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December		The EFO Officers	2021
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No Mailed Ampeer Subscriptions	The Next EFO Meeting: Postponed at least until January Time: TBD., Place: TBD		

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**Why No December 2021 EFO Meeting?
Especially For Local Members**
By Ken Myers

At the time of this writing, mid-November 2021, the pandemic outlook in Southeastern Michigan is not looking good. While infections and hospitalizations appear to be going down nationwide, that is not the case here.

It was reported, on the news last night, that hospitalizations increased 30% in one week at one of our local major hospitals.

You know that Chris and I take care of our seven-year-old granddaughter everyday, and for now, just after school.

With the active COVID-19 cases rising in elementary school age children in the area, we need to use extreme caution when being around her because of her cystic fibrosis (CF).

It is my hope that once she is fully vaccinated, and the active cases and hospitalizations are on the decline, we will be able to resume our face to face meetings.

Again, at the time of this writing, I am planning on at least a Zoom meeting in January 2022.

My LiPo Died
By Ken Myers
September 2021

The title of this article is not unusual. A similar title can be found all over the Internet in forums and YouTube. videos.

What was notable about this particular Tattu 3S 1300mAh 45C pack was the strange, to me, way it presented itself as "dead".

Readers of the *Ampeer* should be familiar with the fact that I don't use a lot of LiPo type batteries, but that I have done a lot of research into LiPo batteries and presented my findings in the *Ampeer* over many years.

I am also very familiar with the recommended ways to keep a LiPo healthy to extend its useful "life".

While doing work and finalizing my highly modified versions of the FT Simple Cub, version 5s, in February 2020, I ordered two Tattu 3S 1300mAh 45C LiPos from Flite Test.

Introduction to my v5 versions

<https://theampeer.org/Kens-Simple-Cub-v5/Construction/Kens-Introduction-to-FT-Cub-Mods.pdf>
and

Construction of my v5 versions

<http://theampeer.org/Kens-Simple-Cub-v5/Construction/Construction.pdf>

Both of these batteries were treated in exactly the same way and always used ONLY in the same planes; My Simple Cub v5 3-channel and v5 4-channel, with similar power systems and system power requirements.

They were only charged, at home, at 1C, 1.3A, on the same Revolectrix Gt 500 charger that charges all of my batteries, LiPo and “A123” LiFePo₄.

The power system in the v5 3-channel can do two 7 minute flights on a charge leaving the battery at 3.8V/cell resting after a flight. The power system in the v5 4-channel can do two 5 minute flights on a charge with the same end result, 3.8V/cell resting.

1.3Ah, the stated battery capacity, is 78 amp minutes. 78 amp minutes divided by 14 minutes for the 3-ch is an average amp draw of 5.6. amps and 10 minutes, for the 4-ch, yields an average amp draw of 7.8 amps.

If I did not fly the pack to 3.8V/cell resting, my storage charge choice, I used my RCX 3-in-1 Battery Balancer, Discharger & Voltage Indicator to discharge the pack that same day to that level before storing in the same 4 pocket LiPo Sack in my basement.



The pack in the photo is NOT my pack.

RCX 3-in-1 Battery Balancer, Discharger & Voltage Indicator

<http://www.myrcmart.com/rcx-3in1-battery-balancer-discharger-voltage-indicator-150w-discharging-p-4767.html>

I mentioned this unit, in the LiPo Discharger article, in the March 2021 *Ampeer*.

<http://theampeer.org/ampeer/ampmar21/ampmar21.htm#LIPO>

On Saturday, Sept. 4, I prepared to charge one of the batteries for flying at the monthly EFO flying meeting. I pulled them both out the LiPo Sack and measured them using my ep-plane.com CellMeter-8 cell voltage checker, which is no longer available.

Both packs showed 3.8V in each cell. (Please note that I am using rounded numbers to keep things simple.)

I put the one that I'd used on Wednesday, September 1, 2021, back in the LiPo Sack.

