Silent Knights Soaring News

Volume XVI I **Issue No. 2** **April 2004**

Editor's Note: We need articles for future issues of SKSS Soaring News. Please email me with items you would like to contribute. RobertB578@aol.com

Presidents

"Wow, It's hard to believe that 2004 is here already. The political campaign for the SKSS was hectic and hard fought and the elections are finally over. After arguments about hanging chads and 2 recounts the new officers are:

Bill Groft, President
Bob Muma, Vice President
Bob Bickerton, Treasurer
Jim Faassen, Secretary

We want to thank Terry, Ed, Frank, and Bill for their efforts last year. THANKS!!!

2003 was a very good year. The lease on the field was renewed for another 5 years, the first annual Delaware Electric FUN Fly recognizing Dick duPont was a great success, we had two ESL unlimited glider contests, and our membership grew to over 70. The Wednesday night fun fly's were always well attended and everyone attending seems to have a great time!

An aggressive agenda is planned this year to encourage more of our members to come fly with us and have FUN. There are a lot of experienced, dedicated modelers in our club that are excited to share their knowledge with others. For example, Bill Brenchley has volunteered to head up a new flight-training program. Members will be able to schedule private lessons to learn, or bone up an, all aspects RC flying. Our stable of club planes will grow with the addition of an electric trainer and a hand launch flying wing. We are planning show and tell demonstrations at all of our club meetings and clinics throughout the year. The clinic topics need to be by driven by you. If you need instruction on building or any other technology associated with soaring or electric flight let me know and I will see if we can arrange a clinic.

One ESL contest and the Delaware Electric Fun Fly are already planned. We also want to arrange some other FUN events throughout the year for members and their families. Email any suggestions to me at bill@eft-inc.com. Come fly with us." Bill Groft

Frequency Pins

Thanks to the efforts of Jim Faassen and Bill Brenchley, the Club has a new frequency board located OUTSIDE the birdhouse so it is not necessary to go inside to pick up a frequency pin. *The lock on the frequency board has the same combination as that on*

Silent Knights Soaring Society

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News Editor – Bob Bickerton

AMA Chartered Club # 950

the field gate so access is extremely easy! You must now insert your AMA card into the slot when you take the pin so all will know who is flying on that frequency. Club rules require that ALL pilots must have a frequency pin BEFORE they turn on their transmitter. Our By Laws state that you are responsible for any and all damages if you cause the crash of a plane being flown by a person with a frequency pin if you turn your transmitter on and you don't have a proper frequency pin. USE THE FREQUENCY PIN!!!!!!

Sailplanes and More

It's Spring and flying time is approaching though, for me, the wind and rain have limited the amount of time I've been able to fly this month. I do have my Whisper repaired and ready for flight – anxious to try it with the new Multiplex Royal Evo.

In reading some of the model magazines and surfing the web it seems to me that there is a resurgence of interest in RES (rudder, elevator, spoiler) sailplanes. True, the newest planes are of molded or carbon/Kevlar composite construction (read expensive) but in RES competition even some older designs can do quite well. One new one in particular caught my attention is the AVA from Kennedy Composites (www.KennedyComposites.com). It has a 127 inch wingspan but only 37 ounce flying weight with one large spoiler in the center wing panel. Construction is similar to the 2 meter Organic and is light but strong. I guess you expect high quality construction for $660 plus S&H but it sure is gorgeous and flight reports confirm it is an excellent sailplane. Check it out.

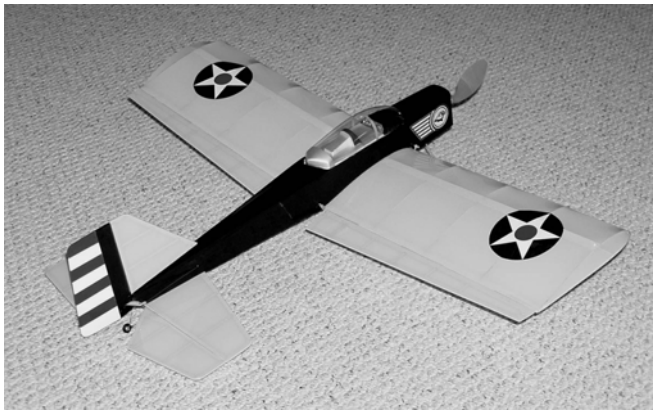
An AVAe took 1st place at the Nats and perhaps that's indicative of the many electric conversions of a number of original sailplane designs. Organics', Graphites' and Erasers' etc are all now available in electric powered versions. A sign of the times???

