

K-FACTOR

Volume 43 Issue 5

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Jerry Budd and his Gaudius in front of the Bell X-1E

In This Issue: Book Review...3 | From the Judge's Chair...4 | Color Schemes...12 | Behind the Sticks...15

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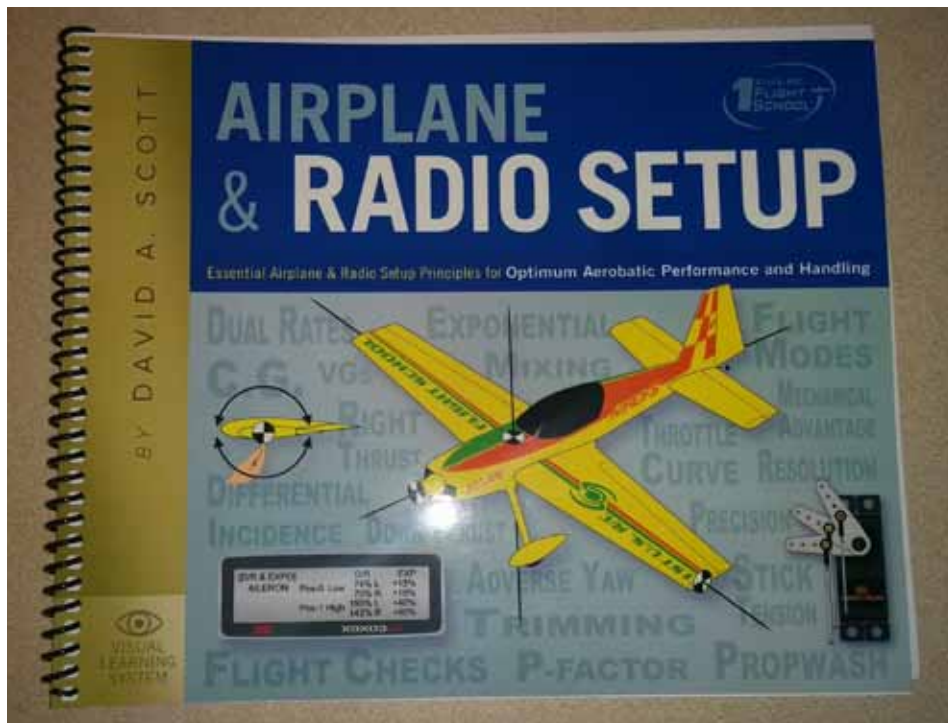
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Book Review by Jon Lowe

Airplane and Radio Setup

Review: "Airplane & Model Setup: Essential Airplane & Radio Setup Principles for Optimum Aerobatic Performance and Handling" by David A. Scott. 48 pages, copyright 2014. ISBN 978-0-9817226-6-5. Publisher, 1st U.S. R/C Flight School. \$19.95



Scott McHarg and I were sent unsolicited copies of the subject spiral bound book to review by the author, David Scott, of 1st U.S. R/C Flight School. It appears to be geared toward the flyer who is beginning to get serious about flying better. While the examples given are mostly IMAC style airplanes, the principles, in general, are pretty sound for pattern flying, with the noted exceptions.

One of the things the book emphasizes is that for precision aerobatics, control surface size and deflections should be kept to the minimum necessary. I applaud this, as more and more airplanes are coming out with 3D sized control surfaces and recommended throws, which can quickly get fliers in trouble or make them jerky. He also emphasizes that proper airplane setup, not the design itself, is usually the problem with pilot frustration with a

particular aircraft. The author also gives the best and clearest explanation I've seen yet on why positive wing incidence is a good thing for both upright and inverted flying. Brian Hebert would be proud!

While I think many aspects of the book are right on the money, I think too much emphasis is given to establishing a neutral CG vs. a more forward CG. Most modern pattern airplanes I've flown fly and track better with a more forward CG than a neutral CG, and snap and spin better. While control surface linkage is talked about some, proper mechanical setup to reduce or eliminate subtrim and its subsequent negative effects aren't even discussed. Nor are control surface deflection measurements and synching of elevator half throws. Proper hardware for slop free linkages is not discussed. These are basic airplane setup necessities that

newer pilots brought up on computer radios and ARFs don't really understand. Just as I thought he was going to get into the meat of the subject, he moved on. He also devalues the need for proper lateral balance, saying it really doesn't have that big of an effect. On the contrary, I've seen airplanes literally transformed in one flight by proper lateral balance, especially classic pattern airplanes.

He also has a whole chapter on vortex generators, thicker control surfaces, and stall strips. While interesting, these really aren't about basic aircraft setup. In addition, he says that if the control surfaces have rounded rather than beveled leading edges, you don't need to seal the gaps between the control surface and flying surfaces, saying that sealing is necessary because of the bevels and turbulence caused by them, and possible flutter. I violently disagree with this. Sealing the gap eliminates uneven airflow between the control and flying surface halves. A gap causes the control surface to be less effective, and gaps can and do induce roll during maneuvering. It is also very difficult to make a round leading edge work on a model aircraft control surface because the pivot at the outer radius causes binding. The pivot point needs to be at the center of the radius, to make a rounded leading edge work properly. I really wish the space devoted to this chapter had been used for more info on linkages and proper mechanical setup.

