



**2018 T130X RETAIL TREADMILL
SERVICE MANUAL**

TABLE OF CONTENTS

CHAPTER 1: SERIAL NUMBER LOCATION	1
CHAPTER 2: IMPORTANT SAFETY INSTRUCTIONS	
2.1 Before Getting Started	2
2.2 Read and Save These Instructions	3
2.3 Electrical Requirements	4
CHAPTER 3: PREVENTATIVE MAINTENANCE	
3.1 Recommended Cleaning Tips	5
3.2 Check for Damaged Parts	5
3.3 Care and Maintenance Instructions	6
3.4 Screen Care and Cleaning	7
3.5 Auto Calibration Instructions	8
3.6 Adjusting the running belt	8
CHAPTER 4: USING THE CONSOLE AND PROGRAM DESCRIPTION	
4.1 Console Description	9
4.2 Workout Setup Steps - Manual	10
4.3 Workout Setup Steps - Training Workouts	10
4.4 Workout Setup Steps - Heart Rate	10
4.5 Workout Setup Steps - 5k	11
4.6 Workout Setup Steps - Sprint 8	11
4.7 Workout Setup Steps - Fitness Test	11
CHAPTER 5: MANAGER MODE	
5.1 Manager Mode Overview	12
CHAPTER 6: ENGINEERING MODE	
6.1 Engineering Mode Overview	16
CHAPTER 7: SERVICE MODE	
7.1 Service Mode Overview	18
7.2 Test Mode Overview	20
CHAPTER 8: TROUBLESHOOTING	
8.1 Electrical Diagrams	21
8.2 Motor Control Board (MCB) LED Instructions	28
8.3 MCB Wiring	29
8.4 Error code list	30
8.5 0140 / 0147 / 0142 Error Troubleshooting	34
8.6 01A3 Error Troubleshooting	35
8.7 0144 / 02B6 / 02B7 / 02B8 / 01AD / 0043 Error Troubleshooting	35
8.8 0141 Error Troubleshooting	36
8.9 02AD Error Troubleshooting	36
8.10 02B2 Error Troubleshooting	37
8.11 0247 / 02BB Error Troubleshooting	37
8.12 04A0 Error Troubleshooting	38
8.13 04B0 Error Troubleshooting	39
8.14 02A7 Error Troubleshooting	40
8.15 02A2 / 0241 / 02BD Error Troubleshooting	41
8.16 Heart Rate Issues	42

CHAPTER 9: PART REPLACEMENT GUIDE

9.1	Motor Cover and Lower Shroud Removal	43
9.2	Rear Roller Removal	44
9.3	Deck Replacement	45
9.4	Deck Cushion Replacement.....	46
9.5	Front Roller Removal	47
9.6	Running Belt Removal	48
9.7	Side Rail Removal.....	49
9.8	Motor Control Board (MCB) Removal	50
9.9	Motor Replacement.....	51
9.10	Drive Belt Replacement	52
9.11	Incline Motor Replacement	53
9.12	Console Removal.....	55
9.13	Console Mast Arm Replacement	56
9.14	Console Cable Replacement	58
9.15	Handlebar Service.....	60
9.16	Emergency Stop Switch Replacement.....	61
9.17	Heart Rate Board Replacement	62
9.18	Blower Motor Replacement	63

CHAPTER 10: TREADMILL SPECIFICATIONS AND ASSEMBLY GUIDE

10.1	WiFi installation	64
10.2	T130x Treadmill Specifications	71
10.3	Assembly Instructions	72
10.4	Leveling the Treadmill	81
10.5	Entering the Serial Number into the Console	82

CHAPTER 11: SOFTWARE UPGRADE INSTRUCTIONS

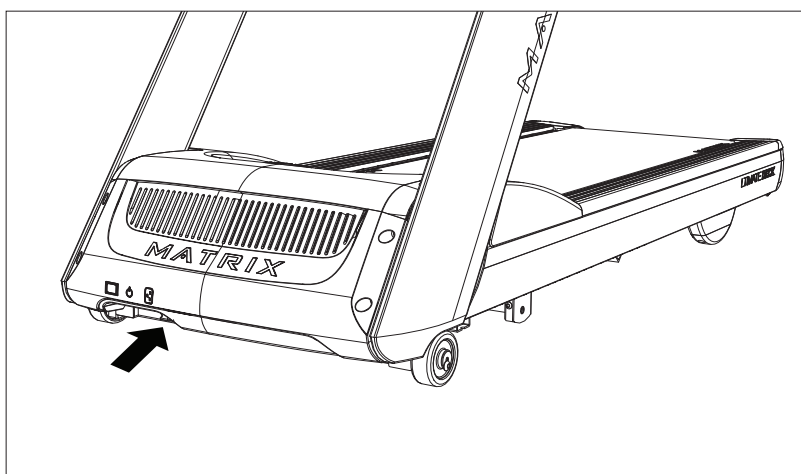
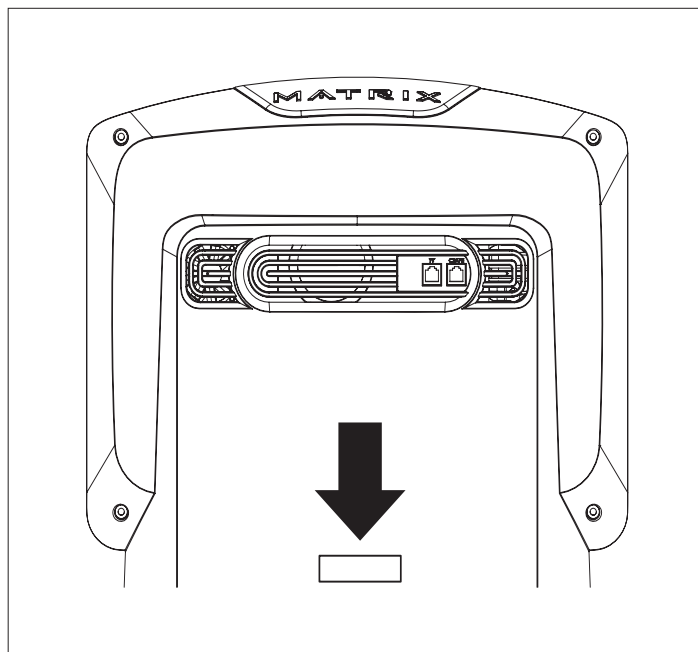
11.1	Software Upgrade Instructions for UCB.....	83
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CHAPTER 12: DOCUMENT UPDATE HISTORY

12.1	Document Update History	84
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1.1 SERIAL NUMBER LOCATION

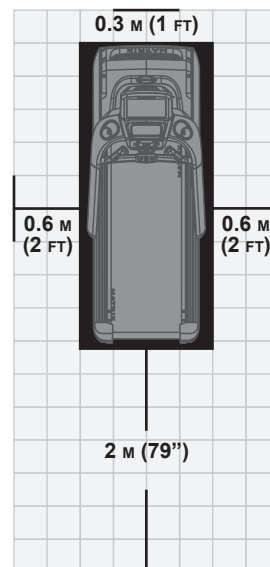
CONSOLE / FRAME SERIAL NUMBER LOCATION



2.1 BEFORE GETTING STARTED

LOCATION OF THE TREADMILL

Place the equipment on a level and stable surface away from direct sunlight. The intense UV light can cause discoloration on the plastics. Locate the equipment in an area with cool temperatures and low humidity. Please leave a clear zone behind the treadmill that is at least the width of the treadmill and at least 79" (2 meters) long. This zone must be clear of any obstruction and provide the user a clear exit path from the machine. For ease of access, there should be an accessible space on both sides of the treadmill of at least 24" (0.6 meters) to allow a user access to the treadmill from either side. Do not place the treadmill in any area that will block any vent or air openings. The treadmill should not be located in a garage, covered patio, near water or outdoors.



2.2 READ AND SAVE THESE INSTRUCTIONS

To ensure your safety and protect the equipment, read all instructions before operating the treadmill. When using an electrical product, basic precautions should always be followed including the following:

DANGER: To reduce the risk of electric shock: Always unplug this equipment from the electrical outlet immediately after using and before cleaning.

WARNING: To reduce the risk of burns, fire, electrical shock or injury to persons that may be associated with using this product.

An appliance should never be left unattended when plugged in. Unplug from the outlet when not in use and before putting on or taking off parts.

This product must be used for its intended purpose described in this service manual. Do not use other attachments that are not recommended by the manufacturer. Attachments may cause injury.

To prevent electrical shock, never drop or insert any object into any opening.

Do not remove the console covers. Service should only be done by an authorized service technician.

Never operate the treadmill with the air opening blocked. Keep the air opening clear, free of lint and hair.

Never operate product if it has a damaged cord or plug, if it is working improperly, if it has been damaged, or immersed in water.

Do not carry this unit by its supply cord or use the cord as a handle.

Keep any power cords away from heated surfaces.

Close supervision is necessary when the treadmill is used by or near children or disabled persons.

Do not use outdoors.

Do not operate where aerosol (spray) products are being used or when oxygen is being administered.

To disconnect, turn all controls to the off position, then remove the plug from the outlet.

Connect this treadmill to properly grounded outlets only.

CAUTION: If you experience chest pain, nausea, dizziness or shortness of breath, STOP exercising immediately and consult a physician before continuing.

- Do not use the equipment in any way other than designed or intended by the manufacturer. It is imperative that all Matrix Fitness Systems equipment is used properly to avoid injury.
- Keep hands and feet clear of moving parts at all times to avoid injury.
- Unsupervised children must be kept away from this equipment.
- Do not wear loose clothing while on equipment.

2.3 ELECTRICAL REQUIREMENTS

DEDICATED CIRCUIT AND ELECTRICAL INFO

A "Dedicated Circuit" means that each outlet you plug into should not have anything else running on that same circuit. The easiest way to verify this is to locate the main circuit breaker box, and turn off the breaker(s) one at a time. Once a breaker has been turned off, the only thing that should not have power to it are the units in question. No lamps, vending machines, fans, sound systems, or any other item should lose power when you perform this test.

Non-looped (isolated) neutral/grounding means that each circuit must have an individual neutral/ground connection coming from it, and terminating at an approved earth ground. You cannot "jumper" a single neutral/ground from one circuit to the next.

ELECTRICAL REQUIREMENTS

For your safety and to ensure good treadmill performance, the ground on this circuit must be non-looped (isolated). Please refer to NEC article 210-21 and 210-23. Your treadmill is provided with a power cord with a plug listed below and requires the listed outlet. Any alterations of this power cord could void all warranties of this product.

110 V UNITS

All Matrix T130X and T130XI 110 V treadmills require the use of a 100-125 V, 60 Hz and a 15 A "Dedicated Circuit", with a non-looped (isolated) neutral/ground for power. This outlet should be a NEMA 5-20R and have the same configuration as the plug. No adapter should be used with this product.

GROUNDING INSTRUCTIONS

The treadmill must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. The treadmill is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances. If the user does not follow these grounding instructions, the user could void the Matrix limited warranty.

ADDITIONAL ELECTRICAL INFO

In addition to the dedicated circuit requirement, the proper gauge wire must be used from the circuit breaker box, to each outlet that will have the maximum number of units running off of it. If the distance from the circuit breaker box to each outlet, is 100 ft (30.5 m) or less, then 12 gauge wire should be used. For distances greater than 100 ft (30.5 m) from the circuit breaker box to the outlet, a 10 gauge wire should be used.

ENERGY SAVING / LOW-POWER MODE

All units are configured with the ability to enter into an energy saving / low-power mode when the unit has not been in use for a specified period of time. Additional time may be required to fully reactivate this unit once it has entered the low-power mode. This energy saving feature may be enabled or disabled from within the 'Manager Mode' or 'Engineering Mode.'

FCC REGULATIONS

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

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

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

3.1 RECOMMENDED CLEANING TIPS

In order to maximize life span, and minimize down time, all Matrix Fitness Equipment requires regularly scheduled cleaning.

YOU WILL NEED:

- Mild dish soap and water mixture in a spray bottle (10:1 water to soap ratio).
- Lint free 100% cotton cleaning cloths or Micro fiber cleaning cloths.
- Vacuum / Shop Vac with extendable hose and soft brush attachment.
- Corrosion Block (available from Matrix - part # ZMS4001374).

DAILY:

1. Wipe down the unit after each use with a mild dish soap and water mixture. **NOTE:** Spray the soap / water mixture onto the cloth. NEVER spray directly onto the equipment. We recommend that you do NOT allow customers to use spray bottles to clean the equipment. If the cleaner is sprayed directly on the equipment or over spray is present, it may cause your equipment to rust and / or cause damage to console overlays.

WEEKLY:

1. With a clean dry 100% lint free cloth and water / soap mixture, wipe any dust and dirt from the sides of the running deck between the running belt and side rails.
2. With a clean dry 100% lint free cloth and water / soap mixture, wipe the dust from the top of the motor cover.
3. With a clean dry 100% lint free cloth and water / soap mixture, wipe down the entire console area including the hand grips and hand rails.
4. Use a computer screen cleaner or LCD / LED screen cleaner on the touch screen portion of the console (see Section 3.4).

MONTHLY:

1. Vacuum under and around the Treadmill. If you need to move it, unplug the unit first.
2. Vacuum the air vent on the front of the unit.

QUARTERLY:

1. Unplug the unit. Remove the motor cover. Use a vacuum with a soft brush extension, vacuum the dust and dirt from the motor, MCB, fan, and surrounding areas. Be careful not to hit any of the wire connections.

3.2 CHECK FOR DAMAGED PARTS

DO NOT use any equipment that is damaged or has worn or broken parts. Use only replacement parts supplied by Matrix Fitness Systems.

MAINTAIN LABELS AND NAMEPLATES. Do not remove labels for any reason. They contain important information. If unreadable or missing, contact Matrix Fitness Systems for a replacement at 866-693-4863 or www.matrixfitness.com.

MAINTAIN ALL EQUIPMENT. Preventative maintenance is the key to smoothly operating equipment. Equipment needs to be inspected at regular intervals. Defective components must be kept out of use until they are repaired. Ensure that any person(s) making adjustments or performing maintenance or repair of any kind is qualified to do so. Matrix Fitness Systems will provide service and maintenance training at our corporate facility upon request or in the field if proper arrangements are made.

3.3 CARE AND MAINTENANCE INSTRUCTIONS

In order to maximize life span, and minimize down time, all Matrix Fitness System's equipment requires regular cleaning, and maintenance items performed on a scheduled basis. This section contains detailed instructions on how to perform these items, the frequency of which they should be done, and a check list to sign off on each time service is completed for a specific machine. Some basic tools and supplies will be necessary to perform these tasks which include (but may not be limited to):

- * Metric Allen wrenches
- * #2 Phillips head screwdriver
- * Adjustable wrench
- * Lint free cleaning cloths
- * Teflon based spray lubricant such as "Super Lube" or other Matrix approved products.
- * Vacuum cleaner with an extendable hose and crevasse tool attachment.

You may periodically see addendums to this document, as the Matrix Technical Support Team identifies items that require specific attention, the latest version will always be available on the Matrix web site at www.matrixfitness.com.

DAILY MAINTENANCE ITEMS

- 1) Clean the entire machine using water and mild detergent such as "Simple Green", or other Matrix approved solutions (cleaning agents MUST be alcohol and ammonia free).
- 2) Check the emergency stop button and cord for proper operation.
- 3) Check the power cord for damage, and make sure that the power cord retainer is installed and securely fastened.

MONTHLY MAINTENANCE ITEMS

- 1) Check the alignment of the running belt (see Section 3.6).
- 2) Check the tension of the running belt (see Section 3.6).

NOTE: If there is any damage to the running belt or deck, replace with new. If you are replacing (or flipping) a deck, it should always be accompanied by a new belt.

QUARTERLY MAINTENANCE ITEMS

- 1) Unplug the unit. Remove the motor cover and vacuum the entire inside area of the machine being careful not to bump any wires or connections loose.
- 2) While the motor cover is off, inspect the drive belt for visible wear. Replace if any signs of damage.
- 3) While the motor cover is off, start the unit and raise incline settings to maximum height. Turn the power switch off at the front of the machine to prevent it from lowering accidentally. Lubricate incline motor Acme screw (Matrix recommends Super Lube brand grease with PTFE additive).

BI-ANNUAL MAINTENANCE ITEMS

- 1) Inspect the underside of the running belt for damage, check for cracking or glazed surfaces.
- 2) Lubricate the running belt every 3 months or 500 miles.
- 3) During normal operating conditions, the running belt replacement and deck service should be done every 25,000 miles.

3.3 CARE AND MAINTENANCE INSTRUCTIONS - CONTINUED

LUBRICATING THE RUNNING BELT

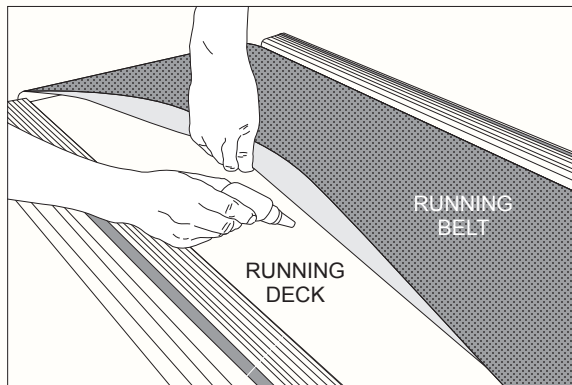
EVERY 3 MONTHS OR 500 Miles

It is necessary to lubricate your treadmill running deck every three months or 500 Miles to maintain optimal performance. Once the treadmill records 500 Miles it will display the message "LUBE" or "LUBE BELT." The treadmill will not operate while the message is showing. Your treadmill came with a bottle of 100% silicone lubricant, which can be used for two applications.

Go to this website to purchase additional Silicone Lubricant: www.johnsonfit.com/lubricant

Tools Needed:

- Blue-handled T-wrench or Allen wrench
- 100% silicone oil



PROCEDURE:

1. Turn off the treadmill with the on/off switch and unplug the power cord at the wall outlet.
2. Using the T-wrench or Allen wrench, loosen the rear roller bolts 10-15 counter-clockwise turns. This should give the belt enough slack for you to lift it.
3. Lift the belt as far as you can and squirt the silicone oil in a zigzag pattern across the entire running deck surface. Use slightly less than 1/2 bottle or 40 ml. Do not apply the silicone oil on top of the running belt. Lay the running belt down and then tighten both rear roller bolts clockwise the same number of turns loosened.
4. After you have applied lubricant, plug in the power cord. Press and hold **STOP** for three seconds to remove message for one workout. Press and hold **STOP** and **SPEED UP** for 5 seconds to reset for the next 500 miles.
5. Stay off of the machine and press **START**. Allow the belt to run at 3 mph for 3 minutes to begin spreading the silicone. Then walk on the machine at a comfortable speed for 3 minutes to complete spreading the silicone and to check the running belt for proper tension and alignment.
6. Once the belt is centered and tensioned, stop the belt. Wipe any excess oil from the sides with a damp cloth.

3.4 SCREEN CARE & CLEANING

In order to maximize life span, and minimize down time, all Matrix Fitness Equipment requires regularly scheduled cleaning.

YOU WILL NEED:

- Mild dish soap and water mixture in a spray bottle (per manufacturers recommend ratio).
- Lint free 100% cotton cleaning cloths or Microfiber cleaning cloths.

DAILY:

1. Wipe down the unit after each use with a mild dish soap and water mixture. **NOTE:** Spray the soap/water mixture onto the cloth. NEVER spray directly onto the equipment. We recommend that you do NOT allow customers to use spray bottles to clean the equipment. If the cleaner is sprayed directly on the equipment or overspray is present, it may cause your equipment to rust and/or cause damage to console overlays.

WEEKLY:

1. With a clean dry 100% lint free cloth and water/soap mixture, wipe down the entire console area including the hand grips and hand rails.

3.5 AUTO CALIBRATION INSTRUCTIONS

Run Auto Calibration to calibrate incline after assembly and after replacing any electronic component.

AUTO CALIBRATION PROCEDURE

After initial installation or replacement of the incline motor, auto calibration should be run.

- 1) Press number key "ENTER, 2, 0, 0, 1, ENTER" on the number keypad. Engineer Mode will appear on the display.
- 2) Press the LEVEL UP or DOWN key until the display reads Calibration.
- 3) Press ENTER to enter Auto Calibration. Press ENTER.
- 4) This will run the Auto Calibration. If the calibration passes, it will say calibration OK and automatically cycle to the Auto Calibration screen. Press and hold the STOP key to return to the normal start screen.
- 5) If the calibration does not pass, contact Matrix Customer Technical Support at 866-693-4863 ext 3.

3.6 ADJUSTING THE RUNNING BELT

After placing the treadmill in the position it will be used, the belt must be checked for proper tension and centering. The belt may need to be adjusted after the first 2 hours of use. Temperature, humidity, and use cause the belt to stretch at different rates. If the belt starts to slip when a user is on it, be sure to follow the directions below.

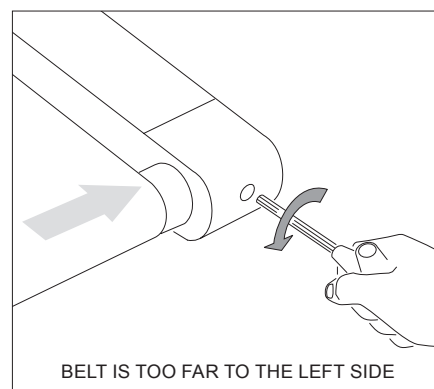
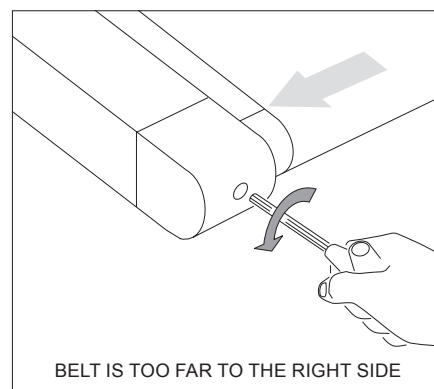
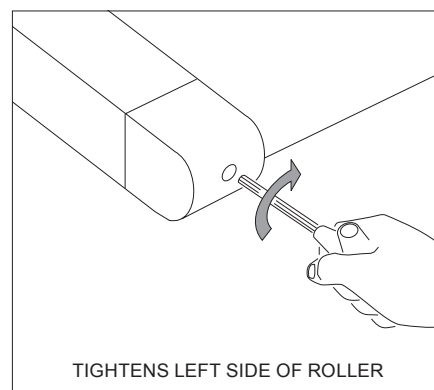
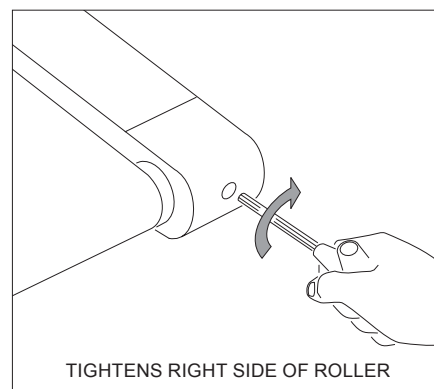
STEP 1: Locate the two hex head bolts on the rear of the treadmill. The bolts are located at each end of the frame at the back of the treadmill. These bolts adjust the rear roller. Do not adjust until the treadmill is on. This will prevent over tightening of one side.

STEP 2: The belt should have equal distance on either side between the frame. If the belt is touching one side, do not start the treadmill. Turn the bolts counter clockwise approximately one full turn on each side. Manually center the belt by pushing the belt from side to side. Tighten the bolts the same amount as when the user loosened them, approximately one full turn. Inspect the belt for damage.

STEP 3: While the treadmill is running at 3 mph, observe the belt position. If it is moving to the right, tighten the right bolt by turning it clockwise 1/4 turn, and loosen the left bolt 1/4 turn. If it is moving to the left, tighten the left bolt by turning it clockwise 1/4 turn and loosen the right 1/4 turn. Repeat Step 3 until the belt remains centered for several minutes.

STEP 4: Check the tension of the belt. The belt should be very snug. When a person walks or runs on the belt, it should not hesitate or slip. If this occurs, tighten the belt by turning both bolts clockwise 1/4 turn. Repeat if necessary.

