

Radio Controlled Soaring Digest

July & August 2011 Vol. 28, Nos. 7 & 8



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Front cover: Dave Garwood's photographs are always of the highest quality, and the cover shot for this month is no exception. Taken during a MWSC Warbird practice session, Dave provides *RCSD* readers with a unique perspective on the action taking place in the air and the teamwork of pilot and spotter on the slope edge. Canon EOS 7D, ISO 400, 1/350 sec., f19, 40mm

5 *RC Soaring Digest* Editorial

6 Midwest Slope Challenge 2011

The Wings Over Wilson Soaring Club presented their 18th annual event in May — Combat, and ODR, Unlimited and Warbird racing on the slopes of Kansas. Full event coverage by Alex Paul with photos by Alex Paul and Dave Garwood.

30 How far is far?

When we say we've flown a glider very far away... How far is far? How far away, feeling comfortable flying it, and knowing what you are doing? Genaro Solé used a GPS data logger to find out.

Large Scale Glider Fly-In at Warthog Radio Flyers 33

A fantastic flying site, huge sailplanes and a unique tug set this event apart from others. Coverage by John Godwin.

FASST Orange Receiver from HobbyKing 37

Pete Carr found this inexpensive 2.4GHz unit while looking for a smaller receiver, compatible with his Futaba 10CG transmitter, to put into a 2M glider.

Altitude Limited Electric Soaring Man-on-Man Scoring Spreadsheet 40

Created by Curtis Suter, this Excel spreadsheet features preassigned flight groups (can be changed manually), entry of up to 32 pilots, optional dropping of the lowest score, normalized scoring, and the ability to have different flight times for each round.

46 Power Supplies

Rudi Oudshoorn describes 11 power supplies. Ten put out DC voltage from 12 volts to 15 volts DC at 5 to 25 Amps and one has an output of 5 volts 2 Amps.

52 Carlisle Aeromodelers Polecat/Soaring Circuits 2K11 Open Soar (ALES)

Twenty-eight entrants battled it out on June 24-26 2011 when the Carlisle Aeromodelers club hosted the Polecat/Soaring Circuits 2k11 ALES open soaring event in Blosserville, Pennsylvania. Event coverage by Fred Maier with photos by Fred Maier, Dave Garwood, and Andrew Maize.

61 Winged Shadow Systems Equipment review

Dave Garwood describes the Winged Shadow Systems Thermal Scout, How High RT, Smart Bat, and See How units and relates his experiences with each.

66 Get your eyes tested. No, REALLY tested!

Robert Budniak relates his personal experience with a vision problem and offers advice to others.

JR Aerotow Australia 2011 68

The first ever Australian JR Aerotow was held over the Easter break at the Jerilderie Racecourse. Full event coverage by Brian Ford with photos by Jo Carbine.

Hobby Club/Reichard Modelsport MAXX ALES-LMR-F5J Electric Sailplane 78

The Reichard MAXX is a lightweight, electric powered competition sailplane designed to meet the rules of the new "400" class of F5J competition, as well as the new Altitude Limited Electric Sailplane (ALES) event now forming within the U.S. Reviewed by Mike Skube.

RDS G2 System 84

RDS is a concept more than ten years old. Harley Michaelis has been improving the system over the years and has been able to have many of its various components professionally manufactured. The latest version of the system, designated G2, features several improvements and nearly all of the parts are readily available "off the shelf." RDS is very popular in the F3B world; the new G2 system has the potential of benefitting all phases of the RC soaring realm.

New Simple Spoiler Linkage 87

Ray DiNoble provides a brief overview of the spoiler linkage he fabricated for his Topaz-S. Links to additional photos are provided in the text.

88 **Black Eagle PSS Festival 2011**

Sponsored by the Two Oceans Slope Soarers, Cape Town, South Africa, this event consisted of static and flight judging of some of the best looking PSS 'ships in the world. Terrific slope soaring weather allowed lightweight and heavyweight soarers to fly, and a monetary contribution to a fund dedicated to the Percy Fitzpatrick Fund for the continued study of raptors and specifically the Black Eagle. Coverage by Kevin Farr with photos by Kevin Farr and Malcolm Riley.

101 **WAZUP?**

Chuck Clemans has been involved in the design of tailless models for decades. His latest is an EPP "plank" which uses the BW050209 thickened to 12%, 1/64" plywood spar caps, and a Park 300 motor using a 1300 mAh Li-poly battery. This compact flyer has a span of 38.5" and weighs 10.5 ounces. Links to full size plans, airfoil coordinates, and a source for wing cores are noted within the text.

106 **Modifying the Turnigy 9x with custom firmware**

Increasing the programming options available on an inexpensive transmitter, along with information on the potential for a wireless "buddy box," colored backlighting, and other modifications.

By Stuart Bradley.

55km G&R Cross-Country Flight 29

New FAI Model Aircraft Record 32

Manila Slopefest 2011 51

In the September 2011 Issue 100

Back Cover: An ArtHobby Skua (1.5m) being flown by L. P. How of Santa Fe, New Mexico, on a slope south of Gunnison, Colorado. Photo by Rocky Stone
Panasonic DMC-ZS6, ISO 80, 1/1600 sec., f6.3, 49.2mm

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In the Air

You are reading the largest issue of *RC Soaring Digest* ever published, 114 pages. The outpouring of submissions following the cancellation of the July issue was incredibly impressive. Our sincere thanks to everyone who contributed materials - articles, event coverage, reviews, photos and ideas - over the last few weeks.

Several things have happened since the middle of June which have affected us directly.

Maynard Hill passed away on June 7th, leaving a huge void in model aviation. Mr. Hill's TAM 5, with a six foot wingspan and weighing less than 11 pounds, flew from Newfoundland to Ireland, a distance of 1,882 miles, non-stop. But before that he had held a number of international records for RC aircraft, including altitude, duration (he mentioned during one of the MARCS Symposia that he had acquired the nickname "Rusty Zipper") and distance. Maynard's energy and drive to excel, despite severe macular degeneration and near deafness, serve to inspire modelers everywhere.

The Academy of Model Aeronautics has approved two proposals for the upcoming US F3J Team Selection in Cocoa Florida at the end of October. One rule change will allow for five man teams consisting of a maximum of four seniors and one junior. This rule also requires the juniors to fly in their own separate group. The other approved rule states that standardized F3B winches be used for launching. This is important information for anyone planning to participate in the Team Selection.

Time to build another sailplane!

MIDWEST SLOPE

This year's Midwest Slope Challenge was a fine example of what slope flying in Kansas winds with friends/competitors is all about.

The Wings Over Wilson Soaring Club presented their 18th annual event and those that attended will attest it was a bit chilly, but the wind strength offered outstanding flying before/through the event and afterwards. The event this year ran from May, 12th through the 15th.

I flew into Wichita again this year from the Bahamas with a glider filled Sport Tube, camera gear loaded carry-on, and personally filled with anticipation over getting back to Lucas Kansas and flying with established friends. As usual, I had a new "take down" travel plane being built for me by designer/master builder Erik Eaton of Magnum Models waiting for me. It is an ODR "Duster." Thanks Erik and Larry of Magnum Models.

When the flight was arriving in Wichita I knew by the upper level turbulence and strong cross winds we were landing in





CHALLENGE 2011

that this year's event would most likely offer outstanding racing conditions. It proved to be the right impression. Pulling into Lucas I met up with fellow "New York Slope Dogs" at our rented cottage and we were almost immediately heading for the Wilson Lake State Park hill for "Add ballast if you have it" flying.

Check in was held at Kent and Ann Palmer's facility in Lucas the evening of May 12th. It was great seeing everyone again. There were 26 flyers registered for the event this year. During check-in it was announced that the pilots

meeting would be held at Wilson Lake State Park "Main Hill" at 8 am on the 13th. After registration, partying, and sharing stories and laughs it was time to head to residences and be sure needed planes were ready for action. I am sure the local electric company enjoys profits of the event as there are power strips filling every available socket running more chargers, heat guns, and irons than the wall sockets alone will accommodate. Lamps, fans, kitchen appliances, and everything else we normally wouldn't live without cease to be a priority. Planes and assorted

gear cover kitchen counters, tables, and every available space including (in our case) an unplugged kitchen stove. Most of us can relate?

The following morning with weather being a little on the nasty side, pilots gathered at the top of the hill at Wilson Lake State Park. Cold, raining off and on but with good wind conditions it was determined that the contest would begin at 10am and we would all meet at Jim Lawson's hill ready to race, as it was the best established location for the North wind direction. Wind was blowing at 20mph with higher gusts.

ODR

By 10am the weather had improved to mainly over cast skies, with good wind remaining. Arriving at Lawson's hill the organizers and volunteer team had pylons mounted and everything ready to go. We were off and running. The first contest flown was ODR "One Design Racer." With solid winds it made for good racing action... No scratching for "last one up" this year. The Magnum Models "Bad Voodoo" seemed to be the dominant force. 10 years old Darren Ammon showed his training and talent, putting in an amazing display of piloting skills. This young man is going to be a "Top Gun" in the world of slope racing in the years to come. Congratulations on an awesome performance Darren. All pilots flew extremely well with many close races. In the end the top three finishers were:

1st Andrew Williams of Denver, Colorado flying a Magnum Models Bad Voodoo

2nd "10 year old" Darren Ammon of Lucas, Kansas flying an Edge RC Tornado

3rd Erik Eaton of Hayes, Kansas flying a Magnum Models Bad Voodoo.

Thane Kerchoff coaches Darren Ammon during the ODR race. Dave Garwood



Terry Dwyer and Darren Ammon with their ODRs, ready to fly! Dave Garwood





Above: ODR racers rounding the far turn. Flaggers dressed like Eskimos, for a good reason. Alex Paul

Right: Dave Day's Bad Voodoo ODR being held up high for flagger ID. Alex Paul



Above: Larry Blevins of Magnum Models launches for Thane Kerchoff in ODR competition. Mike Tallman, AMA rep, keeping things honest. Alex Paul





Above left: Larry Blevin spots for Dave Garwood, and Justin Eamon spotting for his son Steven during ODR race. Alex Paul

Above right: Close! Dave Garwood

Lower right: A bit of a respite between races. Dave Garwood



Opposite page: A little too close during ODR race. Terry Dwyer's Duster gets T-boned and recovers unscathed. Alex Paul



Unlimited

After ODR finished the pylons were set up for “Unlimited Class” Racing and the first race started at 2pm. Winds were still out of the North and speed had increased to 25 with considerably higher gusts. Each race was extremely competitive. Accomplished pilots flying beautiful full house Sailplanes, in solid wind is always a blast to watch. As in ODR the races were very close and a few times the unlimited planes got to close to stay off of each other. No unfortunate landings resulted but in “exchanging paint “it was strictly the talent of the pilots that got their sailplanes back in good form to continue the action. In the end the top three finishers were:

1st Thane Kirchoff of Lincoln, Nebraska flying a Trinity

2nd Chance Cooper of McPherson, Kansas flying a Tragi

3rd Justin Ammon of Lucas, Kansas flying a DS Tool

At the end of Unlimited racing the event director announced the remainder of the day would be for fun flying with frequency board in place.. It was a great day of flying for everyone. No one seemed to mind the cold winds once the action was underway. This heat spoiled Bahamas dweller included.



