

Silent Knights Soaring News

Volume XVI I
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Issue No. 3

Editor's Note: This is the last issue for 2004! We need articles for future issues of SKSS Soaring News. Please email me with items you would like to contribute.

Presidents

“ The trees are beautiful this time of year but it is sad that the beautiful trees indicate that our flying season is ending except for a few special days now and then. We had a very enjoyable and successful flying season at the Big Pond field. The club picnics and Wednesday night fun fly sessions were well attended and were big hits with the members. All is not lost. We can continue to enjoy our hobby by using this down time to work on our next building project to continue to meet with our friends at the monthly club meetings.

The November meeting will be held on Tuesday, 11/9/04 at EF Technologies offices in Newark. This meeting is important because our new officers for 2005 will be elected. As of today we only have nominations for President, Terry Lisansky, and Vice President, Tom Sutor. We still need nominations for Secretary and Treasurer. I realize that everyone is very busy these days with family and job responsibilities and there is not a lot of free time left for other activities. That said, I continue to encourage every member to give a little back to the club by serving as an officer. You don't have to be a long time modeler or expert flyer to be an officer and I know that you can't attend every meeting because of other commitments. That is OK because our meetings are informal and we have a group of ex-officers that can give new officers guidance and fill in for them at the meetings they can't attend. Please consider volunteering to help the club.

2005 membership applications are attached. Please return them as soon as you can. As you can see dues has been increased by \$5.00 to \$40.00/year with a \$5.00 discount if paid by February 1.

Hope to see you all at the November meeting.

Bill"

Frequency Pins

Although this was reported on in the last issue we have had a couple of instances where individuals have turned on their transmitter while someone else was in possession of the frequency pin.

Fortunately no crashes ensued and no damage done BUT it will happen. 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 the proper frequency pin if you turn your transmitter on and you don't have a proper frequency pin.

ALWAYS USE FREQUENCY PINS!!!!!!

Silent Knights Soaring Society

President – Bill Groft
Vice President – Bob Muma
Treasurer – Bob Bickerton
Secretary – Jim Faassen
News Editor – Bob Bickerton

AMA Chartered Club # 950

Sailplanes and More

Summer is but memories and the winter building season is fast approaching. Some of those memories are wonderful ones including those from the SKSS hosted ESL contest in August. Twenty pilots braved the weather for the two day event and our own SKSS members did very well. On Saturday John Jenks scored 1st in Expert Class and John Lane scored 1st in Sportsman Class. John Hauff and Phil Barnes were 2nd and 3rd respectively in Expert and George Hill, and Chuck Robinett were 2nd and 3rd in Sportsman. On Sunday in Expert Class Phil Barnes was first, followed by Tony Guide and Terry Luckenback; in Sportsman Kerry Cochrell was first followed by John Lane (2nd) and George Hill (3rd). SKSS Gerald Terfloth managed an excellent 4th in Sportsman in his first ESL contest. The two day overall standings: Phil Barnes (1st), SKSS John Jenks (2nd) and John Hauff (3rd). Congratulations, guys!!!!

As ‘glider guiders’ we often look up at a sailplane riding a thermal and wonder just how high is it? In the past it has been guesstimate and 3 different pilots will give three different answers (guesses?). Modern technology now allows us to remove the guesswork and give us some actual results. Read on as Jim Faassen explains some recent experiences that he, John Lane and Terry Lisansky have had.

How High is that Sailplane? By Jim Faassen. John Lane, Terry Lisansky and I have been playing around with altimeter-bearing planes in an effort to satisfy that curiosity-induced question. As a generality, the answer is “not as high as you might think.” But, that is a generality. Under the right conditions it can be “The altimeter must be erring on the high side.”

The first of several recent launches with an Avocet Vertech II [*a wristwatch that measures altitude as well as time. Ed.*] strapped on the plane produced a disappointing 1000 feet above ground. This flight was admittedly not a speck-out, but still it seemed as if there was more air between the plane and the ground. It was past the north end of the field and the visibility was typical.

Next Terry put the Vertech on his Diamond and both he and John Lane got their planes in a boomer thermal at the same end of the field, this time at knee-buckling altitude with both planes barely visible. The Vertech recorded a maximum of 1500-plus feet. We thought that record would hold for awhile. Who would risk flying their plane higher than you could see it?

