

MATRIX	Troubleshooting Guide: 2018+ T130x Console Troubleshooting Guide	
Prepared by: J. Sleppy	Date Prepared: 12/28/2020	Models Affected: 2018+ T130x consoles (TM540)

PURPOSE

Use this document to troubleshoot Matrix T130x cardio consoles. The intended users are Matrix (Johnson) Customer Tech Support Representatives & Field Service Techs, but distribution is free.

New information is contained in the Online Remedy Update Center for your model until it can be verified and incorporated here. Always check there if your failure isn't clearly resolved here.

The guide is intended to be used alongside the Master Error Code List (under Troubleshooting Guides)—if you have an error code, begin there.

Instructions for any task directed here can be found in the T130x Treadmill Service Manual or specified reference.

Read and understand the [General Troubleshooting](#) and [Using this Guide](#) sections before proceeding further.

TABLE OF CONTENTS (TOC)

1. [Software Updates & USB](#)
2. [Power issues](#)
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 - Display arrays mounted on UCB
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5. [Physical keypads & buttons](#)
6. [Errors](#)
7. [Internet connection & Wi-Fi](#)
8. [Heart Rate](#)
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 - Speed/Resistance different than commanded
 - No belt/step movement
10. [Other](#)
 - My issue isn't found here

- **UPDATE TO THE LATEST SOFTWARE VERSION, if possible.**
 - Reference the [Software Update](#) topic if anything unexpected happens.
- Cycling power is recommended as the first attempt to fix most failures, and after major repairs are implemented. Stop pedaling/stepping self-powered equipment to allow it to power down.
- Test Mode is available (enter 5 0 0 1 enter). Use it to check suspect hardware.
- Error Code Log is available in Service Mode (enter 3 0 0 1 enter). The log can provide historical hints on intermittent issues.
- Verify current software version in Manager Mode (enter 1 0 0 1 enter).
- If unsure where to begin with degraded console performance, disconnect everything from the UCB (except for the console cable, as this supplies power). Verify expected operation; reconnect parts one at a time until the failure is recreated.
- Before replacing any major part, inspect the cables to/from it. Disconnect and inspect the connectors on both ends, as well as the terminals on the boards. If capable, perform continuity tests to verify all the conductors are intact. If no damage/corrosion noted, carefully reconnect, ensuring proper seating and connection. Request replacement cables if at all suspicious.

PRODUCT PAGE LINK**[ToC](#)****[T130x Treadmill \(TM540\)](#)**

May need to right click-copy hyperlink & paste into a browser that is logged in to Online Remedy.