Old timers will remember the "Hobie Hawk" from the early 70's. It had an elliptical, tapered and under-cambered foam core wing, and three-piece fuselage. The construction was difficult and used technology that was ahead of its time but it was a great flyer. It hasn't been produced for years but Vladimir's Models has a great reincarnation in the form of a hand-launch glider called 'Simply Cool'. With a 55 1/8 inch wingspan this hollow molded creation has an all up weight of 14.5 ounces and uses ruddervator (vee tail) only for control. Interested in a hand-launch glider then check it out at Kennedy Composites for $180. I just didn't think the Multiplex way (you have to unlearn the Asian radio programming you've done). The transmitter has factory installed templates for a full house glider and an assignment list for gliders. However, I didn't like the assignment of widgets to controls and when I tried to change them I got a caution that any changes I made would affect any model that used that assignment - I was intimidated to say the least. Ultimately, I made my own assignment list in one of the blank ones available and went on with it. The result was success! I have three presets (launch, normal and reflex) all on a three position switch, flap and rudder on the left stick, aileron and elevator on the right stick, thermal camber adjustment on a slider, dual rates for all controls on one switch, and elevator compensation with flap deployment. Now, if I was a competent pilot!! You can tell I like the RE. Are there any negatives? Just one that I have found so far and that is that different amounts of exponential cannot be associated with different rates. Though probably not critical for most

applications it is for others. For example, with my little WingE on high rates I use 60% exponential but on low rates I use no exponential. With my RE, when I set 60% exponential in high rate I also get 60% in low rate. There may be a solution but I haven't been able to figure it out yet so I hope it gets changed in a future software upgrade. How does the RE compare to other high end transmitters? I don't know enough about the Futaba 9Z series or the JR 10X series to make valid comparisons; it is as fully capable as the Stylus and is more flexible in many ways. Anyway, if you're in the market for a high end transmitter, give the Multiplex Royal Evo a look. I really like mine.

Electric Corner

Foam is in, either FFF (FanFoldFoam insulation material) or Depron (the foam in food trays at MacDonalds). Download the 3DX or Ultimate from the web, get a sheet of foam and sharp Exacto, spend an hour or so cutting out the wing, fuselage and tail feathers, install some micro radio gear and a small brushless motor then go fly. Don't want to build (?) then order on of the three shockflyers from Hobby-Lobby for $34.95 (Edge 540, Extra 330S or SuperStar), glue it together and go fly. All these models are flat plate fuselage and wing (no airfoil) and they fly extremely well I've had a chance to build it and decided a mini review was in order. The kit is very complete and comes with laser cut balsa, all hardware (wheels, canopy, pushrods etc) and a covering material called Doculam. Doculam is a transparent self adhesive heat shrink material; it is water clear when shrunk. The laser cutting is superb and all parts fit well. Building the Switchback is a little like putting a puzzle together. Each joint is cut differently so you need only find the mating part and glue it together. Building goes quickly because of the accuracy of the laser cutting and it designed to be very light. I didn't use the clear Doculam (I have enough trouble seeing my planes anyway) but chose, instead, to use Solite from Balsa Products. When covered, but with no motor or battery, my Switchback weighs 7.5 ounces. I've got Razor Micro Heli motor with a GWS 6.6:1 gearbox installed and plan on using a two cell Thunderpower LiPoly battery pack. When finished you have a low wing sport model with a Clark Y airfoil (see picture). Negatives? Only one for me and that is the wing attach method. This uses the traditional rubber band over wooden dowels method. The problem is the single aileron servo is mounted in the bottom of the wing so to put the rubber band on you need to run them underneath the aileron push rods - a pain I think. Anyway, haven't flown it yet because of the weather but will report back when appropriate.



22" Depron Foam Ultimate Bipe A thread on the Ezone reported on and provided plans for an Ultimate Bipe made of Depron. There are also plans for a 3DX monoplane also made of Depron. Several of us have downloaded the plans and built them. These things are unbelievable flyers so if you already have some micro sized radio equipment and want to have a ball, buy some Depron and email me for the Ultimate Plans (robertB578@aol.com) . These planes have flat plates as flying surfaces and profile fuselage and with the GWS DXA

motor and a 3 cell Kokam 340 lithium you can get 3D performance or, reduce control surface throws, and fly leisurely around for nice long flights.

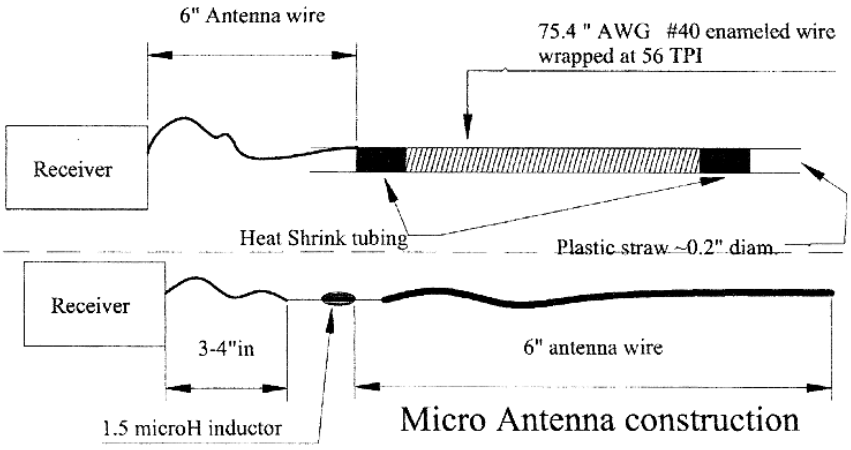
Resources for electrics. There is lots of resource available to the electric flight enthusiast but one I like and use frequently is the Ezone (www.ezonemag.com). Just click on 'Discussion" on the left column and you're taken to a wealth of information: general discussion, batteries, motors, radios, the workshop, indoor and micro RC; there's a vendors forum where you can ask questions about specific products and receive answers from the company, and it's free. Try it, I'm sure you'll find something useful to you. Just explore!

