Service Manual

Energy Series Treadmill

TRM 223

TRM243

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About This Document

Manual Part Number 20081-118 rev 04

Warning: This service manual is for use by Precor trained service providers only. If you are not a Precor certified servicer, you should not attempt to service any Precor products. Call your dealer for service.

This document contains information required to perform the majority of troubleshooting, and replacement procedures required to repair and maintain the following TRM 200-14 series treadmill configurations:

Model	Base	Console
TRM 243	TRM 200-14	R40
TRM 223	TRM 200-14	R20

TRM223

TRM 243

This document does not provide service information for the R20 and R40 consoles. For console service information, refer to the respective R20 or R40 service manuals.

Note: For console service information, refer to the respective R20 or R40 console service manual.

Consoles

R20 console

R40 console

General Information

Service Calls

Before calling the Precor service center for troubleshooting assistance, gather and record the following information.

- Model and serial number. Provide the model number as accessed in Procedure 2.2.
- Upper and Lower program version running when the problem occurred
- A description of event circumstances:
    - What happened or failed to happen.
    - The action taken by the user just before the problem occurred.
    - Problem-related information (such as how far into the program the problem occurred, the work level being used when the problem occurred, etc.).
- The frequency of occurrence.

Contact Information

Precor Incorporated
20031 142nd Ave. NE
P.O.Box 7202
Woodinville, WA. 98072-4002
1-800-347-4404

Lubricants

Use only synthetic lubricants such as Mobil 1® synthetic or SuperLube® with Teflon® grease. Use of unapproved lubricants, cleaners, or solvents may void the TRM warranty.

- Mobil 1, NLGI 2 Teflon Synthetic Grease
- Super Lube Gel with Teflon by Permatex

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

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).

Power Requirements

Input Power Requirements

U.S. 120 V Units: 120v, 60 Hz, 15A Dedicated branch circuit

.Facility Input Power Requirements

Each treadmill must be connected to a dedicated, grounded circuit. A 15 amp dedicated circuit is required, but a 20 amp dedicated circuit is recommended. The power outlet must have the same configuration as the plug. No adapter should be used with this product.

Grounding Instructions

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

Operation Verification Test

The Operation Verify Test procedure is used to verify normal operation of the machine. Perform these operation verification tests at the end of a maintenance procedure or any time it is necessary to ensure that the treadmill is operating properly.

Note: This procedure cannot be performed when there is an active fatal error code. Repair and reset any fatal error code condition before performing this procedure.

Procedure

1. Plug in the power cord and set the treadmill ON/OFF breaker switch to ON.
2. Verify successful power up.
   A successful power up will open to the default Welcome screen.

Note: If the console powers up showing an error code, cycle power to reset the Error Code. If the error code cannot be cleared, you will need to resolve the error before continuing with this operation verification tests

Note: If this is the initial power up, the console will open to the console setup screen. Follow prompts to set up and configure the console (refer to the Owner's manual).

3. Verify that there are no active Error Codes.
   a. First fix any error codes that are shown at power up.
   b. Then open the Error Log (refer to the *Error Log* section) and make sure that there are no active error codes. Resolve any active error codes and clear the Error Log before continuing.
4. Access the Diagnostics service menu (51765761) and perform the following Hardware Validation system tests the R20 or R40 console (refer to the Standard Service and Diagnostics *Software* "*Performing System Tests*" section):

5. R40 Console: Perform the following R40 diagnostic tests:
   - Use the UP/DOWN arrow softkeys to scroll and browse tests.
   - Press the Test softkey to start a test and then follow prompts to run the test.
   - Press the Home softkey to exit the Diagnostics menu.

Test	Description
Display GUI/Metric Test	Backlight brightness is varied and cycles thru numbers.
Key Test	Tests the function keys.
Heart Rate Test	Test the heart rate and SmartRate functions, the heart rate is acquired and shown.
Belt Speed Test	Select the **SPEED** control to vary the running belt speed from 0.5 mph to 12.0 mph in 0.1 increments.
Incline Test	Select the INCLINE control to raise and lower the deck. The incline A/D value is shown and verified at the following incline settings: • 37 ±5 @ 0% incline

	• 120 ±5 @ 5.5 % incline • 242 ±5 @15% incline

6. R20 Console: R20 Console: Perform the following R40 diagnostic tests:
   - Use the **left/right arrow** hardkeys to scroll and browse the test menu.
   - Press **GO** to start a test.
   - Use the **WORKOUTS** key as a BACK key to exit a test.

Test	Description
Heart Rate Test	Test the heart rate and SmartRate functions, the heart rate is acquired and shown.
Beeper Test	Test the beeper sound.
Keypad Test	A map of the User keypad and Machine controls are shown on the upper text window. Press a key and the corresponding LCD key light will turn off. To exit, press and hold the **WORKOUTS** key.
LCD Test	Cycles thru all the different functional areas of the LCD upper text window and control indicators.
Machine Tests:	Performs tests to verify the Speed and Incline operation.
• **Belt Test**	The Belt test uses the **SPEED** controls and running belt operation.
• **Incline Test**	The Incline test uses the **INCLINE** controls to verify ramp operation at 0.5 % increments.
Stop Key Test	Tests the press **STOP** key and the pull lanyard to remove **STOP** key functions: Both stop key operations will immediately slow and stop the running belt. Follow prompts to complete test.

7. From the **Home** screen, press the "**QuickStart**" softkey and verify **SPEED** and **INCLINE** operation:
   a. Adjust the **SPEED** from minimum to maximum range. Verify the belt operation is normal (smooth, no unusual noises, etc.) and that the tracking remains centered. Make sure the **SPEED** indicator is correctly displaying the belt speed. Reset the speed to 0 mph (kph).
   b. Adjust the **INCLINE** from minimum to maximum range. Verify the ramp incline operation s normal (smooth, no glitches) and that the console **INCLINE** indicator is displaying the correct incline level. Reset the incline level to 0 %.
8. Press **QuickStart** to start the belt, then press the **STOP** button. Verify that the running belt immediately slows and stops.
9. Press **QuickStart** to start the belt, then use the Lanyard to pull the **STOP** button off the STOP switch assembly. Verify that the running belt immediately slows and stops.
10. Go to the **ERROR LOG** and verify that no new error code events have occurred during these tests (refer to the Error Log section). Resolve any new error codes and repeat the *Operation Verification* procedure.

Standard Service and Diagnostics Software

Service Access Codes

Service Menu	Description	Access Code
Hardware Validation Diagnostics	Set of system diagnostic tests that verify proper operation of console and base functionality. Useful for troubleshooting and resolving problems.	**51765761** (536**)
Information Display	Provides 1) Information page; provides product software/hardware version and equipment usage information and 2) Display Error Log; provides history of event error codes and diagnostics used for maintenance and troubleshooting.	**65**
My Settings*	Specify treadmill security, configuration, and maximum machine parameter limits.	**5671*** **
Demo mode* **	Demo mode program used to demonstrate the machine features... **Note**: Demo mode cycles through the Workout screens, shows the media control icons, and disables the softkey menus. To stop demo mode, press and hold the bottom right softkey for 5-8 seconds to open the Demo Settings screen. Select "**Turn demo OFF**" softkey and then select **Save** to disable Demo mode.	**5555****
Note: * **R20 Console only** ** **R40 Console only.**		

How to Access the Service and Diagnostic Menus

R40 Console: How to access the service and diagnostic menus

1. Go to the console default **Home** page.
2. Select the **Settings** softkey.

3. Simultaneously touch/release the **My Settings** (top right) and **Edit** (bottom right) softkeys.

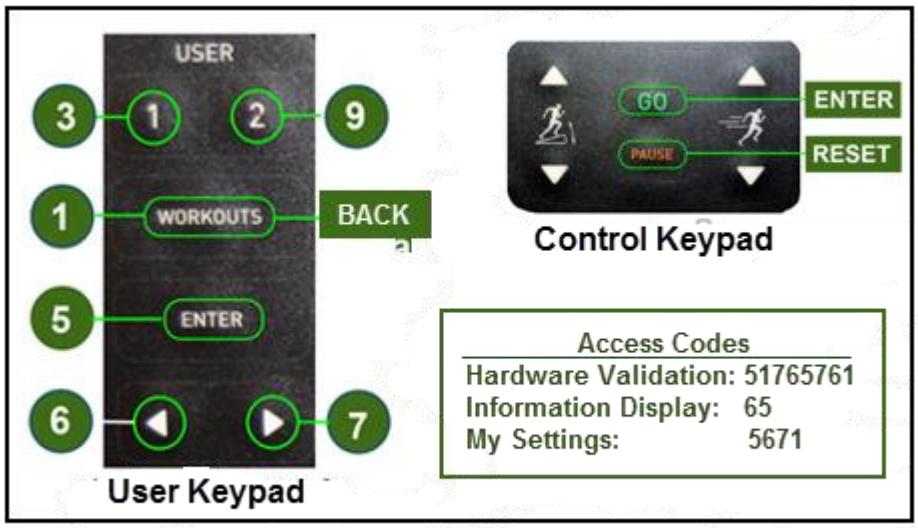
Note: The My Settings softkey may be blank, however it remains an active softkey. Simultaneously select the TOP and Bottom right side softkeys to access the System Settings page.

4. Use the numbered softkeys to type in the Service Software Access Code:

5. Select **Next**.to access the **Service software**.

R20 Console: How to access the service and diagnostic menus

1. Press/Release **PAUSE** and quickly type in the *access code* using the User Keypad.



R20 Console Service Access keypad functions

- Use the Left and Right arrow keys to browse and scroll menus
- Select the **GO** key (ENTER) to select or start a menu item.

- Select **WORKOUTS** (BACK) to return to the previous menu item.
- Select **PAUSE** to exit Service Software.

Hardware Validation Diagnostic Tests (51765761)

Hardware Validation service software provides a set of system tests used to verify proper operation of the console and base hardware. System tests can also be used to troubleshoot and resolve problem issues.

R40 Console Hardware Validation Diagnostic Tests:

System Test	Console	Description
Display GUI/Metric Test	R40	Backlight brightness is varied and cycles thru numbers.
Key Test	R40	Tests the function keys.
Heart Rate Test	R40	Test the heart rate and SmartRate functions, the heart rate is acquired and shown.
Belt Speed Test	R40	Select the **SPEED** control to vary the running belt speed from 0.5 mph to 12.0 mph in 0.1 increments.
Incline Test	R40	Select the INCLINE control to raise and lower the deck. The incline A/D value is shown and verified at the following incline settings: • 37 ± 5 @ 0% incline • 120 ± 5 @ 5.5 % incline • 242 ± 5 @15% incline

R20 Console Hardware Validation Diagnostic Tests:

System Test	Console	Description
Heart Rate Test	R20	Test the heart rate and SmartRate functions, the heart rate is acquired and shown.
Beeper Test	R20	Test the beeper sound.
Keypad Test	R20	A map of the User keypad and Machine controls are shown on the upper text window. Press a key and the corresponding LCD key light will turn off. To exit, press and hold the **WORKOUTS** key.
LCD Test	R20	Cycles thru all the different functional areas of the LCD upper text window and control indicators.
Machine Tests:	R20	Performs tests to verify the Speed and Incline operation.
• **Belt Test**		The Belt test uses the **SPEED** controls and running belt operation.
• **Incline Test**		The Incline test uses the **INCLINE** controls to verify ramp operation at 0.5 % increments.

Stop Key Test	R20	Tests the press **STOP** key and the pull lanyard to remove **STOP** key functions: Both stop key operations will immediately slow and stop the running belt. Follow prompts to complete test.

Information Display (Access Code 65)

R40 console: Information Display

The R40 Information Display provides the software versions, machine usage information, and the Error Log:

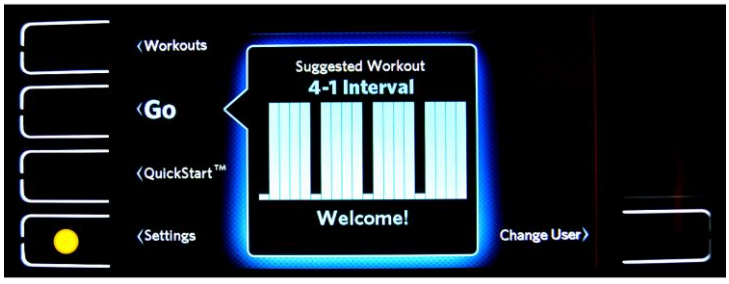
- SW Release PN
- Hardware Version
- Usage (hours :: minutes)
- Odometer (Miles)
- Console S/N
- LPCA Version
- uPA Boot Version
- CPA Boot Version
- CPA Current Version
- CPA Restore Version
- GUI Current Version
- GUI Restore Version
- Error Log

How to access the Information Display:

The Information and Error Log can be accessed by one of two methods: 1) the **Information** menu or 2) the Information service software (Access Code “65”)

Accessing the Information Display and Error Log:

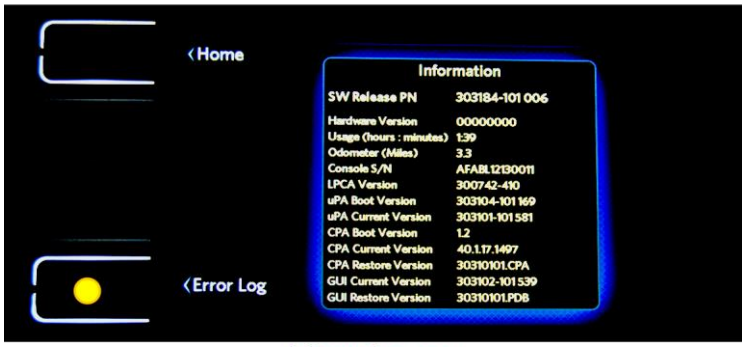
1. From the **Home** page select the **Settings** softkey.



