

the

Ampeer

June		The EFO Officers		2007	
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Ampeer subscriptions are \$10 a year US & Canada and \$17 a year worldwide	The Next Meeting: Date: Saturday, June 16 Time: 10:30 a.m. Place: Midwest 5 Mi. Rd. Flying Field, Northville Twp., MI				

What's In This Issue:
DFW T28 "FLOH" - So You Think This E-Power is New! - Upcoming Michigan E-flies - Emily Flies! - Electric seaplanes advantages - More On Tailless Aircraft - Tailless Airfoil Correction - Upcoming Events

DFW T28 "FLOH"

The photo from the May 2007 Ampeer was Keith Shaw's version of this plane. It is a 1/7-scale version of this prototype German WWI high-speed fighter. It spans 36.5 inches and has a wing area of 520 sq.in. It weighs in at 38 ounces and is powered by an Astro Flight 020 geared with the power from the two Emoli cells being controlled by a Castle Creations' Phoenix 25 ESC. Yes, it was a real plane!



So You Think This E-Power is New!

The 25th Annual ELECTRIC R/C Fly-In, presented by the Radio Aero Modelers of Seattle/Puget Sound Electric Model Flyers at the Radio Aero Modelers of Seattle Club Field, Sumner, Washington, takes place on June 23 and 24. Each day is primarily for open

flying. The Contest Director is Randy Smithhisler and you can reach him by phone at (253) 927-4672 (home) and via email at rsmithhisler@paccar.com ALL KINDS of Electric Powered Model Aircraft are welcome! You are invited to come to fly and share information.

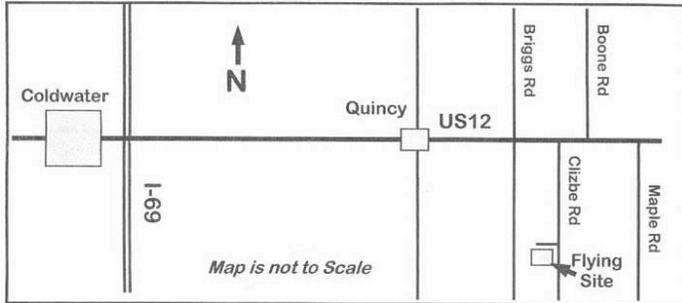
Upcoming Michigan E-flies

The Skymasters RC Club presents their Electric Fly on June 2 at their Bald Mountain Scripps Road Field. Event Flying starts at 10 a.m. For more information call Pete Foss at 248-236-0676 or visit the Skymasters' website at www.skymasters.org There is no Landing fee! The flying field is located within the Bald mountain recreation Area, about 5 miles north of the Palace of Auburn Hills on Scripps Road between Lapeer Rd (M24) and Joslyn Rd. All cars need annual/daily State Park sticker - available at event. I always enjoy this one! ☺

Upcoming Keith Shaw Birthday Fly-in

On June 9 and 10 The Keith Shaw

Birthday Electric Fly-in will take place in Quincy, MI near Coldwater, MI, see the map. Dave Grife is the CD and can be reached at 517-279-8445. This is always a fun time.



Mid-America Electric Flies

The Mid-America Electric Flies Electric Fly-in takes place on July 7 and 8 at the Midwest R/C Society 5 Mile Rd. flying field located in Northville Twp., MI. It is sponsored by the Ann Arbor Falcons, Electric Flyers Only of southeastern Michigan and the Midwest R/C Society. The CDs are Ken Myers and Keith Shaw. If you receive the printed version, the flier is part of this issue. The online flier can be found on the EFO Web site, <http://members.aol.com/kmyersefo>.

Emily Flies!

From John Riese riese@hotmail.com



Emily, the six-foot sea serpent, had her first flight today at the secret test pond in Camarillo.

It flew great but I think it is too light for good touch and go demonstrations. I was able to fly at half throttle and maintain altitude. In fact it glided very well with the motors off.

The differential throttle steering worked very well. I did not miss having a water rudder.

I only made one flight because I was tired after staying up late the night before changing the radio. I think I had only a couple of hours sleep. And the

camouflage green was very effective against the shrubby hillside background.

We had lots of glitches while pool testing last night. The 20-year-old Airtronics flight pack was swapped out for the PCM receiver and digital servos that came with the JR 7202. Range with the TX antenna down went from 50 feet and jumpy to over 200 feet and solid. I programmed the Failsafe to shut off the motors and hold the other controls.

Sorry, no flight pictures, we did take video, however.

The photo was taken in the driveway. I've edited out the background.

