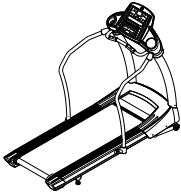


AFG Service Seminar

Horizon Fitness



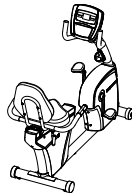
Models

1.0AT, 2.0AT, 2.0AT,
4.0AT, 5.0AT, 13.0AT,
14.0At



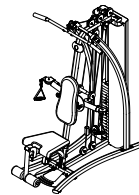
Models

2.0AE, 3.0AE, 4.0AE,
14.0AE, 18.0AE



Models

2.0AR, 3.0AR, 4.0AR,
3.0AH, 4.0AH



Models

2.0AS

>> Table of Contents

Section One

| | |
|---------------------------------|----|
| Warranty | 3 |
| Service and Billing Information | 4 |
| <u>Safety Instructions</u> | |
| -Treadmill | 6 |
| -Elliptical Bike | 8 |
| -Gym | 10 |
| Recommended Tools | 12 |
| <u>Parts Diagrams</u> | |
| -Treadmill | 13 |
| -Elliptical | 14 |
| -Bike | 15 |
| -Gym | 16 |
| <u>Maintenance</u> | |
| -Treadmill | 17 |
| >> Lubrication | 18 |
| >> Tensioning & Alignment | 19 |
| -Elliptical | 20 |
| -Bike | 21 |
| -Gym | 22 |
| Proper Heart Rate Usage | 23 |

Section Two

| | |
|---|----|
| Horizon Fitness “5-Step” Diagnostic Process | 25 |
| Wiring Diagrams and Schematics | 27 |
| Resetting the Incline Motor | 30 |
| Adjusting the Magnetic Break | 31 |
| Voltage Checks | 32 |
| Engineering Mode | |
| -Treadmill | 44 |
| -Elliptical Bike | 45 |

Section Three

| | |
|--------------------|----|
| Troubleshooting | |
| -Treadmill | 48 |
| -Elliptical Bike | 61 |
| -Gym | 69 |
| Known Issues | 71 |

>> Limited Home-Use Warranty

AFG extends the following exclusive, limited warranty, which shall apply to the use of the device in the home, for residential, non-commercial purposes only. Any other use shall void this warranty. AFG hereby offers the following limited warranties for the following components of the device, for the time period indicated:

| Model | Labor | Parts | Motor | Elevation | Break | Frame |
|--------------|--------------|--------------|--------------|------------------|--------------|--------------|
| 1.0AT | 1 Year | 3 Years | Lifetime | Lifetime | NA | Lifetime |
| 2.0AT | 1 Year | 3 Years | Lifetime | Lifetime | NA | Lifetime |
| 3.0AT | 1 Year | 3 Years | Lifetime | Lifetime | NA | Lifetime |
| 4.0AT | 1 Year | 3-5 Years | Lifetime | Lifetime | NA | Lifetime |
| 5.0AT | 1 Year | 3-5 Years | Lifetime | Lifetime | NA | Lifetime |
| 13.0AT | 1 Year | 3-5 Years | Lifetime | Lifetime | NA | Lifetime |
| 14.0AT | 1 Year | 3-5 Years | Lifetime | Lifetime | NA | Lifetime |
| 2.0AE | 1 Year | 2 Years | NA | NA | Lifetime | Lifetime |
| 3.0AE | 1 Year | 2 Years | NA | NA | Lifetime | Lifetime |
| 4.0AE | 1 Year | 3 Years | NA | 2 Years | Lifetime | Lifetime |
| 14.0AE | 1 Year | 3 Years | NA | NA | Lifetime | Lifetime |
| 18.0AE | 1 Year | 3 Years | NA | 2 Years | Lifetime | Lifetime |
| 2.0AR | 1 Year | 3 Years | NA | NA | Lifetime | Lifetime |
| 3.0AR | 1 Year | 3 Years | NA | NA | Lifetime | Lifetime |
| 4.0AR | 1 Year | 3-5 Years | NA | NA | Lifetime | Lifetime |
| 3.0AH | 1 Year | 3-5 Years | NA | NA | Lifetime | Lifetime |
| 4.0AH | 1 Year | 3-5 Years | NA | NA | Lifetime | Lifetime |
| 2.0AS | 1 Year | 10 Years | NA | NA | NA | Lifetime |

AFG warrants the frame, electronics, and parts against defects in workmanship and materials for the above warranty periods, so long as it remains in the possession of the original owner.

AFG shall cover the labor cost for the repair of the device for the above warranty periods, so long as the device remains in the possession of the original owner.

EXCLUSIONS AND LIMITATIONS

This warranty applies only to the original owner and is not transferable. This warranty is expressly limited to the repair or replacement of a defective frame, electronic component, or defective part. The warranty does not cover normal wear and tear, improper assembly or maintenance, or installation of parts or accessories not originally intended or compatible with the Unit as sold. The warranty does not apply to damage or failure due to accident, abuse, corrosion, discoloration of paint or plastic, or neglect. AFG shall not be responsible for incidental or consequential damages. All returns must be pre-authorized by AFG. AFG's obligation under this warranty is limited to replacing or repairing, at AFG's option, the product at one of its authorized service centers. An AFG authorized service center must receive all products for which a warranty claim is made. These products must be received with all freight and other transportation charges prepaid, accompanied by sufficient proof of purchase. Parts and electronic components reconditioned to "As New" Condition by AFG or its vendors may sometimes be supplied as warranty replacement parts and constitute fulfillment of warranty terms. This warranty gives you specific legal rights, and your rights may vary from state to state.

WARRANTY REGISTRATION

Your warranty card must be completed and sent to AFG or register on line at www.advancedfitnessgroup.com, before a warranty claim can be processed.

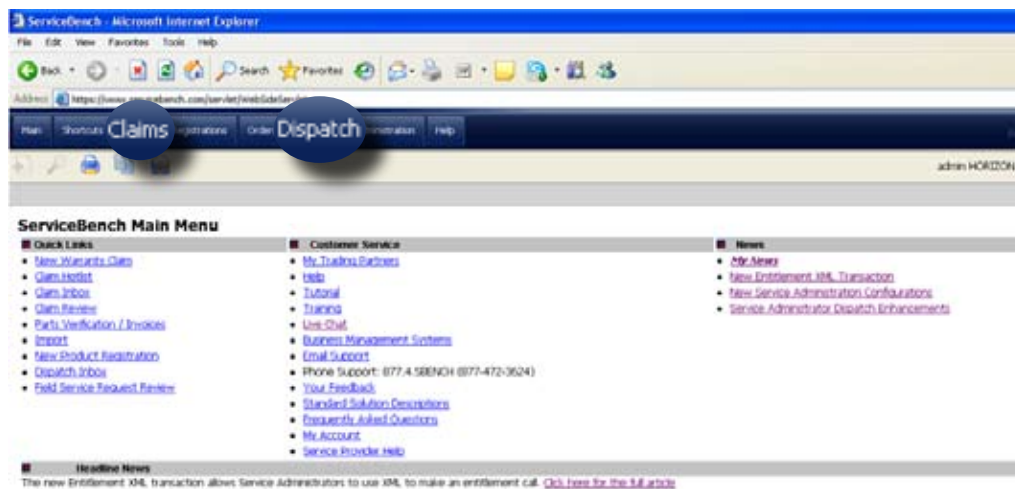
>> Service and Billing Information

AFG IS YOUR TOTAL SOLUTIONS PROVIDER

ServiceBench is a web-based system that will allow you to create parts orders, submit labor credits and to track the process of each. Know instantly if a part is in stock! Have exploded diagram and parts list at your disposal to use when it is convenient for you, not just when the Tech Support department is open. You can access this site at www.servicebench.com. On the Left side of the screen are 3 boxes (ServiceBench ID, User ID, and Password from top to bottom). The initial User ID is the word **User**. Your ServiceBench ID and initial Password are available from Alan at 800-244-4192 ext. 3240 or alan@horizonfitness.com.

Once logged in, you will need to answer a few one time only questions. You will also be asked for bank account information. You do not have fill out the bank information, as we will not be sending out electronic payments, we will continue to credit your account.

After answering these questions, you will go to the Main Menu for ServiceBench. From here the most useful links will be the **Claims Tab** and the **Dispatch Tab**.



Claims Tab – used to track payment.

- Use the **Claim Review** to track the status of a particular claim number
- From the **Claim Inbox** you will be able to track the process of the submitted claim and verify payment.



Dispatch Tab – Used to store and locate work orders (Dispatches) from Horizon Fitness.

- If you have a paper copy of the customer information, click **Dispatch** (it will be written in white against dark blue background). Click **Dispatch Review**, type in the dispatch number and click **Search**.
- If you do not have a paper copy of the customer information, click **Dispatch** (it will be written in white against dark blue background). Click **Dispatch Inbox**, this will display all dispatches received in the past week. If you have already accepted the dispatch, change **Received** to **Accepted** by clicking the down arrow next to **Received**.
- **Location E-mail Maintenance** allows you to set e-mail addresses to receive notification when new dispatches are received. **Availability Maintenance** allows you to set a number of dispatches that you can receive on a certain day. This is not a scheduled appointment with a customer, but rather allows you to adjust for vacation (keep zeroes in availability), or allow for more work orders (set a maximum number of work orders that can be sent to you for a certain day). It is still up to you to set an appointment with the customer depending on your schedule.

Dispatch



Business Management Systems - is the link which will allow any business software you currently use to synchronize with ServiceBench.

If you have any questions please contact Alan with Horizon Fitness at 800-244-4192 ext. 3240 or ServiceBench phone support at 877-472-3624 for technical assistance.

Safety Instructions

>> Treadmills

WARNING STATEMENTS INDICATE A PARTICULARLY DANGEROUS ACTIVITY.

YOU SHOULD BE EXTREMELY CAUTIOUS WHEN DOING THE FOLLOWING:

- Removing power from the treadmill, or removing the power cord from the wall outlet. Always ensure that the treadmill is unplugged from the wall outlet when you inspect or adjust the treadmill, or when you isolate, remove, or replace a treadmill component.
- Removing the motor cover exposes high voltage components and potentially dangerous machinery. Exercise extreme caution when you perform maintenance procedures with the motor cover removed.
- During service operations you will be very close to moving machinery and high voltage components. When you perform maintenance procedures with the hood removed, remove jewelry (especially from ears and neck), tie up long hair, remove neckties, and do not wear loose clothing.
- When the treadmill is operating, the capacitor will hold a lethal amount of charge. Do not touch the capacitor as serious injury or death might result.
- When the treadmill is turned off and the power cord is removed from the wall outlet, the capacitor will hold voltage for 30-60 seconds. Allow the capacitor to discharge for a period of one minute before you touch or work near the capacitor. Do not attempt to discharge the capacitor by any other means.
- Exercise caution when touching any wire or electrical component during treadmill operation.
- When it is necessary to lift the treadmill, ensure that the treadmill has adequate support. Do not lift the treadmill by the front.

SAFETY GUIDELINES YOU SHOULD KNOW AND FOLLOW INCLUDE:

- Read the owner's manual and follow all operation instructions.
- Operate the treadmill on a solid, level surface. Locate the rear of the treadmill at least four feet from walls or furniture. Keep the area behind the treadmill clear.
- Visually check the treadmill before beginning service or maintenance operations. If it is not completely assembled or is damaged in any way, exercise extreme caution while operating and checking the treadmill.
- When operating the treadmill, do not wear loose clothing. Do not wear shoes with heels or leather soles. Check the soles of your shoes and remove any embedded stones. Tie long hair back.
- Use care when getting on or off the treadmill. Use the handrails whenever possible. Do not get on or off the treadmill when the running belt is moving.
- Before starting the running belt, straddle the belt by placing your feet firmly on the guiderails of the treadmill. You should also step off the belt and onto the guiderails of the treadmill after turning off the running belt.
- Do not rock the unit. Do not stand or climb on the handrails, electronic console, or motor cover.
- Do not set anything on the handrails, electronic console, or motor cover. Never place liquids on any part of the treadmill.
- To prevent electrical shock, keep all electrical components, such as the drive motor, power cord, and circuit breaker away from water and other liquids.
- Do not use accessory attachments that are not recommended by the manufacturer-such attachments might cause injuries.
- Turn off the treadmill when adjusting or working near the rear roller. Do not make any adjustments to the running belt when someone is standing on the machine.
- Keep all loose items away from the treadmill running surface. A treadmill running belt will not stop immediately if an object becomes caught in the belt or rollers.

WARNING

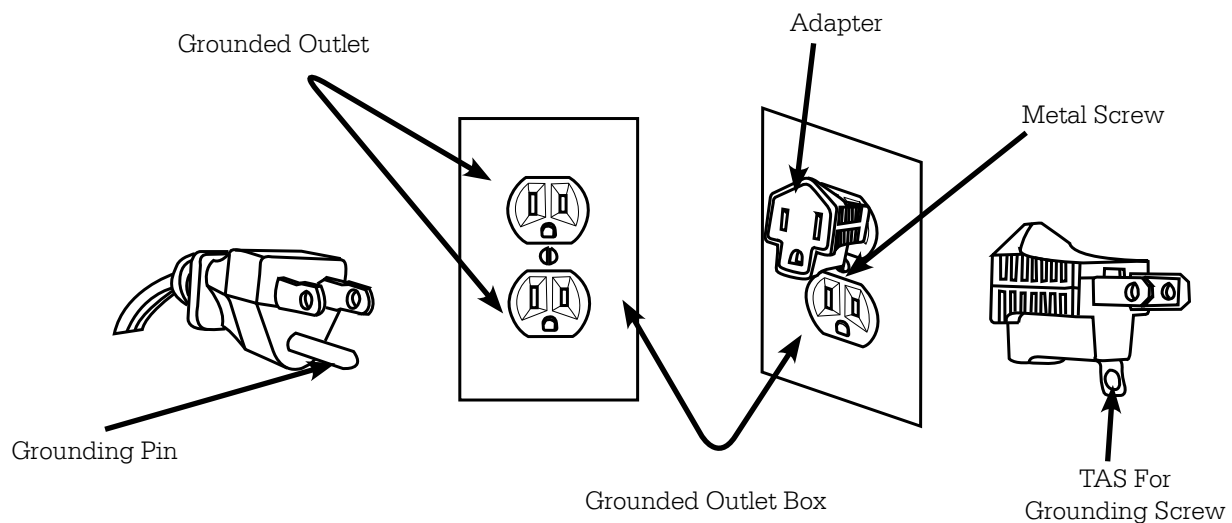
Connect this unit to a properly grounded, **dedicated 20-amp outlet** only. See grounding instructions.

GROUNDING INSTRUCTIONS

This product must be grounded. If a treadmill should malfunction or breakdown, grounding provide a path of least resistance for electrical current to reduce the risk of electrical 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 local codes and ordinances.

WARNING

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product, if it will fit in the outlet; have a proper outlet installed by a qualified electrician.

**SAFETY TIPS**

- Never use the treadmill before securing the safety tether clip to your clothing.
- If you experience chest pains, nausea, dizziness, or shortness of breath, stop exercising immediately and consult your physician before continuing.
- Do not wear clothes that might catch on any part of the treadmill.
- Keep power cord away from heated surfaces.
- Keep children off of treadmill at all times.
- Do not use treadmill outdoors.
- Unplug treadmill before moving it.
- Do not remove the treadmill motor cover or roller covers.
- Treadmill should be plugged into a dedicated 20 amp circuit for optimal performance.

Safety Instructions

>> Ellipticals/Bikes

SAVE THESE INSTRUCTIONS

Read all instructions before using this Elliptical/Bike. When using an electrical product, basic precautions should always be followed, including the following: Read all instructions before using this Elliptical/Bike. It is the responsibility of the owner to ensure that all users of this Elliptical/Bike are adequately informed of all warnings and precautions. If you have any questions after reading this manual, contact Customer Tech Support at the number listed on the back panel of this manual.



To reduce the risk of burns, fire, electrical shock or injury follow the instructions below.

- If you experience any kind of pain, including, but not limited to chest pains, nausea, dizziness, or shortness of breath, stop exercising immediately and consult your physician before continuing.
- Maintain a comfortable pace. Do not sprint above 80 rpms on this machine.
- To maintain balance, it is recommended to keep a grip on the handlebars while exercising, mounting or dismounting the machine.
- Do not wear clothes that might catch on any part of the Elliptical/Bike.
- Do not turn pedal arms by hand.
- Make sure handlebars are secure before each use.
- Do not insert or drop any object into any opening.
- Unplug Elliptical/Bike before moving or cleaning it. To clean, wipe surfaces down with soap and slightly damp cloth only; never use solvents. (See MAINTENANCE)
- This elliptical should not be used by persons weighing more than the weight limit stated in the owners manual. Failure to comply will void the warranty.
- This elliptical is intended for in-home use only. Do not use this elliptical in any commercial, rental, school or institutional setting. Failure to comply will void the warranty.
- Do not use elliptical in any location that is not temperature controlled, such as but not limited to garages, porches, pool rooms, bathrooms, car ports or outdoors. Failure to comply may void the warranty.
- Use the elliptical only as described in this manual.
- Keep the topside of the foot support clean and dry.
- Care should be taken when mounting or dismounting the equipment. Before mounting or dismounting move the pedal on the mounting or dismounting side to its lowest position and bring the machine to a complete stop.
- Disconnect all power before servicing the equipment.



At NO time should pets or children under the age of 12 be closer to the Elliptical/Bike than 10 feet.

At NO time should children under the age of 12 use the Elliptical/Bike.

Children over the age of 12 should not use the Elliptical/Bike without adult supervision.

It is essential that your Elliptical/Bike is used only indoors, in a climate controlled room. If your Elliptical/Bike has been exposed to colder temperatures or high moisture climates, it is strongly recommended that the Elliptical/Bike is warmed up to room temperature before first time use. Failure to do so may cause premature electronic failure.

Safety Instructions

>> Elliptical | Bike Continued

**WARNING**

Connect this exercise product to a properly grounded outlet only. See grounding instructions.

GROUNDING INSTRUCTIONS-Inclining Ellipticals Only

This product must be grounded. If a Elliptical/Bike should malfunction or breakdown, grounding provides a path of least resistance for electrical current to reduce the risk of electrical 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 local codes and ordinances.

**WARNING**

There are several areas during the assembly process of an elliptical that special attention must be paid. It is very important to follow the assembly instructions correctly and to make sure all parts are firmly tightened. If the assembly instructions are not followed correctly, the elliptical could have frame parts that are not tightened and will seem loose and may cause irritating noises. To prevent damage to the elliptical, the assembly instructions must be reviewed and corrective actions should be taken.

UNPACKING

Unpack the product where you will be using it. Place the product on a level flat surface. It is recommended that you place a protective covering on your floor. During each assembly step, ensure that ALL nuts and bolts are in place and partially threaded in before completely tightening any ONE bolt.