R40 Console Home page

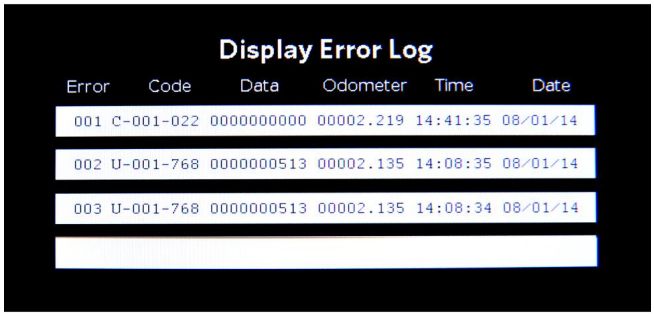
2. Select the Information softkey to open the Information page.

3. Select Error Log to open the Display Error Log page



Information page

Error Log



R20 console: Information Display (65)

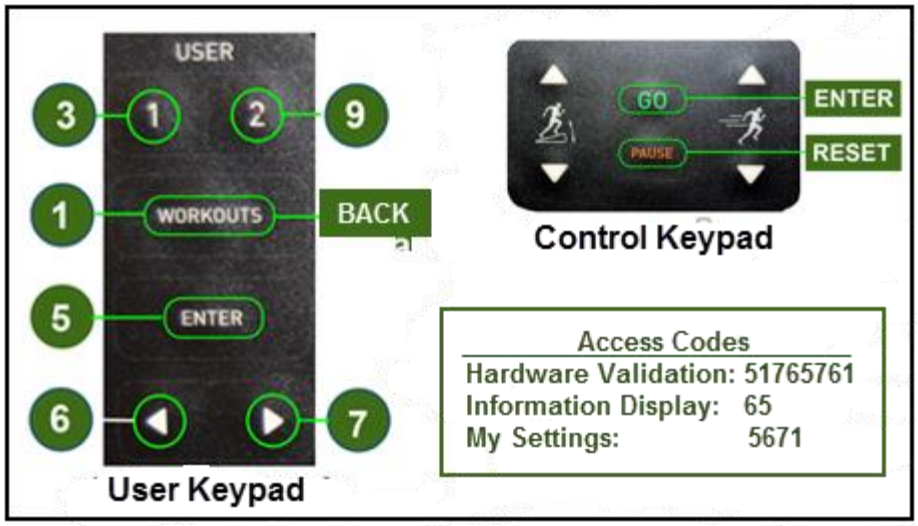
The R20 Information Display provides the software versions, machine usage information, and the Error Log:

- ODOMETER (total number of miles)
- HOUR METER (total machine use hours)
- UPPER SOFTWARE (upper software version)
- LOWER SOFTWARE (lower software version)
- USAGE LOG
    - MANUAL USED (number of manual workouts)
    - TIMES (number of times the machine was powered ON)
    - TOTAL MINUTES (total minutes the machine was used)

- ERROR LOG (list of all logged error codes, see Error Log)

How to access the R20 Information Display (65):

1. Press/Release **PAUSE** and quickly type in the *access code* “65” using the User Keypad.



R20 Console Service Access keypad functions

- Use the Left and Right arrow keys to browse and scroll menus
- Select the **GO** key (ENTER) to select or start a menu item.
- Select **WORKOUTS** (BACK) to return to the previous menu item.
- Select **PAUSE** to exit Service Software.

Adjustment Procedures

Calibrating the Lift Motor

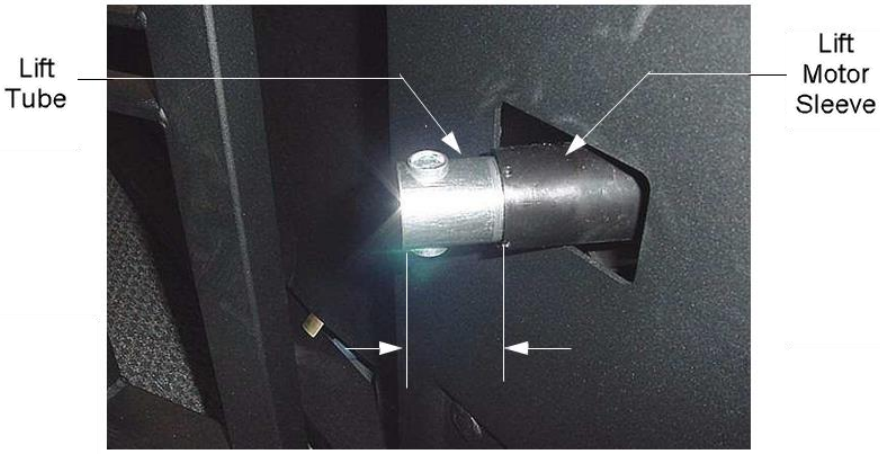
Note: This calibration procedure must be performed whenever the lift motor has been replaced or the lift calibration has been disturbed.

Video: TRM 200 Lift Motor Calibration

1. Switch the power “OFF”.
2. Carefully rotate the treadmill onto the left side.
3. Use two 17 mm wrenches and remove the bolt that fastens the lift tube to the lift platform. Then swing the lift platform away from the lift motor - lift tube. Retain bolt and nut for installation.
4. Keep hands away from the lift motor mechanism and switch the power “ON”. If the lift motor incline is not positioned at the default 0% incline position, the lift motor will start and return to the default 0% incline position.
5. Access the service mode (51765761) MACHINE TEST “INCLINE TEST”. Adjust the incline to 0% and 15% and verify the A/D number per the following table. Return the INCLINE to 0%

Incline Level	A/D
0%	50 +/- 2
15%	200 +/-2

6. Make sure the INCLINE is set to 0%. Then verify the lift tube calibration distance (distance from the end of the lift tube to the lift tube sleeve) is 1-9/16 inches. Rotate the lift tube as needed to adjust the lift tube to the specified calibration distance.



7. Reattach the lift tube to the lift platform and secure using the removed 17 mm bolt and 17 mm nut.
8. Switch the power OFF and return the treadmill to the upright position.

9. Switch the power ON. Then start a manual program and operate the incline several times from the minimum to maximum incline levels. Verify that the incline is operating normally.

10. Verify operation and return to service, see “Operation Verification Test” procedure.

Drive Belt Tension Adjustment

1. Set the treadmill circuit breaker in the “OFF” position and unplug the line cord from the wall outlet.

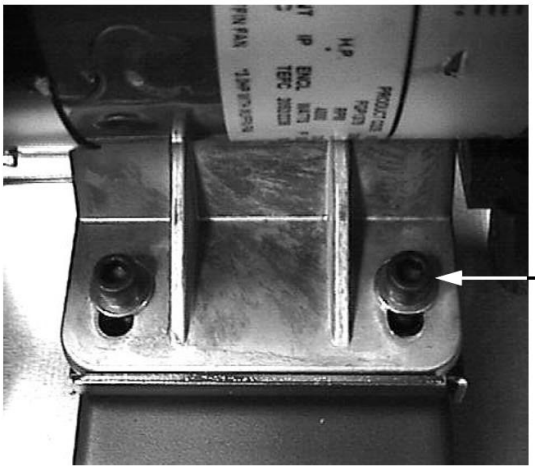
2. Remove the hood.

3. Place the drive belt tension gauge on the drive belt.

4. The gauge should read approximately 80 pounds. The drive belt tension is acceptable if it is in the range of 70 to 90 pounds.

5. If the drive belt tension is less than 70 or greater than 90 pounds, slightly loosen the four drive motor mounting bolts. The drive motor mounts on slotted holes allowing the drive motor to be move forward or rearward. Move the drive motor forward or rearwards, as required, until the belt gauge reads approximately 80 inch/pounds and tighten the four drive motor mounting bolts. See Diagram 4.3. Momentarily remove the drive belt tension gauge from the drive belt. Replace the drive belt tension gauge on the drive belt and re-adjust the drive belt tension, if necessary. Torque the four drive motor mounting bolts to 180 inch pounds.

6. Re-install the hood.



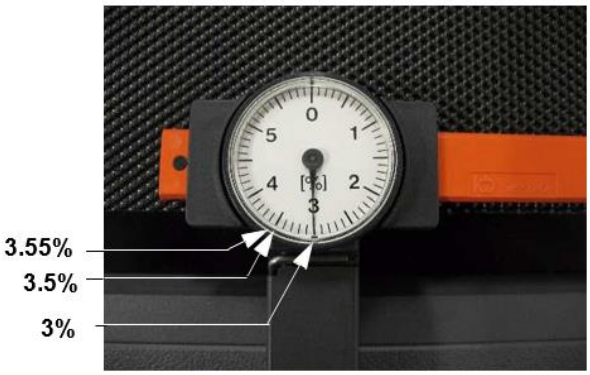
7. Plug the line cord into the wall outlet and set the treadmill circuit breaker in the “ON” position.

8. Check treadmill operation.

Running Belt Tension Adjustment

This procedure needs to be accomplished any time the Drive roller or Take up roller are removed or replaced.

1. Place two running belt gauges on each side of the running belt, being sure that the gauges are not across a belt seam. Set the gauges to the 3% mark as shown in the Illustration below



2. Alternate tightening the two take up roller mounting bolts, in order to tighten both ends evenly, until both running belt gauges again read exactly 3.5% on consumer treadmills or 3.55% on commercial treadmills.

3. When both gauges again read 3.5 or 3.55% the belt is at its original tension. It will now be necessary to touch up the running belt tracking

4. Remove both belt gauges from the running belt.

5. Start the treadmill and operate it at 2 mph. Observe the running belt. If the belt drifts away from its centered position re-track it by adjusting the take up roller mounting bolts.

6. If the belt drifts to the right, slowly turn the right hand mounting bolt clockwise until the drifting stops. If the belt drifts to the left, slowly turn the right hand mounting bolt counter-clockwise until the drifting stops. Only a very small adjustment should be required, 1/8 to 1/4 turn.

7. Increase the treadmill speed to 4 mph. if the belt drifts away from center, touch up the tracking as described above.

8. Increase the treadmill speed to 8 mph., if the belt drifts away from center, track it as described above

9. Increase the treadmill speed to maximum, if the belt drifts away from center, track it as described above

10. Set the treadmill at a comfortable running speed and run on the treadmill for a couple of minutes and note the running belt tracking. If required track it as described above.

11. If applicable, replace the finger guard removed in step 2.

12. Replace the end caps and motor cover removed in step 1.

Replacement Procedures

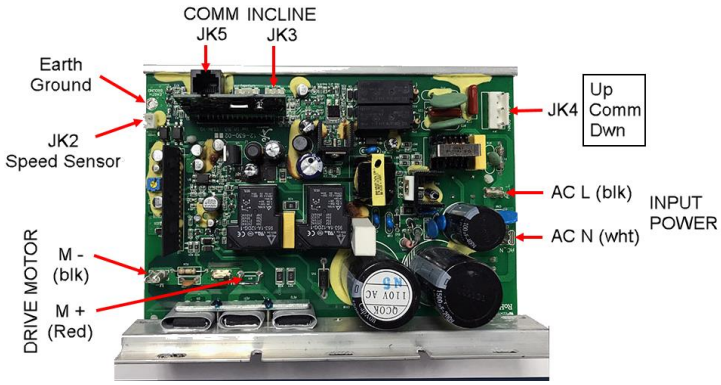
Replacing the Lift Motor

Video: TRM 200 Lift Motor Replacement

Procedure

Removal Instructions

1. Set the ON/OFF switch to “OFF” and remove the AC power cord from the AC outlet.
2. Remove the treadmill hood.
3. Disconnect the JK3 and JK4 cable connectors from the LPCA board. Disconnect the lift motor chassis ground (green wire) from the frame. Cut and remove the cable the frame cable ties (note the position of each removed cable tie). Retain the chassis ground screw for installation.



4. Lay the treadmill on its side (preferably its left side).
5. Use two 17 mm wrenches and remove the 17 mm bolt that fastens the inline motor lift tube to the lift platform. Retain bolt and nut for installation.
6. Use two 17 mm wrenches and remove the bolt that fastens the top of the lift motor to its upper mounting bracket. Retain bolt and nut for installation.
7. Remove the lift motor from the treadmill.

