

the

Ampeer

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Mailed Ampeer subscriptions are no longer available	The Next Flying Meeting: Date: Saturday, June 19 Time: 10:00 a.m. Place: Midwest RC Society 7 Mile Rd. Flying Field				
What's In This Issue: More on the Spektrum Radio – The Rufe Is Done – A WACO 10 Preview – “A123” 2300mAh Pack for a Geared AstroFlight 40 cobalt – First Flights of the Super Stearman – A Classy Charging Station – Upcoming E-vents					

More on the Spektrum Radio

From Philip Hinkle
philip@frogmanproductions.com

Your name was given to me by someone on the RC Groups forums online. There has been some discussion because someone had a plane go down because they lost signal on a DX7 system. I started following the thread closely because I use the DX6i and AR6200 in my aerial photo plane with a 900mhz downlink. Someone pointed me to your Feb/March newsletters where some of the Spektrum issues were discussed. I did a bunch of research that included reading your newsletters and also scouring the Spektrum site to make sure my precious plane was setup properly. I learned a lot in the process. I posted what I learned and what I found with my own setup that seemed a little strange to me and even called Spektrum about it. They were going to discuss with an engineer and get

back but haven't yet.

You can see what was being discussed on the forum starting at this link. It is sort of off topic for the thread it is in and you have to weed through a few posts to uncover all that we discussed. Toward the end I go into detail about what I discovered and my conversation with Spektrum. It would be easier to post a link than to try and explain it all. Here is where the discussion started where someone's plane crashed because of lost signal.

My screen name is Frogman1206. One of the users said you would be interested in this information so I thought I would share. If you have any question for me direct feel free to email. I'm no expert but I can tell you what I have uncovered. It begins at post 462 by TroyNH.

<http://www.rcgroups.com/forums/showthread.php?t=1024238&page=31>

Thanks,
Philip

The Rufe Is Done

From Robert Ball robert98363@aol.com

Robert sent this great photo, but no details. I still had to share it with you. How about some details Robert?



A WACO 10 Preview

From Roy Day rday3415@verizon.net



Here are a few pictures of my own design WACO 10, vintage 1927. It has a wingspan of 44 inches and uses a Himax outrunner for power. It is a great flyer at 50 oz. with a 4-cell "A123" 2300mAh pack. It should be a construction article in *Model Aviation* in a couple months.

Earlier you were wrestling with the problem of incidence of the top and bottom wing. Curious what you finally set. I've built a number of biplanes and I've always set both wings at 0 degrees. Works fine.

The Details:

Wingspan: 44 in.

Wing area: 600 sq.in.

Flying wt.: 50-55 oz

Motor: Himax HC 3522-0700

ESC: Castle Creations Thunderbird 35A

Battery: 4-cell "A123" 2300mAh

Prop: 11x9 or 11x8 Zinger wood

Watts in: 256

Watts/#: 74



"A123" 2300mAh Pack for a Geared AstroFlight 40 cobalt – An Email conversation with Jeff Keley of Port Townsend, WA

Hi Ken,

Noticed your website and wanted to make an inquiry. I did quite a bit of e-modeling over the years but set it aside over the last 8 years or so. One of the older applications I have is a large old-timer (120") that I powered with an AstroFlight geared 40, RevUp 13x8 prop, Jomar ESC on 18 cells. It flew great then, slow but majestic. Any reason to change the hardware at this point given the upgrade in technology? In particular, I need to replace the batteries as I can't find the sticks I used then. I'm thinking NiMH will be the least expensive but provide way better durations than the old Nicads I used. Maybe 3000mah. Any thoughts? Anyone still using the AstroFlight gear?

Thanks,

Jeff Keley Port Townsend, WA

Hi Jeff,

You can use NiMH 3000mAh cells. Your plane can certainly handle the weight without a problem. I just checked <http://www.cheapbatterypacks.com> and found the price to be \$3.00 each for Elite 3300mAh cells, so the cells for a single pack would be \$54.

Do you need to upgrade your technology? Not really. Keith Shaw's latest plane, a Jungmeister biplane,

uses a geared AstroFlight cobalt 40, but he's using the cells known as "A123" 2300mAh cells. 7 of the "A123" Lithium Iron Phosphate cells would give you an equivalent pack to an 18-cell NiCad/NiMH pack. They are available for the best price in DEWALT tool packs. A DEWALT DC9280 pack has eight of these cells in it and can be had for \$49.99 from <http://www.toolking.com/dewalt-dc9280-28-volt-lithium-ion-nano-battery>.

