Cybex LCX-425T Treadmill
Service Manual

Cardiovascular Systems

Part Number LT-19638 Rev C

www.cybexinternational.com

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Service Manual

Cardiovascular Systems

Part Number LT-19638 Rev C

10 Trotter Drive Medway, MA 02053 • 888-462-9239 • 508-533-4300 • FAX 508-533-5183
www.cybexinternational.com • techhelp@cybexintl.com • techpubs@cybexintl.com • LT-19638 • Rev C • September 2007

About This Manual

An Owner's Manual is shipped with each unit. To purchase additional copies of this manual or any other Cybex manual, please do one of the following:

- order online at www.cybexinternational.com
- fax your order to 508-533-5183
- contact Cybex Customer Service at 888-462-9239
- or contact Cybex Customer Service at 508-533-4300

NOTE: *Refer to www.cybexinternational.com for changes and updates to this manual.*

To contact Cybex with comments about this manual you may send email to techpubs@cybexintl.com.

FCC Compliance Information

! WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment off and on) the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

DECLARATION OF CONFORMITY August 24, 2006

This Declaration of Conformity is suitable to the European Standard EN 45014, "General criteria for supplier's declaration of conformity."

We,

Manufacturer:
Cybex International, Inc.
10 Trotter Drive
Medway, MA 02053
USA
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EU Representative:
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Oaktree House
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declare under our sole responsibility that the product(s):

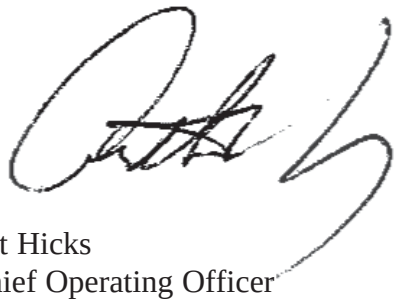
Cybex 425T Treadmill

to which this declaration relates is in conformity with the EEC directives listed herein below (including any and all relevant modifications):

73/23/EEC Low Voltage Directive

89/336/EEC Electromagnetic Compatibility

2002/95/EC Restriction of Hazardous Substances (RoHS) Directive



Art Hicks
Chief Operating Officer
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10 Trotter Drive
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151 24th Avenue NW + Owatonna, MN 55060, USA + t 507.455.0217 + f 507.455.3446

As a result of test reports and their evaluation by accredited laboratories, we are in possession of the following certificates for products which carry this marking:

Canada, USA		CAN/CSA-C22.2 No.68-92/99, UL Std. No. 1647, FCC Part 15 Subpart B Class B
European Union		73/23/EEC, 89/336/EEC

References of harmonized standards on which this declaration of conformity is based:

EN 61000-6-1:2001 Electromagnetic Compatibility (EMC) Generic Immunity: Residential, Commercial and Light Industrial

EN 61000-4-2 Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test

EN 61000-4-3 Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio frequency, and electromagnetic field immunity test

EN 61000-4-4 Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 4: Electrical fast transient/burst immunity test

EN 61000-4-5 Electromagnetic compatibility (EMC)- Part 4-5: Testing and measurement techniques - Surge immunity test

EN 61000-4-6 Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields

EN 61000-4-11 Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests

EN 61000-3-2 Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current <= 16A per phase)

EN 61000-3-3 Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection

EN 60335-1:2002 +A11:2004 +A1:2004 "Safety of Household and Similar Electrical Appliances"

EN 55022: 1998 (CISPR 22:1997), Class B Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment.

EN 957-6: Stationary training equipment: Treadmills, additional specific safety requirements and test methods

ASTM F 2115: Standard for Motorized Treadmills

FCC Part 15, Subpart B - Class B Radiated and Conducted Emissions

CAN/CSA-C22.2 No. 68-92 (Reaffirmed 1999) "Motor-Operated Appliances (Household and Commercial)"

ANSI / UL-1647 3rd Edition, March 28, 1997 Rev. May 9, 2006 Motor Operated Massage and Exercise Machines

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1 - Safety

IMPORTANT: *Read all instructions and warnings before using the treadmill.*

Important Voltage Information

Before plugging the power cord into an electrical outlet, verify that the voltage requirements for your area match the voltage of the treadmill that you have received. The power requirements for the Cybex 425T treadmill include a grounded, dedicated circuit, rated for one of the following: 115 VAC ±5%, 60 Hz and 15 amps; 208/220 VAC, 60 Hz and 10 amps or 230 VAC ±5%, 50 Hz and 10 amps. See the serial number decal for the exact voltage requirements of your treadmill.

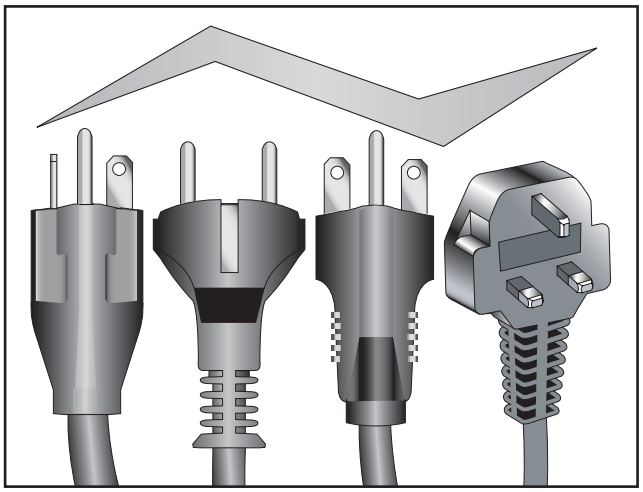
! WARNING: Do not attempt to use this unit with a voltage adapter. Do not attempt to use this unit with an extension cord.

! WARNING: Do not plug more than one unit into a single circuit.

Grounding Instructions

This treadmill must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

! DANGER:
Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service provider if you are in doubt as to whether the treadmill is properly grounded. Seek a qualified electrician to perform any modifications to the cord or plug. Cybex is not responsible for injuries or damages as a result of cord or plug modification.



115V NEMA 5-15 | Euro Plug CEE 7/7 | 208/220V NEMA 6-15 | UK 230VAC

This treadmill is for use on a nominal 115 VAC ±5%, 60 Hz and 15 amps, 208/220 VAC; 60 Hz, 10 amps or 230 VAC ±5%, 50 Hz and 10 amps and a grounded, dedicated circuit. Make sure that the treadmill is connected to an outlet having the same configuration as the plug. Do not use a ground plug adapter to adapt the power cord to a non-grounded outlet.

Important Safety Instructions

(Save These Instructions)

! DANGER: To reduce the risk of electric shock, always unplug this treadmill from the electrical outlet immediately after using it and before cleaning it.

! WARNING: Serious injury could occur if these precautions are not observed. To reduce the risk of burns, fires, electric shock, or injury:

User Safety Precautions

- **DO NOT** wear loose or dangling clothing while using.
- Use the treadmill handrails for support and to maintain balance.
- Stop exercising if you feel faint, dizzy, or experience pain at any time and consult your physician.
- Obtain a medical exam before beginning any exercise program.
- Read and understand emergency stop procedures.
- Replace any warning labels if damaged, worn or illegible.
- Report any malfunctions, damage or repairs to the facility.
- Place your feet on the two top steps when starting or stopping the treadmill.
- Stop and place the treadmill at 0 degrees incline (level) after each use.
- Keep children away from the treadmill. Teenagers and disabled persons must be supervised.
- Obtain instruction before using.
- Keep all body parts, towels, and the like free and clear of moving parts.
- Read and understand the Owner's Manual and all warnings posted on the unit before using.
- **DO NOT** use the unit if you exceed 350 lbs. (158 kg). This is the rated maximum user weight.
- Disconnect power before servicing.

Facility Safety Precautions

- Instruct all users on how to clip the e-stop clip onto their clothing and carefully test it prior to using the treadmill.
- Instruct all users to use caution when mounting and dismounting the treadmill.

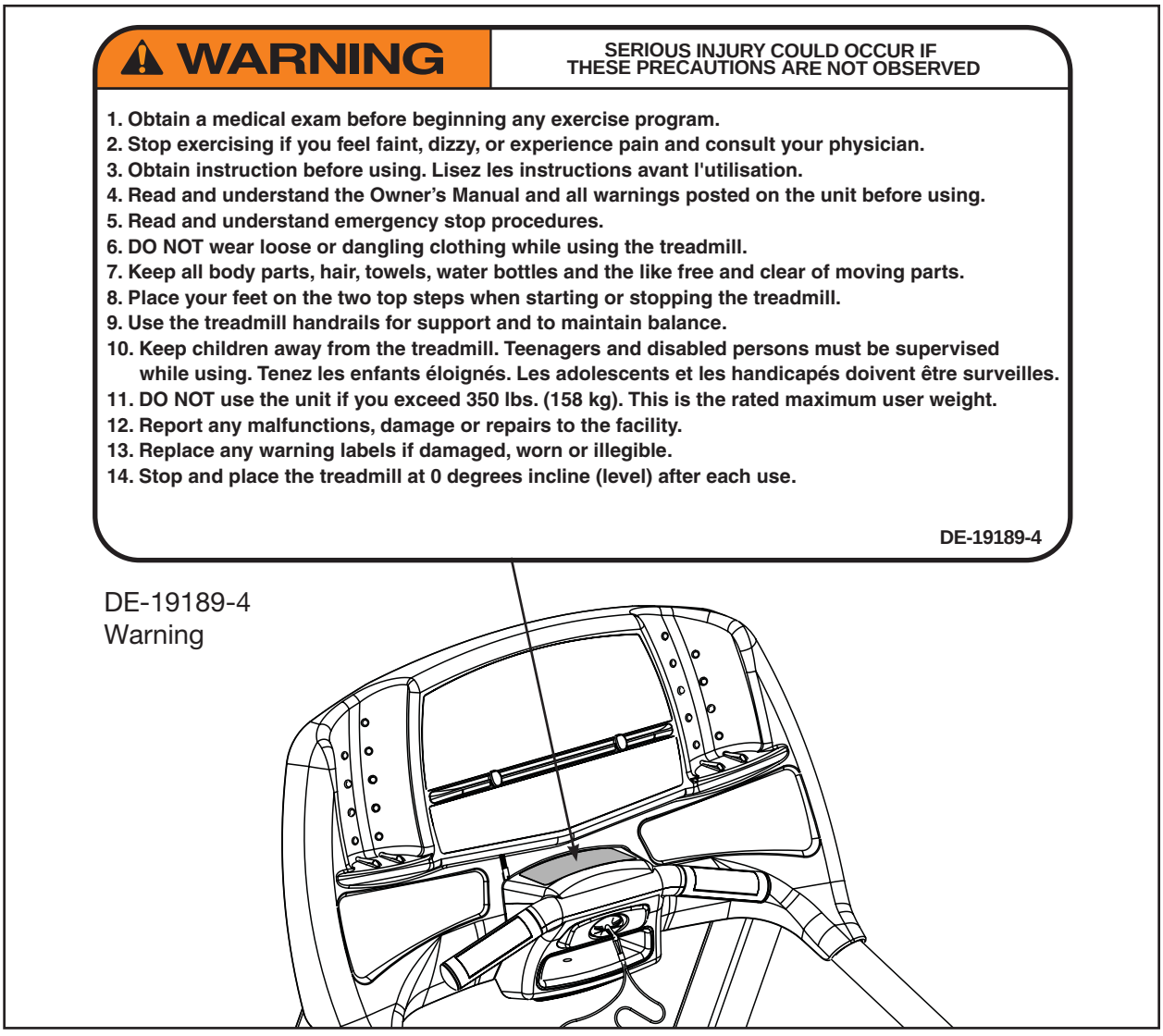
- Use a dedicated line when operating the treadmill. ***NOTE:*** *A dedicated line requires one circuit breaker per unit.*
- Connect the treadmill to a properly grounded outlet only.
- **DO NOT** operate electrically powered treadmills in damp or wet locations.
- Keep the running belt clean and dry at all times.
- **DO NOT** leave the treadmill unattended when plugged in and running. ***NOTE:*** *Before leaving the treadmill unattended, always wait until the treadmill comes to a complete stop and is level. Then remove the plug from the outlet. Remove the e-stop key from the treadmill.*
- Immobilize the treadmill (when not in use) by removing the e-stop key.
- Inspect the treadmill for worn or loose components before each use. Do not use until worn or damaged parts are replaced.
- Maintain and replace worn parts regularly. Refer to “Preventive Maintenance” section of Owner’s Manual.
- **DO NOT** operate the treadmill if: (1) the cord is damaged; (2) the treadmill is not working properly or (3) if the treadmill has been dropped or damaged. Seek service from a qualified technician.
- **DO NOT** place the cord near heated surfaces or sharp edges.
- **DO NOT** use the treadmill outdoors.
- **DO NOT** operate the treadmill around or where aerosol (spray) or where oxygen products are being used.
- Read and understand the Owner’s Manual completely before using the treadmill.
- Ensure all users wear proper footwear on or around all Cybex equipment.
- Set up and operate the treadmill on a solid, level surface. Do not operate in recessed areas or on plush carpet.
- Provide the following clearances: 19.7 inches (0.5 m) at each side, 79 inches (2.0 m) at the back and enough room for safe access and passage at the front of the treadmill. Be sure your treadmill is clear of walls, equipment and other hard surfaces.
- **DO NOT** attempt repairs, electrical or mechanical. Seek qualified repair personnel when servicing. If you live in the USA, contact Cybex Customer Service at 888-462-9239. If you live outside the USA, contact Cybex Customer Service at 508-533-4300.
- Use Cybex factory parts when replacing parts on the treadmill.
- **DO NOT** modify the treadmill in any way.
- **DO NOT** use attachments unless recommended for the treadmill by Cybex.
- Ensure all User and Facility safety precautions are observed.

- Carefully read and understand the following before using the 425T treadmill:
  - Warning Decals
  - Caution Decals

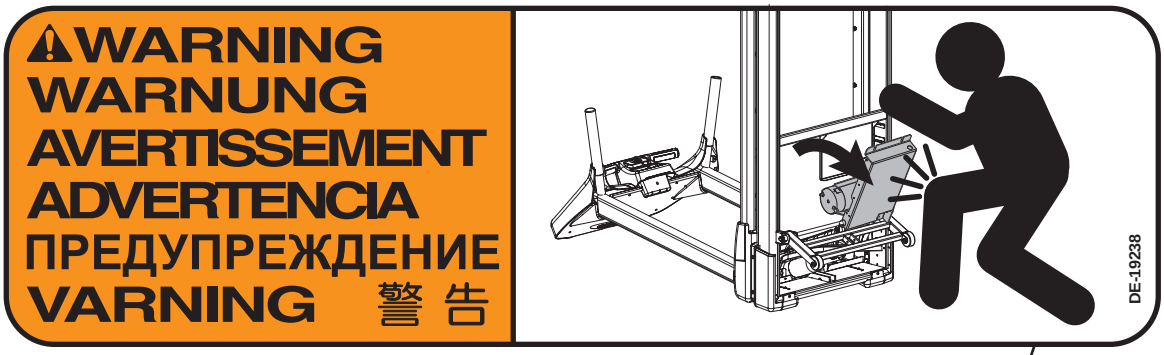
To replace any worn or damaged decals do one of the following: Visit www.cybexinternational.com to shop for parts online, fax your order to 508-533-5183 or contact Cybex Customer Service at 888-462-9239. If you live outside of the USA, call 508-533-4300. For location or part number of labels, see the parts list and exploded-view diagram. This information can be found in the *Service* chapter in this manual or on Cybex web site at www.cybexinternational.com.

Warning Decals

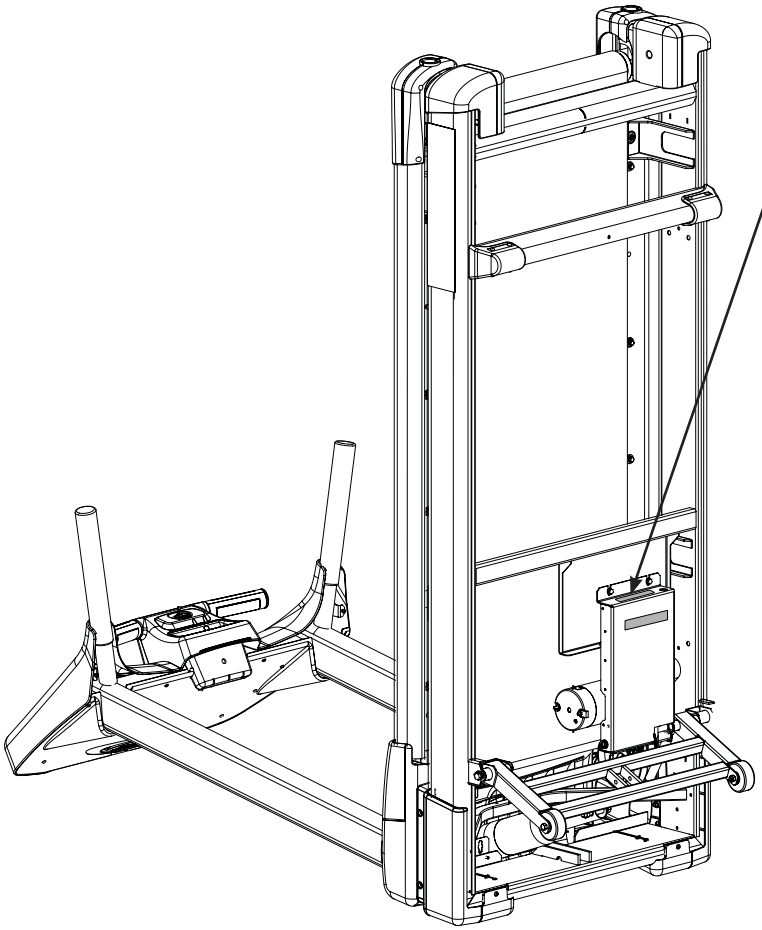
Warning decals indicate a potentially hazardous situation, which, if not avoided, could result in death or serious injury. The warning decals used on the Cybex 425T are shown below.

