SMOKE SIGNALS

Turning the next page!

You probably have learned by now that I have been named the new editor of "Smoke Signals". This being my first edition I would like to ask you all for your support. I know that I have a difficult task ahead of me, filling the shoes of Russ Rhine. For the past five years Russ has delivered you an outstanding and informative publication and I hope that I can continue that tradition. You as members of the "Meroke RC Club" should expect a publication that is timely, informative and fun. I plan to give that to you but I will need and appreciate any help you can give me to reach that goal. With all that said here she is, I hope you enjoy!

Dennis

October 2010

SUGGESTION BOX

Send all suggestions to:
newsletter@meroke.com

TIP OF THE MONTH

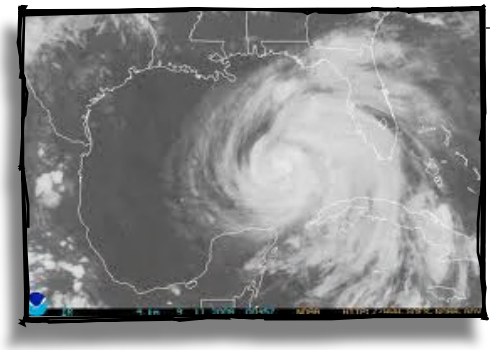
This one comes from Joe Petrozza...
Instead of a small tank to catch fuel spillage use metal tubing and a length of fuel hose and direct the over flow right back to the gallon container.

FLYING INTO THE EYE

I am reprinting portions of the article that appeared in the "Weather Almanac for July 2003" I think you will find this a fascinating story and you can read the entire article on line.

Each year with the advent of the Atlantic hurricane season, the 53rd Weather Reconnaissance Squadron of the US Air Force Reserve, known around the world as the *Hurricane Hunters*, prepares for another season of activity. Their ten Lockheed-Martin WC-130 aircraft are specially instrumented for the dangerous task at hand.

2003 marks the 60th year in which aircraft have flown into the fury of hurricanes. You may be surprised to learn that the first intentional flight into a hurricane was not a carefully planned mission, but the spur-of-the-moment decision by US Air Corps Colonel Joseph Duckworth. It began as a bet!



The Surprise Hurricane of 1943

In 1943, the second year of American involvement in World War II changed many normal routines and practices in the United States. One of these was the way in which Americans were informed about the weather. Shortly after the bombing of Pearl Harbor in 1941, the Office of Censorship advised radio stations to omit all mention of weather, except as directed by the US Weather Bureau. Even baseball announcers were instructed to avoid mentioning the weather during ball games. Daily newspapers carried only vaguely worded forecasts, and little news of weather disasters.

In late July of 1943, a tropical depression formed off Burrwood, Louisiana and drifted westward toward the Texas coast. The depression would quickly intensify to hurricane force and take aim on Galveston Bay. Its presence in the Gulf waters was deduced by New Orleans forecaster W.R. Stevens from coastal upper air data. Because of suspected German U-boat activity in the Gulf of Mexico, all marine radio broadcasts were silenced. The muffling also extended to include weather observations and reports, even if severe conditions like a tropical storm were involved. Weather Bureau forecasters at the time relied almost exclusively on ships reports and various weather offices in coastal cities and airports for the information used to produce routine forecasts and storm warnings in the coastal region and offshore waters.

The Bet and the Flight

In the mess hall during breakfast, Duckworth finally reached his fill of the British giggling and whining and ridiculing of the AT-6 aircraft as well as their belief it was a frail plane. He defended his planes saying they could fly in any weather. The Brits dared him to prove it, so he offered a wager that would prove both the AT-6 and his instrument flying techniques were sound. He would fly one into the teeth of the hurricane and return safely. The bet was accepted. A highball to the winner!

Don't be mislead, however, by the impulsive nature of the proposed flight. Major Duckworth had long firmly believed that no weather was unflyable when the pilot was competent in instrument flying techniques. And no one on that base was more competent or experienced than Joe Duckworth to fly such weather.