In summary, this is a decent book for a new pattern pilot as long as not every word is taken as gospel. It is good to get the new pilot thinking about proper aircraft setup, and position him to seek more knowledge from more experienced pilots who are experienced with proper setup. On that basis, I recommend it to the target audience.

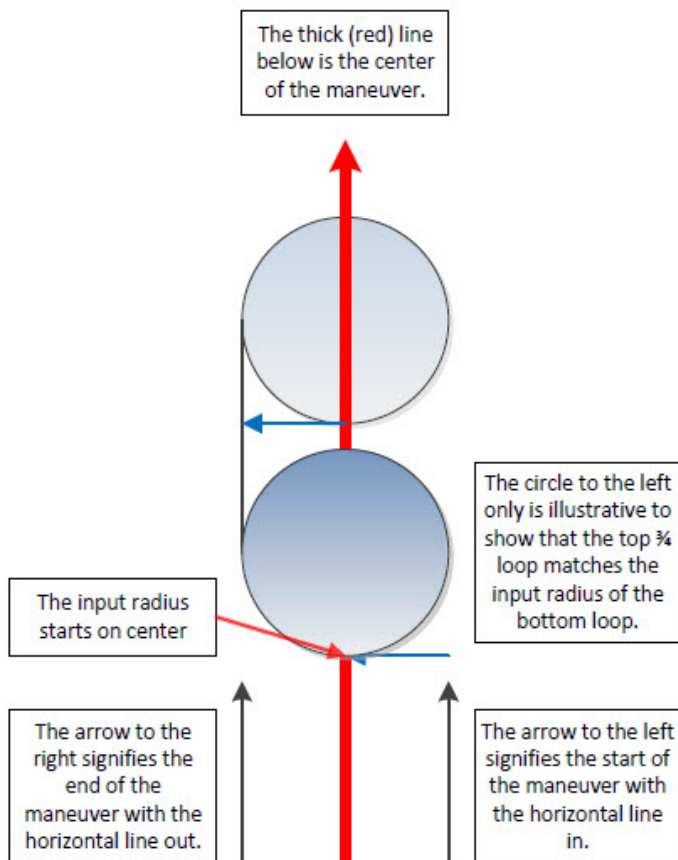
From the Judge's Chair

By NSRCA Judging Committee



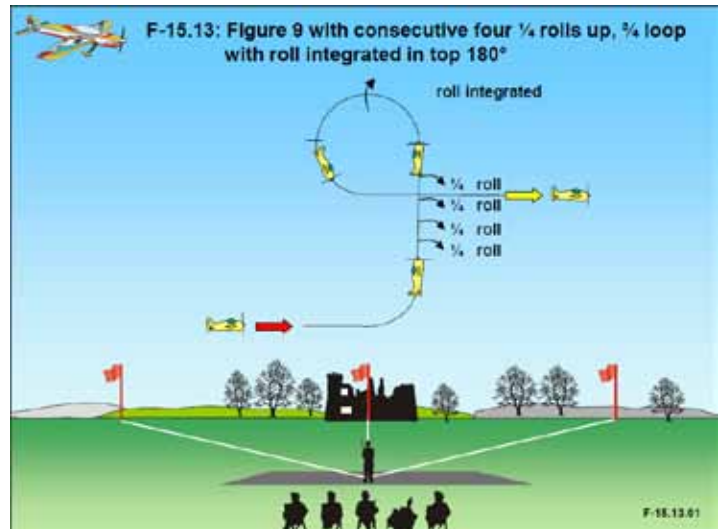
It seems that there is a little confusion over how some of the maneuvers are flown in the F-15 sequence. In our article from a couple of months ago, we stated that the center maneuver #13 – Figure 9 with a 4 point roll up and a $\frac{3}{4}$ loop with a full roll integrated into the top 180 degrees – should not have the up line be on center and should actually start past center and the middle of the maneuver should be “reasonably close” to the top of the $\frac{3}{4}$ loop. In fact, the center of the maneuver is not just reasonably close – it is actually the center of the $\frac{3}{4}$ loop. After much discussion and drawing a picture (it definitely is worth a thousand words in this case) it is very clear that with all things being equal, there is a defined horizontal line into the maneuver and a defined horizontal line exiting the maneuver, and that the entry radius establishes the size of the top $\frac{3}{4}$ loop, the center of the maneuver is the middle of the $\frac{3}{4}$ loop.

Here is a great drawing that shows that the radius into the up line starts at center and if the top $\frac{3}{4}$ loop radius matches the first radius (it must match in order to receive maximum points), then the red line (the thicker line for those that view this in B/W and not color) shows the center of the maneuver.



The Powerpoint presentation that depicts this maneuver has been modified as well and is now an accurate reflection of the way this maneuver should be flown and judged.