NOTE: A light application of grease may aid in the installation of hardware. Any grease, such as lithium bike grease is recommended.

Safety Instructions

>> Gym

FOR HOUSEHOLD USE ONLY

Read all instructions before using this home gym. Basic precautions should always be followed, including the following: Read all instructions before using this home gym. It is the responsibility of the owner to ensure that all users of this home gym are adequately informed of all warnings and precautions. If you have any questions after reading this manual, contact AFG at the number listed on the back cover of this manual.



TO REDUCE THE RISK OF INJURY FOLLOW THE INSTRUCTIONS BELOW

- Close supervision is necessary when this home gym is used by, on, or near children or disabled persons.



At NO time should pets or children under the age of 12 be closer to the home gym than 10 feet. At NO time should children under the age of 12 use the home gym.

Children over the age of 12 should not use the home gym without adult supervision.

- Use this appliance (or home gym) only for its intended use as described in this manual.
Do not use attachments not recommended by the manufacturer.
- Never drop or insert any object into any opening.
- If you experience any kind of pain, including but not limited to chest pains, nausea, dizziness, or shortness of breath, stop exercising immediately and consult your physician before continuing.
- Do not wear clothes that might catch on any part of the home gym.
- Always wear athletic shoes while using this equipment.
- Do not jump on the home gym.
- At no time should more than one person be on home gym while in operation.
- The home gym should not be used by persons weighing more than 300 pounds.
Failure to comply will void the warranty.
- The home gym is intended for in-home use only. Do not use this home gym in any commercial, rental, school or institutional setting. Failure to comply will void the warranty.
- Do not use outdoors.

Safety Instructions

>> Gym Continued

During the assembly process there are several areas that special attention must be paid. It is very important to follow the assembly instructions correctly and to make sure all parts are firmly tightened. If the assembly instructions are not followed correctly, the home gym could have frame parts that are not tightened and will seem loose and may cause irritating noises. There should be no side-to-side play in the frame uprights. If there is any play in these areas, the home gym has not been properly assembled. To prevent damage to the home gym, the assembly instructions must be reviewed and corrective actions should be taken.

UNPACKING

Unpack the unit where it will be used. Place the home gym carton on a level flat surface.

It is recommended that you place a protective covering on your floor. Take CAUTION when handling and transporting this unit. Never open box when it is on its side.

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN INJURY!



SEAT ASSEMBLY PIN

Ensure that the seat assembly safety pin is fully inserted before using the home gym. Failure to do so may result in injury!

PROPER USAGE

Make sure to follow the MAINTENANCE schedule in this manual. Stop your workout immediately if you feel pain, faint, dizzy or are short of breath. Reference Home Gym Maintenance p22.



Do not operate the home gym if there is any noticeable damage to the cables or pulleys. If any damage is noticeable, contact AFG at the number located on the back panel of this manual.

>> **Recommended Tools and Equipment**

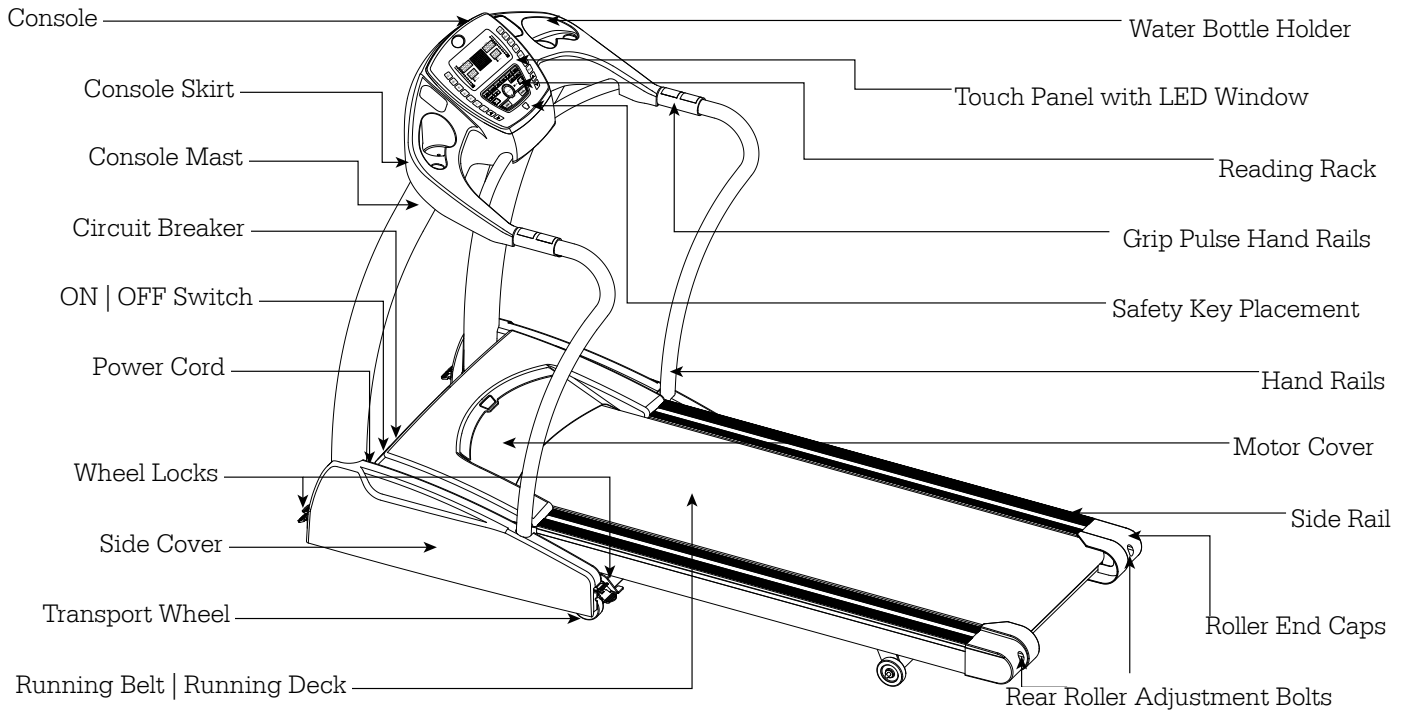
The following list is a summary of the tools and equipment required by the procedures in this manual.

Tools are not supplied by Horizon Fitness.

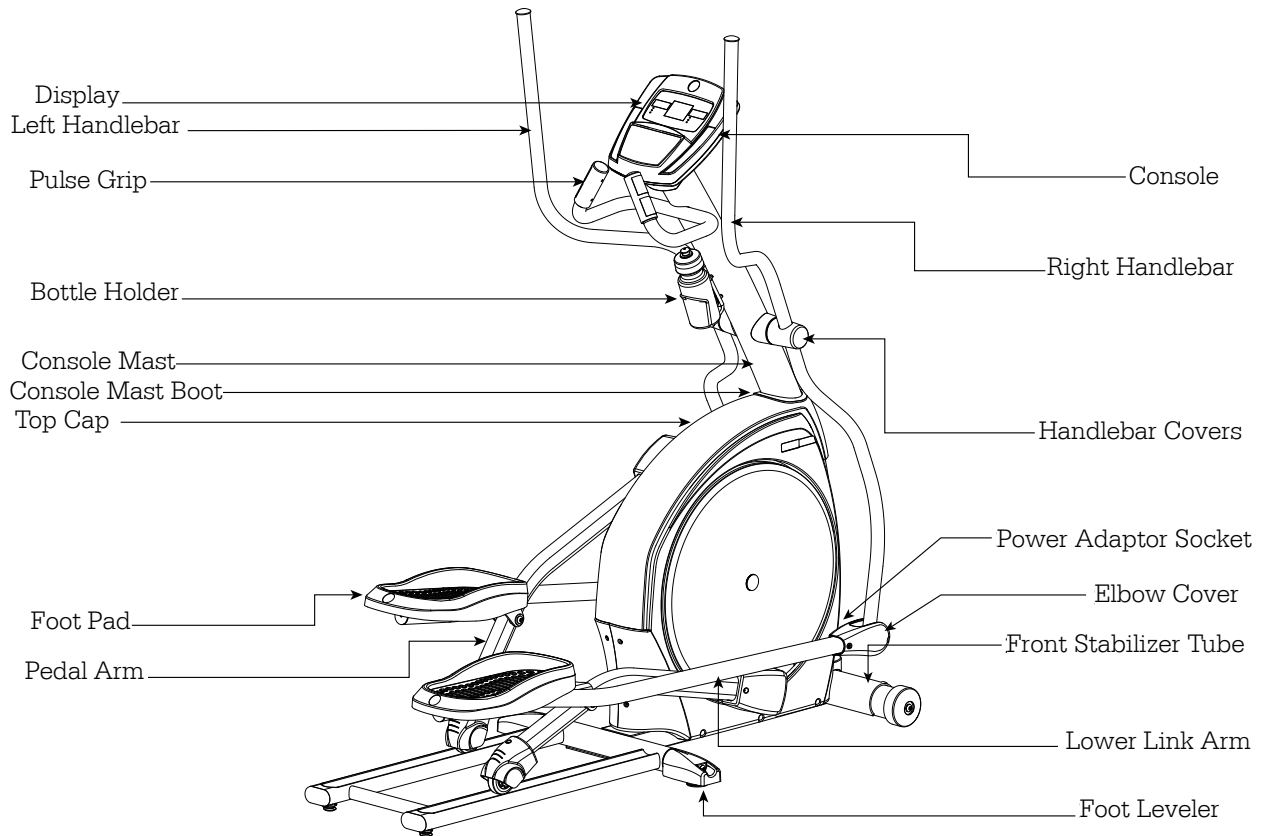
- Phillips screwdrivers
- Anti-static wrist strap (when handling electronic parts)
- Flat-head screwdrivers
- Digital multi-meter
- Drive belt tension gauge
- Allen wrench set (Metric)
- Open-end wrenches of assorted sizes (Metric)
- Clamp-on amp meter
- 1/2" drive ratchet and sockets of assorted sizes
- Blue Thread Lock
- Cable ties
- * Motor commutator stone
- Needle nose pliers
- Damp cloth
- Rubber mallet
- Hammer
- Drop cloth
- Ruler
- Snap ring pliers
- Wire cutters
- * Crank Puller (Park Tool CCP-2, 22mm)
- * Crank Puller (26mm)

* Available through Horizon Fitness at Cost.

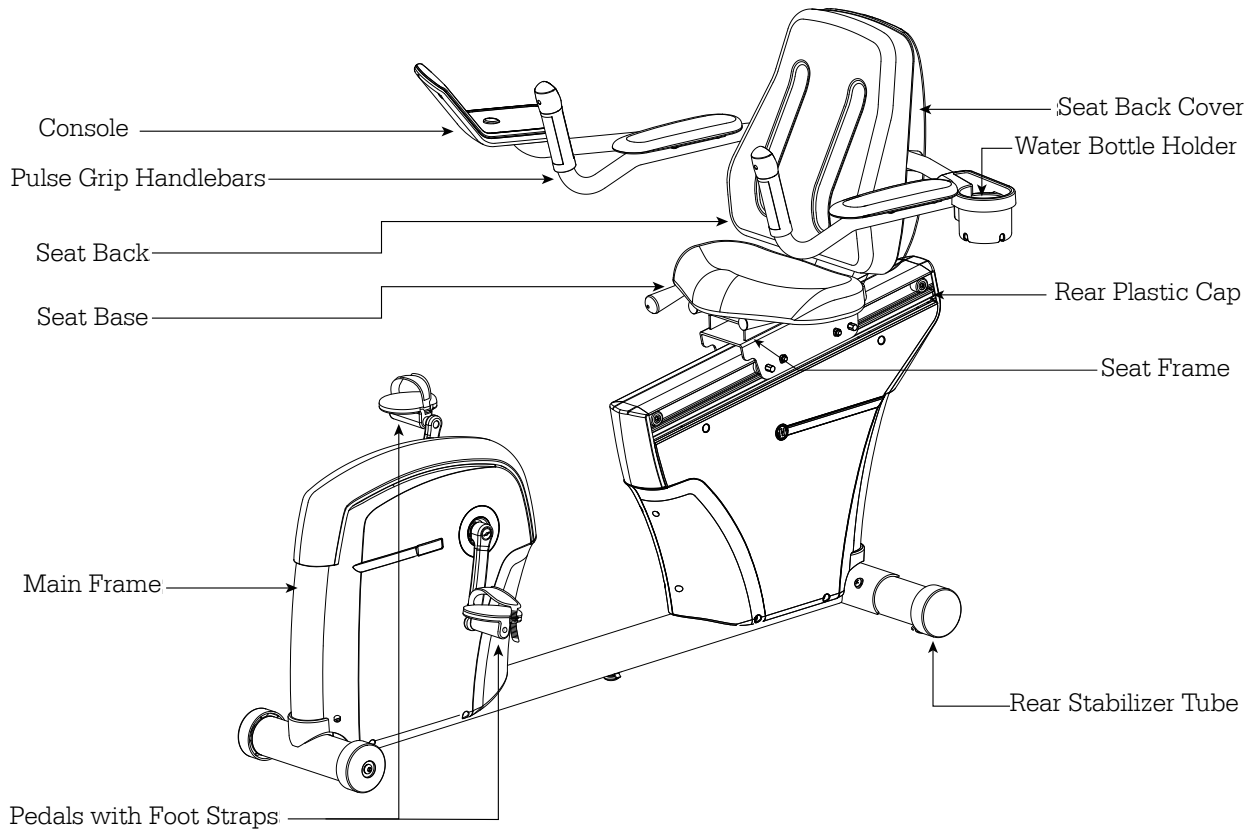
>> Treadmill Parts Diagram



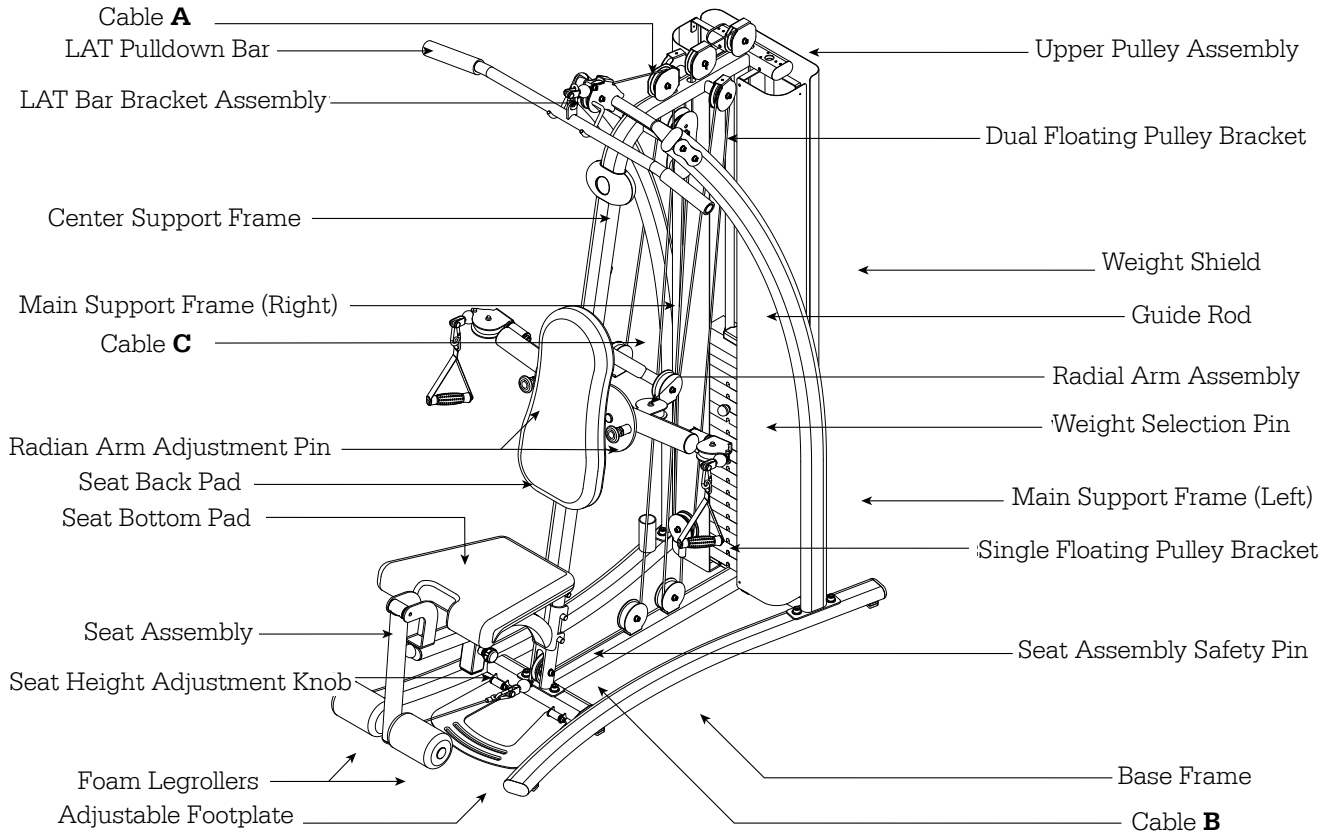
>> Elliptical Parts Diagram



>> Bike Parts Diagram



>> Gym Parts Diagram



Maintenance

>> Treadmill Preventative Maintenance Procedures

Cleanliness of your treadmill and its operation environment will keep maintenance problems and service calls to a minimum. For this reason, we recommend that the following preventive maintenance schedule be followed.

AFTER EACH USE (DAILY)

Clean and inspect, following these steps:

- Turn off the treadmill with the on/off switch, then unplug the power cord at the wall outlet.
- Wipe down the running belt, deck, motor cover, and console casing with a damp cloth. Never use solvents, as they can cause damage to the treadmill.
- Inspect the power cord. If the power cord is damaged, contact AFG.
- Make sure the power cord is not underneath the treadmill or in any other area where it can become pinched or cut.
- Check the tension and alignment of the running belt. Make sure that the treadmill belt will not damage any other components on the treadmill by being misaligned.

EVERY WEEK

Clean underneath the treadmill, following these steps:

- Turn off the treadmill with the on/off switch, then unplug the power cord at the wall outlet.
- Fold the treadmill into the upright position, making sure that the lock latch is secure.
- Move the treadmill to a remote location.
- Wipe or vacuum any dust particles or other objects that may have accumulated underneath the treadmill.
- Return the treadmill to its previous position.

EVERY MONTH - IMPORTANT!

- Turn off the treadmill with the on/off switch, then unplug the power cord at the wall outlet.
- Inspect all assembly bolts of the machine for proper tightness.
- Turn off the treadmill and wait 60 seconds.
- Remove the motor cover. Wait until ALL LED lights turn off.
- Clean the motor and lower board area to eliminate any lint or dust particles that may have accumulated. Failure to do so may result in premature failure of key electrical components.
- Vacuum and wipe down the belt with a damp cloth. Vacuum any black/white particles that may accumulate around the unit. These particles may accumulate from normal treadmill use.