Right: Jim Baker (brown funny hat) displays Thane Kirchoff's (green funny hat) unlimited racer to the flaggers. Mike Tallman (gray funny hat) is an AMA District Vice President who came to help with officiating at the races, as he does many years.



Left: Jim Baker (brown funny hat) displays Thane Kirchoff's (green funny hat) unlimited racer to the flaggers. Mike Tallman (gray funny hat) is an AMA District Vice President who came to help with officiating at the races, as he does many years.



unlimited racing action





Paint exchange action during an Unlimited race.

COMBAT

The morning of the 14th the winds were still out of the North at 25 mph and so Lawson's hill remained the designated hill for Combat, and Warbird racing. The temperature climbed a bit and the Sun was out more than it was hidden behind clouds, so it was the beginning of an excellent day. Meeting at Lawson's hill for a 10 am start time was announced at the pilots meeting held at 8am. This year there was a slight change in the rules for combat which offered an improvement in the ease of scoring and longer flight times between rounds. Combat was handed over by Erik Eaton to Andrew Williams from Colorado, who announced the "Colorado Combat" rule changes and every competitor enjoyed the improved format. Good action both high up and in close was achieved and as always the laughs, and controlled antics were a lot of fun. In the end the top three finishers were:

1st David Day of Houston, Texas flying a Cyclone.

2nd Greg Hine of Boulder, Colorado flying a Predator Bee

3rd Fred Maier of Akron, New York flying a Windrider Bee



Alex Paul

Opposite page: Chance Cooper of McPherson, KS gets ready to relaunch his 48-inch span combat wing in the midst of the foam combat match. We had cool air temperatures and plenty of wind. As the soaring philosopher Steve Savoie (retired from the US Coast Guard) taught us, "There is no such thing as foul weather. There is only under-dressed sailors."



Dave Garwood

Scenes from the Combat event

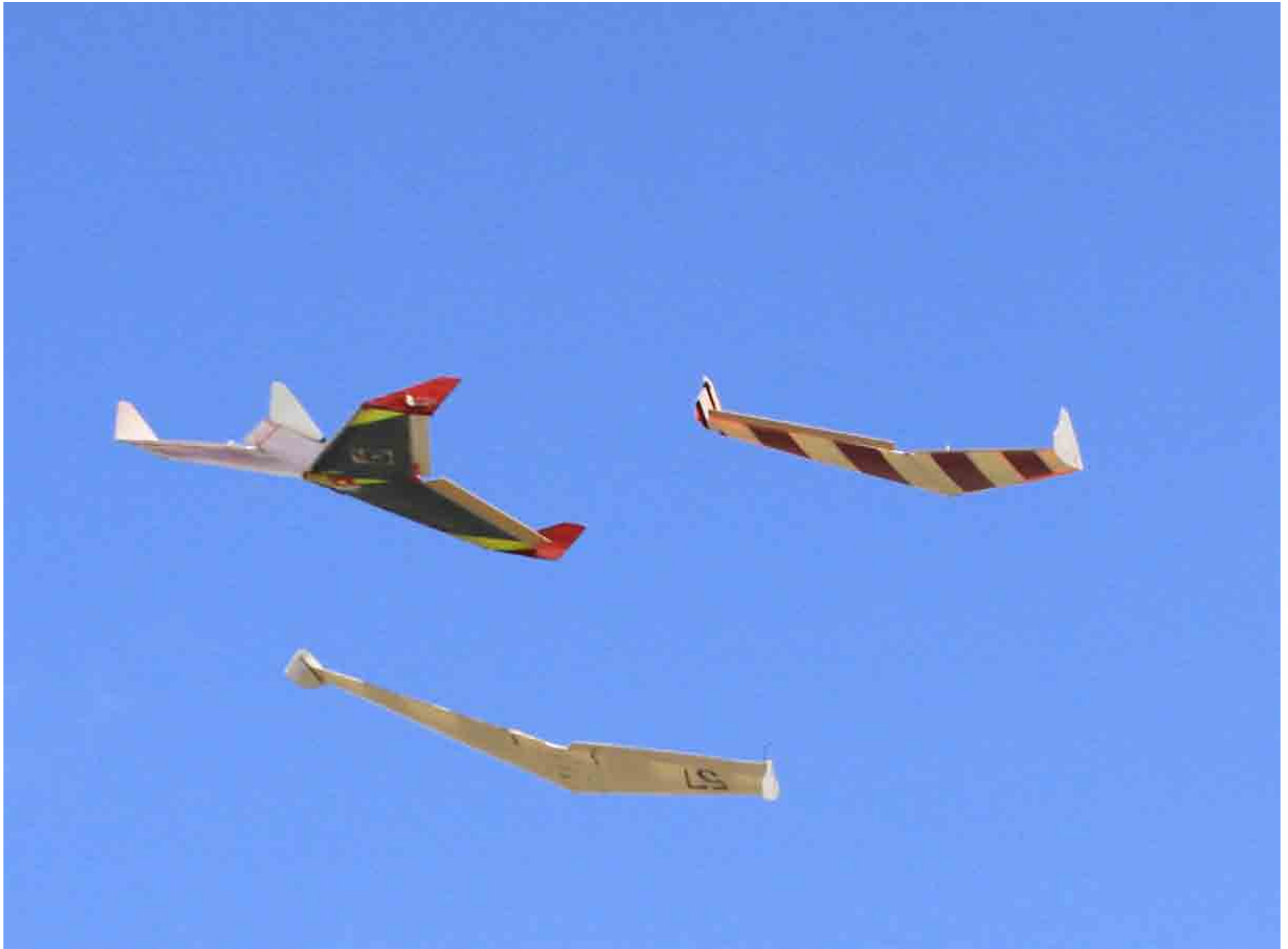


Alex Paul



Launches, collisions, piloting skills and close proximity flying. Alex Paul





WARBIRDS

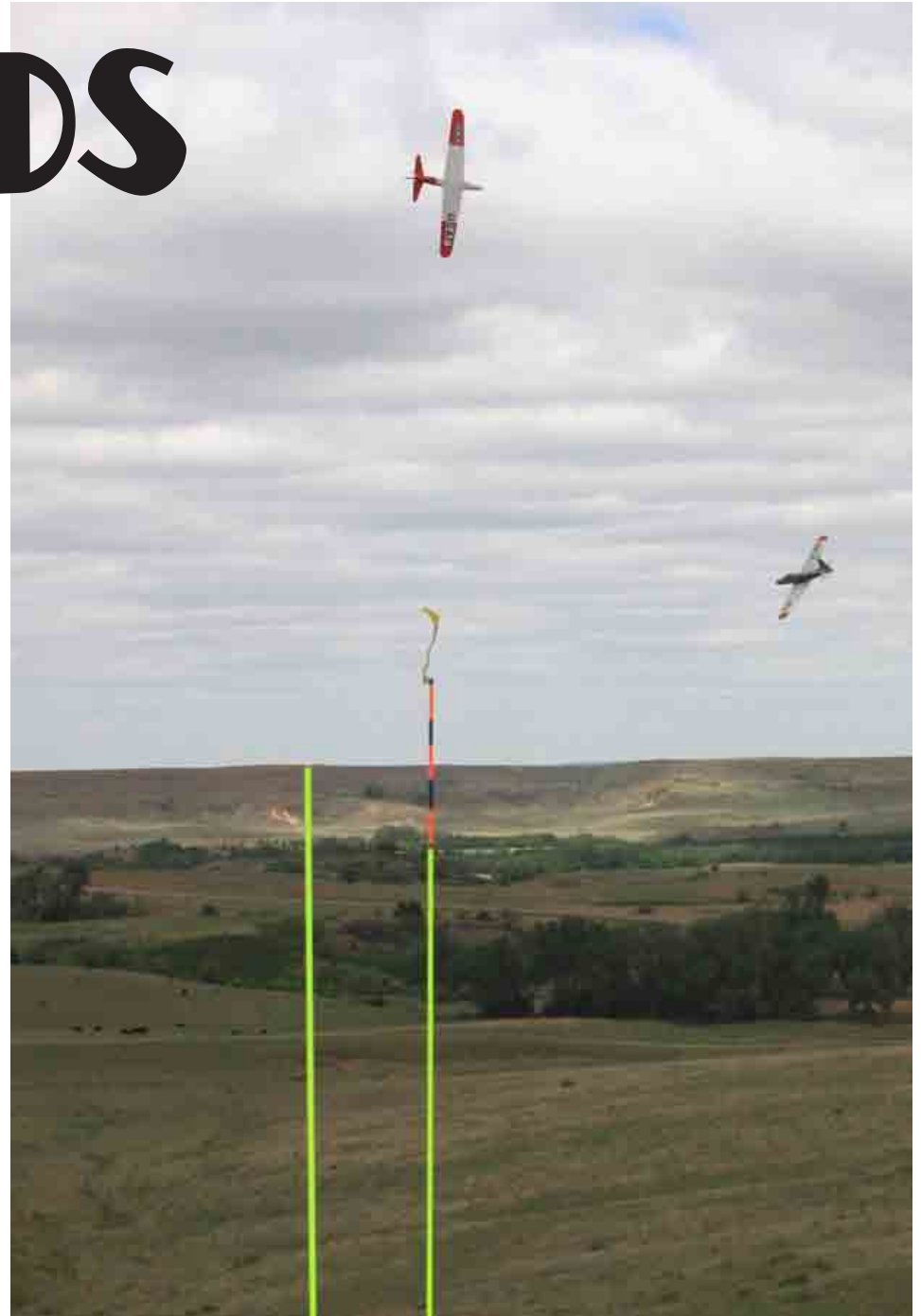
With the North wind and weather continuing to cooperate, the Warbird Race was held at 1pm. This is one of my favorite events because the races are often tight, and there is something about seeing “scale like” military planes flying that gets my imagination focused on the real deal. Leading Edge Gliders and Magnum Models seemed to dominate the field and they both offer very realistic looking foam plane kits that fly beautifully. After a number of exciting heats with tight results, also with plenty of “paint exchanges” around the pylons the top three finishers were:

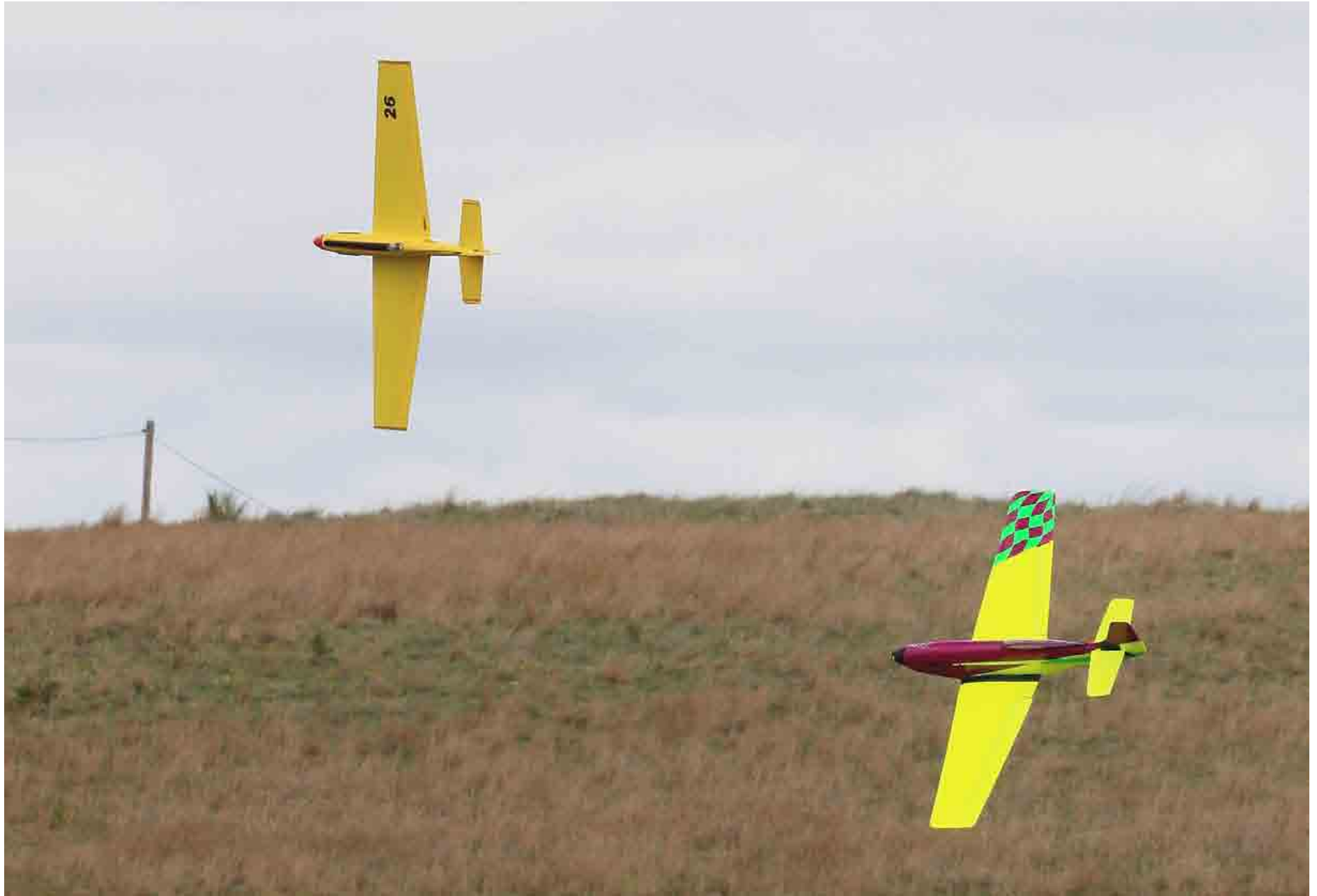
1st Joe Chovan of Syracuse, New York flying a Leading Edge Gliders P-80 Shooting Star

2nd Erik Eaton of Hayes, Kansas flying a Magnum Models Mig-3

3rd Mike Bailey of Wichita, Kansas flying a Leading Edge Gliders P-80 Shooting Star

P-80s round the pylon. Alex Paul





Two "Reno racers" battle it out. Alex Paul



Warbird race practice



*Above and right: Chovan's P-80 and Blevins' MiG-3_round the pylon.
Dave Garwood*

*Below: More Warbird practice.
Dave Garwood*





Left: A launch of Dennis Brown's original design Focke-Wulf Ta-152 during a Foam Warbird race heat. Alex Paul

Below left: Heavy heave for a P-80 Shooting Star. Dave Garwood

Below right: David Day's Magnum Models MiG-3 and Mike Bailey's Leading Edge Gliders P-80 Shooting Star tangle at the near turn in the Foam Warbird race. Alex Paul





Warbirds and pilots waiting for the action to start. Alex Paul



Top left: Mike Bailey prepares to launch a race plane in the Foam Warbird race.



Top right: Joe Chovan prepares to launch Dave Garwood's Leading Edge Gliders P-80 Shooting Star in a Foam Warbird race heat.



Below left: Justin Ammon prepares to launch Larry Blevins' Magnum Models MiG-3 in the Foam Warbird race. The other three guys in the picture? They are, well, they're looking for someone's dropped car keys.



Below: One of the "Reno racer" models flown in the Warbird event.



Mike Bailey launches Mike Gantner's Me-109. Dave Garwood

At the end of the Warbird race more fun flying was open at Lawson's hill and wrapped up a very successful flying event. At 7 pm the awards banquet was held, and as is the case every year the catered meal was an amazing feast. The awards ceremony was conducted by WOW President and event organizer, Erik Eaton, and with his usual humor and public speaking skills he insured the awards ceremony was a lot of fun. With many generous sponsors both locally and nationally, there was something for everyone in attendance, and some of the luckier raffle ticket holders left with some outstanding stuff.

I know I can speak for everyone that attends the Midwest Slope Challenge when I say thank you to Wings Over Wilson Soaring Club, Erik Eaton (President), Larry Purdy (Vice President), AMA rep Mike Tallman, Kent, and Ann Palmer of Lucas, Jim Lawson from Lucas for his continued event support and generosity, allowing us to use his land for the event, and all of the folks that help make this annual event run so well. Everyone involved not only volunteers their precious time to help the event run but they are meaningful friends as well. Friends I know we all look forward to getting back to see. Lucas welcomes us

back as family every year, and they know how to take good care of family.

One of the many wonderful things about the area for the soaring pilot is that there are many good flying hills facing every direction with wind more often than not, and on the "not" day's thermal flying couldn't be better. Permission to fly is usually granted by land owners if approached, asked nicely and their specific instructions are followed. This demonstrates our appreciation and shows the respect each generous landowner deserves. This helps assure permission will be given again in the future. A lot of good people live in Kansas.

Local Business MWSC 2011 event supporters/sponsors

Bob Smith
 Eric Abraham Porceland<http://www.ericabraham.net>
 Gantner Engineering
 Home Oil
 Leache & Nagele Hardware Store
 Leon's Welding and Fabrication
 Pro-Tech, Inc.
 Radio Control Models
 Troy's Grocery
 Rodrick and Minerar Funeral Homes

Model Designers and Manufacturers attending MWSC-2011

Justin Ammon	Edge RC	http://www.edgerc.com
Mike Bailey	Fancy Foam	http://www.FancyFoam.com
Larry Blevins	Magnum Models	http://www.MagnumRCModels.com
Joe Chovan	Tufflight	http://www.Tufflight.com
Erik Eaton	Eaton Air	http://www.eatonairrc.com
Michael Gantner	G.E.M.S.	440-759-7144
Cory Schanz	Got Gas RC	http://www.gotgasradiocontrol.com
Andrew Williams	Canuck Engineering	http://www.canuckengineering.com

The following is a list of all the supporters/sponsors of the MWSC event

Academy of Model Aeronautics	http://www.modelaircraft.org
Aero Works	http://www.aero-works.net
Castle	http://www.castlecreations.com
Dymond Modelsport LTD	http://www.rc-dymond.com
Eaton Air RC	http://www.eatonairrc.com
Fancy Foam Models	http://www.fancyfoam.com
Great Planes Model Mfg.	http://www.greatplanes.com
Hobby Horse	http://www.hobbyhorse.com
Magnum Models	http://www.MagnumRCModels.com
Nano Planes	http://www.nanoplanes.net
Sig Manufacturing	http://www.sigmfg.com
Windrider Aviation	http://www.windrider.com.HK
Wyoming Wind Works	http://www.wyowindworks.com

MWSC 2011 Photographers:



Alex Paul by Dave Garwood



Dave Garwood by Alex Paul



<http://tinyurl.com/3gpl7yg>

From David Vels <davensam@bigpond.net.au> through the MRSSA yahoo.com.au mailing list:

Awesome Cross Country flight... without leaving the flying field!!! 55km goal and return using a 34 second motor run. All done with telemetry and video link.

<<http://vimeo.com/24210629>>

Montiel Roberto's setup is the following :

Model: Grafas Top Model CZ, 3 m. span. (14:1 glide ratio @ 50 km/h.)

Motor: AXI 2820/14

Prop: Aeronaut foldable 13x6,5

ESC: Jeti 44 adv.

Battery: Graupner LIPO 3S 5200 mAh

Aux. battery: Flightpower LIPO 3s 2500 mAh

FPV camera: Pixim DX 201

OSD: Range Video Gen 4 (with autopilot)

RC TX: Thomas Scherrer LRS (Standard whip antenna tx 0.5 W.)

RC RX: Thomas Scherrer LRS 12 ch. V 4 (two dipole antenna).

Transmitter: Graupner MC24

Video TX: BEV 1.3 Ghz. 1.5 W. (3 db. whip).

Video RX: BEV 1.3 Ghz. (14 db patch antenna).

Logger: SM Modellbau GPS Logger.



How far is "far"?

Genaro Solé, genarosole@gmail.com

When we say we've flown a glider very far away... How far is far?

Of course, the answer depends on how well you see, your pilot skills, the size and color of the glider, and a very long flight, etc.

But in general terms, how far can you control a glider? How far away, feeling comfortable flying it, and knowing what you are doing?

The question can be answered using one of the many GPS data loggers now present in the market.

Specifically, we answered the question with the help of a Canmore GT-730FL-S USB GPS Tracker Stick Data Logger <<http://www.amazon.com/gp/product/B002UWKUZQ>>, on board a Multiplex Easy Glider Pro, on a good windy day at our Club Las Águilas in Caracas, Venezuela.

This GPS data logger only weights 30 gr. and is small enough to be accommodated under the canopy.

Once the data was downloaded from the data logger and plotted on Google Earth, the question was easily answered:

626 meters! (2.053 feet!)

At this distance we felt comfortable flying the glider, but frightened by the great distance it was. I surely can overcome this limit, but it greatly increases the risk for me not being able to understand what my glider is doing.

Other data can be obtained from the GPS data logger:

Flight time: 11 minutes

Height (on track): 234 meters

Average speed: 33 km/h

Maximum speed: 109 km/h (diving steeply)

Horizontal speed reached a maximum of around 60 km/h.