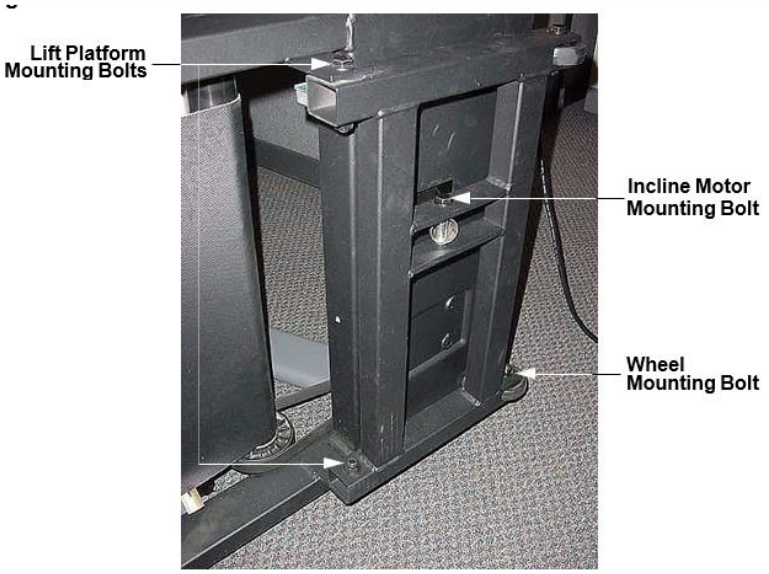
Installation Instructions

1. Reinstall the lift motor and align the upper mounting bracket bolt holes. Secure using the removed 17 mm bolt and 17 mm nut.
2. Reconnect the lift motor ground wire (GRN), the drive motor ground wire (GRN/YEL), and the AC power cord ground wire (GRN/YEL) to the same frame chassis ground screw.
3. Reconnect the lift motor JK3 and JK4 connectors to the Lower PCA.
4. Route the lift motor cables and chassis ground wire and secure to the frame using replacement cable ties.
5. Plugin the AC power cord and set the ON/OFF switch in the “ON” position.
6. Calibrate the lift motor, see “Calibrating the Lift Motor” Adjustment procedure.
7. Verify operation and return to service, see “Operation Verification Test” procedure.

Replacing the Incline Platform

Procedure

1. Set the treadmill ON/OFF switch in the “OFF” position. Remove the AC power cord from the AC outlet.
2. Carefully lay the treadmill on its side.
3. Remove the bolt (retain hardware) that fastens the lift motor to the lift platform. Care must be taken throughout this procedure to not allow the lift motor lift tube to rotate. The lift motor will require calibration if the lift motor lift tube has rotated.
4. Remove the two bolts (retain hardware) that fasten the lift platform to the frame and remove the lift platform from the treadmill.



Lift Platform

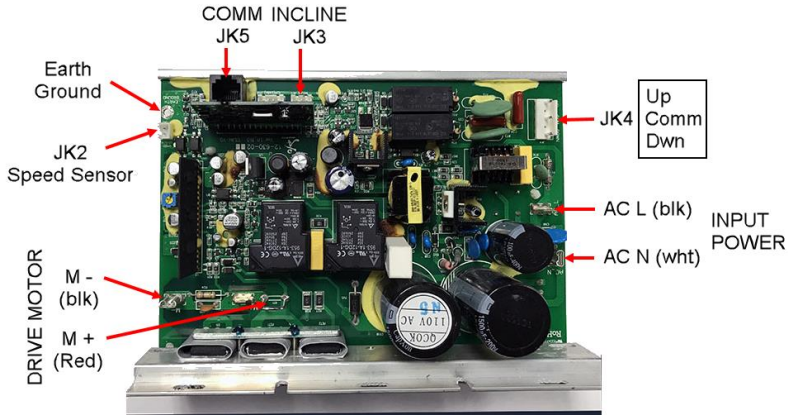
5. Remove the bolts (retain bolts) that fasten the wheels to the lift platform and remove both wheels from the lift platform.
6. Remove the rubber bumpers (retain bumpers) from the top front end of the lift platform.
7. Install the rubber bumpers into the replacement lift platform.
8. Install both wheels on the replacement lift platform.
9. Set the replacement lift platform in its mounting position, install and tighten bolts.
10. Install the lift motor lift tube to the lift platform.
11. Make sure that the wheels lift platform, and lift motor bolts are securely tightened.
12. Set the treadmill in its normal upright position and test incline operation.

Replacing the Lower PCA

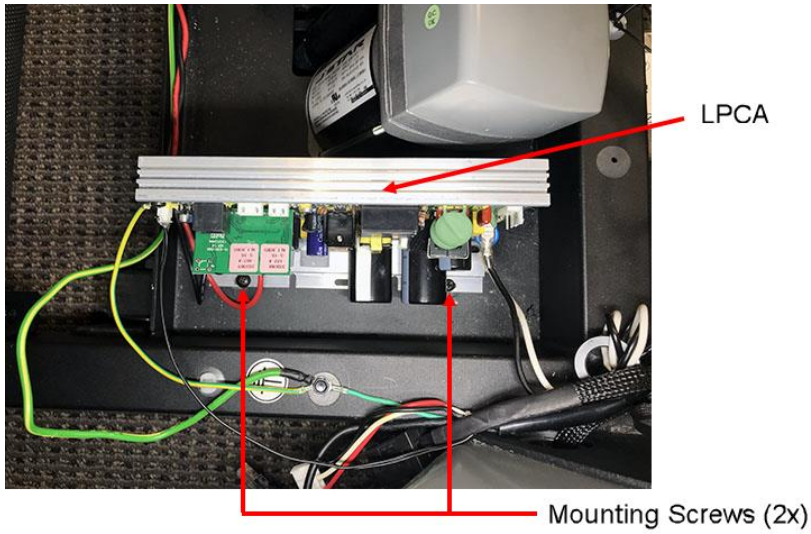
Procedure

Note: If the Lower PCA is replaced, the treadmill calibration must be performed to ensure proper operation.

1. Set the treadmill circuit breaker in the “OFF” position. Remove the AC line cord from the AC outlet.
2. Disconnect the following LPCA cable connections:
    - Disconnect the LPCA drive motor “M –“(blk) and “M +” (red) wire connections.
    - Disconnect the lift motor JK3 and JK5 cable connections.
    - Disconnect the speed sensor JK2 cable connector
    - Disconnect the AC input “AC N” (wht) and AC L (blk) wire connections.
    - Disconnect the Yel/Grn wire earth ground wire terminal connection using a #1 Philips screwdriver.



3. Remove both LPCA mounting screws and remove the Lower PCA...



4. Set the replacement LPCA in its mounting position and fasten with the mounting screws (2x). Torque the LPCA mounting screws to 120 inch pounds.
5. Reconnect the following LPCA cable connections:
    - Reconnect the LPCA drive motor “M –“(blk) and “M +” (red) wire connections.
    - Reconnect the lift motor JK3 and JK5 cable connections.
    - Reconnect the speed sensor JK2 cable connector
    - Reconnect the AC input “AC N” (wht) and AC L (blk) wire connections.
    - Reconnect the Yel/Grn wire earth ground wire terminal connection using a #1 Philips

screwdriver.

6. Plugin the AC line cord. Set the treadmill circuit breaker to the “ON” position.
7. Verify treadmill operation and return to service...

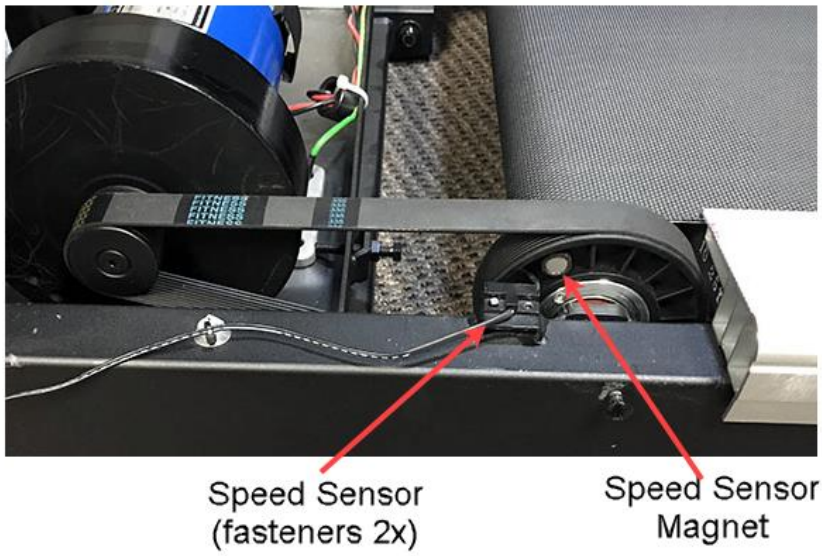
Replacing the Speed Sensor

Procedure

1. Set the treadmill circuit breaker in the “OFF” position. Remove the AC line cord from the AC outlet.

2. Disconnect the speed sensor cable plug from the JK2 connector on the LPCA.

3. Remove the two #1 Philips screws that secure the speed sensor to the mounting bracket.



4. Remove the speed sensor and cable from the treadmill.
5. Reinstall the replacement sensor on the sensor mounting bracket and secure using the two #1 Philips screw fasteners. Torque the mounting screws to 25 inch pounds.
6. Route the cable and secure to frame with cable ties. Connect the sensor cable to the LPCA JK2 connector.
7. Set the treadmill circuit breaker in the “ON” position and verify treadmill operation.
8. Verify operation and return for service...

Replacing the Drive Motor

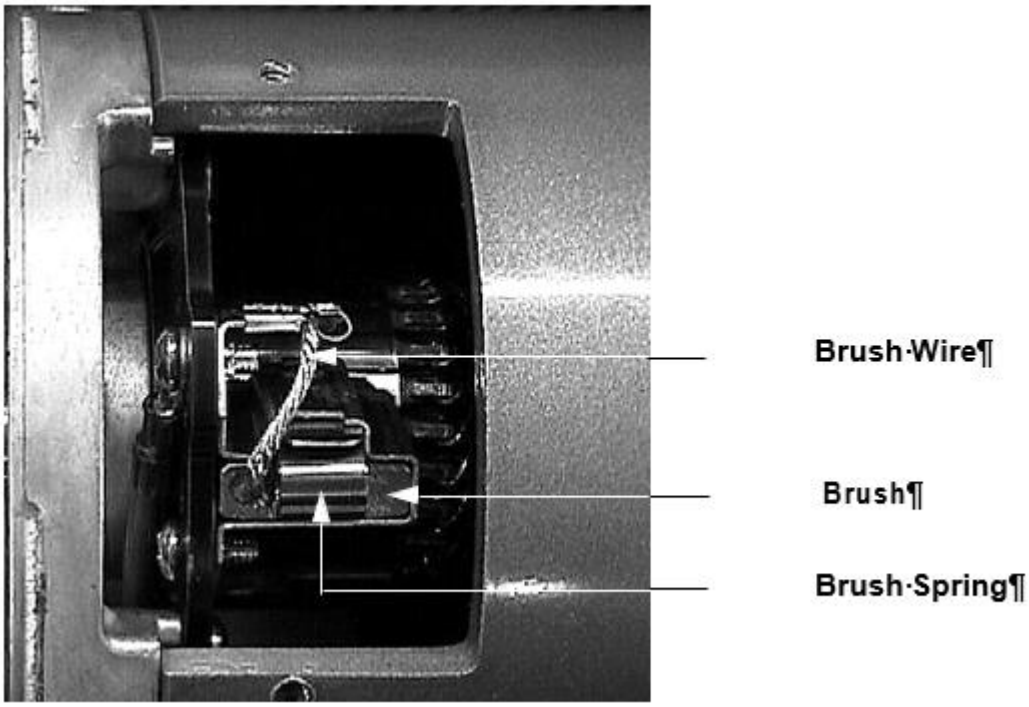
Procedure

The drive motor and flywheel are balanced as a matched pair. Since the flywheel is balanced to a specific motor, flywheels should not be removed from one and installed on a different motor. If the drive motor is replaced, the drive motor and flywheel should be replaced as a unit.

1. Set the treadmill circuit breaker in the “OFF” position and unplug the treadmill’s line cord from the AC outlet.
2. Remove the hood.
3. Remove the speed sensor mounting bracket to the treadmill drive motor. See Diagram 6.4. Move the speed sensor and bracket as far from the drive motor as possible.
4. Disconnect the red and black drive motor wires from the incline connectors.
5. Remove the drive belt from the drive motor pulley.
6. Remove the four bolts that fasten the drive motor to its mounting base. Remove the drive motor from the treadmill.
7. Set the drive motor in its mounting position. Replace and hand tighten the drive motor mounting screws removed in step 6. Set the drive belt in place on the drive motor pulley.
8. Tension the drive belt and mount the drive motor per Procedure 4.2, steps 3-5.
9. Connect the black and red drive motor wires to the mating black and red connectors on the incline connectors.
10. Set the speed sensor and chopper wheel in position on the drive motor and fasten with the screws removed.
11. Re-install the hood.
12. Check treadmill operation.

Replacing the Drive Motor Brushes

1. Set the treadmill circuit breaker in the “OFF” position and unplug the treadmill’s line cord from the AC outlet.
1. Remove the hood.
2. Use a flat blade screw driver to remove the screws that retain the drive motor brush cover.
3. Remove the brush from the brush holder.



