

Laurel Highlands Model Airplane Club - AMA #557

2780 Rte 981, Mt Pleasant, PA 15666
www.lhmac.org

Wing Tips

September 2018



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MEMBERSHIP FORM
available on our website

Events and Times

Regular Meeting Sep 14,
2018 at 7:00 PM at 7:00 PM
at the St. Paul Lutheran
Church, Trauger.

This Month's Breakfasts will
be at Cracker Barrel, 154 W
Pennsylvania Ave, New
Stanton
8:30 AM, Sept 12, 2018
8:30 AM, Sept 26, 2018

**Foamy Warbird Racing &
Trainer Pylon Racing** -
Sept 9 & 23, 2018 at 1:00
PM at the field.

High Wing Tuesdays - Sept 4,
11, 18 & 25, 2018 at the
field.

Glider Wednesdays - Sept 5,
12, 19 & 26, 2018 at the
field.

Thursday Training Days -
Sept 6, 13, 20 & 27, 2018 at
the field (weather permitting).
Don't forget, if the weather
is bad, we meet at
Westmoreland Mall Food
Court about 7:00 PM - venue
& times could change and will
appear in a notification via email.

Officers for 2018

President: Jim Andrews	(724) 837-4111	president@lhmac.org
Vice President: Dave Oswald	(724) 454-3180	vicepresident@lhmac.org
Treasurer: Rene Marquis	(724) 523-3320	treasurer@lhmac.org
Secretary: Steve Mickel	(724) 953-5933	secretary@lhmac.org
Field Control: Mark Yothers	(724) 423-4725	fieldcontrol@lhmac.org
Editor: Linda Pollock	(724) 532-0210	newsletter@lhmac.org
Website Admin: Vishal Jariwala	(734) 272-7029	admin@lhmac.org

Correspondences - Events, Other RC Club info, etc. - **PLEASE** send to the club **Vice President** (above)

Membership - Applications, Dues Forms, AMA information - **PLEASE** contact the club **Treasurer** (above)

The Prez Says

This is a busy time at the field. We just had our Beginning of the Fall Flying Season picnic. I hope everyone enjoyed themselves, and as always, please give me your comments and suggestions to make our events even better. The museum trip is underway by the time you read this. The runway will be installed in the next few days. The foamy warbird pylon races are continuing. The gathering of family and friends of Denny Pollock reminds us of how our hobby helps to create connections that reach beyond our field. Upcoming will be the Endurance contest, Banquet, and nomination and election of officers. So please try to attend the meetings. And thank you in advance to all those who will be helping with the runway install, and to those that may be there in spirit.



See you at
the field.

Jim

Minutes of the Meeting of August 10th, 2018

The meeting was called to order by President Jim Andrews with the Pledge of Allegiance

There were 19 members present

New members

1. Leonard Mahoney and Melvin Cochran both members were accepted with an all in favor vote by the members.

Officers Report

A. Secretary's minutes were approved as printed in the July Newsletter. 1st Mark Yothers, 2nd Jim Pennington.

B. Treasurers report was approved by the members first Dean Pollock, second Mark Yothers

C. Raffle prize for tonight is a Tower Hobby Cherokee PNP.

D. Newsletters - is going well, nothing to report.

E. Field control - all going well

F. Web Master was not present, nothing to report.

G. President's Remark's

1. Visitors at the field, thanks for making them welcome

2. Airshow at Arnold Palmer Regional Airport

3. August 12 Scale Contest, 1pm, CD Jeremiah Ulishney, rain date will be day of club picnic.

4. Snyder Cup, CD Jim Zamerski, Aug 18

5. Float Fly August 18, BUT no boat no flying

6. End of season picnic August 26, 2018 need food chairman and CD for the fun fly

7. Wright Patterson Trip

A. Museum Committee Dean Pollock, Rene Marquis, Fred Snyder. Nothing to report at this time

B. Fuel committee - Bill Cecchetti reported we have 20 gallons on hand; when the supply is down to 10 gallons, then we will decide how much to order.

C. Runway Jeremiah Ulishney, Lyman Petrosky, Mark Yothers - waiting on the park to spray; we are also looking for a hand roller to roll the seams as it is laid.

D. Any **Old Business** from the floor; there was none

There is no **New Business** to report

Show and Tell

Jeremiah Ulishney showed and gave a little insight of his new drone; very nice.



Raffle was won by Bill Cecchetti



Meeting adjourned

Steve Mickel

Your Roving Reporter

From: The Roving Reporter

Hi again everyone, well, another month has passed, and we are still being inundated with these relentless days of rain, and miserable hot, humid temps in the 90's. Seems like we're lucky to get 1 or 2 days a week of dry decent flying weather. It is my hope that it lets up soon, and we can get back to more comfortable conditions.

On those few days, I got out to the field, just to enjoy a day with you guys. The grass at the field has really thickened up, making it difficult for some of the planes with smaller than 3" tires.