3.6 ADJUSTING THE RUNNING BELT - CONTINUED



4.1 T130X CONSOLE DESCRIPTION

T130X CONSOLE SHOWN



T130X CONSOLE DESCRIPTION

The Matrix machine is inspected before it is packaged. It is shipped in two pieces: the base and the console. Carefully unpack the unit and dispose of the box material. Note: There is a thin protective sheet of clear plastic on the overlay of the console that should be removed before use.

- A) **WORKOUT KEYS:** Simple program view and selection buttons. Press Fitness Test button to cycle through available tests.
- B) **GO:** One Touch Start.
- C) **ENTER:** To confirm each program setting.
- D) **UP/DOWN INCLINE:** Adjust incline and make program selections.
- E) **UP/DOWN SPEED:** Adjust speed and make program selections.
- F) **UP/DOWN TIME:** Adjust time and make program selections.
- G) **EMERGENCY STOP / IMMOBILIZATION:** To stop all functions and immobilize the unit. The emergency stop on this treadmill must be returned to its original position in order to allow normal operation of the unit.
- H) **STOP:** Ends workout and shows workout summary data.
- I) **PAUSE:** Pauses workout. Pause duration can be set in manager or engineering mode.
- J) **NUMBER KEYPAD:** Workout data input for workout setup. Speed adjustment during workout.
- K) **COOL DOWN:** Puts treadmill into Cool Down mode. Cool Down time is dependent on the length of the workout. Workouts 19 minutes and shorter will have a cool down length of 2 minutes. Workouts 20 minutes and longer will have a cool down length of 5 minutes.
- L) **FAN:** Allows for fan speed selection (fan has three operating speeds.)
- M) **TOGGLE DISPLAY:** Cycles between 4 rows of workout information displayed in LED window. The console will automatically cycle between the workout information if the Toggle Display button is pushed and held down for 3 seconds.
- N) **LANGUAGE:** Select Language.
- O) **USB PORT:** Used for software updates only.

CHAPTER 4: CONSOLE OVERLAY AND WORKOUT DESCRIPTION

4.2 WORKOUT SETUP STEPS - MANUAL

GO - Press to immediately begin a workout. Workout, resistance level, and time will automatically go to default settings. Pressing GO will not prompt user for age, weight, or level settings.

1) Press the GO key to begin your workout. 2) The display will read 3, 2, 1, Begin and then the program will start.

MANUAL - Manual allows the user to input more information while defining their own workout. Calorie expenditure will be more accurate when inputting information in Manual than by pressing GO.

1) Press the MANUAL key. Then press ENTER.
2) Select Time by using the UP or DOWN LEVEL keys and press ENTER.
3) Select Weight by using the UP or DOWN LEVEL keys and press ENTER.
4) Select Incline by using the UP or DOWN LEVEL keys and press ENTER.
4) Select Speed by using the UP or DOWN LEVEL keys and press ENTER.
5) Press GO, and then the display will read 3, 2, 1, Begin and then the program will start.

4.3 WORKOUT SETUP STEPS - TRAINING WORKOUTS

FAT BURN - Fat burn is a level based program that is designed to help users burn fat through various resistance level changes.

1) Press the Training Workouts key. Then press ENTER key.
2) Select FAT BURN by using the UP or DOWN LEVEL keys and press ENTER.
3) Select Level by using the UP or DOWN LEVEL keys and press ENTER.
4) Select Time by using the UP or DOWN LEVEL keys and press ENTER.
5) Select Weight by using the UP or DOWN LEVEL keys and press ENTER.
6) Press GO, then the display will read 3, 2, 1, Begin and then the program will start.

4.3 WORKOUT SETUP STEPS - TRAINING WORKOUTS - CONTINUED

ROLLING HILLS - The Rolling Hills program is a level based program that automatically adjusts the resistance level to simulate real terrain.

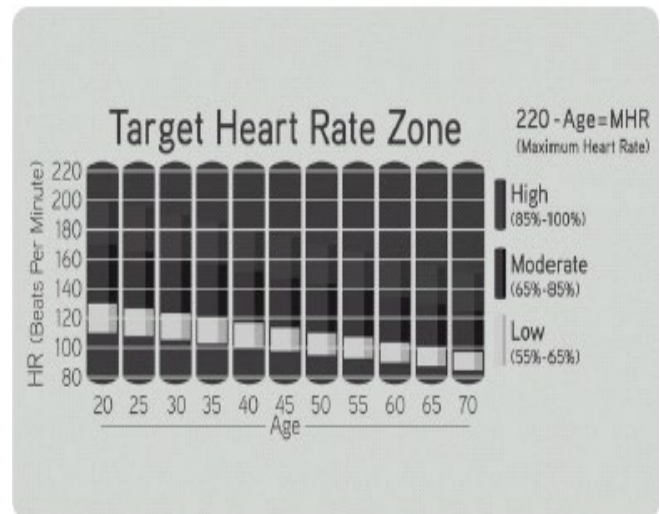
1) Press the Training Workouts key. Then press ENTER key.
2) Select Rolling Hills by using the UP or DOWN LEVEL keys and press ENTER.
3) Select Level by using the UP or DOWN LEVEL keys and press ENTER.
3) Select Time by using the UP or DOWN LEVEL keys and press ENTER.
4) Select Weight by using the UP or DOWN LEVEL keys and press ENTER.
5) Press Go, then the display will read 3, 2, 1, Begin and then the program will start.

4.4 WORKOUT SETUP STEPS - HEART RATE

HEART RATE - The Matrix heart rate comes with standard digital contact heart rate sensors and are POLAR telemetry compatible. The heart rate control workout mode allows the user to program their desired heart rate zone, and the bike will automatically adjust the level based upon the user's heart rate. The heart rate zone is calculated using the following equation: $(220 - \text{Age}) \times 8\% = \text{target heart rate zone}$. The user must wear a POLAR telemetric strap or continually hold onto the contact heart rate grips for this workout.

Locate the metal sensors on the handlebars of the bike. Notice that there are two separate pieces of metal on each grip. You must be making contact with both pieces of each grip to get an accurate heart rate reading. You can grab these sensors in any program to view your current heart rate.

1) Press the HEART RATE key. Then press ENTER key.
2) Select Age by using the UP or DOWN LEVEL keys and press SELECT.
3) Select Target HR Percentage by using the UP or DOWN LEVEL keys and press SELECT.
4) Select Time by using the UP or DOWN LEVEL keys and press SELECT.
5) Select Weight by using the UP or DOWN LEVEL keys and press SELECT.
6) Press GO, then the display will read 3, 2, 1, Begin and the program will start.



4.5 WORKOUT SETUP STEPS - 5K

5K RUN WORKOUT OPERATION

5K Run is a workout with a fixed distance of 5 km. Incline is adjusted automatically throughout the workout. You control the speed.

- 1) Choose 5K RUN by selecting the 5k run workout button.
- 2) Select the desired workout level by using the UP or DOWN SPEED keys and press ENTER.
- 3) Select the user's weight (the user's weight is used to calculate the caloric expenditure value, providing an accurate weight helps to ensure an accurate caloric expenditure rating for each user) by using the UP or DOWN SPEED keys and press ENTER.
- 4) Enter the desired start speed by using the UP or DOWN SPEED keys and press ENTER.
- 5) Press GO or QUICK START to begin the workout.

4.6 WORKOUT SETUP STEPS - SPRINT 8

SPRINT 8 - The 20-minute Sprint 8 workout program is a sciencebased sprint cardio training plan that stimulates the natural release of human growth hormone, which burns fat and builds lean muscle in just 20 minutes, 3 times a week. In two hospital-based studies, participants who performed the Sprint 8 workout for 8 weeks lost, on average, 27% of their body fat.

To keep users on track, the Sprint 8 workout program provides a Sweat Score after every sprint. The Sweat Score is a measure of effort, and users should aim to match or exceed their previous Sweat Score with each subsequent sprint.

- 1) Start pedaling and press the SPRINT 8 key. Then press ENTER.
- 2) Select one custom (Beginner/Intermediate/Advanced/Elite) by using the UP or DOWN LEVEL keys and press SELECT.
- 3) Select Level by using the UP or DOWN LEVEL keys and press ENTER.
- 4) Select Weight by using the UP or DOWN LEVEL keys and press ENTER.
- 5) Press GO, then the display will read 3, 2, 1, Begin and the program will start.

4.7 WORKOUT SETUP STEPS - FITNESS TEST

FITNESS TEST -The Fitness Test measures cardiovascular fitness and proves an estimated sub-maximal VO2 result.

e.g. PEB workout program

- 1) Start pedaling and press the FITNESS TEST key. Then press ENTER.
- 2) Select Age by using the UP or DOWN LEVEL keys and press ENTER.
- 3) Select Gender by using the UP or DOWN LEVEL keys and press ENTER.
- 4) Select Weight by using the UP or DOWN LEVEL keys and press ENTER.
- 5) Select Speed by using the UP or DOWN LEVEL keys and press ENTER.
- 6) Press GO, then the display will read 3, 2, 1, Begin and then the program will start.

5.1 MANAGER MODE OVERVIEW

- 1) To enter Manager Mode, press keys "ENTER, 1, 0, 0, 1, ENTER" on the number keypad. Manager Mode will appear on the display.
- 2) To scroll through the list of options in Manager Mode, use the UP and DOWN LEVEL keys. Each of the custom settings will show on the display.
- 3) To select a custom setting, press the ENTER key when the desired setting is shown.
- 4) To change the value of the setting, use the UP and DOWN LEVEL keys.
- 5) To confirm and save the value of the setting, press the ENTER key.
- 6) To exit the setting without saving, press the BACK key.
- 7) Press and hold the STOP key for 3-5 seconds to return to normal operation.

Group	Model	Item1	Item2	Default Value	Values/Range	Unit	Notes
Workouts	THURESAC	Maximum Time		60	4~99	Minutes	Sets the total run time of any program.
	THURESAC	Default Time		20	4~MAX	Minutes	Workout time when GO is pressed or when no time is selected during program set up.
	THURESAC	Default Level		1	1~10		Starting resistance when GO is pressed or when no resistance is selected during program set up.
	THURESAC	Pause Time		5:00	0:30/1:00/2:00/ 3:00/4:00/5:00	Minutes : Second	This option controls the default pause time.
	T	HRT Speed Based		OFF	ON/OFF		This option allows the user to choose speed based target heart rate programs.
	T	NAVY Test Site		0	0/1		0: Test site elevation less than 5000 ft above sea level. 1: Test site elevation greater than 5000 ft above sea level.
User	THURESAC	Age		30	10-100		This option controls the default user's age.
	THURESAC	Weight		150lb/ 68kg	50lb/23kg ~ 400lb/182kg		This option controls the default weight.
	THURESAC	Default Height		72/ 83	36/91~96/244		Default height of user.
	THURESAC	Gender		Male	Male/Femal		Determines the gender of the user when not selected during program set up.
Date & Time	THURESAC	Date		2015/01/01			This option sets the current date of the machine.
	THURESAC	Time		RTC time			This option sets the current time of the machine.
	THURESAC	Time Zone		21	1~78		This option sets the time zone (See Table 1).
Speed	THURESAC	Unit		Standard	Standard/Metric		This option sets the default distance unit: Mile or Kilometer".
	T130	Max.		12.0/20.0	2.0/3.2~12.0/20.0	mph/kph	Controls the maximum speed for all programs.
	T	Start		0.5/0.8	0.5/0.8~1.4/2.3	mph/kph	Controls the starting speed for all programs (does not affect minimum speeds).

5.1 MANAGER MODE OVERVIEW - CONTINUED

Group	Model	Item1	Item2	Default Value	Values/Range	Unit	Notes
Elevation	T130	Max		12%	12% (T130)		Controls the high incline parameter.
Software	THURESAC	Version	UCB				Current software version of UCB.
			LCB				Current software version of LCB.
			Language				Sets the language for the console.
			WiFi				Current software version of WiFi.
			Bootloader				Current software version of bootloader.
	THURESAC	Update	UCB				UCB software update.
			LCB				LCB software update.
			Language				Language software update.
	THURESAC	Auto Update	Disable/ Enable	Enable			This option controls whether the auto software update function is Disabled or Enabled.
			Time	1:00 AM		HH:MM	Automatically software updated time.
			Check Update				Manually check remote update. Auto updating console software from DAPI if it has the latest version.
General	THUREA	Accumulate Distance		0	0~999999	Mile/ Km	Total distance for all programs. Hold UP and DOWN LEVEL keys for 3 seconds to clear record.
	HURESAC	Accumulate Time		0	0~999999	Hours	Total time for all programs displayed in hours. Hold UP and DOWN LEVEL keys for 3 seconds to clear record.
Language	THURESAC	Default Language		English			Sets the language for the console. Select between English, Spanish, German, Italian, French, Dutch, Portuguese Swedish, Finnish, Turkish and Polish.
	THURESAC	Erase EEPROM					Erase language data in EEPROM.

CHAPTER 5: MANAGER MODE

5.1 MANAGER MODE OVERVIEW - CONTINUED

Group	Model	Item1	Item2	Default Value	Values/Range	Unit	Notes
Machine	THURESAC	Type					This option selects the current model.
	THURESAC	Serial Number	Console	Prefix+(Type) +YYMM00000	YY-MM-xxxxx		Serial Number input is available for both the Console and Frame. Type: B~Z (A not display).
			Frame	Prefix+(Type) +YYMM00000	YY-MM-xxxxx		
	THURESAC	Out of Order		OFF	ON/OFF		This option allows the club to show the unit "out of order" if an error is present.
	T	Tread Sensor		30	30/60/90/OFF		Tread Sensor function for user's existence detect..
	THURESAC	Speaker		OFF	ON/OFF		Sets the beeps of the console buttons on/off.
	THURESAC	Beeper		ON	ON/OFF		Sets the beeps that accompany the 3,2,1 before the machine starts on/off.
	THURESAC	Headphone Jack	Notification	Enable	Enable/Disable		This option controls whether the headphone Jack insertion times warning function is disabled or enabled.
			Times to waring	30000	1000~1000000		This option controls "the headphone Jack insertion number of times" to warning.
	THURESAC	USB Port	Protection	Enable	Enable/Disable		This option controls whether the USB port protection is disabled or enabled.
TV	THURESAC	Power		OFF	ON/OFF		OFF: Turn off TV power after reset ON: Don't turn off TV power after reset (Note: T130x does not have this function.)
			Input Source	OFF	OFF/TV/PCTV/ Remote TV/CAB		Sets the audio of the console to the type of TV attached. (Note: T130x does not have this function.)
	THURESAC	Default Volume					a. input default (DF: 15/Range1~15) b. Max (DF: 32/ Range: 1~32) c. Output Default (DF: 13/Range:1~Max) Remote TV support a/b/c item, others only support c. (Note: T130x does not have this function.)
Internet	THURESAC	Enable/Disable					Sets whether the internet function (WiFi) is disabled or enabled.
	THURESAC	MAC ID					MAC ID data.
	THURESAC	IP					Automatically detects the available IP address and displays it.
	THURESAC	AP MODE	OFF	ON/OFF			Sets whether the console wireless module is an access point (AP) or not.
	THURESAC	Signal Strength		(Current Status)	Disconnected/25% /50%/75%/100%		This option shows the current WiFi signal strength.
	THURESAC	Export setting to USB					Export internet setting (WiFi) to USB.
	THURESAC	Import setting from USB					Import internet (WiFi) setting from USB.
	THURESAC	Reset					Reset internet connected data. SSID/password Factory Default Restore.
ErP	THURESAC	Erp Time		OFF	OFF~ 30 (Minutes)	Minute	Console will enter ErP mode if user does not touch the screen or press any key pad for couple minutes.

5.1 MANAGER MODE OVERVIEW - CONTINUED

Table 1 - Time Zone list

Time Zone							
Country	Code	Country	Code	Country	Code	Country	Code
Asia/Kabul	1	America/Chicago	21	Asia/Jerusalem	41	Pacific/Apia	61
America/Anchorage	2	America/Monterrey	22	Asia/Seoul	42	Asia/Bangkok	62
Asia/Kuwait	3	Asia/Shanghai	23	Atlantic/South Georgia	43	Asia/Singapore	63
Asia/Muscat	4	Africa/Nairobi	24	America/Denver	44	Africa/Harare	64
Asia/Baghdad	5	Australia/Brisbane	25	America/Chihuahua	45	Asia/Colombo	65
America/Halifax	6	Europe/Minsk	26	Asia/Rangoon	46	Asia/Taipei	66
Australia/Darwin	7	America/Sao Paulo	27	Asia/Novosibirsk	47	Australia/Hobart	67
Australia/Sydney	8	America/New York	28	Africa/Windhoek	48	Asia/Tokyo	68
Asia/Baku	9	Africa/Cairo	29	Asia/Kathmandu	49	Pacific/Tongatapu	69
Atlantic/Azores	10	Asia/Yekaterinburg	30	Pacific/Auckland	50	America/Indianapolis	70
America/Edmonton	11	Pacific/Fiji	31	America/St Johns	51	America/Phoenix	71
Atlantic/Cape Verde	12	Europe/Riga	32	Asia/Irkutsk	52	Asia/Vladivostok	72
Asia/Yerevan	13	Asia/Tbilisi	33	Asia/Krasnoyarsk	53	Australia/Perth	73
Australia/Adelaide	14	Europe/London	34	America/Santiago	54	Africa/Lagos	74
America/Costa Rica	15	America/Godthab	35	America/Tijuana	55	Europe/Berlin	75
Asia/Almaty	16	Africa/Monrovia	36	Europe/Paris	56	Asia/Tashkent	76
America/Cuiaba	17	Europe/Istanbul	37	Europe/Moscow	57	Pacific/Guam	77
Europe/Belgrade	18	Pacific/Honolulu	38	America/Argentina/Buenos Aires	58	Asia/Yakutsk	78
Europe/Belgrade	19	Asia/Calcutta	39	America/Bogota	59		
Pacific/Guadalcanal	20	Asia/Tehran	40	America/La Paz	60		

6.1 ENGINEERING MODE OVERVIEW

- 1) To enter Engineering Mode, press keys "ENTER, 2, 0, 0, 1, ENTER" on the number keypad. Engineer Mode will appear on the display.
- 2) To scroll through the list of options in Engineering Mode, use the UP and DOWN LEVEL keys. Each of the custom settings will show on the display.
- 3) To select a custom setting, press the ENTER key when the desired setting is shown.
- 4) To change the value of the setting, use the UP and DOWN LEVEL keys.
- 5) To confirm and save the value of the setting, press the ENTER key.
- 6) To exit the setting without saving, press the BACK key.
- 7) Press and hold the STOP key for 3-5 seconds to return to normal operation.

Group	Model	Item1	Item2	Default Value	Values/Range	Unit	Notes
Calibration	TA	Auto Calibration					This option is to calibrate the elevation parameters.
	T	Elevation Min					This option controls the minimum elevation parameter.
	T	Elevation Max					This option controls the maximum elevation parameter.
Running Test	T						This option allows installers to do the belt adjustment and test. Also this function will not stop until press Stop or exit the mode, it will provide customer for demonstration and other functions.
Error Codes	THURESAC	Disable/Enable		Enable	Disable/Enable		This option displays the error code history on the unit.
OC protection	T	over speed		Disable	Disable/Enable		Auto speed reduction parameter (don't change it).
	T	String Warning		Enable	Disable/Enable		Auto speed reduction parameter (don't change it).
	T	0146 speed drop	10.1MPH ~ Max	1	0.5~4	MPH	Auto speed reduction parameter (don't change it).
			6.1~10MPH	1	0.5~2	MPH	Auto speed reduction parameter (don't change it).
			0.5~6 MPH	0.5	0.5~2	MPH	Auto speed reduction parameter (don't change it).
	T	0144 speed drop	10.1MPH ~ Max	1	0.5~4	MPH	Auto speed reduction parameter (don't change it).
			6.1~10MPH	1	0.5~3	MPH	Auto speed reduction parameter (don't change it).
			0.5~6 MPH	0.5	0.5~2	MPH	Auto speed reduction parameter (don't change it).

6.1 ENGINEERING MODE OVERVIEW

Group	Model	Item1	Item2	Default Value	Values/Range	Unit	Notes
OC protection	T	0146 speedup skip		5	0~20		Auto speed reduction parameter (don't change it).
	T	0144 steady skip		2	0~20		Auto speed reduction parameter (don't change it).
	T	Ignore OC speed		5	0.5~ Max		Auto speed reduction parameter (don't change it).
	T	speed error		On	On/Off		Auto speed reduction parameter (don't change it).
	T	Speed mode %		1	0%~10%		Auto speed reduction parameter (don't change it).
	T	Speed error factor		8%	0%~100%		Auto speed reduction parameter (don't change it).
DAPI	THURESAC	Server		Production	Dev/ QA/ Staging/ Production		Dev unsecure domain: dev.dls.jfit.co port: 80 SSL domain: dev-dls.jfit.co port: 443 QA unsecure domain: qa.dls.jfit.co port: 80 SSL domain: qa-dls.jfit.co port: 443 Staging unsecure domain: staging.dls.jfit.co port: 80 SSL domain: staging-dls.jfit.co port: 443 Production unsecure domain: dapi-ls.jfit.co port: 80 SSL domain: dapi-ls.jfit.co port: 443
	THURESAC	SSL		ON	ON/OFF		This option controls whether the internet transmission with SSL (Secure Sockets Layer) or not.
Back Up	THURESAC						To backup console software into EEPROM.
Motor	T	Type		2	0~2		This option selects the frame motor type. Sets the motor type to "2" for T130x.
T130 Mode	T130			ON	ON/OFF		This option controls whether the Retail treadmill model (T130) is ON or OFF.

CHAPTER 7: SERVICE MODE/TEST MODE

7.1 SERVICE MODE OVERVIEW

- 1) To enter Service Mode, press keys "ENTER, 3, 0, 0, 1, ENTER" on the number keypad. Engineer Mode will appear on the display.
- 2) To scroll through the list of options in Service Mode, use the UP and DOWN LEVEL keys. Each of the custom settings will show on the display.
- 3) To select a custom setting, press the ENTER key when the desired setting is shown.
- 4) To change the value of the setting, use the UP and DOWN LEVEL keys.
- 5) To confirm and save the value of the setting, press the ENTER key.
- 6) To exit the setting without saving, press the BACK key.
- 7) Press and hold the STOP key for 3-5 seconds to return to normal operation.

Group	Model	Item1	Item2	Default Value	Values/Range	Unit	Notes
Accumulate	THURESAC	Distance		Current value	0~999999	Mile/ Km	Manually sets the Accumulated Distance.
	THURESAC	Time		Current value	0~999999	Hour	Manually sets the Accumulated Time.
Log	THURESAC	Error	Display		Error1~Error10 /None		Shows the last 10 errors.
			Reset	NO	NO-YES		Reset error log.
		Headphone Jack Sensor	Insert Counts	Current Value	0~999999		Insert headphone jack counts.
			Reset	NO	NO-YES		Reset headphone insert counts.
Configuration	THURESAC	Export to USB					Export engineer parameters to a USB device.
		Import from USB					Import engineer parameters from a USB device.
Factory Default	THURESAC	Reset		NO	NO-YES		Reset engineering default to factory value.
Asset management	THURESAC	Disable/Enable		Disable	Disable/Enable		This option controls whether the AM function is Disabled or Enabled.
		Club ID		3547			This option records the club ID of the fitness facility. Sets the club ID to "3547" for retail treadmill.
xID Login	THURESAC	Enable/Disable		Disable	Disable/Enable		This option controls whether the xID login function is Disabled or Enabled.
Replacement Parts	T	Running Belt	Current Wear	Miles	Miles/Hours		Display miles and hours since last service snapshot.
			Replace Item	Confirm	Confirm/Back		If confirm is pressed, the miles and hours from "Current Wear" are moved to replace the data in "Previous Service". The current Date/Time replace the value in "Previous Service". Also, the Miles/Hours in "Current Wear" are set to zero. Back returns to previous menu.
			Previous Service	Date/Time	Date/Time /Miles/Hours		Display snapshot of Date/Time, Miles, and Hours.
	T	Running Deck	Current Wear	Miles	Miles/Hours		Display miles and hours since last service snapshot.
			Replace Item	Confirm	Confirm/Back		If confirm is pressed, the miles and hours from "Current Wear" are moved to replace the data in "Previous Service". The current Date/Time replace the value in "Previous Service". Also, the Miles/Hours in "Current Wear" are set to zero. Back returns to previous menu.
			Previous Service	Date/Time	Date/Time /Miles/Hours		Display snapshot of Date/Time, Miles, and Hours.