I recently purchased two of these packs from this company and found them to be reputable and a good company to deal with. How to "harvest" them from the tool pack is included in the article I mention next.

If you'd like to learn more about these cells, please check out my article at

<http://homepage.mac.com/kmyersefo/M1-outrunners/M1-outrunners.htm>

You can ignore the information about outrunner motors, but read all the information about the "A123" cells and be sure to check out the linked articles. The articles include how to "harvest" and build packs.

Depending on how your plane is balanced, you might have a balance problem since a 7-cell "A123" pack will be about 1/2 the weight of 18-cell NiMH pack.

For charging you can use your NiCad/NiMH charger with a Baldwin Controls Charge Terminator II. http://www.baldwincontrols.com/t_2.html

Hope this helps and I've not confused you too much.

JK: I've also noted a six-cell 5000mah pack per the url below...

http://hobbycity.com/hobbycity/store/uh_viewItem.asp?idProduct=8586

Seems convenient and priced commensurately with NiMH, but would require a new charger. Thoughts on Li-poly versus the NiMH or the "A123" 2300mAh packs? I like the convenience of not having to harvest or build a pack by hand, not that I haven't built my own packs, but there is something to the convenience of "plug and play" given a premium on time. Thanks for any additional input. I did note your e-flight over doc, which details battery options and will try to read this weekend.

KM: Many folks like the ZIPPY Flightmax 5000mAh 6S1P 25C that your link points to. It is definitely "priced right" and would work for you.

There is really no reason to use high discharge NiMH batteries for power batteries anymore. Their energy density is just too poor and their shelf life is not good.

While the A123 Systems "A123" 2300mAh Lithium Iron Phosphate cells do not have as good of an energy density as Li-Poly cells I still prefer them for three reasons; 1.) They are safer to charge, 2.) They can be charged at 5C (newer Li-Poly cells can too), which means that they can be charged at 10 to 11 amps if you have a charger that can do it and that gives a charge time of about 12 minutes if fully discharged, 3.) They are very crash resistant, while Li-Poly cells puncture easily.

JK: Been reading, Ken. Lotsa options. So a question. Do you have recommendations for a charger given the 7S "A123" option? I see the FMA Multi-4 is popular but doesn't look like it can do to 6+ cell configuration. I see a used AstroFlight 112 plus a power supply for just a few bucks on eBay. That would require a charge terminator, perhaps. But if you were starting from scratch for charger, what would you recommend for this configuration. Would be nice if it included a balancer.

KM: An AstroFlight 112PK with a Terminator II and an AstroFlight Blinky "A123" balancer would work for your purposes and definitely be the cheapest route to go.

JK: Never mind. I found your reference below.

"If you do not already have a charger, I recommend the Astro Flight Lithium Ion Charger for A123 Cells, the Tejera Microsystems Engineering, Inc./TME Xtrema or the Thunder Power TP-1010C. The Xtrema charger also has the capability to be an in-line power meter. Both chargers can charge up to 10-cell packs from a 12v DC source like a Marine/RV deep cycle battery or power supply."

KM: Thanks for showing me that. I have to get into that article and get that changed ASAP! That is no longer my recommendation at all.

Here is what I am going to change that paragraph to:

If you do not already have a charger, I highly recommend the FMADirect CellPro 10S or the Tejera Microsystems Engineering, Inc./TME Xtrema. The Xtrema charger also has the capability to be an in-line power meter/watt meter. I have found the Thunder Power TP-1010C to be unacceptable for "A123" cells. While it may be an excellent charger for Li-Poly packs, I've found it difficult for the average user to use with "A123" 2300mAh cells and Thunder

Power's customer support for these types of cells is nonexistent. Both the CellPro 10S and Xtrema chargers can charge up to 10-cell packs from a 12v DC source like a Marine/RV deep cycle battery or power supply.

JK: Maybe several more questions (and you can ignore at any time if I've used up my "good will" quota <g>.

KM: Nope, never used up.

JK: Just put a new Spectrum DSM receiver in the big Clipper; everything checks fine along with the motor after being hung up on the rafters for 14 years! The only thing that didn't fire up was the old Jomar ESC. I will still debug to see if it is wiring somewhere, but can I ask your recommendations on a suitable contemporary replacement ESC for this application (geared AstroFlight 40 on 7s "A123"), preferably with BEC?