Jay Curry came out with his newly scratch built OV-10 Bronco, and he did an amazing job on it. It is EP



powered, and the cockpit and pilot details are superb. I can't wait to photo the maiden.

These are the Snyder Cup Race participants, with Jim Zamerski CD'ing. Jeremiah Ulishney was the winner with his "souped up" Bearcat, going well over 100 MPH.



The County maintenance man came to mow the field in prep for our fall picnic. As you can see how thick and deep the grass has grown, and the mulch laying on the field. Many "Thanks and Appreciation" to them for trying to keep up with the fast growing grass.



We had our fall picnic on Sunday, Aug 26th, and tailgate "Swap Shop". There was a decent amount of "goodies" for everyone to peruse.



Your Roving Reporter
continued



Rob Craig brought his unique "Tri-Motor Telemaster", and it was the first time I had ever seen it. Rob said it



has 3 Webra .40's in it. Rob fires up the 1st one, with Dave Oswald holding. When all three were running, it sounded like a swarm of hummingbirds. It didn't take



The Scale Contest was also held that day, and Tim Bartlow assembles his Rearwin Speedster for the contest. Tim also brought his Robin Hood for the day.

long to lift off, and was awesome to see and hear it.

**Your Roving Reporter
continued**



The food arrived around noon, supplied from S & S Market near the field. Everything was good, and enjoyed by everyone. "Thank You" S & S for catering our picnic.

I stopped at the field last week, and checked on the progress of the runway. Looks like they scraped it, and are adding some fill to the low spots and divots in the runway.



That's about all I have for this month, so I'll close by extending my deepest "Thanks and Appreciation" to all of you for your prayers, kind words, and condolences for the loss of my brother, Denny. He is "Greatly" missed.

**Your Roving Reporter
Dean Pollock**

AIR SHOW PICS



Understanding Internal Resistance

- A "Must Read"

by Curt Hughes

I have discussed many of the aspects and terminology associated with lipo battery packs recently but in reality, the most important characteristic required to really grasp the workings and health of a pack requires an understanding of a battery's internal resistance, or IR. So, as a follow-on to the series of articles I wrote previously I'd like to offer a simple summary of this very important topic regarding the health and safety of lithium polymer battery packs.

As lipo battery packs age (or are mistreated) their ability to deliver the power they had when they were new decreases over time. You may have noticed this effect in one of your models... that even when the battery pack is fully charged the model just doesn't fly with the same "zip" that it used to. Also, you may have noticed that it takes longer to charge your battery than it used to and

sometimes, even when fully charged some or all of the cells never reach 4.2 volts.

Why is this?

Hopefully, you will recall that heat is the number one enemy of lipo batteries. During use this heat is generated by the battery itself and is perfectly normal during its operation due to the chemical reactions occurring within the cells. Chemical reactions produce heat. However, the way we use the battery (and oftentimes misuse) will greatly affect the amount of heat it produces. In addition, the chemical reactions themselves produce byproducts which act as contaminants and collect on the cells' internal parts. These byproducts serve to restrict the flow of current through the battery, producing even more heat. Keep in mind that the wire and connectors in your system also provide resistance to the flow of current. In short, as the heat generated by a battery increases through all of these components and mechanisms, the pack's resistance to the flow of current also increases. So in effect, the battery itself begins to act as a giant resistor within an electrical circuit, which in this case is our model's power system!

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The internal resistance of a lipo pack is measured in milliohms, which is a thousandth of an Ohm,

Understanding Internal Resistance (continued)

the basic unit. You may be familiar with Ohm's Law which quantifies the effect that resistance has on an electrical circuit. The IR of a lipo pack is not a number you will find printed on the case like the others we have discussed, because it changes over time. To get a reading of the pack's IR we must measure it directly. Some battery chargers can measure the IR of the pack or individual cells (or both) during the charge process but the accuracy of the reading will depend on the quality of your charger. The most accurate measurements come from meters specifically designed for this task and they can be expensive.

Let's look at this IR effect in a little more detail. Ohm's Law shows us that the reduced efficiency (amount of current being delivered through an applied voltage) of the battery, results in less power being delivered to the motor and therefore less RPMs (remember Kv?) to the propeller. Again, recall that watts of power is the result of amps times volts, so if you have fewer volts you have fewer watts and fewer watts due to fewer volts means that the battery has to try and deliver more amps to make up for the loss in power. This increased demand for more current results in the battery pack producing more heat. More heat produced increases the IR of the cells and pack overall reducing its usefulness, health and longevity.

With this in mind it also stands to reason that a pack's "C" rating will be greatly reduced as a result of increased internal resistance, so an already over-inflated number provided by the manufacturer will be further reduced, yielding less power available for the model. In addition, increased resistance will also become an issue during the charging process and will most likely result in a pack that will no longer fully charge.

IR should be expected to increase as the pack ages but can be minimized through proper care. Here are a few extremely important tips to keep in mind as you use your lipo packs:

NEVER leave lipo packs in direct sunlight or in a car where the temperature can get very high. Your car may burn up and I have seen it happen.