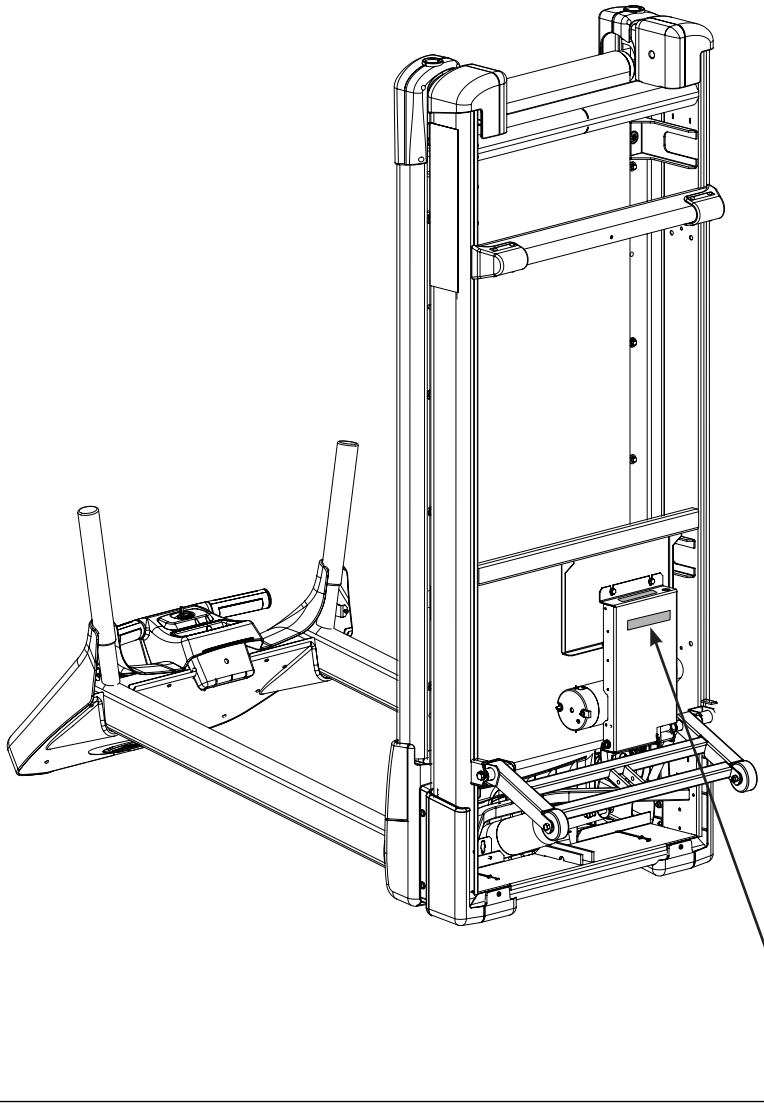


DE-19189-4
Warning



DE-19238
Warning
Motor Cover





WARNING **WARNUNG** 警告
AVERTISSEMENT **ADVERTENCIA**

DISCONNECT POWER BEFORE SERVICING.	DÉBRANCHEZ L'ALIMENTATION AVANT DE FAIRE L'ENTRETIEN	VOR SERVICEAR-BEITEN NETZSTECKER ZIEHEN.	CORTE LA ENERGIA ELECTRICA ANTES DE REPARAR.	修理点検の前に電源を切って下さい。

DE-16928

DE-16928
Warning
Motor Cover

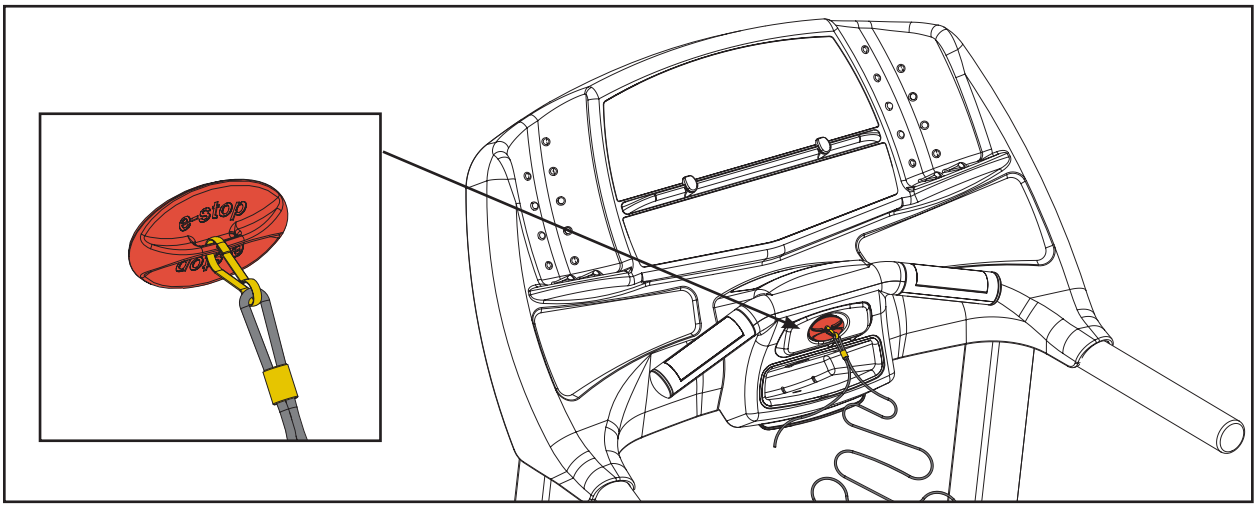
Caution Decals

Caution decals indicate a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. There are no caution decals used on this unit. However, there are caution statements listed in Chapters 5 and 6 of this manual. See Chapters 5 and 6.

Emergency Stop Key (e-stop)

The e-stop key functions as the emergency stop. In an emergency situation, remove the e-stop key and the treadmill will come to a stop. Before using the treadmill, clip the e-stop key as described below.

1. Clip the e-stop key to your clothing. ***NOTE:*** *Be sure the string is free of knots and has enough slack for you to run comfortably with the e-stop key in place.*
2. Without falling off the treadmill, carefully step backward until the e-stop falls off the treadmill. ***NOTE:*** *If the e-stop clip falls off your clothing then the test has failed. Reclip the e-stop clip to your clothing and repeat this step.*
3. Replace e-stop after successfully testing the e-stop key. See the illustration shown below.
4. The treadmill is now ready to be used.



5. After use, remove the e-stop key from the treadmill.

NOTE: *The e-stop key shall be removed to help prevent unauthorized use. Refer to the Stopping the Treadmill section in the Operation chapter for more information about the e-stop key.*

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2 - Preventive Maintenance

Warnings/Cautions

All warnings and cautions listed in this chapter are as follows:

! WARNING: All maintenance activities shall be performed by qualified personnel. Failure to do so could result in serious injury.

! WARNING: To prevent electrical shock, be sure that the treadmill is unplugged from the electrical outlet before performing any cleaning or maintenance procedures.

! WARNING: Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged. Do not touch components on the lower board. A charge can remain after unplugging the power cord and turning off the treadmill.

Regular Maintenance Activities

! WARNING: All maintenance activities shall be performed by qualified personnel. Failure to do so could result in serious injury.

Preventive maintenance activities must be performed to maintain normal operation of your treadmill. Keeping a log sheet of all maintenance actions will assist you in staying current with all preventive maintenance activities. See *Service Schedule* located at the end of this chapter.

NOTE: *Worn or damaged components shall be replaced immediately or the treadmill removed from service until the repair is made.*

NOTE: *Cybex is not responsible for performing regular inspection and maintenance actions for your treadmill. Instruct all personnel in equipment inspection and maintenance actions and also in accident reporting/recording. Contact Cybex Customer Service at 888-462-9239 or 508-533-4300 for any preventive maintenance or service concerns.*

Cleaning Your Treadmill

When cleaning your treadmill spray a mild cleaning agent, such as a water and dishsoap solution, on a clean cloth first and then wipe the treadmill with the damp cloth.

NOTE: *Do not spray cleaning solution directly on the treadmill. Direct spraying could cause damage to the electronics and may void the warranty.*

! WARNING: To prevent electrical shock, be sure that the treadmill is unplugged from the electrical outlet before performing any cleaning or maintenance procedures.

After Each Use — Wipe up any liquid spills immediately. After each workout, use a cloth to wipe up any remaining perspiration from the handrails and painted surfaces.

Be careful not to spill or get excessive moisture between the edge of the display panel and the console, as this might create an electrical hazard or cause failure of the electronics.

As Needed — Vacuum any dust or dirt that might accumulate under or around the treadmill. Motors are especially susceptible to dust and dirt, and restricted airflow can prevent adequate cooling that could shorten motor life. Cleaning this area should be done as often as indicated in the *Service Schedule.*

! WARNING: Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged. Do not touch components on the lower board. A charge can remain after unplugging the power cord.

To clean the motor components, you must raise the elevation to 15% elevation. Unplug the treadmill and carefully lift the rear of the treadmill. Lift the treadmill until it rests on the top of the console. Use a vacuum attachment or hand vacuum to clean the exposed elevation assembly, drive motor, lower electronics and the surrounding areas. Wipe clean the underside of the treadmill to prevent dirt and dust build-up.

Also use a dry cloth for the areas that you can't reach with the vacuum cleaner. If the machine has not been used for some time or is excessively dirty, use a *dry* cloth to wipe all exposed areas.

Carefully lower the rear of the treadmill and roll it back from its present position to vacuum the floor area underneath the unit. When finished, return the treadmill to its normal position.

Contact Heart Rate Grips — Contaminants, such as hand lotions, oils or body powder, may come off on the contact heart rate grips. These can reduce sensitivity and interfere with the heart rate signal. It is recommended that the user have clean hands when using the contact heart rate. Clean the grips using a cloth dampened with a cleaning solution containing rubbing alcohol. The grips are the only part of the treadmill you should use a cleaning solution containing rubbing alcohol.

Running Belt Maintenance

Belt and Deck — Wipe the belt surface and the deck area with a clean dry towel to minimize the effect of friction between the deck and the running belt. This should be done often to prevent premature wear of the deck, running belt, and the drive motor system. See the *Service Schedule* at the end of this chapter.

The running belt may become loose and slip on the drive roller with each foot plant. If it does, follow the *Tensioning and Centering the Belt* procedure below. See the *Service Schedule* in this chapter for a minimum schedule for checking the belt tension.

Tension and Center the Belt — If the belt is slipping under each step perform this procedure:

Tools Required

• 3/4" Socket wrench

1. Tension the belt.

A. Use a 3/4" socket wrench to turn each bolt 1/2 turn clockwise. See Figure 1.
NOTE: *Be sure to adjust each bolt equally on each side.*

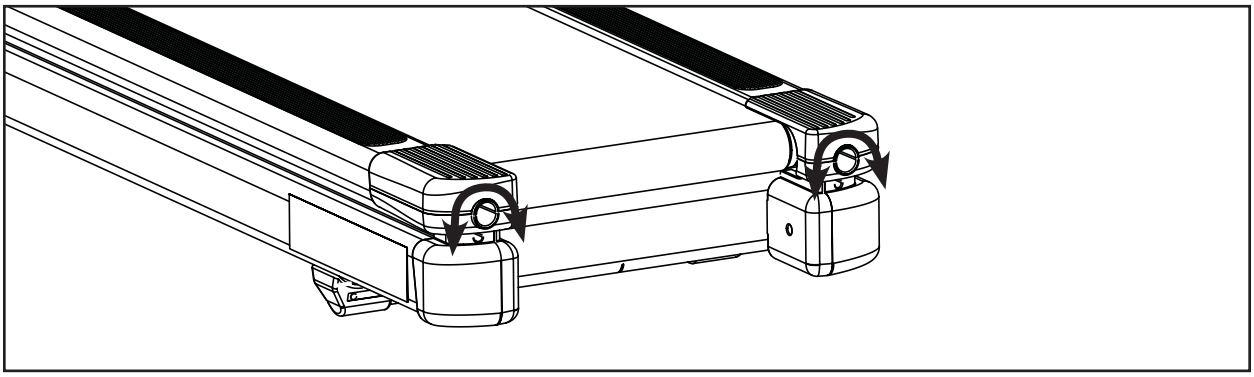

Figure 1

B. Press the **Quick Start** key.

C. Press the **Speed +** to bring the speed up to 3.5-4 mph (5.6-6.4 kph). Allow the treadmill to run for a minute.

D. Observe the belt to be sure it stays centered. If it is not centered follow step 2.

E. Walk on the belt to see if it still slips. If it does restart this procedure at step 1 A. If you have to do this procedure three times and it still slips call Cybex Customer Service. Follow the next step to be sure the belt is centered.

NOTE: *Be careful not to over tighten the belt. Over tightening the belt can cause the belt to stretch and require replacement.*

2. Center the belt.

NOTE: *While centering the belt choose one bolt to adjust. Do not adjust both bolts.*

A. With the treadmill running at 5 mph (8 kph) observe the running belt. If the belt tracks off center to the right or left the deck will become exposed. Use a 3/4" socket wrench to tighten the rear roller bolt on the side of the treadmill toward which the belt is moving. For example: If the belt moves to the right and the deck becomes exposed on the left, tighten the bolt on the right side of the frame, tighten about 1/2 of a turn (clockwise) and wait 30 seconds. If the belt does not move back to the center of the treadmill, make another adjustment to the ***same bolt***. Once the running belt has been adjusted closer to the center of the treadmill use about 1/4 of a turn until the belt has been stabilized.

B. After the belt has been centered, check the belt tension again. Make sure the running belt tension is tight enough so that the belt does not slip or hesitate when stepped on. Walk on the treadmill at 3.5-4 mph (5.6-6.4 kph) and every 4th to 5th step throw your weight into your step to feel if the belt is slipping. If the belt does slip, use a wrench to equally tighten ***both*** rear roller adjustment bolts 1/2 of a turn (clockwise). Adjust the belt until no further slipping is felt.

Checking the Belt and Deck Surfaces — The running belt and deck should be checked periodically for any excessive wear. In an effort to make sure that the running belt operates properly, visually inspect the belt often to make sure that there are no tears or fraying in the belt material. The running belt, deck bushings and motor brushes should be replaced every 9,000 miles (14,500 km). The deck can be flipped once at 9,000 miles (14,500 km) then replaced at the next interval. A service prompt will appear at this interval and the parts will need to be replaced.

Inspect the edges of the belt as described below.

Tools Required

- None

1. Disconnect the external power source.

A. Unplug the treadmill from the power outlet.

2. Check the belt and deck condition.

A. Look at the edges of the belt while you roll it by hand. If the belt has any rips or looks excessively worn the belt needs to be replaced.

B. Run your hand under the belt on the top of the deck surface. If you feel excessive ridges or cracks, or if any wood is exposed under the black surface, the deck should be replaced. In time, a worn belt and deck can cause high current draw and ultimately, motor failure.

NOTE: *If the running belt and deck need replacement refer to a qualified service technician.*

Other Preventive Maintenance

Other preventive maintenance activities must be completed by a qualified service technician at the recommended intervals listed in the *Service Schedule* at the end of this chapter. These activities include:

- Measure the motor brushes and replace worn motor brushes
- Replace the running deck and bushings
- Replace the running belt

Elevation Motor Lubrication — In time the elevation motor pivot points may develop a squeak. Lubricate the upper and lower bolts and the spacers with a small amount of lithium grease. ***NOTE:*** *You can buy lithium grease at an auto parts store.*

Static Electricity — Depending upon where you live, you may experience dry air, causing a common experience of static electricity. This may be especially true in the winter time. You may notice a static build-up just by walking across a carpet and then touching a metal object. The same can hold true while working out on your treadmill. You may experience a shock due to the build-up of static electricity on your body and the discharge path of the treadmill. If you experience this type of situation, you may want to increase the humidity to a comfortable level through the use of a humidifier.

Service Schedule

All maintenance activities shall be performed by qualified personnel. Failure to do so could result in serious injury.

NOTE: *This is the minimum recommended service.*

1. **Determine mileage.**

   A. While in *Dormant Mode* enter *Test Mode* by pressing and holding the **Heart Rate** and **Level** keys simultaneously for five seconds.

   B. Press the **Dist** key. DIST appears on the display. Record Mileage. ***NOTE:*** *Once the unit exceeds 999 miles or kilometers the odometer will use both screens. Example: 12,805 miles or km would be displayed as* 12 805.

NOTE: *To exit Test Mode, press the* ***Pause/Stop*** *key .*

First 500 miles (800 km).

- Check running belt tension and tracking.

Every 5,000 miles (8,000 km).

- Check running belt tension and tracking.
- Move treadmill and vacuum underneath.
- Raise elevation to 15%, Carefully tip treadmill up on the console to clean underneath with a dry cloth and vacuum. Return to normal position when done.

Every 9,000 miles (14,500 km).

- Replace running belt and deck.
- Replace deck bumpers.
- Replace drive motor brushes.
- Check elevation assembly and replace worn parts.
- Lubricate elevation pivot points.

NOTE: *Every 9,000 miles (14,500 km) the unit will show "****SVC****" on the display. The unit will then emit a short beep every 2 minutes. This will continue until the service is performed and the service odometer is reset.*

2. Resetting the service odometer.

A. While in *Dormant Mode* enter *Test Mode* by pressing and holding the **Heart Rate** and **Level** keys simultaneously for five seconds.

B. Press the **Cool Down** key to display "**SVC**" and miles or kilometers on service odometer.

C. Press the ▲ or ▼ key to display "**RST**".

D. Press the **Enter** key to reset the service odometer to zero.

NOTE: *Service may be performed before the 9,000 miles (14,500 km) service prompt appears. Perform the service on the unit and follow the above procedure to reset the service odometer to zero.*

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3 - Customer Service

Contacting Service

Hours of phone service are Monday through Friday from 8:30 a.m. to 6:00 p.m. Eastern Standard Time.

For Cybex customers living in the USA, contact Cybex Customer Service at **888-462-9239.**

For Cybex customers living outside the USA, contact Cybex Customer Service at **508-533-4300** or fax **508-533-5183.**

Order parts and find information on the web at www.cybexinternational.com or by e-mail at techhelp@cybexintl.com.

Serial Number and Voltage

Your serial number and voltage can be found on the rear of your treadmill. See Figure 1. For your convenience record your serial number and voltage below so that you will have it ready if you call Cybex Customer Service.