KM: Well, I believe this is where the rub is! Dog gone it. I've checked every supplier I can think of for a high voltage brushed controller, and as far as I can tell, they just don't exist anymore. I've got a Jomar SC-6 out on loan to a fellow, but he's still actually using it, so that doesn't do you any good. I've got several Jomar SC-4 and SM-4 controllers still in good working order if you need one of them.

JK: And finally, if I go the older AF 112 route, I noted the specifications for the AF Blinky for "A123" reads, "The balancer accepts 1 to 6 cell 123 battery packs." What does this mean for the seven-cell "A123" we have been discussing? And I'm just coming up to speed on the balancer thing, so maybe it can be done "by cell" versus the whole pack. But can the Blinky adapt to a seven-cell configuration?

KM: The AstroFlight Blinky for "A123" can do more than 6 cells, but only 6 cells at a time. For your 7 cell pack you would insert the Blinky into the first seven holes in the balance connector (there is always one more hole than number of cells), let the Blinky balance those 6 cells and then move the Blinky over 1 hole to finish up the last cell balancing it to the five cells from the previous balance. Honestly, it is not complicated at all. Since "A123" packs don't need balancing each time they are used, this really is no big deal at all.

JK: So Keith Shaw must be using an old Jomar as well in his AF brushed applications?

KM: Yep, and he probably has a few other brands as well like AstroFlight.

JK: Well here's something fascinating. I went through my old drawer of Jomar stuff and came up with a Jomar Maxcell Throttle completely new out-of-the box!!! I think it was to be used with an AF 90 that I was preparing for some equally big beast. Anyway, this should do the trick. It has stayed nice and dry all these years. I will mess about and see what's up.

Terrifically kind of you Ken (to offer a Jomar SM-4), truly, but not necessary. As I noted, I trumped your SM-4 discovery by finding a new, never used Jomar Maxcell controller in my own drawers! Also circa 1993. But to top it, my SM-4 works! Pulled it out and hooked it up directly to the Spectrum receiver and it works just fine! It must be something loose in the switch/charging harness. Now I'm good on the ESC front. I will probably try the Maxcell as it has BEC, I think. Now I just need to commit to batteries and charger. Pretty sure I'll pick up a couple of the DEWALT 28 volt packs and do the harvesting. That leaves the charger. It is very tempting to get the latest and greatest FMAdirect CellPro 10S as it has a built in balancer. Heck, it's only money <g>. I will bid on the 112 + power supply just for grins. I might get it for just the supply. But I do like the idea of an all-in-one, state-of-the-art charger. Nice to know exactly what is happening from a sophisticated charger. I will know shortly.

What started, or rather re-started, all this is that the local Unitarian church my wife participates in, just put up a great big, new sanctuary, leaving the previous sanctuary-turned-social-hall - of very acceptable small, slow indoor RC size - free for after-hours flying. My buddy and I picked up a couple of the Parkzone Vapors and have been having great fun "pylon racing" indoors around the hanging lamps <g>. That led to a couple more Parkzone models (Sukhoi and P-51), which got me, looking at all the planes that were just hanging from the rafters and racks. I pulled a couple of my favorites down (speed 400 stick old timers and the like), dusted them off, added them to the DSM-based transmitter and now have a whole hanger full of planes that seem quite new again.

Then at last there was the beast: the 120", scratch-built Comet Clipper just hanging there. I didn't have

any kids when that bird first flew (have three teens now!). I think the last time I flew it was at the Sepulveda Basin in LA 15 or more years ago. Nearly lost it in a boomer thermal as I recall. It took 30 minutes of full down to get it back on the ground! So the Clipper is the final "resurrection" challenge. You've been of great assistance in the process, Ken. Thanks again!

First Flights of the Super Stearman Ken's first flight report



Thursday, April 22, 2010

It was the perfect day for the maiden of the Super Stearman at the Midwest RC Society field here in southeastern Michigan. The winds were extremely light and somewhat variable. The sun was shining brightly. The temperature was right about 60-deg F/15.6-deg C.

Shortly after arriving at the field, I took a flight with the Flite 40 with an as yet untested Hitec Optima 7-ch receiver in it. Like the Optima 7-ch that I had previously tested in the Flite 40, and then put into the Super Stearman, it was flawless in operation.

