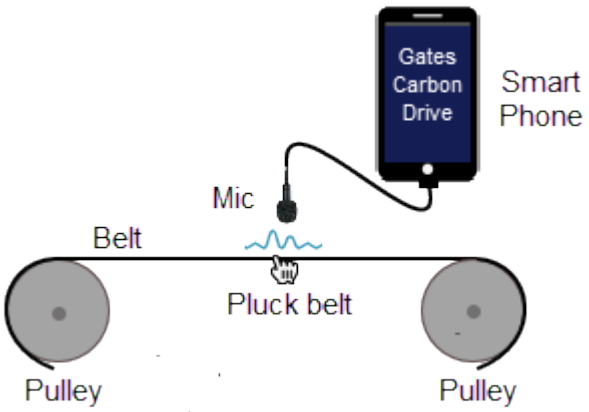
Belt Tension Measurement

4. Before starting to make a measurement, review the Measurement Guidelines topic which provides valuable information that will help you to use the Carbon Drive app.
5. Select the **Frequency** page.



Frequency page

6. Rotate the belt pulley through several rotations to make sure the belt is properly seated and aligned.
7. Typically choose the belt measurement location as close as possible to the midway point between the two measurement pulleys. Refer to the belt adjustment procedure for specific details.

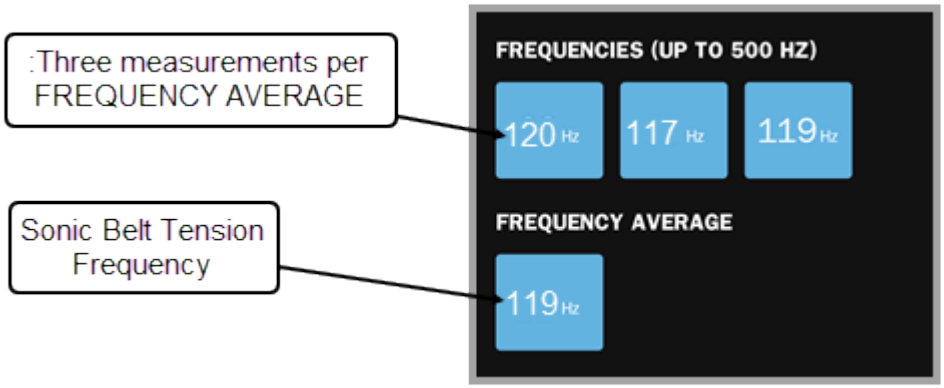


8. While holding the external microphone facing the belt, approximately 1 inch from the measurement location, pluck the belt so that it vibrates the string. The plucking technique is similar to way you would pluck a guitar string, firm but not too hard (see Measurement Guidelines).

TIP: If this is your first time using the “Gates Carbon Drive™ Mobile” app, you may need to make several practice measurements to acquire proficiency. Continue to make practice measurements until you get familiar with the technique and can reproduce several consistent measurement frequencies.

9. Make three individual belt tension frequency measurements per **FREQUENCY AVERAGE** result. Each measured frequency should be within a consistent and reasonable value. DO NOT include "outlier" results in the computed FREQUENCY AVERAGE. Remeasure or delete any outlier measurement results, see How to delete measurements). Only the three shown FREQUENCIES results are included in the **FREQUENCY AVERAGE**. The **FREQUENCY AVERAGE** is used as the measurement Sonic Belt Tension Frequency.

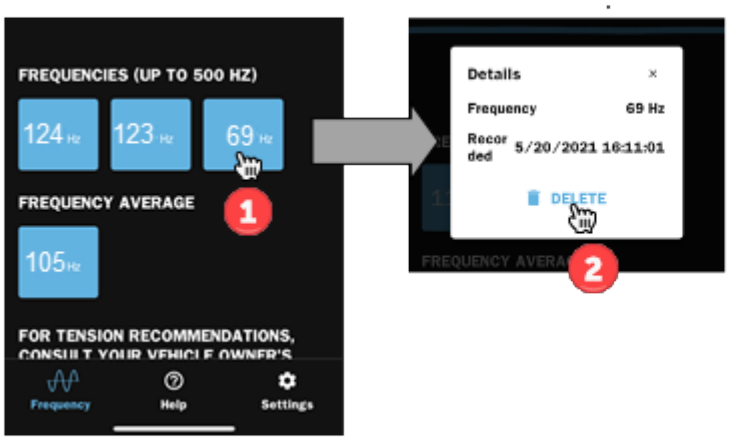
FREQUENCY AVERAGE = Sonic Belt Tension Frequency



IMPORTANT: This app **MUST** be used in a quiet environment.

How to delete measurements:

1. To delete a measurement, tap the measurement frequency icon and then select DELETE.



How to delete a measurement

1. Tap the meas FREQUENCIES ic
2. Select "DELETE" to delete the measurement.

Replacement Procedures

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

Available Replacement Procedures

"Covers and Panels Replacement" on the facing page

"Drip Shield Replacement" on page 122

"Power Cord Replacement" on page 125

"Power Entry Switch Assy Replacement" on page 126

"Handlebar Replacement" on page 131

"Handlebar HHHR Grips and Remote Stop & Speed Control Buttons Replacement" on page 142

"Right Handlebar HR Grip and Remote Stop Button Replacement" on page 143

"Left Handlebar HR Grip and Remote Speed Control Button Replacement" on page 146

"LPCA (Lower PCA) Board Replacement" on page 151

"Active Status Light "ASL" PCA board Replacement" on page 161

"OBS Obstruction Sensor Replacement" on page 169

"Drive Belt Replacement" on page 175

"Brake Assembly Replacement" on page 182

"Drive Chain Replacement" on page 190

"Input Drive Assy Replacement" on page 195

"Intermediate Sprocket & Speed Sensor Wheel Replacement" on page 211

"Speed Sensor PCA board Replacement" on page 218

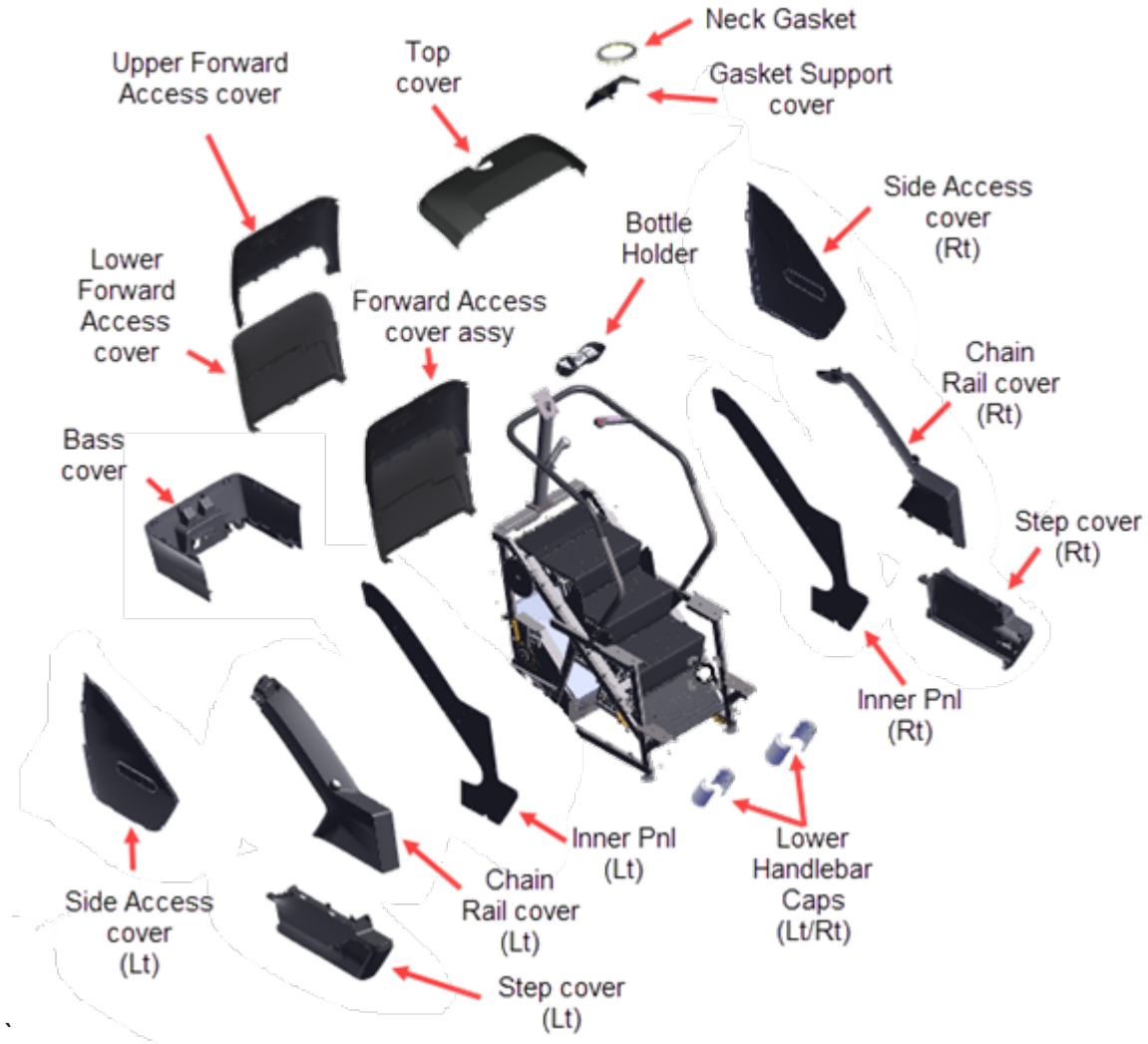
"Stair Step Replacement" on page 222

"Lower Bearing Rail Replacement" on page 232

Covers and Panels Replacement

About

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



Cover	Remove/Install Procedure
Gasket Support Cover	"Top Cover Replacement" on page 81
Top Cover	"Top Cover Replacement" on page 81
Upper and Lower Forward Access Covers	"Upper and Lower Forward Access Covers Replacement" on page 88

[1]StairClimber

Cover	Remove/Install Procedure
Side Access Covers	"Side Access Covers Replacement" on page 92
Bass Cover	"Base Cover Replacement" on page 95
Inner Panel Covers	"Inner Panel Covers Replacement" on page 98
Chain Rail Covers	"Chain Rail Cover Replacement" on page 103
Step Covers	"Step Cover Replacement" on page 108
Lower Handlebar Caps	"Handlebar Replacement" on page 131

Service Videos

	Service Video	Link
	Cover Removal (all covers)	Cover Removal

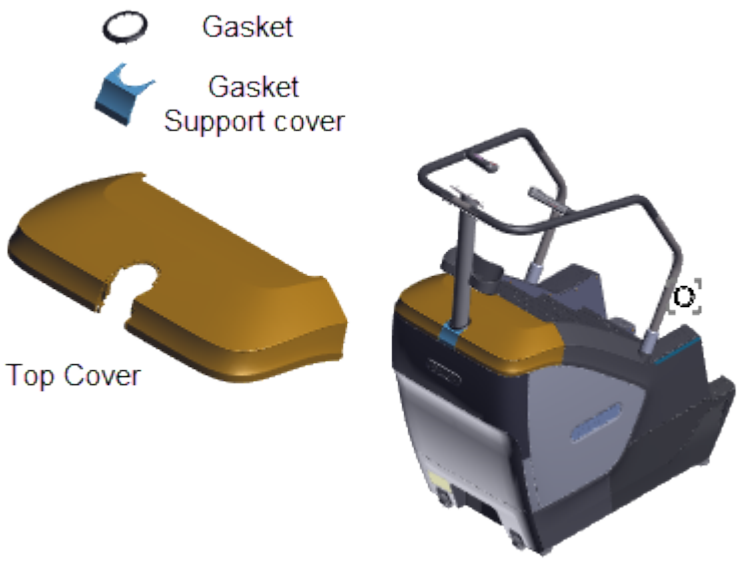
Click link to open procedure instructions.

Top Cover Replacement

Top Cover Replacement

This procedure replaces the Neck Gasket, Gasket Support cover, and Top cover.

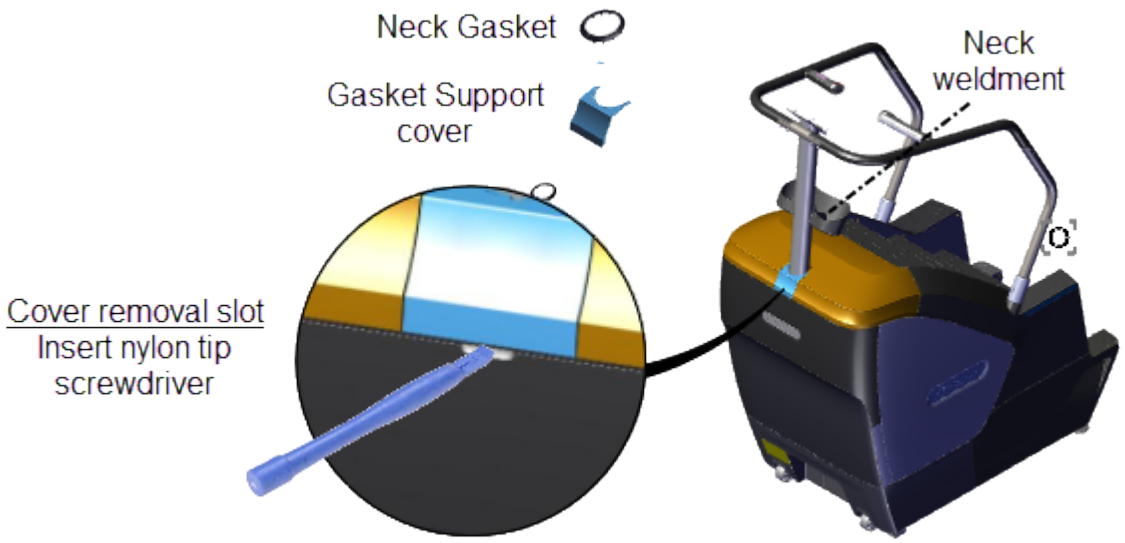
The Top cover does not require tools to remove and install. The Top cover is fastened using Tabs that are snapped into receiving clips. Use the palm of your hand to strike the cover at identified tab release symbol ▲ locations to unfasten, or unsnap, the tabs.



Removal

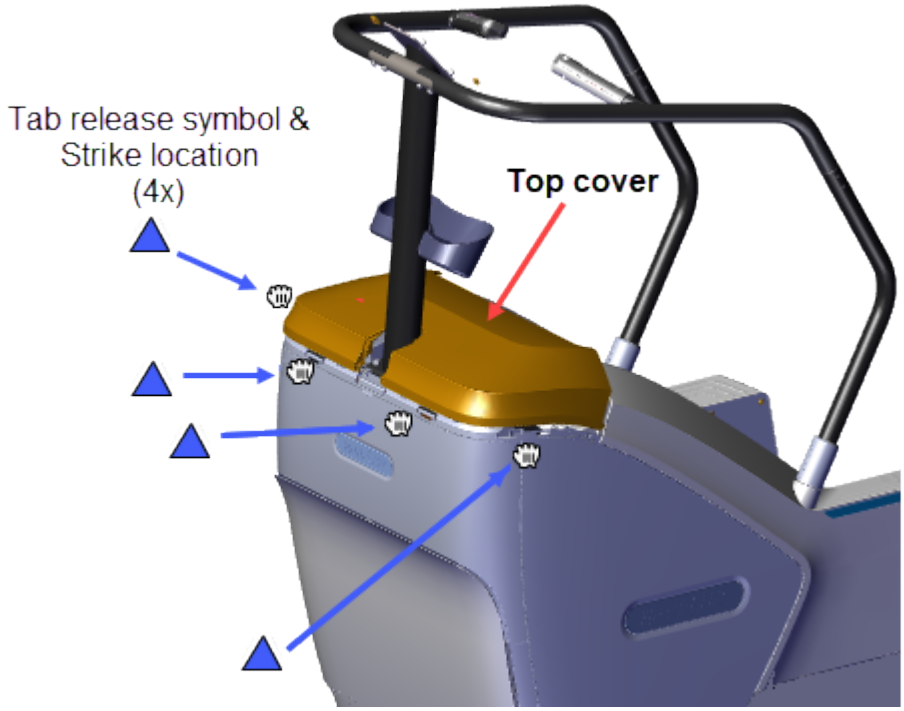
Neck Gasket and Gasket Support cover removal

1. Insert a nylon flat tip screwdriver into the slot between the Gasket Support and Upper Forward covers (located below the neck weldment). Then carefully pry up to remove the Neck Gasket and Gasket Support covers.

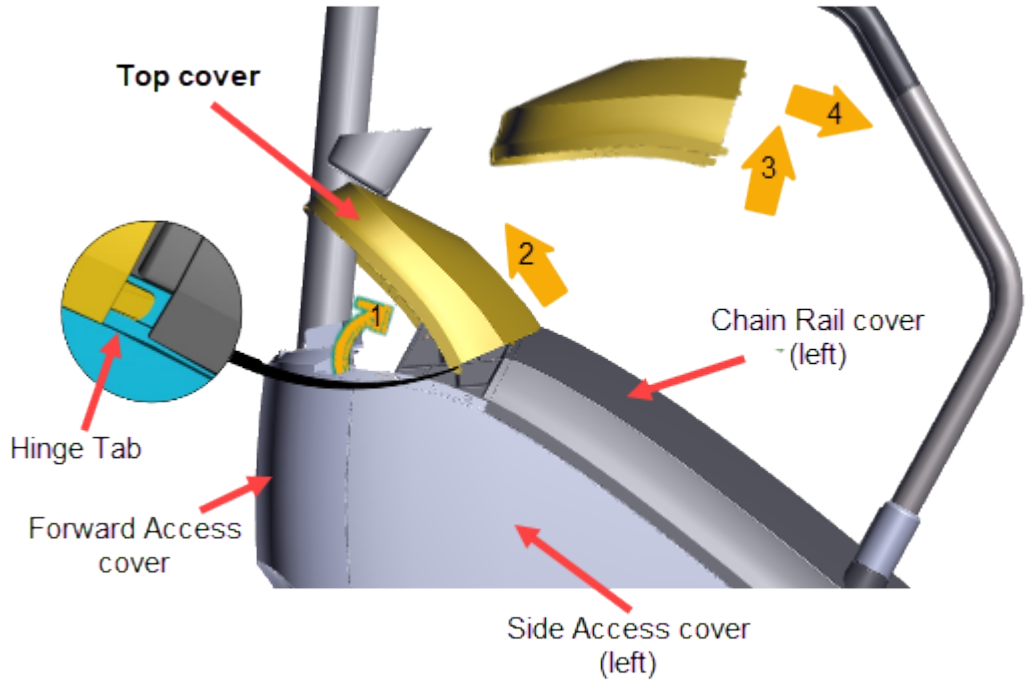


Top cover removal

2. There are four Top cover attachment Tabs; two are located on the front and one on the left and right sides respectively. The Tab locations are identified by tab release symbols ▲ (direction triangles) stamped on the covers beneath the attachment Tabs. First release the left and right front tabs. Use one hand to lift up the center of the Top cover while striking one of the front tab release symbols ▲ with the palm of the other hand. Repeat to release the second front Tab. Next release the left and right side cover Tabs. Use both hands to simultaneously strike the left and right side tab symbols ▲ releasing the Top cover Tabs.



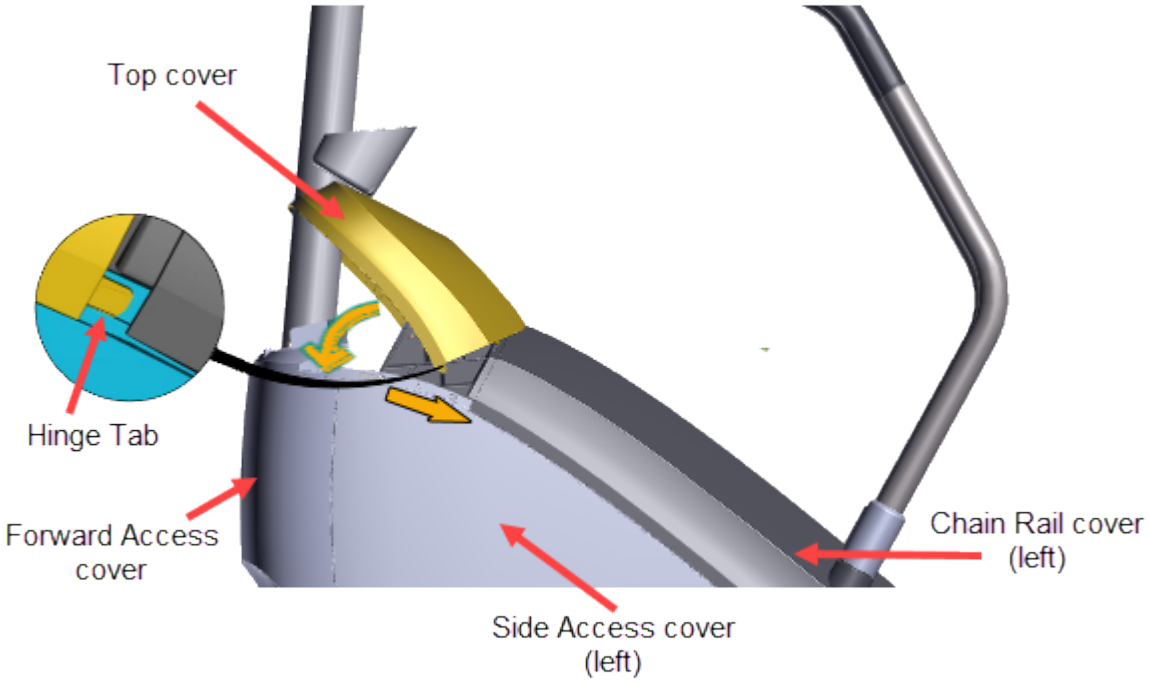
3. The Top cover has hidden left and right rear hinge tabs that fasten the cover to the left and right Chain Rail covers. Remove the Top cover by lifting the front upward while sliding the cover forward until the rear hinge tabs clear the Chain Rail covers. Then lift up the back of the cover and rearward to remove.



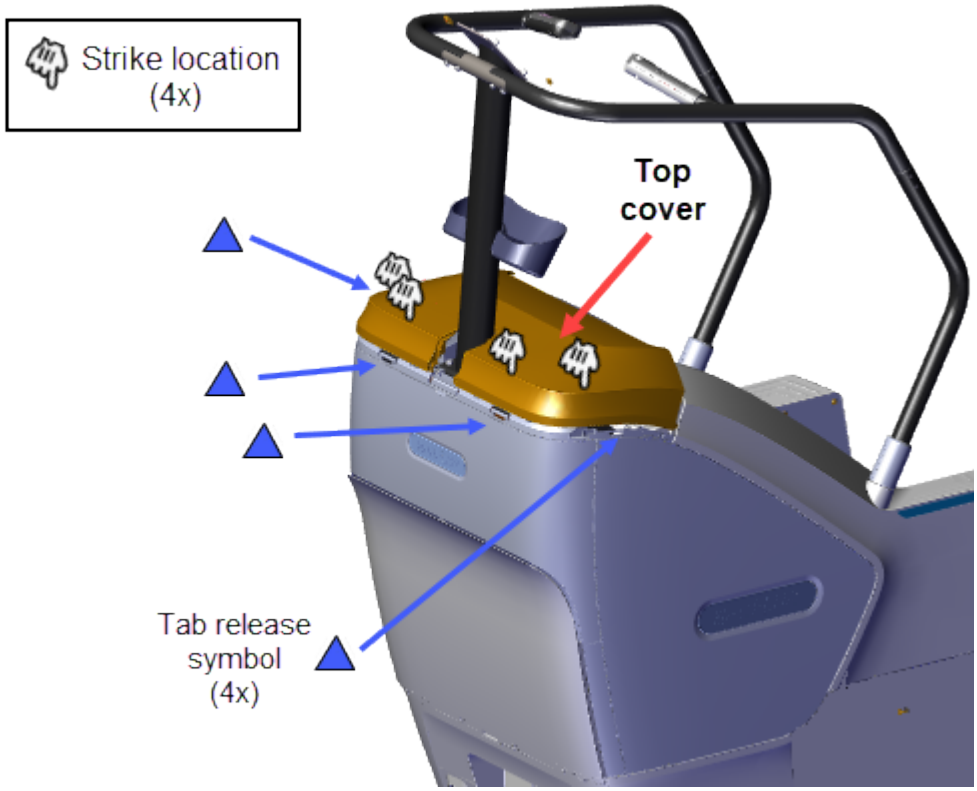
.

Installation

1. Position the front of the Top cover beneath the bottle holder and the back of the cover on top of the Side Access covers. Align the hinge tabs to the left and right Chain Rail cover tab slots. Then rotate the front of the Top cover downward while inserting the hinge tabs into the left and right Chain Rail cover tab slots.

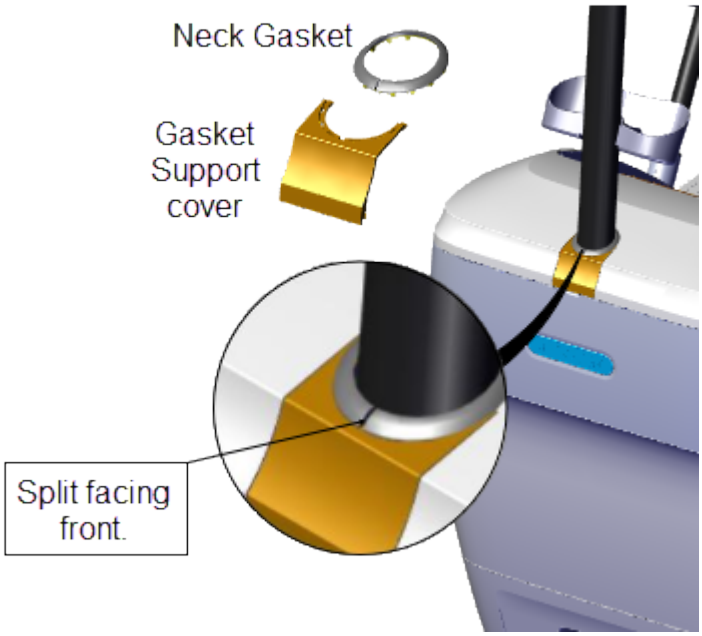


2. Secure the Top cover by snapping the four attachment Tabs into the left/right Side Access and Forward Access cover locking clips. Use the palm of your hand to strike the top of the Top cover at each Tab position to snap and lock in place.



Neck Gasket Support cover and Neck Gasket Installation

3. Place the Neck Gasket Support cover in position and strike to snap in place. Then carefully place the Neck Gasket around the neck weldment, split facing front, and then press fit the Gasket into the Gasket Support cover.



Upper and Lower Forward Access Cover Replacement

Upper and Lower Forward Access Covers Replacement

This procedure replaces the Forward Upper and Lower Access covers.

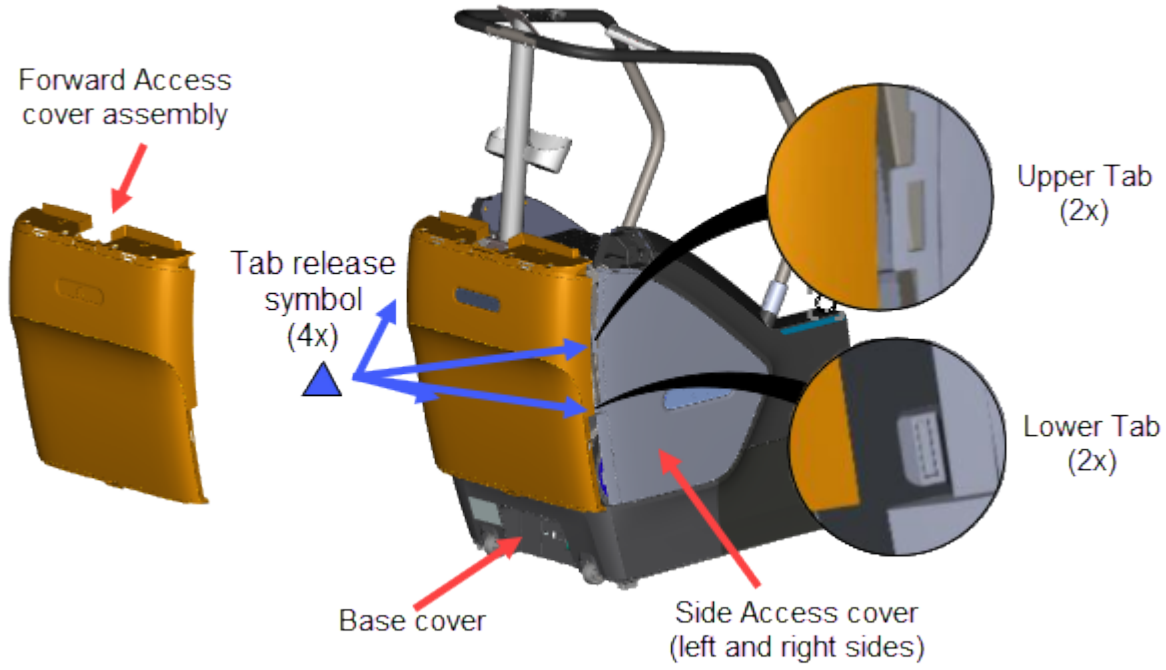
The Forward Upper and Lower Access covers are bolted together and are removed and installed as one Forward Access cover assembly. Removal and installation do not require tools. The covers are fastened using Tabs that are snapped into receiving clips. You use the palm of your hand to strike the cover at identified tab release symbol ▲ locations to unfasten, or unsnap, the tabs.



Removal

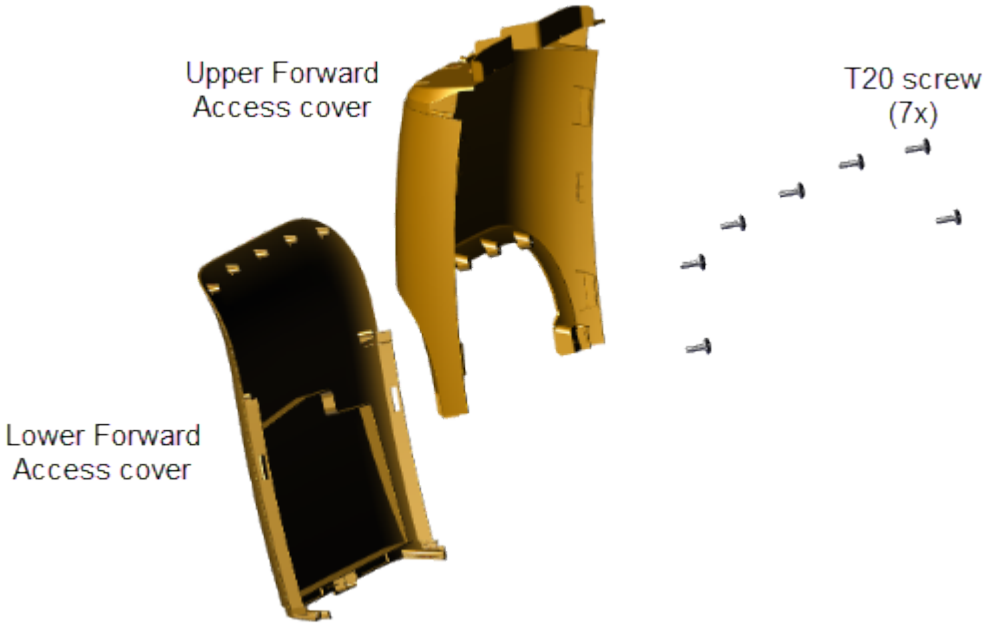
Review entire procedure before beginning.

1. Remove the Top cover, see "Top Cover Replacement" on page 81.
2. Remove the Forward Access cover assembly:
   a. First release the two left and right side Upper Forward Access cover tabs. Use one hand to hold and gently pull forward the top of the Forward Access cover assembly while using the other hand to strike the cover at the tab release symbols ▲.
   b. Then release the two Lower Forward Access cover left and right side tabs using the same process.
   c. After all four tabs are released, lift the cover assembly upward and forward to remove.



Separating the Upper and Lower Forward covers

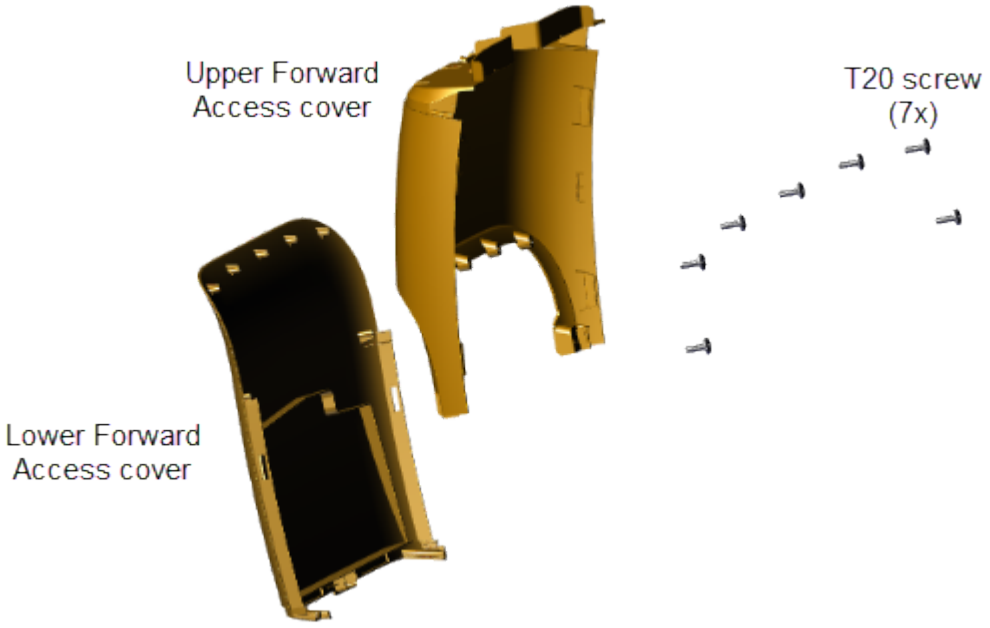
3. Skip step if the Upper and Lower Forward Access covers do not need to be separated.
   Remove the seven T20 screws to separate the Upper and Lower Forward Access covers. Retain part(s) and/or fastener(s) for installation.



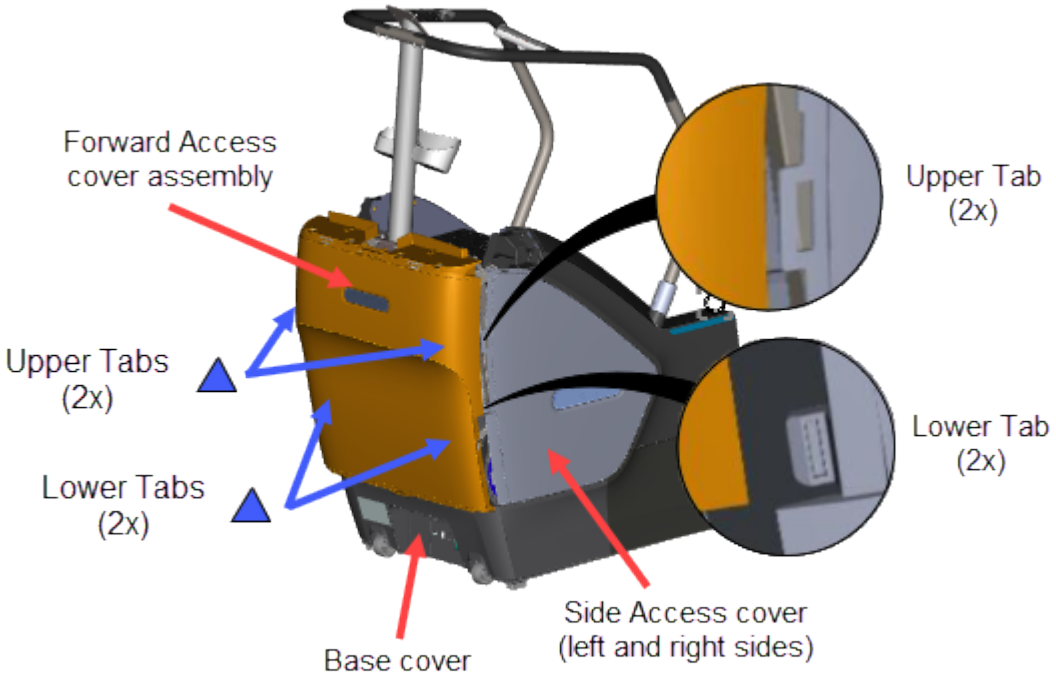
Installation

Review entire procedure before beginning.

1. If separated, reassemble Upper and Lower Forward Access covers. Position Upper Forward Access cover onto the Lower Forward Access cover and secure using the seven T20 screws. Fully tighten screws.



2. Reinstall the Forward Access cover assembly:
    a. Insert the bottom edge of the Forward Access cover assembly into the Base cover top edge tabs.
    b. Then align the Upper and Lower Access cover left and right side tabs to the left and right Side Access cover receiver clips. Use the palm of your hand to strike the front of the cover at the tab locations to snap and lock in place. Lower tabs first and then the upper tabs. Verify that the four cover tabs are securely locked in place.



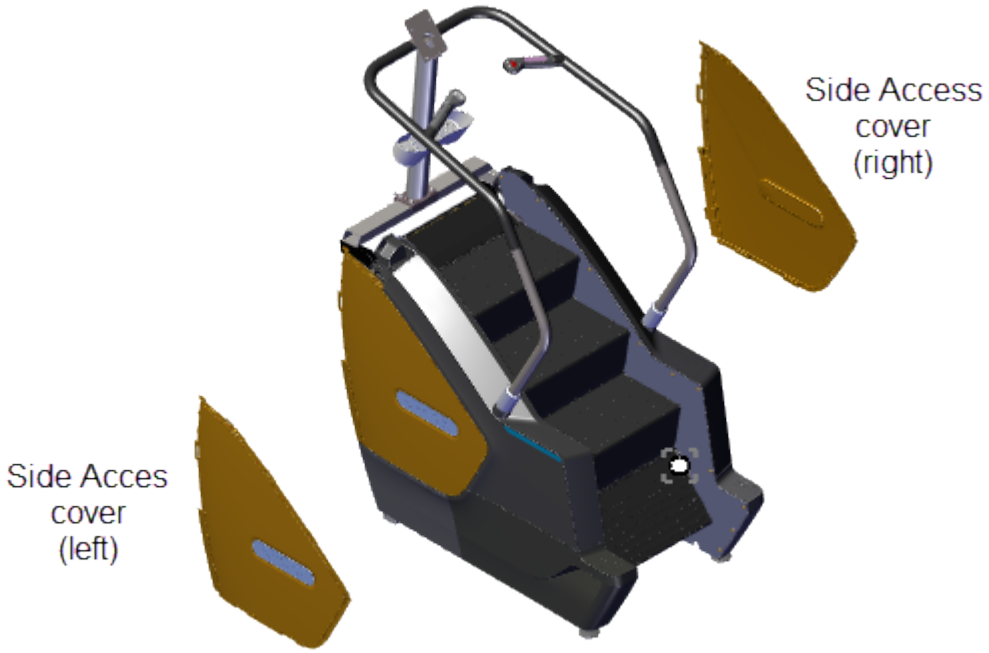
3. Replace the Top cover, see "Top Cover Replacement" on page 81.

Side Access Covers Replacement

Side Access Covers Replacement

This procedure replaces the left and right Side Access covers.

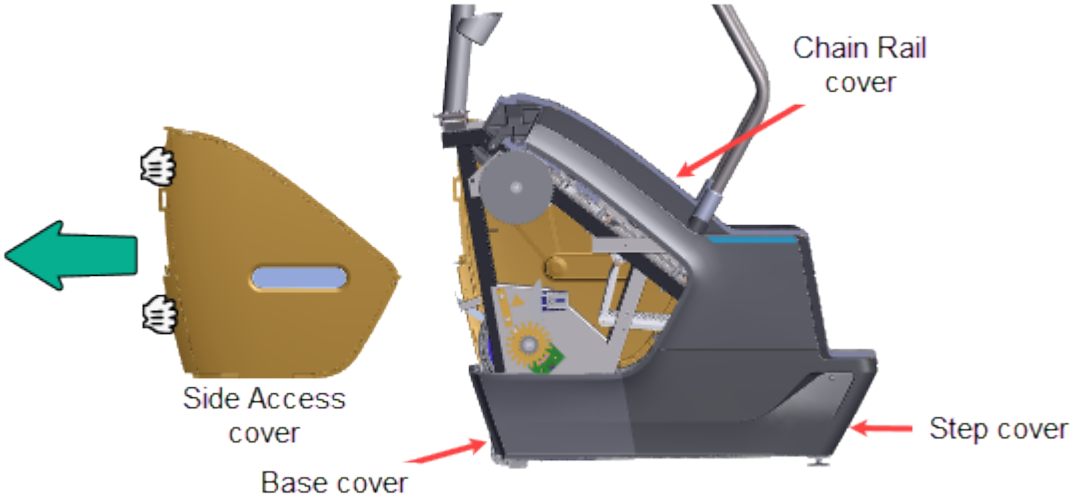
Tools are not required to replace these covers. The covers are secured using tabs that snap and lock in place.

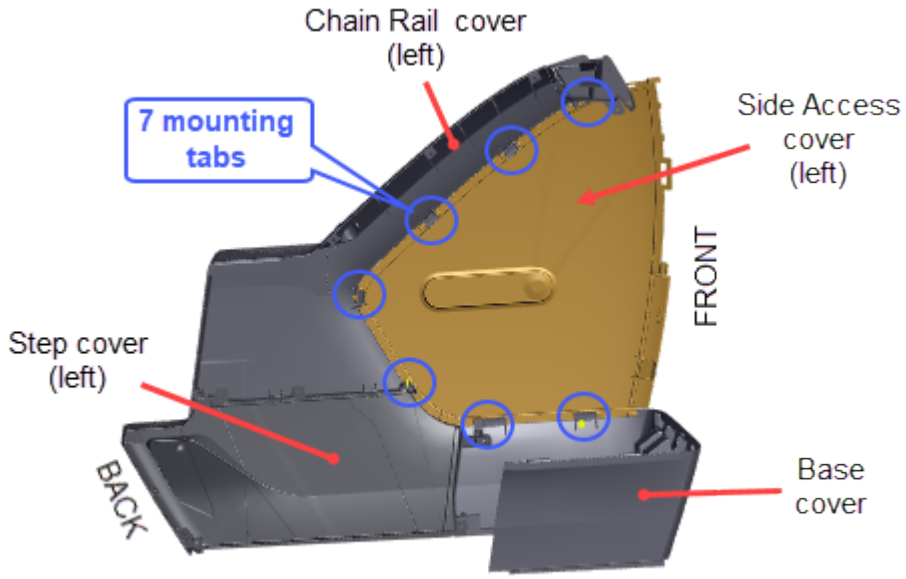


Removal

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

1. Remove the Top cover (see "Top Cover Replacement" on page 81) and Front cover (see "Upper and Lower Forward Access Covers Replacement" on page 88).
2. Grasp the front edge and pull forward to remove the Side Access covers. There are seven tabs that attach the cover to the Base, Step, and Chain Rail covers.



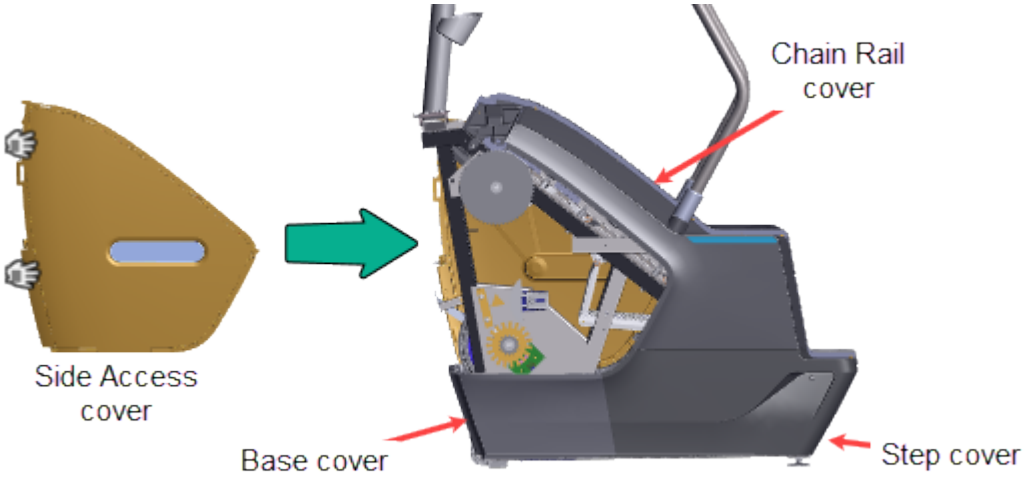


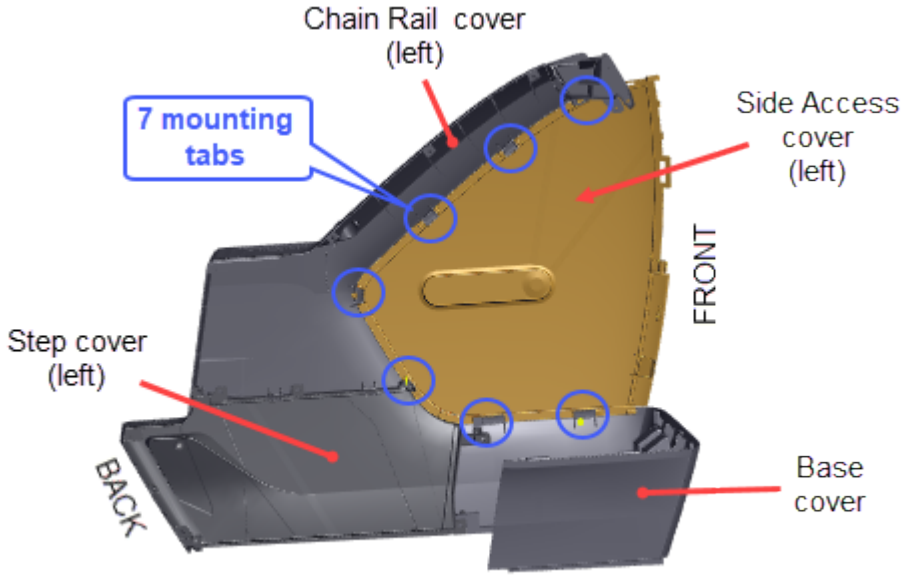
Side Access Cover (left) - Inside View

Installation

Review entire procedure before beginning.

1. Slide the Side Access cover rearward so that the cover seven mounting tabs are aligned with the Base, Step, and Chain Rail cover tabs. Continue to push the cover rearward to lock all seven mounting tabs in place.
2. Repeat procedure for both left and right Side Access covers.





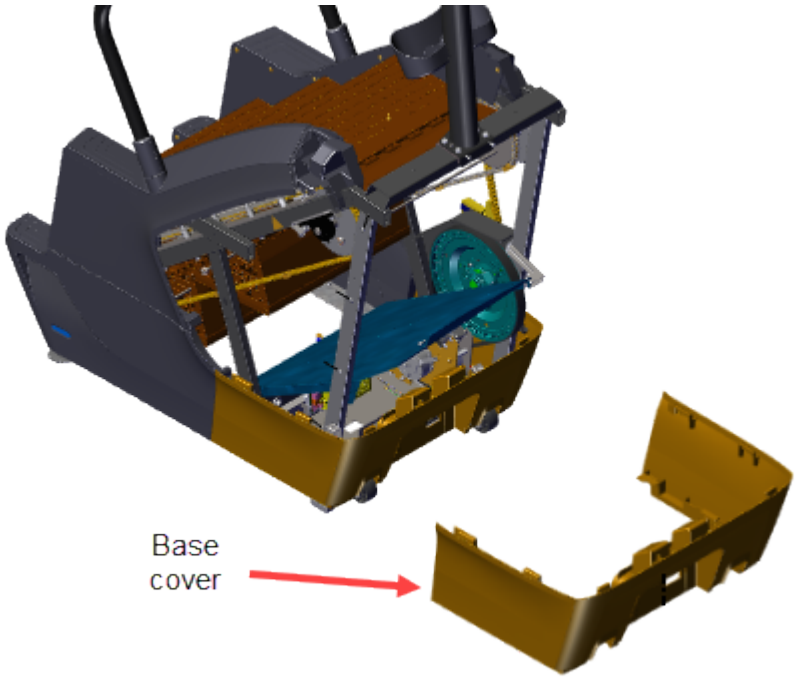
Side Access Cover (left) - Inside View

3. Reinstall the Front cover (see "Upper and Lower Forward Access Covers Replacement" on page 88) and Top cover (see "Top Cover Replacement" on page 81).

Base Cover Replacement

Base Cover Replacement

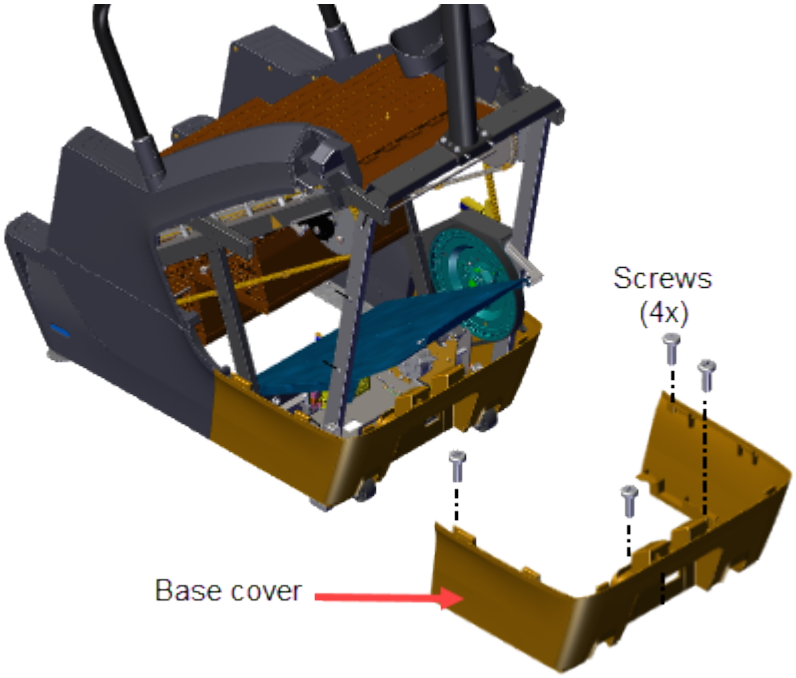
This procedure replaces the Base cover.



Removal

Review compete procedure before stating.

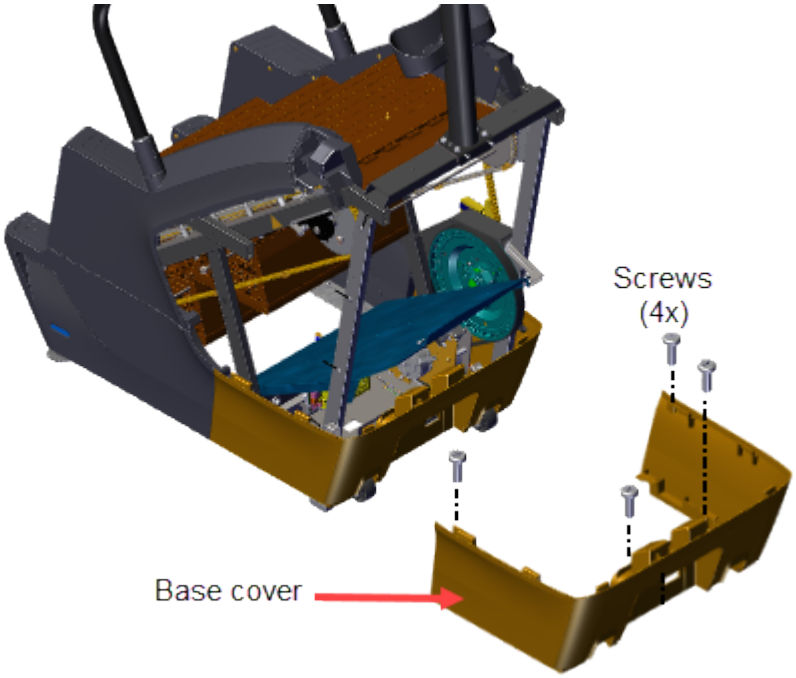
1. Remove the Top cover (see "Top Cover Replacement" on page 81), Front cover (see "Upper and Lower Forward Access Covers Replacement" on page 88) and Side Access covers, (see "Side Access Covers Replacement" on page 92).
2. Remove the four #3 Phillips screws, all mounting screws are located on the inside of the cover. Two screws are located in the front attaching the cover to the front lower frame weldment. The other two screws attach the rear of the cover to the left and right Step covers. Retain part(s) and/or fastener(s) for installation.



Installation

Review compete procedure before stating.

3. Position the left and right sides of the rear of the Base cover around the frame and then slide rearward. Make sure the cover tabs align with the lower frame weldment and the Step cover mounting tabs while pushing the cover into position. Continue to push the cover rearward to lock all mounting tabs in place.

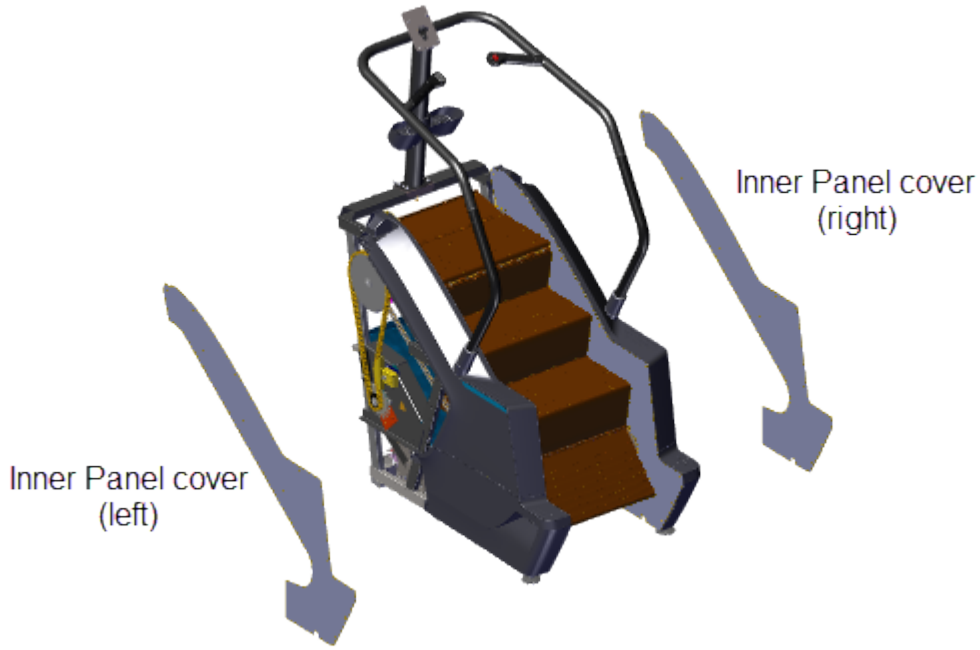


4. Secure using four #3 Phillips screws. Two screws attach the cover to the front lower frame weldment. The other two screws attach the rear of the cover to the left and right Step covers.
5. Reinstall the Side Access covers, (see "Side Access Covers Replacement" on page 92), Front cover (see "Upper and Lower Forward Access Covers Replacement" on page 88), and Top cover (see "Top Cover Replacement" on page 81), .

Inner Panel Covers Replacement

Inner Panel Covers Replacement

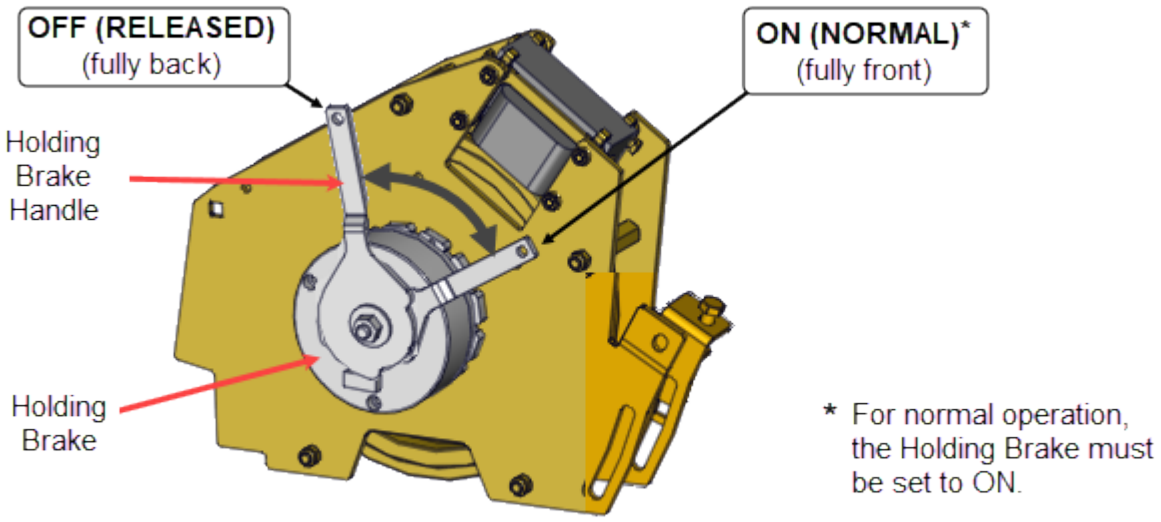
This procedure replaces the Inner Panel covers.



Removal Instructions

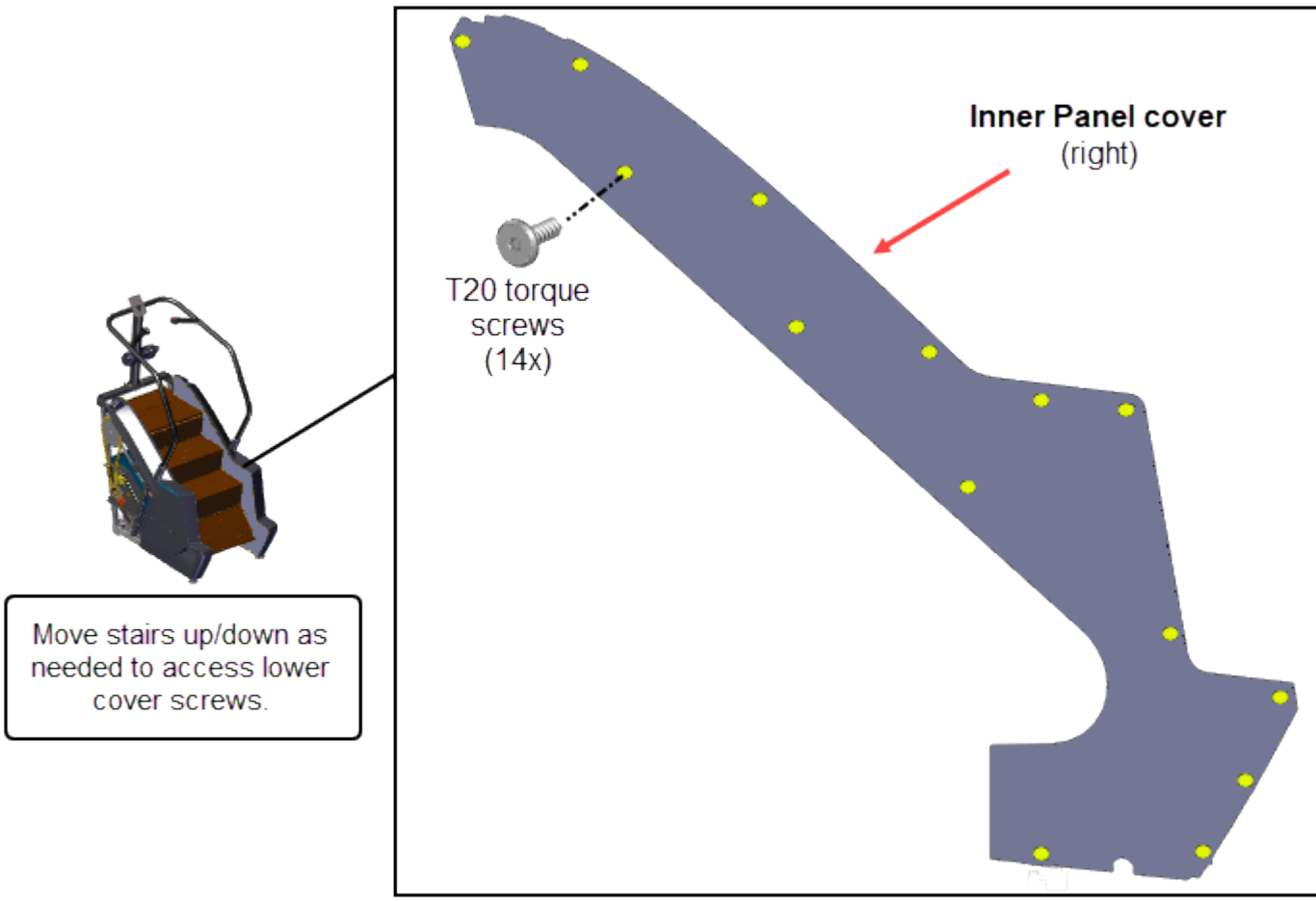
Repeat the removal procedure for both the Inner Panel covers.

1. Make sure the Top cover (see "Top Cover Replacement" on page 81) and Front cover assembly (see "Upper and Lower Forward Access Covers Replacement" on page 88) are removed.
2. Set the Holding Brake handle to OFF (all the way back). This will allow the steps to move.



Brake Assy

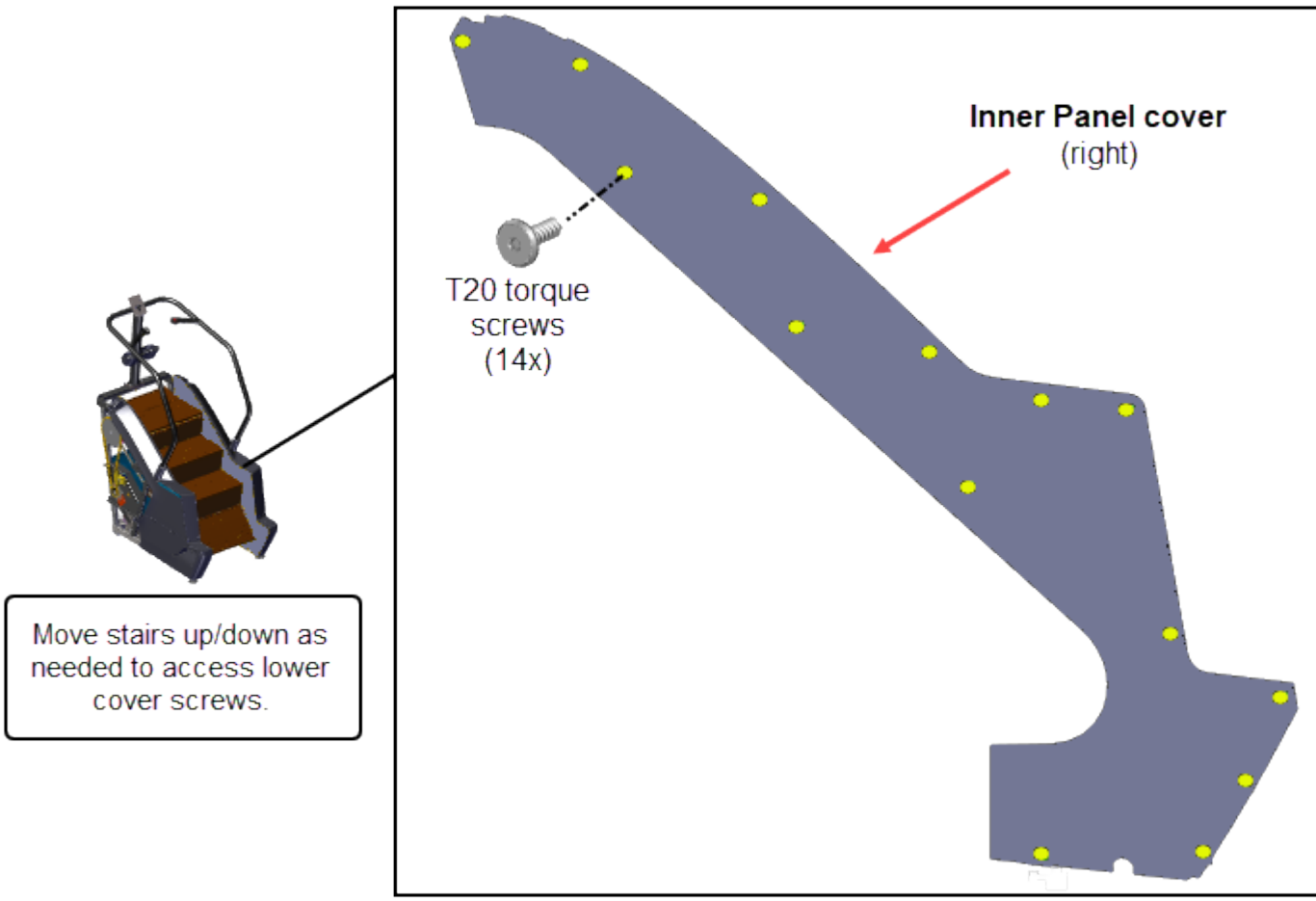
3. Remove the fourteen (14x) T20 torque head screws and carefully lift and remove the Inner Panel cover. The steps will need to be moved up/down as needed to access the lower screws. Both the left and right covers have the same screw pattern. Retain part (s) and/or fastener(s) for installation.



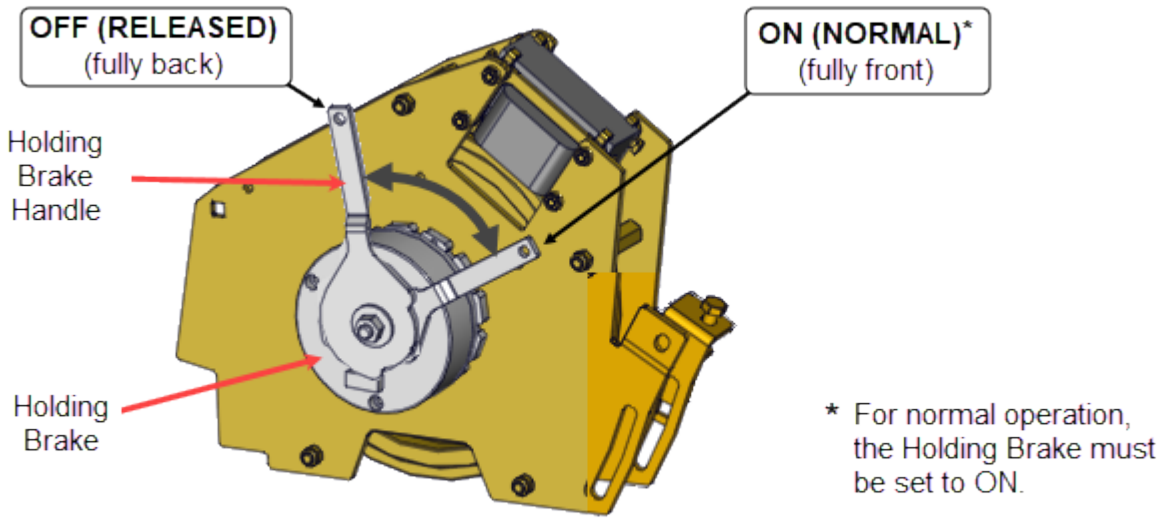
Installation Instructions

Repeat procedure for both the left and right covers.

1. Position the Inner Panel cover between the stairs and frame aligning the screw holes. Do not fully tighten screws until all fourteen (14x) T20 torque screws have been installed.



2. Start by loosely installing the top front upper screw to hold the top of the cover in place. This will also help to hold the cover in place and align the other screws. Next loosely install a screw at the bottom of the panel.
3. Continue loosely installing the remaining screws. When all fourteen (14x) screws have been installed, fully tighten each screw.
4. Set the Holding Brake handle to the ON position (all the way forward). This will keep the stairs from moving.



