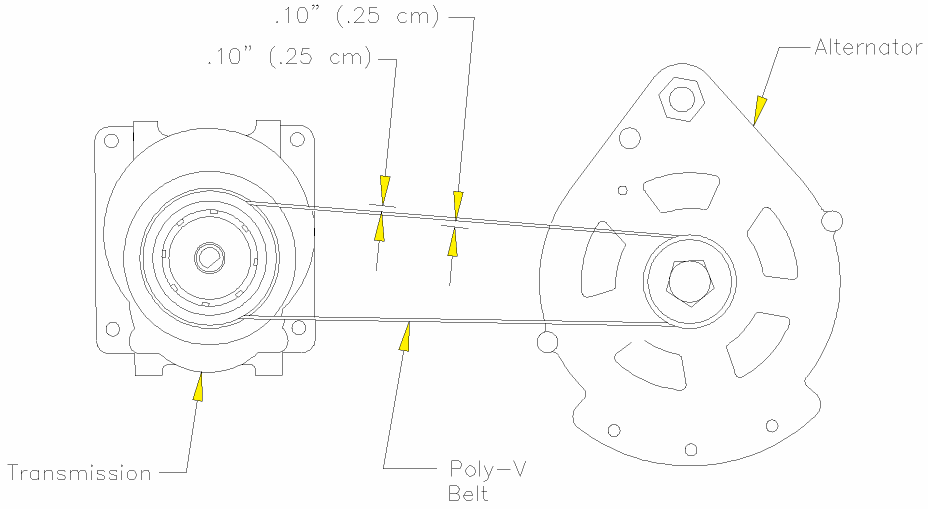
If you have problems with erratic speed control while operating the machine, the cause may be either electrical or mechanical in nature. You will have to remove the side covers to conduct most of these tests.

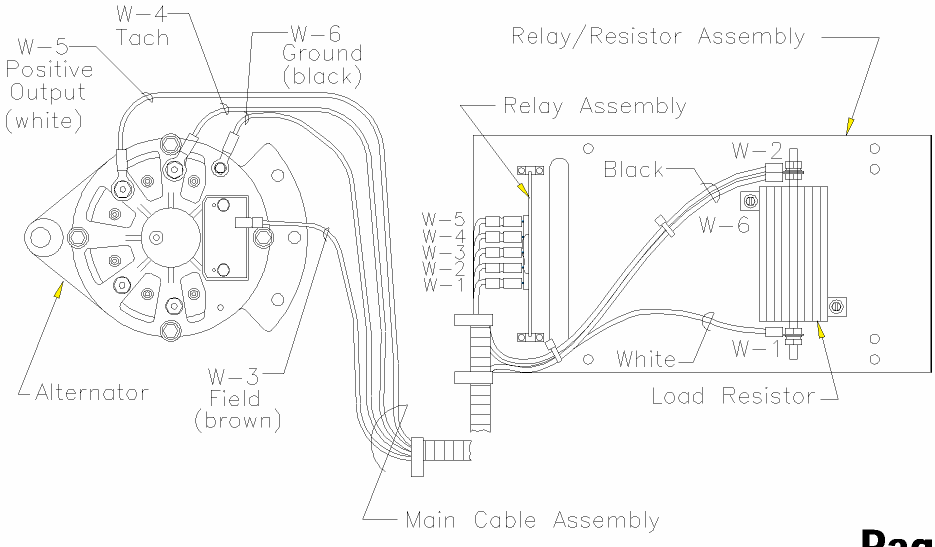
A. Perform a visual check of the machine. Check the following things first:

1. Inspect the Poly- V belt for proper tension and excessive wear. A loose belt will cause excessive noise and wear. The machine will run sluggishly if the belt is too tight.

2. Replace a worn or frayed Poly-V belt. Adjust the belt so that there is 1/10" (0.3 cm) deflection at a point midway between the alternator and transmission pulleys with fingertip pressure (See Drawing Below).