Note: Maintenance is NOT covered under manufacturer's warranty.

Maintenance

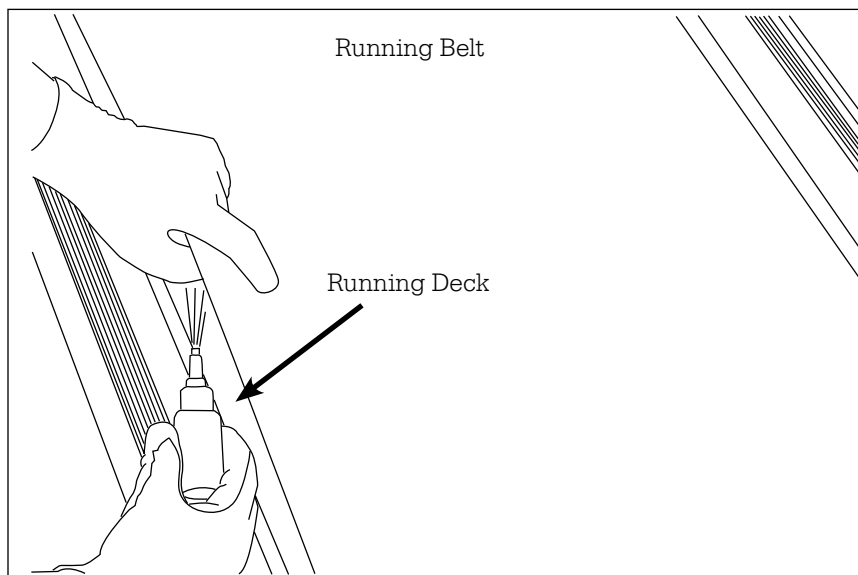
>> Treadmill Lubrication

EVERY 6 MONTHS OR 150 MILES

It is necessary to lubricate your treadmill running deck every six months or 150 miles to maintain optimal performance of your treadmill. Once the treadmill reaches 150 miles, the console will prompt you to lubricate the treadmill. Only use lubricant provided by AFG!

- Turn off the treadmill with the on/off switch, then unplug the power cord at the wall outlet.
- Loosen both the rear roller bolts. (For best results, place two removable marks on both sides of the frame and note roller position). Once the belt is loosened, take the bottle of lubricant and apply it to the entire top surface of the running deck. Tighten both rear roller bolts (matching up the marks for proper position) to original position. After you have applied lubricant, plug in the power cord, insert the safety key, start the treadmill and walk on the belt for two minutes to spread the lubricant.
- Lubricate the air shocks with Teflon based spray.
- Once lubrication is complete, reset the console by pressing and holding 'STOP' and Speed (▲) buttons for 5 seconds.

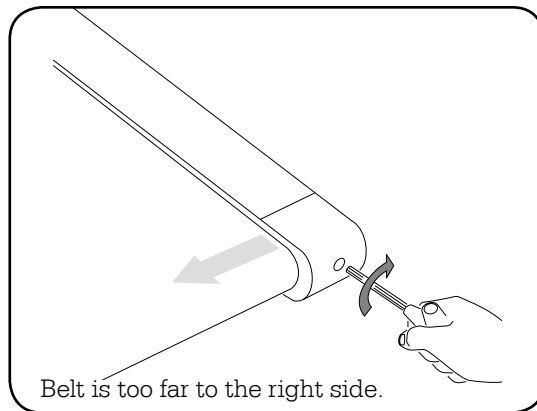
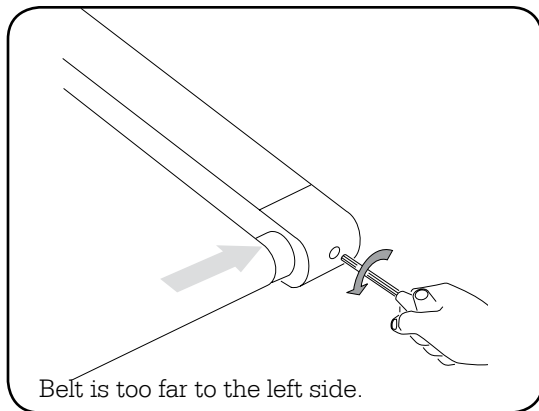
LUBRICATION



Maintenance

>> Tensioning and Aligning the Running Belt

If you can feel a slipping sensation when running on the treadmill, the running belt must be tightened. In most cases, the belt has stretched from use, causing the belt to slip. This is a normal and common adjustment. Make sure that the unit is turned off and not running. To eliminate this slipping, tension both the rear roller bolts with the appropriate sized Allen wrench, turning both the left and right bolt 1/4 TURN as shown below. Try the treadmill again to check for slipping. Repeat if necessary, but NEVER TURN the roller bolts more than 1/4 turn at a time.



- 1 |** If the running belt moves rapidly to one side when performing the next step, press the Stop button immediately.
 - Turn on the treadmill. With the treadmill speed between 3-4mph, stand behind the treadmill and watch the movement of the running belt. **DO NOT STAND ON THE TREADMILL AND DO NOT TOUCH THE TREADMILL WHILE PERFORMING THIS PROCEDURE.** As you watch the running belt, make sure that the belt runs without moving from one side to the other and that the belt is centered between the side rails.
- 2 |** If the running belt is not tracking properly, follow the procedures below:
 - If the running belt tracks to the left, turn the left roller bolt clockwise 1/4 of a turn, keeping the belt tension in mind. Over-tightening the running belt may cause damage to the running belt and roller bearings.
 - If the running belt tracks to the right, turn the right roller bolt clockwise 1/4 of a turn, keeping the belt tension in mind. Over-tightening the running belt may cause damage to the running belt and roller bearings.

Maintenance

>> Elliptical Preventative Maintenance Procedures

WHAT KIND OF ROUTINE MAINTENANCE IS REQUIRED?

We use sealed bearings throughout our ellipticals so lubrication is not needed. The most important maintenance steps are to wipe perspiration off the unit after each use and periodically checking the assembly bolts for tightness.

HOW DO I CLEAN MY ELLIPTICAL?

Clean with soap and water cleaners only. Never use solvents on plastic parts.

Cleanliness of your elliptical and its operating environment will keep maintenance problems and service calls to a minimum. For this reason, AFG recommends that the following preventive maintenance schedule be followed.

AFTER EACH USE (DAILY)

Turn off the elliptical by unplugging the power cord from the wall outlet

- Wipe down the elliptical with a damp cloth. Never use solvents, as they can cause damage to the elliptical.
- Inspect the power cord. If the power cord is damaged, contact AFG.
- Make sure the power cord is not underneath the elliptical or in any other area where it can become pinched or cut.



To remove power from the elliptical, the power cord must be disconnected from the wall outlet.

WEEKLY

Clean underneath the elliptical, following these steps:

- Turn off the elliptical.
- Move the elliptical to a remote location.
- Wipe or vacuum any dust particles or other objects that may have accumulated underneath the elliptical.
- Return the elliptical to its previous position.

EVERY MONTH

- Inspect all assembly bolts and pedals on the machine for proper tightness.
- Clean any debris off of the pedal arm wheels and guide rails.

Maintenance

>> Bike Preventative Maintenance Procedures

WHAT KIND OF ROUTINE MAINTENANCE IS REQUIRED?

We use sealed bearings throughout our bikes so lubrication is not needed. The most important maintenance step is to simply wipe your perspiration off the bike after each use.

HOW DO I CLEAN MY Bike?

Clean with soap and water cleaners only. Never use solvents on plastic parts.

Cleanliness of your bike and its operating environment will keep maintenance problems and service calls to a minimum. For this reason, AFG recommends that the following preventive maintenance schedule be followed.

AFTER EACH USE (DAILY)

Turn off the bike by unplugging the power cord from the wall outlet.

- Wipe down the bike with a damp cloth. Never use solvents, as they can cause damage to the bike.
- Inspect the power cord. If the power cord is damaged, contact AFG.
- Make sure the power cord is not underneath the bike or in any other area where it can become pinched or cut.



To remove power from the bike, the power cord must be disconnected from the wall outlet.

WEEKLY

Clean underneath the bike, following these steps:

- Turn off the bike.
- Move the bike to a remote location.
- Wipe or vacuum any dust particles or other objects that may have accumulated underneath the bike.
- Return the bike to its previous position.

EVERY MONTH

- Inspect all assembly bolts and pedals on the machine for proper tightness.
- Clean any debris off of the seat guide rail.

Maintenance

>> Gym Preventative Maintenance Procedures

Cleanliness of your home gym and its operation environment will keep maintenance problems and service calls to a minimum. For this reason, we recommend that the following preventive maintenance schedule be followed.

AFTER EACH USE (DAILY)

- Wipe upholstery, handles, bars, and frame (if needed) with a soap and water cleaning solution.

EVERY WEEK

- Lubricate guide rods with a spray or silicone gel lubricant.
- Inspect cable ends and cable insulation for damage.

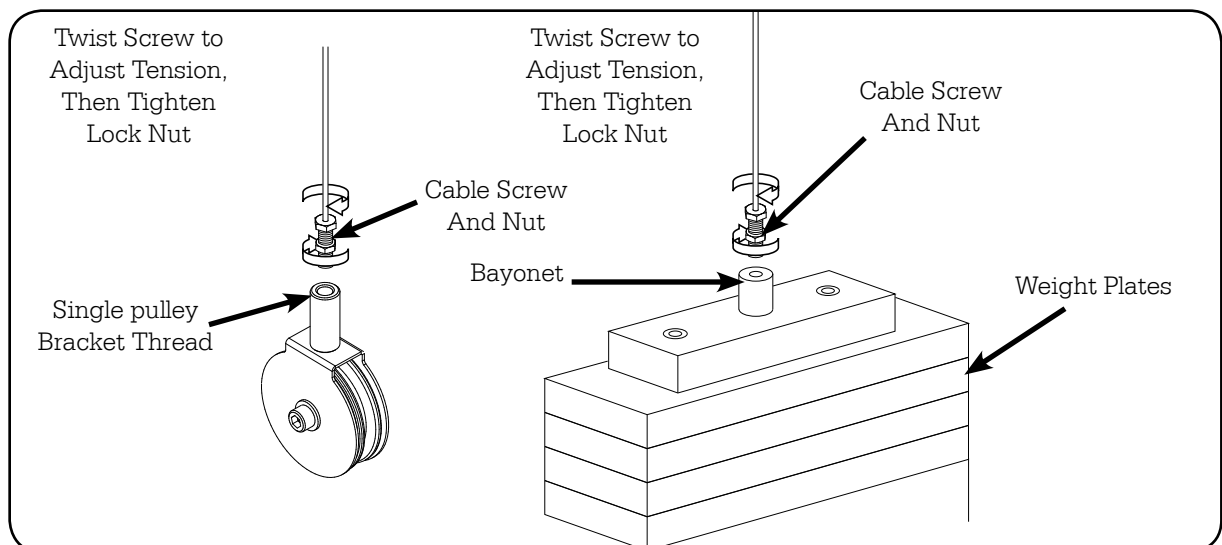
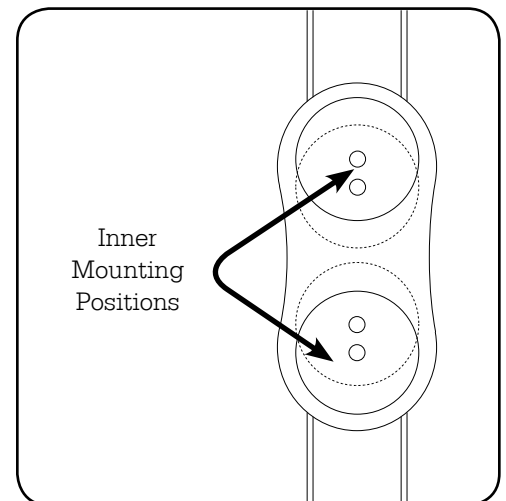
EVERY MONTH - IMPORTANT!

- Inspect all frame bolts and tighten as needed.

ADJUSTING CABLE TENSION

Regularly check the cable tension of your home gym. If excessive slack exists adjust cable tension by removing the pulley bolts and moving one or both pulleys to the inner mounting position in the dual floating pulley bracket and then reinstalling the pulley bolts. Cable tension may also be adjusted using the threaded cable end on single pulley bracket and weight stack. Twist threaded end to adjust tension and then tighten lock nut.

NOTE: Always maintain at least 1/2" of threaded bolt in bayonet.



>> Proper Heart Rate Usage

HAND GRIPS

Place the palm of your hands directly on the grip pulse handlebars. Both hands must grip the bars for your heart rate to register. It takes 5 consecutive heartbeats (15-20 seconds) for your heart rate to register accurately. When gripping the pulse handlebars, do not grip tightly. Holding the grips tightly may elevate your blood pressure. Keep a loose, cupping hold. You may experience an erratic readout if consistently holding the grip pulse handlebars. Make sure to clean the pulse sensors to ensure proper contact can be maintained.

WIRELESS CHEST TRANSMITTER 4.0AR, 4.0AH, 4.0AE, 14.0AT, 14.0AE, 5.0AT, 18.0AE (3.0AE, 13.0AT, 4.0AT sold separately)

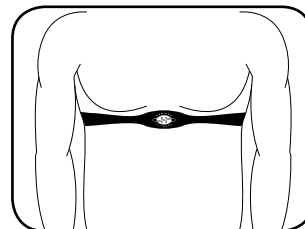
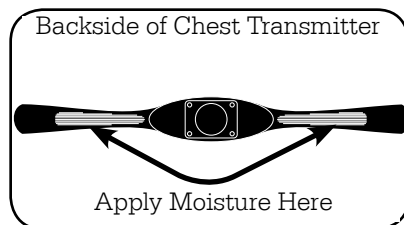
Prior to wearing the wireless chest transmitter, moisten the two rubber electrodes with water. Center the chest strap just below the breast or pectoral muscles, directly over your sternum, with the logo facing out. *Verify the chest strap is the Polar brand chest strap.



The chest strap must be tight and properly placed to receive an accurate and consistent readout. If the chest strap is too loose, or positioned improperly, you may receive an erratic or inconsistent heart rate readout.



The heart rate function is not a medical device. Various factors may affect the accuracy of your heart rate reading. The heart rate reading is intended only as an exercise aid.



TROUBLESHOOTING-HEART RATE

Check your exercise environment for sources of interference such as fluorescent lights, computers, underground fencing, home security systems or appliances containing large motors. These items may cause erratic heart rate readouts.

You may experience an erratic readout under the following conditions:

- Gripping the heart rate handlebars too tight. Try to maintain moderate pressure while holding onto the heart rate handlebars.
- Constant movement and vibration due to constantly holding the heart rate handlebars while exercising. If you are receiving erratic heart rate readouts, try to only hold the grips long enough to monitor your heart rate.
- When you are breathing heavily during a workout.
- When your hands are constricted by wearing a ring.
- When your hands are dry or cold. Try to moisten your palms by rubbing them together to warm them.
- Anyone with heavy arrhythmia.
- Anyone with arteriosclerosis or peripheral circulation disorder.
- Anyone whose skin on the measuring palm is especially thick.

>> Section Two

| | |
|---|----|
| Horizon Fitness “5-Step” Diagnostic Process | 25 |
| Wiring Diagrams and Schematics | 27 |
| Resetting the Incline Motor | 30 |
| Adjusting the Magnetic Break | 31 |
| Voltage Checks | |
| -Treadmills | 32 |
| >>No Motor Movement | 34 |
| >>Motor AC Wire | 34 |
| >>Console Cable | 35 |
| >>Speaker Amp Board | 35 |
| >>9 Wire Console Cable | 36 |
| >>12 Wire Console Cable | 37 |
| >>Incline Wire | 38 |
| -Ellipticals Bikes | |
| >>Incline Motor | 39 |
| >>Resistance Motor | 40 |
| >>Resistance Motor Cable | 41 |
| >>10 Wire Console Cable | 42 |
| >>Incline Console Cable | 43 |
| Engineering Mode | |
| -Treadmill | 44 |
| -Elliptical Bike | 45 |

>> Horizon Fitness “5-Step” Treadmill Diagnostic Process

IMPORTANT

The following steps are provided as routine checkpoints when diagnosing problems on a Horizon Fitness treadmill. If followed correctly, these checkpoints should help diagnose the majority of problems that may be encountered.

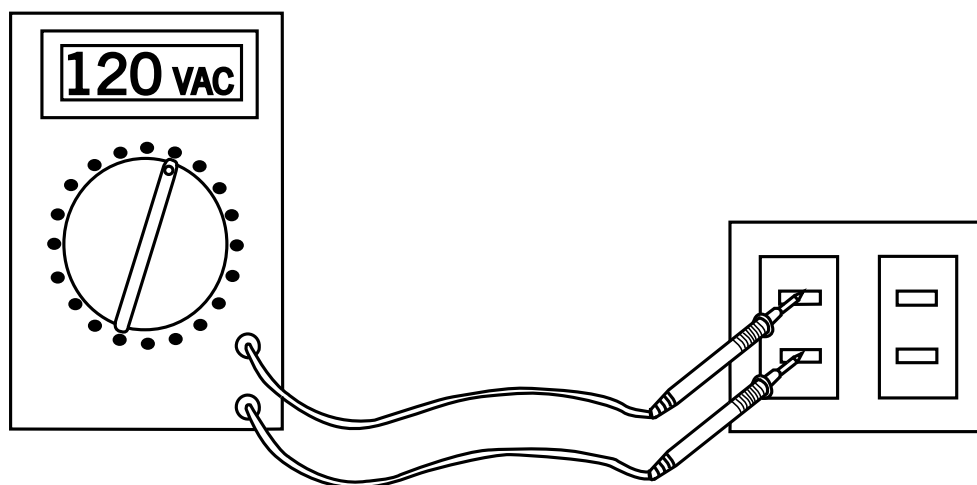
1 | Proper supplying power to treadmill.

- Make sure the treadmill is not on an extension cord, surge protector or GFCI circuit. Extension cords and surge protectors create energy loss, which prevents proper voltage from being supplied to the treadmill.
- Make sure the treadmill is on a dedicated circuit. Horizon Fitness recommends a 20 amp dedicated circuit, but a 15 amp dedicated circuit may be sufficient.
- Make sure that proper voltage is being supplied from the wall outlet.

WARNING

Hazardous voltages will be tested in the following procedure. Exercise extreme caution when performing these procedures. Do not connect or disconnect any wiring, connectors, or other components with the power applied to the treadmill.