With the data you even can do a video simulation delivered by Google Earth software.

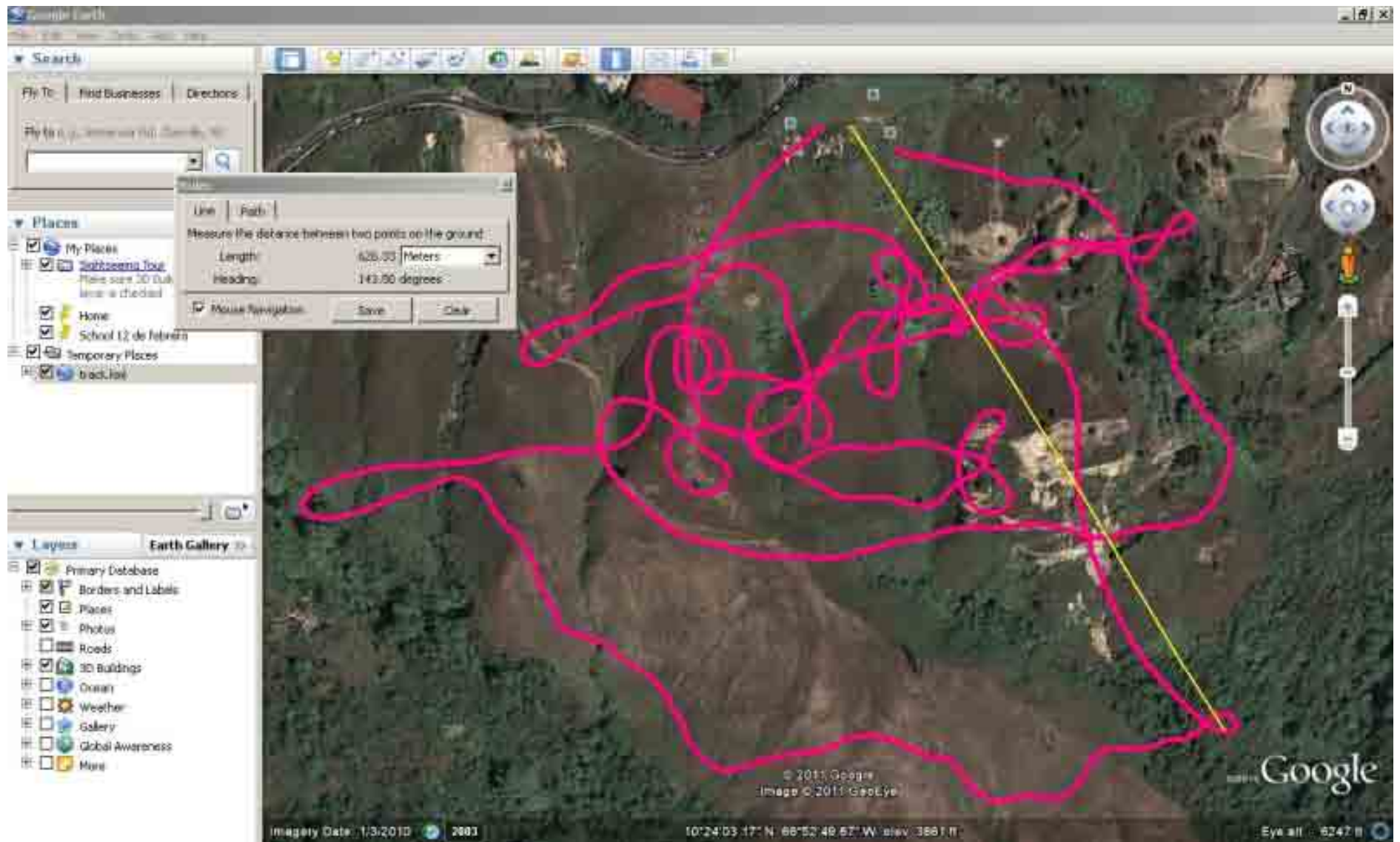
<<http://www.youtube.com/watch?v=pQyYWFrLI64>>

New technologies are not indispensable to fly, but in my personal opinion, they can enrich our flight experience, providing information that can later be used in other ways.

And, in my opinion, this GPS data logger turned obsolete and impractical the current velocity meters and altimeters based on pressure difference, which cost a lot more.

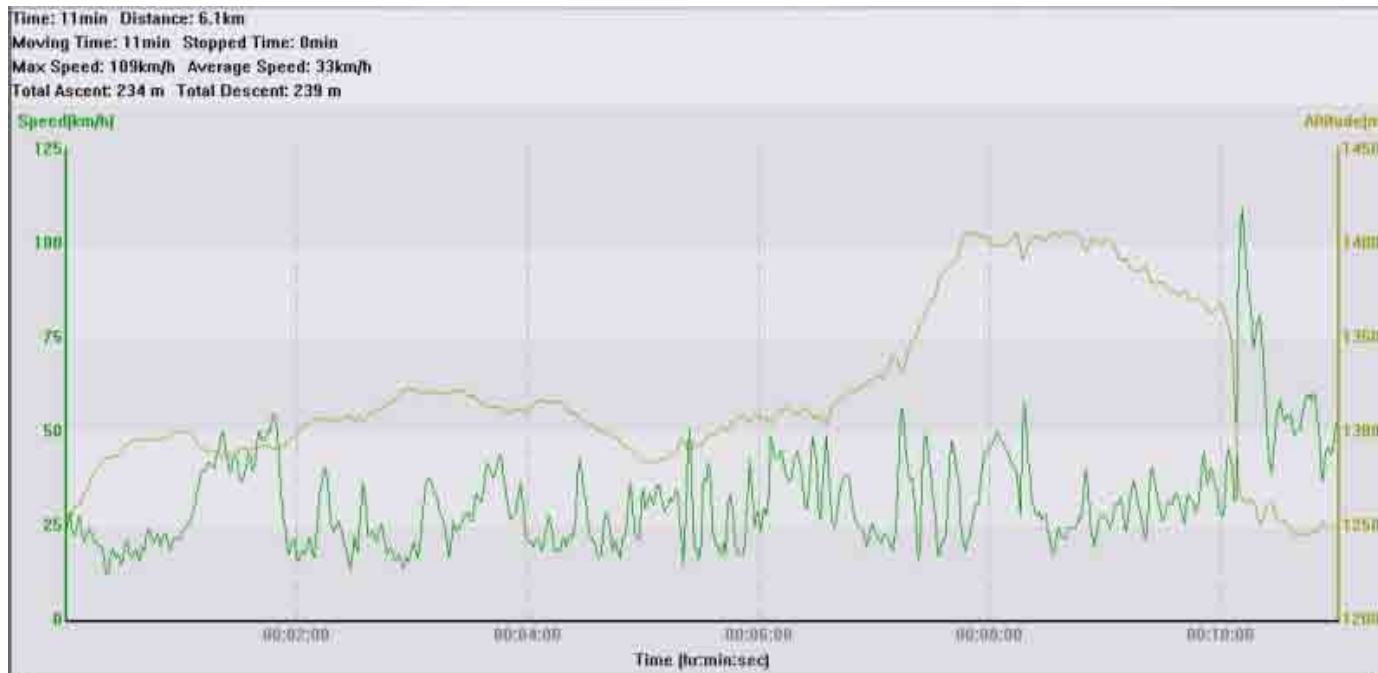
I want to thank Miguel "Miche" Lagardera for providing the GPS data logger and processing the data, and Carlos Nava for his field support.

How far is far? Far away!



After downloading data from the Canmore GT-730FL-S USB GPS Tracker Stick Data Logger, the flight track can be plotted on Google Earth. Distances can then be measured directly on-screen.

Speed and altitude can also be plotted. See the next page for the representative graph for this 11 minute flight.



Speed and altitude data for the 11 minute flight documented in this article.



FAI has ratified the following Class F (Model Aircraft) World record:

Claim number: 16072
 Sub-class: F5 Open (Radio Control Flight)
 Category: Aeroplane
 Group: Electrical Motor Rechargeable Sources
 Type of record: Gain in altitude: 173
 Course/location: Orléans (France)
 Performance: 3 843 m
 Pilot: Patrick VALLET (France)
 Members: Antoine PELLETIER (France), Jean-François ALLAIS (France)
 Date: 06.08.2010
 Previous record: 3 418 m (02.10.2004 - Giorgio AZZALIN, USA)

FAI congratulates the Pilots on this splendid achievement.



Large Scale Glider Fly-In at Warthog Radio Flyers

John Godwin, old.bok@gmail.com

I went to Warthog Radio Flyers Large Scale Glider Fly-In with the express idea of taking photos. I took a great many but only half a dozen were any good. Here are the best.

The Warthogs fly from inside the Gerotech Antenna Testing Range, north of Pretoria, South Africa. This is an excellent site, with acres of short grass, 24 hour security, buildings with water and electricity and even, I have heard, a swimming pool.