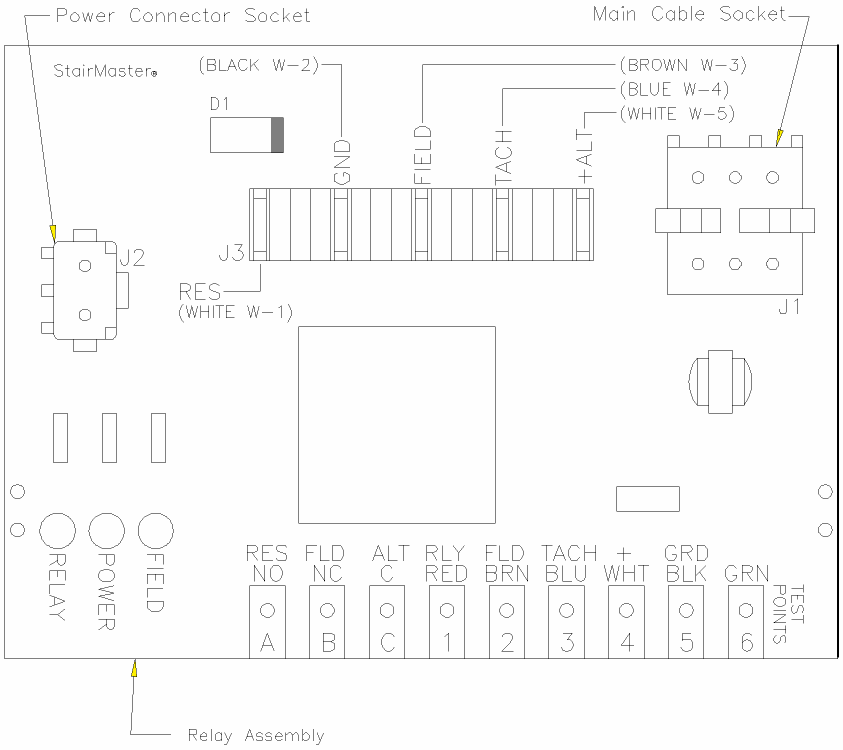
3. Check for proper wire connections on the alternator, relay assembly circuit board, and load resistor (See Drawing Below).



4. Replace or exchange the console with another console you know is good and retest the machine.

B. Check the relay assembly circuit board while the console displays "SELECT WORKOUT." You will need an assistant to complete the test of the relay assembly circuit board.

1. Remove the right side cover. Locate the relay assembly circuit board located just inside the frame, midway between the top and bottom steps (refer to Wiring Diagram). There are three red indicator lights along the bottom edge of the circuit board. They are labeled, from top to bottom: Field, Power, and Relay. Ensure the black and white wire power connector (labeled J2 on the relay assembly circuit board) is securely connected to the relay assembly circuit board (refer to Figure Below).



2. If the Power light is lit, go to step #3. If it is not, perform the tests as described in step 4b - c of the "Console Fails to Power Up" section.

3. The relay indicator light should be lit. If it is lit, proceed to step #5. If it is not, use a jumper wire on the relay assembly circuit board. Jump the silver tabs #1 (labeled RLY/RED) and #5 (labeled GRD/BLK) (refer

to Figure on page. 34). The relay indicator should light up. If it does, go to step #4. If the relay indicator does not light up, the relay assembly circuit board must be replaced. Replace the relay assembly circuit board and retest the machine.

4. You must check the cable assembly for continuity if the relay indicator lit up when you jumped tabs #1 and #5.

   a. Unplug the main cable from the position labeled J1 on the relay assembly circuit board. Disconnect the console cable from the back of the console. Set your multimeter to the continuity check mode; on most meters, this will be the resistance or ohms setting.

   b. Place one lead of the multimeter on pin #1 at the console connector end of the console cable (refer to Wiring Diagram). Place the other lead on pin #1 at the end of the main cable you disconnected from the relay assembly circuit board. You will get a reading of near zero ohms if there is continuity in the cable assembly.

   c. Check continuity in both ends of the main cable assembly at pin #5.

   d. If there is no continuity in the cable assembly at either pin, replace the cable assembly and retest. If there is continuity in the cable assembly at both pins and the relay resistor indicator is not lit, the console is inoperable and must be replaced.

5. Have your assistant step on the staircase (leave the console in the ATTRACT mode) while you check the field indicator light. It should be flickering. If it is and you still have a speed control problem, go to step #6.

   If it is not flickering, ensure the following: the console cable is connected to the console; the console/main cable connection is secure; the connector at position J1 on the relay assembly circuit board is securely connected; that there is continuity in the cable assembly. To check for continuity:

a. Unplug the connector at position J1 on the relay assembly circuit board. Disconnect the console cable from the back of the console. Set your multimeter to the continuity check mode; on most meters this will be the resistance or ohms setting.

b. Place one lead of the multimeter on pin #2 at the console connector end of the console cable. Place the other lead on pin #2 at the end of the main cable you disconnected from the relay assembly circuit board. You will get a reading of near zero ohms if there is continuity in the cable assembly.

c. If there is no continuity in the cable assembly, replace it and retest. If there is continuity in the cable assembly and the field indicator light is still not flickering, contact the Customer Service Department at 800-331-3578 for further assistance.

6. If the field indicator was flickering while your assistant was on the machine and you still have a problem with speed control, you need to test the alternator.

a. Disconnect the white wire (labeled positive output on the alternator) and the brown wire (labeled "Field" on the alternator). Use a jumper wire to jump the Field and positive output terminals of the alternator.

b. Have your assistant step onto the staircase. Does the staircase slow down? If it does not, you need to replace the alternator. If the staircase does slow down, contact the Customer Service Department for further assistance.

c. Replace or exchange the alternator with another alternator you know is good and retest the machine.

d. Test the load resistor as outlined in the "Load Resistor Test" section of this Manual. If the speed control problem still exists, contact the Customer Service Department at (800) 331-3578 for further assistance.