the Ampeer

March | The EFO Officers | 2024

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No Mailed Ampeer Subscriptions

The Next EFO Meeting: March 13, 2024 (see note)
Time: 12:30 p.m., Place: Legacy Center, Brighton, MI

What's In This Issue:

EFO Meeting Reminder

Please keep in mind that winter and early spring monthly EFO meeting dates are to be determined (TBD), as well as the place.

The meetings could be on Zoom or possibly at the Legacy Center in Brighton, MI. It all depends on the weather.

Members will be notified, via email, as to the time and place.

Everyone is welcome, with indoor type planes and proof of AMA membership, and a $10 fee, to fly at the Legacy Center.

Spectators are free.

The next EFO monthly meeting is scheduled for Wed., March 13 at 12:30 p.m. at the Legacy Center in Brighton, MI. (See note in this issue.)

If the weather is not safe for driving on that date, the meeting will be postponed to a future date and members notified, via email, regarding any change in date, time or place.

Happy Birthday to the *Ampeer*!

The first issue of *The Ampeer*, was called *The Wolf's Call* for one issue, and was published in March of 1988. The original club name, West Oakland 'Lectric Flyers (WOLF) was changed to the Electric Flyers Only (EFO) after that issue.

The original EFO members were members of the Union Lake Flying Organization (UFO) that were very interested in the new, electric power systems.

Today's United Flying Organization (UFO) was a continuation of the original Union Lake Flying Organization. When the club moved to Highland Township, MI, the letters were kept, but they became the United Flying Organization.

The first issue can be found here; http://theampeer.org/ampeer/ampmar88/ampmar88.htm.

All of the *Ampeer* issues have been archived to the Complete *Ampeer* Index page.
http://theampeer.org/ampeer/Complete-Ampeer-Index.html

the W.O.L.F.'s CALL

Volume I March, 1988 Issue 1

PUBLISHED FOR THE WEST OAKLAND 'LECTRIC FLYERS

EDITOR: Ken Myers 9043 Satelite Dr., Union Lake, MI. 48085
(1)-(313)-698-4668

OFF AND RUNNING

The first meeting of a new electric club was held at Ken Myers's house on Feb. 10, 1988. Thirteen interested persons attended; Dan Behrend (Milford), John Burt (Hartland), Keith Clark (Howell), Jerry Guest (Union Lake), Jeff Hauser (Northville), Jack Lemon, Jr. (Pontiac), Debbie McNeely (Milford), Ken Myers (Union Lake), Jimmy Northmore (Farmington), John Revello (Farmington Hills), Richard Utkan (Milford), Jack Violes (Sterling Hts.), Gus Wiklund (South Lyon).

The meeting opened with freshly baked brownies and cookies, provided by Dianne Myers. (Thanks Dear!) Ken had an agenda ready, and word on the July contest.

Discussion followed, leading to club formation The purpose of the club was defined. In essence, it is to promote electric flying to the general public and active R.C. population. Jimmy Northmore pointed out that the real value of this type of organization is in providing practical knowledge to the electric flyer and flying skills to the beginners of R.C. electric flying.

A board of directors and officers were elected(?). The outcome is printed at the top of this newsletter. It was decided to go with no formal meeting rules at this time.

Ken said that the club charter had been applied for, it has since come back. We are AMA charter club #2354. Ken also read a letter that he had sent to Proud Lake, requesting the use of the old U.F.O. field. The "members" have been asked to bring any good field rules, that they have used in the past, to the next meeting for discussion and possible adoption. Safety is the key factor in electrics retaining a good flying site.

Expenses and dues were discussed only briefly. Ken asked that dues not be set until March. This might allow enough time to check the costs the club will incur.

[Continued on the next page.]

Winter Indoor Flying at the Legacy Center in Brighton, MI

Indoor flying is now taking place through 2024 at the Legacy Center Sports Complex, 9299 Goble Dr., Brighton, MI, 48116
phone: 810-231-9288
Wednesdays from 12:30 PM until 2:30 PM.
The cost is $10 per drop-in session.
Spectators Are Free

The February 2024 EFO Indoor Flying Meeting

Before proceeding to the Legacy Center, several EFO members shared lunch at Captain Joe's Grill in Whitmore Lake, MI. The restaurant is located only a few miles south of the Legacy Center, in Brighton, MI. It was a great place for a meet up before flying, and there was a lot of sharing and catching up over some good food.