The new maneuver depiction is as follows:



Remember, never take your eyes off the plane when judging...

Keep your wings level!

Member Sound Off

We are in need of high quality, high resolution pictures for our cover photos. We can never have too many! Please, send any pictures that you think would make good cover shots.

From the Editor:

Your short comments are welcome about everything and anything you'd like to sound off about. This can include pictures of your new airplane or whatever you want!

Please send your Sound Off to scottf3a@outlook.com.

The Latest News from Your NSRCA Officers



President



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A lot has happened since last month, so I will dive right in.

F3P Team Trials: The team trials are now history. Congrats to RJ Gritter, Devin McGrath, and Ryan Clark as our senior team members, and Joseph Szczur as our junior team member. AC Glenn is the backup team member. The primary drivers behind getting this event on track were Dave Lockhart, Dave Mathewson, and Rex Leshner. I erred in not giving Dave Lockhart proper credit at the event, and I sincerely apologize. Bob Kane, Tim Jesky, and Linda Jesky in charge of scoring, Line Marshall, and Registration/score entry were invaluable to me. I completely overworked our judges, especially Dave Mathewson, Mark Radcliff, Joe Lachowski, and Harry Ells who volunteered to come and judge at the event. RJ Gritter made up some beautiful acrylic trophies, and Devin McGrath obtained a coroplast surface we used for the runway. All of the competitors and officials acted as a team to pull this off, pretty much without a hitch. In fact, it was going so smoothly, I expected a major problem at any point! Tony Husak, overall NEF CD, made us feel very much at home, and did a great job supporting us with anything we needed.

The facility at the University of Akron was huge! We had one end, and the main flying area, helicopter and 3D'ers all had their own areas. Our flying area was pretty much unmolested the entire time. The planes were incredible. Long gone are the foamies. If you don't have an aircraft well under 100 grams RTF, you are at a huge disadvantage. RJ and Devins' airplanes were right at 67 to 69 grams RTF and of their own design. Specially made contra drives were a necessity for the top fliers. The average person walks faster than they fly. Fortunately, the venue had radiant heat, so there were no air currents to contend with.

All in all, it was a lot of fun. We have a highly capable team, who I believe will represent us well in Poland next year. Expect to see fund raising info for the team in the upcoming months.

NSRCA Finances:

NSRCA continues to be in great financial shape. A summary of where we are at should be in the Board meeting minutes in this issue. The Board is considering how we can utilize some of these funds to benefit our members, and promote pattern better in the future. If you have any ideas, please contact your DVP.

NSRCA Competition / Promotions Committee Head:

Anthony Romaro volunteered to take the reigns of this previously unfilled position within our bylaws, and the NSRCA BoD has confirmed his appointment. He will be working to make our presence better known at trade shows and the AMA, will work to get more information on our website, will develop promotional material, etc. If he contacts you for help, please give him your cooperation.

NSRCA Executive Officer Nominating Committee:

Derek Koopowitz has volunteered to take this job on. All of the executive officers (President, Vice President, Secretary, Treasurer) are to be elected later this year. Scott McHarg, and John Gayer are terming out, so we will need new people

for those positions. If you are interesting in helping out NSRCA by running for one of these positions, please contact Derek. This is a great group to work with, and we always need fresh ideas.

Judging Certification:

The tests are up on the NSRCA website. Remember that this is the year to renew your FAI certification prior to the Nats. The AMA certification is also up. Kudos to the judging committee for redoing the tests, and going to an all multiple choice format. Now maybe Gary Courtney will stop griping at me about fill in the blanks!

2015 AMA Sequences:

The proposed sequences have been out for about a month now. From the comments I've seen, the positive and negative remarks seem to be balancing out, so my guess is the sequence committee got it about right. Keep your comments coming.

Fun Stuff:

I went to the Apopka, FL contest in March. Saturday was beautiful, but the wind gods were angry on Sunday. A few brave (dumb?) souls flew on Sunday, but there were those of us who decided that taking home an airplane in one piece was the better part of valor. I'd gone down a few days early to see my parents, and it was nice to shake out the cobwebs of winter. Don Manson, District 2 DVP was there, along with Larry Kauffman, D3 DVP, and it was nice seeing them again. Special thanks to Steve Homenda as CD, and Mike Constantine for having us all over to his house Saturday evening for dinner.

The Monday after the contest, I left for home, and went from 80 degree weather, to 50 degrees. On Thursday of that week, I started driving to Akron for the F3P TT. Contrary to what the weather guessers had predicted, it snowed in northern Ohio on Friday and again on Sunday. A shock to my system after Florida. The following weekend we were to have the D2-D3 shootout in Georgia, but severe weather was predicted on Friday and Saturday, so that event was called off. My sore butt from driving wasn't all that unhappy!