Major Duckworth needed a navigator. Across the table sat the only navigator at the airfield that morning: Lieutenant Ralph O'Hair. Duckworth asked O'Hair to volunteer to accompany him on the risky, unsanctioned flight. O'Hair was shock at the invitation but agreed out of the respect he had for Duckworth's skill as a pilot. "There was no one in the Air Force who could have ordered me to do that; I love life too much." O'Hair later recalled.

Convinced that Headquarters would never sanction the flight due to the high risk to the aircraft and the crew, Duckworth and O'Hair decided not to seek official permission. As they prepared for take-off O"Hair worried that if their single engine failed for some reason, they would be in deep trouble.

The hurricane had just come ashore when they took off around noon, packing 80 to 100 mph (130-160 km/h) winds. Approaching the storm at an altitude of between 4,000 and 9,000 feet (1200 to 2700 metres), the two-man crew felt the scud-filled sky became very turbulent. O'Hair would later describe the flight as "being tossed about like a stick in a dog's mouth" without much chance of getting away from the grip of the storm. Flying through the dark storm-wall, they fought torrential rain and extreme, turbulent updrafts and downdrafts. "I was scared flying into the thing," said O'Hair, years later. "The water was very, very heavy. You could hear it in an AT-6. That was an awesome thing. The farther we got in, the darker it got."

Blackness and wind shears characterized the inner third of the hurricane as the *Texan* approached the storm's eye. Suddenly, bursting through a showery curtain of towering, dark clouds, brightness filled the sky. Surrounding them were high cumulonimbus walls, below the ground, above fairly clear sky. They had broken into the eye of the hurricane. "What characterized that eye," recalled O'Hair, "was the relief that I felt; after what we'd been through, it was immeasurable."

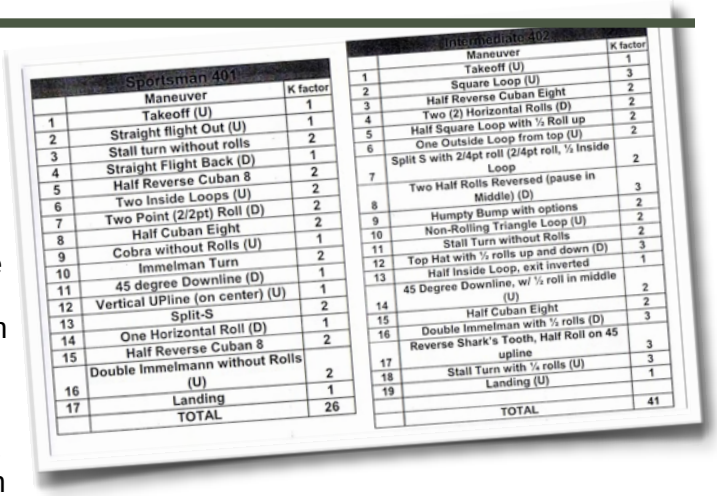
The eye, according to O'Hair, was shaped like a leaning cone, extending nine or ten miles (fifteen to sixteen kilometres) across. Looking down they could see the countryside, confirming the storm had indeed moved inland. They radioed the Houston weather station reporting the latitude and longitude of the eye. After circling inside the eye a few times, they exited again into the dark overcast and heavy rains, following the radio compass home. "We were much more relaxed on the way back. We knew the 'Alpha and Omega' of that hurricane."

That night the bet was paid and never more was heard a discouraging word on the sturdiest of the AT-6 trainer nor the value of instrument flying.

PATTERN PRIMER

If you were not at the Lufbery Aerodrome on Saturday August 28th you missed an incredible event. The “Pattern Primer” was truly fascinating, lead by Ed Alt, Anthony Romano and Stu Chalo. After their in depth instruction courageous Meroke members took to the air to perform “Sportsman” class Precision Aerobatics. If you have never seen this done before you are missing a real treat.

