



FTC Robot Troubleshooting Guide

Symptom		Possible Cause or Remedy
1.	Robot does not respond to driver commands.	<ul style="list-style-type: none"> • NXT battery is turned off, dead or low. • 12V TETRIX HiTechnic battery is turned off, dead or low. • Bluetooth connection is not established with the computer. • HiTechnic wiring is loose or disconnected. Check wiring for the HiTechnic Motor and Servo Controllers. • Check 20A TETRIX battery fuse connected to the battery pack. Check wire connections and wire insulation for shorts prior to replacing the fuse.
2.	Robot runs, but does not behave as expected. Some functions may work and others do not.	<ul style="list-style-type: none"> • Wires to the DC motor terminals may be loose or disconnected. • Wires connected to the HiTechnic controllers may be loose or disconnected. • Check red mode light on the Logitech Dual Action Controller. If illuminated. Press mode button to toggle the light off. • Verify that the Logitech Dual Action Game Controller is connected to the computer and properly selected in the application running on the computer (ROBOTC, NXT-G, LabView, National Instruments Robot Controller) • Verify that the correct Logitech Dual Action Game Controller is being used. • Check servos and DC motors for excessive heat. A stalled or damaged servo or DC motor will draw excessive current from the battery. • NXT or 12V TETRIX battery may be low. • Verify that the correct software program is running on the NXT • Check robot programming.
3.	Motor or servo performance degrades rapidly or stops working during use.	<ul style="list-style-type: none"> • Check for warm motor or servo. The motor or servo may be overloaded. Reduce the load on the motor or servo; or utilize 2 motors or servos to share the load; or change the gear ratio to reduce the load. • Battery may be low. • Check for loose power connections. • Check for binding gears or other parts on the robot.

4.	Can't connect to robot via Bluetooth.	<ul style="list-style-type: none">• NXT is not powered on.• NXT battery is dead or low.• Bluetooth is turned off on the NXT.• Bluetooth is set to invisible on the NXT.• Bluetooth dongle is not connected to the computer.• Wrong NXT name selected in the program attempting to communicate with the NXT.• NXT is buried behind too much metal thus preventing the signal from reaching the controller.• NXT is too close to an 802.11a or 802.11n WiFi system. Turn off the WiFi source or move further away.• Bluetooth connection was not properly severed from the previous use. Remove the NXT battery for 15 seconds, then reinstall.• See the <i>FIRST</i> NXT Bluetooth Troubleshooting Guide for diagnosing Bluetooth connection problems on a computer running Windows XP.
5.	NXT will not turn on, display is blank.	<ul style="list-style-type: none">• NXT battery is dead or low.• NXT battery is not properly seated in the NXT.• Contact springs in the NXT may be bent out of position or compressed too much.• Place the NXT close to your ear and listen for a very soft "click of death." Reset the NXT by pressing the small reset button underneath the NXT below the USB port, for 10 seconds. Reload the NXT firmware and the team's software programs.