4. Slide the replacement brush into the brush holder. Be sure that the edge of the brush is inserted so that the brush face makes full contact with the motor commutator.

5. Reinstall the brush spring and connect the brush wire to the tab on the brush holder.

6. Push the spring and cable down against the brush and press the cover into place.

7. Repeat with remaining drive motor brush.

8. Replace the hood.

Drive Roller Replacement

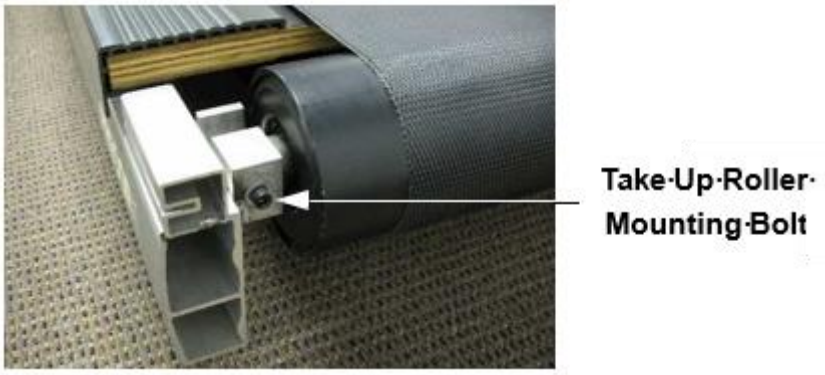
This procedure is to be used to replace a drive roller while maintaining the drive belt's original tensioning and the running belt's original tension and tracking settings. Two running belt gauges, Precor part number 20007-101, are required.

Over tensioning the belt will lead to premature running belt wear, premature driver roller bearing failure and premature take up roller bearing failure.

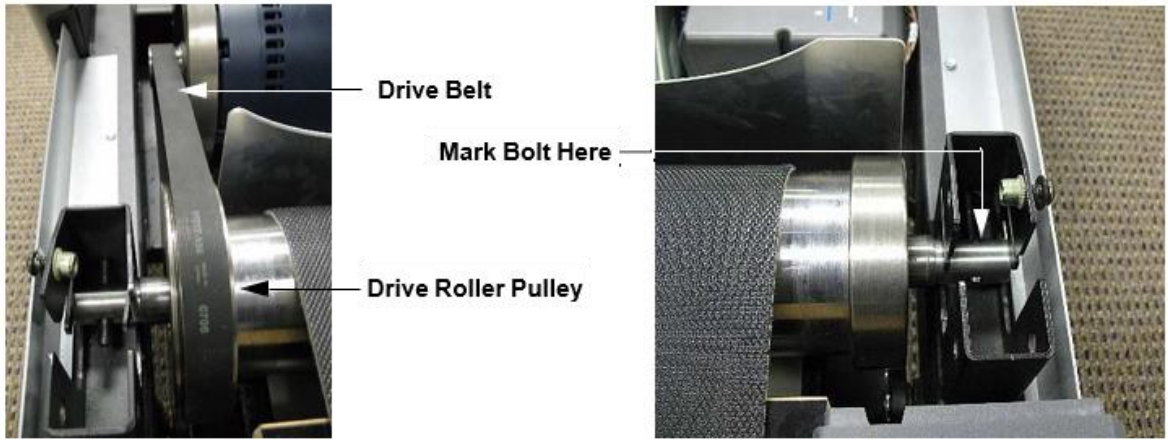
1. Remove the end caps and belt guards from the rear of treadmill to expose the take up roller mounting bolts.

   Remove the treadmill's motor cover.

2. Loosen, but do not remove the take up roller mounting bolts. The bolts are being loosened to remove tension from the running belt.



3. Slowly rotate the drive motor flywheel while pressing the drive belt off of the drive roller pulley. Continue until the drive belt “walks” completely off of the drive roller pulley.



4. Using a fine tip marker or scribe, place a mark on the right hand drive roller mounting bolt directly in front of the drive roller shaft. The bolt is being marked so that the drive roller can be returned to the exact same position. The use of a fine marking line allows for more accuracy when the replacement drive roller is installed.

5. Remove both drive roller mounting bolts. Remove the drive roller from the treadmill.

6. Slide the replacement drive roller into running belt and into the drive belt. Hand start both drive roller mounting bolts.

7. Tighten the left hand drive roller bolt fully. The left hand side of the drive roller should be as far forward as possible.

8. Tighten the right hand drive roller bolt until the mark placed on it in step 6 aligns with the front edge of the drive roller shaft. Steps 8 and 9 should place the drive roller into its original position and should now be square to the treadmill frame.

9. Slowly rotate the drive motor flywheel while pressing the drive belt onto of the drive roller pulley. Continue until the drive belt “walks” completely onto the drive roller pulley. Be sure that the drive belt is fully onto and correctly aligned on the drive roller pulley.

10. Perform the Running Belt Tensioning procedure found in Section 4.

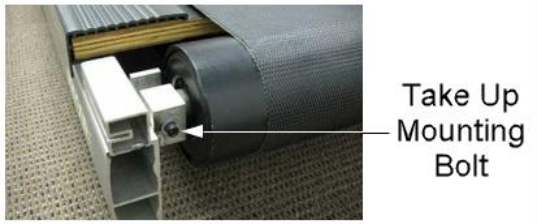
Take Up Roller Replacement

This procedure is to be used to replace a take up roller while maintaining the running belt's original tension and tracking settings. Two running belt gauges, Precor part number 20007-101, are required. It is important that this procedure be followed to maintain correct running belt tension. Over tensioning the belt will lead to premature running belt wear, premature driver roller bearing failure and premature take up roller bearing failure.

1. Remove the end caps and belt guard from the rear of treadmill to expose the take up roller mounting bolts.

2. Remove the finger guard located in front of take up roller.

3. Remove both take up roller mounting bolts. Remove the take up roller from the treadmill.



4. Slide the replacement take up roller into the running belt and set it in its mounting position.
5. Hand start both take up roller mounting bolts that were removed in step 5.

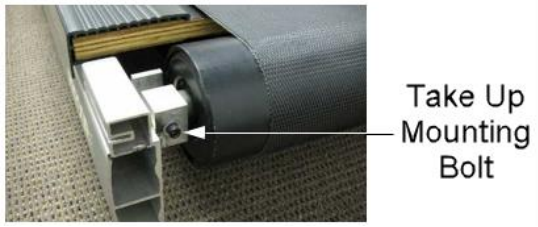
6. Perform the Running Belt Tensioning procedure found in Section 4.

Running Belt and/or Deck Replacement

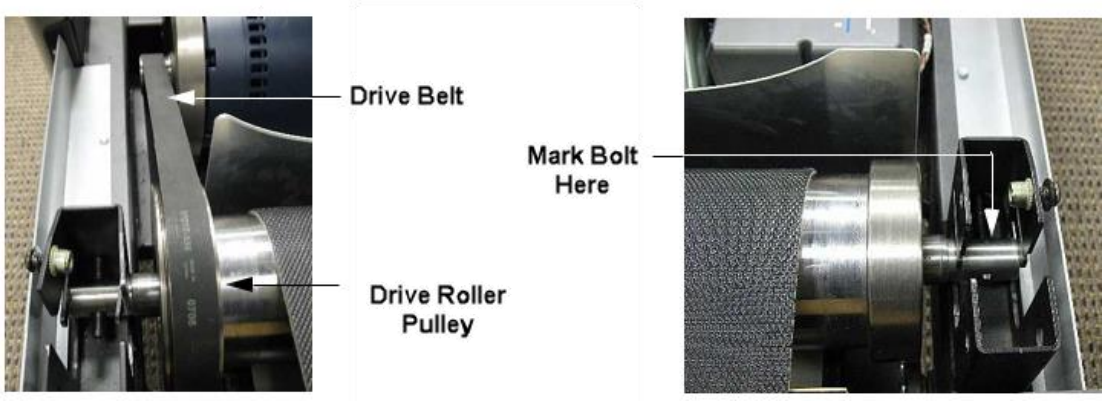
1. Remove the end caps from the rear of treadmill to expose the take up roller mounting bolts.
2. Remove the treadmill's motor cover.

3. If applicable, remove the finger guard from in front of the take up roller.

4. Remove both take up roller mounting bolts. Remove the take up roller from the treadmill.



5. Slowly rotate the drive motor flywheel while pressing the drive belt off of the drive roller pulley. Continue until the drive belt "walks" completely off of the drive roller pulley.



6. Using a fine tip marker or scribe, place a mark on the right hand drive roller mounting bolt directly in front of the drive roller shaft. The bolt is being marked so that the drive roller can be returned to the exact same position. The use of a fine marking line allows for more accuracy when the replacement drive roller is installed.

7. Remove both drive roller mounting bolts. Remove the drive roller from the treadmill.

8. Remove the running belt and deck from the treadmill. If both sides of the deck have been used, discard the deck. If the bottom side of the deck has not been used, flip the deck so that when it is replaced it will now be the top side.

9. Decks with inserts that are being flipped need to be reversed so that the bottom of the deck can be used, the inserts can be removed by threading the deck screw into the insert from the top. Using a hammer or mallet the insert can be tapped out the bottom of the deck. Remove the insert from the deck screw. Using one of the CATN025-150 bolts and a flat washer, to cover the hole, thread the bolt

into the insert and pull the insert into the opposite side of the deck until the insert is flush with the deck surface. Repeat this procedure with the remaining five inserts.

10. Using a clean, dry cloth, wipe the top surface of the deck clean of any dirt, dust or debris.
11. Set the replacement or flipped deck inside of the replacement running belt. Set the running belt and deck combination in its mounting position on the treadmill.

12. Perform the Running Belt Tensioning procedure found in Section 4.

Replacing the Data Cable

Procedure

1. Set the treadmill ON/OFF switch in the “OFF” position and remove the treadmill power cord from the AC outlet.
2. Remove the treadmill hood.
3. Remove the four screws that fasten the console to the backplate.
4. Disconnect the data cable from the console and JK5 COMM connector on the Lower PCA.
5. Tie a seven to eight foot long piece of string to the lower end of the data cable.
6. Pull the data cable out of the upper end of the targa upright. Stop when the string is projecting out of the upper and lower ends of the targa upright. Remove the data cable from the string and discard the data cable.
7. Tie the lower end of the string onto the replacement data cable. Carefully draw the string out of the top of the targa upright while feeding the data cable into the lower end of the targa upright. Stop when the data cable is projecting out of the upper and lower ends of the targa upright. Untie the string from the data cable.
8. Connect the data cable to the console and the JK5 COMM connector on the Lower PCA.
9. Install the console in its mounting position on the backplate and fasten with the attachment hardware.
10. Replace the treadmill hood.
11. Verify the treadmill operation.

Troubleshooting

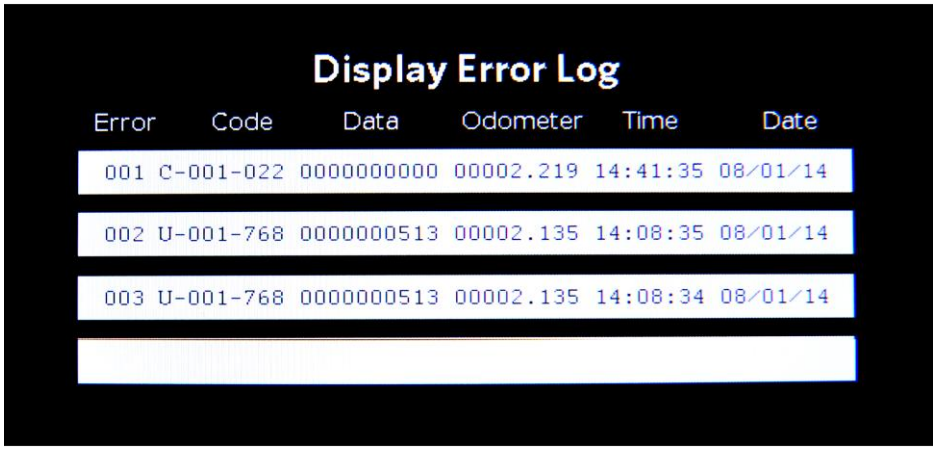
Error Log

The R40 console captures and stores equipment error events codes and related information in the **Display Error Log** page. Error Log information provides useful diagnostic information to help maintain and troubleshoot issues. Error Log information is also useful when contacting Precor Service to resolve an issue.

R40 error Log Information

Accessing the Error Log

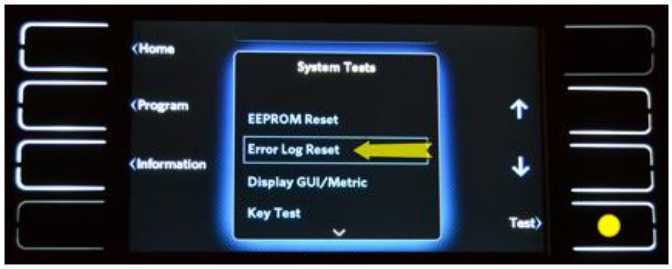
From the Home page select Settings > Information > Error Log.