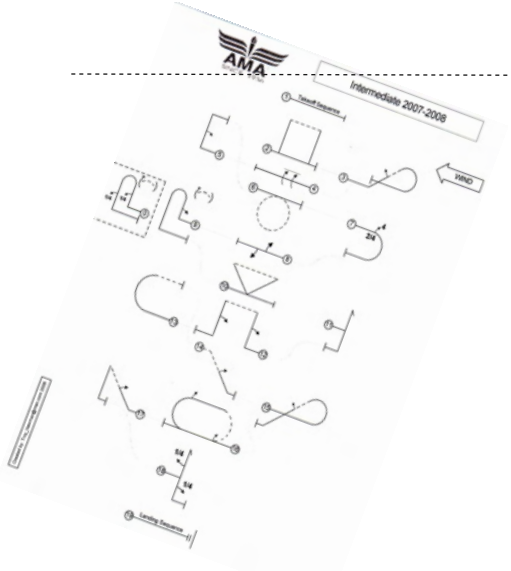
Stu Chalo demonstrated the maneuvers using his two electric planes. When he was in the air it was poetry in motion, every maneuver was crisp, clean and precise, holding the line on every maneuver. You always felt that Stu WAS IN TOTAL CONTROL OF THE AIRCRAFT. It was like watching a ballet and I venture to say that there was not one person at the aerodrome that Saturday who was not totally impressed by his demonstration.



	Sportsman 401	
	Maneuver	K factor
1	Takeoff (U)	1
2	Straight flight Out (U)	1
3	Stall turn without rolls	2
4	Straight Flight Back (D)	1
5	Half Reverse Cuban 8	2
6	Two Inside Loops (U)	2
7	Two Point (2/2pt) Roll (D)	2
8	Half Cuban Eight	2
9	Cobra without Rolls (U)	1
10	Immelman Turn	2
11	45 degree Downline (D)	1
12	Vertical UPline (on center) (U)	1
13	Split-S	2
14	One Horizontal Roll (D)	1
15	Half Reverse Cuban 8	2
16	Double Immelmann without Rolls (U)	2
17	Landing	1
	TOTAL	26

	Intermediate 402	
	Maneuver	K factor
1	Takeoff (U)	1
2	Square Loop (U)	3
3	Half Reverse Cuban Eight	2
4	Two (2) Horizontal Rolls (D)	2
5	Half Square Loop with ½ Roll up	2
6	One Outside Loop from top (U)	2
7	Split S with 2/4pt roll (2/4pt roll, ½ Inside Loop	2
8	Two Half Rolls Reversed (pause in Middle) (D)	3
9	Humpty Bump with options	2
10	Non-Rolling Triangle Loop (U)	2
11	Stall Turn without Rolls	2
12	Top Hat with ½ rolls up and down (D)	3
13	Half Inside Loop, exit inverted	1
14	45 Degree Downline, w/ ½ roll in middle (U)	2
15	Half Cuban Eight	2
16	Double Immelman with ½ rolls (D)	3
17	Reverse Shark's Tooth, Half Roll on 45 upline	3
18	Stall Turn with ½ rolls (U)	3
19	Landing (U)	1
	TOTAL	41

The Meroke participants were given their flight plan, it looks like hieroglyphics to me, and all did a stellar job considering they had never practiced the sequence ever, my hat is off to you all…well done! Above are the maneuvers in the order in which they are to be performed.



I have included a reprint of what “ Precision Aerobatics is exactly…you can find out more on line.

While the most highly skilled radio-control flyers in the world know all about Pattern flying, many other people do not. If you're new to r/c flying, or have simply focused your attention on other aspects of r/c flight (and there are many that can grab one's attention), you may still be wondering what "Pattern flying" is all about.

Pattern is a form of radio-controlled flight. More precisely, it's the careful execution of a series of precision acrobatic maneuvers within an imaginary box in the sky — all according to a special set of guidelines. There are 5 classes (or levels of competition) in Pattern, each higher class marked by increasing complexity and difficulty of maneuvers. These classes include: Sportsman, Intermediate, Advanced, Masters and FAI. The FAI class designates flyers ready to compete in international World Aerobatic Championships.