CHAPTER 7: SERVICE MODE/TEST MODE

7.1 SERVICE MODE OVERVIEW

Group	Model	Item1	Item2	Default Value	Values/Range	Unit	Notes
Replacement Parts	T	MOTOR	Current Wear	Miles	Miles/Hours		Display miles and hours since last service snapshot.
			Replace Item	Confirm	Confirm/Back		If confirm is pressed, the miles and hours from "Current Wear" are moved to replace the data in "Previous Service". The current Date/Time replace the value in "Previous Service". Also, the Miles/Hours in "Current Wear" are set to zero. Back returns to previous menu.
			Previous Service	Date/Time	Date/Time /Miles/Hours		Display snapshot of Date/Time, Miles , and Hours.
	THURESAC	Headphone Jack	Current Wear	Inserts	Inserts/Hours		Display inserts and hours since last service snapshot.
			Replace Item	Confirm	Confirm/Back		If confirm is pressed, the hours and inserts from "Current Wear" are moved to replace the data in "Previous Service". The current Date/Time replace the value in "Previous Service". Also, the Hours/Inserts in "Current Wear" are set to zero. Back returns to previous menu.
			Previous Service	Date/Time	Date/Time /Inserts/Hours		Display snapshot of Date/Time, Inserts, and Hours.
	THUREA	Prev. Maintenance	Current Wear	Miles	Miles/Hours		Display miles and hours since last service snapshot.
			Replace Item	Confirm	Confirm/Back		If confirm is pressed, the miles and hours from "Current Wear" are moved to replace the data in "Previous Service". The current Date/Time replace the value in "Previous Service". Also, the Miles/Hours in "Current Wear" are set to zero. Back returns to previous menu.
			Previous Service	Date/Time	Date/Time /Miles/Hours		Display snapshot of Date/Time, Miles , and Hours.

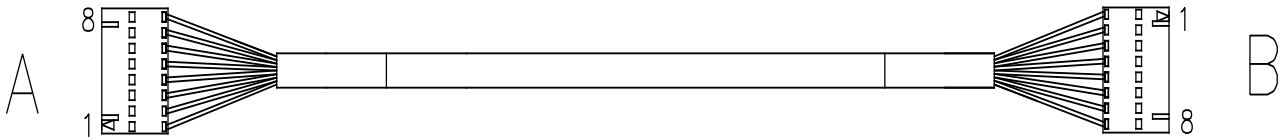
7.2 TEST MODE OVERVIEW

- 1) To enter Test Mode, press number key "ENTER, 5, 0, 0, 1, ENTER" on the number keypad. Engineer Mode will appear on the display.
- 2) To scroll through the list of options in Test Mode, use the UP and DOWN LEVEL keys. Each of the custom settings will show on the display.
- 3) To select a custom setting, press the ENTER key when the desired setting is shown.
- 4) To change the value of the setting, use the UP and DOWN LEVEL keys.
- 5) To confirm and save the value of the setting, press the ENTER key.
- 6) To exit the setting without saving, press the BACK key.
- 7) Press and hold the STOP key for 3-5 seconds to return to normal operation.

Group	Model	Item1	Item2	Default Value	Values/Range	Unit	Notes
Display	THURESAC						Press the ENTER key repeatedly to check each set of LEDs on the display sequentially.
Keypad	THURESAC						Press any key and the display should show the corresponding message.
C-SAFE	THURESAC						Press the ENTER key to test CSAFE.
Headphone Jack	THURESAC						Press the ENTER key to test the insert headphone jack counts.
RFID Test	THURESAC						Press the ENTER key to test RFID hardware and RFID card scan. (Note: No this function in T130x)
ErP	THURESAC	Auto/5/10/30/60				Second	Press the ENTER key and choice ErP time to test ErP function.

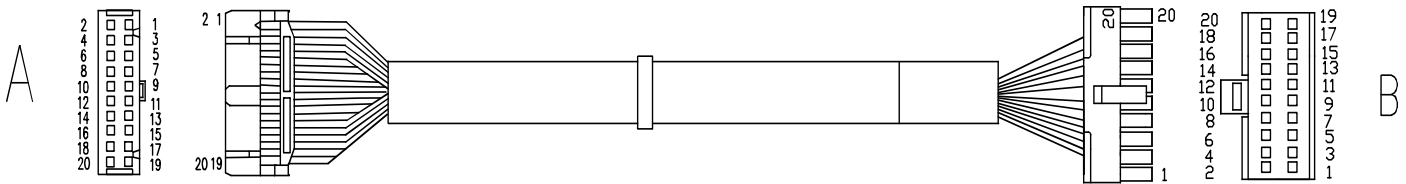
8.1 ELECTRICAL DIAGRAMS - CONTINUED

Digital Comm Wire



A.HOLE	B.HOLE	FUNCTION	COLOR
1	1	12V	red
2	2	12V	
3	3	RDA	
4	4	SAFE KEY	
5	5	SAFE KEY	
6	6	RDB	
7	7	GND	black
8	8	GND	

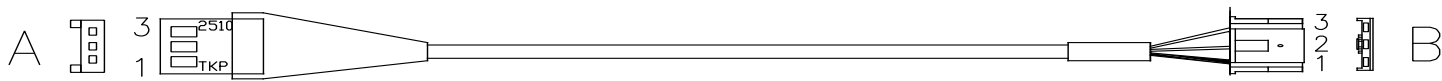
UCB LITTLE BOARD WIRE



A: HOLE	B: HOLE	FUNCTION
1	1	DA1
2	2	DA2
3	3	SC7
4	4	DA6
5	5	SC2
6	6	DA5
7	7	SC1
8	8	DA7
9	9	GND(Keypad)
10	10	NC
11	11	NC
12	12	GND
13	13	ER-R
14	14	ER-L
15	15	NC
16	16	NC
17	17	+5V(HR)
18	18	GND(HR)
19	19	OUT(HR)
20	20	GND(HR)

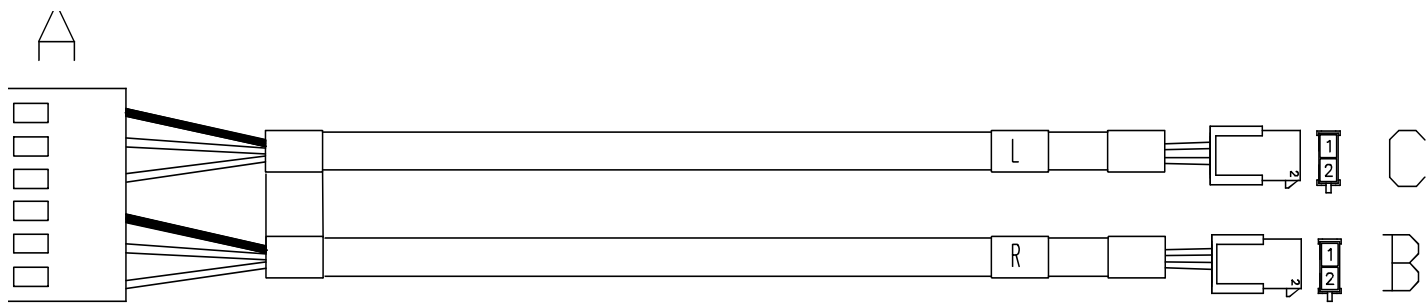
8.1 ELECTRICAL DIAGRAMS - CONTINUED

HAND PULSE WIRE



A.HOLE	B.HOLE	COLOR	FUNCTION
1	1	BLACK	A:GND no Shield B: GND +Shield
2	2	RED	VCC
3	3		SGN

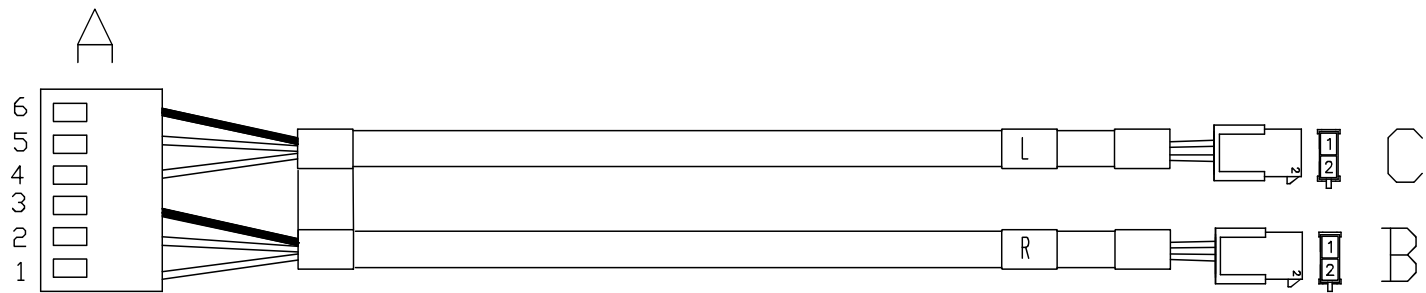
HAND PULSE SENSOR WIRE



A.HOLE	B.HOLE	C.HOLD	FUNCTION	COLOR
1	1		RT-PRI	RED
2	2		RT-SEC	WHITE
3			GROUND	Shielding
4		1	LT-PRI	RED
5		2	LT-SEC	WHITE
6			GROUND	Shielding

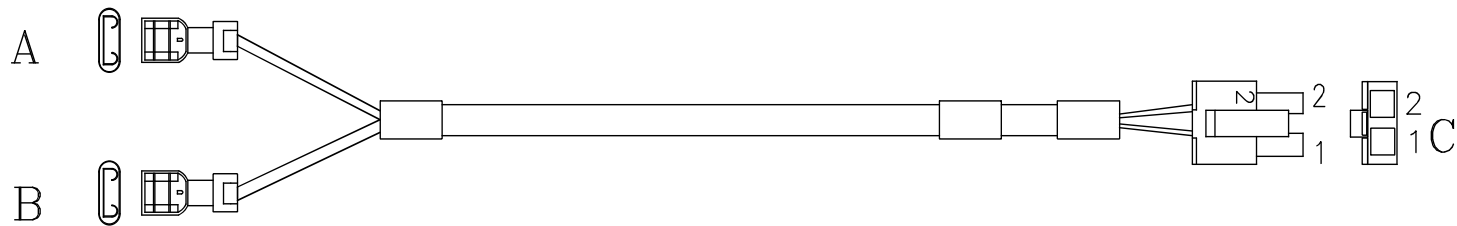
8.1 ELECTRICAL DIAGRAMS - CONTINUED

HAND PULSE SENSOR WIRE



A.HOLE	B.HOLE	C.HOLD	FUNCTION	COLOR
1	1		RT-PRI	RED
2	2		RT-SEC	WHITE
3			GROUND	Shielding
4		1	LT-PRI	RED
5		2	LT-SEC	WHITE
6			GROUND	Shielding

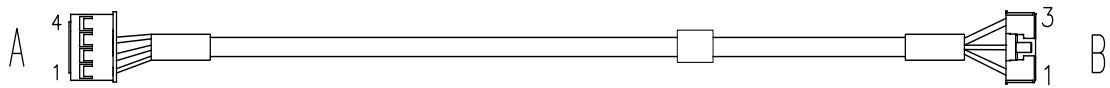
SAFETY SWITCH WIRE



A.HOLE	B.HOLE	C.HOLE	COLOR	FUNCTION
1		1	RED	IN
	1	2	WHITE	OUT

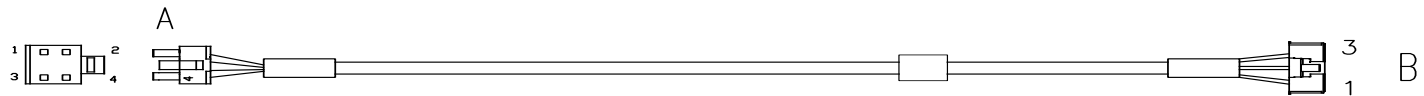
8.1 ELECTRICAL DIAGRAMS - CONTINUED

QUICK KEY WIRE (SPEED)



A.HOLE	B.HOLE	FUNCTION
1	1	DA1(SPEED / U)
2	2	DA2(SPEED / D)
3	3	SC2
4		N/C

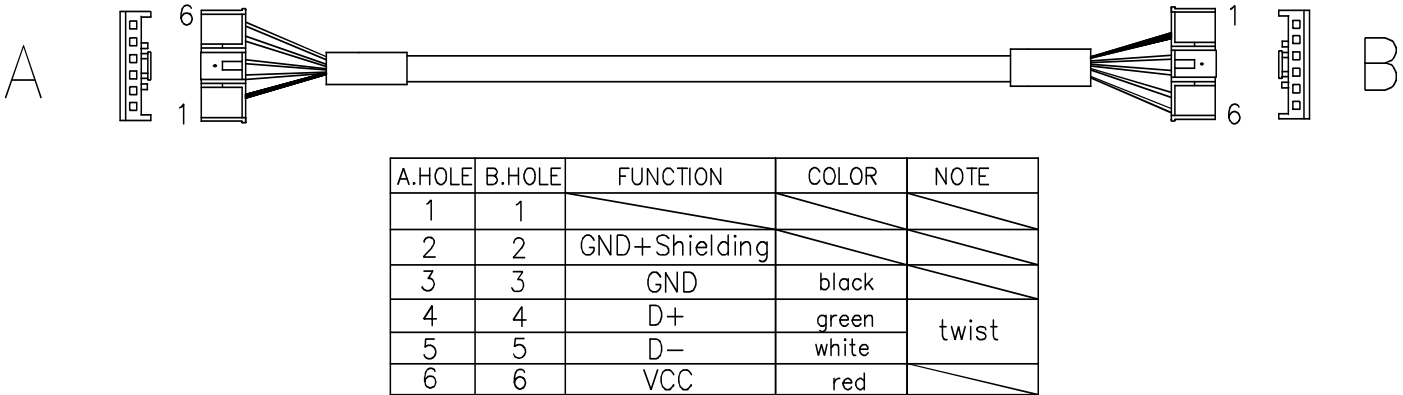
QUICK KEY WIRE (INCLINE)



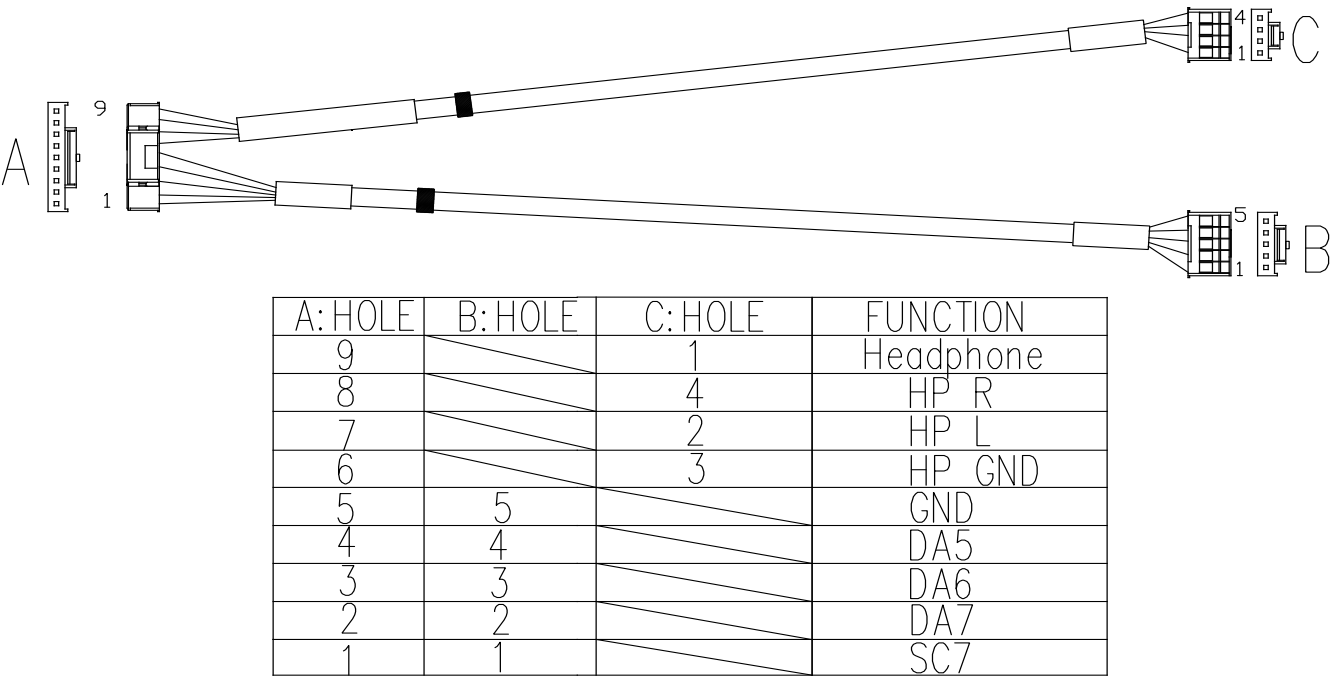
A.HOLE	B.HOLE	FUNCTION
1	1	DA1(UP)
2	3	SC1
3	2	DA2(DOWN)
4		

8.1 ELECTRICAL DIAGRAMS - CONTINUED

USB WIRE

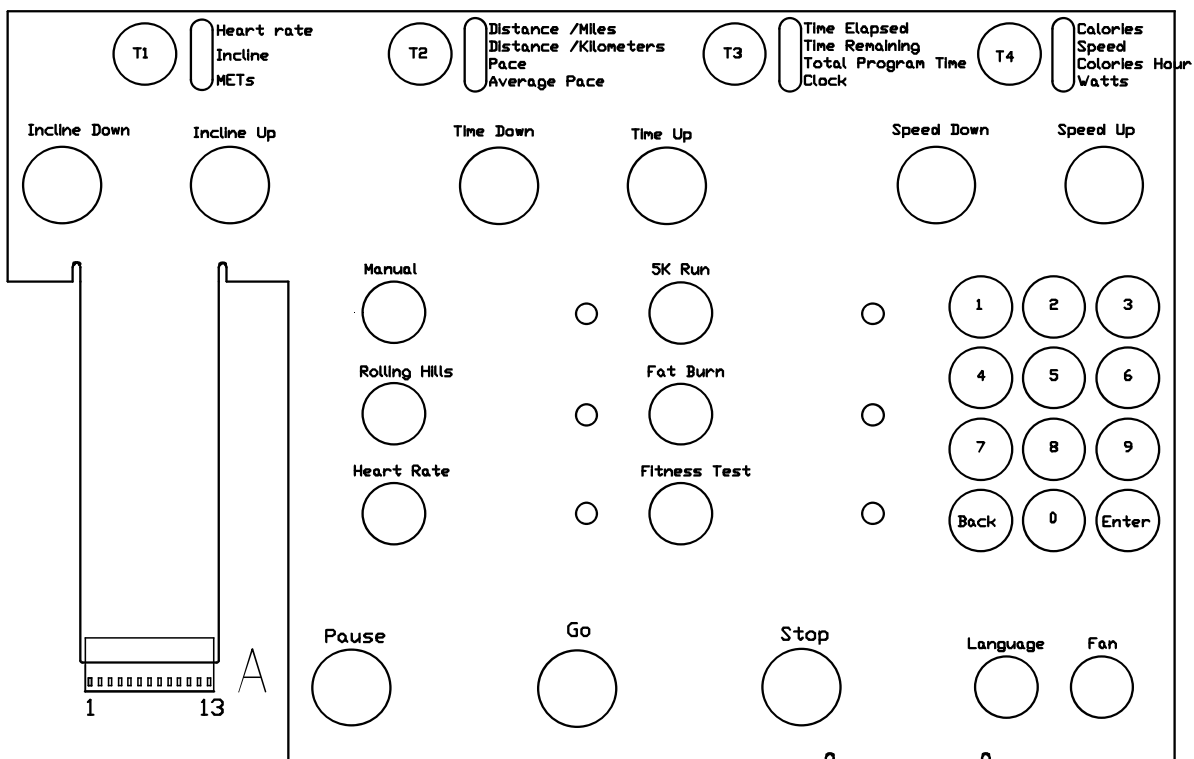


PHONE BOARD WIRE



8.1 ELECTRICAL DIAGRAMS - CONTINUED

PROGRAM KEYPAD



E_KEYPAD DEFINITION

A	SC8 9	SC7 8	SC6 7	SC5 6	SC4 5	SC3 4	SC2 3	SC1 2
DA5 10	Enter						2	1
DA6 11	Stop				5	4	3	V_U
DA7 12	Start	C_D	7	8	6	C_U	CC/M	L_C
DA8 13	Cool Down	TV	0	9	Back	V_D	D_M	Home

PROGRAM KEYPAD DEFINITION

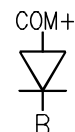
B	SC8 9	SC7 8	SC6 7	SC5 6	SC4 5	SC3 4	SC2 3	SC1 2
DA1 10	3	5	1	T3	T_U	T_D	Speed/U	Incline/U
DA2 11	6	8	4	2	5K	Manual	Speed/D	Incline/D
DA3 12	9	0	7	T4	Fat Burn	Rolling Hills	T2	T1
DA4 13	Enter	Lan	Back	Stop	Fitness Test	HR_P	Go	Pause
DA5 14	Fan							

B1: EARTH

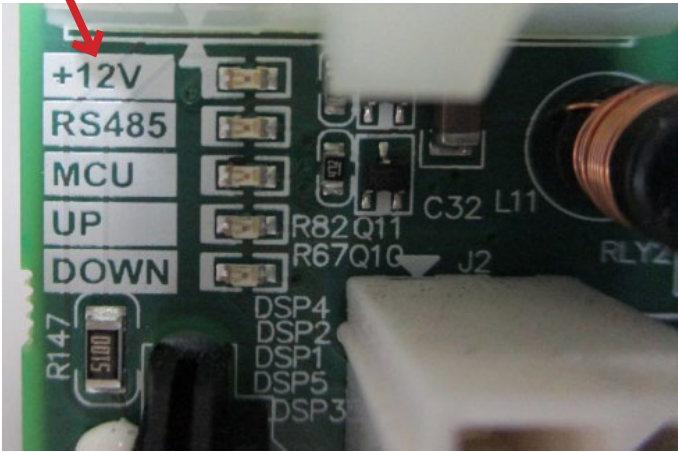
LED DEFINITION OF PROGRAM

A	COM+8 12	COM+7 11	COM+6 10	COM+5 9	COM+4 8	COM+3 7	COM+2 6	COM+1 5
B1 1		Manual	5K		Calories	T/E	D/M	HR_LED
B2 2		Rolling Hills	Fat Burn		Speed	T/R	D/K	Incline
B3 3	HR_P			Fitness Test	C/H	T/P/T	Pace	METs
B4 4	Watts		Clock	A/P				

A13: EARTH

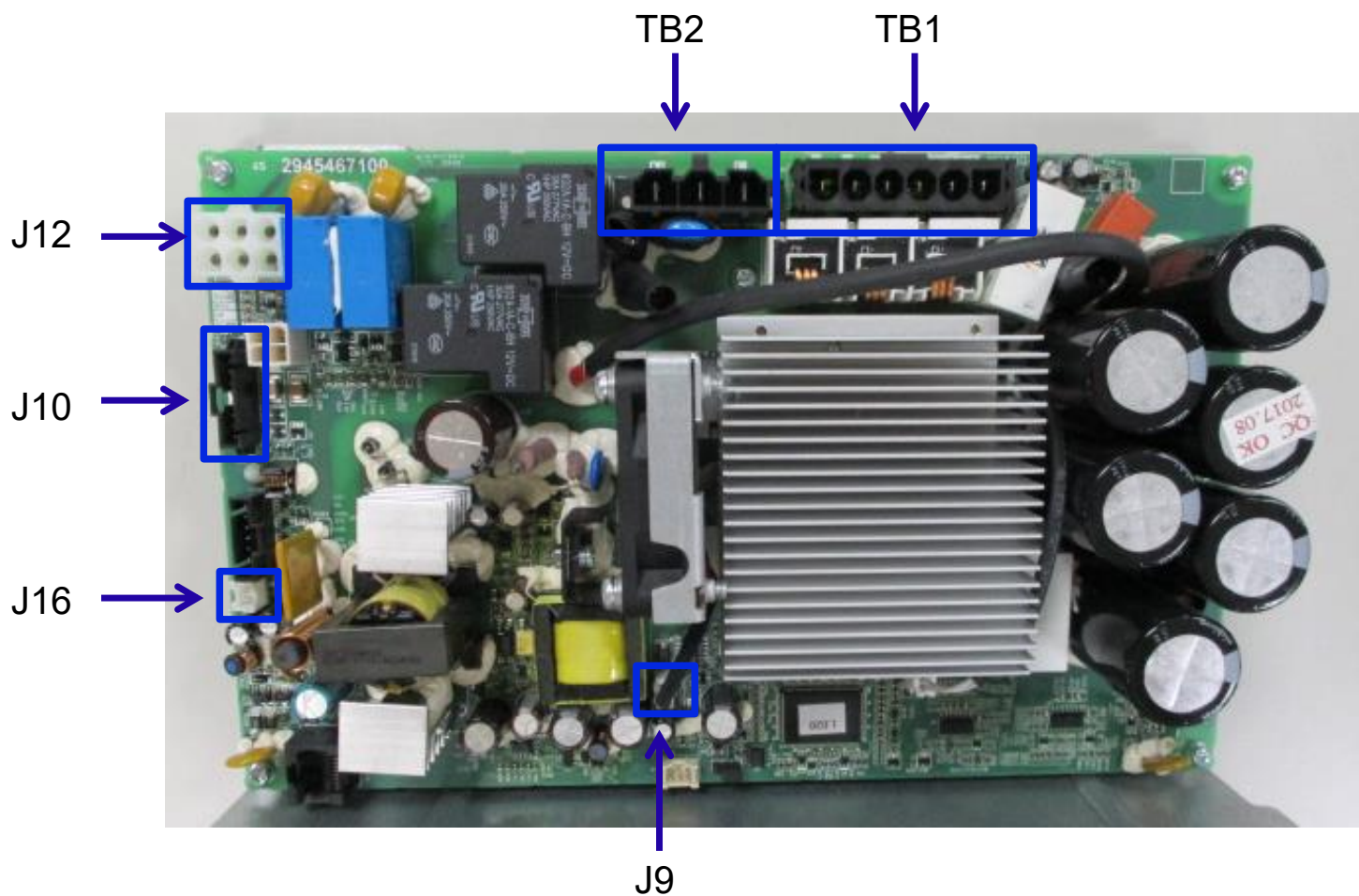


8.2 MCB LED INSTRUCTIONS



LED	REFERENCE DESIGNATOR	DESCRIPTION
+12V	DSP4	Indicates if the console voltage supply is present. Light = Normal. Off = 12 Volts are not provided by the MCB.
RS485	DSP2	Indicates if the digital communication is working normally between the console and the MCB. Blinking = Normal. Off = Fault
MCU	DSP1	Indicates if the console is working normally. Blinking = Normal. Light = MCU Fault. Off = MCU No Power.
UP	DSP5	Indicates if the console is commanding elevation up. Light = Normal. Off = No command from console into elevation motor.
DOWN	DSP3	Indicates if the console is commanding elevation down. Light = Normal. Off = No command from console into elevation motor.