Roger Wilfong is seen removing his indoor planes and gear from his trunk and putting it on his hand-truck to move it into the Legacy Center Dome.

The Legacy Center Dome is well lighted.

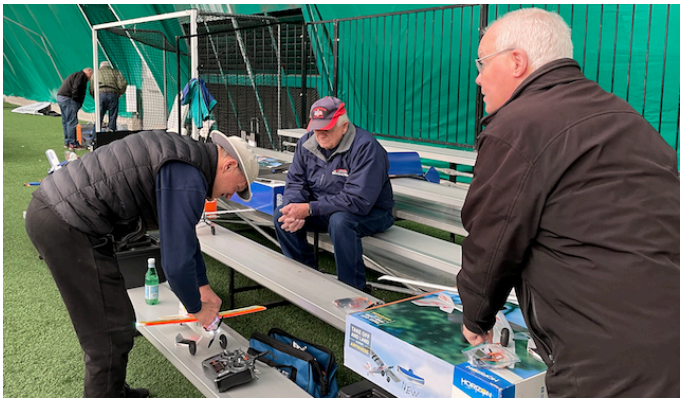
As usual, the winds were low and the temperature comfortable for mid-February in Michigan!

Jim Lapham and **Don Libke**, first timers, were very impressed with the facility.

It is really a great place for indoor, winter flying.

Mark Couling was already there and flying his "bird" when the rest of the EFO folks arrived from their lunch meet up.

Don Libke, **Denny Sumner** and **Keith Shaw** discuss the events of the day. Some Keith's planes can be seen on the floor in the right of the photo.



Jim Lapham, in the center of the photo, looks on as a fellow flier prepares his plane.

Roger Wilfong prepares his bipe for another fun flight. His equipment and cart can be seen at the left in the photo.

It was a fun day of friends and flying in the middle of a Michigan winter.

We hope you can join us in March. Come for lunch at Captain Joe's Grill and stay for the indoor flying. Tons of fun!

Discharging Lithium Polymer and Cylindrical Lithium-ion Batteries for Disposal
Salt vs Baking Soda

By Ken Myers

I typically discharge lithium polymer batteries with a rig I made up using some halogen light bulbs. Once they reach around zero volts, I dispose of them in the regular trash.

I recently had some Lithium Iron Phosphate 10440 size cylindrical batteries to dispose of. They were not in a pack, but single batteries, and I was not sure how I was going to discharge them.

I serendipitously came across a video, on YouTube, titled, "How to Remove Stranded Energy from Lithium-ion Cells" by StacheD Training.

https://www.youtube.com/watch?v=rwvCvIHtMuI

In the video, the presenter refers to a document prepared by UL Solutions. The document is titled, "Investigation of Electrically Conductive Aqueous Solutions for De-energizing Lithium-ion Batteries" From UL Solutions"
https://drive.google.com/file/d/1WToFbWhkfBf1Zlqqo2_q4HDQ1NlVehM9/view?pli=1

According to the document, "However, experience at UL Solutions has shown that sodium chloride-water solution results in a compromised battery due to the dissolution of battery cell materials, leaving behind a solution of salt water contaminated with battery materials. "

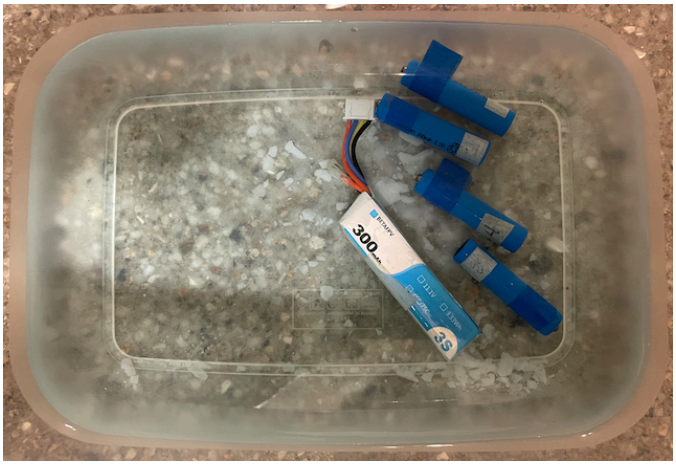
For safety sake, the document recommends using a sodium bicarbonate (baking soda) solution and soaking them for 48 hours.