Guidelines for pattern flight cover things like the size and weight of the aircraft (any plane up to eleven pounds, with a maximum wingspan of two-meters). For more detailed information on the maneuvers & guidelines, see the AMA Regulations for Pattern Flying (free download in PDF format).

For the most current rules, visit the AMA site.

Governed by the NSRCA in the USA, pattern flying is actually a world-wide sport. You can find lots of information on the web to help you get a better understanding, but the best thing to do is download the regulations mentioned above, and start practicing the moves...from Central Hobbies

More information at:
“hooked-on-rc-airplanes.com”

PATTERN PRIMER RESULTS

1st Place	Tony Polio
2nd Place	Ted Evangelatos
3rd Place	Mark Kline

Battery power seems to always rear it's head at meetings and at the field so this should be of interest to you. I have reprinted this article from "RC Report".

Sparky's Revolt!

by Tony Coberly

To C or not to C, that is the question?

Now we have talked about C ratings on LiPo battery packs in the past, but now it's time to dig a little deeper. I have been asked more times than I can count what the differences are from a 20C LiPo battery pack and 25C LiPo battery pack. I am going to show the differences between three different C rated LiPo packs. I am going to compare the differences in physical size, weight, cost and performance.

I have gathered three Hyperion 4S 3300 mAh packs with different C ratings.

Hyperion 4S LiPo Pack	Weight in Grams	Dimensions: LxWxH in mm	Wire Gauge	Local Hobby Shop Price RCHobbies Huntsville, Al	Mail Order Price www.empirerc.com
CX G3 25C pack	358 grams	134.5x42.75x28.75	12 AWG	$78.99	$76.95
VX G3 35C pack	367 grams	134x42.3x29.9	12 AWG	$94.99	$94.95
EX G3 45C Pack	361 grams	135.5x42.3x30.0	12 AWG	$104.00	$103.95

Table 1

All these packs have a C rating that is the maximum you can draw from the pack continuously (in theory). Continuously is the key here. The 25C pack is 33 00mAh, so that means that you can do the math and calculate (25x3.3Ahr=82.5 Amps) that I can run at full throttle the entire flight as long as I am not exceeding 82.5 amps. Now these packs have an additional C rating, usually called a burst rating. The CX G3 series pack burst rating is 45C. So math again says (45x3.3Ahr=148.5 Amps) that we can safely run at up to 148.5 amps for a short time. Now I have not been able to locate the "Press Release" from Hyperion regarding how long a short time is, but most other manufactures agree that a short 30 second burst followed by one minute of runtime at a rate less than the continuous C rating of the battery. So if I am going to fly for 3☺ seconds at the 148.5 amp burst rating, I then need to fly at less than 82.5 amps for at least a minute before I go to full throttle again.

In Table 1 you can see the physical dimensions of all three packs and the pricing from my local hobby shop and from an online mail order website. Considering the differential in weight is only 9 grams, weight should not be a consideration when choosing from the three packs. The same holds true when you see that the physical dimensions are also nearly identical. Now we can move on the cost comparison of the three packs. The 35C packs costs about 17.5% more than the 25C pack and the 45C pack costs about 10% more than the 35C pack and nearly 32% more than the 25C pack! So based on size and weight, the 25C is by far the best buy of the bunch, but that is only a small piece in this C puzzle. Let's move on to the real world testing.

Okay, now for test setup. First I am going to run a test with an E-flite Power 90 that I have on hand. Now this motor is rated for 6-8 LiPo cells, but I am going to run each four cell pack through a full throttle run until the ESC reaches the voltage cutoff point. Now I am running a large APC 21x13W prop on it. Normally this would be an oversize prop for the motor, but in that I am only using four cells, the wattage and amps will be relatively low. All packs were recharged with the same Hyperion DUO 3 balancing charger before each test. Now I will not be stressing these batteries at all during these runs. I simply want to record run time and temperatures before and after each run. (Table **2**) The first run yields similar rpm, and runtimes for all three packs at an average load of only 38.3 amps. I believe this is a good number because of the great number of kits out there are running in this amp range. The table reflects the beginning run and ending run temperature of each pack. All packs were run with the same prop and motor setup. The full throttle runtimes do not vary by more than 10 seconds, so once again the difference in C rating is not an significant a factor In runtime because all packs are rated at 3300 mAh. The higher C packs resulted in only slightly more RPM and the final cell temperatures are very acceptable for a full throttle run to ESC voltage cutoff.