USING THIS GUIDE

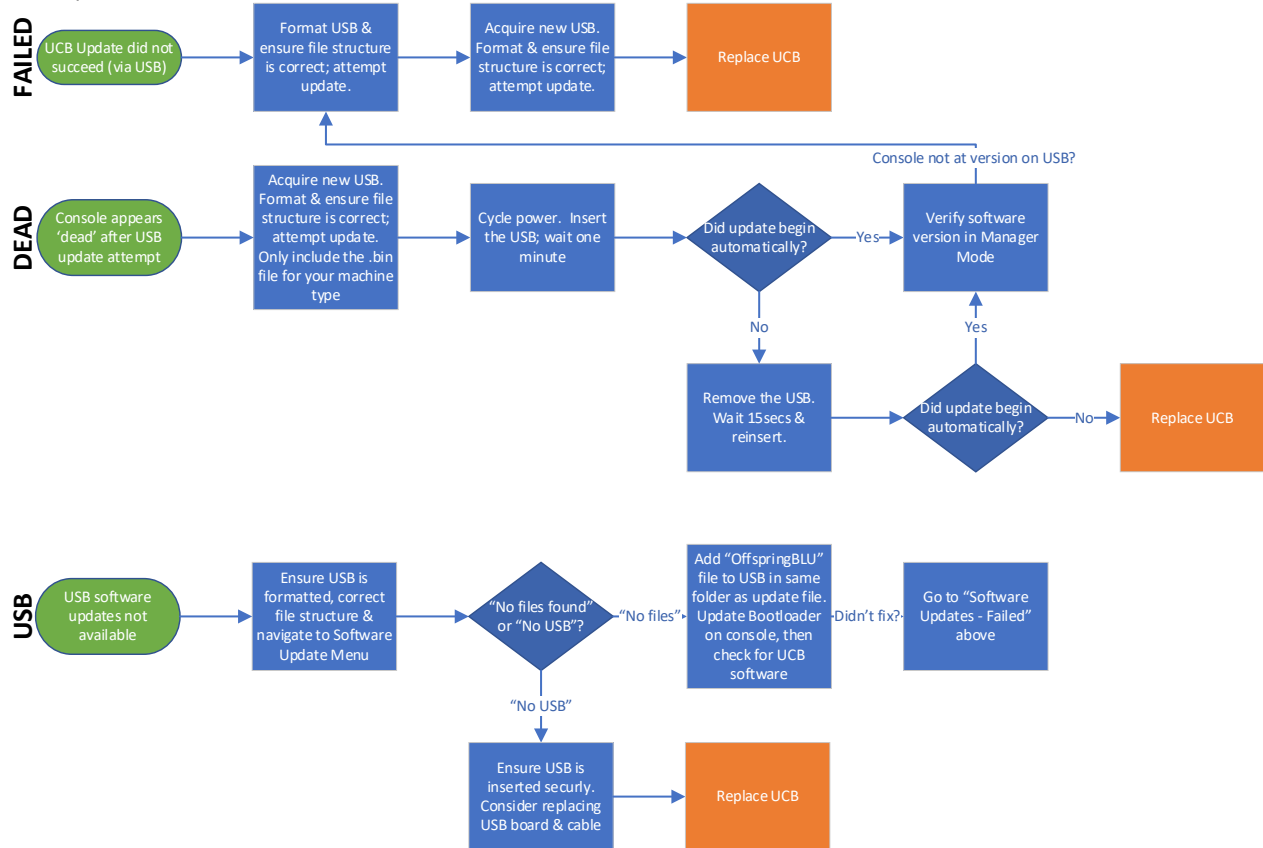
Read & understand the General Troubleshooting section above.

Given a problem description, link to the topic that appears most fitting from the ToC on the first page or Find (ctrl-f) by keyword. Find the **Green** flowchart bubble that best describes the specific issue, and follow the flow through asking questions, taking measurements, and suggesting corrective action. The “Additional Information” section within each topic contains notes and details pertaining to that topic.

After each corrective action is taken, re-evaluate if the failure has been resolved. Some indications have a straightforward order of attempts, and not all steps are always necessary if a lower-level fix resolves the issue.

If the failure you’re attempting to resolve isn’t described by this document, or the corrective action is attempted and doesn’t resolve the issue, you may need to escalate this case by consulting your Team Lead. Also see section “[Other](#)”