- Disconnect the treadmill power cord from the wall outlet. Using an AC voltmeter, verify that the proper AC voltage is present at the wall outlet. Nominal 120 volts AC may vary between approximately 105 volts AC and 135 volts AC. If the AC voltage is missing or incorrect, check the AC service or consult an electrician.

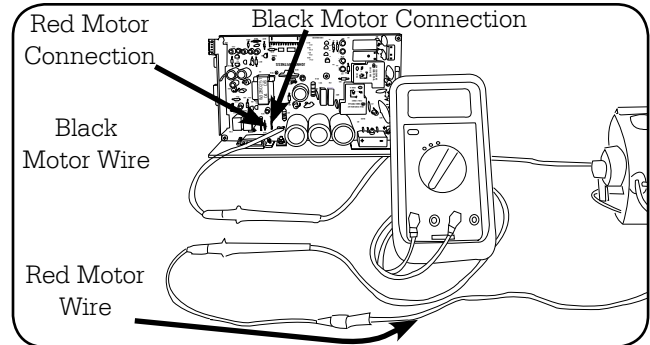
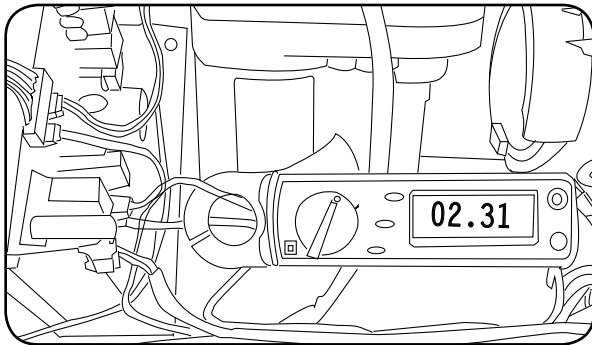


2 | Proper Wiring

- Verify that all wires are secure and attached in the correct position. (Reference Wiring Diagrams and Schematics section p27.)
- Verify that there aren't any pinches or cuts in any of the wires, especially the console cable connecting from the motor control board to the upper board. Replace any wires that are pinched or cut.

3 | Proper Motor Function

- Verify that the treadmill is properly lubricated (Reference Maintenance Section p17.) and drive motor is operating at the proper amperage rating. To verify the current draw, place a clamp meter around the red motor wire. If a clamp meter is not available, an additional wire harness can be produced to measure amperage with a standard voltmeter.



- Remove the brush covers on the drive motor and inspect the brushes and the motor commutator for any uneven wear. If the surface of the motor brush is pitted, rough, has burn marks, or the commutator has a black residue on it, replace the motor.

4 | Proper Speed Calibration

- To ensure proper belt speed and proper calibration use engineering mode to verify that machine is running in MPH not KM (all models). (Reference Engineering Mode Section p44.)
- Auto-calibrate the machine from engineering mode if the belt speed is erratic or the belt speed does not correspond to what is displayed on the console. (Reference Engineering Mode Section p44.)

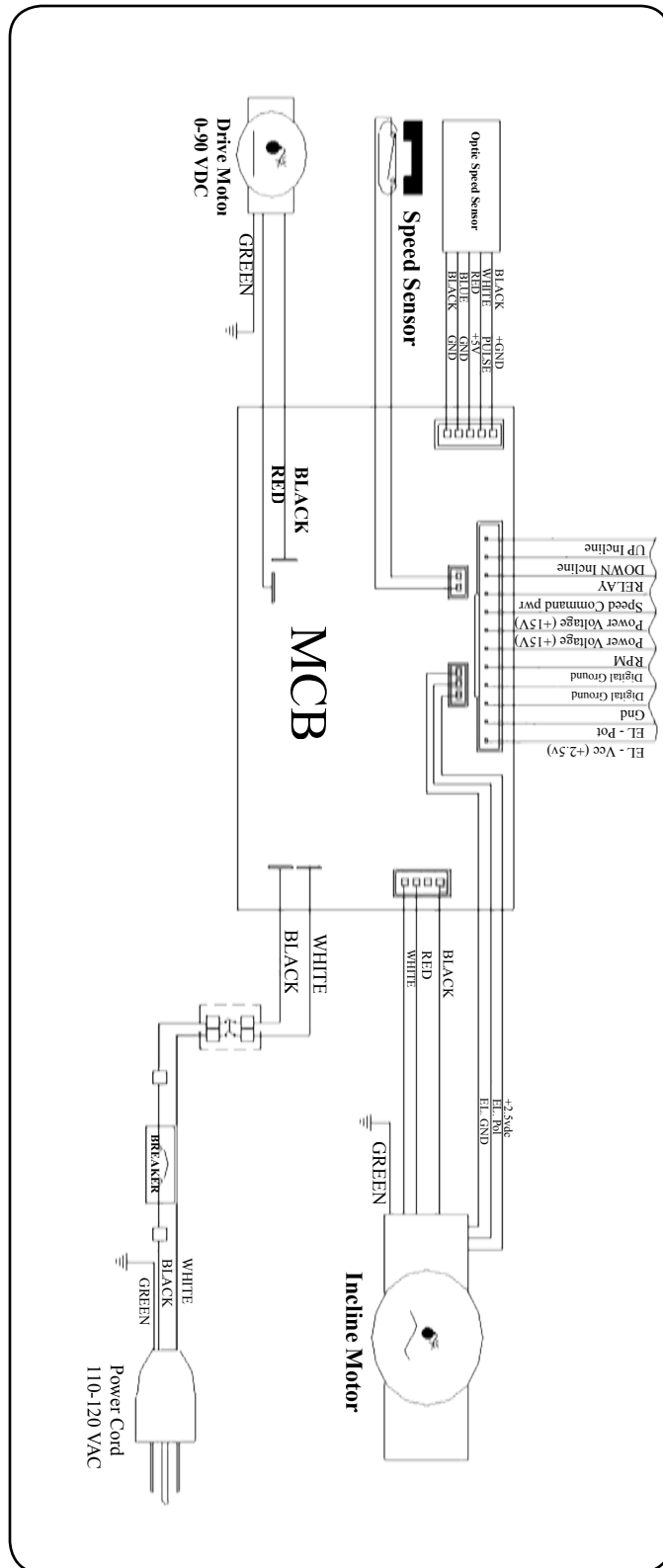
5 | Voltage Checkpoints

- Verify that proper voltage is being transferred through the console cable. (Reference Voltage Checks p35.)

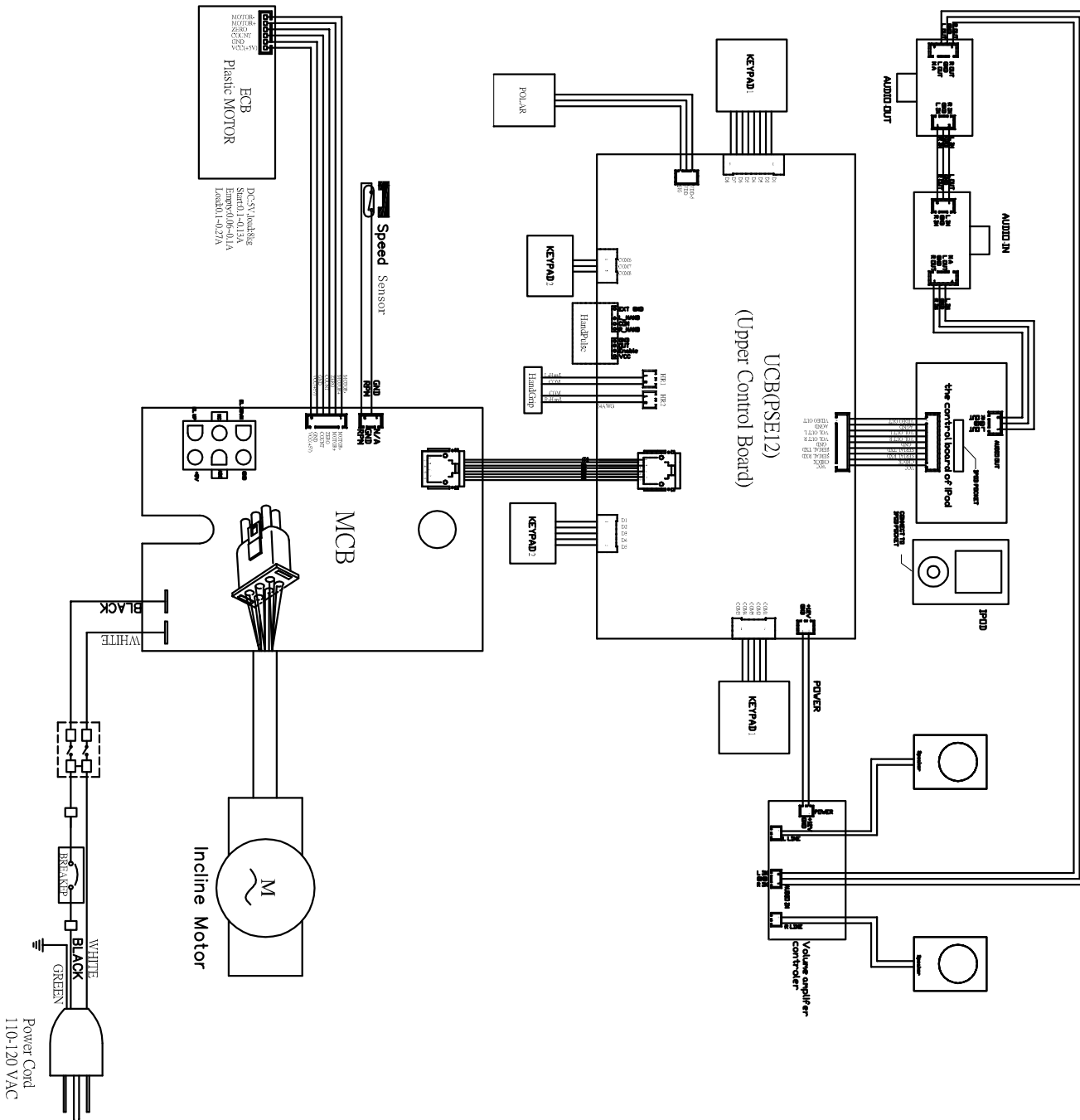
IMPORTANT

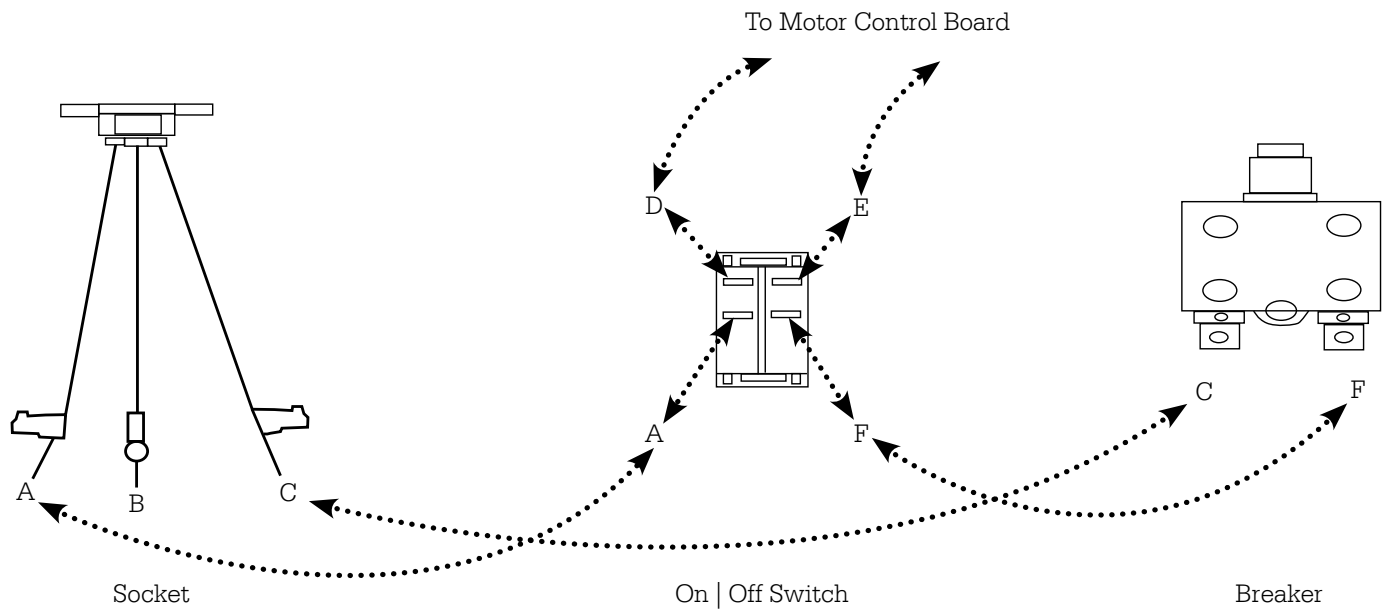
If the techniques described in the five-step diagnostic process did not resolve the problem, reference the symptoms in the table of contents and review other possible causes in the troubleshooting section.

>> Digital Drive Wiring Diagram



>> Elliptical Wiring Diagram Schematics



>> Power Source Wiring Diagram

A – Socket wire to breaker or on/off switch.

Wire Length will determine connection point.

B – Ground

C – Socket wire to breaker or on/off switch.

Wire Length will determine connection point.

D – On/Off switch to motor control board.

E – On/Off switch to motor control board.

F – On/Off switch to breaker.

Note: Wires A & C are interchangeable.

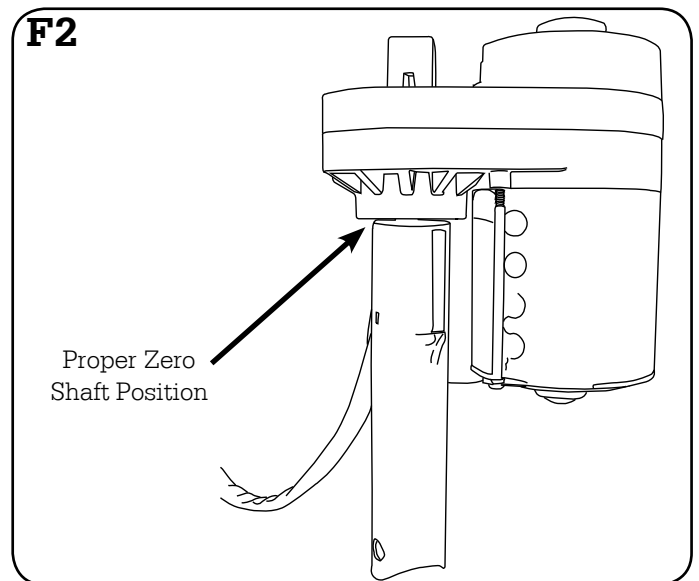
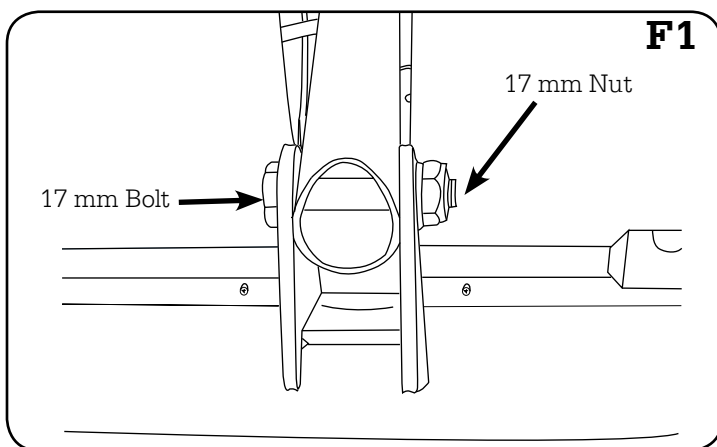
>> Resetting the Incline Motor after replacing the Motor Control Board

Tools Required:

- Philips Screwdriver
- 17mm Socket
- 17mm Combination Wrench

Procedure:

- 1 | Turn off power to the treadmill and unplug power cord from wall outlet.
- 2 | Replace the Motor Control Board.
- 3 | Fold treadmill into locked position.
- 4 | Undo bolt that attaches the elevation tube to the bottom of the machine (**F1**)



- 5 | Power up the machine and let the incline spin freely in the tube until it reaches its “zero” position, and then turn power off.
- 6 | Spin shaft manually until it is almost flush with the incline motor casing and only about 1 thread is visible (**F2**).
- 7 | Reinsert bolt and power up the machine.
- 8 | Test the incline function and calibrate the unit.

>> Adjusting the Magnetic Break

Tools Required:

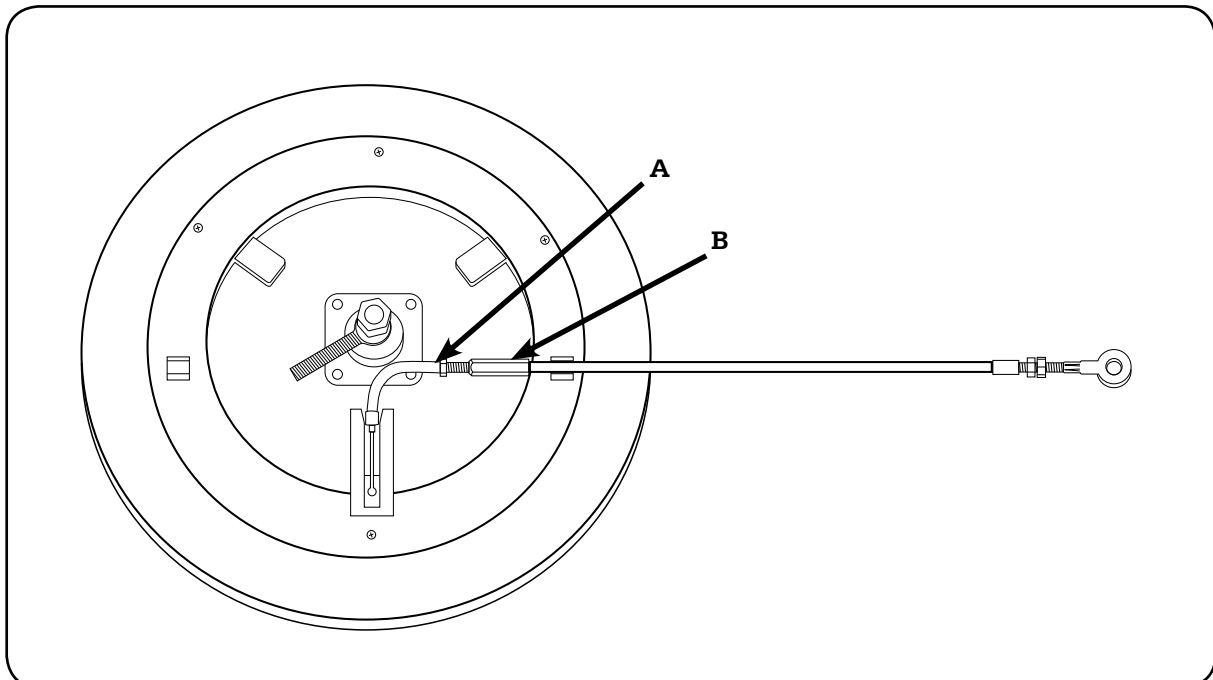
- Phillips Screwdriver
- 8mm, 13mm, 17mm Socket and Combination Wrenches
- 5mm Allen Wrench
- Crank Puller

Procedure:

- 1 | Turn on unit and Press start.
- 2 | Set resistance highest level and power off unit.
- 3 | Remove side covers.
- 4 | Loosen the short nut (**A**), and adjust the long nut (**B**) clockwise to reduce the brake resistance and counterclockwise to increase the brake resistance.

