

the

Ampeer

July

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2016

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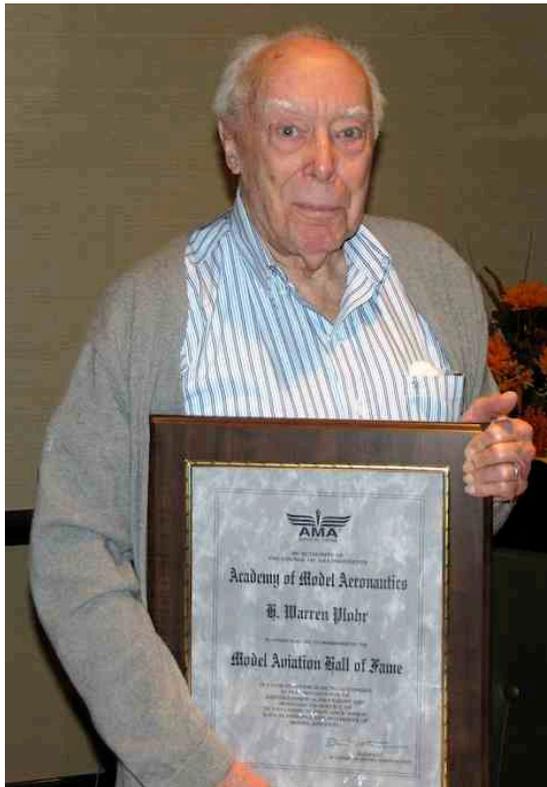
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Subscriptions

The Next Flying Meeting:
Sat. & Sunday, July 9 & 10, Mid-Am, Midwest 7 Mi. RC Field

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Warren Plohr Remembered



Info and photo from Keith Shaw

I'm about to head out to Warren's memorial service, which reminded me of your request for info. I'm sending the

official obit and my recollections of Warren over the 55+ years that I knew him. His quiet hints were very appreciated as I struggled to understand transistors. He never outright encouraged me, but he was the singular adult who didn't think it was crazy for a 12 year old to be designing his own R/C equipment. I owe much to Warren. I doubt if I would ever have been successful without his momentary nudges. Where would electric flight be?

While growing up in Cleveland, I was fortunate to have known and flown with Warren, Chet Lanzo, Ted Blase, Thad Kusak, Al Seidowski, Warren Weisenbach, Herb Rindfleisch and many others who were highly influential in the history and development of model aviation. I learned so much from each one of them.

I was fortunate to have known Warren for over 55 years, and our paths have criss-crossed several times. We both lived in Cleveland and flew at the same American Airlines model club field. He would patiently answer my questions about radio theory, and was the singular adult that didn't dismiss a 12 year old kid from

designing and building his own radio control equipment. He was a big help in understanding transistor theory when I was working on my first smallish receiver. I had been flying homemade tube equipment, but transistors were much harder to understand. Later in 66-67 he answered my phone questions as I struggled to design my first successful digital proportional.

He was flying homemade analog proportional when I first met him, in a curious lime green plane he called "The Green Monster". I remember several bolt heads that protruded out of the top of the window fairing just before the wing. They were circuit taps that he would check with a voltmeter before every flight. It had HUGE counterbalanced (and counter-weighted) control surfaces (R&E), and I remember him doing aerobatics in a very small space. Warren gave it to me recently and it is in my basement awaiting restoration. The covering is in tatters, so a complete strip is in order. Understand that green is my least favorite color, but I WILL finish it in the lime green as a fitting tribute to my respect for Warren. I plan on adding "Warren Plohr's Green Monster" in dark green script on the wing in his memory.

I was fortunate to work for NASA-Lewis in Cleveland after graduating from college. Warren worked several buildings over and we talked modeling over lunch occasionally. We were both involved with a Saturday program that taught advanced classes for local hotshot high school students. I taught Digital Electronics, and Warren taught Aerodynamics if I remember correctly.

I moved to Ann Arbor to pursue a Doctorate in Physics at The University of Michigan. I had lost touch with Warren for a good number of years until, wonders of wonders, he walked into an Ann Arbor Falcons meeting. He and Joan had moved to Ann Arbor to be closer to their daughter and grandchildren. Once again our paths had crossed, we flew together, and the friendship has continued.

