

# NEWSLETTER



... an AMA Award of Excellence Club!

*Proudly serving the Huntsville community at the Captain Trey Wilbourn Model Airplane Field..*

P. O. Box 2163

Huntsville, AL

February 2011

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# Prez Sez

Peter is still snow skiing in Colorado; while we are having the winter we have been due for several years. The other day my poor old Funtana took one look outside and said, "I'm not going out in that". So this is the season to check and/or refurbish our aircraft, accessories and equipment.

If you have any projects you would like to share with the membership, let me know. If there are any topics you would like to see in a program, also let me know. There will be door prizes and a program at the February meeting, so come. We still need CDs for the War Bird and Big Bird events. Fly when you can and be safe all the time.

For Peter,  
Jim Fowler, VP

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## Minutes for the January 2011 RCRC General Membership Meeting

The meeting was called to order at 7:00 on January 18<sup>th</sup>. A quorum of members was present. The vice president, secretary, treasurer, and newsletter editor were present.

**Guests Present:** John Tubbs.

The minutes of the December newsletter were approved.

The treasurer's report was approved.

**Program committee:**

The vice president will accept any and all program ideas.

**Field committee:** Nothing to report.

**Safety committee:** Nothing to report.

**Old business:**

The members approved the year's events after changing the two pylon racing event days. See the last page of the newsletter for the events.

**Old business from the floor:** None.

**New business:** None.

The meeting was adjourned at 7:45.

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## Minutes for the February 2011 RCRC Board of Directors Meeting

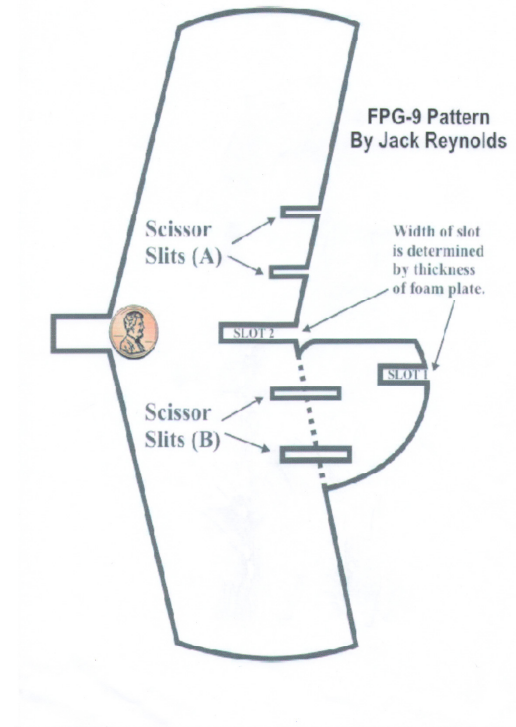
The meeting was called to order at 6:00 on February 1<sup>st</sup>. The vice president, secretary and newsletter editor were present.

Jim Fowler (VP) showed us a slide show that is planned for the next general membership meeting.

Basil Cooper said that we should get kids interested in flying models and suggested models made of 9 inch foam plates. He agreed to present a demonstration at the February general membership meeting. The board meeting was adjourned at about 7:00.

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## Basil's Proposed Airplane



This is the model for Basil's airplane. The only really important things to remember as follows:

The tail of the airplane needs to come from the flat part of the plate. The plate is marked with the sides of the plate up. This is the equivalent to dihedral, in that it keeps the airplane right side up.

The cuts marked as scissor slits are cut with scissors. They are no wider than the cut made by the scissors. The slots that attach the rudder to the body are just a tad wider than the scissor slits.

After you fit the rudder, put some tape on the joint between the rudder and the wing. Place a penny in the position shown, fold the front tab over the penny, and tape it down.

For the first flights, bend the elevons slightly up. The elevons are the pieces of plastic between the scissor slits on the wing. Keep the rudder straight.