IMPORTANT

The correct position for the flywheel/brake assembly is 1-2 mm from the flywheel at the highest resistance level.



>> No Motor Movement Voltage Checkpoints

Upper Board Checkpoints

Procedures:

Using a dc volt meter (if non-auto ranging set for the 20vdc range), test the voltage at the grey and again at the white console cable connections using the yellow, orange or red wires as ground. Two tests are to be performed; test once with power on before the treadmill is started and again after Start is pressed.

Desired Results:

The voltage charts contain typical desired results on a fully functional system. A variance from the norm would indicate a defective component.

| Checkpoint | Voltage Before Start | Volatge After Start |
|-------------------------------------|----------------------|---|
| Console Cable Grey to Yellow (Gnd) | 0.0 vdc | 0.3 +/- .3 vdc, increases as speed increases. (as shown on console) |
| Console Cable White to Yellow (Gnd) | 4.3 +/- .3 vdc | 0.0 vdc |

Lower Board Checkpoints

Console Cable Connection

Procedures:

Using a dc volt meter (if non-auto ranging set for the 20vdc range), test the voltage at the grey and again at the white console cable connections using the yellow, orange or red wires as ground. Two tests are to be performed; test once with power on before the treadmill is started and again after Start is pressed. Note: this is the same procedure as the upper board console cable connection. If results vary from the upper board, the console cable is the likely cause and a continuity check should be performed.

Desired Results:

The voltage charts contain typical desired results on a fully functional system. A variance from the norm would indicate a defective component.

| Checkpoint | Voltage Before Start | Volatge After Start |
|--|----------------------|--|
| Console Cable Grey to Yellow (Gnd) | 0.0 vdc | 0.3 vdc, increases as speed increases. (as shown on console) |
| Console Cable White to Yellow (Gnd) | 4.3 vdc | 0.0 vdc |
| Note: 2.75 Hp motors and higher: the reading on the console cable -white to yellow (gnd) is 1.6 + or - .3vdc | | |

Digital Speed Sensor Connection

Procedures:

Using a dc volt meter (if non-auto ranging set for the 20vdc range); test the voltage at the red wire and again at the yellow wire using the blue, black or black as ground. The yellow wire should be measure twice, once with the optic speed sensor obstructed and once not obstructed. This can be done by slowly turning the motor and aligning the tines or open spaces of the optic disk with the sensor.

Desired Results:

The voltage charts contain typical desired results on a fully functional system. A variance from the norm would indicate a defective component.

| Checkpoint | Voltage With Sensor Obstructed | Volatge With Sensor Not Obstructed |
|-----------------------------|--------------------------------|------------------------------------|
| Yellow Digital Speed Sensor | 5.0 +/- 0.4 vdc | 0.3 vdc |
| Red Digital Speed Sensor | 5.0 +/- 0.4 vdc | 5.0 +/- 0.4 vdc |

>> No Motor Movement Voltage Checkpoints Continued

Drive Motor Connection

Procedures:

Using a dc volt meter (if non-auto ranging set for the 200vdc range), test the voltage at the red and black motor leads with the motor still attached.

Note: This should be tested after the console cable and optic sensor points because they can give the same results as a defective lower board.

Note: A non-functional system may still have a voltage present with no motor attached. For accurate results, the motor must be attached when the voltage is checked.

Desired Results:

The voltage charts contain typical desired results on a fully functional system. A variance from the norm would indicate a defective component.

| Checkpoint | Voltage Before Start | Voltage After Start @ 0.5mph | Volatge After Start @ 10.0mph |
|-------------------------------------|----------------------|------------------------------|-------------------------------|
| Across Motor Out, No Motor Attached | 0.0-22.5 vdc | 0.0-22.5 vdc | 0.0-22.5 vdc |
| Across Motor Out, W/ Motor Attached | 0.0 vdc | 2.5- 0 vdc | 80-100.0 vdc |

Drive Motor Checkpoints

Procedures:

Unplug the motor from the lower board. Using a dc volt meter (if non-auto ranging set for the 20vdc range), attach volt meter leads directly into the motor leads and turn the running belt.

Desired Results:

The motor should generate 5-15 vdc depending on the speed it is turned.

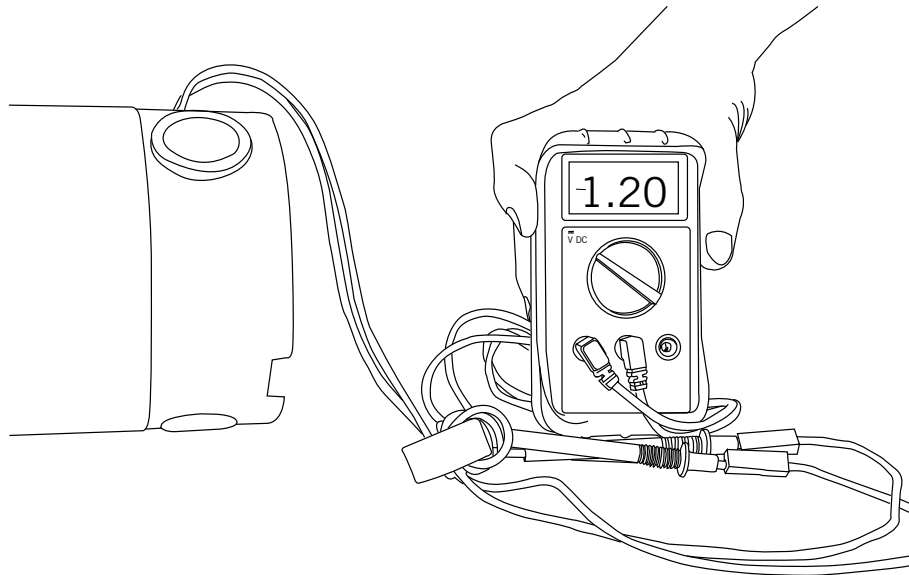
Procedures:

Unplug the motor from the lower board. Using an ohm meter (if non-auto ranging set for the 200 ohm range), attach ohm meter leads directly into the motor leads.

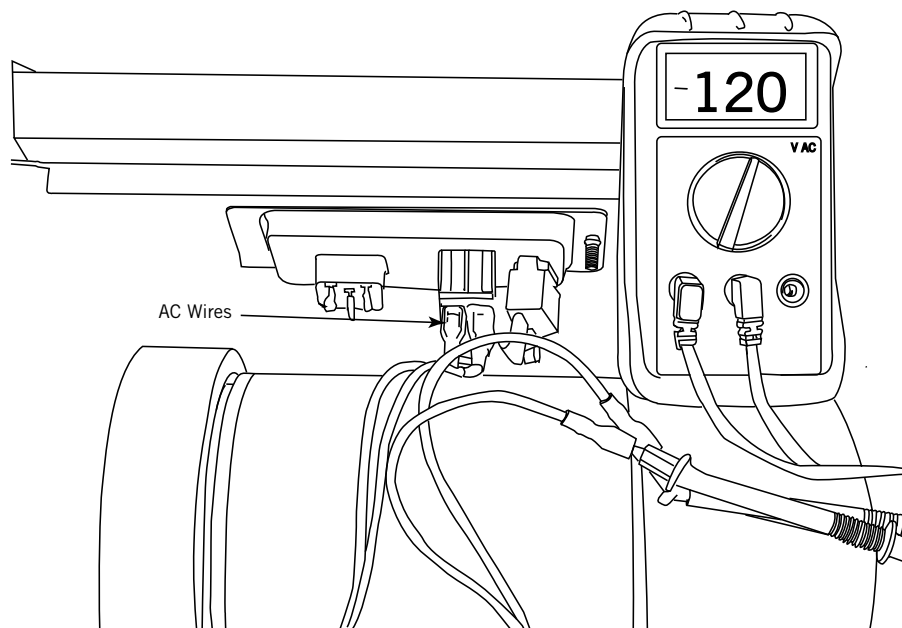
Desired Results:

The motor should read approximately 1.0-1.5 ohms.

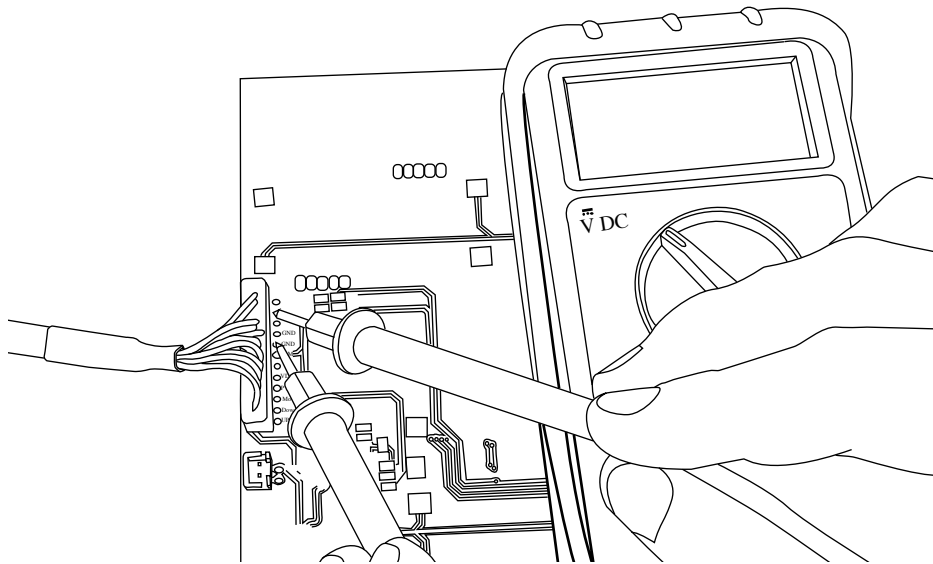
>> Motor Voltage Check | Spin motor flywheel to produce voltage



>> AC Wire Voltage Check



>> Console Cable Voltage Check

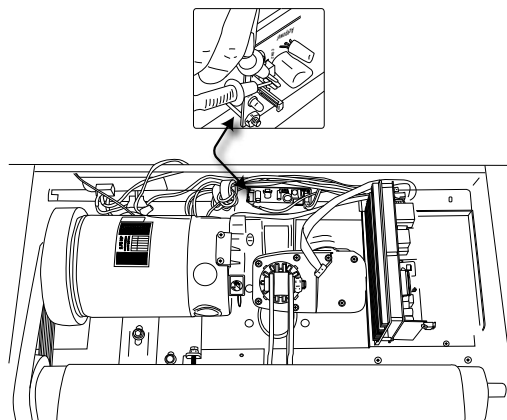


To check the voltage of a specific function (i.e. elevation, motor control, etc), place the negative lead of your multi-meter on pin B3, B4 or B5, and place the positive lead on the desired pin. Follow the voltage charts on p37 (12pin) and p36 (9pin).

Note | 1: Wire colors are subject to change.

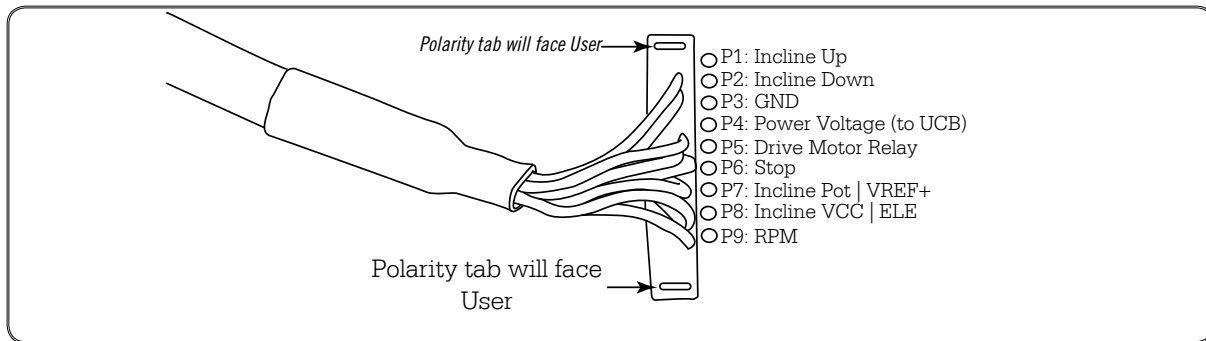
Note | 2: It may be necessary to remove the glue from the console cable to access the pins.

>> Speaker Amp Board Voltage



| Voltage In | Voltage Out |
|------------|-------------|
| 120v | 12v |

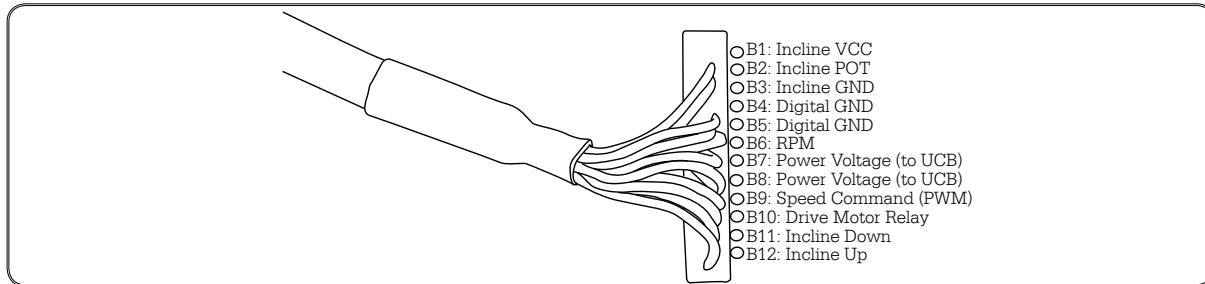
>> 9 Wire Console Cable Voltage Chart (DC Volts)



| Wire Color | Function | Console Cable Voltage no wires cut | Voltage at UCB after wire's cut | Voltage at MCB after wire's cut | Physical Symptoms-If Wire Cut |
|------------|------------------------|---|---|---|---|
| 1 Red | Incline Up | 0.0 vdc before started, +1.9 vdc while inclining, 0.0 vdc while declining. Voltage constant while inclining/ declining. | 2.5 vdc b/f start, 5.0 vdc after start. | 3.7 vdc b/f start, 0.0 vdc after start. | Incline motor will go up but not down. |
| 2 Brown | Incline Down | 0.0 vdc before started, 0.0 vdc while inclining, +1.9 vdc while declining. Voltage constant while inclining/ declining. | 2.5 vdc b/f start, 0.8 vdc after start. | 0.0 vdc b/f start, 0.1 vdc after start. | Incline motor will go down but not up. |
| 3 Orange | GND | n/a ground | 0.0 vdc | 0.0 vdc | Console will not turn on. |
| 4 Yellow | Power Voltage (to UCB) | +15 vdc constant range. | 0.0 vdc | 14.55 vdc | Console will not turn on. |
| 5 Green | Drive Motor Relay | +1.6 vdc before started, 0.0 vdc after started. | 1.4 vdc b/f start 0.8 vdc after start | 0.0 vdc b/f start 1.4 vdc after start | No belt movement. |
| 6 Blue | Stop | Constantr 0.53 vdc-0.69 vdc 3.6 vdcwhen the safety key is removed. Will remain at 3.6 vdc untill Start is pressed. | 5.0 vdc safe off 1.3 vdc safe on 1.7 vdc running 1.9 vdc paused | 16.6 vdc safe off 0.0 vdc safe on and running | No physical symptoms were noticed when this wire was removed. |
| 7 Purple | Incline Pot/ VREF+ | +2.5 vdc at 0.0% incline, +0.5 vdc at max incline. Voltage changes with each change in incline. | 2.5 vdc | 3.7 vdc b/f start, 5.0 vdc after start. | If the incline is changed from 0.0%, the motor will move constant up untill the incline on the console is returned to 0.0%. it will then stop in place and NOT go down. |
| 8 Grey | Incline VCC/ ELE | +2.5 vdc constant. | 3.8 vdc b/f start 4.8 vdc after start | 2.5 vdc | Incline constant up as soon as start is pressed. Incline will work in Hardware test. |
| 9 White | RPM | When the speed sensor is aligned to the magnet; short, 0.0vdc. When the speed sensor is not aligned: open, +5.0 vdc. | 5.0 vdc | 0.0 vdc | Console will use default PWM value or auto-cal values. Will not auto-cal, will not show speed in Hardware Test. |

Note: Wire colors are subject to change.