I worked with a student pilot for a bit and then decided that the time was right for the Super Stearman's first flight.

After a successful range check and a double/triple check that everything was "go", I placed the plane on the grass runway in front of me. I took a deep breath and slowly opened the throttle expecting to have to correct with quite a bit of right rudder because of the

APC 13x8.5E prop. Very little right rudder correction was needed. How much? I'm not really sure since 95% of the planes I fly are tail-draggers, and my rudder response is pretty much automatic.



Once I felt that flying speed had been reached, which was nowhere near full throttle, I pulled back lightly on the elevator stick and the plane rose into a nice climbing attitude. The plane wanted to roll, not yaw, left, so I added right aileron trim until it was flying level. I added a bit more throttle along with a couple of clicks of down trim and it was flying very nicely at a moderate speed. As one of the folks watching said, "That's a very smooth flying plane."



I flew some gentle circuits and horizontal figure eights. The fore-and-aft (CG) balance seemed just "perfect." It "felt" and looked just right. On several passes down the field, I went to full throttle. Of course it wanted to climb with its flat-bottomed airfoil, but the climb was never too extreme. The

control throws also seemed just fine for this first flight. I did have the ailerons on “low rate”, but low rate was the 3/4” each way recommended in the manual. Almost all turns were made using ailerons and elevator without coordinating in any rudder. There really was hardly any noticeable “nose dropping”, even at the relatively slow speed the plane was flying at.

Landing the plane was very easy. I set up on a good approach on the first try, pulled back on the throttle and it settled in very nicely on the mains. Even though it was a really nice landing, I must have let up on the elevator too soon, as it did end up on its nose. Geeze, I hate when that happens, especially when the rest of the landing was so pretty! No problem at all though, only bruised ego.



After landing, I decided not to take a second flight and make the required changes at home, since my student pilot was waiting for more help and dusk approaching.

It was a very successful maiden flight.

On Friday morning, I wanted to figure out why the right aileron correction was needed. I had **NOT** done a static lateral balance, which I usually do. Sure enough, the left “wing” was heavier. It took three 8D 2-1/2” Finishing Nails with their heads removed (weighing 6.3g/0.22 oz.) to get a level static lateral balance. I drilled two 1/16” holes into the top right leading edge near the wing tip where the wood was thick enough for the nails and one in a similar position in the bottom wing. I glued and inserted the nails into the holes and covered the exposed nails with small patches of covering.

I removed the washers from the bottom of the Scorpion “+” mount, giving the motor more down thrust in relationship to the horizontal stabilizer.

The plane was now ready for its second flight, so it was off to the Midwest field. It was a bit breezier than the previous Tuesday, but not too bad and the wind was right down the runway.

The down thrust seemed okay for now, but I still needed right aileron trim. While it was not as much as before the lateral balance, it was too much for me to accept.

I took the plane home and removed the top wing. Careful inspection showed a twist “up” in the trailing edge of the top left wing panel. The trailing edge up-twist was acting as some left aileron. I used a heat gun to remove the twist. After I had reassembled the plane, I adjusted the physical aileron travel so that “high rate” on the transmitter was the 3/4” travel. While I was doing that, I found that the right aileron was “down” about 1/2-turn on the clevis more than the left aileron. In that position it would also induce some left roll. I made sure that both ailerons lined up exactly the same. Also, I added just a small, almost imperceptible, amount of physical down elevator by twisting in the clevis one turn.

On Wednesday, April 28, I got out to the field and did three more flights on the Super Stearman. I found that I had corrected the “excessive” right aileron trim problem. I also had a chance to do the dive test several times to check the CG and found the plane to be neutrally stable, so the CG is right on.

The wind wasn't as calm as reported and constantly shifting at about 9 mph, but overall all

flights were good, and I've been able to "plant" it on the runway with no nose over.

The weather finally cooperated again on the evening of Thursday, May 6 and I was able to get out and get three more flights on the Super Stearman. I'm getting a pretty good handle on its flight characteristics.

After that flying session, I made a couple more small changes, a little more right thrust by adding a washer under the left side of the "+" mount and a half turn up on the elevator clevis, which should bring the elevator to just about neutral. I noticed that I was holding just a bit of backpressure on the elevator as I was flying.

I am very pleased with this plane and the way it flies.