The nursing care facility that he and Joan were in was only two miles from my house, so I tried to stop in for a visit once a month. He enjoyed seeing my recent "nostalgia" single channel projects (using Phil Green's button encoder), and outright laughed

and shook his head at my digital 2.4GHz Galloping Ghost rig.

I owe a tremendous debt to Warren. I doubt if I would be flying today without his quiet encouragement.

Keith

Warren's Obituary

Henry Warren Plohr, Aerospace Pioneer, passed away on March 29, 2016 at age 94, in Ann Arbor, Michigan. He shared 66 years with his love, Joan Perl Plohr, who passed away on September 19, 2015.

Warren was born on March 17, 1922 to Anna Muller and Henry William Plohr in New York City. His childhood dreams were all about flying. He constructed countless model airplanes, taking the subway to fly them at Central Park.

In December 1942 he enlisted in the United States Army Air Force, and became a B-24 Liberator pilot, flying 11 combat missions over Germany and France for the 489th Bomb Group. The war ended while he was training to pilot B-29s in the Pacific. He received an Air Medal for his combat service.

Following the war, Warren studied aeronautical engineering at Carnegie Tech. He met his beautiful Joan in the college cafeteria. They married in Mansfield, Ohio, and moved to Cleveland for Warren's first job working in turbine aerodynamics at NACA's Aircraft Engine Research lab.

In 1958 NACA became NASA and Warren began applying his aviation knowledge to the first US manned spaceflight, Project Mercury. He was a member of the Space Task Group, working on Big Joe, the first unmanned test vehicle. The first manned capsule was designed and assembled at Cleveland. Warren was a designer of the attitude control system for the Mercury capsule, which used high-pressure nitrogen thrusters to maneuver the capsule after separation. Another project was the design of the "gimbal rig", which tested an astronaut's ability to control the spacecraft in a vacuum.

From 1966 to 1970 he managed the Agena, an upper-stage booster rocket used to launch spacecraft for NASA's planetary program. The Lewis Agena

launch record was nearly perfect. Payloads included the Ranger, Lunar Orbiter, Mariner (Mars and Venus) and the Nimbus weather satellites. In the seventies he was the Chief of Spacecraft Technology at Lewis. He also led a NASA-sponsored Explorer Scout Post that introduced students to the engineering profession. Warren retired in 1979, and received the NASA Exceptional Service Award.

Throughout his life Warren continued to build and fly gas and electric powered model aircraft. In the eighties he made model sailplanes, and served for 6 years as the vice president and president of the League of Silent Flight. In 1982, he completed the final Level V task – an 8-hour slope flight.

In the nineties Warren served on the Academy of Model Aeronautics' Frequency Committee, working with the FCC to secure the MHz band set for radio-controlled models. He continued service on the Electronic Technical Committee through 2010, and was inducted into the Model Aviation Hall of Fame that year.

Warren's love of flying brought him a wonderful circle of friends, as did his summers at his cottage at Lake Gage, Indiana. He is survived by his sister, Doris Hansen, and his three children: Bradley Plohr, Bonnie Upton (Ben) and Robert Plohr (Carol). He was so proud of his six grandchildren: Tate and Linus Plohr, Frederick, Samuel and Celia Upton, and Benjamin Plohr.

Warren and Joan's family wish to thank the caregivers and staff at University Living and Compassus Hospice for the kindness and respect they provided to them. The life Warren led gave all who shared it a dignity and love for what good humans can do.

Sid Kauffman Remembered

Information from Greg Gimlick

Greg and Dana,

I have some very sad news to share with you. This past Tuesday (May 3, 2016) Sid Kauffman died of a heart attack. It was very sudden and unexpected but he passed quickly into Heaven. As you know he was an avid electric flyer, inventor (software and hardware) and an expert in the hobby.

He will be greatly missed by many people, especially by me as he was my best friend. We both enjoyed going to the flying field to fly or to flying events up and down the east coast to watch other enjoy the hobby (NEAT, SEFF, Triple Tree, etc). His funeral will be this Saturday, May 7, at 1 PM at Westover Church in Greensboro.