The solution ratio is given as 78g of baking soda per 1 Liter of water.

According to the presenter, that works out to be 1-1/8 cup baking soda to one gallon of water.

Since I only had four, tiny, 10440 size LiFe and a small 3S 300mAh Li-Po to discard, I cut the formula down to just over 1/8 cup of baking soda and 2 cups of water.

I recorded the voltages for each of the batteries, before placing them into the solution, and noted the start time.



Surprisingly, the solution turned blue in just a short time. I'm not sure why.

Before the test, a single 10440 cylindrical battery's voltage was noted and then the voltage was read 24 hours later.
start volts: 3.174V - After 24 hr. 2.057V
49 hours later: original down to 1.912V

The other 3 cylindrical battery voltages were at 1.864V, 1.850V, and 1.883V.

That seemed good enough after 48 hours, but…
Starting voltages LiPo: 3.832V, 3.831V, 3.818V
49 hours later: 1.794V, 3.101V, 3.747V

I can't explain why two of the cells were still so high. The LiPo pack was returned to the solution.

I searched the referenced document for references to lithium-polymer batteries and could find none.

One thing I did note, in rereading parts of the document, was that salt works well in releasing the stranded energy, but it can actually result in a toxic solution, as the salt actually dissolves many of the metals.

Rewatching the video, I did notice an implied reference to lithium-polymer pouch batteries, but there was no mention of that specific type of battery.

There was some dissolving of metal noted. Two of the balance plug leads had the connector part dissolved and the wires fell out of the "plastic" connector. That made measuring voltages difficult.
72 hours later: 1.229V, 3.035V, 3.745V

For me, this procedure only worked for Lithium-ion cylindrical batteries, but it was a failure for use with LiPo batteries.

I had to destroy the small LiPo battery in another manner.

This was a true "learning experience" for me, and I wanted to share my results with the *Ampeer* readers.

Personally, I'll continue to use the discharge method.

A "New" EV-Peak CQ-Peak 4-Port Charger
https://www.getfpv.com/ev-peak-cq3-multi-charger-4x-100w-nimh-lipo-with-built-in-balance.html
From Gary Gullikson via email

I have been using my old EV-Peak Model 3260, 4-Port,AC/DC, 80 watts per port charger for some 6 years. One of the ports is intermittent, not displaying properly. I decided to buy a new EV-Peak, Model CQ3 4-Port, AC/DC 100 watts pre port version from GetFPV for $169, free shipping.

The one I got is the silver/blue case version. There is also a red case version being sold by Amazon for some $230 free shipping with Prime. The only difference is that the silver/blue version (mine) comes with four XT-60 male charge cables. The red version "BQUAD CQ3" comes with four Deans charge cables. I ordered four Female XT-60 to Deans Male adapters because all of my Li-Pos have Deans female connectors.

I'm not sure, but the red version may have an additional internal resistance (IR) display for the entire pack, not for individual cells.

The hard to follow instruction sheet for either version is identical. These are multi-chemistry chargers with a lot of nice features.

There are a number of detailed YouTube how to/ reviews about them. The downside is that they are made in China and EV-Peak company is not quick and easy to work with on after warranty repairs plus the shipping costs.

Using both chargers, I can charge or discharge/ storage charge seven same or different cell-count/ capacity/chemistry battery packs at the same time (Muhahaha!)

These chargers can also operate at the field with 12volt DC car batteries or inverter generators.