Brake Assy

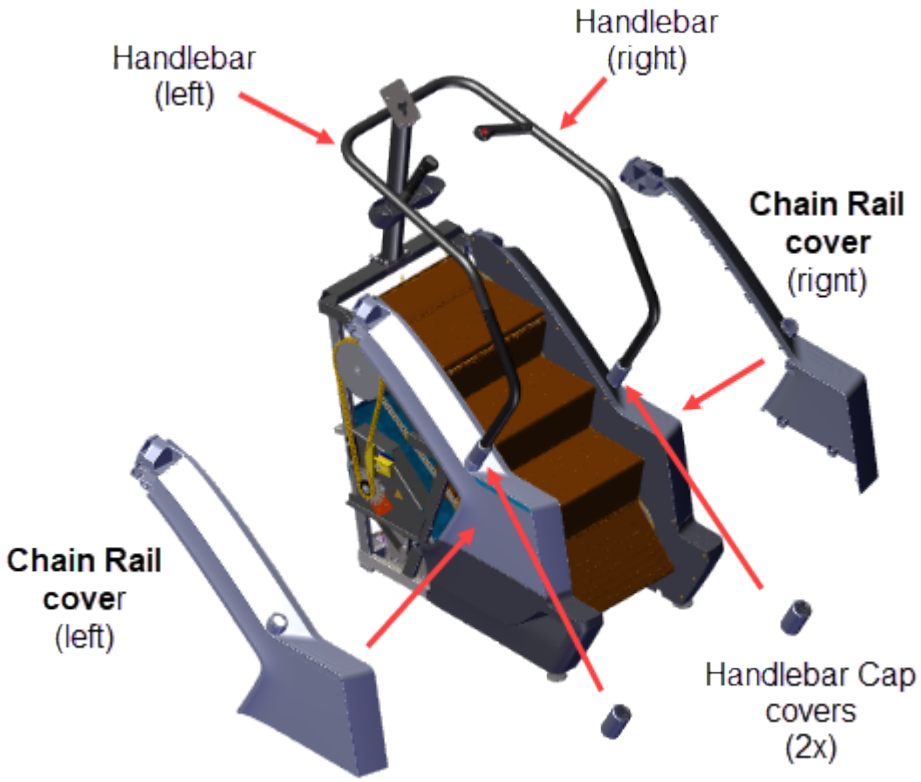
5. Reinstall the Front cover assembly (see "Upper and Lower Forward Access Covers Replacement" on page 88) and Top cover (see "Top Cover Replacement" on page 81).

Chain Rail Cover Replacement

Chain Rail Cover Replacement

This procedure replaces the left and right Chain Rail covers.

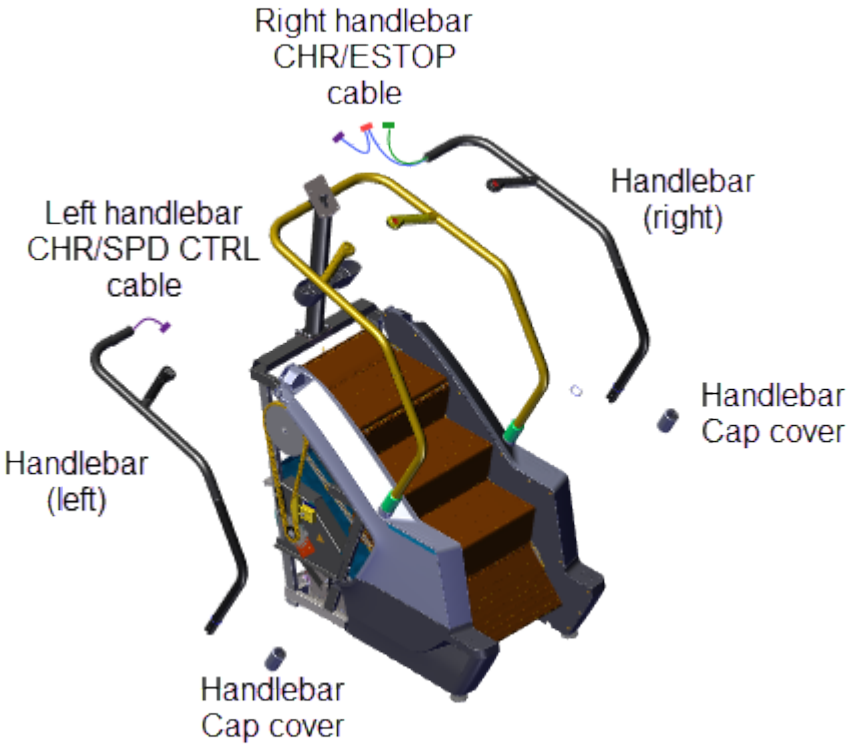
Chain Rail cover removal also requires removal of the corresponding right or left Handlebar.



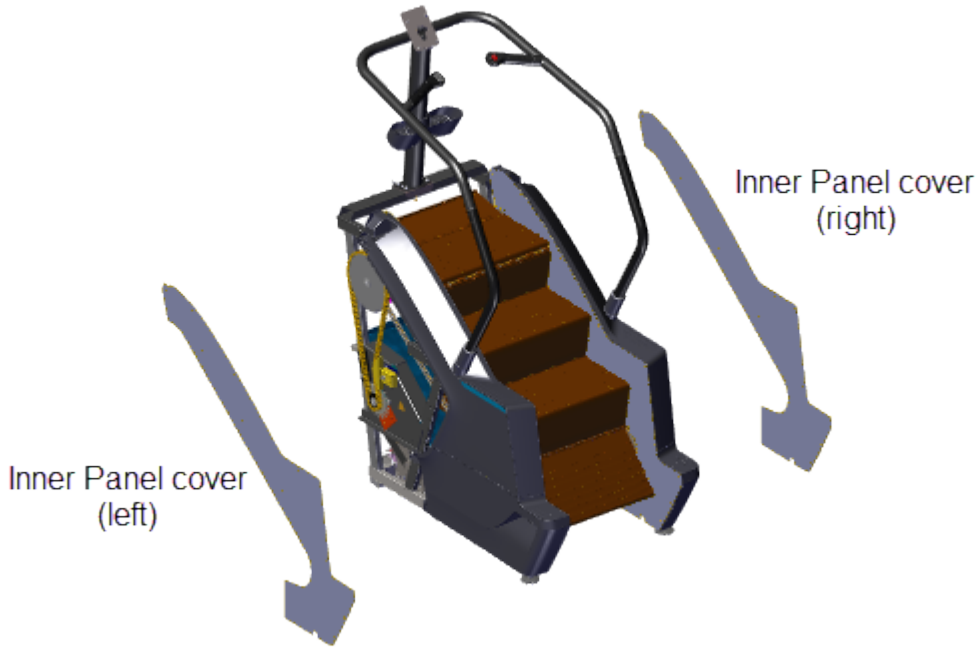
Removal

Repeat procedure for the left and right covers.

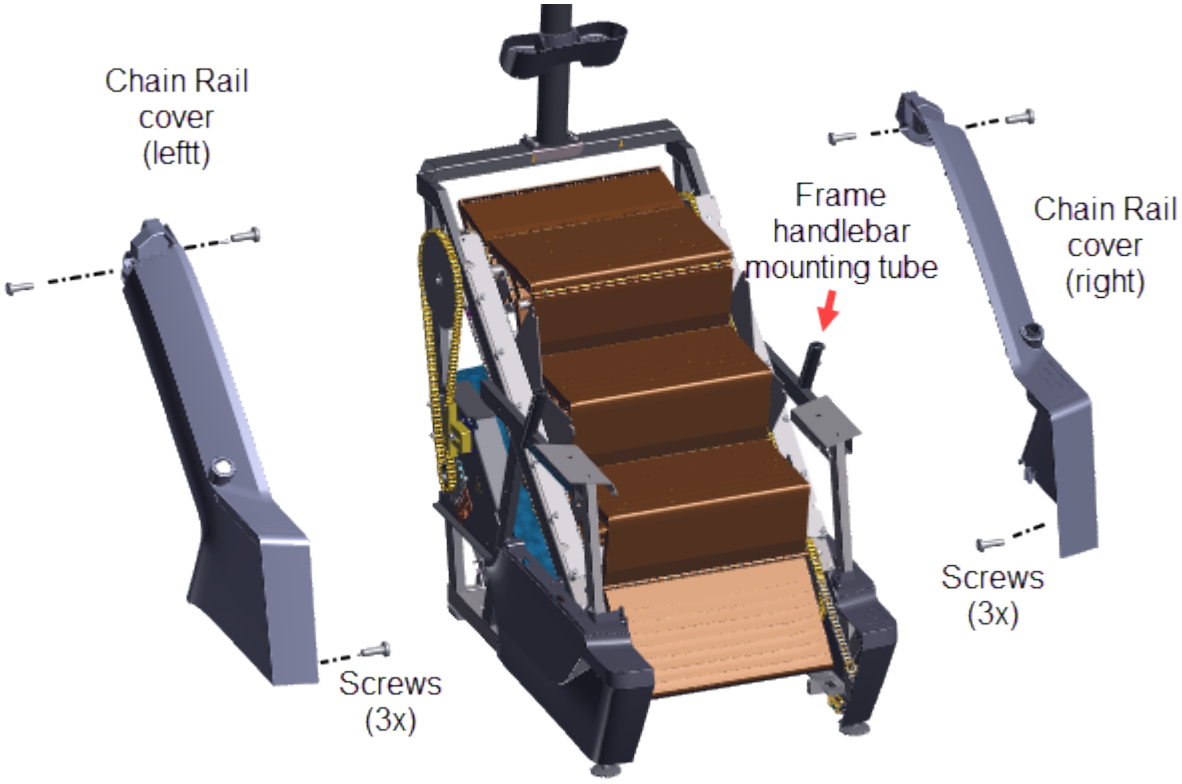
1. Remove the Top cover (see "Top Cover Replacement" on page 81), Front cover (see "Upper and Lower Forward Access Covers Replacement" on page 88) and Side Access covers, (see "Side Access Covers Replacement" on page 92).
2. Remove the left and/or right Handlebar(s) as needed. see "Handlebar Replacement" on page 131.



3. Remove the Inner Panel left and/or right cover(s) as needed, see "Inner Panel Covers Replacement" on page 98).



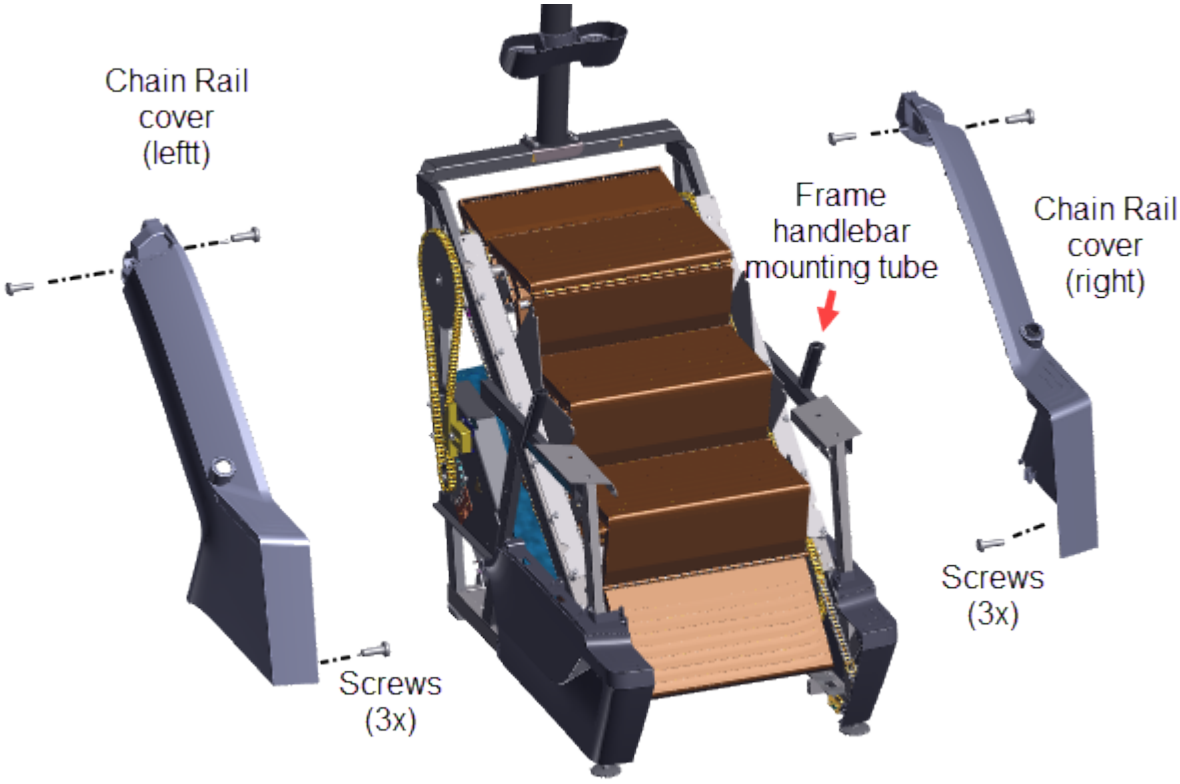
4. Remove the three #3 Phillips mounting screws. Two upper and one lower. Then lift the cover up and off the frame handlebar mounting tube and remove. Retain part(s) and/or fastener(s) for installation.



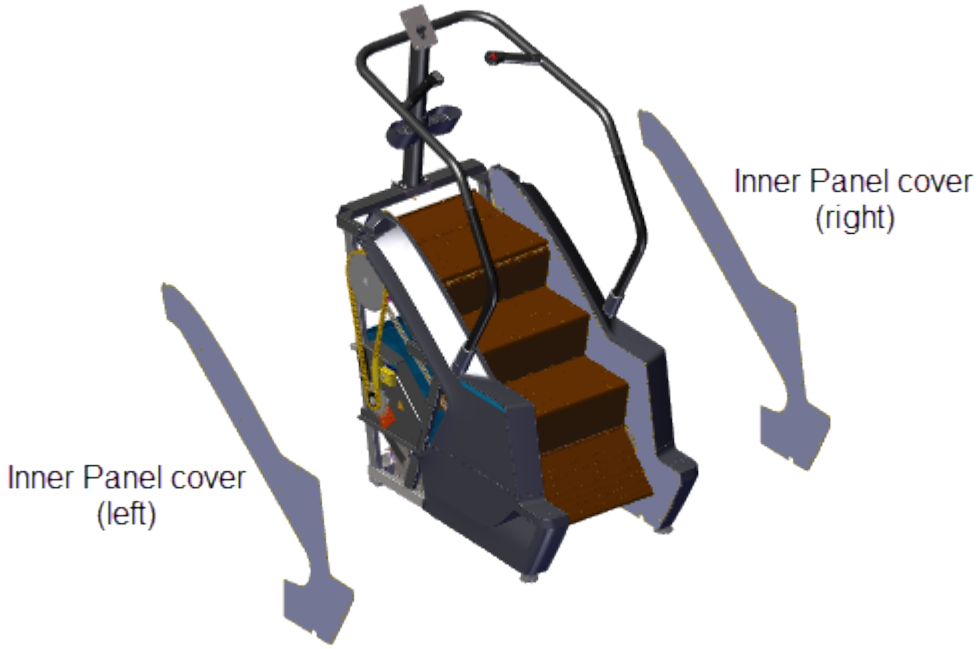
Installation

Repeat procedure for the left and right covers.

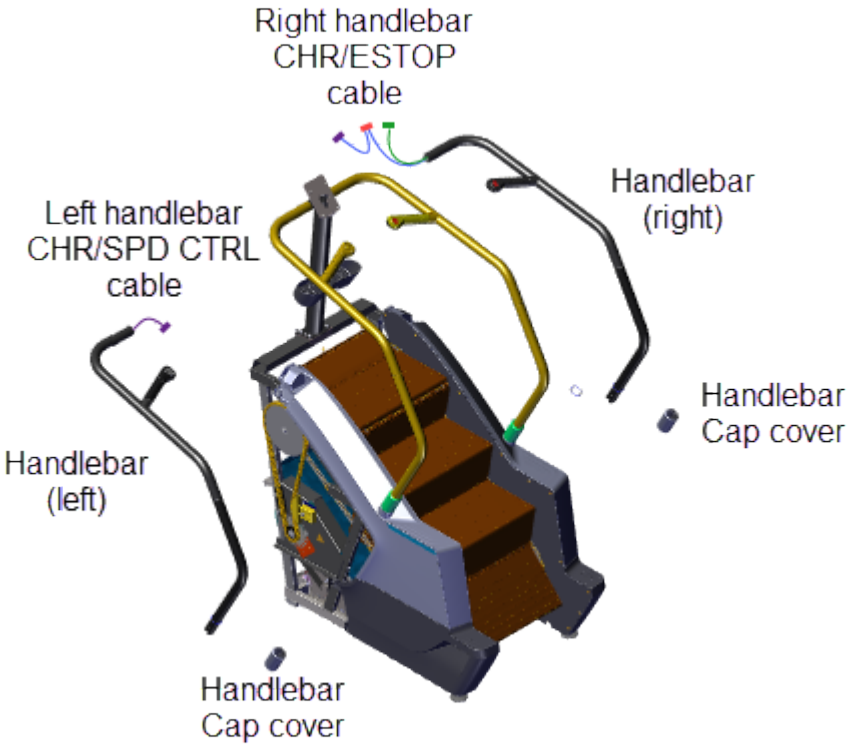
5. Place the cover over the frame handlebar mounting tube and align the screw mounting holes. Secure using three #3 Phillips mounting screws. Two upper and one lower screw. Fully tighten screws.



6. Reinstall the Inner Panel left and/or right cover(s) as needed, see "Inner Panel Covers Replacement" on page 98).



7. Reinstall the left and/or right Handlebar(s) as needed, see "Handlebar Replacement" on page 131.

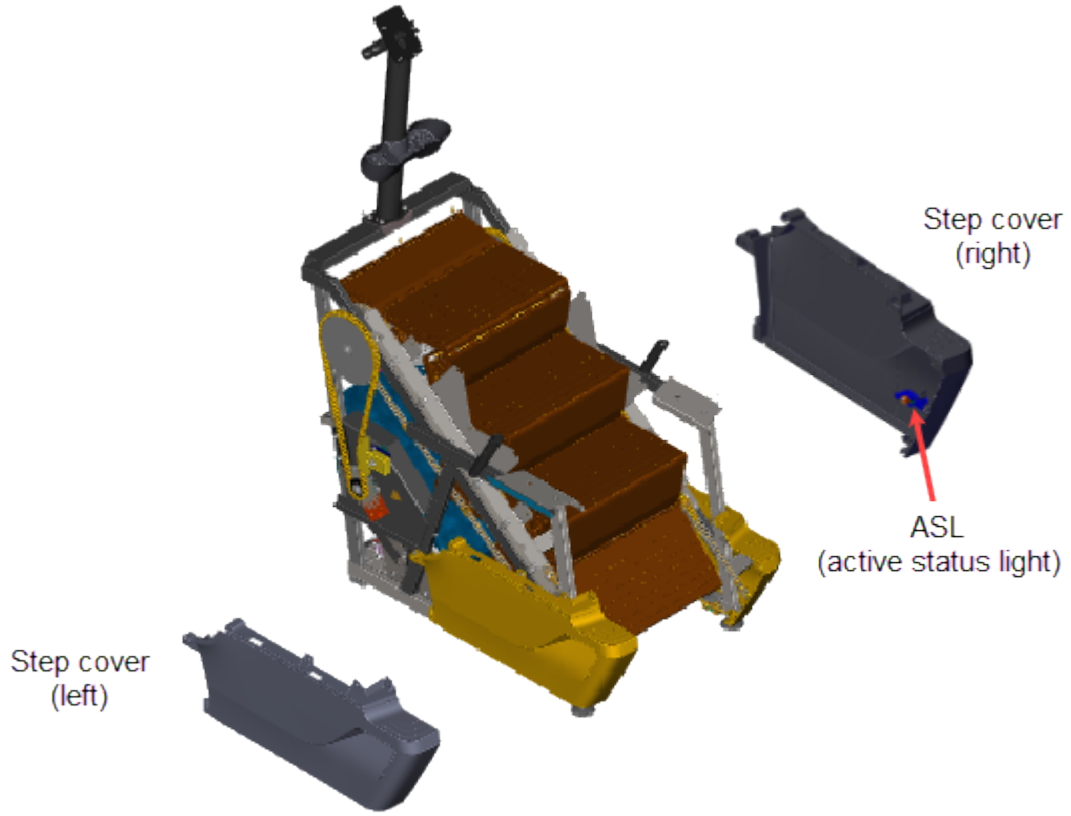


8. Reinstall the Side Access covers, (see "Side Access Covers Replacement" on page 92), Front cover (see "Upper and Lower Forward Access Covers Replacement" on page 88) and Top cover (see "Top Cover Replacement" on page 81).

Step Cover Replacement

Step Cover Replacement

This procedure replaces the left and right Step covers.



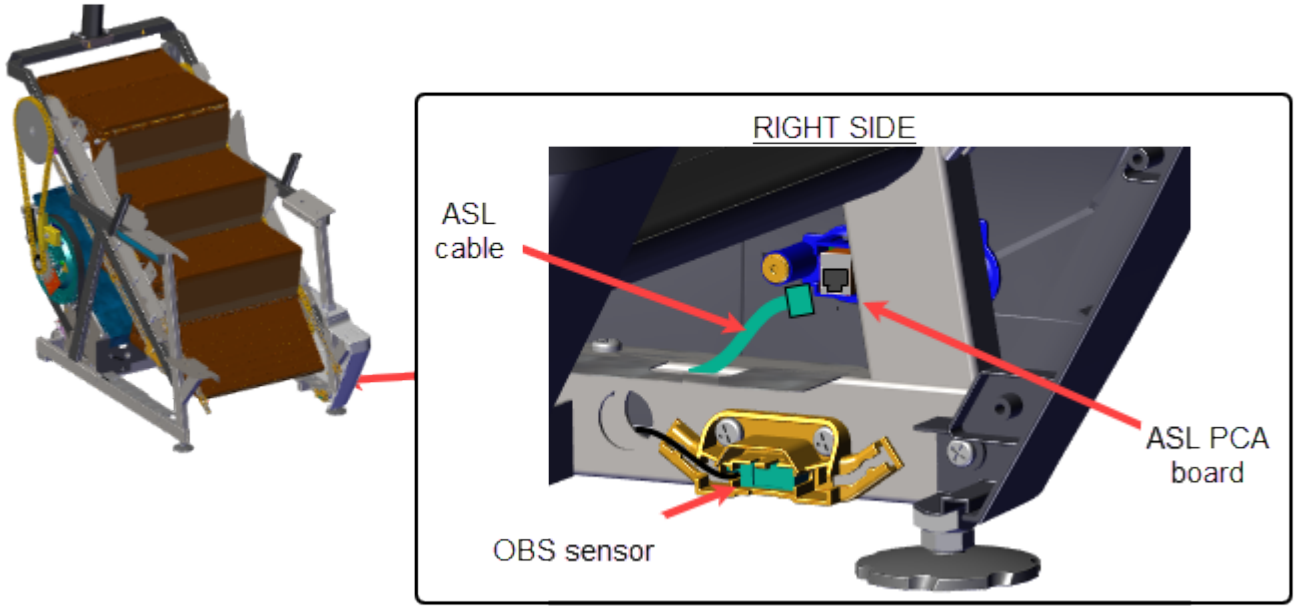
Removal

Repeat procedure for left and right covers.

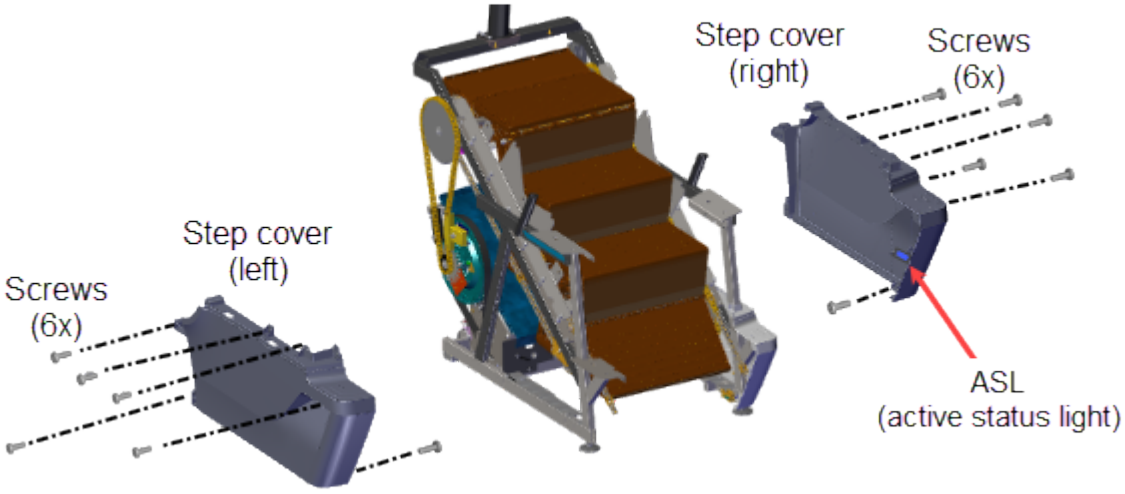
1. Remove the Top cover (see "Top Cover Replacement" on page 81), Front cover (see "Upper and Lower Forward Access Covers Replacement" on page 88) and Side Access covers, (see "Side Access Covers Replacement" on page 92).
2. Remove the Base cover, see "Base Cover Replacement" on page 95.
3. Remove the left and/or right Chain Rail cover(s) as needed (includes removing the Handlebars). see "Chain Rail Cover Replacement" on page 103.
4. For the right step cover, disconnect the **ASL**[1] cable from the ASL **PCA**[2] 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.

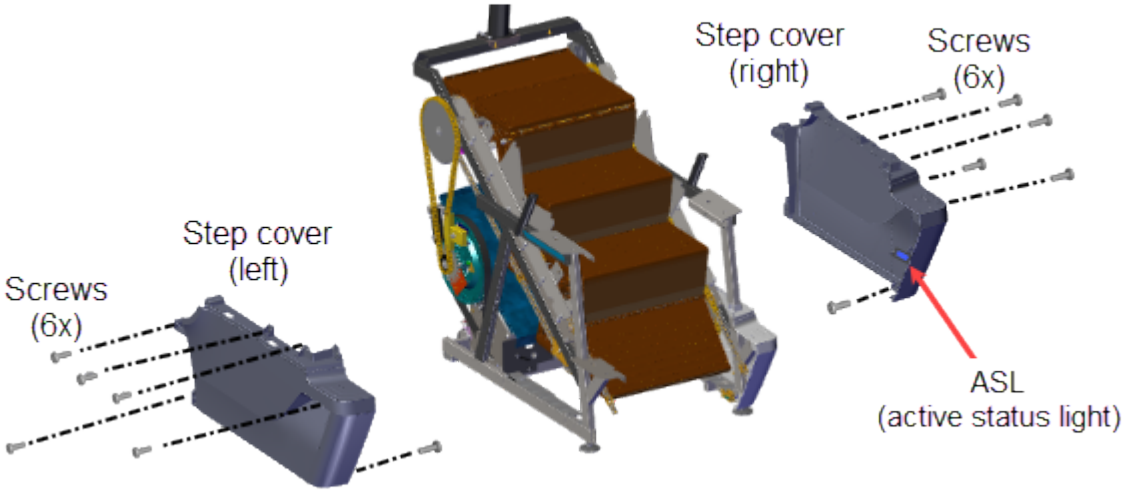


5. Remove the six #3 Phillips screws and remove the Step cover.

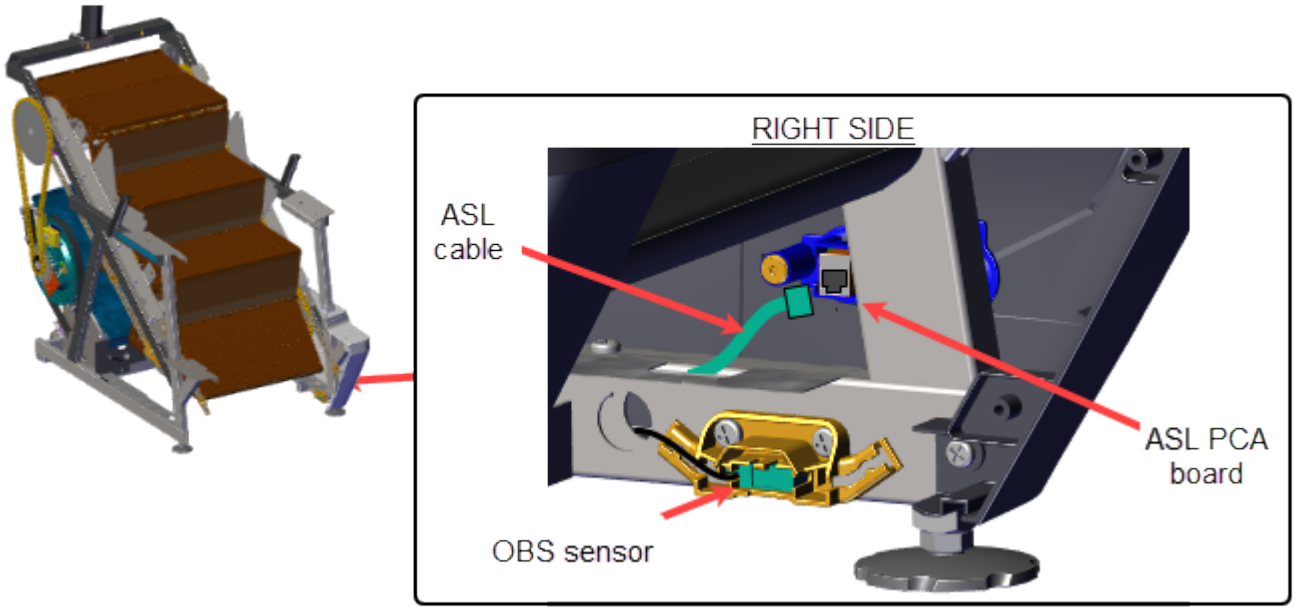


Installation

1. Reinstall the Step cover and secure using the six #3 Phillips screws.



2. Reinstall the left and/or right Chain Rail cover(s) as needed. see ."Chain Rail Cover Replacement" on page 103
3. For the right step cover, connect the ASL cable to the ASL PCA board.

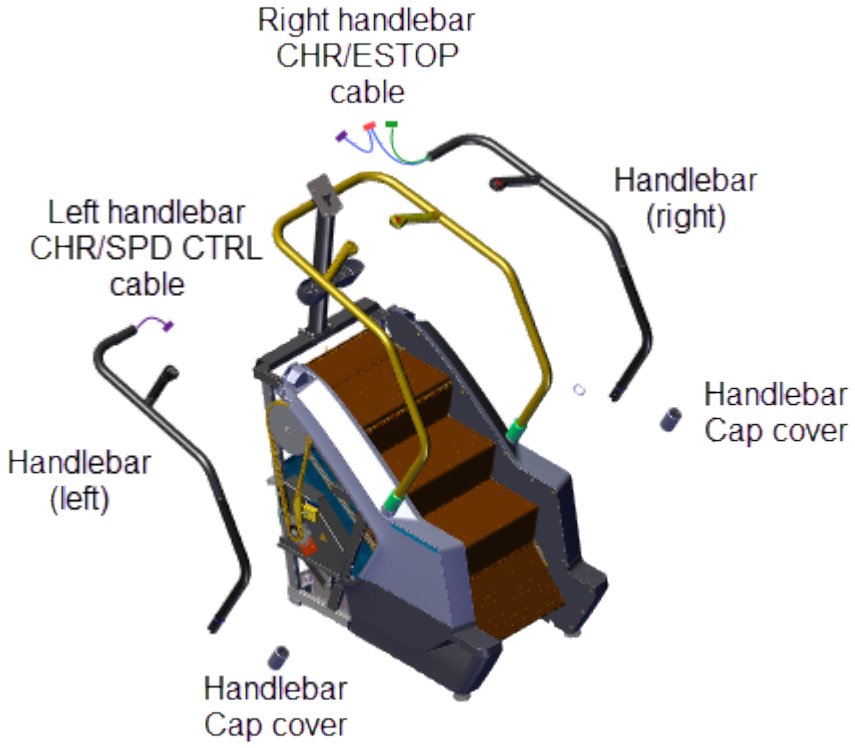


4. Reinstall the Base cover, see "Base Cover Replacement" on page 95.
5. Reinstall the Side Access covers, (see "Side Access Covers Replacement" on page 92), Front cover (see "Upper and Lower Forward Access Covers Replacement" on page 88) and Top cover (see "Top Cover Replacement" on page 81).

Handlebar Replacement

About

This procedure provides instruction to replace the right and left handlebars



Handlebar Interface Cables

The right handlebar **CHR**[1]/STOP "Y" cable connects to the console **UPCA**[2] board and **HR**[3] **PCA**[4] board which then connects to the right handlebar grip **HHHR**[5] sensor and Remote Manual Stop switch. The right handlebar CHR/STOP "Y" cable also combines or splices together with the left handlebar CHR/**SPD**[6] **CTRL**[7] cable.

The left handlebar CHR/SPD CTRL cable plugs into (splices together) the right handlebar CHR/STOP "Y" cable and connects to the left handlebar grip HHHR sensor and remote up/-down speed control button.

---

[1]Contact Heart Rate sensor, same as HHHR (Handheld Heart Rate sensor).

[2]Upper PCA board

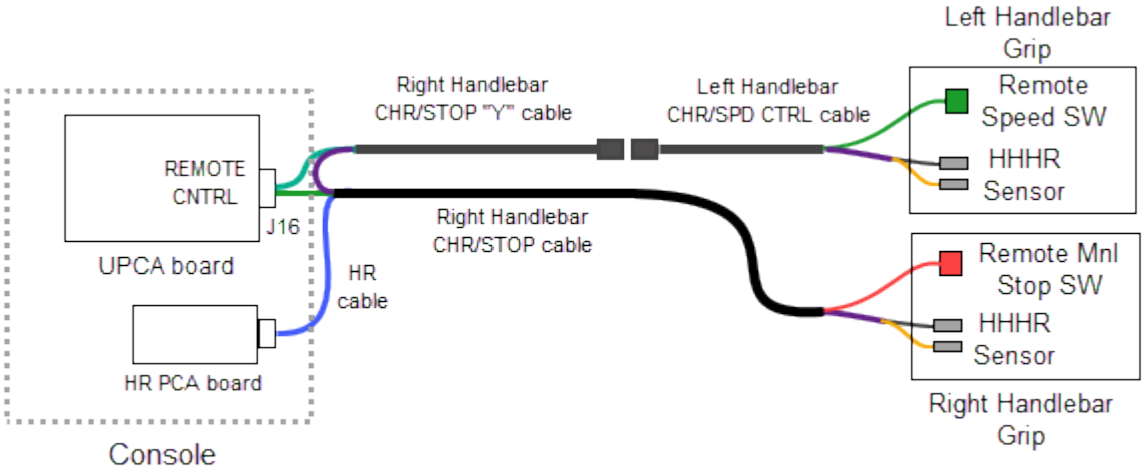
[3]Heart Rate

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

[5]Handheld Handlebar Heart Rate

[6]speed

[7]control



SCL800 Left & Right Handlebar Cable Wire Diagram

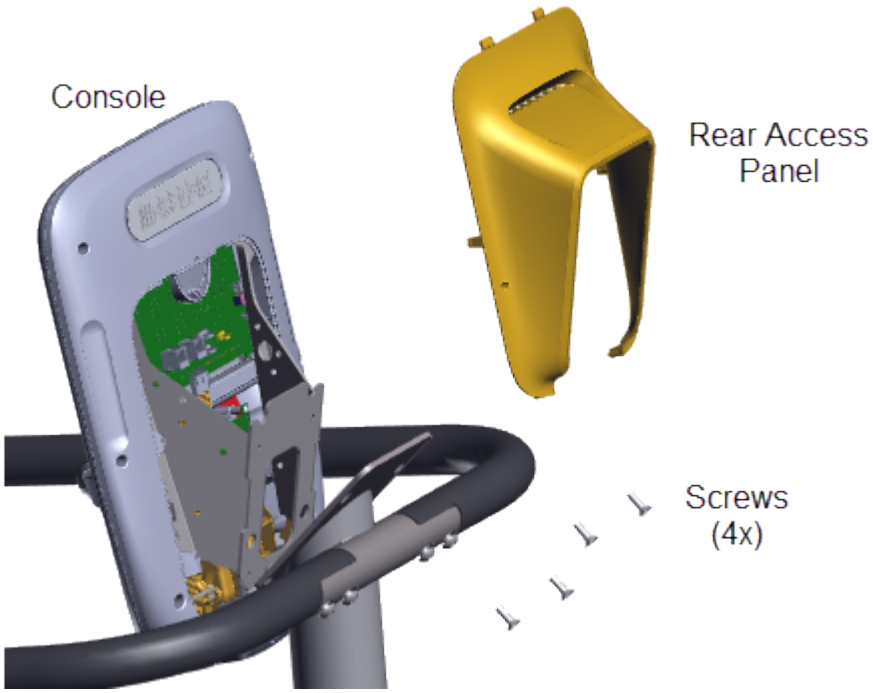
Procedure

Review entire procedure before starting.

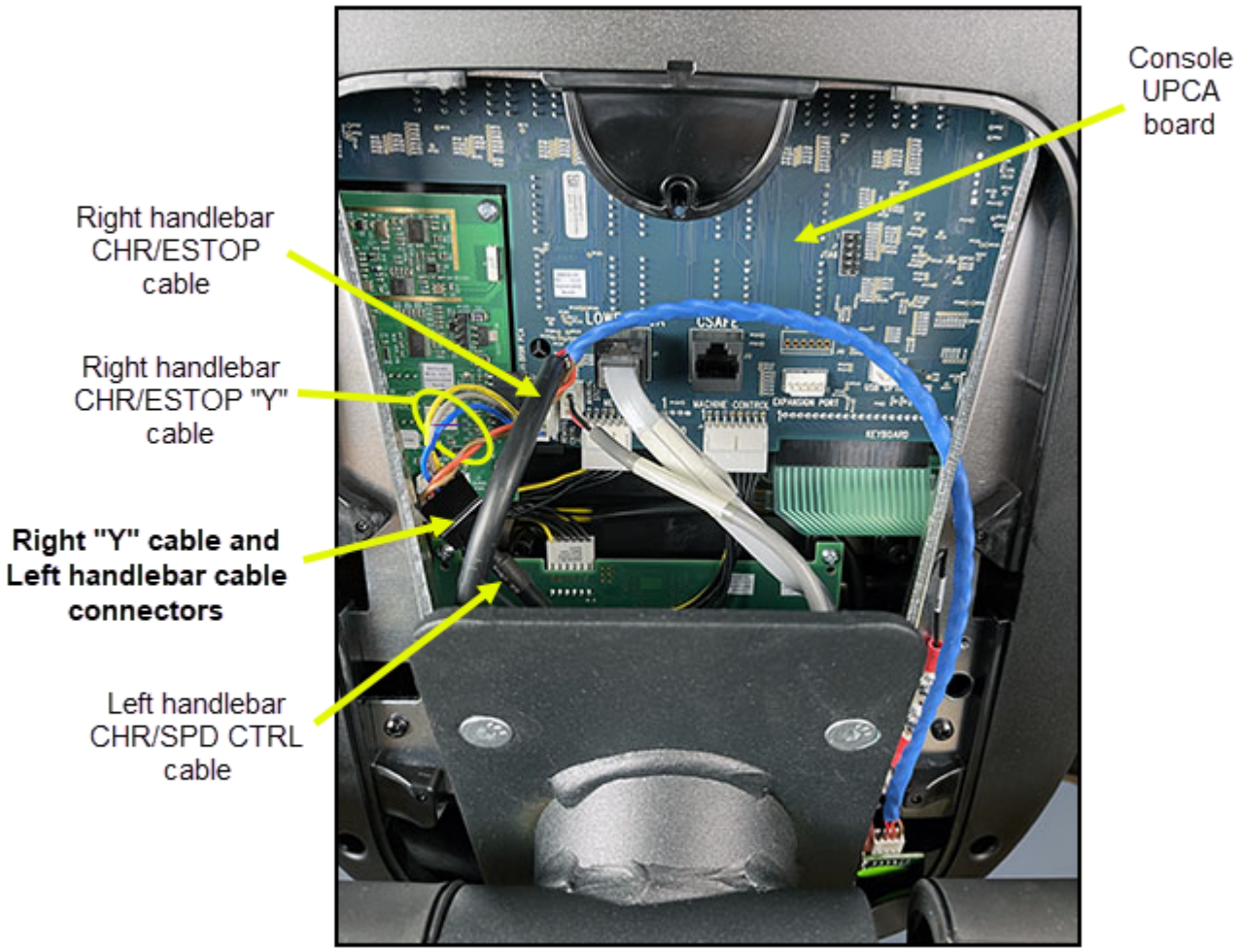
Removal

1. Switch the power OFF and **unplug**[1] the power cord.
2. Remove the console rear Access Panel cover. 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.

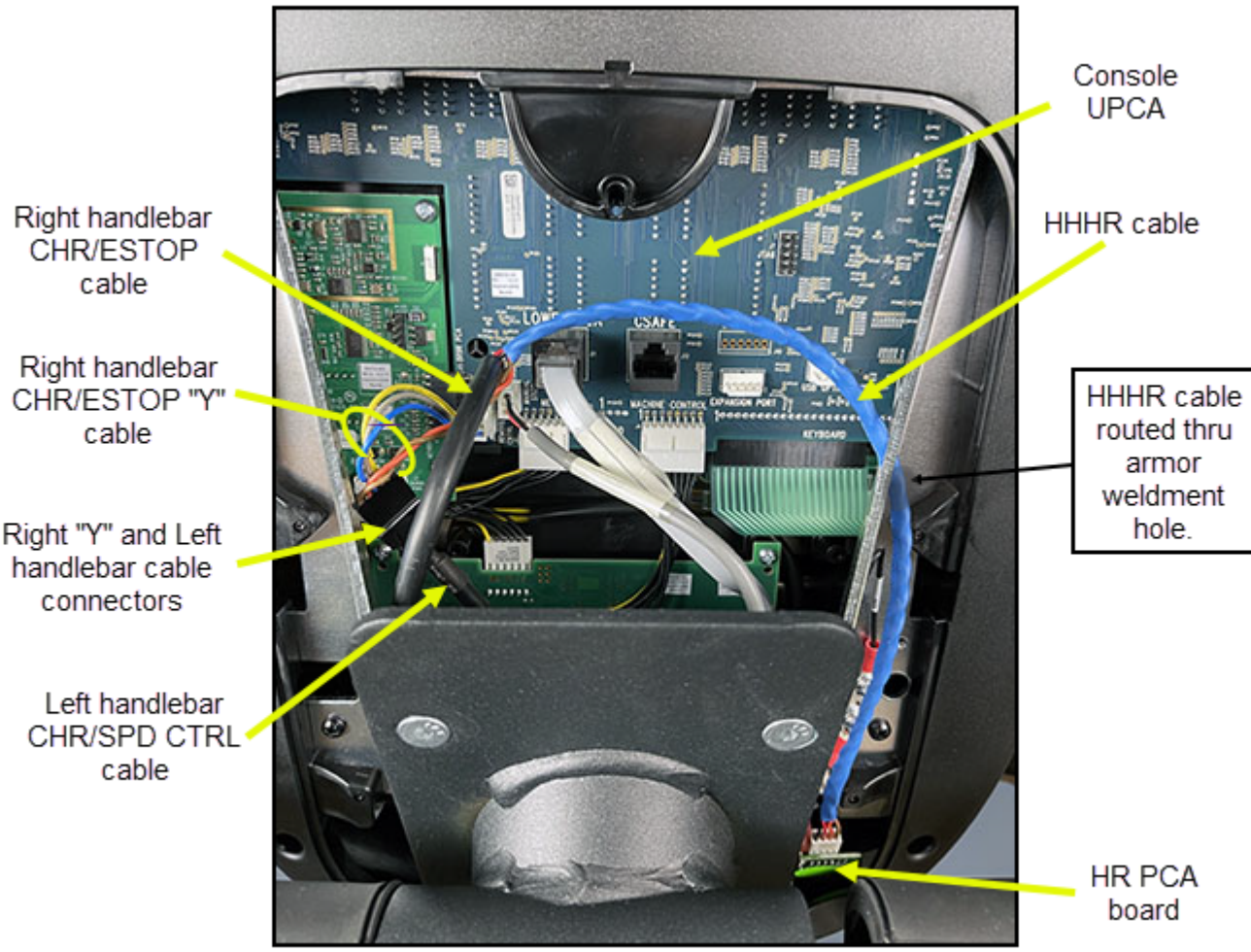


3. Remove the four 5/32" (4 mm) hex key console mounting bolts. Tilt the console rearward and set on the console mount hook. Retain part(s) and/or fastener(s) for installation.
4. For the **Left Handlebar** removal, disconnect the left handlebar CHR/SPD CTRL cable from the right handlebar CHR/STOP "Y" cable connector. No other cables need to be disconnected.



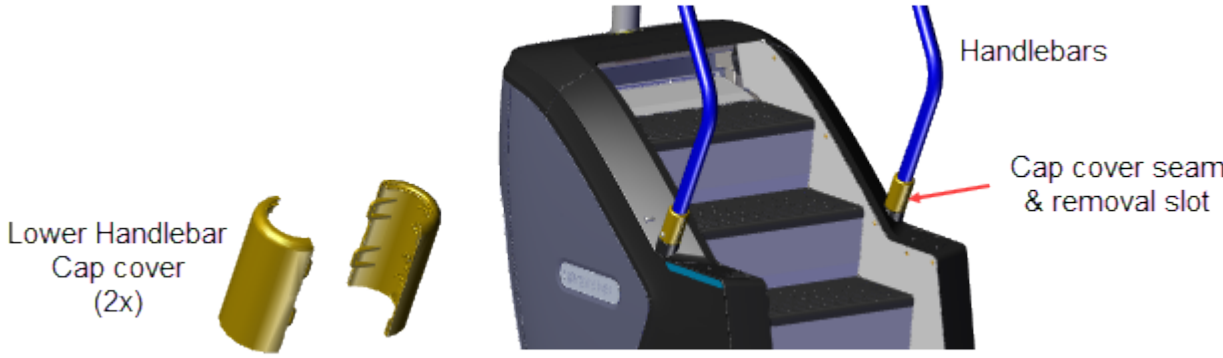
P31 Console UPCA board

5. For the **Right Handlebar** removal, disconnect the following interface cables:
    - Disconnect the left handlebar CHR/SPD CTRL cable from the right handlebar CHR/STOP "Y" cable.
    - Disconnect the HHHR cable from the HR PCA board. Carefully feed the cable through the hole in the armor weldment.
    - Disconnect the right handlebar CHR/STOP CTRL cable from the console UPCA "REMOTE CNTRL" (J13) connector.

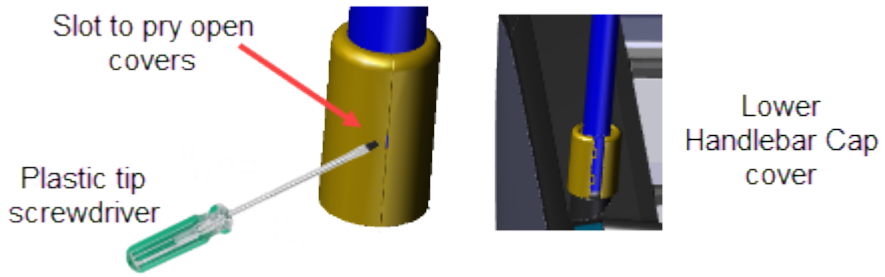


P31 Console UPCA

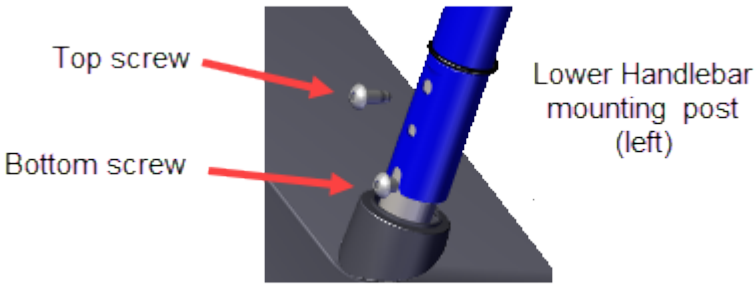
6. Remove the lower handlebar cap covers.



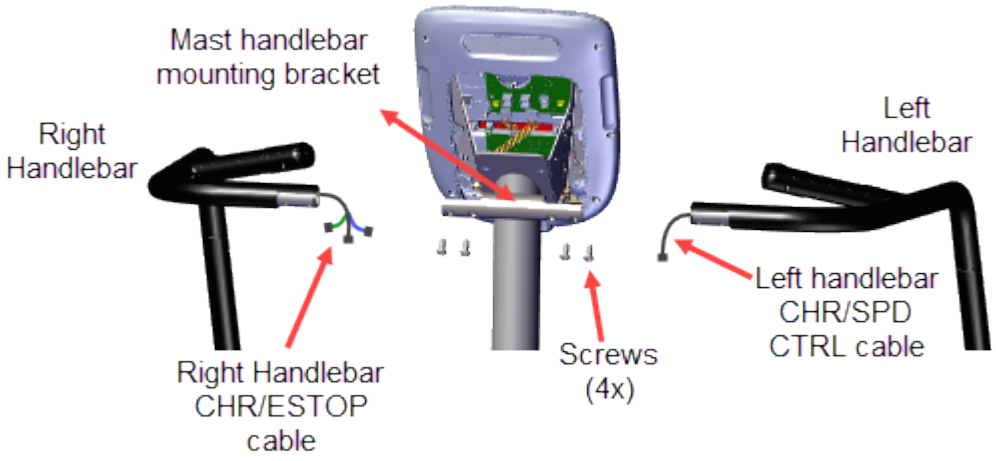
a. Carefully insert a plastic tip flat blade screwdriver into the removal slot to pry apart "unsnap" the covers and remove. Retain part(s) and/or fastener(s) for installation.



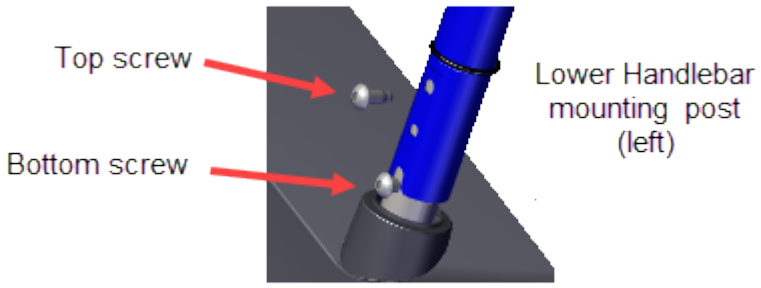
7. Use a "7/32" hex key to remove the lower handlebar top screw and loosen, but do not remove, the bottom screw. The bottom screw holds the lower handlebar mounting post in position while removing upper handlebar mounting tube. Retain part(s) and/or fastener(s) for installation.



8. Remove the remaining two upper handlebar tube "7/32" hex key mounting screws. While removing the handlebar, from the mast mounting bracket, carefully feed the handlebar interface cable through the console mounting armor weldment and mast handlebar mounting bracket. Retain part(s) and/or fastener(s) for installation.

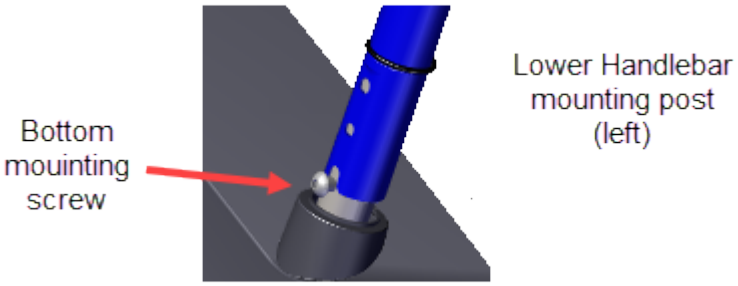


9. If you are removing the Chain Rail cover, go back and remove the loosened lower handlebar post bottom screw. Retain part(s) and/or fastener(s) for installation.

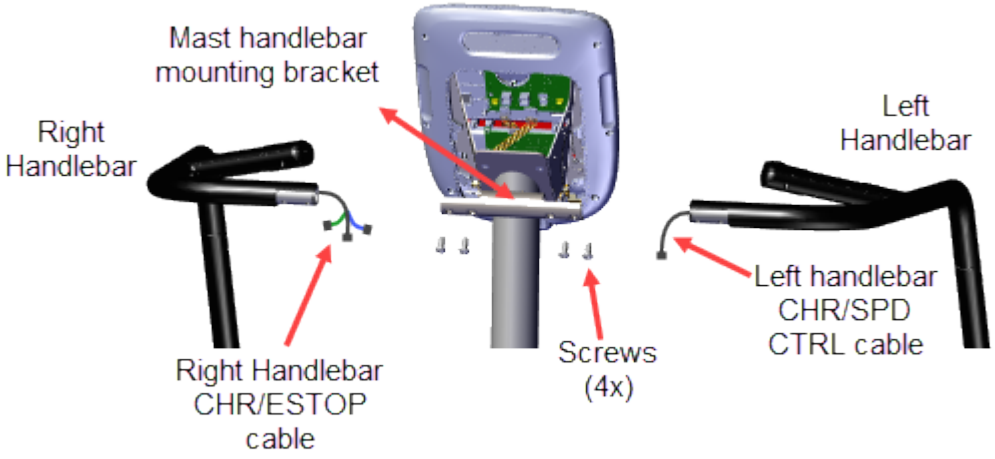


Installation

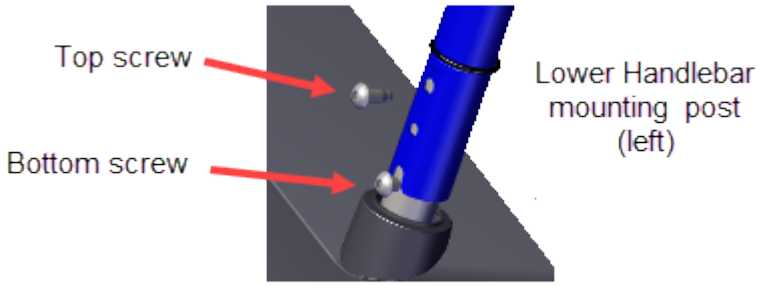
10. If you removed the lower handlebar post bottom screw, reinstall the "7/32" hex key screw leaving about an 1/8" exposed thread. The lower handrail post notch will set on the bottom screw.



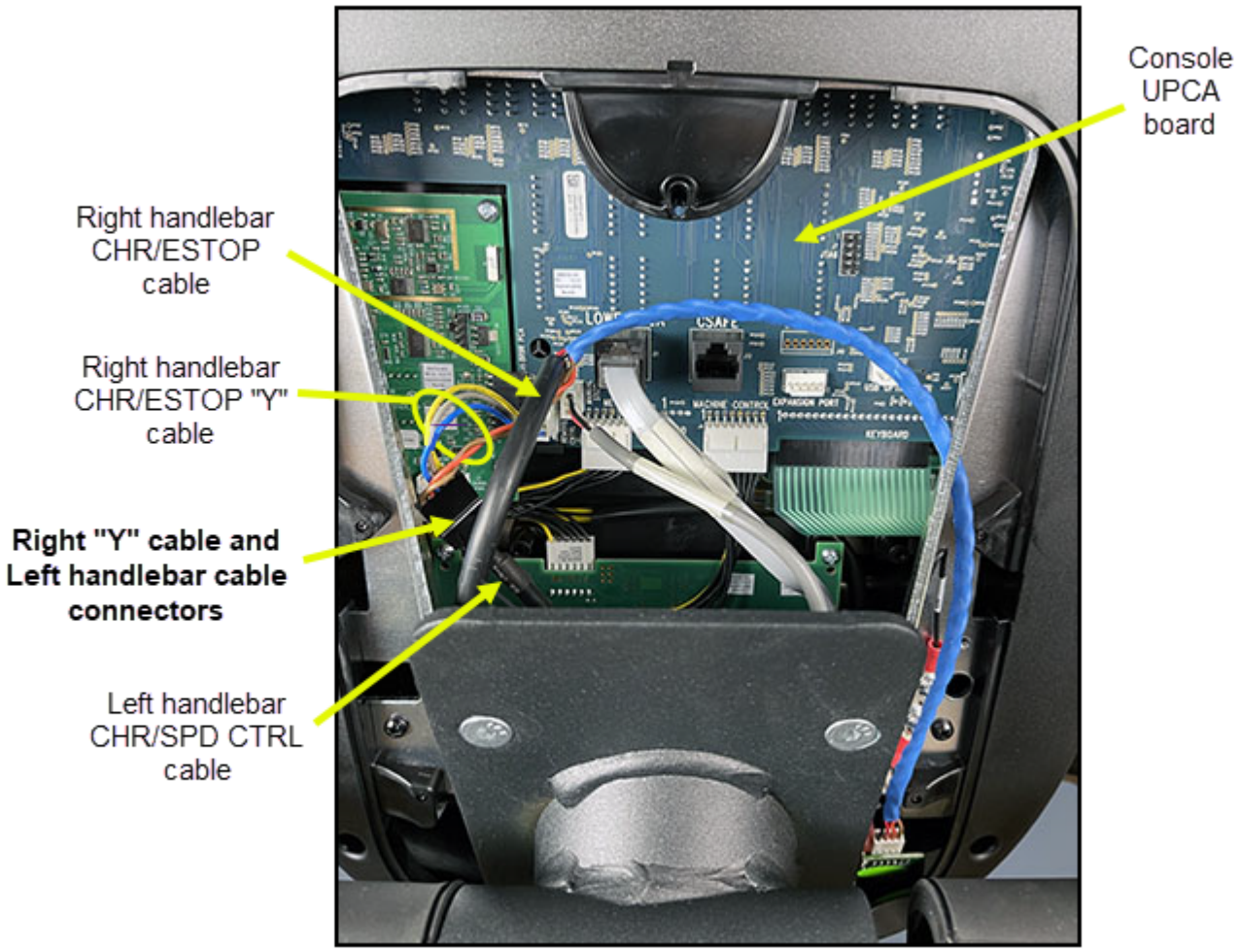
11. Set the lower Handlebar post notch onto the lower Handlebar exposed bottom screw threads. Then install the upper Handlebar tube onto the handlebar mast mounting bracket. Carefully feed the console interface cable and connector(s) through the mast handlebar mounting bracket and console mounting plate. Secure using the two "7/32" hex key screws and fully tighten.



12. Reinstall the "7/32" hex key Lower Handlebar post upper screw. Fully tighten both the upper and lower Handlebar post screws.

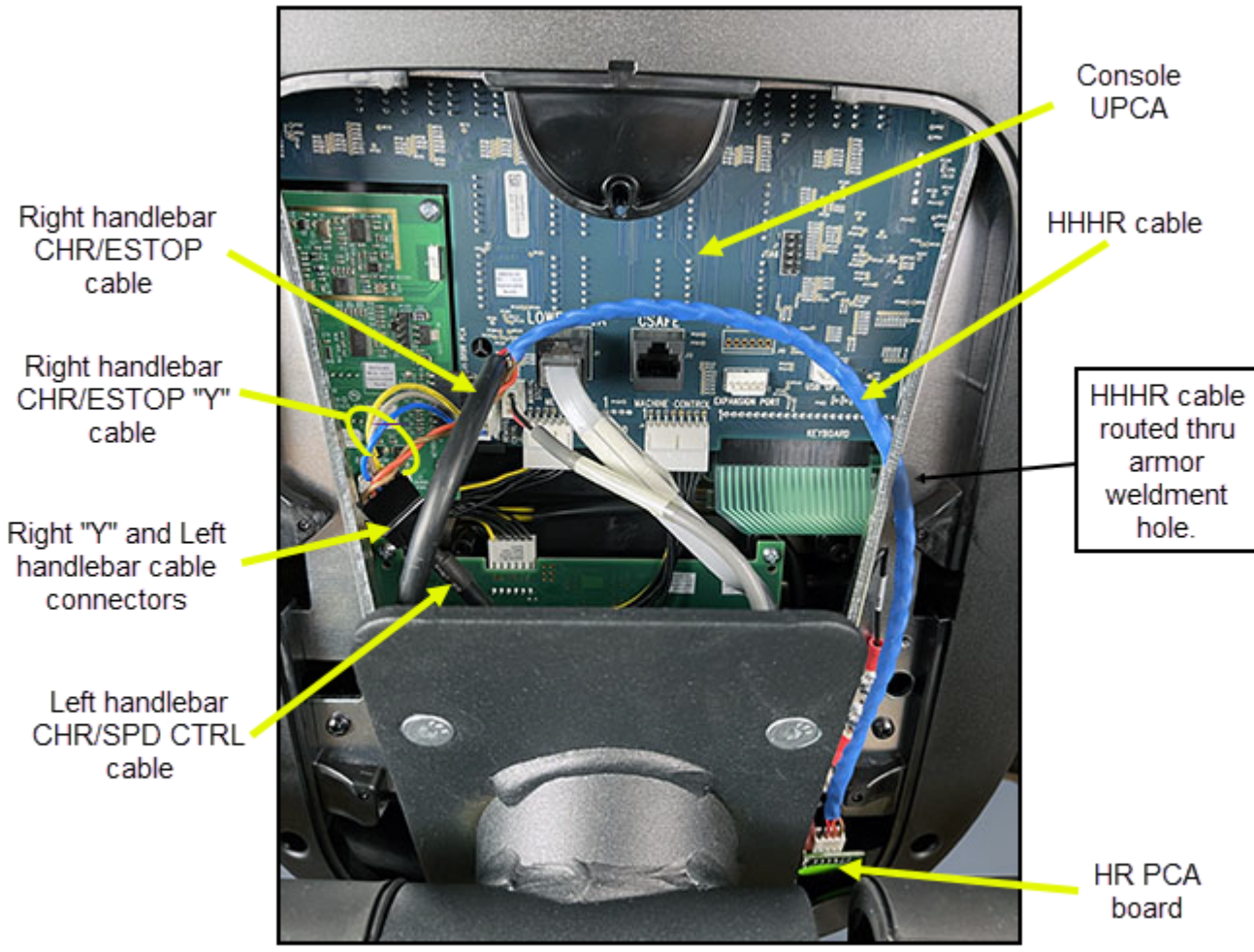


13. For the **Left Handlebar** installation, reconnect the left handlebar CHR/SPD CTRL cable to the right handlebar CHR/STOP "Y" cable connector.



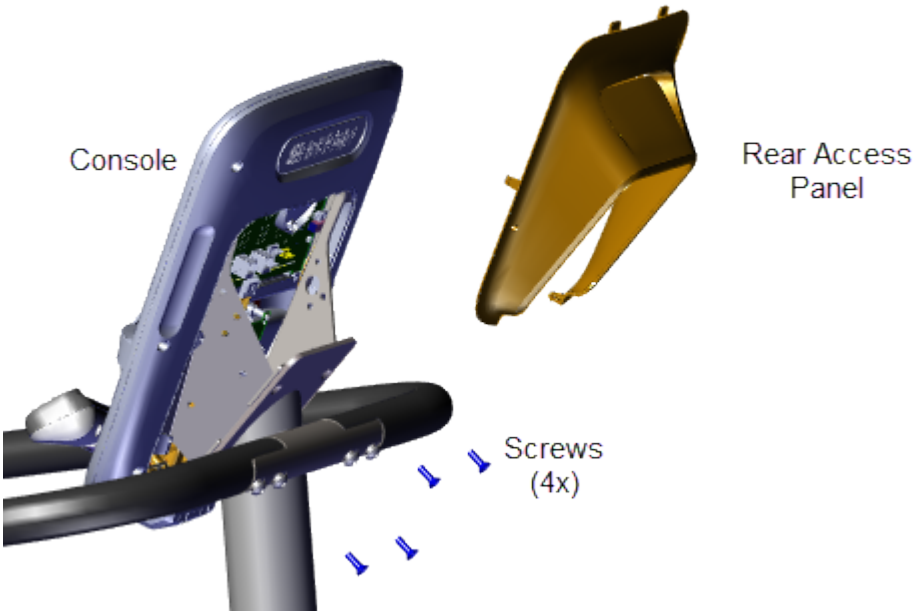
P31 Console UPCA board

14. For the **Right Handlebar** installation, reconnect the following interface cables:
    - Reconnect the left handlebar CHR/SPD CTRL cable to the right handlebar CHR/STOP "Y" cable.
    - Reconnect the HHHR cable to the HR PCA board. Carefully feed the cable through the hole in the right side of the console armor weldment.
    - Reconnect the right handlebar CHR/STOP cable to the console UPCA "REMOTE CNTRL" (J13) connector.

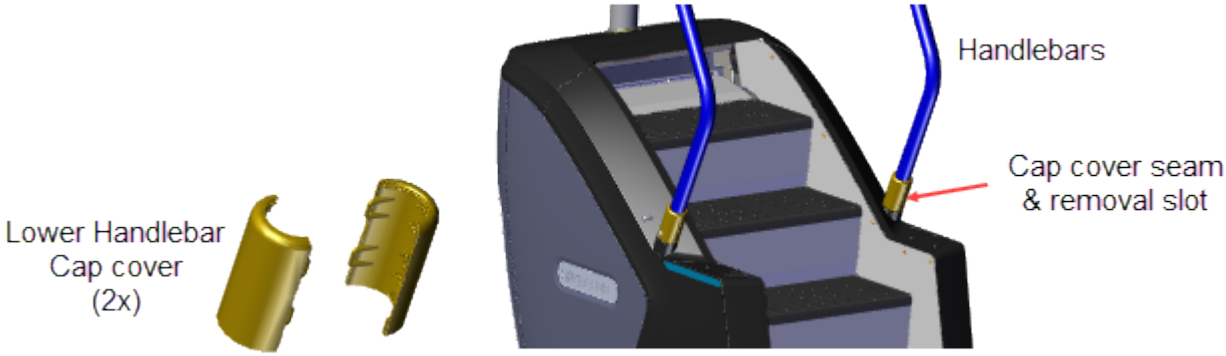


P31 Console UPCA

15. Reinstall the console onto the mast mounting plate. Secure using the four 5/32" (4 mm) hex key console mounting bolts.

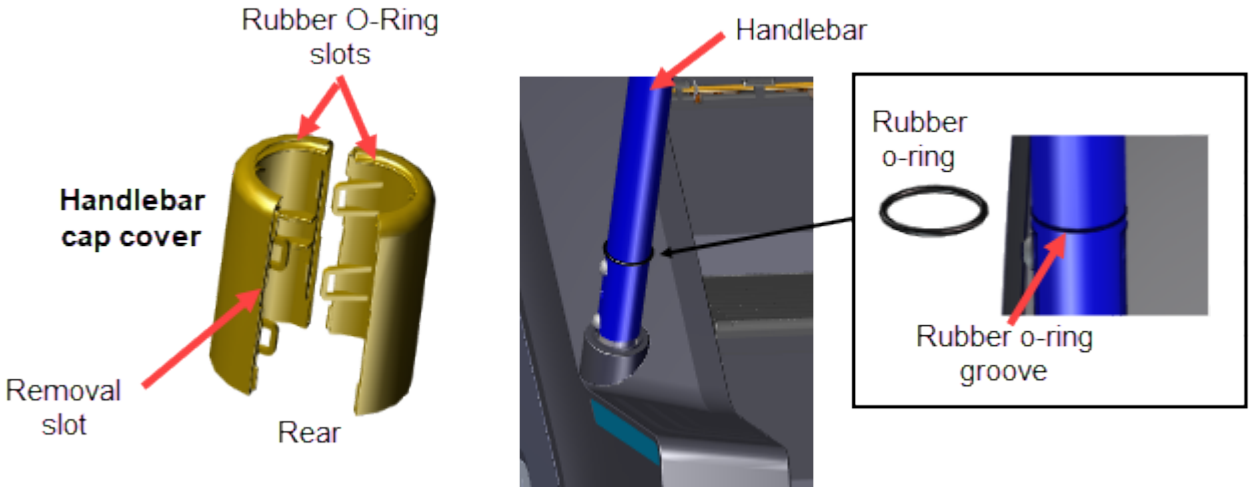


16. Reinstall the console rear Access Panel cover. Insert the top tabs and then press and snap the bottom left and right corners of the over into place.
17. Reinstall the lower left and right handlebar cap covers.



18. Make sure the rubber O-ring is set into the handlebar O-ring groove.
19. Position the outside and inside cap covers around the handlebar lower post with the seam and removal slot centered at the rear of the handlebar. Make sure the rubber O-ring fits into the inside and outside cover O-ring grooves. Then snap the front tabs together first and then press the covers together until all rear and front tabs snap into place.

TIP: Adding a thin layer of lubricant (Super Lube) onto the rubber O-ring will help fit the O-ring into the Cap covers O-ring groove.