Shortly after starting the charge at 1.3A, the charger beeped at me. The message was that the charger had reduced the charge current because one of the cells was out of balance. Two of the cells read just over 3.8V on the charger display, while the other read 3.4V. Huh?

My first thought was, “Oh no! Don't tell me something is wrong with my charger.” FMA had just closed its doors, so that was fresh on my mind.

I grabbed the other pack and started charging it. It was charging just fine and the displayed voltages were all about the same and increasing normally. I stopped the charge and put that battery away.

I measured the resting voltages on the first pack, using the same meter, and the cells all showed 3.8V.

I started the charge again, and once again on the problematic battery and the charger did the same thing and showed one cell at 3.4V while the other two were at 3.8V. I stopped the charge.

I went downstairs and got my discharger, which can read cell voltages, and my Fluke multi-meter. (I note this to show that time passed.)

I used the CellMeter-8, the discharger and the Fluke to measure the cell voltages; ALL of the cells were still at about 3.8V resting per cell. What?

I put the pack back on the charger and allowed it to charge for about 15 minutes at the lower charge rate caused by getting the same message and the charger lowering the rate.

After 15 minutes the “bad” cell was still lagging much behind the other two, while the other two cells were being discharged down toward the “bad” cells' voltage.

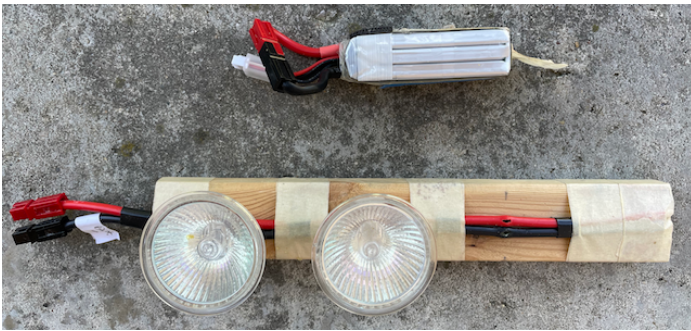
I tired charging just the “bad” cell on its own. It really didn't want to charge much.

The pack was put back on the charger and allowed to do its slow charge thing once again for about 1/2 hour. This time I remembered to look at the cell IR being displayed by the charger. The display showed the two “good” cells had a noted IR of 6 milliohms and the “bad” cell showed 0.25 ohms (250 milliohms).

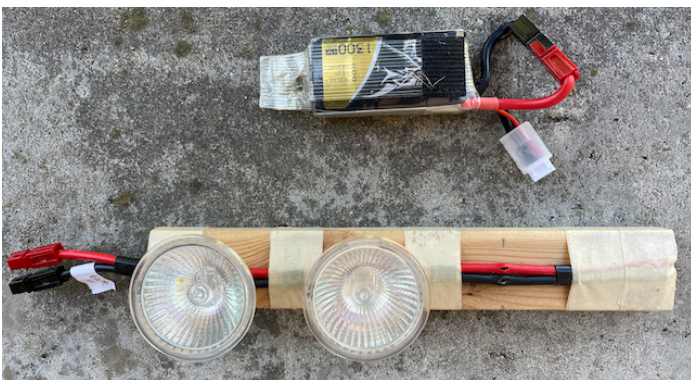
Neither pack had ever been accidentally dropped or involved in any type of crash. Neither pack has/had ever shown any sign of “puffing”.

I cannot explain what happened to this pack. It was not old, abused, or well used, yet one cell just flat out failed.

After returning home from the EFO meeting, the “bad” pack was discharged in my gravel driveway until bedtime using my halogen bulb load. In the morning the whole pack read 0.359V.



I hooked the pack up again for most of the day, and then because I use Anderson Power Poles, I hooked the two connectors together to short the pack. After several days of laying in the gravel driveway, it was put into the regular trash.