8.3 MCB WIRING



- TB1 - AC Motor Cable Socket**
- TB2 - Input Power Cable Socket**
- J9 - Inside Fan Cable Socket**
- J10 - Digital Communication Cable Socket**
- J12 - Elevation Motor Cable Socket**
- J16 - External Fan Cable Socket**

8.4 ERROR CODE LIST

01XX: Motor Errors

CODE	CLASS	DESCRIPTION	MACHINE	SOLUTION
0140	B	Incline motor operation fail	T	Please run Auto Calibration. - If the error code happens in Auto-calibration, the machine still can work and no repairs are needed. - If the error code happens in workout, please replace the incline motor.
0142 (01A2)	B	Incline motor is detected in the reverse of the position indicated by the potentiometer	T	a. Check the connection of the incline motor cable at the MCB. b. Run auto calibration. c. If auto calibration fails, re-enter Engineering Mode and go to Calibration again. - Select Calibration key. - Check the MCB LEDs. If LED DOWN or UP has no light, check the console cable connections at the console and MCB. Replace the console or cable as needed. If LED DOWN or UP has a light, replace the incline motor. d. If the issue is not solved by replacing the incline motor, replace the MCB.
0144	B	Motor over current	T	a. Check the condition of the running deck and belt. Replace the belt and flip or replace the running deck as needed. b. Replace the MCB.
0146	B	The motor current exception	T	a. Check the condition of the running deck and belt. Replace the belt and flip or replace the running deck as needed. b. Replace the MCB.
0147 (01A0)	B	Incline motor disconnection	T	a. Check the incline motor wire connection between the incline and LCB. b. Check to see if incline value changes on display when up/down keys are pressed (pins 1 & 2 for VR1 & VR2, pins 2 & 3 for VR2 & VR3). - If there's no change, replace the incline motor. - If there's a change, replace the LCB.
01A1	C	Incline calibration error	T	a. It occurs when the calibration time is too long or the calibration distance is too short. b. Disconnect the incline tube from the frame. Turn on power and run auto calibration. - If console still shows error, replace incline motor. - If no error, reattach incline motor, and replace MCB.
01A3	C	Main motor disconnection	T	a. Check the connection of the motor cable at the MCB. b. Using a multimeter, check the 3 points (U/V/W) and see if there's a resistance reading (pins 1 & 2 for U & V, pins 2 & 3 for V & W, pins 1 & 3 for U & W). - If yes, replace MCB. - If no, replace motor (a short or open circuiting).
01A8	C	Main motor over current	T	a. Check the condition of the running deck and belt. Replace the belt and flip or replace the running deck as needed. b. Replace the MCB.
01AD (0141)	B	Motor over temperature	T	a. Check the connection of the motor cable at the MCB. b. Use a multi-meter to check the motor wire circuit. Set the multi-meter to Ohms and place both terminals on the blue wires of the motor cable. - If there is an Ohm reading above 0, replace the motor. - If the Ohm reading is 0, replace the MCB.

8.4 ERROR CODE LIST - CONTINUED

02XX: MCB Errors

CODE	CLASS	DESCRIPTION	MACHINE	SOLUTION
0247 (02BA/ 02B9)	B	The inner memory IC data read / write error.	T	a. Check LED DSP1 (MCU) on the MCB. b. If this LED is blinking, replace the console. c. If this LED is a constant light, replace the MCB. d. If this LED is not lit at all, check the power to the MCB.
02A2	C	Over DC bus voltage	T	a. Please check if the input power is normal (110V : over 140V or 220V: over 280V). b. Replace the MCB.
02A3	C	Low AC power input voltage when motor running	T	a. Please check if the input power is normal (110V : low 76V or 220V: low 186V). b. Replace the MCB.
02A7	C	Motor over current	T	a. Please check the Motor wire connection between the Motor and MCB. b. Please use the electric meter to check the 3 points (U / V / W) and see if there's data of inside impedance (pins 1 & 2 for U & V, pins 2 & 3 for V & W, pins 1 & 3 for U & W). - If yes, replace MCB. - If no, replace Motor set.
02AD	C	MCB is over temperature	T	a. Check if that both fans are operating (there is a fan mounted to the MCB itself as well as an external fan). Also check the connection of the fans at the MCB. b. If the fans are running correctly, replace the MCB.
02BA	C	The inner memory IC data read error.	T	Reboot power. If the error shows again, replace the MCB.
02BB	C	Inverter hardware interrupts error.	T	Reboot power. If the error shows again, replace the MCB.
02BC	C	Ground connection or fuse error	T	a. Check the Motor wire (3 points U / V / W) and ground wire whether short. b. Replace the MCB.
02BD	C	Drive hardware interrupt error.	T	Replace MCB.
02B2	C	Safe key action response	T	a. Check the connection of the safety key (emergency stop) switch. If the switch is always open or shorted out, replace the switch. b. If the emergency stop does not resolve the issue, replace the console.
02B5	C	Inverter sensor the normal rated current over 150% , can hold 60 sec.	T	Replace MCB.
02B6	C	Speed up has over current.	T	a. Check the condition of the running deck and belt. Replace the belt and flip or replace the running deck as needed. b. Replace the MCB.
02B7	C	Speed down has overcurrent.	T	a. Check the condition of the running deck and belt. Replace the belt and flip or replace the running deck as needed. b. Replace the MCB.
02B8	C	Running status is over current	T	a. Check the condition of the running deck and belt. Replace the belt and flip or replace the running deck as needed. b. Replace the MCB.

8.4 ERROR CODE LIST - CONTINUED

03XX: UCB Errors

CODE	CLASS	DESCRIPTION	MACHINE	SOLUTION
0301	A	Memory block damage	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace UCB.
0302	A	UCB low battery voltage	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace battery.
0303	A	UCB low supply voltage	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Make sure the RPM over 35, when the machine of self-power mode.
0304	A	Earphone Board needs to be replaced	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace Earphone Board.
0305	A	USB Hardware OT or OC	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace UCB.
0306	A	keypad is abnormal. The keypad remains pressed for 60 seconds	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace Keypad.
0340	B	keypad is abnormal. The keypad remains pressed for 5 seconds	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace Keypad.
0341	B	Fan over current	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace Fan.
0343	B	UCB Over supply voltage	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Check whether the LCB power input is over 13 voltage. - If yes, replace MCB. - If not, replace UCB.
0345	B	Correct packet but LCB without the function	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace UCB
0346	B	UCB detect the error of LCB incline position error	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Running the incline motor calibration again.
0347 (03A7)	B	VA Load program fail	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace VA Micro SD card
0348 (03A9)	B	Motor does not to run	Console	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Replace UCB
03A5	C	Failed to load program	Console	Replace UCB.
03A6	C	Failed to run program	Console	Replace UCB.
03A8	C	Machine type error	All	Choose the correct machine type in the console and reboot power again.

A NOTE ON CLASS A AND B ERROR CODES

Some errors can be bypassed in Engineering Mode in order to keep the machine in use.

- "Ignore B Level Errors" will bypass class A and B error codes.
- "Ignore Incline Errors" will bypass all incline errors.

8.4 ERROR CODE LIST - CONTINUED

04XX: Communication Errors

CODE	CLASS	DESCRIPTION	MACHINE	SOLUTION
0440	B	Timeout receive packet	Communication Errors	a. Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code. b. Check the connection of the console cable at both ends and perform continuity test. c. Replace MCB.
0441	B	When UCB implements a command, but the LCB/MCB cannot execute the command	Communication Errors	Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code.
0442	B	The received command code from the console is correct and is supported, but the data sent/ transferred is wrong	Communication Errors	Enter the Engineer mode disable B Level Error, bypass CLASS A and B error code.
04A0	C	MCB does not have communication response from UCB	Communication Errors	Delta MCB only: a. If the display is giving an 04A0 error, LED DSP2 (RS485) should be off. Recycle power.. b. Check the connection of the console cable at both ends and perform continuity test. c. Swap console with known good if connections are good. Replace the console. d. Replace the MCB.
04B0	C	UCB does not have communication response from MCB	Communication Errors	Delta MCB only: a. If the display is giving an 04A0 error, LED DSP2 (RS485) should be off. Recycle power.. b. Check the connection of the console cable at both ends and perform continuity test. c. Swap MCB with known good if connections are good. Replace the MCB. d. Replace the console.
04B1	C	IO board does not have communication response	Communication Errors	a. Replace UCB.

ERROR MESSAGES 0140 / 0147 / 0142

1) SYMPTOM:

- a. 0140 - Incline motor operation failed.
- b. 0147 - Incline motor disconnected.
- c. 0142 - Incline motor is detected in the reverse of the position indicated by the potentiometer.

2) SOLUTION

- a. Check the connection of the incline motor cable at the MCB.
- b. Run auto calibration (See Section 3.5).
- c. If auto calibration fails, re-enter Engineering Mode and go to Calibration again.
 - Click Calibration key.
 - Check the MCB LEDs. If LED DOWN or UP (Figure A) has no light, check the console cable connections at the console and MCB.
- d. If the issue is not solved by replacing the incline motor, replace the MCB.

Replace the console or cable as needed. If LED DOWN or UP has a light, replace the incline motor.

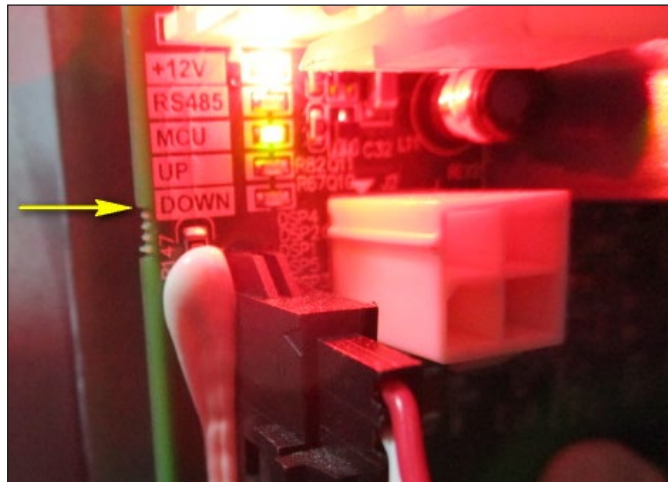


FIGURE A

8.6 01A3 ERROR TROUBLESHOOTING

ERROR MESSAGE 01A3

1) SYMPTOM:

- a. Motor is disconnected.

2) SOLUTION:

- a. Check the connection of the motor cable at the MCB (Figure A).
- b. Check if the MCB LED DSP1 (MCU) is lit (Figure B).
- c. If LED DSP1 is blinking, the motor should be replaced.
- d. If LED DSP1 is a solid light, replace the motor.
- e. If LED DSP1 is not lit, replace the MCB.

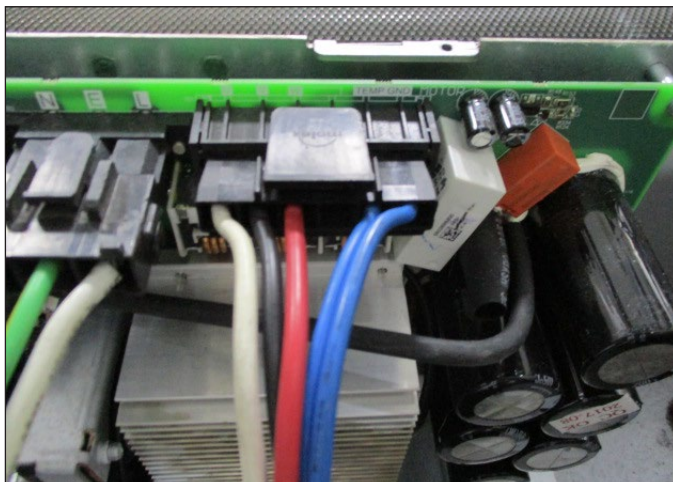


FIGURE A

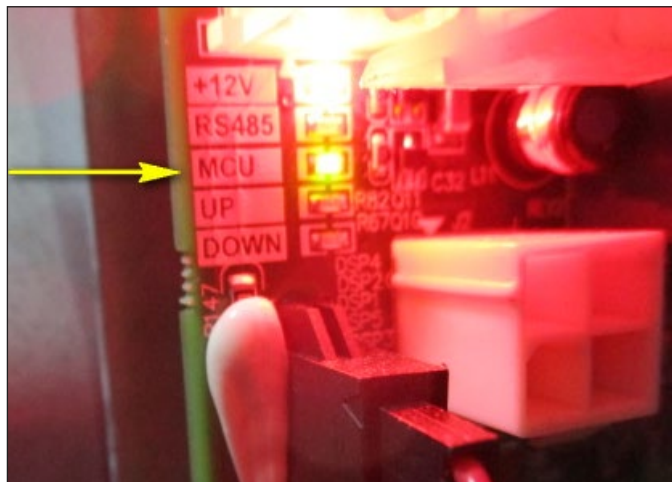


FIGURE B

8.7 0144 / 02B6 / 02B7 / 02B8 / 01AD / 0043 ERROR TROUBLESHOOTING

ERROR MESSAGE 0144 / 02B6 / 02B7 / 02B8 / 01AD / 0043

1) SYMPTOM:

- a. 0144 - Motor over current.
- b. 02B6 - Speed up is overcurrent.
- c. 02B7 - Speed down is overcurrent.
- d. 02B8 - Running status is overcurrent.
- e. 01AD - Internal electronic thermal relay protection: motor load is too large.
- f. 0043 - Had deteriorated detected.

2) SOLUTION:

- a. Check the condition of the running deck and belt. Replace the belt and flip or replace the running deck as needed.
- b. Replace the MCB.

8.8 0141 ERROR TROUBLESHOOTING

ERROR MESSAGE 0141

1) SYMPTOM:

- a. Motor over temperature.

2) SOLUTION:

- a. Check the connection of the motor cable at the MCB (Figure A).
- b. Use a multi-meter to check the motor wire circuit. Set the multi-meter to Ohms and place both terminals on the blue wires of the motor cable (Figure B). There should be an Ohm reading of 0. If there is an Ohm reading above 0, replace the motor. If the Ohm reading is 0, replace the MCB.

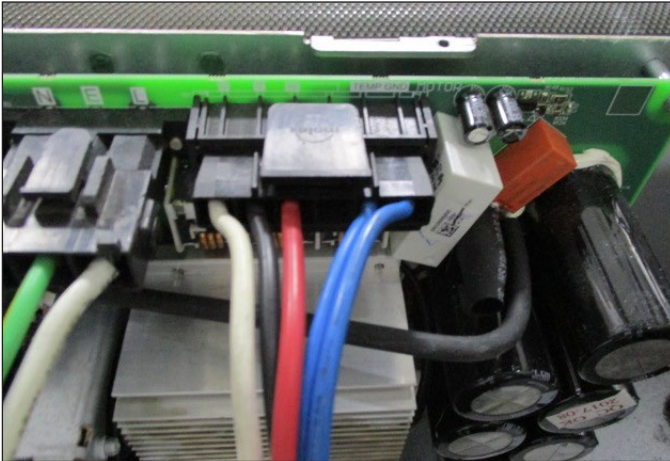


FIGURE A



FIGURE B

8.9 02AD ERROR TROUBLESHOOTING

ERROR MESSAGE 02AD

1) SYMPTOM:

- a. MCB is over temperature.

2) SOLUTION:

- a. Check if that both fans are operating (there is a fan mounted to the MCB itself as well as an external fan). Also check the connection of the fans at the MCB (Figure A).
- b. If the fans are running correctly, replace the MCB.

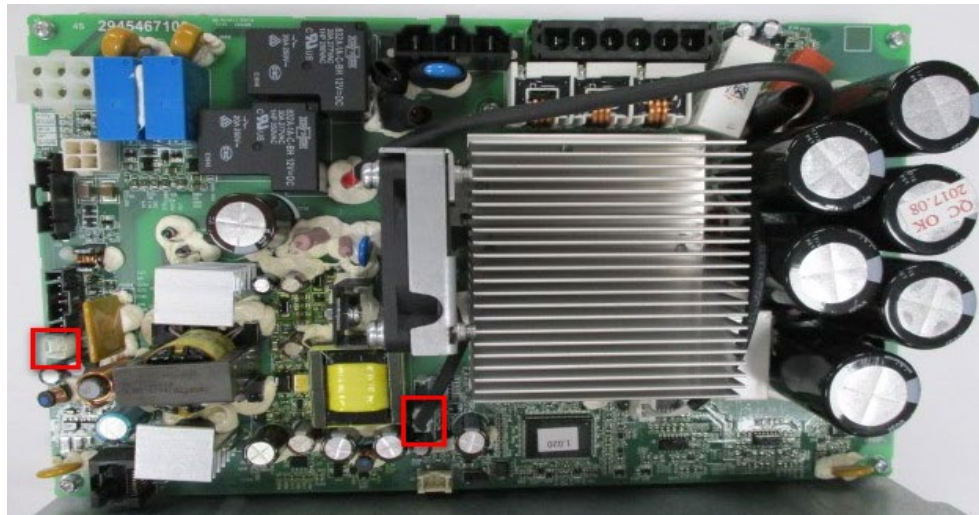


FIGURE A

8.10 02B2 ERROR TROUBLESHOOTING

ERROR MESSAGE 02B2

1) SYMPTOM:

- a. The emergency circuit on the interface board active.

2) SOLUTION:

- a. Check the connection of the safety key (emergency stop) switch (Figure A). If the switch is always open or shorted out, replace the switch.
- b. If the emergency stop does not resolve the issue, replace the console.

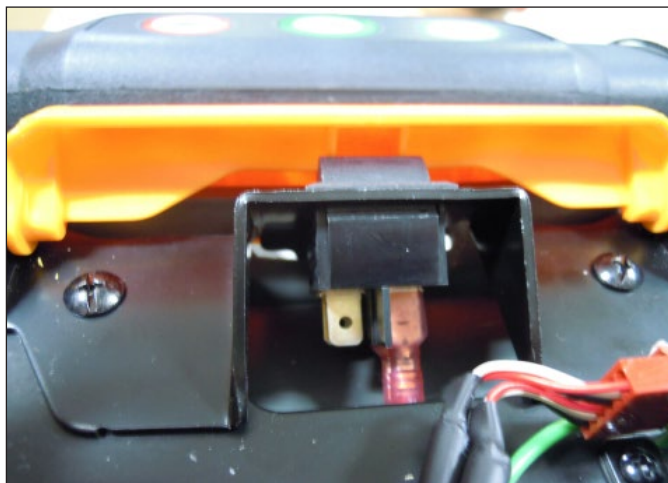


FIGURE A

8.11 0247 / 02BB ERROR TROUBLESHOOTING

ERROR MESSAGE 0247 / 02BB

1) SYMPTOM:

- a. 0247 - The inner memory IC data read / write error.
- b. 02BB - Inverter inner line of communication error.

2) SOLUTION:

- a. Check LED DSP1 (MCU) on the MCB (Figure A).
- b. If this LED is blinking, replace the console.
- c. If this LED is a constant light, replace the MCB.
- d. If this LED is not lit at all, check the power to the MCB.

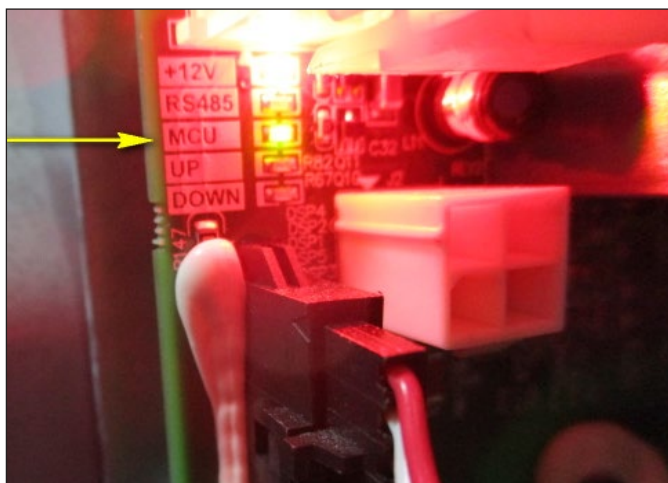


FIGURE A

8.12 04A0 ERROR TROUBLESHOOTING

ERROR MESSAGE 04A0

1) SYMPTOM:

- a. MCB does not have communication response from UCB.

2) SOLUTION:

- a. If the display is giving an 04A0 error, LED DSP2 (RS485) should be off (Figure A). Recycle power..
- b. Check the connection of the console cable at both ends and perform continuity test.
- c. Swap console with known good if connections are good. Replace the console.
- d. Replace the MCB.

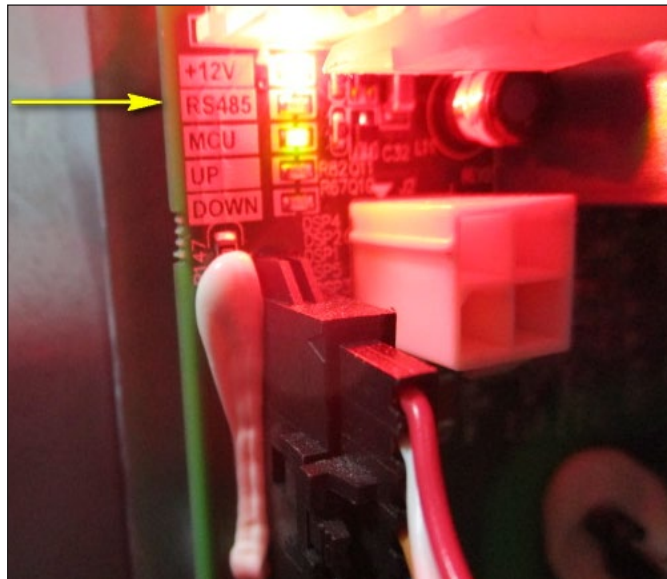


FIGURE A

8.13 04B0 ERROR TROUBLESHOOTING

ERROR MESSAGE 04B0

1) SYMPTOM:

- a. UCB does not have communication response from MCB.

