

Tips & Tricks,

LiFe Batteries

By John Bert

Many of us will switch to a LiFe battery to power our receiver and servos. The most common battery for both the 65 and 95 is 6.6v, 2cell, 850mah. Operating under a full charge, I have never depleted a battery for a single day of sailing. Even in heavy winds there seems to be more than enough power in one of these batteries to make it through 4-5 hours of continuous sailing. Some of my batteries are easily 5 years old and still provide power for a full day of sailing.

Assets of a LiFe battery:

- Weight - 1.6oz/47g vs 3.8oz/108g for a 4AA battery pack.
- Size - Its small footprint will fit in your boat easily.
- As the battery discharges it has the ability to maintain a constant voltage.
- Can withstand continual deep discharges
- Quickly recharges



Using LiFe batteries requires a *Balance Charger* that supports a 2 cell LiFe battery. Do not try to charge your battery without having a proper charger it will ruin your battery and create a fire hazard. Most chargers have different battery settings. Careful setup is a must. Using the LiPo vs LiFe setting just once can ruin your battery and your day. If you have a setting for amp output (1A, 2A, 3A), 1A will work fine, and after a typical day of sailing a recharge will only take 15-20 minutes. Some battery chargers can be set to completely drain your battery and then recharge. This is called a deep cycle. I am not sure of the real benefit in doing this for a LiFe battery. I would *not* recommend doing this for every charge event. Most articles I have read say *small discharges and recharges will give you the best battery life*.

During a normal charging cycle these batteries will feel slightly warm. *They should never get hot. They should never swell up*. If this happens remove from the charger immediately, and do not try to recharge.

LiFe batteries are programed to not recharge if they are drained completely. Therefore, after a day of sailing it is imperative to turn your battery off. To be doubly safe disconnect the battery cable (a good practice anyway). Many of us have left our batteries plugged in and in the ON position while the boat is not being used. You will now be surprised when you place the battery in the charger, and it does not charge. If you have a battery capacity checker it will probably read 0. What you can do now is leave the battery unplugged from anything for 24 to 48 hours. It will frequently regain a small charge on its own to allow it to recharge. (I have had very good luck with this.)



I recently left my battery ON while my boat was not being used and realized my mistake when I tried to recharge (checked voltage = 0). After letting the battery sit for about 30 hours it tested at 5.2 volts. Now the charging process could begin. It took about 60 minutes. With this knowledge the battery had logic that would stop it from discharging at about 5 volts. At this point testing would read zero and the same logic would not allow it to accept a charge.

Battery storage – If you will not be using a LiFe battery for a period of time it is best to leave it in a not fully charged state in a cool location. A new battery out of the package will typically have a 30-40% charge. This is its ideal dormant storage capacity. When you are ready to use it again place it in the charger. I am guilty of recharging batteries and not using them for long periods of time. Perhaps this is not the best way to store them, but I have not rendered any batteries useless after doing so.

Installing in your boat is easy using a few pieces of Velcro. For the 95 place it right in the servo tray. The standard setup around our club is the fuzzy piece on the battery, the hooks in the tray (makes it easy if you need to swap batteries). In the 65, mount vertically on the keel box (you will need a 3" extension cord). If you have Corrosion X, place a drop on your battery plug to prevent corrosion. A Servo Extension Safety Cable Wire Lead Lock is a good safety measure to prevent the plug from disengaging (Most important in the 65's).



<https://radiosailing.net/collections/dragon-sailing-accessories>
https://www.ebay.com/sch/i.html?_from=R40&_trksid=m570.11313&_nkw=Servo+Extension+Safety+Cable+Wire+Lead+Lock&_sacat=0

Batteries can typically be purchased for \$17-19us plus shipping, chargers \$35-40us. In the technology world of batteries, the LiFe 6.6v 850mAh batteries are small peanuts. The LiFe charger that you select needs only to be basic, it is not necessary to buy an expensive high capacity charger. As a first-time user I would recommend buying two batteries and a basic charger. Take the time to be familiar with your charger to get everything set properly for a LiFe battery. Some chargers require that they be set up for each use. Some are more sophisticated and once set up will always start using the last programmed setting.

<https://radiosailing.net/collections/batteries-chargers>

A further note:

I was just recently at BT Hobby in Sebastian talking to Tom the store owner. He had a Venom 850 6.6v battery in the showcase. I told him we use these batteries in our boats. He immediately ordered some more for his store. This will be a good deal for us and will save shipping charges.

An advertisement for BT Hobby. The text reads: "BT Hobby", "RC Planes, Trains, Automobiles, General Hobby Supplies, Parts, Service and More!", "457 Sebastian Blvd Ste B CR 512", "Sebastian, FL 32958", "Phone: 772-589-9000", "E-mail: BThobby@att.net", "Thomas Maclean", "Owner/Proprietor". To the right of the text is a photograph of a red and black model train engine.