C-Rating	Temp Start/finish	RPM	AMPS	Final cell voltage	Runtime Min:Sec
45 C Pack	80.5 degrees F 112.5 degrees F	3750 Max RPM	38.7 Amps Max	12.29 volts-Cells at rest	5:54
35C Pack	80.5 degrees F 115.5 degrees F	3750 Max RPM	38.6 Amps Max	12.72 volts-Cells at rest	6:04
25C Pack	80.5 degrees F 113 degrees	3700 Max RPM	37.58 Amps Max	12.46 volts-Cells at rest	5:57

Table 2

For the second test I am going to go to an even bigger prop. I mean it's BIG!! Now I have installed a 26x15 Carbon fiber beauty from Mejlick! Now this should increase the current that is pulled from the packs to the limit of the motor. First I will run the 25C pack, then the 35C pack and finally the 45C pack. Let's have a look at the results. During the second test I found that the rise in temperature of each pack was considerably higher than the first test. While this is to be expected, I did have the packs directly in the prop wash and was elevated slightly off the table to allow airflow under the pack as well. I would say that you could not have more airflow over the packs if they were installed in a plane. 59.3 amps average draw across the three packs yields temperatures approaching the maximum cell temperature that we want to see. The 25C pack showed the lowest after run temperature of 121 degrees, but the highest temperature of 132 degrees was from the 35C pack. Now Table 3 shows all the results from this test.

C-Rating	Temp Start/finish	RPM	AMPS	Final cell voltage	Runtime Min:Sec
45 C Pack	76.1 degrees F 124 degrees F	3275 Max RPM	60.9 Amps Max	12.41 volts-Cells at rest	3:35
35C Pack	76 degrees F 132 degrees F	3175 Max RPM	59.1 Amps Max	12.71 volts-Cells at rest	3:52
25C Pack	76.5 degrees F 121 degrees	3025 Max RPM	58.6 Amps Max	12.63 volts-Cells at rest	3:52

Table 3

Looking at the final cell temperatures I believe that any increase in current draw would not allow for a true test of continuous current on the packs. The temperature increase of the pack would cause overheating and damage to the pack before the test is completed. Remember that the C rating is supposed to allow this rate to be pulled out of the pack until the pack reached a cutoff voltage of 3.0 Volts per cell. 120 to 125 degrees F is the maximum you every want to see after a flight. What does this say about the C ratings on the batteries? Well the 25C pack should be able to supply 82.5 amps, yet the pack is reached 121 degrees with only a 58 amp load on it! The 35C pack should be able to supply 115 amps, yet the pack overheated with only 59.1 amps! The 45C pack should be able to supply 148 amps yet it reached the 124 degrees and was loaded less than half its C rating! Does this mean that these are bad packs? Of course not. I use Hyperion almost exclusively and have been very happy with their performance. This test simply means that you have to use a little caution when you see these amazing C ratings on packs these days. My recommendation is this: the higher C packs did provide slightly more RPM in both tests. So yes, more C rating does allow for more performance, but I recommend that you look at these packs as 25C packs. Then you can ask yourself if it is worth a few more dollars for that additional few RPM.

Tony Coberly

Tonyc@rcreport.net

A CONVERSATION WITH TED EVANGELATOS

Ted Evangelatos was born on April 26 a few decades ago (as he put it) in Athens, Greece. He resides in Salisbury Estates, a lovely section of Westbury Long Island NY with his wife Suzi and their two sons Peter and Alex, both RC flyers.

Ted has been working for 22 years for a wholesale travel company, FreeGate Tourism, specializing in vacation packages to Europe and Latin America. He has been the President of the company since 1990, and in 2002 he bought it from its European ownership.