A short video taken during the first flight is at <http://homepage.mac.com/kmyersefo/superstearm.MOV>

The conversion thread and more info at <http://www.rcgroups.com/forums/showthread.php?t=1222582>

Thanks to EFO members Rick Sawicki and James Maughan for the photos and video of the maiden flight.

A Classy Charging Station

From Walt Thyng thyng@att.net



I thought *Ampeer* readers might like to see how we did it.

The Fox Valley Aero Club in St. Charles, IL., recognized that e-power is getting really big in our club. They commissioned a team of three of us to develop a recommendation. The team members were: Greg Bohler (field maintenance officer), Dave Brustle (carpenter) and myself (dedicated e-flyer since '92).

A third club member by the name of Ken also had some input.



We are fortunate to have 110 ac at the field. The final design was a nine position charging station with 110ac and 12v dc at all stations. The 12v dc is supplied by three Iota DLS 55 power supplies. Each power supply supports three positions and has an on/off switch; this lets us run only as many as we need. The entire system is controlled by a master timer that turns the power on in the morning and off at night (after all, we MIGHT have a forgetful user who leaves it on when they are done).



The 12v posts are threaded brass rod with a 3.2mm hole. This allows for just about any type of charger connectors. Each post is set in a protective cap, which is clearly marked and colored for polarity. In other words we have done all that we can to prevent short circuits (but Murphy still lives and somebody will figure out how to do it).

The station is under our canopy and mostly protected from the weather. The wiring is completely enclosed. My wife, Carol, came up with the name "Juice Bar" and it has stuck (we also have a large storage box called "Area 51" for obvious reasons).

Put This One On Your Event Schedule!
Keith Shaw Birthday Party Electric Fly-In
 From Dave Grife grifesd@yahoo.com

The Balsa Butchers will once again be hosting the "Keith Shaw Birthday Party Electric Fly-In" at their field near Coldwater, MI. The event will take place on June 5 and 6, 2010.

Contest Director: Dave Grife - E-mail:
 grifesd@yahoo.com or Phone: 517.279.8445
 Please e-mail or call with any questions

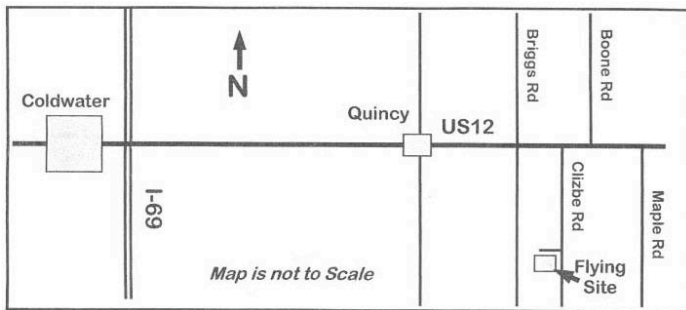
The Flying Field will be open Friday, June 4 for early arrivals

Saturday, June 5, hours are from 9 a.m. 'til 5 p.m.

Sunday, June 6, hours are from 9 a.m. 'til 3 p.m.

Landing Fee is \$10 for the weekend.

Directions: Quincy is approximately 4.5 miles east of I-69. Clizbe Road is approximately 1.6 miles east of Quincy. The Flying site is approximately 1.5 miles south of US-12 on the west side of Clizbe Road.



I love this meet. There is a lot of laid back flying with some of the Midwest's best pilots, Electric Flight Designers, Builders and Authors. I wouldn't miss it! It is a lot of fun for everyone with an interest in electric flight. KM

Mid-America Electric Flies 2010

At the 7 Mile Road MRCS Field
Same Field as Last Year!

AMA Sanctioned

Saturday, July 10 & Sunday, July 11, 2010

Hosted by the:

Ann Arbor Falcons and Electric Flyers Only

Flying Site Provided by the:

Midwest R/C Society

Your Contest Directors are:

Ken Myers phone (248) 669-8124 or

KMyersEFO@mac.com -

<http://homepage.mac.com/kmyersefo/>

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

Channels 00 through 60, the six 27Mhz frequencies, the eight 53MHz frequencies and 2.4Ghz, will be in use. Flying on five 49 MHz frequencies may be accommodated on request - Narrowband receivers are recommended for flying on Channels 00 - 60 - Very Wideband 27, 49, & 53 MHz, receivers may be accommodated on request - 2.4Ghz controlled at impound

Pilot Entry Fee \$15 a day or \$25 both days - - - -
Parking Donation Requested from Spectators

Saturday's Events

Best Scale
 Most Beautiful
 Best Ducted Fan
 Best Sport Plane
 CD's Choice

Sunday's Events

Best Scale
 Most Beautiful
 Best Mini-Electric
 Best Multi-motor
 CD's Choice

Planes Must Fly To Be Considered for Any Award

Open Flying Possible on Friday
Night Flying Possible, Weather Permitting, Friday & Saturday Nights

Refreshments will be 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!