WARNING!!! DO NOT HOOK UP THE POSITIVE AND NEGATIVE LEADS UNTIL YOU ARE ABSOLUTELY SURE THAT THE PACK VOLTAGE IS CLOSE TO ZERO!!!

I guess that sometimes we just don't know why or what causes the death of a LiPo pack. They just die. As I always say, “Everything has an expiration date but sometimes we just cannot know when that might be.”

Peter Waters Receives the Carl Goldberg Vital People Award



Joe Hass (left) presents Peter Waters (right) the Carl Goldberg Vital People Award

On Sunday, November 7, 2021, Joe Hass presented **Pete Waters**, of Northville, MI, with the Carl Goldberg Vital People Award at the Annual Midwest Swap Shop.

<https://www.modelaircraft.org/clubs/recognition-rewards/carl-goldberg-vital-people-award>

“In 1983, Carl and Beth Goldberg asked the Academy of Model Aeronautics to help create an award called the Carl & Beth Goldberg Vital People Award. It was presented annually to “vital people in the background of the modeling movement whose efforts enhance the enjoyment of the hobby and whose accomplishments are seldom formally acknowledged.”

Pete worked tirelessly on the AMA/FCC frequency committee to move our allocated frequencies from a few wide-band 72MHz allocations to many, many more narrow-band 72MHz frequencies.

Pete is also a member of the AMA Hall of Fame. You can find more information on Pete here. <https://www.modelaircraft.org/sites/default/files/files/WatersPeter.pdf>

Skymasters Indoor Flying

From Pete Foss, Skymasters' President

HELLO INDOOR FLIERS!

We're back for Indoor Flying **starting October 20th!** I'm very happy to announce that through the efforts of Fred Engleman and Paul Goelz we have an agreement with **ReImagine Recreation** to fly on **Wednesdays** at **United Wholesale Mortgage Sports Complex (formerly Ultimate Soccer)**. It was a bit of a struggle dealing with the new owners of the facility and I would really like to thank Fred and Paul for stepping up and pushing us to the finish line!

There are some differences beyond the fact that we will be flying on field 4 (the one in the back) since field 3, where we used to fly, is now a basketball and volleyball arena. **Everyone who enters the building for any reason during our time slot MUST SIGN A LIABILITY WAIVER.** It would be helpful if you print a copy, sign and bring to your first flying session but we will have printed waivers on hand too. Park out back by field 4. You will not be allowed to enter the front door.

To simplify this year, we went with only Gold (season pass) cards for \$150 and single sessions at \$10 each. Also, since ReImagine charges Skymasters for each and every pilot who flies, youths and spouses are no longer free.

Here is a direct link to register and purchase a Gold Card or print out a registration form for your first single session.

<https://www.skymasters.org/index.php?page=register&event=indoor>

Hope to see many of you on the 20th, or before, at the Night Fly and Free Tailgate Swap at Skymasters Field.

Indoor Flying - **Wednesday**, October 20, 2021 - UWM Sports Complex, 837 South Blvd, Pontiac, MI Time: 10:00 AM

Sponsor: Skymasters

Indoor Flying At UWM Sports Complex

On Field #4 (Park and Enter on the north "back" end of the complex)

Wednesdays starting October 20, 2021 thru April 13, 2022

View Event PDF Flyer.

[http://www.skymasters.org/index.php?](http://www.skymasters.org/index.php?page=events&flyer=data/flyers/)

[page=events&flyer=data/flyers/](http://www.skymasters.org/index.php?page=events&flyer=data/flyers/)

[2021/2021_indoor_full_pg_color_flyer.png](http://www.skymasters.org/index.php?page=events&flyer=data/flyers/)

View Event Map.

[http://www.skymasters.org/index.php?](http://www.skymasters.org/index.php?page=information&type=wherewefly&item=ultimate#ultimate)

[page=information&type=wherewefly&item=ultimate#ultimate](http://www.skymasters.org/index.php?page=information&type=wherewefly&item=ultimate#ultimate)

Contact: **Fred Engleman** Phone: (248) 770-3239

Email: indoorfly@skymasters.org

Updated Information

11/01/21: FYI - For those of you who want to park a little closer, we found out that the early morning Wednesday, UWM Training Sessions let out at 10 and the parking lot empties out quickly making more room for us closer to entrance of Field #4.