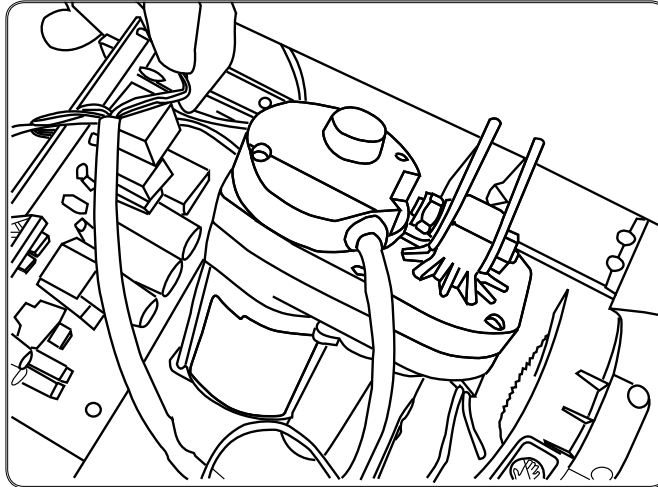
>> 12 Wire Console Cable Voltage Chart (DC Volts)



| Wire Color | Function | Console Cable Voltage no wires cut | Voltage at UCB no wires cut | Voltage at MCB after wire's cut | Physical Symptoms-If Wire Cut |
|---------------|------------------------|---|--|--|---|
| 1 Black | Incline VCC | 2.5 vdc | 0.0 vdc | 2.5 vdc | After Start pressed constant down incline, down LED constant on. In Hardware Test the motor moves down but not up, value always at maximum. |
| 2 Brown | Incline Pot | 2.5 vdc at 0.0% incline, 0.5 vdc at max incline. Voltage changes with each change in incline. | 2.5 vdc | 0.0 vdc | After Start pressed constant down incline, down LED constant on. In Hardware Test the motor moves down but not up, value always at maximum. |
| 3 Red | Incline GND | n/a ground | 2.5 vdc, grounded at MCB not UCB. | 0.0 vdc, grounded at MCB not UCB. | Constant up incline. In Hardware Test, motor moves up and down. Incline value started low and went down to 0 but not up past 10. Value changes very slowly. |
| 4 Orange | Digital GND | n/a ground | 0.0 vdc | 0.0 vdc | If one removed, no issues. If both removed: UCB does not turn on. Both incline lights are on and incline motor hums and gets hot quickly. See below for voltage chart if both grounds removed. |
| 5 Yellow | Digital GND | n/a ground | 0.0 vdc | 0.0 vdc | |
| 6 Green | RPM | When speed sensor aligned to magnet: short, 0.0vdc. When sensor not aligned: open, 5.0 vdc | 5.0 vdc | 0.0 vdc | Everything works in normal mode but the console does not register a speed in Hardware Test or Auto Calibration |
| 7 Blue | Power Voltage (to UCB) | 15 vdc constant Range=15 to 17 vdc | 0.0 vdc | 17 vdc | If one removed, no issues. If both removed: UCB does not turn on. At UCB green measures 0.46 vdc, white 1.4 vdc, all others 0.0 vdc. |
| 8 Purple | | 15 vdc constant Range=15 to 17 vdc | 0.0 vdc | 17 vdc | |
| 9 Grey | Speed Command (PWM) | 0.0 vdc before started, 0.5 vdc at 0.5 mph, 4 vdc at 10 mph. Voltage changes as speed changes. | "0.0 vdc b/f start increases as console speed increased" | "0.8 vdc b/f start no change as console speed increased" | No belt movement, MCB relay clicks. LCD 1 lights. When measuring MCB voltage, there is a slight belt movement, then stops |
| 10 White | Drive Motor Relay | 4.3 vdc before started 0.0 vdc after started | "5.0 vdc b/f start 0.0 vdc aft start" | "1.4 vdc b/f start 1.4 vdc aft start" | No belt movement, no click from MCB relay. LED 1 does not light. |
| 11 Pink | Incline Down | 0.0 vdc before started, 0.0 vdc while inclining, 1.9 vdc while declining. Voltage constant while inclining/declining. | "0.0 vdc b/f start 5.0 vdc if press incline down" | 0.0 vdc | Up incline functions, no down incline, LED's function for up, not for down. If incline then decline, motor does not move again until past incline point. Ex. If incline to 2.0 % then back down to 0%, the motor will not move until 2.5 %. In Hardware Test, on;ly up incline, value increases, does not decrease. |
| 12 Light Blue | Incline Up | 0.0 vdc before started, 1.9 vdc while inclining, 0.0 vdc while declining. | "0.0 vdc if at 0% 5.0 vdc if not at 0% or at console height" | 0.0 vdc | Down incline functions, no up incline, LED's function for down but not up. In Hardware Test, down incline functions until value at 0, no up incline. Similar phenomenon to cut Pink wire if incline stopped not at 0%. |

Note: Wire colors are subject to change.

>> Incline Wire Voltage Chart



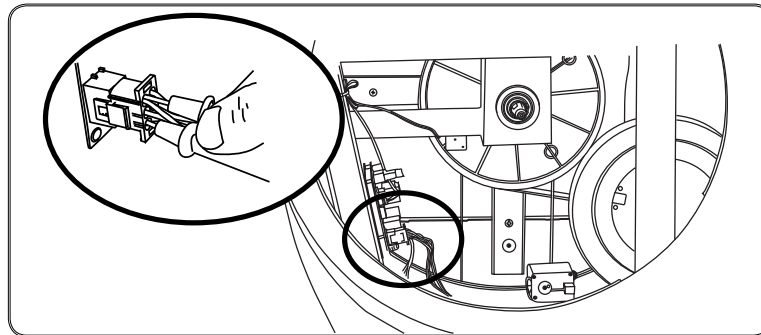
| Small Connector | | | | | | |
|------------------------|-------------|------------------|------------------|------------------|---------------------------------------|---|
| Wire Color | Function | Before Start | At 0.0% | At 10% | Physical Symptoms-If Wire Cut | ENG 1 Test Results |
| Blue | Ground | n/a Ground | n/a Ground | n/a Ground | Constant up incline, no down incline. | Incline value 0, no down incline. |
| Brown | Incline Pot | 2.3 vdc* | 0.6 vdc* | 0.6 vdc* | Constant down incline, no up incline. | Incline value at max, no up incline. |
| Orange | VCC | 2.4 vdc constant | 2.4 vdc constant | 2.4 vdc constant | Constant down incline, no up incline. | Incline value started one less than max, pressed up once and value maxed out, thereafter no up incline. |

* The voltage changes as the incline changes

| Large Quick Connects | | | | | | | |
|-----------------------------|--------------|--------------|---|-----------------|-----------------|------------------------------------|--|
| Wire Color | Function | Before Start | After Start, Not Inclining Or Declining | While Inclining | While Declining | Physical Symptoms-If Wire Cut | ENG 1 Test Results |
| Black w/white as ground | Incline Up | 0.15 vac | 0.15 vac | 171 vac | 120 vac | Up incline works, no down incline. | Up incline works, down does not. Value increases, does not decrease. |
| Red w/white as ground | Incline Down | 0.15 vac | 0.15 vac | 120 vac | 186 vac | Down incline works, no up incline. | Down incline works (until value 0), up does not. Value decreases to 0 then no down incline, does not increase. |
| Red w/black as ground | Ground | 0.03 vac | 0.03 vac | 219 vac | 228 vac | Neither up nor down function. | Neither up nor down function. Value does not change. |

Parameter: Use functioning incline motor and remove one wire at a time to observe malfunction

>> Elliptical Incline Motor Voltage Checks



| DC | | | | | | |
|------------|----------|------------------|---------------------|---------------------|-------------------------------|--|
| Wire Color | Function | Voltage at Zero | Voltage w/ Increase | Voltage w/ Decrease | Physical Symptoms-If Wire Cut | |
| 1 | Brown | Voltage in (VCC) | 5V | 5V | 5V | Normal: After start and pressing incline up and down value is displayed, but there is no incline function. Eng4: When pressing incline up no motor movement, Incline - functions normally |
| 2 | Orange | POT Sensor (ADC) | 4.2V | Decreases to 1.7V | Increases to 4.2V | Normal: After pressing incline- no incline movement. Eng4: Incline + functions normal, no movement with incline - . |
| 3 | Blue | Ground | n/a | n/a | n/a | Normal: Upon start-up incline continuously goes down. Eng4: When pressing up incline does not go up distance value flickers at max value. |

| AC | | | | | | |
|------------|----------|-----------------|---------------------|---------------------|-------------------------------|---|
| Wire Color | Function | Voltage at Zero | Voltage w/ Increase | Voltage w/ Decrease | Physical Symptoms-If Wire Cut | |
| 1 | Black | Incline Up | 0-1 VAC | 171 VAC | 120 VAC | Normal: No incline function and value is displayed Eng4: Incline + functions normal, no movement with incline - . |
| 2 | Red | Incline Down | 0-1 VAC | 120 VAC | 172 VAC | Normal: Incline is at a constant down upon start-up. Eng4: Operates normal, value at max |
| 3 | White | NC | n/a | n/a | n/a | Normal: after pressing start and incline up and down no incline movement. Eng4: no incline movement, value does not change. |

>> Elliptical | Bike Resistance Motor Voltage Checks

2.0AE | 2.0AR | 3.0AR | 4.0AR | 3.0AH | 4.0AH

| Wire Color | Function | Voltage Ohm Readings | Voltage w/ Increase | Voltage w/ Decrease | Physical Symptoms-If Wire Cut |
|------------|-------------------------------|------------------------|---------------------|---------------------|---|
| 1 Red | Power to DC Motor I.C. Board. | +5vdc | 5V | 5V | Normal: After pressing start and resistance+ motor continues to rotate upward during pressingn resistance- motor stops, but does not zero itself. Eng1:Motor operates but no change in motor count |
| 2 Black | Ground -From Motor | n/a ground | n/a | n/a | Normal: After pressing start and resistance+ motor continues to rotate upward during pressing resistance- motor stops and does not zero. Eng1:Motor operates but no change in motor count. |
| 3 Brown | Optic Count -from motor | 5vdc | 180mV | 180mV | Normal: After pressing start and resistance+ motor continues to rotate upward during pressing resistance- motor zeros itself. Eng1: Motor operates but no change in motor count. |
| 4 Orange | Zero Switch Sensor | 5V | 180mV | 180mV | Normal: After pressing start and resistance + motor constantly rotates. If pressing resistance - motor zeros itself. Eng1: No motor movement . Value is displayed and does not change when pressing resistance +/-. |
| 5 Green | Power to Resistance up | 12mV | 8.5-9.7v | 110mV | Normal: After pressing start and resistance+ value is displayed and there is no motor movement.Eng1: No motor movement and motor count does not change. |
| 6 White | Power to Resistance down | 12mV | 120mV | 8.5-9.7v | Normal: After pressing start and resistance up value is displayed and there is no motor movement.Eng1: No motor movement and motor count does not change. |

Note: Wire colors are subject to change.

>> Elliptical Resistance Motor Cable Voltage Checks

3.0AE | 4.0AE | 14.0AE | 18.0AE

| Wire Color | Function | Voltage Ohm Readings | Voltage w/ Increase | Voltage w/ Decrease | Physical Symptoms-If Wire Cut |
|------------|-------------------------------|------------------------|---------------------|---------------------|---|
| 1 Red | Power to DC Motor I.C. Board. | +5vdc | 5V | 5V | Normal: After pressing start and resistance+ motor continues to rotate upward during pressing resistance- motor stops, but does not zero itself. Eng1:Motor operates but no change in motor count |
| 2 Black | Ground -From Motor | n/a ground | n/a | n/a | Normal: After pressing start and resistance+ motor continues to rotate upward during pressing resistance- motor stops and does not zero. Eng1:Motor operates but no change in motor count. |
| 3 Brown | Optic Count -from motor | 5.0vdc | 0.0vdc | 0.0vdc | Normal: After pressing start and resistance+ motor continues to rotate upward during pressing resistance- motor zeros itself. Eng1: Motor operates but no change in motor count. |
| 4 Orange | Zero Switch Sensor | 5V | 0.0vdc | 0.0vdc | Normal: After pressing start and resistance + motor constantly rotates. If pressing resistance - motor zeros itself. Eng1: No motor movement . Value is displayed and does not change when pressing resistance +/-. |
| 5 Green | Power to Resistance up | 0.0-0.4vdc | 8.5-9.7vdc | 0.6-2.0vdc | Normal: After pressing start and resistance+ value is displayed and there is no motor movement.Eng1: No motor movement and motor count does not change. |
| 6 White | Power to Resistance down | 0.0-0.4vdc | 8.5-9.7vdc | 0.6-2.0vdc | Normal: After pressing start and resistance up value is displayed and there is no motor movement.Eng1: No motor movement and motor count does not change. |

Note: Wire colors are subject to change.

>> 10 Wire Elliptical Console Cable Voltage Chart (DC Volts)

| Wire Color | | Function | Voltage Ohm Readings | Physical Symptoms-If Wire Cut |
|------------|--------|------------------------------------|---|---|
| 1 | Purple | Ground from RPM sensor | n/a ground | Normal: No speed/ rpm readings. Eng1 No rpm readings. |
| 2 | Black | Ground from motor | n/a ground | Normal: After pressing start and resistance+ motor continues to rotate upward during pressing resistance- motor stops and does not zero. Eng1: Motor operates but no change in motor count. |
| 3 | Orange | Zero switch sensor | If zero switch engaged (lowest resistance level) +5.0vdc, open. Any other resistance position: 0.0vdc, short. | Normal: After pressing start and resistance+ motor continues to rotate upward during pressing resistance- motor stops and does not zero. Eng1: Motor operates but no change in motor count. |
| 4 | Brown | Optic count from motor | +5.0vdc. If slot in optic disk aligned with sensor, 0.0vdc | Normal: After pressing start and resistance+ motor continues to rotate upward during pressing resistance- motor zeros itself. Eng1: Motor operates but no change in motor count. |
| 5 | Green | Power to resistance up | +0.0 to 0.4vdc if motor idle. +8.5vdc if resistance increasing. +0.6 to 2.0vdc if resistance increasing. | Normal: After pressing start and resistance up value is displayed and there is no motor movement. Eng1: No motor movement and motor count does not change. |
| 6 | White | power to resistance down | +0.0 to 0.4vdc if motor idle. +8.5vdc if resistance decreasing +0.6 to 2.0vdc if resistance increasing. | Normal: After pressing start and resistance up value is displayed and there is no motor movement. Eng1: No motor movement and motor count does not change. |
| 7 | Yellow | RPM sensor | If magnet aligned with rpm sensor: 0.0vdc, short. If magnet not aligned with rpm sensor: 5.0vdc, open. | Normal: No speed/ rpm readings. Eng1 No rpm readings. |
| 8 | Grey | Power to console from power supply | Dependent upon power supply. | No power to console |
| 9 | Blue | Ground from power supply | n/a ground | No power to console |
| 10 | Red | Power to DC motor i.c.board | +5.0vdc | Normal: After pressing start and resistance+ motor continues to rotate upward during pressing resistance- motor stops, but does not zero itself. Eng1: Motor operates but no change in motor count. |

Note: Wire colors are subject to change.

>> Elliptical Incline Console Cable Voltage Check

| Wire Color | | Function | Voltage Ohm Readings | Physical Symptoms-If Wire Cut |
|------------|------------------|-------------------|---|---|
| 1 | White/ Orange | Power | 12.6VDC | If both wires are cut, the console will have no power. |
| 2 | Orange | Power | 12.6VDC | If both wires are cut, the console will have no power. |
| 3 | White/ Green | Signal Receive | Receives signals from incline motor, and resistance motor and RPM. 5V | Will give "Connect" error if cut - on select models. |
| 4 | Blue | Signal Send | Receives signals from incline motor, and resistance motor. 0 to .1V before Start .1 to .2V after start. | If cut there will be no incline or resistance movement, and no RPM reading. |
| 5 | White/ Blue | Signal Receive | Receives signals from in-clinemotor, resistance motor and RPM. 5V | Will give "Connect" error if cut - on select models. |
| 6 | Green | Signal Send | Sends signals to incline motor and resistance motor. 0 to .1V before Start .1 to .2V after Start. | If cut there will be no incline or resistance movement, and no RPM reading. |
| 7 | White/ Brown | Ground | n/a Ground | If both wires are cut, the console will have no power. |
| 8 | Brown | Ground | n/a ground | If both wires are cut, the console will have no power. |

Note: Wire colors are subject to change.

Engineering Mode

>> Treadmills

Note: At Any time, Press and hold the STOP button to exit the engineering menu.

- 1 | Turn the treadmill power to ON.
- 2 | Place the safety key in position on the console.
- 3 | Simultaneously press and hold (for about three seconds) the incline "+" (▲) and speed "-" (▼) buttons.
- 4 | The console should beep three times and ENG0 (EN90) should be displayed in the time window, "ENGINEERING MENU" scrolls in matrix or is static in the text box.

Note: To navigate through the engineering menu, use the incline "+" (▲) and speed "-" (▼) buttons.

| Display Button Test (Eng0) | Switch Function (Eng3) |
|---|--|
| <p>Eng0 appears in the time window. DISPLAY TEST will scroll in the matrix or will be static in text box.</p> <p>Press ENTER to select .</p> <p>When selected each display segment should be lit up. When pressed each button should have a unique display change.</p> <ul style="list-style-type: none"> -Stop button turns off all lights. -Start button turns all lights on. | <p>Eng3 appears in the time window. SWITCH FUNCTION will scroll in the matrix or will be static in text box. Press ENTER to select.</p> <p>If the treadmill has a Demo Mode then:</p> <ul style="list-style-type: none"> -The brickyard will scroll "DEMO ON" or "DEMO OFF". -Default will be "DEMO ON". -The "+" (▲) or "-" (▼) buttons will change the Demo on/off settings. <p>Start Selects miles or km.</p> <ul style="list-style-type: none"> -The display will show "0" for miles or "1" for km. -The display will scroll "MILES" OR "KM" when Start is pressed to change. -The new setting is automatically saved when Start is pressed, no other buttons need to be pressed to save. |
| <p>Hardware Test (Eng1)</p> <p>Eng0 appears in the time window. HARDWARE TEST will scroll in the matrix or will be static in text box.</p> <p>Press ENTER to select .</p> <p>Press START to begin.</p> <ul style="list-style-type: none"> -Speed "+" (▲) or "-" (▼) will change the speed. -Speed quick keys will change the speed. Preset to be within 20%. -Incline "+" (▲) or "-" (▼) will change the incline. -Quick incline keys will beep but do not function. -Incline motor will stop at minimum or maximum incline (not continue to move) if "+" (▲) or "-" (▼) is held. | <p>Information (Eng4)</p> <p>Eng4 appears in the time window. INFORMATION will scroll in the matrix or will be static in text box. Press ENTER to select .</p> <p>ACCUMULATED will scroll in matrix. Time window will show accumulated time. Distance window will show accumulated distance. If Time and Distance are in the same window, the time will show F00 and the distance will show F01. Press "+" (▲) or "-" (▼) to change.</p> <p>If console has an accumulated reset function, hold Start for 5 seconds to reset. This will not apply to most models.</p> |
| <p>Auto Calibrate (Eng2)</p> <p>Eng2 appears in the time window. AUTO CALIBRATE will scroll in the matrix or will be static in text box.</p> <p>Press ENTER to select .</p> <p>Press START to begin.</p> <ul style="list-style-type: none"> -There should be no excessive speed overshoot. -The engineering menu will be exited upon successful completion of the auto calibration. | <p>Note: The auto calibration process takes about two minutes to complete.</p> |

Engineering Mode

>> Ellipticals | Bikes

Note: At Any time, Press and hold the STOP button to exit the engineering menu.

Entering the Engineering Mode

1 | Turn the elliptical power to ON.

2 | Simultaneously press and hold (for about three seconds) the resistance "+" (▲) and "-" (▼) buttons.

3 | The console should beep two times and ENG0 (EN90) should be displayed in the time window, "ENGINEERING MENU" scrolls in matrix or is static in the text box.

Note: To navigate through the engineering menu, use the resistance and/or the incline "+" (▲) or "-" (▼) buttons.

Display Test (Eng0)

Eng0 appears in the time window.

DISPLAY TEST will scroll in the matrix or will be static in text box.

Press **ENTER** to select.

When selected each display segment should be lit up.

When pressed each button should have a unique display change.

-Stop button turns off all lights.

-Start button turns all lights on.

