



## Technical Note 015: SR Trouble Shooting Guide

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### SR

This troubleshooting guide provides general steps that our tech department uses to determine a problem. During testing procedures follow proper safety rules and guidelines (ie raise the rear wheels, disconnect battery power when removing or installing components)

#### General Troubleshooting

Issue	Solution
<ul style="list-style-type: none"> <li>Controller is not powering up (No LED)</li> </ul>	<ul style="list-style-type: none"> <li>Check for voltage on the wire attached to the RED J1 terminal.</li> <li>Verify wiring to the J1 terminals are correct</li> <li>Call Alltrax Tech Support</li> </ul>
<ul style="list-style-type: none"> <li>LED blinks 1 green and 1 red</li> </ul>	Short Circuit/Output Fault <ul style="list-style-type: none"> <li>Check B+, B- and M- connections on controller</li> <li>Check voltage from B- to M- with the cart turned on and pedal pressed. If the voltage reads 0 or 10+V less than pack check your motor.</li> </ul>
<ul style="list-style-type: none"> <li>LED blinks 1 green and 2 red</li> </ul>	Low Voltage Alarm <ul style="list-style-type: none"> <li>Check voltage on wire attached to the Red J1 terminal while pedal is pressed.</li> <li>Charge batteries</li> <li>Load test batteries, replace any bad batteries.</li> <li>Listen for a solenoid click when the pedal is pressed, if you can't hear the "click" check connections on solenoid.</li> <li>Call Alltrax</li> </ul>
<ul style="list-style-type: none"> <li>LED blinks 1 green and 3 red</li> </ul>	Overvoltage Alarm <ul style="list-style-type: none"> <li>Check voltage between Controller B+ and B-. Voltage should be <math>\pm 5V</math> of the pack voltage.               <ul style="list-style-type: none"> <li>If voltage is high, make sure short wire from solenoid to Controller B+ is not broken or damaged..</li> <li>If voltage is ok, call Alltrax Technical Support</li> </ul> </li> <li>Check for voltage on frame of the cart</li> <li>Call Alltrax Tech Support</li> </ul>
<ul style="list-style-type: none"> <li>LED blinks 1 green and 4 red</li> </ul>	M- Overtemp Alarm <ul style="list-style-type: none"> <li>Check if motor is hot (careful if you have to touch it)</li> <li>Remove the M- (J7) terminal from the controller and see if the error clears or changes. If yes, check your motor for shorts/worn or cracked brushes.</li> </ul>
<ul style="list-style-type: none"> <li>LED Blinks 1 green and 6 red</li> </ul>	<ul style="list-style-type: none"> <li>Verify you have a 'Pre-charge resistor' installed on the solenoid.</li> <li>Is the Solenoid closing when you press the pedal?</li> <li>Check voltage from B- to B+ with pedal engaged, is this voltage within <math>\pm 5V</math> of the wire attached to the RED J1 connection?</li> </ul>

**General Troubleshooting (cont)**

<b>Issue</b>	<b>Solution</b>
<ul style="list-style-type: none"><li>• Cart runs slow</li></ul>	<ul style="list-style-type: none"><li>• Check if throttle is programmed correctly for your cart.</li><li>• Does the LED at full throttle. If the light holds Amber check your motor, if the light rapidly blinks Amber check your solenoid and battery pack.</li></ul>
<ul style="list-style-type: none"><li>• Cart only operates at full speed. No speed control</li></ul>	<ul style="list-style-type: none"><li>• Verify controller throttle setting (see Manual for throttle blink codes) match the throttle in the vehicle. Ohm throttle as necessary.</li><li>• Verify M- and B- wired correctly.</li></ul>
<ul style="list-style-type: none"><li>• Solenoid does not close</li></ul>	<ul style="list-style-type: none"><li>• Check the polarity of the small diode connected between the control wires of the solenoid. (Removing one side will take the diode out of the circuit, if the solenoid starts working the diode was installed backwards or is bad)</li><li>• If you have a wire attached to the BLACK J1 terminal of the controller, try moving that wire to the B- connection of the controller and try the cart again.</li></ul>
<ul style="list-style-type: none"><li>• Motor and/or Battery wires getting hot.</li></ul>	<ul style="list-style-type: none"><li>• Check for bad wire crimps and terminations.</li><li>• Upgrade wire size to a large size. (see Tech Note 10 for more details)</li></ul>
<ul style="list-style-type: none"><li>• Controller pops and smokes when turned on</li></ul>	<ul style="list-style-type: none"><li>• Controller is Bad! Do not power up anymore. Replace controller. Disconnect battery power immediately. Check and replace solenoid.</li></ul>