Not so. A few days later John strapped the watch on his plane and again got it in a really big boomer, this time west of the field, under a white cloud, and on a day with brilliant air

clarity. When he landed, the altimeter showed a max of 2200-plus feet above ground. How could this be correct? Maybe, we thought, the instrument is sensitive to air velocity. I made some checks on this, holding the watch outside my car and traveling along at 30-40 mph. It was difficult to filter out effects of changes in road elevation, but I concluded the error produced by the velocity effect was not more than plus or minus 50 feet. I also calculated the velocity head and got the same result. So, we concluded John's result was valid within reasonable limits.

So why was a plane at the sight limit at 1500 feet altitude one day, and another still visible at 2200 feet another day? Both planes were of comparable size. Part of the explanation is in air clarity, part of it is in the white cloud background, and part of it is in horizontal distance from the plane. Terry's plane at 1500 feet vertical altitude was probably at least 1500 feet away horizontally, which would put the plane at 2100 feet from the eye. John's plane was probably half that horizontal distance from the flight line, which would have put his plane 2300 feet from the eye; not that much of a difference after all.

The moral of this story is: If you want to set an altitude record, fly a big plane in a big thermal on a clear day under a white cloud directly over your head.

Jim Faassen

(Terry now has a neat altimeter [*Zlog, Ed*] which will save data for later computer prints of an entire flight, Altitude vs Time. A print of one such flight (by Terry) is posted at the Birdhouse bulletin board, showing launch height, a struggle to remain aloft, and a final successful hookup to a thermal which carried the plane to 2216 feet above ground. This was essentially a tie with John's earlier flight, measured with my Avocet.) J

Electric Corner

The NEAT Fair (reported on a year ago with great enthusiasm) this year was a washout. Literally. Bill Groft, Jack Alderson, Bill Brenchley, Dave DeGroot and I left early Thursday morning in order to get there early and find a choice spot to park the RV. Hurricane Ivan had just hit the Florida coast and was forecast to be no further North than North Carolina by Sunday. The forecast for New York State where we would be was a 30% chance of rain for Friday, Saturday and Sunday. Not bad odds. On arrival Thursday morning the sun was shining, there was a light breeze and we were assigned the absolute best parking spot for the whole show. Vendors were starting to arrive, lots of pilots and spectators had arrived early, some were flying and it was a very pleasant start. We awoke Friday, the official start of NEAT, to overcast skies and a real threat of rain. By 11 o'clock rain began in earnest and it would continue for more than 24 hours. Always the optimists we visited some vendors in the rain, watched some guys fly in the rain and generally braved it out. Went to bed to the sound of hard rain bouncing off the metal roof of the RV. Awoke Saturday to the continuing rain and finally listened to the NOAA weather station on the scanner that Jack had brought with him. It seems the vestiges of hurricane Ivan had moved faster than predicted and were dropping copious amounts of rain over eastern Pennsylvania and adjacent New York – our precise location. The East branch of the Delaware river which courses through Peaceful Valley is normally about 50 feet wide but was now about 3 times that and growing. We decided the wisest course was to leave. So we departed at 9AM only to find that most major and secondary roads in the area were closed because of flooding. We did manage to get to Hancock, NY (ever been the only vehicle on a four lane expressway????) only to find that we couldn't get any further west. Obviously, we did make it home after a 12 hour trip (including a 4 hour wait to repair a

blown out rear tire – but that’s another story). We learned later that the State Police officially evacuated Peaceful Valley later that day and many had difficulty getting home. All in all a real adventure, but I’m looking forward to next year.

While visiting vendors on Friday morning I did get to see some new stuff: A new 12 mm diameter brushless motor from Medusa Research to fit the GSW IPS gearboxes (the Feigao 12mm motor has been available for several months); a new small outrunner from Mega; and a soon to be available 7.5 gram ‘pancake’ brushless from Gary Jones (available from Bob Selman Designs); Hostetler’s ¼ scale (designed for electric power) Stinson Voyager was there (beautiful!!) as well as many other new planes; Polk Hobbies showed their new Micro Seeker 6 channel synthesized Rx and some new 4.5 gram micro servos (15 oz in of torque) and EFlight Designs showed their new 4.3 gram Blue Arrow micro servo (5.5 oz in of torque) available at \$14.00 each; Polk also unveiled the new Tracker III Transmitter which should be available early next year – physically much improved over the current Tracker II in my opinion; and, so much more that I didn’t get to see because of the rain.