Season Passes are still available online for \$150 at www.Skymasters.org. If you have any problems with the online registration process, give me a call at (248) 770-3239. Or you can purchase a \$10 Single Session at the door (NOTE: there is no longer an ATM machine in the building, so you will need to bring the proper change/cash only).

Pilots/Drivers and Spectators you can read the Indoor Flying Rules, Schedule and Release Form Liability Form on-line

at www.Skymasters.org **Each Pilot/Driver and Spectator will be required to sign a onetime Release Form Liability Form.**

11/10/21: It seemed to work well that pilots who arrived few minutes after 10 were able to park closer to entrance for Field #4.

With a ceiling height of 75 feet pilots do not have luxury of flying 3 mistakes high. We are also surrounded by 4 walls, fellow pilots and spectators all around. The utmost care must be taken when flying at all times. Pilots flying the faster delta wing planes must give way to slower planes. That said, if you are flying a slower plane, you may want to land when faster planes are in the air. Batteries only last a short time and you can return to the air to fly without costly mishaps. Everyone wants to have a good time and return home with our planes intact.

A quick reminder, if you are charging batteries the batteries must be in or on a fire retardant surface like a LiPo sack. **No charged or discharged batteries may be left at UWMSC.**

Indoor Flying at the Legacy Center in Brighton, MI

Indoor flying takes place from November 3rd, 2021 until March 30th, 2022 at the Legacy Center

Sports Complex, 9299 Goble Dr., Brighton, MI 48116, phone: 810.231.9288, on Wednesdays from 12:30 PM until 2:30 PM.

The cost is \$10 per drop-in session.

The October EFO Flying Meeting



The October 2021 Electric Flyers Only (EFO) flying meeting was postponed several times, because of the weather, to Saturday, October 23.



Ken Myers take his SuperEZ trainer out for a spin

That day provided broken skies and light winds with the temperature ranging early from the mid-40s to later the mid-50s.

Amazingly, the turnout was quite excellent with a lot of gabbing and flying.

Fall days can sometimes be quite pleasant in Michigan, and this one was marginally so.

Everyone had a fun day of flying and being together, and I'm sure that most folks thought that

this might be our last group fly for the 2021 flying season.



Keith Shaw launches his glider.

It turned out to be a really super fun day.



Paul Sockow does some relaxed flying.



Dave Stacer enjoys a bit of fall flying.

Mark Rittinger shared one of his latest creations, a 4S powered Dirty Birdy. It looks and flies very much like the original. Word has it that he also has what he's calling a "Humming Birdy", a smaller version, in the works.



Roger Wilfong just landed his T-28



Keith Shaw preps his King Crimson for flight.



Keith lands after another successful flight.



Denny Sumner dressed appropriately for the day.



**Some of the guys doing what we do best. Yep, BS!
The November 2021 EFO Flying Meeting**



Mark and Denny with Mark's Omen III.



The flying meeting was held on Saturday, November 6, 2021.

The day was sunny, with variable winds that were mostly crosswinds.

The early temperature ranged from the middle 40s early to the middle 50s by the time we decided to call it a day.

The sky was a pretty nice to fly in.