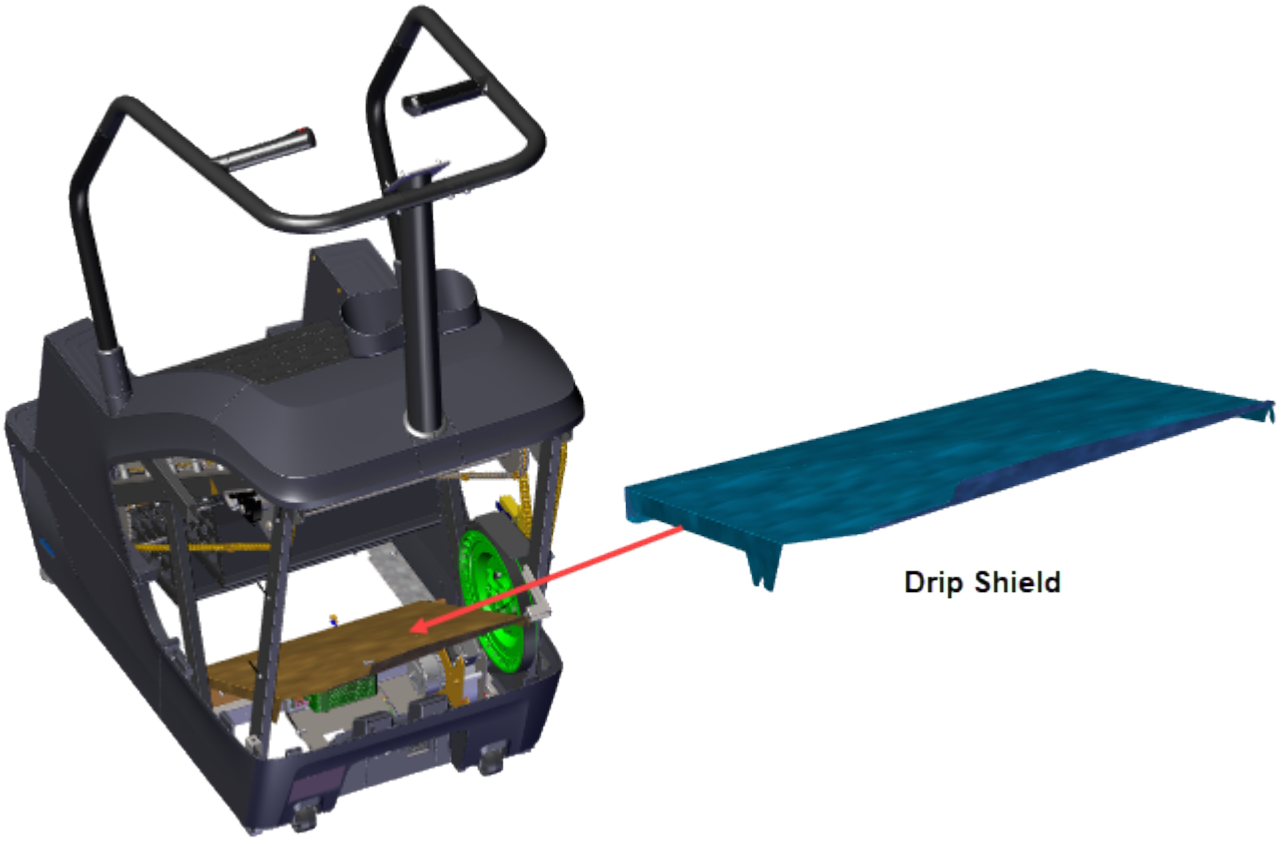


20. Connect the power cord and switch the power **ON**.
21. Verify machine operation (see "Operation Verification" on page 18) and return to service.

Drip Shield Replacement

About

This procedure provides instruction to replace the Drip Shield.



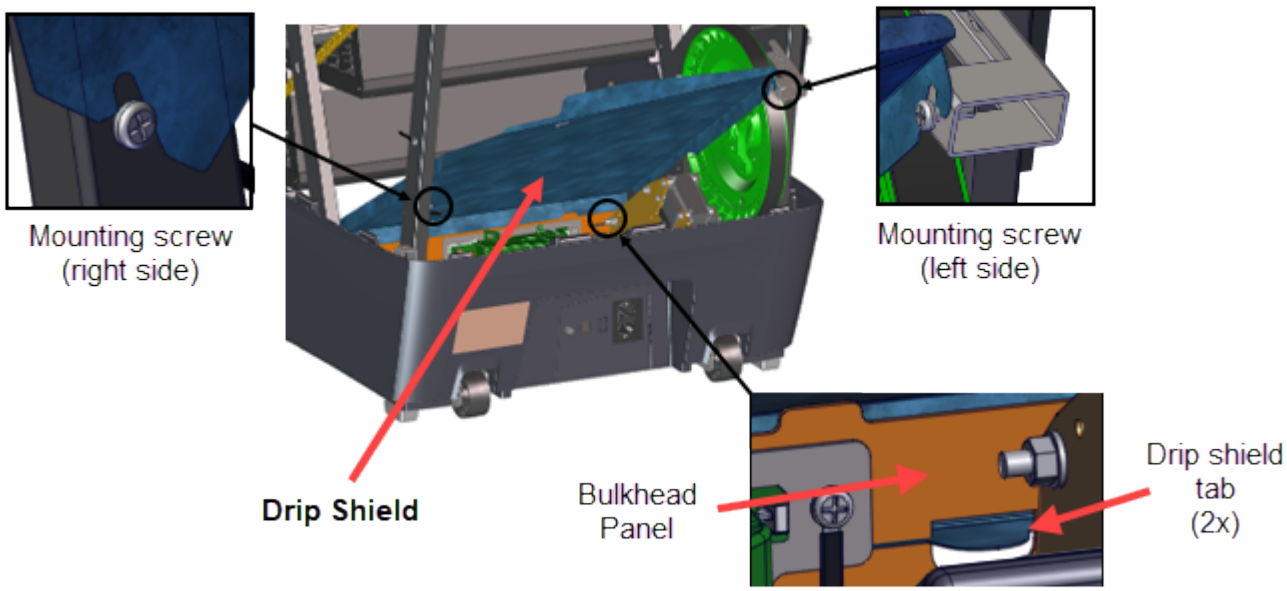
Procedure

Review entire procedure before starting.

Removal

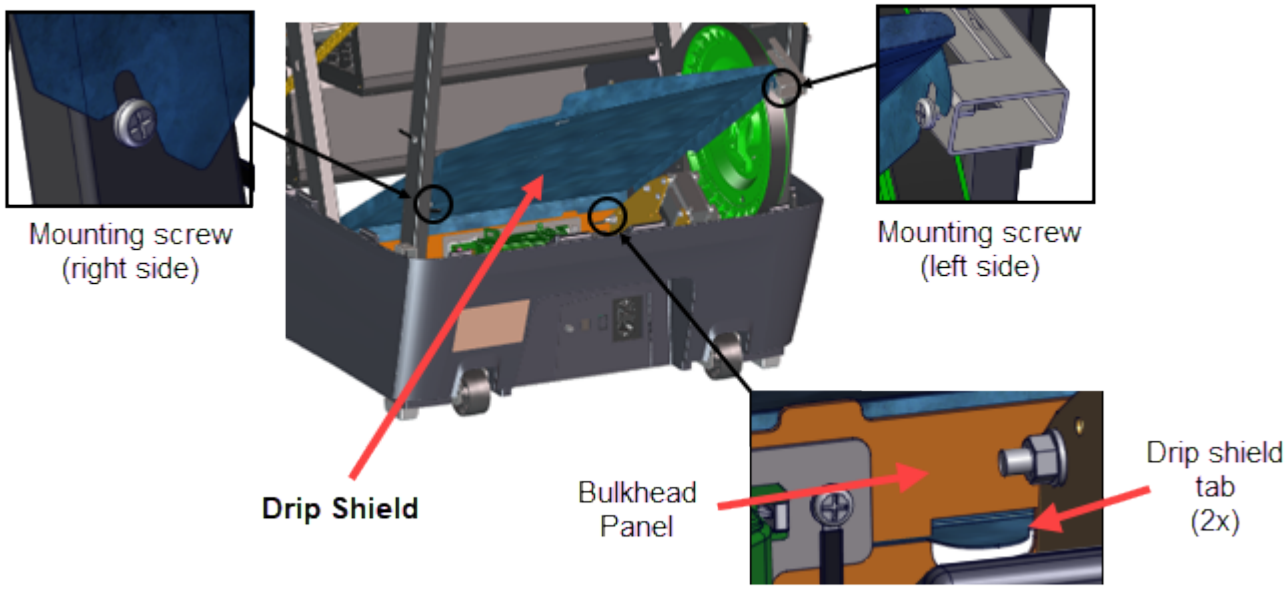
1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
    - Top cover (see "Top Cover Replacement" on page 81)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)

3. Remove the Drip Shield. Loosen the left and right #3 Phillips Drip Shield front screws. Lift the front mounting slots from the screws and then move rearward while lifting up the back to remove.



Installation

4. Reinstall the Drip Shield. Fit the back drip shield rear left and right tabs into the bulkhead panel cutout s and then set the front mounting slots into the left and right mounting screws. Fully tighten the left and right #3 Phillips Drip Shield front screws.



5. Reinstall the following covers:
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
6. Connect the power cord and switch the power ON.
7. Verify machine operation and return to service, see "Operation Verification" on page 18.

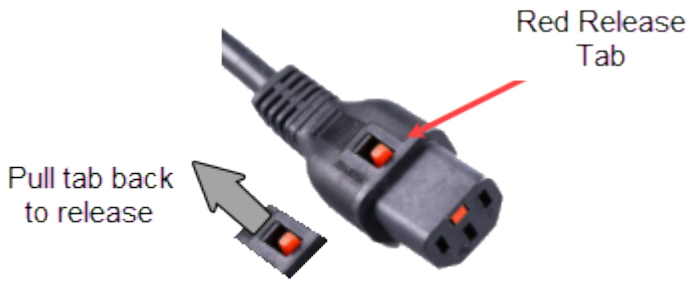
Power Cord Replacement

About

The StairClimber uses a locking power cord to prevent accidental plug disconnect. When power is abruptly disconnected during a workout, the stairs will immediately stop with no prior stair step slow down period. This unexpected event could cause the exerciser to slip, stumble, or possibly fall from the machine causing personal injury.

How to Connect and Disconnect

Simply pull the red release tab while removing or inserting to unlock or lock the plug in place.



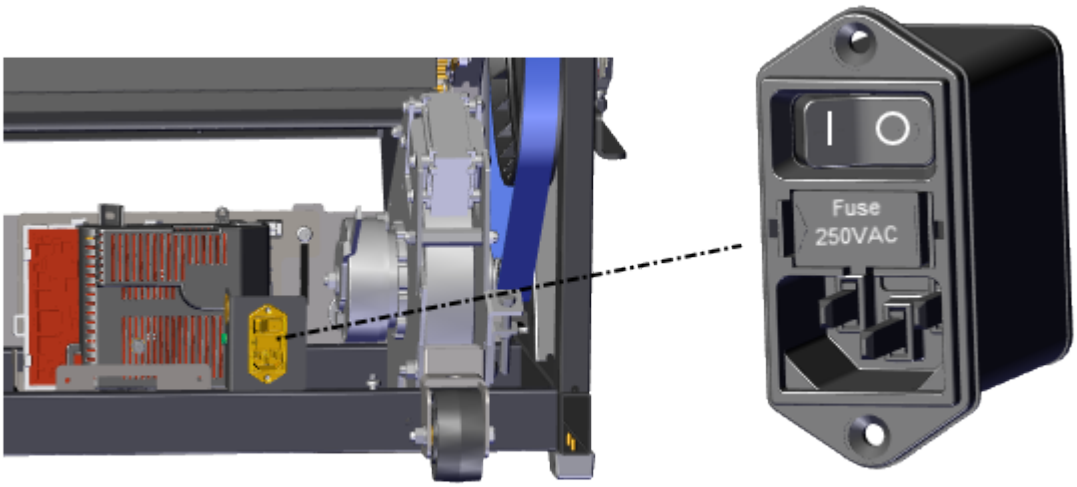
Locking Power Cord

Power Entry Switch Assy Replacement

About

This procedure provides instruction to replace the Power Entry Switch Assembly.

This is a 100-240 **AC**[1] input voltage ready power entry assembly that incorporates the ON/OFF switch, EMI filter, and two - 2 amp fuses.

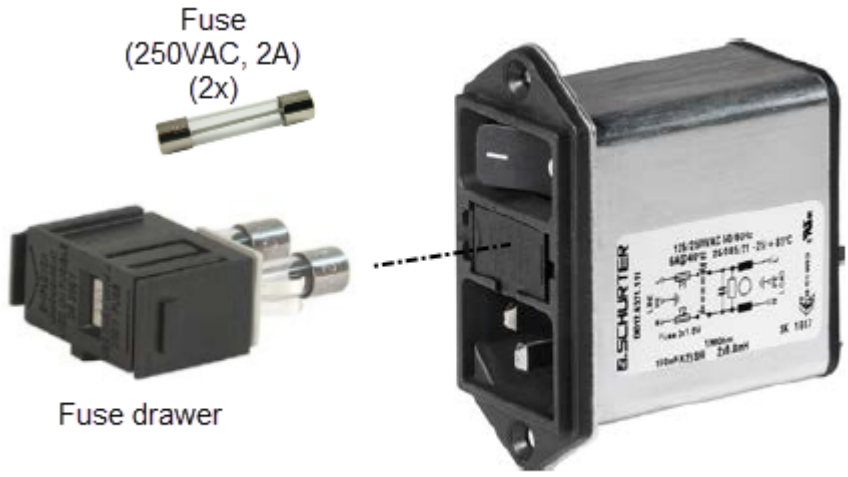


Power Entry Switch Assy

Fuse Replacement

The Power Entry Switch assy uses two 250 VAC, 2 A, 5 × 20 mm, time-lag, surge withstand, glass body, cartridge fuses.

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

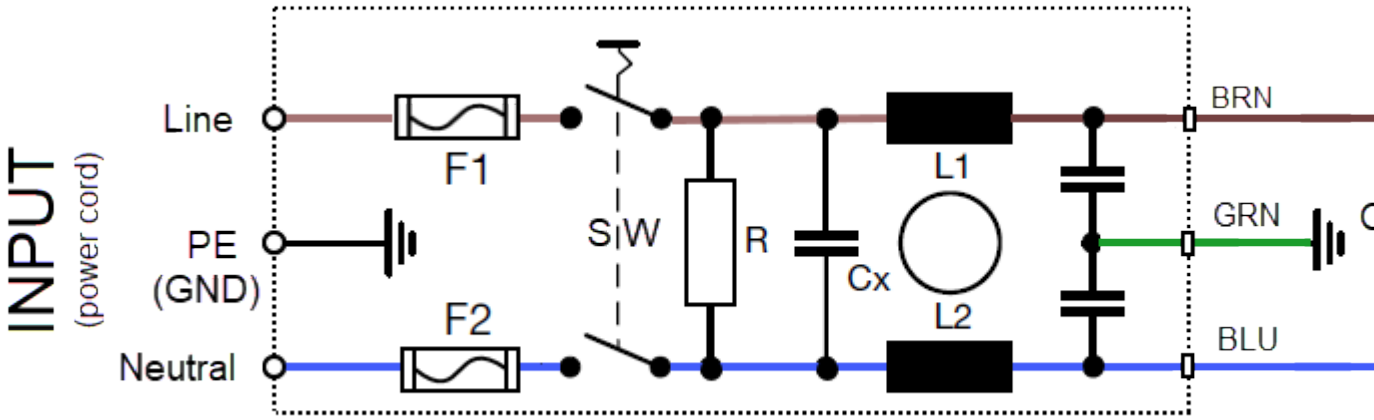


Replacement

1. Squeeze the side tabs of the fuse drawer together and pull to remove.
2. Use a Digital Multimeter to do a resistance continuity test to verify the condition of the two fuses. A good fuse will measure approximately zero ohms and a blown "open" fuse will measure infinite ohms. If blown, discard and replace with new good condition fuse.
3. Insert two good condition fuses and reinstall the fuse drawer.

Wire Diagram

SCL800 Power Entry Switch Assembly wire diagram.

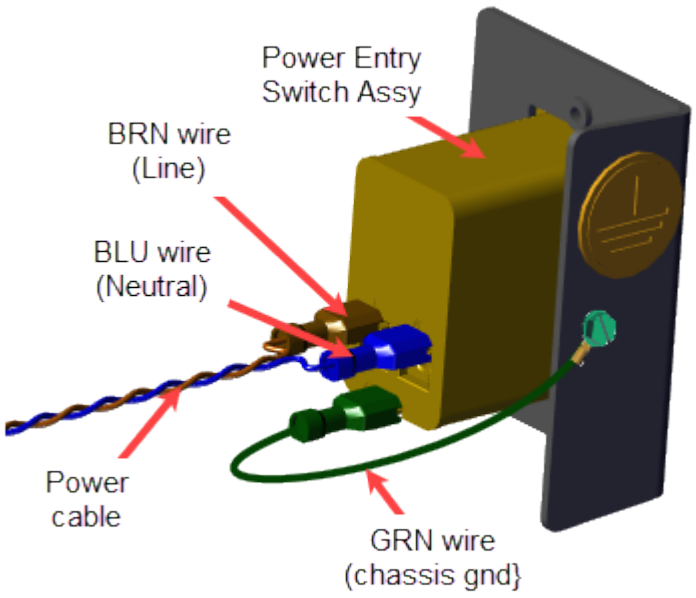


Procedure

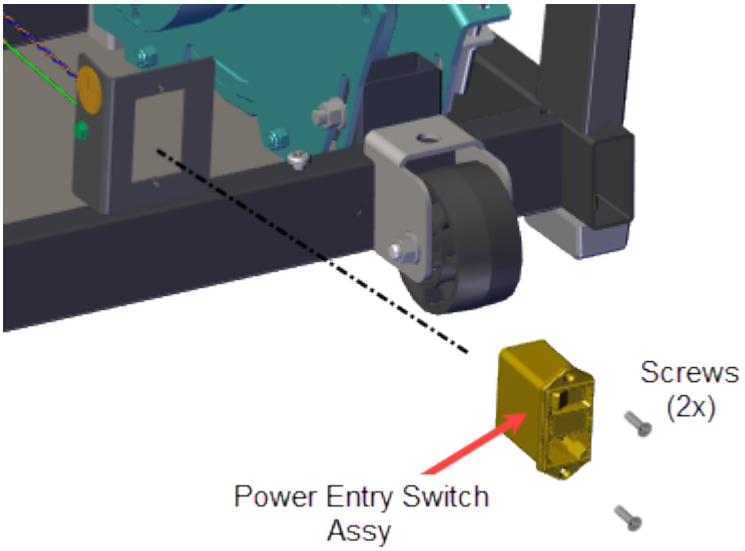
Review entire procedure before starting.

Removal Instructions

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   a. Top cover (see "Top Cover Replacement" on page 81)
   b. Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   c. Side Access Covers (see "Side Access Covers Replacement" on page 92)
   d. Base cover (see "Base Cover Replacement" on page 95)
3. Disconnect the following cables from the back of the Input power switch assembly:
   - Disconnect the power cable brown and blue spade connectors:
   - Disconnect the green chassis ground wire spade connector.

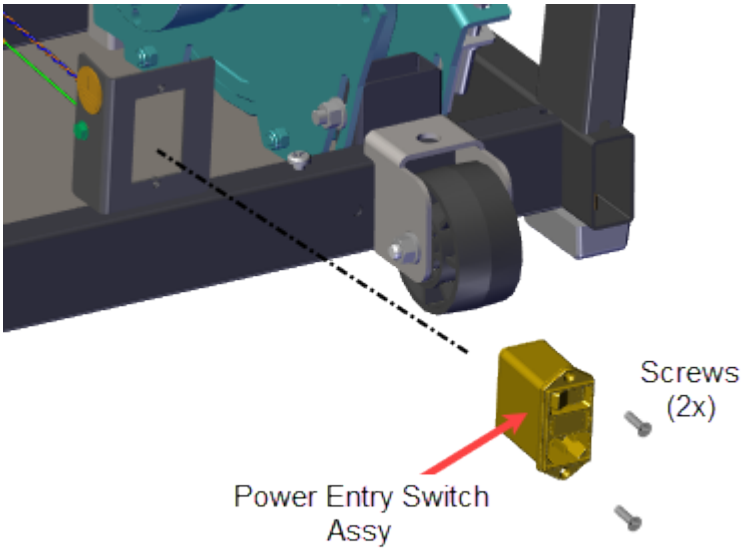


4. Remove the two #3 Phillips screws and remove the Power Entry Switch Assembly from the bracket. Retain part(s) and/or fastener(s) for installation.

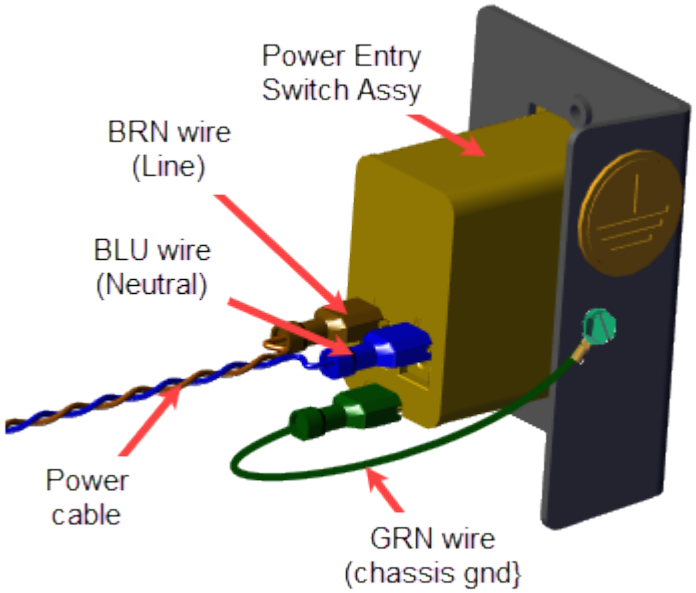


Installation Instructions

1. Reinstall the Power Entry Switch Assembly into the bracket and secure using the two #3 Phillips fasteners.



2. Reconnect the following cables to the back of the Input power switch assembly, see "" on page 127.:
   - Reconnect the power cable brown and blue spade connectors:
   - Reconnect the green chassis ground wire spade connector.

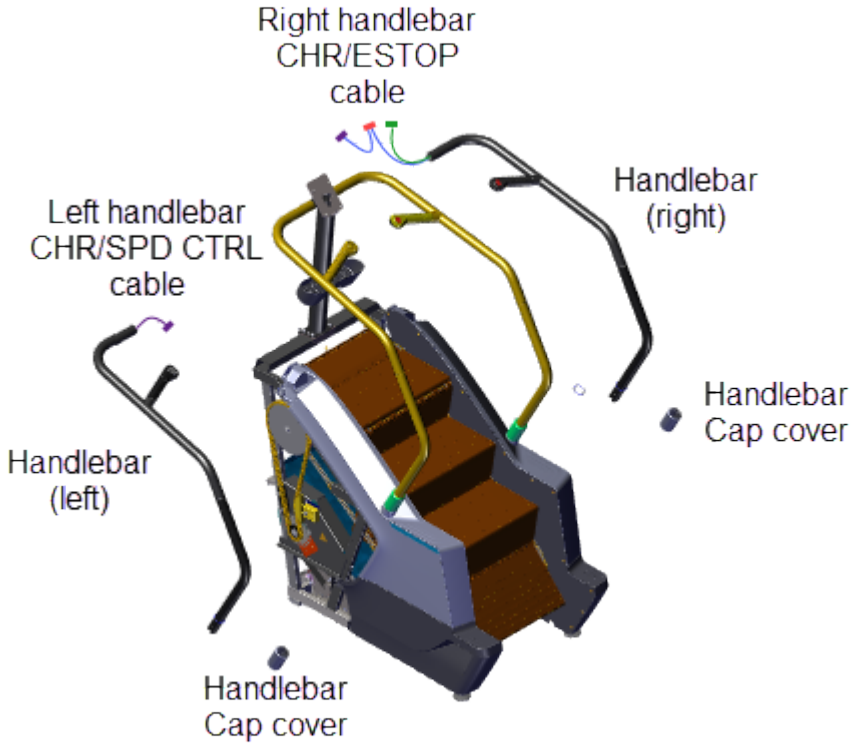


3. Connect the power cord and switch the **ON**.
4. Verify that the machine powers up. If not, verity the power cable is plugged in, the power switch is ON, and the power cable and chassis ground wires are connected. make sure the two fuses are not blown.
5. Reinstall the removed covers:
   - Base cover (see "Base Cover Replacement" on page 95)
   - Side Access Covers (see "Side Access Covers Replacement" on page 92)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   - Top cover (see "Top Cover Replacement" on page 81)
6. Verify full machine operation and return to service, see "Operation Verification" on page 18.

Handlebar Replacement

About

This procedure provides instruction to replace the right and left handlebars



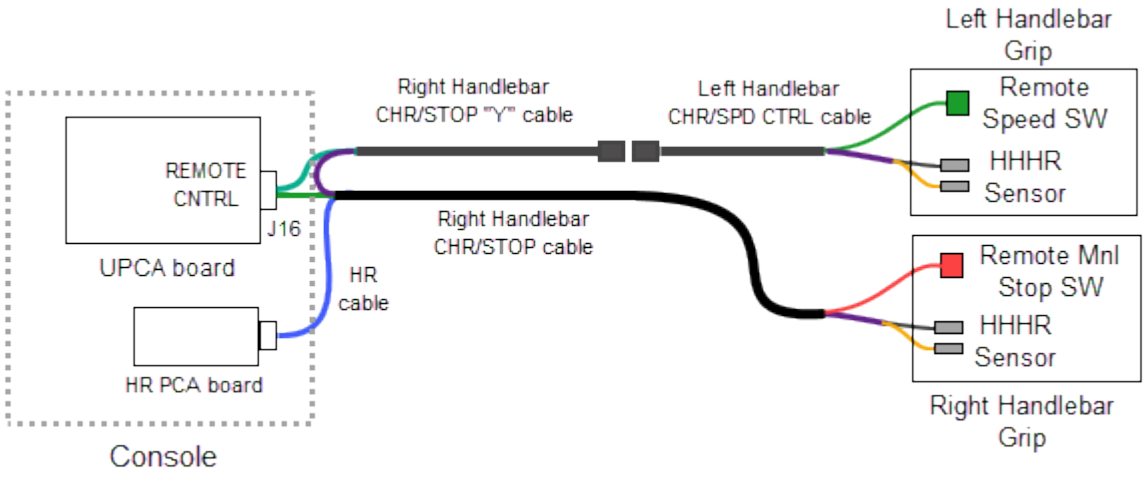
Handlebar Interface Cables

The right handlebar **CHR**[1]/STOP "Y" cable connects to the console **UPCA**[2] board and **HR**[3] **PCA**[4] board which then connects to the right handlebar grip **HHHR**[5] sensor and Remote Manual Stop switch. The right handlebar CHR/STOP "Y" cable also combines or splices together with the left handlebar CHR/**SPD**[6] **CTRL**[7] cable.

---

[1]Contact Heart Rate sensor, same as HHHR (Handheld Heart Rate sensor).
[2]Upper PCA board
[3]Heart Rate
[4]Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.
[5]Handheld Handlebar Heart Rate
[6]speed
[7]control

The left handlebar CHR/SPD CTRL cable plugs into (splices together) the right handlebar CHR/STOP "Y" cable and connects to the left handlebar grip HHHR sensor and remote up/-down speed control button.



SCL800 Left & Right Handlebar Cable Wire Diagram

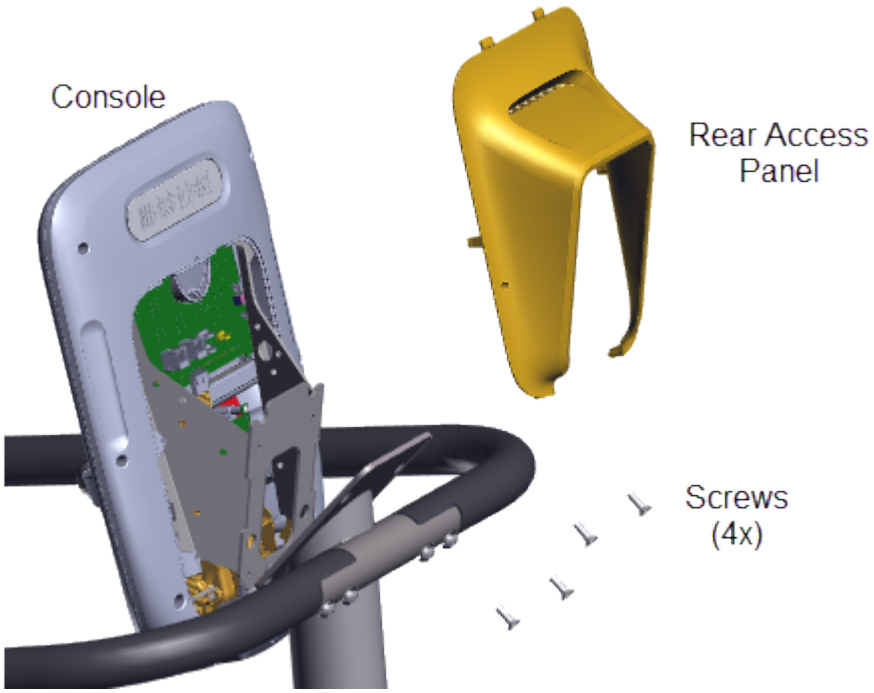
Procedure

Review entire procedure before starting.

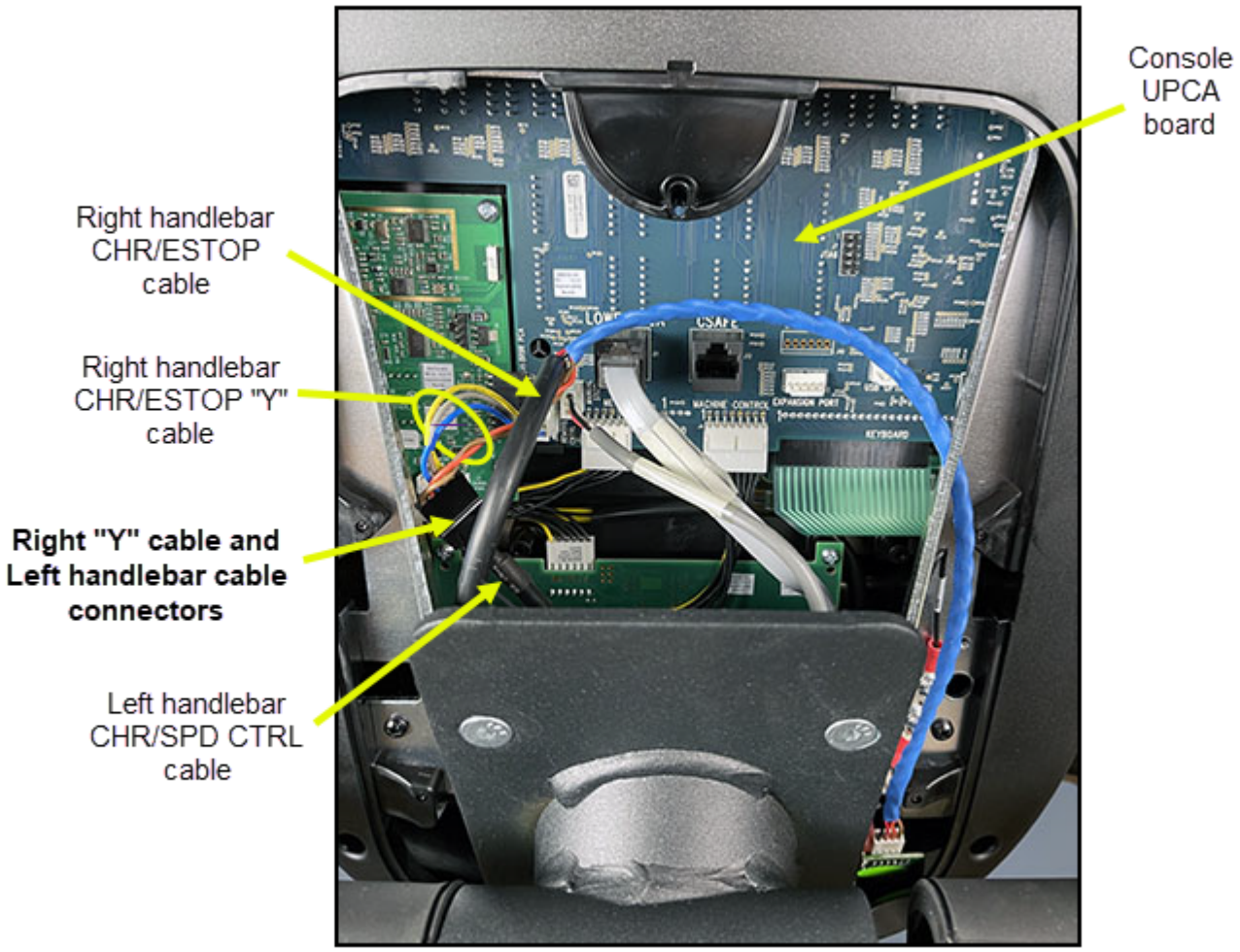
Removal

1. Switch the power OFF and **unplug**[1] the power cord.
2. Remove the console rear Access Panel cover. 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.

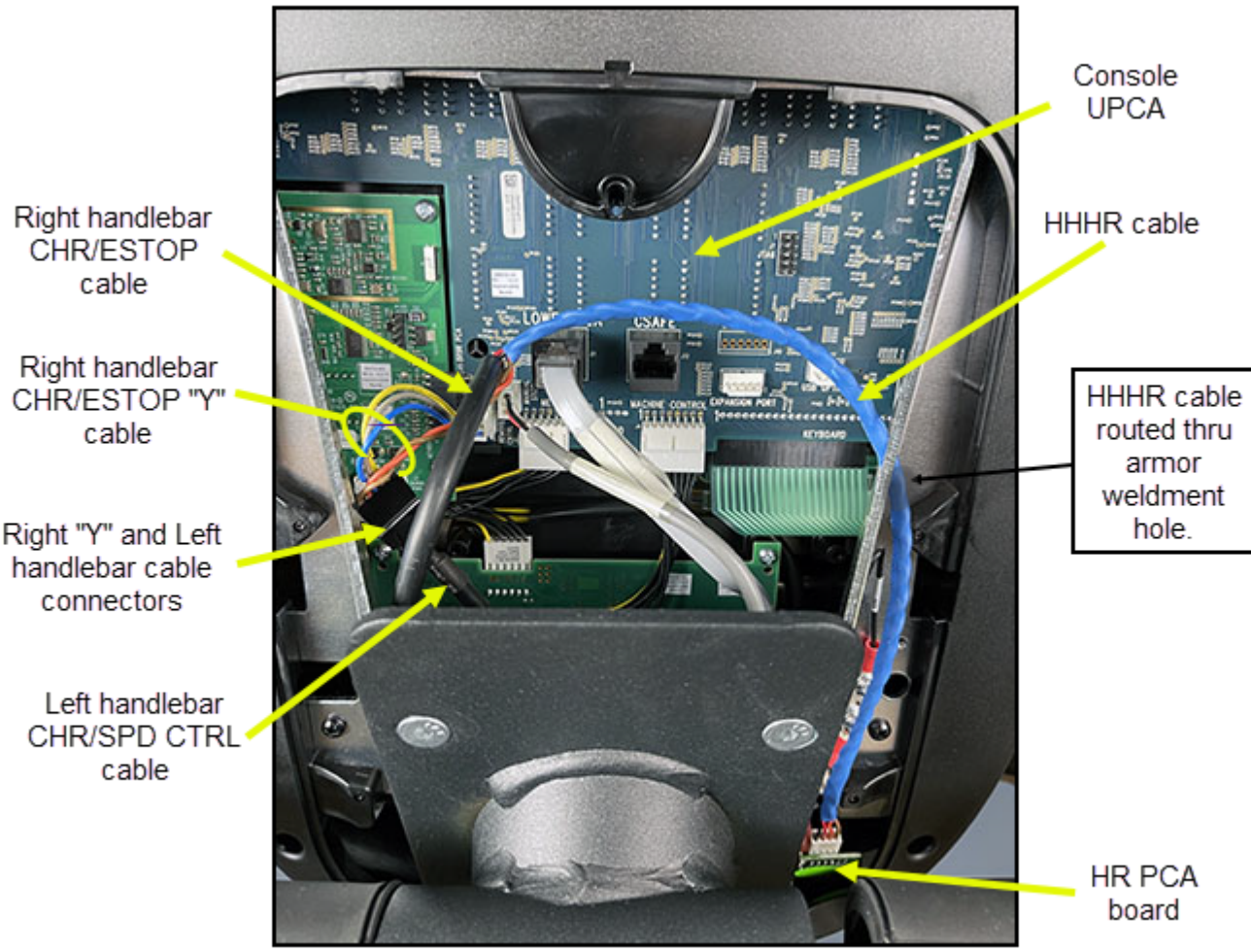


3. Remove the four 5/32" (4 mm) hex key console mounting bolts. Tilt the console rearward and set on the console mount hook. Retain part(s) and/or fastener(s) for installation.
4. For the **Left Handlebar** removal, disconnect the left handlebar CHR/SPD CTRL cable from the right handlebar CHR/STOP "Y" cable connector. No other cables need to be disconnected.



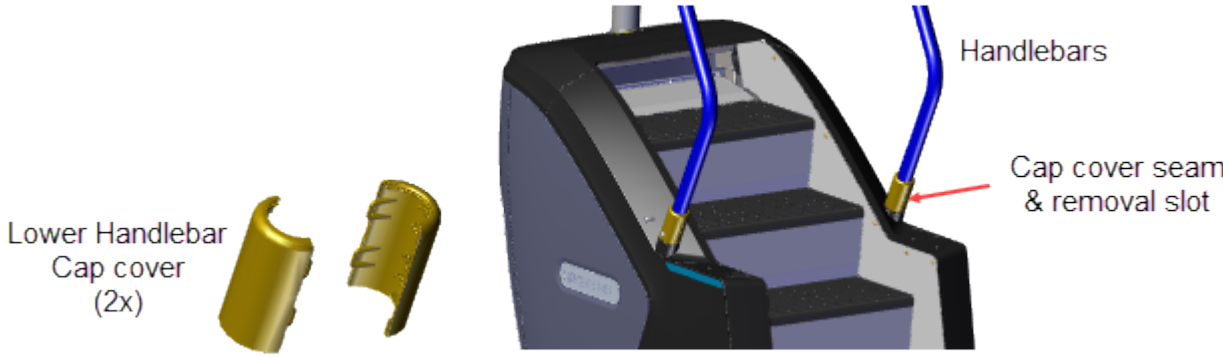
P31 Console UPCA board

5. For the **Right Handlebar** removal, disconnect the following interface cables:
    - Disconnect the left handlebar CHR/SPD CTRL cable from the right handlebar CHR/STOP "Y" cable.
    - Disconnect the HHHR cable from the HR PCA board. Carefully feed the cable through the hole in the armor weldment.
    - Disconnect the right handlebar CHR/STOP CTRL cable from the console UPCA "REMOTE CNTRL" (J13) connector.

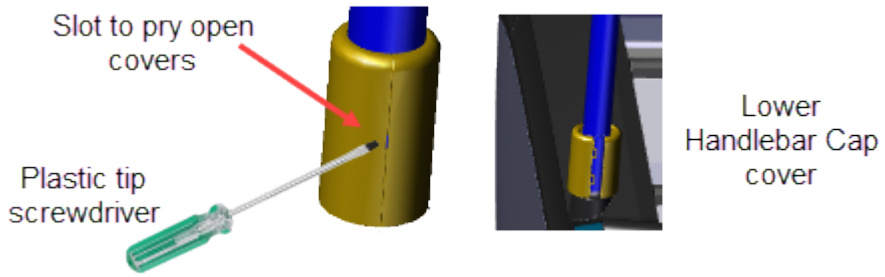


P31 Console UPCA

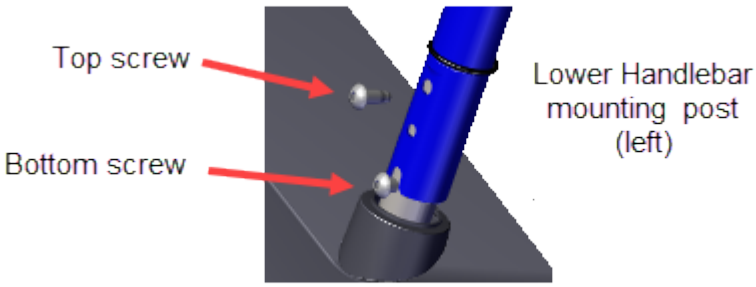
6. Remove the lower handlebar cap covers.



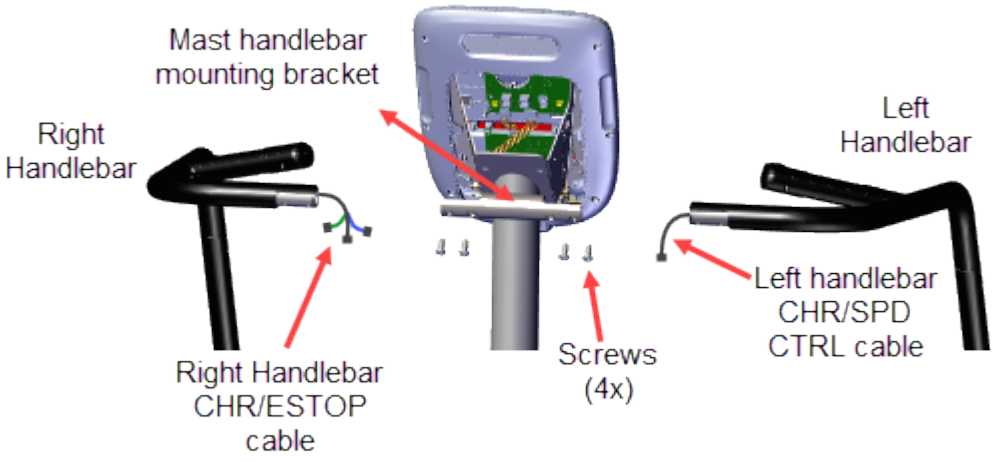
a. Carefully insert a plastic tip flat blade screwdriver into the removal slot to pry apart "unsnap" the covers and remove. Retain part(s) and/or fastener(s) for installation.



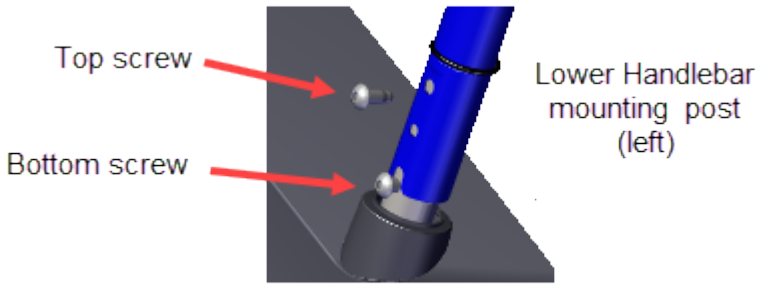
7. Use a "7/32" hex key to remove the lower handlebar top screw and loosen, but do not remove, the bottom screw. The bottom screw holds the lower handlebar mounting post in position while removing upper handlebar mounting tube. Retain part(s) and/or fastener(s) for installation.



8. Remove the remaining two upper handlebar tube "7/32" hex key mounting screws. While removing the handlebar, from the mast mounting bracket, carefully feed the handlebar interface cable through the console mounting armor weldment and mast handlebar mounting bracket. Retain part(s) and/or fastener(s) for installation.

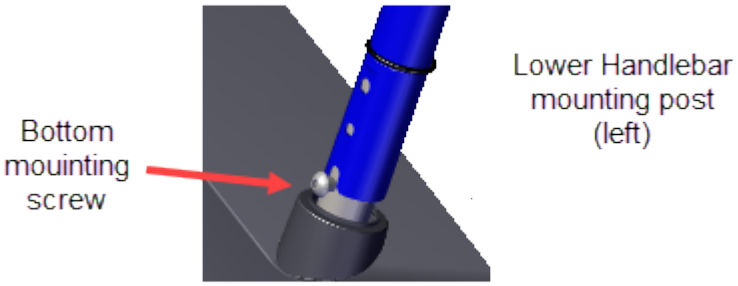


9. If you are removing the Chain Rail cover, go back and remove the loosened lower handlebar post bottom screw. Retain part(s) and/or fastener(s) for installation.

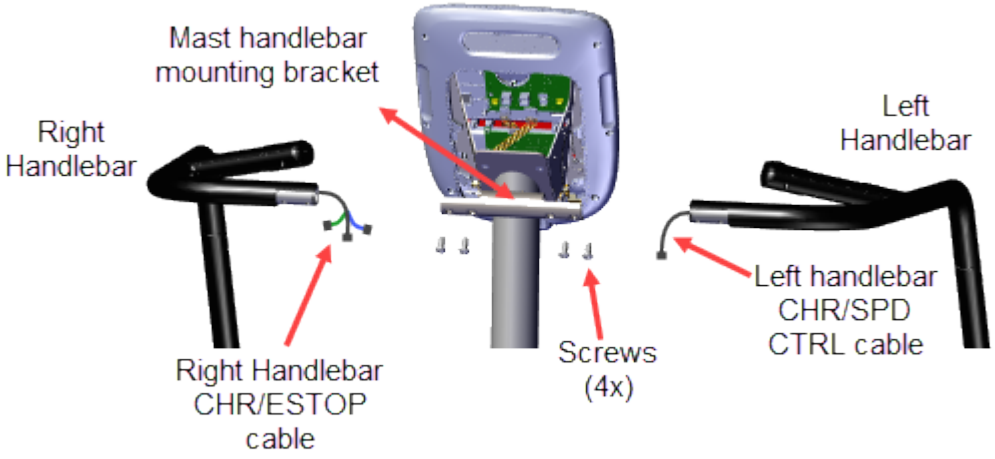


Installation

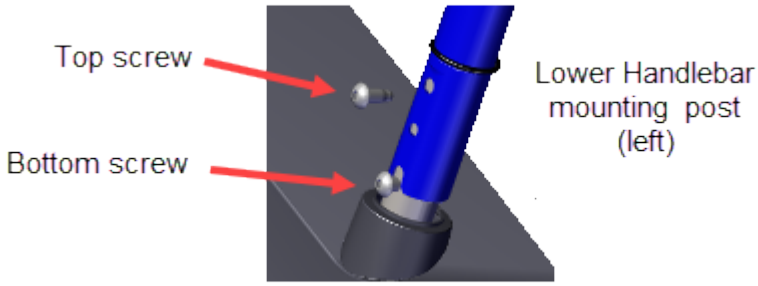
10. If you removed the lower handlebar post bottom screw, reinstall the "7/32" hex key screw leaving about an 1/8" exposed thread. The lower handrail post notch will set on the bottom screw.



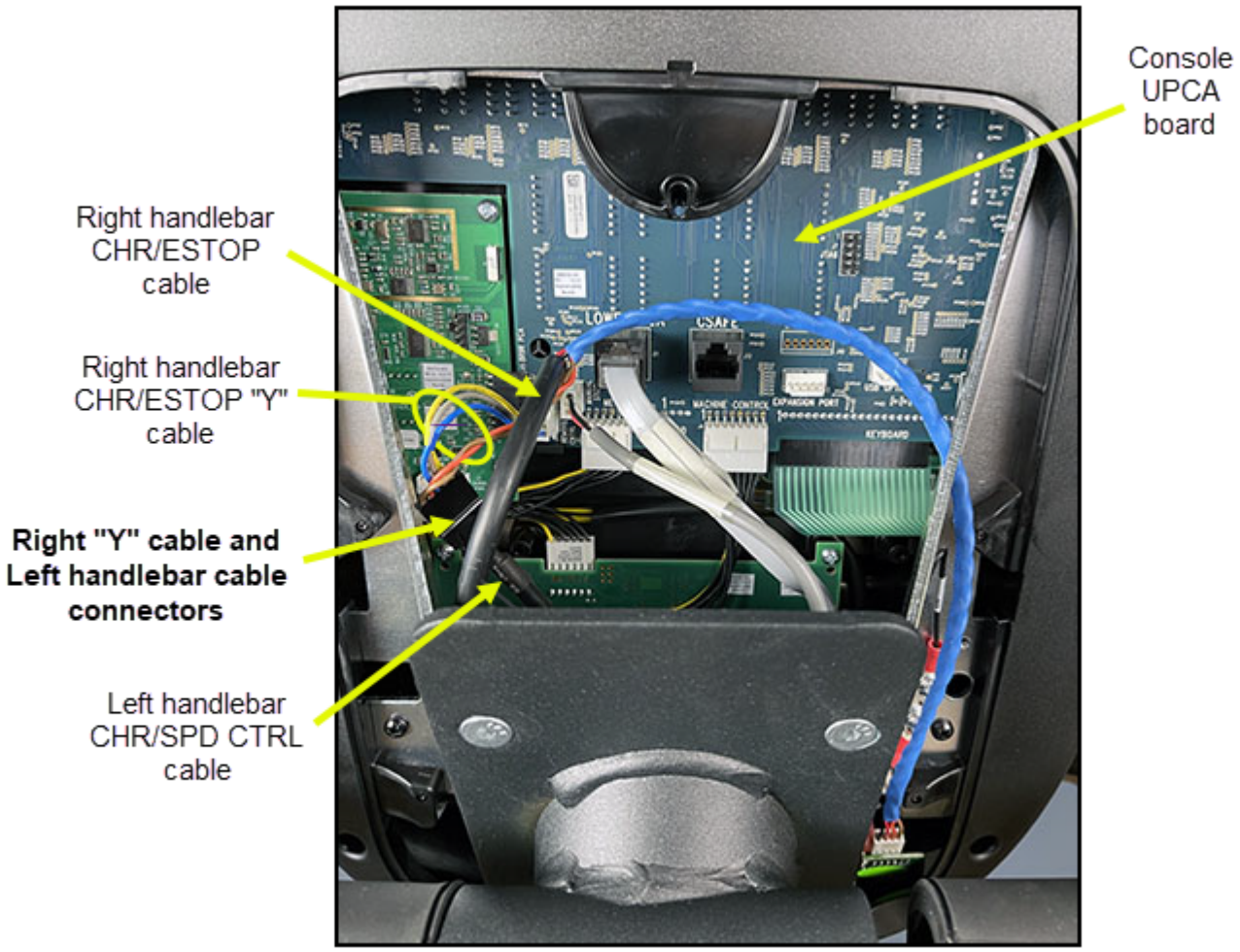
11. Set the lower Handlebar post notch onto the lower Handlebar exposed bottom screw threads. Then install the upper Handlebar tube onto the handlebar mast mounting bracket. Carefully feed the console interface cable and connector(s) through the mast handlebar mounting bracket and console mounting plate. Secure using the two "7/32" hex key screws and fully tighten.



12. Reinstall the "7/32" hex key Lower Handlebar post upper screw. Fully tighten both the upper and lower Handlebar post screws.

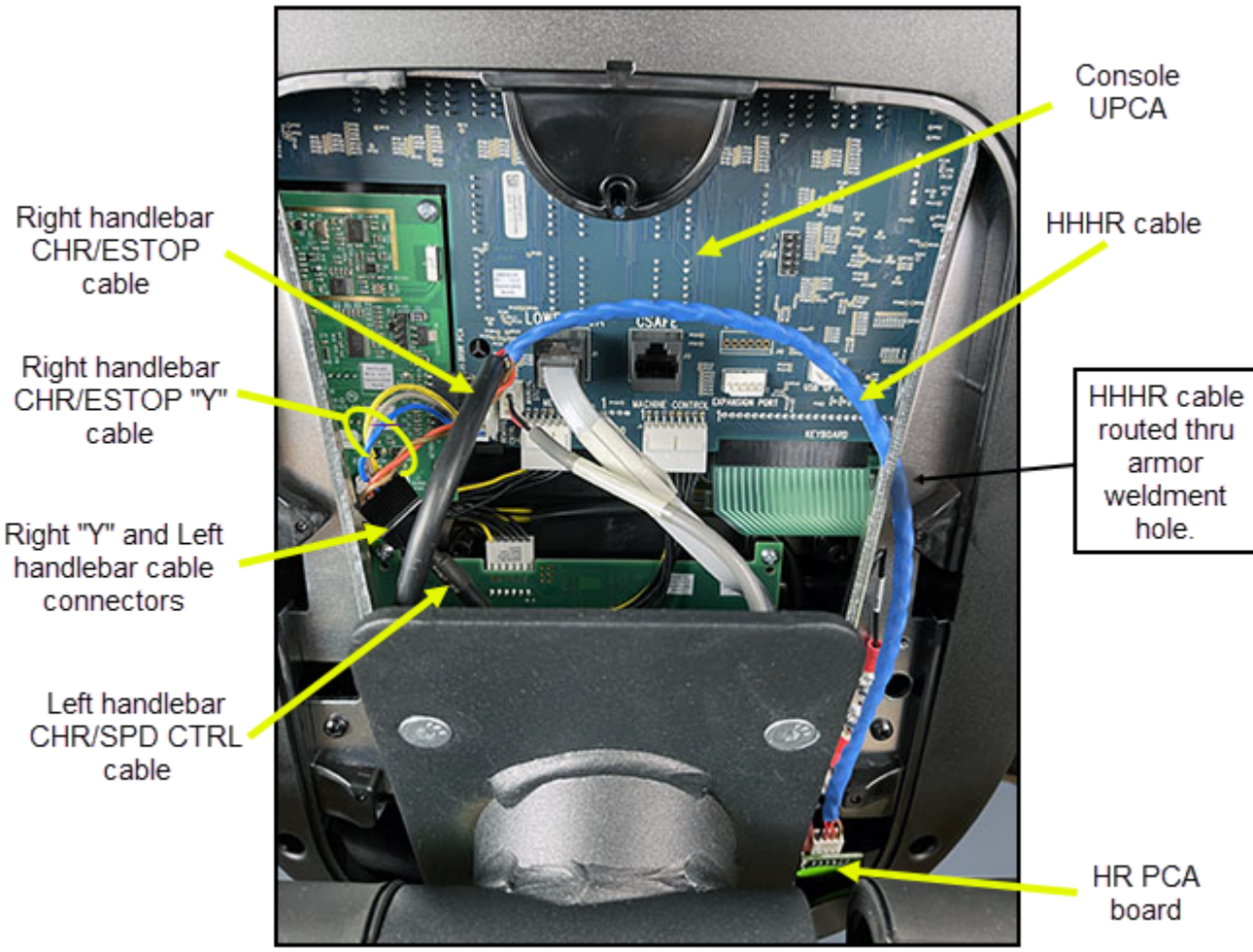


13. For the **Left Handlebar** installation, reconnect the left handlebar CHR/SPD CTRL cable to the right handlebar CHR/STOP "Y" cable connector.



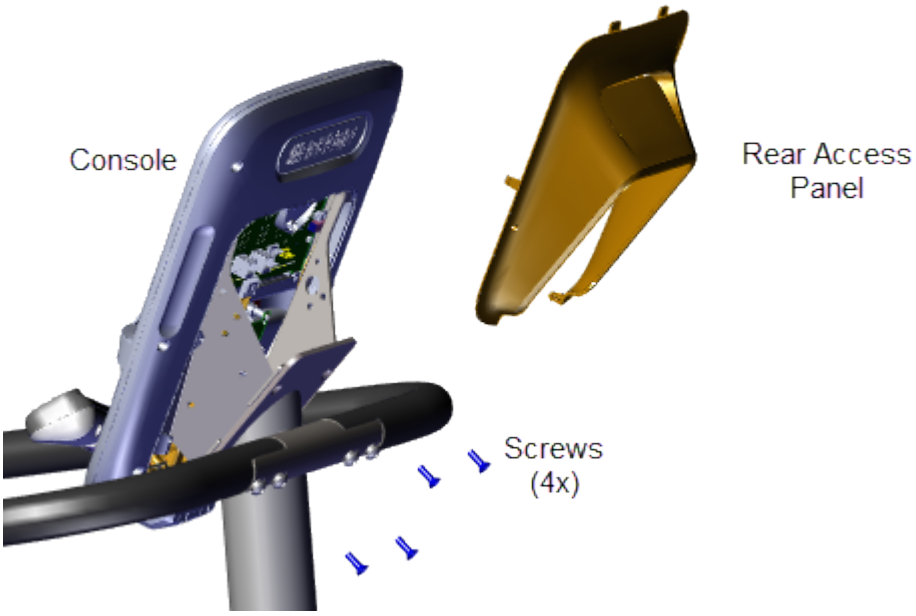
P31 Console UPCA board

14. For the **Right Handlebar** installation, reconnect the following interface cables:
    - Reconnect the left handlebar CHR/SPD CTRL cable to the right handlebar CHR/STOP "Y" cable.
    - Reconnect the HHHR cable to the HR PCA board. Carefully feed the cable through the hole in the right side of the console armor weldment.
    - Reconnect the right handlebar CHR/STOP cable to the console UPCA "REMOTE CNTRL" (J13) connector.

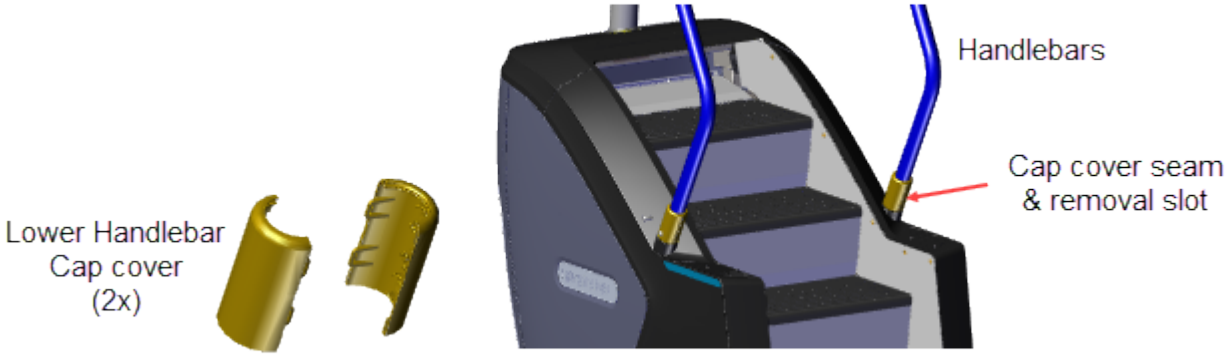


P31 Console UPCA

15. Reinstall the console onto the mast mounting plate. Secure using the four 5/32" (4 mm) hex key console mounting bolts.

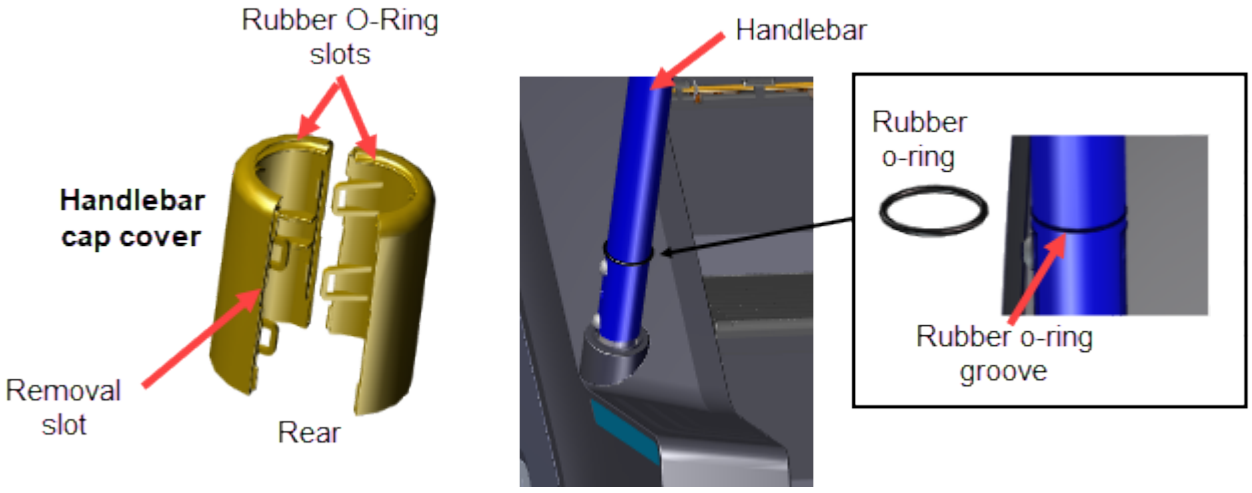


16. Reinstall the console rear Access Panel cover. Insert the top tabs and then press and snap the bottom left and right corners of the over into place.
17. Reinstall the lower left and right handlebar cap covers.



18. Make sure the rubber O-ring is set into the handlebar O-ring groove.
19. Position the outside and inside cap covers around the handlebar lower post with the seam and removal slot centered at the rear of the handlebar. Make sure the rubber O-ring fits into the inside and outside cover O-ring grooves. Then snap the front tabs together first and then press the covers together until all rear and front tabs snap into place.

TIP: Adding a thin layer of lubricant (Super Lube) onto the rubber O-ring will help fit the O-ring into the Cap covers O-ring groove.



20. Connect the power cord and switch the power **ON**.
21. Verify machine operation (see "Operation Verification" on page 18) and return to service.

Handlebar HHHR Grips and Remote Stop & Speed Control Buttons Replacement

About

This procedure provides instruction to replace the left and right Handlebar Heart Rate "**HHHR**[1]" Grips, remote manual Stop button, and remote Speed Control button.



Console and Remote STOP buttons

The StairClimber has two manual STOP buttons that perform an **ESTOP**[2] function. When pressed, the workout will pause and the stairs will immediately slow and stop. One STOP button is located on the P31 console replacing the PAUSE key. The other STOP button, called the Remote Manual STOP button, is located on the right handlebar grip. Both the console STOP key and handlebar remote STOP button provide the same functionality.

[1]Handheld Handlebar Heart Rate

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



Procedure

There are separate procedures for the right handlebar **HR**[1] Grip/Remote Manual Stop button and the left handlebar HR Grip/Speed Control button.

- "Right Handlebar HR Grip and Remote Stop Button Replacement" below
- "Left Handlebar HR Grip and Remote Speed Control Button Replacement" on page 146

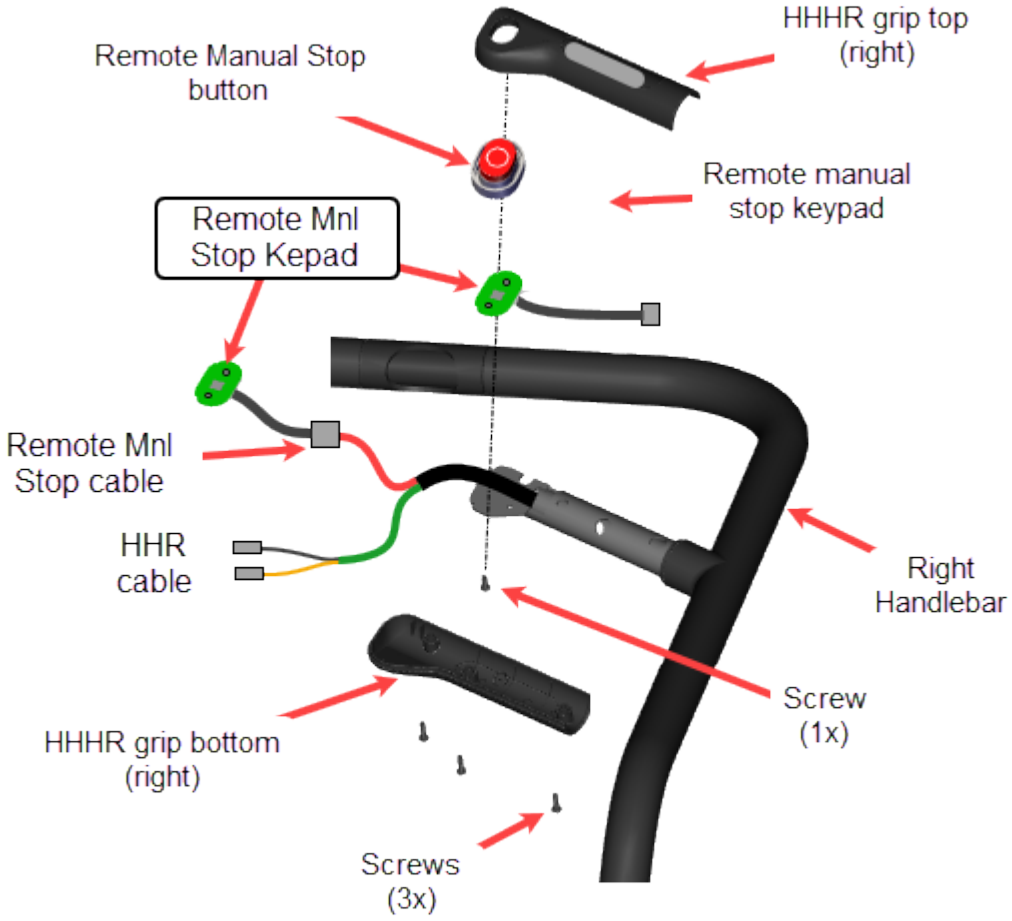
Right Handlebar HR Grip and Remote Stop Button Replacement

Review entire procedure before starting.

Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the three #2 Phillips screws, disconnect the HHHR cable from the heart rate sensor, and remove the bottom HHHR grip.

[1]Heart Rate

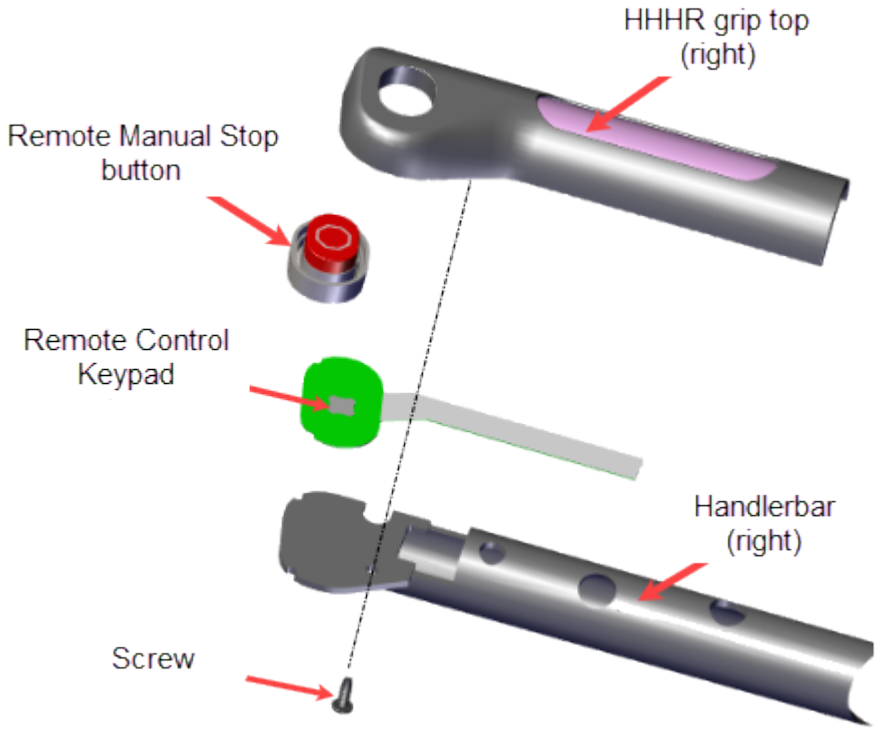


Right Handlebar HHHR Grip & Remote Manual Stop Button

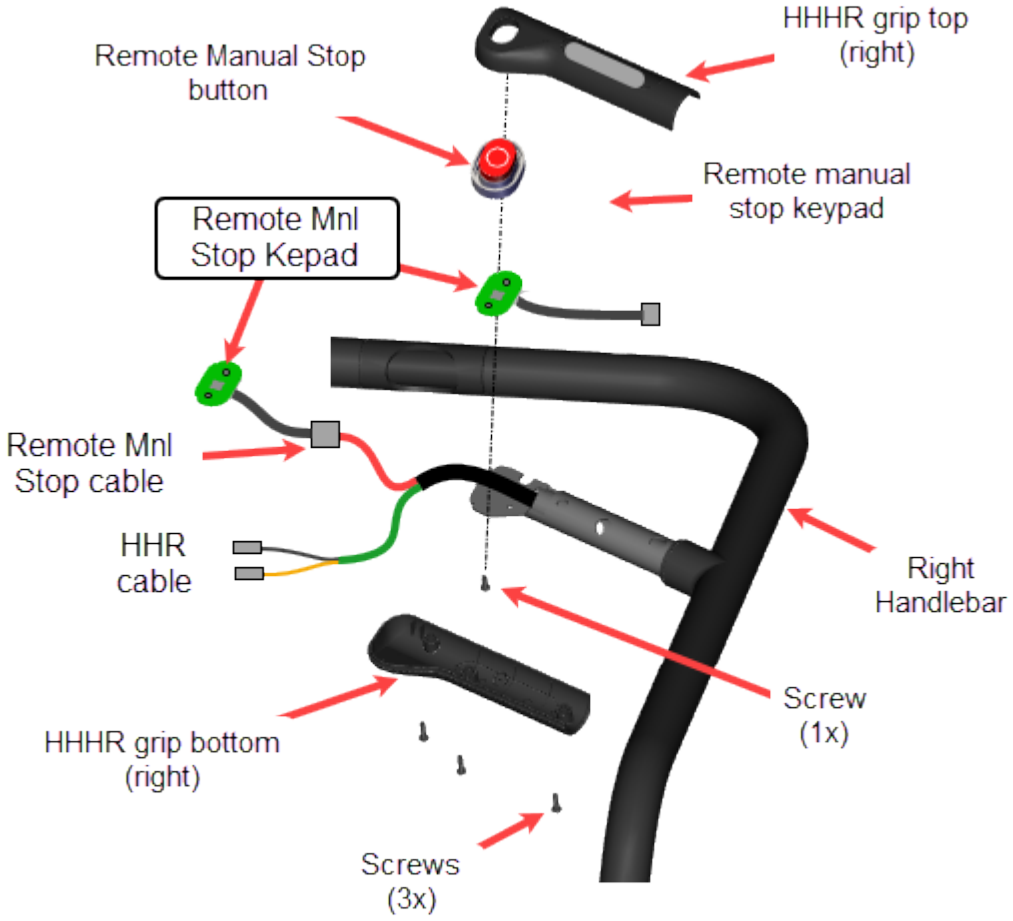
3. Then remove the one remaining #2 Phillips screw holding the Remote Control Keypad to the top HHHR grip, disconnect the HHHR cable from the heart rate sensor, and remove the top HHHR grip. Retain part(s) and/or fastener(s) for installation.
4. If you are removing the Remote Manual Stop button, remove the Remote Manual Stop button from the top HHHR grip. Retain part(s) and/or fastener(s) for installation.

