

THIS PROCEDURE IS USED TO TROUBLESHOOT THE ELECTRICAL SYSTEM ON THE *GRANITE MX & IMX SERIES MACHINES* WITH THE *SQUARE* BRUSHLESS DC MOTOR.

DO NOT USE THIS ON THE GRANITE CLASSIC MACHINES WITH THE BRUSH *ROUND* TYPE DC MOTOR

THEORY OF OPERATION

The brushless motor system is the newest motor used on all granite MX, IMX and Elite machines. The motor has a powerful permanent magnet armature. There are 3 field windings and the motor speed is determined by how fast the field windings are turned on and off. This is all done electronically by the control box mounted on the back side of the pulley box. This allows the motor to utilize full magnetic force at all speeds. This means that you have full torque at all motor speeds.

TROUBLESHOOTING

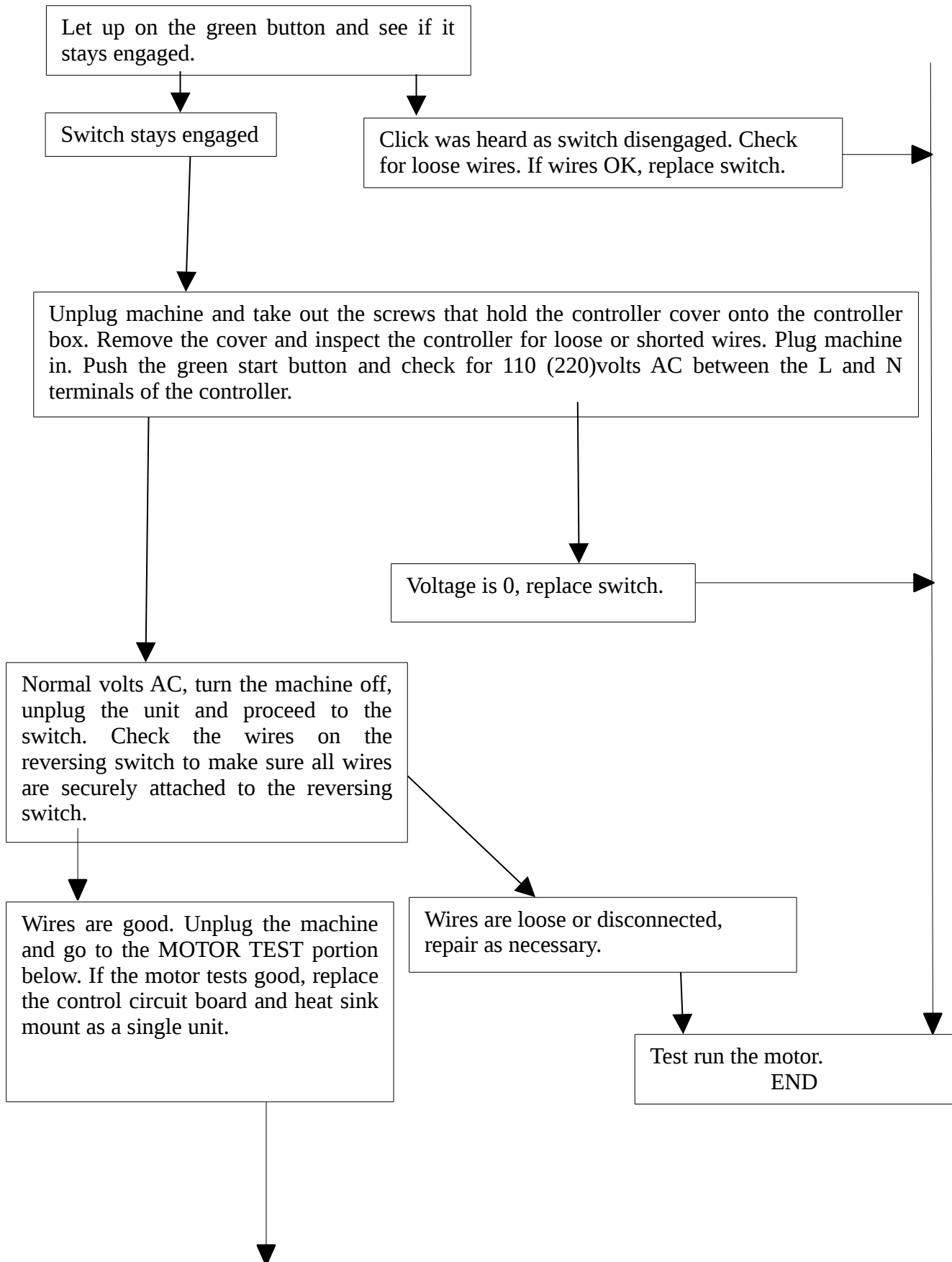
The 110 volt machines and the 220 volt machines will be tested the same. The only difference will be the voltage to the switch and the voltage to the motor control.

Troubleshooting of the Granite machines can be accomplished with a simple volt/ohm meter that is available from most discount stores for under \$10.00.

MOTOR WILL NOT RUN

TESTING OF THE AC INPUT AND THE SWITCH.





TESTING OF THE MOTOR

There is not a lot of testing of the motor that can be done without some very special equipment. We can check the windings of the motor. There are four large wires going from the control to the motor. They are U, V, W, and ground. The U, V, and W are the field windings of the motor. We can check the resistance of the field windings and also make sure there is no short to ground.

PROCEDURE