I also got an Astro AI 4000 Counts Digital Clamp Meter, $40 from Amazon. I intend to check amp draw of different size props and cell counts by simply clamping one battery cable. This meter has a lot of other features useful for DIY electrical and automotive trouble shooting. It detects live AC circuits with NCV setting.

I just turned 85, and don't feel a day over 86.

I haven't been very active flying with mobility problems. Hope to get more active building scale models and flying. I use a mobility scooter to get around at the flying field which is now a FAA authorized FRIA.

We share the field with county fire helicopter training and operations and must often land when choppers show up un-announced and resume when, and if, they leave. We also share the field for various model plane events.

Our OCMA field, in Irvine CA, is controlled by the Orange County Parks System. We have a lot of rules to follow including having our own fire extinguishers in the pits for IC or Electric powered models. We have a recently resurfaced asphalt

takeoff and landing strip and a separate area for helicopter models.

Wish you all well up in the cold country. Looks like a good bunch of folks. That's some beard on Keith.

Gary Gullikson, Garden Grove, CA.

A Charging and Battery Question

From Ned Watts via email

I recently saw something in print - cannot find it now - that recommended series charging for 1s LiPo cells. It might be useful to have an article that went into the ins and outs of series vs parallel charging, including possible hazards and drawbacks with each method. With all the modern sophisticated chargers, I suspect that some of us are not as careful as we should be and rely upon the charger, or what we think we know, to save our bacon.

(*I have no knowledge regarding that type of charging. Maybe an Ampeer reader can fill us in more on this topic. KM*)

Also, the big battery tester Guy on RC Groups has been seeing some interest in the 18650 Lion batteries. I know that this has been an interest of yours for years. Are the new cells significantly better? When would their use be indicated (other than just avoiding fear of burning the house down?).

Ned Watts

18650 is a size notation for Lithium-ion batteries. They are approximately 18mm in diameter and approximately 65mm long. There are four major cathode chemistries that have a charge termination voltage of 4.2V; Lithium Cobalt Oxide $LiCoO_2$, Lithium Nickel Cobalt Aluminum Oxide $LiNiCoO_2$, Lithium Manganese Oxide $LiMn_2O_4$, and Lithium Nickel Manganese Cobalt Oxide $LiNiMnCoO_2$.

Two of those cathode chemistries are inherently safer than the other two. Do you know which two?

I have read about, and seen YouTube videos where FPV fliers are using 4.2V charge termination cylindrical Lithium-ion batteries, but I have never seen any of those "experts" denote the cathode chemistry type they are using.

For safety and performance reasons, the cathode chemistry does make a huge difference.

In my opinion, unless you know the differences between those common cathode chemistries and how to handle them, they have no real advantage over Li-Pos.

Keith and I use 18650 and 26650 Lithium Iron Phosphate $LiFePO_4$ 3.6V/3.65V charge termination cylindrical batteries. They were originally produced by A123 Systems, but are now sold under the brandname of Lithiumwerks.
https://lithiumwerks.com/products/lithium-ion-18650-cells/
and
https://lithiumwerks.com/products/lithium-ion-26650-cells/

$LiFePO_4$ Lithium-ion batteries are the safest cathode chemistry available in the 18650 size.

They work well for us and are the safest for our specific use.

Ken

Regarding Your Indoor Flying

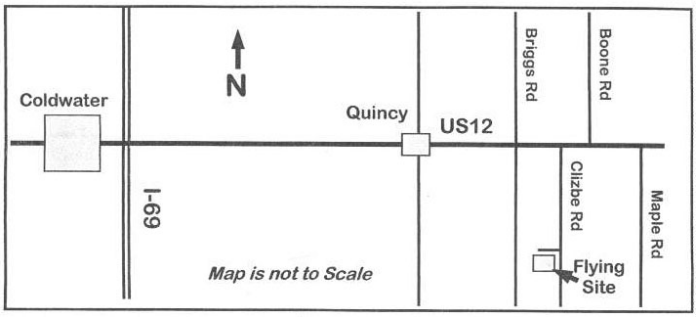
From Scott McKie via email

Hi Ken,

What a place to fly - you lucky stiffs!!