Parameter	Description
Error	Sequentially generated number indicating the order in which the error code events occurred in time, 001 is the first listed event code (oldest) to be logged continuing to the last number “nnn” (most recent) error code to be logged.
Code	The alpha-numeric code “C-001-nnn” representing the error event. Where the **C-001** prefix identifies valid service error codes and “nnn” is the code number, Disregard any other code prefix error codes. See *Error Codes* for listing of error codes and description.
Data	Disregard this entry.
Odometer	Odometer reading when the error event occurred.
Time	Time the error event occurred.
Date	Date the error event occurred

Clearing the Error Log

1. **Access** the ***Diagnostics*** *Systems Tests* **page (**51765761), see Accessing Service Software.



2. Scroll down and select Error Log Reset.
3. Select the Test softkey which opens the Error Log Reset page.
4. Select Start to **clear** the Error Log.
5. **V**erify that all error codes have been cleared from the Error Log, from the Home page, select Settings > Information > Error Log.

R20 Error Log Information

Accessing the Error Log

The Error Log is accessed from the Information Display (65).

1. Access the Information Display (65), scroll to the Error Log item and press the GO control to select.

Note: Use the left/right arrow keys to scroll through the menu items.

Any logged error codes will be listed until cleared. The error codes will be sequentially listed from the most recent to the oldest. When the Error Log reaches maximum storage capacity, the newest error code will push the oldest error code off the stack.

Each logged error code will include the following information:

- an assigned index number
- the error code number
- the machine usage mileage when the event occurred
- the machine usage time when the event occurred

Note: Use the left/right arrow keys to scroll through the list of error codes.

If there are no logged error codes, the message “0 ERRORS” will be shown.

Clearing the Error Log

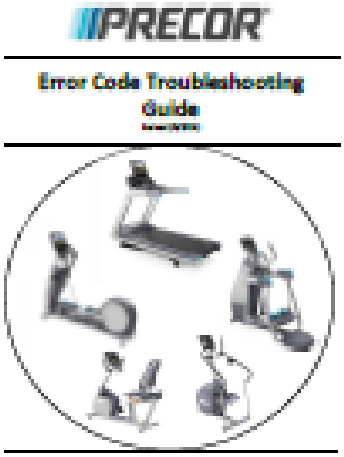
Access the Information Display (65), scroll to the Error Log menu and press the GO control to select. Any logged error codes will be shown.

Press and hold the GO control for around 5 sec's until the "ERROR LOG CLEAR" message will be shown to indicate that the error log has been cleared of all current error codes.

Understanding Error Codes

There are two categories of Error Codes: Fatal and Non-Fatal errors.

Fatal error code messages will continue to show until the power is cycled (OFF/ON). The console is locked except access to the *Display Error Log* page. Error code messages will continue to return until the error issue is resolved.



The following error codes are provided for quick reference only and may not contain the most current information. Refer to the *Error Code Troubleshooting Guide* pdf for detailed error code description and troubleshooting information. Use the following hyperlink download the most current version:

Precor website hyperlink: Error Code Troubleshooting Guide

Non-Fatal Error Codes

Non-Fatal Error Codes		
Code	**Error description**	**Expected behavior following error detection**
05	Stuck Key	Do not allow further operation and display error until the Stuck Key event is cleared. Does not require power cycle to clear.
10	AC Frequency	
40	Lift error: lift won't move	For lift errors, do not interrupt operation of the treadmill and do not stop belt. Display error code for two seconds, then log. If incline keys are pressed, do not operate incline but display the error code again for two seconds. Allow full operation of lift motor again after the power is cycled.
42	Lift error: bad pot reading	
44	Lift error: non commanded lift motion	
45	Lift error: lift going in the wrong direction	

Fatal Error Codes

Fatal Error Codes	
Code	**Error description**
00	Upstairs EEPROM checksum error

Fatal Error Codes	
02	RAM error
03	EEPROM error
09	EPROM Downstairs
11	Upstairs watchdog
12	Downstairs watchdog
13	Fan
14	Board Fan
15	AC input voltage too high
16	AC input voltage too low
17	Overheating
18	DB Resistor open
19	Low input voltage for PFC
20	Tread error: motor will not drive
21	Not enough speed
22	No speed pulse at startup
23	No speed pulses after start up
24	Not slowing down
26	Erratic speed pulses
27	Tread error: too much output (to motor) current
28	Tread error: motor controller limit
29	Tread error: too much input (from AC outlet) current
30	Communications error: downstairs to upstairs
31	Incorrect communication Downstairs to Upstairs
32	Communications error: upstairs to downstairs
33	Incorrect communications Upstairs to Downstairs

Troubleshooting the Lift System

Lift System Description:

The lift system on these units consists of an AC line voltage driven lift motor (120 Vac), and an internal 1 KΩ potentiometer for lift position identification. The lift motor contains two motor windings, one to operate the motor in an “upward” direction and the other to operate the motor in a “downward” direction. As the lift motor is operated, the motor also rotates the potentiometer via an internal gear system. Therefore, the position of the lift system can be determined by monitoring the value of the internal potentiometer. The lift motor is initially set at a known starting position (calibration, See Procedure 4.1), subsequent motor movement is tracked via the potentiometer resistance reading.

Note:

All resistance measurements must be performed with power removed from the treadmill. Performing resistance measurements with voltage applied may damage your ohmmeter.

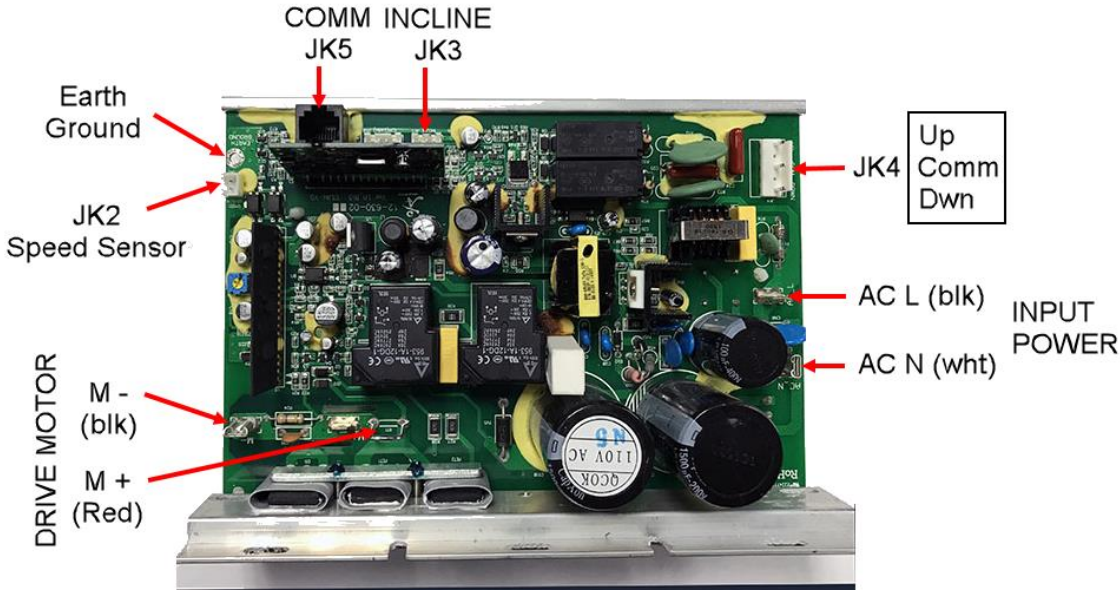
Procedure

1. If the lift motor operates but creates a lift error (error 40 or 42) go to step 11. If the lift motor will not move continue with step 2.

2. Set the treadmill's circuit breaker in the "OFF" position and remove the AC line cord from the AC outlet.

3. Remove the F2 (Lift AC) fuse from the Lower PCA. Using an ohmmeter, check the resistance of the F2 fuse. See Diagram 5.2. The fuse should measure approximately 0.1 Ω or less. If the fuse is open or high resistance, replace the fuse.

Diagram 5.2 - Lower PCA



4. Insert the treadmill's line in the AC outlet and set the circuit breaker in the "ON" position. Set the treadmill in the manual program and press the **LIFT** ▲ key. If the lift motor operates normally, test treadmill operation per Section 3. If the lift motor still does not operate, retest the lift fuse per steps 2 & 3. If the fuse is open again, continue with step 13. If the fuse is good continue with step 5.

5. Connect an AC voltmeter between terminals 1 & 4 of the JK4 connector. See Diagram 5.2. Set the treadmill in the manual program and press the **LIFT** ▲ key. The AC voltmeter should read AC line voltage (120 Vac) and the red **UP** LED should illuminate**.** Note that the AC line voltage reading will only be present before an error condition is displayed.

6. If the F2 fuse is good and the **UP** LED illuminates and the AC voltmeter does not read the presence of AC line voltage replace the lower logic PCA per Procedure 6.3.

7. If the **UP** LED does not illuminate and the display indicates that the lift should be moving upward, replace the Upper PCA per Procedure 6.8.

8. If the AC voltmeter reads the presence of AC line voltage and an error 40 is displayed, go to step 10.

9. If the AC voltmeter reads the presence of AC line voltage and an error 42 is displayed, continue with step 11.

10. Set the treadmill's circuit breaker in the "OFF" position and remove the AC line cord from the AC outlet. Remove the lift motor connector from the JK4 connector on the Lower PCA. Visually. Inspect the lift motor connector for broken or improperly crimped connections. Using an ohmmeter, read the resistance between terminals 1 & 4 and between terminals 3 & 4. Both readings should be approximately 12 Ω. If either reading is open or very high resistance, replace the lift motor per Procedure 6.1.

11. Set the treadmill's circuit breaker in the "OFF" position and remove the AC line cord from the AC outlet. Remove the lift motor connector from the JK3 connector on the Lower PCA. Visually inspect the lift motor connector for broken or improperly crimped connections. Using an ohmmeter, measure between terminals 1 & 3, 1 & 2 and 2 & 3 of the lift motor connector. Terminals 1 and 3 should read approximately 10 KΩ. The sum of the two readings between terminals 2 & 3 and 1 & 2 should total approximately 10 KΩ. If either reading is open or very high resistance, replace the lift motor per Procedure 6.1.

12. Set the treadmill's circuit breaker in the "OFF" position and remove the AC line cord from the AC outlet. Remove the lift motor connector from the JK4 connector on the Lower PCA. Visually inspect the lift motor connector for broken, frayed or improperly crimped connections. Using an ohmmeter, read the resistance between terminals 1 & 4, 3 & 4 and 1 & 3. The readings should be approximately 12 Ω, 12 Ω and 24 Ω, respectively. If the reading is significantly low, replace the lift motor per Procedure 6.1.

13. If the resistance readings in step 13 are normal, replace the lower logic PCA per Procedure 6.3.

14. If you have performed all of the procedures above and have been unable to correct the problem, call Precor customer service.

Troubleshooting the Speed Sensor

1. Disconnect the speed sensor connector from the LPCA JK2 connector.

2. Use a DVM to measure the resistance between two connector pins. Be careful to not damage the connector pins with the DVM probes.

3. The speed sensor is a normally open switch (open circuit), when the speed sensor magnetic passes by the speed sensor the switch closes (short circuit. Rotating the take-up roller past the sensor.

4. Measure the voltage between terminal 1 of JK2 (red wire) and terminal 4 of JK2 (black wire) on the Lower PCA, see Diagram 5.2. The voltage should read approximately 5 Vdc. If the voltage is missing or significantly low, disconnect the speed sensor plug from the Lower PCA. Measure the voltage between pins 1 & 4 of the JK2 connector on the Lower PCA. If the voltage is approximately 5 Vdc, replace the speed sensor. If the voltage is missing or significantly low, replace the lower logic PCA.

5. If you have performed all of the above procedures and have been unable to correct the problem, call Precor Customer Support

Troubleshooting the External A.C. Power Source

It is extremely important that any Precor treadmill be connected to and operated on a dedicated 20 amp A.C. circuit. A 20 amp dedicated circuit is defined as: a circuit fed by a 20 amp circuit breaker that feeds a single load. A treadmill operating from a non-dedicated circuit or a circuit breaker of less than 20 amps capacity will not have the necessary power available to operate normally under higher load conditions. The lack of available power can cause any number of symptoms ranging from numerous intermittent (seemingly inexplicable) error conditions, poor speed control, or tripping the house circuit breaker.

If any of the above symptoms exist the external A.C. circuit must be checked and confirmed to be a 20 amp dedicated circuit **before** troubleshooting the treadmill.

The most common problems found are (1) the circuit is fed by a circuit breaker of less than 20 amp capacity, (2) the circuit breaker correctly feeds a single A.C. outlet but the neutral is common between several A.C. outlets and (3) both the hot and neutral leads feed several A.C. outlets. The appropriate correction action or actions (see below) must be followed if any of the above conditions exist. **Corrective actions should only be undertaken by a licensed electrician.**

Troubleshooting Heart Rate

The hand held heart rate system is actually a dual system, that is, it can accept a heart rate signal from either the hand held heart rate contacts on the unit's handlebar or from a Polar heart rate chest strap transmitter. The PCA is configured for hand held priority. That is, if both a chest strap and hand heart rate signal are being received, the system will accept the hand held signal and ignore the chest strap signal. If a hand held signal is not being received, the system will accept the chest strap signal.