Bill Sellers

and from Greg

I'm sorry to pass the news that ElectricCalc guru and extremely good friend Sid Kauffman passed away suddenly on Tuesday from a heart attack. If you've been to any big electric meet in the last 25 years, you've probably had his wife's excellent Shoe Fly Pie and a bottle of Cheerwine they always passed out in their pit.

I think of Sid every week, as I still use his software regularly, to answer reader's questions as to setups. He will be sorely missed. Sid was a good friend, but even a finer man.

Greg

More on the Old Fogey's Old Fogies

(Includes Power System Comparisons/EMAX & Cobra motors - EMAX ESC & CC Thunderbird)

By Ken Myers

The June 2016 *Ampeer* contained a lot of information about my version of the Old Fogey type plane.

<http://theampeer.org/ampeer/ampjun16/ampjun16.htm>

The Mission

My version was designed with the mission being that of a primary, introductory, flight trainer. Its mission is to successfully introduce a person, who has absolutely no experience flying RC planes, to successful flying.

It has worked out well in this mission.

A beginning pilot, who was NOT qualified to solo on his own commercial trainer, soloed Ken's Old Fogey, after only a brief 'get to the know the feel of the plane in the air' introduction. He has flown it, completely solo, many times on his own since then, and he is still NOT qualified to solo on his commercial 'trainer'.

Two beginning pilots, with no RC experience, have also flown the plane very successfully in the air. I did not use a buddy box with them. I seldom, if ever, had to take the transmitter from their hands during their many flights.

I would call the design a mission success.

What Is An Old Fogey?

As mentioned in the first article, the name I'm using for the plane came from Josh Bixler of Flite Test. Whether he 'coined' the name or not, I have no idea.

Many planes can be found on the Internet and on YouTube that have the name Old Fogey or Old Fogey -ish or -like appended to their names. There are also planes that have 'borrowed designs' that are similar. Who 'borrowed' from whom, I cannot tell. They have different names, but apparent 'Old Fogey' lineage.



http://www.hobbyking.com/hobbyking/store/__74626__HobbyKing_8482_Mariposa_Slowflyer_Trainer_Balsa_1120mm_ARF_AR_Warehouse_.html

HobbyKing's Mariposa, constructed of balsa and lite plywood, seems very similar in design and is flown and compared to the FT Old Fogey on YouTube by the Flite Test folks.

<https://www.youtube.com/watch?v=LUuWSwnGbFc>



http://www.hobbyking.com/hobbyking/store/__78575__Old_Fogey_EPP_Slow_Flyer_1150mm_Kit_AR_Warehouse_.html

To confuse matters a bit, Hobby King also has a plane, made of EPP foam, that they call the Old Fogey. It is clearly much closer in lineage to a Clancy Lazy Bee.



Clancy Lazy Bee



Buddy RC also has an EFO foam version called the TechOne Lazy Flyer.

<http://www.buddyrc.com/techone-lazy-flyer-pnp.html>

Again, its lineage appears to be more Lazy Bee than Old Fogey.

For me, the most Old Fogeyish, commercially available ARF, is the Mariposa. The bottom of the fuselage is horizontal, the horizontal stabilizer is on the bottom of the fuselage and the plane 'sets up' on the landing gear.

Ken's Old Fogey Mk II

My second version of the Old Fogey included several refinements over the prototype. The battery hatch hinge was changed as well as using Velcro to hold the hatch closed. The magnets, used on the prototype did not work well in the DTFB. A 1/16" plywood plate was added to the bottom of the

fuselage, where the landing gear are rubber banded to the fuselage. Velcro was used on the bottom of the battery tray to hold the Velcro battery strap in place. The template/plans were improved to make joining of the fuselage sides to the fuselage bottom more accurate. A commercial, Sensei main landing gear, was used instead of what I just had laying around.

<http://www3.towerhobbies.com/cgi-bin/wti0001p?&I=LXCKYY&P=ML>

1/16" plywood control horns were tried, but they didn't work out well, so they were replaced by Great Planes Large Nylon Control Horns (GPMQ3901) 1-1/8" Long, which were also used on the prototype.