NSRCA Officers

My experimentation on my Spark testbed continues. Because my C50-14XL Hacker Acro doesn't have a fan (pre-Comp) keeping temperatures down is a challenge. I had added some ducting to the nose, and had gotten some baseline in-flight temperatures. While I was in Florida, Jason Shulman suggested a different approach to the ducting, which I implemented, and I saw a 38 degree temperature reduction! I'm becoming a believer in telemetry for proving out concepts. I took the Spark to the Apopka contest to show people what is possible with low cost flight control systems, and the benefits of telemetry for testing new airplanes. Some people just can't believe a \$200 radio system and \$20 to \$30 servos can be any good. I think I convinced a few people that is not the case.

I'm trialing another servo, this time a digital brushless servo on rudder. It is the Turnigy TGY-815MG. The gear train is tighter than the Solar servo I had been using on rudder, and the resolution and deadband are just as good. I've got about 20 flights on it, and so far, so good. It costs a little more, but I like the slop free gear train.

BTW, just so I'm clear, I'm paying for this equipment out of my pocket; I've not been given anything to try out. I like seeing what is out there, and am trying to prove that the cost of the hobby doesn't have to be outrageous to have top notch equipment.

I saw an interesting discussion the other day on one of the FrSky Taranis threads on RC Groups. A nameless competitor had been "trolling" the group with things that their system could do that the Taranis couldn't. In every case, he was proven wrong. And his system costs six times as

much. Someone made the observation is the reason the Taranis is so capable, is the fact that its firmware is open source. People are willing to put in the effort to make an open source system more capable, and it allows the manufacturer to concentrate on making the hardware better. In addition, FrSky has made virtually every repair part for the transmitter readily available, including cases, mainboards, gimbals, etc, and by removing 6 case screws, virtually any part can be replaced in about 5 minutes. Everything is modular, so it is simply unplugging one part, and plugging in the replacement. Spares are so inexpensive, that it doesn't make sense to send the whole thing in for repair. It is cheaper just to buy the spare part you need, rather than paying shipping back to the importer. As a result, warranty work is mostly DOA units. FrSky has also committed to making upgrades available to current owners. As an example, the sliders on the side of the transmitter have been dramatically improved, from a ratchety feel, to a smooth hydraulic feel, with a center detent. Two complete sets to retrofit my early transmitters were only about \$13, including shipping! A complete ball bearing gimbal assembly with pots, ready to plug in is \$13. I think some of our radio manufacturers are going to have to change their thinking if they are going to stay relevant, both for their firmware and their hardware.

Elsewhere in this issue may be an article on pattern airplane color schemes for visibility, if Scott has room to run it. Scott and I also received a copy of "Airplane & Radio Setup" by David Scott of 1st U.S. R/C Flight School to review. That review should also be elsewhere in this issue.

I've been playing with some small pattern style foam airplanes; I'm running out of room this month, so hopefully I can tell you about them next month.

Have a great month of spring time flying!
Jon

Vice President



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Judging Committee News

Things seem to be going well on the Judging Certification side of the world. I have been getting good feedback on the new test structure. People approve of the "no more fill in the blanks"! Remember that if you were certified in AMA last year, either by attending a class or taking the online test, you are good until 12/31/15. You can always check your status by going to the NSRCA website, go to the Judging section and look at the list of Certified



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Judges by District. In general, people need to re-certify for FAI this year. That will then also be good until 12/31/15. You will notice that (thanks to AMA!) the FAI and AMA rules changes will be lining up from 2015 forward.

New Sequences

The proposed new pattern sequences for all classes have been published on the official NSRCA website along with detailed maneuver descriptions and suggested downgrades. I know that some of you are only just beginning to get some flyable weather! The sequence committee has put a lot of time and effort into these sequences so I urge all of us to go out, fly them and provide feedback (all feedback is welcome!) to either your NSRCA District VP or to the Sequence Committee Chairman.

Project Contra/Episode

First contest with the Episode/Contra – success! We are trying out a new idea out here in D7 due to the very large number of Masters Pilots we have had recently. We have a “new” class at local contests. We call it FAI “Silver” and it just means that we only fly the P15 pattern and not the F15. This has had the effect of taking a potential Masters class of 11 or 12 pilots and putting 5 or 6 in FAI “Silver” and 5 or 6 in Masters. This greatly simplifies the CDs life in terms of finding Judges and it improves the Judges lives because they do not have to spend 2 hours in the chair judging 12 Masters pilots! Anyway, I flew the Contra Episode in the FAI “Silver” class at the Hemet contest and managed to squeak out a win over our District VP Mr. Sean Marsh! (He is hard to beat!) I really think the smooth and constant pace of the motor/airframe system improved my scores! Now I am going back to my Angels Shadow to really see if I can “feel the difference”.

Riverside Contest

One thing I noticed at the Riverside contest that we just flew in was how many Vanquishes were there. I was snapping a picture of our Nor-Cal group of Angels Shadows and when I looked at the photo there were our three Angels but I also accidentally caught 4 Vanquishes in the background! This just highlights that this is a very capable and affordable entry into pattern flying that is being used and enjoyed by a large number of flyers!



Angels with a solid background of Vanquishes!

Nats

Just a quick reminder that the Nats is coming and if you can possibly attend I highly recommend it. It is really a great pattern experience and one that we should all take advantage of.