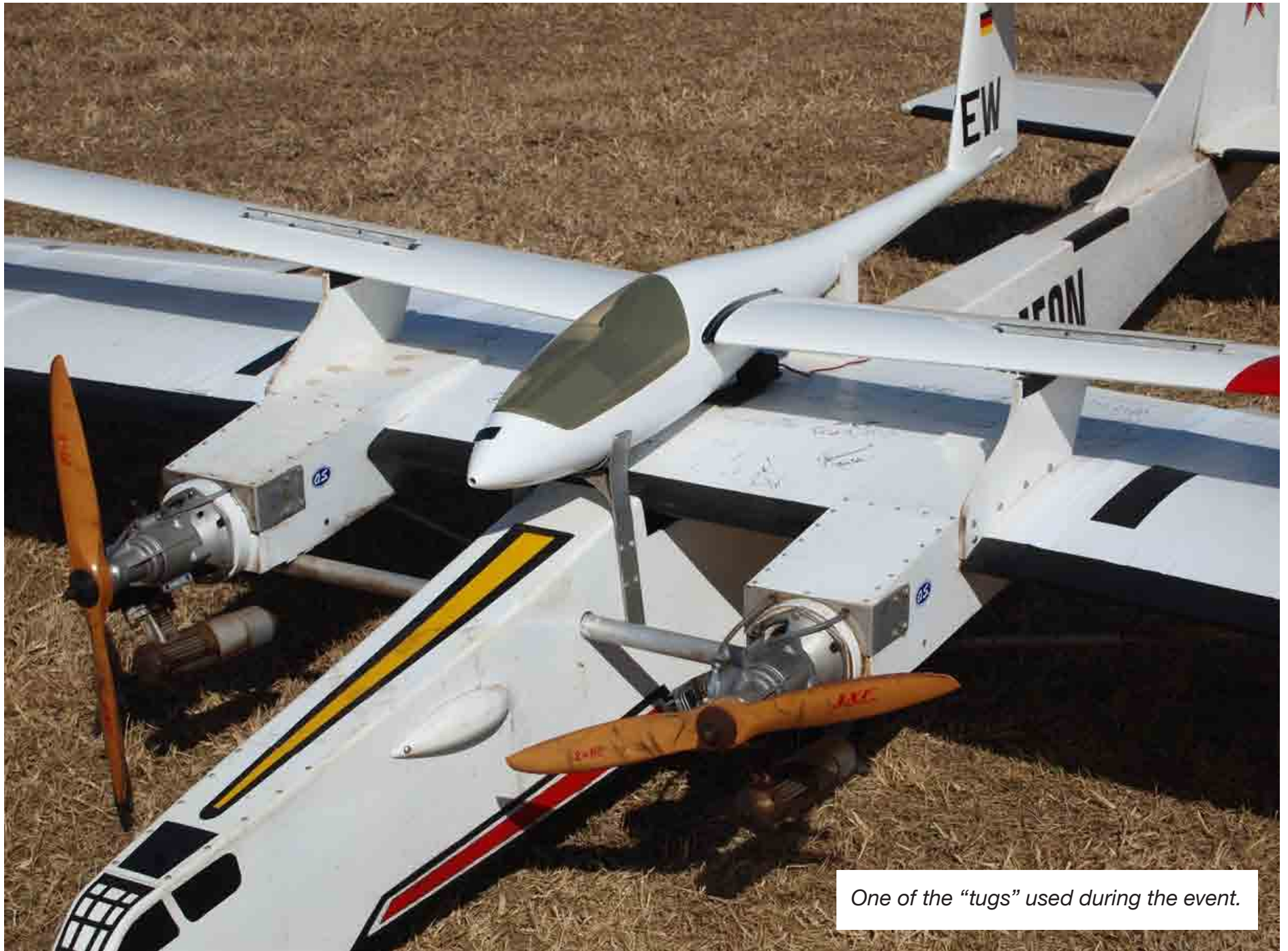


The Warthogs fly from inside the Gerotech Antenna Testing Range, north of Pretoria, South Africa



A selection of some of the gliders that made it to the fun-fly





One of the “tugs” used during the event.



Mike May and his 8M DG 505





FASST ORANGE RECEIVER

ORNG8F

Pete Carr WW30, wb3bqo@yahoo.com

Several months ago I received an e-mail from HobbyKing that they had opened a store on the west coast. The e-mail also offered an Orange receiver that was supposed to work with Futaba FASST technology radios. I had been looking for a smaller receiver for a two meter sailplane and it seemed that the Orange might fill the bill.

As you may know, 2.4 GHz radios operate differently from the 72/75 MHz variety. The older 72 MHz rigs would all encode information the same and the receivers could process just about any transmitters' signals. That has pretty much disappeared now. Futaba uses the FASST method while Airtronics uses another type. That means that, if you buy a transmitter you will be required to buy their receivers too. It gets uglier than that. Some manufacturers seem to specialize in pattern or 3D radios where enormous numbers of channels are needed and equipment size isn't too important. Others make airborne gear that will work well in hand launched sailplanes where



light weight and small size are necessary. I had bought a Futaba 10CG transmitter which came with a 14 channel receiver that was bigger than the old 72 MHz types of several years ago. Until now, that gave me little choice in receivers and their size was a big issue for my sailplanes.

That is why I was interested in the Orange receiver. It looked smaller than the Futaba 6014 and promised full range. It was also less than half the price of the least expensive receiver that Futaba makes for the 10CG.

I ordered a receiver on their web site and sat back to wait for delivery. The receiver arrived in about 10 days in a box with air pillows. The receiver was not even wrapped up, just thrown into the box along with the pillows and sealed up.

There was no paperwork in the box other than the invoice. I went down to the shop and plugged the receiver into a battery and some servos and tried to "bind" it to the transmitter. No luck. Then, I got out the Futaba manual and followed the instructions for the binding procedure. That didn't work either. I shut everything off and went upstairs to the computer to get on the HobbyKing web site.

The site offered a help desk where I could send an e-mail so I outlined the situation and sat back to wait. It was over a week before a reply arrived which sent me to a document on their site that I downloaded. It directed me to hold the bind button on the receiver down while turning on the receiver power with the transmitter on. When I followed those instructions the receiver recognized



The top fuselage is a 9-servo sailplane so the 14 channel R-6014 receiver gets a workout. The Orange 2.4 GHz FASST receiver in the Oly II fuselage is about the same size as the Futaba receiver but slightly thinner. The two coaxial leads used on each receiver are identical. Current drain was also about the same for each receiver with the servos unplugged.



The Orange receiver fits a typical fuselage radio room in the same manner as the Futaba. Coaxial cable antennas are installed at 90 degrees from each other and battery and servo connections are the same. The Orange receiver requires that the 10CG transmitter be placed in 8-channel mode with the fail-safe feature disabled to prevent servo jitter.

the transmitter and the servos became active. This is different from the Futaba binding procedure as outlined in the manual so be prepared for the change.

HobbyKing also has a section where customers can post concerns about various products. I checked the one related to the Orange receiver and found a bunch of posts, all mentioning the lack of documentation or instructions and several posted their feeling about the substandard shipping methods.

Okay, that problem was solved so I checked the hanger for a sailplane that would be good for receiver flight tests. The Olympic II sailplane was the prime choice since the servo and power connectors would connect right up. I took an Ace Pro-810 receiver out of the radio room that had flown the ship on 53.4 MHz. The sailplane handled the “great leap forward” in technology just fine! I was surprised that the Orange receiver wasn’t much smaller than the Pro-810. Anyway, after setting the servo directions on the 10CG transmitter and doing some backyard range checks I took the Oly II out to fly.

The antennas of the Orange receiver are two pieces of coax with some of the shield removed to expose the center conductor. The antennas of the Orange were the same size and coax type as the Futaba 6014 and I mounted them 90 degrees from each other for signal reception diversity. The radio worked just

fine and I was able to get the sailplane “wicked high” with not a hint of control problems. Still, I live out in the sticks where radio interference is quiet and nobody else flies planes. The acid test would be to go to a city and try it.

The Clarence Soaring Society of Buffalo, NY is now known as the New York Sailplane and Electric Fliers. It holds contests in Hamburg, just south of Buffalo, next to the NFL football stadium where the Buffalo Bills play ball. The parking lots and beautiful grass of the flying site are a joy to fly. This is where I decided to test fly the Oly II.

The June 18th, 2011 contest was a great day with blue skies and good lift. It was possible to get really high and downwind in circles that really tested the receiver operation. I’m glad to report that the Orange receiver worked perfectly. I can now say with confidence that the receiver operates in a typical urban setting without problems.

About ten days later I received a letter from Bank of America where I have a credit card. They informed me that my card had been “compromised” so they were closing the account. Enclosed was a new credit card and not much additional information. I called them and was not given any more information other than to say that the trouble seemed to originate “offshore.”

There are some recurring charges such as the Sirius radio for the car and some

magazine renewals that all had to be changed over to the new card number. If you’ve ever had to do this chore you can understand the situation. I was not happy. There have been several stories in the media about hackers and lost credit card account information of various types so I can’t say if that was the cause of the credit card change. Still, it was curiously near the time when I bought the Orange receiver. You might consider this if you deal with vendors from out of this country.

So I now have an Oly II sailplane that flies great and works with the Futaba 10CG transmitter. I did save some money but feel that I paid dearly considering the inconvenience. The features of the 10CG transmitter are now available with the 8-channel receiver so I will migrate the radio to a more challenging sailplane shortly.

Resources:

<<http://www.hobbyking.com>>; source for the Orange FASST Futaba compatible receiver ORNG8F.

<http://www.hobbyking.com/hobbyking/store/_14300_OrangeRx_Futaba_FASST-Compatible_8Ch_2.4Ghz_Receiver.html>

<<http://www.futaba-rc.com>>; web site for the Futaba 10CG radio with specifications.



ALTITUDE LIMITED ELECTRIC SOARING MAN-ON-MAN SCORING SPREADSHEET

Curtis Suter, suterc@msn.com

Bringing Soaring to Montana

You're probably asking yourself now what does Soaring in Montana have to do with a Scoring Spreadsheet article? Well as a man who is addicted to thermals I have finally thought of a way to bring soaring contests to Montana. My first thought was to get folks interested in DLG but that takes some physical aspects that some folks aren't interested in. Then I thought perhaps we could hi-start our DLG's but that didn't seem to garner much interest. I also thought of using hi-starts but that requires a lot of walking and winches and retrievers were cost prohibitive for me. With the advent of very efficient and light weight electric motors and batteries, as well as some very nice and inexpensive foam gliders, I noticed more and more club members with electric assisted gliders at our field. Finally thanks to Randy Brust for making the CAM, an altitude limiter for

our motors, now with very little effort we can have a contest with electric assisted gliders. I was now in need of some way to score the contest. I had downloaded a few programs and spreadsheets and they were very well done but I noticed that they were either too complex for our needs nor would they sort flight groups out evenly for very small contests.

Since each pilot has to have a timer then a minimum of two flights groups are required. I noticed that other programs/spreadsheets didn't evenly mix the pilots in flight groups for each round when only a small number of pilots were present. If only eight pilots showed up then each group needed to have four pilots. So this spreadsheet is ideal for small clubs and contests to learn how flying in contests. Flying in contests not only hones ones skills for learning to read air, how to land in a consistent location but

also how much fun can be had with little effort. Contest flying can be intimidating at first and I am trying to reduce that intimidation. My first thought is that the simpler it is to hold a contest the more folks I could attract and perhaps more folks may be interested in CD'ing their own contest. It's really not a daunting task to hold a small contest.

I thought it would even be possible to fly a contest without the use of a printer at the field or any kind of electronic equipment for that matter. Although without a computer scores would have to be input at a later time thus the pilots would have no idea where they stood in the contest after each round. Even without a computer my thought is that it's better to have had a contest as it would still be fun and an excellent learning experience. So this spreadsheet allows for an evenly mixed flight matrix to be printed directly to the score cards, even at home. More later.

Prior to explaining the spreadsheet first let me give a quick overview of what Man-on-Man Soaring is.

Man-on-Man Soaring

This is where pilots launch and fly their flight at the same time and in the same air; i.e. fly in the same flight conditions. The scores are normalized by flight groups based off of the top pilot's score of that flight group. So if you have 10 pilots at a contest and two flight groups, you do need timers so not all 10 could fly at once; then there should be five pilots per flight group.

Thus if the first flight group, we'll call "A", fly in excellent conditions and max their time the top pilot will receive 1,000 points and everyone else's score will be normalized off the leaders score. Then when flight group "B" flies and the air is all sink, then the same scoring holds true. Thus the group that flew when the conditions weren't so good isn't penalized adversely from the first flight group when the conditions were better. This is called Man-on-Man soaring or MOM.