<http://www3.towerhobbies.com/cgi-bin/wti0001p?&I=LXCKYY&P=ML>



The most noticeable difference is the red and yellow EconoKote used to cover the Mk II. While the covering makes the plane a bit more durable, it also made it slightly heavier in the tail, and a bit of

lead had to be added at the front end of the battery compartment.

The strapping tape hinges for the battery compartment, elevator and rudder, used on the prototype, were not needed. The EconoKote was used for hinging.

Ken's Old Fogey Stats

Both versions:

Wing Span (Flat Plan Form): ~ 47"

Wing span, tip to tip for angled tips: 46-1/8"

Effective wing area: 554 sq.in.

Wing tip angle: 9.5°

Prototype:

Weight (RTF*): ~24 oz.

Wing Area Loading: 5.2 oz./sq.ft.

Wing Cube Loading Factor: 2.65

Mk II:

Weight (RTF*): ~29 oz.

Wing Area Loading: 7.5 oz./sq.ft.

Wing Cube Loading Factor: 3.8

*Flying weight varies slightly depending on the specific 3S 1000mAh LiPo battery used.

Power Systems

3S 1000mAh LiPo batteries are used in both versions. The prototype used a Cobra C-2217/20 and Castle Thunderbird 36 amp ESC. It was a very good choice. With the same type of batteries, the EMAX GT2218/11 combined with the EMAX Simon Series 20 Amp ESC power system proved to be a disappointment.

The default timing on the EMAX 20A ESC was 15°. This gave an *apparent raw K_v of 1060. When run with either an APC 10x5E or APC 11x5.5E prop and a 3S 1000mAh pack, the efficiency was quite poor, compared to the Cobra/Thunderbird 36 combination.

I was able, using the programming, available via the transmitter (what a pain), to change the timing to 0° in the EMAX 20A ESC. That produced an apparent raw K_v of 965.

When the Thunderbird 36 was used, the apparent raw K_v was 930.

The Cobra/Thunderbird 36 system yielded an apparent raw K_v of 900.

*apparent raw K_v : measured no load RPM divided by measured volts

The timing for the Castle Creations Thunderbird is not noted, and it is not adjustable. The table presents the apparent raw K_v for no load measurements taken with 3S and 2S LiPo battery packs. The table also demonstrates why sometimes, the K_v noted by the manufacturer doesn't seem correct. The ESC's timing plays an important part in both the motor's apparent K_v and the system's efficiency.

Motor	Raw Kv ESC	Battery	RPM	Volts	Apparent Kv
EMAX	EMAX 15-deg	3S	11902	11.23	1060
EMAX	EMAX 15-deg	2S	8058	7.609	1059
EMAX	EMAX 0-deg	3S	10850	11.34	957
EMAX	EMAX 0-deg	2S	7288	7.58	961
EMAX	Thunderbird 36	3S	10541	11.33	930
EMAX	Thunderbird 36	2S	7077	7.575	934
Cobra	Thunderbird 36	3S	10134	11.244	901
Cobra	Thunderbird 36	2S	6856	7.59	903

All of my collected data, from the various motor and ESC combination testing, was put into Drive Calculator. The following tables, for APC 10x5E and 11x5.5E props, show the various combinations with the same battery and the same prop selections in Drive Calculator. These are Drive Calculator SIMULATED numbers, but they are based on the real numbers collected during my motor testing. It is very easy to see why I will not be using EMAX motors or ESCs again.

Prop: APC 10x5E							
Motor	ESC	Volts	Amps	RPM	Win	Wout	Sys. Eff.
EMAX	EMAX 15-deg	11.1	15.2	8443	168.4	115.3	68.5%
EMAX	EMAX 0-deg	11.1	12.8	8053	141.6	99.9	70.6%
EMAX	T-bird 36	11.1	12.3	8053	136.9	99.9	73.0%
Cobra	T-bird 36	11.1	12.5	8226	138.3	106.5	77.0%

Prop: APC 11x5.5E							
Motor	ESC	Volts	Amps	RPM	Win	Wout	Sys. Eff.
EMAX	EMAX 15-deg	11.1	18.6	7775	206.8	131.3	63.5%
EMAX	EMAX 0-deg	11.1	15.8	7476	175	115.9	66.2%
EMAX	T-bird 36	11.1	15.4	7522	171.3	118.1	68.9%
Cobra	T-bird 36	11.1	15.9	7748	176.8	129.7	73.4%

Win = power in Wout = power out

Several things are apparent in the tables.