John and Mikey

And More From John

Hi Ken,

I find that my son, recently turned 16, now has to look out for me. Luckily he is a good kid and still enjoys going to the field. I think he mostly likes to see me make mistakes. Last week I had the wings fold on 2 planes. The 1/2 A Texaco plane never got over 4 feet of altitude; too much down thrust I guess. He was amused.

BTW, the 4 cell A123 battery had quite a bit more power than the 3 cell 2100 Li-Poly, but at the expense of run time. I'm concerned about the sharp drop off at the end of capacity. That cumulative amp hour cutoff of Bob Kopski's would be a good idea.

Here's something about the advantages of electric seaplanes. I didn't mention that speed controls don't work when wet. I'll put it in the body of the email instead of an attachment that could get lost.

Electric seaplanes advantages:

The waves won't stall the motor when the water hits the prop. This often happens in windy conditions with glow-powered vehicles. As long as one leaves some juice in the battery the electric plane won't be stuck out in the middle of the lake.

I usually set the engine idle up on glow-powered planes to preclude a flameout during touch and goes, and in case the water hits the prop during taxiing. On my Eagle 63 floatplane I put in a much too big engine to facilitate takeoff in choppy conditions. The large prop turning at a high idle kept the airspeed too high for landing. When the plane approached the water it

would just float in ground effect. In order to land I had to kill the engine. Electric planes have a zero RPM idle.

Multi-engine scale planes are easier to build and control. There is no need for elaborate heavy structures in the wing or motor pylon to absorb engine vibration. Throttle linkages, multiple servos, fuel tanks and lines are eliminated. On my Emily flying boat I just cut a slot in the wing sheeting and inserted a 3/8-inch square balsa motor stick.

The plane doesn't get slippery with oil and hard to pick up.

The water rudder can be eliminated if one uses differential throttle.

Because of the noise and pollution problems **engine powered planes aren't welcome on many bodies of water.** An electric plane can fly "Under the Radar" so to speak.

Take care and keep in touch,

John in Kalifornia

Dave Mathewson Running for AMA President

This fall, members of the Academy of Model Aeronautics elect their president for the term beginning in 2008. Dave Mathewson has announced his candidacy for AMA president. Dave Mathewson is an active modeler who has demonstrated excellent leadership skills during his six years as an AMA District Vice President.

As an active modeler, Dave understands the AMA membership. In 2005, Dave's flying site assistance efforts earned him an invitation to testify before a congressional sub-committee in Washington D.C. investigating public access to federally owned lands.

Dave sees these issues as being important to AMA's and aeromodeling's future:

- Flying Site Acquisition and Retention.
- The Need For Strong Working Relationships with Government agencies like the FAA, FCC, & HSA.
- Developing Strong Education Programs Using AMA's Members and Clubs.
- Promoting Model Aviation As A Worthwhile Recreational Activity.

To learn more visit www.mathewson4pres.com. *(This ad was not paid for by anyone. The copy came from a flyer I received via email. Dave flies and is very familiar with electrically powered models. I will*

gladly offer free space in any upcoming Ampeer issue to anyone else running for AMA president. KM)

More On Tailless Aircraft

From Dereck Woodward dereckw@comcast.net

Hi Ken,

Long time, no hear from! Folk are talking about tailless models in the *Ampeer*, so it's time to make amends.

I'm not trying to compete with Bill Evans – his tailless publications outnumber mine by a factor of 'lots', and I haven't flown one by electricity yet (though one of my "Amy" designs, was electrocuted in England a couple of years back), but I have designed and flown around a dozen tailless models since making my first one almost by accident around 1990.

"Designed" would be too strong a word – it started as a low aspect ratio conventional aerobatic model. Halfway through a pylon race, it suffered badly when someone who didn't get the idea of flying level climbed up through her tail feathers. The subsequent dive into the ground took the nose off, but the 40" x 9" wing survived. Later, it was fitted with a new, shorter fuselage and larger elevons and flew fine as the first prototype of my first tailless design, which I called "Bubbles".

Bubbles was followed by two more refined versions, and a string of "Bits" They started as a smaller, very much simplified version of "Bubbles", heavily influenced in their almost total lack of styling by Phil Kraft's Ugly Stik. By the time we were done in England, "Bits" had flown on engines from a TeeDee 010 (Tiny Bit), through 049 to 32 small glows and on to the awesome "Stupifyin' Jones" at 82" span with two 60 glows.

The latter was little to do with me!

Okay, enough waffle.

What all of these horrors had in common was the one thing that Bill Evans designed out of his legions of 'Simitars' - built and balanced as per plan, Simitars will not stall or spin. Bill's reflexed airfoil with its maximum thickness way up front, allied to a very forward CG took care of that.