When I make spreadsheets I prefer not to have any special coding, macros, VBA etc. This ensures that the spreadsheet

will work on all versions of Excel and other spreadsheet programs. I believe I've succeeded in doing so.

So I took my skills in Microsoft Excel and started some programming.

What this spreadsheet does NOT do:

- It does not sort frequencies.
- It does not assign flight groups in a true "Seeded" matrix
- It does not handle scoring of re-flights
- It does not sort by class or plane type. Such as Open, Standard or Expert, Beginner, or RES, Unlimited etc.
- Maximum of 32 pilots, four flight groups and eight rounds.

Note: The spreadsheet does not allow extra rows to be added to increase the number of pilots or extra columns to be added to increase the number of rounds due to several programming factors.

What the spreadsheet DOES do:

- It preassigns flight groups via a "fixed" matrix so that contestants are mixed as evenly as possible. Even for very small contests flight groups are assigned evenly.
- The spreadsheet allows for a maximum of 32 pilots, four flight groups and eight rounds of soaring.

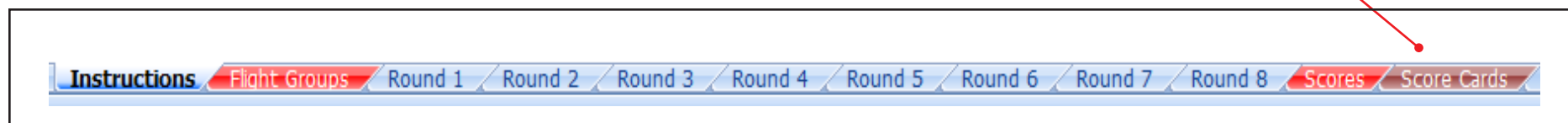
- It allows for the lowest round to be dropped at the end of the contest.
- Flight groups may be manually changed by unprotecting the spreadsheet; it is not password protected.
- The spreadsheet normalizes flight scores for each round by Flight Group then adds the landing score.
- Flight time is scored at one point per second up to the target time and then one point is deducted for each second over the target time. All fractions of seconds are dropped.
- If the contestant's flight time exceeds the target time by one minute no landing bonus points are awarded.
- It allows for the individual rounds to have different task times
- Ties are identified.

So now that you know what it does and does not do I'll explain how simple it is to use.

How to Use the Spreadsheet

All the cells are protected except what is highlighted in bright yellow, which are data entry cells.

There are 12 tabs at the bottom of the spreadsheet and they are used logically from left to right.



Instructions Tab

This is self explanatory and a good reference for later use.

Flight Groups Tab

First the CD first enters the pilots name and model type if so desired. Then he/she enters the number of flight groups for this contest. This automatically produces a flight matrix and also copies this matrix to the Score Cards tab. The flight matrix is produced on the score cards as soon as the number of flight groups is entered, regardless if pilots have been assigned yet.

Rounds Tab

Enter the target time for this round as it's required for proper scoring.

Then as the pilot flies enter his/her score in minutes and seconds and their landing bonus. When entering times there is no colon or semi-colon required. Just numbers directly from the number pad on the keyboard.

Accomplish this for all the rounds flown. Ensure that for rounds not flown that there is no scoring data in those rounds. A fresh or blank copy of this spreadsheet is recommended for each specific contest. Notice there is a column under a light blue header that sorts the pilots in chronological score order. It also identifies if there is a tie score. It's left up to the CD to determine how to break the tie.

Round 1									
Target Time 10.00 minutes									
#	FLT Group	Pilot	Min	Sec	Landing	Score (seconds)	Normalized Score	Normalized Score with Landing	Pilot Rank
1	C	Mickey Mouse	11	0	15	540	900	908	7
2	B	Donald Duck	6	38	10	398	663	981	4
3	A	Snoopy	5	13	10	313	522	958	6
4	A	Linus	5	20	0	320	533	970	5
5	C	Lucy	9	55	0	595	992	1000	3
6	B	Tasmanian Devil	3	19	25	199	332	510	11
7	C	Garfield	1	14	0	74	123	124	13
8	B	Charlie Brown	6	1	0	361	602	880	8
9	A	Wile E. Coyote	5	30	50	330	550	1050	1
10	A	Bugs Bunny	0	19	0	19	32	58	14
11	C	Road Runner	5	21	70	321	535	609	10
12	B	Daffy Duck	2	59	0	179	298	437	12
13	C	Rocky	5	56	53	356	593	651	9
14	B	Bulwinkle	6	50	50	410	683	1050	1
15						0	0	0	15

Player Ranking and Score This Round (In Order)		
1	Wile E. Coyote	1050
2	Bulwinkle	1050
3	Lucy	1000
4	Donald Duck	980
5	Linus	969
6	Snoopy	958
7	Mickey Mouse	907
8	Charlie Brown	880
9	Rocky	651
10	Road Runner	609
11	Tasmanian Devil	510
12	Daffy Duck	436
13	Garfield	124
14	Bugs Bunny	57
15		

TIE
TIE

Final Scores													
Drop Lowest Score "Yes" or "No" No Suggest "No" till end of Contest													
Number of Rounds for this contest 5 Maximum of Eight													
Rounds													
#	Pilot	Model Name	1	2	3	4	5	6	7	8	Lowest Score Dropped	Total Score	Pilot Rank
1	Mickey Mouse	Duck	908	1000	908	1000	1000	0	0	0	0	4815	3
2	Donald Duck	Aggression	981	679	1010	981	981	0	0	0	0	4631	4
3	Snoopy	Doghouse	958	889	773	536	536	0	0	0	0	3693	9
4	Linus	Blanket	970	899	804	593	780	0	0	0	0	4046	8
5	Lucy	Football	1000	1000	1000	1000	1000	0	0	0	0	5000	1
6	Tasmanian Devil	Whirlwind	510	394	510	510	394	0	0	0	0	2318	11
7	Garfield	Lazy	124	137	124	137	137	0	0	0	0	660	13
8	Charlie Brown	Bad Luck	880	607	907	880	880	0	0	0	0	4155	5
9	Wile E. Coyote	Dynamite	1050	977	855	605	605	0	0	0	0	4091	6
10	Bugs Bunny	Carrot	58	53	48	35	46	0	0	0	0	240	14
11	Road Runner	Speed	609	609	609	609	609	0	0	0	0	3047	10
12	Daffy Duck	Screwball	437	331	437	437	331	0	0	0	0	1973	12
13	Rocky	Dudley Do-Right	651	1053	947	712	712	0	0	0	0	4076	7
14	Bulwinkle	Moronic Moose	1050	739	1050	1050	1050	0	0	0	0	4939	2
15			0	0	0	0	0	0	0	0	0	0	15
16			0	0	0	0	0	0	0	0	0	0	15

Player Ranking and Score All Rounds Flown (In Order)		
1	Lucy	5000
2	Bulwinkle	4939
3	Mickey Mouse	4815
4	Donald Duck	4631
5	Charlie Brown	4155
6	Wile E. Coyote	4091
7	Rocky	4076
8	Linus	4046
9	Snoopy	3693
10	Road Runner	3047
11	Tasmanian Devil	2318
12	Daffy Duck	1973
13	Garfield	659
14	Bugs Bunny	240
15		0
16		0

Rank by Round Tab

This shows each pilot ranking and score by round. This is a convenient way to print and post each rounds scores and pilot ranking after the scores for each round have been entered.

Final Scores Tab

This shows the scores for all the rounds completed and the pilot's ranking for the entire contest. There are two yellow cells for data entry. These are only required if the CD wishes to drop the Pilot's lowest round score at the end of the contest. Enter the number of rounds flown; the rest of the rounds should contain zeros. The lowest score will automatically be dropped when answered with "Yes".

Score Cards Tab

The score cards will automatically be filled with the Pilot's and their Models names from the "Flight Groups" tab as they are entered into the spreadsheet. This requires a printer at the flying site. However, a printer isn't required if the score cards are printed prior to the contest. Once the number of flight groups has been determined then the score cards may be printed, even if the Pilot's have not been entered on the Flight Groups tab. This allows for a contest to be held without pre-registration. Thus the pilot and model sections of the score cards are blank and will need to be filled in manually. An

1						
Pilot _____						
Model _____						
Round	Flt Group	Target Time	Time		Land Points	Timer (init)
			Min	Sec		
1	C					
2	A					
3	B					
4	B					
5	A					
6	C					
7	A					
8	C					
2						
Pilot _____						
Model _____						
Round	Flt Group	Target Time	Time		Land Points	Timer (init)
			Min	Sec		
1	B					
2	B					
3	C					
4	A					
5	B					
6	B					
7	B					
8	B					
3						
Pilot _____						
Model _____						
Round	Flt Group	Target Time	Time		Land Points	Timer (init)
			Min	Sec		
1	A					
2	C					
3	C					
4	C					
5	C					
6	A					
7	C					
8	A					
4						
Pilot _____						
Model _____						
Round	Flt Group	Target Time	Time		Land Points	Timer (init)
			Min	Sec		
1	A					
2	C					
3	A					
4	B					
5	B					
6	A					
7	B					
8	B					

accurate flight matrix is also assigned to the score cards. This is one advantage of the fixed matrix. This makes it easier for last minute changes to the pilot list on the day of the contest without the need for a printer at the flying site.

Once the pilot list is complete write the name on the score card that matches the corresponding pilot number and their flight groups for each round will be on their score cards. This should also

help prevent a pilot from missing his/her round.

Additional Information

A contest can actually be accomplished without the use of any electronic device at the field. Although, knowing your actual standing during the contest will be impossible. All that needs to be done is print the score cards prior to leaving the comfort of your home. If the number

of contestants is unknown, thus the number of flight groups unknown, print score cards for all possible flight group combinations. i.e. Two, Three and Four flight groups. Then cut these at home into stacks and you should have score cards for flight groups of two, three and four.

On contest day when you know how many contestants there are you can decide how many flight groups to use. Then just hand out the score cards from that flight group stack and write the contestants name on the score card that matches their pilot number on the Flight Groups tab.

Lastly, there is a flight group matrix verification chart at the bottom of the Flight Groups tab. What this does is show how many pilots there are per flight group, per round. This is a quick check that shows if all pilots are evenly sorted for each round by flight group. Here is an example with 14 contestants and as you can see they are mixed as evenly as possible using a fixed matrix system.

