

TECHNICAL SERVICE BULLETIN NSS[®] Enterprises, Inc.

Please post for your Service Department to see

To: NSS Distributors & Service Centers
Date: January 14, 2010
Product: Charger 2717 & 2022
Subject: Troubleshooting Tips

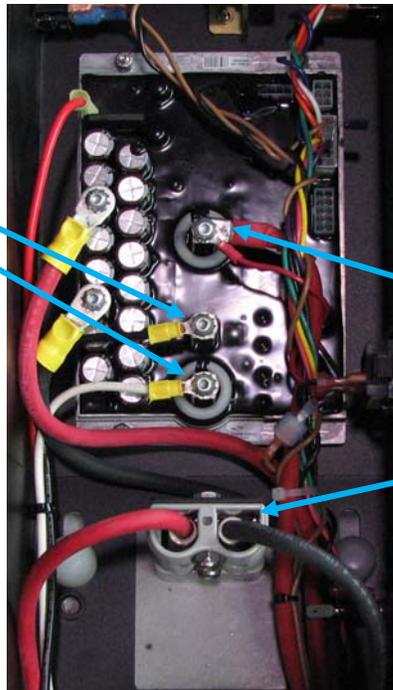
Troubleshooting Tips

- 1. No error code, brush and drive motors won't run:** A few seconds after the master switch is turned on you should hear the solenoid energize (click). The solenoid feeds power to the controller to operate the brush and drive motors. If you do not have voltage on the output side of the solenoid, the brush and drive motors will not operate.
- 2. Checking controller output to the brush motor and drive motor:**

Note: Voltage readings will vary by machine. This example is for a 2717.

To test the control boards output to the drive motor:

Turn the machine off. Disconnect the black and white wires from the pegs on the board. Turn the machine on. Measure the voltage across the output pegs as you twist the drive handle. You should see the voltage increase from 0 to about 33 volts in the forward direction. The polarity will change and you see the voltage go from 0 to about 24 volts if you go in the reverse direction.



To test the control boards output to the brush motor:

Turn the machine off. Disconnect one of the drive motor wires to prevent the machine from moving. Disconnect the red brush motor wire from the output peg on the board. Turn the machine on and twist the handle. Measure the voltage from the output peg on the board to battery negative. You should read about 27-29 volts.

**If you have questions please contact:
NSS Technical Services 800-261-3499**

3. **Dead control board:** If you replace the control board in your machine and the new board dies almost immediately, you may have a bad solenoid. A shorted coil in the solenoid will take out the control board.
4. **F42 error code:** F42 codes are caused by too much pad pressure. Please refer to the operator manual for the procedure on adjusting pad pressure. Normally you want to adjust the collars until the brush motor is drawing about 60 amps on a good flat floor. In a few cases we have seen machines where you could adjust the collars out to over 1.5 inches and the machine would still give an F42 code. When the collars are adjusted that far out, the pad should not even be able to pull down to the floor. If you find this scenario, check for broken welds on the brush arm assembly.



5. **F26 and O2P error codes:** Low voltage to the 4 amp fuse will cause F26 and O2P error codes. With the battery charger unplugged, measure the voltage from the fuse to the negative standoff post in the machine. You should read battery pack voltage (36-38 volts). If the voltage is low or nonexistent, check the red battery charger wire for corrosion where it hooks to the positive terminal on the battery pack, you may also have a bad battery charger.
6. **F 32 error code:** Check the voltage from the **output** side of the solenoid to the negative standoff post with the machine turned off. There should not be any voltage at that point, unless the solenoid is stuck closed. If the controller has voltage at the output side of the solenoid when the machine is first turned on an F32 error will occur.
7. **F37 error code:** This error is **normally** caused by a bad potentiometer. We have also seen the error caused by a bad board or bad batteries. Please refer to TSB # 00.17 Potentiometer Trouble shooting and adjustment.
8. **F46 error code:** Bad batteries may cause this error code.

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