

Smooth Landings

January, 2011



ROCKY MOUNTAIN MODELEERS

modeleers.org

AMA Charter #1824

A Letter From The President

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Larry Grover	224-5124
Jerry Craig	484-9417



Annual Dues:

Adult: \$60

Junior: \$30

Family: \$70

Half price after July*

(*Only for new members!)

One-time runway fee: \$50

INSIDE THIS MONTH

January, 2011

- * Presidents Letter
- * Name That Plane Game
- * LiPo Battery Cell Balancing
- * WOTR Misc Pics

Greetings Modeleers,

By the time this newsletter is sent out, I am sure Christmas will have passed. I hope you had a great Christmas, and I wish you a great new year full of excellent flying weather!

I am confident most of you saw the email that was dispersed at the beginning of December concerning the special offer from HobbyTown USA. Once again, HobbyTown graciously extended employee pricing on RC related items to all RMM members. I hope many of you were able to take advantage of this great offer and buy yourself a few RC toys for under the tree! Please be sure to thank all of those at HobbyTown on behalf of the club the next time you are in their store. It is very generous of them to extend this sale to us each year, and I know we all greatly appreciate their support of our club.

Once again, I must remind you that 'tis the season to send in your renewals! Please mail your check along with AMA number to: Jim Ferry, 700 Dellwood Dr, Fort Collins, CO 80524.

At the last board meeting, the officers discussed the possibility of expanding our annual February club swap meet into something larger for the surrounding area. Encouraged by the excellent turnout at HobbyTown's swap meet held last February, the board decided to pursue a location to accommodate such an event. Thanks

to the folks at the County, we have located such a place – the McKee building at the Ranch. As a non-profit, our club can use this facility at no charge. They have graciously allowed us to reserve two large adjoining meeting rooms complete with tables and chairs for the attendees. The rooms have been reserved for Saturday, February 5th, 2011. Since we have more than adequate room, our thoughts are to send an invitation to members of the surrounding clubs – since the meeting location is right along I-25, I am sure many modelers from both the Denver and Cheyenne areas will attend.

RC swap meet events in our area have declined in the past year or two, so I believe this event will be well attended. Because the rooms will be equipped with tables and chairs, organizing the meet will be quite simple! More details will be discussed at the January meeting.

Speaking of the January meeting, it is quickly approaching! It is hard to believe 2010 is already over, but that means spring is that much closer! (I think that is how it goes, right?!) The next meeting is scheduled for Wednesday, January 5th, 7:00 P.M., at Home State Bank in downtown Fort Collins. I hope to see you there with your latest project to show off to the group!

Garret Hultgren, President

Next Meeting: Wednesday, January 5th -7 p.m., at Home State Bank, Fort Collins, CO.

Importance of Balancing Lithium Polymer Batteries

by Dave Buxton

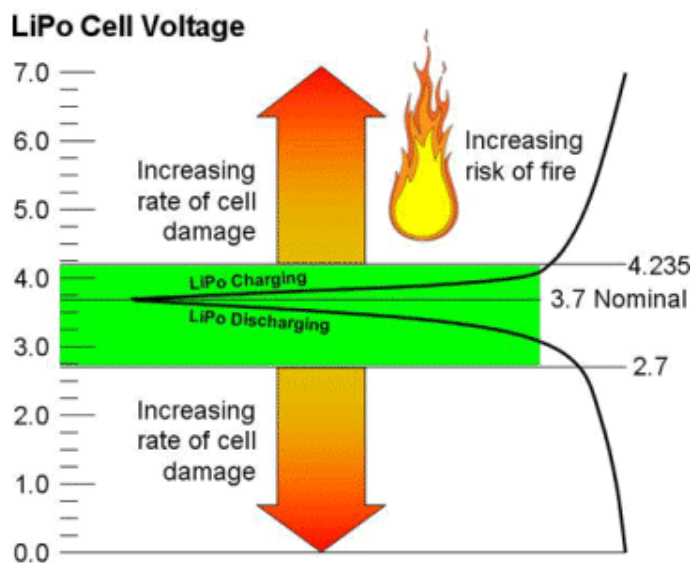
The primary reason for this article is to explain the importance of using a balancer for Lithium-polymer (Li-Poly) battery charging every single time you charge your Li-Poly batteries. Balancing will greatly reduce the risk of your batteries going bad prematurely.

Let's start with an illustration for those who may be electronically challenged:

Imagine two 5-gallon buckets. One has been used for mixing paint and has several layers of it coating the inside.

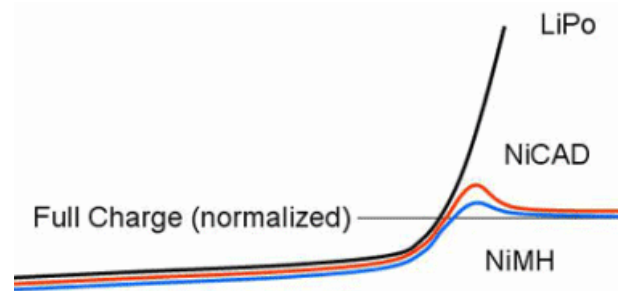
The bucket with reduced capacity (painter's bucket) will fill faster and will empty faster if the flow rate for each is the same. Normal aging and cell damage are like adding layers of paint. The cell with less capacity will charge or discharge faster than the other cells in the pack. Brand new battery packs can have cells that are poorly matched.

Cell balancing is like drilling a hole in the bottom of the painter's bucket so it will fill no faster than the clean new bucket. We can put our finger over the hole as necessary to keep the two buckets in balance as we fill them. Using a Li-Poly balancer does not scrape the paint out of the painter's bucket.