Serial Number _____ Voltage _____

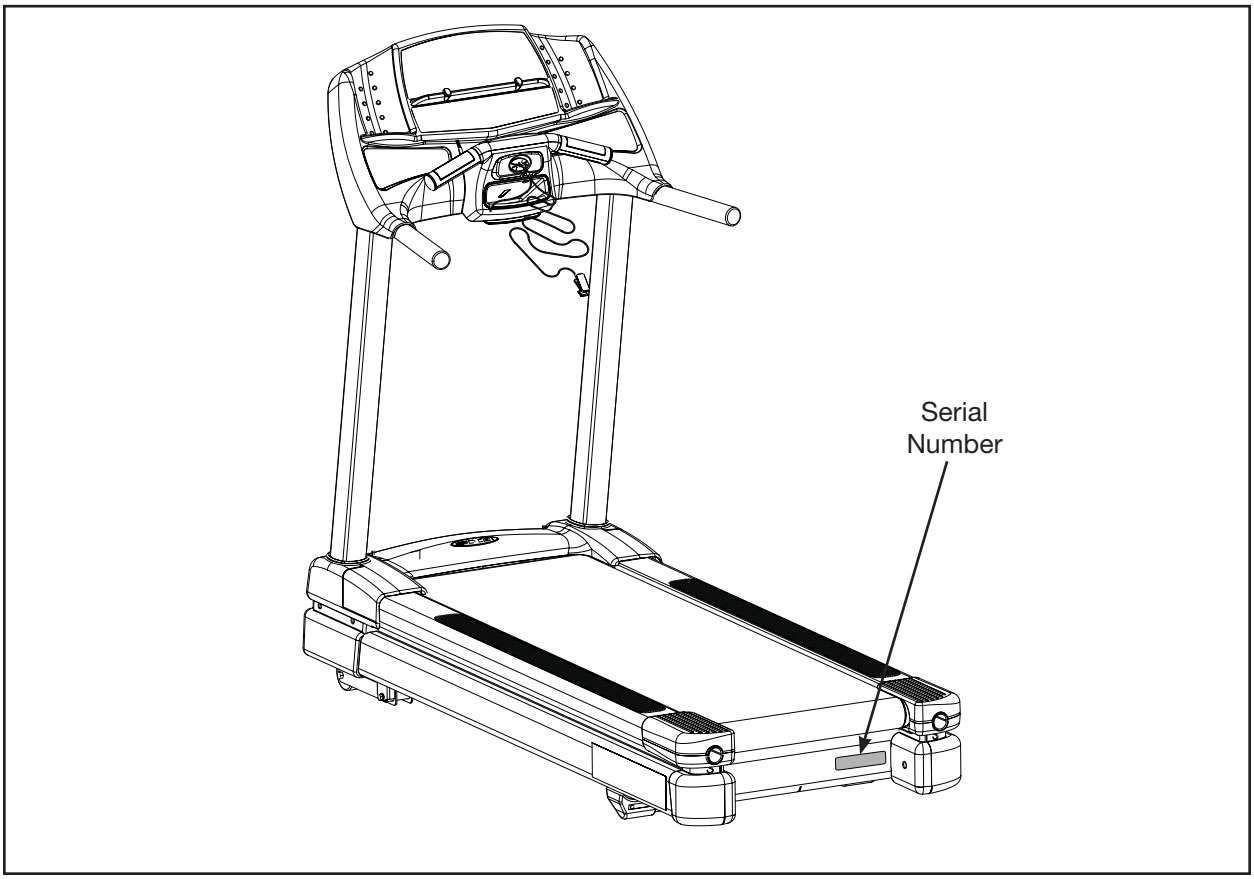


Figure 1

Return Material Authorization (RMA)

The Return Material Authorization (RMA) system outlines the procedures to follow when returning material for replacement, repair, or credit. The system assures that returned materials are properly handled and analyzed. Follow the following procedures carefully.

Contact your authorized Cybex dealer on all warranty-related matters. Your local Cybex dealer will request an RMA from Cybex, if applicable. Under no circumstances will defective parts or equipment be accepted by Cybex without proper RMA and an Automated Return Service (ARS) label.

1. Call the Customer Service Hotline listed above for the return of any item that is defective.

2. Provide the technician with a detailed description of the problem you are having or the defect in the item you wish to return.

3. Provide the model and serial number of your treadmill. The serial number is located on the front panel of your treadmill. The serial number begins with a letter, for example: R09-101331100.

4. At Cybex's discretion, the technician may request that you return the problem part(s) to Cybex for evaluation and repair or replacement. The technician will assign you an RMA number and will send you an ARS label. The ARS label and RMA number must be clearly displayed on the outside of the package that contains the item(s) to be returned. Include a description of the problem, the serial number of the treadmill and the name and address of the owner in the package along with the part(s).

5. Forward the package through UPS to Cybex.
   Attn: Customer Service Department
   Cybex International, Inc.,
   10 Trotter Drive
   Medway, MA 02053

NOTE: *Merchandise returned without an RMA number on the outside of the package or shipments sent C.O.D. will not be accepted by the Cybex receiving department.*

Damaged Parts

Materials damaged in shipment should not be returned for credit. Shipping damages are the responsibility of the carrier (UPS, Federal Express, trucking companies, etc.)

Apparent Damage — Upon receipt of your shipment, check all boxes carefully. Any damage seen with a visual check must be noted on the freight bill and signed by the carrier's agent. Failure to do so will result in the carrier's refusal to honor your damage claim. The carrier will provide you with the required forms for filing such claims.

Concealed Damage — Damage not seen with a visual check upon receipt of a shipment but noticed later must be reported to the carrier as soon as possible. Upon discovery of the damage, a written or phone request to the carrier asking them to perform an inspection of the materials must be made within ten days of the date of delivery. Keep all shipping containers and packing materials: they will be needed as part of the inspection process. The carrier will provide you with an inspection report and the necessary forms for filing a concealed damage claim. Concealed damage is the carrier's responsibility.

Ordering Parts

Visit www.cybexinternational.com to shop for parts online or fax your order to **508-533-5183**. To speak with a customer service representative, call **888-462-9239** (for customers living within the USA) or **508-533-4300** (for customers outside the USA).

⚠ CAUTION

Use only Cybex replacement parts when servicing. Failure to do so could result in personal injury.

Cybex will void warranty if non-Cybex replacement parts are used.

4 - Service

Warnings/Cautions

All warnings and cautions listed in this chapter are as follows:

! WARNING: All maintenance activities shall be performed by qualified personnel. Failure to do so could result in serious injury.

! CAUTION: Use only Cybex replacement parts when servicing. Failure to do so could result in personal injury.

! WARNING: Disconnect the power cord before beginning this procedure.

! CAUTION: During this procedure STAY OFF THE RUNNING BELT! Stand with your feet on the two steps.

! CAUTION: Always use proper lifting methods when moving heavy items.

! WARNING: Drive belt is under tension. Do not pinch fingers while releasing tension.

! WARNING: Disconnect the power cord before beginning this procedure. Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged. Do not touch components on the lower board. A charge can remain after unplugging the power cord.

! WARNING: Drive Motor is heavy, use care when lifting.

! WARNING: Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged. Motor brush removal and replacement should be performed by a qualified service technician.

! WARNING: Motor plate is heavy and will drop down when motor plate bolts are removed.

! WARNING: All maintenance activities shall be performed by qualified personnel. Failure to do so could result in serious injury.

For any service related concerns, call Cybex Customer Service at 800-766-3211 (for Cybex customers living within the USA). For customers living outside the USA, call 508-533-4300 or fax 508-533-5183.

NOTE: *Read and understand each procedure thoroughly before servicing. Unless otherwise noted "right" and "left" denote user orientation for all procedures.*

⚠ CAUTION

Use only Cybex replacement parts when servicing. Failure to do so could result in personal injury.

Cybex will void warranty if non-Cybex replacement parts are used.

Test Mode

To enter *Test Mode* press and hold down the **Heart Rate** and **Level** keys simultaneously for five seconds while in *Dormant Mode*. When the **Heart Rate** and **Level** keys are released the software revision "rx.x" is shown on the display. To exit *Test Mode* press the **Pause/Stop** key once.

Stuck Key List

If "key" and a number is displayed you can determine which key is stuck closed by referring to the list below. If a key is stuck closed you may need to replace the upper or lower display overlay. See Figure 1. Follow the *Display Overlay* procedure located in this chapter.

1 **Cal/Hr**
2 **Aux**
3 **Channel + (opt.)**
4 **Cool Down**
5 **Mets**
6 **HR Control**
7 **Level**
8 **Enter**
9 **Incline Down**
10 **Speed -**
11 **Channel - (opt.)**
12 **Time**
13 **Cal**
14 **Programs**
15 **Arrow Up**
16 **Arrow Down**
17 **Inline Up**
18 **Speed +**
19 **Volume - (opt.)**
21 **Distance**
23 **Weight**
24 **Heart Symbol**
25 **Pause/Stop**
26 **Quick Start**
27 **Volume + (opt.)**
29 **Scan**
30 **Manual**
32 **Min/Mi/Km**

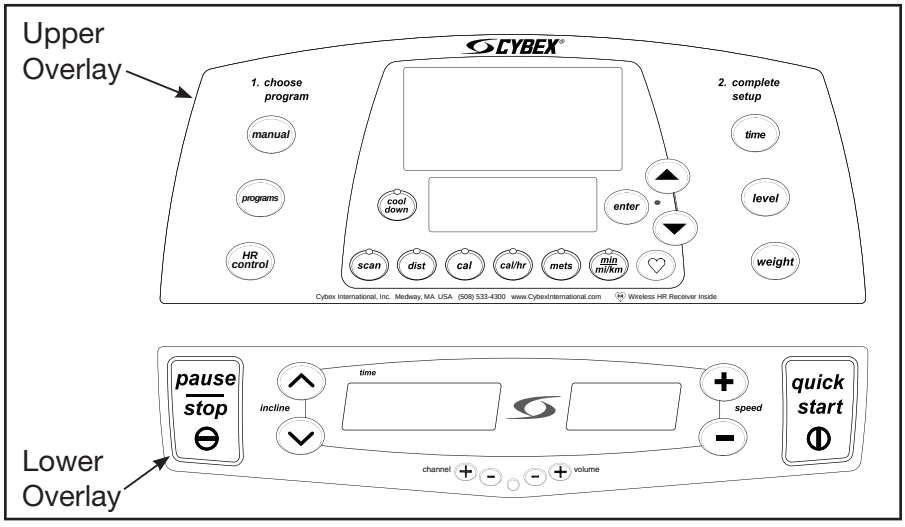


Figure 1

LED Functions

LEDs are used to indicate the status of many of the treadmill inputs. After entering *Test Mode* refer to the following list to check that these LEDs are functioning properly. See Figure 2.

Elevation sensor LED: On when 0% elevation sensor is active above 0% and off below 0%.
E-stop key sensor LED: Off when e-stop key is removed.
Speed sensor LED: Blinks on once per speed sensor pulse.
Heart rate sensor LED: Blinks on when hand grips are held and contact heart rate is activated. Holding grips turns heart symbol Blue, Polar signal turns heart symbol Red.

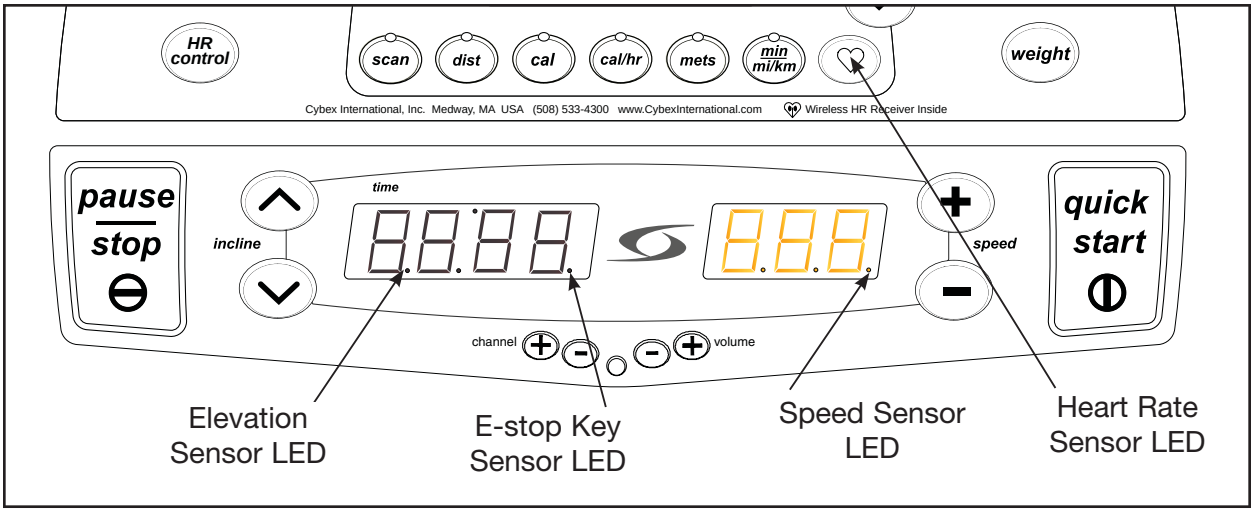


Figure 2

Key Functions

While in *Test Mode* press the following keys for desired information:

Quick Start	Starts the belt at 1.0 mph (1.0 kph).
Manual	Lights all of the LED segments for a short period of time.
Programs	Lights all vertical LED segments for a short period of time.
HR Control	Lights all horizontal LED segments for a short period of time.
Cool Down	Displays service odometer. Maintenance prompt is activated every 9,000 miles (14,484 km). Display shows “SVC” and beeps every 2 minutes. See *Error Codes*.
Dist	Press once for odometer information (DST) to appear in the speed window. Press again for hourmeter information (HRS) to appear in the speed window. Press three times for number of starts information (USES) to appear in the speed window.
Cal	Displays motor pulse width (PWM) value
Min/mi/km	Displays and cycles through error log. Up to 10 errors can be stored
Scan	Clears error log when pressed twice while in error log mode.
Incline ⬆	Run elevation motor up.
Incline ⬇	Run elevation motor down.
Speed +	Increase drive motor speed.
Speed -	Decrease drive motor speed.

Pause/Stop	Press once to exit *Test Mode.*
Time	Displays the setup constants, each of which may be modified by pressing the Up and Down arrows. Each depression of Time cycles to the next parameter. The **Enter** key must be pressed to save a changed value. See *Setting Operation Options* in chapter 5 of the Owner's Manual for details.
Up Arrow	Increases display constants, see *Time*.
Down Arrow	Decreases display constants, see *Time*.
Enter	Required to save setup values. When pressed display reads "UPdt".
Pause/End	Exit the diagnostic mode and return to Dormant.

Error Codes

Error codes notify you of a problem condition and are displayed on the console. These codes can also help to indicate the part of the treadmill most likely to be causing the problem. Errors that present a hazard to the user provide a measure of safety by causing a one second beep, stopping the treadmill and locking out operation of the treadmill. Reset power by unplugging unit for a few seconds, then plug power cord into outlet.

A log of errors can be viewed and cleared. Enter *Test Mode* and press the **Pace (min/mi/km)** key to display the log. The most recent error is always first in the log. Press the **Pace** key again to cycle to the next the error stored. Up to 10 errors can be stored. Press the **Scan** key twice to clear the error log. Press **Pause/Stop** to exit *Test Mode*.

NOTE: *A processor upset can cause a bAd#. See H then G.*

Error	**Description**
bAd0	Bad checksum. See H then G.
bAd2	Internal RAM error. See H then G.
bAd3	Watchdog timeout. See H then G.
Err1	Belt didn't start (or no speed sense). See I, E, D, B then A.
Err2	Underspeed (2 mph for 2 seconds without correction in process). See I, E, C then B.
Err3	Speed sense lost. See I, E, A, B and C.
Err5	No 0 switch sense within timed limits. This is declared when the timed elevation reaches -2% without tripping the index. See F and A.
Err6	Overspeed (1 mph for 1 second or 2 mph for 0.2 seconds without correction). See I, E.
Err7	EEPROM error (memory lost, loads new defaults, enters *Test Mode*). See G.
ErrE	0% always on (or switch disconnected or wired backwards). This means that timed elevation has gone up 2% and the index is still sensed. See F.
SVC	Maintenance prompt. Is activated every 9,000 miles (14,484 km). Display shows "SVC" and beeps every 2 minutes. In Test Mode press "Cool Down" and then press up and down arrows to display "RST" for reset. Press Enter to reset service odometer to zero.

Action

A	Check lower board	**F**	Check elevation motor
B	Check drive motor	**G**	Replace display board
C	Check belt and deck	**H**	Reset power by unplugging unit for a few seconds, then plug power cord into outlet
D	Check motor brushes		
E	Check speed sensor	**I**	Perform speed calibration procedure

Speed Sensor Adjustment

Tools Required

- Phillips head screwdriver
- 1/2” open end wrench (2)

! WARNING: Disconnect the power cord before beginning this procedure.

1. **Disconnect the external power source.**

   A. Unplug the treadmill from the power outlet.

2. **Remove the motor cover.**

   A. Using a Phillips head screwdriver, loosen two screws on each motor cover side (left and right). See Figure 3.

   B. Using a Phillips head screwdriver, loosen two screws on the front motor cover. See Figure 3.

   C. Lift the motor cover up and off the treadmill. The screws will stay in place.

3. **Adjust the speed sensor gap (if needed).**

NOTE: Do not overtighten nuts on plastic speed sensor housing.

   A. Using two 1/2” open end wrenches, loosen the nuts that attaches the speed sensor to the frame bracket. See Figure 4.

   B. Adjust the gap between the speed sensor and the magnet on the front roller to 1/4” (.635 cm) and tighten the two nuts. See Figure 4.

4. **Test for speed errors.**

   A. Connect the power cord to a power outlet.

   B. Bring the speed of the treadmill up to maximum speed, 11.0 mph (17.6 kph).

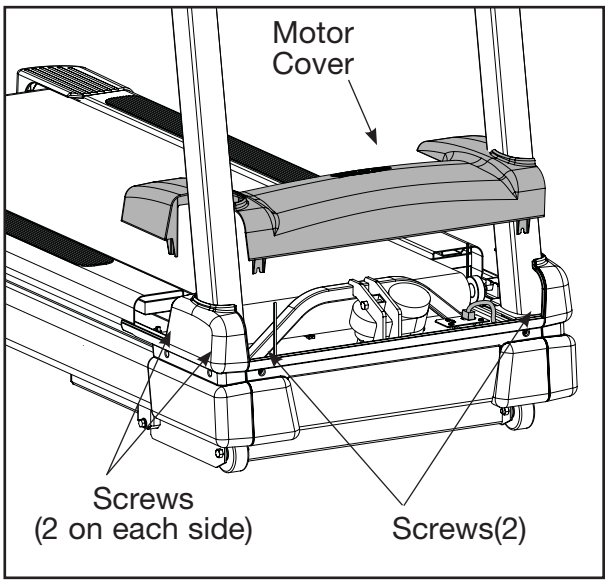


Figure 3

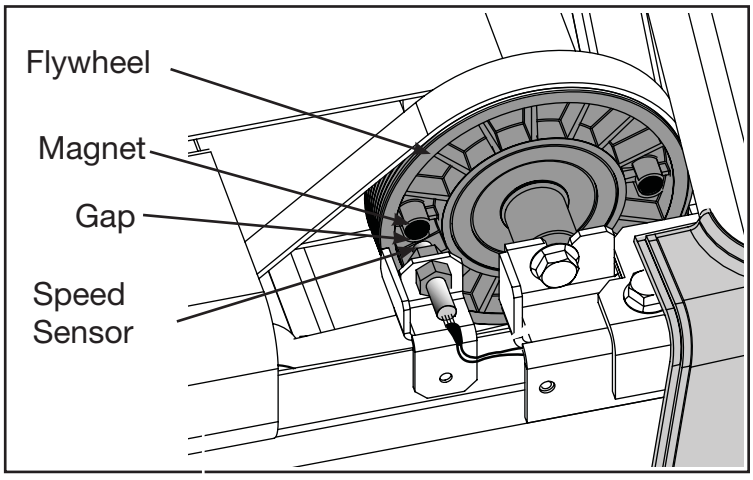


Figure 4

C. After reaching maximum speed reduce the speed to 1.0 mph (1.6 kph). If a speed error occurs then your speed sensor gap needs to be readjusted.