USB, Update, Failed, Detect



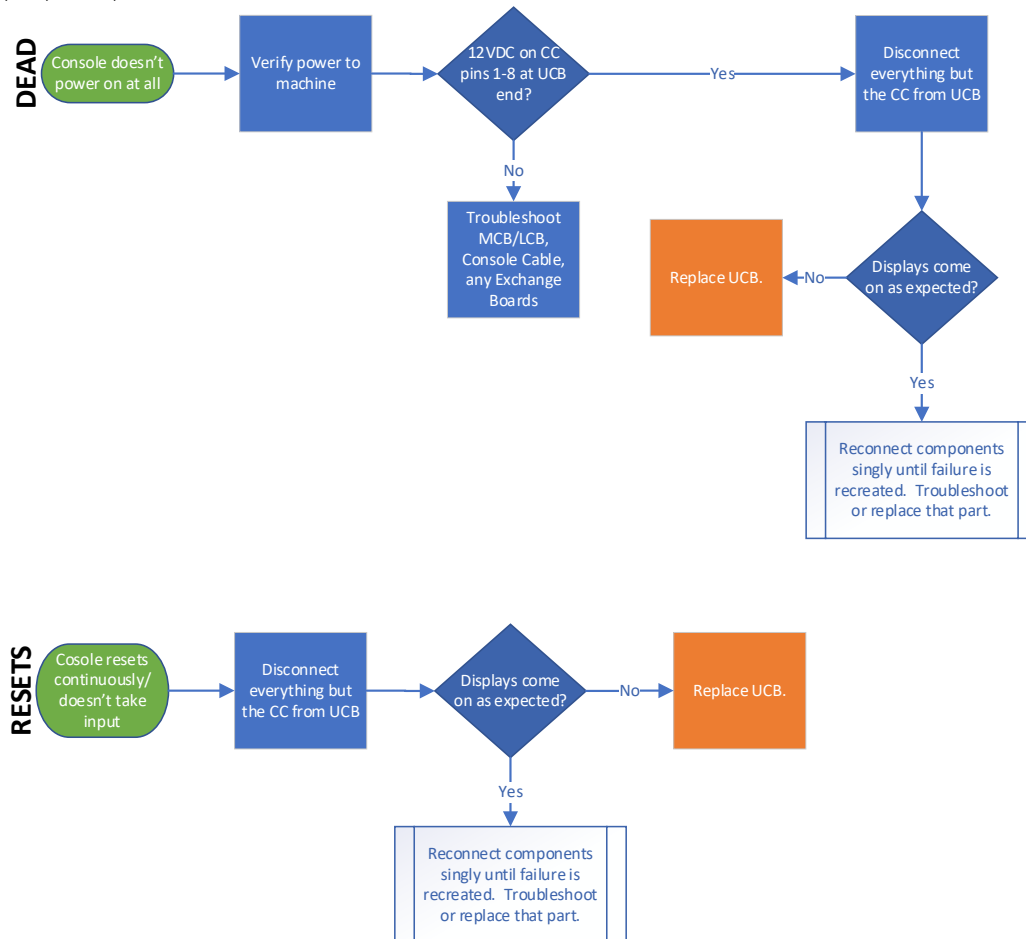
If your issue persists, [Click here](#).

Additional Information

- Software updates are best performed with a 2GB USB memory stick, formatted 'FAT32'. Other sizes & formats may work but are not recommended.
- Find software update files on the Matrix Fitness website (<https://www.matrixfitness.com/en>): *For Your Home > Support > Software Updates*.
- If unable to navigate into software update menus, consider keypad/input failure or Power failure.
- The T130x console and the commercial T5x console use the same upper control board (UCB). A setting in the engineering menu tells the UCB which model it is installed in, and therefore dictates its behavior: T130x Mode ('retail mode') enables the console to display a LUBE BELT reminder, sets max incline to 12%, and sets max speed to 12.5 mph.