Note:

There are four typical failure modes for the hand held/chest strap heart rate system. They are:

- Hand held is normal - no chest strap reading;
- No hand held reading - chest strap normal;
- No hand held or chest strap reading or constant
- Intermittent readings when neither hand held or chest strap are in use.

Normal hand held reading - No chest strap reading

1. Verify that a chest strap signal is not being accepted with either a Polar heart rate test transmitter or a known good chest strap transmitter. If this reading is good, skip to step 3.

2. Using a known good Polar heart rate chest strap, verify that the heart rate operates with the known good chest strap. If the known good Polar chest strap does corrects the problem, replace the original chest strap transmitter.

3. If the above procedures did not correct the problem, replace console.

No hand held reading - Normal chest strap reading

4. Verify that a hand held signal is not being accepted by firmly grasping both the right and left hand held contacts on the handlebars. Cover as much of the contact surface area with your hands as possible (without moving your hands), you should receive a heart rate reading within ten seconds.

5. If the hand held signal is now being accepted, something in the near vicinity is radiating RF (radio frequency) energy that is being received by the chest strap portion of the heart rate PCA.

6. If a hand held signal still not being accepted, replace the console

No hand held reading - No chest strap reading

7. Verify that either a chest strap signal or a hand held signal is being accepted with either a heart rate test transmitter or a chest strap transmitter.

8. If neither a chest strap signal or a hand held signal is being accepted, replace the console

Constant or intermittent readings when neither the hand held or chest strap is in use

9. Replace the console

Troubleshooting Running Belt & Deck

This procedure is to be used to determine the condition of the running belt and deck.

A clamp-on ammeter will be used to measure the treadmill's AC input current draw under load. The AC input current is a direct indication of the loading effects placed on the drive motor system; heavier loading requires more input current. Treadmill loading consists of several factors: the exerciser's weight, treadmill speed, incline level, and condition of the running belt and deck.

Test conditions:

The AC input current measurement should be performed at 8 mph (13 kph) and 0% incline for 10 sec minimum workout.

Creating personal input current benchmarks

The Precor typical belt condition input current ratings are based on a loading weight of 220 lbs (100 kgs). A lighter weight exerciser produces less loading effects resulting in lower input current values for the same belt/deck condition. Therefore, it is recommended that you should create a personal benchmark or reference input current value for three belt/deck conditions: a new deck/belt condition, a used good belt/deck condition, and a worn replacement belt/deck condition. These benchmarks will help you to quickly determine the correct condition of the belt and deck.

- New belt/deck condition benchmark: Make the input current measurement on a machine with a new belt and deck.
- Used good belt/deck condition benchmark: Repeat the input current measurement on a machine with a known used good condition belt and deck (for a 220 lb (100 kg) load, the typical input current should be within the 8-12 amp range).
- Worn replacement belt/deck condition benchmark: Repeat the input current measurement on a machine with a known worn replacement condition belt and deck (for a 220 lb (100 kg) load, the typical input current should be 19-20 amps or greater).

Analog Clamp-on Ammeter and Digital Clamp Meters

Because the AC input current will spike (pulse) during foot plants, we suggest the use of an analog clamp-on ammeter to obtain more accurate measurements. An analog ammeter makes it very easy to see the AC current spikes and measure the true AC average input current. Less expensive Digital Clamp meters may not make accurate AC average current measurements due to the current spikes. If using a digital clamp meter, make sure that the meter provides True RMS AC current measurement capability (recommend the Fluke 289 True RMS multimeter or equivalent). You can use the meter AC peak hold feature (if available) to obtain the largest current spike within the measurement span (some AC current spikes may exceed the 20 amp max spec. limit).

Specialized Tool

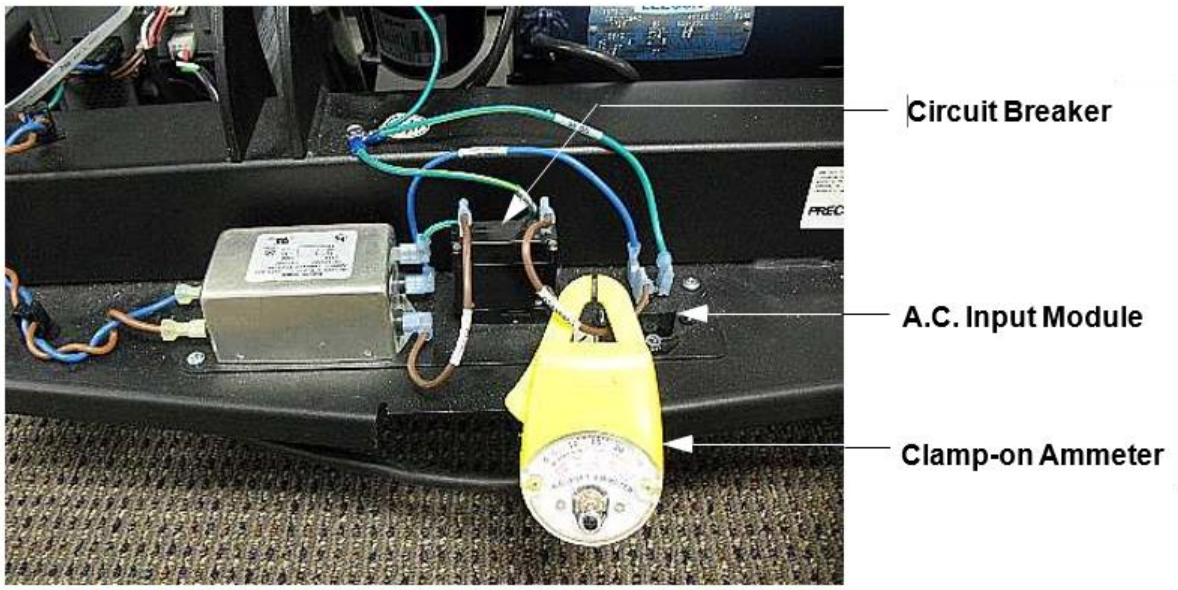
- Analog AC Clamp-on Ammeter or Digital Clamp Meter with True RMS current measurement capability (recommend the Fluke 289 True RMS multimeter or equivalent).

Procedure

Read the entire procedure before beginning.

TIP: You may find it difficult to read the AC current reading while also walking on the treadmill. You may need a second person to read the AC clamp meter while performing this test. Or, if using a DMM with clamp probe, you can use extra long test leads (approx. 1.5 m) that will allow you to set the DVM on the dash while performing the test.

1. Clean the belt and deck surfaces.
2. Remove the treadmill hood cover.
3. Place the AC clamp probe over the brown (hot or line) wire between the AC. input module (or AC. power cord) and the circuit breaker ON/OFF switch.



4. Start a manual workout and set the treadmill speed to 8 mph (13 kph) and 0% incline. Walk on the treadmill for a minimum of 10 sec and read the AC average (True RMS) input current. Typical AC. average current for a good condition running belt/deck is between 8 to 12 amps on 120 VAC machines (4 to 6 amps on 240 VAC machines). A new belt/deck may read less current draw. Note that during foot plants, you could measure peak amp spikes as high as 20 amps, even on a new belt/deck. The higher the AC input current is, the more worn the belt/deck condition is
    a. If the average AC input current is less than 16 amps, the belt/deck is in good condition, do not replace.
    b. If the average AC current is between 16-18 amps on 120 VAC machines (8-9 amps on 240VAC machines), the belt and deck needs to be serviced. Be aware that lighter weight exercisers may not be heavy enough to cause these higher AC input current values.
        i. If not already cleaned, clean the belt/deck surfaces and repeat the AC input current draw measurement.

ii. If the current draw decreases below 16 A 120 VAC (8 A 240 VAC), do not replace the belt and deck. Otherwise, replace the belt and deck. If the other side of the deck is new condition, flip the deck and reuse.

iii. Also review the error log, if there are recurring motor current overload related error codes, replace the deck and belt. .

c. If the average input current reaches 19-20 amps or greater on 120 VAC machines (9.5-10 amps or greater on 240 VAC machines), the running belt and deck needs to be replaced. If the other side of the deck is new condition, flip the deck and reuse.

5. Repeat the AC input amp draw test after replacing the running belt and deck. Damage to the Motor Controller (MC) can occur if the machine has been operated in an overload/high current condition for prolonged periods of time. This type of damage would not generate an error code, but would cause the input breaker to trip intermittently. An amp draw test will confirm this condition. If the amp draw test is comfirmed, replace the MC.

NOTE: Repeat the AC input amp draw test after replacing a running belt and deck. Damage to the Motor Controller (MC) can occur if the unit has been operated in an overload/high current condition for prolonged periods of time. This type of damage would not generate an error code, but would cause the input breaker to trip intermittently. An amp draw test will comfirm this condition.

Preventative Maintenance

It is important to perform the minor maintenance tasks described in this section. Failure to maintain the equipment as described here could void the Precor Limited Warranty.

DANGER To reduce the risk of electrical shock, always unplug the equipment from its power source before cleaning it or performing any maintenance tasks.

Inspection

Inspect the treadmill daily.

1. Look and listen for slipping belts, loose fasteners, unusual noises, worn or frayed power cords, and any other indications that the equipment may be in need of service. If you notice any of these, obtain service.

   Important: If you determine that the treadmill needs service, make sure that the treadmill cannot be used inadvertently. Turn the unit Off, and then unplug the power cord from its power source. Make sure other users know that the treadmill needs service.
2. Check for worn, frayed or missing safety lanyards. Replace missing or worn safety lanyards immediately. Do not exercise on the treadmill without attaching the safety clip to your clothing.

   To order parts or to contact a Precor authorized service provider in your area, refer to Obtaining Service.

Cleaning the Equipment

Most of the working mechanisms are protected inside the hood and base of the treadmill. However, for efficient operation, the treadmill relies on low friction. To keep the friction low, the unit's running belt (see Treadmill Deck and Running Belt Cleaning procedure below), staging platforms, and internal mechanisms must be as clean as possible.

Precor recommends the treadmill be cleaned before and after each workout to remove dust, dirt, water, and sweat. Use mild soap and water to dampen a soft cloth and wipe all exposed surfaces.

CAUTION: Do not use any acidic cleaners. Doing so will weaken the paint or powder coatings and void the Precor Limited Warranty. Never pour water or spray liquids on any part of the treadmill, and remove any accumulated sweat from the treadmill after use. Allow the treadmill to dry completely before using it again.

Frequently vacuum the floor underneath the unit to prevent the accumulation of dust and dirt, which can affect the smooth operation of the unit. Use a soft nylon scrub brush to clean the running belt.

Treadmill Deck and Running Belt Cleaning

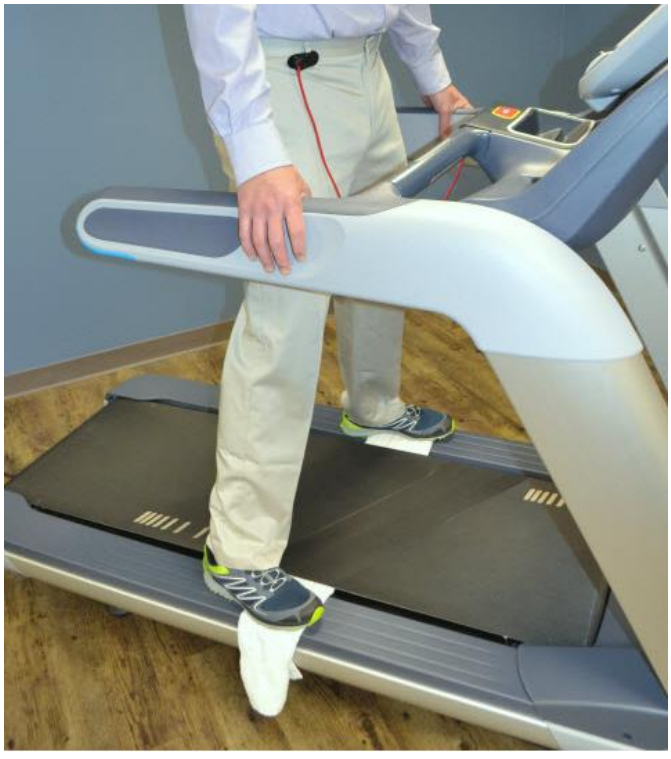
Clean the belt on a Monthly basis or as.

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

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

2. Get a clean, dry cotton towel that is at least 36 inches (1 meter) in length and fold it in half lengthwise.
    a. Lift the running belt and push the towel through to the other side so that both ends of the towel extend an equal distance over the deck trim on both sides.
    b. Push the towel forward to the front of the machine so it is located beneath the **SAFETY STOP** key.
    c. Turn the power switch to ON.

