JOHNSON®	Troubleshooting Guide: Treadmill Elevation
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Symptom	Possible Cause	Test Procedure	Repair
Elevation motor starts running (constant up or down) as soon as the machine is powered on.	Failed lower board.	Power on machine. Do not press start. Wait 30-60 seconds and carefully check to see if the motor is hot.	Replace lower board.
	Failed console cable.	Confirm the problem wire in the Incline Wire Voltage Chart.	Replace console cable.
Elevation motor bobs up and down without command.	Failed elevation motor.	N/A	Replace elevation motor.
Elevation motor does not reach minimum or maximum settings.	• Failed elevation motor. • Failed console cable. • Improperly calibrated elevation motor.	• Verify that there are no pinches or cuts on the elevation wires. • Verify the connections of the wires. See the Incline Wire Voltage Chart for more information.	• Recalibrate elevation motor by hand. (See the Replacing and Resetting the Elevation Motor document in Parts Replacement.) • Replace elevation motor.
Elevation is stuck in down position and does not function. Console is responsive to the buttons being pressed.	Failed console cable.	• Verify the console cable connections. • Verify that there are no pinches or cuts in the cable. See the Incline Wire Voltage Chart for more information.	Replace console cable.
	Failed elevation motor.	Put machine in hardware test (Eng1) and press start. Elevation does not respond when buttons are pressed. (You may see a 255 or 1023 value for elevation. This value does not change when the buttons are pressed).	Replace elevation motor.
	Failed upper board.	Put machine in hardware test (Eng1) and press start. Incline works in hardware test only.	Replace upper board.
Elevation is stuck in the highest position. Console is responsive to the buttons being pressed.	Failed upper board, lower board, console cable, and elevation motor.	Verify all wire connections. See the Incline Wire Voltage Chart for more information.	Replace upper board, console cable, and elevation motor.
The elevation goes up, but not down (very rare).	Failed lower board.	Incline is normal going up, but there is no movement when the down incline is pressed.	Replace lower board.
	Failed console cable.	Confirm the problem wire in the Incline Wire Voltage Chart.	Replace console cable.

Incline Wire Voltage Chart

Use this chart with a powered elevation motor to pinpoint a problem wire.

Small Connector

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

Large Connector

Wire Color	Function	Before Start	After Start, Not Inclining or Declining	While Inclining	While Declining	Physical Symptoms if Wire is Cut	ENG 1 Test Results
Black with white as ground	Incline Up	0.15 vac	0.15 vac	171 vac	120 vac	Up incline functions, no down incline.	Up incline functions, down incline does not. Value increases, but does not decrease.
Red with white as ground	Incline Down	0.15 vac	0.15 vac	120 vac	186 vac	Down incline functions, no up incline.	Down incline functions (until value 0), up incline does not. Value decreases to 0 and then no down incline, does not increase.
Red with black as ground	Ground	0.03 vac	0.03 vac	219 vac	228 vac	Neither up nor down incline functions.	Neither up nor down incline functions. Value does not change.

* The voltage changes as the incline changes.