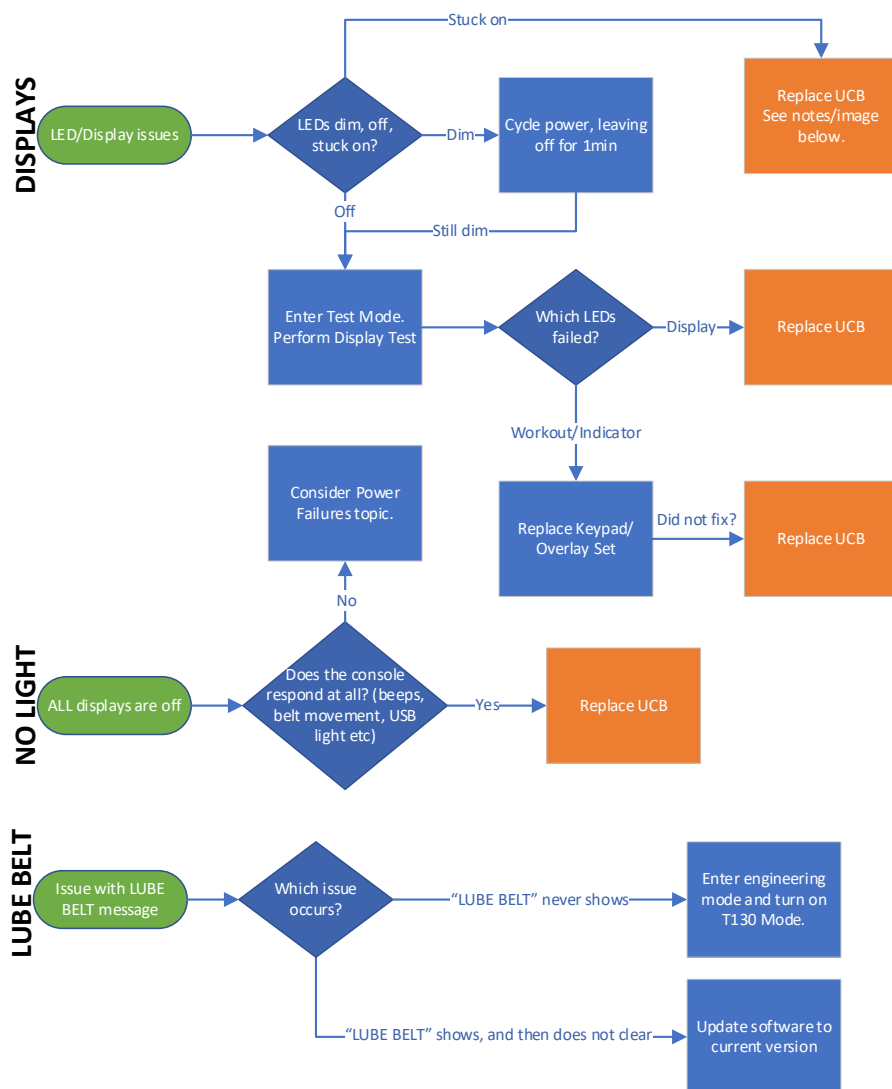
Enter 2 0 0 2 Enter > T130 Mode > On

Dead, Off, Reset, Reboot

If your issue persists, [Click here](#).**Additional Information**

- By disconnecting everything but the console cable, failed components (i.e. stuck keys, shorted LEDs, bad Wi-Fi board, etc.) no longer cause faults. If the console appears to work as expected with nothing else connected, failure is likely with one of the parts connected to it.

Dim, Off, Dark, Blinking, Dot, Matrix, Stuck, Ghost, Lube Belt, Clear



If your issue persists, [Click here](#).

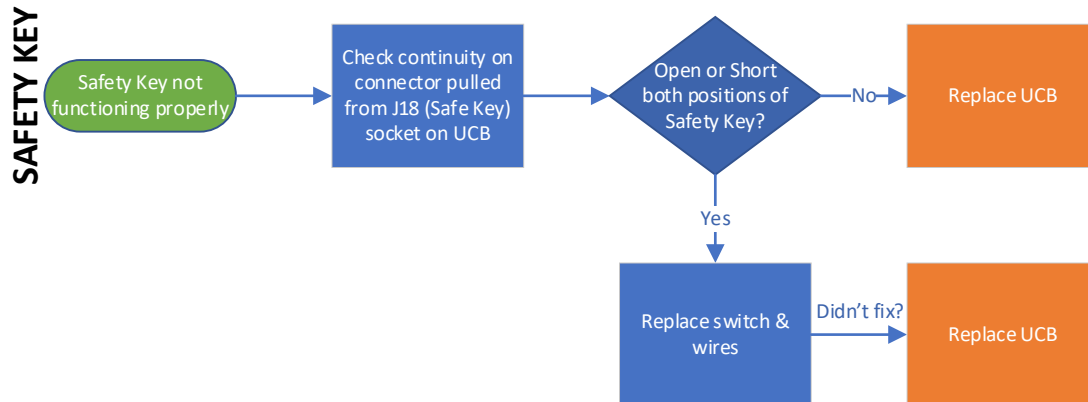
Additional Information

- Cycling power too quickly is known to cause some LEDs to stay off or only light dimly.
- “Displays” are the LED dot matrix displays mounted to the UCB.
- Displays stuck on: Reference “Console LEDs” (NB-1909007) under Service Bulletins. A faulty batch of LEDs causes this; UCB replacement is the best solution at this time.



