



## Explaining Common Issues

### **The battery lost voltage while riding or would not restart the engine shortly after riding-**

This type of issue is commonly related to a vehicle charging system issue and the vehicle should be inspected to make sure the voltage regulator output is within the typical range of 13.6-14.4V. Voltage regulators have a finite life span and can fail after a period of time. If the voltage regulator or stator fail or wear out, the battery will not receive the proper charge. In the situation that the charging system stops working it will discharge the battery while riding and can result in the loss of electrical power or not restarting after stopping.

### **The battery will not fully recharge-**

A battery that will not successfully recharge is often the result of improper use or care. Leaving the battery deeply discharged for several weeks could damage the cells; however the LFX battery is a very robust design that can often be recovered. If you are having trouble recharging the battery we recommend completing the warranty claim form online, [www.shorai.com/rma](http://www.shorai.com/rma), and return the battery to Shorai for inspection. If the battery is deeply discharged it is important to use the Shorai BMS01 charger to diagnosis the battery condition and balance the cells. For deeply discharged batteries, using the BMS01 in the store mode for a 24 hour period before fully charging is useful to balance the cells. To prevent charging issues please make sure that you monitor the battery voltage and charge the battery when necessary to maintain above 13.1V. A fully charged battery will measure 14.4V and should never have an unloaded resting voltage below 12.86V.

### **Not enough power to start the vehicle-**

This type of issue is normally associated with an improper battery recommendation, starter current exceeds 50% of the CCA rating, or not following the lithium cold start procedure. We would suggest reviewing the Shorai product recommendation guide and verify you have the correct battery for your application, [www.shoraipower.com/display](http://www.shoraipower.com/display) . Please, also review our LFX care tips guide at , <http://shoraipower.com/installation-guides> for details on cold weather starting.

### **The battery does not maintain voltage when sitting-**

This type of issue is typically associated to vehicles with higher than normal key off draw measurements. For LFX14 or smaller battery models, even a low parasitic draw of 3-4mA is hard on the battery unless charged within a 30 day period. If the bike has an alarm system, clock or other electrical devices that draws power while the key is off it is very likely that the battery will need to be charged more frequently than the typical monthly recommendation or disconnect the bike's negative terminal. Please make sure that you monitor the battery voltage and charge the battery as necessary to maintain a resting voltage above 13.1V. For vehicles with significant key off draw, the Shorai BMS01 charger should be used in the store mode if the bike will be sitting unused. While in the store mode the Shorai charger will maintain the battery at approximately 13.3V. Before use press the charge button and wait for a solid green light to indicate the battery is fully charged to 14.4V.