2) SOLUTION:

- a. If the display is giving a 04B0 error, LED DSP2 (RS485) should be off (Figure A). Recycle power..
- b. Check the connection of the console cable at both ends and perform continuity test.
- c. Swap MCB with known good if connections are good. Replace the MCB.
- d. Replace the console.

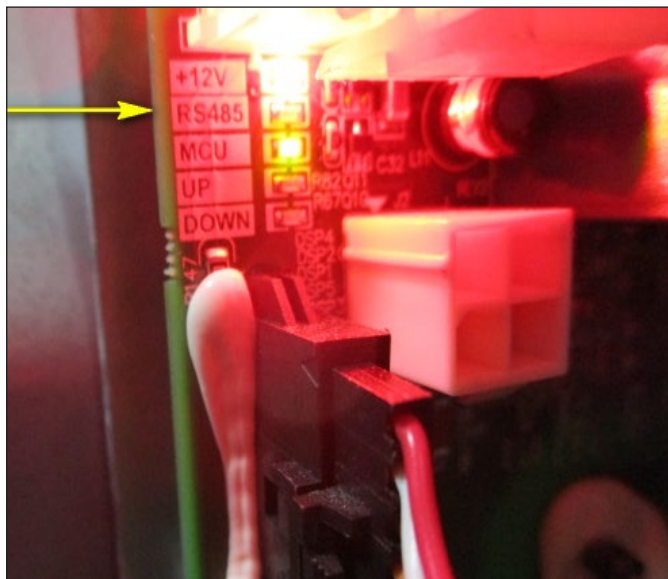


FIGURE A

8.14 02A7 ERROR TROUBLESHOOTING

ERROR MESSAGE 02A7

1) SYMPTOM:

- a. Inverter output side is detected abnormal sudden increase over current.

2) SOLUTION:

- a. Please check the Motor wire connection between the Motor and MCB (Figure A).
- b. Please use the electric meter to check the 3 points (U / V / W) and see if there's data of inside impedance (Figure B & C & D).
 - If yes, replace MCB.
 - If no, replace Motor set.

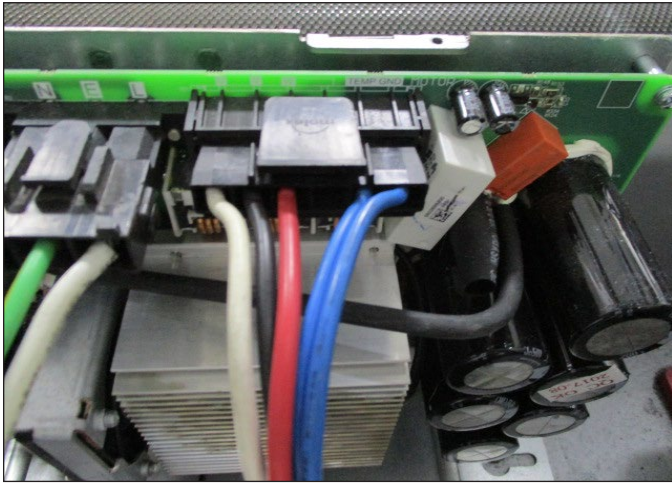


FIGURE A



FIGURE B



FIGURE C

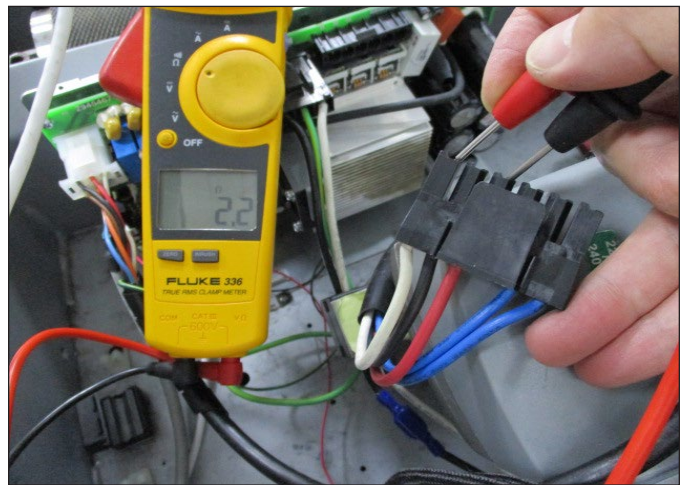


FIGURE D

8.15 02A2 / 0241 / 02BD ERROR TROUBLESHOOTING

ERROR MESSAGE 02A2 / 0241 / 02BD

1) SYMPTOM:

- a. 02A2 - DC high voltage converter to detect the internal side of over-voltage phenomenon.
- b. 0241 - DC high voltage side of the internal drive is too low to detect.
- c. 02BD - Inverter hardware interrupt error.

2) SOLUTION:

- a. Please check if the input power is normal and reboot power again (Figure A).
- b. Replace the MCB.



FIGURE A

8.16 TROUBLESHOOTING - HEART RATE ISSUES

HEART RATE ISSUES

1) SYMPTOM:

- a. No heart rate.
- b. No or high heart rate.

2) SOLUTION:

- a. With a multi meter set for DC Voltage, place one prong of the multi meter on each of the HR plates on the handlebar (Figure A). A correctly connected HR grip will have a DC Voltage reading of between 0.5 and 2.0. If this reading is correct, skip to Step b.
 - If the reading is not correct, remove the screws holding the 2 halves of the HR grip together and check the connection of the HR grip wiring to the grips (Figure B). Replace the grips if any damage is seen to the plates.
 - Remove the console to expose the HR board.
 - Check the connection of the HR grip wiring to the 6 pin Y cable attached to one side of the HR board. Use a multi meter set for ohms to verify the continuity of these wires. If the ohm reading is more than 1 (or not there at all), replace the HR grip wiring (this will require replacing the HR handlebar). If the ohm reading is correct, your issue is not with the HR grip / HR wire portion of the HR system.
- b. Perform a continuity test on the treadmill console (see Service Bulletin - Continuity Test on Matrix Treadmills).
 - Verify the HR board ground wire. With a multi meter set for ohms, place one prong on the HR board ground wire, and the other on the console ground screw. You should get a resistance reading of 1 or less. If you get a reading over 1 (or none at all), replace the HR board.
 - Check the continuity of the wire that goes from the HR board to the Translator Board. With a multi meter set for ohms, place one prong on the 3 pin wire connecting to the HR board (Figure C) and the other on where this wire connects to the Translator Board (Figure D). If you get a reading of over 1 (or no reading at all), replace this wire.
 - Check the connection of the wire that goes from the Translator Board to the UCB. Replace this wire if needed.
 - If all wiring checks out good and the unit is still having HR issues, replace the HR board.
 - If the HR board does not resolve the issue, replace the UCB.



FIGURE A



FIGURE B

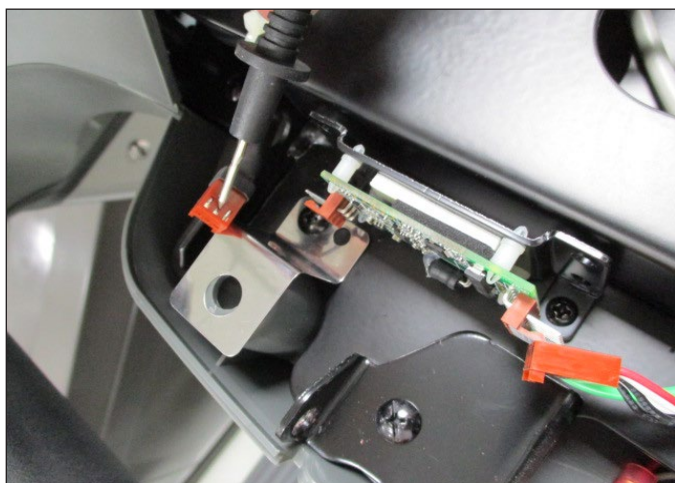


FIGURE C

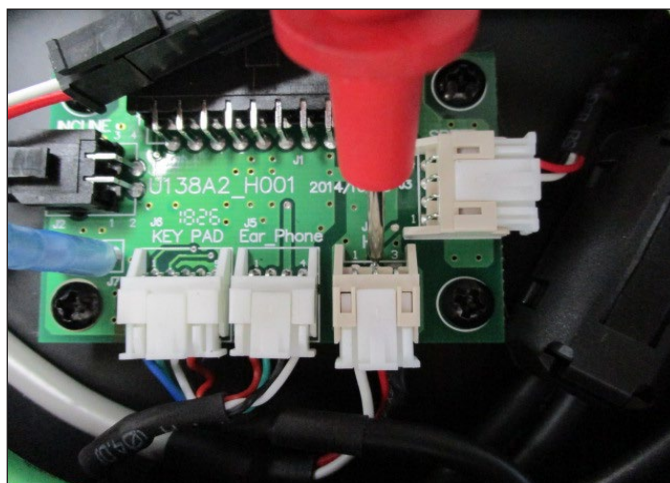


FIGURE D

9.1 MOTOR COVER AND LOWER SHROUD REMOVAL

- 1) The motor cover is split into two pieces (called the motor cover and lower shroud)
- 2) Remove the 2 screws holding motor cover to the frame (Figure A).
- 3) Pull up on the rear of the motor cover to release the Velcro, and remove the motor cover (Figure B).



FIGURE A



FIGURE B

- 4) Remove the 4 screws holding the lower shroud to the frame (Figure C).
- 5) Figure D shows a unit with both the motor cover and lower shroud removed.



FIGURE C



FIGURE D

9.2 REAR ROLLER REPLACEMENT

- 1) Turn off power to the unit and disconnect the cord from the machine.
- 2) Remove one of the end caps using a Phillips screwdriver (Figure A).
- 3) Remove both roller adjustment screws using an 8 mm Allen wrench (Figure B).



FIGURE A



FIGURE B

- 4) Remove the roller from the running belt (Figures C & D).



FIGURE C



FIGURE D

- 5) Reverse Steps 1-4 to install a new rear roller.
- 6) Tension the running belt as outlined in Section 3.6.

9.3 RUNNING DECK REPLACEMENT

- 1) Remove the motor cover as outlined in Section 9.1.
- 2) Remove the four running deck screws using a 5 mm Allen wrench (Figure A).



FIGURE A

- 3) Remove the running deck from the running belt (Figures B & C). **NOTE:** Be careful not to pinch fingers during removal / installation of the running deck.

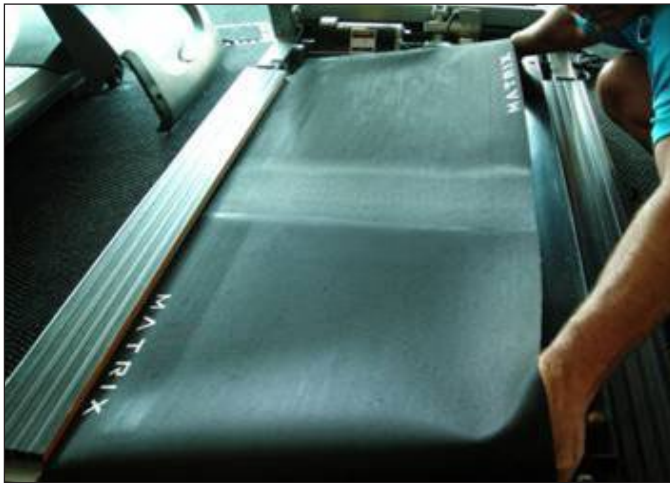


FIGURE B



FIGURE C

- 4) Reverse Steps 1-3 to install a new running deck.
- 5) Tension the running belt as outlined in Section 3.6.

9.4 RUNNING DECK CUSHION REPLACEMENT

- 1) Remove the running deck as outlined in Section 9.3.
- 2) Hold the running deck cushion bolt with a 5 mm Allen wrench and loosen the nut with 13 mm socket (Figures A & B).



FIGURE A



FIGURE B

- 3) Remove the rear cushion by holding the cushion while removing the 13 mm nut (Figure C).



FIGURE C

- 4) Reverse Steps 1-3 to install new running deck cushions.
- 5) Tension the running belt as outlined in Section 3.6.

9.5 FRONT ROLLER REPLACEMENT

- 1) Remove the motor cover as outlined in Section 9.1.
- 2) Using a hook or loop of wire, remove the spring from the drive belt tensioner. The tensioner should now pivot away from the drive belt (Figures A & B).



FIGURE A

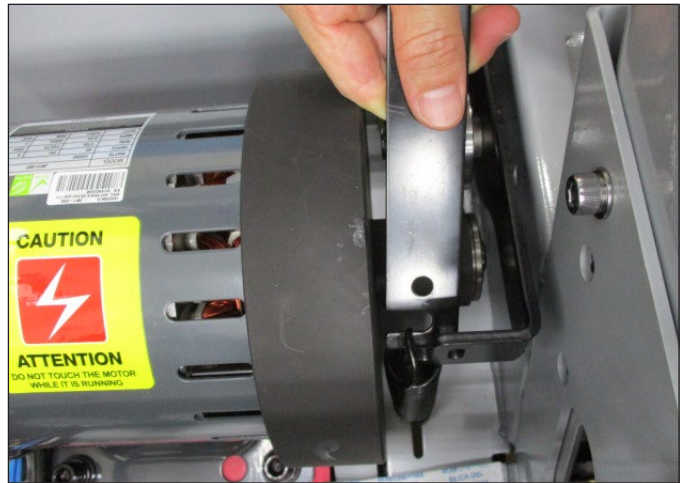


FIGURE B

- 3) Remove the front roller mounting screws using an 8 mm Allen wrench (Figures C & D).
- 4) Remove the drive belt from the front roller and remove the roller from the running belt (Figure E).

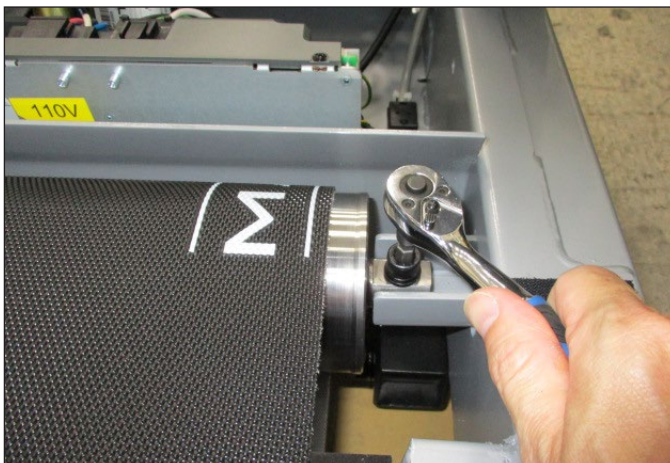


FIGURE C

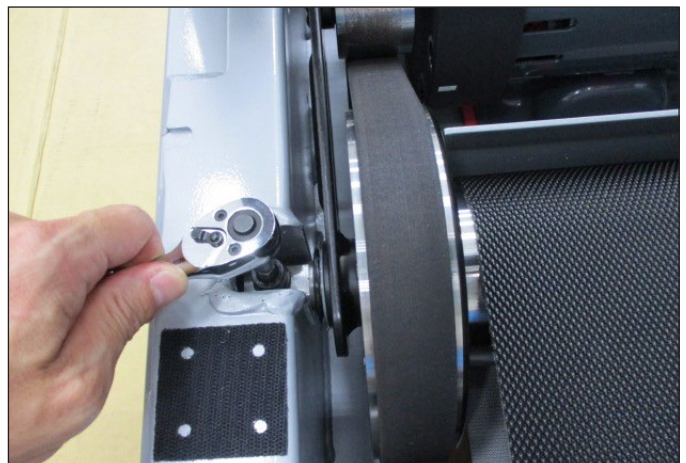


FIGURE D



FIGURE E

- 5) Reverse Steps 1-4 to install a new front roller.
- 6) Tension the running belt as outlined in Section 3.6.

9.6 RUNNING BELT REPLACEMENT

- 1) Remove the motor cover as outlined in Section 9.1.
- 2) Remove the rear roller as outlined in Section 9.2.
- 3) Remove the running deck as outlined in Section 9.3.
- 4) Remove the front roller as outlined in Section 9.5.
- 5) Once the rollers and deck are removed, the running belt can be lifted up and off the unit (Figures A & B).

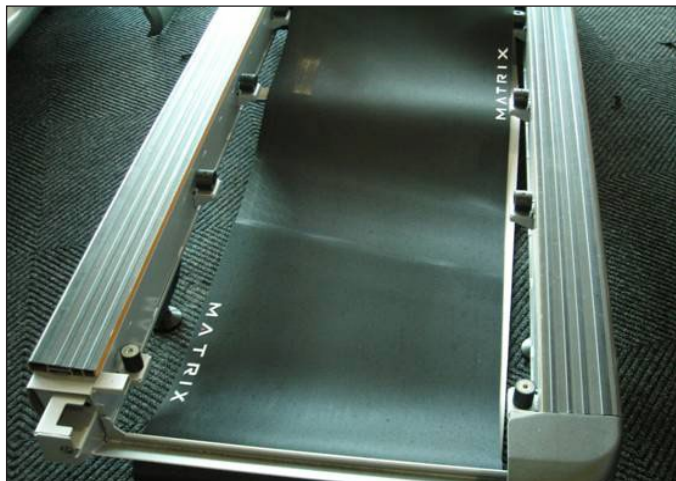


FIGURE A



FIGURE B

- 6) Reverse Steps 1-5 to install a new running belt. **NOTE:** A new running belt should ALWAYS be installed on a new deck surface (deck should either be flipped or replaced to gain a new surface).
- 7) Tension the running belt as outlined in Section 3.6.

9.7 SIDE RAIL REPLACEMENT

- 1) Remove the 4 screws holding on the end cap on the same side as the broken side rail using a Phillips screwdriver and remove the end cap (Figure A).
- 2) Loosen the four screws under the frame of the side rail using a 5 mm Allen wrench (Figure B).



FIGURE A



FIGURE B

- 3) Slide the rail off the back of the treadmill (Figures C & D).

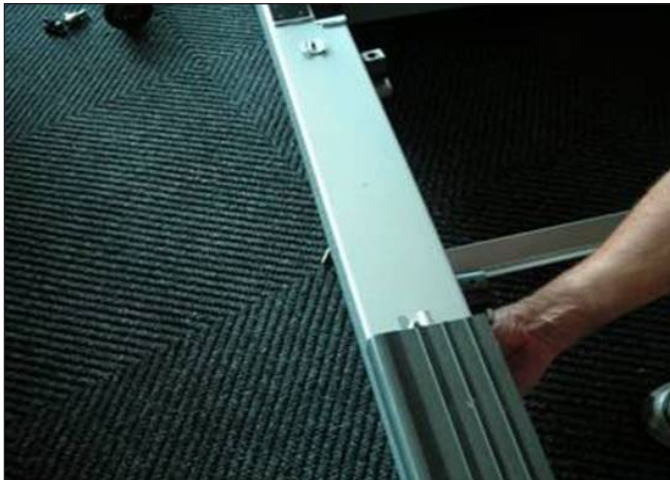


FIGURE C



FIGURE D

- 4) Reverse Steps 1-3 to install a new side rail. **NOTE:** After reinstalling the side rail, make sure the end cap is on first before tightening the screws for proper gap spacing. Also be careful not to over tighten the screws, or they will poke through the top of the side rail.

9.8 MOTOR CONTROL BOARD (MCB) REPLACEMENT

- 1) Turn off power and disconnect the cord from the machine.
- 2) Remove the motor cover as outlined in Section 9.1.
- 3) Disconnect wires from the MCB - five total connections (Figure A).
- 4) Remove the incline cable from the MCB cover (Figure B).

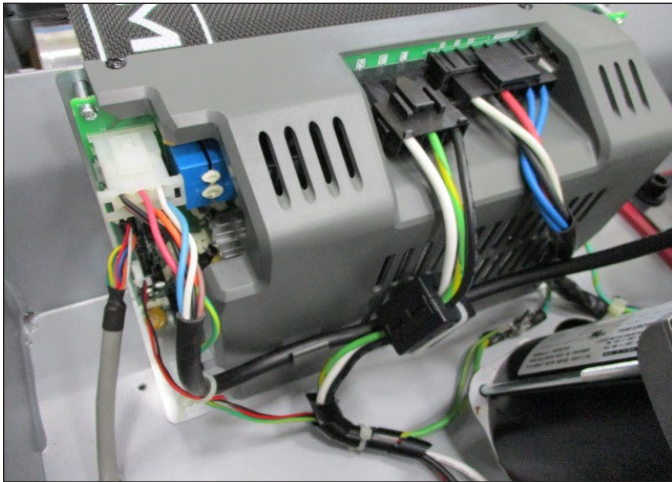


FIGURE A

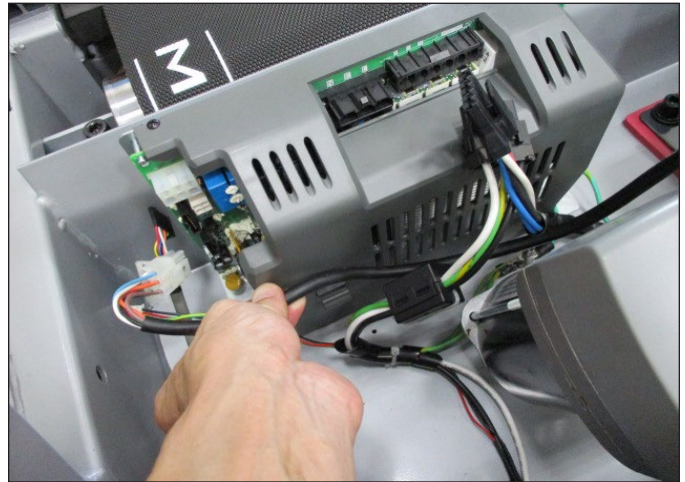


FIGURE B

- 5) Remove one MCB mounting screws using a Phillips head screwdriver (Figure C).
- 6) Loosen one MCB mounting screws using a Phillips head screwdriver (Figure D).

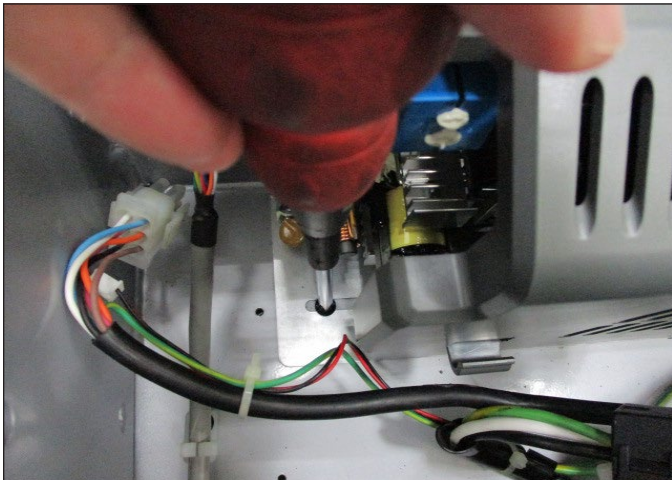


FIGURE C



FIGURE D

- 7) Remove the 2 screws holding the MCB cover to the MCB set (Figure E).



FIGURE E

- 8) Reverse Steps 1-7 to install a new MCB. **NOTE:** Be sure to re-fix the incline wire onto motor cover removed in Step 4 (Figure B).
- 9) Auto Calibration must ALWAYS be run after replacing the MCB (see Section 3.5).

9.9 MOTOR REPLACEMENT

- 1) Turn off the power and disconnect the cord from the machine.
- 2) Remove the motor cover as outlined in Section 9.1.
- 3) Release the drive belt tensioner as outlined in Section 9.5.
- 4) Disconnect the motor power cable from the MCB (Figure A).
- 5) Use an 8 mm Allen wrench to remove the four motor mounting screws (Figure B).



FIGURE A



FIGURE B

- 6) Lift the motor away from the treadmill (Figure C).
- 7) Reverse Steps 1-6 to install a new motor. **NOTE:** When reinstalling the motor, make sure the red vibration pad is in place (Figure D).