All of mine would snap and spin like crazy things! My favourite was one of my later tailless, which I named "Amy". Amy was a low winger with near neutral yaw/roll coupling and would even fly a pretty steady and straight knife-edge, which is no mean trick

when you have permanent 'up' elevator. Despite this, they were no harder to fly than any other small, fast aerobatic models. The snaps and spins entries and exits were sharp, but positive and made flying them real good fun.

How? It was easy. I used a 12% thick symmetrical airfoil section, a close relative to NACA 0012. This was allied to a little over a 4:1 aspect ratio, with wide elevons hung on the back. With the CG at 16% - quite a few percent aft of a Simitar's - the wing was on the right side of stable in pitch with a trivial amount of reflex. Typically, my elevons would be around twice the width of what you'd expect ailerons to be, so not a lot of movement was needed. I always made them taper heavily too, so the wider, more effective part was near the fuselage. This helped out a tendency to a 'heavy' response to pitch, while calming what could be a frantic roll response by 'losing' area out at the tips.

Those of a nervous disposition may not care to read that 16% CG on a wing like this is not that far ahead of the neutral point and any aft CG migration will cause an immediate and terminally distressing 'departure from controlled flight'. On the positive side, someone in England wrote me about how he'd gotten hold of the "Bubbles" plan, but somehow the CG had gone missing - so he balanced his model at the usual sort-of 1/3rd chord.

Amazingly, the model was still sitting in his workshop awaiting my reply as to just where the offending CG really needed to be. It had actually survived a very erratic first - and only - take-off, one circuit and a somewhat hairy landing.

That came as something of a surprise to me, I don't mind admitting.

There is an electric tailless in the shop right now, but life and other stuff has precluded my test-flying it. It's actually based around the wing off a "Crazy 8" ready made I won in a raffle and felt I had to do something with! Before anyone asks me for a scientific treatise on tailless design, along with supporting math, spreadsheets of wind tunnel tests and a PowerPoint presentation - they were all done by that old standard of "TLAR" - "That Looks About Right" and little science was employed.

When I test flew my first version of my first tailless, one of my club mates said that it was a remarkable moment. First off, the model didn't really look like it should be up there flying around like it was quite normal. Secondly, the look on my face caused by that it was actually flying around quite happily was possibly more amazing than the model's performance!

However, Bill's models perform well within their design envelope and, as expected, electrocuted versions show up. To stop this being a dribble of words, I've tagged on a couple of shots of one I received via my "RealWorld" magazine column (quick plug - it's called "Over Here", in "Quiet & Electric Flight International, from Traplet Publications! [*Which is a great column in an excellent magazine. KM*]). I got these from Charles Sully, down in sunny Florida, of Marcus Wright's rendition of Bill Evans' "Zippy-Do-Da", from the Radio Control Modeler plan. Marcus flew his model at the 2006 SEFF, so it obviously is a good little performer.



Marcus Wright's 85% "large scale" rendition of Bill Evans' "Zippy-Do-Da", from the Radio Control Modeler plan. Charles Sully took the photo, at the 2006 SEFF

The model's size didn't match his needs, but no problem - he tossed the plan on a copier set for 85% full size and pushed "Start"! Marcus substituted a built-up wood structure for the original foam wing and also converted her from trike to tail-dragger after experiencing too much landing 'bounciness'.



And it flies too!

This, oddly enough, is pretty much what I found too. With a tailless, you have, and must 'nail' a pretty precise touchdown speed. Get too fast or too slow and you are likely to end up doing kangaroo impersonations down the runway. I much preferred flying mine off grass for that reason alone. Having said that, it wasn't that hard to

achieve and not getting it right seldom did more damage than to amuse one's club mates with the model's post touchdown antics.

This 32 oz 'large scale model' has a Hacker A20-22S and a 12 x 6 APC-E. This pulls around 50A from a Tanic 4440mA 2S LiPo, for 300W – but Marcus points out that motor cooling is superb! Three Hitec HS81 servos, a Hacker X-40 ESC and a JR receiver handle control issues. Marcus flew this little tailless all summer long in 2006, and says that he liked it more and more with every outing.

Now, just why do we bother with tailplanes?

For anyone thinking "that sounds fun" – my 40" span "Bubbles" was published in RCM, while "Model Aviation" published my 44" span low winged "Amy". Take the Amy plan, toss the 25 glow, replace it with something like an AXI 2820/10 and a hefty 3S LiPo or 10 x 3000-ish NiMH and you could be on your way to attracting attention at fun-flies.

While we're discussing 'different' models – Roger Wilfong appeared in the April Ampeer with his 1/4-scale Clancy designed fun-scale biplane of Ray Stitt's "Sky Baby" – one-time holder of the "World's Smallest Aircraft" title. That shot took me back to around 1996 – when Andy Clancy did what few, if any, have ever done – he mailed me his prototype!