D. Press **Pause/Stop**.

E. Enter *Test Mode* again and check the error log for Error 3. If any new errors occurred, readjust the speed sensor and test again. ***NOTE:*** *If you are unsure whether an error is new you can clear the error log by pressing the scan key twice and then repeat steps 3A through 4E.*

F. Exit *Test Mode* by pressing **Pause/Stop**.

5. Secure the motor cover.

A. Lower the motor cover center into position. See Figure 3.

B. Using a Phillips head screwdriver, tighten the two screws on each side and the two screws in the front of the unit.

Speed Calibration

1. Calibrate the speed.

A. Stay off the running belt during this procedure.

! CAUTION: During this procedure STAY OFF THE RUNNING BELT! Stand with your feet on the two steps.

B. In *Test Mode* press and hold the **Heart Rate** and **Time** keys for five seconds. The display will show “CAL”. The running belt will accelerate to three different speeds and when completed the display will show “SAV”.

C. Press **Pause/Stop** to exit *Test Mode*. ***NOTE:*** *This procedure should be completed after replacing the upper display board, the lower control board or the drive motor. If you press* **Pause/Stop** *during this procedure the calibration will not be stored. Exiting Test Mode while the belt is moving may generate an error condition.*

Running Belt and Deck

NOTE: *During this procedure you will have the option to remove the running deck, running belt, end caps, rear roller, front roller, rubber mounts and drive belt. Follow this procedure from step 1 even though the heading for some of these procedures will appear before the step where you remove that part.*

Tools Required

- Phillips head screwdriver
- 7/16” socket wrench

1. Elevate the treadmill.

A. Without standing on the belt, press the **Quick Start** key and begin running the treadmill.

B. Press the up arrow and elevate the treadmill fully

2. Disconnect the power.

A. While the treadmill is still fully elevated and running unplug the power cord from the wall outlet.

3. Remove the motor cover.

A. Using a Phillips head screwdriver, loosen two screws on each motor cover side (left and right). See Figure 3.

B. Using a Phillips head screwdriver, loosen two screws on the front motor cover. See Figure 3.

C. Lift the motor cover up and off the treadmill. The screws will stay in place.

4. Remove the top platforms.

! CAUTION: Always use proper lifting methods when moving heavy items.

A. Carefully lift the rear of the treadmill until the top of the console is resting on the floor.

B. Using a 7/16” socket wrench, remove the four bolts, split washers and flat washers that hold one of the top platforms in place. Repeat this step for the other side. See Figure 5.

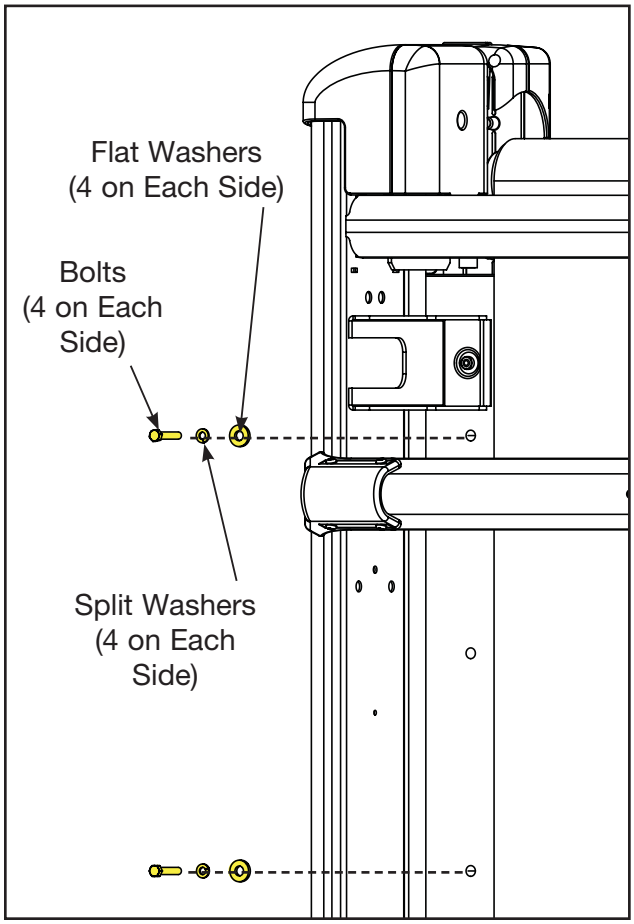


Figure 5

C. Grasp each top platform and slide it up and off the treadmill.

End Caps

Tools Required

• Phillips head screwdriver

5. Remove the end caps.

A. Using a Phillips head screwdriver, remove the two screws securing each of the bottom caps to the frame See Figure 6.

B. Using a Phillips head screwdriver, remove the three screws securing each of the lower top caps to the upper top caps See Figure 7.

C. Using a Phillips head screwdriver, remove the two screws securing each of the upper top caps to the top platforms See Figure 7.

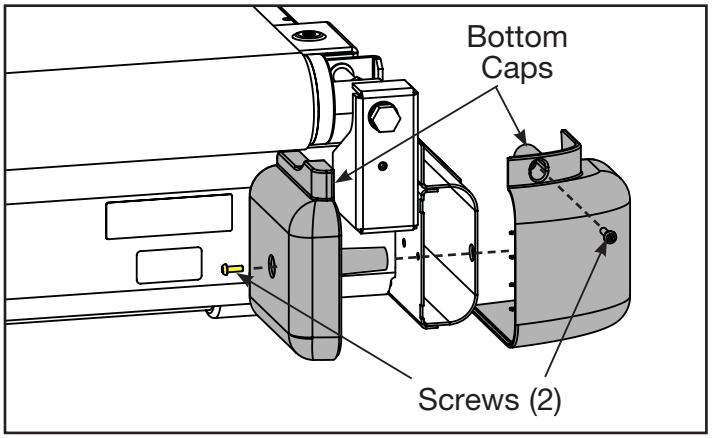


Figure 6

6. Install the end caps.

A. Using a Phillips head screwdriver, secure the two screws securing each of the bottom caps to the frame See Figure 6.

B. Using a Phillips head screwdriver, install the two screws securing each of the upper top caps to the top platforms See Figure 7.

C. Using a Phillips head screwdriver, install the three screws securing each of the lower top caps to the upper top caps See Figure 7.

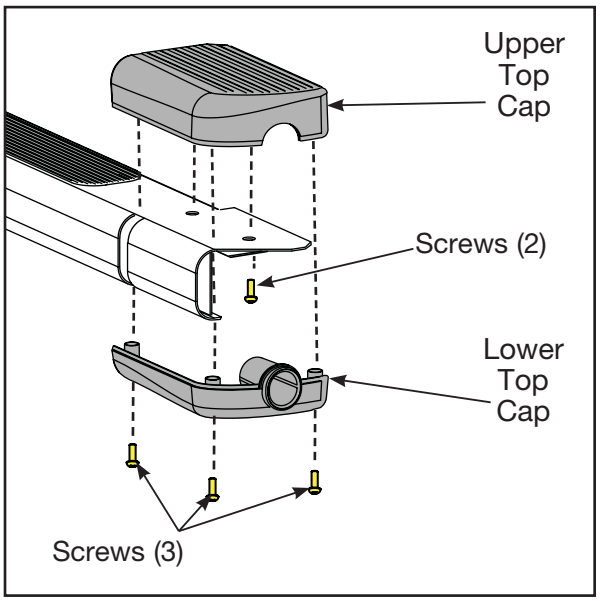


Figure 7

Rear Roller

Tools Required

- 3/4” socket wrench
- 7/16” socket wrench
- 3/16” allen wrench

7. Remove the rear roller.

A. Using a 3/4” socket wrench, remove the two rear roller bolts, bronze bushing and nut (one roller bolt on each side). ***NOTE:*** *Loosen each bolt evenly, making sure not to loosen either bolt too many turns before moving to the other bolt.* See Figure 8.

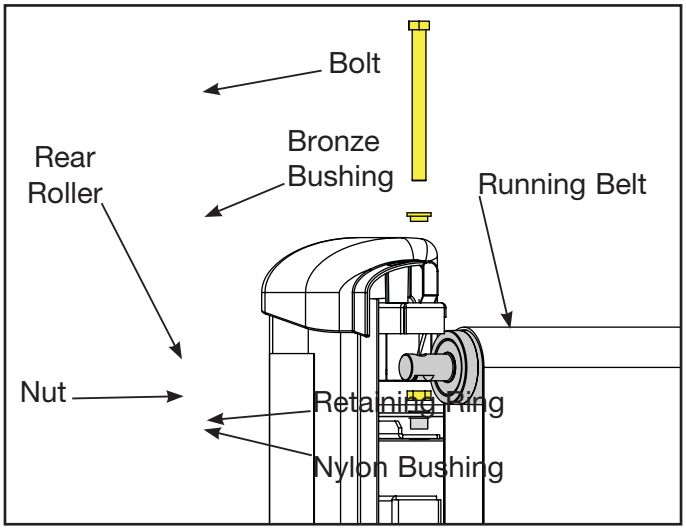


Figure 8

B. Lift one side of the rear roller and slide the roller out of the running belt. ***NOTE:*** *The nylon bushing and retaining ring will remain in the frame.* See Figure 8.

8. Remove the deck.

A. Using a 7/16” socket wrench, remove the two screws, two split washers and two flat washers that hold the back of the deck in place. See Figure 9.

B. Using a 3/16” allen wrench, remove the two screws, two split washers and two flat washers that hold the front of the deck in place. See Figure 9.

C. If rotating or flipping the deck, make a note on the deck so you know which way it was positioned.

D. Remove the deck by sliding it sideways out of the unit.

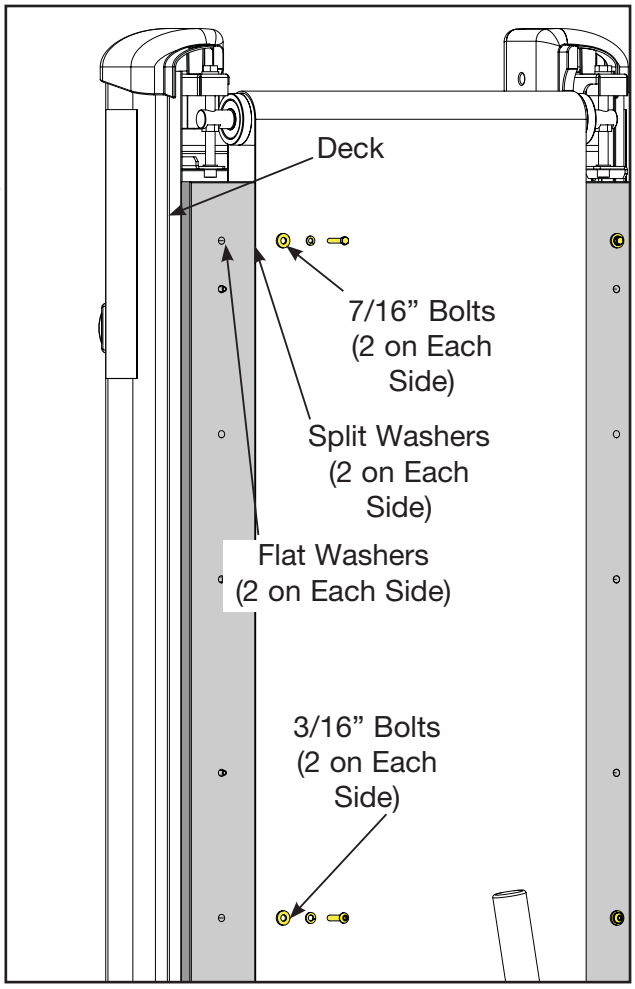


Figure 9

Front Roller

9. Remove the front roller.

! WARNING: Drive belt is under tension. Do not pinch fingers while releasing tension.

Tools Required

- 3/4” socket wrench
- 7/16” socket wrench

A. Release drive belt tension by placing a Phillips head screwdriver into the square hole located in the bottom of the idler pulley assembly. See Figure 10.

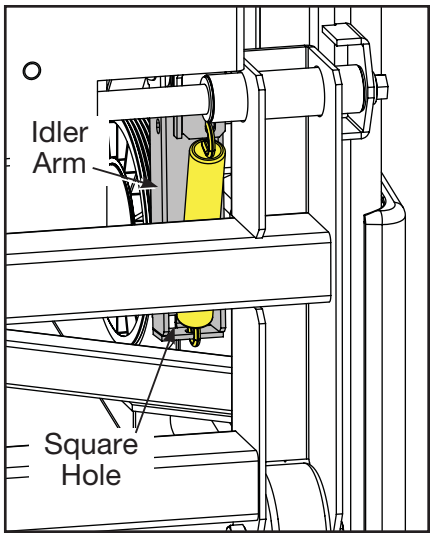


Figure 10

B. While pushing down on the Phillips head screwdriver carefully slide the drive belt off of the drive motor pulley. Slowly release tension on the idler pulley assembly.

C. Using a 9/16” socket wrench loosen the right front roller bolt. See Figure 11. ***NOTE:*** *The right* bolt *will stay on the front roller. You do not need to remove it for this procedure.*

D. Using a 9/16” socket wrench loosen the left front roller bolt See Figure 11.

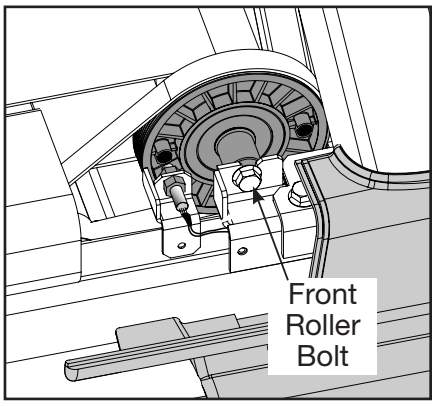


Figure 11

E. Remove the front roller.

10. Remove the running belt.

A. With the front and rear rollers out of the unit you can now remove the running belt.

11. Inspect the rubber mounts.

A. Inspect the rubber mounts under the deck stiffeners for cracks or wear. ***NOTE:*** *Unscrew and replace the rubber mounts if the rubber is cracked or worn.*

Drive Belt

12. Remove the drive belt.

A. If you are changing the drive belt, slip the drive belt around the flywheel pulley and off the motor.

13. Install the running belt.

A. Place the running belt in position on the unit. ***NOTE:*** *It doesn’t matter which way the running belt goes.*

14. Secure the front roller.

A. Slide the front roller into the running belt.

B. Slide the new drive belt around the front roller before attaching the front roller.

C. Using a 9/16” socket wrench attach the two bolts that fasten the front roller to the frame. ***NOTE:*** *Tighten each of the two* bolts *evenly, making sure not to tighten one bolt too many turns before moving to the other bolt.*

15. Secure the drive belt.

A. Place the Phillips head screwdriver into the square hole located in the bottom of the idler pulley assembly.

! WARNING: Do not pinch fingers while tensioning belt.

B. While pushing down on the Phillips head screwdriver carefully slide the drive belt into the grooves on the flywheel pulley and front roller. Slowly release tension on the idler pulley assembly.

C. Ensure that the drive belt is aligned properly in the grooves on the drive motor pulley and front roller pulley.

16. Secure the running deck.

A. Place the deck in the correct position on the frame.

B. Using a 7/16” socket wrench, install the two screws, two split washers and two flat washers that hold the back of the deck in place. See Figure 9.

C. Using a 3/16” allen wrench, install the two screws, two split washers and two flat washers that hold the front of the deck in place. See Figure 9.

17. Secure the rear roller.

A. Slide the rear roller into the running belt. See Figure 8.

B. Install the bolt, bronze bushing and nut for each side of the roller into position. See Figure 11.

C. Using a 3/4” socket wrench, tighten each rear roller bolt evenly, making sure not to tighten either bolt too many turns before moving to the other bolt. ***NOTE:*** *Do not overtighten the belt. You will tension and center the belt in step 20.* See Figure 8.

18. Secure the top platforms.

A. Place each top step in position.

B. Using a 7/16” socket wrench, install the four bolts, split washers and flat washers that hold one of the top platforms in place. Repeat this step for the other side. See Figure 5.

19. Secure the motor cover.

! CAUTION: Always use proper lifting methods when moving heavy items.

A. Carefully lower the treadmill to the ground.

B. Lower the motor cover center into position. See Figure 2.

C. Using a Phillips head screwdriver, tighten the two screws on each side and the two screws in the front of the unit.

20. Adjust the running belt tension and tracking.

A. Follow the *Tension and Center the Belt* procedure located in the *Preventive Maintenance* chapter of this manual.

Motor Brushes 110 VAC

Product Numbers SK-18553

NOTES: *This procedure describes the replacement of motor brushes on the 425T model treadmill.*

Motor brushes are wear items that will periodically need to be replaced.

Both drive motor brushes must be replaced as a pair. This will ensure even commutator contact and brush wear. However, the negative brush will wear 20% faster than the positive brush. Therefore, always measure the negative brush length to determine whether you should replace the pair. The negative brush is located closest to the front of the frame. You should still check the positive brush for cracks or chips.

It is not necessary to remove the drive motor in order to reach the motor brushes.

Tools Required
- Phillips head screwdriver
- Flat head screwdriver
- 7/16” open end wrench
- 1/2” open end wrench

! WARNING: Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged. Motor brush removal and replacement should be performed by a qualified service technician.

1. Read and understand all instructions thoroughly before installing this kit.

2. Verify the kit contents shown in Figure 12.
- **A.** Brush Assembly, 110 VDC, Red (1)
- **B.** Brush Assembly, 110 VDC, Black (1)
- **C.** Brush Retainer, Molded (2)
- **D.** Wire tie, 18”, EH-12260 (1)
- **E.** Wire tie, 9”, EH-00986 (3)

3. Remove motor cover.

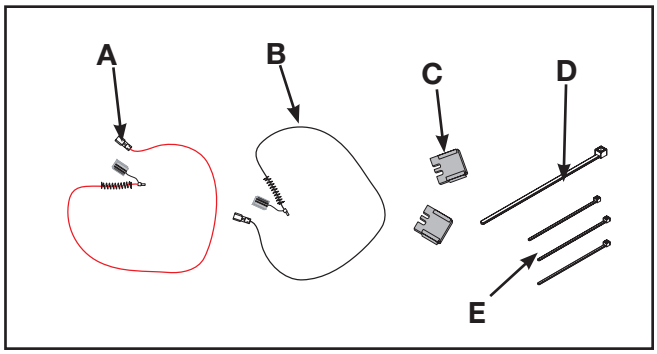


Figure 12

A. Using a Phillips head screwdriver loosen but do not remove the two screws securing the left motor cover in place. Loosen the two screws securing the right motor cover.