Installation

5. If removed, reinstall the Manual Stop button into the upper HHHR top grip.
6. Connect the HHHR cable to the top HHHR grip sensor.
7. Then position the Remote Control Keypad and the HHHR top grip onto the handlebar and secure using the one #2 Phillips screw.



8. Connect the HHHR cable to the bottom HHHR grip sensor and reinstall the bottom HHHR grip onto the handlebar. Secure using the three #2 Phillips screws.



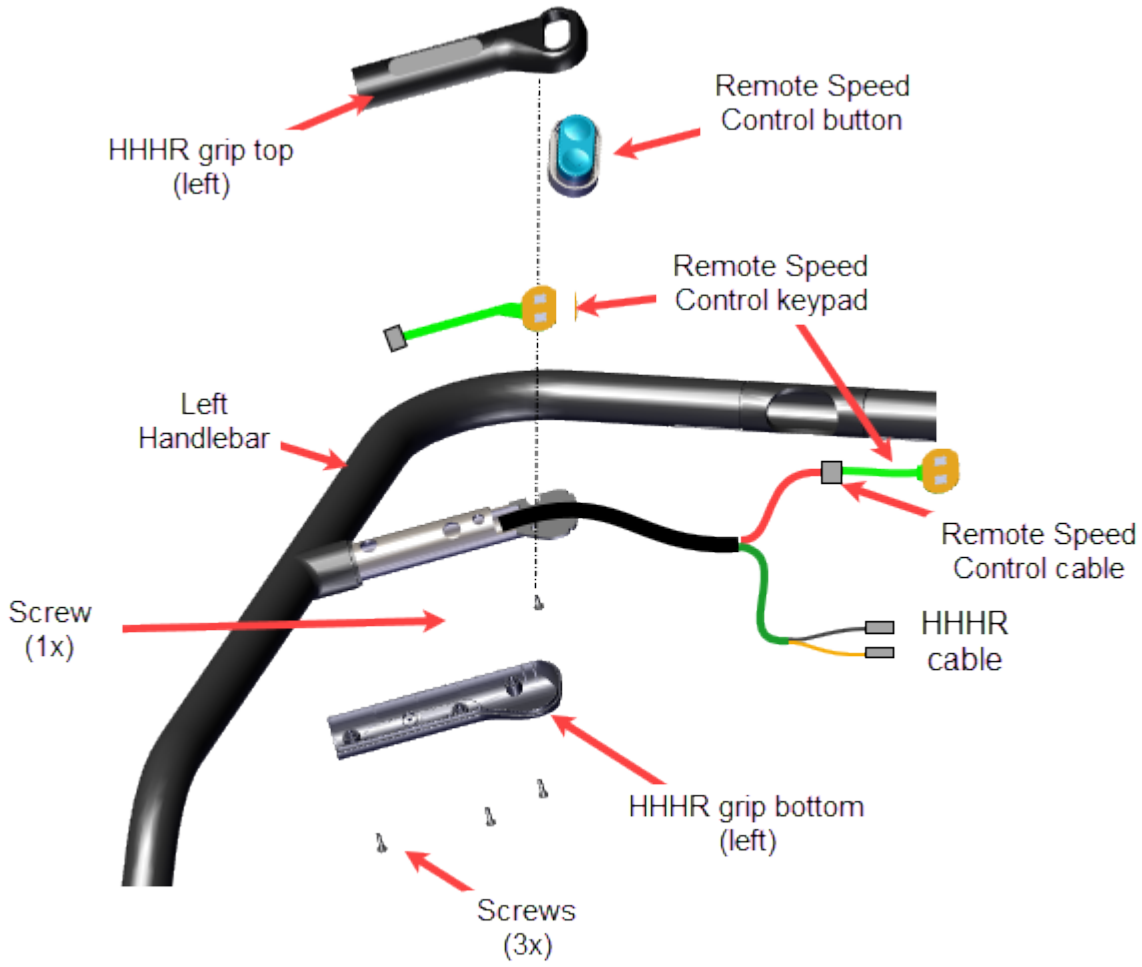
Right Handlebar HHHR Grip & Remote Manual Stop Button

Left Handlebar HR Grip and Remote Speed Control Button Replacement

Review entire procedure before starting.

Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the three #2 Phillips screws, disconnect the HHHR cable, and remove the bottom HHHR grip.

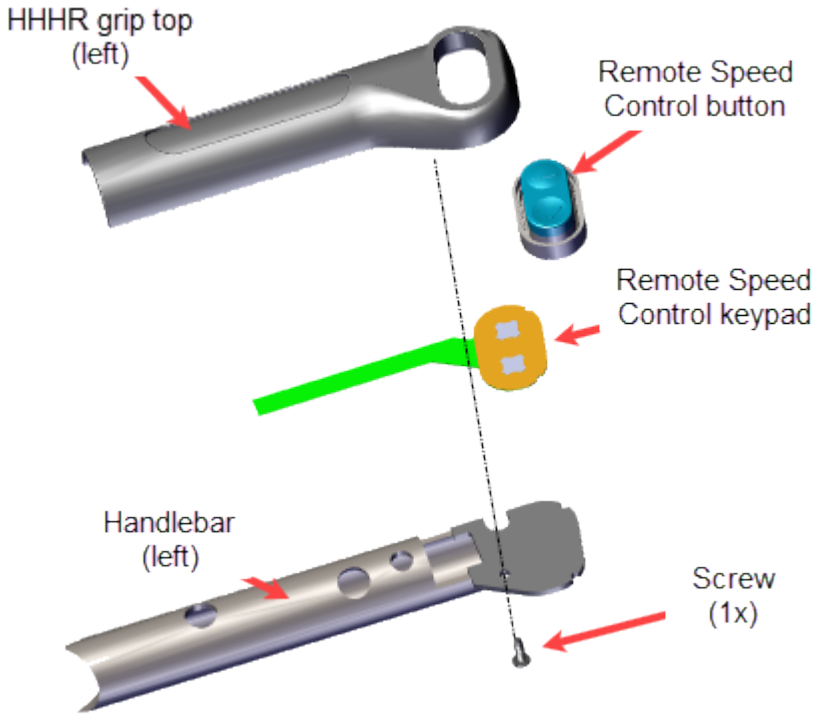


Left Handlebar HHHR Grip & Remote Speed Control Button

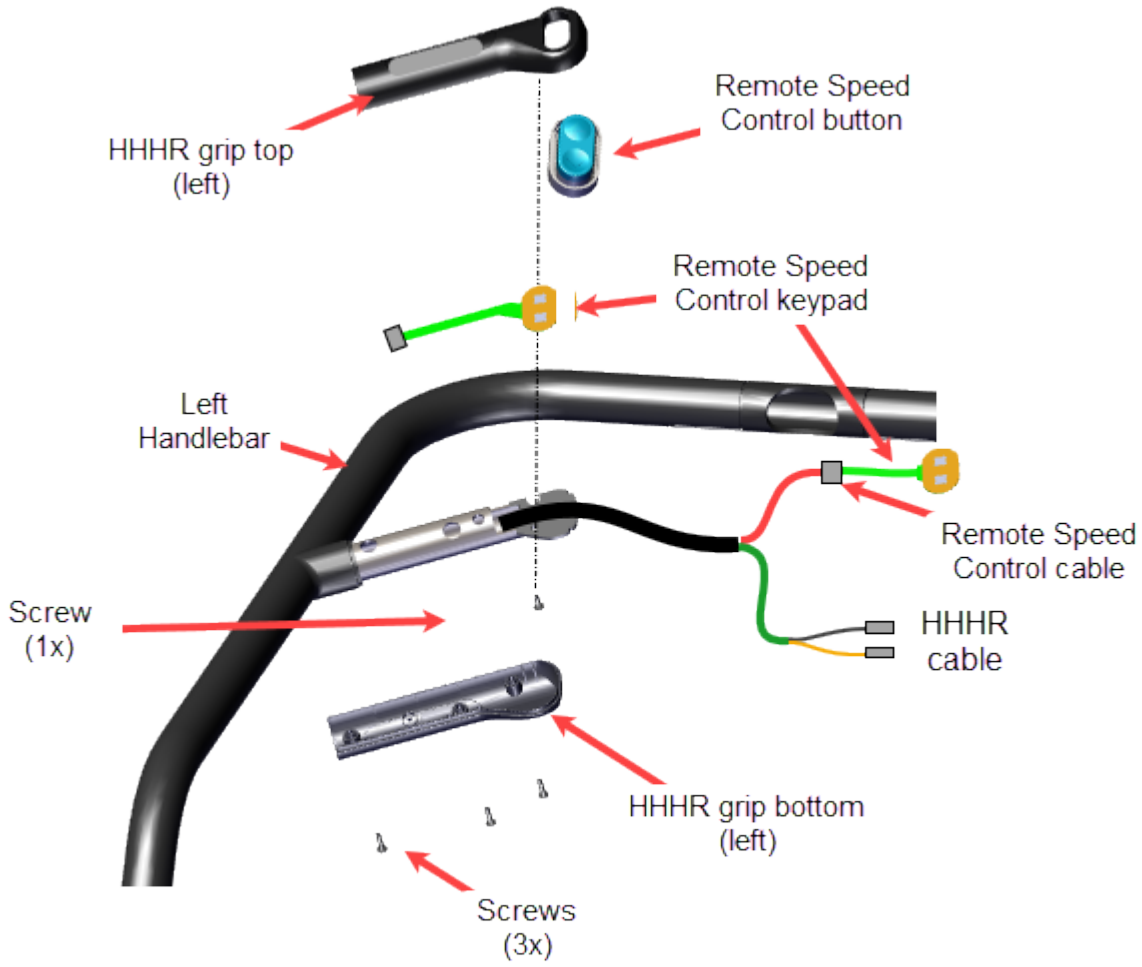
3. Then remove the one remaining #2 Phillips screw holding the Remote Speed Control Keypad to the top HHHR grip, disconnect the HHHR cable from the top HHHR sensor, and remove the HHHR top grip. Retain part(s) and/or fastener(s) for installation.
4. If the Remote Speed Control button is being removed, remove the Remote Speed Control button from the HHHR top grip. Retain part(s) and/or fastener(s) for installation.

Installation

5. If removed, reinstall the Remote Speed Control button into the upper HHHR top grip.
6. Connect the HHHR cable to the top HHHR grip sensor.
7. Then position the Remote Speed Control Keypad and HHHR top grip onto the handlebar and secure using the one #2 Phillips screw.



8. Connect the HHHR cable to the bottom HHHR grip sensor and reinstall the bottom HHHR grip onto the handlebar. Secure using the three #2 Phillips screw and fully tighten.



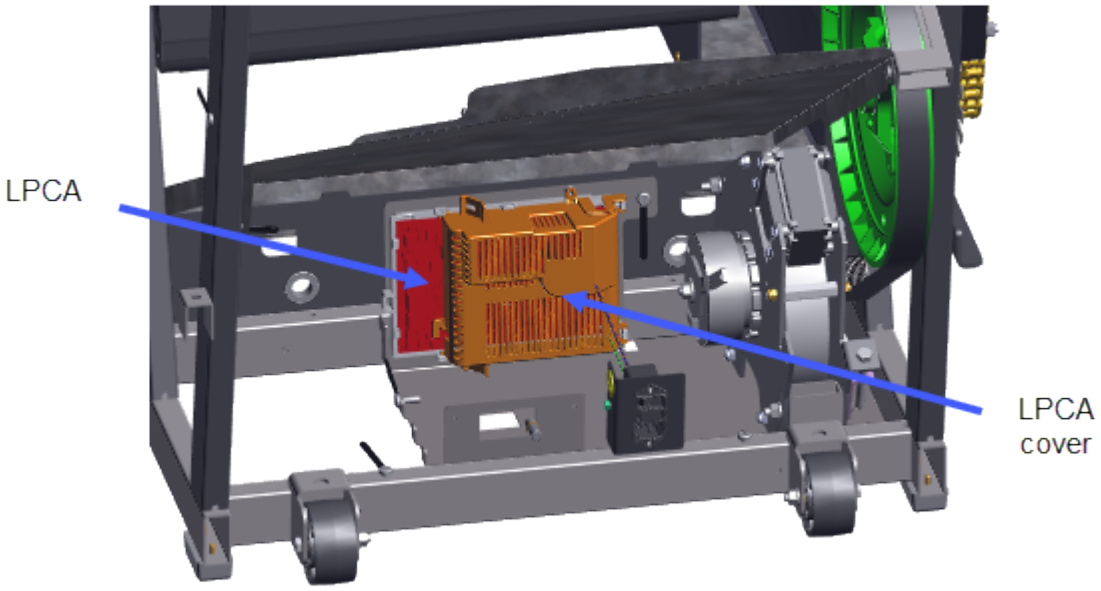
Left Handlebar HHHR Grip & Remote Speed Control Button

9. Connect the power cord and switch the power **ON**.
10. Do a manual workout and verify the following functions:
    a. Verify that the Remote SPEED button varies the up/down speed.
    b. Verify that the Remote Manual Stop button immediately slows and stops the steps.
    c. Grasp the left and right HHHR grips and verify that the console heart rate indicator is operating correctly.
11. Verify full machine operation (see "Operation Verification" on page 18) and return to service.

LPCA (Lower PCA) Board Replacement

About

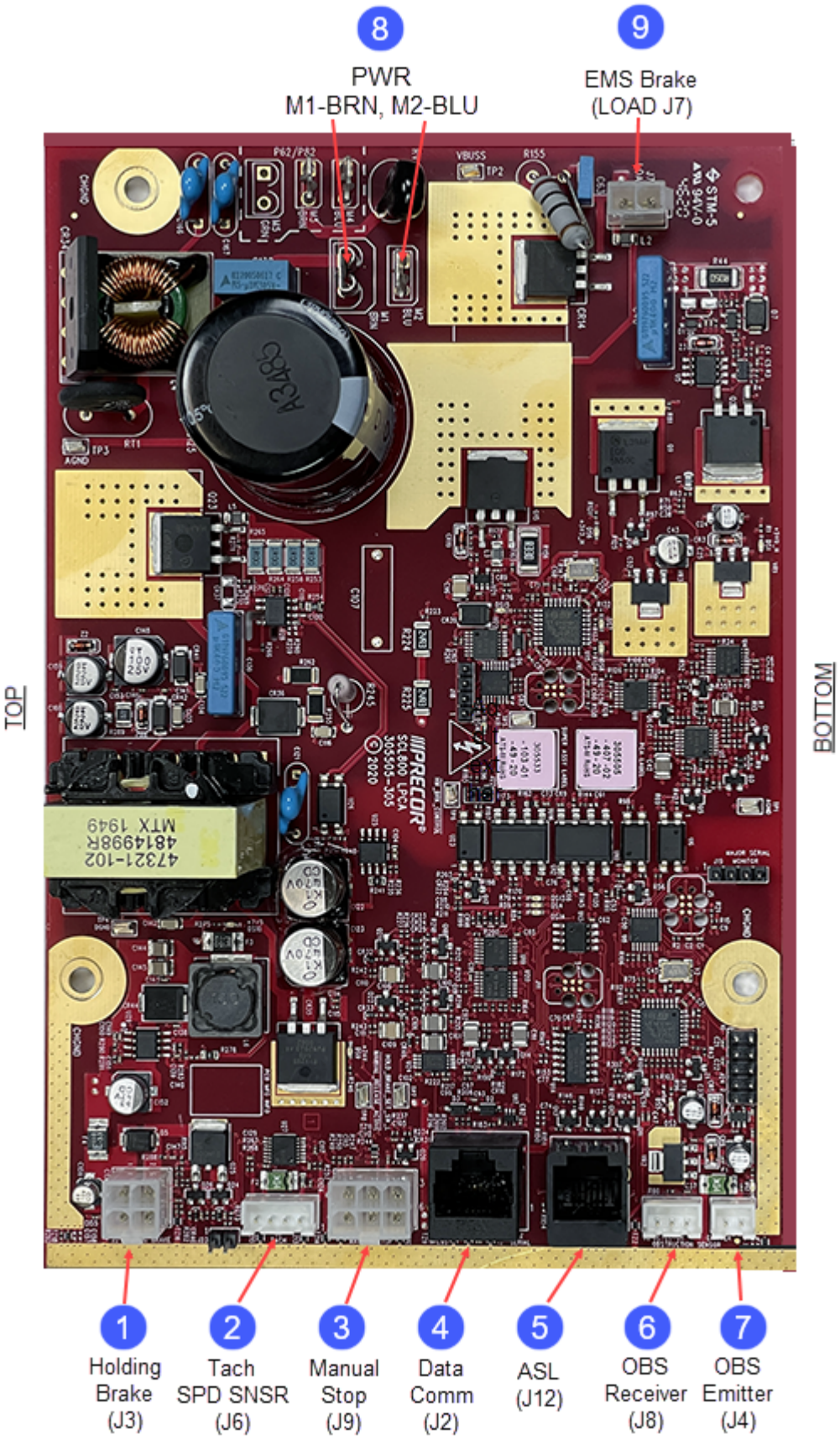
This procedure provides instructions to replace the **LPCA**[1] (**Lower PCA**[2]) board.



[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]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.

LPCA Interface Cable Connections


8
PWR
M1-BRN, M2-BLU
9
EMS Brake
(LOAD J7)
TOP
BOTTOM
1
Holding Brake (J3)
2
Tach SPD SNSR (J6)
3
Manual Stop (J9)
4
Data Comm (J2)
5
ASL (J12)
6
OBS Receiver (J8)
7
OBS Emitter (J4)

LPCA Board

ID	Interface
1	Holding Brake (J3)
2	Tach SPD[1] SNSR (J6)
3	Manual Stop (J9)
4	Data COMM (J2)
5	Active Status Light (J12)
6	OBS[2] Receiver (J8)
7	OBS Emitter (J4)
8	PWR (M1-BRN, M2-BLU)
9	EMS Brake - LOAD (J7)

Procedure

Review entire procedure before starting.



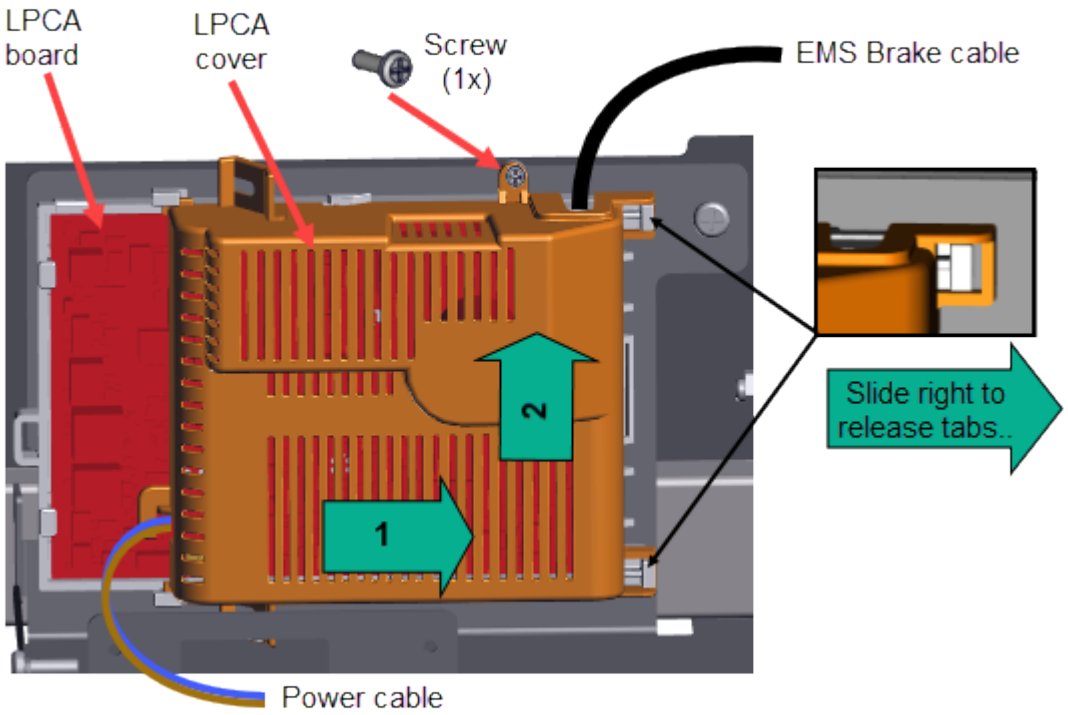
CAUTION: Electronic components and **PCA**[3] boards are susceptible to damage from an **ESD**[4] event. Always use ESD precautions (properly grounded anti-static wrist-strap and anti-static mat) when handling or servicing printed circuit boards.

Removal Instructions

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   - Side Access Covers (see "Side Access Covers Replacement" on page 92)
   - Base cover (see "Base Cover Replacement" on page 95)
3. Remove the Drip Shield, see "Drip Shield Replacement" on page 122.

[1]speed
[2]Obstruction sensor.
[3]Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.
[4]Electrostatic Discharge or Electrostatic Sensitive Device.

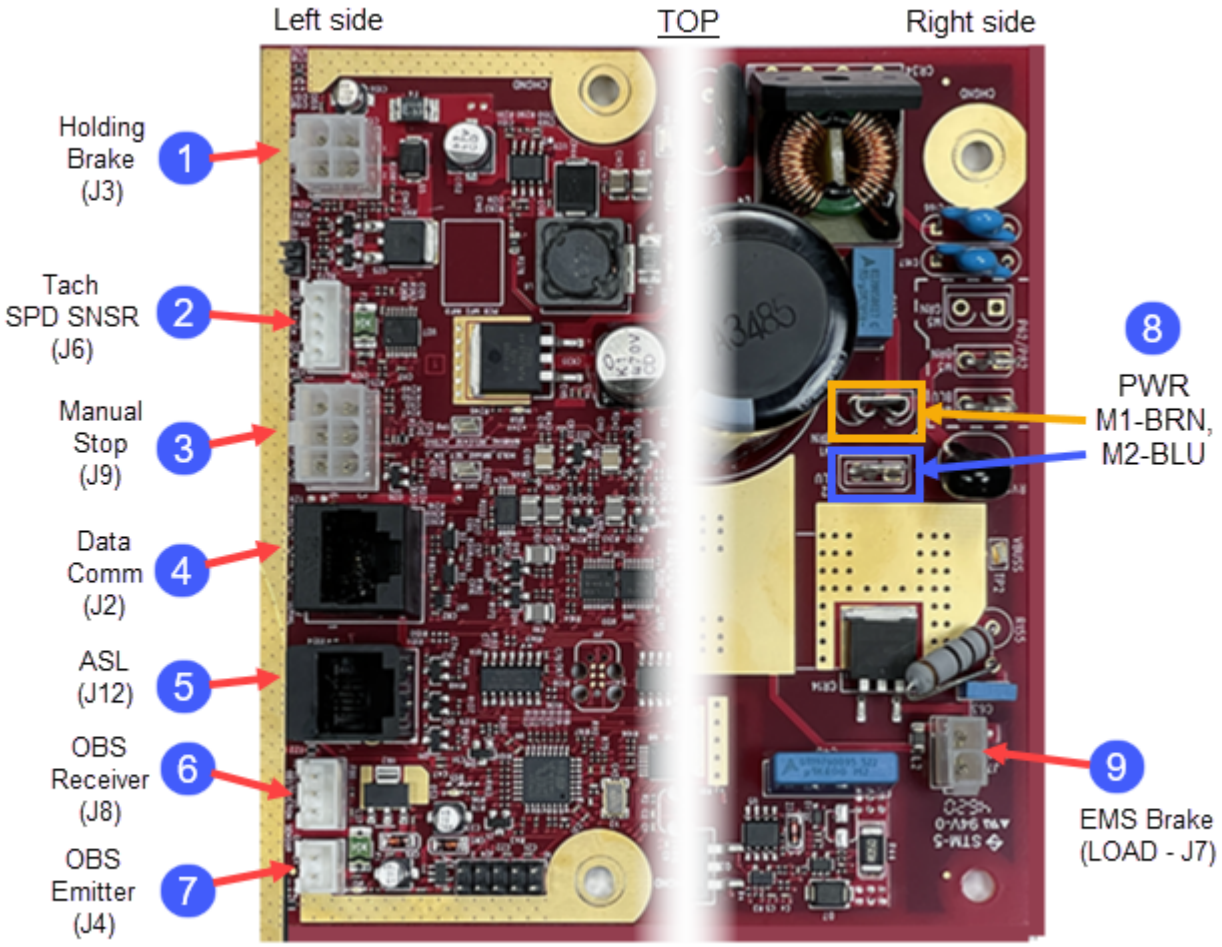
4. Remove the one #2 Phillips screw fastener. Then slide the LPCA cover right and lift to remove. Take note the EMS Brake cable exits at the top right corner and the Power cable exits at the lower left corner of the LPCA cover. Retain part(s) and/or fastener (s) for installation.



5. Remove the following LPCA interface cables:

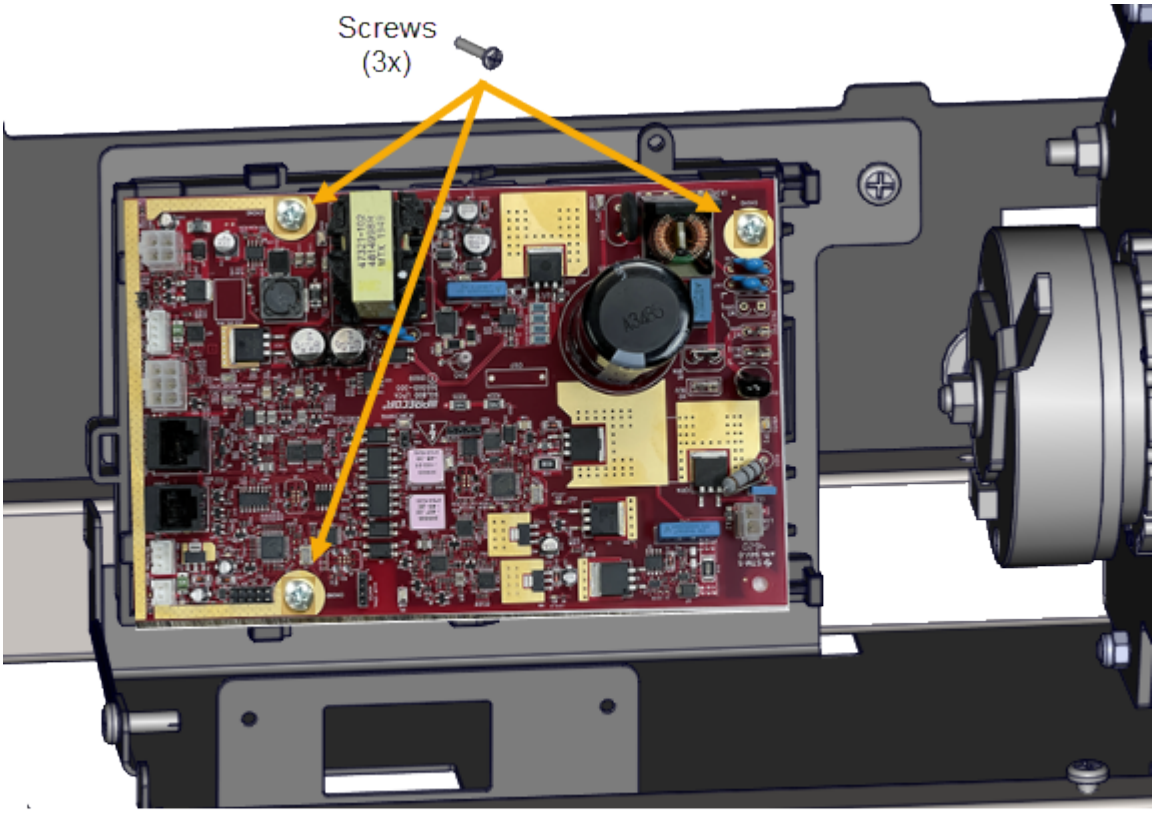
ID	Interface
1	Holding Brake (J3)
2	Tach SPD SNSR (J6)
3	Manual Stop (J9)
4	Data COMM (J2)
5	Active Status Light (J12)
6	OBS Receiver (J8)
7	OBS Emitter (J4)
8	PWR (M1-BRN, M2-BLU)

ID	Interface
9	EMS Brake - LOAD (J7)



LPCA Board

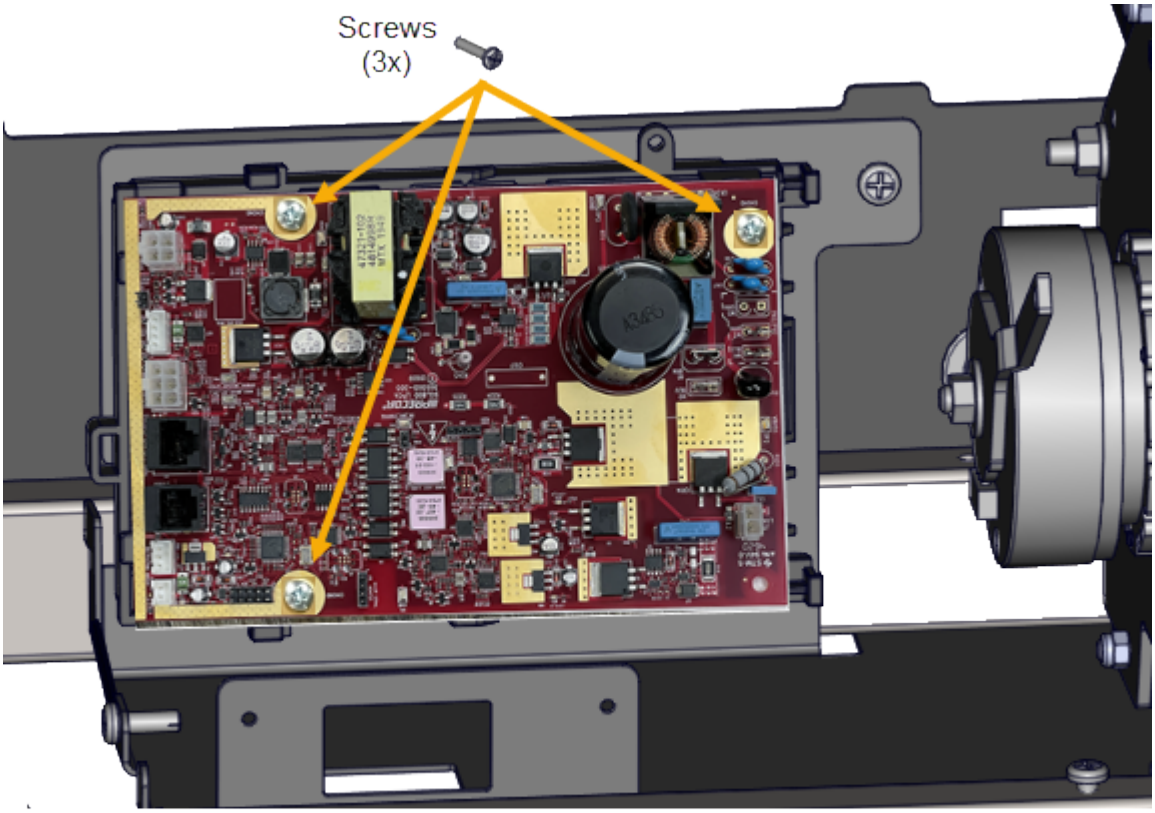
6. Remove the three #2 Phillips screw fasteners and remove the LPCA board. Retain part(s) and/or fastener(s) for installation.



LPCA: FASTENERS

Installation

7. Reinstall the LPCA onto the mounting bracket and secure using the three #2 Phillips screws and fully tighten.

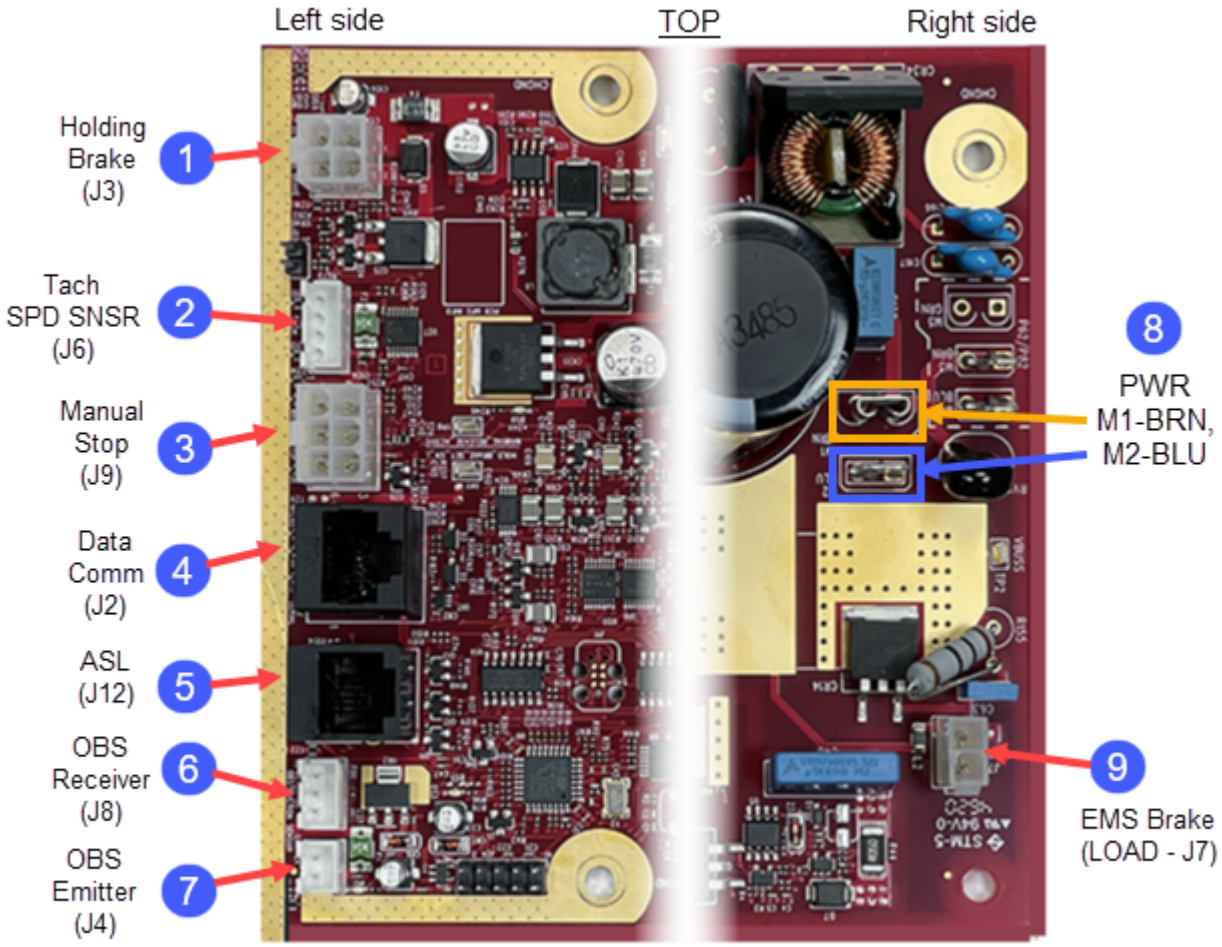


LPCA: FASTENERS

8. Reinstall the following LPCA interface cables:

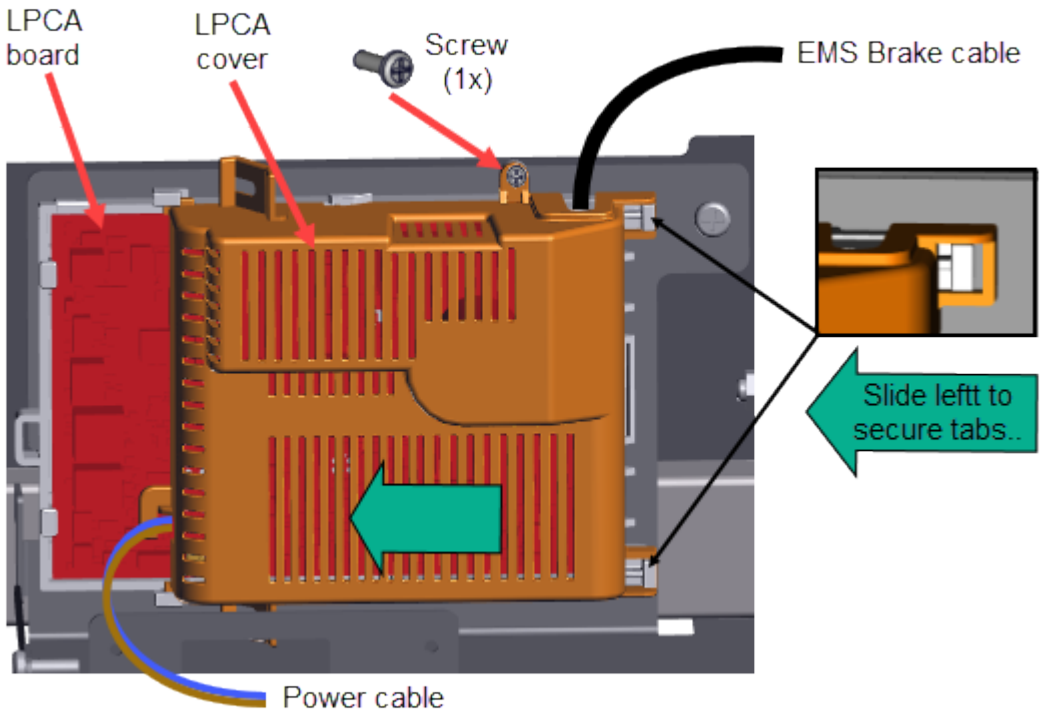
ID	Interface
1	Holding Brake(J3)
2	Tach - SPD SNSR (J6)
3	Manual Stop(J9)
4	Data COMM (J2)
5	Active Status Light (J12)
6	OBS Receiver (J8)
7	OBS Emitter (J4)
8	PWR (M1-BRN, M2-BLU)

ID	Interface
9	EMS Brake (LOAD - J7)



LPCA Board

9. While installing the LPCA cover, place the EMS Brake cable into the top right corner cutout and the Power cable into the lower left corner cutout. Place the LPCA cover right side upper and lower tabs over the bracket clips. Then slide the LPCA cover left to snap the tabs in place. Reinstall the one #2 Phillips screw fastener and fully tighten.

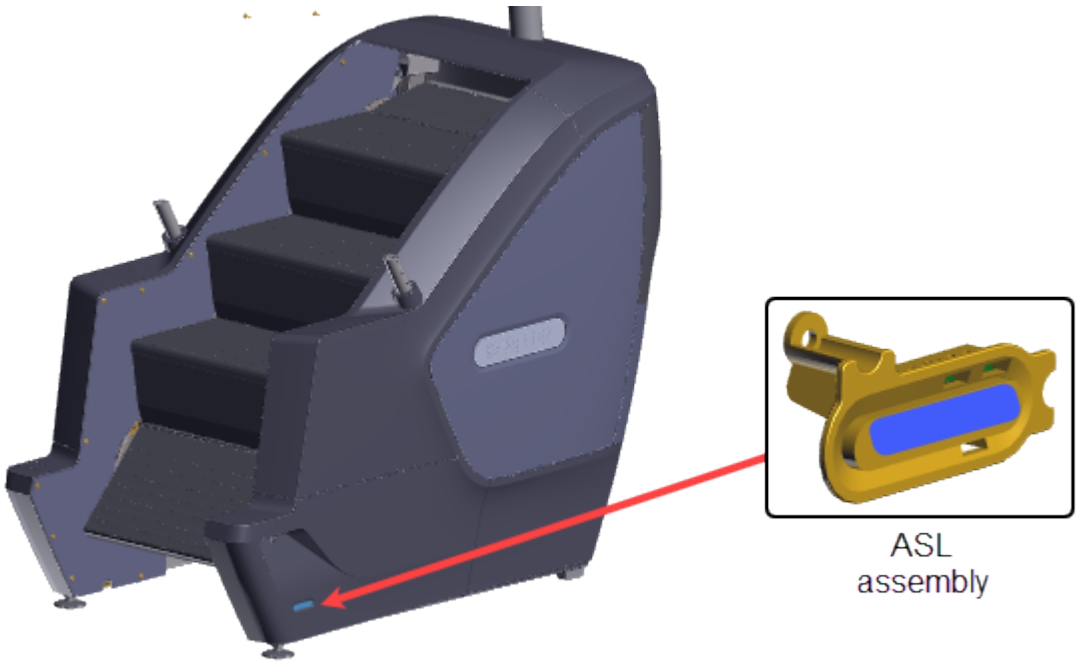


10. Reinstall the Drip Shield, see "Drip Shield Replacement" on page 122.
11. Reinstall the following covers:
    - Base cover (see "Base Cover Replacement" on page 95)
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
12. Connect the power cord and switch the power **ON**.
13. Verify machine operation (see "Operation Verification" on page 18) and return to service.

Active Status Light "ASL" PCA board Replacement

About

This procedure provides instructions to replace the Active Status Light "**ASL**[1]" **PCA**[2] board.



Procedure

Review entire procedure before starting.

Removal

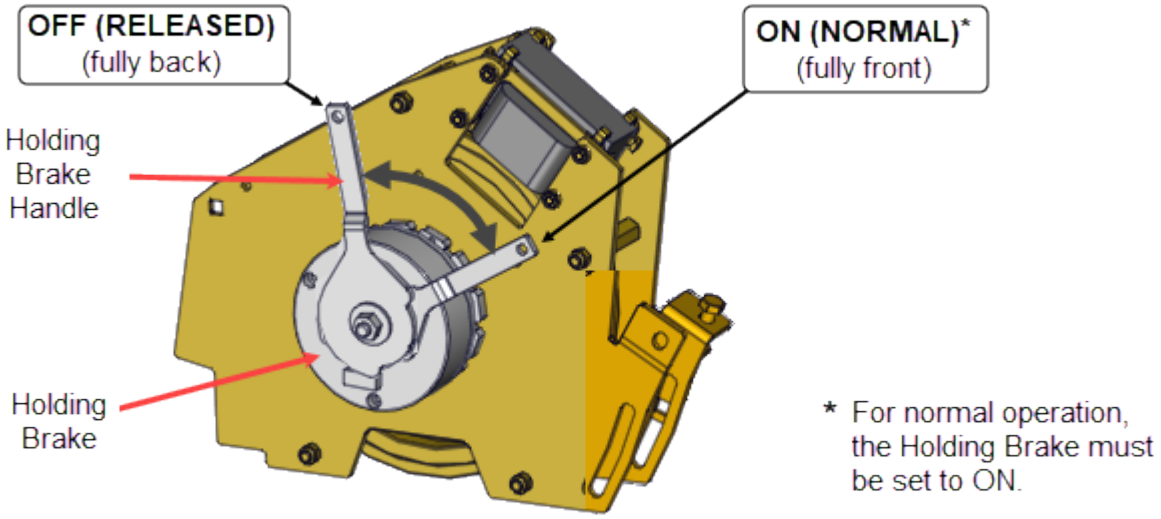
1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   - Side Access Covers (see "Side Access Covers Replacement" on page 92)
   - Base cover (see "Base Cover Replacement" on page 95)
   - Right Inner Panel covers, see "Inner Panel Covers Replacement" on page 98.

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

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

- Right Chain Rail cover (includes removing the right Handlebar), see "Chain Rail Cover Replacement" on page 103.

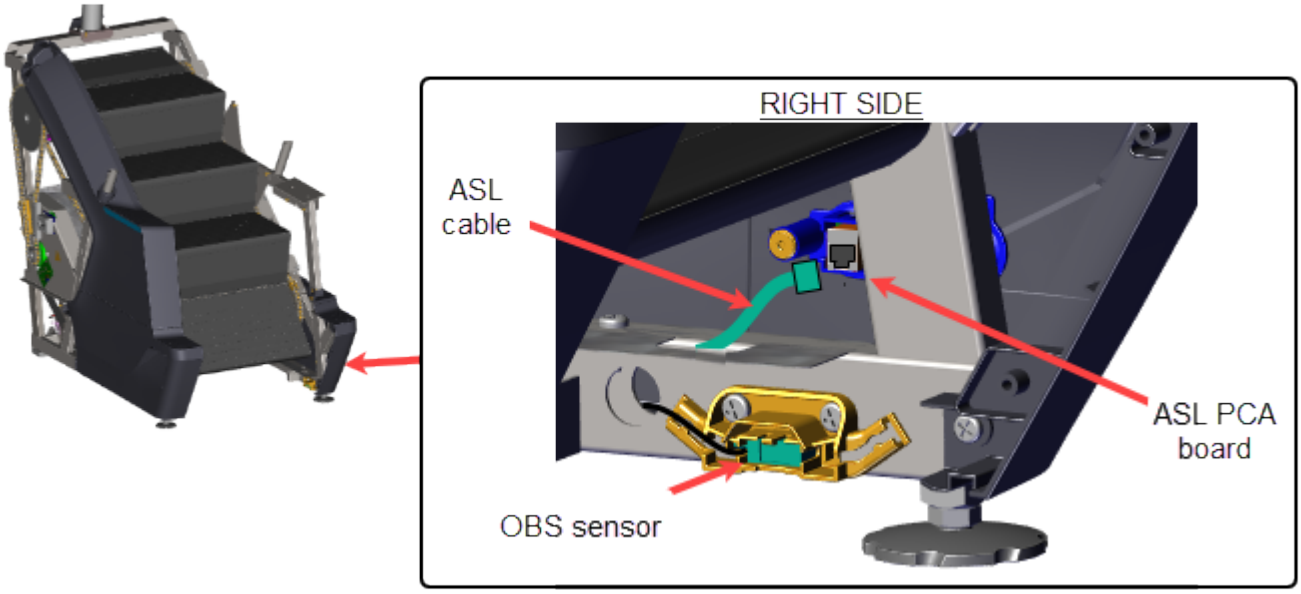
3. Set the Holding Brake handle to OFF (all the way back). This will allow the stairs to move.



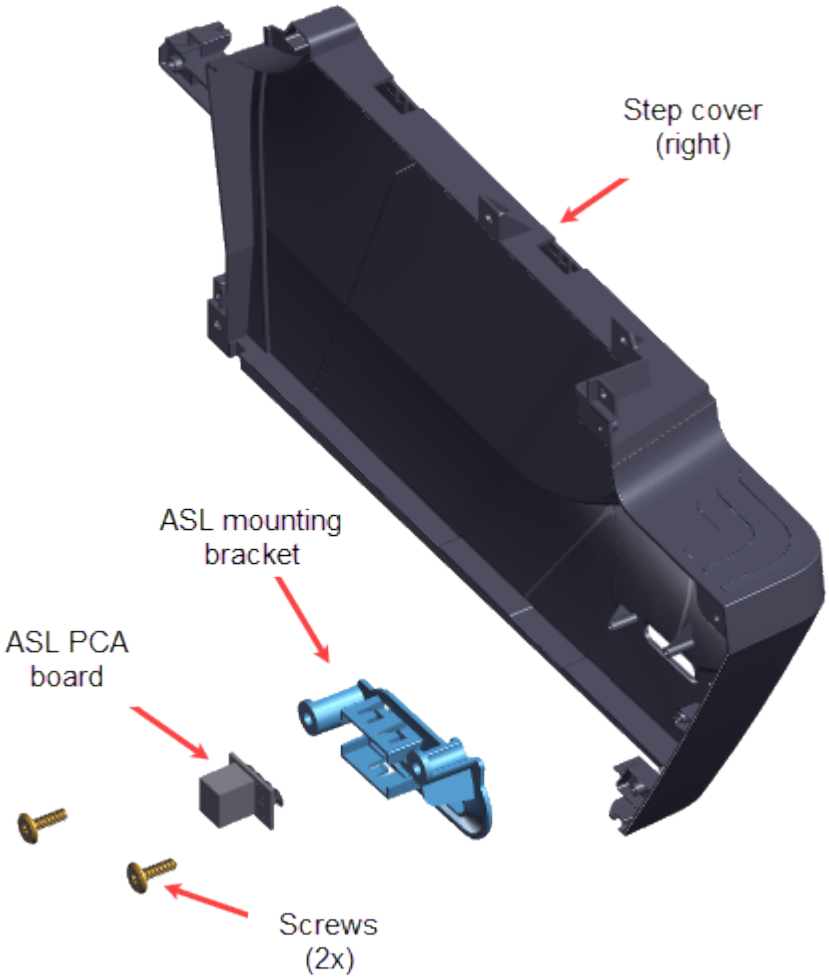
Brake Assy

4. Move the stairs to provide the best access to the ASL PCA assembly.
5. Set the Holding Brake handle to ON (all the way front). This will stop the stairs from moving.
6. Disconnect the ASL cable from the ASL PCA board. The ASL PCA cable connects to the **LPCA**[1] "ASL" (J12) connector (see "LPCA (Lower PCA) Board Replacement" on page 151).

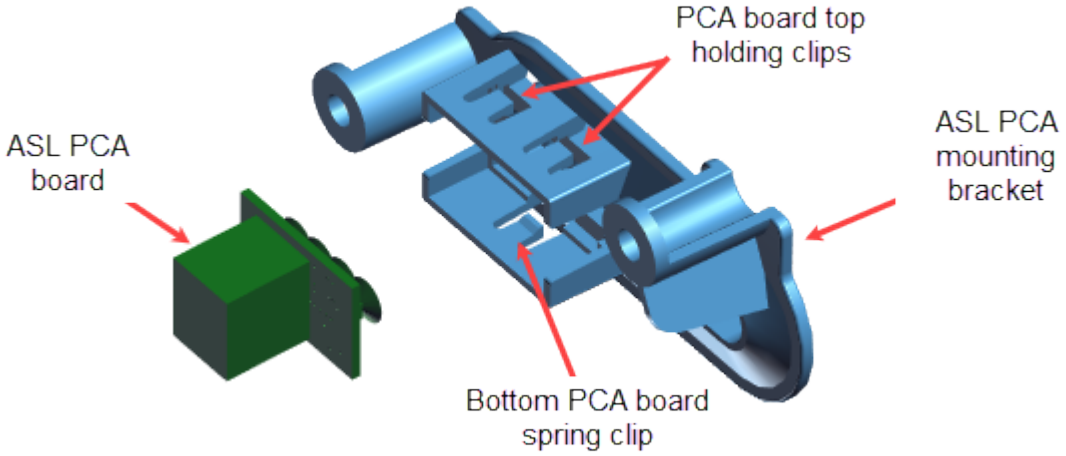
[1]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.



7. Remove the six #3 Phillips screws and remove the right Step cover (see "Step Cover Replacement" on page 108).
8. Remove the two T20 torque screws and the ASL mounting bracket. Retain part(s) and/or fastener(s) for installation.

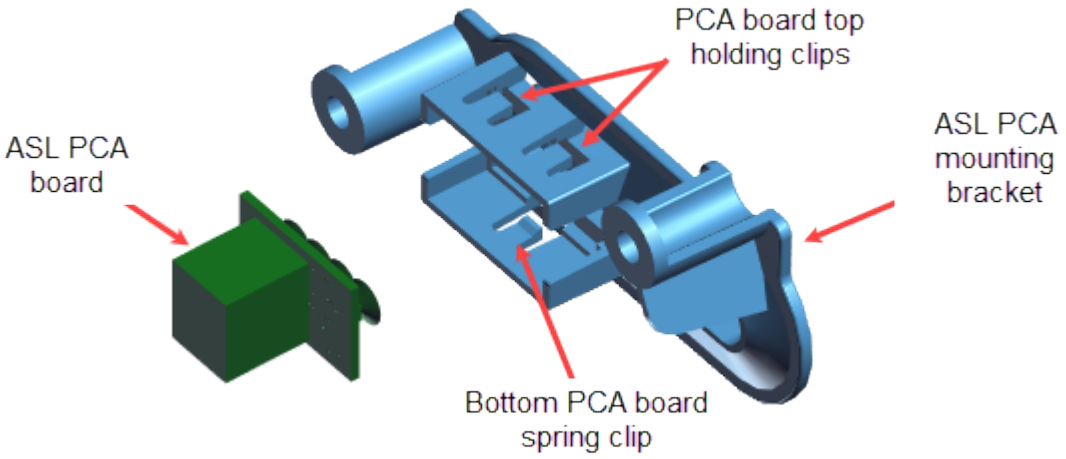


9. To remove the ASL PCA board, use a small flat blade screwdriver to pry the bottom PCA spring clip down while pulling the bottom edge of the PCA board from the mounting bracket.

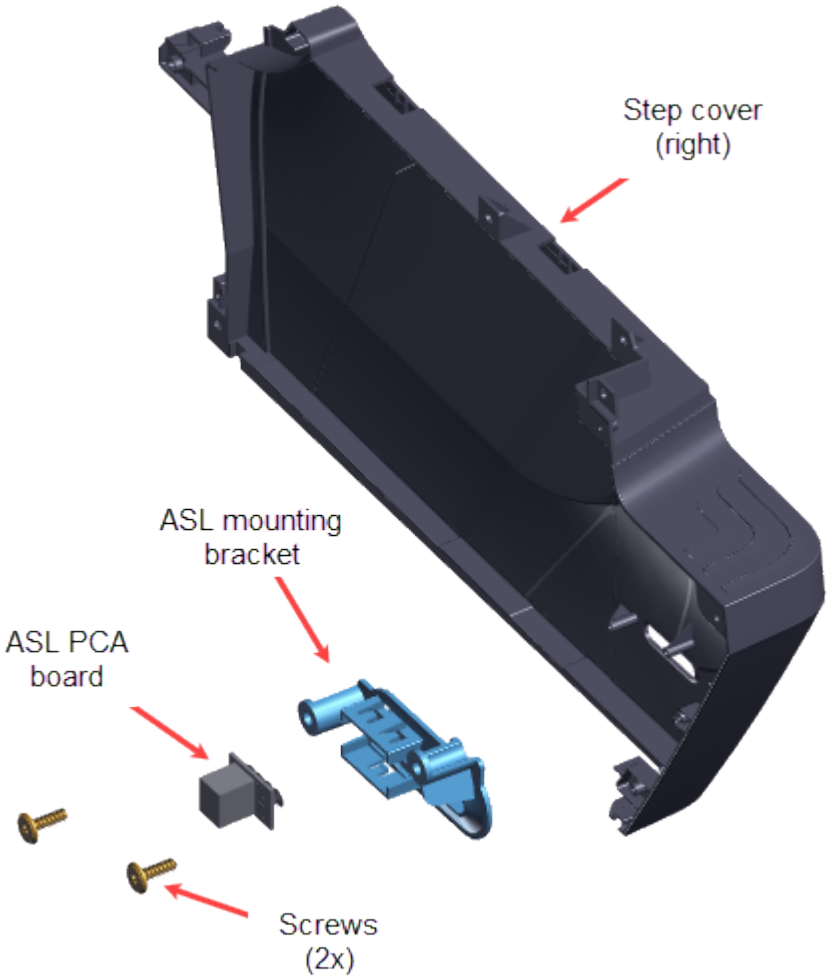


Installation

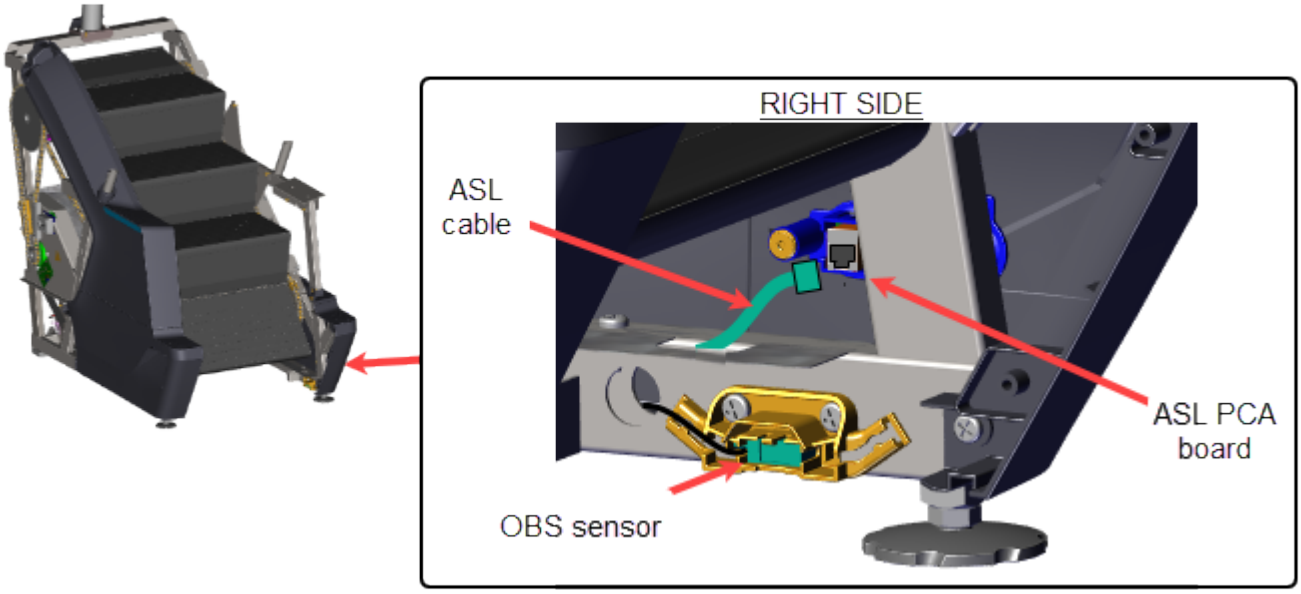
10. If the ASL PCA board was removed, reinstall a good ASL PCA board into the mounting bracket. Insert the top edge of the board behind the top clips and then push the bottom edge past the bottom spring clip until it snaps into place.



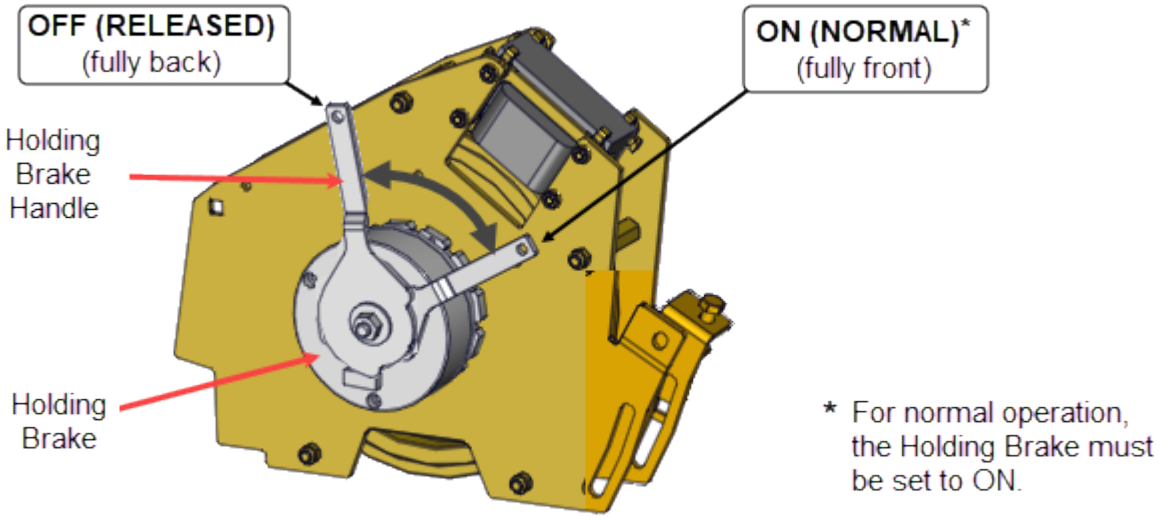
11. Reinstall the ASL mounting bracket onto the right Step cover and secure using the two T20 torque screws. Fully tighten the screws.



12. Reinstall the right Step cover and secure using the six #3 Phillips screws (see "Step Cover Replacement" on page 108).
13. Reconnect the ASL cable to the ASL PCA board. The ASL PCA cable connects to the LPCA "ASL" (J12) connector (see "LPCA (Lower PCA) Board Replacement" on page 151).



14. Make sure the Holding Brake handle is set to ON (all the way forward).



Brake Assy

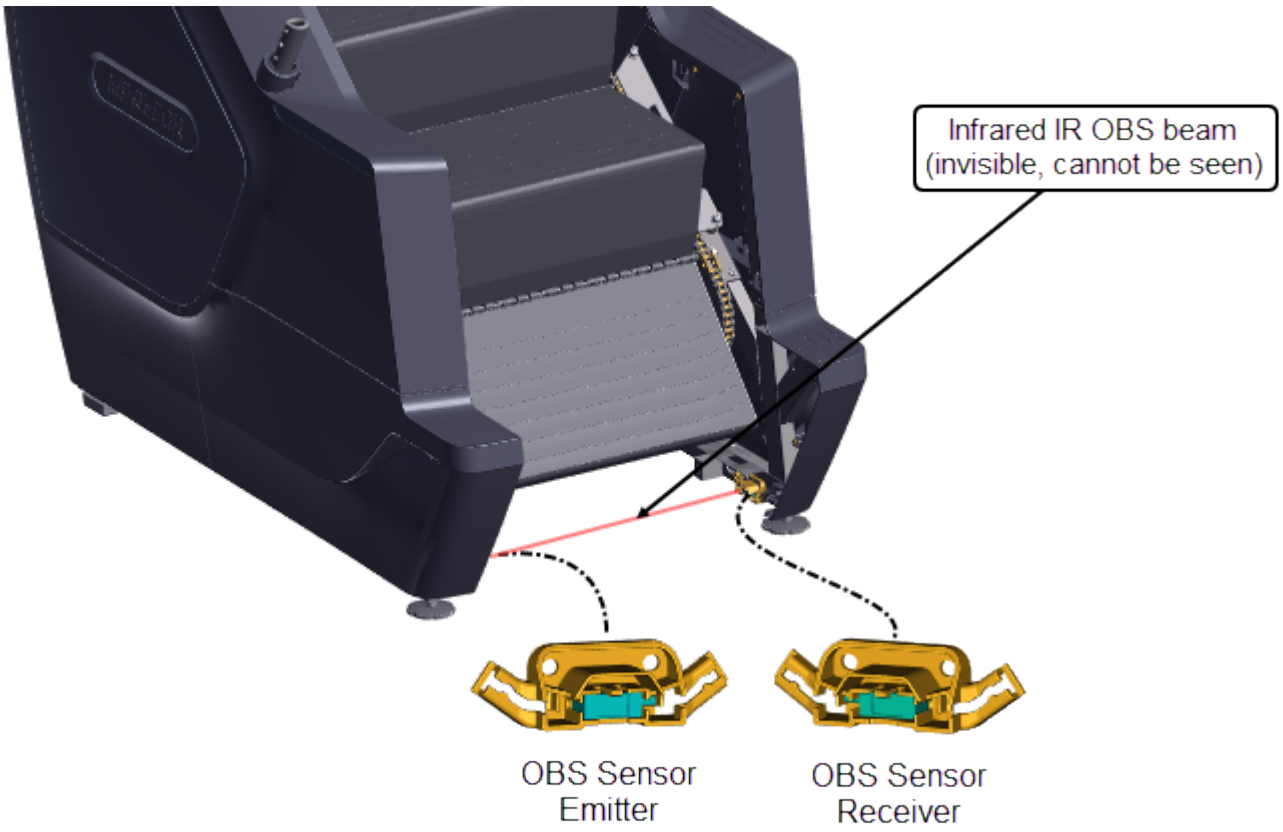
15. Connect the power cord and switch the power ON.
16. After the console has powered up, verify the following verification tests:
    a. Verify that the ASL light is solid blue (" Active Status Light "ASL"" on page 252).
    b. Open the Hardware Validation Tests menu (51765761) and select the ACTIVE STATUS LIGHT test (" LED Console Standard Service Menus" on page 32). Verify that the current ASL light color matches the status light state.
17. Switch the power OFF.

18. Reinstall the following covers:
    - Right Chain Rail cover (includes removing the right Handlebar), see "Chain Rail Cover Replacement" on page 103.
    - Right Inner Panel covers, see "Inner Panel Covers Replacement" on page 98.
    - Base cover (see "Base Cover Replacement" on page 95)
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
19. Verify full machine operation and return to service, see "Operation Verification" on page 18.

OBS Obstruction Sensor Replacement

About

This procedure provides instructions to replace the **OBS**[1] "Obstruction" Emitter and Receiver Sensors.



Procedure

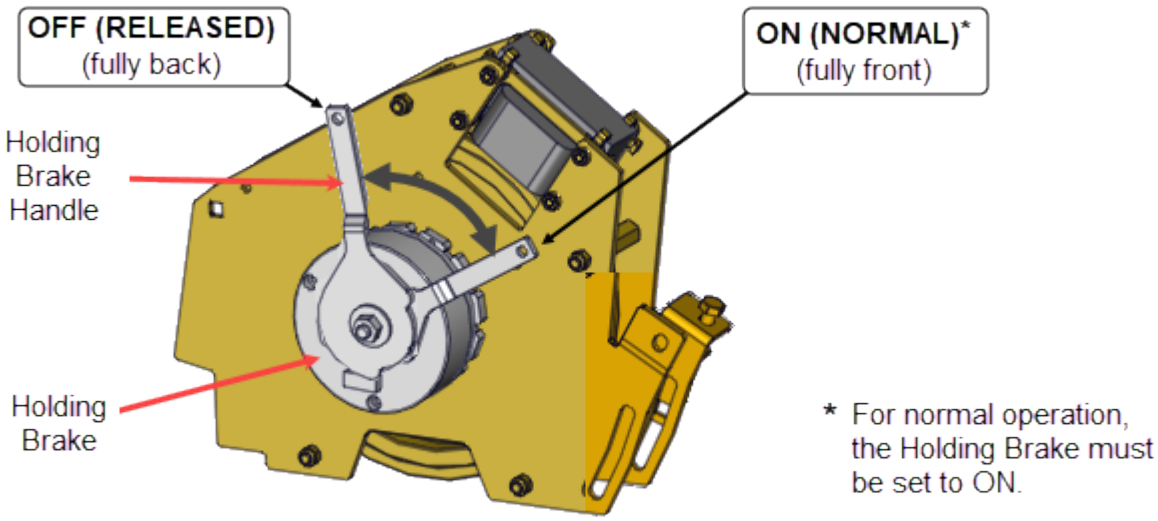
Review entire procedure before starting. The OBS "receiver" and "emitter" sensors use the same replacement procedure.

Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).

[1]Obstruction sensor.