Bet there aren't many of those grandiosely titled "IMAA legal" models that have – or even could be – been sent through the good ol' USPS!

Andy had gotten the model sorted out prior to its publication in RCM magazine. It's probably still available from their plans' service, which is still apparently working though the magazine is not yet back in publication. Then he figured I needed to fly it, so he boxed up the model, transmitter (useless to me, Andy taught himself to fly and used his own bizarre transmitter stick mode), a couple of seven cell flight packs and even a charger! The box was huge, and very heavy – and came with instructions to go forth and commit aviation.

So I did! Roger should be happy to learn that it is a vice free and steady flier that's not prone to being overly aerobatic. Andy's had a geared Astro 035, with around 3.5:1 and 1200mA NiCads - definitely not "SCR" cells - but the model would take off from tarmac easily and fly around for five minutes or so. I once tried a grass take off. The grass touched the bottom of the lower wing and effectively held the wheels off the ground - full power produced no forward movement whatsoever!

Later, Andy recounted fitting one of Pete Peterson's ferocious MEC geared ferrites drawing 40A from ten cells and finding that she would loop easily from level flight. Somewhere in the my basement, I have not only Andy's 'stand way off' scale Sky Baby plan, but the late Ken Willard's much more scale-like, true-scale version, also from RCM. Perhaps one day, I may re-discover the legendary "Round Tuit" and do something atrocious to

Ken's plan and reference materials – with an enlarging copier.

If anyone wants to talk over tailless types (?) – drop me a line at dereckw@comcast.net



Take a 32" span, nearly symmetrical sectioned wing from a "Crazy 8" ready-made and an Eflite 450 outrunner. Draw some minimal lines on a sheet of paper to constitute a plan, swap the parallel chord ailerons for tapered elevons to 'lose' the wing's sweepback and spend an hour or two building something simple.

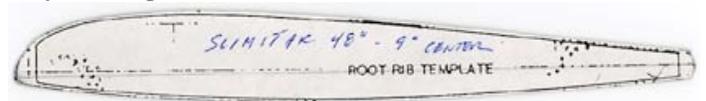
Tailless Airfoil Correction

In the May 2007 Ampeer, I tried to redraw the airfoil shape that Reuben Scheider sent to me. Unfortunately, I managed to mess it up! Here is a correction and some more information on the Simitar. I also want to thank Reuben for the March 1995 article from RCM on Bill Evans' 1/2A Skywalker, .40 Skywalker and .61 Skywalker. KM

From Reuben Scheider, Phoenix, AZ

Dear Ken,

Thanks for putting up with my ramblings. It's more fun than listening to old folks talk about ailments, etc. I only talk airplanes, model or full scale.



I'm sending this rib template from a 48" core. The tip is 5" and the elevons taper from 1.5" to 1" at the tip.

These are fun to fly, anytime airplane wings. Just add a fuselage.

Sincerely,
Reuben

P.S. My computer is down over 50 years ago! Supplied tools to Motorola to build their first transistors and I am computer illiterate.

Ampeer Paper Subscriber Reminder

When subscribing to or renewing the paper version of the *Ampeer*, please make the check payable to Ken Myers. We do not have a DBA for the *Ampeer* or EFO. Thanks, Ken

Upcoming Events

May 20 The Kishwaukee RC Flyers of DeKalb, Illinois - For details and contact info please visit: www.kishwaukeercflyers.org

May 20 Midland R/C Modeler's 2nd Annual All Electric Fly, MRCMC Field 200 Patterson Rd., Midland, MI - no landing fee, free camping w/electric outlets, CD John R. Rouvener, SR (989-832-2785) or Jerry Hanfeld (asst. CD) hahufeld@juno.com or visit www.midlandrc.org

June 2 **f248-236-0676** or visit the Skymasters' website at www.skymasters.org No Landing fee! Flying field is located within the Bald Mountain recreation Area, about 5 miles north of the Palace of Auburn Hills on Scripps Road between Lapeer Rd (M24) and Joslyn Rd. All cars need annual/daily State

Park sticker - available at event.

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August 18 & 19, Greater Detroit Soaring and Hiking Society (GDSHS), Detroit X5J (Electric Launched MOM sailplane contest), club field at Addison Oaks County Park, 1480 W Romeo Rd Leonard, MI 48367, Info gdschs.com



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The Next Flying Meeting:

Date: Saturday, June 16 **Time:** 10:30 a.m.

Place: Midwest RC Society 5 Mi. Rd. Flying Field
Northville Twp., MI