- The LUBE BELT message will display once the treadmill records 500 miles. To clear the message:
 - Press and hold STOP and SPEED UP if the console software is v10.1 or above
 - Press and hold STOP and SPEED DOWN if the console software **below** v10.1

Emergency, Stop, E-Stop, EStop, All Stop

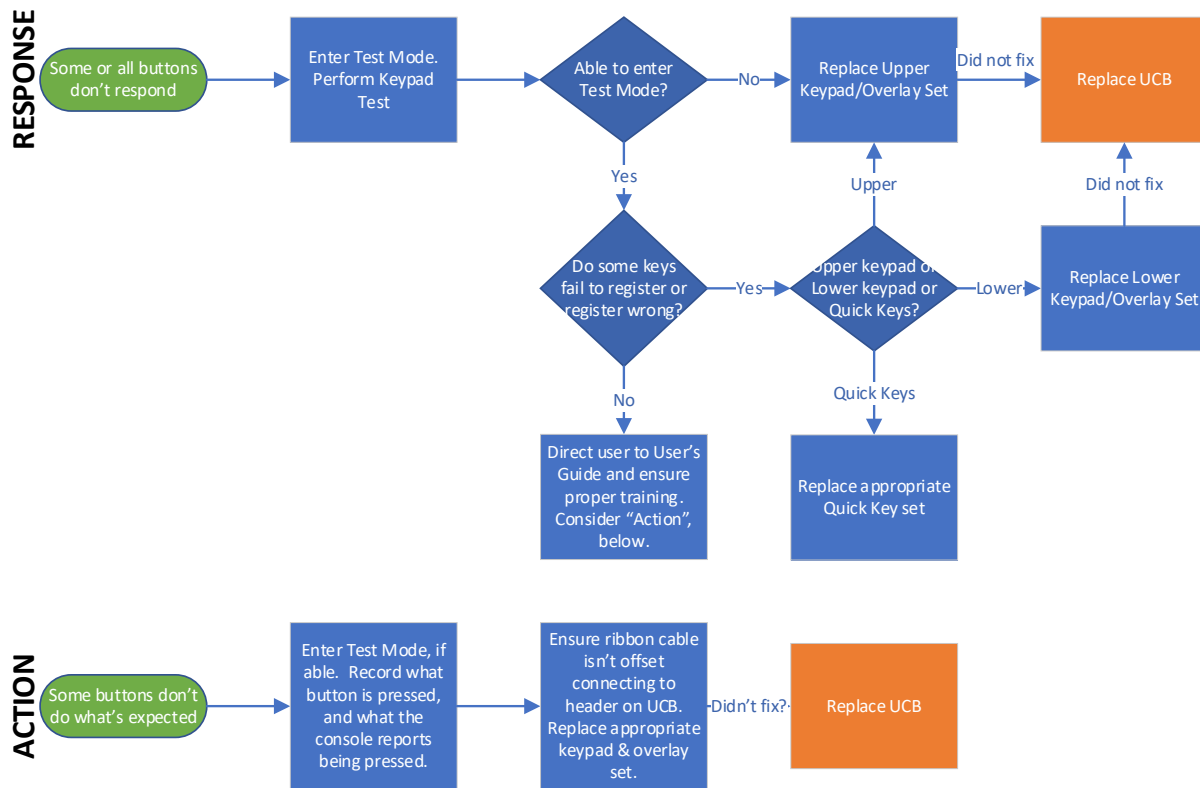


If your issue persists, [Click here](#).