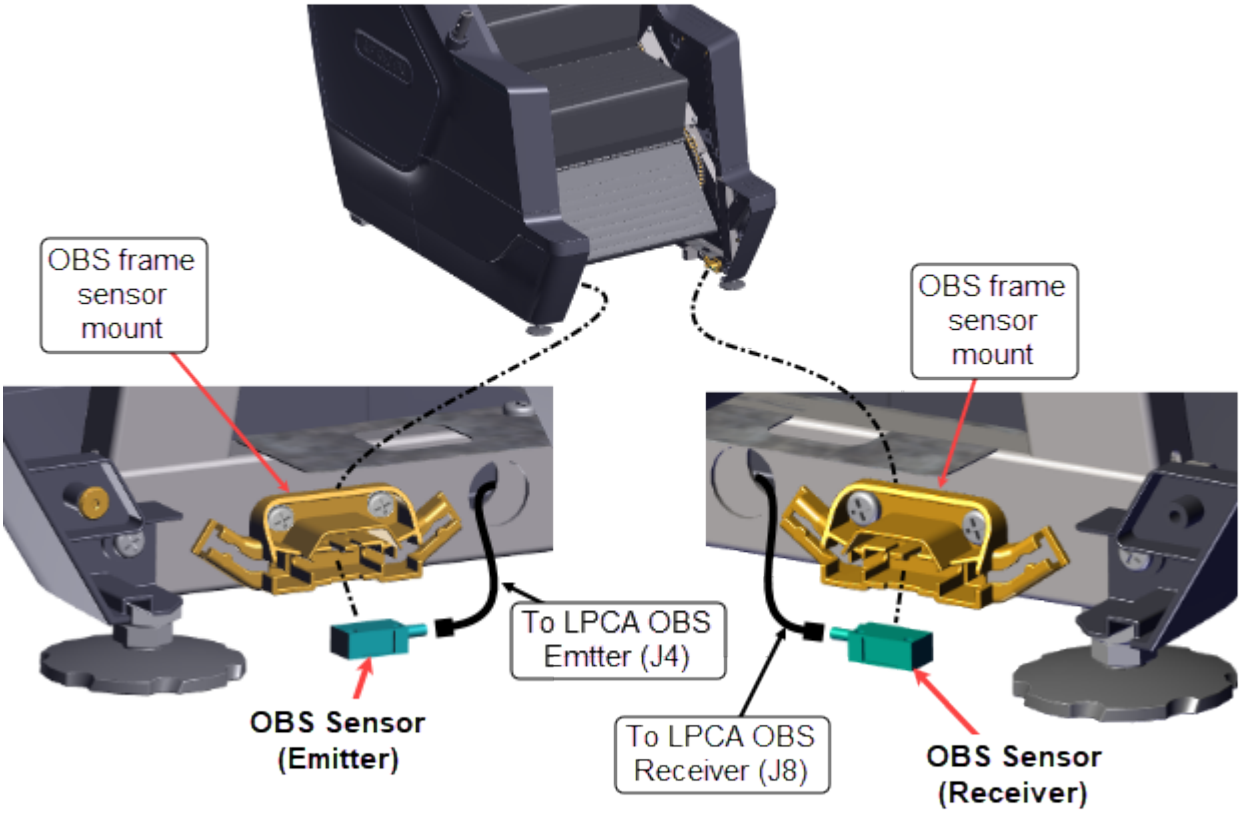
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   - Side Access Covers (see "Side Access Covers Replacement" on page 92)
   - Left and right Inner Panel covers, see "Inner Panel Covers Replacement" on page 98.
3. Set the Holding Brake handle to OFF (all the way back). This will allow the stairs to move.



Brake Assy

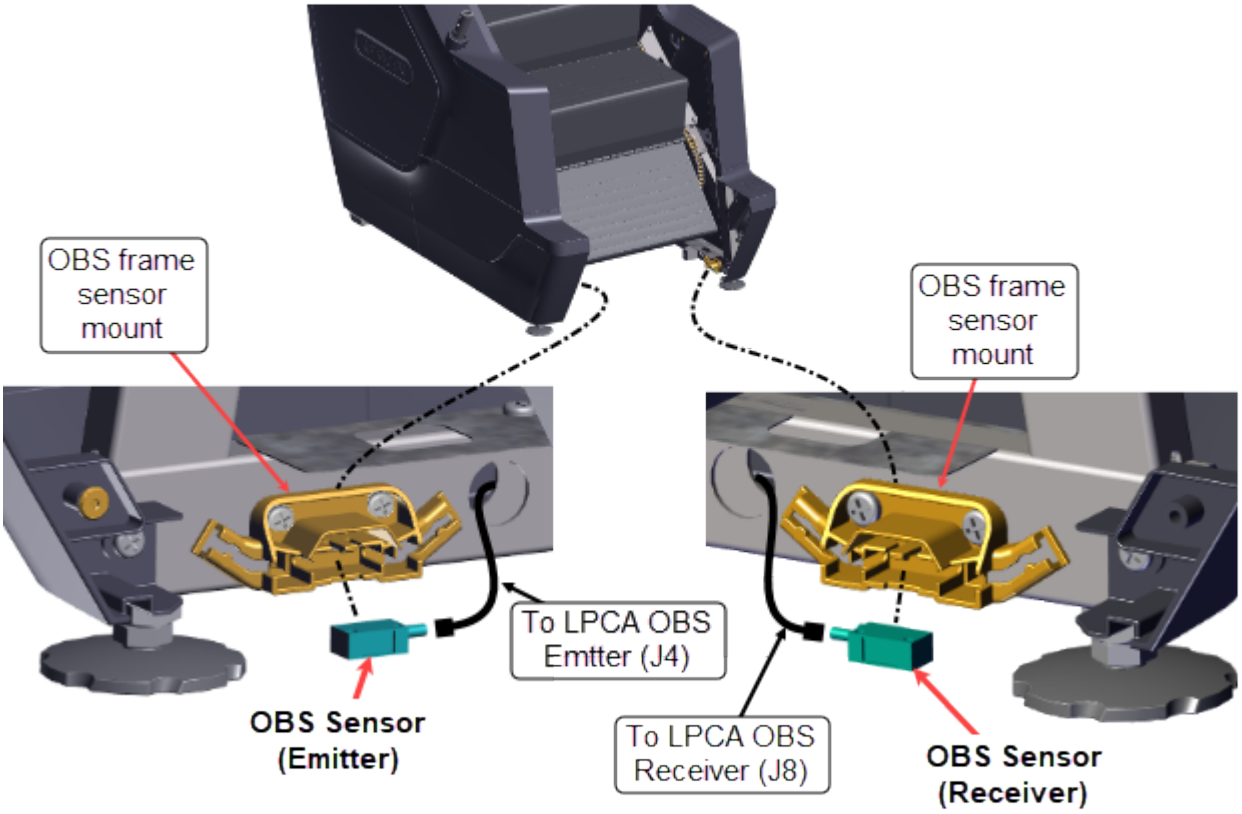
4. Move the stairs to provide the best access to the OBS sensors.
5. Set the Holding Brake handle to ON (all the way front). This will stop the stairs from moving.
6. The OBS sensor "emitter" is on the left side and the OBS sensor "receiver" is on the right side. Remove the interface cable from the OBS frame mount. Then lift the OBS frame mount retaining clip and pull the OBS sensor to remove. Disconnect the **LPCA**[1] interface cable from the senor. The OBS emitter sensor connects to the LPCA "OBS Emitter" (J4) connector and the OBS receiver sensor connects to the LPCA "OBS receiver" (J8) connector (see "LPCA (Lower PCA) Board Replacement" on page 151).

[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.

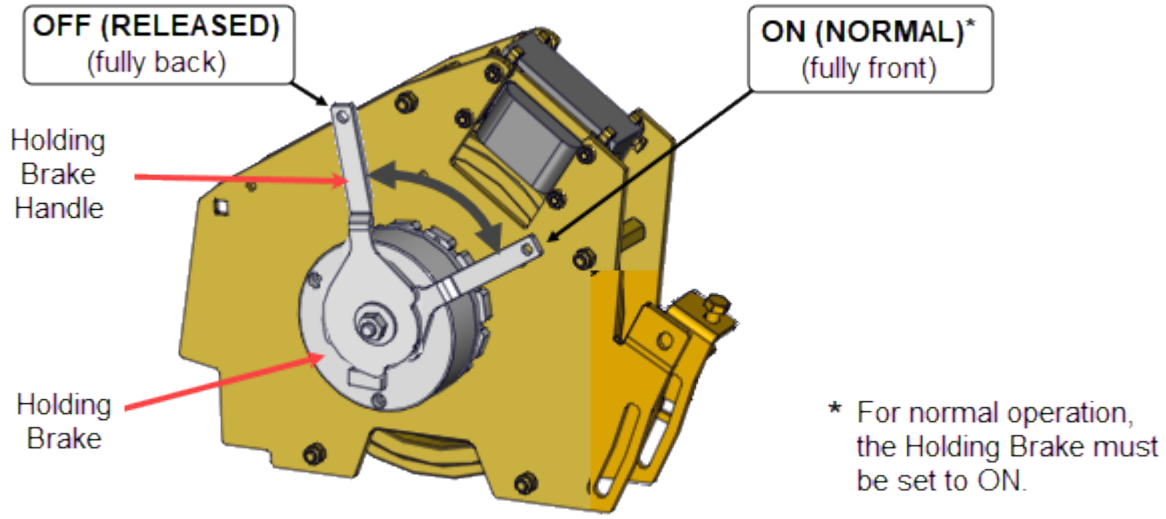


Installation

7. Install the OBS sensor "emitter" on the left side. Connect the LPCA interface cable and then insert the OBS sensor emitter into the left OBS sensor frame mount (make sure the sensor snaps into mount clip). Route the cable through the mount and push the excess length into the frame. Repeat the installation for the OBS sensor "receiver" mounted on the right side. The OBS Emitter sensor connects to the LPCA "OBS Emitter" (J4) connector and the OBS Receiver sensor connects to the LPCA "OBS receiver" (J8) connector (see "LPCA (Lower PCA) Board Replacement" on page 151).

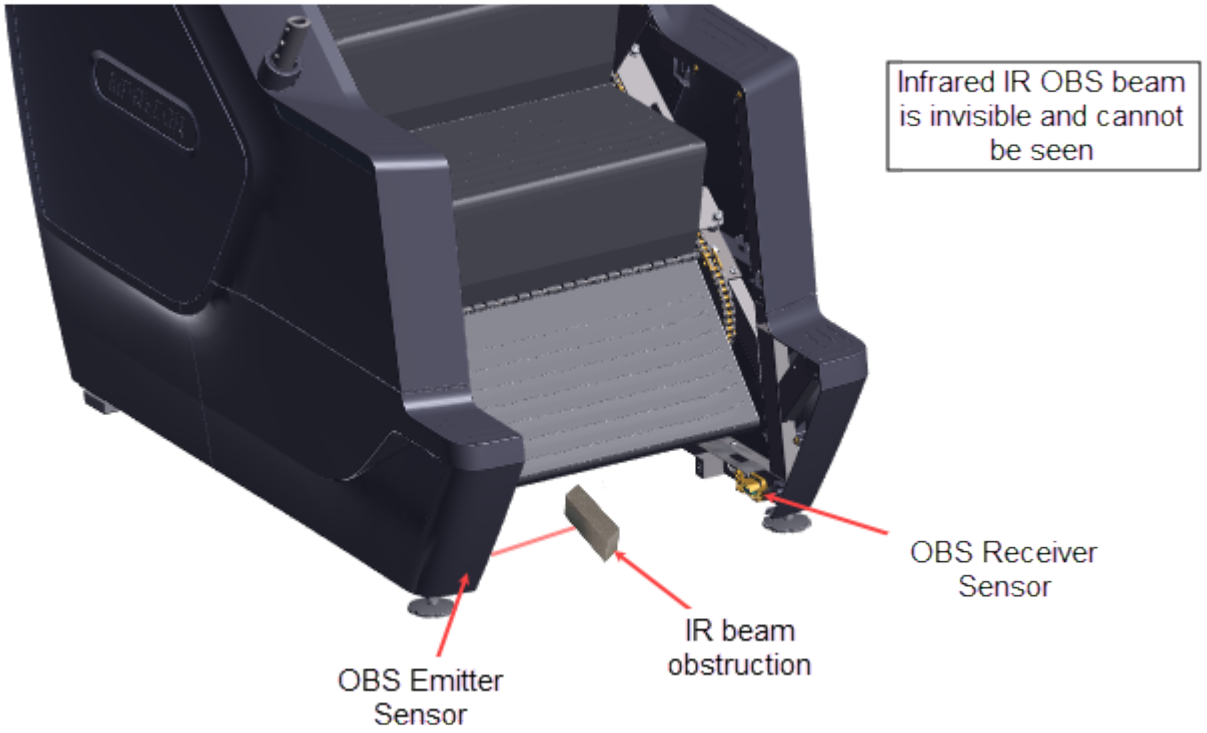


8. Make sure the Holding Brake handle is set to ON (all the way forward).



Brake Assy

9. Connect the power cord and switch the power ON.
10. Start a manual workout. While doing the workout, carefully block the OBS sensor **IR**[1] beam and verify that the machine immediately slows, stops and shows the OBS Obstruction error message on the console. Remove the obstruction and verify normal operation.



11. Switch the power OFF.
12. Reinstall the following covers:
    - Left and right Inner Panel covers, see "Inner Panel Covers Replacement" on page 98.
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
13. Verify full machine operation and return to service, see "Operation Verification" on page 18.

[1]Infrared Radiation: Electromagnetic radiation with wavelengths longer than those of visible light. It is therefore invisible to the human eye. IR is generally understood to encompass wavelengths from the nominal red edge of the visible spectrum around 700 nanometers (frequency 430 THz), to 1 millimeter (300 GHz).

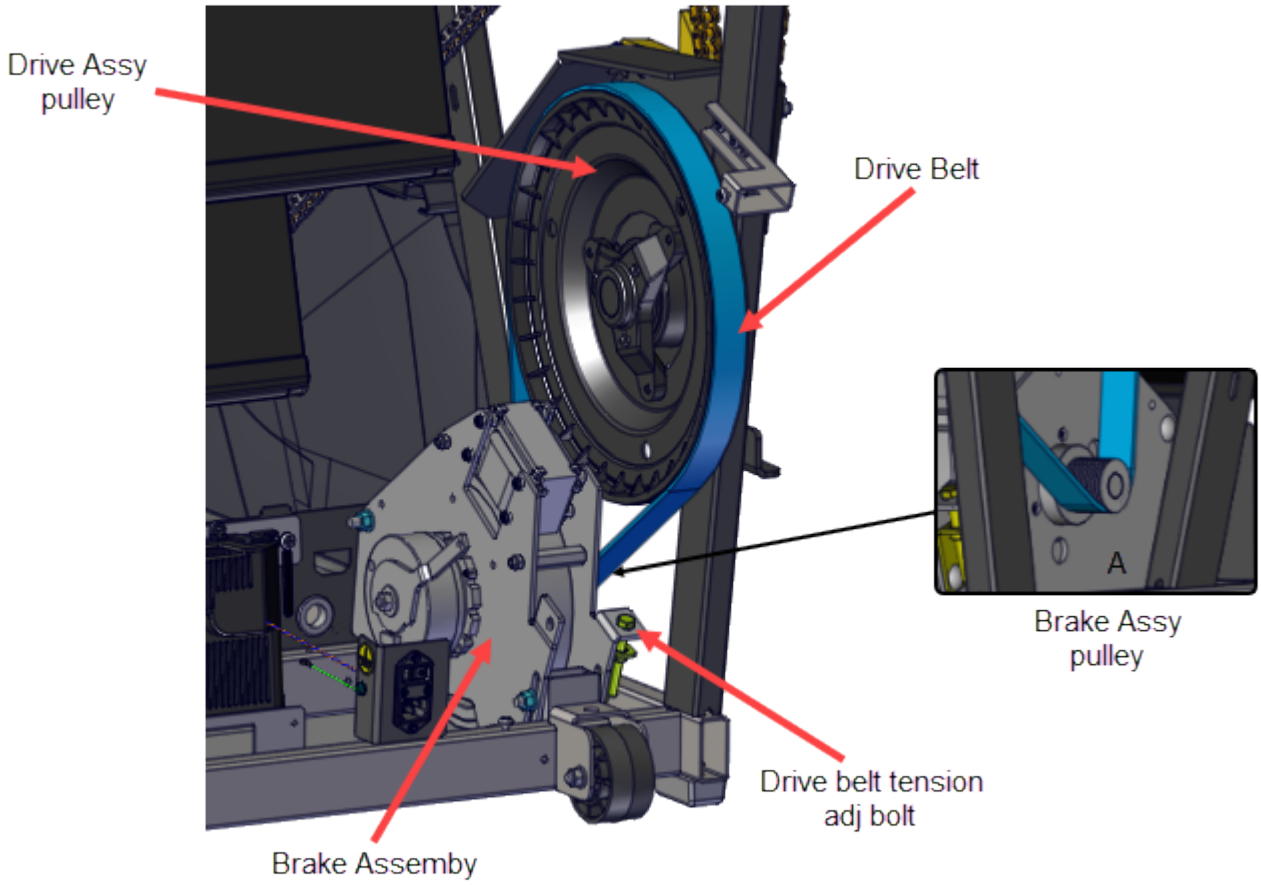
Drive Belt Replacement

About

This procedure provides instruction to replace the Drive Belt.

The drive belt connects the Brake Assembly pulley to the Drive Assembly pulley. The drive belt must be replaced at 39 million steps. The current drive belt step count can be found in the **INFORMATION DISPLAY > BELT USAGE** parameter, see " LED Console Standard Service Menus" on page 32**.**

WARNING: The Drive belt must be replaced at 39 million steps steps of use. The belt could break if used beyond this limit causing immediate unanticipated stair movement and possible injury to the exerciser.



Specifications

System Component	Specification
Drive Belt Drive Tension	124 Hz[1] +/- 10 Hz*
Notes: * Sonic belt tension frequency (Hz).	

Service Videos

Service Video		Link
	Drive Belt Replacement	Drive Belt Replace

Procedure

Review entire procedure before starting.

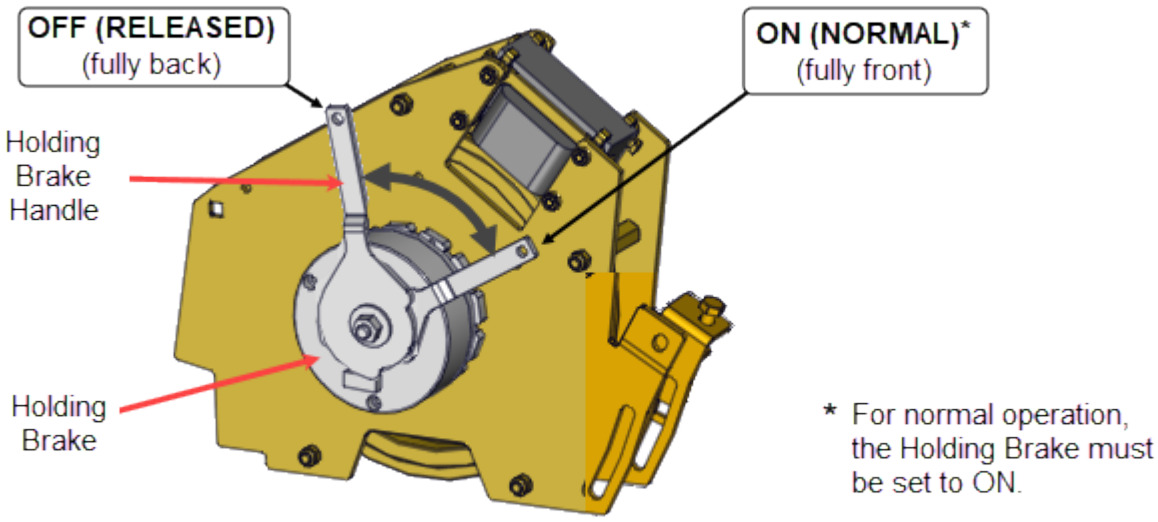


WARNING: When the drive belt or drive chain is removed, the stairs freely move. Any pressure on the steps will cause the stairs to move. Keep hands and fingers clear of any step chain, drive chain, or stair step pinch points.

Removal

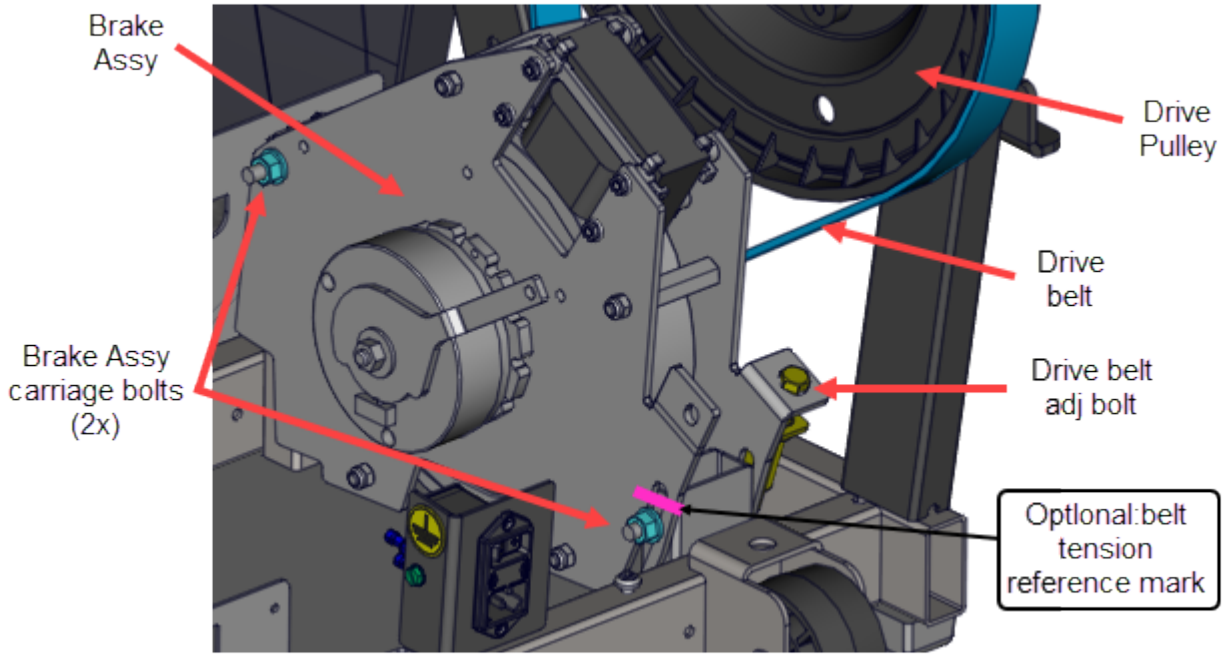
1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   - Side Access Covers (see "Side Access Covers Replacement" on page 92)
   - Base cover (see "Base Cover Replacement" on page 95)
3. Remove the Drip Shield, see "Drip Shield Replacement" on page 122.
4. Set the Holding Brake handle to OFF (all the way back). This will allow the drive belt and stairs to move.

[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.



Brake Assy

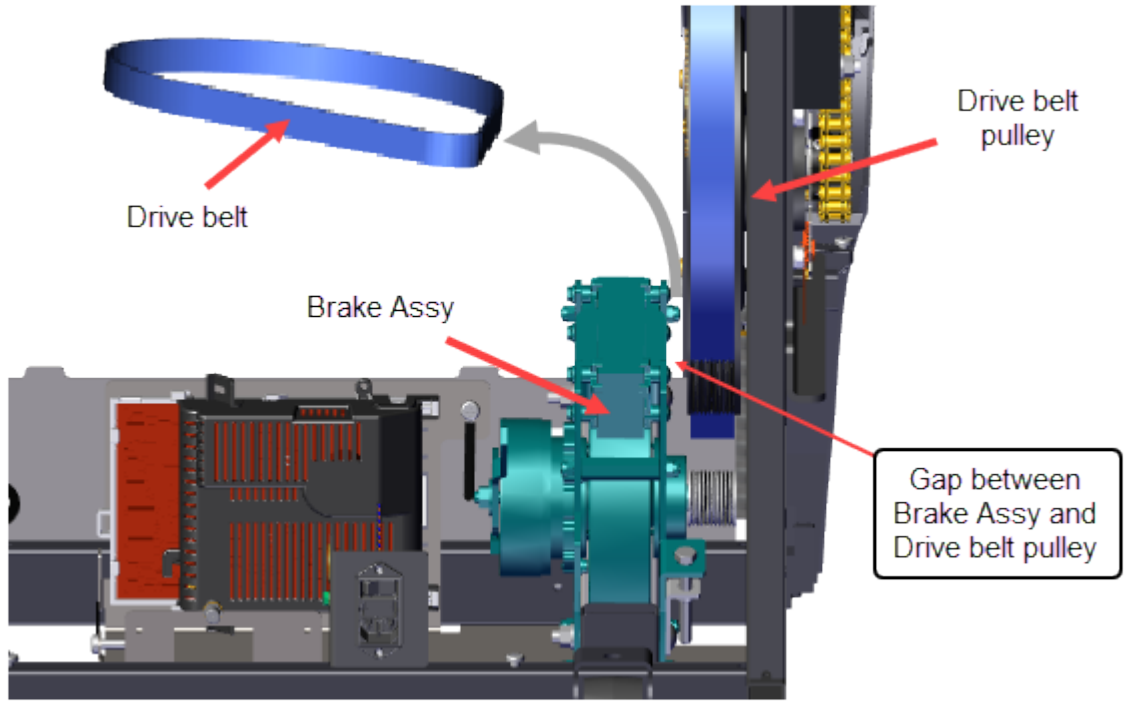
5. Then loosen the two Brake assembly 1/2" carriage bolt nuts enough to allow movement. Do not remove the carriage bolt nuts.
   Optional: Add tape to mark the position of the front carriage bolt nut on the belt tension adjustment slot. This reference mark will provide a belt tension starting point for the replacement belt installation.



6. Fully release the drive belt tension by turning the 1/2" hex head drive belt tension adjustment bolt **CCW**[1].
7. Walk the belt off the Drive belt pulley. Wrap a small rag around the belt from the inside next to the bottom of the Drive pulley. While pulling the rag away from the pulley, rotate the Drive pulley CCW pulling the belt off the pulley.

TIP: Using a rag to assist in walking the belt off the pulley will help prevent pinching and injuring fingers.

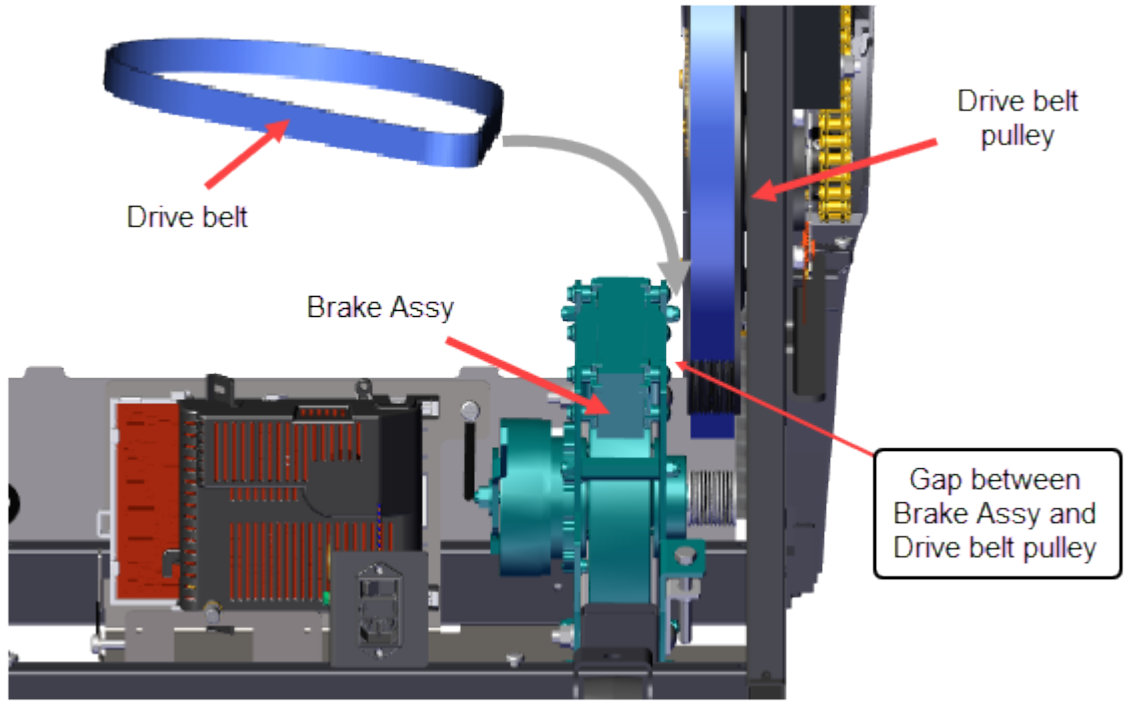
8. Remove the belt from the Brake Assy pulley.
9. Twist the belt sideways and slide the belt upward through the gap between the Brake Assy and Drive pulley to remove.



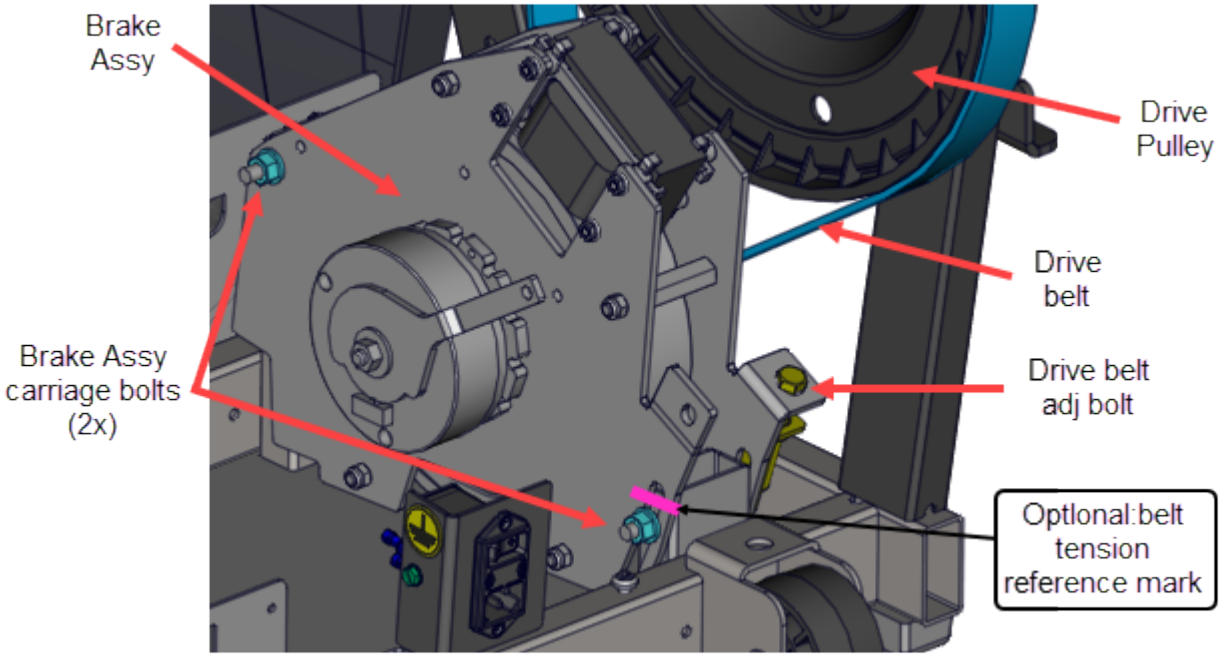
Installation

10. Twist the Drive belt sideways so that the grooves face the pulley and slide the belt downward through the gap between the Brake Assy and Drive pulley.

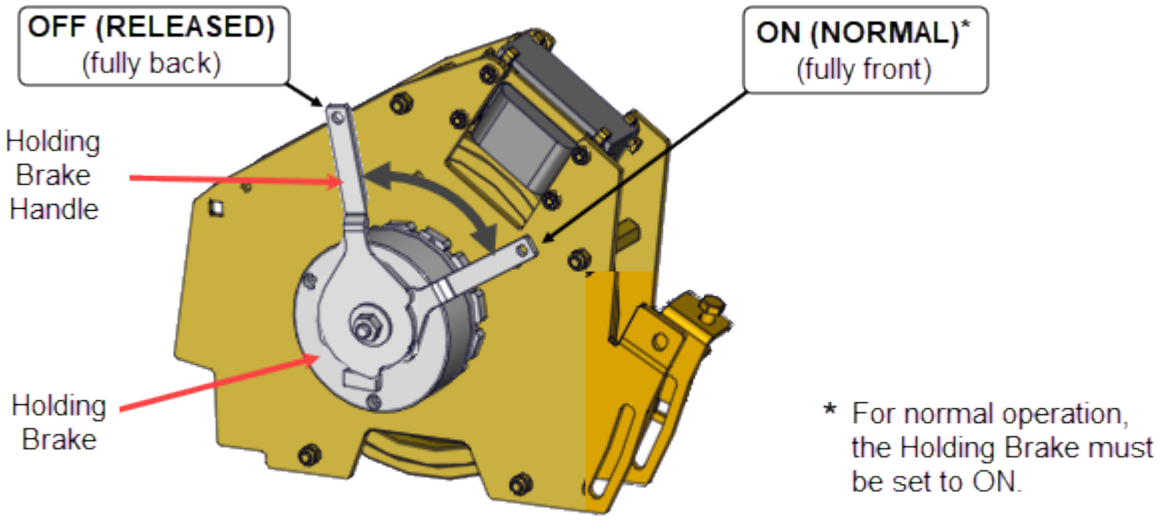
[1]Counter clockwise direction



11. Place the belt over the Brake Assy pulley and walk the belt onto the Drive pulley. Make sure the belt is centered on the Drive and Brake assembly pulleys.
12. Adjust the belt tension so that the position of the carriage bolt nut touches the tension reference mark on the belt tension adjustment slot. If there is no reference mark, tighten the belt tension until snug enough to produce a vibration when plucked. Do not over tension the belt.



13. Tension the belt to the sonic belt tension frequency specification 124 Hz +/- 10 Hz, see ."Drive Belt Tension Adjustment" on page 53
14. Set the Holding Brake handle to ON (all the way forward).



Brake Assy

15. Reinstall the Drip Shield, see "Drip Shield Replacement" on page 122.
16. Reinstall the following covers:
    - Base cover (see "Base Cover Replacement" on page 95)
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)

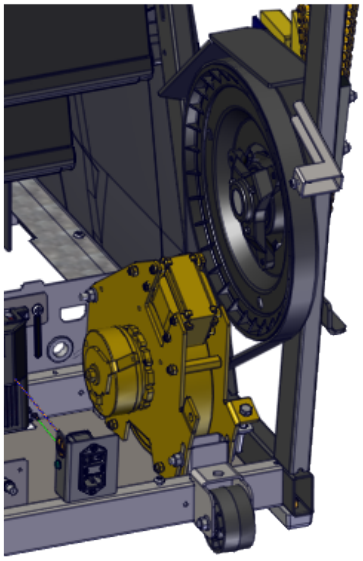
- Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
- Top cover (see "Top Cover Replacement" on page 81)

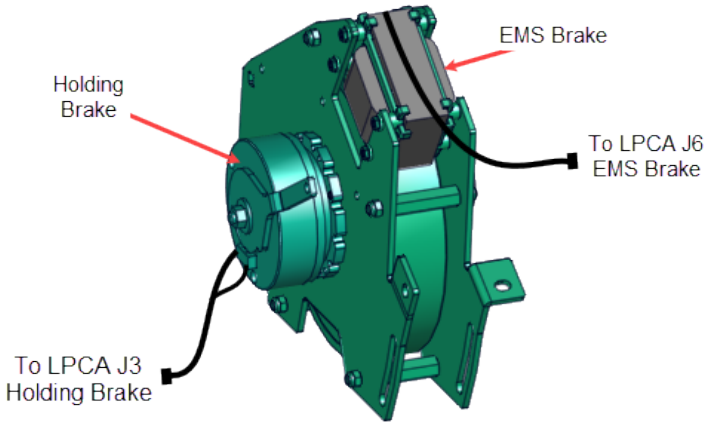
17. Connect the power cord and switch the power ON.
18. Use Hardware Validation Tests (51765761) **STEP COUNT RESET** test to reset the drive belt counter to zero steps, see " LED Console Standard Service Menus" on page 32. The new drive belt 39 million steps count replacement limit must start at zero steps.
19. Verify machine operation and return to service, see "Operation Verification" on page 18.

Brake Assembly Replacement

About

This procedure provides instruction to replace the Brake Assembly. The brake assembly includes the EMS brake and Holding brake assemblies.





SCL Brake Assy

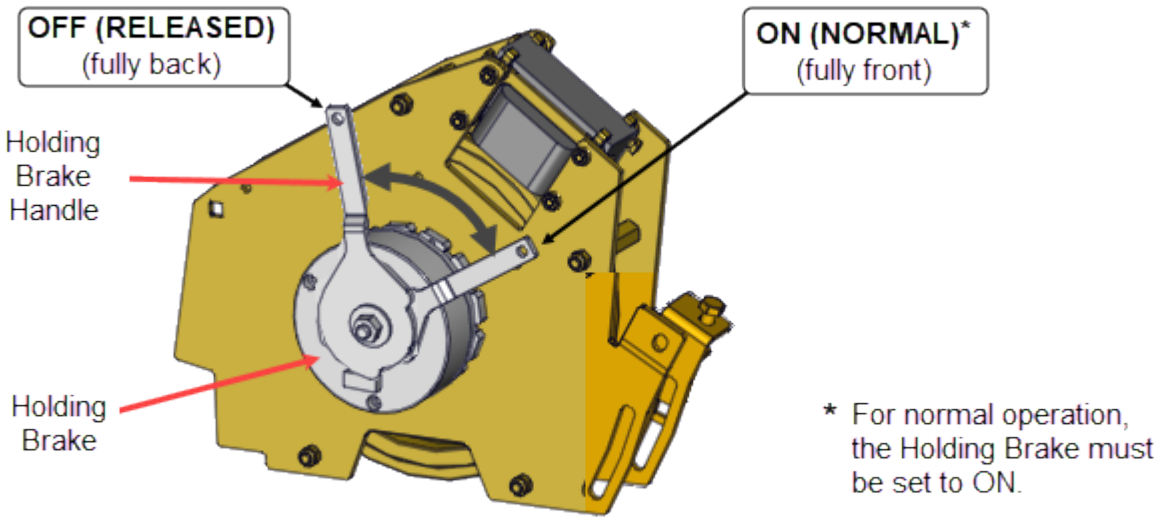
Procedure

Review entire procedure before starting.

WARNING: When the drive belt or drive chain is removed, the stairs freely move. Any pressure on the steps will cause the stairs to move. Keep hands and fingers clear of any step chain, drive chain, or stair step pinch points.

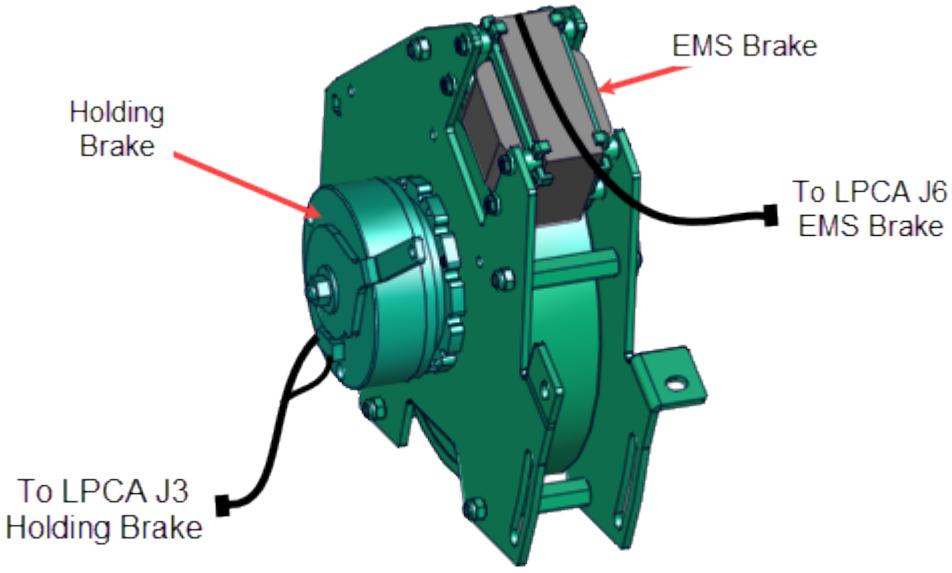
Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see)
   - Forward Upper/Lower Access covers (see)
   - Side Access Covers (see)
   - Base cover (see)
3. Remove the Drip Shield, see .
4. Set the Holding Brake handle to OFF (all the way back). This will allow the drive belt and stairs to move.



Brake Assy

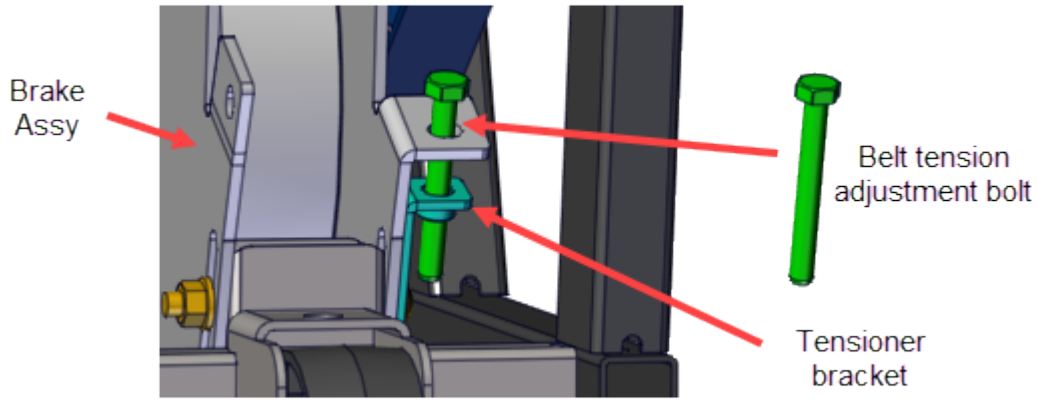
5. Remove the **LPCA**[1] cover and disconnect the Holding Brake (J3) and EMS Brake (LOAD - J7) cable connectors, see "LPCA (Lower PCA) Board Replacement" on page 151. Note the EMS Brake (LOAD - J7) and PWR (M1-BRN, M2-BLU) cable routing exiting the LPCA cover.



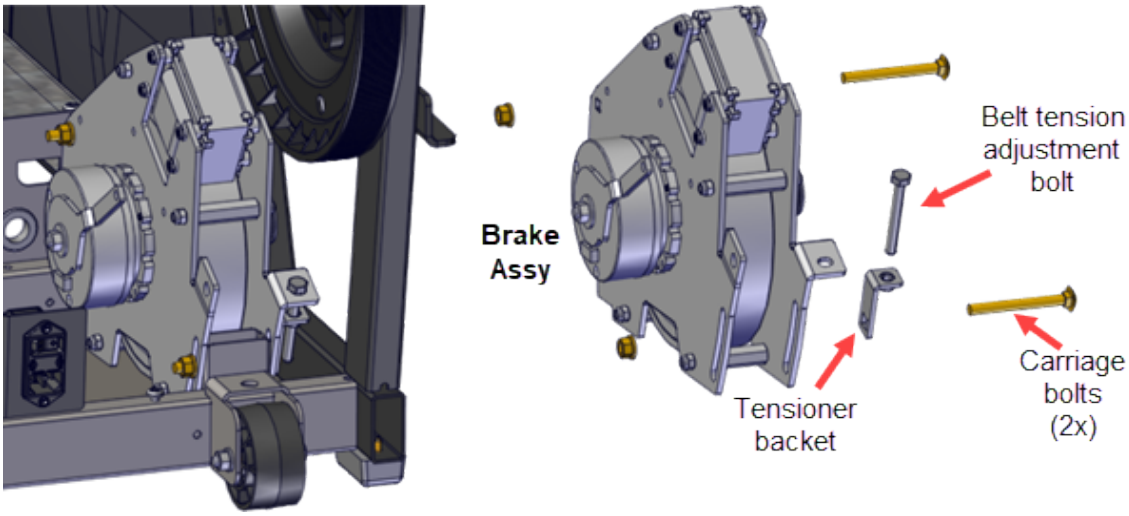
SCL Brake Assy

[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.

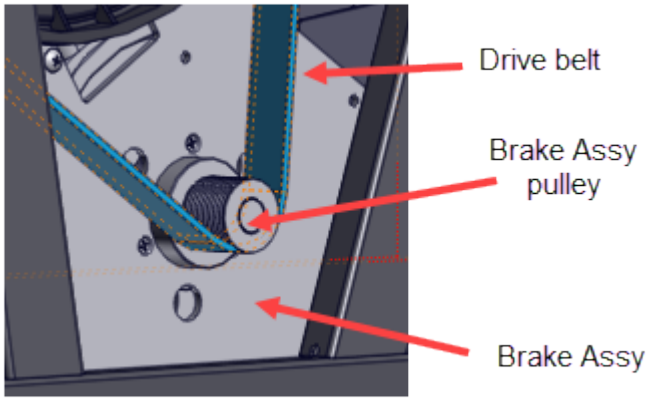
6. Remove the 1/2" hex head tension adjustment bolt. Retain part(s) and/or fastener(s) for installation.



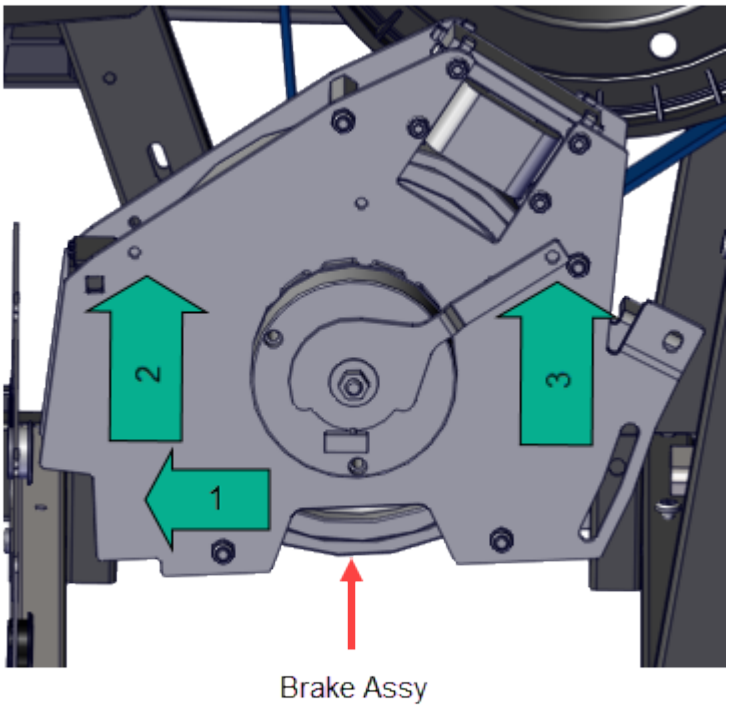
7. Use a 1/2" wrench to remove the rear Brake Assembly carriage bolt and the front Brake Assembly carriage bolt with tensioner bracket. Retain part(s) and/or fastener(s) for installation.



8. Remove the Drive belt off the Brake Assy pulley.

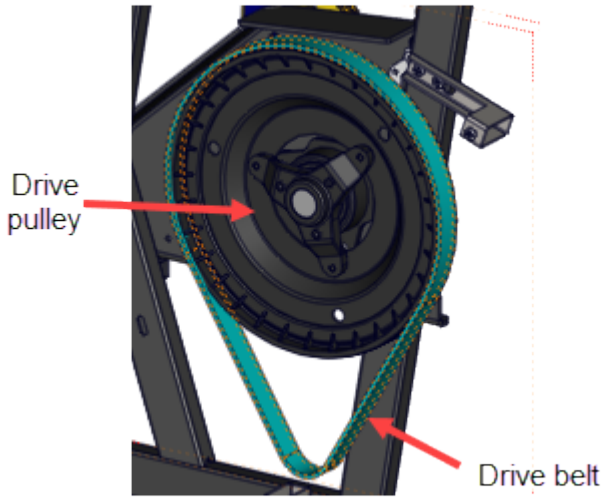


9. Remove the Brake Assy. Lift the back while sliding rearward and then lifting the front to remove.

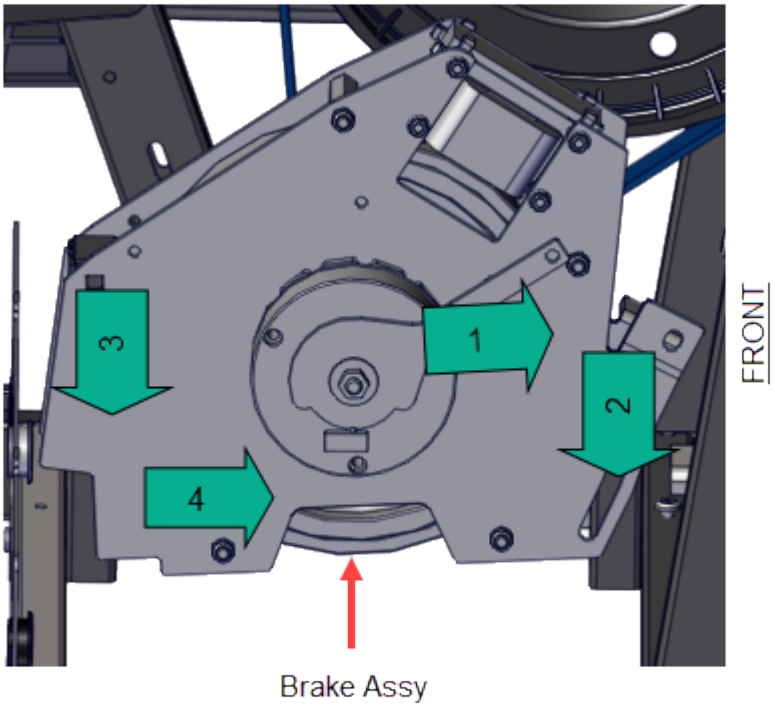


Installation

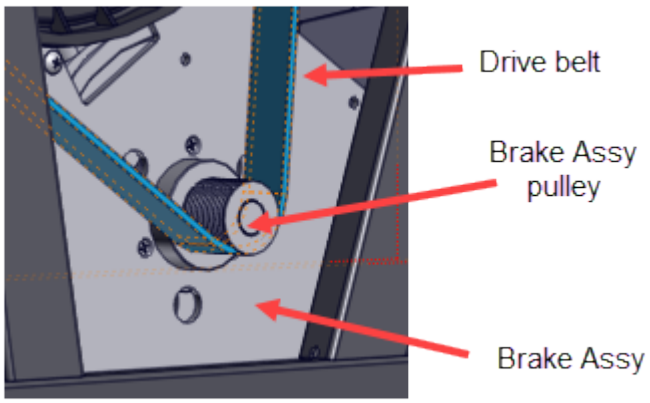
10. Inspect the condition of the drive belt. If worn or damaged, replace the belt. Clean the belt and place onto the Drive pulley.



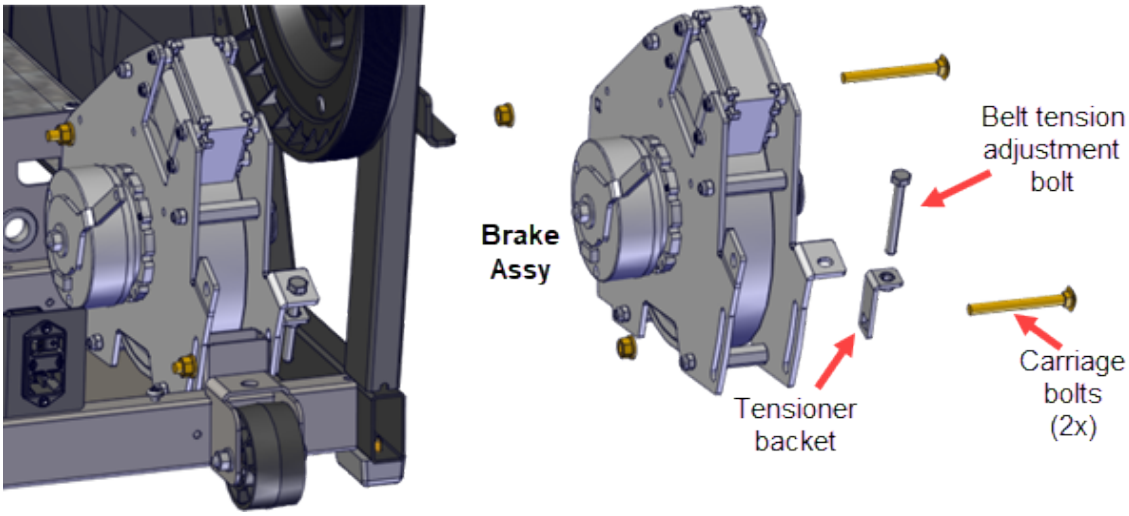
11. Install the Brake Assy into the mounting brackets. From the rear moving forward, slide the front of the Brake Assy into the front bracket. Then lower the back downward while sliding forward.



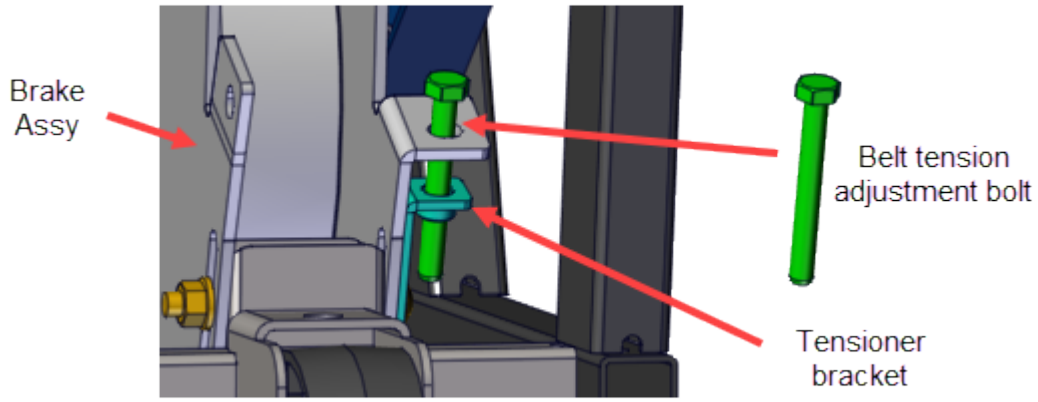
12. Lift the Brake Assy and place the Drive belt onto the Brake Assy pulley. The drive belt helps to carry the weight of the Brake Assy while installing the carriage bolts.



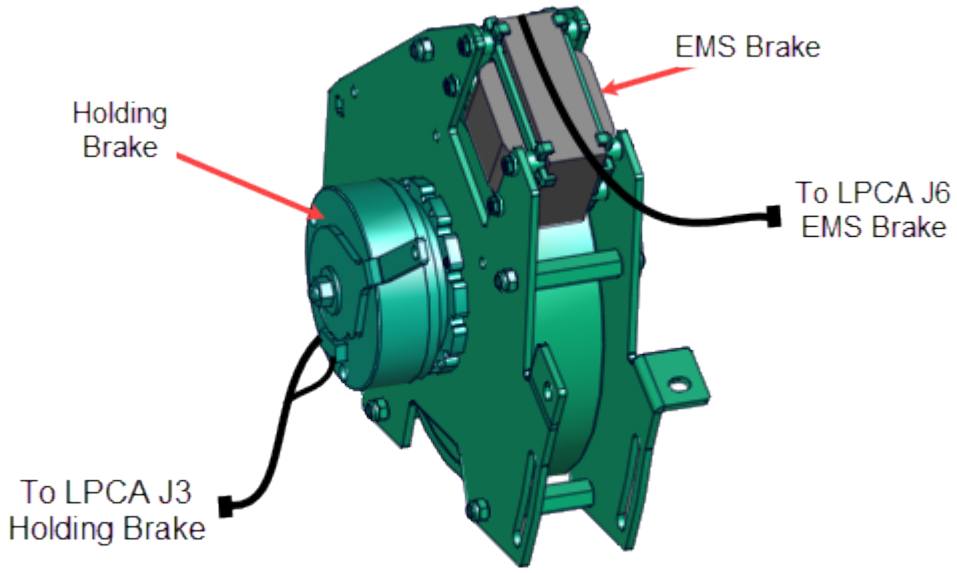
13. Use a 1/2" wrench to reinstall the rear Brake Assembly carriage bolt and the front Brake Assembly carriage bolt with tensioner bracket. Tighten the nuts just enough to allow Brake Assy movement. Do not fully tighten.



14. Reinstall the tension adjustment bolt into the tensioner bracket. Tighten until the belt has enough tension to create a vibration when plucked. Do not over tighten the tension.



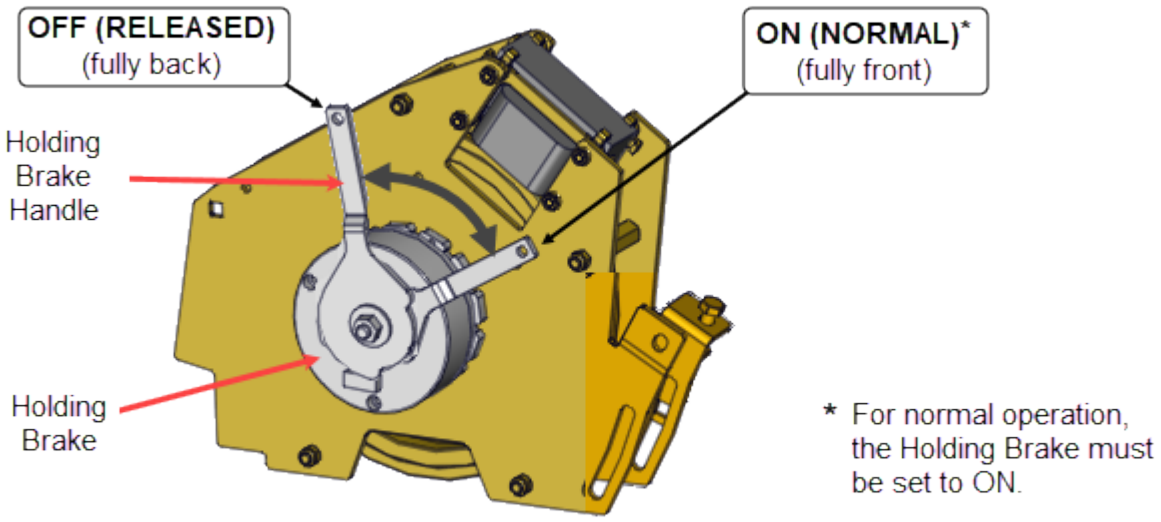
15. Reconnect the Holding Brake (J3) and EMS Brake (LOAD - J7) cable connectors and reinstall the LPCA cover, see "LPCA (Lower PCA) Board Replacement" on page 151. Make sure the EMS Brake (LOAD - J7) and PWR (M1-BRN, M2-BLU) cables are correctly routed through the LPCA cover cable cutouts.



SCL Brake Assy

16. Tension the Drive belt to the sonic belt tension frequency specification 124 **Hz**[1] +/- 10 Hz, see "Drive Belt Tension Adjustment" on page 53.
17. Set the Holding Brake handle to ON (all the way forward).

[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.



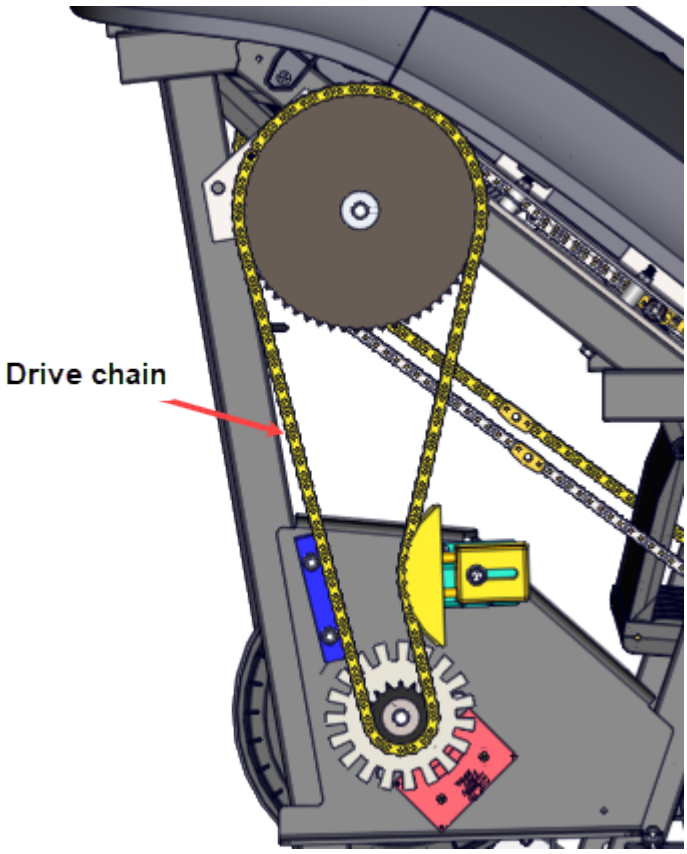
Brake Assy

18. Connect the power cord and switch the power ON.
19. Verify the following machine functions:
    - Holding Brake handle ON/OFF function.
    - Start a manual workout and verify the SPEED control operation from min to max range.
    - During a workout, step off stairs and verify autostop function.
    - During a workout, verify the remote handlebar and console STOP button operation.
    - During a workout, verify the obstruction sensor operation.
20. Reinstall the Drip Shield, see .
21. Reinstall the following covers:
    - Base cover (see)
    - Side Access Covers (see)
    - Forward Upper/Lower Access covers (see)
    - Top cover (see)
22. Verify machine operation and return to service, see "Operation Verification" on page 18.

Drive Chain Replacement

About

This procedure provides instruction to replace the Drive Chain.



Procedure

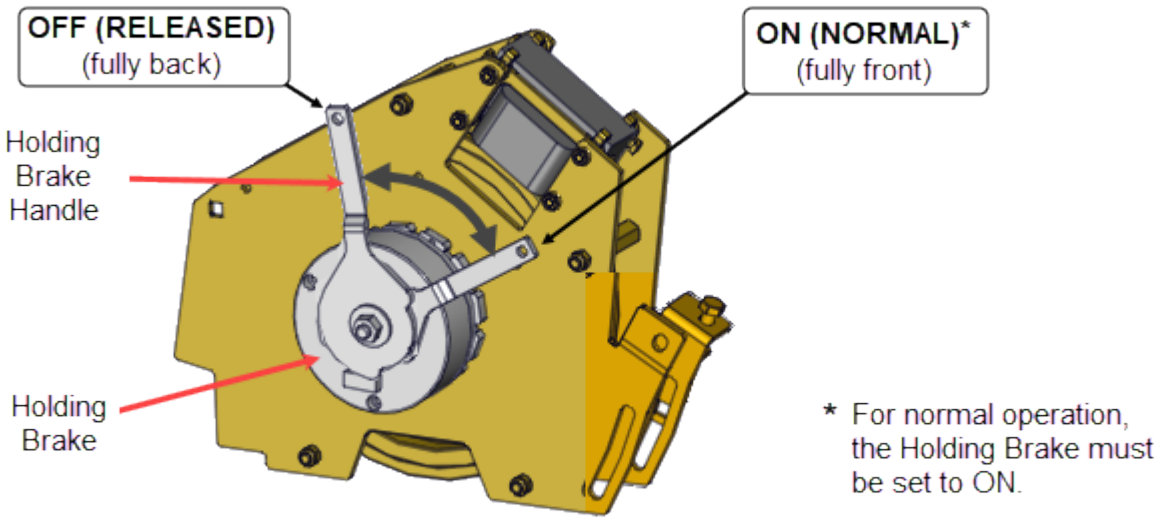
Review entire procedure before starting.

WARNING: When the Drive Chain or Drive Belt is removed, the stairs freely move. Any pressure on the steps will cause the stairs to move. Keep hands and fingers clear of any step chain, drive chain, or stair step pinch points.

Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).

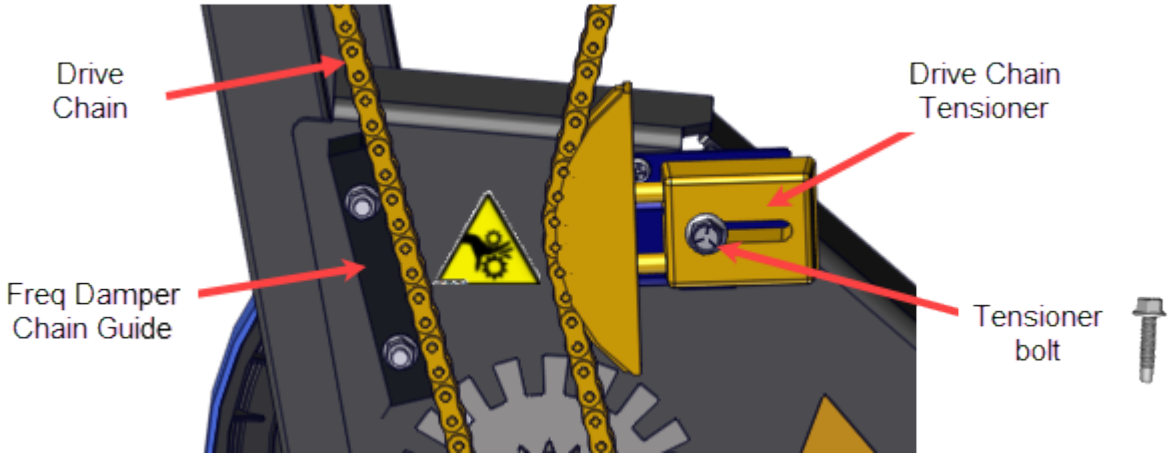
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   - Side Access Covers (see "Side Access Covers Replacement" on page 92)
   - Base cover (see "Base Cover Replacement" on page 95)
3. Set the Holding Brake handle to OFF (all the way back). This will allow the stairs to move when the power is OFF.



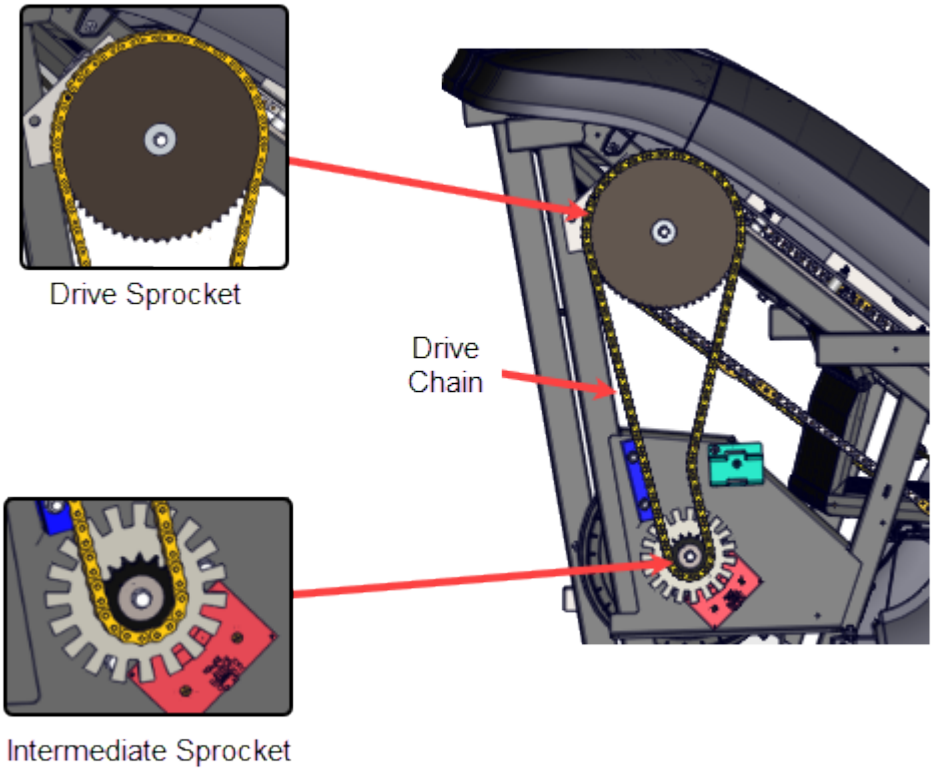
Brake Assy

4. Release all Drive Chain tension by holding the tensioner spring housing and slowly loosening the chain tensioner 9/16" mounting bolt. Remove the Tensioner. Retain part(s) and/or fastener(s) for installation.

Note: The Drive Chain Tensioner is spring loaded under tension. Always use one hand to hold and keep the spring housing from snapping rearward while loosening the mounting bolt.

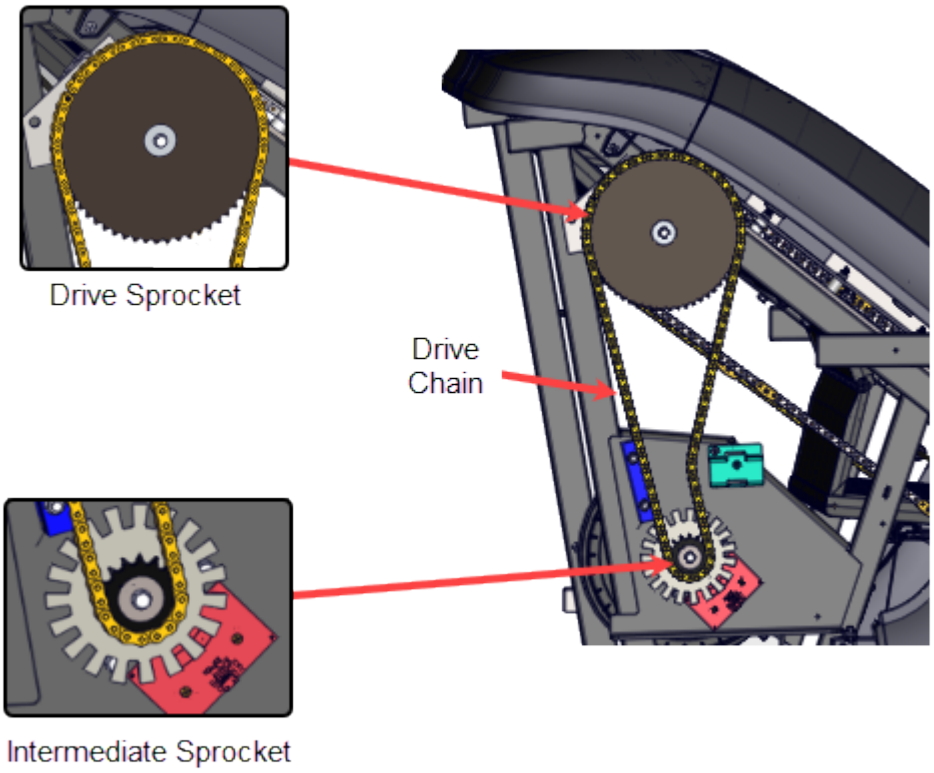


5. Walk the chain OFF the lower Intermediate sprocket, the upper Drive sprocket, and remove. If the chain is worn, stretched, or damaged discard and replace.