Hardware Test (Eng1)

Eng0 appears in the time window.

HARDWARE TEST will scroll in the matrix or will be static in text box.

Press **ENTER** to select.

-Resistance "+" (▲) or "-" (▼) will change the resistance.

-Incline "+" (▲) or "-" (▼) will change the incline.

-Quick incline keys will beep but do not function.

-Incline motor will stop at minimum or maximum incline (not continue to move) if "+" (▲) or "-" (▼) is held.

Switch Function (Eng2)

Eng2 appears in the time window.

SWITCH FUNCTION will scroll in the matrix or will be static in text box.

Press **ENTER** to select.

If the treadmill has a Demo Mode then:

-The brickyard will scroll "DEMO ON" or "DEMO OFF".

-Default will be "DEMO ON".

-The "+" (▲) or "-" (▼) buttons will change the Demo on/off settings.

Start Selects miles or km.

-The display will show "0" for miles or "1" for km.

-The display will scroll "MILES" OR "KM" when Start is pressed to change.

-The new setting is automatically saved when Start is pressed, no other buttons need to be pressed to save.

-Enter changes the ep/bi setting. Display will show EP for elliptical and BI for bike.

-The new setting is automatically saved when Enter is pressed, no other buttons need to be pressed to save.

Information (Eng3)

Eng3 appears in the time window.

INFORMATION will scroll in the matrix or will be static in text box.

Press **ENTER** to select.

ACCUMULATED will scroll in matrix.

-Time window will show accumulated time.

-Distance window will show accumulated distance.

-If Time and Distance are in the same window, the time will show F00 and the distance will show F01. Press "+" (▲) or "-" (▼) to change.

Note: If console has an accumulated reset function, hold Start for 5 seconds to reset. This will not apply to most models.

Incline Test (Eng4)

Eng4 appears in the time window.

INCLINE TEST will scroll in the matrix or will be static in text box.

Press **ENTER** to select.

Note: This menu is only for incline ellipticals. All other bikes and ellipticals will not have this menu.

-MIN ADC will show in the text box. The ADC value will be the current height.

-Change the value with the incline "+" (▲) or "-" (▼). Range=100-250. Press Enter to save the value. If the value is out of range then OUT OF RANGE will show and the value will not be saved.

-ADC IS SAVED will show for three seconds if the value is in range.

-Press resistance "+" (▲) to change the Max.

-MAX ADC will show in the text box. The ADC value will show the current height.

-Change the value with the incline "+" (▲) or "-" (▼).

Range=550-750. Press enter to save the value. If the value is out of range, OUT OF RANGE will show and the value will not be saved.

-ADC IS SAVED will show for three seconds if the value is in range.

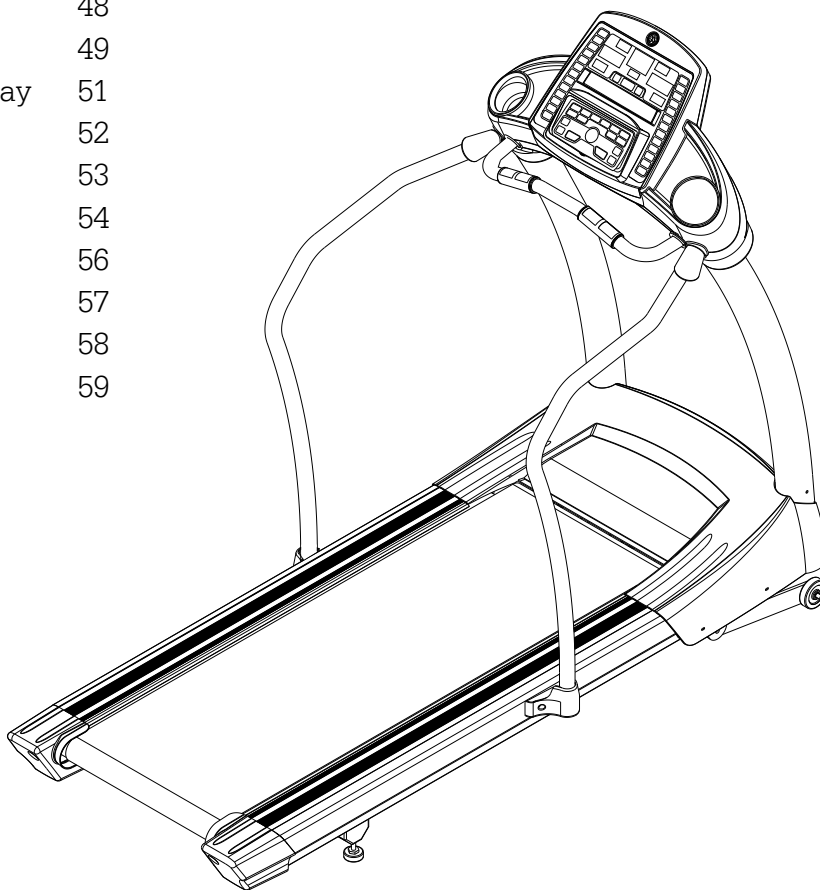
-Press resistance "-" (▼). to change the Min.

>> Section Three

| | |
|--------------------|----|
| Troubleshooting | |
| -Treadmill | 50 |
| -Elliptical Bike | 61 |
| -Gym | 69 |
| Known Issues | |
| -Treadmill | 71 |
| -Elliptical Bike | 73 |

Treadmill Troubleshooting

| | |
|-----------------------------|----|
| Failed Auto Calibration | 48 |
| Console Upper Board | 49 |
| Membrane Keypad Overlay | 51 |
| Safety Key Reed Switch | 52 |
| Heart Rate | 53 |
| Erratic Speed | 54 |
| Elevation | 56 |
| No Motor Movement | 57 |
| Circuit Breaker | 58 |
| Noise | 59 |



Treadmill Troubleshooting

>> Failed Auto Calibration

| Symptom | Possible Cause | Test Procedure | Repair |
|--|--|---|---|
| Failed Auto Calibration – Belt runs for a few seconds and then stops and E1 message on console. | Failed RPM sensor. | -Put machine into Eng1 (Reference p44) and check for slight fluctuation of speed in speed window of display. (Speed should not fluctuate more than a few hundredths.) | Replace RPM sensor. |
| | RPM sensor misaligned. | -Adjust sensor bracket to correct position. | |
| | Magnet missing in front roller pulley. | | Replace magnet. |
| | Failed console cable. | -Check voltage and continuity of console cable. Reference p35. | Replace console cable. |
| Failed Auto Calibration – Belt never runs and E1 message on console. | | | See troubleshooting for no motor movement. Reference p57. |
| Failed Auto Calibration – Board never sets speeds. Belt will continue to run and not stop. | RPM sensor not aligned properly or has failed. | - Verify positioning of sensor wire. (Wire coming from RPM sensor points toward the front of the unit, sensor is as close as possible to the magnet in the pulley without touching, and the sensor bracket 90-degree angle, not bent in any way.) - Put machine into Eng1 (Reference p44) and check for slight fluctuation of speed in speed window of display. (Speed should not fluctuate more than a few hundredths.) | Replace RPM sensor. |
| | Failed motor control board (MCB). | | Replace MCB. |

Treadmill Troubleshooting

>> Console | Upper Board

| Symptom | Possible Cause | Test Procedure | Repair |
|---|---|--|---|
| No display on the console and the power switch is dark. | Circuit breaker in home has tripped. | -Check for dedicated circuit (20 amp is ideal) and check wall outlet voltage (120 VAC). Reference p26. | Reset breaker. |
| | Failed power switch. | -Make sure power switch is turned on. | Replace power switch if necessary. |
| | Failed power cord. | -Take voltage check of power cord. Reference p25. | Replace power cord. |
| No display on the console and power switch on machine is lit. | Breaker on machine has tripped or has failed. | -Reset breaker. | Replace breaker if necessary. |
| | Improper wiring or AC wires have failed. | -Check all wiring coming in from the power switch to the motor control board and to the upper board. Reference p29. | Connect wires correctly or replace as needed. |
| | Failed console cable. | -Check console cable voltages at B7, B8 Reference p35. | Replace console cable. |
| | Failed upper board. | -Check voltage and continuity of console cable. Reference p35. | Replace upper board. |
| | Failed motor control board. (MCB) | -Check voltage and continuity of console cable. Reference p35. -Verify the power LED is lit on the MCB. | Replace motor control board |

Treadmill Troubleshooting

>> Console | Upper Board Continued

| Symptom | Possible Cause | Test Procedure | Repair |
|---|---|--|--|
| Running belt stops and console resets during workout. | Safety key or reed switch is positioned incorrectly or Safety key is damaged. | -Verify that the safety key is in position and that it is secure. -Manually adjust the position of the reed switch trigger and/or the plastic tab on the console shell. (Slot style safety key only.) | - Replace safety key. - If plastic tab is broken replace console shell. (Slot style safety key only.) |
| | Inadequate power. | -Check for dedicated circuit (20 amp is ideal) and check wall outlet voltage (120 VAC). Reference p25. -Make sure machine is not on extension cord or surge protector. | If the AC voltage is missing or incorrect, check the AC service or consult an electrician. |
| | Damaged or improper wiring. | -Verify there are no pinches or cuts in the power cord, power wires motor wires, or console cable. -Verify the connections of above wires and cords. | Replace parts as needed. |
| | Inadequate lubrication on deck and running belt. | -Place hand underneath running belt and feel for adequate silicone application. | Apply silicone. |
| | Membrane keys. | Reference Membrane Troubleshooting p51. | |

Treadmill Troubleshooting

>> Membrane | Key Pad | Overlay

| Symptom | Possible Cause | Test Procedure | Repair |
|--|--|---|---------------------------|
| All or some of the keys on the console will not work. | Ribbon cables connecting the membrane keypad to upper board are not seated properly or are disconnected. | -Verify the ribbon cables are connected securely into the upper board. | Remove and reseal cables. |
| | Membrane keypad defective. | -Keys are pressed, some of the buttons may function but there are no corresponding beeps. -Put in Eng0 to check button function. Reference p44. | Replace membrane keypad. |
| | Upper board defective. | -Keys are pressed and there are corresponding beeps, but console does not respond. (Sometimes the key will not beep until it is released). | Replace upper board. |
| Unit starts as soon as safety key is in place or console will reset itself after a few seconds of use. | Membrane keypad defective. | -Massage buttons on keypad to make sure that none are stuck. -Remove overlay and press keypad for proper function. -Put in Eng0 to check button function. Reference p44. | Replace membrane keypad. |

Treadmill Troubleshooting

>> Safety Key | Reed Switch

| Symptom | Possible Cause | Test Procedure | Repair |
|--|---|--|--|
| Console only displays dashes or 'Safety Key Off' in the display window – Magnet style key. | Safety key is positioned incorrectly or has failed. | -Remove safety key and reapply. -Test magnet. | Replace safety key. |
| | Failed reed switch or failed upper control board. | -Short the switch connector on the upper board by using a flat blade screwdriver or by placing a jumper switch on the connector. | If the upper board still displays dashes then replace upper board. Otherwise replace reedswitch. |
| Safety key will only register if moved outside of the proper position. | Improperly aligned reedswitch. | Remove glue from reedswitch and reposition. | Test for proper function and glue into place. |

Treadmill Troubleshooting

>> Heart Rate

| Symptom | Possible Cause | Test Procedure | Repair |
|---|--|---|---|
| Heart rate erratic. | User error. | Reference Proper Heart Rate Usage p23. | |
| | Failed heart rate receiver. | Reference Proper Heart Rate Usage p23. | If proper heart rate instructions are followed and heart rate continues to be erratic, replace heart rate receiver. |
| | Failed upper board. | Reference Proper Heart Rate Usage p23. | Replace upper board. |
| No heart rate function. (Hand Grips) | Failed heart rate grips. | Reference Proper Heart Rate Usage p23. | If there is absolutely no heart response, replace heart rate grips. |
| Heart rate erratic. | User error. | Reference Proper Heart Rate Usage p23. | |
| | Electromagnetic interference. | Check immediate area for causes of interference (Florescent lighting, electric dog fences, large electric motors, etc.) | Remove interference from vicinity of the unit. |
| No heart rate function. (Telemetric chest strap) | Failed telemetric chest strap or polar receiver. | Reference Proper Heart Rate Usage p23. | Replace chest strap and/or upper board. |

Treadmill Troubleshooting

>> Erratic Speed

| Symptom | Possible Cause | Test Procedure | Repair |
|--|--|---|--|
| Erratic speeds - Upon pressing start, belt speed increases rapidly for a few second and then comes to a complete stop. | Failed optic sensor. | -Test voltage from Optic Sensor. Reference p32. | Replace optic sensor. |
| Erratic speeds - Upon pressing start, belt speed increases rapidly and does not stop. | Failed motor control board (MCB). | | Replace MCB. |
| Erratic speeds - Running belt speed is not stable. | Machine not calibrated properly. | -Run auto calibration. Reference Eng. Mode p44. | If unit fails to auto calibrate, refer to auto calibration troubleshooting. Reference p48. |
| | Inadequate power. | -Check for dedicated circuit (20 amp is ideal) and check wall outlet voltage (120 VAC). Reference p25. -Make sure machine is not on extension cord, surge protector or GFCI circuit. | If the AC voltage is missing or incorrect, check the AC service or consult an electrician. |
| | Failed or improper wiring. | -Verify there are no pinches or cuts in the power cord, power wires, motor wires, or console cable. -Verify the connections of above wires and cords. | Replace parts as needed. |
| | -Running belt is too loose or too tight. -Drive belt is too loose or too tight. | -The running belt should not slip at all when customer is using the machine. Reference Belt Tensioning p19. -The drive belt should have approximately 3/8 of inch deflection. | Set proper drive belt and running belt tension. |
| | | | |

Treadmill Troubleshooting

>> Erratic Speed Continued

| Symptom | Possible Cause | Test Procedure | Repair |
|---|--|--|--|
| Erratic speeds - Running belt speed is not stable. (Continued) | Inadequate lubrication on deck and running belt. | -Place hand underneath running belt and feel for adequate silicone application. Reference Maintenance p17. | Apply silicone. |
| | Failed motor control board (MCB). | | Replace MCB. |
| Erratic Speeds-belt speed increases without command, but shows change on display and beeps. | In a program. | -Remove safety key, then replace. -Start in P1 and see if reoccurs. | |
| | Stuck button. | | Reference membrane keypad and overlay troubleshooting p51. |
| | Failed upper board. | | Replace UCB. |

Treadmill Troubleshooting

>> Elevation



It's recommended to send console cables for elevation repairs on all models using sectional console cables.

| Symptom | Possible Cause | Test Procedure | Repair |
|--|--|--|---|
| Elevation motor starts running as soon as the power is turned on. Constant down or up.. | Failed lower board. | -Turn on power. Do not press start. Wait 30-60 seconds and see if motor is hot. Use caution. Motor can get very hot. | Replace lower board. |
| Elevation motor bobs up and down with out command. | Failed elevation motor. | | Replace elevation motor. |
| Elevation motor does not reach minimum or maximum settings. | -Failed elevation motor. -Failed console cable (CC). -Improperly calibrated elevation motor. | -Verify there are no pinches or cuts on the elevation wires. Reference CC continuity p35. -Verify the connections of above wires. | -Recalibrate elevation motor by hand. Reference Resetting the Incline Motor p30. -Replace elevation motor. |
| Elevation is stuck down and does not function. Console is responsive to the buttons being pressed. | Failed console cable (CC). | -Verify console cable connections. Verify there are no pinches or cuts in the cable. Reference CC continuity p35. | Replace console cable. |
| | Failed elevation motor. | -Put machine in hardware test (Eng1) and press start. Elevation doesn't respond when buttons are pressed. (You may see a value for elevation that reads 255 or 1023. That value will not change when the buttons are pressed). Reference Eng. Mode p44. | Replace elevation motor. |
| | Failed upper board. | -Put machine in hardware test (Eng1) and press start. Incline will work in hardware test only. Reference Eng. Mode p44. | Replace upper board. |
| Elevation is stuck at the highest position and will not come down. Console is responsive to the buttons being pressed. | Failed upper board, lower board, console cable, and elevation motor. | -Verify all wire connections. | Replace upper board, console cable, and elevation motor. |
| The incline will go up, but not down. (very rare) | Failed lower board. | -The incline will act normally when going up, bet when the down incline is pressed there is no movement. | Replace lower board. |

Treadmill Troubleshooting

>> No Motor Movement

| Symptom | Possible Cause | Test Procedure | Repair |
|---|-----------------------------------|---|--|
| No Motor Movement - Upon pressing start, console responds normally, keys respond normally, and elevation works but no belt movement. | Inadequate power. | -Check for dedicated circuit (20 amp is ideal) and check wall outlet voltage (120 VAC). -Make sure machine is not on extension cord or surge protector or GFCI. Reference p25. | If the AC voltage is missing or incorrect, check the AC service or consult an electrician. |
| | Damaged or improper wiring. | -Verify there are no pinches or cuts in the power cord, power wires motor wires, or console cable. -Verify console cable continuity. Reference p37. -Verify the connections of above wires and cords. | Replace parts as needed. |
| | Failed motor control board (MCB). | -Verify power from MCB. Reference p32 and p33. | Replace MCB. |
| | Failed drive motor. | -Measure voltage output from motor. Reference motor, AC Wire Voltage Check p34. | Replace drive motor. |
| | Failed optic sensor. | -Verify voltage of digital sensor. Reference p32. | Replace optic sensor. |

Treadmill Troubleshooting

>> Circuit Breaker

| Symptom | Possible Cause | Test Procedure | Repair |
|---|--|--|--|
| Machine will trip home circuit breaker. | Inadequate power. | -Check for dedicated circuit (20 amp is ideal) and check wall outlet voltage. (120 VAC). Reference p25. -Make sure machine is not on extension cord, surge protector or GFCI. | If the AC voltage is missing or incorrect, check the AC service or consult an electrician. |
| | Inadequate lubrication on deck and running belt. | -Place hand underneath running belt and feel for adequate silicone application. | Apply Silicon lubrication. Reference Lubrication p18. |
| | Failed running belt. | -Feel underside of running belt. It should have a rough feel to it. (similar to denim) | Replace running belt. |
| | Failed drive motor. | -Perform AMP draw test on motor. Reference AMP Draw, p26. | Replace drive motor. |
| | Failed motor control board (MCB). | | Replace MCB. |
| Machine breaker will trip. | Failed circuit breaker. | | Replace circuit breaker. |