Keith Shaw is an absolute master at his craft. The video of his Deperdussin flying is simply gorgeous.
https://www.youtube.com/watch?v=vP64Pw-5Cis

Scott McKie -- scotsman7@comcast.net



The Upcoming Keith Shaw Birthday Party Electric Fly-in 2024

The Balsa Butchers are hosting the "Keith Shaw Birthday Party Electric Fly-In", for the 22nd year, at their field near Coldwater, MI. The event takes

place on Saturday, **June 1, 2024**. It is a one day event.

The event consists of Open Electric Flying with a "Special Guest of Honor Theme", Happy Birthday Keith Shaw [June 6].

Enjoy a day with the "Pioneering Master of Electric R/C Flight". 8 a.m. - 4 p.m., Saturday. NO LANDING FEE! Donations for field maintenance and lunch appreciated.

For additional information contact;
Contest Director: Dave Grife - E-mail: grifesd@yahoo.com or Phone: 517-279-8445
Please e-mail or call with any questions.

The field will be open for guests to fly on Sunday as well.

40th Annual Mid-America Electric Flies 2024 & FREE Open Air Swap Meet
(See Swap Meet Note at the end of this announcement.)

AMA Sanctioned Event (Proof of AMA membership required to fly - Sorry MAAC membership is no longer accepted)
Saturday, July 13 & Sunday, July 14, 2024
Hosted by the:
Ann Arbor Falcons, Electric Flyers Only and **The Midwest RC Society**
The 7 Mile Rd. Flying Site, Salem Twp., MI, is Provided by the:
Midwest R/C Society
Contest Directors are:
Ken Myers phone (248) 669-8124 or email kmyersefo@mac.org –
Website for updates:
http://www.theampeer.org for updates & info
Keith Shaw (734) 973-6309
Flying both days is at the Midwest R/C Society Flying Field - 7 Mile Rd., Salem Twp., MI

Registration: 9 A.M. **Saturday**
Event Flying from 10 A.M. to 4 P.M. Saturday
Open Flying 10 A.M. Until You Leave Sunday

(Open Flying Saturday after the Event & All Day Sunday

There are NO SCHEDULED EVENTS on Sunday, just open electric flying)

No Pilot Landing Fee

Donations will be gladly accepted

No Parking Donation Will Be Requested from Spectators or Those Participating in the Open Air Swap Shop
Donations to Midwest will be gladly accepted from Spectators and Open Air Swappers

<u>Awards on Saturday Only!</u>
Best Scale
Most Beautiful
Best Mini-Electric
Best Multi-motor
Best Sport Plane
Foam Flurry for NCM aircraft
CDs' Choice

Planes Must Fly To Be Considered for Any Award
Plaques for the winner in each category

The Field is Open for Open Flying All Day Friday
Night Flying Possible, Weather Permitting, Friday & Saturday Nights
Field Lunch is provided to pilots and friends (hot dogs, chips, water or pop) Available on Saturday
Field Dinner is provided (Burgers, Brats on Saturday evening for Pilots & Their Guests)

Come and join us for two days of fun and relaxed electric flying.

The NCM (Not Conventional Materials) Event
Traditionally, model aircraft airframes have been mostly constructed from balsa wood, plywood, spruce, and fiberglass. For the purposes of this meet, NCM airframes are mostly constructed from not conventional materials i.e.; sheet foam, foam board, cardboard, block foam, foam insulation material, etc.

Foam Flurry for NCM aircraft: This is a true event. It is based upon the all up/last down event of early electric meets. Any NCM aircraft may be used (no ARF types). Power systems are limited to

a maximum of 3S (no paralleling) LiPo batteries or 4S maximum, no paralleling, for A123 packs. All planes qualifying for this event will launch at the same time, and the last one to land will be declared the winner.

VERY IMPORTANT REMINDER FOR 2024 - THE FLYING FIELD ENTRANCE TO THE MIDWEST FLYING FIELD CHANGED FOUR YEARS AGO!