Efficiency of the system with a given load, the chosen prop, is based on the combination of the motor AND the speed control, the system efficiency. The chosen battery also has an affect on the total system efficiency, but is only generalized in these examples.

Efficiency goes down as the ESC timing is increased. Yes, the RPM and power out increases with the timing, but at the cost of efficiency.

While I had used the APC 10x5E at first, I changed to the APC 11x5.5E for the majority of the flights before reviewing the table information.

The tables made me 'rethink' the prop selection and I tried the APC 10x5E on both planes with both power systems. The APC 10x5E works well with both planes and they fly just fine. Using the 10x5E also keeps the batteries, with either system, just a little above 3.7V resting per cell after six minutes of timed powered flight.

After the motor and battery testing, the Cobra/Thunderbird 36 combo was installed in the Mk II and the EMAX motor and a Castle Creations Thunderbird 54 was installed in the prototype. I had a T-bird 54 in the drawer, so I put it to use. The EMAX 20 amp ESC was placed in the trash, where it belongs.

A Word About the ESCs

It was expected that the EMAX 20A ESC would be less efficient than the Thunderbird 36. Size matters, but the weights of the two units were very similar in ready to use weight.

Measured weights with connectors:

Emax Simon Series 25 Amp ESC: 30g/1.06 oz.
CC Thunderbird 36: 36.2g/1.28 oz.

The CC Thunderbird 54, used to replace the EMAX ESC, weighed 48.5g/1.71 oz., ready for use.

The Motors

Cobra C2217/20 (14 pole), motor wt. 73.6g/2.6 oz., RTF wt.82g/2.9 oz., Diameter 27.7mm, Length 32.6mm

EMAX 2218/11 (12 pole), motor wt. 78.4g/2.77 oz., RTF wt. 87.1g/3.07 oz., Diameter 28.6mm, Length 33.9mm

Motor Naming when using raw K_v and T-bird 36

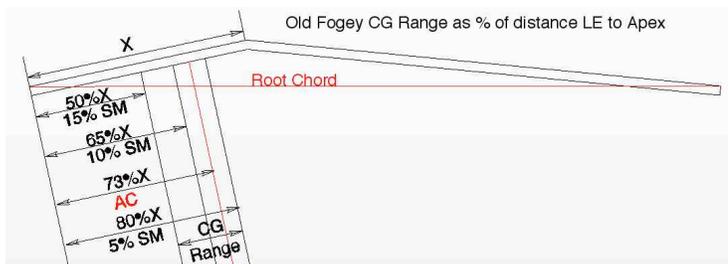
Cobra 2833-900 K_v , 74g

EMAX 2934-930 K_v , 78g

A Note on the Significant CG Change

The diagram illustrates the fore and aft center of gravity (CG) range. It can be used for any true Old Fogey version with similar proportions, including the original FT version. The diagram is a cross-sectional view of the wing profile. SM is static

margin, a percentage of the mean average chord (MAC). An initial safe center of gravity (ISCG) range is between the AC (wing's aerodynamic center) and 10% SM (static margin), 65%X to 73%X.



Significant Changes from the FT Old Fogey

1. Overall dimension change is 1.22 times larger
2. Vertical Stabilizer and Rudder is 1.464 times larger and the rudder area is cut down by about 2/3. The bottom of the vertical stabilizer, with the dorsal fin of the enlarged vertical stabilizer and rudder, is changed to being exactly the same as the original, so that it fits the slot in the horizontal stabilizer/elevator unit.
3. A simple motor mount battery unit yields 2 degrees of down thrust and one degree of right thrust. 1/32" plywood is used to 'face' the DTFB on each side so that 4-40 cap screws and blind nuts can be used to secure the motor to the firewall.
4. The tip angle is reduced to 9.5°
5. Sensei main landing gear is used



6. 3/16" Dowel is used for wing and landing gear hold downs
7. The front assembly 'flap' on the fuselage was changed to a hatch and is held down with hook-and-loop fastener.