That's all I have for this column.

Outside wing!
Jon Carter

Treasurer



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All that matters is the rudder

In the spare time I dredged up this past month, I decided to try a bit of experimenting on the Mystelliptical. This is a Mystic that I got from Mike Mueller last year when it became surplus to his fleet. He had Dave Snow put a set of elliptical wings on it, therefore the name change. I believe they were the wings featured in an RCU build thread about Dave's wings a while back.

Anyway, when I got the plane it had some smallish foam stab fences installed. Eventually, they got a bit tired and I removed them just before the contest in

Phoenix. The model flew just fine without them at an elevation of around 1400 feet. When I returned home I found that I was lacking low speed stability both for landing and spin entries. Our field here in Albuquerque is at an elevation of 5300 feet and I sure noticed the difference without fences. So I made some new ones and set them at an angle inward of 2.5 degrees like I put on the Nuance year before last. There was a definite improvement in low speed yaw stability and in general the model felt much more locked in.

At the same time I decided to try something else. A while back there was a thread on RCU by Alex Voicu who tufted his Radiance prototype with yarn and attached a video camera on the wingtip to observe the flow patterns. He found that in knife edge the airflow on the fin tended to slip off spanwise. He tried various methods that are used to improve knife edge performance. He tried a canalizer, he tried top and bottom strakes in the wing area and he tried fin fences. Guess what, they all worked in varying degrees to increase the rudder effectiveness. See the photos below that Alex provided online.



Personally, I've found that the canalizer solution tends to be too aggressive in yaw. Planes with canalizers that I've flown and observed in the hands of others tend to have an excessively powerful rudder. A lot of time is spent trying to tame it through the radio. Mind you, I'm not talking about flyers that are going to compete for a spot in the finals of the team trials at the Nats this summer. I'm talking about those of us in lower classes and/or lesser skills that

still enjoy having equipment that can do more than we can.

One thing I've found that helps get an overactive rudder under control is to set the rudder up on a spline curve (Futaba). With the multiple points available on a spline curve, it is possible to fine tune three separate areas of the stick to rudder function. The first portion is extremely desensitized, linear and used for yaw corrections. The second portion of the throw is fine tuned for rolling maneuvers with more slope but still fairly linear. And last, whatever is left ramps up quickly to max rudder for stall turns. The advantage of this over standard expo is that you can tune the sections more or less independently. All you can do with expo is crank it up until the center is insensitive enough to handle yaw corrections. This tends to make the rolling section of the curve too steep and the slope too variable thus making it difficult to find the right rudder position in rolling maneuvers.

If you look at Alex's photos of the model in knife edge of the standard configuration, you can see that the flow shifts spanwise on the fin on the low pressure side (up in knife edge). This is flow that the rudder doesn't get a chance to use. Alex presents three ways to fix the problem- fin fences, canalizer, and strakes on the fuselage. The photos show that all three work, although the canalizer and strakes mostly help the fuselage to be a better wing. If you want to see more photos and videos of the solutions, and I recommend doing so, log into RCU at <http://www.rcuniverse.com/forum/rc-pattern-flying-101/11585841-airflow-visualisation.html>

So far I haven't tried either the long or short fuselage strakes that Alex presented but I have tried the fin fences. First I tried fences on one side only to see what the difference would be during a single flight. There was a definite improvement in rudder effectiveness when the rudder was deflected towards the fences and made a noticeable reduction in deflection required for knife edge. Subjectively I would say that the rudder effectiveness was quite noticeably improved without going anywhere near the extremes I see in my Mythos with a canalizer. So of course I added the other side and proceeded to put in a bunch of flights. Eventually I reduced the spline curve near center as yaw

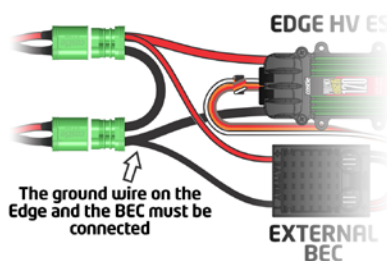
corrections were a bit strong but that's it. No mixing changes at all. I will remove the temporary fences from the Mystelliptical but only to attach more permanent ones. I am also considering replacing the canopy on my Mythos with a Wind canopy and adding fin fences to it as well. But that's a story for another day.

I am very impressed with Alex's extensive work and presentation. We need more



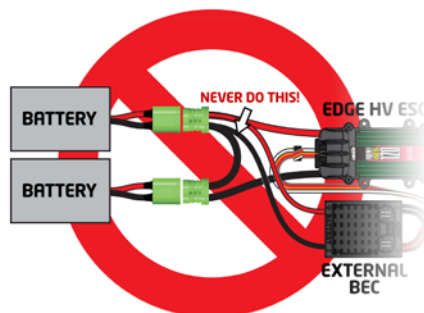
of the practical aerodynamics we see in this thread. I know there has been a lot of experimentation and adhoc testing that has gone on through the years, which has produced many improvements in the neutral flight and trimming techniques we apply to our pattern airplanes. However there are conflicting solutions floating around out there. It is very instructive to have visual evidence of a problem and then visual evidence of a solution. Then try it

Alternative Wiring



Improper Wiring

DO NOT wire your BEC like the diagram below, wiring the BEC to a ground lead other than the Edge's ground could lead to ESC failure.