FIGURE C



FIGURE D

- 8) Auto Calibration must ALWAYS be run when installing a new motor (see Section 3.5).

9.10 DRIVE BELT REPLACEMENT

- 1) Remove the motor cover as outlined in Section 9.1.
- 2) Release the drive belt tensioner from the drive belt as outlined in Section 9.5.
- 3) Remove the front roller screw on the drive belt side and loosen the screw on the opposite side (Figure A).



FIGURE A

- 4) Lift the roller and remove the old drive belt (Figure B).

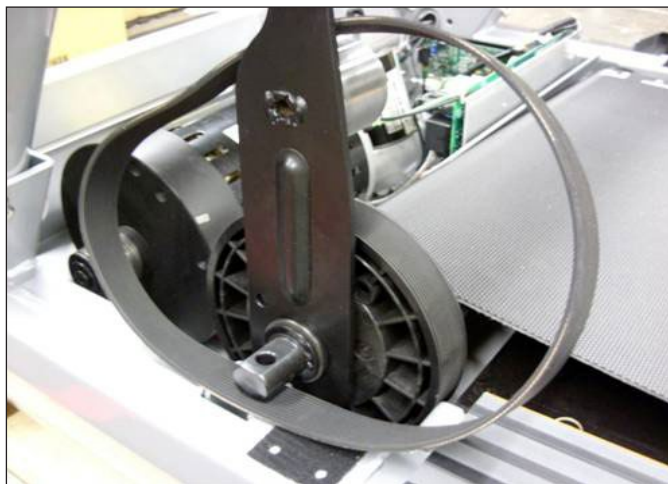


FIGURE B

- 5) Reverse Steps 1-4 to install a new drive belt. **NOTE:** After installing a new belt, check it for correct alignment to the motor pulley before setting the tensioner in place.
- 6) Tension the running belt as outlined in Section 3.6.

9.11 INCLINE MOTOR REPLACEMENT

- 1) Turn off the power and disconnect the cord from the machine.
- 2) Lift the treadmill and support it so that the front wheels are off the floor, or the unit may be tipped on its side (Figure A).



FIGURE A

- 3) Remove the clip from the pin attaching the bottom of the incline motor to the rack (Figure B).
- 4) Remove the pin attaching the bottom of the incline motor to the rack (Figure C).



FIGURE B



FIGURE C

9.11 INCLINE MOTOR REPLACEMENT - CONTINUED

- 5) Disconnect the incline motor power cable from the MCB (Figure D).
- 6) Disconnect the pin from the top of the incline motor (Figure E).



FIGURE D



FIGURE E

- 7) Lift the incline motor away from the treadmill (Figure F).
- 8) Reverse Steps 1-7 to install a new incline motor. When installing the new motor, the worm screw should be turned as short as possible, and then rotated out 2 full turns prior to being re-attached to the rack. **NOTE:** When installing the new incline motor, make sure to replace the white washers at the top and bottom connection points of the incline motor (Figure G).



FIGURE F



FIGURE G

- 9) Auto Calibration must ALWAYS be run after replacing the incline motor (see Section 3.5).

9.12 CONSOLE REMOVAL

- 1) Turn off the power and disconnect the cord from the machine.
- 2) Remove the 4 screws holding the console back to the front (Figure A).
- 3) Lean the console back away from the console and disconnect the coax cable connection.
- 4) Remove the six 6 mm screws from underneath the console. There are arrows stamped in the plastic at the proper openings (Figure B).



FIGURE A



FIGURE B

- 5) Disconnect the remaining connectors holding the console to the frame and remove the console.
- 6) Reverse Steps 1-5 to install a new console. **NOTE:** Be sure to re-connect any wire connections removed in Steps 5 (Figure C).

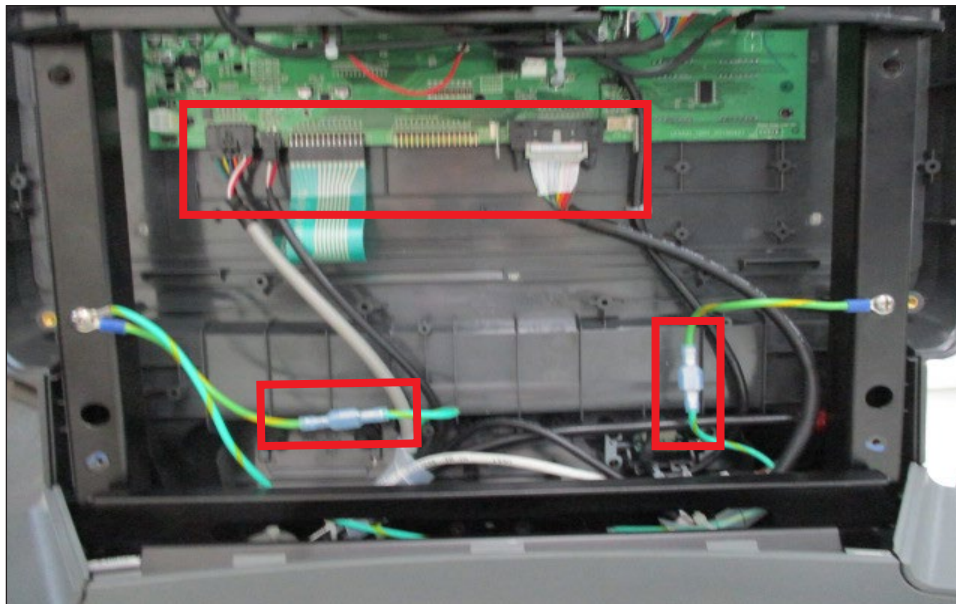


FIGURE C

- 7) To enter Engineering Mode, select the T130 mode with ON. (see Section 6.1).
- 8) Auto Calibration must ALWAYS be run after replacing the console (see Section 3.5).

9.13 CONSOLE MAST ARM REPLACEMENT

- 1) Turn off power and disconnect the cord from the machine.
- 2) Remove the console as outlined in Section 9.12.
- 3) Take off the cup holder from the right side of the treadmill (Figure A).
- 4) Use a 6 mm Allen wrench to remove one screw and take off the plastic hand rail (Figure B).



FIGURE A



FIGURE B

- 5) Remove the 5 Phillips screws and remove the right side upper plastic cover (Figures C, D, & E).



FIGURE C

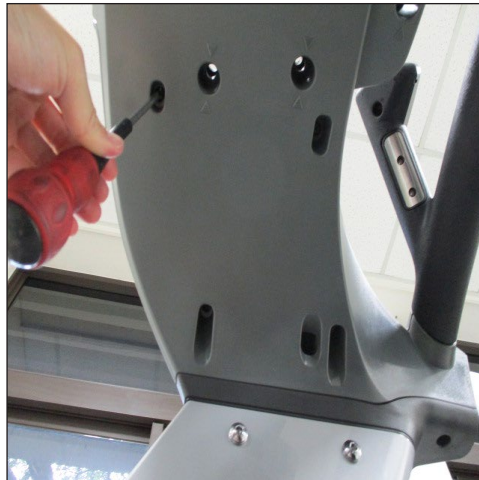


FIGURE D



FIGURE E

- 6) Cut the wire ties and begin to unthread the console cable (Figures F & G).

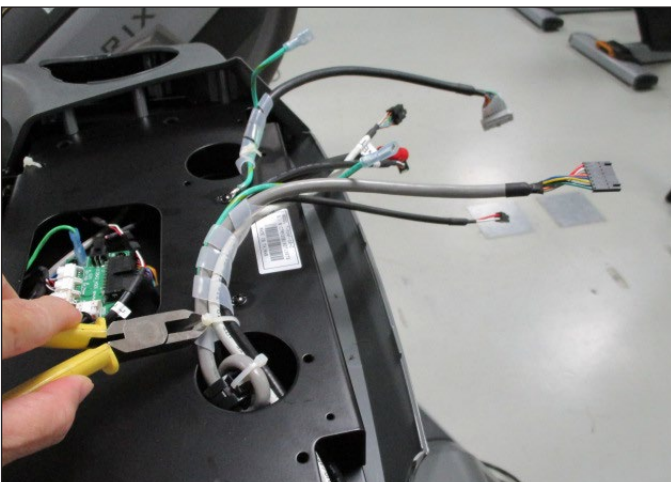


FIGURE F



FIGURE G

9.13 CONSOLE MAST ARM REPLACEMENT - CONTINUED

- 7) Remove the screws holding the console frame to the mast arms with a 6 mm Allen wrench in the openings with arrows (Figure H).
- 8) Lift the frame from the mast arms and set it aside (Figure I).



FIGURE H



FIGURE I

- 9) Use a 6 mm Allen wrench to remove the lower mast arm mounting screws (Figure J).
- 10) Pull the mast arm from the side of the machine (Figure K).



FIGURE J



FIGURE K

- 11) Reverse Steps 1-10 to install a new console mast. **NOTE:** If replacing the right side mast arm, the console cable must be threaded through it prior to it being mounted to the frame.

9.14 CONSOLE CABLE REPLACEMENT

- 1) Turn off power and disconnect the cord from the machine.
- 2) Remove the console as outlined in Section 9.12.
- 3) Take off the cup holder from the right side of the treadmill (Figure A).
- 4) Use a 6 mm Allen wrench to remove one screw and take off the plastic hand rail (Figure B).



FIGURE A



FIGURE B

- 5) Remove the 5 Phillips screws and remove the right side upper plastic cover (Figures C, D, & E).



FIGURE C



FIGURE D



FIGURE E

- 6) Cut the wire ties and begin to unthread the wire harness (Figures F & G).



FIGURE F



FIGURE G

9.14 CONSOLE CABLE REPLACEMENT - CONTINUED

- 7) Remove the spiral protective wrap from the top of the wire harness (Figures H).
- 8) Attach a pulling wire to the top of the defective console cable (Figure I).



FIGURE H



FIGURE I

- 9) Slowly remove the defective console cable starting at the bottom of the machine and pulling it down to the motor compartment (Figure J).
- 10) Connect the new console cable at the motor tray (Figures K).



FIGURE J



FIGURE K

- 11) Attach the new console cable to the pulling wire and gently pull the new cable up through the machine. **NOTE:** Once the wire is in place, reinstall the spiral wrap and wire ties.
- 12) Reverse Steps 1-7 to finish installing a new console cable.
- 13) Auto Calibration must ALWAYS be run after the installation of a new console cable (see Section 3.5).

9.15 HANDLE BAR SERVICE

- 1) Turn off the power and disconnect the cord from the machine.
- 2) All items on the handle bar are removed using a Phillips screwdriver from the underside of the bar.
- 3) Once the screws are removed, lift the part carefully and disconnect any wire connections to fully remove the handle bar.
- 4) Replace the parts as needed on handle bar including the Quick Start Key, Resistance and Incline Toggles, and the Heart Rate Grip Plates (Figures A-F).



FIGURE A



FIGURE B

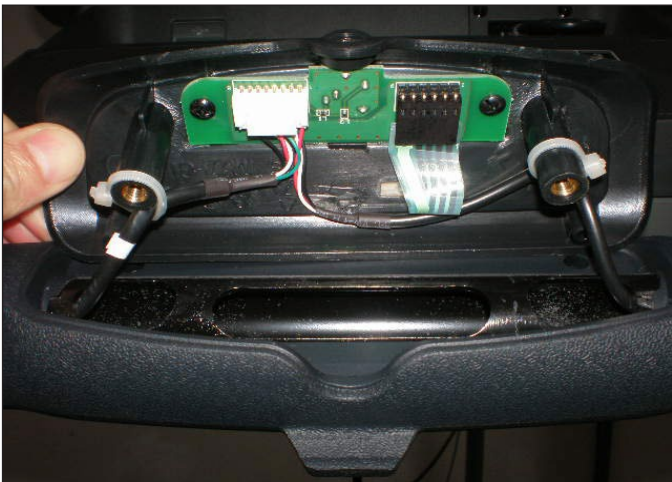


FIGURE C



FIGURE D



FIGURE E



FIGURE F

9.16 EMERGENCY STOP SWITCH REPLACEMENT

- 1) Turn off power and disconnect the cord from the machine.
- 2) Remove the console as outlined in Section 9.12.
- 3) Use a Phillips screwdriver to remove two screws, one from each side of the red button (Figure A).
- 4) Lift the button from bracket by pulling one side out at a time (Figure B).



FIGURE A



FIGURE B

- 5) Use a Phillips screwdriver to remove two screws, one from each side of the mounting bracket (Figure C).
- 6) Turn the bracket and use a straight screwdriver or pliers to compress each end of the switch and release it from the bracket (Figures D & E).

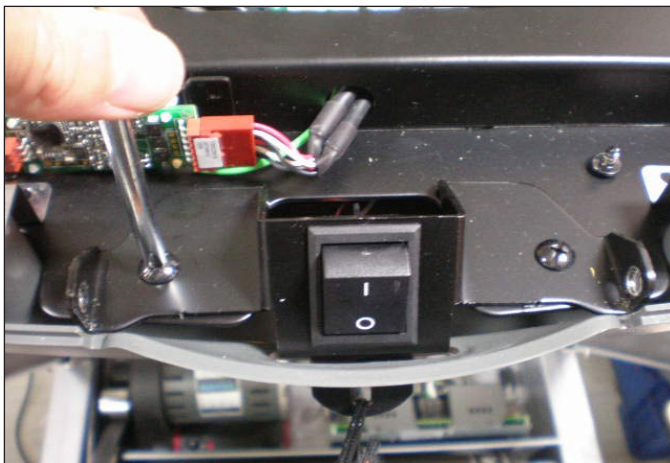


FIGURE C

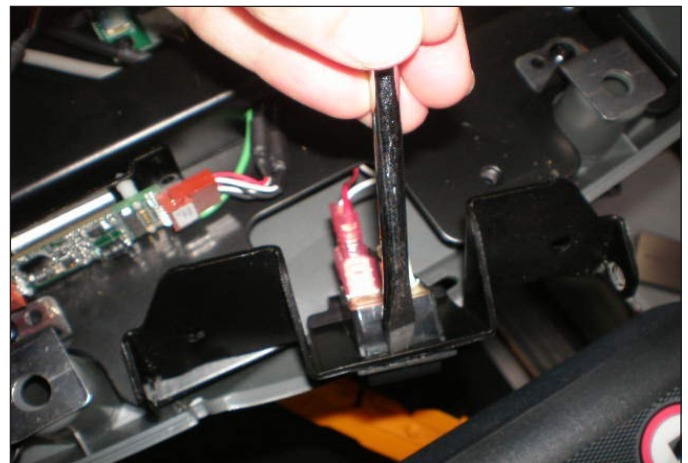


FIGURE D

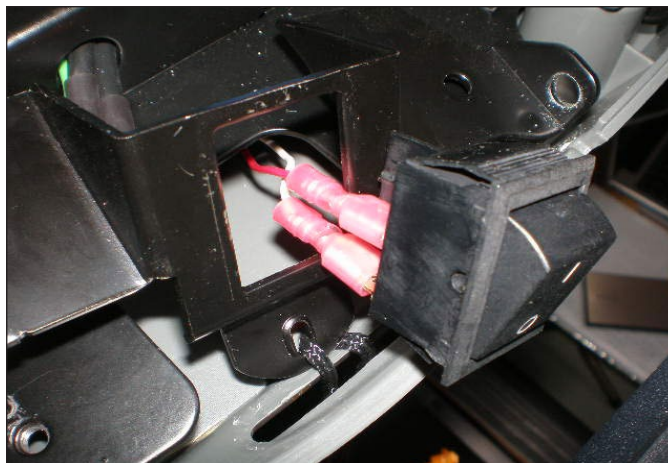


FIGURE E

- 7) Reverse Steps 1-6 to install a new emergency stop switch. **NOTE:** Make sure the new switch has the same orientation as the old one when installing, and that the wires are properly connected.

9.17 HEART RATE BOARD REPLACEMENT

- 1) Turn off power and disconnect the cord from the machine.
- 2) Remove the console as outlined in Section 9.12.
- 3) The Heart Rate Board is located in front of the red Emergency Stop button (Figure A).
- 4) Disconnect the wires from each side of the Heart Rate Board (Figure B).



FIGURE A

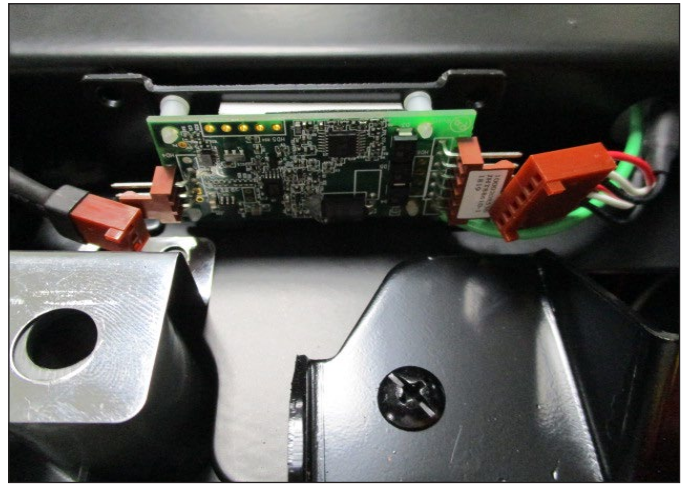


FIGURE B

- 5) Use a Phillips screwdriver to remove two screws, one from each side of the Heart Rate Board mounting bracket (Figure C).

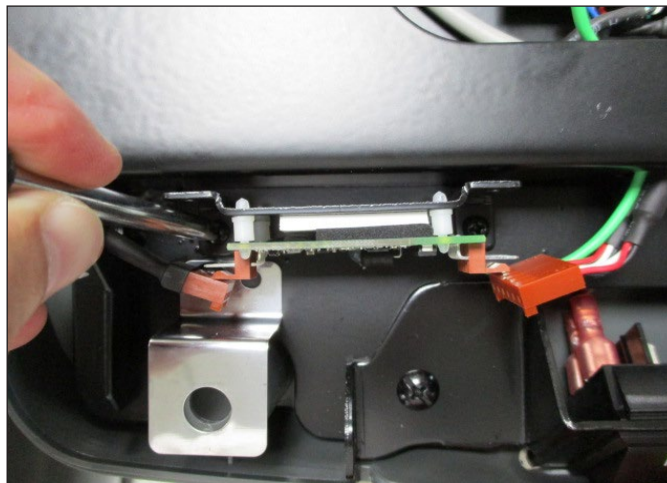


FIGURE C

- 6) Reverse Steps 1-5 to install a new heart rate board. **NOTE:** Be sure to fully seat the wires on the new heart rate board and test the grips after the console is reinstalled.

9.18 BLOWER MOTOR REMOVAL

- 1) Turn off power and disconnect the cord from the machine.
- 2) Remove the console as outlined in Section 9.12.
- 3) Lay the console face down and remove the four screws using a Phillips screwdriver (Figure A).
- 4) The console shell will now separate. Use a Phillips screwdriver to remove the two screws holding the blower motor in place (Figure B).



FIGURE A

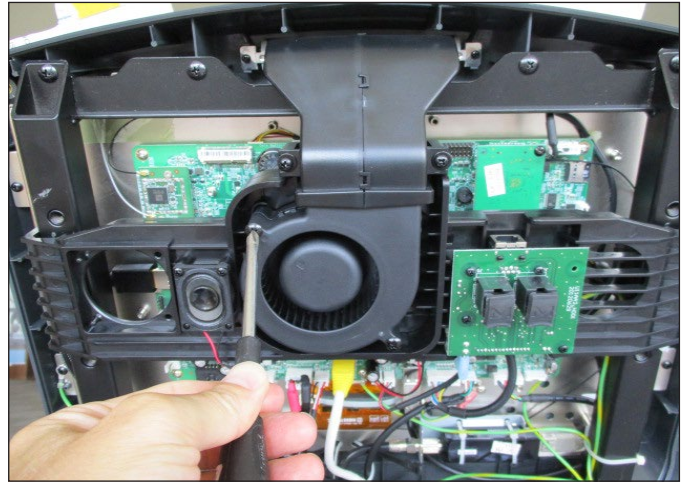


FIGURE B

- 5) Carefully separate the blower motor from the duct and remove it (Figure C).
- 6) Unplug the wire connections from the main circuit board to completely split the front and rear sections (Figure D).

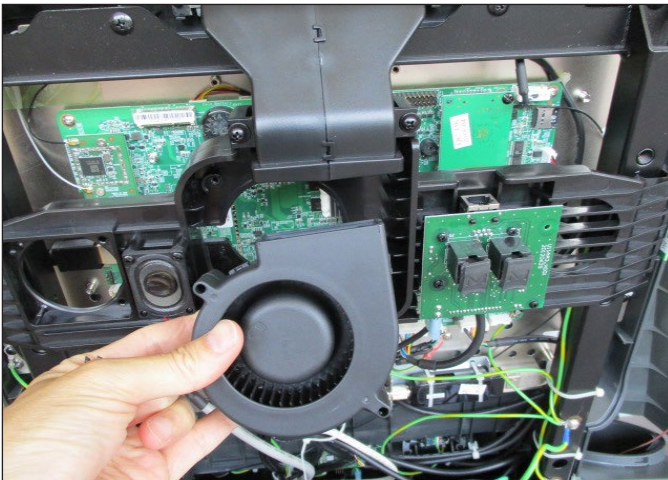


FIGURE C

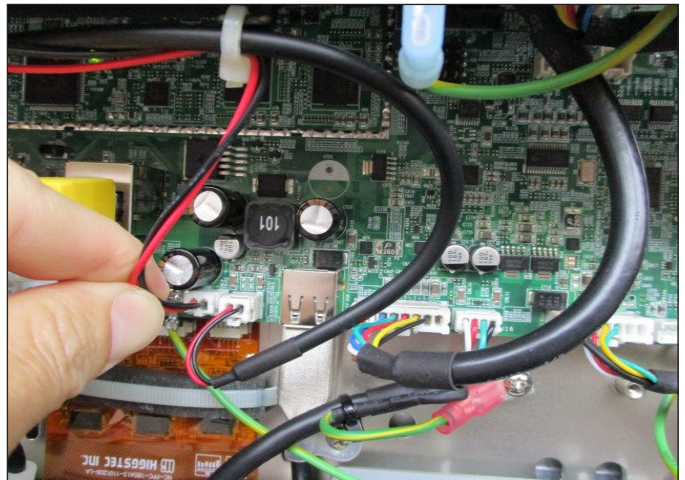


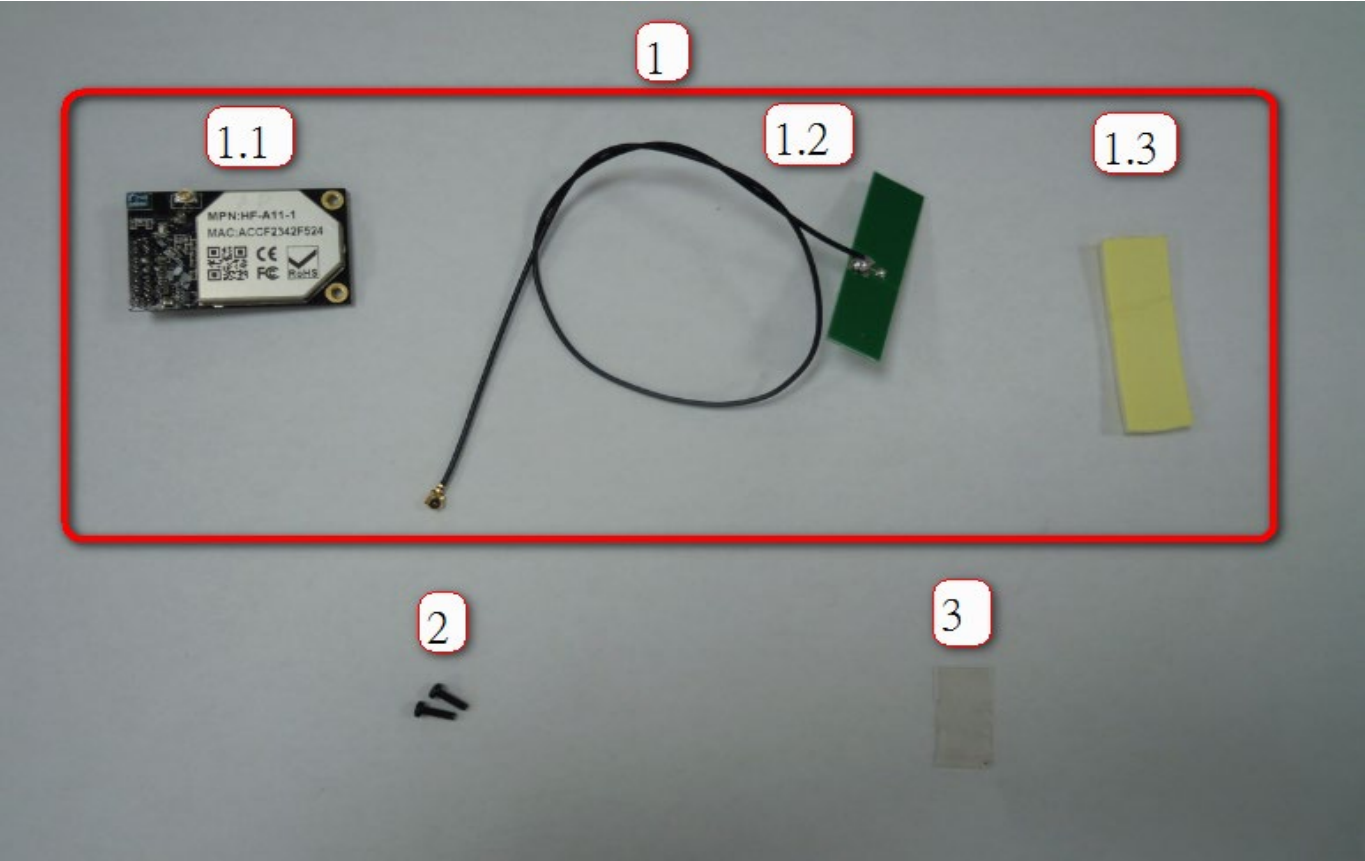
FIGURE D

- 7) Reverse Steps 1-6 to install a new blower motor. **NOTE:** Be sure to test the blower motor once the console is reinstalled.