8. The power system is larger and its selection is based on using a 3S LiPo battery
 9. Sullivan 'blue' pushrods are used
 10. The CG is moved forward a lot
- Norm Peters' Old Fogey (yellow) is in the foreground

Norm Peters, of the Midwest RC Society, liked flying my Old Fogies so much, he created his own. He used the FT plans, which he enlarged, photos and dimension changes from my Old Fogies and the CG change. His version ended up slightly larger than mine, uses an E-Flite 480 power system, and it is very successful, for him, as a primary trainer.

Upcoming Electrics' Over Lake Orion Electric Fly-in

Saturday, June 25, is the Electrics' Over Lake Orion Electric Fly-in. It is scheduled to run from 10 a.m. to Midnight at the Skymasters' Flying Field near Lake Orion, MI. There will be a potluck dinner at the field, bonfire, and NIGHT FLYING. Camping is allowed overnight at the field with open flying on Sunday.

There is No Landing Fee and lots of parking. Refreshments are available at the event. There are Pilots' prizes.

The flying field is located in Bald Mountain Recreation Area, about 5 miles north of the Palace of Auburn Hills, on Scripps Rd. between Lapeer Rd. (M-24) and Joslyn Rd. All vehicles require a Recreation Passport, which is available from the Michigan Secretary of State or the DNR.

For more information email Pete Foss (petefoss@skymasters.org) or Visit the Skymasters Web site, <http://www.skymasters.org>

**ALL ELECTRIC
AIR SHOW**

August 27, 2016
9:00 am - 9:00pm

8328 Otto Rd., Grand Ledge MI

Upcoming CARDS Electric Fly-in

On **Saturday, August 27**, the CARDS (Capital Area Radio Drone Squadron) present their 6th Annual Electric Fly-in from 9 a.m. to 9 p.m.

The CARDS flying field is located at 8328 Otto Rd., Grand Ledge, MI, 48837.

The event is open to all RC electric fliers that have proof of current AMA membership. Planes, multi-copters and helicopters are all welcome.

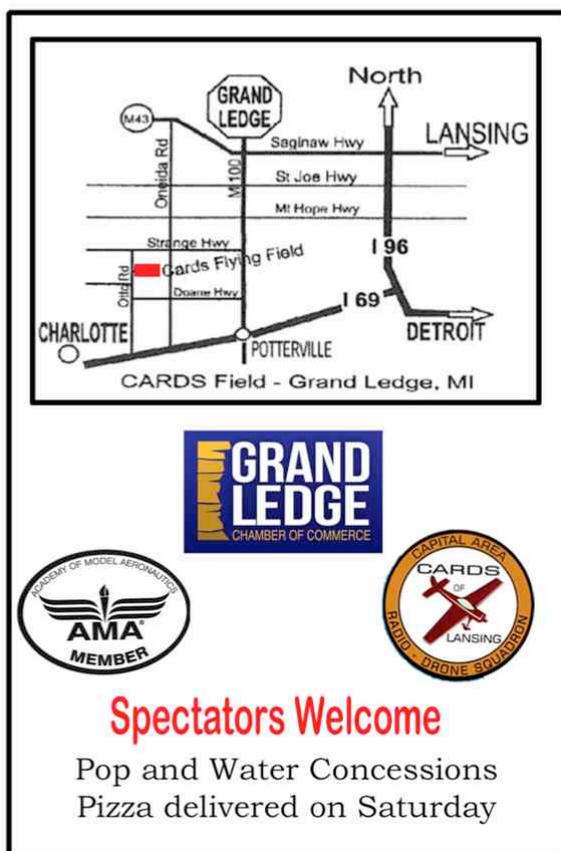
The flying field features the best two runways in Mid-Michigan.

The field will be available to registered pilots for electric only open flying on Friday, Aug. 26 from 3 p.m. to 9 p.m.

There are pilot prizes and a raffle on Saturday.

The **landing fee is \$15**, which includes pilot pizza and soda.

For more information contact the CD, Marv



Thomson, phone 517-802-7675 or email mthomson@wowway.com

Spectators Welcome!

There will be a pop and water concession.