3. Stand on the machine straddling the running belt placing your feet on the left and right trim landings. Attach the stop key tether clip. Do not stand on the running belt at any time. Stand firmly on both ends of the towel keeping your feet off the treadmill running belt. Brace yourself using the handlebars or side hand rails. Push the **Quick Start** button once in position.



CAUTION: You have approximately 3 seconds before the treadmill running belt begins to move after pressing Quick Start. Ensure you are in the proper position.
WARNING: Press the safety stop key if the towel becomes loose to prevent it from being pulled into the treadmill's rollers.

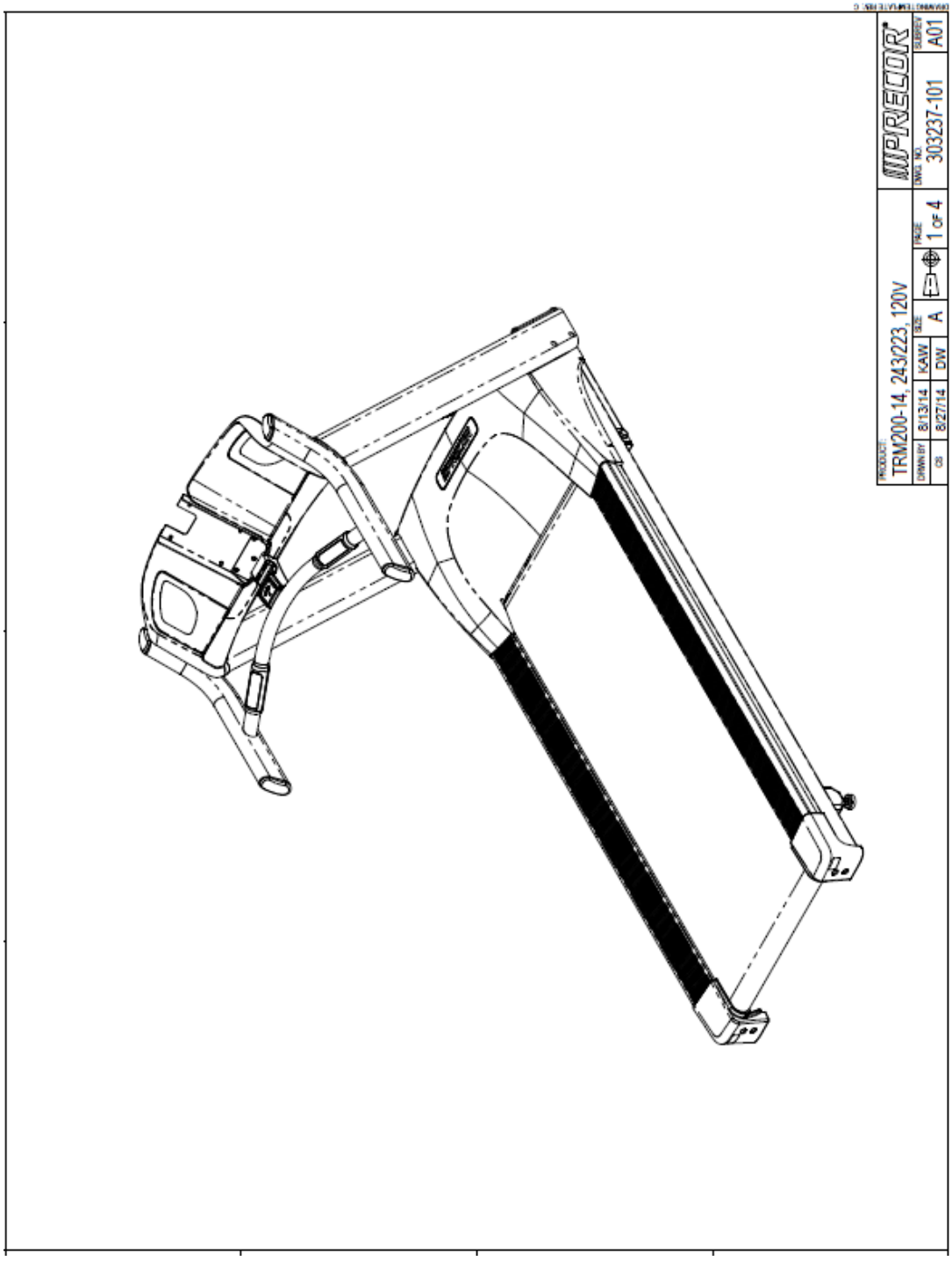
4. The treadmill will begin to run at 1 mph. Allow the treadmill to run for one minute while keeping the towel firmly in place.

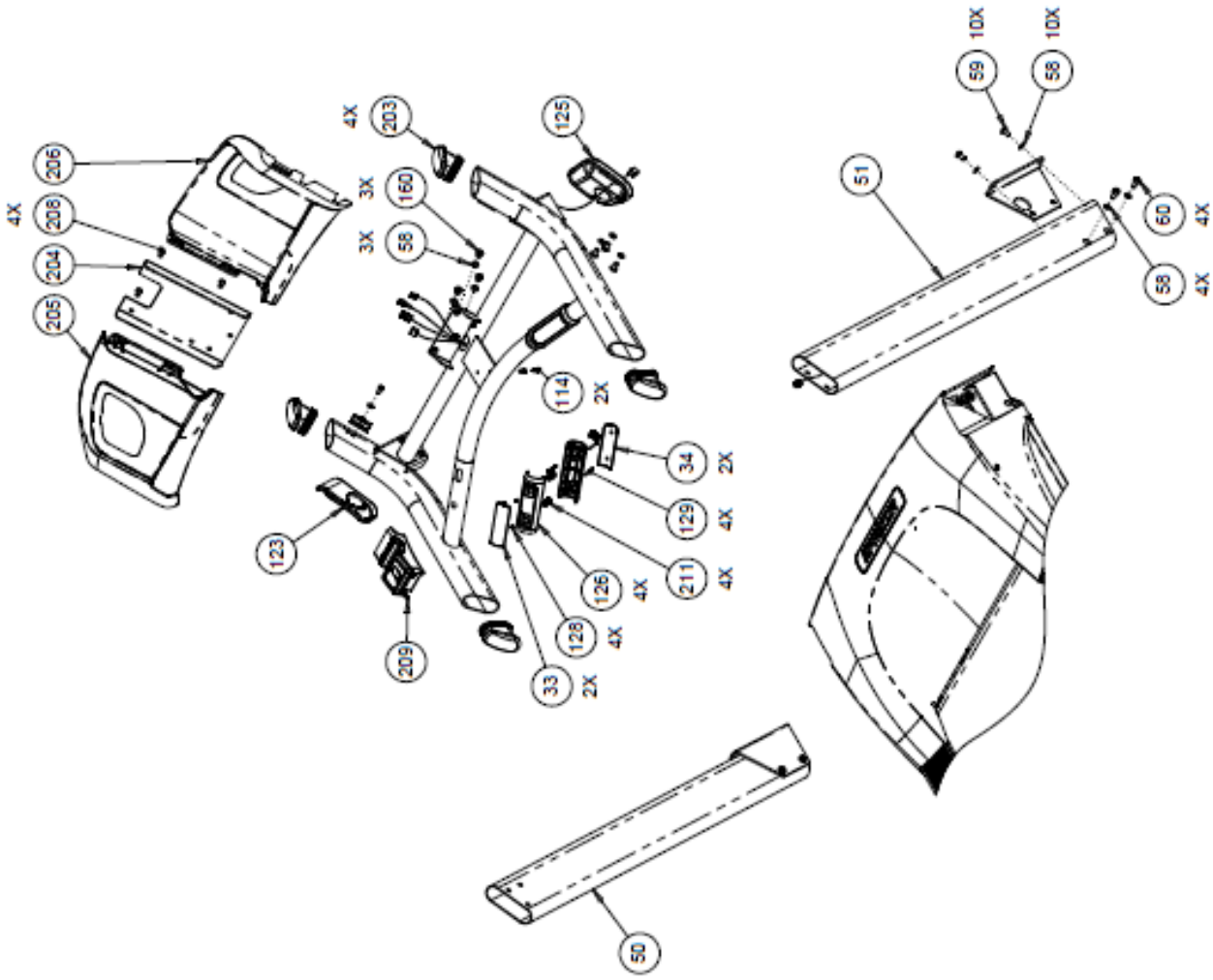
WARNING: Do not adjust the treadmill's speed or run it higher than 1 mph.

5. After one minute, stop the treadmill by pressing the **STOP** button.
6. When the belt has fully stopped moving, remove the **STOP** key tether, exit the treadmill, and turn the power switch to OFF.
7. Grasp both sides of the towel and run it up and down the length of the belt several times to clean the top of the deck.
8. Remove the towel from beneath the belt.
9. Turn the power switch to ON.
10. Verify operation and return to service.

Exploded View Diagram

For the most current exploded view diagram and parts list, go to the Precor Connect website.




10X
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10X
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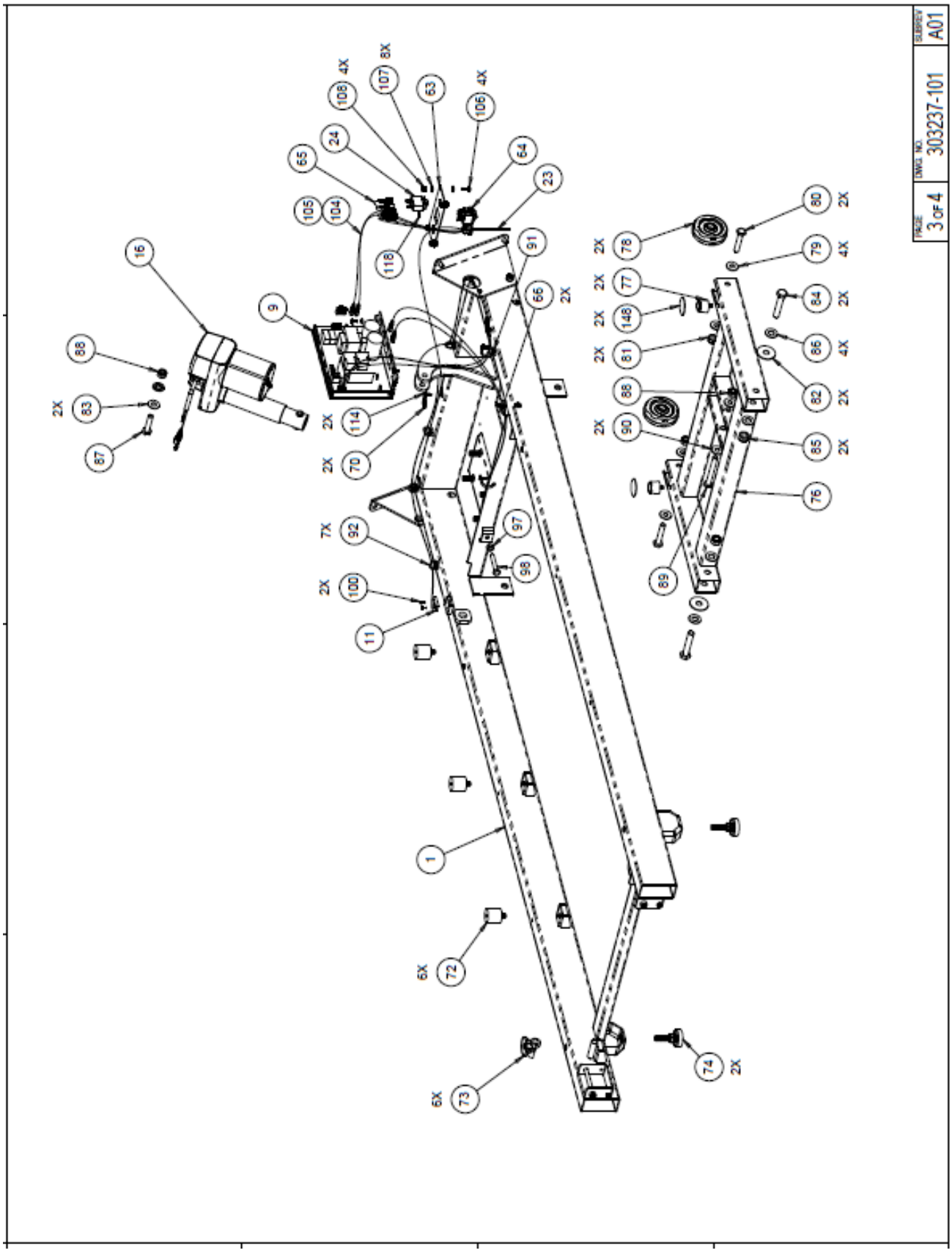
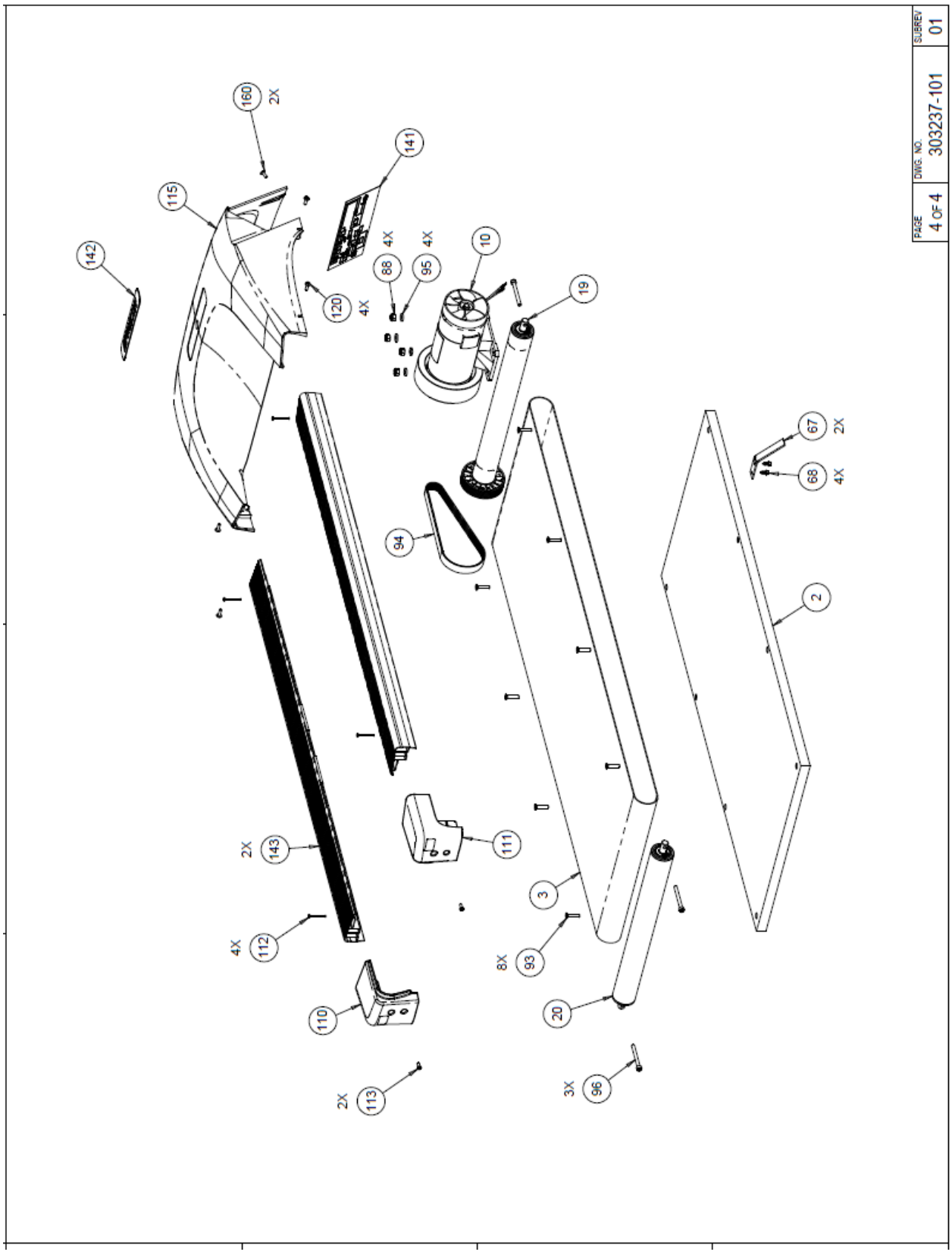
209
33
2X
50





