TECHNICAL SERVICE BULLETIN

NSS Enterprises, Inc.

Please post for your Service Department to see

To: **NSS Distributors & Service Centers**
Date: 8-31-07
Product: Wrangler 2730/3330
Subject: Wrangler 2730/3330 with I Drive Controller

Wrangler 2730/3330 with I Drive

NSS has recently changed the controller used by the Wrangler 2730 and 3330. Machines produced after serial # 29788507 have the new controller. The new controller (Part # 3391421) offers improved safety and functionality. Additional safety features include the following: 1.If the emergency stop is pressed the battery meter lights will flash and the master switch must be turned off and back on. 2. If the twist grip is engaged when the master switch is turned, the machine will not start or move. 3. The vacuum motor won't run unless the master switch is on. Machines equipped with the new controller also have a new battery meter (Part #3391351). The new meter uses an LED (Light emitting diode) display instead of the analog needle. Wiring for the new I Drive controller is **not** compatible with the Curtis controller. The new wiring harness makes for easier trouble shooting and repair. The Curtis controller (Part # 2690021) will remain available for older Wrangler 27/33FB's and 2730/3330's.

Battery Meter

I Drive Controller

Error Codes

Error codes are displayed on the battery meter.

1 Bar- The battery needs charging or there is a bad connection to the batteries.

2 Bars- There is a bad connection between the controller and the motor.

3 Bars- The motor has a short circuit to a battery connection

4 Bars- The battery voltage has dropped below the lockout point and the controller is inhibiting certain machine functions. Charge the battery.

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

5 Bars-Not used

6 Bars- The controller is being inhibited from driving; this may be because the battery charger is plugged in or defective.

7 Bars- A throttle fault is indicated. Make sure the throttle is in the neutral position before turning the machine on. Check the potentiometer.

8 Bars- Controller fault; make sure all connections are secure.

9 Bars- Not used

10 Bars- Over voltage to the controller, this is normally caused by a bad connect to the batteries. Check battery connections and voltage.

Circuit Operation

1. Power is routed from the positive terminal of the battery pack to the brush solenoid, vac solenoid, battery charger and controller.

2. The battery charger has an internal switching circuit and will provide power thru the fuse to the master switch as long as the charger is unplugged.

3. When the master switch is turned on power flows to the control board causing it to turn on.

4. The controller will go thru a self-test, this takes about ½ a second.

5. When the handle is twisted the potentiometer will move and change its resistance value, the control board in turn will interpret this as direction and speed. The control board outputs power to the drive motor to this effect.

6. The vacuum switch controls the Vacuum solenoid. When the switch is turned on electricity flows from the control board to the vacuum solenoid and back to the control board. This causes the solenoid to energize.

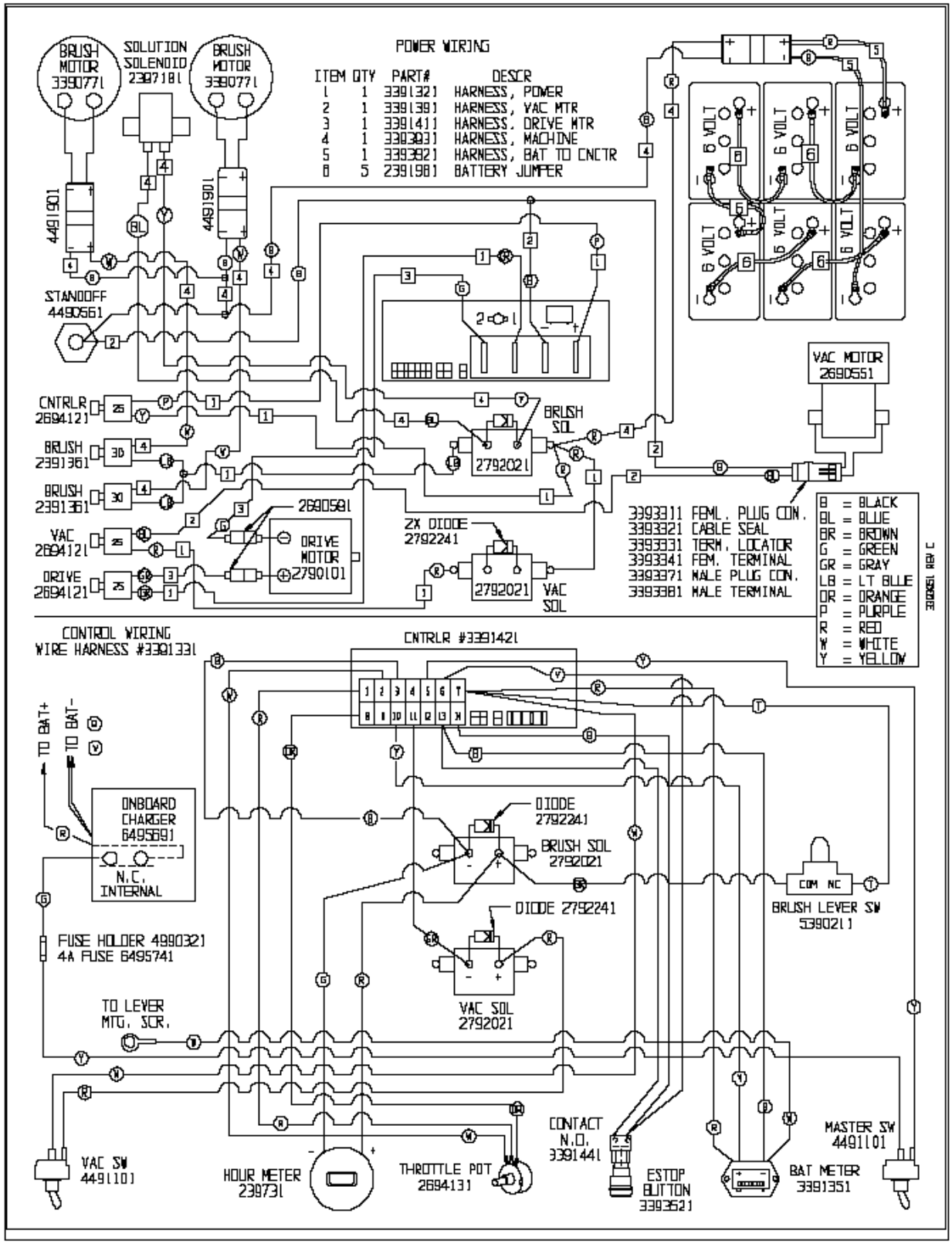
7. The Vacuum solenoid acts as a switch, when it is energized electricity flows from the battery pack through the solenoid, vacuum breaker, vacuum motor, and then back to the battery pack through the standoff.

8. When the machine is in motion, the control board will out put power thru the brush switch to energize brush and solution solenoids. The brush switch is used to detect the position of the brushes, if the brushes are in the up position, the switch will be open and not allow the solenoids to energize.

9. When the solution solenoid energizes it opens a valve to allow the flow of solution to the floor.

10. When the brush solenoid energizes electricity flows from the battery pack thru the solenoid and breakers to the brush motors and back to the battery pack through the standoff.

WIRING DIAGRAM



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