NEVER leave your lipo packs fully charged! This is the number two killer of all lipo packs. Always keep your packs at storage voltage (3.85 volts/cell) and get them to this voltage as soon as possible after a day's flying. Buy a good quality charger that offers this feature.

If you can, store your packs at a temperature of 40-50 degrees (nice and cool). Your garage might be a great place to store your packs during the winter months. It probably isn't a good idea to expose them to freezing temperatures, but since the packs contain no water (very bad reaction between water and lithium!) there currently is no data that I am aware of which would suggest that temps this low will damage the pack.

The number one killer of lipo packs is OVER DISCHARGING them. If you are demanding power from a pack that it cannot possibly deliver, you will not only greatly increase the pack's internal resistance but you also risk the pack swelling (puffing) and in the worst case, a FIRE. Use a watt meter to measure the actual current draw in your power system.

If possible, begin recording your pack's IR when it is new and throughout its life. A normal IR reading of 6 or less milliohms when a cell is new is typical but if you notice a cell with a much higher reading, you probably have a defective pack and should contact the supplier for an exchange or refund.

There are no exact guidelines in terms of what is acceptable IR but in general, it is widely accepted that a cell with an IR reading (at full charge) of less than 8 milliohms is fine, 10-12 milliohms is showing signs of deterioration and should be monitored closely. A reading of 15-20 or more milliohms definitely suggests that the pack should be retired and most likely discharged and discarded. Just how to do this is the subject for another article.

If a pack begins to "puff" or what I call, "get squishy" after dozens of cycles it probably isn't cause for major concern but it IS an indication that the pack is on its way south and should be monitored carefully. Be sure to treat these packs with extra care. Only charge them at 1C and never expect them to deliver their advertised power in your model. This could easily lead to an over discharged condition and possibly result in a FIRE.

If you follow the above simple steps and now have a bit of an understanding of what internal resistance is and how it affects a battery's health and longevity, then I will consider this series of articles complete!

See you at the field.

Once our meetings resume at the church, Curt has volunteered to bring his meter in and test any battery that anyone has and wants checked. For the most accurate reading, any pack Curt checks will need to be fully charged. Curt should have battery adapters to fit most connectors.

THE PIT STOP! PYLON RACING!

CD - MARK YOTHERS

2018 SEASON

August Foamy War Bird Race Standings



The race season is almost over, we have just two race days left. It's not too late to get into racing. Yes you won't be this year's winner but you can get valuable experience. The remaining dates are the 9th and the 23rd of September.



Race standings are as follows; Jeremiah Ulishney and Bill Cecchetti are tied with 48 points in first, Third place by his lonely is Dave Oswald with 35 points, fourth is Tim Bartlow with 30 points and gaining on the field is Rene Marquis with 24 points.

If you're not going to race come on



out and help launch the planes, be a pylon judge by watching for cuts. Speaking of cuts. In last month's report I mentioned that we need people to help count Bill and Rene's cuts. Well that stirred up a controversy,

you know that's fake news. Then Bill pointed out that over all this year the number of cuts are down by more than 50%, and the reason for that is that I'm not racing. Boy the truth hurts at times! See you at the field.

Mark



FOR SALE

THE FOLLOWING ITEMS ARE FOR SALE

Contact: Jim Pavick 724-423-5159

PIPER VAGABOND - 60 size, 74" wingspan, scratch built, never flown - \$300.00

TELEMASTER 40 - 40 size, 73 1/2 wingspan, scratch built, never flown - \$150.00



SIG SENIOR KADET - scratch built, never flown - \$200.00



Denny Pollock's Family

Fred Snyder

John Hathaway

Walt Rubino

Tim Bartlow

Ralph Gaebel

John & Joan Marshall

Vaun Hile

Paul Cunningham

Jim & Timi Pennington

Dick & Shirley Schmitz

Don & Joan Accorsi

Bob Bushmire

**And anyone else who
needs our Prayers!**

September Birthday Wishes

WE WOULD LIKE TO EXTEND A HAPPY
BIRTHDAY TO THE FOLLOWING CLUB MEMBERS!



Happy birthday! Happy birthday! Happy birthday!

Happy birthday! Happy birthday! Happy birthday!

Happy birthday! Happy birthday!

Robert C Bowman
John D Ernette
Thomas Ron Gade
John P Golkosky
David L Kolk
Eric (Bo) Kwasny
James W Pavick
Shawn Resetar
Robert D Stuckert
Kerry Shawn Trout
Edmund S Wasil
Terrance R Willcox

*Happy Labor
Day!!*



LHMAC CLUB PATCHES

FOR SALE!

•**PRICE** - \$2.00 each or 3
for \$5.00

•**TYPES** - available in
Velcro or sewn on

•**HOW TO PURCHASE** -
The patches are available
at the monthly meetings
or contact our Treasurer,

Rene Marquis,

at ram158@msn.com or (724) 523-3320.





IN REMEMBRANCE

DENNIS T POLLOCK

12/18/1943 - 8/1/2018





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