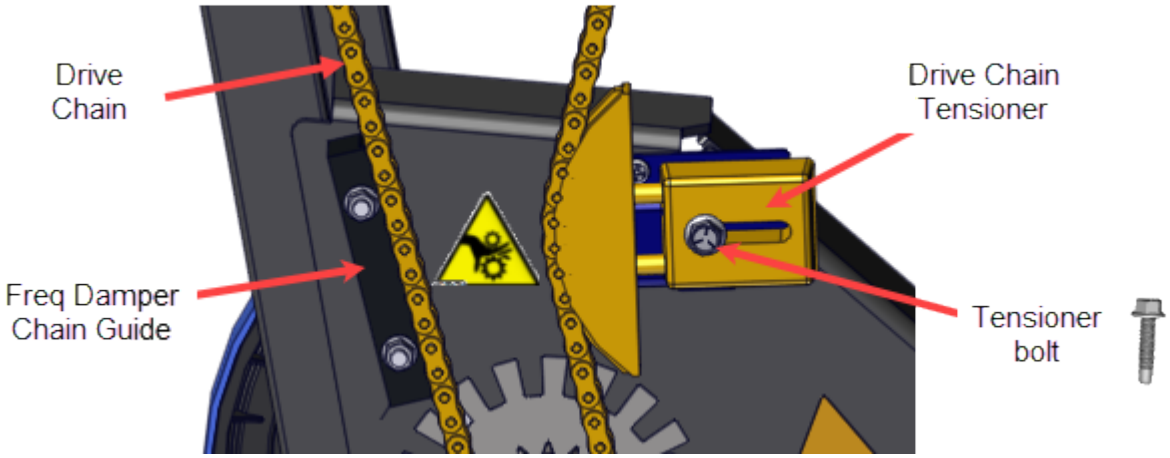


Installation

6. Place the Drive Chain onto the upper Drive Sprocket and then walk the chain onto the lower intermediate Sprocket.



7. Inspect the Frequency Damper Chain Guide for wear and damage. Remove and replace as required (two 1/2" hex head mounting bolts).
8. Reinstall the Drive Chain Tensioner, snug but do not fully tighten the 9/16" hex head mounting bolt. Tension the Drive Chain to specification, see "Drive Chain Tension Adjustment" on page 60.

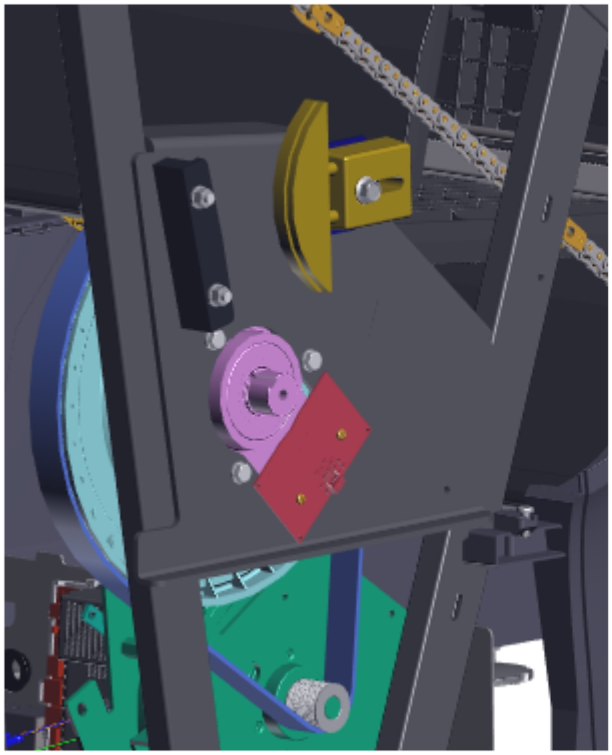


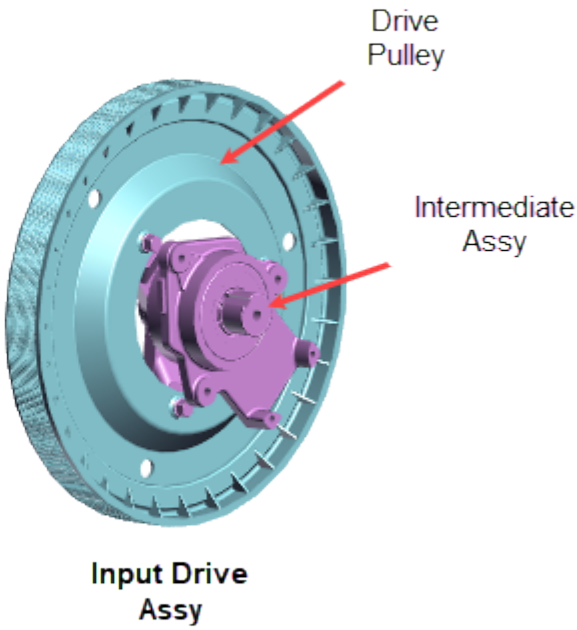
9. Connect the power cord and switch the power ON.
10. Start a manual workout and verify normal operation for the following functions:
    a. Vary the SPEED from minimum to maximum speed.
    b. Use the handlebar or console STOP button to verify the braking operation.
11. Switch the power OFF.
12. Reinstall the removed covers:
    - Base cover (see "Base Cover Replacement" on page 95)
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
13. Verify full machine operation and return to service, see "Operation Verification" on page 18.

Input Drive Assy Replacement

About

This procedure provides instruction to replace the Input Drive Assembly which includes the input pulley and Intermediate Assy.





Input Drive
Assy

Procedure

Review entire procedure before starting.

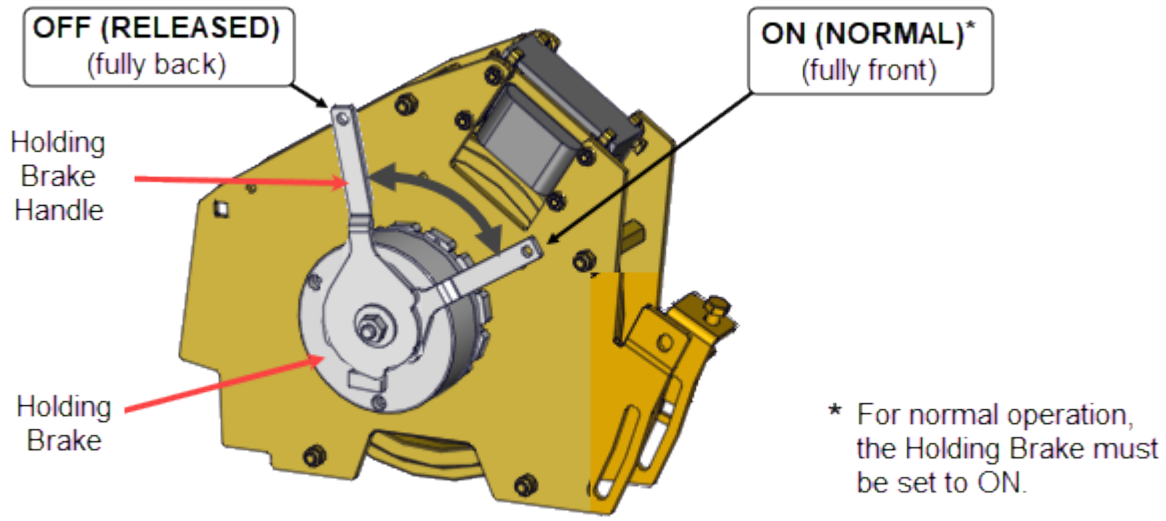
WARNING: When the Drive Chain or Drive Belt is removed, the stairs freely move. Any pressure on the steps will cause the stairs to move. Keep hands and fingers clear of any step chain, drive chain, or stair step pinch points.

Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)

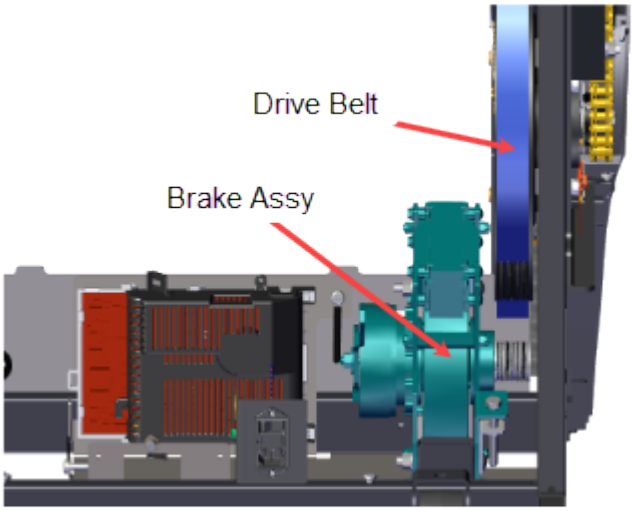
- Side Access Covers (see "Side Access Covers Replacement" on page 92)
- Base cover (see "Base Cover Replacement" on page 95)

3. Remove the Drip Shield, see "Drip Shield Replacement" on page 122.
4. Set the Holding Brake handle to OFF (all the way back). This will allow the stairs to move when the power is OFF.

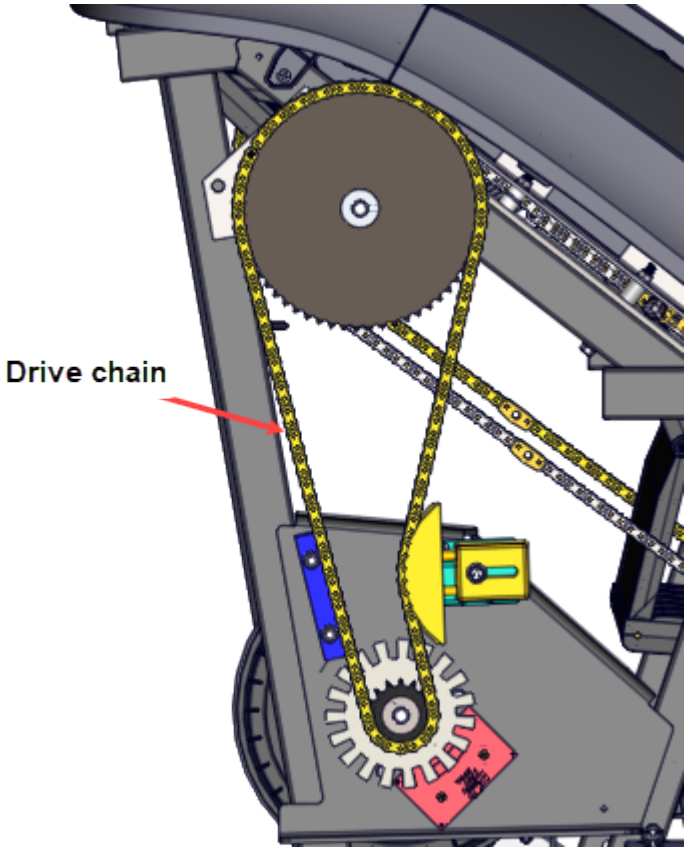


Brake Assy

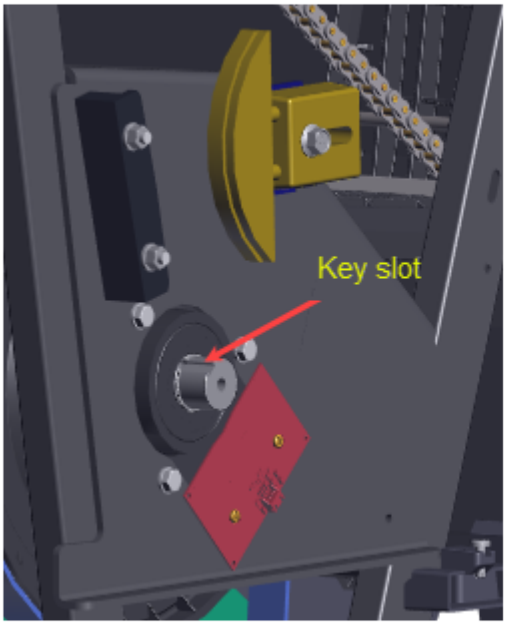
5. Remove the Drive Belt and Brake Assembly, see "Brake Assembly Replacement" on page 182. Retain part(s) and/or fastener(s) for installation.

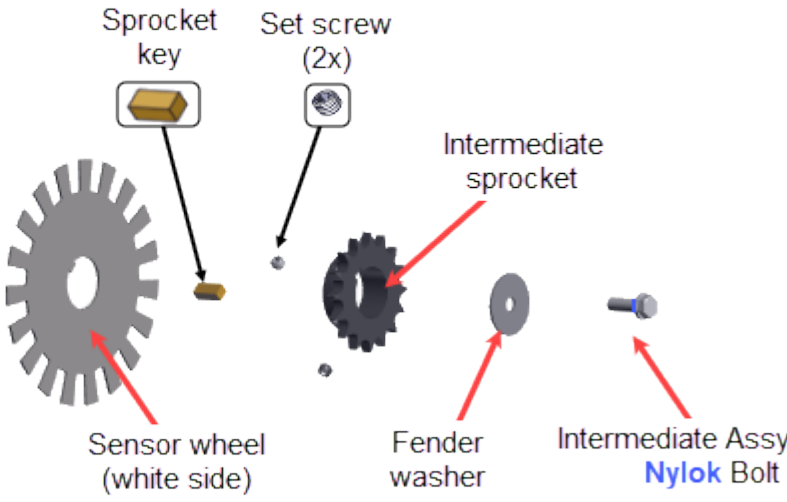


6. Remove the Drive Chain, see "Drive Chain Replacement" on page 190



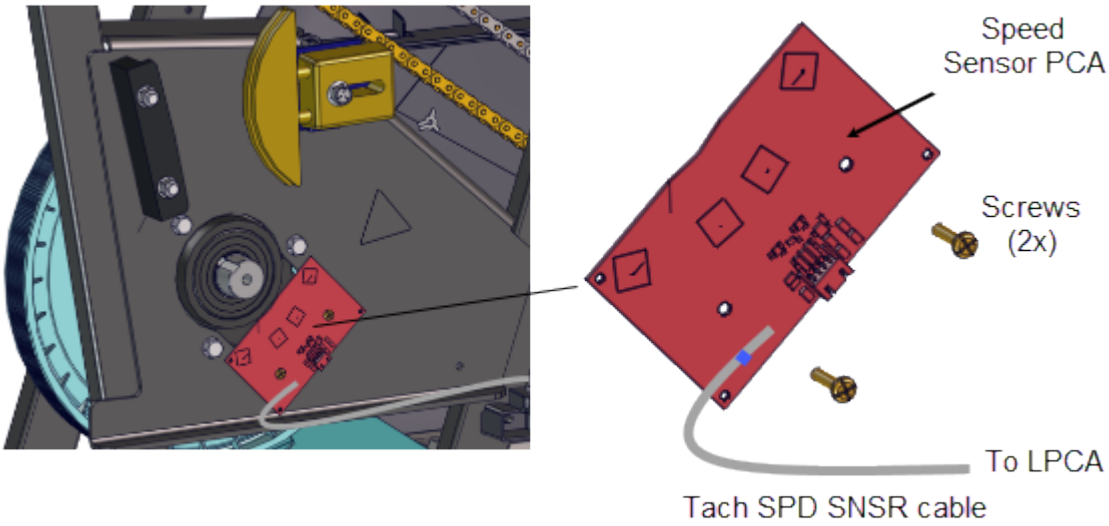
7. Remove the Intermediate Sprocket and Speed Sensor Wheel, see "Intermediate Sprocket & Speed Sensor Wheel Replacement" on page 211. Retain part(s) and/or fastener(s) for installation.





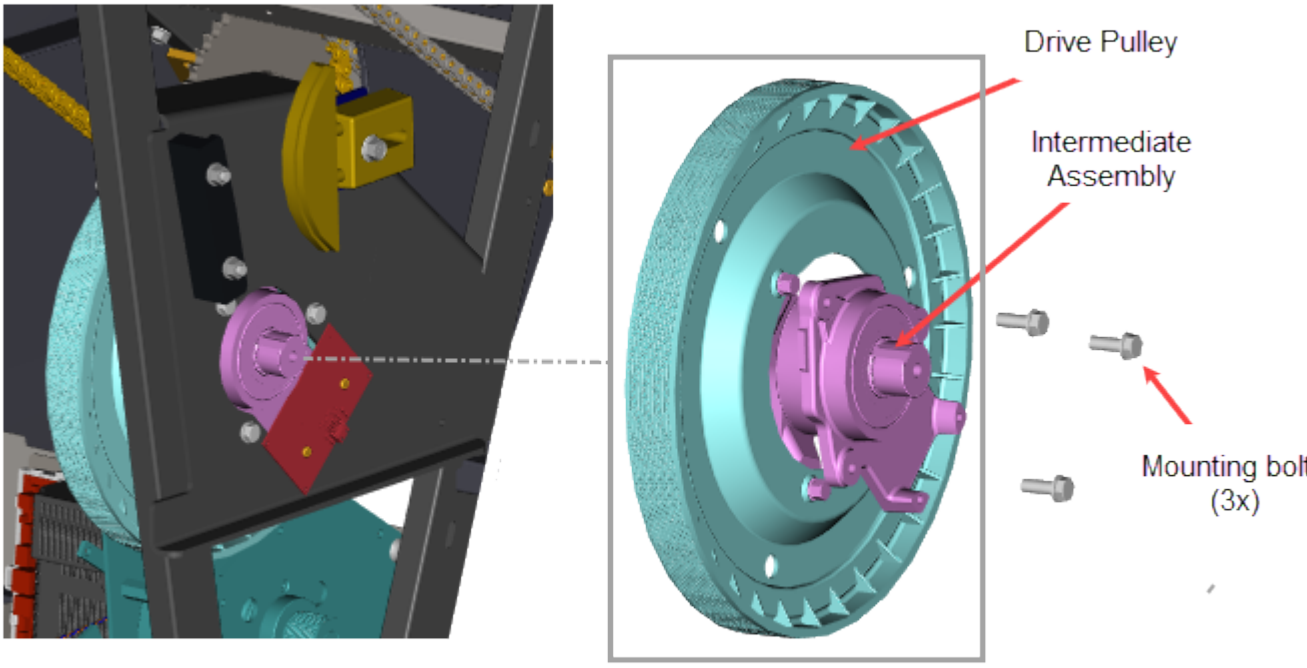
8. Remove the two Phillip head screws and the Speed Sensor **PCA**[1] board. Carefully set the PCA board aside in an anti-static **ESD**[2] bag. Protect the PCA from grease and cleaning fluids.

   CAUTION: Protect the Speed Sensor PCA board from grease and cleaning fluids.



9. Remove the three 1/2" mounting bolts and the Input Drive Assembly. The Input Drive Assembly is heavy so hold the assembly while removing the mounting bolts. Tilt the top while lifting to remove the bottom of the Intermediate assembly from the weldment mounting hole. Retain part(s) and/or fastener(s) for installation.

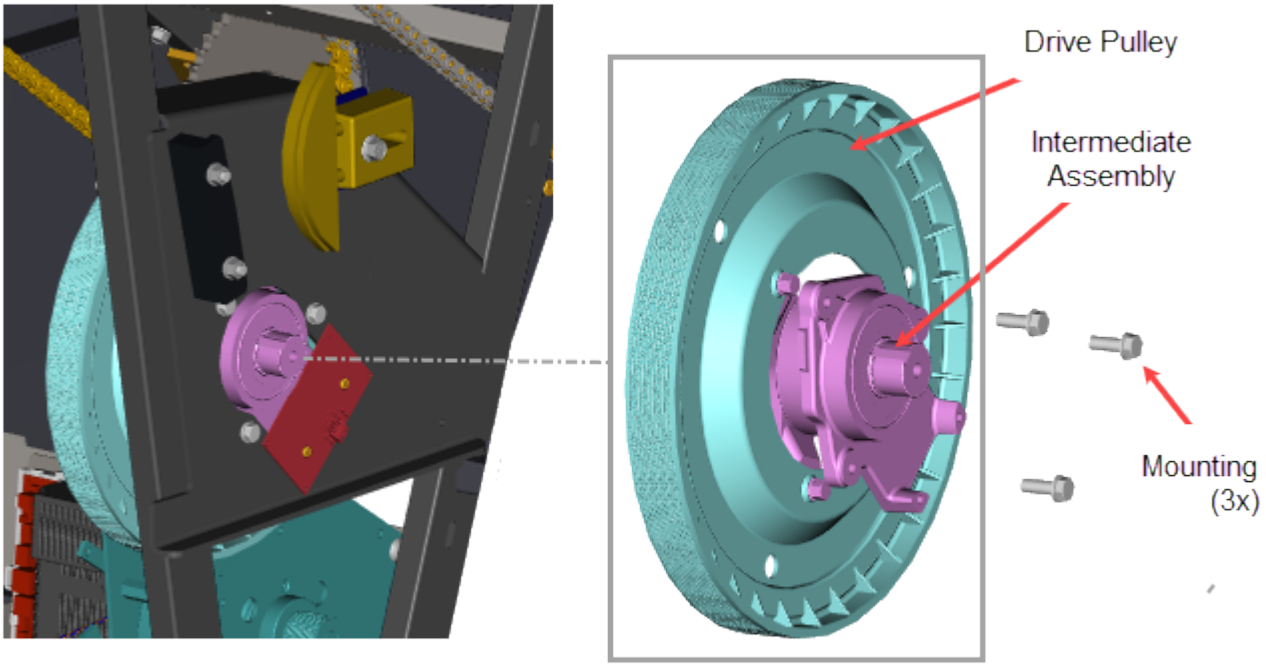
[1]Printed circuit assembly, generally referred to as either an upper PCA or lower PCA.
[2]Electrostatic Discharge or Electrostatic Sensitive Device.



Input Drive Assembly

Installation

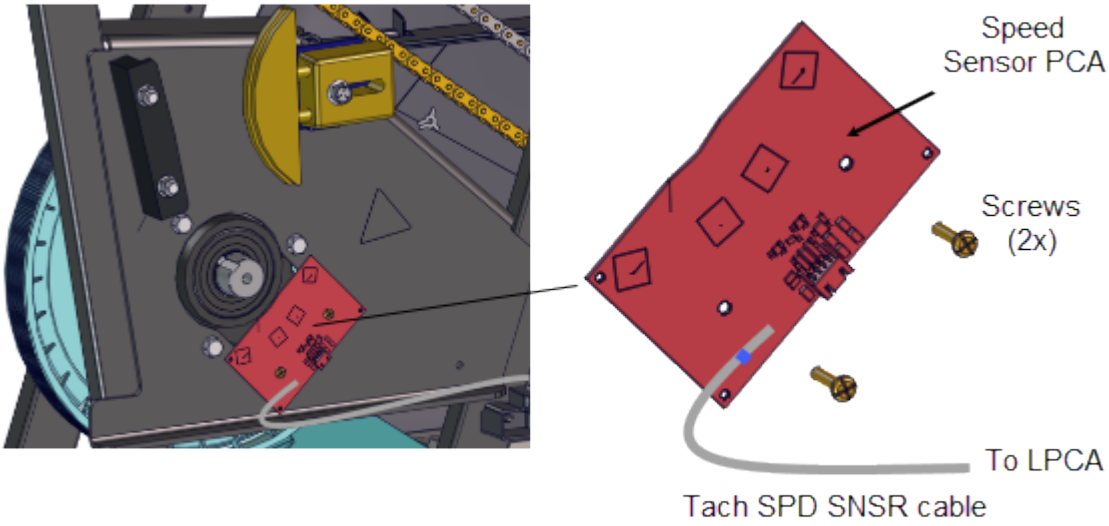
10. To install the Input Drive Assembly, tilt and slide the bottom of the Intermediate Assembly bracket over and into the weldment mounting hole. Align the three mounting bolt holes and secure using the three 1/2" mounting bolts and fully tighten.



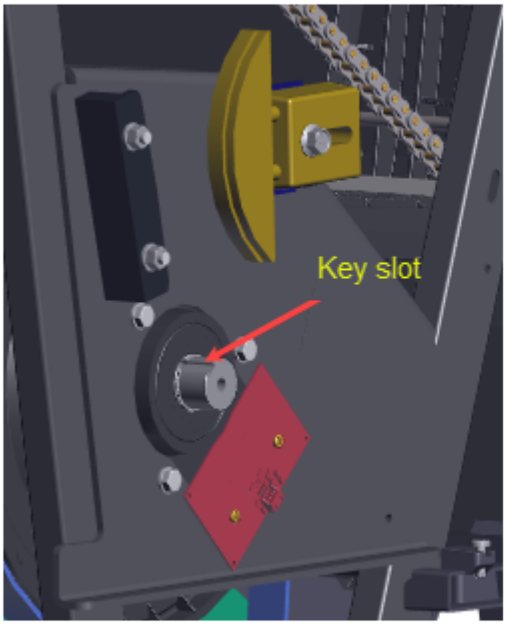
Input Drive Assembly

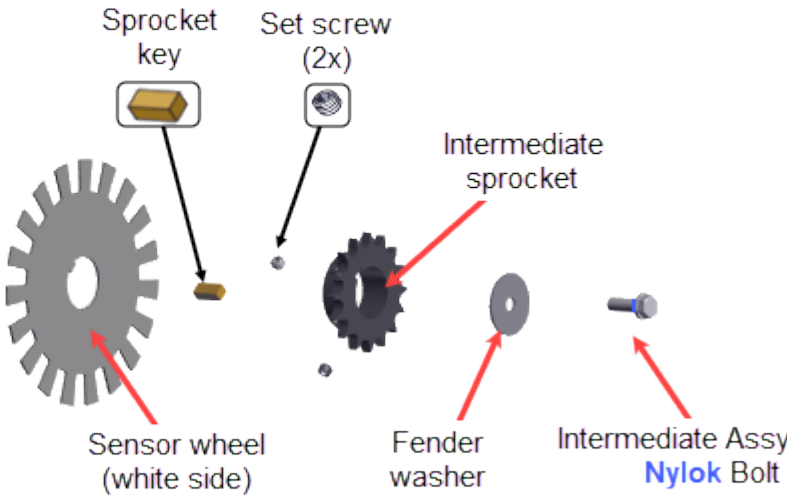
11. Reinstall the Speed Sensor PCA board and secure using the two Phillip head screws . Protect the PCA board from grease and cleaning fluids.

    CAUTION: Protect the Speed Sensor PCA board from grease and cleaning fluids.



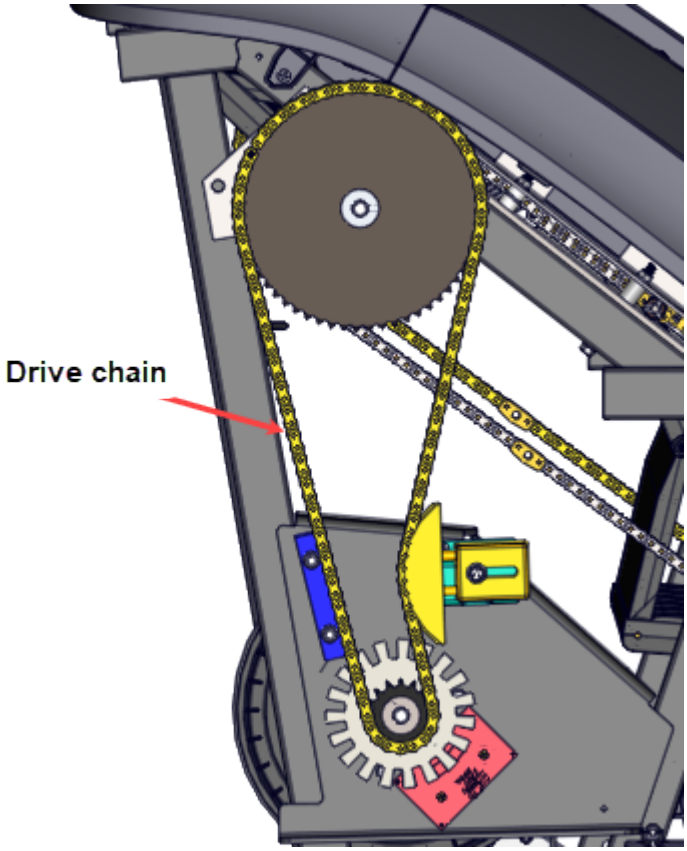
12. Reinstall the Intermediate Sprocket and Speed Sensor Wheel, see "Intermediate Sprocket & Speed Sensor Wheel Replacement" on page 211.



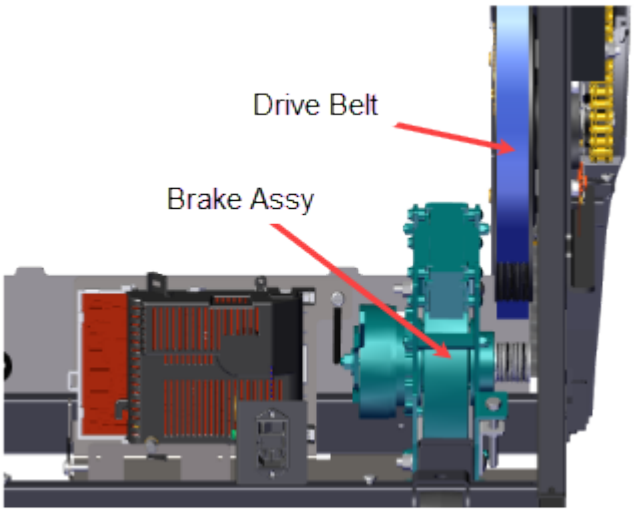


IMPORTANT: DO NOT tighten the Intermediate sprocket set screws until after the Intermediate assembly shaft Nylok blue patch bolt has been tightened to specification. Tighten the intermediate shaft bolt first and then the intermediate sprocket set screws.

13. Reinstall the Drive Chain and tension to specification, see "Drive Chain Replacement" on page 190

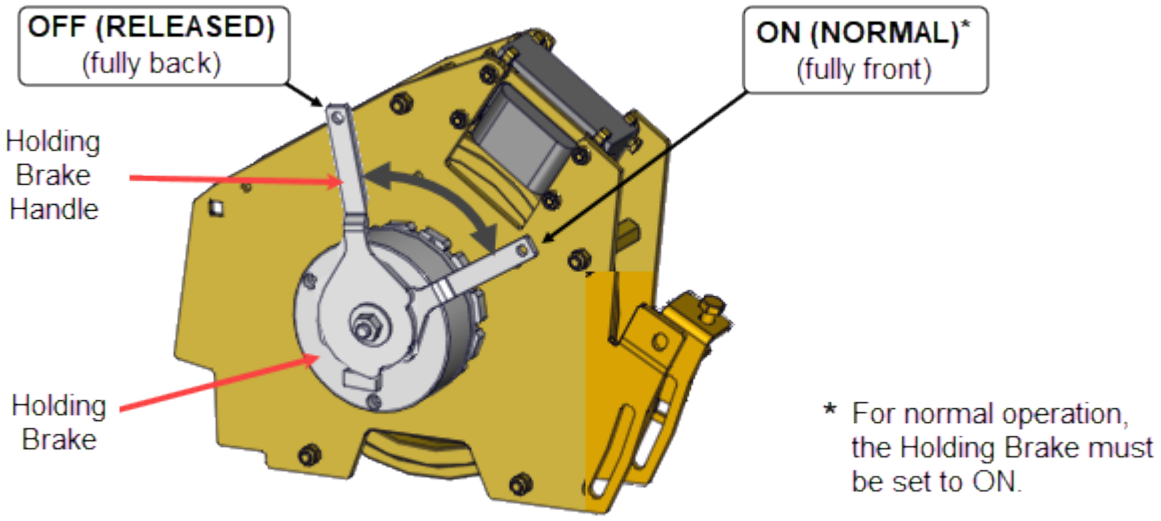


14. Reinstall the Drive Belt and Brake Assembly, see "Brake Assembly Replacement" on page 182.



15. Tension the Drive Belt to specification, see "Drive Belt Tension Adjustment" on page 53 .

16. Set the Holding Brake handle to ON (all the way forward). The Holding Brake must be ON for normal operation.



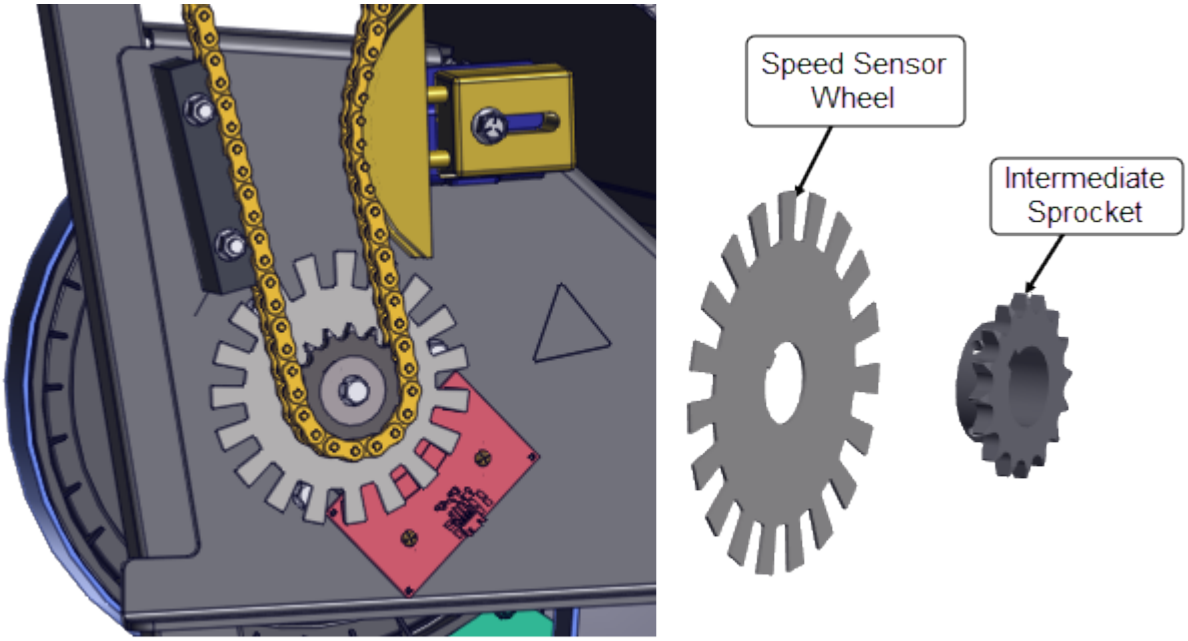
Brake Assy

17. Connect the power cord and switch the power ON.
18. Start a manual workout and verify normal operation for the following functions:
    a. Vary the SPEED from minimum to maximum speed.
    b. Use the handlebar or console STOP button to verify the braking operation.
19. Switch the power OFF.
20. Reinstall the Drip Shield, see "Drip Shield Replacement" on page 122.
21. Reinstall the removed covers:
    - Base cover (see "Base Cover Replacement" on page 95)
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
22. Verify full machine operation and return to service, see "Operation Verification" on page 18.

Intermediate Sprocket & Speed Sensor Wheel Replacement

About

This procedure provides instruction to replace the Intermediate Sprocket and Speed Sensor Wheel.



Special Replacement Parts

Part	Note
Intermediate Assy Shaft Nylok blue patch bolt (Exploded View bubble # 214)	Nylok blue patch type fasteners cannot be reused. Obtain a new replacement Intermediate Assy Shaft Nylok blue patch bolt prior to removal.

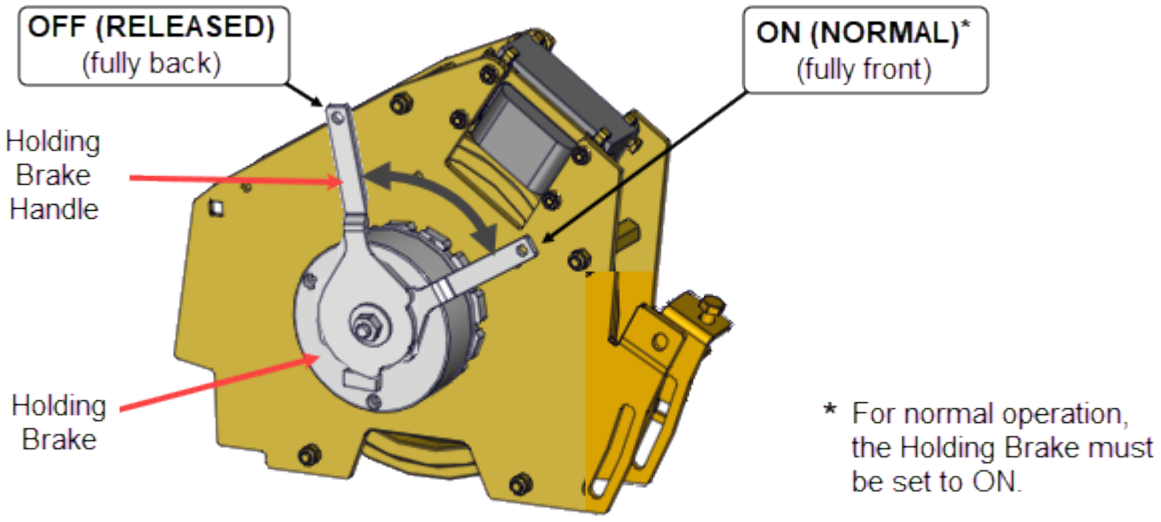
Procedure

Review entire procedure before starting.

WARNING: When the Drive Chain or Drive Belt is removed, the stairs freely move. Any pressure on the steps will cause the stairs to move. Keep hands and fingers clear of any step chain, drive chain, or stair step pinch points.

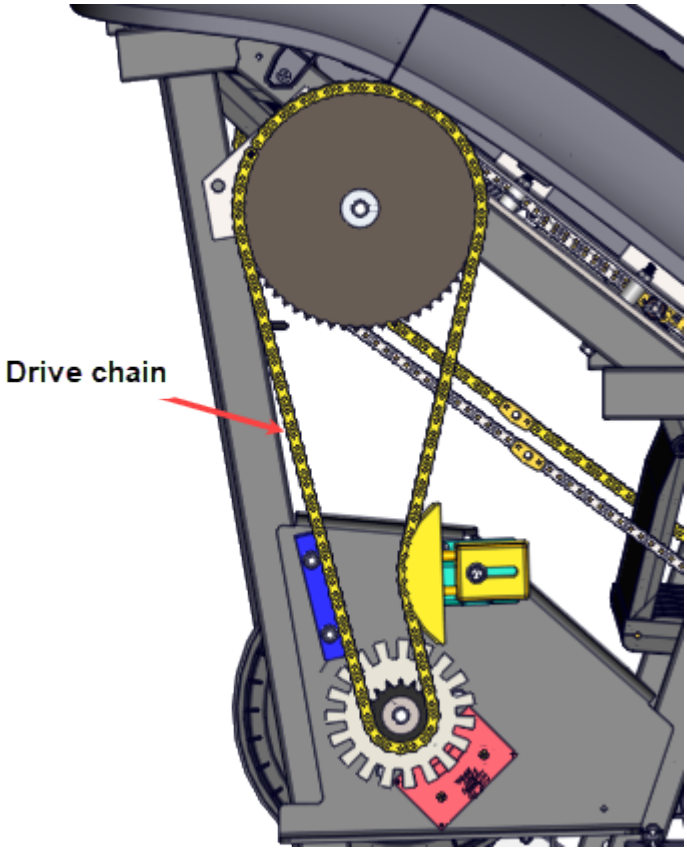
Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   - Side Access Covers (see "Side Access Covers Replacement" on page 92)
   - Base cover (see "Base Cover Replacement" on page 95)
3. Set the Holding Brake handle to OFF (all the way back). This will allow the stairs to move when the power is OFF.



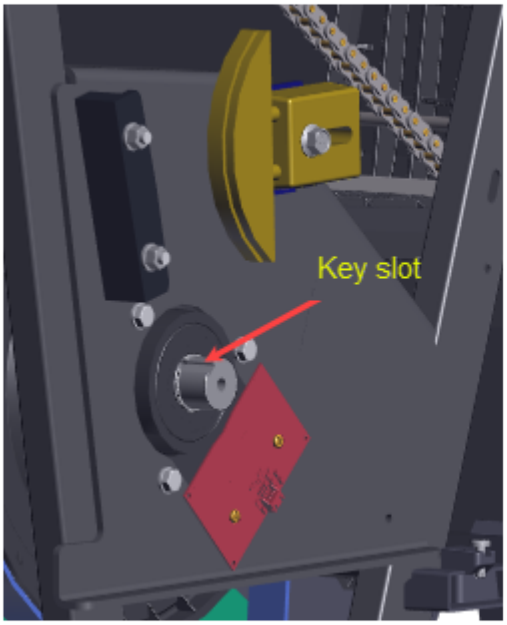
Brake Assy

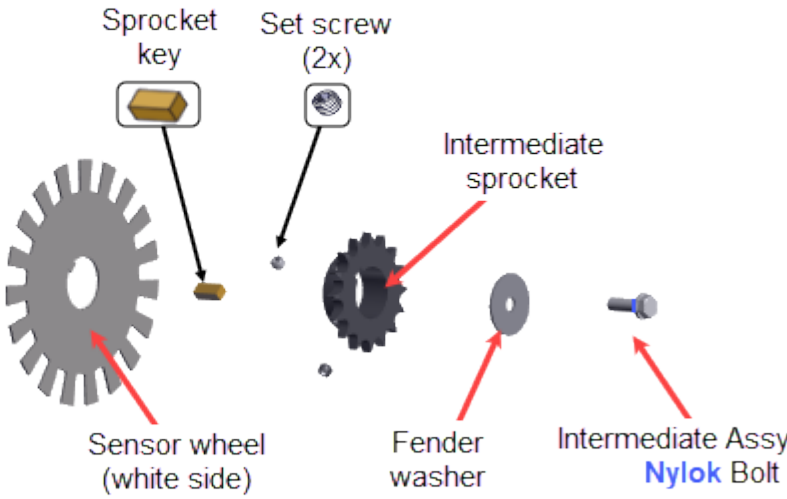
4. Remove the Drive Chain, see "Drive Chain Replacement" on page 190



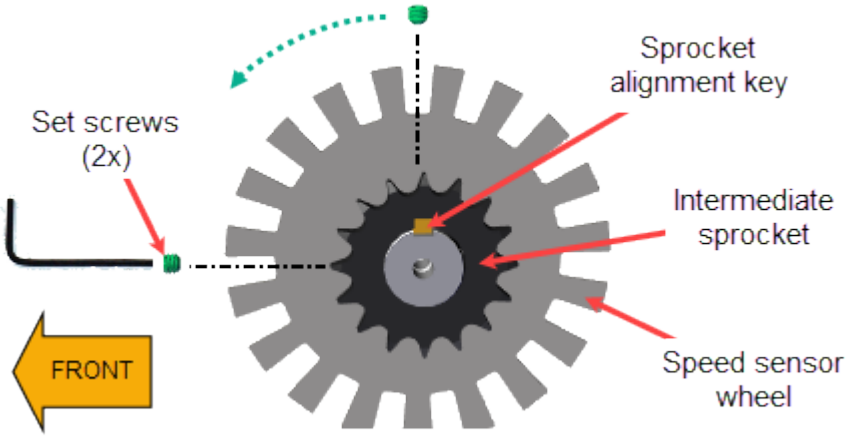
5. Remove the 1/2" hex head Intermediate Assy Shaft Nylok blue patch bolt and Fender washer. Discard the Nylok bolt and retain the Fender washer.

CAUTION: Nylok blue patch fasteners are one time use only. When removed, discard and replace with a new Nylok fastener for installation.





6. Loosen the two 5/32" hex key set screws and slide the Intermediate Sprocket off the shaft. Rotate the Intermediate Sprocket so that the Set Screws can be accessed from the front of the machine, the 9 o'clock position. Retain part(s) and/or fastener(s) for installation.



7. Remove the Sprocket Alignment Key.
8. Slide the Speed Sensor Wheel off the Intermediate Assy Shaft and remove. Note that the white side is on the outside and the shiny reflective side is on the inside. Retain part(s) and/or fastener(s) for installation.

Installation

9. Slide the following components onto the Intermediate Assy Shaft in the following order but do not tighten the fasteners:

a. Speed Sensor Wheel (shinny reflective side facing inward, white side facing outward).

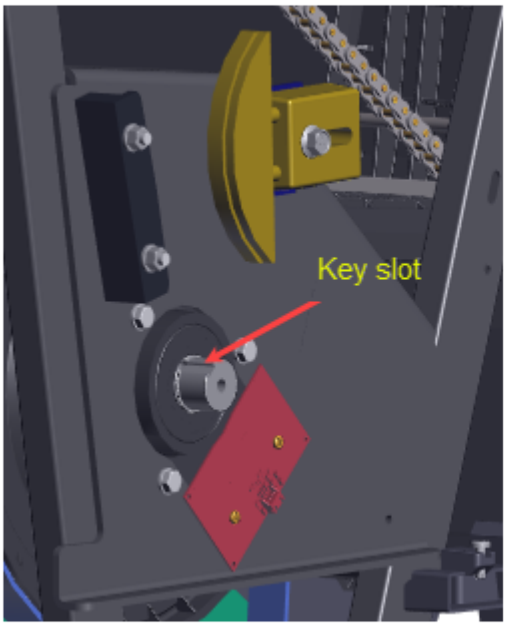
b. Sprocket Key.

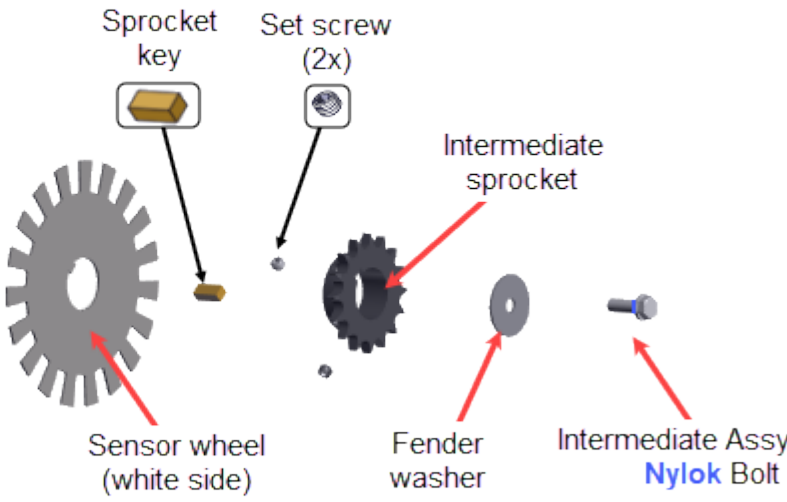
c. Intermediate Sprocket, **DO NOT** tighten the two set screws.

d. Fender Washer.

e. Hand thread a new Intermediate Assy Shaft Nylok blue patch bolt onto the shaft.

CAUTION: Nylok blue patch fasteners are one time use only. When removed, discard and replace with a new Nylok fastener for installation.

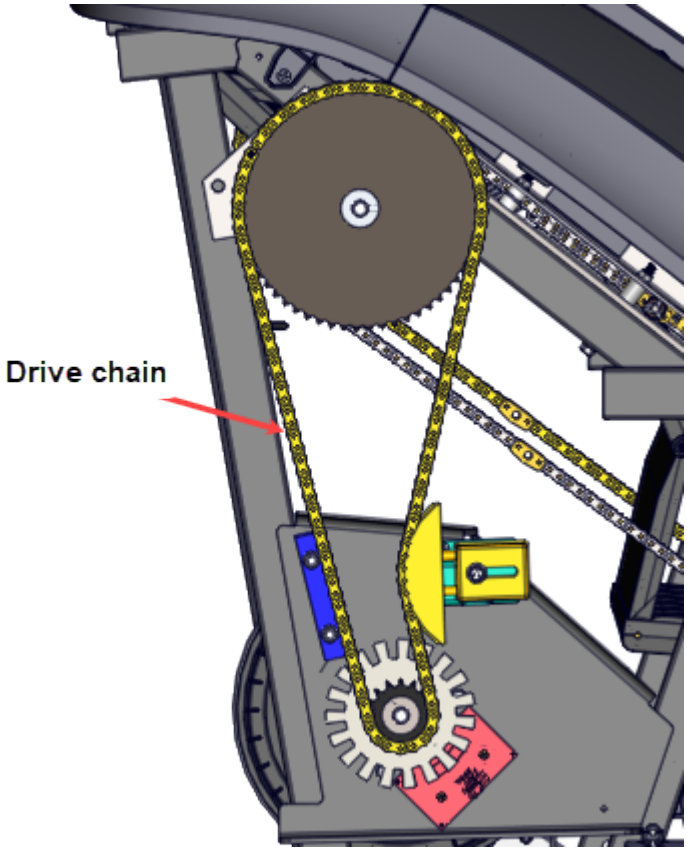




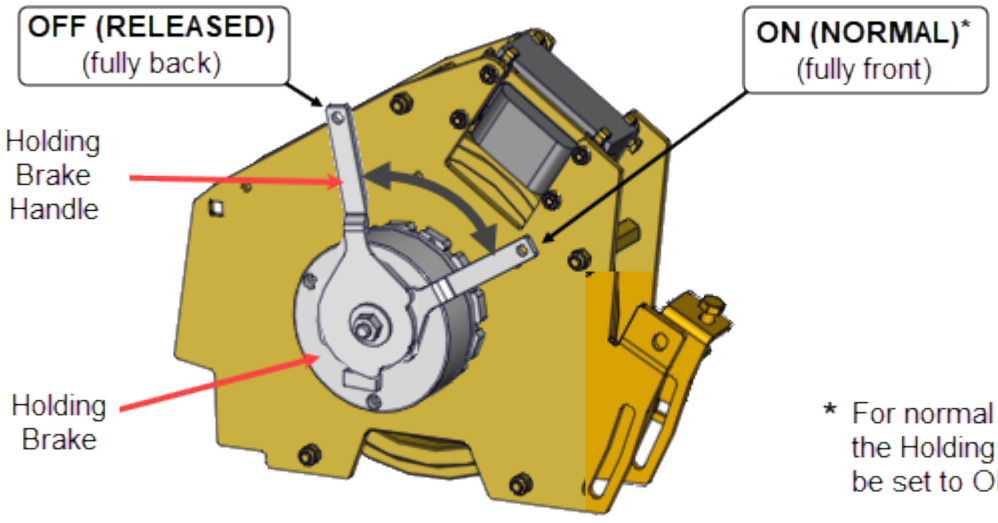
10. Tighten the Intermediate Assy Nylok bolt and then the Sprocket set screws:
    a. First tighten the Intermediate Assy Shaft Nylok blue-patch bolt to 180 in-lbs (15 ft-lbs, 20.3 Nm).
    b. Then fully tighten the two Intermediate Sprocket set screws to 300 in-lbs (34 Nm).

IMPORTANT: DO NOT tighten the Intermediate sprocket set screws before tightening the Intermediate assembly shaft Nylok blue patch bolt. Tighten the shaft bolt first and then the sprocket set screws.

11. Reinstall the Drive Chain and tension to specification, see "Drive Chain Replacement" on page 190



12. Set the Holding Brake handle to ON (all the way forward).



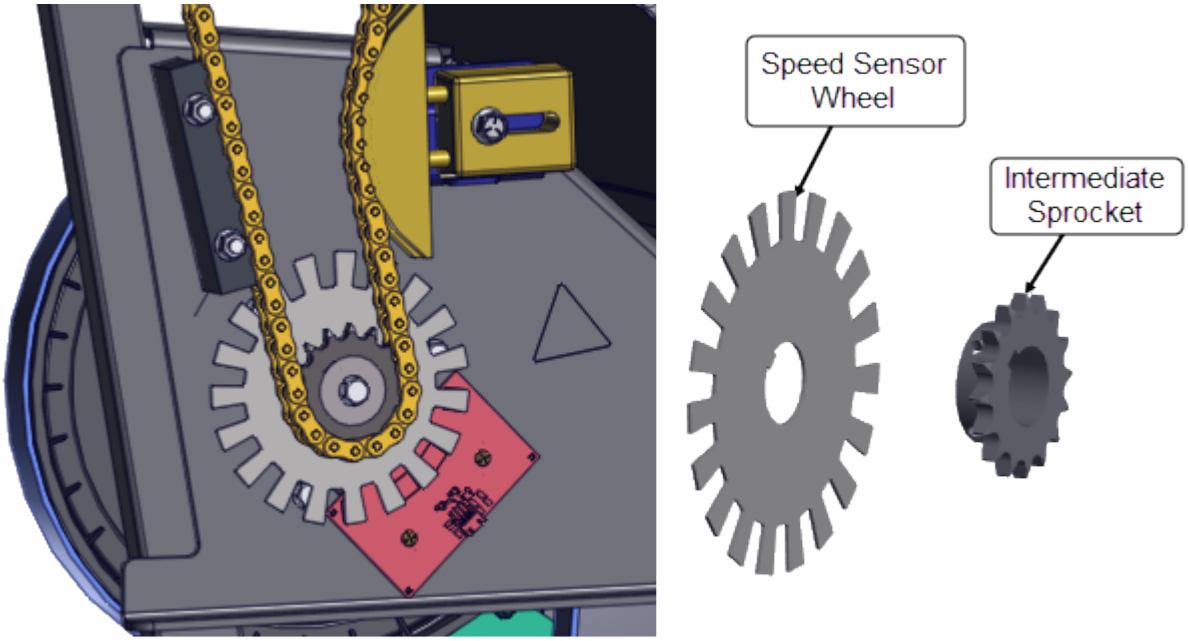
Brake Assy

13. Connect the power cord and switch the power ON.
14. Start a manual workout and verify normal operation for the following functions:
    a. Vary the SPEED from minimum to maximum speed.
    b. Use the handlebar or console STOP button to verify the braking operation.
15. Switch the power OFF.
16. Reinstall the removed covers:
    - Base cover (see "Base Cover Replacement" on page 95)
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
17. Verify full machine operation and return to service, see "Operation Verification" on page 18.

Intermediate Sprocket & Speed Sensor Wheel Replacement

About

This procedure provides instruction to replace the Intermediate Sprocket and Speed Sensor Wheel.



Special Replacement Parts

Part	Note
Intermediate Assy Shaft Nylok blue patch bolt (Exploded View bubble # 214)	Nylok blue patch type fasteners cannot be reused. Obtain a new replacement Intermediate Assy Shaft Nylok blue patch bolt prior to removal.

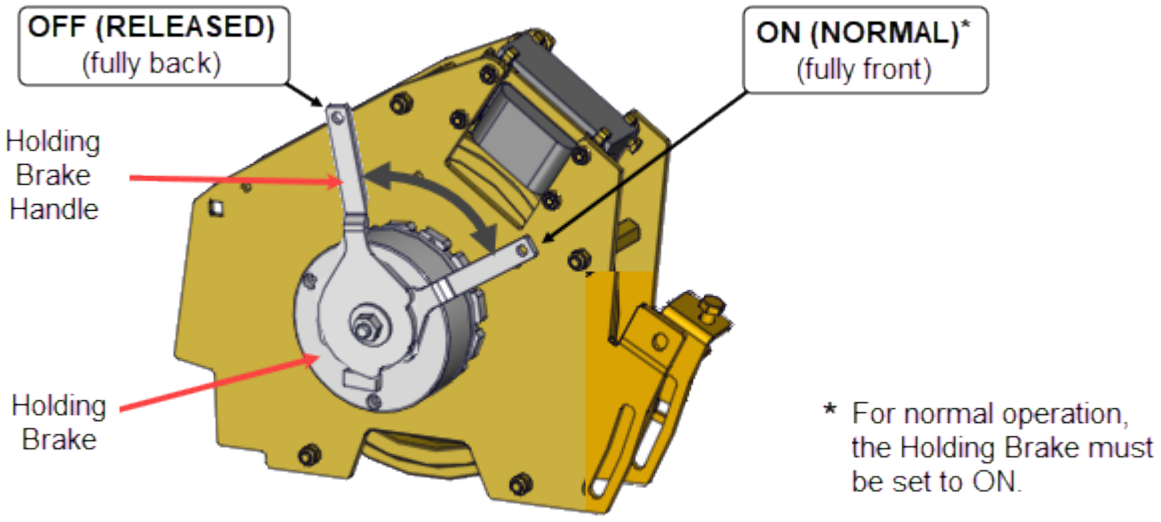
Procedure

Review entire procedure before starting.

WARNING: When the Drive Chain or Drive Belt is removed, the stairs freely move. Any pressure on the steps will cause the stairs to move. Keep hands and fingers clear of any step chain, drive chain, or stair step pinch points.

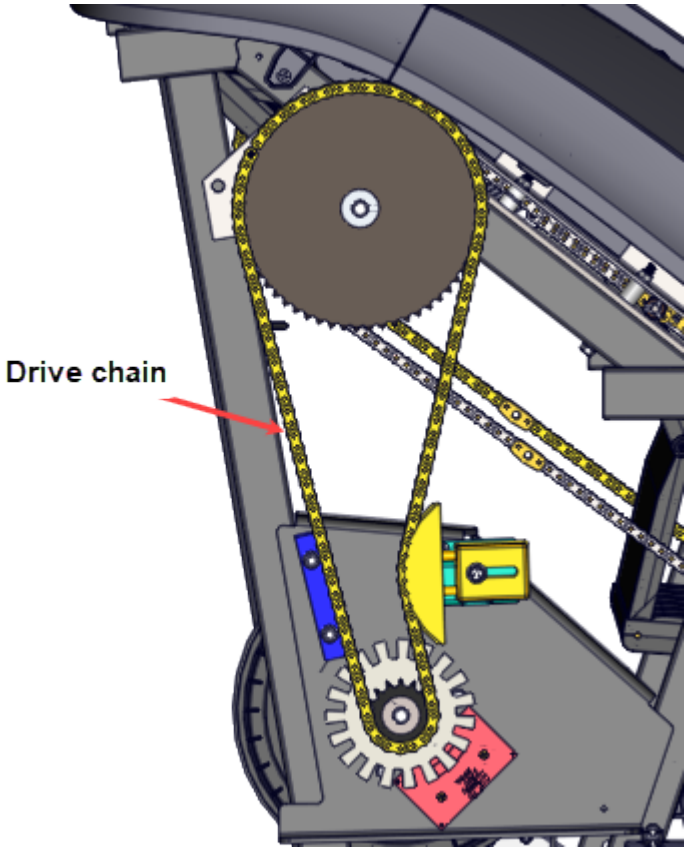
Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   - Side Access Covers (see "Side Access Covers Replacement" on page 92)
   - Base cover (see "Base Cover Replacement" on page 95)
3. Set the Holding Brake handle to OFF (all the way back). This will allow the stairs to move when the power is OFF.



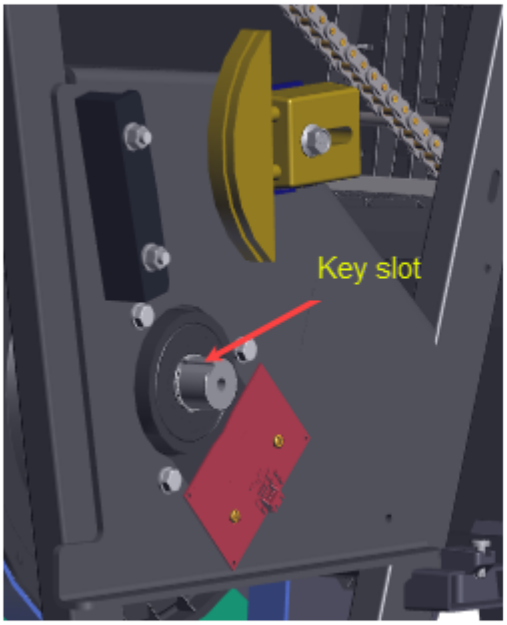
Brake Assy

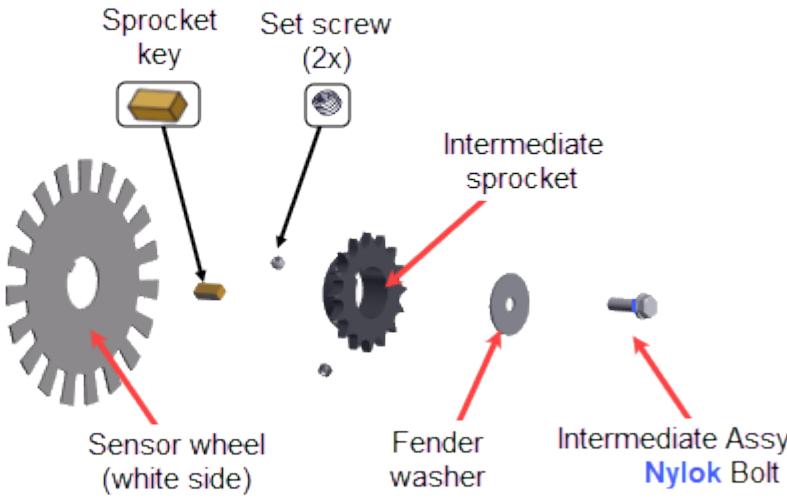
4. Remove the Drive Chain, see "Drive Chain Replacement" on page 190



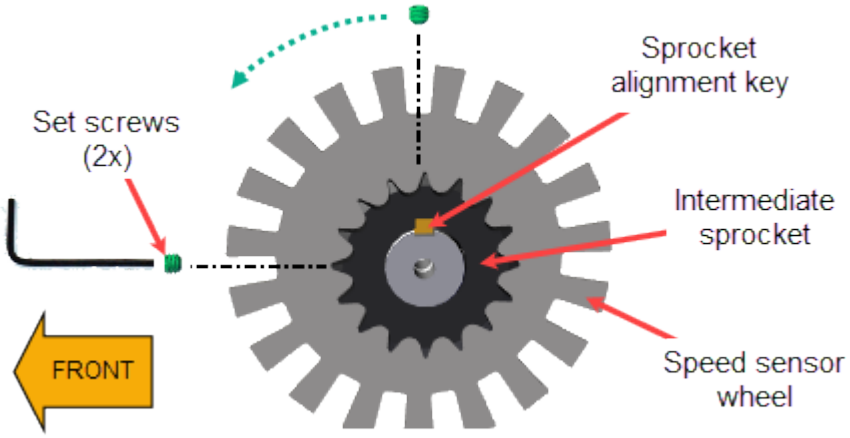
5. Remove the 1/2" hex head Intermediate Assy Shaft Nylok blue patch bolt and Fender washer. Discard the Nylok bolt and retain the Fender washer.

CAUTION: Nylok blue patch fasteners are one time use only. When removed, discard and replace with a new Nylok fastener for installation.





6. Loosen the two 5/32" hex key set screws and slide the Intermediate Sprocket off the shaft. Rotate the Intermediate Sprocket so that the Set Screws can be accessed from the front of the machine, the 9 o'clock position. Retain part(s) and/or fastener(s) for installation.



7. Remove the Sprocket Alignment Key.
8. Slide the Speed Sensor Wheel off the Intermediate Assy Shaft and remove. Note that the white side is on the outside and the shiny reflective side is on the inside. Retain part(s) and/or fastener(s) for installation.

Installation

9. Slide the following components onto the Intermediate Assy Shaft in the following order but do not tighten the fasteners:

a. Speed Sensor Wheel (shinny reflective side facing inward, white side facing outward).

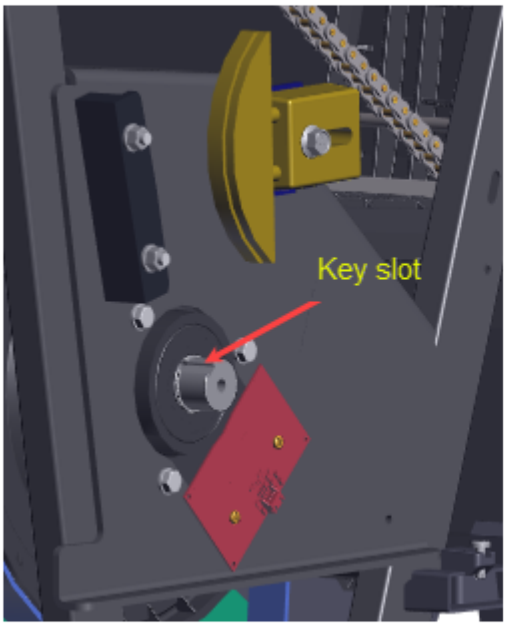
b. Sprocket Key.

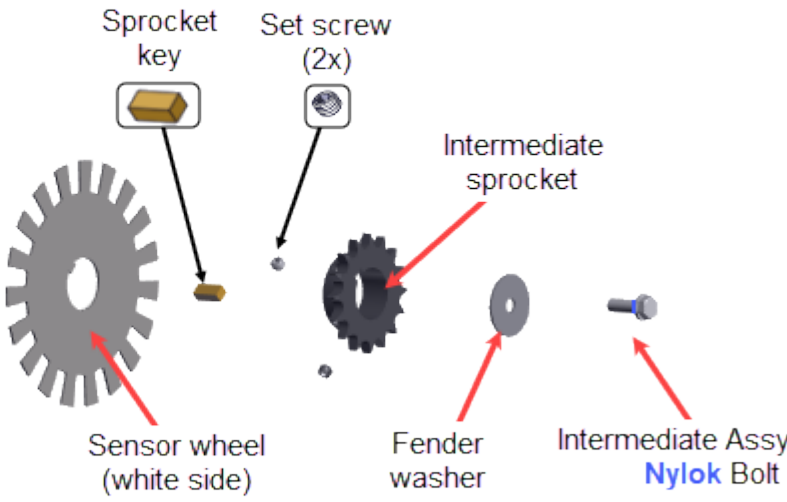
c. Intermediate Sprocket, **DO NOT** tighten the two set screws.

d. Fender Washer.

e. Hand thread a new Intermediate Assy Shaft Nylok blue patch bolt onto the shaft.

CAUTION: Nylok blue patch fasteners are one time use only. When removed, discard and replace with a new Nylok fastener for installation.

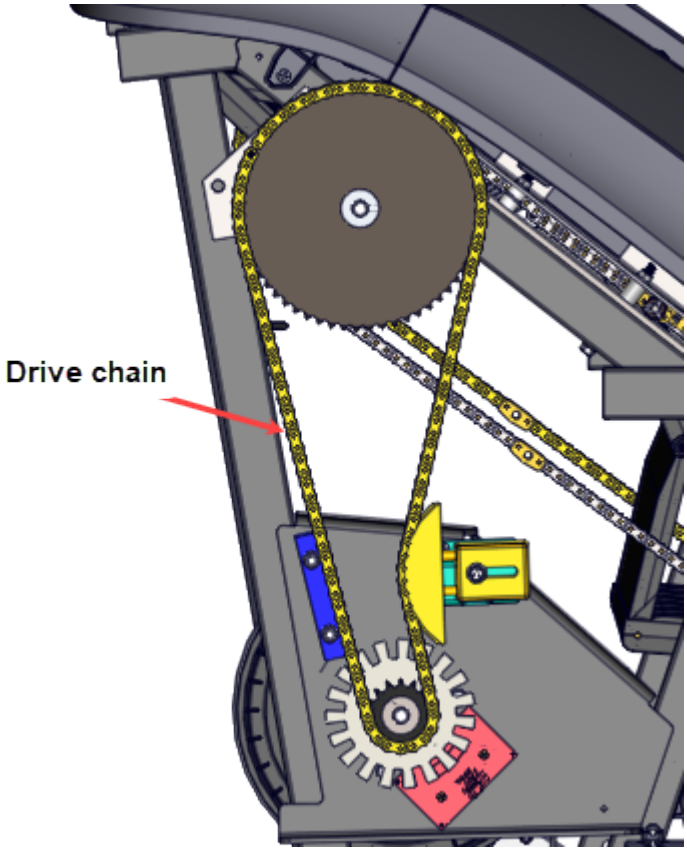




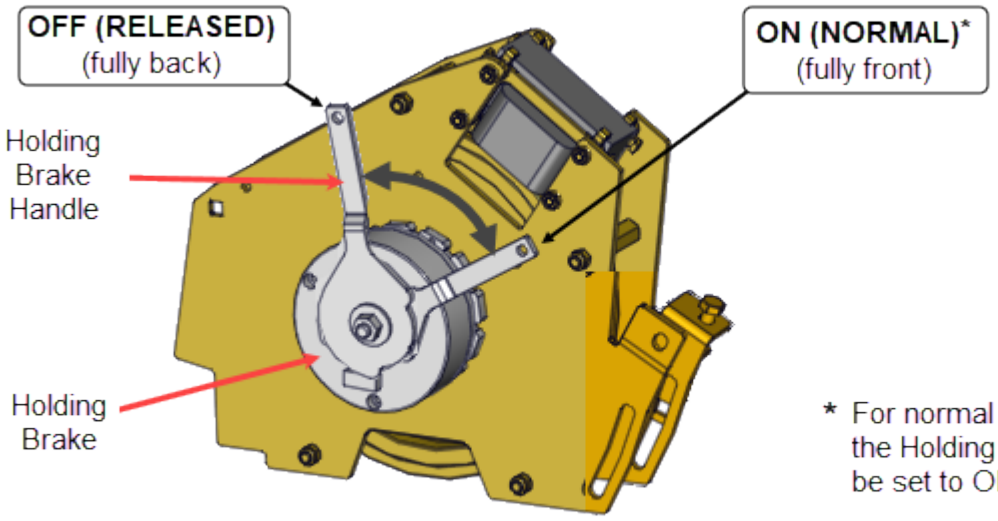
10. Tighten the Intermediate Assy Nylok bolt and then the Sprocket set screws:
    a. First tighten the Intermediate Assy Shaft Nylok blue-patch bolt to 180 in-lbs (15 ft-lbs, 20.3 Nm).
    b. Then fully tighten the two Intermediate Sprocket set screws to 300 in-lbs (34 Nm).