Additional Information

- Treadmill Safety Key switch should measure Open when triggered/engaged and Short when in operating position.
- If tech can access the switch from behind, there are two additional terminals adjacent to where the wires connect that can be used identically. Switch replacement is recommended but moving the wires to the other terminals can restore function.
- DO NOT bypass the Safety Key (other than for testing function). This is an essential safety device and must operate properly.

Press, Touch, Key

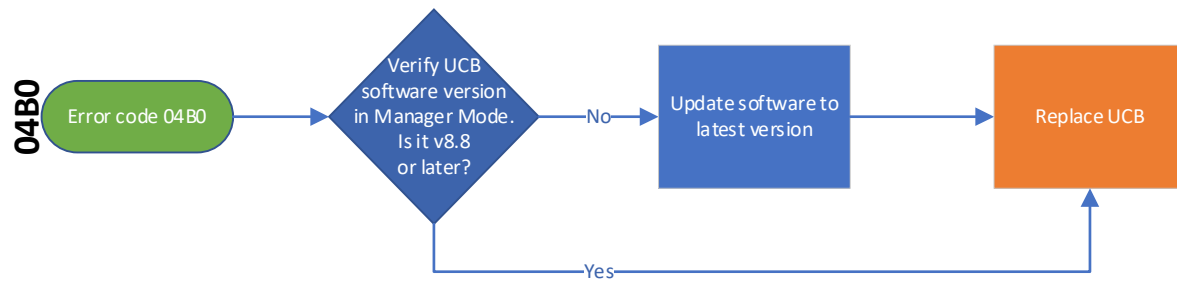


If your issue persists, [Click here](#).

Additional Information

- Failed buttons can sometimes be recovered by applying gentle heat and massaging the button in a circular motion. This may be useful if otherwise unable to enter Manager, Service, and Test modes.

Unsupported, Code, OOB, Out of Box



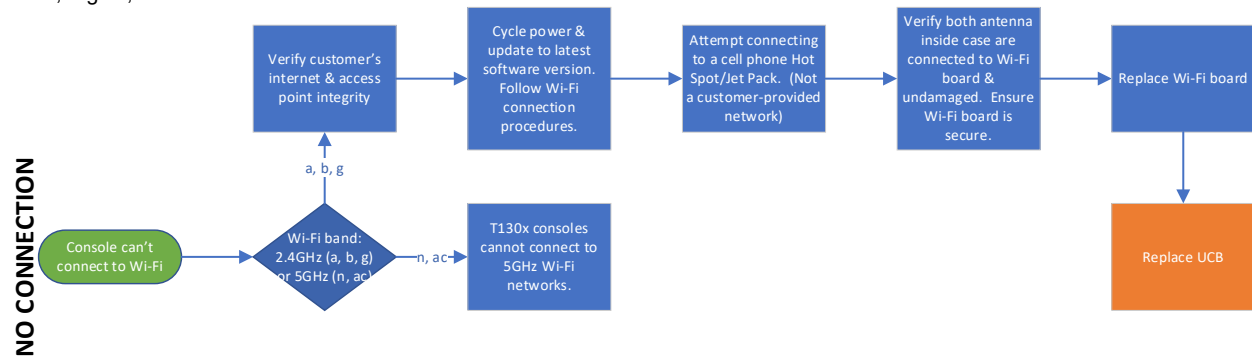
If your issue persists, [Click here](#).

Additional Information

INTERNET CONNECTION

[ToC](#)

Wi-Fi, Signal, Network



If your issue persists, [Click here](#).

Additional Information

- Internet issues are difficult, because we can't be responsible for the internet at customer sites. Failures are frequently with the network, and not related to our equipment.
- Consoles are programmed to automatically connect to SSIDs "npwireless" or "rd02". Matrix Tech Support can provide the password, if appropriate. Facilities may have their own networks installed.
- To connect to an un-encrypted Wi-Fi network, enter the following information into the "wifi_set.cfg" file on a USB:

```
[WIFI AP]
SSID=noencrypt
Security=None
Encryption=AES
Key=
KeyIndex=1
```

Replace **noencrypt** above with the SSID at the location.