The Matrix

Let's say there are 16 pilots that sign up at the contest. So now we have to decide if to fly two, three or four flight groups, per round. If we fly two flight groups there will be eight in each flight group. Three flight groups would have five in two groups and six in another. Lastly if there were four flight groups there would

Pilots and Groups

Number of Groups **3** Maximum of Four

#	Pilot	Model	Flight Groups							
			1	2	3	4	5	6	7	8
1	Mickey Mouse	Duck	C	A	B	B	A	C	A	C
2	Donald Duck	Aggression	B	B	A	A	B	B	B	B
3	Snoopy	Doghouse	A	C	C	C	C	A	C	A
4	Linus	Blanket	A	C	A	B	B	A	B	B
5	Lucy	Football	C	B	B	C	C	C	C	C
6	Tasmanian Devil	Whirlwind	B	A	C	A	A	B	A	A
7	Garfield	Lazy	C	A	B	B	A	A	C	B
8	Charlie Brown	Bad Luck	B	B	A	A	B	B	B	A
9	Wile E. Coyote	Dynamite	A	C	C	C	C	C	A	C
10	Bugs Bunny	Carrot	A	C	A	B	B	A	B	B
11	Road Runner	Speed	C	B	B	C	C	B	C	C
12	Daffy Duck	Screwball	B	A	C	A	A	C	A	A
13	Rocky	Dudley Do-Right	C	C	A	B	A	A	B	B
14	Bullwinkle	Moronic Moose	B	B	C	A	B	B	A	C

Total Groups Per Round	A	4	4	5	5	5	5	5	4
	B	5	5	4	5	5	5	5	5
	C	5	5	5	4	4	4	4	5
	D	0	0	0	0	0	0	0	0

be four in each group. The significant difference here is that with less flight groups then more rounds can be flown in the same amount of time. Field length is the main consideration on size of flight groups. More pilots per group will require a larger field.

I would be remiss if I didn't mention a few words about the fixed matrix. Since it is fixed it doesn't change randomly. So if you held two contests and had the same pilots sign up in the same exact order, fly the exact same models, fly in the exact same weather conditions and have the exact same flight times and landings, then I guess it would get boring quickly. The chances of that happening are slim to none. Just trying to get Mother Nature to cooperate is next to impossible.

That's it! The spreadsheet is available for free at www.TailwindGliders.com on the "Articles/File" page of the website. There are two copies of the spreadsheet in the downloaded file. One has information already entered and the other is a blank copy ready to sign up pilots for a contest.

Thanks to Randy Brust for his excellent electronic skills and providing the CAM to us at a very reasonable price.

It's always nice to hear from folks who use the work I've accomplished. I'd be interested in any contest experience/ results as well as any suggestions or comments on this scoring spreadsheet.

Links:

The Competition Altimeter for Models (CAM) is available at Soaring Circuits <<http://www.soaringcircuits.com/>>. There are two versions of the CAM available and the 100m/150m/200m is the most popular model by far.

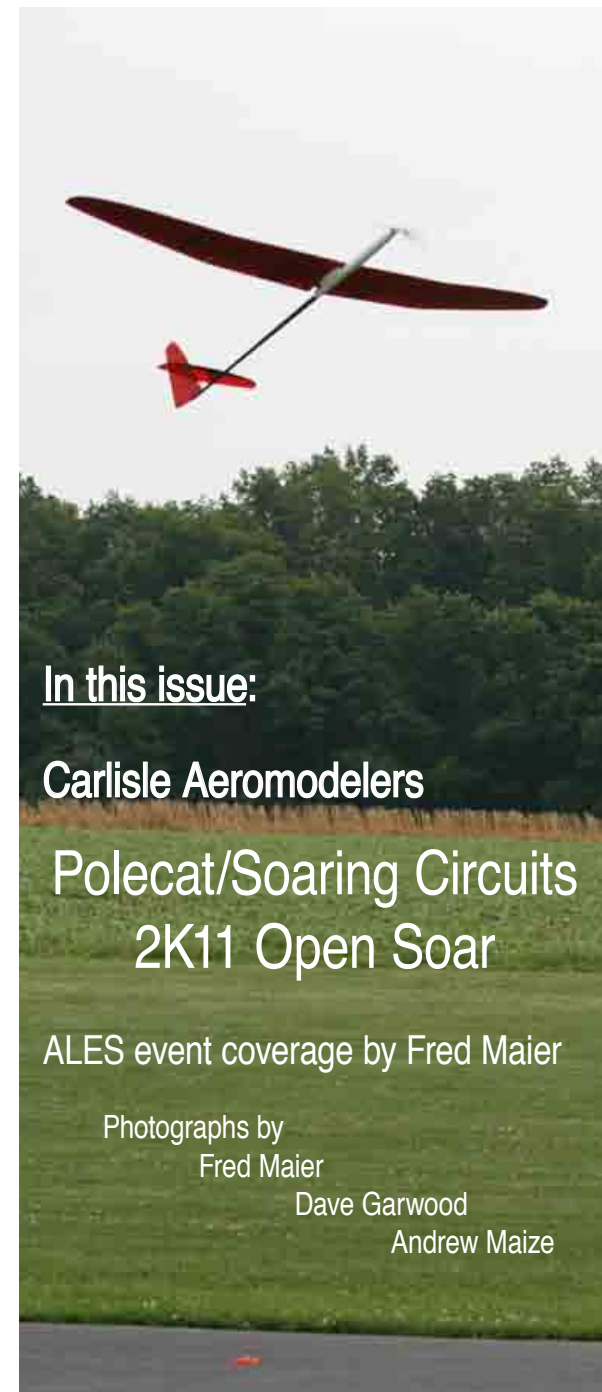
Here are a few links to other very nice scoring spreadsheets and programs:

ALES Score was originally written for F5J by Dan Tandberg and modified for ALES by Dave Register, Randy Brust and Lauren Brust of Soaring Circuits fame. <<http://www.soaringcircuits.com/alescore2d1.zip>>

GliderScore by Gerry Carter <<http://www.gliderscore.com/>>.

F3KScore by Olog Golovidov <<http://olgol.com/F3KScore/>>.

Don Harban has a lot of excellent information for electric assisted gliders as well as a scoring program. It's available at Yahoo Groups <<http://groups.yahoo.com/group/RCALES/files/>>. A free membership is required to access his excellent work!



In this issue:

Carlisle Aeromodelers

**Polecat/Soaring Circuits
2K11 Open Soar**

ALES event coverage by Fred Maier

Photographs by

Fred Maier

Dave Garwood

Andrew Maize

Power Supplies

Rudi Oudshoorn, wa2nub@yahoo.com

As a modeler, the subject of power supplies to drive our battery chargers (and perhaps other devices) is often broached. There are many types of them out there; from units that cost a few dollars to several hundred dollars. Regulated and unregulated, high voltage to low voltage, AC to DC, etc.

We will be mainly interested in power supplies that supply DC voltage from 12 volts to maybe 15 volts DC. Today 95% of the 12 volt power supplies on the market are units that actually supply 13.8 volts (it's a car thing). Most of the hobby chargers we use need 11 to 15 volts DC so these will work just fine.

The next item we need to look at is the ability to deliver sufficient CURRENT to the charger at the required voltage. Small chargers will charge a variety of chemistries (Lilo, LiPo, LiFe, NiMh, NiCd, lead acid, etc.) at up to say, 4 to 5 Amps, or about 50-60 watts, therefore power supplies that can supply 6 to 7 Amps would work fine. Examples of

these chargers would be: FMA Multi4, Electrify Triton EQ, E-flite, B6, etc. We are staying with receiver and transmitter sized batteries for now. These chargers are also adequate to handle the motor batteries for the likes of Radian and Easy Glider type electric planes that typically use 2 to 3 cell LiPo's of less than 3000 mAh. The guys that fly supersized 3D planes, helis and drive the larger electric powered cars may charge at much higher rates and would need much heftier power supplies and chargers.

Over the years I have gathered a few of these power supplies. Mainly they fall into two groups:

1/ Regulated Power Supplies*

These are simple and now old fashioned, brute force power supplies. They are fairly large, heavy a bit pricey and usually work on only 110 volt household current and are not very efficient (green). But they do work. High current units get larger and heavier very quickly.

2/ Switched Mode Power Supplies (SMPS)

These are lighter, cheaper and are much more efficient and often work from 100-240 volts ac (they travel well). Additionally when not actually being used they draw very little idle current and consequently many do not have power switches.

I like to add a power switch myself whenever possible.

So where do we go from here? Most of us simply buy a power supply from Radio Shack or some other stores (expensive).

* My old 1970's era 13.8 Volt, 25 Amp regulated power supply (still working) weighs in at 21(!) lbs, is the size of a shoe box, and costs more than a weeks pay (then)... (Picture A) In comparison the 14 Volt, 25 Amp Green Power from HobbyPartz weighs in at only 2lbs 3oz, 90% less and has less than 1/8th the volume!



A



B

My very first SMPS was purchased some seven years ago, a 13.8 volt 20 Amp Pro Peak. Cost was \$50 plus shipping. (Picture B) This unit has served me well and runs my main charger. I added an additional set of banana plugs and a 12 volt LED desk lamp to let me know it was on.

However, if you are handy there are even cheaper solutions... I have picked up cheap units at flea markets, Walmart or on eBay which required none to very little effort to convert them for hobby use. It should be noted that these power supplies are over current (short circuit) and over voltage protected.

Here are some examples:

1) Picked up a 15 VDC 6 Amp laptop power supply at a flea market for \$1.00.

Simple wire change to add banana plugs (and a red LED) made it usable with chargers that can tolerate 15.4 volts, the actual output voltage. Not all chargers do. My Triton charger, for example, doesn't like anything over 14.5 volts. These type chargers cannot be opened to add an on/off switch.

2) A 13.8 Volt 6 Amp Black and Decker camping converter picked up at Walmart for \$25. Four screws opened the unit up so it was easy to add an on/off switch and banana plugs for convenience. It

already came with a handy cigarette lighter socket which worked great for charging cell phones etc.

3) Saw a nice Traco 12 Volt 12 Amp power supply, for commercial use, in electronic equipment on eBay, costs about \$25 shipped. I added an on/off switch and a lead with two Cinch Jones sockets for my amateur radio equipment and added the ubiquitous banana plugs. It had a potentiometer to adjust the voltage +/- 10%, so now it puts out 13.2 Volts at 11 Amps. It serves as a desktop power supply for my amateur transceivers and can be used to run battery chargers too (multitasking). This unit is not as ideal to modify as the





5



6

others, as the 120 VAC wiring is exposed and a cover (the red thingy) of some sorts should be added to avoid risk of electrocution.

4) My old Coleman Peltier type cooler's ac adapter (14.7 Volt 5 Amp) I owned for years was used to keep cold cuts cool on the boat. I added banana plugs so it can do double duty if needed. I think it cost me about 35 - 40 dollars at the time in the mid '90's but at least it can serve a dual purpose now.

5) I also picked up a 12 Volt 5 Amp computer type adapter from eBay for \$10 shipped from China! (The first one failed and the seller replaced it with no problems.) Added the obligatory banana plugs and it is good to go. Note that most of these types of units already come with a laptop type connector; check the description to see that it will fit your charger! Then there is no further action required.