More on the Revolectrix Gt500 Charger & A Possible Problem with the RC Buddy Paraboard V3

By Ken Myers

I reviewed the Revolectrix Gt500 charger in the May 2016 *Ampeer*.

<http://theampeer.org/ampeer/ampmay16/ampmay16.htm#GT500>

I have had a chance to use it a lot now, and I like it very, very much, and highly recommend it.

It does have a couple of very small issues.

Like **ALL** devices equipped with a LCD screen, it is difficult to read the screen in direct sunlight. The solution is simple, don't charge in direct sunlight.

The charger defaults back to the last used setting. This is good, in some ways, but a little annoying at times.

I only charge A123 and LiPo batteries with this charger. To make it easier to switch back and forth between the two, I have set up presets for both types of batteries. Selecting the appropriate preset, it is very easy to switch between the two chemistries. Problem solved.

When charging my 3S 1000mAh LiPo batteries, I parallel charge them using the Buddy RC Paraboard V3.

<http://www.buddyrc.com/power-system/paraboard-parallel-charge-board.html>

There has been a discussion thread started on RC Groups. It discusses some possible issues regarding all packs not balancing together on the Paraboard V3 as well as the MPA parallel charging boards.

<http://www.rcgroups.com/forums/showthread.php?t=2675694>

I have not seen this 'problem' with my Paraboard V3, but I only charge 3S 1000mAh packs at very similar states of discharge.

32nd Annual Mid-America Electric Flies 2016

At the 7 Mile Road MRCS Field
AMA Sanctioned

Saturday, July 9 & Sunday, July 10

Hosted by the:

Ann Arbor Falcons and Electric Flyers Only

Flying Site Provided by the:

Midwest R/C Society

Contest Directors are:

Ken Myers phone (248) 669-8124 or

kmyersefo@theampeer.org

http://www.theampeer.org for updates & info

Keith Shaw (734) 973-6309

Flying both days at the Midwest R/C Society Flying

Field - 7 Mile Rd., Salem Twp., MI

Registration: 9 A.M. both days

Flying from 10 A.M. to 5 P.M. Sat. & 10 A.M. to 3 P.M. Sunday

Pilot Entry Fee \$15 (Sat.) and \$10 (Sun.)
Parking Donation Requested from Spectators

Saturday's Awards

Best Scale

Most Beautiful

Best Ducted Fan

Best Sport Plane

CD's Choice

Sunday's Awards

Best Scale

Most Beautiful

Best Mini-Electric

Best Multi-motor

CD's Choice

Planes Must Fly To Be Considered for Any Award

Saturday's & Sunday's Awards:

Plaques for 1st in each category

Open Flying Possible on Friday
Night Flying Possible, Weather Permitting,

Friday & Saturday Nights

Refreshments available at the field both days.

Potluck picnic at the field on Saturday evening.

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

Come, Look, Listen, Learn - Fly Electric - Fly the Future!

Merchandise drawing for ALL entrants

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.

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

Address: 7419 Seven Mile Road, Salem Twp, MI 48167 - numbers are on the fence.

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 northwest 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>



Upcoming E-vents

June 12, Sunday, EFO Flying Meeting at the Midwest RC Society @ 10 p.m. Everyone with an interest is welcome, proof of AMA membership required to fly

June 25, Saturday Skymasters' Electrics Over Lake Orion Electric Fly-in (details in this issue)

^π
July 9 & 10, Saturday & Sunday, 32nd Annual Mid-America Electric Flies - full details in this issue.

July 16, PMAC (Pontiac Miniature Aircraft Club All Electric Fly – Pending – Start time TBD. Rain date 07/17/16

http://www.geodza.com/PMAC_Web_2012_live/Welcome.html

August 27, the CARDS (Capital Area Radio Drone Squadron) 6th Annual Electric Fly-in from 9 a.m. to 9 p.m. (details in this issue)



The Old Fogies Multiply - will it never end?
Details in this issue



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

<http://www.theampeer.org>

The Next Monthly Flying Meeting:

Date: Sat. & Sun., July 9 & 10, Mid-Am, **Time:** 10 a.m.

Place: Midwest RC Field, Flying Meeting