After the first flight, try to get the airplane to turn. Do this by adjusting the elevons so that one is slightly higher than the other, and adjust the rudder so that the airplane turns into the side with the lowest elevon.

# 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:

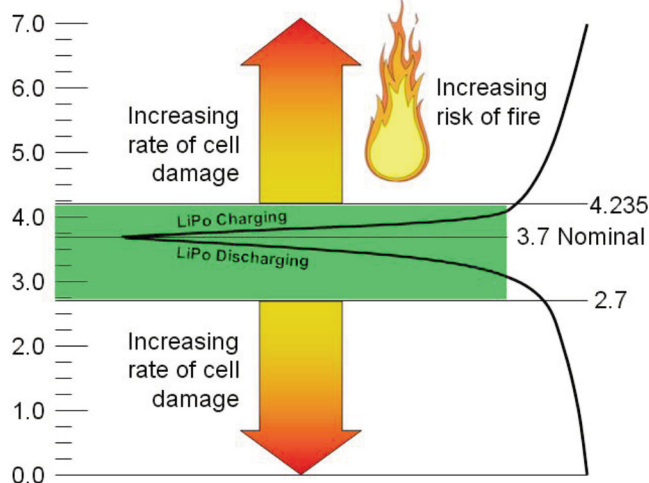
- Imagine two 5-gallon buckets. One has been used for mixing paint and has several layers of it coating the inside. The bucket with reduced capacity (painter's bucket) will fill faster and will empty faster if the flow rate for each is the same.

- 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.

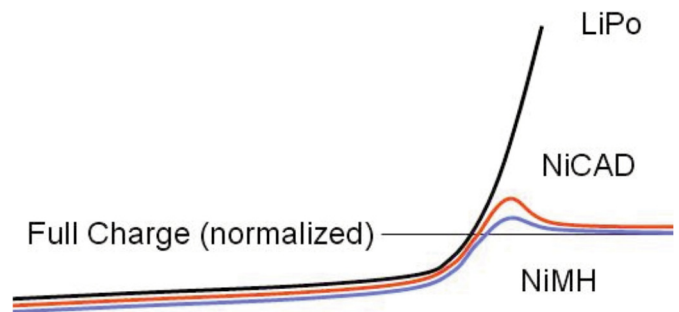
## LiPo Cell Voltage



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. 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, • Once in a while, at full charge, use a volt meter to confirm that none of the cells are being charged to more than 4.2volts. If a trend is developing in that direction then it's time to purchase a balancer.



RCRC Newsletter Editor  
 P O Box 2163  
 Huntsville, AL 35804

To: \_\_\_\_\_

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**club since 1964**  
 Number 715  
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**February, 2011**

**2011 RCRC Event Schedule**

**RCRC membership meeting February 15<sup>th</sup> at 7:00 PM**  
**Board meeting - March 1<sup>st</sup> 2011 at 6:00 PM**

†	May 21 <sup>st</sup> , 2011	All day	Club day Fly whenever you want, eat when invited	Jim Fowler	256.882.1784
†‡	June 11 <sup>th</sup> & 12 <sup>th</sup>	All day	War bird	TBD	
†	June 25 <sup>th</sup>	All day	Pylon race, spring picnic	Alan Berard	256.776.9509
†‡	July 15 <sup>th</sup>	All day	BPA Pattern	Gary Courtney	256.881.7009
†‡	August 5 <sup>th</sup> & 6 <sup>th</sup>	All day	Big Bird	TBD	
†‡	Sept 9 <sup>th</sup> thru 11 <sup>th</sup>	All day	AMA Pattern	Tony Coberly	256.882.7193
†	November 5 <sup>th</sup> & 6 <sup>th</sup>	All day	Toys for tots	Bob walls	256.830.2352
†	November 19 <sup>th</sup>	All day	Pylon race, Chili cookoff	Alan Berard	256.776.9509

Events held at Wilbourn Field unless noted otherwise  
 † Field closed to non-participants during this event  
 ‡ Field closed to non-participants from noon onward on the Friday before the event