6) Recently I ordered up a 25 Amp 14 Volt supply from HobbyPartz for \$40 delivered. It looks promising. It is big enough (up to 350 Watts gross) to test outrunner motors (or actually any DC motor that needs 14 or so volts, or 4 cell LiPo's) and it'll run bigger chargers as well! I added the cigarette lighter socket. Remember the boat fan? This power supply abruptly died after 5 weeks of light service. Poof... Refund received. Perhaps that old regulated 25 Amp, 13.8 volt power supply will have to fill the void.



7



C

7) Over the years I have also collected (for free) several small 12 Volt (1.5 Amp) SMPS from people like Cablevision which work well with cordless phones, police scanners, etc. They are not big enough for driving chargers but are great for light duty. This one has multiple plugs for a variety of devices that need 12 volts Another great find was a free 5 Volt 2 Amp switch mode wall wart type power supply sent to me by Verizon. This unit had its little round plug removed and in its place I wired a male servo connector (make sure the polarity is correct) so I can use it to power my servo tester or for bench testing receiver setups without draining batteries at a bad time...

This is a great device to set up electric powered planes like the Easy Glider or Radian (Pro) without running the risk of accidentally starting the motor! (Picture C)

When and if you pick up any of the aforementioned power supplies and you are ready to attack it with wire clipper and solder iron -- make sure that you keep track of the polarity! Not all of these power thingies use the standard Black is negative Red is positive approach. The 15 Volt unit had brown and blue leads, some had shielded leads (the shield is usually ground, but don't assume), check and recheck before you plug in your expensive chargers. If unsure ask

for some more experienced person to help you. Another caveat, if you have a 5 Amp (60 Watt) charger charging at full load you need a 6 Amp or greater, power supply to cover the inefficiencies of the system -- so err on a larger power supply or reduce maximum charge current.

Lastly, there's a Microsoft Xbox power supply (Picture D) that should be able to deliver 12 Volts at around 14 Amps. I picked this gem up at a flea market for \$5. To modify the Xbox power supply all you need to do is cut off the large plug that goes into the Xbox, and strip all the wires. You should have 3/4 yellow, 3/4 black, 1 red and 1 blue. I then soldered the yellows together and the blacks.



Then solder the red and blue together, or as I did add a small single pole single throw on/off switch, this tricks the PS into turning on. You know it's working because the pilot light turns from yellow to green. Now all you have to do is solder on a plug of choice and you're done, again I added the banana plugs in my case it was just that simple.

The last suggestion would be to convert an old PC power supply. Many of these are available for free from friends, work places, etc. Converting them can require somewhat more serious hacking and can present potentially serious hazards to the tinkerer. Sometime they work well and sometime not.-- I never did it, lazy I guess; lots of info on the internet about them.

For those that need more power than the units mentioned, there are power supplies that will supply say, 24 or 36 VDC at 100 or more Amps. Check with your bank to see if you can afford the mortgage and electric bill.



Manilla Slopefest 2011

**Mt Borah
Manilla NSW**



Proudly hosted by :
Fly Manilla www.flymanilla.com
and presented by Western Sydney
Slope Soarers & NSW Slope
Soaring Association



16th to the 25th September 2011

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Events include:-



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A local event at a world class location

Carlisle Aeromodelers

Fred Maier, fmaier@rochester.rr.com

POLECAT/SOARING CIRCUITS 2K11 OPEN SOAR



Photographs by
Fred Maier
Dave Garwood
Andrew Maize



On June 24-26 2011 the Carlisle Aeromodelers club hosted the Polecat/ Soaring Circuits 2k11 ALES open soaring event in Blosserville, Pennsylvania.

The ALES concept is in its infancy here in the United States. There are five people instrumental in its development. Denny Maize, Randy Brust, Ed Franz, Dave Register, and Tom Kelavang were behind the development and growth of this concept. Four of the five flew in the contest! The heart of the ALES concept is an altitude limiting and time switch that shuts the motor down at a predetermined altitude or time, whichever comes first. Limiting the altitude for cutoff helps even the playing field on wattage and allows pilot skill to take over, thus making a wide variety of planes competitive.

Friday June 24 was practice and clinic day at the field. The clinic consisted of going over rules, timing, reading air as well as modifications to Radian/Radian pros to improve performance. A practice contest was held for first timers to learn the mass launch, tasks and timing basics to help ease nerves.

Saturday we woke to better than predicted conditions. At 9:00am 28 pilots (double the attendance of last year) from 11 states and the province of Ontario Canada assembled on the runway for the pilots meeting and

group photographs. Overcast and somewhat breezy conditions prevailed for most of the day. Lift was challenging to find and stay with, however the majority of the pilots had little problems.

Four flight groups consisting of seven pilots took to the field for the first day of the contest. The mass launches were fun and there were no mishaps all weekend. Pilots had a 10 second window to launch after the start was signaled. Each pilot had a 30 foot landing area at each station with a graduated tape to measure landing points. Seven rounds were flown with etched beer mugs awarded to the top 5 pilots.

Day 1 Results

1. Dave Register, Oklahoma
2. Gudmund Thompson, Ontario Canada
3. Aurele Alain, Ontario Canada
4. Jim Noel, Pennsylvania
5. Jack lafret, Michigan

After the awards ceremony we were treated to a very tasty barbeque dinner and then the pilots raffle.

Sunday turned out to be a beautiful day. Morning overcast gave way to sun and puffy cumulus clouds. Lift was abundant and relatively easy to find. However, with the lift comes the dreaded sink. Some rounds most pilots timed out at 10 minutes while other

ALES group photo. Andrew Maize



rounds seemed like all but the best or luckiest pilots were down early.

With most pilots completing the 10 minute tasks also meant that these pilots would also be landing within seconds of each other for landing points. I thought it was cool to see Topaz's, Supra E's and Pulsars landing with Radian/Radian Pro's, Aquila's, Olympic II's and a variety of other planes.

Sunday consisted of five rounds with the top five receiving the cherished mugs.

Day 2 Results

1. Steve Youse Pennsylvania
2. Jack lafret Michigan
3. Aurele Alain Ontario, Canada
4. Matt Struck New York
5. Randy Brust Pennsylvania

The overall 2-day winners received very large mugs for their efforts.

2-Day Combined Results

1. Aurele Alain, Ontario, Canada
2. Gudmund Thompson, Ontario, Canada
3. Jack lafret, Michigan
4. Dave Register, Oklahoma
5. Jim Noel, Pennsylvania

An impromptu Radian/Radian Pro only, all-up-last-down contest was held at the conclusion of competition. Randy Brust

Ed Franz (Kentucky) launching Jack lafret's (Michigan) Supra-E. Fred Maier



Ed Franz, everybody's favorite flyer from Kentucky. Dave Garwood

took home bragging rights from the 9-10 pilots who flew.

What I found interesting was the wide variety of planes that competed. By limiting the altitude at which the motor cut off meant Kenny Sharp's 1000 watt Topaz started at the same altitude as my 200 watt Radian Pro. Otherwise I would have been blown away altitude wise.

Aside from competition, electric sailplanes offer several advantages over regular thermal gliders. No winch or highstart is required so you aren't encumbered by hauling launch equipment around or looking for room to use those methods of launching. The motor is also handy if you get too far downwind and are in danger of not making it back to the field.

ALES is a fun and exciting form of glider competition for beginner or experienced pilots alike and I would encourage anyone with an electric glider to give it a try.



*Aurele Alain's Gracis and Gudmund
Thompson's Pulsar 3.2. Fred Maier*



Above: Kenny Sharp returns to the paddock with an impressive grin, carrying his 120-inch Topaz. Kenny flew well during this, his first ALES contest. Dave Garwood



Above: Bill Grenoble thinking about the round just completed, carrying his ElectroBird back to the paddock. Fred Maier





Opposite page lower left: Warren Avis and Dave Register return from the flight line with an electrified Dynaflyght Bird of Time. Dave Garwood

Opposite page lower right: Rick Rensi with his Multiplex Alpha Club. Dave Garwood

Above: The flight line of seven landing tapes. In the foreground is Gudmund Thompson of Ontario, Canada. Dave Garwood



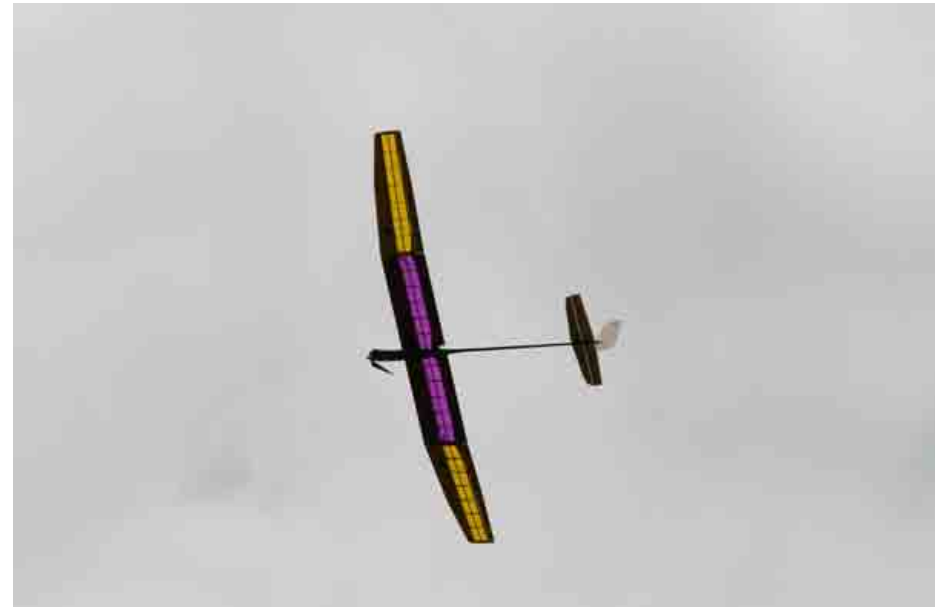
Ray Forceno's Olympic II being flown by Warren Avis. Photo by Fred Maier



ParkZone Radian Pro sports ailerons and flaps. Sold by Horizon Hobby and local dealers complete with servos, motor and ESC installed. This example flown by Fred Maier. Dave Garwood



Aurele Alain's Gracis in flight. Fred Maier



Ed Franz's Wind Dancer. Fred Maier

Ray Forceno nails a landing. Dave Garwood



Thanks to the sponsors who graciously donated prizes:

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Denny Maize, Contest Director and Polecat Aero proprietor, briefs the assembled multitudes during the Saturday pilots meeting. Dave Garwood

Bill Grenoble landing his ElectroBird. Fred Maier

Participants:

Dave Reisinger, PA
 Paul Naton, PA
 Kenny Sharp, MA
 Allan Wright, NH
 Matthew Struck, NY

Mike Gantner, OH
 Fred Duncan, PA
 Frederick Maier, NY
 Roman Montano, MA
 Jack Lafret, MI

Paul Hawkins, NY
 Aurele Alain, Ontario
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