Ted is the President of the MEROKE RC CLUB since January 2010. He joined the club in late 2006, together with his friends who flew in the evenings after work at Cedar Creek/ Lufbery Aerodrome.

Among Ted"s current equipment are

- x number of planes (exact number not disclosed – the wife monitors the Meroke web site often).
- Approximately x (too many) glow engines, sizes .25 to 1.60. This does not include several disassembled ones on the "engine" table waiting for parts, cleaning, etc.
- 6-7 radios, of which only a Futaba 7C FM and a Spektrum 7C are currently being used

Ted's favorite plane is a 60-size P-51 Mustang in a "Miss America" color scheme, with a Saito 100 4-stroke engine on it. Fast but stable, this gracious warbird in civilian disguise is Ted's pride and joy.

Here is the conversation I had with Ted last month.

Question - HOW DID YOU GET IN OUR HOBBY?

Answer - I always had a passion for airplanes, both full-size and remote controlled ones. When I got t transferred to Los Angeles in the late 80's, I met a lot of people who flew RC. It did not take long for me to get into the hobby and become addicted! Then I moved to New York and gave up the hobby for over 10 years. I got back into it in 2002, and have been enjoying RC flying ever since.

Question - WHERE DID YOU LEARN TO FLY?

Answer - San Fernando Valley, just north of Los Angeles. My then future brother-in-law Michael and his friends flew at a grass field close to an abandoned plant. He got me a used trainer airplane, along with the field box and all necessary accessories. I started training with Michael, hands shaking on the radio (no buddy-boxes then) trying to keep a heavy trainer stay aloft. The plane actually survived the first few flights, although the guys' screams behind me ("watch out", "heads up", "wow- that was close") kept reminding me of the tough "rookie" road ahead.

Question - WHAT IS YOUR FAVORITE TRICK OF THE TRADE?

Answer - Hand starting a glow engine by flipping the spinner backwards. Although I no longer do it very often for safety reasons, I love to see a well-tuned engine come to life with just a hand flip or two.

Question - ONE THING ABOUT YOU THAT WOULD SURPRISE US?

Answer - I have been involved in the wholesale travel business for over 26 years now, I actually studied Civil Engineering! I still love to look at skyscrapers or hanging bridges in and around Manhattan, while mentally drawing plans for their construction.

MEROKE PICNIC

On Sunday September 19th the Meroke RC Club annual picnic was held at Cedar Creek's Lufbery Aerodrome. A great day was had by all who attended. Members had a great day of flying and along with their families were able to sit back, relax and enjoy burgers, hot dogs, gyros, sausage & peppers, salads, a delicious cake and great conversation. A special thanks to Chris Mantzaris, who supplied the food and the grill, Nick Guiffre, Roger Scanlon and Alex Evangelatos for cooking and serving everyone and making it a great day.

CONGRATULATIONS to Roger Scanlon who last month successfully earned his senior status. Roger joined the Meroke's this past year and after retrieving his plane from the deep woods Roger contracted severe poison ivy. Despite that set back he has been instrumental in retrieving other member's planes when they were lost at the LUFBERY AERODROME. We all owe Roger thanks for being a friend and great Club member.

Calendar

October 7, 2010

Club Meeting

Show and Tell

October 16, 2010

SCALE FLY-IN

Hosted by: The Long Island Skyhawks

October 21, 2010

Club Meeting

Meroke Lecture Series - TBA

October 24, 2010

Monthly Fun Fly

Fun Fly Results

The year to date standings as of July 2010

1	Ted Evangelatos	30
2	Patrick Boll	37
3	Gene Kolakowski	61
4	Tom Tavolario	68
5	Tony Pollio	90
6	Nelson Ramos	92
7	Chris Mantzaris	93
8	Bob Reynolds	95
9	Curtis Underdue	110
10	Richard Boll	110
11	Frank Lang	116
12	Jack Tremuta	121

BIRTHDAYS

Oct 4 - Jude Polis

Oct 13 - Michael Cheung

Oct 16 - George Avias

Oct 23 - Allen Berg

Oct 27 - Russell Rhine