B. Lift the top motor cover up and off of the treadmill.

4. Elevate the treadmill.

A. Without standing on the belt, press the **Start** key and begin running the treadmill.

B. Press the up arrow and elevate the treadmill fully.

5. Disconnect the power.

A. While the treadmill is still fully elevated and running unplug the power cord from the wall outlet.

6. Access drive motor.

A. Carefully lift the rear of the treadmill until the top of the console is resting on the ground.

! WARNING: Drive belt is under tension. Do not pinch fingers while releasing tension.

B. Release drive belt tension by placing the Phillips head screwdriver into the square hole located in the bottom of the idler pulley assembly.

C. While pushing down on the Phillips head screwdriver carefully slide the drive belt off of the drive motor pulley. Slowly release tension on the idler pulley assembly.

! WARNING: Motor plate is heavy and will drop down when motor plate bolts are removed.

D. Using a 1/2” open end wrench remove the two motor plate bolts and washers.

E. Slowly and carefully lower the drive motor plate.

7. Disconnect the motor cables.

A. Locate the red and black drive motor cables exiting the drive motor and connected to A1 and A2 on the lower control board.

B. Disconnect the two motor cables from the lower board. ***! WARNING: Avoid touching lower board components such as resistors and capacitors.***

C. Cut the wire ties securing the drive motor cables to the drive motor housing and other cables on the lower control board.

D. Remove the ferrite from the two motor cables. Set aside for installation in step 11D.

E. Using the 7/16” open end wrench loosen the nut securing the wire clamp retainer at the end of the motor. Remove drive motor cables from retainer.

8. Remove the black brush assembly.

A. Using a large flat head screwdriver pry out the brush retainer on the drive motor that secures the black wire. The brush and spring will pop out.

9. Examine the brush and commutator.

A. Inspect the commutator by looking through the top brush holder into the motor. Slowly spin the motor by turning the flywheel. Look for noticeable damage and for signs of wear such as arcing, pitting, burning, or uneven wear. Commutator bars that are 'dirty penny' brownish copper are in great condition. Also, some commutator bars may be pitted or blackened on one edge. Too many of these indicate a worn commutator, and the motor should be replaced. The commutator may be cleaned with narrow commutator stone if carbon build-up is present. Brush dust can be loosened from the motor surfaces where the brush is placed by lightly filing the surfaces. Dirt and brush dust should be vacuumed out of the motor.

B. Inspect the brushes for signs of excessive wear or cracks. The motor brushes must be replaced if one or both is worn to .375" (9.5 mm) or less in length, is broken or chipped, has a broken spring, or binds in the motor. See Figure 13.

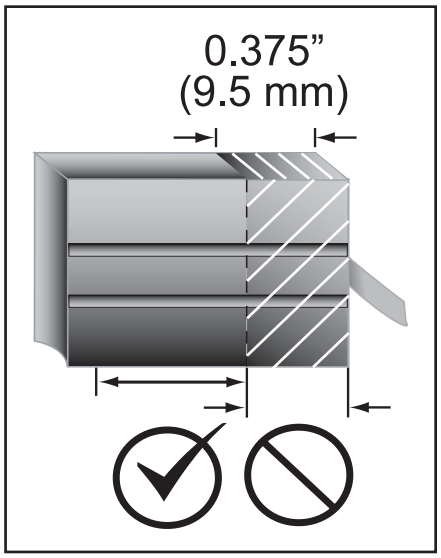


Figure 13

10. Replace the black brush assembly.

A. Slide the new brush into the motor brush holder. If the new brush does not slide in and out easily, the edges or corners of the brush can be lightly filed down. If cleaning the motor, (see step 9A), and filing the brush doesn't allow the brush to slide easily in the brush holder, the motor should be replaced.

NOTE: *The motor may make a clicking noise as new brushes wear in. If you reinstall the original brushes it is good to install them facing their original position. Reversing the orientation of the brush can cause a clicking noise during operation until the brushes wear in.*

B. Fully compress the spring by pushing as far into the brush holder as possible.

C. While compressing the spring, place the new brush retainer into the motor housing until the brush retainer is fully seated into the motor housing.

D. Repeat steps 8A to 10C for the red brush assembly.

11. Connect the drive motor cables.

A. Place the new drive motor cables into the wire clamp retainer at the end of the motor.

B. Using the 7/16" open end wrench tighten the nut securing the drive motor cables in the wire clamp retainer.

C. Secure the drive motor cables to the drive motor housing with a wire tie.

D. Attach the ferrite removed in step 7D around the two drive motor cables.

E. Connect the drive motor cables to the lower board. The black wire connects to A2, The red wire connects to A1 ***! WARNING: Avoid touching lower board components such as resistors and capacitors.***

F. Secure the drive motor cables to the other cables in the lower control board with two wire ties.

12. Secure drive motor plate

A. Slowly and carefully raise the drive motor plate.

B. Using a 1/2” open end wrench secure the two motor plate bolts and washers removed is step 6D.

13. Install drive belt.

A. Place the Phillips head screwdriver into the square hole located in the bottom of the idler pulley assembly.

! WARNING: Do not pinch fingers while tensioning belt.

B. While pushing down on the Phillips head screwdriver carefully slide the drive belt into the grooves on the drive motor pulley and front roller. Slowly release tension on the idler pulley assembly.

C. Ensure that the drive belt is aligned properly in the grooves on the drive motor pulley and front roller pulley.

14. Lower treadmill.

A. Carefully lower the rear of the treadmill until the back feet are resting on the ground.

15. Install motor cover.

A. Place the top motor cover into position.

B. Using a Phillips head screwdriver tighten the two screws securing the left motor cover in place. Tighten the two screws securing the right motor cover.

16. Test the unit for proper operation.

A. Connect the treadmill to the power outlet.

B. The treadmill will lower itself. Wait until the treadmill resets its elevation to 0%.

C. Operate the unit at all levels to verify proper operation.

Motor Brushes 220 VAC

Product Numbers SK-18554

NOTES: *This procedure describes the replacement of motor brushes on the 425T model treadmill.*

Motor brushes are wear items that will periodically need to be replaced.

Both drive motor brushes must be replaced as a pair. This will ensure even commutator contact and brush wear. However, the negative brush will wear 20% faster than the positive brush. Therefore, always measure the negative brush length to determine whether you should replace the pair. The negative brush is located closest to the front of the frame. You should still check the positive brush for cracks or chips.

It is not necessary to remove the drive motor in order to reach the motor brushes

Tools Required
- Flat head screwdriver
- Needle nose pliers

! WARNING: Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged. Motor brush removal and replacement should be performed by a qualified service technician.

1. **Read and understand all instructions thoroughly before installing this kit.**

2. **Verify the kit contents shown in Figure 14.**
   A. Brush Assembly, 220 VDC (2)
   B. Spring Assembly (2)
   C. Cover, Brush access (2)

3. **Elevate the treadmill.**

   A. Without standing on the belt, press the **Start** key and begin running the treadmill.

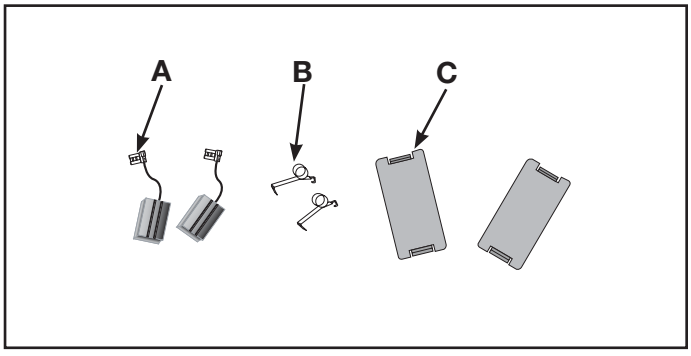


Figure 14

   B. Press the up arrow and elevate the treadmill fully.

4. **Disconnect the power.**

   A. While the treadmill is still fully elevated and running unplug the power cord from the wall outlet.

   B. Carefully lift the rear of the treadmill until the top of the console is resting on the ground.

5. Remove the brush access covers.

A. Using a flat head screwdriver pry off both brush access covers on the drive motor.

6. Remove the brushes.

A. Using the needle nose pliers pry the brush wire connector off of the terminal in the drive motor.

B. Using your fingers press in the spring clip until the locking tab disengages and the spring can be removed from the brush holder.

C. Repeat steps 6A and 6B for other brush.

7. Examine the brush and commutator.

A. Inspect the commutator by looking through the top brush holder into the motor. Slowly spin the motor by turning the flywheel. Look for noticeable damage and for signs of wear such as arcing, pitting, burning, or uneven wear. Commutator bars that are 'dirty penny' brownish copper are in great condition. Also, some commutator bars may be pitted or blackened on one edge. Too many of these indicate a worn commutator, and the motor should be replaced. The commutator may be cleaned with narrow commutator stone if carbon build-up is present. Brush dust can be loosened from the motor surfaces where the brush is placed by lightly filing the surfaces. Dirt and brush dust should be vacuumed out of the motor.

B. Inspect the brushes for signs of excessive wear or cracks. The motor brushes must be replaced if one or both is worn to .375" (9.5 mm) or less in length, is broken or chipped, has a broken spring, or binds in the motor. See Figure 13.

8. Replace the brushes.

A. Slide the new brush into the motor brush holder. If the new brush does not slide in and out easily, the edges or corners of the brush can be lightly filed down. If cleaning the motor, (see step 7A), and filing the brush doesn't allow the brush to slide easily in the brush holder, the motor should be replaced.

NOTE: *The motor may make a clicking noise as new brushes wear in. If you reinstall the original brushes it is good to install them facing their original position. Reversing the orientation of the brush can cause a clicking noise during operation until the brushes wear in.*

B. Insert a new spring assembly (B) into the brush housing until the locking tab engages.

C. Using the needle nose pliers slide the brush wire connector onto the drive motor terminal.

D. Install a new brush access cover by pressing until the end tabs click into place.

E. Repeat steps 8A to 8D for the other brush.

9. Lower treadmill.

A. Carefully lower the rear of the treadmill until the back feet are resting on the ground.

10. Test the unit for proper operation.

A. Connect the treadmill to the power outlet.

B. The treadmill will lower itself. Wait until the treadmill resets its elevation to 0%.

C. Operate the unit at all levels to verify proper operation.

Drive Motor

Tools Required

- Phillips head screwdriver
- 1/2” Open end wrench
- 1/2” Socket wrench with a 6” extension

! WARNING: Disconnect the power cord before beginning this procedure. Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged. Do not touch components on the lower board. A charge can remain after unplugging the power cord.

1. Disconnect the external power source.

A. Unplug the treadmill from the power outlet.

2. Remove the motor cover.

A. Using a Phillips head screwdriver, loosen two screws on each motor cover side (left and right). See Figure 3.

B. Using a Phillips head screwdriver, loosen two screws on the front motor cover. See Figure 3.

C. Lift the motor cover up and off the treadmill. The screws will stay in place.

3. Release the drive belt tension.

A. Release drive belt tension by placing a Phillips head screwdriver into the square hole located in the bottom of the idler pulley assembly. See Figure 10.

B. While pushing down on the Phillips head screwdriver carefully slide the drive belt off of the drive motor pulley. Slowly release tension on the idler pulley assembly.

4. Access drive motor.

! WARNING: Motor plate is heavy and will drop down when motor plate bolts are removed.

A. Using a 1/2” open end wrench remove the two motor plate bolts. See Figure 15.

B. Slowly and carefully lower the drive motor plate.

5. Disconnect the motor cables.

A. Locate the red and black drive motor cables exiting the drive motor and connected to A1 and A2 on the lower control board.

B. Disconnect the two motor cables from the lower board. ***! WARNING: Avoid touching lower board components such as resistors and capacitors.***

C. Cut the wire ties securing the drive motor cables to the lower control board bracket.

D. Remove the ferrite from the two motor cables. Set aside for installation in step 11D.

6. Remove Drive motor.

A. Using a 1/2” socket with a 6” extension remove the four mounting nuts securing the drive motor to the motor base plate. See Figure 16.

! WARNING: Drive Motor is heavy, use care when lifting.

B. Lift the drive motor up and out of the motor base plate.

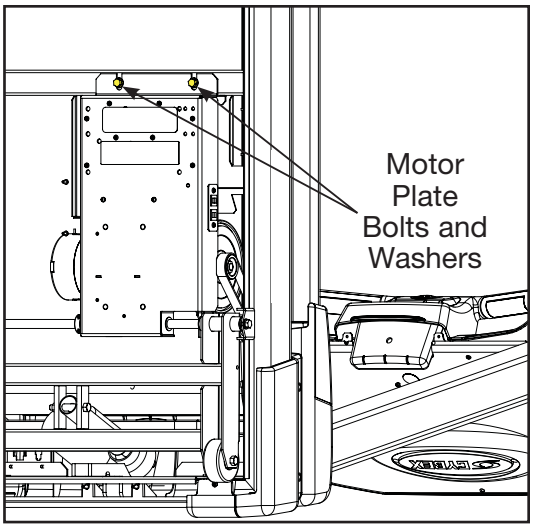


Figure 15

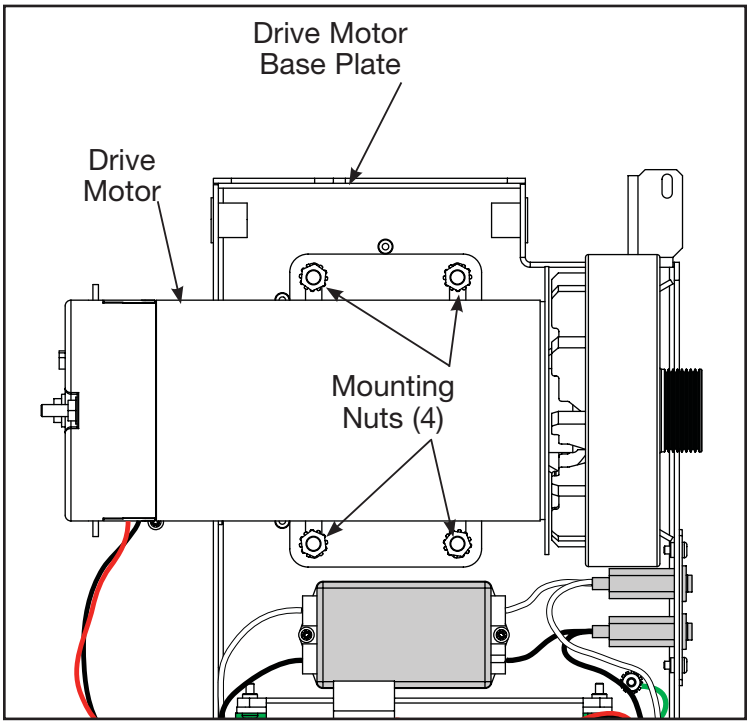


Figure 16

7. Install Drive motor.

! WARNING: Drive Motor is heavy, use care when lifting.

A. Lift the drive motor up and into the motor base plate.

B. Using a 1/2" socket with a 6" extension secure the drive motor to the motor base plate using four mounting nuts.

8. Connect the motor cables.

A. Locate the red and black drive motor cables exiting the drive motor.

B. Connect the two motor cables from the lower board. ***! WARNING: Avoid touching lower board components such as resistors and capacitors.***

C. Install the ferrite from the two motor cables.

D. Using wire ties secure the drive motor cables to the lower control board bracket.

NOTE: *The calibration procedure will need to be completed after replacing the drive motor. Follow the* Speed Calibration *procedure located in this chapter.*

Lower Control Board

NOTE: *This procedure will cover the lower control board, power cord, circuit breakers and line filter. Follow this procedure from step 1 even though the heading for some of these procedures will appear before the step where you remove that part.*

Tools Required

- Phillips head screwdriver
- ESD (Electro Static Discharge) grounding strap

! WARNING: Disconnect the power cord before beginning this procedure. Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged. Do not touch components on the lower board. A charge can remain after unplugging the power cord.

1. Disconnect the cables from the lower control board.

A. Disconnect the cables from the lower control board. This includes: the elevation motor cables (COM, UP, DOWN and GND); Ground cable; elevation switch (P1); display cable (P3); speed sensor (P2); display cable (P4); AC line hot, black (AC1); AC line neutral, white (AC2); drive motor cable red (A1) and drive motor cable black (A2). See Figure 17.

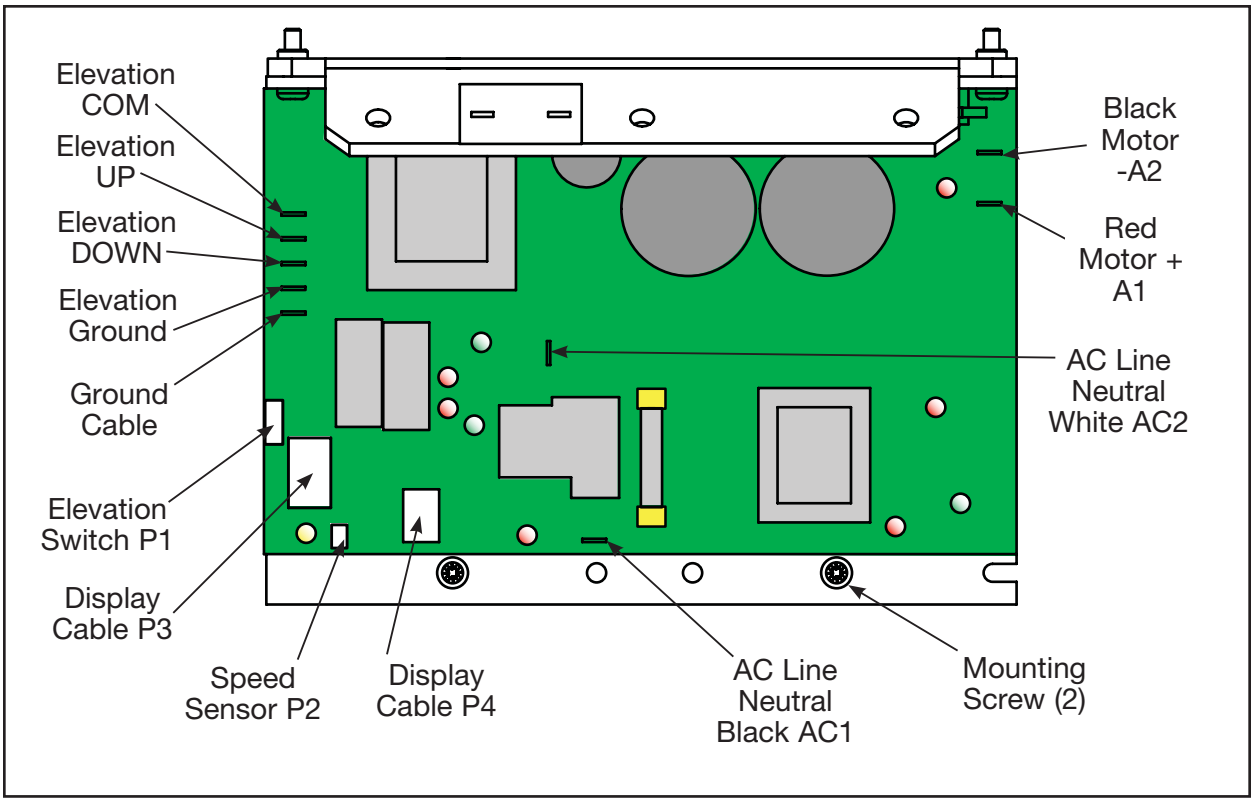


Figure 17

2. Remove the lower control board.

A. Raise the motor base plate.

B. Using a Phillips head screwdriver, remove the two screws that hold the lower control board to the motor base plate.

C. Lower the motor base plate.

D. Using a Phillips head screwdriver, remove the two screws that hold the lower control board to the motor base plate. See figure 17.