How to: Micro

Most of you know that I fly small electric planes as well as sailplanes and, with the small electric powered planes I dislike having that long receiver antenna trailing behind. I've searched for small antenna's that I might use to replace the factory fitted 36-39 inch one. There has been a Deans base loaded antenna available for some time but it's rather heavy though used a lot by the helicopter flyers. A couple of years ago some people at the NEAT Fair showed me some simple ones they had constructed with 1.5 micro Henry inductors and 7 inches of music wire. I made some; only about 1 out of 3 worked. More recently Azarr has introduced his M72 and M72L antennas, which I have used and they work well, but they're $12.00 each. Jim McPherson sells a similar one, the Litenna, for $6.00 and it too works well. They all look simple enough so, can we make them. You bet and here's how.

The Azarr M72 antenna always intrigued me and I thought it was just 39 inches of wire wrapped around a plastic tube. I made one and it didn't range check at all. Azarr wouldn't tell me how they were made. But member Jack Alderson bought one and brought it over to my shop and began a dissection. We found that it was 40 gage wire. Jack counted the number of turns in one inch and, knowing the diameter of the plastic tube calculated that there was about 78 inches of wire on the tube and there were 56 winds per inch.. Aha, that is close to a 1/2 wave antenna for the 72 mHz frequency so we set out to make some. Microsoft's Encarta reports the speed of light at 299,792,458 meters per second Our transmitters broadcast at 72 mHz or 72 million cycles per second so 299,792,458 divided by 72.5 million (the middle of the 72 mHz band) is 4.14 meters (162.8 inches) for the wave length of one cycle. Half this is 81.4 inches for a half wave antenna. So, all we need to do is wrap 81.4 inches of 40 gauge wire on a plastic tube at 56 turns/inch. To do this easily you need a thread cutting lathe set to 56 TPI. I shopped around and found some plastic drinking straws that were about the same diameter as the Azarr antenna. I mounted the straw on a mandrel in the lathe, coated the straw with post-it glue (to hold the wire neatly) and wound 75.4 inches of wire on the straw at 56 TPI. I used 75.4 inches so that I could add 6 inches of regular antenna wire between the receiver and the antenna and end up with 81.4 inches. We've made several of these antenna's now and they all seem to work well for the smaller models. Would I trust one in a sailplane? No, because I know very little about why this antenna seems to work but I know the manufacturers supplied one works to speck out distances. For the small park flyer kind of plane they're nice though and you don't have that long dangling antenna to step on accidentally.

The other, more easily made, micro antenna is similar to the Azarr M72L or the Litenna. It's simply a 1.5 micro Henry inductor soldered to 6 inches of wire and connected to the receiver. As noted above, I had tried this before and was not very successful. I couldn't understand why some worked and some didn't. I still don't know but I do know the inductor used seems to be important. The first ones I bought were made by Delevan and were + or - 10% tolerance - some worked some didn't (the Deans uses a Delevan 5 % tolerance but it's larger) . The inductors I now use are Miller and are 10% tolerance but seem to work consistently (DigiKey part no. M7815-ND). But, please, please if you do make a micro antenna do a good range check before you fly and don't fly if you don't get almost the same ground range as you did with the normal receiver antenna.



Micro Antenna construction

There are no guarantees on any of this so go forward at your own risk! They have worked for me. (Note!! Just read the December issue of RC Microflight and therein John Worth on page 15 describes a micro antenna built by Eric Schellenberger. He reports 4 inches of receiver wire soldered to a 1.5 micro Henry choke (inductor) then to 6 inches of music wire. The inductors are available from Cloud 9 RC for $1.00 each!!)

SKSS Scheduled Meetings/Events for 2004- Regularly scheduled winter meetings are held the second Tuesday of each month at 7:30 PM, Location to be announced. Our next meeting is February 10th at EF Technologies on Sandy Brae Dr. in Newark. The March meeting will be held on March 9th. Reminders will be sent.

March 14th - general cleanup, winch maintenance

April 10th - Club meeting at Big Pond Field

May 8th - Club meeting and planned interclub sailplane contest/swap shop at the field.

June 12th - Club meeting at the field

July 17th - Club meeting with afternoon picnic for families and AMA Cubs for the kids to build and fly

August 14th - Club meeting at the field

August 21,22 - SKSS hosted ESL Contest at the field

September 18th - Club meeting and Second Annual Delaware Electric Fun Fly (DEFF)

October 9th - Club meeting at the field

November 9th - Club meeting

Happy New Year