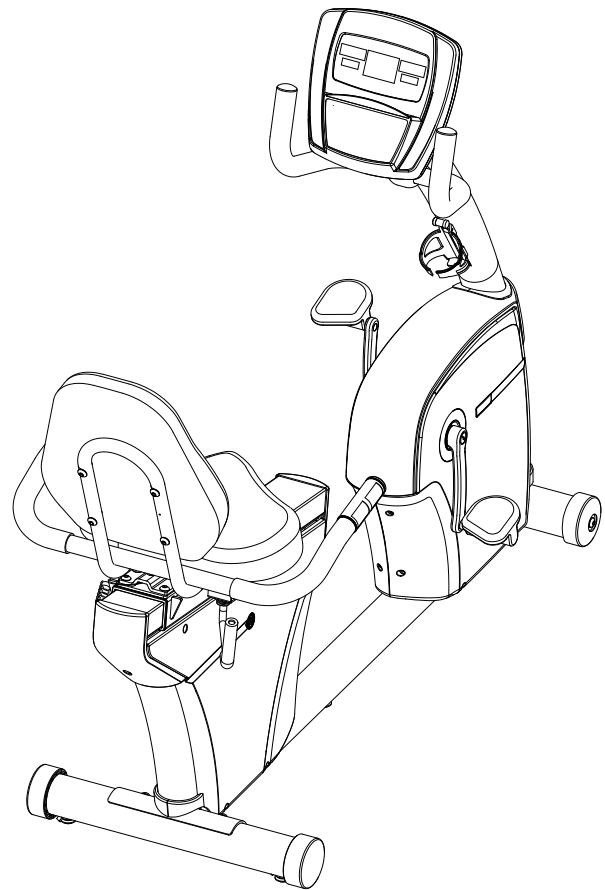
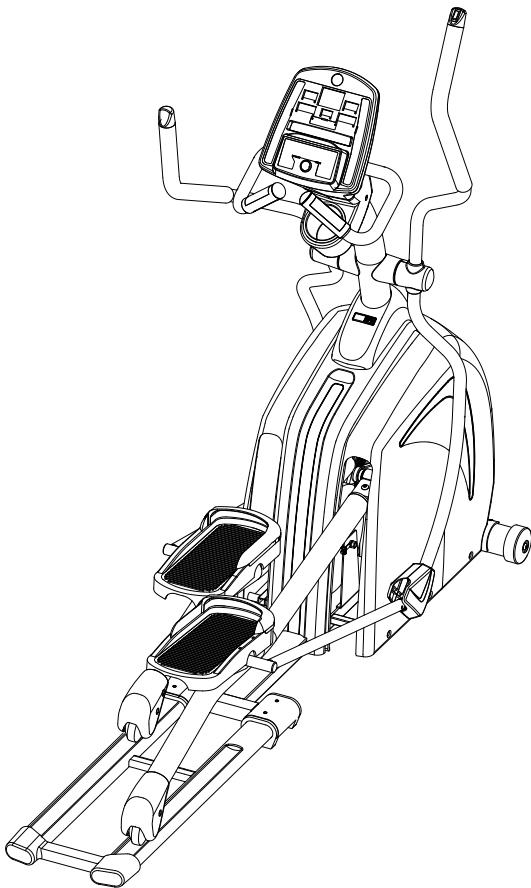
Treadmill Troubleshooting

>> Noise

| Symptom | Possible Cause | Test Procedure | Repair |
|--|---|--|---|
| Thumping sound when running belt is engaged. | New treadmill. | Let the treadmill run for about 30 min. at 5mph without a load to break in new running belt in. | |
| | Failed roller. | | Replace front or rear roller as needed. |
| Rubbing or grinding sound from underneath motor cover. | Misaligned drive belt. | - Remove motor cover and verify alignment of drive belt. - Inspect for debris on drive motor pulley, front roller pulley, or on drive belt. | Align drive belt and/or replace drive belt. |
| | Optic disk is hitting the optic sensor/guard. | -Run unit and look for optic sensor/disk missalignment. | Bend optic disk to straighten or replace optic disk. |
| | Failed drive motor bearings. | | Replace drive motor. |
| | Motor brushes are not seated properly. | Inspect motor brushes and commutator for abnormal wear. | Replace motor brushes and/or stone commutator. |
| Banging or clunking sound. | -Unit not level. -Bent frame. | -Check levelers and the floor. -Inspect frame for damage. | -Adjust levelers. -Move unit to a level surface. -Place on rubber mat. -Take photos of frame damage and consult AFG Customer Tech Support. Reference the number on the back of the manual. |

Elliptical | Bike Troubleshooting

| | |
|---------------------|----|
| Noise Drive Train | 61 |
| Console | 63 |
| Heart Rate | 65 |
| Resistance | 66 |
| Alignment Issues | 67 |



Elliptical | Bike Troubleshooting

>> Noise | Drive Train

| Symptom | Possible Cause | Test Procedure | Repair |
|--|---|---|--|
| Noise internally while pedaling at higher resistance levels only. | Magnetic brake is rubbing against the flywheel. | -Verify the correct position of magnetic brake. Reference p31. | Reposition the magnetic brake. Reference Adjusting the Magnetic Break p31. |
| Noise internally/externally while pedaling or rough feel while pedaling. | Machine may not be on level surface. | -Verify surface is level. | Adjust levelers on machine. |
| | Improper assembly or loose assembly bolts. | -Verify assembly steps using owner's guide. | Tighten all bolts used for assembly. Reference Maintenance p20. |
| | Alignment issues with pedal arms due to improper assembly or improper welds. | -Reference Alignment Issues with Pedal Arms Troubleshooting. Reference p67. | |
| | Build up on, or defective roller wheels. | -Wipe off roller wheels and guide rails with damp cloth. - Check roller wheels for any abnormal wear. Roller wheels should have smooth texture. - If the rough feel seems to be on one side only, try switching suspect roller wheel to opposite pedal arm. | Replace roller wheels. |
| | Loose crank arms. | | Tighten crank arms. |
| | Improper drive belt alignment, improper drive belt tension, or failed flywheel. | Noise may present itself multiple times during one pedaling motion. | Align drive belt and adjust to proper tension or replace flywheel. |

Elliptical | Bike Troubleshooting

>> Noise | Drive Train Continued

| Symptom | Possible Cause | Test Procedure | Repair |
|---|--|--|---|
| Noise internally/ externally while pedaling or rough feel while pedaling. (Continued) | Failed pedal axle set. | There might be a persistent grinding noise or knocking with every pedaling motion. The noise usually presents itself only once during each rotation. | Replace pedal axle set. |
| | Defective pivot tube. | -Remove pedal arm and spin pivot tube to see if noise is still there. | Replace Pivot Tube(s). |
| | Clicking noise in front of foot pad on Mini-E. | -Remove foot pad and tighten bolt. | Replace pivot block bushing, bolt and nut. |
| | Gap between front stabilizer and elliptical frame. | Check to see if there is a large gap between the front stabilizer and elliptical frame. | Tighten bolts. If gap is still present use flexible Teflon washers to fill the space. |
| | Flywheel defective (Bike Only). | -Verify the noise continues a few seconds after the pedal stops moving. | Replace the Flywheel. |

Elliptical | Bike Troubleshooting

>> Console

| Symptom | Possible Cause | Test Procedure | Repair |
|---------------------------------|---|--|---|
| No display on console. | Improper wiring. | <ul style="list-style-type: none"> - Verify the connections between the power supply and the power jack. - Verify the connections between console cable and console. - Perform voltage check on console cable. Reference p42. - Verify power supply is not pinched or damaged. | Connect wires correctly or replace parts as needed. |
| | Failed or improper power supply. | <ul style="list-style-type: none"> - Perform voltage check on power supply. - Verify the power supply and make sure the adapter is the correct voltage. | Replace power supply. |
| | Failed console. | | Replace console. |
| Partial LCD Display on Console. | Console was subjected to cold temperatures. | | Allow machine to warm to room temperature. It may be necessary to gently massage the LCD crystal with your hand to allow for full display. *Important Note* - Pressing against the LCD crystal with excessive force may damage the crystal. |
| | Failed or improper power supply. | <ul style="list-style-type: none"> - Perform voltage check on power supply. - Verify the power supply and make sure the adapter is the correct voltage. | Replace power supply. |
| | Failed console. | | Replace console. |

Elliptical | Bike Troubleshooting

>> Console Continued

| Symptom | Possible Cause | Test Procedure | Repair |
|---|--|---|--|
| Console Resets Intermittently. | Poor connection between power supply and power jack. | -Verify that the power supply is securely inserted into the power jack. | |
| | Failed power supply. | -Perform voltage check on power supply. | Replace power supply. |
| | Failed console cable. | - Verify console cable is not pinched or damaged. -Perform voltage check on console cable. Reference p42. | Replace console cable. |
| | Failed console. | | Replace console. |
| Only Time Works on Console (No workload, distance or calories.) | Failed sensor wire. | -Perform RPM continuity check. | Replace sensor wire. |
| | Missing rpm magnet on crank assembly or misaligned RPM sensor. | -Visually verify presence of magnet in pedal axel and alignment of RPM sensor. | Replace magnet and/or reposition RPM sensor. |
| | Failed console. | | Replace console. |

Elliptical | Bike Troubleshooting

>> Heart Rate

| Symptom | Possible Cause | Test Procedure | Repair |
|---|--|---|---|
| Heart rate erratic or no heart rate function. (Hand Grips) | User error. | Reference Proper Heart Rate Usage p23. | |
| | Failed heart rate grips. | Reference Proper Heart Rate Usage p23. | If there is absolutely no heart response, replace heart rate grips. |
| | Failed heart rate receiver. | Reference Proper Heart Rate Usage p23. | If proper heart rate instructions are followed and heart rate continues to be erratic, replace console. |
| Heart rate erratic or no heart rate function. (Telemetric chest strap) | User error. | Reference Proper Heart Rate Usage p23. | |
| | Electromagnetic interference. | Check immediate area for causes of interference (Florescent lighting, electric dog fences, large electric motors, etc.) | Remove interference from vicinity of the unit. |
| | Failed telemetric chest strap or polar receiver. | Reference Proper Heart Rate Usage p23. | Replace chest strap and or Polar reciever and the console set. |

Elliptical | Bike Troubleshooting

>> Resistance

| Symptom | Possible Cause | Test Procedure | Repair |
|--|--|--|--------------------------------|
| No resistance change or erratic or continuous resistance change. | Tension cable is not connected to the brake or has failed. | -Verify that the tension cable is connected to the brake or has not failed. | Reattach cable. |
| | Failed or improper power supply. | -Perform voltage check on adapter. -Verify the adapter is the correct voltage. | Replace power supply. |
| | Failed console cable. | - Verify console cable is not pinched or damaged -Perform voltage check on console cable. Reference p42. | Replace console cable. |
| | Failed servomotor. | -Perform voltage check on servomotor. Reference p40 and p41. | Replace servomotor. |
| | Failed console. | | Replace console. |
| Resistance is Too Hard or Too Weak. | Tension cable is not connected to the brake or has failed. | -Verify that the tension cable is connected to the brake or has not failed. | Reattach cable. |
| | Magnetic brake is positioned improperly. | -Verify the correct position of magnetic brake. Reference p31. | Reposition the magnetic brake. |

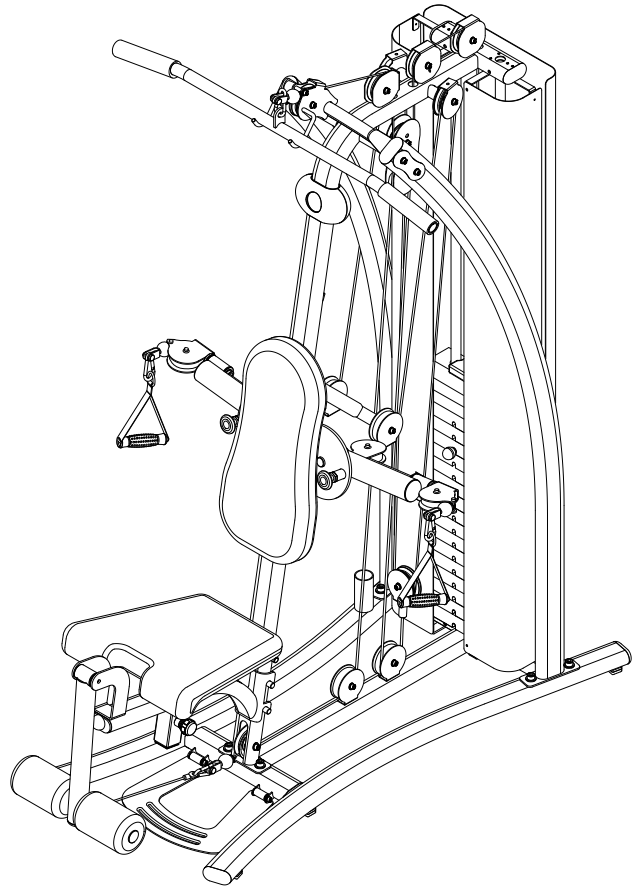
Elliptical | Bike Troubleshooting

>> Alignment Issues with Pedal Arms

| Symptom | Possible Cause | Test Procedure | Repair |
|---|---|---|---|
| Noise externally while pedaling, rough feel while pedaling, or (for elliptical only) the pedal arm will jump off of guide rail. | Improper assembly or loose assembly bolts. | -Verify assembly steps using owner's guide. | Tighten all bolts used for assembly. Reference Maintenance p20 and p21. |
| | Loose crank arms. | | Tighten crank arms. |
| | Alignment issues with pedal arms due to improper welds. | -Disconnect appropriate link arm from lower handle bar assembly and pedal unit. | - If the noise ceases or pedal does not jump off guide rail replace handlebar. - If there is no change replace link arm, pedal arm, and crank. |

Gym Troubleshooting

| | |
|----------------------|----|
| Noise Rough Cables | 69 |
| Weight Selector Pin | 70 |



Gym Troubleshooting

>> Noise | Rough Cables

| Symptom | Possible Cause | Test Procedure | Repair |
|---|---------------------|---|--|
| The cables feel rough and are noisy during use. | Cables are damaged. | -Verify there is no noticeable damage to the cables. -Verify that all cables are secured into the pulleys. -Verify that the weight stack guiderods are lubricated with silicon spray or gel. -Verify that there is no excessive slack in the cables. Reference p22. | Adjust cable for proper tension. Replace cable. |

Gym Troubleshooting

>> Weight Selector Pin

| Symptom | Possible Cause | Test Procedure | Repair |
|---|----------------|--|--|
| Weight selector pin cannot be inserted. | | -Verify that the selector pin isn't bent or damaged. NOTE: Always maintain at least ½" of threaded bolt in bayonette. Reference p. 22. | -Adjust threaded bolt on top plate so that the holes in the bayonette align with the weight plate. -Replace selector pin. |

Known Issues

>> Treadmills

| Issue | Solution Plan of Action |
|--|---|
| Models T4, T6 (2007) | |
| There is a swaying/bouncing motion at 0% incline with descriptions that the unit is like a springboard. All the weight is being put on the incline bracket due to the unit having no air shocks. It is causing the bracket to bend as the person is running. | The levelers on the main frame need to be loosened so that they sit securely against the elevation frame at 0%. |
| Rattling noise from inside the console. | Due to the Console cable length it may rattle if loose. Tie the console cable down. |
| Side rail edges are very sharp. A tech cut his hand open needed to get 5 or 6 stitches. | If there is a repair needed on unit with the side rails involved send technician. Do not let the customer repair or replace. This is being changed to reduce the sharpness of the edge. |
| There is also a clanking noise which is due to the bolt being smaller then the hole in the bottom incline bracket. | Quality has improved the bolt size to make it a better fit. |
| Serial # for the T4 & T6 models is located on the plastic motor cover. | It is important that we get as much information from that unit as possible in case the motor cover is replaced. |
| Incline bracket creaking when unit is in incline position above 0.5% | Use teflon washers on brackets to keep the motor from rubbing against the bracket. |

Known Issues

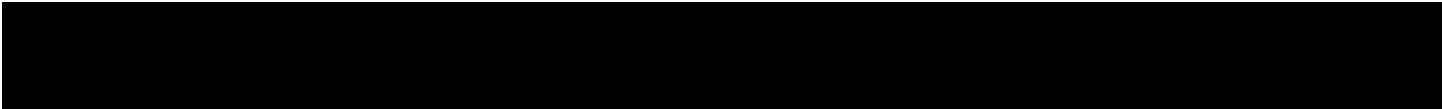
>> Treadmills

| Issue | Solution Plan of Action |
|--|---|
| Models 2.3T, 3.3T, 5.3T (2007) | |
| Making noise when at the 0% incline, makes no noise when there is no weight on the unit but as soon as weight is applied it makes a banging noise. If unit is put inclined the noise stops. | Manually screw the incline motor shaft further into the motor another thread. |
| Polar receivers seem to have a too short of a range so that the customer has to lean into the console to get a reading. | Try repositioning the receiver and testing. If that does not work replace with a PST8 polar receiver. It has a longer wire and can be positioned under the console plastic. |
| 200 units produced where the shading is incorrect on the overlays. You can see the UCB and not the LCD screens. | Replace overlay |
| Models 4.2T, 5.2T (2006) | |
| 4.2T and 5.2T speed increases gradually when the pulse grips are held. The speed doesn't go down when the customer releases the grips. The console does beep signifying the change in speed. | Replace UCB with updated software |
| Models 3.2T (2006) | |
| Hardware/software compatibility issues, 2nd generation digital MCB. | Replace UCB with updated software |

Known Issues

>> Ellipticals | Bikes

| Issue | Solution Plan of Action |
|--|---|
| Models E6, 4.3E (2007) | |
| 4.3E and E6 have a quick resistance switch on the upper handlebar and the screw is too long. Symptoms include: scrolling, resistance that is hard or may bob up and down. | Replace the screw and the switch. The temporary fix is to take out the screw and/or disconnect the wire (an assembly step). |
| The E6 requires a larger size crank puller for removal. Our standard crank is 22mm. The E6 is 26mm. | Use a 26mm crank puller. If one is not available it can be hammered off. |
| E6 issues with the crank hitting bolt for the flywheel. | Verify that the flywheel is mounted properly. |
| There have been some reports of the pedal arm rubbing against the shroud plastic on right side. | If the pedal arm is rubbing on the plastic the shroud may be installed incorrectly or missing screws. Most likely the plastic slit is misshaped so either it should be filed or dremmeled to give clearance or the shroud should be replaced. |
| Models 2.3E, 3.3E, 4.3E (2007) | |
| 2007 Elite models sometimes have a clicking sound in the pivot block set attached at the crank arm. The issue is being caused by the silver inner bushing being slightly higher than the copper bushing therefore causing the copper bushing to click up and down on the U-bracket of the Pedal arm. | The inner bushings have been modified to eliminate this problem and should be sent. There are updated bolts nuts that can be sent when other repairs fail. |
| Models 2.0AH (2008 Hybrid Bike) | |
| During life testing, a sample at the factory had the cranks loosen. | A cup washer is being placed at the point where the crank attaches to the axle to prevent this problem. |



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