Li-Poly chemistry accumulates a charge over a fairly narrow voltage range with rapidly diminishing capacity exhibited above and below this range. This explains why the voltage rises or falls more rapidly above or below this chemistry range. Operating outside this range of voltages will at best accelerate the aging process and can result in serious cell damage and even smoke and flame. A battery that could have lasted three years might fade away in less than a week if one cell has a significantly reduced cell capacity relative to its mates.

Nicad and NiMH cells self limit at full-charge voltage. At that point they start getting hot, which is why it is very important that Nicad and NiMH chargers detect full charge and switch to a trickle charge rate. Li-Poly cell voltage is not self limiting, which is why you should never use a Nicad style trickle charger. Diagram 2 normalizes the three charging curves so that their respective full-charge voltages appear to be the same.



You may be a newcomer to RC flying of indoor or park flyer airplanes on a very limited budget. This article need not scare you out of the hobby or into purchasing an expensive charging system. The smaller, simpler Li-Poly chargers do not charge batteries all the way to the top, allowing some margin for a cell being out of balance.

MODELEERS - DON'T FORGET

Send your 2011 membership dues to:

Jim Ferry
700 Dellwood Dr.,
Fort Collins, CO 80524

(please include your AMA # on your check)

ROCKY MOUNTAIN MODELERS

At least do the following if you don't use a balancer:

Make sure the charger is charging to an adequately conservative voltage that is less than 4.2 times the cell count. Check the cell count each time you use the charger. Wrong cell count is one of the leading reasons for smoke and fire, which has led to car fires and houses burning down. Once in awhile, at full charge, use a volt meter to confirm that none of the cells are being charged to more than 4.2 volts. If a trend is developing in that direction then its time purchase a balancer.

If the above is stretching it a bit, then you should at least add an external balancer (e.g. Blinky Balancer).

Consider the limitations of an external balancer:

May not be aggressive enough, especially for larger batteries or any battery with cells more seriously out of balance (Blinky balancing cost me an expensive battery).

An integrated balancer can easily produce an alarm if you dial in the wrong cell count. An external balancer won't do that.

A charger with an integrated balancer will slow down or even stop the charging process whenever the balancer is not keeping up.

If your flying practice sounds anything like the following, then you should (must) use a charger with an integrated balancing system:

High battery stress style of flying (e.g. lots of full throttle, hot weather, flying until the battery fades, outdoor helicopters).

Cell counts greater than three.

Cell capacity greater than 2100 mAh for which you should at least use a Blinky external balancer.

Some chargers have an external balancer that communicates with the charger. This can be as effective as having the balancer built into the charger.



NAME THAT PLANE GAME

Email the name of the plane (pictured on the front page) to sevntigers@gmail.com and receive a \$10 gift card to **HobbyTown USA**

Please note:
If the required number of guesses is not met, the closest will win.
Note: You can only win two months in a row!

The 2nd person to email the correct answer is the winner!

Last month winner: Jack Patton

Featured: Corsair & Messerschmitt midair collision

Misc Pics Archive

Warbirds Over The Rockies 2010



For informative R/C how-to's, tips & tricks, and fun aviation-related articles and cartoons, visit:
<http://www.modelaircraft.org/insider/index.html>
This website is a wealth of information. Make sure to search through the "archives" section for past issues.

January 2011

Membership is open to all RC model aircraft enthusiasts who are members of the Academy of Model Aeronautics (AMA). Activities of the club include all phases of RC modeling: instruction, sport flying, contests, etc. A monthly newsletter is sent to each member.

Current membership is required for flying at either club field. A non-member who is an AMA member may fly two days as a guest.

New members are welcome!
Ask any member for information.

Flight instruction is offered during daylight savings time at no charge to members. Flying instruction is available on a first-come basis on Thursday afternoons at Clifton Field in Fort Collins. *(Call an officer for directions)* Other times can be arranged by appointment with the individual instructors.

Our winter meetings are held at 7 p.m. on the first Wednesday of the month at

Home State Bank in Fort Collins, CO.

(Day of meeting subject to change.

Call an officer for date and directions if necessary

- find field info and directions at www.modeleers.org)



Home State Bank
303 E. Mountain Ave.
(970) 203-6100

4 Loveland Locations,
3 Fort Collins Locations,
1 Windsor Location

Officer Email Contacts:

President	Garret Hultgren	president@modeleers.org
Vice Pres.	Randy Treadwell	vice.president@modeleers.org
Secretary	Jerry Craig	secretary@modeleers.org
Treasurer	Jim Ferry	treasurer@modeleers.org
Editor	Mark Hartman	newsletter.editor@modeleers.org
Safety Officer	Dave Sampson	safety.officer@modeleers.org
Webmaster	Clint Hultgren	webmaster@modeleers.org

Visit the **Rocky Mountain Modeleers Homepage** at www.modeleers.org! There you will find club/membership information, past newsletters, photos, classified ads, articles, a link to the **Modeleers Forum Page**, a current link to the online **Modeleers (Horton) Field Weather Station website**, and much, much more! Plus you can log in to a "Members Only Section" to view other club-affiliated items! Contact the Webmaster for user name and password information! [Check it out!](#)

Randy Treadwell

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4348 South College Phone: (970) 226-3900
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Next Meeting: Wednesday, January 5th - 7 p.m., at Home State Bank, Fort Collins, CO.

Rocky Mountain Modeleers
C/O Garret Hultgren
1630 Sagewood Dr.
Fort Collins, CO 80525