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yourself and get the same results. Wow. Thanks Alex.

Opto-isolation or not

On another subject, a friend of mine just blew up a new Castle Edge 80HV. He uses the same redundant power system I do, using the lowest two cells of a 5S balance connector to provide primary power while a small 2S lipo provides a backup source. The last generation Castle ICE2 80HV had complete optical isolation between the throttle connection, including its ground line, and the main ground in the ESC. Due to this isolation you could use either balance connector to power the regulator Well, they took the opto-isolation out when they designed the Edge. Castle did include a separate flyer in the packaging showing the right and the wrong to hook up a BEC (regulator). It's very clear. See below.

Everything is fine using a non-isolated ESC as long as you ALWAYS hook up the power system regulator to the balance connector of the 5S battery that connects to the ESC through the ground wire (black). If you accidentally connect to the high side battery, you effectively provide a direct short through the esc for the low side 5S battery.

PHOENIX EDGE HV

WIRING GUIDE



**READ FOR IMPORTANT
WARNINGS AND UPDATES**



If you are lucky, there will be no damage to you, the plane or the radio system but you will probably need a new ESC.

You could paint the appropriate connectors some color or use some other method to

remind you what needs to be connected but I strongly recommend either using an isolated ESC or just using another small lipo for your second power source rather than the motor battery. Murphy says you will eventually screw up and

connect to the wrong balance connector. Personally I really like the convenience of using regulators to insure that the motor battery is the main radio power source. That way I can just check that the small lipo is close to full charge at the beginning

Detailed Income/Expense by Category-2014 - Q1 2014

1/1/2014 through 3/31/2014

4/8/2014

Page 1

Category	1/1/2014- 1/31/2014	2/1/2014- 2/28/2014	3/1/2014- 3/31/2014	OVERALL TOTAL
INCOME				
Judge Program Income				
Judge Program Certification	0.00	5.00	65.00	70.00
TOTAL Judge Program Income	0.00	5.00	65.00	70.00
K-Factor				
Advertising	780.00	0.00	0.00	780.00
TOTAL K-Factor	780.00	0.00	0.00	780.00
Miscellaneous Income				
Bank Interest	0.45	0.06	0.06	0.57
TOTAL Miscellaneous Income	0.45	0.06	0.06	0.57
NSRCA Income				
Dues Income				
International	200.00	80.00	40.00	320.00
USA Members - New	210.00	240.00	400.00	850.00
USA Members - Renewal	3,700.00	1,250.00	610.00	5,560.00
TOTAL Dues Income	4,110.00	1,570.00	1,050.00	6,730.00
TOTAL NSRCA Income	4,110.00	1,570.00	1,050.00	6,730.00
TOTAL INCOME	4,890.45	1,575.06	1,115.06	7,580.57
EXPENSES				
K-Factor Publication Expense				
Design and Output	200.00	1,000.00	0.00	1,200.00
Postage	284.18	182.28	201.39	667.85
Printing	1,148.53	585.63	684.14	2,418.30
TOTAL K-Factor Publication Expense	1,632.71	1,767.91	885.53	4,286.15
Miscellaneous Expense				
Annual Corporation Fee	0.00	0.00	61.25	61.25
Bank Fees	2.00	2.00	2.00	6.00
Credit Card Fdms Okb Discount	2.40	3.22	4.20	9.82
Credit Card Fdms Okb Fee	32.35	34.41	33.31	100.07
Credit Card Fdms Okb Interchng	0.10	2.26	2.88	5.24
District Trophies	245.38	0.00	0.00	245.38
Pay Pal Charges	112.68	30.75	52.52	195.95
Trade Shows	157.59	0.00	0.00	157.59
TOTAL Miscellaneous Expense	552.50	72.64	156.16	781.30
Postage Expense				
District Championships	400.00	-187.11	0.00	212.89
General	0.00	0.00	66.69	66.69
TOTAL Postage Expense	400.00	-187.11	66.69	279.58
Web Design	0.00	84.72	0.00	84.72
TOTAL EXPENSES	2,585.21	1,738.16	1,108.38	5,431.75
OVERALL TOTAL	2,305.24	-163.10	6.68	2,148.82

NSRCA Officers

of each flying session.

Finance report

Third but not least, there is an NSRCA income/expense report for the first quarter of 2014 included in this issue and I am always ready to answer any questions. If you don't want to read it, the short version is that we are still solvent.

See you at the Nats?