IMPORTANT: DO NOT tighten the Intermediate sprocket set screws before tightening the Intermediate assembly shaft Nylok blue patch bolt. Tighten the shaft bolt first and then the sprocket set screws.

11. Reinstall the Drive Chain and tension to specification, see "Drive Chain Replacement" on page 190



12. Set the Holding Brake handle to ON (all the way forward).



Brake Assy

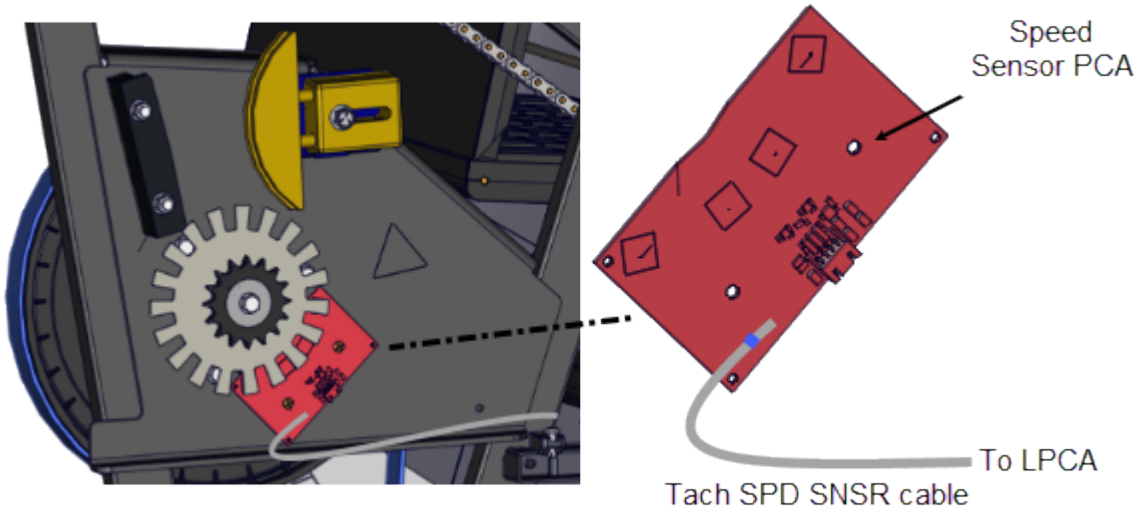
13. Connect the power cord and switch the power ON.
14. Start a manual workout and verify normal operation for the following functions:
    a. Vary the SPEED from minimum to maximum speed.
    b. Use the handlebar or console STOP button to verify the braking operation.
15. Switch the power OFF.
16. Reinstall the removed covers:
    - Base cover (see "Base Cover Replacement" on page 95)
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
17. Verify full machine operation and return to service, see "Operation Verification" on page 18.

Speed Sensor PCA board Replacement

About

This procedure provides instruction to replace the Speed Sensor **PCA**[1] board.

Note: Speed Sensor Wheel .replacement is not included in this procedure. To replace the Speed Sensor wheel, see "Intermediate Sprocket & Speed Sensor Wheel Replacement" on page 211.



Procedure

Review entire procedure before starting.

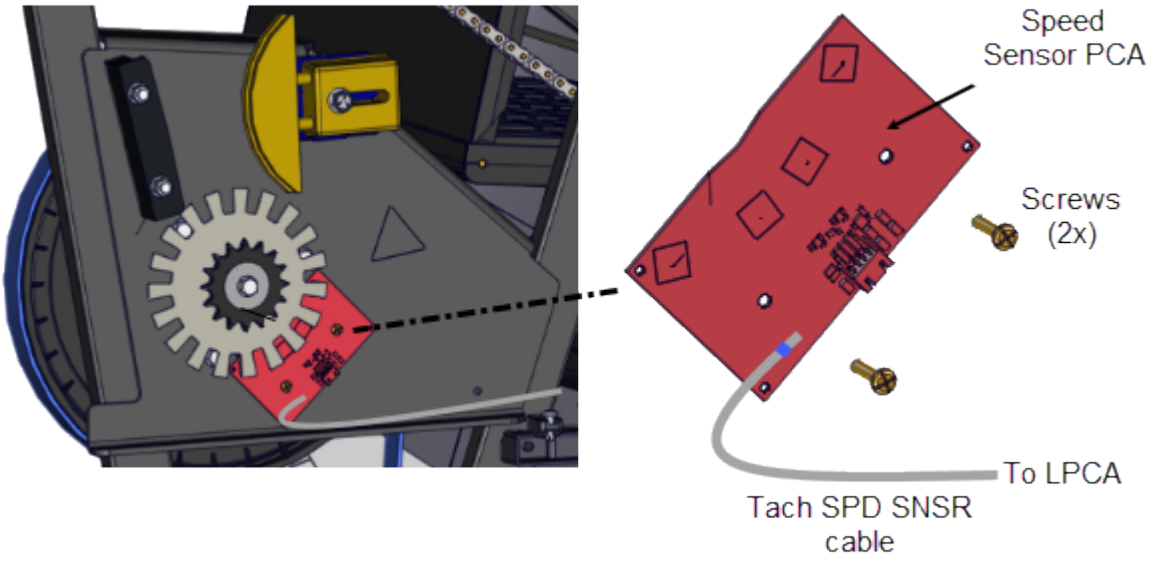
Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
   - Side Access Covers (see "Side Access Covers Replacement" on page 92)
   - Base cover (see "Base Cover Replacement" on page 95)

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

3. Remove the Drip Shield, see "Drip Shield Replacement" on page 122.
4. Disconnect the Speed Sensor cable from the **LPCA**[1] Tach **SPD**[2] SNSR (J6) connector (see "LPCA (Lower PCA) Board Replacement" on page 151). Feed the cable from the LPCA through the bulk head to the PCA board. Note routing and frame cable tie locations.
5. If the Speed Sensor Wheel needs to be removed, see "Intermediate Sprocket & Speed Sensor Wheel Replacement" on page 211. Retain part(s) and/or fastener(s) for installation.
6. Hold the Speed Sensor PCA board while removing the two Phillip head screws. Slide the PCA board downward from behind the Speed Sensor Wheel and remove. Place the PCA board in an anti-static **ESD**[3] bag. Protect the PCA from grease and cleaning fluids. Retain part(s) and/or fastener(s) for installation.

   CAUTION: Protect the Speed Sensor PCA board from grease and cleaning fluids.

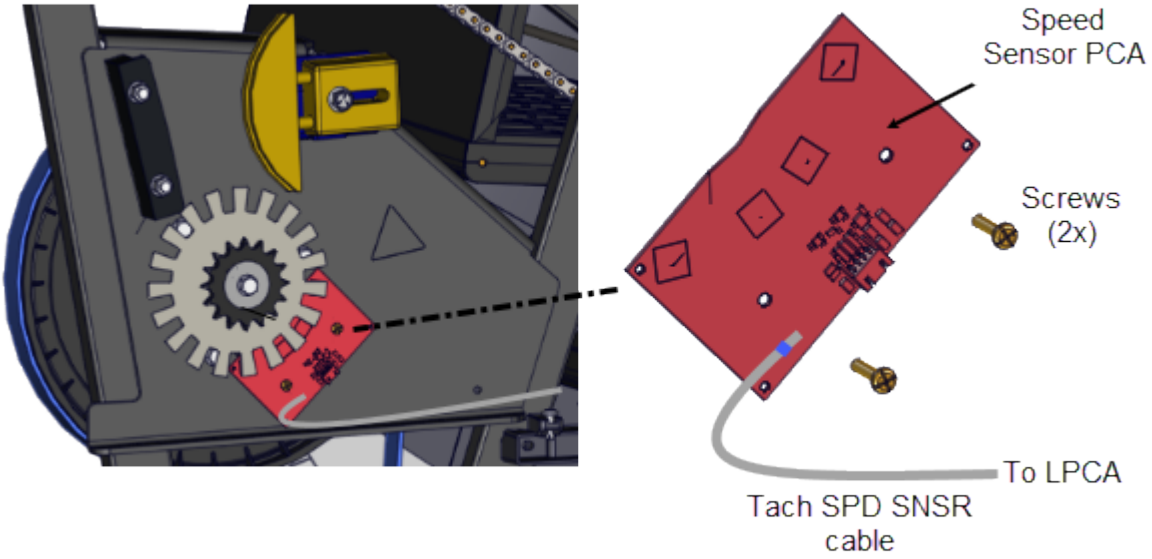


Installation

7. Slide the PCA upward behind the Speed Sensor Wheel aligning the two mounting screw holes. Secure using the two Phillip head screws and fully tighten. Protect the

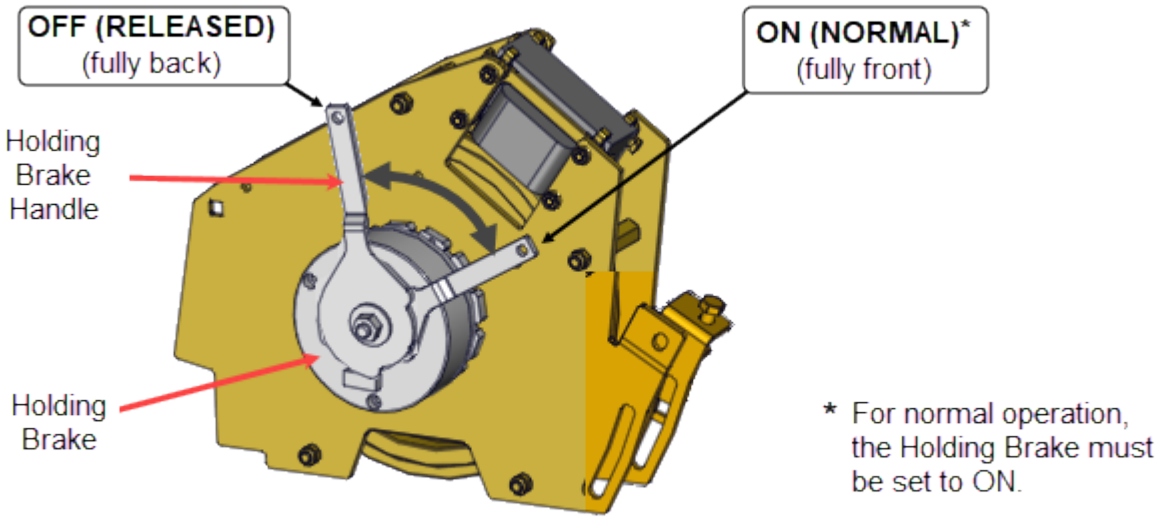
[1]Lower Printed Circuit Assembly board; also refered to as the Lower PCA or simply as the lower board. On treadmills, it is the console to base function interface and the motor controller unit (MCU). On self-powered units, it is the lower PCA console to base function interface.
[2]speed
[3]Electrostatic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

PCA from grease and cleaning fluids.



CAUTION: Protect the Speed Sensor PCA board from grease and cleaning fluids.

8. If the Speed Sensor Wheel was removed, reinstall the wheel, see "Intermediate Sprocket & Speed Sensor Wheel Replacement" on page 211.
9. Reconnect the Speed Sensor cable to the LPCA Tach SPD SNSR (J6) connector (see "LPCA (Lower PCA) Board Replacement" on page 151). Feed the cable from the Speed Sensor PCA to the LPCA through the bulkead. Make sure to reattach the cable to the frame cable ties.
10. Make sure the Holding Brake handle is set to ON (all the way forward).



Brake Assy

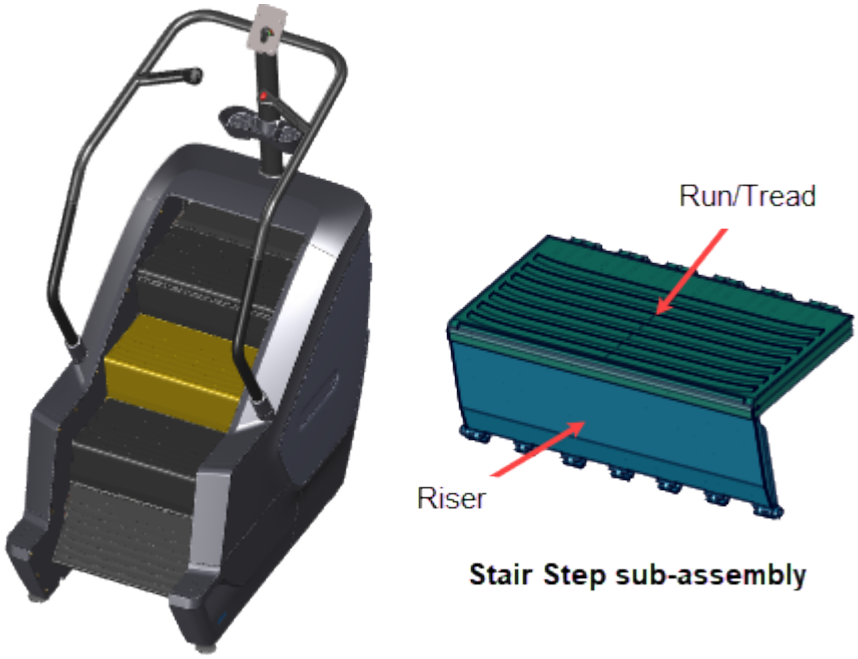
11. Connect the power cord and switch the power ON.
12. Start a manual workout and operate the SPEED (from minimum to maximum speed). Verify the speed **SPM**[1] and indicator operation.
13. Switch the power OFF.
14. Reinstall the Drip Shield, see "Drip Shield Replacement" on page 122.
15. Reinstall the removed covers:
    - Base cover (see "Base Cover Replacement" on page 95)
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
16. Verify full machine operation and return to service, see "Operation Verification" on page 18.

[1]steps per minute

Stair Step Replacement

About

This procedure provides instruction to replace the stair step riser and run (tread).



Stair Step sub-assembly

Special Replacement Parts

Part	Note
Crimp-on retaining ring	Crimp-on retaining ring fasteners cannot be reused. Obtain new replacement parts prior to removal (4x minimum). Part: PPP000000305739101

Procedure

Review entire procedure before starting.

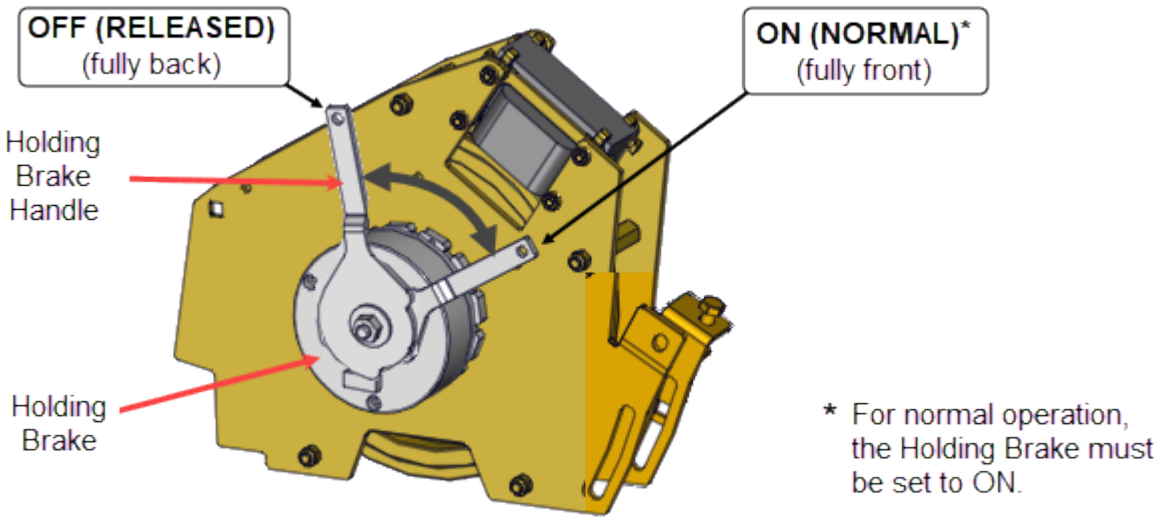
Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81)
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access

Covers Replacement" on page 88)

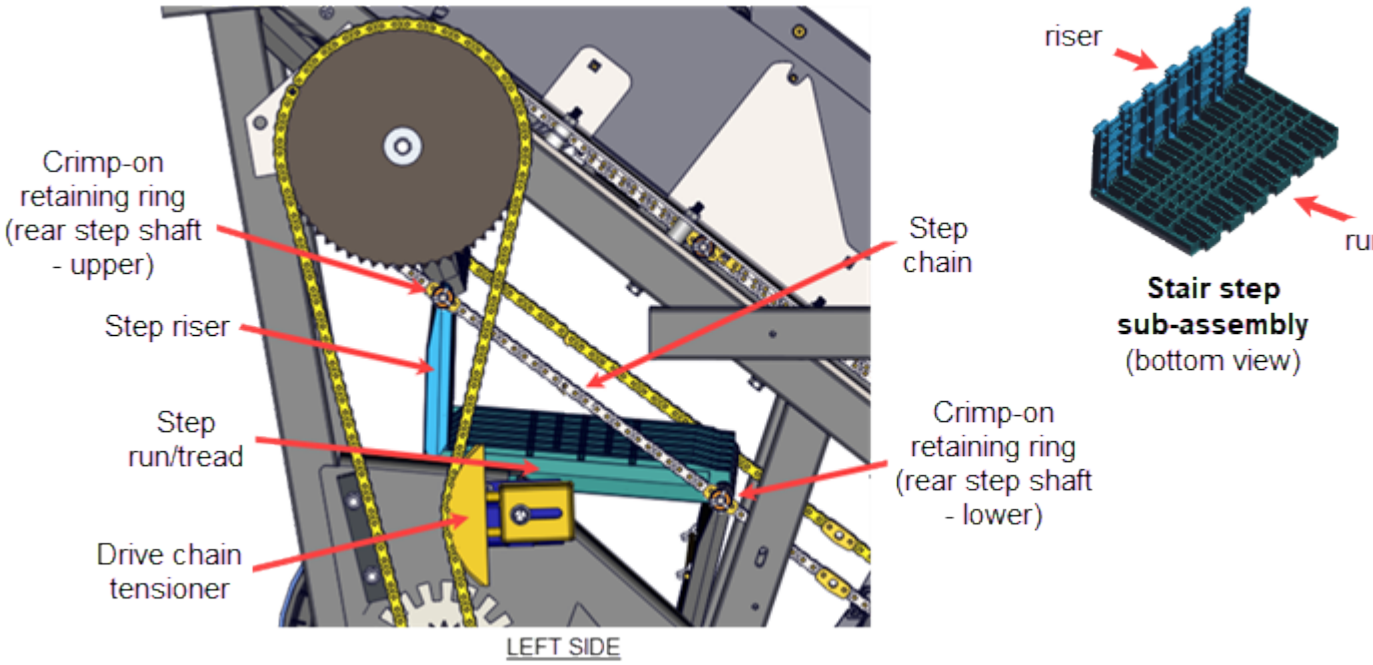
- Side Access Covers (see "Side Access Covers Replacement" on page 92)

3. Remove the Drip Shield, see "Drip Shield Replacement" on page 122.
4. Set the Holding Brake handle to OFF (all the way back). This will allow the stairs to move when the power is OFF.



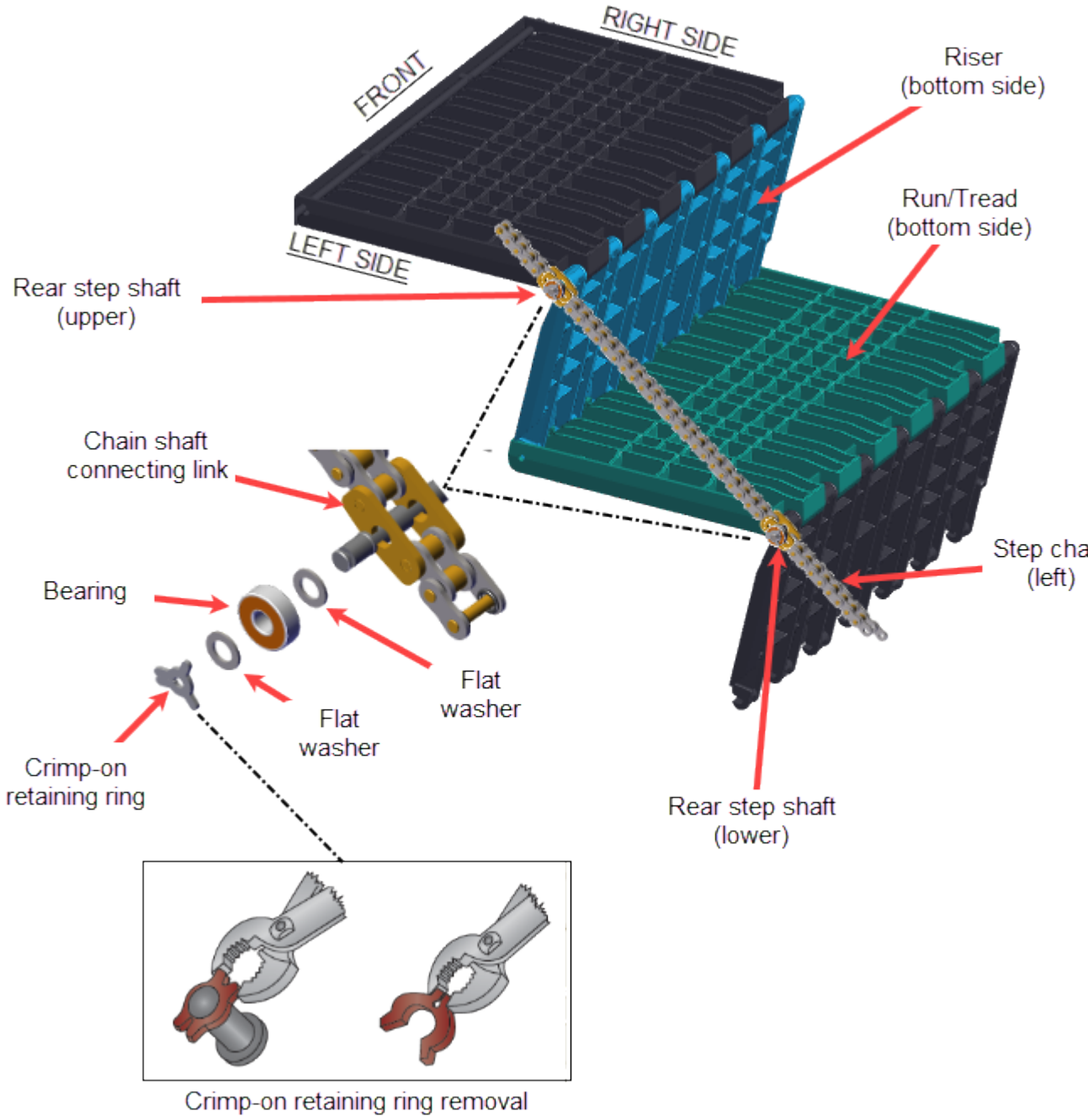
Brake Assy

5. Remove the step riser and run (tread) together as a stair step sub-assembly. Position the stair step riser and tread so that the "upper" and "lower" Rear Step Shaft crimp-on retaining rings can be accessed from the left side directly above the Drive Chain Tensioner.



6. Set the Holding Brake handle to ON (all the way forward). This will lock the stairs in place.
7. Remove the left side "upper" rear step shaft crimp-on retaining ring, flat washer, bearing, and flat washer. Use pliers to squeeze the crimp-on retaining ring tabs together and pull to remove. Discard the crimp-on retaining ring, do not reuse. Retain flat washers (2x) and bearing for installation.

Note: . The rear step shafts will be removed from the right side. The right side crimp-on retaining rings do not need to be removed.

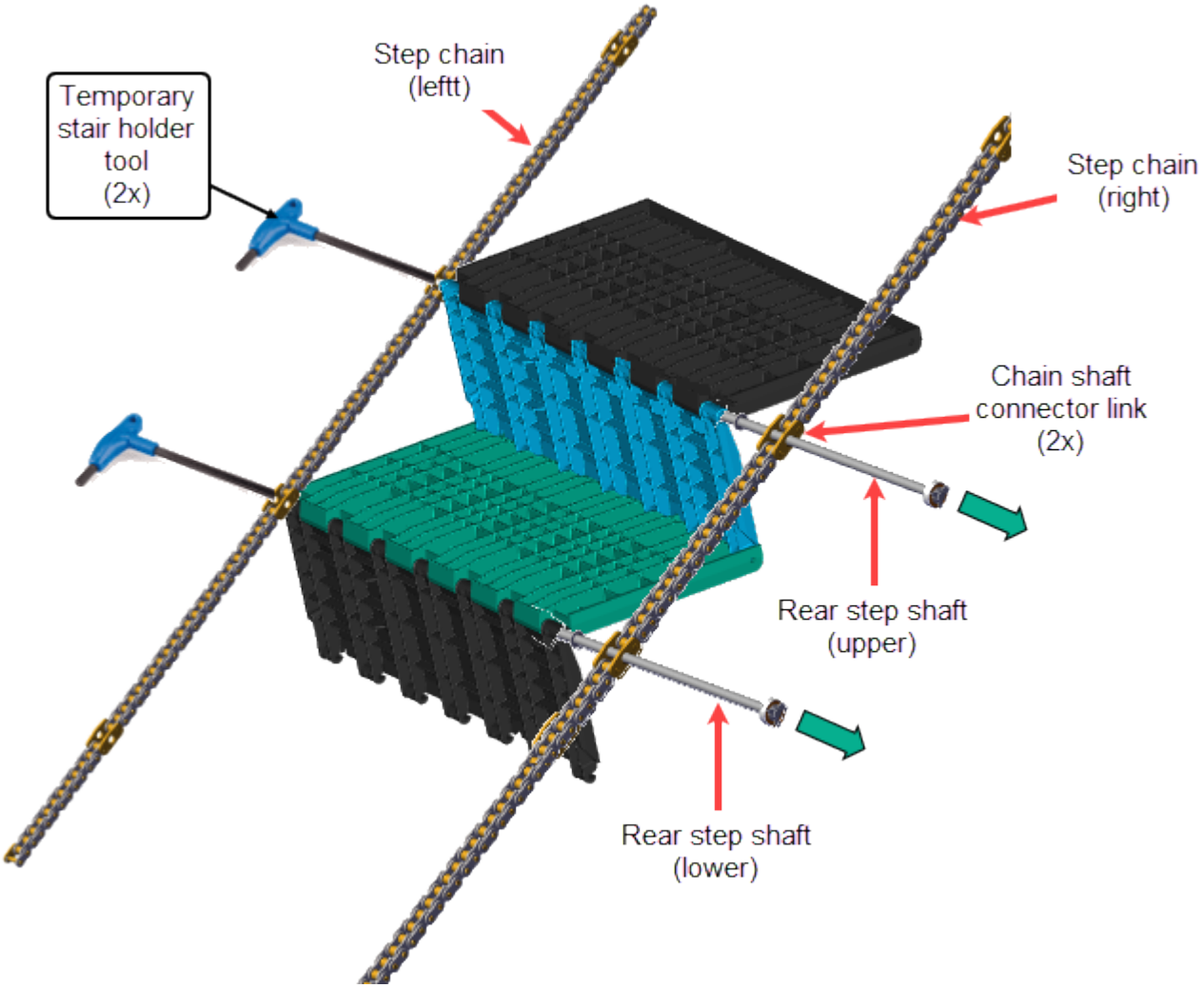


Crimp-on retaining ring removal

8. Repeat process to remove the "lower" rear step shaft crimp-on retaining ring, flat washer, bearing, and flat washer. Discard the crimp-on retaining ring, do not reuse. Retain flat washers (2x) and bearing for installation.
9. Start pushing the "upper" rear step shaft through the left "upper" chain shaft connecting link. Insert a hex key, screwdriver, etc. (approx. 3/8" / 7 mm diameter) through the chain shaft connecting link into the to the stair step sub-assembly to temporarily

keep the stair step sub-assembly from falling. This will also extend the right end of the shaft beyond the outer edge of the right side step chain shaft connecting link. Repeat process for the "lower" rear step shaft.

Note: . To temporally keep the left side of the stair step sub-assembly from falling, insert a hex key, screwdriver, etc. (approx. 3/8", 7 mm diameter.) through the chain shaft connecting link into step sub-assembly shaft mounting hole.



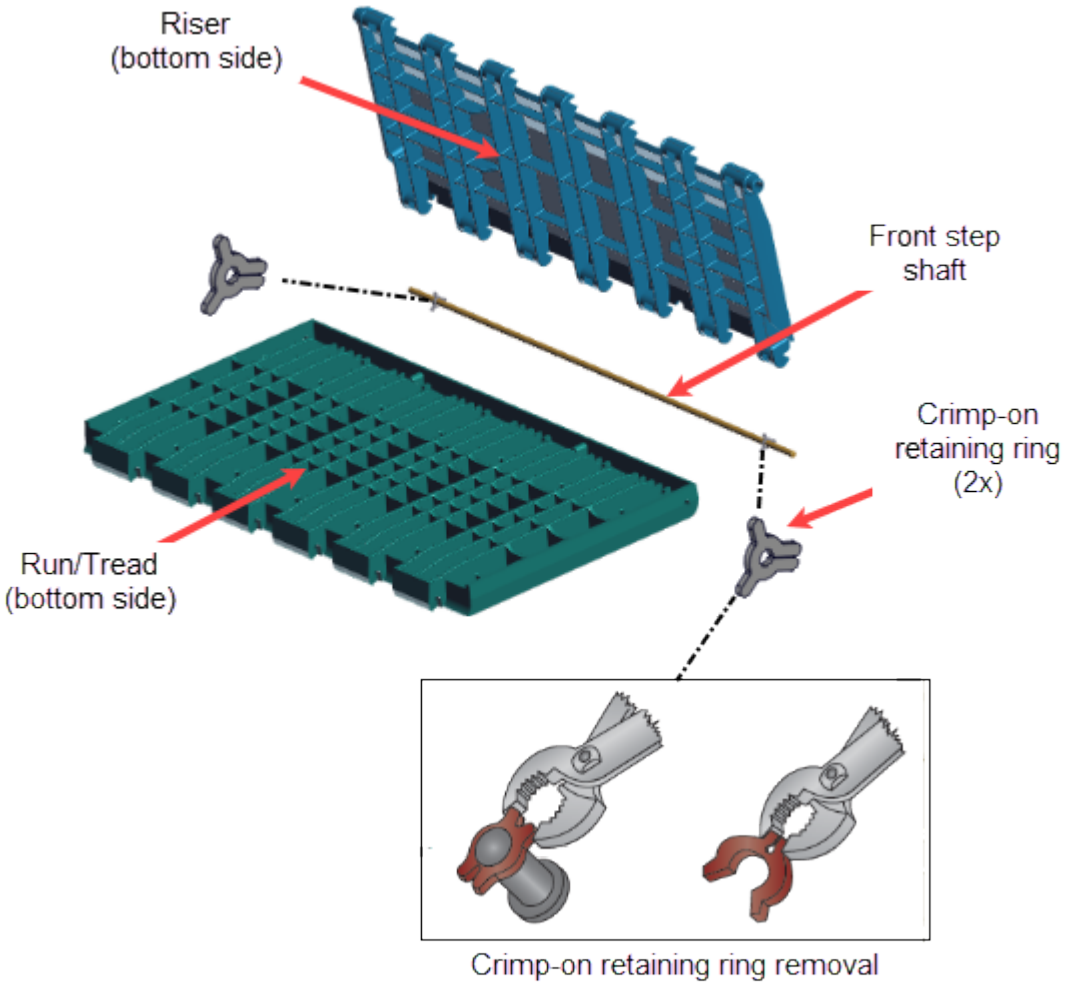
10. While holding the stair step sub-assembly, remove the "upper" and "lower" rear step shafts from the right side. Then remove the temporary stair holder tools and remove the stair step sub-assembly.

Stair step sub-assembly

11. Disassemble the stair step sub-assembly.

    a. Remove the two crimp-on retaining rings. Use pliers to squeeze the crimp-on retaining ring tabs together and pull to remove. Discard the two crimp-on retaining rings, do not reuse.

    b. Then remove the front step shaft to separate the riser and run (tread).



Crimp-on retaining ring removal

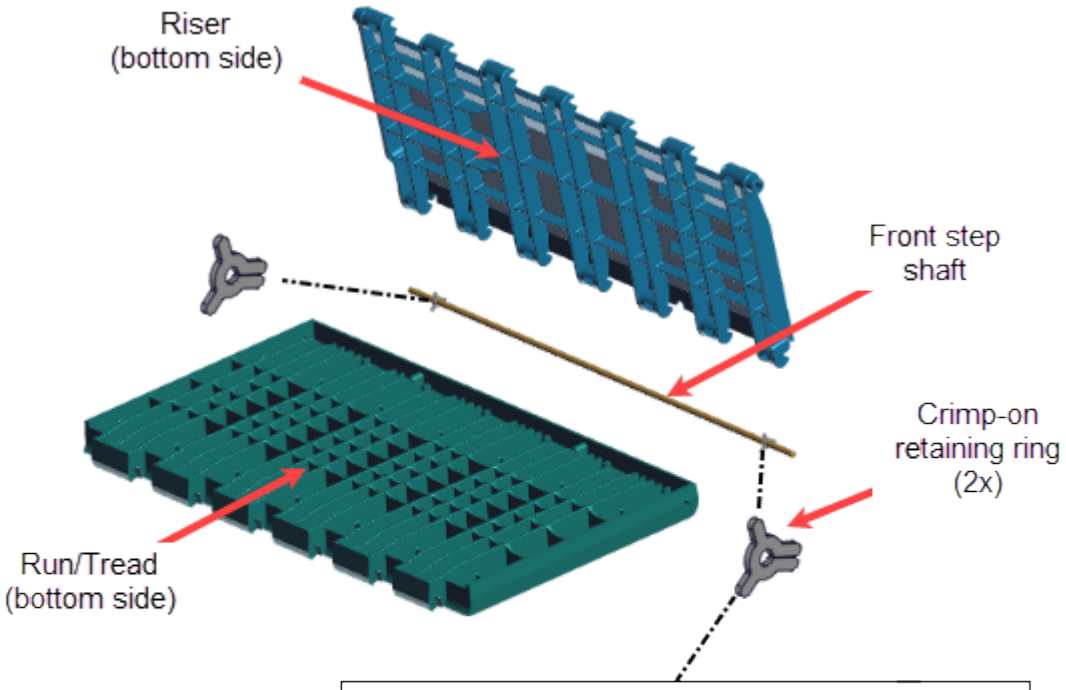
Installation

1. Reassemble the stair step sub-assembly.

    a. Position and align the Riser and run (tread) Front Step Shaft mounting holes. Then slide the Front Step Shaft through the riser/tread assembly joint until centered between the outer edges of the steps.

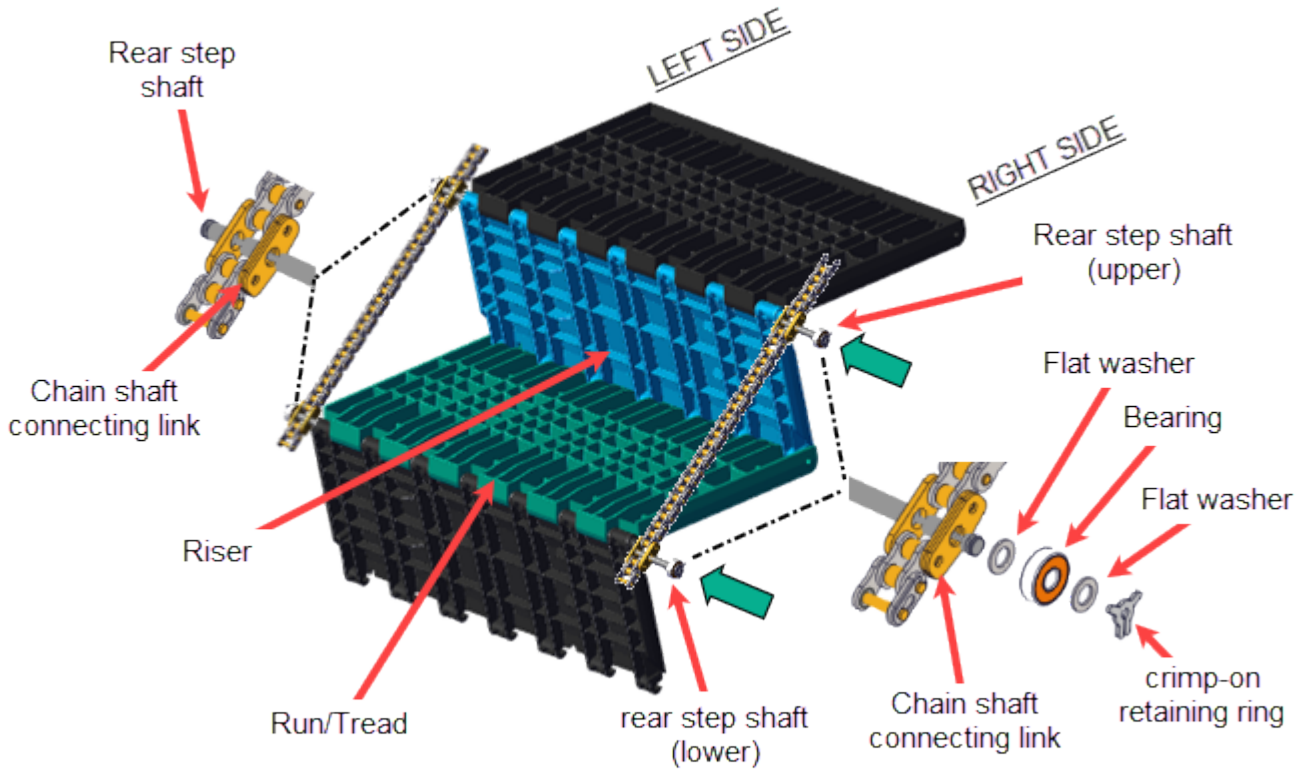
    b. Secure using two **new** crimp-on retaining rings. Slide the crimp-on retaining rings into the slots near the ends of the Front Step Shaft . Then use pliers to

squeeze the ends of the crimp-on rings until they touch. Make sure the retaining ring fits tightly into and around the shaft slot.

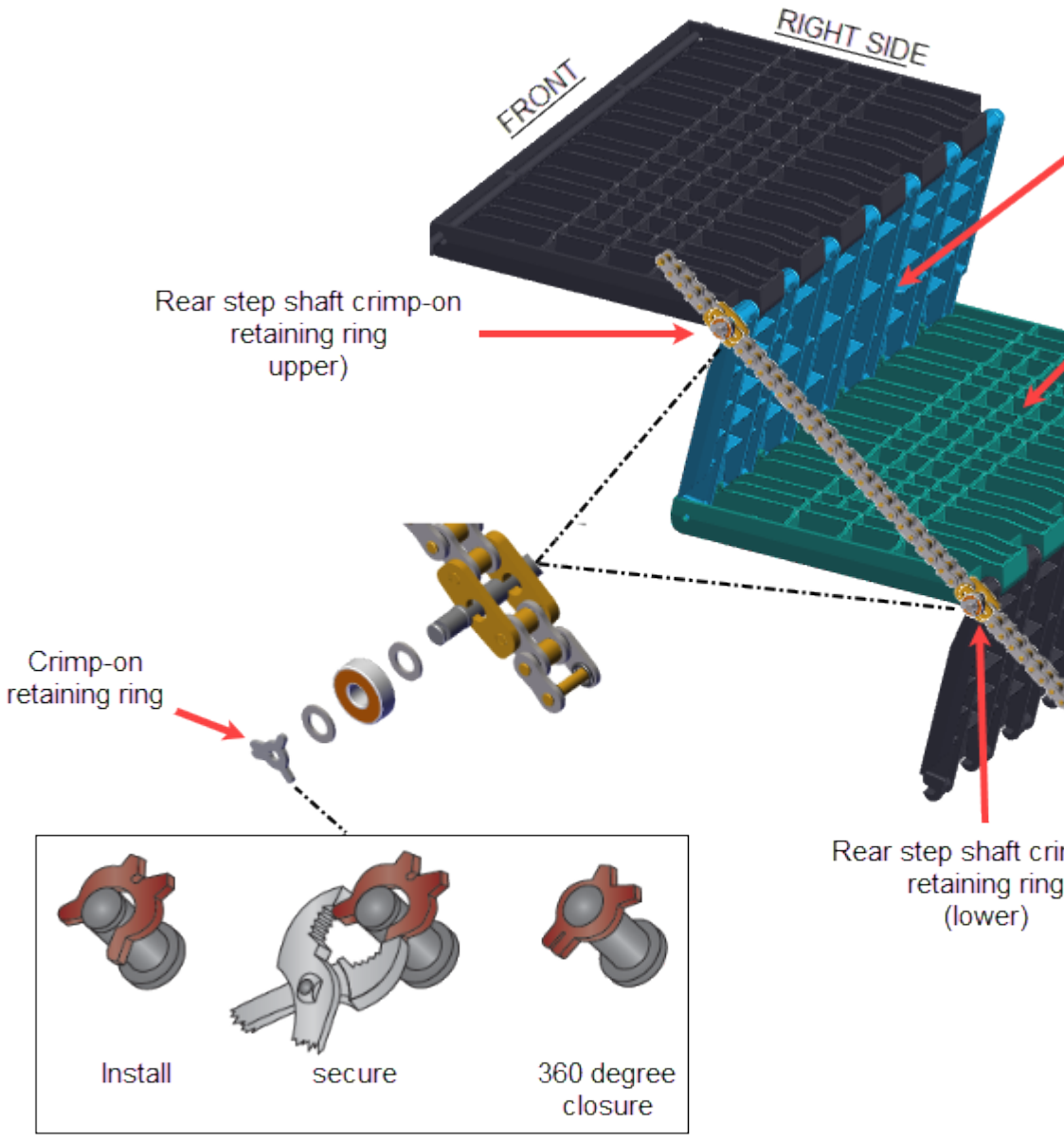


Crimp-on Retaining Ring Installation

2. Make sure that one end of the removed "upper" and "lower" rear step shafts still has the crimp-on retaining ring, flat washer, bearing, and flat washer hardware installed.
3. Lift the stair step sub-assembly between the left and right step chains. Align the "upper" riser/tread assembly joint to the right step chain connecting link and insert the rear step shaft. Push shaft through the right "upper" step chain connecting link, upper stair step riser/tread assembly joint, and left "upper" step chain connecting link.
4. Repeat procedure to install the "lower" rear stair step shaft.



5. Secure the left side "upper" and "lower" rear step shafts.
    a. Install the flat washer, bearing, flat washer, and new crimp-on retaining ring. Insert the crimp-on retaining ring into the shaft slot and then use pliers to squeeze the ends of the crimp-on retaining ring until they touch. Make sure the retaining ring fits tightly into and around the shaft slot.



Crimp-on Retaining Ring Installation

b. Repeat procedure and secure the left side "lower" rear step shaft.

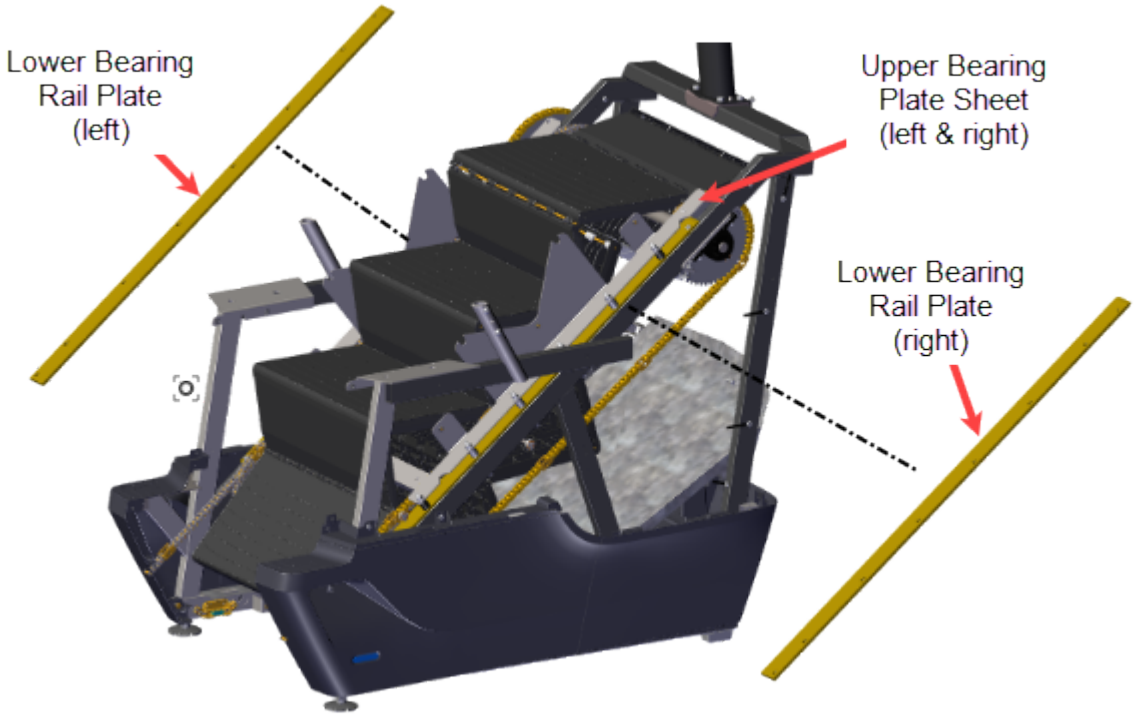
6. Make sure the Holding Brake handle is set to ON (all the way forward).
7. Connect the power cord and switch the power ON.
8. Start a manual workout and verify normal operation for the following functions:
   a. Vary the SPEED from minimum to maximum speed.
   b. Use the handlebar or console STOP button to verify the braking operation.
9. Switch the power OFF.
10. Reinstall the Drip Shield, see "Drip Shield Replacement" on page 122.

11. Reinstall the removed covers:
    - Side Access Covers (see "Side Access Covers Replacement" on page 92)
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88)
    - Top cover (see "Top Cover Replacement" on page 81)
12. Verify full machine operation and return to service, see "Operation Verification" on page 18.

Lower Bearing Rail Replacement

About

This procedure provides instruction to replace the step chain Lower Bearing Rail Plate.



Procedure

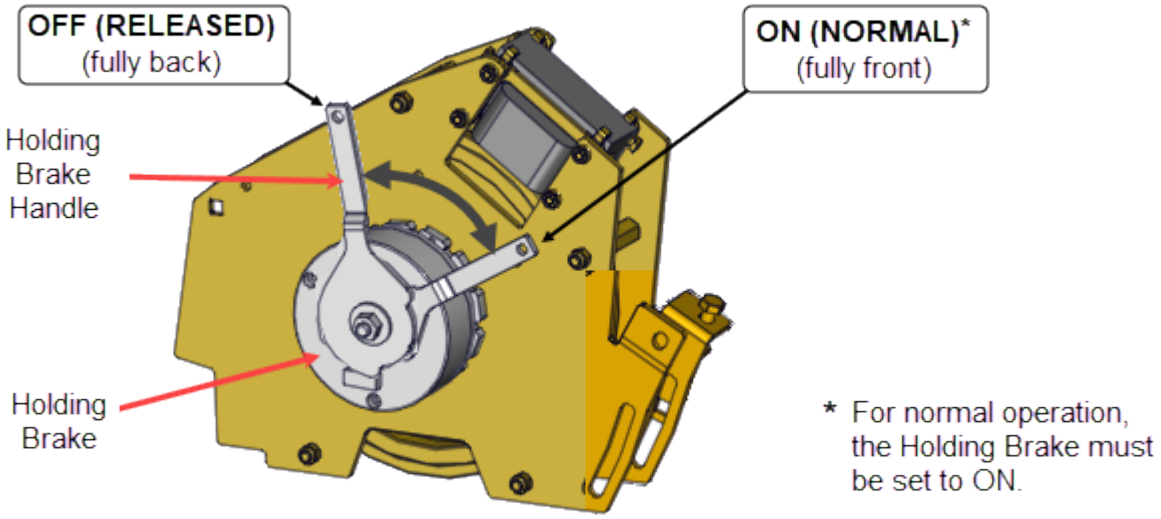
Review entire procedure before starting.

Removal

1. Switch the power OFF and disconnect the power cord (slide the red release tab reward to unlock).
2. Remove the following covers:
   - Top cover (see "Top Cover Replacement" on page 81).
   - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88).
   - Left and right Side Access Covers (see "Side Access Covers Replacement" on page 92).
   - Left and right Inner Panel Covers (see "Inner Panel Covers Replacement" on page 98).

- .Left and right Chain Rail Covers and handlebars, (see "Chain Rail Cover Replacement" on page 103).

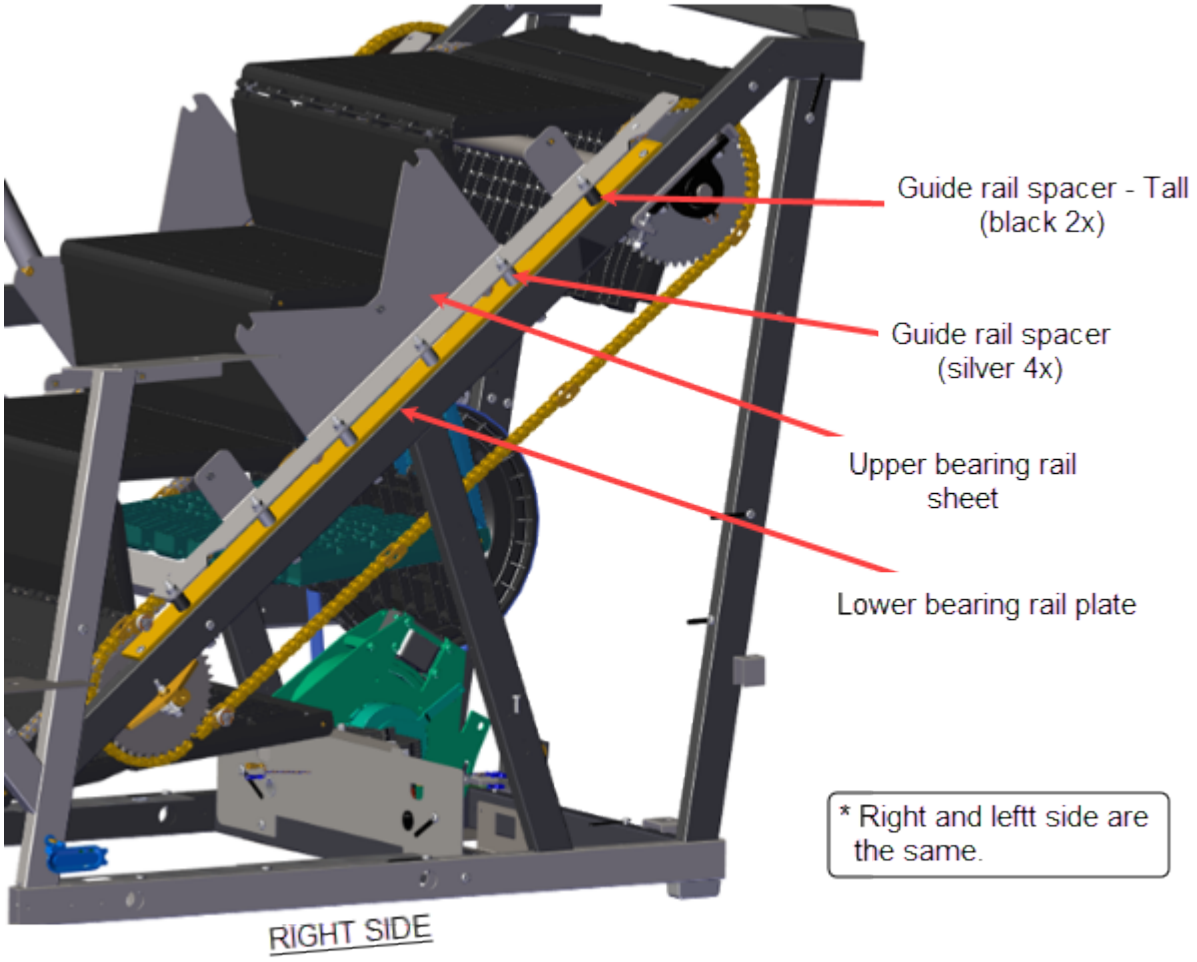
3. Set the Holding Brake handle to ON (all the way front). This will hold the stairs from moving when the power is OFF.



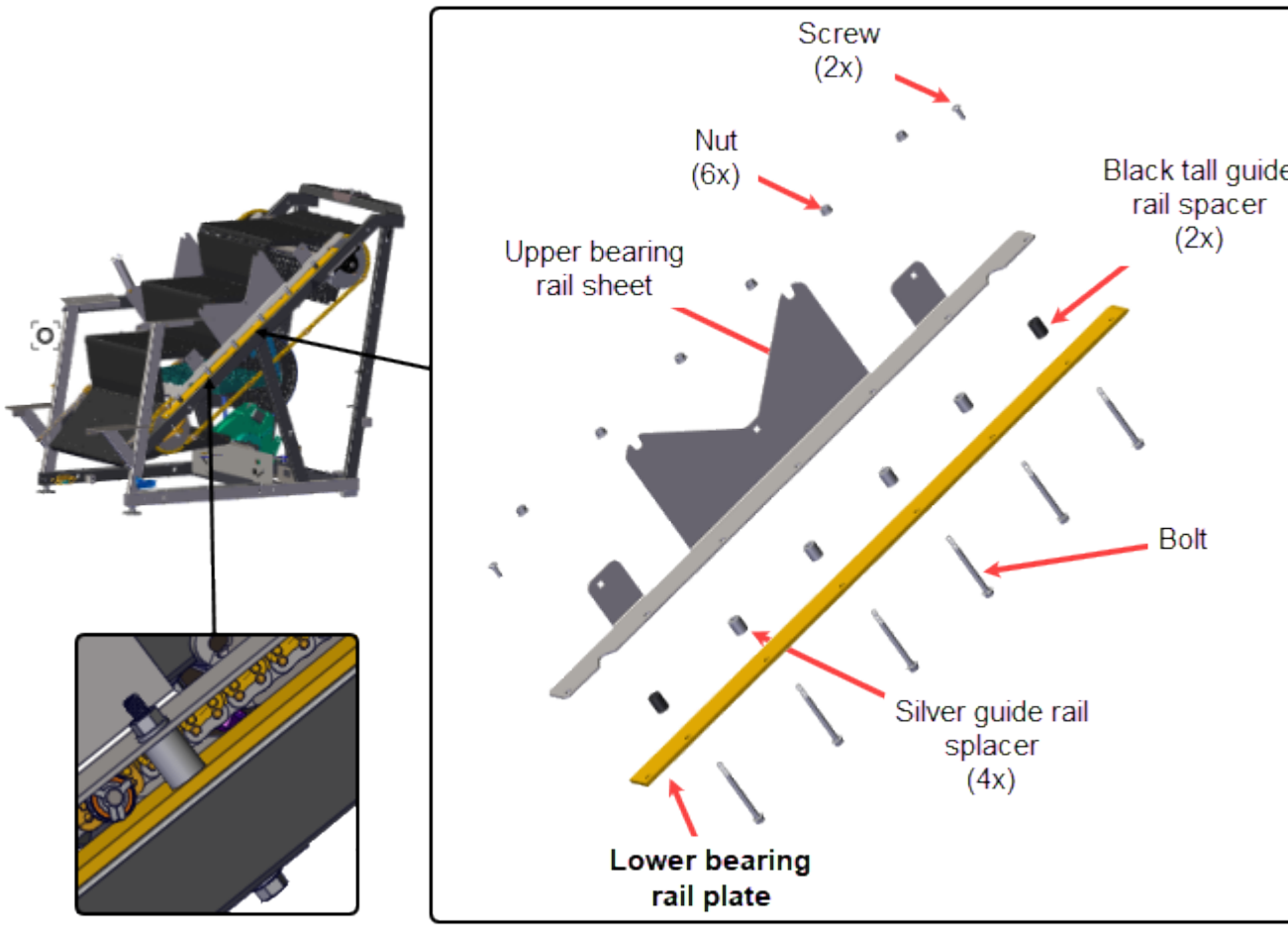
Brake Assy

Lower Bearing Rail Plate Removal

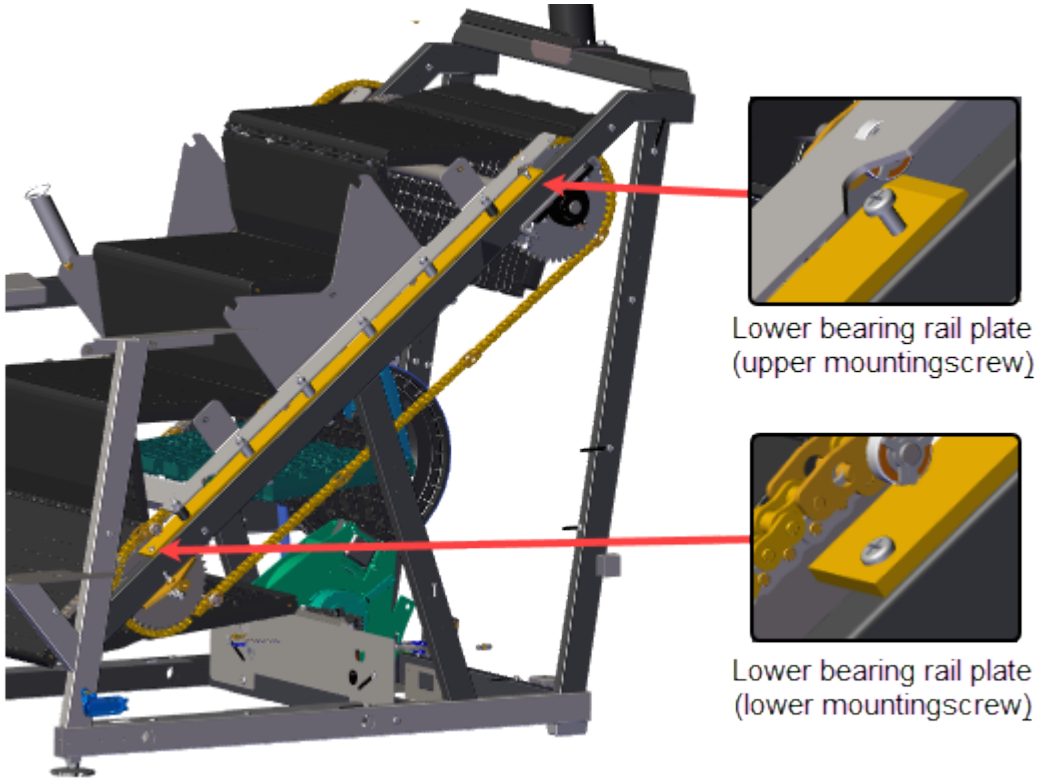
The right and left side lower bearing rail plate removal procedure is the same.



4. Use a 1/2" socket and wrench to loosen, but not remove, the two outer black guide rail spacer and four silver inner rail spacer mounting bolts. Then remove the four silver guide rail spacer and two black tall guide rail spacer mounting bolts, nuts, spacers and the upper bearing rail sheet. Retain part(s) and/or fastener(s) for installation.



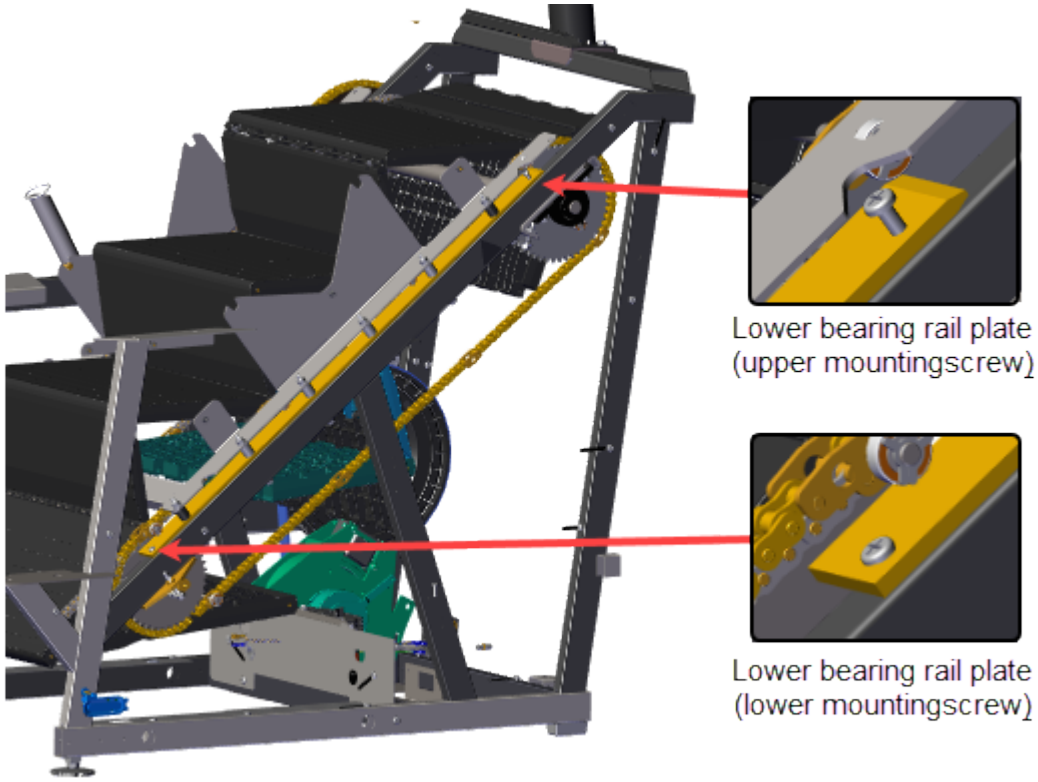
5. Remove the two #2 Phillips lower bearing rail plate mounting screws and remove. Retain the two screws for installation. Discard the lower bearing rail plate if worn.



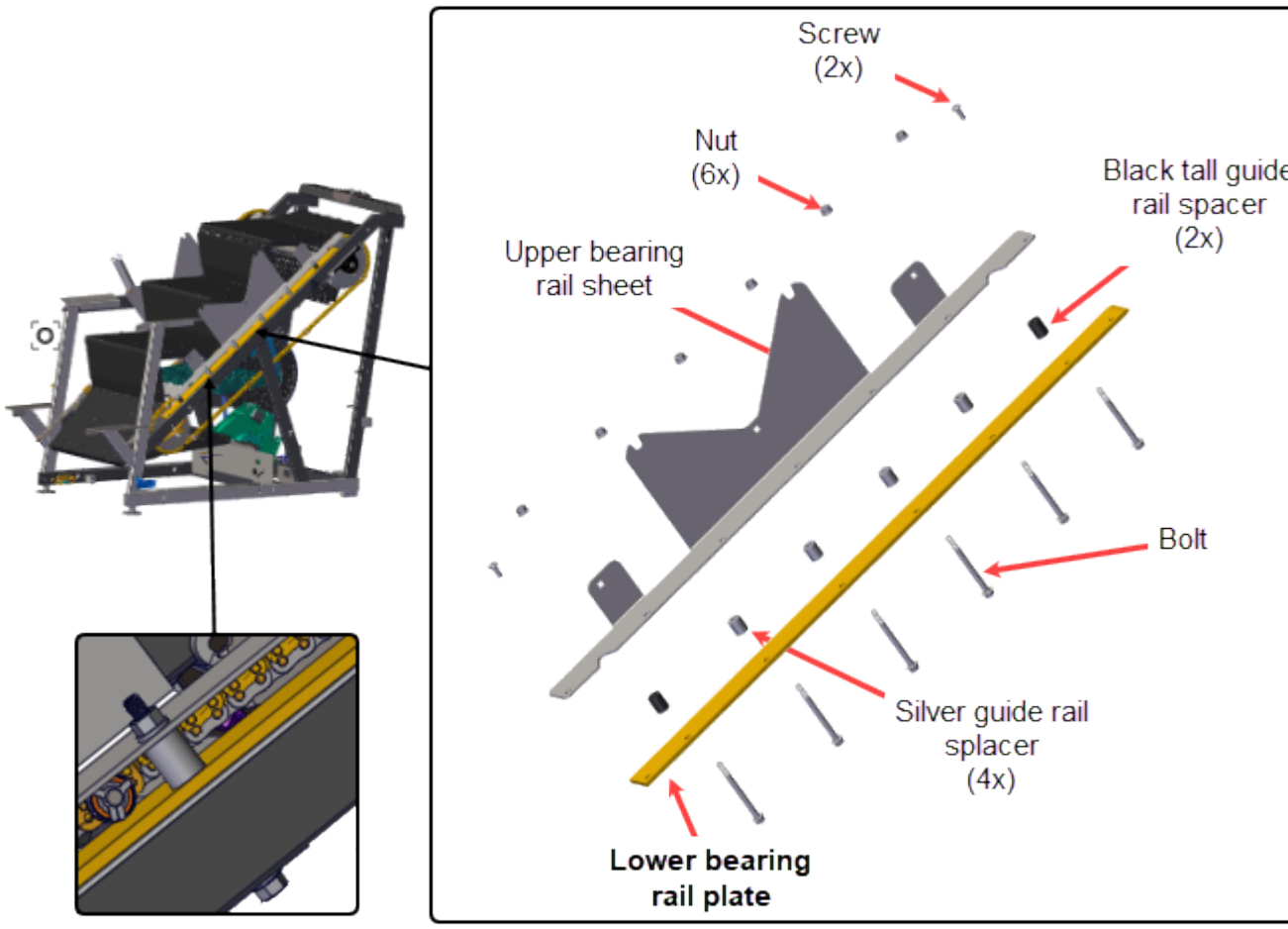
Installation

The right and left side lower bearing rail plate installation procedure is the same.

6. Position the lower bearing rail plate onto the frame weldment and secure using the two #2 Phillips mounting screws. Fully tighten the screws.



7. Position the upper bearing rail sheet over the lower bearing rail plate, insert one of the four inner silver guide rail spacers and hold in place using the 1/2" hex head bolt and 1/2" hex head nut. Loosely hand tighten the nut. Install the remaining three silver guide rail spacers and fasteners. Then install the two outer black tall guide rail spacers and secure using two 1/2" hex head bolts and nuts. Fully tighten the inner four sliver guide rail spacer fasteners and then the two outer black tall spacer fasteners.



8. Make sure the Holding Brake handle is set to ON (all the way front). The holding brake must be set to "ON" for the machine to operate.
9. Reinstall the following covers:
    - .Left and right Chain Rail Covers and handlebars, (see "Chain Rail Cover Replacement" on page 103).
    - Left and right Inner Panel Covers (see "Inner Panel Covers Replacement" on page 98).
    - Left and right Side Access Covers(see "Side Access Covers Replacement" on page 92).
    - Forward Upper/Lower Access covers (see "Upper and Lower Forward Access Covers Replacement" on page 88).
    - Top cover (see "Top Cover Replacement" on page 81).
10. Verify full machine operation and return to service, see "Operation Verification" on page 18.

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 246 and Standard Error Codes 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 252).
- 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 242.

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.

Basic 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:

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

- "Validate the customer reported issue" below
- "Verify Input Power" below
- "Verify (reproduce) the customer issue" on the next page
- "Verify the Club Settings" on the next page
- "Verify service bulletin and software update incorporation" on the next page
- "Verify console operation" on page 243
- "Verify that there are no current active error codes" on page 244
- "Verify hardware validation diagnostic tests" on page 244
- "Verify that there are no new error codes" on page 245

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.

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.

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**[2] consoles) or System Settings Workout Limits (Touchscreen consoles). If a failure is observed while using the machine but passes the hardware validation system tests, this could be an indication that one of the club parameters Limits settings is causing the issue.

Verify 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.

[1]Personal Viewing System display.

[2]light-emitting diodes.

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. 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**[2] "**LPCA**[3]" 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 32). 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:

[1]Upper PCA board

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

[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.

a. If the console does not power up, make sure the external **AC**[1]/**DC**[2] 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

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 246.
- 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.