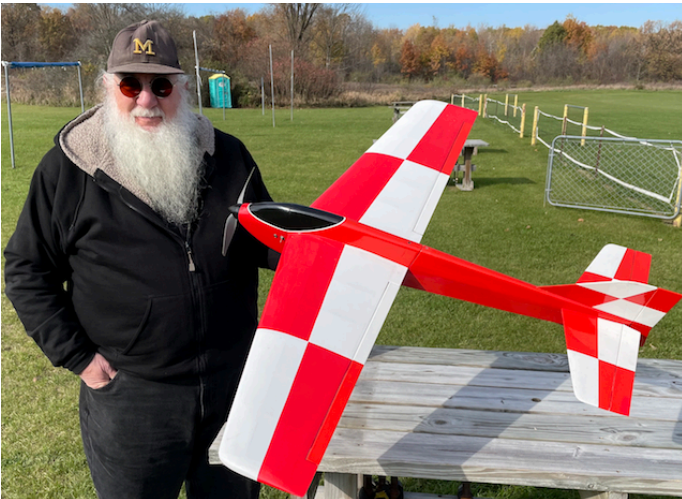
The turnout was exceptionally light and only included Keith Shaw, Tom Bacsanyi and myself.

It was actually a pretty decent flying day.

I flew my SuperEZ again, since it was the only "A123" powered plane that I have set up on my fairly new Tactic TTX660.



As a bit of a side note, and relating to last month's transmitter article, there were no Spektrum brand transmitters at the field on this day.



All things considered, it was a very "fun" day and I wish you could have been there. ;-)



The Following Emails are in regard to the transmitter article that was published in the November 2021 Ampeer.

<http://theampeer.org/ampeer/ampnov21/ampnov21.htm#TX>

OpenTX

Hello Ken!!

I read the *Ampeer* this morning and wanted to contribute a bit on the topic of OpenTx.

On my return to the R/C world a couple of years ago, I had planned to keep using my old Futaba 8U on 72MHz since it is still legal here in Canada and there should be no more competition for an available frequency.

Well, after a few interference related crashes at the local park, it seemed like 72MHz wasn't so well reserved and I opted to buy a new modern 2.4GHz frequency hopping transmitter; I ordered a Jumper T12 Pro for 85\$. This small and light transmitter version, running

OpenTx as mentioned, sports Hall Effect gimbals and a Multi-Protocol internal module. There was a transition period to adapt to the smaller transmitter format after the larger regular transmitters.

After updating the OpenTx firmware and the multi-protocol module firmware too, I can drive just about any 2.4GHz receiver on the market. I like the programming flexibility, including the ability to map any function to any set of receiver pins; I run my small 600mm printed warbirds on low cost FrSky 4ch receivers with dual servos for ailerons, throttle and elevator.

I am still learning more advanced programming but it is very flexible and switching from 2 airplanes with receivers on different protocols is a breeze.

Next task, figuring out how to implement differential trust on a 950mm 3D printed Mosquito. A quick search identified a few videos showing how to do that.



The only improvement I did so far was to add 3D printed feet to provide a tray-like stability and easier left hand hand-launches. The 2 carbon rods are removed for transport and the battery compartment door is not affected. The printed feet provide more stability on the bench.

Cheers from Montréal!
Louis Dionne

FrSky

Ken,

I was just reading the *Ampeer* issue you just put together.

I actually own one of the FrSky transmitters, mine is the Qx7s. As you stated there is a pretty steep learning curve with one of these to set up Open TX.

This is a heads up for anybody you know that that is using one of these. They are a very good radio, just confusing to learn.

One of the issues I had was learning how to set up the models. I ordered one of the manuals that Aloft Hobbies put together. It does have a lot of info however I found it difficult to use. It is written at a level that was hard to use with all of the cross-references. So being an old guy I decided to make a simpler reference to use. My work around was to find the info I use on a regular basis and condense it into quick notes that I understand. So I made notes on the important stuff like binding, deleting models, setting up switches, rates, expo, and putting in spoken prompts.

I found it confusing as to where to enter items. Should I enter the data in inputs, mixes, or outputs. Then it was just setting up several models to get the hang of it.

I added a Multi module to mine so I could fly most any receiver. This is a really nice addition as I can consolidate all of my models onto one transmitter.