10.1 WIFI INSTALLATION

HURESACT130X WIFI Installation

MAIN COMPONENT LIST OF WIFI SET (PART NUMBER #1000366472)



Item	Parts number	Description	Q'ty
1	1000385415	Control Board;;;HF-A11-0;V2.049;;;	1
1.1	1000385417	Control Board;;;V5.0;V2.049;;HF-A11-0;	1
1.2	1000385418	WIFI Aerial;;;;;NB098-2400-300PEX;;HF-A1	1
1.3	1000385725	Foam Tap;;;41x11;;3M 4945;	1
2	0000086721	SCREW;RND;M2X0.5PX6L;;PH;;BZN;;	2
3	1000309516	Tape;;;40x10x0.2;;EP614	1

10.1 WIFI INSTALLATION - CONTINUED

10.1.1 T130X WIFI Installation

- 1) Plug in the WiFi board (item #1.1 in the table) to the UCB and use the 2 screws (item #2 in the table) to fix it (Figure A).
- 2) Stick the foam tape (item #1.3 in the table) on the front cover (Figure B).

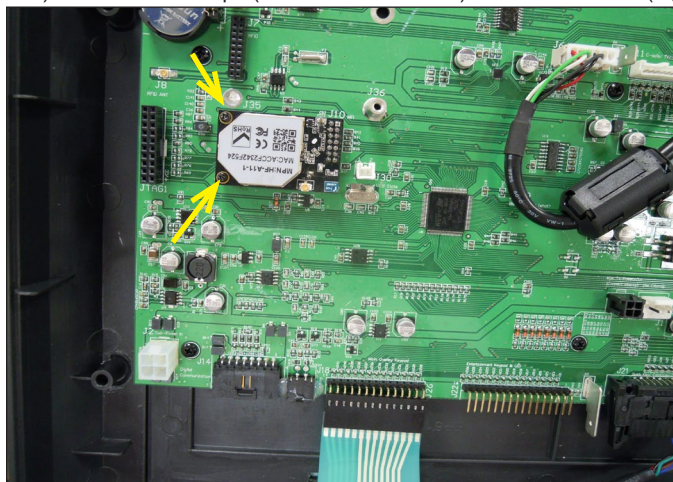


FIGURE A

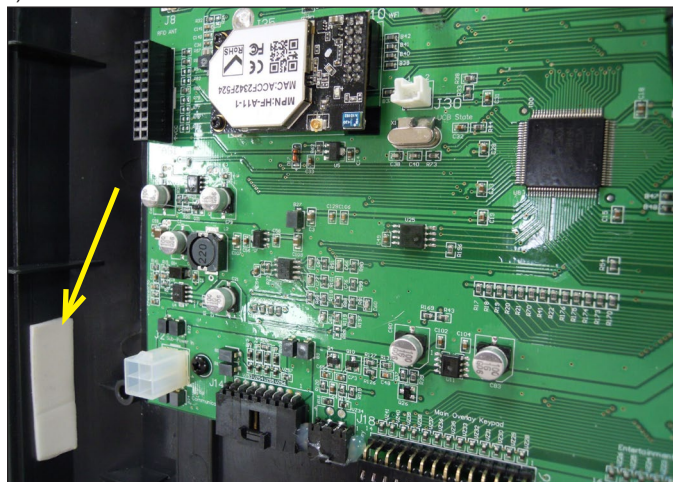


FIGURE B

- 3) Stick the WiFi aerial board (item #1.2 in the table) to foam tape and connect the signal wire to WiFi board (Figure C).
- 4) Use tape (item #3 in the table) to fix the signal connecting wire to the front cover of the console (Figure D).

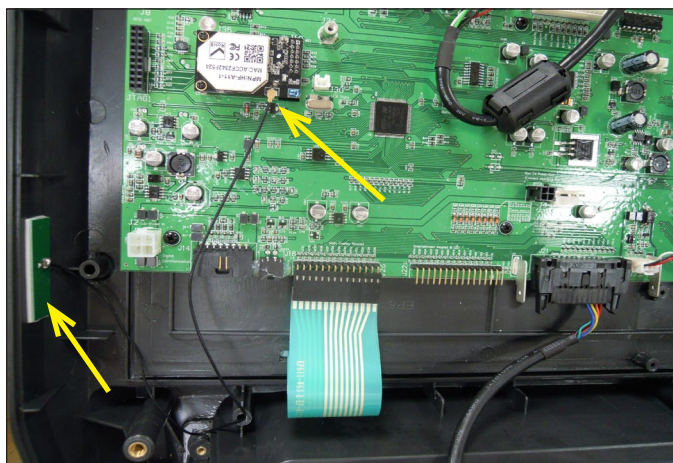


FIGURE C

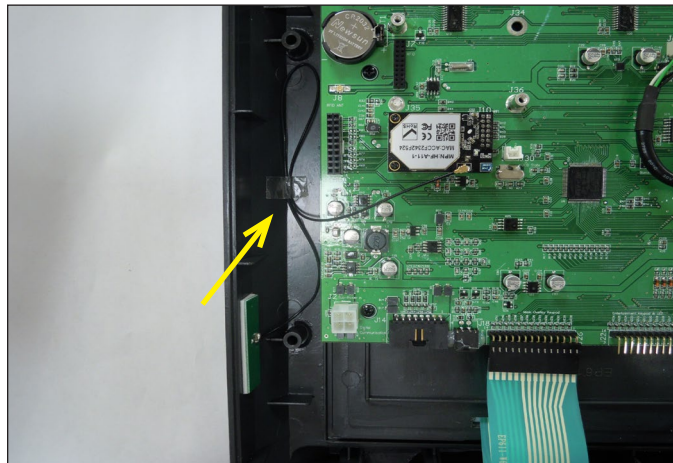


FIGURE D

10.1 WIFI INSTALLATION - CONTINUED

10.1.2 T130X WIFI Installation

- 1) Plug in the WiFi board (item #1.1 in the table) to the UCB and use the 2 screws (item #2 in the table) to fix it (Figure A).
- 2) Stick the foam tape (item #1.3 in the table) on the front cover (Figure B).

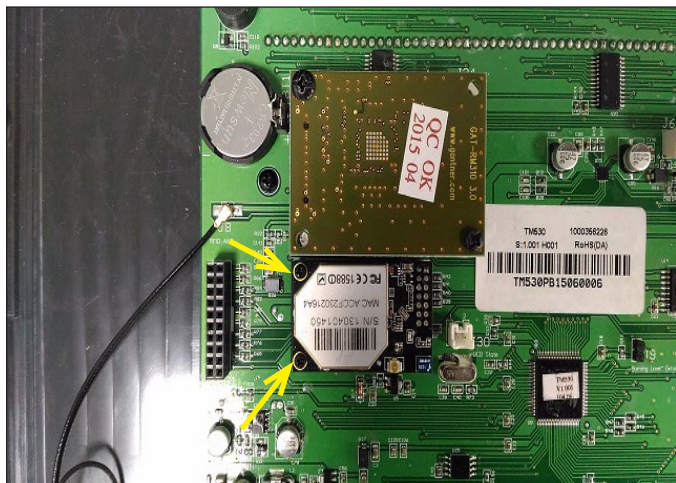


FIGURE A



FIGURE B

- 3) Stick the WiFi aerial board (item #1.2 in the table) to foam tape and connect the signal wire to WiFi board (Figure C).
- 4) Use tape (item #3 in the table) to fix the signal connecting wire to the front cover of the console (Figure D).

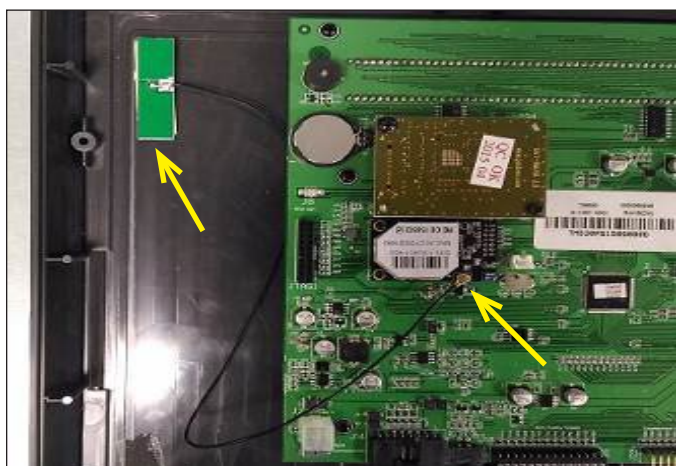


FIGURE C



FIGURE D

10.1 WIFI INSTALLATION - CONTINUED

10.1.3 How to set up the "WIFI" function

1. Create a WiFi config file

Step 1: Use your computer and use "note" function to create a wifi config file (the name is called 'wifi_set.cfg' - Figure A).

Step 2: Check your AP data and modifying SSID & Key (password) required by facility Access Point (AP) to 'wifi_set.cfg' files. Once this is completed, put the 'wifi_set.cfg' file to USB flash drive (the access should read \MATRIX - Figure B).

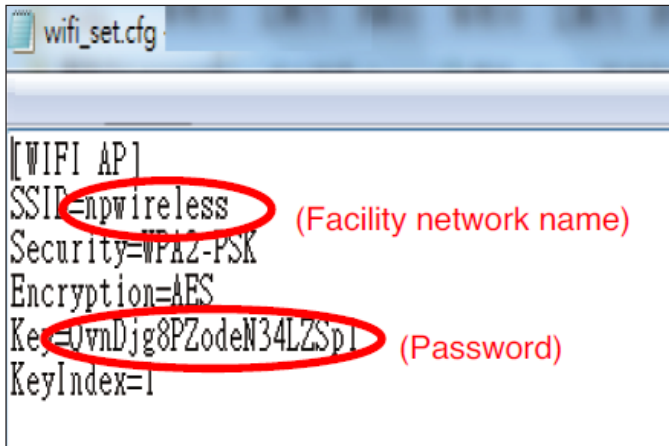


FIGURE A

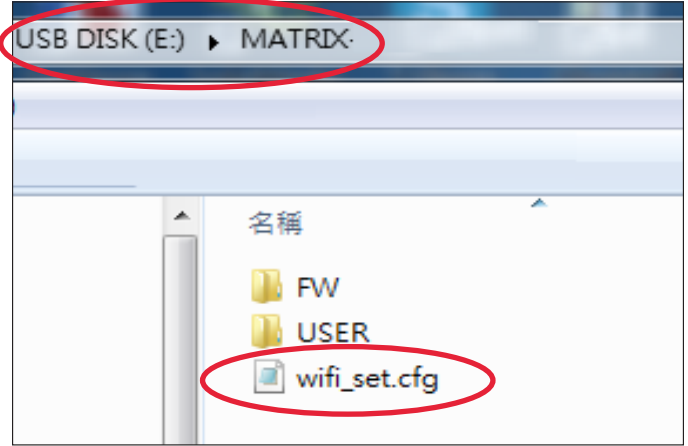


FIGURE B

2. Install WiFi config software for WiFi connection.

Step 1: Insert USB driver with 'wifi_set.cfg' file to console (Figure C).

Step 2: Enter Manager Mode by pressing 'enter, 1, 0, 0, 1, enter'.

Step 3: Press the Level UP and DOWN keys to select "Internet" and press Enter Key to enter (Figure D).



FIGURE C



FIGURE D

Step 4: Pres the Enter key to enter Enable/Disable setup (Figure E).

Step 5: Use the Level UP and DOWN keys to select "Enable" (Figure F).



FIGURE E



FIGURE F

10.1 WIFI INSTALLATION - CONTINUED

10.1.3 How to set up the "WiFi" function - continued

3. Install WiFi config software for WiFi connection - continued

Step 6: Press the <- key on the number keypad to back. Use the Level UP and DOWN keys to select "Import Setting" (Figure G).

Step 7: Press the enter key to start wifi installation process (Figure H).



FIGURE G



FIGURE H

Step 8: When the message shows "Success !!!" in a short time, it means the update is complete (Figure I).



FIGURE I

4. Console WiFi function test

Step 1: Enter Manager mode-> Internet -> MAC ID (Figure A).

Step 2: If WiFi Module was installed correctly, the screen will show the MAC ID data (Figure B).



FIGURE A



FIGURE B

10.1 WIFI INSTALLATION - CONTINUED

10.1.3 How to set up the “WIFI” function - continued

4. Console WiFi function test - continued

Step 3: Enter Manager mode-> Internet -> Signal Strength (Figure C). See if the wireless signal strength is OK (Figure D).

Note: For wireless connection quality, it is necessary to have a stable wireless signal.



FIGURE C



FIGURE D

Step 4: Enter Manager mode-> Internet -> IP (Figure E).

Step 5: If WiFi module was connected with AP, the screen will show the IP address (Figure F).



FIGURE E



FIGURE F

10.1 WIFI INSTALLATION - CONTINUED

10.1.3 How to set up the “WIFI” function - continued

4. Console WiFi function test - continued

Step 6: From the home screen on the console, press “Enter 3 0 0 1 Enter” to go to Service Mode. Select Asset Management setting is “Enable” (Figure G) and edit Club ID to 3547 (Figure H). Verify and setup the xID Login setting is “Enable” too (Figure I). Press “Enter 1 0 0 1 Enter” to go to Manager Mode, verify and setup the Internet setting is “Enable” (Figure J).



FIGURE G



FIGURE H



FIGURE I



FIGURE J

10.2 T130X TREADMILL SPECIFICATIONS

PRODUCT SPECIFICATIONS

	T130x Treadmill
Max User Weight	159 kg / 350 lbs
Product Weight	181 kg / 399 lbs
Shipping Weight	200 kg / 440 lbs
Overall Dimensions (L x W x H)*	215 x 93 x 161 cm / 84.6" x 36.5" x 63.5"
Electrical Receptacle & Plug	NEMA 5-15R/P 110 V
Electrical Requirements	15 A dedicated circuit required-non-looped-grounded
* Ensure a minimum clearance width of 0.6 meters (24") for access to and passage around MATRIX equipment. Please note, 0.91 meters (36") is the ADA recommended clearance width for individuals in wheelchairs.	

10.3 ASSEMBLY INSTRUCTIONS

FASTENERS AND ASSEMBLY TOOLS

TOOLS REQUIRED:

- 8mm T-Wrench
- 5mm Allen Wrench
- 6mm Allen Wrench
- Phillips Screwdriver

PARTS INCLUDED:

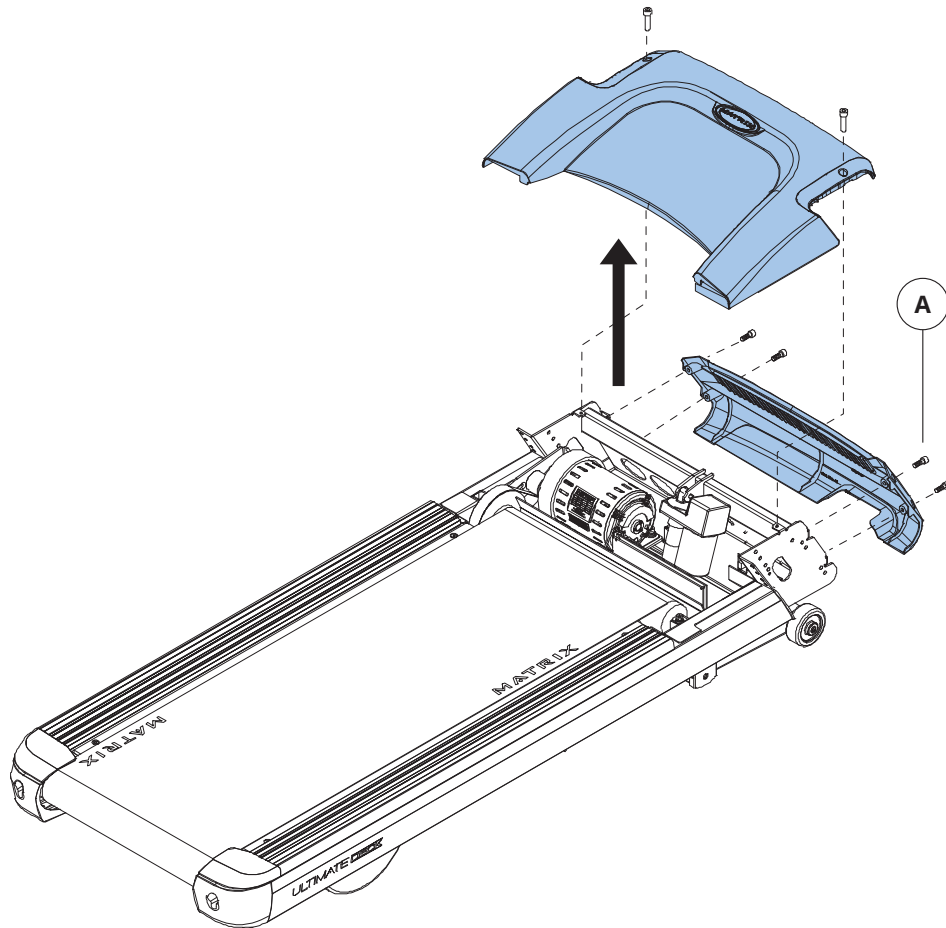
- 1 Base Frame
- 2 Console Masts
- 2 Console Mast Brackets
- 1 Console Assembly
- 2 Handlebar Covers
- 1 Power Cord
- 1 Hardware Kit

Console packaged separately

10.3 ASSEMBLY INSTRUCTIONS

STEP 1

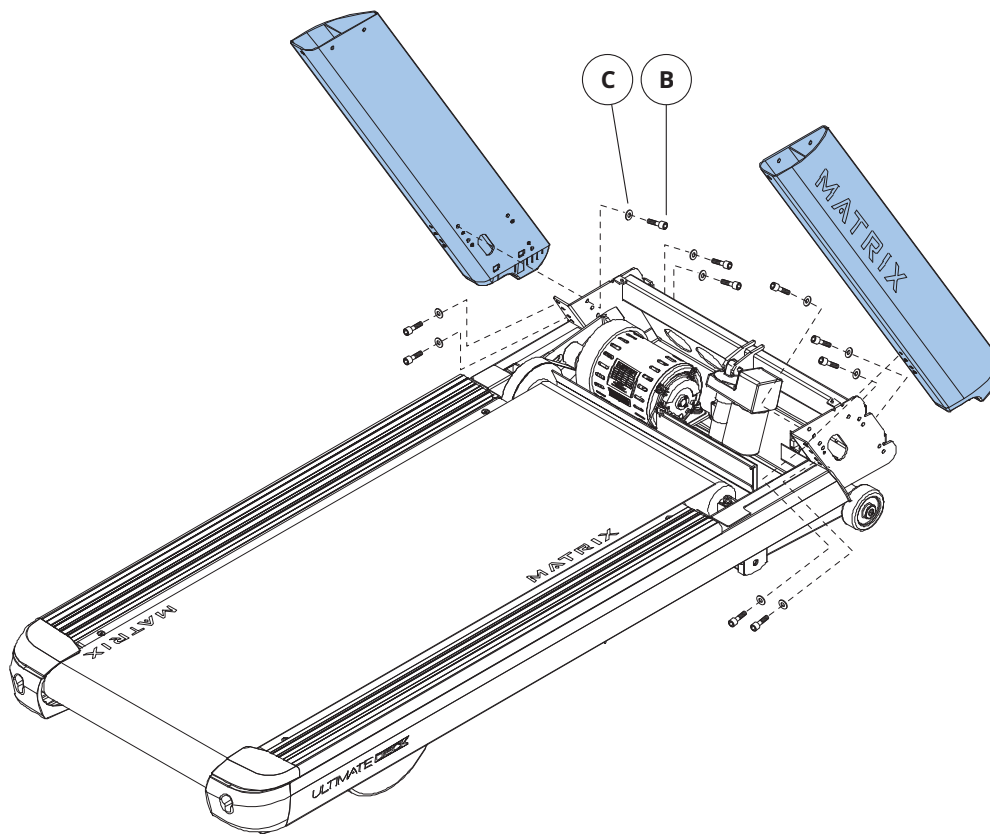
Pre-Installed Hardware		
	Description	Qty
A	Bolt	6
Torque Value		
15 Nm / 11 ft-lb		



10.3 ASSEMBLY INSTRUCTIONS - CONTINUED

STEP 2

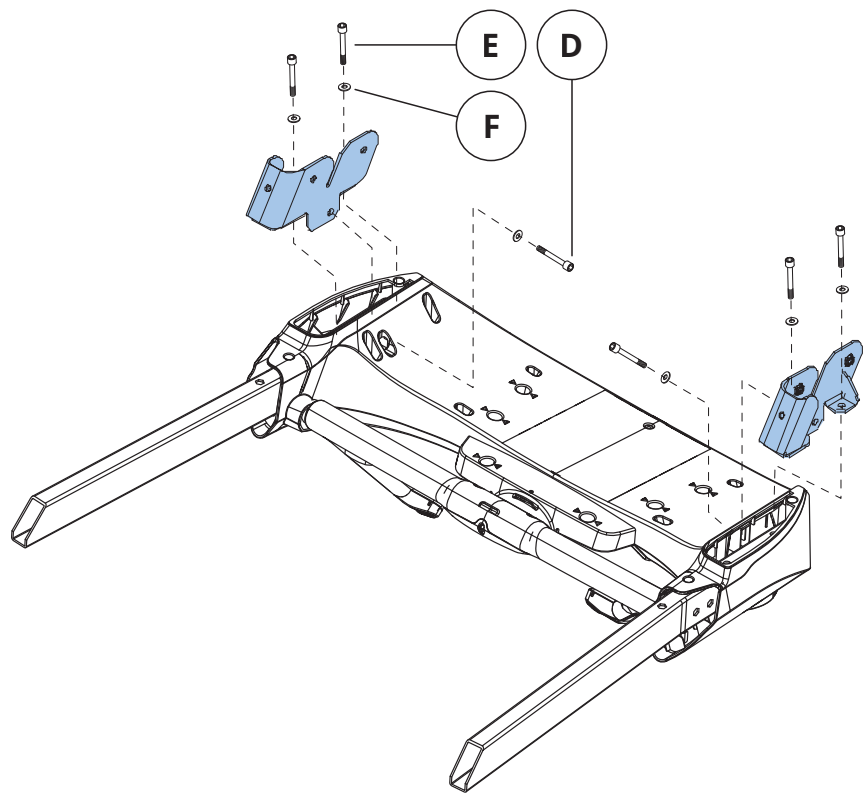
Black Hardware Bag		
	Description	Qty
B	Bolt	10
C	Flat Washer	10
Torque Value		
25 Nm / 18 ft-lb		



