

Balancing Your Battery

Sometimes with lithium ion batteries, the battery becomes out of balance and you must re-balance the battery to gain full strength. This document will briefly explain what it means when your battery is out of balance, symptoms you will experience, and finally, how to balance your battery.

What Out of Balance Means:

Your battery is only strong as the weakest cell. When one or more cells in the battery are low, the battery will compensate for the low cell(s) by adjusting the rest of the cells to the low cell's capacity.

For instance, if one cell is only charged at 80%, the rest of the cells will only put out 80% of their energy in order to protect that low cell. Therefore, even if every cell in your battery is charged to 100% capacity, it will only produce 80% of its energy to compensate for the one low cell.

Symptoms of an Out of Balance Battery:

The two basic symptoms that your battery is out of balance are:

- Bike goes to safe mode unusually fast
- Range is noticeably shorter than you normally get with a full charge

If you are experiencing the above symptoms your battery is most likely out of balance.

How to Balance your Battery:

Balancing your battery is a simple process; it will take 3 – 5 days to complete the balance.

How to balance your battery:

1. Plug your bike in and charge the bike all of the way. Let the charger run until the bike turns off (your LED and headlights should go off). This process takes 12-18 hours.
2. Ride your bike 5 – 8 minutes at full power. The goal is to drain off some power.

3. Plug your bike back and charge until bike shuts off again. If your bike won't take a charge, ride your bike longer until the bike will take a charge.
4. Repeat steps 2 and 3 five times – this should take you 2 –3 days.

NOTE: Balancing cycle can take up to 12 hours, which is a good sign. This means that the battery is balancing itself out.