**EZ GO**

<b>Issue</b>	<b>Solution</b>
<ul style="list-style-type: none"><li>• Cart drives fine from a stop, but jerks violently when the throttle is depressed and the cart is rolling. (1995 and Newer)</li></ul>	<ul style="list-style-type: none"><li>• Install/replace suppression diode on the small terminals of the solenoid.</li></ul>
<ul style="list-style-type: none"><li>• Cart jerks or shutters on takeoff, but once at full speed it drives smoothly. (1995 and Newer)</li></ul>	<ul style="list-style-type: none"><li>• Check for water in the ITS throttle box. Drill weep hole if necessary.</li><li>• Bad ITS throttle, replace toroid core</li><li>• Adjust the collar on the ITS slug so the microswitch activates before the slug enters the toroid.</li></ul>
<ul style="list-style-type: none"><li>• Controller powers up in reverse but not forward.</li></ul>	<ul style="list-style-type: none"><li>• Verify the RED wire is attached to the RED J1 and the ORANGE wire is attached to the BLUE J1 connection.</li></ul>

**Club Car**

<b>Issue</b>	<b>Solution</b>
<ul style="list-style-type: none"><li>• Controller powers up, but solenoid does not engage</li></ul>	<ul style="list-style-type: none"><li>• Reboot OBC (See Tech Note 11)</li><li>• Replace the OBC</li><li>• Remove wire from solenoid that goes to the OBC (Typically the yellow wire). Jumper from that post to B- and see if solenoid works.<ul style="list-style-type: none"><li>○ If solenoid works, replace OBC.</li><li>○ If solenoid doesn't work, replace solenoid.</li></ul></li><li>• Verify the polarity of the suppression diode on solenoid coil.</li></ul>
<ul style="list-style-type: none"><li>• Cart works fine in forward, but flashes 3 red when in Reverse.</li></ul>	<ul style="list-style-type: none"><li>• Replace outside most microswitch on F/R switch.</li></ul>

**Yamaha**

<b>Issue</b>	<b>Solution</b>
<ul style="list-style-type: none"><li>• Throttle works in reverse (Starts fast, slows down as you press the pedal)</li></ul>	<ul style="list-style-type: none"><li>• The throttle has 3 wires, A BLUE, GREEN and WHITE. Typically the GREEN and WHITE are connected to J4 and J5 and BLUE is grounded to B-. Swap the BLUE with the GREEN to fix this issue.</li></ul>
<ul style="list-style-type: none"><li>• The cart only runs at about quarter speed with the throttle fully depressed.</li></ul>	<ul style="list-style-type: none"><li>• Controller has the wrong throttle programming. G9-G16 has a 0-1k throttle. Controller is configured for 0-5k throttle.</li></ul>

**ALLTRAX Inc., Company History:**

The company founder developed our core technology at the race track for high power electric vehicles. Throughout the 90's, the market demanded robust and high performance electronic controllers. In 2001 ALLTRAX was formed based on the E-race car developed technology.

Today, Power Conversion Engineering (PCE) is the research and development arm of ALLTRAX and provides the industry a powerful and robust controller to meet all your recreational, industrial, and commercial electrical vehicle needs.

For more information please go to <http://www.alltraxinc.com>



*"The company was founded at the track"*