E. Remove the lower board. ***NOTE:*** *Cybex may want this part back for evaluation. Contact Cybex Customer Service at 800-766-3211.*

3. Replace the lower control board and bracket.

NOTE: *Wear an ESD strap for the rest of this procedure.*

A. Position the lower control board bracket in place on the motor base plate.

B. Using a Phillips head screwdriver, install the two screws that hold the lower control board to the motor base plate. Do not fully tighten at this time.

C. Raise the motor base plate.

D. Using a Phillips head screwdriver, install the two screws that hold the lower control board to the motor base plate.

E. Lower the motor base plate and fully tighten the screws installed in step 5B.

4. Connect the cables to the lower control board.

A. Connect the cables from the lower control board. This includes: the elevation motor cables (COM, UP, DOWN and GND); Ground cable; elevation switch (P1); display cable (P3); speed sensor (P2); display cable (P4); AC line hot, black (AC1); AC line neutral, white (AC2); drive motor cable red (A1) and drive motor cable black (A2). See Figure 17.

5. Secure the wires.

A. Check to see that all of the cables are connected firmly in their proper place.

NOTE: *The calibration procedure will need to be completed after replacing the lower control board. Follow the* Speed Calibration *procedure located in this chapter.*

Power Cord

Tools Required

- 3/8” Nutdriver or socket wrench
- ESD (Electro Static Discharge) grounding strap

! WARNING: Disconnect the power cord before beginning this procedure. Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged. Do not touch components on the lower board. A charge can remain after unplugging the power cord.

6. Disconnect the external power source.

A. Unplug the treadmill from the power outlet.

7. Remove power cord.

A. Using a 3/8” nutdriver or socket wrench remove the nut securing the ground wire to the motor base plate. See Figure 18.

B. Unplug the black and white fast-on connectors from the circuit breakers. See Figure 18.

C. Remove the old power cord and discard.

8. Install the power cord.

A. Insert the new power cord throught the strain relief in the motor base plate.

B. Using a 3/8” nutdriver or socket wrench secure the ground wire to the motor base plate.

NOTE: *Each circuit breaker must have the same color cable connected to it. DO NOT mix the black and white wires.*

C. Connect the black fast-on connectors from the power cord to the circuit breaker with the black wire. See Figure 18.

D. Connect the white fast-on connectors from the power cord to the circuit breaker with the white wire. See Figure 18.

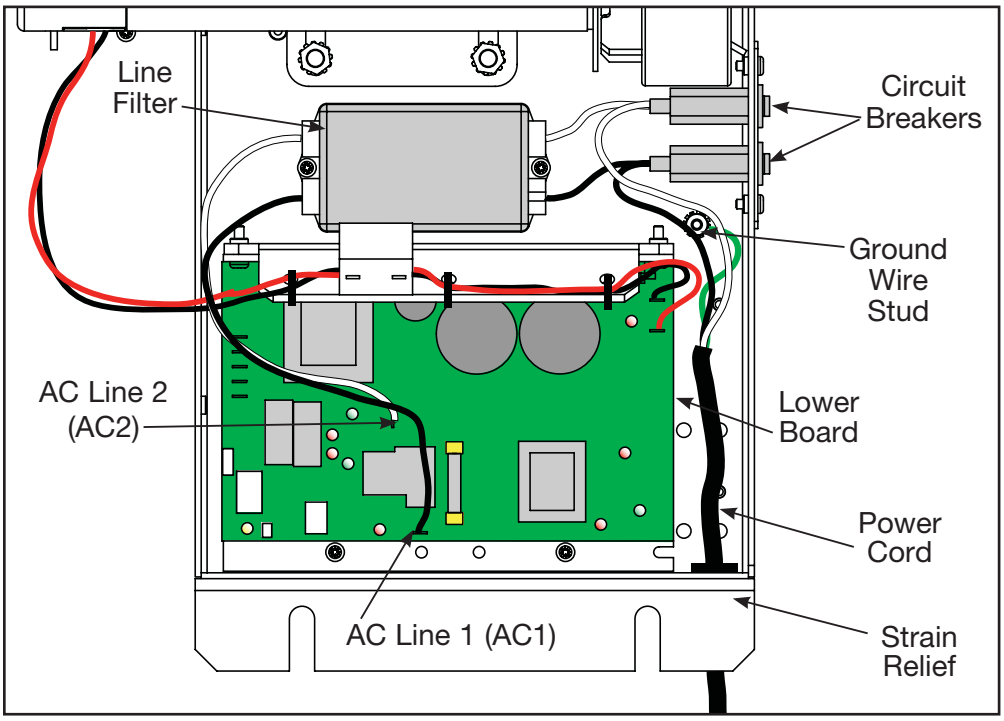


Figure 18

Circuit Breakers

Tools Required

- Flat head screwdriver

9. Remove the circuit breakers.

A. Disconnect the four fast-on connectors that connect to the circuit breakers.

B. Using a flat head screwdriver, press the mounting clip on the circuit breaker and tilkt the circuit breaker sideways.

C. Using the flat head screwdriver press in the other mounting clip and remove the circuit breaker from the mounting plate. Repaet for the other circuit breaker.

10. Install the circuit breakers.

A. Insert the new circuit breakers into the holes in the mounting plates until they snap in.

NOTE: *Each circuit breaker must have the same color cable connected to it. DO NOT mix the black and white wires.*

B. Connect the two white fast-on connectors the the front circuit breaker. See Figure 18.

C. Connect the two black fast-on connectors the the front circuit breaker. See Figure 18.

Line Filter

Tools Required

- Phillips head screwdriver

11. Replace the line filter.

NOTE: *Take notice of which cables are connected to the line filter.*

A. Disconnect the two fast-ons connectors that go from the line filter to the lower board (cables labeled AC1 and AC2 on the lower board). See Figure 18.

B. Disconnect the two fast-ons connectors that go from the line filter to the circuit breakers. See Figure 18.

C. Using a Phillips head screwdriver, remove the two screws that hold the line filter to the motor base plate.

D. Place the new line filter in position on the motor base plate.

E. Using a Phillips head screwdriver, secure the two screws that hold the line filter to the lower control bracket.

12. Connect the line filter cables.

A. Connect the white cable (AC2) from the lower board to the front left terminal on the line filter. See Figure 18.

B. Connect the black cable (AC1) from the lower board to the back left terminal on the line filter. See Figure 18.

C. Connect the white cable from the circuit breaker to the front right terminal on the line filter. See Figure 18.

D. Connect the black cable from the circuit breaker to the back right terminal on the line filter. See Figure 18.

NOTE: *Do not connect a cable to the line filter terminal on the upper right side.*

13. Attach drive motor plate.

! WARNING: Motor plate is heavy and will drop down when motor plate bolts are removed.

A. Slowly and carefully raise the drive motor plate.

B. Using a 1/2” open end wrench install the two motor plate bolts and washers. See Figure 12.

14. Secure the drive belt.

A. Place the Phillips head screwdriver into the square hole located in the bottom of the idler pulley assembly.

! WARNING: Do not pinch fingers while tensioning belt.

B. While pushing down on the Phillips head screwdriver carefully slide the drive belt into the grooves on the flywheel pulley and front roller. Slowly release tension on the idler pulley assembly.

C. Ensure that the drive belt is aligned properly in the grooves on the drive motor pulley and front roller pulley.

15. Lower treadmill.

A. Carefully lower the rear of the treadmill until the back feet are resting on the ground.

16. Install motor cover.

A. Place the top motor cover into position.

B. Using a Phillips head screwdriver tighten the two screws securing the left motor cover in place. Tighten the two screws securing the right motor cover.

17. Test the unit for proper operation.

A. Connect the treadmill to the power outlet.

B. The treadmill will lower itself. Wait until the treadmill resets its elevation to 0%.

C. Operate the unit at all levels to verify proper operation.

Elevation Motor

Tools Required

- Phillips head screwdriver
- 9/16” Open end wrench
- 9/16” Socket wrench

! WARNING: Disconnect the power cord before beginning this procedure. Keep wet items away from inside parts of the treadmill. Electrical shock could occur even if the treadmill is unplugged.

1. **Disconnect the external power source.**

   A. Unplug the treadmill from the power outlet.

2. **Remove the motor cover.**

   A. Using a Phillips head screwdriver, loosen two screws on each motor cover side (left and right). See Figure 3.

   B. Using a Phillips head screwdriver, loosen two screws on the front motor cover. See Figure 3.

   C. Lift the motor cover up and off the treadmill. The screws will stay in place.

3. **Disconnect the elevation motor cable.**

   A. Cut the wire tie and disconnect the elevation motor cable from the cable connector plate.

4. **Remove the elevation motor.**

   A. Using a 9/16” open end wrench and a 9/16” socket wrench, remove the two bolts on the elevation motor (one at the top and one at the bottom). ***NOTE:*** *Hold the motor while you remove the second bolt so that it doesn’t fall.*

   B. Carefully lift and remove the elevation motor from the treadmill.

5. **Calibrate the elevation motor.**

   A. The switch should be at zero elevation before adjusting the tube nut. If necessary connect the elevation motor, bring the elevation up to 1% incline and then back down to 0%.

   B. Turn the tube with your fingers until it measures 10.25” (26 cm) from the center of the top hole to the center of the bottom hole. See Figure 19.

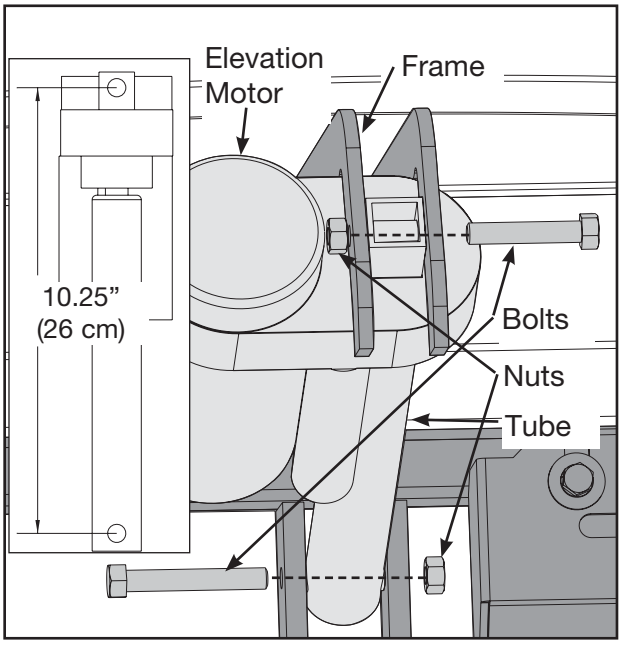


Figure 19

6. Secure the elevation motor.

A. Carefully place the elevation motor in position on the treadmill. See Figure 19.

B. Slide both bolts into the slots and attached the hex nuts as shown in Figure 19.

C. Using a 9/16” open end wrench and a 9/16” socket wrench, securely tighten the nuts and two bolts installed in step 7B.

D. Connect the elevation motor cable to the cable connector plate.

E. Tie the elevation cable with a wire tie to the frame.

7. Secure the motor cover.

A. Lower the motor cover center into position. See Figure 3.

B. Using a Phillips head screwdriver, tighten the two screws on each side and the two screws in the front of the unit.

! CAUTION: Always use proper lifting methods when moving heavy items.

C. Carefully lower the treadmill to the floor

8. Test the elevation motor.

A. Connect the main power cord into the power outlet.

B. Start the treadmill in *Manual Mode* and raise the elevation to maximum.

D. Lower the elevation to zero percent.

E. Operate the unit at all levels to verify proper operation.

Upper Display Board

NOTE: *This procedure will cover the upper display board, display overlays, contact heart rate grips, e-stop switch and display cable.*

Tools Required

- Phillips head screwdriver
- ESD (Electro Static Discharge) grounding strap

1. Disconnect the external power source.

A. Unplug the treadmill from the power outlet.

NOTE: *The display board is susceptible to damage from a discharge of static electricity. While handling parts underneath the console cover use an ESD grounding strap. This eliminates the potential voltage (static) difference between you and the equipment you are working on. Wear an ESD strap for the rest of this procedure.*

2. Remove the console assembly from the handrail.

A. Using a Philips head screwdriver remove the two screws securing the back cover to the console assembly. See Figure 20.

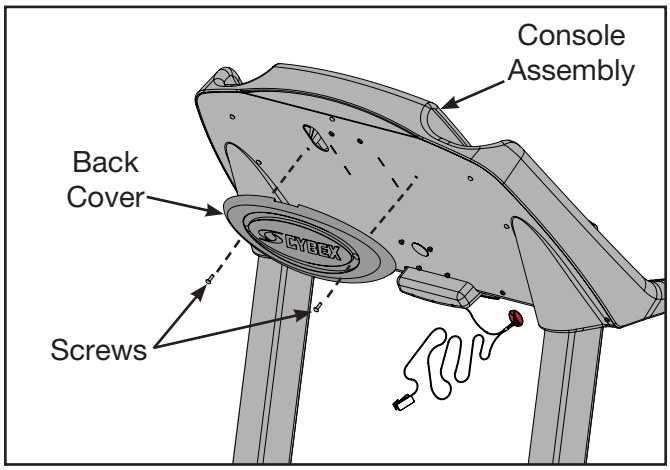


Figure 20

B. Using a Philips head screwdriver remove the two machine screws securing the console assembly to the upright assembly. See Figure 21.

C. Using a Philips head screwdriver remove the seven screws that hold the console assembly to the console back. See Figure 21.

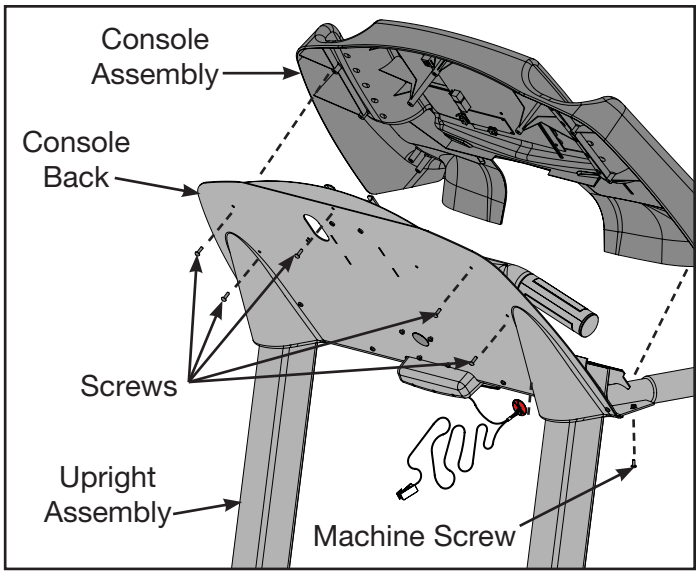


Figure 21

D. Gently tilt the concole assembly forward and disconnect these cables from the display board: the display cable (2 connectors), the contact heart rate cable, the Polar cable and the ground wire. See Figure 22.

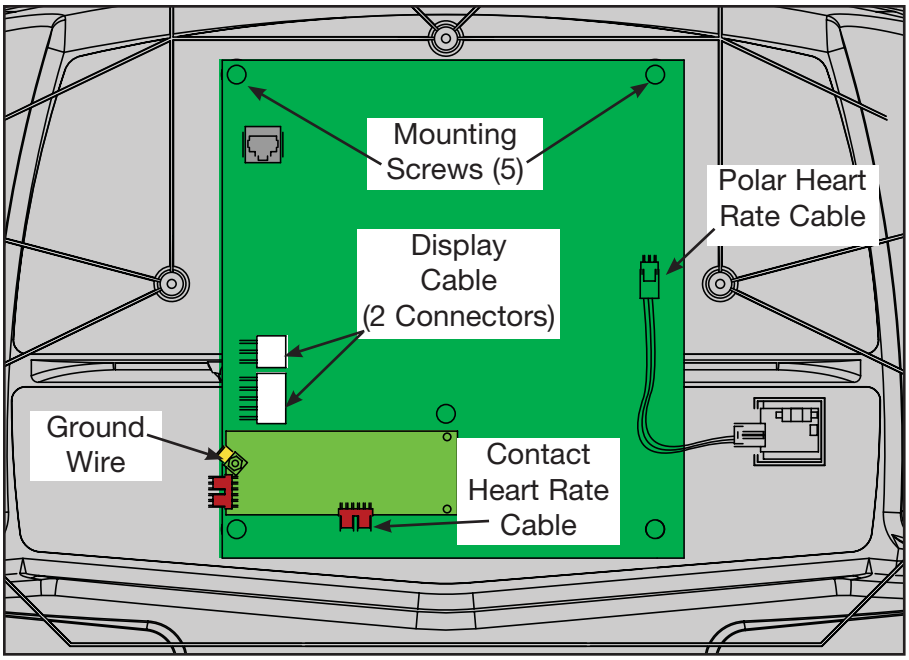


Figure 22

E. Remove the console assembly.

3. Remove the display board.

A. Using a Phillips head screwdriver, remove the five screws that hold the display board to the console. See Figure 22.

B. Gently flip the display board over and disconnect the upper switch membrane and the lower switch membrane.

NOTE: *The calibration procedure will need to be completed after replacing the upper display board. Follow the* Speed Calibration *procedure located in this chapter.*

Display Overlays

Tools Required

- Phillips head screwdriver
- ESD (Electro Static Discharge) grounding strap
- Razor blade

4. Remove the display overlay.

A. Use a razor blade to peel up a corner of the display overlay and pull off the overlay.

5. Attach the display overlay.

A. Remove the paper backing from the new display overlay.

B. Slide the ribbon cable through the (upper two or lower one) slot.

C. Carefully place the display overlay in position within the indentation on the console front and firmly rub the display overlay so that it adheres to the console.

