

Technical Bulletin

Bulletin No: TB 1001 Effective Date: 6/2013 Issued By: Paul Payton Page: 1 of 1

Subject: SC 2000 Trouble Shooting

- Solid GREEN LED means no faults
- LED off means internal controller fault or that the controller is bad (replace)
- The following is the diagnostic codes and possible fixes:
 1. **1 flash of the LED** = personality out of range
 - reprogram the controller
 2. **2 flashes of the LED** = sequence or wiring fault (this happens when the startup procedure is done incorrectly)
 - Stand up rider trucks:
 - a) Must be on the brake pedal first, then give travel input
 - Sit down rider trucks:
 - a) Must be sitting in the seat, then give travel input if the unit has the PQ handle
 - Sit down counterbalance trucks (Pegasus/DSD):
 - a) Must be sitting in the seat, select travel direction, and give accelerator input
 3. **3 flashes of the LED** = MOSFET short circuit (FET/SC) displayed on BDI
 - Shorted controller (shorted free wheel diode)- (bad controller-replace)
 - Check contactor coils for shorts
 4. **4 flashes of the LED** = Contactor overcurrent (o/c) or contactor short circuit (s/c) and/or wiring short
 - A. Check to see if the contactor is shorted for the function its faulting on (i.e. F&R, lift, steering, 1A, ect.)
 - B. Check the resistance of the contactor to see if its working properly
 - a) 24 volt should have approximately 13 ohms
 - b) 36 volt should have approximately 20 ohms
 5. **5 flashes of the LED** = not used
 6. **6 flashes of the LED** = Accelerator fault (potentiometer out of range or bad potentiometer)
 - A. Reference technical bulletin TB1000 for setting the accelerator parameters for the SC2000 (PN#11980194)
 - B. If the potentiometer parameters are correct, check to see if the potentiometer is sweeping both directions (you will see an ohm reading in the “neutral” position). Once you give a directional input, that reading will go close to “0” when you have full depression of the accelerator pedal. If the potentiometer does not sweep properly, it will need to be replaced.

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7. **7 flashes of the LED** = Battery low or high fault (check battery condition)
 - A. Is the battery charged?
 - B. If the battery is charged, have them do a specific gravity test on the battery. This will determine if the battery has a bad cell or if the battery is good or bad. The battery could have a bad cell in it, and the battery charger will not indicate the bad cell, this will give a false reading of the battery being charged.

8. **8 flashes of the LED** = Thermal cutback fault (happens when a drive or lift motor overheats)
 - A. Let the unit cool down before trying to operate
 - B. Check the condition of the drive & lift motors (if equipped with the thermal protection)
 - C. Check the armature and brushes for excessive wear
 - D. Possible bad thermo on drive or lift motor

9. **9 flashes of the LED** = Contactor short circuit (s/c)
 - A. Check to see if the contactor is shorted for the function its faulting on (i.e. F&R, lift, steering, 1A, ect)
 - B. Check the resistance of the contactor to see if its working properly
 - a) 24 volts should have approximately 13 ohms
 - b) 36 volts should have approximately 20 ohms

10. Truck not going into high speed after installing new or rebuilt controller.
 - A. Set all cutback speeds to 100%
 - B. Check 1A contactor for pick up, check for shorted contactor coil

MATERIAL HANDLING REDEFINED

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