New Small Brushless Motors. Many of us have been flying small electric planes with the GWS IPS (Indoor Power System) gearboxes and motors. These work very well but if used with 8 NiCads or 3 LiPo’s they often ‘burn out’ quickly. Failure is usually from burning of the metal brushes or melting of solder with the carbon brushes. Though inexpensive (~\$10) replacement does take a few minutes and at \$10 each time can get expensive quickly. Many, including me, have wished for a small brushless ‘drop in’ replacement for the GWS motor and now it’s available. Balsa Products is selling the Feigao brand 12 mm brushless motor for \$39.00 and it is a ‘drop in’ replacement for the GWS ones. Two models are now available: one with a Kv of 4100 and the other with a Kv of 6000 (Kv is the RPM/Volt constant). Both have a higher Kv than the stock GWS motor. As such, if you’re thinking of replacing your motor in a GWS A gearbox you might consider using the B or C gearbox instead. You’ll get more power and better performance. What’s important is how well do they work? Just great according to those who have tried them; amazing power from a tiny package. See picture



HOW TO: Connecting a Brushless Motor to an ESC

Brushless motors are three phase motors and, thus, have three wires connecting the ESC (Electronic Speed Control) to the motor; in contrast, our brushed motors have only two – a positive (Red) wire and a negative (usually Black) wire. Brushed motors are simple to connect since you just connect the red ESC to the red motor wire and the black to the black and you’re done. At first glance, brushless motors appear to be more complex because there are three wires coming from the motor and three from the brushless ESC. To add to the apparent confusion there is no

standard on wire color. Some motor manufacturers use yellow, red and blue while others use yellow black and red and still others use ALL black. The same goes for speed controls where I've seen white, blue and yellow and yellow, red and black. So what's one to do? Simple, just ignore the colors altogether and connect the three ESC wires to the three Motor wires and run the motor. It will run, BUT if it runs backwards for your use simply reverse the connections on ANY two wires.

1----->1
2----->2
3----->3

If, when wired this way, it runs backwards then reverse two connections

1---->2 or 1----->1
2---->1 2----->3
3---->3 3----->2

Either of the later two will cause it to run in the proper direction. Simple, huh?

Happy Holidays and
Joyous New Year

Silent Knights Soaring Society 2005 Membership Application

Revised 10/15/04

NAME: _____ AMA NO. _____

ADDRESS _____ CITY _____ STATE/ZIP: _____

PHONE: _____ PRIMARY RADIO CHANNEL: _____

SECONDARY RADIO CHANNELS: _____

E-MAIL ADDRESS, IF ANY _____

ENCLOSURES:

DUES Senior \$40.00 if postmarked 2/1/05 or later
\$35.00 if postmarked PRIOR to 1/31/05
Junior \$5 (19 or under as of July 1, 2005) _____

PARK STICKER FEE : (DO NOT INCLUDE PARK STICKER FEE AFTER MARCH 1ST) _____

Resident (\$20), Non-Resident (\$40), 62 or over Resident (\$10), 62 or over Non-Resident (\$20)

Note - Park stickers may be purchased by applicant or, IF APPLICATION IS RECEIVED before March 1, the treasurer will obtain stickers if park fee is enclosed with application. As an alternative, daily entry fee may be paid during the park fee season at a rate of \$2.50 for Delaware residents, or \$5.00 for non-residents. Park Stickers will be mailed with your new Membership card in March, 2005

Make Checks Payable to **SKSS**. Mail, along with this sheet, to:

Bob Bickerton
1 Morning Dew Drive
Middletown, DE 19709

Please read then sign below

I have read the SKSS bylaws, Club Rules, Field Rules, Contest Rules, Club Safety Rules, and the AMA safety code, and agree to abide by all, and I verify that my AMA number listed above is accurate and my AMA membership is current.

Note those under 18 must also have a parent or guardian also sign

X _____ DATE _____