When I decided to update the firmware that ended up being out of my ability. Too old to be computer savvy enough to feel comfortable and knowledgeable enough to do this. I ended up outsourcing this to CycloneFPV in Texas. (support@cyclonefpv.com) The guy that runs this company is an authorized Taranis repair center. He updated the firmware on my transmitter as well as the Multi module so they would have matching channel maps. Good turn around time, reasonably priced and not afraid to work with what ever is sent in to him. I was very pleased with what he did for me. Just can't say enough good about this guy!

I hope this helps someone with one of these.

Buz

Hitec

Hi,

Looks like you guys are staying active.

I'm just getting back to flying. Our flying site at Black Starr canyon OCMA has reopened and now has no face mask requirements.

I noticed a statement somewhere in this *Ampeer* that Hitec Flash 8 and 7 transmitters were no longer being produced. The Hitec website still shows them as available and they are compatible with Hitec receivers also available.

I am still using my original Aurora 9 transmitter and Optima receivers, Hitec has promised to continue to service the Aurora 9 and 9X systems.

Keep up the good work,
Gary Gullikson, Garden Grove,CA
"E-Challenged"

Upcoming E-vents

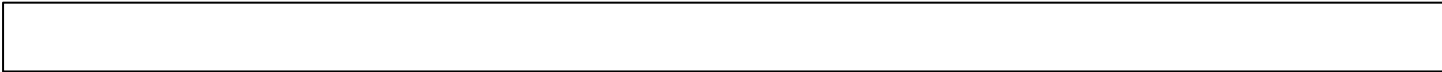
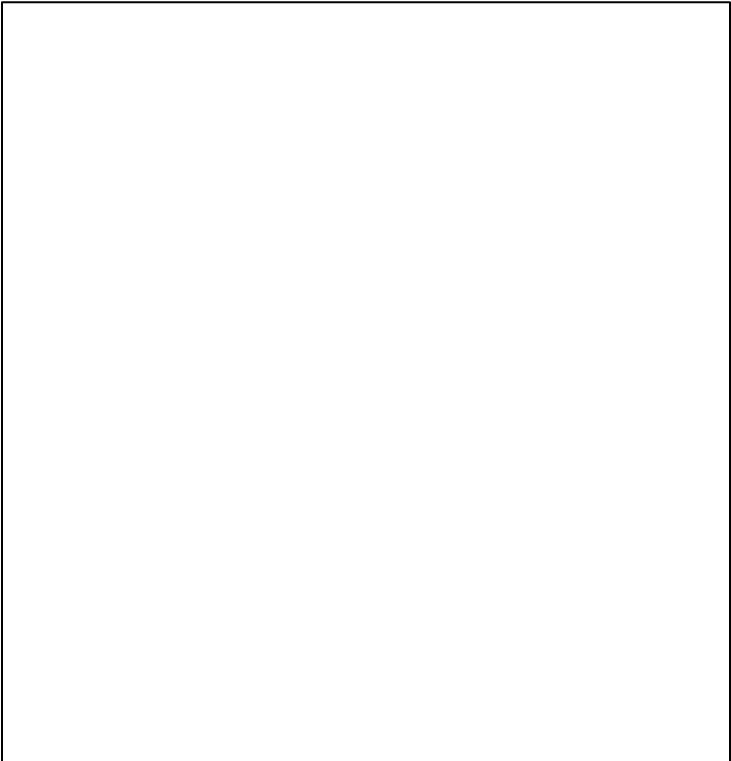
Both On Wednesdays:

Indoor Flying from 10 a.m., Pontiac, MI (details in this issue)

Indoor Flying from 12:30 p.m., Brighton, MI (details in this issue)

No December EFO Meeting see this issue for an explanation.

Toledo Swap Shop, Midwest RC Swap Shop, April 1 - 2, 2022 (more details to follow)



The Ampeer/Ken Myers
1911 Bradshaw Ct.
Commerce Twp., MI 48390

<http://www.theampeer.org>

No December Monthly Meeting:

Date: TBD **Time:** TBD

Place: TBD

