

T014-Battery Maintenance
Derek Alley
Monday, February 23 2009

The batteries we selected are Lithium Iron Phosphate Batteries. These batteries do not need periodic maintenance like Nickel Metal Hydride or Lead acid. Their chemistry is not explosive and stable even under under/over charge situations. A typical service time for LiFePO₄ is about 6-7 years or 3000 cycles, depending which comes first. If a battery is cycled once per day, it would last for over 8 years not accounting for capacity loss due to just aging (>3000 cycles).

Even if there are no specific maintenance instructions for LiFePO₄ batteries, there are a few good rules of thumb when it comes to battery conditioning and maintenance.

A few are:

- Cycle the battery a few times before using for the first time
- Store in a cool dry place
- If the memory effect is a problem, cycle the battery a few times every few weeks to undo the effect
- If the batteries need to be stored for a long time unused, then store them in a cool dry place and charge the batteries before their next use to account for their self discharge.

More can be found in the second reference below.

Sources:

<http://www.boatweb.com.au/2008/04/lithium-iron-phosphate-lifepo4-batteries-for-marine-applications/>
<http://is.med.ohio-state.edu/policies/battery.htm>