Parts List

TRM200-14,243/223,120V (ATXF)		
Part Number	**Description**	**Bubble Number**
PPP0000AT042357101	WELDMENT, FRAME	1
PPP0000AT180036101	DECK, 9.2X-11	2
PPP0000AT170002104	RUNNING BELT, SIEGLING E/5 W/ SILIC	3
PPP0000AT190186101	UPPER SIGNAL CABLE, TRM200	7
PPP0000AT190185101	LOWER SIGNAL CABLE, TRM200	8
PPP0000000303068102	ASSY, LOWER PCA & SW, TRM200, V2	9
PPP0000000059080101	KIT, MOTOR REPLACEMENT, CHI HUA	10
PPP0000AT190087101	SPEED SENSOR	11
PPP0000AT140002101	LIFT MOTOR (LIFT ACTUATOR)	16
PPP0000AT210003101	FRONT ROLLER	19
PPP0000AT210004101	REAR ROLLER	20
PPP0000AT160006101	POWER CORD	23
PPP0000AT190007101	BREAKER	24
PPP0000AT190091101	ASSY,CABLE,GRN/YEL,GND	32
PPP0000AT022412101	HHHR CONTACT PLATE, TOP	33
PPP0000AT022421101	HHHR CONTACT PLATE, BOTTOM	34
PPP0000AT013360101	TARGA, LEFT, TRM200	50
PPP0000AT013361101	TARGA, RIGHT, TRM200	51
PPP0000AT100094101	ASSEMBLY, SAFETY LANYARD	54
PPP0000000010186101	WRENCH, ALLEN, 5/32	55
PPP0000000010186117	WRENCH, ALLEN 5MM	56
PPP0000000010188101	WRENCH, ALLEN 6MM, T-HANDLE	57
PPP0000WBLJN008001	WASHER, FLAT, 14 X 8 X 1.6T, BEC	58
PPP00000CEJN008015	SCREW, SOC HD CAP, M8 X 1.25 X 15L,	60
PPP0000AT022797101	POWER PLATE, 9.27 -120V_2013	63
PPP0000AT190006101	POWER SWITCH	64
PPP0000AT190043101	POWER CABLE, BLACK	65
PPP0000000010123111	CABLE TIE, CV-075	66
PPP0000AT022175101	BELT TRACKER	67
PPP0000PAKCN006016	SCREW, TYPE AB, HEX HD, #6.4 X 16L,	68
PPP0000000047897101	GROUND LABEL	70
PPP0000AT050996101	GFX CUSHION RED (FOR 1" DECK)	72
PPP0000000035693101	PIVOT, DECK MOUNT, 9.3X-07	73
PPP0000000035744101	FOOT, ADJUSTABLE	74
PPP0000AT041899101	WELDMENT, LIFT PLATFORM	76
PPP0000AT050648101	CUSHION, LIFT	77
PPP0000AT060638101	TRANSPORT WHEEL, LIFT	78

PPP00000WBJN010002	WASHER, SAE, 25 X 10 X 2.0, BEC	79
PPP00000HMJN010055	SCREW, HEX HD, M10 X 1.5 X 55L, BEC	80
PPP00000KFJN010010	LOCK NUT, NYLON, M10, BEC	81
PPP0000AT060642101	FLAT WASHER, PVC 40 X 12.5 X 2.0T	82
PPP0000AT060641101	FLAT WASHER, PVC, 24.5 X 10.5 X 1.5	83
PPP00000HMJN012065	SCREW, HEX HD, M12 X 1.75 X 65L, BE	84
PPP00000WBJN013002	WASHER, SAE, 26 X 13 X 2.0, BEC	86
PPP00000HMJN010045	SCREW, HEX HD, M10 X 1.5 X 45L, BEC	87
PPP00000KFJN010010	LOCK NUT, NYLON, M10, BEC	88
PPP00000HMJN010080	SCREW HEX HD, M10 X 1.5 X 80L, BEC	89
PPP00000WBJN010002	WASHER, SAE, 25 X 10 X 2.0, BEC	90
PPP0000000010123114	CABLE TIE, (CV-120S)	91
PPP0000000012540102	CABLE TIE ANCHOR (PHC-5)	92
PPP0000MAKJN008035	SCREW, FLAT HD, SOCKET, M8 X 1.25 X	93
PPP0000AT170001101	DRIVE BELT	94
PPP00000WCJN010003	WASHER, FLAT, 20 X 10 X 3.0T	95
PPP00000CEJN008080	SCREW, SOC HD CAP, M8 X 1.25 X 80L,	96
PPP0000KARJN008007	NUT, M8 X 1.25 X 6.5T	97
PPP00000HMJN008050	SCREW, HEX HD, M8 X 1.25 X 50L	98
PPP00000MMJN005010	SCREW, PAN HD, PHIL, M5 X .8 X 10L	99
PPP00000MMJN003008	SCREW, PAN HD, PHIL, M3 X .5 X 8L,	100
PPP0000WBLJN006001	WASHER, FLAT, 6 X 13 X 1T, BEC	103
PPP0000AT190078101	POWER CABLE, WHITE	104
PPP0000AT190079101	POWER CABLE, BLACK	105
PPP00000TEJN005015	SCREW, BUT HD, M5X 0.8 X 15L	106
PPP00000WMJN005001	WASHER, SAE, 12X 5.2 X 1.0	107
PPP00000KFJN005005	LOCK NUT, NYLON, M5	108
PPP0000AT061033102	PLASTIC,END CAP,LEFT, PACIFIC BLUE	110
PPP0000AT061034102	PLASTIC,END CAP,RIGHT, PACIFIC BLUE	111
PPP00000DKLN005045	SCREW, FLAT HD, ALLAN, M5 X 0.8 X 4	112
PPP00000MMJN006015	SCREW, PAN HD, PHIL, M6 X 1.5 X 15L	113
PPP0000PAHJN004013	SCREW, TEK, M4.7 X 13L, BEC	114
PPP0000AT200576101	ASSY, HOOD, TRM200	115
PPP0000000047896101	NEUTRAL LABEL	118
PPP00000TEJN006020	SCREW, BUT HD, PHIL, M6X 1.0 X 20L	120
PPP0000AT190015101	GROUND WIRE, MOTOR, CHI HUA	121
PPP0000AT061077101	TRANSITION, TARGA, LEFT	123
PPP0000AT061078101	TRANSITION, TARGA, RIGHT	125
PPP0000AT060822102	HHHR GRIP, PACIFIC BLUE	126
PPP0000AT190182101	HHHR, CABLE, BLACK	127
PPP0000KARLN003002	HEX NUT, M3 X 0.5 X 2.4	128
PPP00000MMLN003035	SCREW,M3X35M,PHIL,NICKEL	129

PPP0000PAHJN004015	SCREW, TEK, M4.7 X 15L, BEC	130
PPP0000AT190189101	FERRITE, CLAMP ON	137
PPP0000AT190167101	ASSY, CABLE,GND	139
PPP0000AT042356101	HANDLEBAR WELDMENT, TRM200	140
PPP0000000303190101	LABEL, WIRE DIAGRAM,TRM2XX-14, 120V	141
PPP0000000302839101	BADGE, HOOD, TRM200-14	142
PPP0000AT200545101	SIDE TRIM DECK,ALU, 9.27_2012, BUIL	143
PPP0000AT060854101	SPACER, DECK TRIM, PC, 9.27	146
PPP0000AT060719101	SIDE TRIM, BUMPER 9.27	147
PPP0000AT100203101	PAD, NON-SKIP, ALTO 9.23-07, 9.27-0	148
PPP0000AT060640101	WIRE CLIP, SR-7R1	152
PPP00000TEJN006016	SCREW, BUT HD, M6 X 1.0 X 16L, BEC	160
PPP00000TEJN008015	SCREW, BUT HD, M8 X 1.25 X 15L, BEC	181
PPP0000AT190188101	CABLE, LOWER, XXXX	188
PPP00000WMJN004001	WASHER,FLAT,SAE,4.2 X 12 X 1,STL,BL	193
PPP00000KFJN004005	NUT,LOCK,FULL,M4,NYLON INSERT,STL,B	194
PPP0000WATCN011006	WASHER,INTERNAL TOOTH LOCK,11.0 X 6	195
PPP0AT91ATM2200101	HARDWARE KIT, TRM200-14	200
PPP0000000011078101	FERRITE, EMI SUPPRESSOR,	202
PPP0000AT061076101	END CAP, SIDEARM	203
PPP0000AT022595101	DISPLAY, SUPPORT	204
PPP0000AT061081101	BUCKET, OVERMOLDED, LEFT	205
PPP0000AT061082101	BUCKET, OVERMOLDED, RIGHT	206
PPP00000TEJN004016	BHCS,M4 X 16,STL,BLK E-COAT	207
PPP00000TEJN008012	BHCS,M8 X 12,STL,BLK E-COAT	207
PPP00000TAJN025063	BHCS,1/4-20 X 0.625,STL,BLK E-COAT	208
PPP0000AT200570101	ASSEMBLY, STOP SWITCH	209
PPP0000000059077102	ASSY, DRIVE MOTOR SPARE PARTS, CHI	210
PPP0000AT190184101	GROUND CABLE, CONSOLE/DASH	210
PPP0000AT061075101	FLEXIBLE CONDUIT	211
PPP0000AT061083101	LATCH, BUCKET MOUNT	212
PPP00000CEJN006012	SHCS,M6 X 12,STL,BLK E-COAT	213
PPP0000PAMKN004016	SCREW,SELF-TAP,PAN HD PHIL,M4 X 16,	214
PPP0000AT190013101	MOTOR BRUSH, CHI HUA, MK	216
PPP0000AT190014101	MOTOR GROUND BRUSH, CHI HUA, MK	218
PPP00000KFJN012012	LOCK NUT, NYLON, M12, BEC	895
PPP0000000303220111	KIT, LITERATURE, TRM 2XX, EN	999

System Functional Diagram