Secretary



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Man, life just keeps pouring more and more responsibilities on to this (becoming quickly) old man. As some of you know, I fly U.A.S. drones for Texas A&M as a "side job". These are very similar to the Pioneer UAV that I used to fly way back in the day but on a smaller scale. Texas A&M owns an old WW 2 Air Force Base that, I believe, was used as an auxiliary base which kept many a bomber there. It has runways on the order of 11,000 ft. + and we use about 1/4 of that length for these planes. They weigh about 100 pounds without equipment in them and fly on....believe it or not....an 85cc gasser engine. Needless to say, they are a PITA to fly. The flying part of it isn't what's really exciting or entertaining but being involved with the U.A.S. program and being on the leading edge of what's happening with this evolution of drones certainly is. Texas A&M, along with several other universities, is working closely with the FAA to try to determine what they're going to do with these and how to implement them into the

airspace infrastructure. That's part of what this program is all about. In the interim, we also have customers such as Raytheon, Lockheed Martin, and Boeing that bring equipment for us to test in our vehicles.

With this program comes special certifications that we have to obtain in order to be part of this program. Most of the universities are on a waiver of sorts for now but this waiver does not last forever. Texas A&M is also on a waiver right now and this waiver allows its pilots to only be required to have a Class III medical and have taken the written knowledge test (and passed) in order to fly the U.A.S. We must stay below 400 AGL and within visual range. That's great for some of the tests but doesn't allow everything. Texas A&M has decided that we need to up the program. Instead of being on a waiver, we are hoping to be issued a CoA (Certificate of Authorization). This CoA requires us to have our Private Pilot's License in order to be legal. It also allows us to fly up to but not including 18,000 ft. MSL and beyond visual range. So, I'm in the process of doing exactly that. I started back in February and, crossing my fingers, I should have mine done by the end of May. There are only 2 of us that are pilots for Texas A&M and we are both doing this. The other guy is quite a ways behind me but I think he'll be done before fall.

All that to say, this dude is busy! My family has been very supportive and I consider myself very lucky to be able to accomplish this. It's been a life-long dream and is very rewarding in and of itself.

Y'all would be very surprised how little we as pattern folk use the rudder in comparison to a full-scale Cessna. Throttle on equals right rudder; throttle idle equals left rudder. I know those of you who have your PPL are reading this noting that I'm stating the obvious but wouldn't it be interesting to have telemetry to a Turn-Bank Coordinator in a pattern plane? What would we see? Are we, in actuality, flying the airplane uncoordinated even straight and level? If we are doing that and we actually started to fly coordinated, what would we gain by doing so? Would it make it easier to hold our lines and stay at 150m? Interesting thoughts at the very least.

I just sold my De Ja Vu to a fine gentleman and was trying to figure out what to do. As you know, airplanes must be turned back in to airplanes because mamma isn't going to let me take more money out of the budget to produce a bigger fleet! My primary bird is the Shinden from Bryan Hebert. This

plane, even though it's an older design, is by far the best flying pattern plane this guy has ever flown. I have absolutely no mix in the plane aside from the 1.5% down elevator to idle. I'm very impressed. Bryan has recently sent the plug of his newest design, the Allure, off to manufacturing and he'll be flying over soon to pick up the prototype. I'm fortunate enough to be getting the first Allure off of the production run and I simply cannot wait. In the interim, I need to do something with this money from the sale of the De Ja Vu. I looked around to find another Shinden to serve as a backup plane as Hebert is out of stock with the next batch showing up in a month or so. Those that have them are NOT letting them go and, at this point, I'm not really interested in anything else that's on the market except for the planes that I will never be able to afford (or allow myself to afford may be a better phrase).

I started looking around at giant scale IMAC planes. I have never flown IMAC nor do I intend to "switch" to that discipline but I do love these aerobatic monsters and have always wanted one. I found an old boy about 80 miles from me that was selling his Aeroworks 35% Extra 260 for a great price RTF. Wrapping my ramblings together, I took one of my dual cross country flights in a 172 down to him and he met me at the airport. The plane is immaculate and the engine ran nice and smooth. We agreed on a price and a few days later, my buddy Pat and I drove down to pick it up because he's a great guy and I don't own a trailer.

We picked it up and drove back to the house and put the plane in the man cave. Let me just say, it's so much better to fly around and get to a destination instead of driving but you're not fitting a 35% in the baggage compartment of a 172SP, that's for



sure! Over the next few days, I prepped the airplane and acquired all the new gear I had to have in order to fly this thing. Sunday came along and we were going to go maiden it. Jan and I stuck it in the back of our F-250 and the plane fit but the tailgate had to be down and it was just a very uneasy feeling. I decided to not haul it that way and told Jan we can just go get

a U-Haul trailer to get it to the field. Jan, being the little fireball she is, said, "This is crap, let's go get a trailer". Who am I to argue? We looked around and found a great deal on a new Continental Cargo single axle trailer that's 6 x 12 and went and picked it up. Needless to say, it is currently sitting in my driveway (against the wishes of my stupid HOA) and I'm chomping at the bit to start making it a R/C airplane trailer. There's nothing special about this trailer, no custom parts, no lowered axle. Although there is a phenomenal thread on RCU on trailers, I thought I'd do a write up here on my conversion. That'll be happening over the next month or so. For this month, I'll just introduce you to the trailer and we'll get started on my conversion next month.