[1]Alternating Current: electric current which periodically reverses direction between positive and negative polarity.
[2]Direct Current: electrical current that only flows in one direction.

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 the next page.

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.

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 249

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

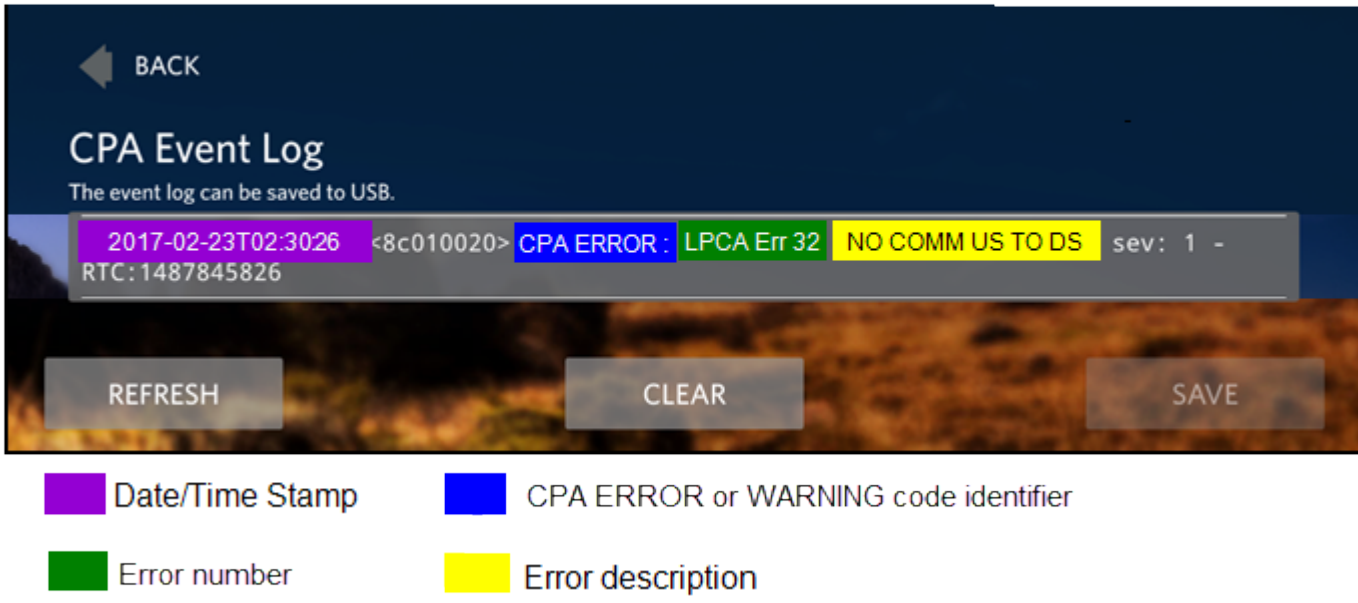
Applies To: Touchscreen (P62, P80, and P82) consoles

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 pre-ventative 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 254.

ASL Light Equipment Location

The ASL light is located on the lower right side at the rear of the step cover.



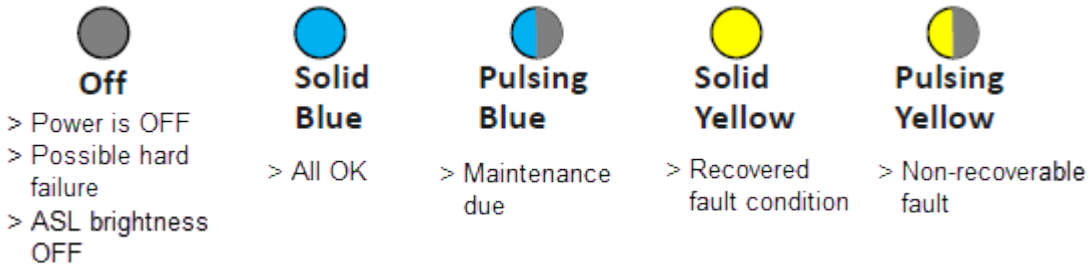
[1]Active Status Light: Service and maintenance status light.

ASL Overview

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

ASL States

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



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

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 the facing page.

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. Go to the Precor.com website and select COMMERCIAL FITNESS products (Precor.com/commercial) and navigate to the specific equipment product web page.
2. Then scroll down to the **Brochures and Manuals** section.

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

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 product PM service videos. The list of current available product PM videos are located on the **Precor Connect** > **SERVICE VIDEOS** web page. Not all products currently include PM videos, please review the web site for the latest video updates.

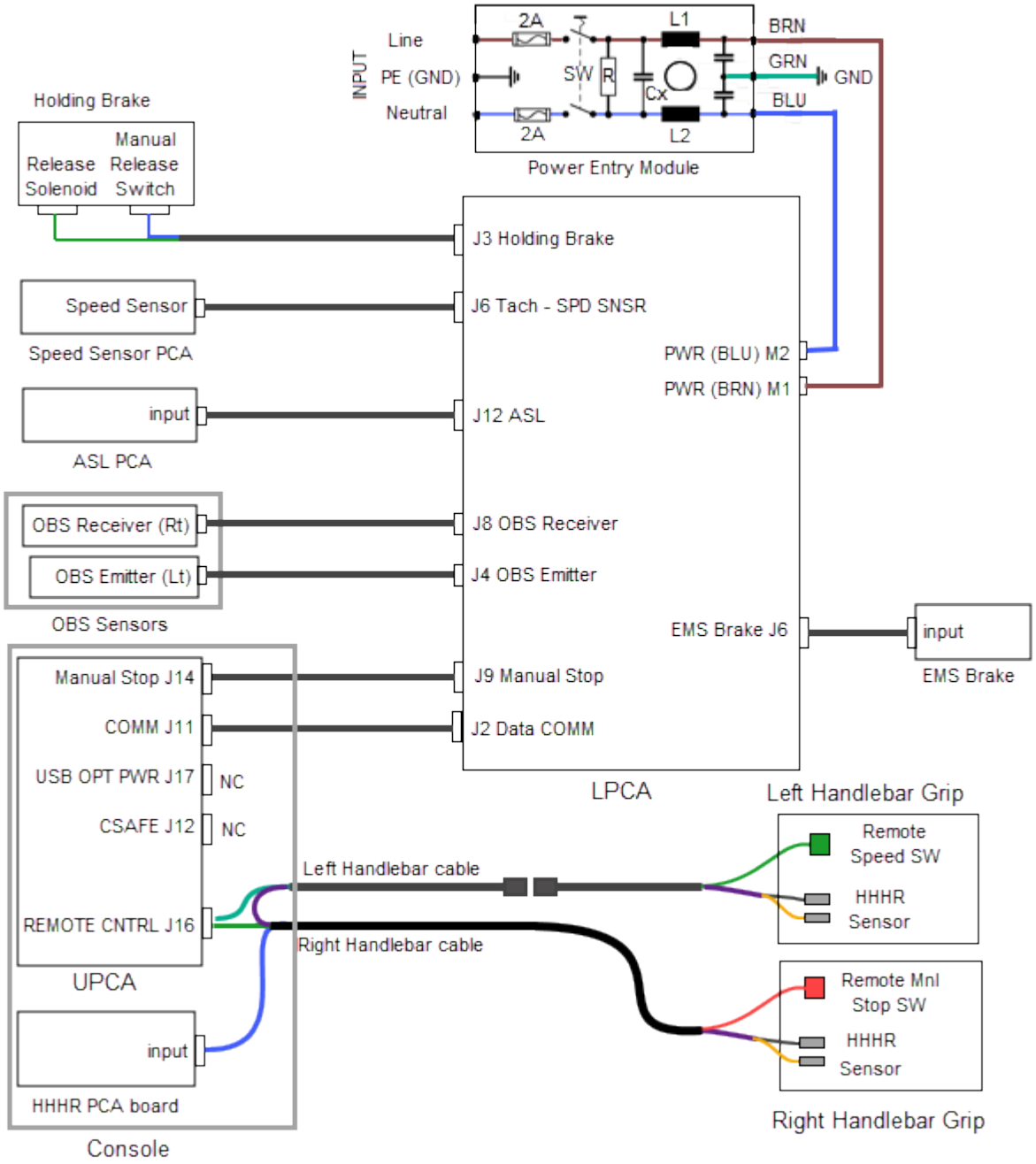
- PM Service Videos: SERVICE VIDEOS

How to access PM service videos from Precor Connect:

1. Log in to your Precor Connect Servicer account (Precor Connect Partner's).
2. On the Connect Home page, select DOCUMENTATION > **SERVICE VIDEOS** to view the list of the current available equipment PM and service videos.

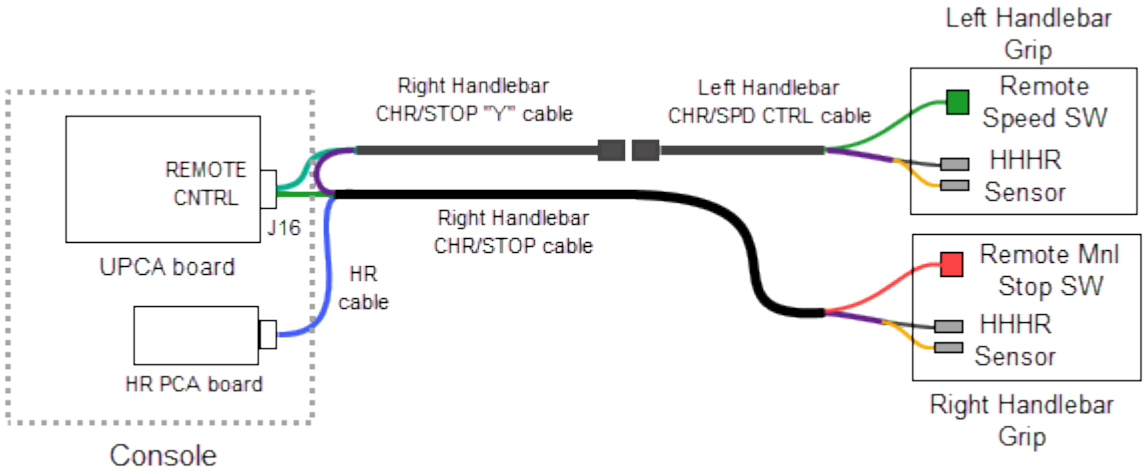
System Wiring Diagram

System Wire Diagram



Left and Right Handlebar Cable Wire Diagram

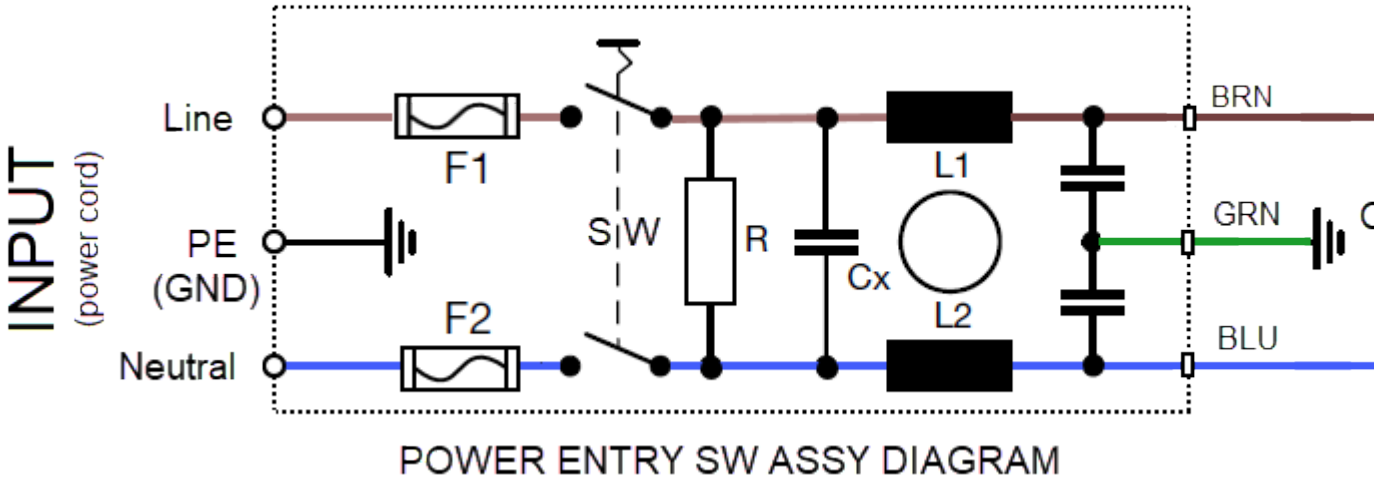
Left and Right Handlebar Cable Wire Diagram



SCL800 Left & Right Handlebar Cable Wire Diagram

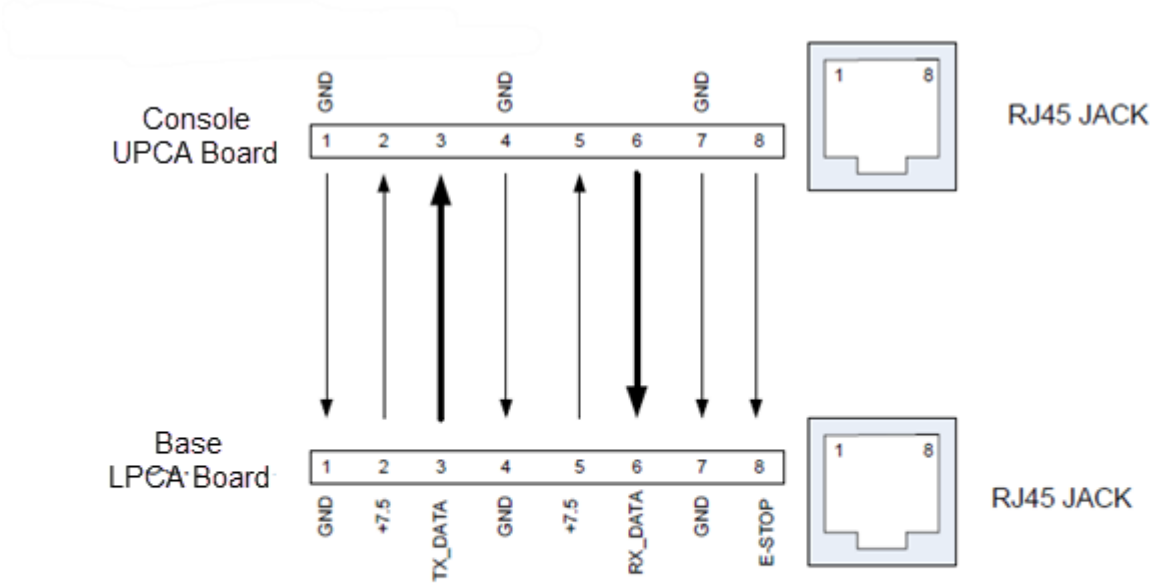
Power Entry Assemble Wire Diagram

Power Entry Assembly Wire Diagram



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

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
- "Service Videos" on the facing page

Service & Maintenance Documentation

	Document	Link
	SCL800-21 StairClimber Service Manual (online version)	Service Manual
	Preventative Maintenance Guides	"Preventive Maintenance (PM)" on page 258

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
	StairClimber Service Videos	
	Gates Carbon Drive U – Measuring Sonic Belt Tension instructional videos for iOS and Android smartphones (YouTube Videos).	iPhone or Android smart phone
	Cover Removal (all)	Cover Removal
	Drive Belt Calibration	Drive Belt Cal
	Drive Belt Replacement	Drive Belt Replace
	Drive Chain Adjustment	Drive Chain Adjustment
	Step Chain Adjustment	Step Chain Adjustment
‡ Always log in to your Precor connect servicer account. Guest login users do not have access to all features.		

Parts

About

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 PDF 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.

Precor Connect Partner's website

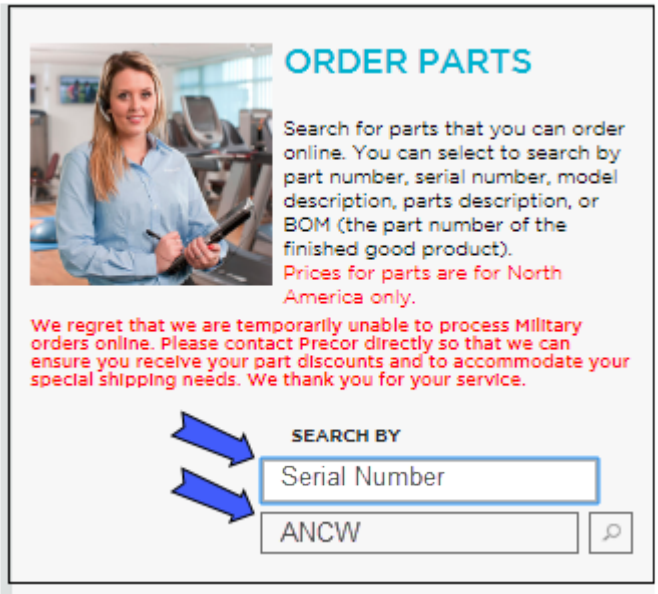
If you have online web access, it is always recommended that you go to the servicer Precor Connect Partner's website to view the equipment's most current *Exploded View Diagram* and *Parts Identification List* information.

How to use Precor Connect to find part Information

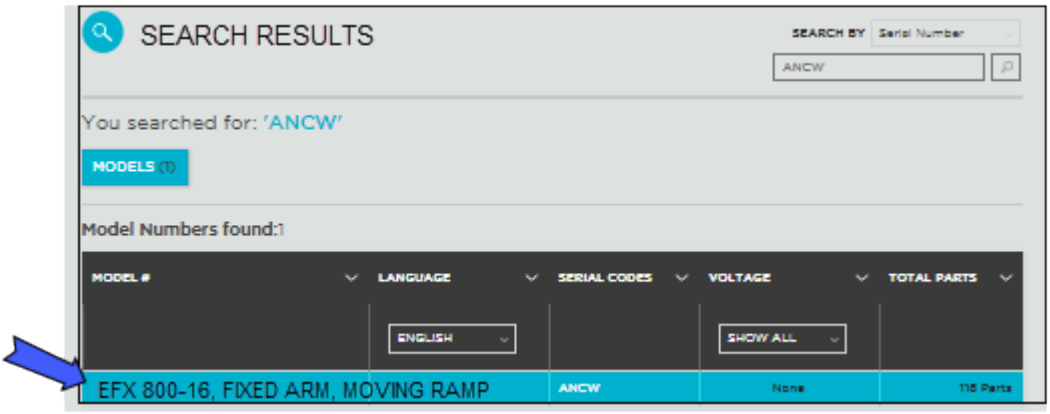
1. Log in to the Precor Connect Partner website.



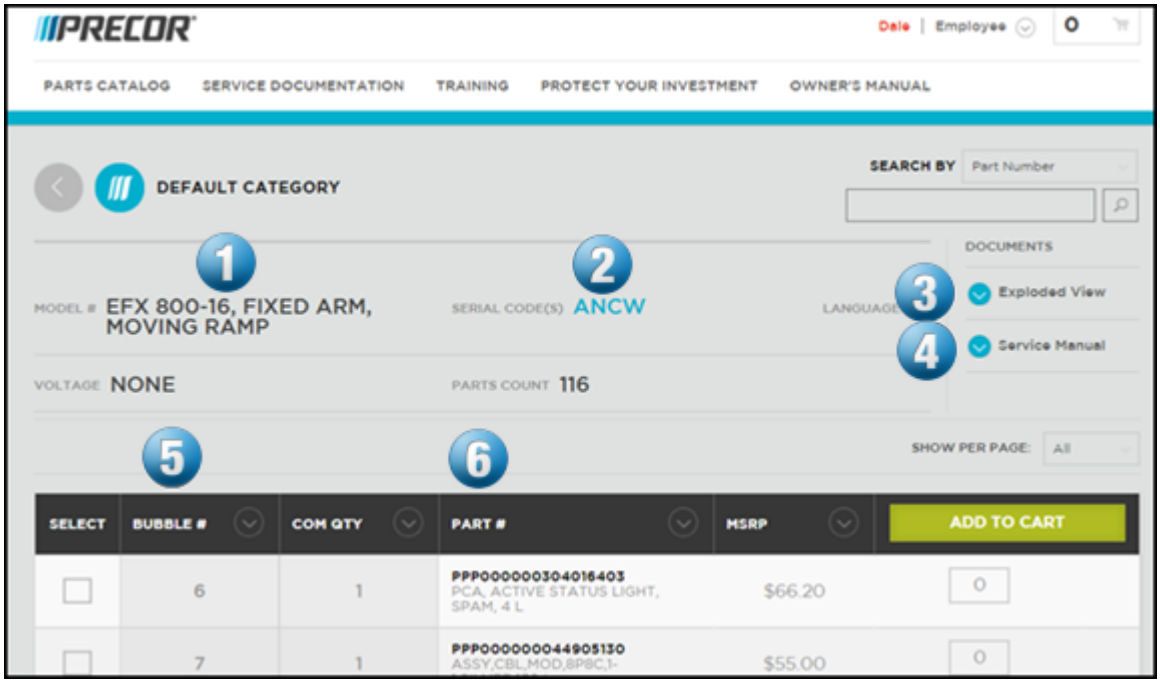
2. Then use the ORDER PARTS "SEARCH BY" function to find the equipment model. You can search by Part Number, Serial Number (first four letters are sufficient), Model Description, or the Parts Description.



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).



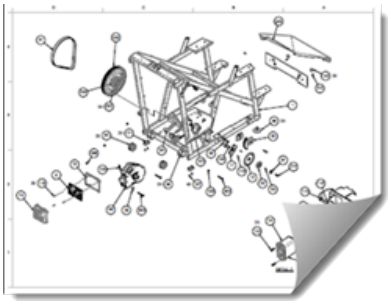
ID	Description	ID	Description
1	Model Description	4	Service Manual Link
2	Serial Code	5	Bubble Numbers
3	Exploded View Link	6	Part Numbers

Exploded View Diagrams and Parts List

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

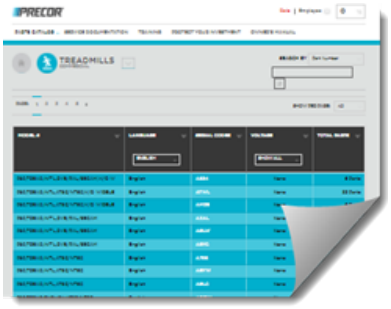
Exploded View Diagram:

- "Exploded View Diagram" on the facing page

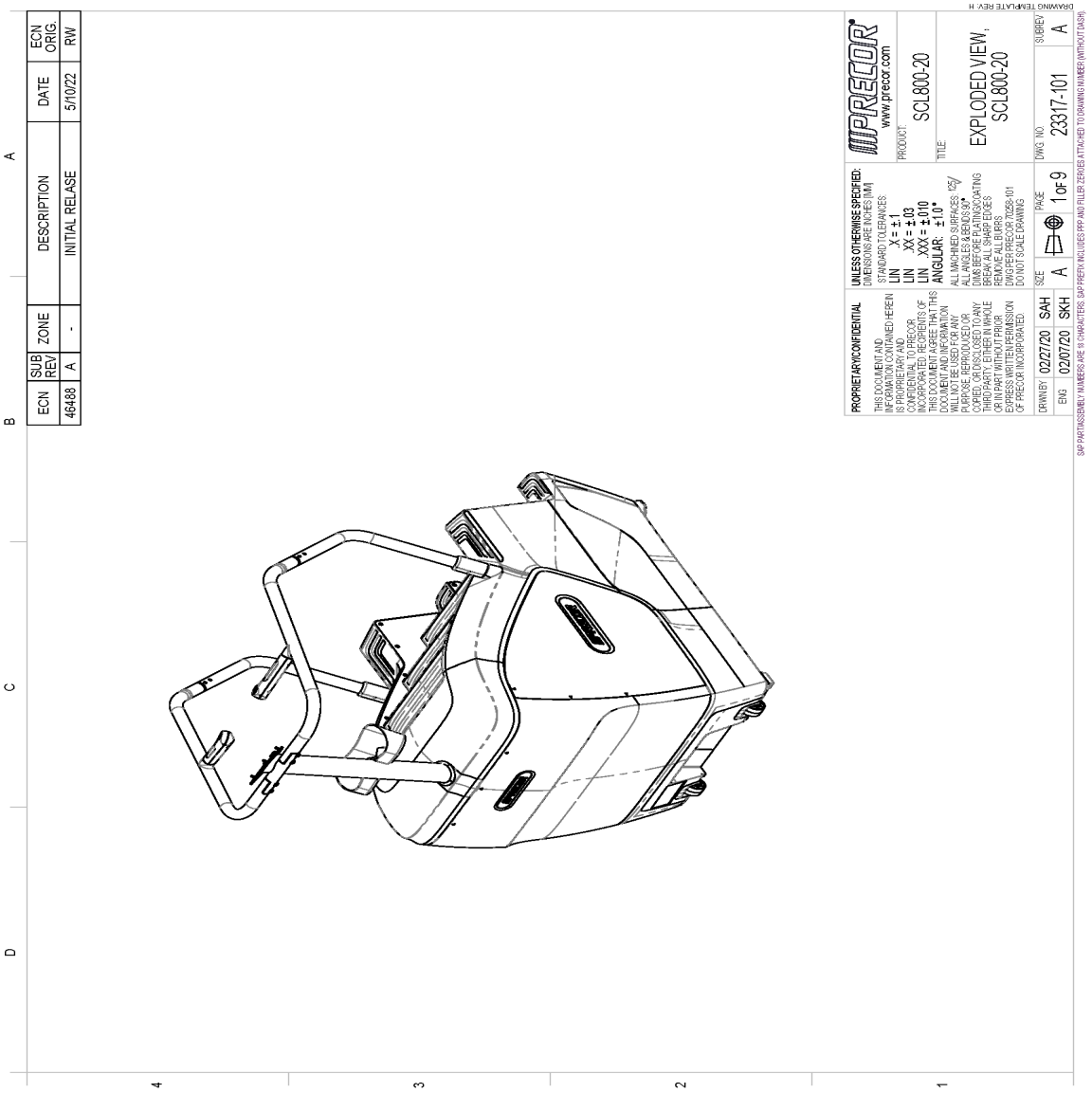


Parts List:

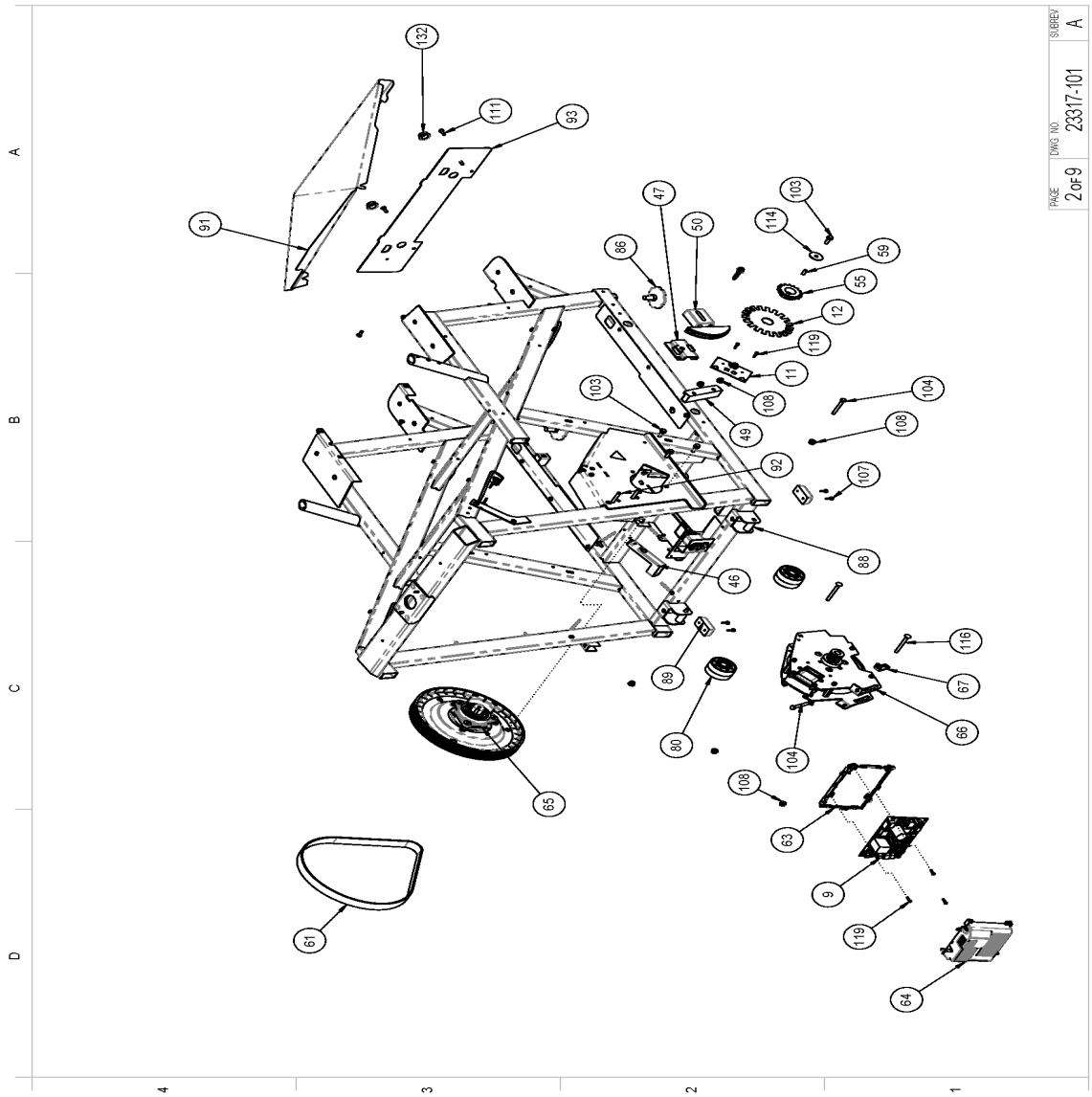
- " Parts List - SCL800" on page 280



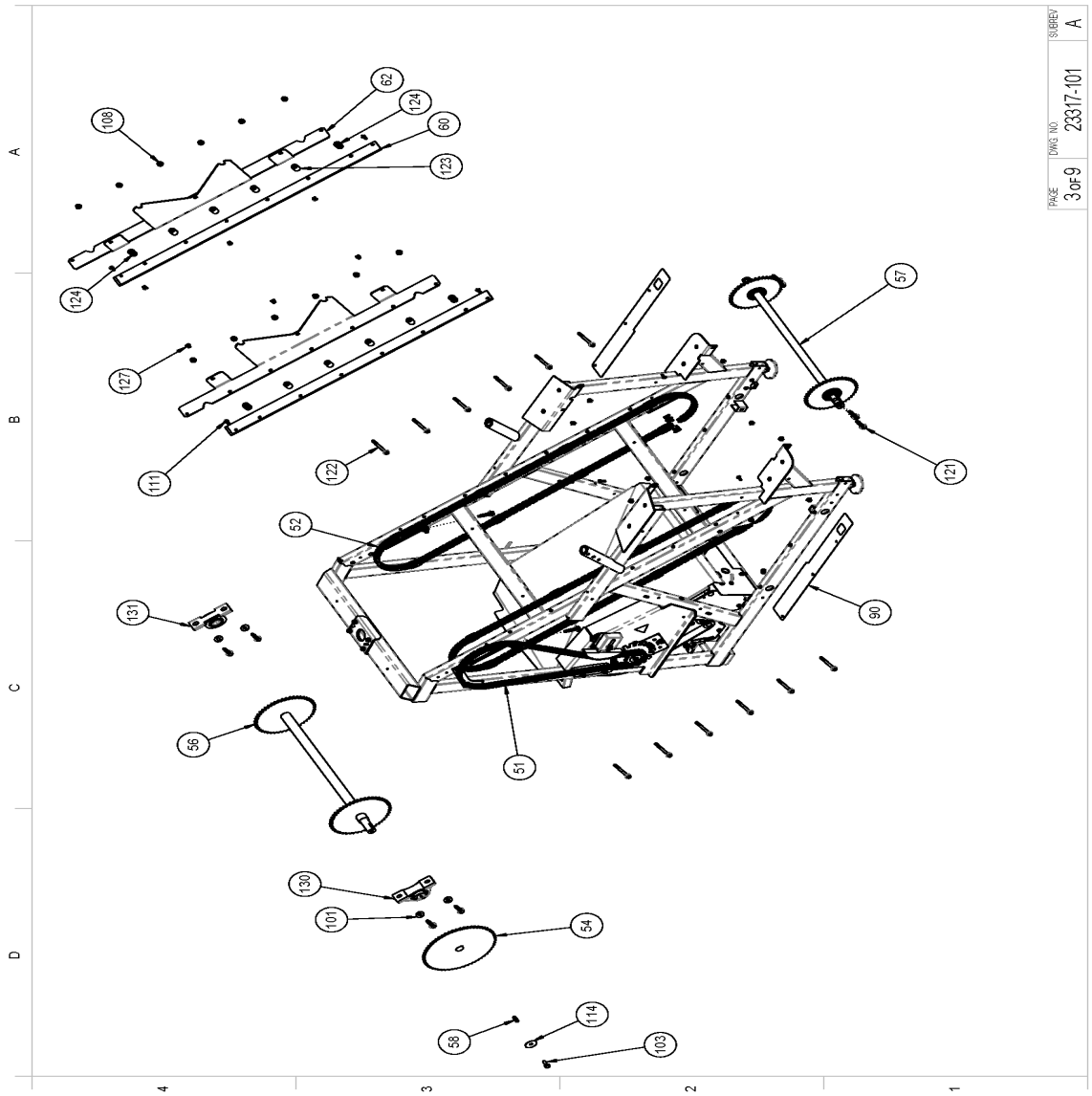
Exploded View Diagram



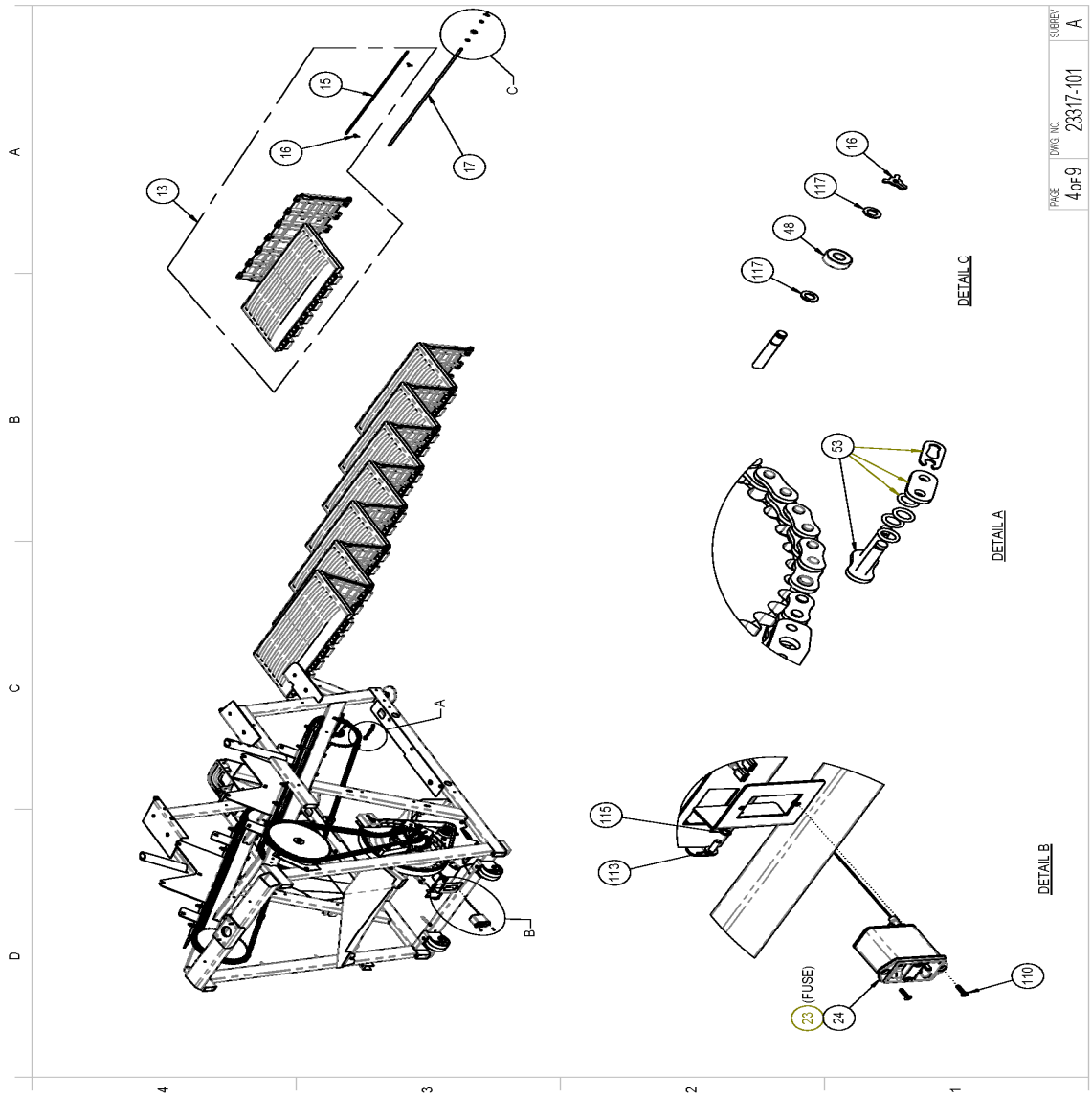
Exploded View Diagram



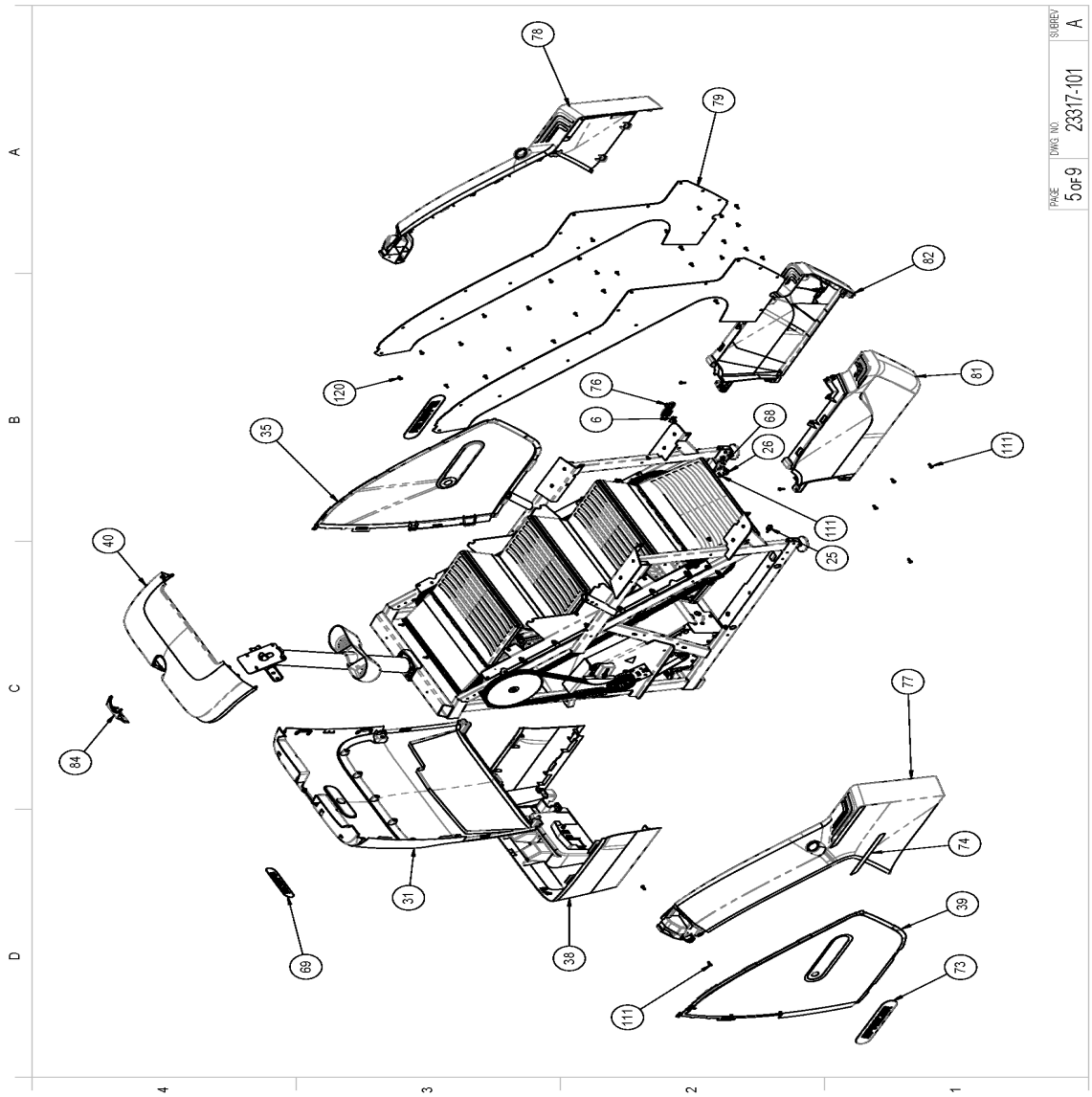
Exploded View Diagram



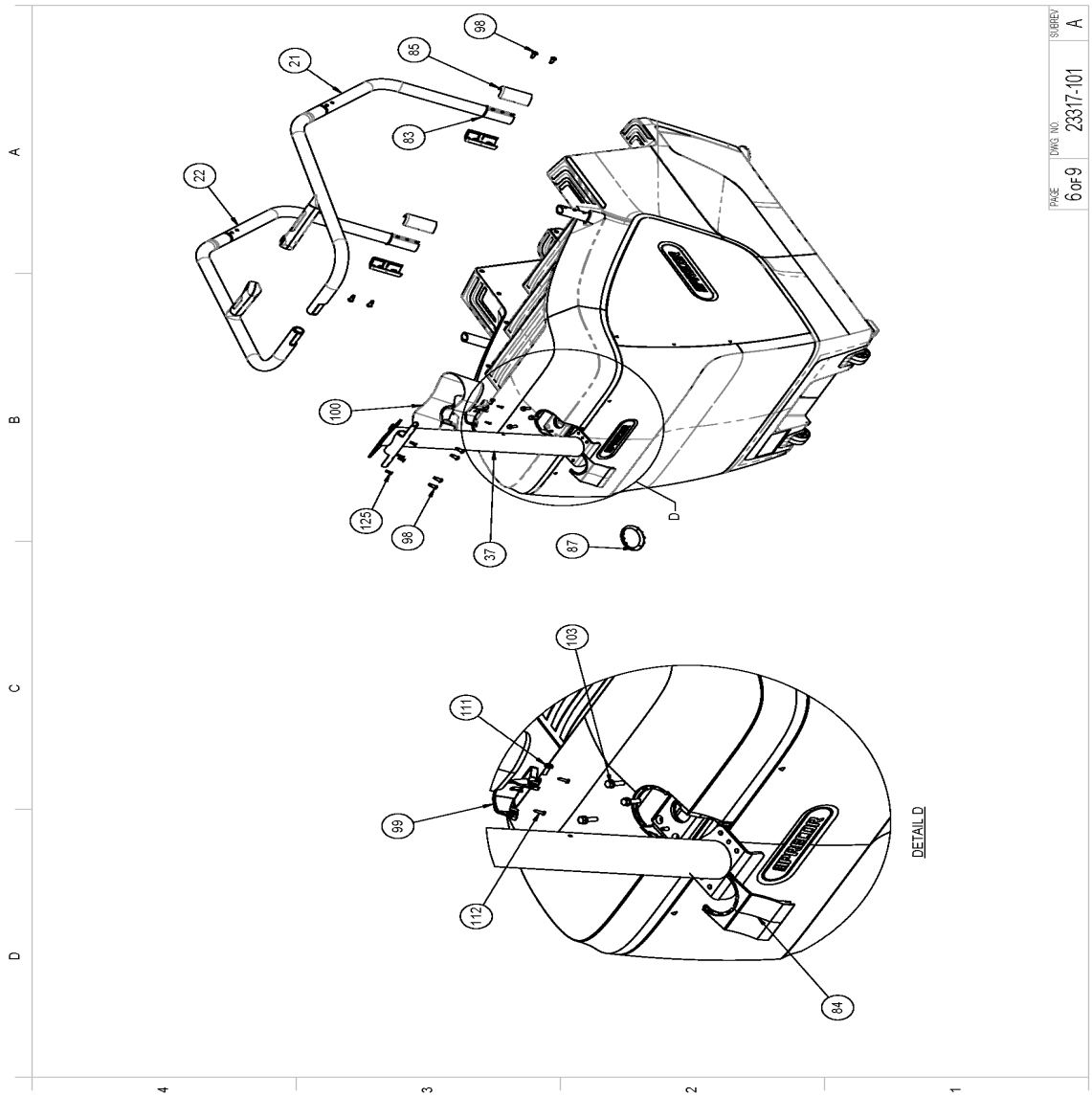
Exploded View Diagram



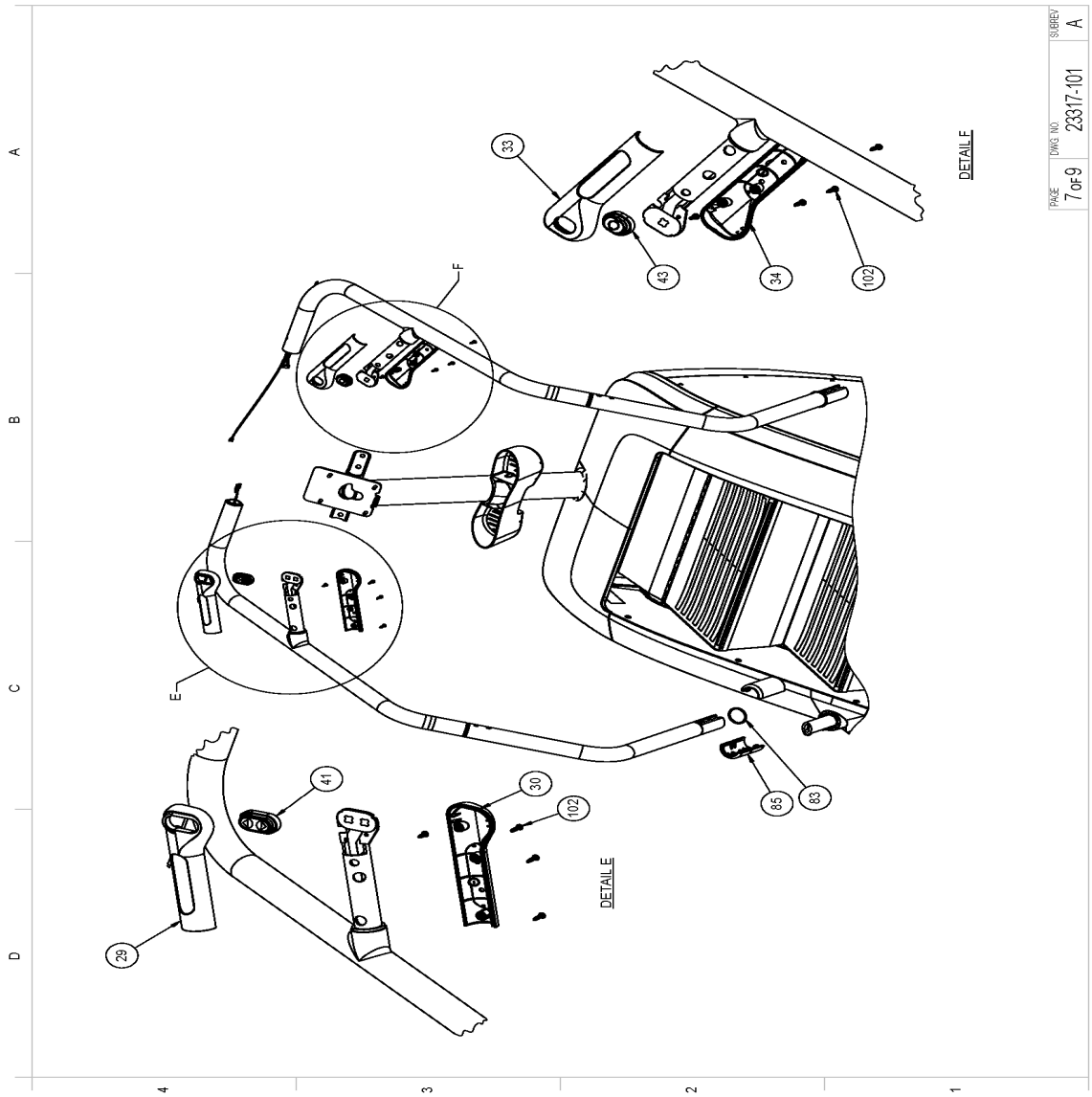
Exploded View Diagram



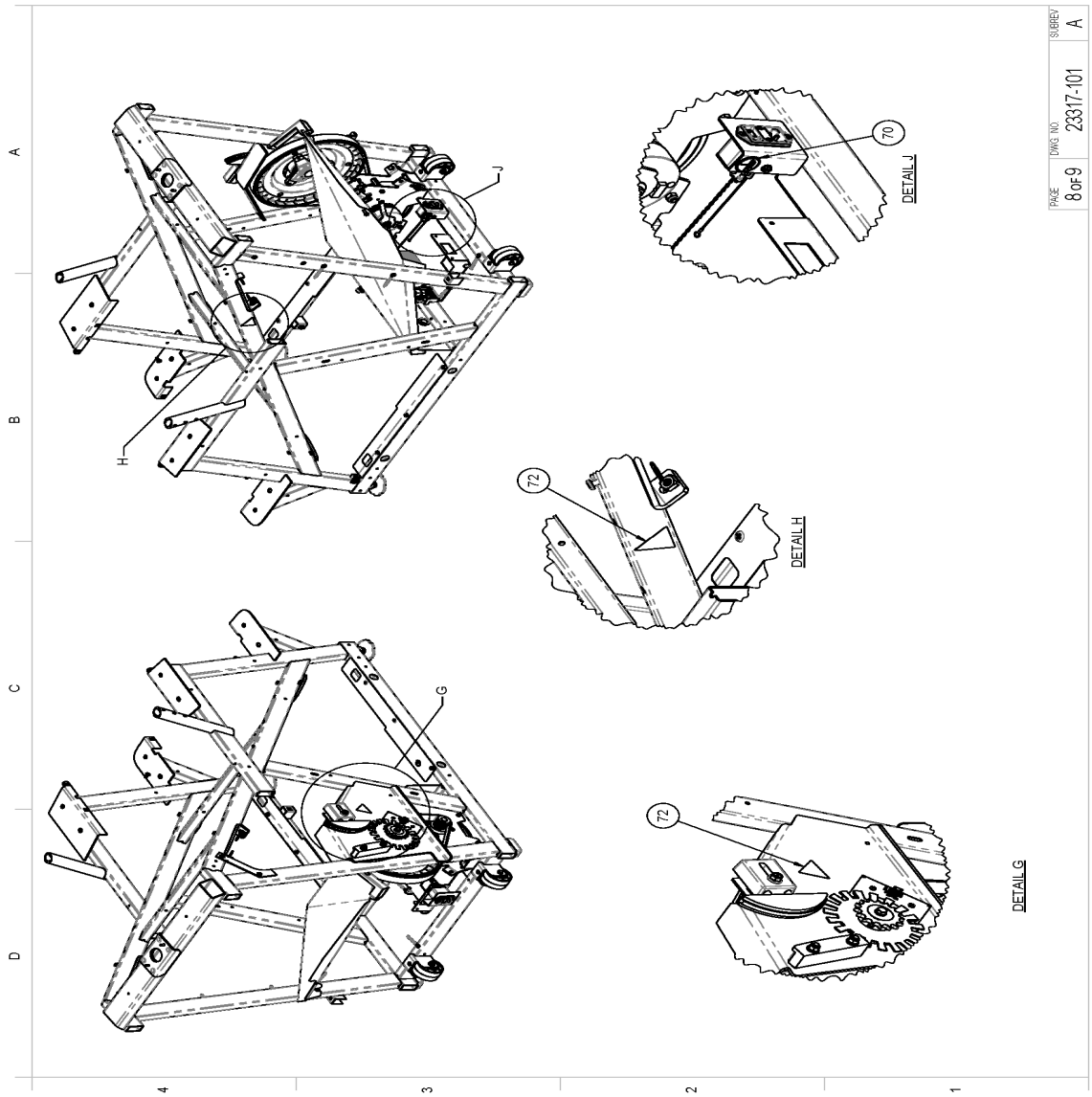
Exploded View Diagram



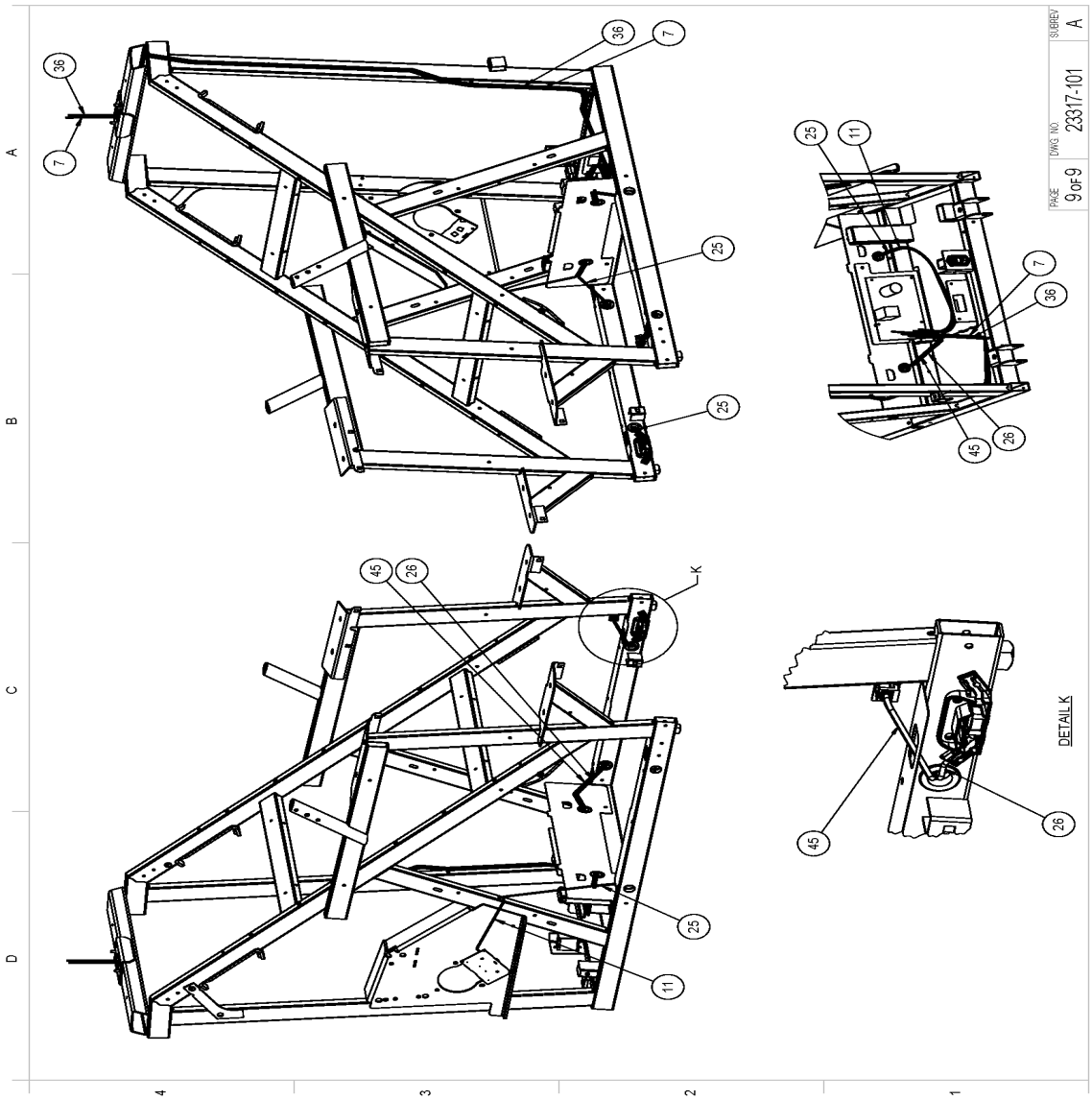
Exploded View Diagram



Exploded View Diagram

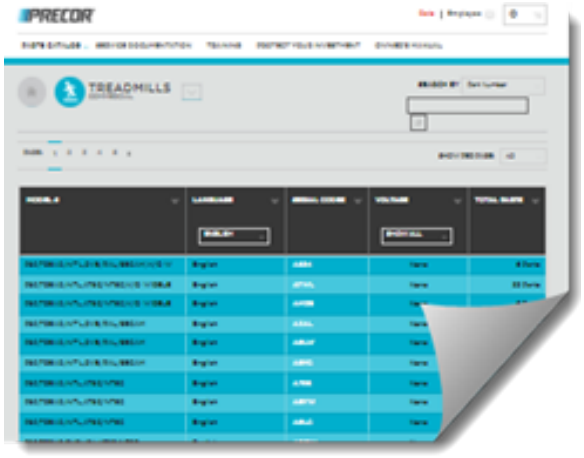


Exploded View Diagram



Parts List - SCL800

Log in to your Precor Connect servicer account to obtain the latest *Part Identification List.*, *see* "Precor Connect Partner's website" on page 267.



Parts List

SCL800-21 AXPN AWBN BOM - All Items

Part Number	Description	Bubble Number/Serial Prefix	
PPP000000304016403	PCA, ACTIVE STATUS LIGHT, SPAM, 4 LED	6	
PPP000000044905114	ASSY,CBL,MOD,8P8C,1-1,SILVER,114"	7	
PPP000000305533103	ASSY,LPCA,HW,SW,SUPER ASSY	9	
PPP000000013675120	POWER CORD,120VAC,10A,NEMA5-15,IEC 60320 C13 LOCKING,120"	10	AXPN, AWBN
PPP000000013676120	POWER CORD,250VAC,16A,CEE 7/7,IEC 60320 C13 LOCKING,120"	10.01	A479, AZFN
PPP000000013677120	POWER CORD,250VAC,13A,BS 1363,IEC 60320 C13 LOCKING,120"	10.02	AKGA, AF39
PPP000000305501408	PCA,SCL,SPEED SENSOR,CLASS III,5V,W/CABLE	11	
PPP000000305735101	SHEET, SPEED SENSE WHEEL	12	
PPP000000305539101	ASSY, STEP SUB	13	
PPP000000305738102	SHAFT, STEP FRONT	15	
PPP000000305739101	RING, RETAINING, EXTERNAL, CRIMP ON	16	
PPP000000305769102	SHAFT, STEP REAR	17	
PPP000000305682101	CHR SENSOR, TOP, SCL	19	
PPP000000305684101	CHR SENSOR, BOTTOM, SCL, LEFT	20	
PPP000000305630101	ASSY, HANDLEBAR, LEFT,BP	21	AXPN, AWBN
PPP000000305630102	ASSY, HANDLEBAR, RIGHT,BP	22	AXPN, AWBN
PPP000000305527200	FUSE, 2A, 250V, SLOW BLOW, 5X20MM	23	
PPP000000306313201	ASSY,PWR ENTRY,2A EMI FILTER,SCREW MT,W/FUSE & SWITCH,100-240VAC	24	
PPP000000305647054	SENSOR,IR,OBSTRUCTION,EMITTER,IP67,54"	25	
PPP000000305648042	SENSOR,IR,OBSTRUCTION,RECEIVER,IP67,42"	26	
PPP000000305684102	CHR SENSOR, BOTTOM, SCL, RIGHT	28	
PPP000000305681102	HHHR GRIP, TOP, LEFT	29	
PPP000000305683102	HHHR GRIP, BOTTOM, LEFT	30	
PPP000000305554101	ASSEMBLY, FORWARD ACCESS, MAIN COVER	31	
PPP000000305687102	HHHR GRIP, TOP, RIGHT	33	
PPP000000305688102	HHHR GRIP, BOTTOM, RIGHT	34	
PPP000000305556101	ASSEMBLY, ACCESS PANEL, RIGHT, MAIN COVER	35	
PPP000000305516120	ASSY,CBL,3C.1 CTR,.1 CTR,JSTXH,3X2MINI,SN,120"	36	
PPP000PBP305620101	WELDMENT, DISPLAY MAST, SCL, BP	37	AXPN
PPP000PGG305620101	WELDMENT, DISPLAY MAST, SCL, STORM GRAY	37	AWBN
PPP000000305562101	ASSY, BASE, MAIN COVER	38	
PPP000000305555101	ASSEMBLY, ACCESS PANEL, LEFT, MAIN COVER	39	
PPP000000305560101	ASSY, TOP COVER	40	
PPP000000305685101	BUTTON, UP/DOWN	41	
PPP000000305686101	BUTTON TOP, UP/DOWN	42	
PPP000000305689101	BUTTON, STOP	43	
PPP000000305692101	BUTTON TOP, STOP	44	
PPP000000304128042	ASSY,CBL,MOD,6P6C,1-1,42"	45	
PPP000000305785101	TUBE, DRIP SHIELD SUPPORT, PAINTED	46	
PPP000000305905103	BRACKET, SLIDING TENSIONER, PAINTED	47	
PPP000000013291111	BEARING, BALL, 608 MC3	48	
PPP000000305781101	CHAIN GUIDE	49	
PPP000000305736102	CHAIN TENSIONER [FENNER CT1102]	50	
PPP000000305749101	CHAIN, DRIVE	51	
PPP000000305741101	CHAIN, STEP	52	
PPP000000305742101	CHAIN, 428 MASTER LINK	53	
PPP000000305775101	SPROCKET, DRIVE	54	
PPP000000305734101	SPROCKET, INTERMEDIATE	55	
PPP000000305743101	WELDMENT, PRIMARY AXLE, PAINTED	56	
PPP000000305782101	ASSY, TAKE-UP	57	
PPP000000305762101	KEY, PRIMARY SPROCKET	58	
PPP000000305763101	KEY, INTERMEDIATE SPROCKET	59	
PPP000000305752101	PLATE, LOWER BEARING RAIL	60	
PPP000000010217148	BELT, DRIVE, 470J12 POLY V	61	

Parts List

6/15/22, 8:19 PM SCL800-21 AXPN AWBN BOM - All Items

Part Number	Description		Bubble Number	Serial Prefix	
	PPP000000305729102	SHEET, UPPER BEARING RAIL,PAINTED		62	
	PPP000000305498101	LPCA MOUNTING PLATE		63	
	PPP000000305499101	LPCA COVER		64	
	PPP000000305730101	ASSY, INTERMEDIATE		65	
	PPP000000305666101	ASSY, SCL BRAKE		66	
	PPP000000305766101	TENSIONER, BRAKE, PAINTED		67	
	PPP000000305564104	MOUNT, OBS SENSOR, FRAME		68	
	PPP000000300678101	LABEL, HOOD, ALUMINUM, NEW LOGO		69	
	PPP000000033984101	LABEL, SAFETY, GROUND SYMBOL		70	
	PPP000000305601101	LABEL, REGULATORY, SCL800		71	
	PPP000000047545101	LABEL, CAUTION PINCH POINTS		72	
	PPP000000305691101	LABEL, ALUMINUM, SCL		73	
	PPP000000305538103	LABEL, LED BLUE ACCENT, SCL800, LEFT		74	AWBN
	PPP000000305538104	LABEL, LED BLUE ACCENT, SCL800, RIGHT		75	AWBN
	PPP000000305557101	MOUNT, ASL, STAIRCLIMBER		76	
	PPP000000305545101	CHAIN RAIL, LEFT, MAIN COVER		77	
	PPP000000305546101	CHAIN RAIL, RIGHT, MAIN COVER		78	
	PPP000000305549102	INNER PANEL, MAIN COVER		79	
	PPP000000044270101	WHEEL, LIFT		80	
	PPP000000305544101	STEP COVER, LEFT		81	
	PPP000000305559101	ASSY, STEP COVER, RIGHT W/ ASL MOUNT		82	
	PPP000000305638101	O-RING, 41.7MM X 3.5MM, NBR		83	
	PPP000000305553101	GASKET SUPPORT, MAIN COVER		84	
	PPP000000305561101	CAP, LOWER HANDLEBAR		85	
	PPP000000303093102	FOOT,ADJUSTING,NO LOGO,WITH LOCK NUT, 1/2IN		86	
	PPP000000303412101	GASKET, NECK		87	
	PPP000000305758101	BUSHING, SPANNER, 5/16 ID		88	
	PPP000000031074105	FOOT, FIXED, BLACK		89	
	PPP000000305676101	SHEET, GREASE SHIELD		90	
	PPP000000305784101	SHEET, DRIP SHIELD		91	
	PPP000000305786101	SHEET, STUD, PAINTED		92	
	PPP000000305783101	SHEET, BULKHEAD, PAINTED		93	
	PPP00000THTE038056	SCREW,BHCS,3/8-16 X 9/16,STL,BLACK SHARP, MATHREAD, 180 DEG PATCH		98	AXPN, AWBN
	PPP000000305625101	BRKT,BOTTLE HLDR,SCL,TUNGSTEN		99	AXPN, AWBN
	PPP000000300638102	BOTTLE HOLDER,UPRIGHT,TUNGSTEN		100	AXPN, AWBN
	PPP00CWWAACN038006	WASHER, FLAT, TYPE B, 3/8 ID X 1 IN OD, CLEAR ZINC		101	
	PPP000000013450068	SCREW,SELF-TAP,TRI,TORX,#8 X .688,PLASTITE,STAINLESS,BLK OXID		102	
	PPP0000HAECE031100	HHCS,5/16-18 X 1.00,SEMS NARROW WASHER,NYLOCK,GR5 STL,CLR ZN		103	
	PPP00000HJCN031250	HHCS,5/16-18 X 2.50,FULLTHREAD,GR2 STL,CLR ZN		104	
	PPP00000PKCN019075	SCREW,SELF-TAP,WASHER HD HEX,#10 X .75,TEK,STL,CLR ZN		107	
	PPP0000KBTCN031038	NUT,5/16-18,HEX FLANGE,NYLON INSERT,GR5 STL,CLR ZN		108	
	PPP0000MAKCN003012	SCREW,FLAT HD HEX DRIVE,M3 X 12,STL,ZN		110	
	PPP0000PANTN025075	SCREW,SELF-TAP,TRI,PAN HD PHIL,1/4-20 X .75,STL,BLK SHRP		111	
	PPP00000PBCN016063	SCREW,SELF-TAP,TYPAB,PAN HD PHIL,#8 X .625,STL,CLR ZN		112	
	PPP0000PBJCG019050	SCREW,SELF-TAP,TYPF,WASHER HD HEX/SLOT,10-24 X .05,STL,CLR ZN,GRN		113	
	PPP0000WABCN031006	WASHER,FENDER,5/16,STL,CLR ZN		114	
	PPP0000WAMCN019002	WASHER,EXTERNAL TOOTH LOCK,#10,STL,CLR ZN		115	
	PPP00000BACN031300	BOLT,CARRIAGE,5/16-18 X 3.00,GR5 STL,CLR ZN		116	
	PPP000000305883101	WASHER, FLAT, .328X.562X.042, ZN		117	
	PPP00000MGCN016075	SCREW,PAN HD PHIL,8-32 X .75,STL,CLR ZN		119	
	PPP000000013687102	SCREW, INNER PANEL		120	
	PPP000000013665150	HFS,3/8-16X1.50,GR5,ZN,MPOINT,PATCH		121	
	PPP000000013666400	HFS, 5/16-18 X 4.00, GR8, ZN		122	
	PPP000000305753101	SPACER, GUIDE RAIL		123	
	PPP000000305756101	SPACER, GUIDE RAIL, TALL		124	

Parts List

SCL800-21 AXPN AWBN BOM - All Items

Part Number	Description	Bubble Number
PPP0000MACCN025062	SCREW,FLAT HD SOCKET CAP,1/4-20 X .625,STL,CLR ZN	125
PPP000000013217101	WIRE CLAMP, .25 INCH FASTENER, METAL WRAP STYLE	126
PPP000000013222103	SQUARE PLASTI-GROMMET, #10 IN FSTNR, .328 SQ X .032-.234 THK	127
PPP000000010123102	CABLE TIE, 3-7/8 LONG,WHITE,NYL	128
PPP000000013682101	BEARING,BALL,PILLOW BLOCK, 25MM ID	130
PPP000000013682102	BEARING,BALL,PILLOW BLOCK, .875" ID	131
PPP000000010178107	BUSHING, SNAP, 1"OD X .75"ID	132
PPP000000305611101	HARDWARE KIT, FASTENERS, SCL800	251
PPP000000305612101	HARDWARE KIT, PLASTICS, SCL800	252
PPP000000305603101	SCL800 LITERATURE KIT	999

Appendix A : Edition Information

Edition

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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.