The old entrance to the Midwest RC Society flying field is **permanently closed**!!! **DO NOT ATTEMPT TO USE IT!!!**

This is what the flying field entrance looks like. Please Drive SAFELY

The field entrance is on the north side of Seven Mile Road about 1.5 Miles west of Currie Rd.

entrance is on the north side of Seven Mile Road about 1.6 Miles west of Currie Rd.

The address is 7621 Seven Mile Road, Northville, MI 48167. The entrance is through a private residence drive and out past the barn.

Directions from Google Maps to the flying field

https://www.google.com/maps/place/MIDWEST+R%2FC+SOCIETY/@42.422025,-83.6170775,805m/data=!3m1!1e3!4m13!1m7!3m6!1s0x8823559bdf962b57:0xd100df97d9dcebf1!2s7419+7+Mile+Rd,+Northville,+MI+48167!3b1!8m2!3d42.4187058!4d-83.6190072!3m4!1s0x882355a2c9e29cb5:0xaaf592068692b984!8m2!3d42.422025!4d-83.6148888?hl=en

To locate the Midwest R/C Society 7 Mile Rd. flying field, site of the Mid-America Electric Flies, look near top left corner of the map, where the star marks the spot, near Seven Mile Road and Currie Rd.

Because of their convenient location and the easy drive to the flying field, the Comfort Suites and Holiday Inn Express in Wixom, MI have been added to the hotels' listing. They are only 10 miles northeast of the field and located near I-96 and Wixom Road. See the map-hotel .pdf for more details.

http://www.theampeer.org/map-hotels.pdf

Open Air Swap Meet

There is a designated area for swappers. Please check-in at the event registration table before setting up. Someone from registration will point out where you may set up. Bring your own table(s) and chair(s).

There is no swap meet fee. A donation to the Midwest RC Society for the use of their flying field would be greatly appreciated.

Indoor Flying

United Wholesale Mortgage Sports Complex

867 South Blvd., Pontiac, MI 48341

October 17th thru April 9th

Single Flying Session $10
25 Session Season Pass - $150

The Best Indoor Flying Venue In Metro-Detroit

All Pilots/Drivers must have proof of current AMA Membership. Spectators Welcomed Free.
3 Month Trial AMA Membership is Available.

Contact us at indoorfly@skymasters.org or 248-403-8279

www.skymasters.org

SKYMASTERS INDOOR FLYING

At UWM Sports Complex - Field # 1

For the 2023-2024 Winter Season*

Flying sessions start at 9 am and end at 12: PM *
Please Bring Proper Change For Payment.

OCTOBER*:
Tues. 17th
Tues. 24th
Tues. Oct 31st

NOVEMBER*:
Tues. 7th
Tues. 14th
Tues. 21st
Tues. 28th

DECEMBER*:
Tues. 5th
Tues. 12th
Tues. 19th

JANUARY*:
Tues. 2nd
Tues. 9th
Tues. 16th
Tues. 23rd
Tues. 30th

FEBRUARY*:
Tues. 6th
Tues. 13th
Tues. 20th
Tues. 27th

MARCH*:
Tues. 5th
Tues. 12th
Tues. 19th
Tues. 26th

APRIL*:
Tues. 2nd
Tues. 9th

** Dates & Times Subject to Change or Cancelation Without Notice*

For rules & additional information go to: www.Skymasters.org
Indoorfly@Skymasters.org or 248-403-8279

Upcoming E-vents

Tuesdays, Skymasters' Indoor Flying starts at the UWM Sports Complex in Pontiac, MI (details in this issue)

Wednesdays, Winter Indoor Flying at the Legacy Center in Brighton, MI (details in this issue)

March 13, Wednesday, EFO Monthly Indoor Flying Meeting, 12:30 p.m., Legacy Center, Brighton, MI, proof of AMA membership and $10 flying fee required to fly, NO SPECTATOR FEE, (See note at the beginning of this newsletter.)

The Ampeer/Ken Myers
1911 Bradshaw Ct.
Commerce Twp., MI 48390
http://www.theampeer.org

Upcoming March Monthly Indoor Flying Meeting:
Date: Wed. March 13, 2024 **Time**: 12:30 p.m.
Place: Legacy Center, Brighton, MI