Saturday's & Sunday's Awards:
Plaques for 1st in each category

Merchandise drawing for ALL entrants
Possible Places to Stay

Please note that this list is not updated and some phone numbers may have been changed.



To locate the Midwest R/C Society 7 Mile Rd. flying field, site of the 2010 Mid -America Electric Flies, look near top left corner, 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 48167-9126 - numbers on the fence
Mid-America Flies Hotel List – 2010 Please call the hotels for current rates



Photo of Entrance to MRCSS Site off 7 Mile Rd.

Novi Hilton
 21111 Haggerty Rd.
 236 rooms
 800-445-8667
 248-349-4000

Hampton Inn Northville
 20600 Haggerty Rd.
 125 rooms
 800-426-7866
 313-462-1119

Hotel Baronette
 27790 Novi Rd.
 149 rooms
 248-349-7800

Sheraton Oaks
 27000 Sheraton Dr.
 206 rooms
 248-348-5000

Wyndham Garden Hotel
 42100 Crescent Blvd.
 152 rooms
 800-222-4200
 248-344-8800

Days Inn Livonia
 36655 Plymouth Rd.
 72 rooms
 800-325-2525
 313-427-1300

Travelodge Detroit
 21100 Haggerty Rd.
 124 rooms
 800-578-7878

Holiday Inn Livonia
 17123 Laurel Park Dr. N.
 225 rooms
 800-465-4329
 313-464-1300

Comfort Inn Livonia
 29235 Buckingham Ave.
 112 rooms
 800-221-2222
 313-458-7111

Detroit Marriott Livonia
 17100 Laurel Park Dr. N.
 227 rooms
 800-228-9290

Upcoming E-vents

June 5 & 6 Balsa Butcher's Keith Shaw Birthday Party Electric Fly-in, near Coldwater, MI.
 Contest Director: Dave Grife - Phone: 517.279.8445
 Please e-mail or call with any questions
 The Flying Field will be open Friday, June 4 for early arrivals
 Saturday, June 5, hours are from 9 a.m. 'til 5 p.m.
 Sunday, June 6, hours are form 9 a.m. 'til 3 p.m.
 Directions: Quincy is approximately 4.5 miles east of I-69. Clizbe Road is approximately 1.6 miles east of Quincy.
 The Flying site is approximately 1.5 miles south of US-12 on the west side of Clizbe Road.

June 12, Skymasters R/C Club Electric Fly, Bald Mountain Scripps Road Field, Event Flying starts 10 a.m., For more information call Pete Foss 248-236-0676
 Visit their website at www.skymasters.org

June 19 Monthly EFO Flying meeting at the Midwest RC Society Field on 7 Mile Rd., 10 A.M., contact: Ken Myers phone 248-669-8124

July 10 & 11 26th Annual Mid-America Electric Flies (the Mid-Am), Midwest RC Society Flying Field, 7 Mile Rd, Salem Township, MI, Starting time both days: 10 A.M., contact: Ken Myers phone 248-669-8124

July 17 & 18 Detroit Aero Modelers Electric Fly, To be held at the club field on the S.E. corner of Joy Road and Spinoza in Rouge Park. Pilots meeting is at 10:00. There is a \$10 landing fee. A generator is available for charging batteries. Grill available to those you wish to use it. Tailgate swap. C.D. Arden McConnell E-mail ft3king@yahoo.com or phone 313-274-3185

August 8 Pontiac Miniature Aircraft Club (White Lake, MI) Electric Fly-in & Pancake Breakfast
 CD: Amy Klopman
 Club Web site at: www.pmac.us



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

<http://homepage.mac.com/kmyersefo>

The Next Monthly Meeting:

Date: Saturday, June 19 **Time:** 10:00 a.m.

Place: Midwest RC Society 7 Mile Rd. Field

All interests folks welcome – current AMA membership required to fly