D. Connect the upper switch membrane and the lower switch membrane to the display board.

6. Attach the display board.

A. Place the display board in position on the front console.

B. Using a Phillips head screwdriver, secure the five screws that hold the display board to the console.

Contact Heart Rate Grips

Tools Required

- Phillips head screwdriver
- Knife or small flathead screwdriver
- Needle nose pliers
- Wire cutters

7. Remove the old heart rate grips and cable.

A. Using a knife or flathead screwdriver, pry up the four metal contacts from the two grips. ***NOTE:*** *The metal contacts are taped on securely and prying them up will destroy them.*

B. Using a needle nose pliers, carefully disconnect the wire from each metal contact.

C. Using a Phillips head screwdriver, remove the two bolts and two nuts from each grip.

D. Pull the plastic housing and cap off each handrail (the housing is secured with double-sided tape). See Figure 23.

E. Gently push each connector out of the rectangular hole in the plastic housing. See Figure 23.

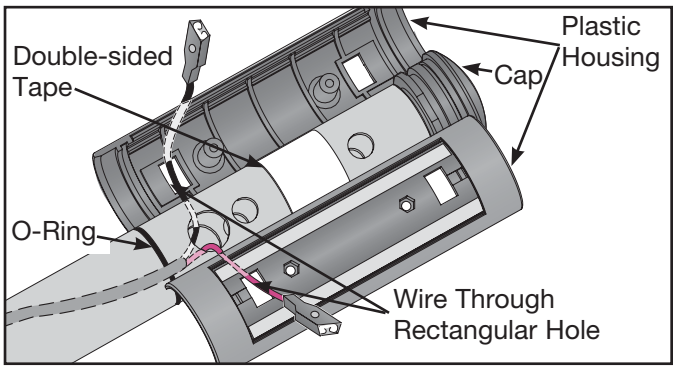


Figure 23

F. Remove any remaining double-sided tape from each handrail.

G. Remove the old o-ring from each handrail. See Figure 23.

H. Using wire cutters, cut the wire tie that holds the heart rate cable to the handrail.

I. Pull the old heart rate cable out of the handrail.

E-Stop switch

Tools Required

- Phillips head screwdriver
- Wire cutters

8. Remove the console back plate.

A. Using a Philips head screwdriver remove the ten screws securing the console back from the upright assembly. See Figure 24.

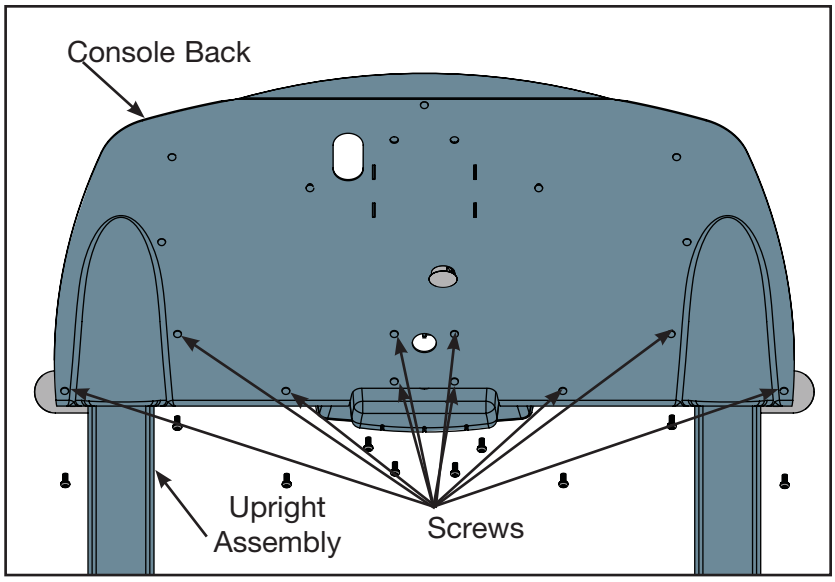


Figure 24

B. Using a Philips head screwdriver remove the two screws that secure the console backin place. See Figure 25.

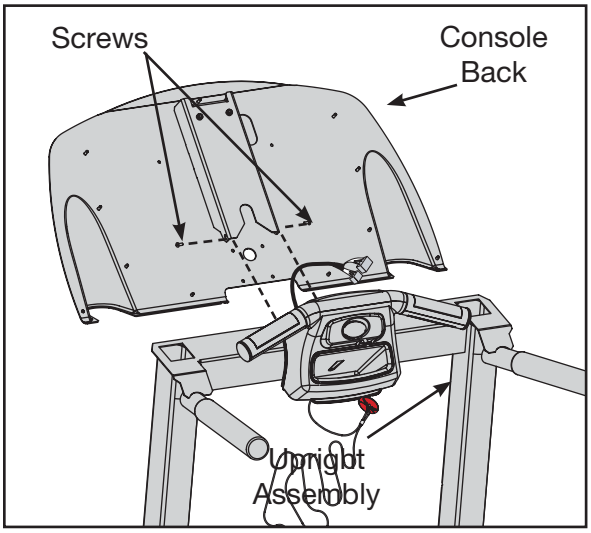


Figure 25

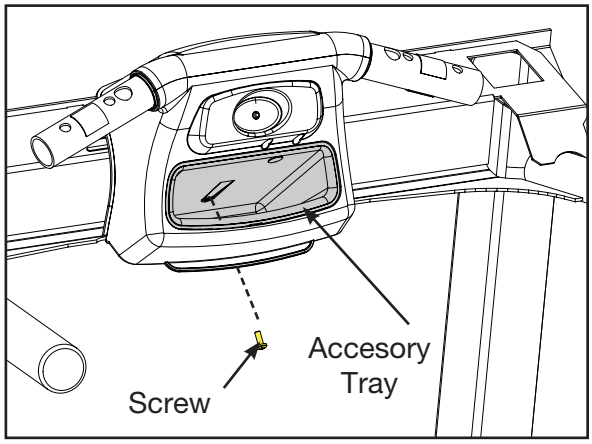


Figure 26

9. Remove the accesory tray.

A. Using a Philips head screwdriver remove the screw securing the accesory tray to the lower handle cover. See Figure 26.

10. Remove the lower handle cover.

A. Using a Philips head screwdriver remove the two screws securing the lower handle cover to the upper handle cover. See Figure 27.

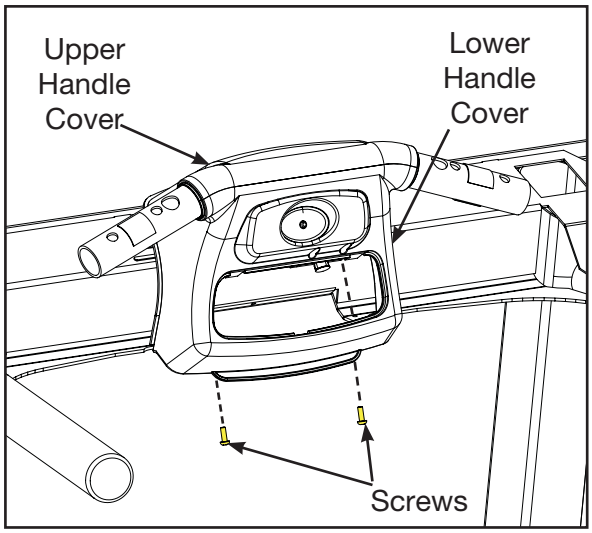


Figure 27

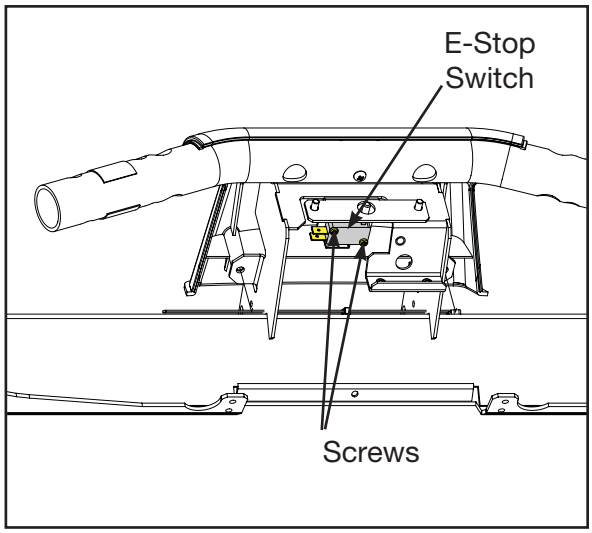


Figure 28

11. Remove the e-stop switch.

A. Using a Philips head screwdriver remove the two screws securing the e-stop switch. See Figure 28.

12. Install the e-stop switch.

A. Using a Philips head screwdriver install the two screws securing the e-stop switch. See Figure 28.

Display Cable

Tools Required

- Wire cutters

13. Remove the display cable.

A. Disconnect the display cable from the connector plate in the base. See Figure 29.

B. Using wire cutters, cut the wire ties on top of the handrail and the contact heart rate cable.

C. Pull the display cable out of the handrail.

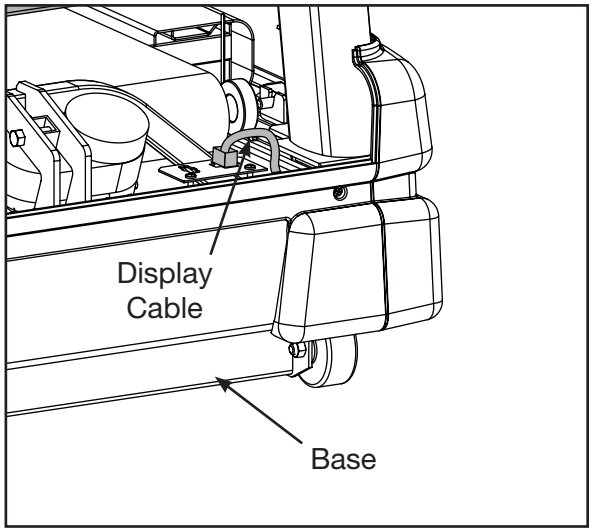


Figure 29

14. Attach the new display cable.

A. Push the new display cable down through the handrail and out the handrail's bottom hole.

B. Plug the display cable into the connector plate in the base. See Figure 29.

C. Secure the display cable with wire ties to the handrail.

15. Install the lower handle cover.

A. Using a Philips head screwdriver install the two screws securing the lower handle cover to the upper handle cover. See Figure 27.

16. Install the accesory tray.

A. Using a Philips head screwdriver install the screw securing the accesory tray to the lower handle cover. See Figure 26.

17. Install the console back plate.

A. Using a Philips head screwdriver install the ten screws securing the console back from the upright assembly. See Figure 24.

B. Using a Philips head screwdriver install the two screws that secure the console backin place. See Figure 25.

18. Connect the cables.

A. Connect these cables into the display board: the display cable (2 connectors), the contact heart rate cable, the Polar cable and the ground wire. See Figure 25.

19. Check the connections.

A. Check to see that all of the cables are connected firmly in their proper place.

20. Install the console back to the upright assembly.

A. Locate the console back and twelve screws.

B. Place the console back in the correct position on the upright assembly. See Figure 5.

C. Using a Philips head screwdriver install two screws to hold the console back in place. Do not fully tighten at this time. See Figure 25.

D. Using a Philips head screwdriver secure the console back to the upright assembly using ten screws. Fully tighten the two screws installed in step 7C. See Figure 24.

21. Route the new contact heart rate cable.

A. Connect the contact heart rate connector into the bottom of the heart rate board. See Figure 22.

B. Locate the short and long side of the heart rate cable.

C. Route the short cable end to the left (from treadmill user's viewpoint) and the long end to the right.

D. Fold the each cable and place it into the hole that leads to the grip. See Figure 30.

E. Push each wire out a hole (red out the front hole and black out the back hole). See Figure 30.

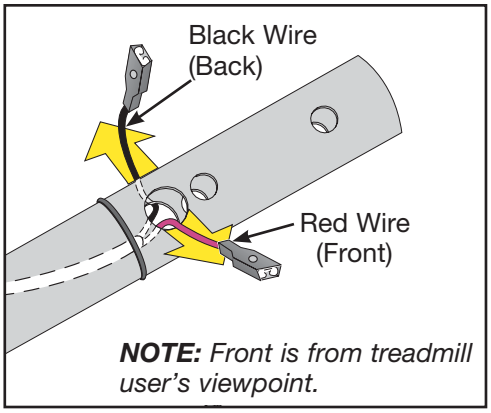


Figure 30

22. Secure the new plastic housing.

A. Remove the protective paper from the loose pieces double-sided tape and stick each one between two small holes in the handrail. See Figure 31.

B. Position each set of plastic housing so that the grooves fit together snugly. ***NOTE:*** *If the grooves don't fit and the housing gets taped down in the wrong position pulling it up will destroy the tape. Do not let the plastic housing touch the double-sided tape until step 7E.*

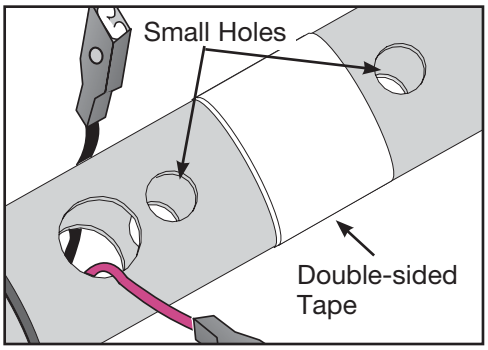


Figure 31

C. Place each plastic grip near the handrail and pull each wire through a rectangular hole. See Figure 32. ***NOTE:*** *Don't let the wires slip back into their holes.*

D. Fit the three plastic parts in position (the housing (2) and the cap (1)) and continue holding all plastic parts through the next step. See Figure 32.

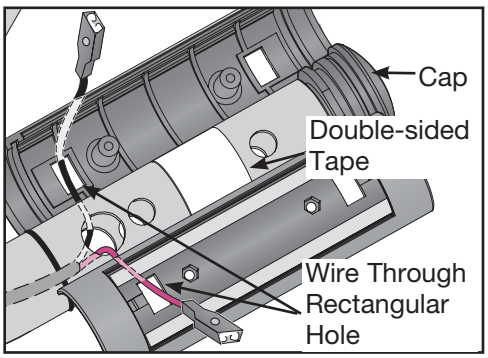


Figure 32

E. While being careful not to overtighten and crack the housing, place the nuts in their holes and secure them with the bolts. ***NOTE:*** *It is easier to place the nuts on the top and the bolts from the bottom.* See Figure 33.

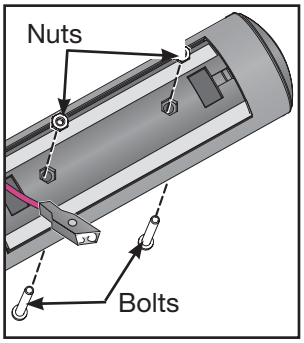


Figure 33

23. Secure the new metal contacts.

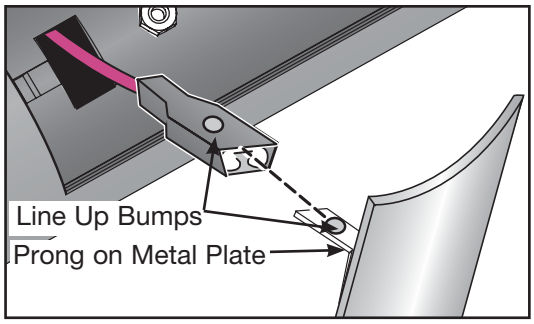


Figure 34

A. Remove the protective paper from the four metal contacts and from the eight strips of tape on the plastic housing.

B. Locate the small bump on the metal contact prong and on the connectors. See Figure 34.

C. Connect the each cable to a metal prong with the bumps lined up. See Figure 34.

D. Push the excess wire into its rectangular hole.

E. Press each metal contact into the grooves (one groove at a time) on the plastic housing. ***NOTE:*** *They will snap in.*

24. Connect the cables removed in step 2D.

A. Confirm that the two cables and one molex placeholder are firmly connected to the heart rate board in their proper places. See Figure 22.