10.3 ASSEMBLY INSTRUCTIONS - CONTINUED

STEP 3

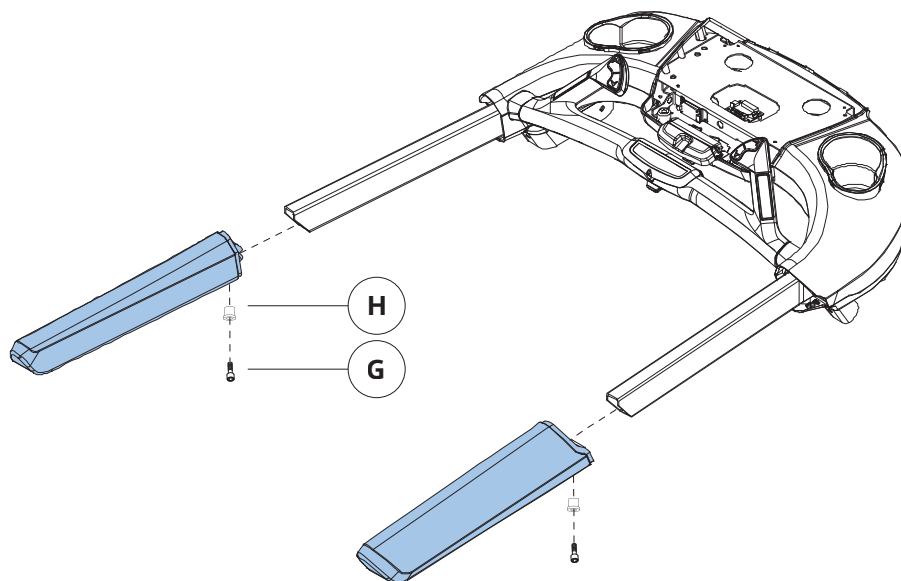
White Hardware Bag		
	Description	Qty
D	Bolt	2
E	Bolt	4
F	Flat Washer	6
Torque Value		
25 Nm / 18 ft-lb		



10.3 ASSEMBLY INSTRUCTIONS - CONTINUED

STEP 4

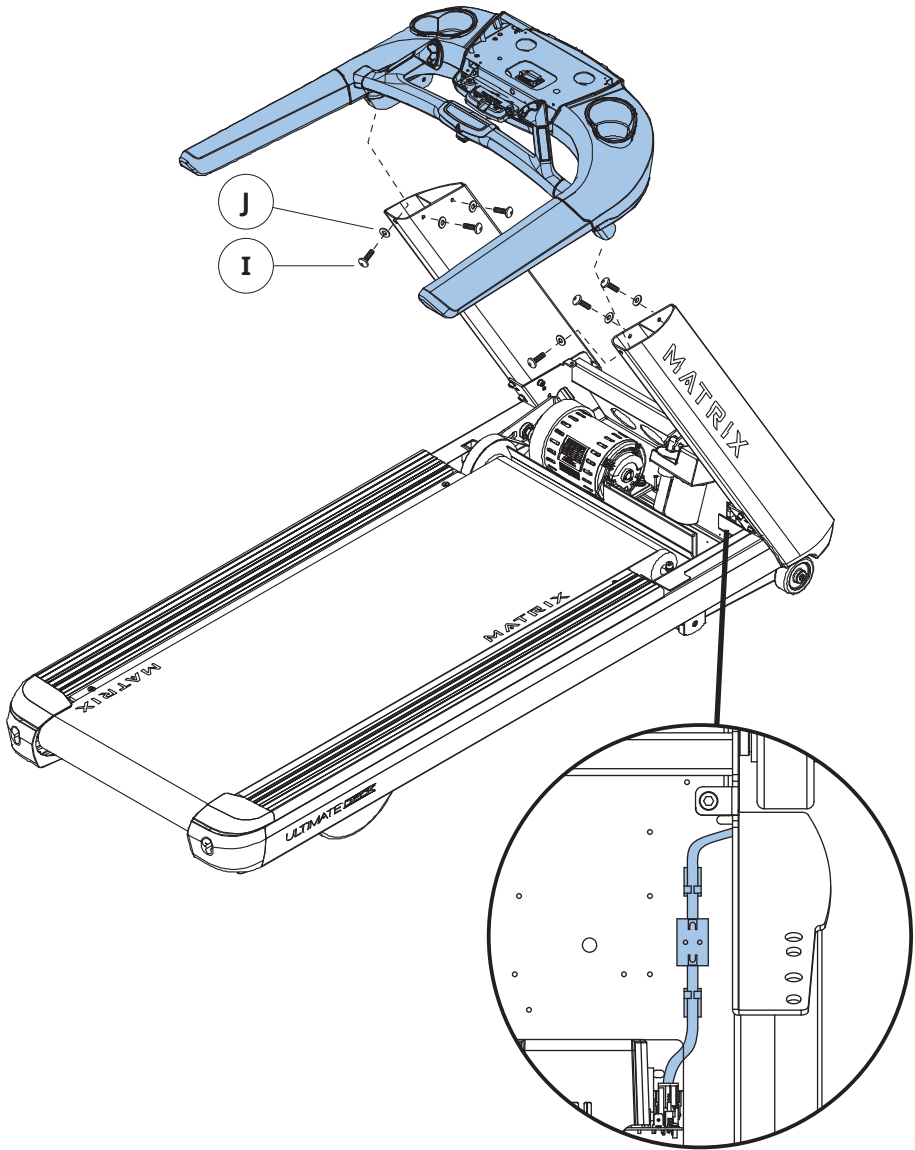
Blue Hardware Bag		
	Description	Qty
G	Bolt	2
H	Spacer	2
Torque Value		
25 Nm / 18 ft-lb		



10.3 ASSEMBLY INSTRUCTIONS - CONTINUED

STEP 5

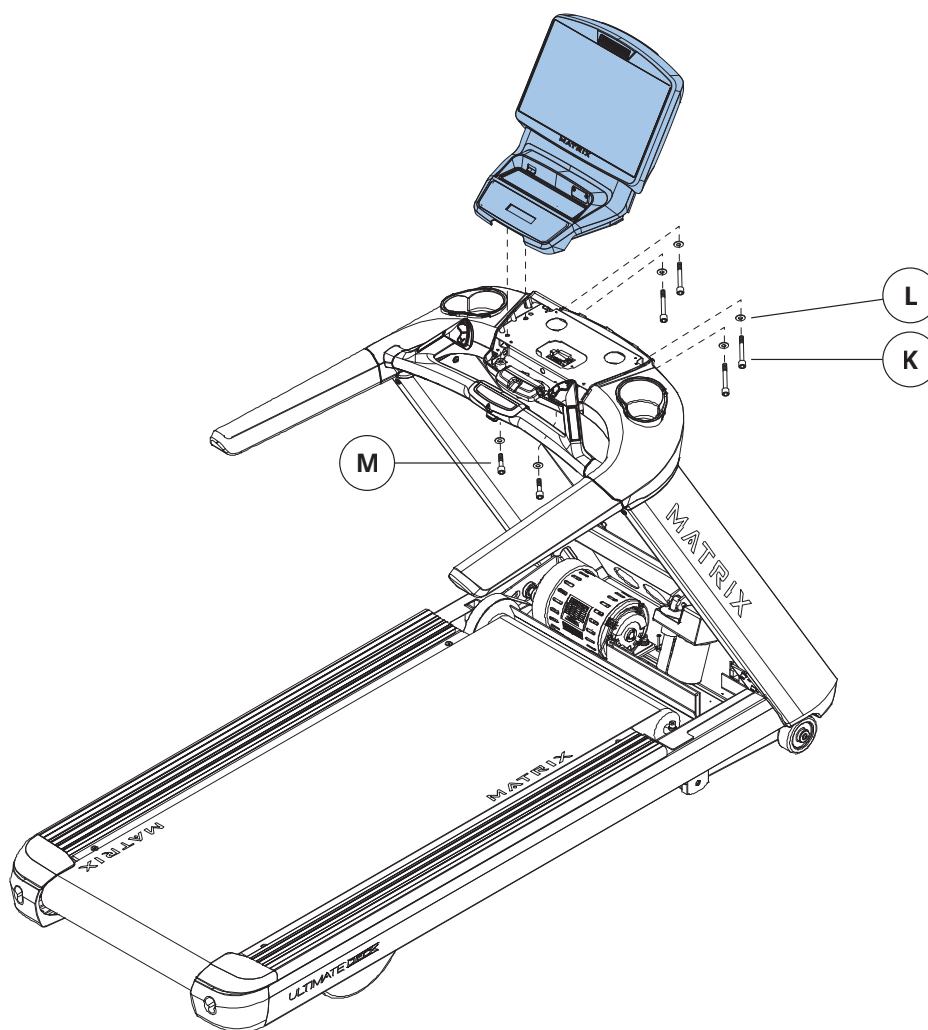
Red Hardware Bag		
	Description	Qty
I	Bolt	6
J	Flat Washer	6
Torque Value		
20 Nm / 15 ft-lb		



10.3 ASSEMBLY INSTRUCTIONS - CONTINUED

STEP 6

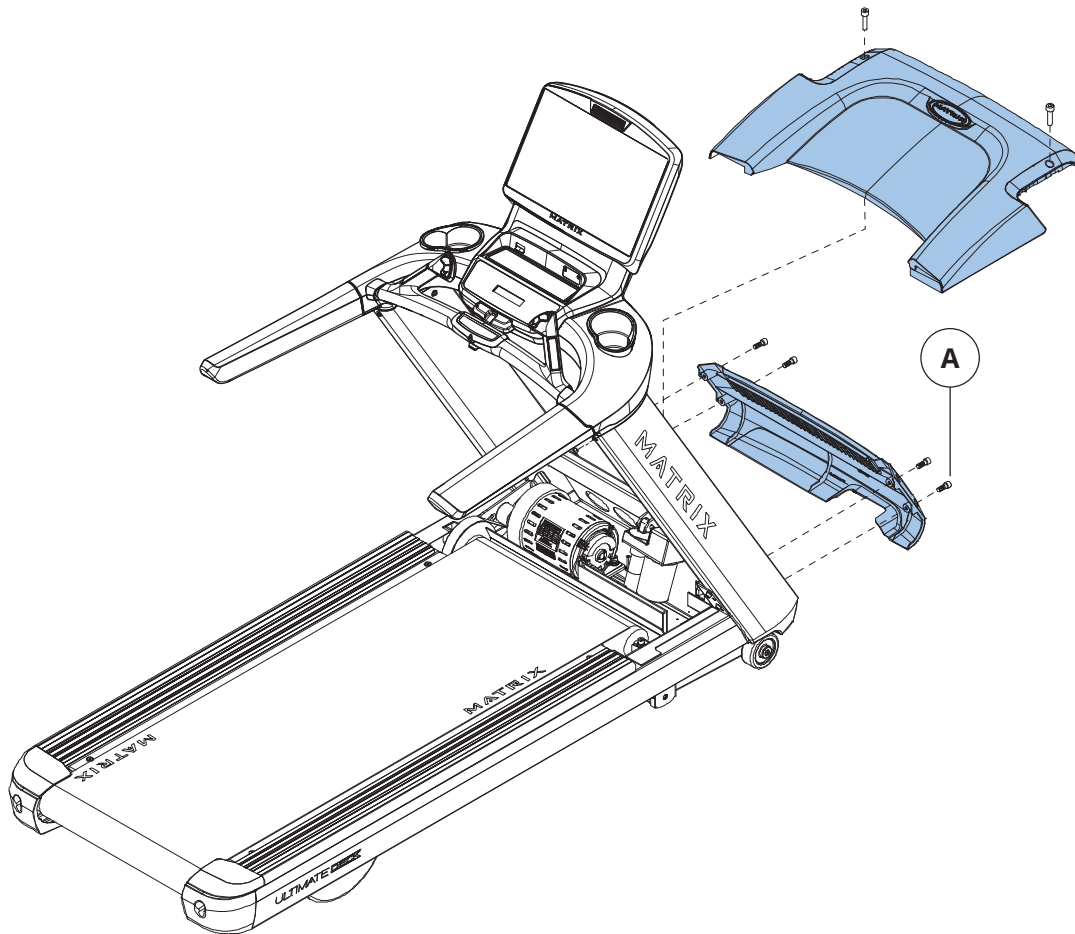
Yellow Hardware Bag		
	Description	Qty
K	Bolt	4
L	Flat Washer	6
M	Bolt	2
Torque Value		
25 Nm / 18 ft-lb		



10.3 ASSEMBLY INSTRUCTIONS - CONTINUED

STEP 7

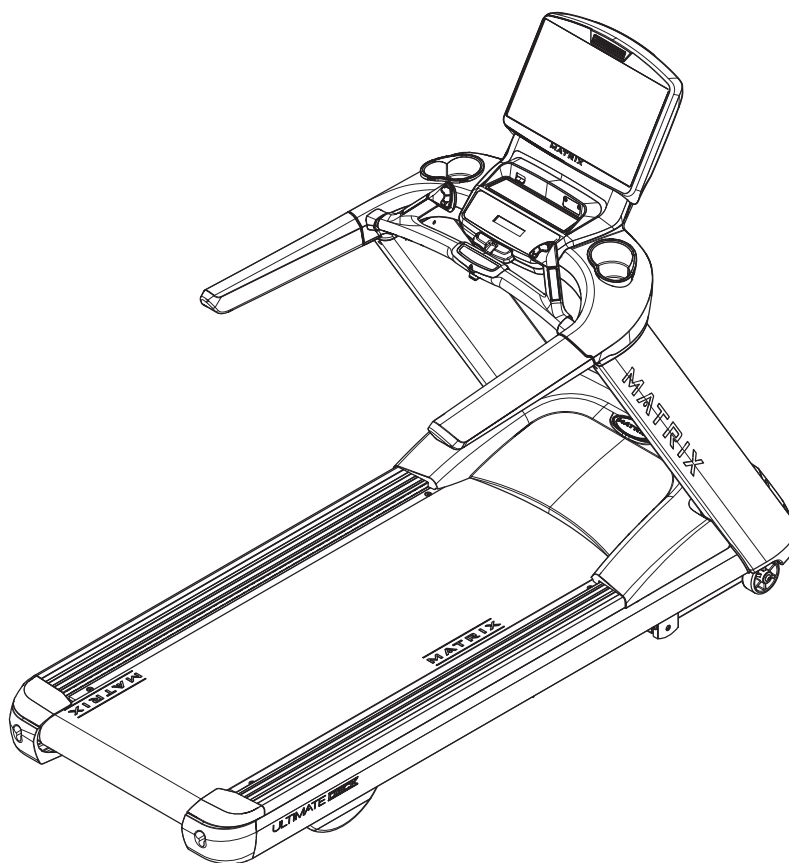
Pre-Installed Hardware Bag		
	Description	Qty
A	Bolt	6
Torque Value		
15 Nm / 11 ft-lb		



10.3 ASSEMBLY INSTRUCTIONS - CONTINUED

STEP 8

ASSEMBLY COMPLETE



10.4 LEVELING THE TREADMILL

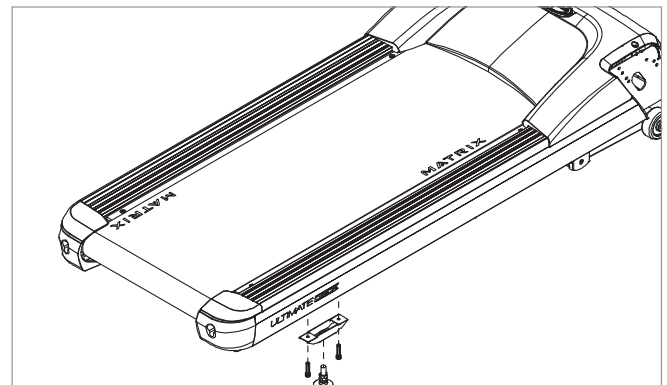
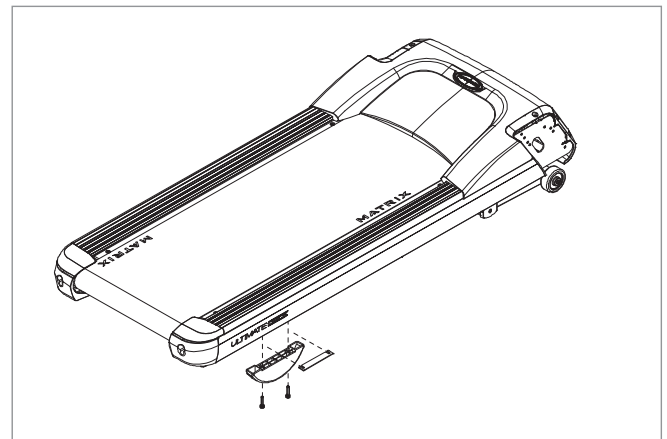
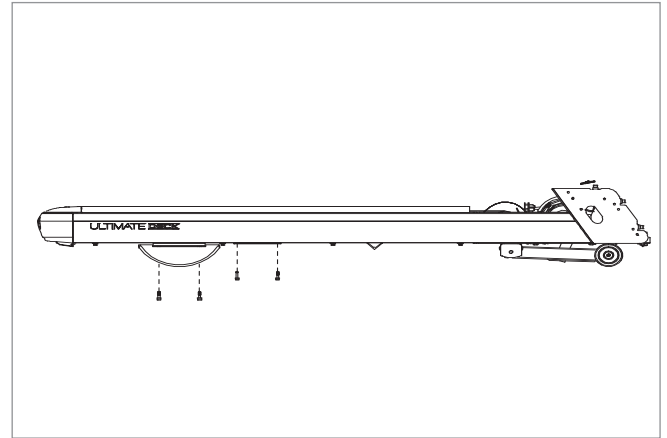
OPTIONAL LEVELING ASSEMBLY TECHNIQUES: USE OF SHIM OR BY ADDING A LEVELING FOOT.

Use of shim or adding leveling foot.

NOTE: It is extremely important that the levelers are correctly adjusted for proper operation. An unbalanced unit may cause belt misalignment or other issues. Use of a level is recommended.

Remove the leveling shim provided on the underside of the treadmill. The shim can be found mounted on the underside of the right hand side rail. Remove the rear foot on the side of the treadmill that is resting low. Install the shim as shown above and return the rear foot.

When installing the optional rear leveling foot accessory, remove the existing rear foot. Replace with new leveling foot and fasten to the frame using the existing fasteners that held in the half-moon foot.



10.5 ENTERING THE SERIAL NUMBER INTO THE CONSOLE

ONCE INSTALLATION IS COMPLETE, THE CONSOLE AND PLATFORM SERIAL NUMBERS SHOULD BE ENTERED INTO THE CONSOLE.

- 1) See the serial number from frame label (Figure A) and console label (Figure B).
- 2) Press ENTER, 1, 0, 0, 1, ENTER on the number keypad and General will appear on the display.
- 3) Press General on the display.
- 4) Enter the serial number of the console and frame.
- 5) Press the EMERGENCY STOP or the HOME key to return to normal function.

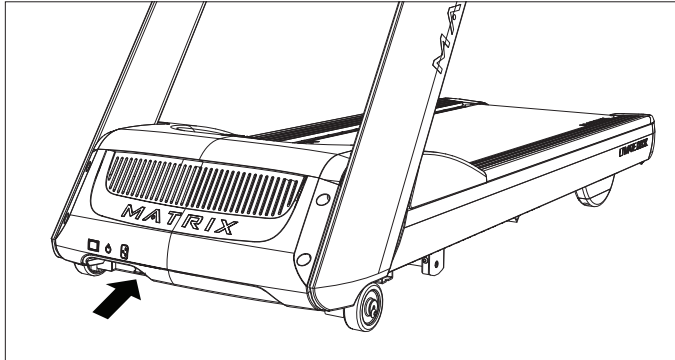


FIGURE A

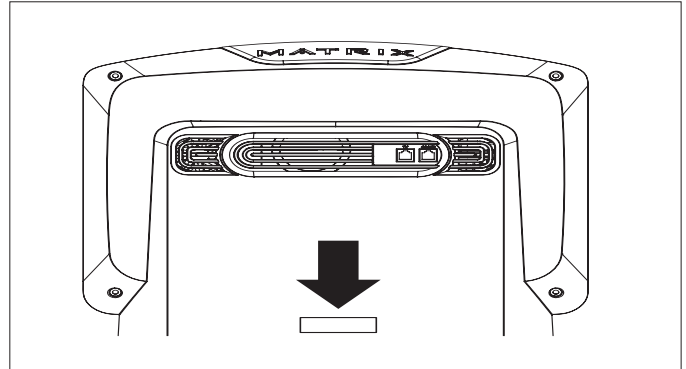


FIGURE B

11.1 SOFTWARE UPGRADE INSTRUCTIONS FOR UCB

NOTE: If you install the software while in a self powered mode, keep pedaling while the software is being installed. After the software has completely loaded, stop pedaling for 30 seconds to allow the machine to completely power down.

1. Create a file on the USB flash drive which will be used. The folders should be MATRIX\FW\UCB (create a folder called MATRIX, then a folder in MATRIX called FW, then a folder in FW called UCB - Figure A).
2. Copy the software files into the UCB folder on the USB flash drive (the access should read \MATRIX\FW\UCB - Figure B).
3. Insert the USB flash drive into the USB port on the console.
4. When the display is in home screen, press ENTER, 1, 0, 0, 1, ENTER to enter Manager Mode. Press the UP or DOWN LEVEL keys to choose the "Software" (Figure C) and press ENTER key -> Press the UP or DOWN LEVEL keys to choose the "Update" and press ENTER key -> Press the UP or DOWN LEVEL keys to choose the "UCB" (Figure D) and press ENTER key -> Press the UP or DOWN LEVEL keys to choose the correct software (if there are more than one versions on the USB drive). Once the correct software is found, press ENTER key and the upgrade procedure will start.
5. After the console beeps and comes back home screen, please remove the USB drive and reset machine power. Note: If the console display shows 04A0, turn off & turn on the machine again, and the display will go back to standard operation.
6. Enter into Manager Mode and make sure the software version and Machine Type is correct.

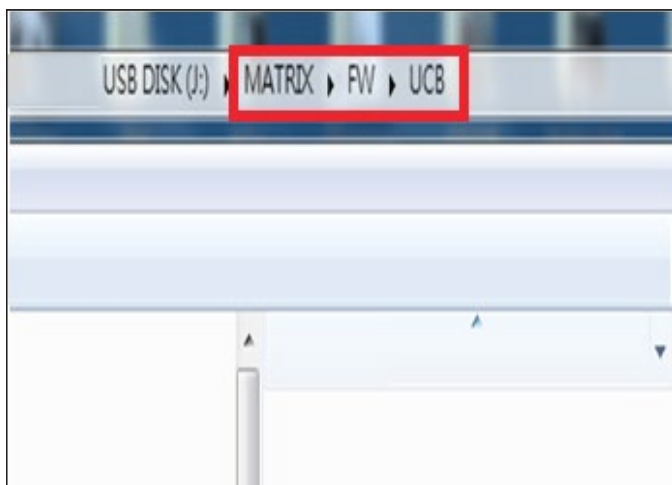


FIGURE A

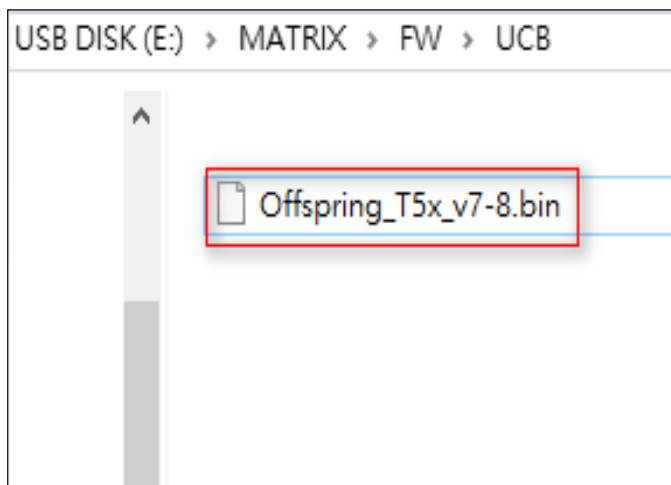


FIGURE B



FIGURE C



FIGURE D

12.1 DOCUMENT UPDATE HISTORY

Version	Date	Change Description
1	2018/8/9	Service manual released.
2	2022/5/5	Corrected file structure in 10.1.3 - How to set up the "WIFI" function.

NOTES

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