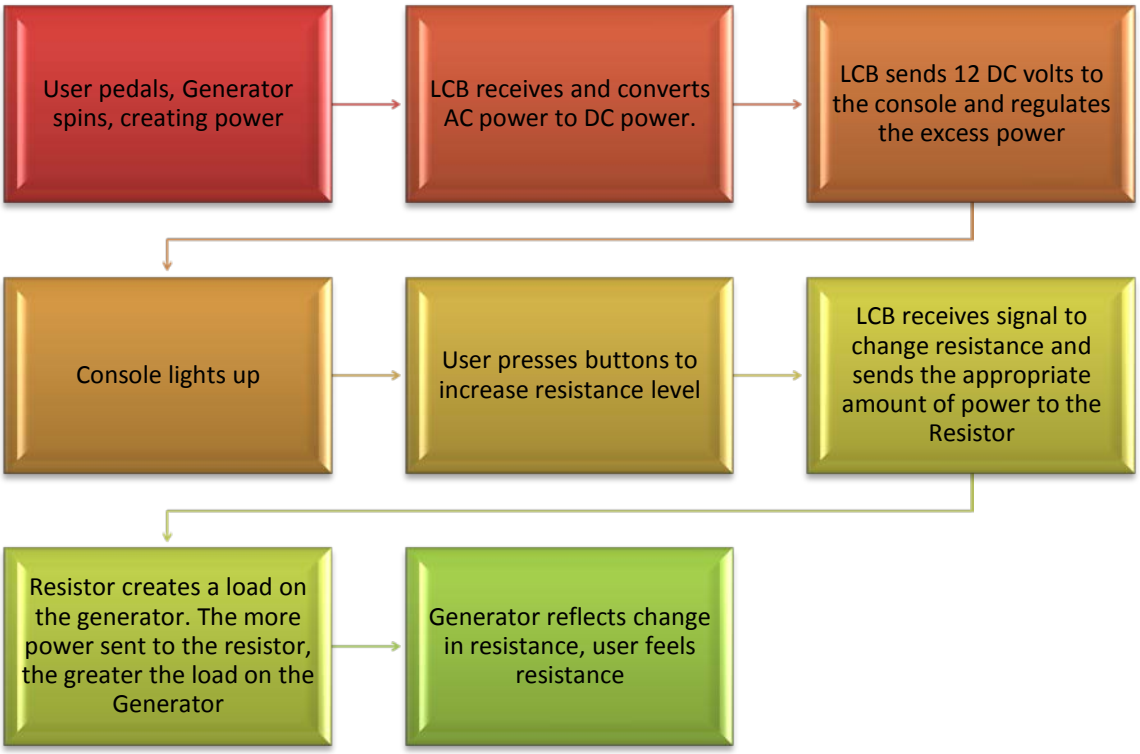
Understanding Generators

Self-Powered

- Units with a generator are self-powered. This means it creates enough electricity to run the unit without being plugged to the wall
- The generator creates electricity while it spins
- The level of resistance is changed by the load applied to the generator from the lower control board (LCB) through the resistor



Speed Feedback

- While spinning, the generator measures the AC wave length for how fast the flywheel is spinning and converts it into RPM data. This data is sent to the console for the speed readout.

Battery Backup

- All self-generating units have a battery to back up the console if pedaling stops and the generator is no longer producing voltage to light the screen
- There are 2 types of battery:
  - 9 volt battery
  - 12 volt gel cell battery, rechargeable
- The batteries recharge while pedaling; otherwise, the unit should be plugged in to recharge
- Not all 9v batteries are rechargeable

Troubleshooting Information

There is no console display

- If the unit has a plug-in option, plug it into an outlet. If the unit works when plugged in, check the generator connection. If the connections are good and there is no change, test generator. If the generator tests good, replace the LCB
- If the unit does not work when plugged in, or if there is no plug-in option, use a voltmeter to test for voltage coming off the generator and test voltage coming out of the LCB or at the top of the console cable to determine where the loss of power occurs

Unit powers up but shuts off as soon as the user stops pedaling (or reverses direction)

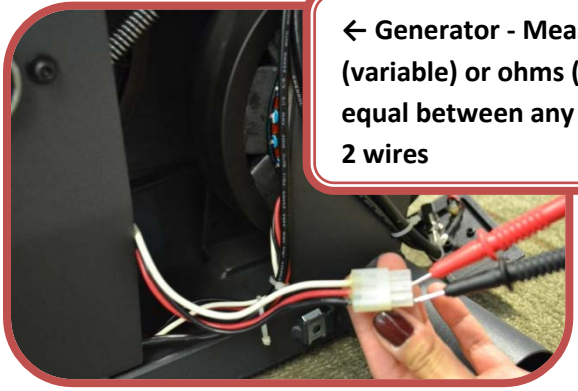
- The unit is receiving power from the generator but the battery is not backing up the power. Test the battery.
- If the battery is rechargeable, it will be recharged by plugging the unit into a wall outlet or by pedaling the unit for ~1 hour
- If the battery is not rechargeable, replace it.
- If the battery is working properly, this means the LCB is not regulating the power correctly; replace the LCB

There is no RPM readout

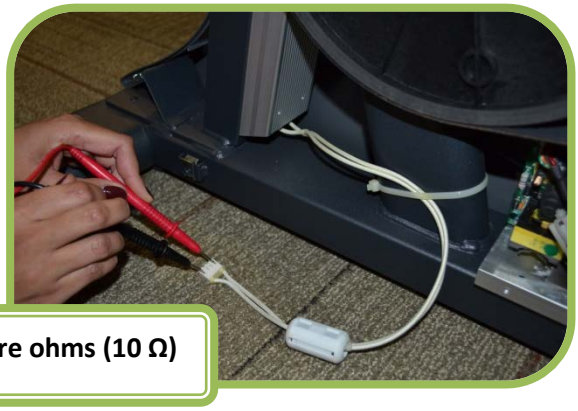
- The LCB reads the voltage output from the generator to determine the speed. Test the voltage coming directly off the generator
- If the voltage is variable (voltage should changed based on how fast the generator is spinning), then the generator is good; replace the LCB
- If the voltage is not variable with changing speed, replace the generator

There is no change in resistance

- Use a voltmeter to test the console cable, the LCB output leads to the resistor, and the resistor output to determine how far the console signal for resistance is travelling



← Generator - Measure voltage (variable) or ohms (Ω). Values are equal between any combination of 2 wires



→ Resistor - Measure ohms (10 Ω)