25. Secure the motor cover.

A. Lower the motor cover center into position. See Figure 3.

B. Using a Phillips head screwdriver, tighten the two screws on each side and the two screws in the front of the unit.

26. Connect the external power source.

A. Plug the treadmill into the power outlet.

27. Calibrate speed (if you replaced the display board).

A. Follow the *Speed Calibration* procedure located in this chapter. .

28. Test the unit for proper operation.

A. Connect the treadmill to the power outlet.

B. Operate the unit at all levels to verify proper operation.

Parts List

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	AF-18899	Weldment, Console Back Plate
2	1	AL-18596	Front Roller, 2.75 O.D.
3	1	AL-18597	Rear Roller, 2.75 O.D.
6	1	AX-17578	Assembly, Contact Grip, Pair
7	1	AF-18394	Weldment, Elevation
8	1	AX-18729	Assembly, Idler
9	1	AX-19150	Assembly, E-Stop Lanyard
10	1	AX-19239	Assembly, Motor Cover
11	1	BD-18763	Belt, Running
12	1	BD-18917	Belt, Poly-V,320J8
15	2	DE-19360	Decal, Side Labels, Black
15	2	DE-19353	Decal, Side Labels, Silver
17	1	DK-18401	Deck, Running
18	1	EC-18573	Sensor, Speed
19	1	EH-00986	Wire Tie, 9”
20	1	EH-10291	Base, Wire Tie
21	1	FM-18405	Shaft, Elevation
22	4	FS-16511	Plate, Rear Rubber Foot Mounting
23	1	FS-19213	Cable, Connector Plate, 425T
24	1	FT-16825	Sleeve, Elevation Mounting, Top
25	1	FT-16826	Sleeve, Elevation Mounting, Bottom
26	2	HB-16367	Bushing, .50 I.D. x .62 O.D. x .31 LG, Flanged
27	2	HN-10029	Nut, 1/2 - 13 HEX STL ZINC
28	2	HN-17935	Nut Locking, 3/8 - 24, GRD C, STL, ZN
29	2	HS-00156	Screw, 4-40 x .62, PNHD PHIL
30	2	HS-00261	Bolt, 1/2 - 13 x 5.5, HXHD
31	6	HS-15706	Screw, 8-16 x .50, PNHD, STL, BLK ZN CLR, TYP WB
32	10	HS-16509	Screw, SLFTP, 10 x .5, PNHD, PLT, TYP B, PT-S
33	10	HS-16628	Bolt, 1/4 - 20 x 1.5, HXHD, G8
34	6	HS-16929	Bolt, Whiz Lock, 3/8 - 16 x .625, HXHD, G5
35	8	HS-16939	Screw, SEMS,10/32 x .75, PNHD, BLK ZN, EXT
36	1	HS-17936	Bolt, 3/8 - 24 x 2.0, HXHD CAP, G8, YEL ZN
37	1	HS-17937	Bolt, 3/8 - 24 x 2.75, HXHD CAP, G8, YEL ZN
38	4	HS-19108	Screw 5/16-18 x 3/4, HXHD, Whiz-Lock
39	1	HS-41006	Screw, SLFTP, 10/24 x 1.38, PNHD PHIL, SST, BLK, TT
40	2	HS-41107	Bolt, 5/16 - 18 x 1.5, BTHD, SST, BLK
41	2	HW-00165	Washer, Split Lock, 5/16, ZINC
42	8	HW-00180	Washer, Split Lock, 1/4, SST, BLK
43	2	HW-00590	Bushing, Nylon, 1/2
44	12	HW-18123	Washer, .344 I.D. x .75 O.D. x .125 Thick, Black Zinc
45	2	HX-13771	Ring, Retaining, 5/8 x .579 FR. I.D.
46	2	HX-15678	Bushing, Deck, 5/16 - 18
47	1	HX-17711	Plug, Plastic, 7/16, BLACK
48	4	HX-17788	Tape, Double Sided, .032 Thick
49	2	HX-18133	E-Ring, Retaining, 5133-37
50	2	HX-18901	Grips, 425 Upright Handrail
51	1	HX-19052	Idler Spring
52	2	HX-19102	Rubber Foot, Rear
53	1	HX-19384	Coupling, Shaft, DBL Split 5/8
56	1	PL-18773	Plunger, E-Stop
57	1	PL-18929	Cover, Rear, Outer Right
58	1	PL-18930	Cover, Rear, Inner Right
59	1	PL-18932	Cover, Rear, Outer Left
60	1	PL-18933	Cover, Rear, Inner Left
61	1	PL-18990	Cover, Motor, Front, 425T
62	1	PL-18991	Cover, Motor, Right ,425T
63	1	PL-18992	Cover, Motor Left,425T
64	1	PL-19061	Cover, Console, Back Trim, 425T
65	1	PL-19093	Cover, Handle Lower
66	1	PL-19094	Accessory Tray, 425T Console
68	1	SW-18535	Switch, Limit
70	8	HS-11977	Screw, SEMS, 8/32 x .38, PNHD
74	2	CW-16712	Wheel, 3 Dia. x 1.25 W, Plain Bearing

ITEM NO.	QTY.	PART NO.	DESCRIPTION
75	4	HB-18768	Bearing, LF-1011-12
76	2	HS-60022	Bolt, 3/8 x 2.25, HXHD CAP, Black Zinc, G5
77	2	HN-60064	Nut, Jam 3/8 - 16, Black Zinc
78	1	AF-18481	Weldment, Motor Base
79	1	AF-18769	Bracket, Heat Sink
80	2	HB-18768	Bearing, LF-1011-12
81	1	AD-18213	PCA, Control Board,115 VAC
81	1	AD-18217	PCA, Control Board, 230 VAC
82	2	EC-18538	Circuit Breaker, 15 Amp, 115 VAC
82	2	EC-18539	Circuit Breaker, 10 Amp, 250 VAC
83	1	EC-18896	Filter, 16 Amp
84	4	HN-11136	KEPS, 5/16 - 18, HEX STL ZINC
85	8	HS-19111	Screw, SEMS, 8/32 x .38, PNHD EXT Black Zinc
86	8	EH-00986	Wire Tie, Nylon, 9
87	2	HN-11925	KEPS, 10-32, HEX STL ZN
88	1	HW-10856	Washer, Lock External, No. 10 ZC
89	2	HS-15732	Screw, SEMS, 8-32 UNC x .62, PNHD PHIL, ZN
90	1	EH-12260	Wire Tie, Nylon, 18
91	1	FS-19355	Plate, Circuit Breaker Mount
92	1	DE-16928	Label, Disconnect Power, Multilingual
93	1	DE-19238	Decal, Warning, Motor Plate
94	1	DE-19198	Decal, Cybex logo
95	1	AF-18728	Bracket, Idler
96	1	HB-19135	Idler Wheel, 1.88 x 1.0
97	2	HB-18056	Bushing, Flange, .375 x .469 x .25
98	1	HS-19338	Screw, 3/8 - 16 x 1.75, SCHD BTN, BLK, ZN
102	1	MR-18402	Motor, Elevation, 115 VAC
102	1	MR-18403	Motor, Elevation, 230 VAC
103	1	MR-18214	Motor, Drive, 115 VAC
103	1	MR-18215	Motor, Drive, 230 VAC
111	1	AF-19194	Weldment, Monitor Bracket, 425T
120	1	EH-19416	Heat Sink, Silpad
121	1	EC-15004	Ferrite, Clamp-on, .40 I.D.
200	1	AX-18765	Assembly, Top Platform, Right
201	1	AX-18764	Assembly, Top Platform, Left
202	1	AF-18486	Weldment, Upright
203	1	AF-18461	Weldment, Frame, 425T
204	1	DE-18766	Decal, Safety Walk
205	8	HS-15706	Screw, 8-16 x .50, PNHD, STL, BLK ZN CLR, TYP WB
206	1	PL-18931	Cover, Rear, Top Left
207	1	PL-19120	Cover, Rear, Bottom Left
208	1	PL-18928	Cover, Rear, Top Right
209	1	PL-19118	Cover, Rear, Bottom Right
210	1	DE-19441	Decal, 425T, Black
210	1	DE-19442	Decal, 425T, Silver 877
211	1	HX-18287	Plug, Hole, Plastic, 1”, Black
300	1	AX-18545	Assembly, 425T Console
301	1	AX-19356	Assembly, Cover, Top CHR
304	1	AD-18207	PCA, Display, 425T
305	1	AF-19187	Bracket, Console Anchor, Right
306	1	AF-19188	Bracket, Console Anchor, Left
308	1	DE-18556-4	Decal, Warning, Right
309	1	DE-18557-4	Decal, Warning, Left
310	1	EC-17877	Sensor, Polar Wireless Remote Mount
311	4	HS-15706	Screw, 8-16 x .50, PNHD, STL, BLK ZN CLR, TYP WB
312	7	HS-41187	Screw, SLFTP, 8-16 x .3125, Plastite
313	1	HX-17788	Tape, Double Sided, .032 Thick
314	2	PL-17686	Tab, Book Holder
315	1	PL-18548	Console, Plastic, 425T
316	1	SW-18520-4	Membrane, 425T, Top, English
317	1	SW-18523-4	Membrane, 425T, Bottom, English
318	1	DE-19189-4	Label, Warning
402	1	AX-19193-4	Assembly, TV Support
403	1	FS-19190	Controller Mount
404	1	HS-19369	Screw, 1/4-20 x 1.25”, PHL, PAN, BLK ZINC
405	1	HW-00180	Washer, Split Lock 1/4”

ITEM NO.	QTY.	PART NO.	DESCRIPTION
406	1	HS-41006	Screw, 10-24 x 1/2", RECESS, PAN HD, TT, SS
407	1	HS-11977	Screw, SEMS, 8-32 x .38", PNHD PHIL, EXT, STL, BLK ZN
NS	1	AF-19068	Bracket, Power Factor
NS	1	AW-19117	Cable, A/V Option
NS	1	AW-18216	Cable, Harness, Console
NS	1	AW-18256	Cable, Polar Jumper
NS	1	AW-18528	Cable, Harness, Frame
NS	1	AW-18530	Cable, Filter to Board, Hot, Black
NS	1	AW-18531	Cable, Filter to Board, Neutral, White
NS	1	AW-18532	Power Cord, 115 VAC
NS	1	AW-18533	Power Cord, 230 VAC
NS	1	AW-18534	Power Cord, 230 VAC, 50 Hz
NS	1	AW-19525	Power Cord, 230 VAC, UK
NS	1	AW-18540	Cable, Circuit Breaker to Filter, Hot, Black
NS	1	AW-18541	Cable, Circuit Breaker to Filter, Neutral, White
NS	1	AW-18574	Cable, Speed Signal
NS	1	AW-18972	Cable, Elevation Motor
NS	1	AW-19221	Cable, Contact Heart Rate Grip and Ground
NS	1	AW-19235	Cable, Control Board, Ground
NS	1	AX-19193	Controller Mount
NS	1	AX-19354	Kit, Install Hardware
NS	1	DE-18413	Decal, ETL
NS	1	CN-17687	Adapter, 1/4 Plug to 1/8 Jack
NS	4	EH-10291	Wire Tie, Base
NS	1	EH-19220	Jacket, Corrugated Tubing, 27 Long
NS	1	FS-17698	Clamp, Headphone Adapter
NS	1	FS-19190	Controller Mount
NS	1	FS-18771	Cover, Lower, Motor Controller
NS	4	HS-19108	Screw, 5/16-18 x 3/4, LG HXHD, Whiz Lock, GR5
NS	2	HS-19369	Screw, 1/4 - 20 x 1.25, PNHD PHIL, Black Zinc
NS	1	HX-19059	Plug, Tube End, 1.5 O.D.
NS	1	LT-03051	Sign Facility Safety
NS	1	LT-19339	Warranty Sheet, 425T
NS	1	LT-19340	Poster, Installation
NS	1	LT-19431-4	Owner's Manual, 425T
NS	1	SK-18553	Kit Brush, McMillan 3.0HP 110V
NS	1	SK-18554	Kit Brush, McMillan 3.0HP 220V
NS	2	TR-19201	Choke

NOTE: *NS = Not Shown*

Optional Monitor Bracket

Console Assembly

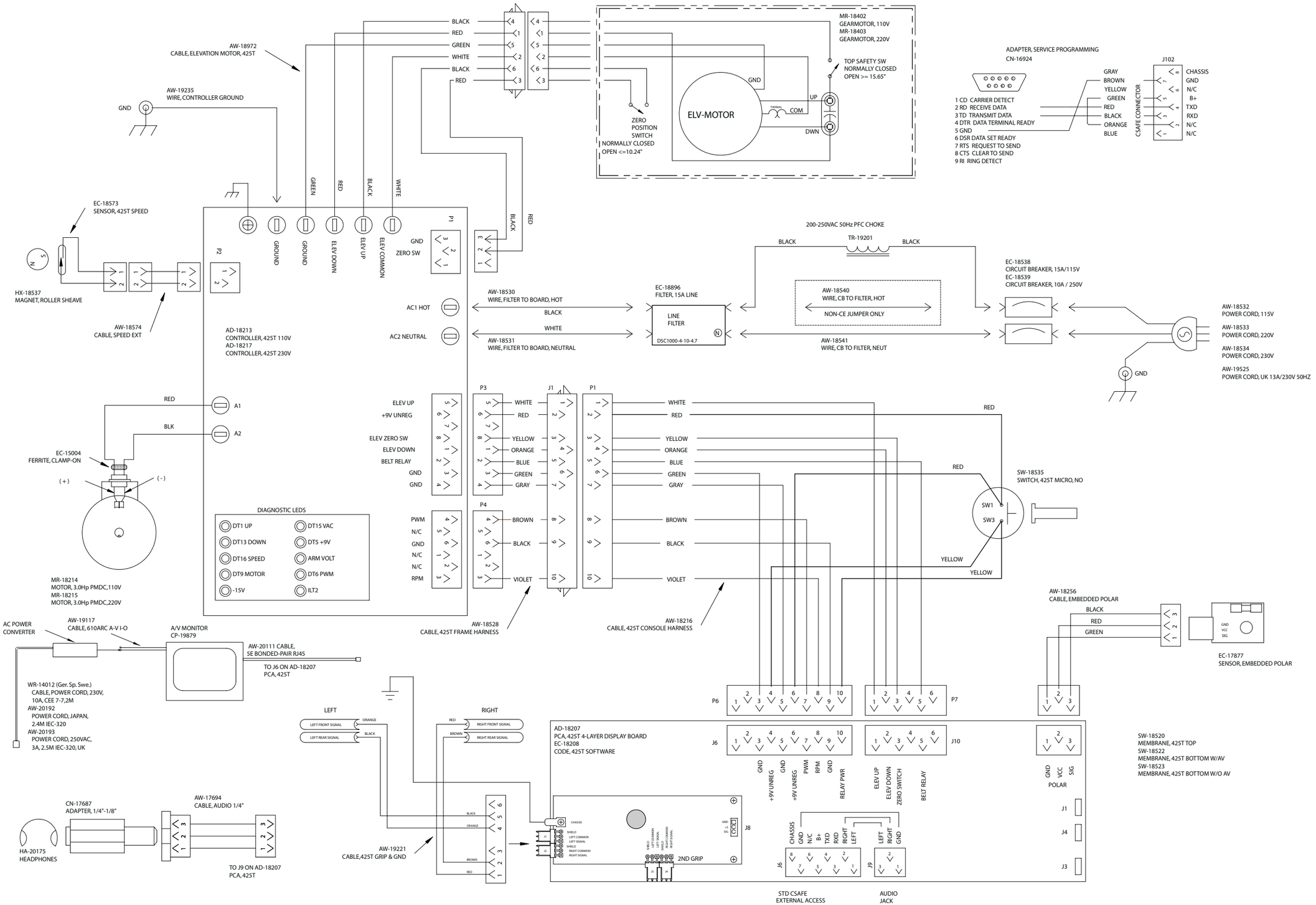
Upright Assembly

Not Shown
Wire Tie and Base

Serial Number

Drive Motor Assembly

Idler Pulley Assembly


AW-18972
CABLE, ELEVATION MOTOR, 425T
BLACK
RED
GREEN
WHITE
BLACK
RED
MR-18402
GEARMOTOR, 110V
MR-18403
GEARMOTOR, 220V
TOP SAFETY SW
NORMALLY CLOSED
OPEN >= 15.65"
GND
ELV-MOTOR
UP
COM
DWN
THERMAL
ZERO
POSITION
SWITCH
NORMALLY CLOSED
OPEN <=10.24"
ADAPTER, SERVICE PROGRAMMING
CN-16924
1 CD CARRIER DETECT
2 RD RECEIVE DATA
3 TD TRANSMIT DATA
4 DTR DATA TERMINAL READY
5 GND
6 DSR DATA SET READY
7 RTS REQUEST TO SEND
8 CTS CLEAR TO SEND
9 RI RING DETECT
J102
CSAFE CONNECTOR
GRAY
BROWN
YELLOW
GREEN
RED
BLACK
ORANGE
BLUE
CHASSIS
GND
N/C
B+
TXD
RXD
N/C
N/C
AW-19235
WIRE, CONTROLLER GROUND
GND
EC-18573
SENSOR, 425T SPEED
HX-18537
MAGNET, ROLLER SHEAVE
AW-18574
CABLE, SPEED EXT
GREEN
RED
BLACK
WHITE
BLACK
RED
GROUND
GROUND
ELEV DOWN
ELEV UP
ELEV COMMON
GND
ZERO SW
P1
P2
AD-18213
CONTROLLER, 425T 110V
AD-18217
CONTROLLER, 425T 230V
200-250VAC 50Hz PFC CHOKE
TR-19201
BLACK
BLACK
EC-18538
CIRCUIT BREAKER, 15A/115V
EC-18539
CIRCUIT BREAKER, 10A / 250V
AC1 HOT
AC2 NEUTRAL
AW-18530
WIRE, FILTER TO BOARD, HOT
BLACK
WHITE
AW-18531
WIRE, FILTER TO BOARD, NEUTRAL
EC-18896
FILTER, 15A LINE
LINE
FILTER
DSC1000-4-10-4.7
AW-18540
WIRE, CB TO FILTER, HOT
NON-CE JUMPER ONLY
AW-18541
WIRE, CB TO FILTER, NEUT
AW-18532
POWER CORD, 115V
AW-18533
POWER CORD, 220V
AW-18534
POWER CORD, 230V
AW-19525
POWER CORD, UK 13A/230V 50HZ
GND
RED
BLK
A1
A2
EC-15004
FERRITE, CLAMP-ON
(+)
(-)
MR-18214
MOTOR, 3.0Hp PMDC,110V
MR-18215
MOTOR, 3.0Hp PMDC,220V
DIAGNOSTIC LEDS
DT1 UP
DT13 DOWN
DT16 SPEED
DT9 MOTOR
-15V
DT15 VAC
DT5 +9V
ARM VOLT
DT6 PWM
ILT2
ELEV UP
+9V UNREG
ELEV ZERO SW
ELEV DOWN
BELT RELAY
GND
GND
PWM
N/C
GND
N/C
N/C
RPM
P3
P4
J1
P1
WHITE
RED
YELLOW
ORANGE
BLUE
GREEN
GRAY
BROWN
BLACK
VIOLET
AW-18528
CABLE, 425T FRAME HARNESS
AW-18216
CABLE, 425T CONSOLE HARNESS
SW-18535
SWITCH, 425T MICRO, NO
SW1
SW3
AW-18256
CABLE, EMBEDDED POLAR
BLACK
RED
GREEN
GND
VCC
SIG
EC-17877
SENSOR, EMBEDDED POLAR
AC POWER
CONVERTER
AW-19117
CABLE, 610ARC A-V I-O
A/V MONITOR
CP-19879
AW-20111 CABLE,
5E BONDED-PAIR RJ45
TO J6 ON AD-18207
PCA, 425T
WR-14012 (Ger.Sp.Swe.)
CABLE, POWER CORD, 230V,
10A, CEE 7-7,2M
AW-20192
POWER CORD, JAPAN,
2.4M IEC-320
AW-20193
POWER CORD, 250VAC,
3A, 2.5M IEC-320, UK
LEFT
RIGHT
LEFT FRONT SIGNAL
LEFT REAR SIGNAL
RIGHT FRONT SIGNAL
RIGHT REAR SIGNAL
ORANGE
BLACK
RED
BROWN
AW-19221
CABLE,425T GRIP & GND
2ND GRIP
AD-18207
PCA, 425T 4-LAYER DISPLAY BOARD
EC-18208
CODE, 425T SOFTWARE
P6
P7
J6
J10
J8
J9
GND
+9V UNREG
GND
+9V UNREG
PWM
RPM
GND
RELAY PWR
ELEV UP
ELEV DOWN
ZERO SWITCH
BELT RELAY
CHASSIS
GND
N/C
B+
TXD
RXD
RIGHT
LEFT
LEFT
RIGHT
GND
GND
VCC
SIG
POLAR
J1
J4
J3
SW-18520
MEMBRANE, 425T TOP
SW-18522
MEMBRANE, 425T BOTTOM W/AV
SW-18523
MEMBRANE, 425T BOTTOM W/O AV
CN-17687
ADAPTER, 1/4"-1/8"
AW-17694
CABLE, AUDIO 1/4"
HA-20175
HEADPHONES
TO J9 ON AD-18207
PCA, 425T
STD CSAFE
EXTERNAL ACCESS
AUDIO
JACK