HEART RATE

[ToC](#)

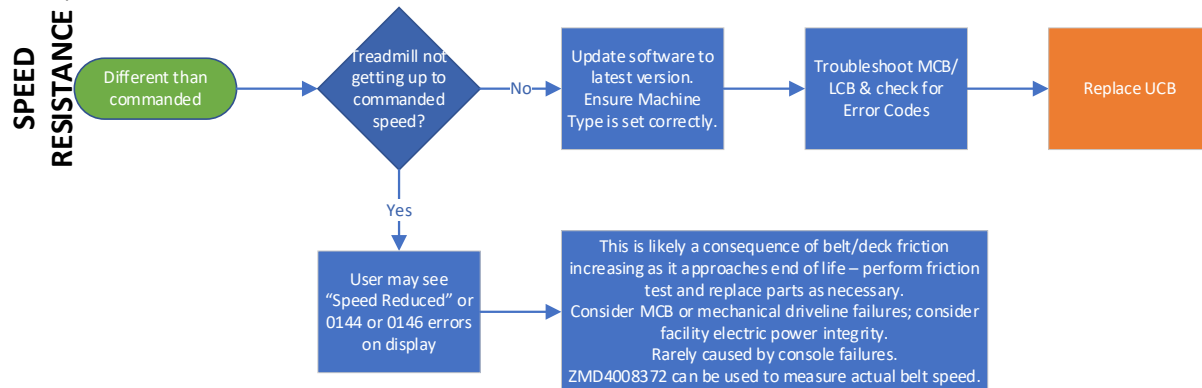
Please reference the document Heart Rate Flow Chart (under Troubleshooting Guides on treadmill product pages).

If your issue persists, [Click here](#).

Additional Information

- Cold or dry hands can cause Heart Rate to read wrong or not at all. Warm and moisten hands.
- Dirty sensors, jewelry, and electrical interference from the environment can cause Heart Rate errors.

Belt, Step, Level

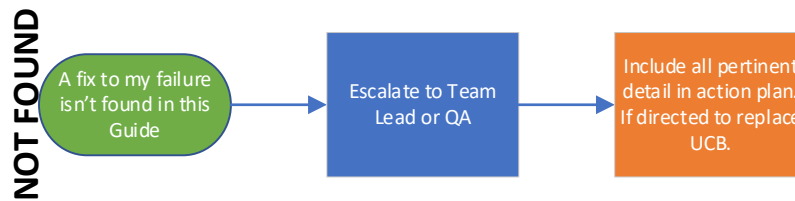


If your issue persists, [Click here](#).

Additional Information

- Speed Errors are rarely related to console failures without an accompanying error code. Reference MCB troubleshooting documentation or the Master Error Code List.
- Treadmills place a very heavy load on facility electrical installations. Long wire runs, undersized conductors, looped grounds, non-isolated circuits, user weight, speed and deck incline all affect electrical load. As treadmill belt/deck pairs wear out the friction between them increases, dramatically increasing the electrical needs of the machine and likelihood of “Speed” errors. These are very rarely caused or corrected by console service.
- Speed exceeds 12.5 mph and/or incline exceeds 12%, enter Service Mode (enter 3 0 0 1 enter) to turn on Retail Mode.

Not Found



If you cannot find a resolution to your observed or reported failure in this document, you may have discovered a new failure!

If a console is replaced after referencing this page, your “Why” reason **likely will not be** “Directed by TSG/ECL”

Discuss this case with your Team Lead.

Team Lead: Verify you agree with everything your Rep has done to this point.

You may need to involve R&D & QA. This document may need to be revised.

Do you have suggestions/ideas about this document?

Email contentmanagement@johnsonfit.com or jake.sleppy@johnsonfit.com.

CHANGELOG[ToC](#)

Rev#	Date	Author	Changes
	3/19/19	J.Sleppy	5x troubleshooting document created.
1	12/28/20	E.McWilliams	Adapted 5x document to apply to T130x consoles.
2	3/4/21	E.McWilliams	Revised instructions for clearing the Lube Belt message (Displays topic)