Below, are the minutes from the April 8 BoD meeting that I, unfortunately, had to miss. Matt Finley from D4 was nice enough to fill in for me.

Meeting minutes for April 8th NSRCA BoD Meeting

In attendance: Jon Carter, John Gayer, Dave Cook, Bob Kane, John Manson, Larry Kaufman, Jon Lowe, Robert Green, Matt Harris, Sean Mersh

Jon Carter motioned last meeting minutes

Bob Kane – NATS -Discussion

- Jesse will look for dinner venue since the airport venue closed.
- Entire week is slotted for NATS, so there is a possible rain day option
- NATS overall CD is ? Bob finding out
- Jon mentioned Trophies will include the SIG name along with the other sponsor names
- Jon Carter asked about the judging coordination with F3A and Masters. Bob Kane is going to start on that promptly.
- AMA Note on Nats Trophies has been sent out from Jon Lowe

Dave Cook – Advertising

- Spoke with 30 or so vendors about advertising, and has some good leads.
- Working on banners for NSRCA website
- Encourage vendors to add links to NSRCA's website for their products and pattern related items

F3P Team trials

- Emphasized being members of NSRCA to them !
- RJ Ritter , and Devin McGrath needs to get final bills to Jon for Trophies
- Team selection needs to select a team manager yet, and may end up being a team member. Possibly Don Szczur
- Derek Koopowitz has agreed to head the nominating committee

Jon Carter

- Calendar Doing fine

- Sequence committee is working fine, and purposed sequences have been posted to K-factor
- Judging committee going well, people are taking and passing the cert tests. Positive feedback on new test format

John Gayer

- Sent out a couple informative reports on finances. Cash is still continuing to grow at a good pace.
- We have money now to help out more with NSRCA items
- A lot of late membership signups this year, and a lot of new member signups.
- Good financial condition as of now
- No progress yet on audit, Cooperate report has been filled. Tax return due on May 15th, and extension will probably be filled.
- Need to dedicate more towards finance, and not keeping as much in the kitty. How could we help pattern through cash ?
- Good portion of next meeting will be devoted to discussion on cash, and how we can spread it out.
- We could spend more money on the F3A team, or even the F3P Team. Is the F3P team supporting themselves, or who is funding them ? John will contact Rex on this issue.
- Do we finance their whole trip ? To encourage people to get involved.

Don Manson

- -Contest this weekend
- -Last weekend held judging seminar, great detail was able to be informed
- -Positive feedback on online judging cert test

Larry Kaufman

- March 15th and 16th Tangerine went very well
- Working on May 13th and 14th contest
- NSRCA District championship guidelines has been posted
- Working on getting shirts for the district

Matt Finley

- Toledo show went well
- Accepted one renewal, and one new member
- Discussed better booth placement for 2015

Robert Green

- One member's wife passed away, and trying to think of something to do for him
- Oklahoma would like to join D5, currently D6 – More discussion to come
- Still need member for team selection committee, has to be someone from the AMA district 6

Sean Mersh

- Proposal for money to be spent not more than a certain amount to the teams. Rather than saying we are going

to donate a certain dollar amount, do it in according to our budget.

- Lots of contests already completed.
- Oakdavid meet. – Digital scoring Ipad app used, and was very positive feedback
- One meet had FAI Silver so far. Masters fliers were split into two classes, either the masters or the FAI silver which is the FAI P-15 sequence. 9 flew masters, and 5 flew P-15. Worked out very well, and very positive

Pat

- Judging Seminar this Saturday
- Guys asking about jackets or coats with NSRCA on them ? A lot of interest ! Rex is working on this

OLD BUSINESS

- Motioned made for up to \$500 dollars for NATS trophies
- Anthony Ramano appointed to NSRCA Promoter
- Derek Koopowitz nominating chair
- Ideas on voting exec board members appreciated! Voting on board members by a third party is a must. Paper ballot is an idea.
- Need to vote on Budget ! Matt Finley motioned. Budget approved

NEW BUSINESS

- Amending bi-laws to add F3A and F3P Team manager committee (We want continuity from one team to the next) Make it an ad hoc as of now was mentioned
- NATS – Paying for help brought up. Amount for last year was \$300 for line managers and score keepers. Runners got \$100, and managers got \$800 .. Do we pay final judges ? And if so how much ? More discussion next month – Arch has some thoughts, and will be contacted

Minutes by Matt Finley – D4

Pattern Airplane Color Schemes

by Jon Lowe

While experimenting with my Spark testbed airplane, I decided to do some tests on color scheme visibility. This hadn't been an original intent, but became a target of opportunity after a covering test I had done didn't work out the way I expected. I'd first taken an interest in this a couple of years ago. I was calling for John Fuqua, and noticed that he had changed the color scheme on the bottoms of his Vanquish wings from the original red/white/yellow scheme, to a day glow orange/dark blue large four square scheme, the scheme Dave Brown popularized, (although my Dad says Dave Scully was the first he knew of to use it). I noticed that I could really see what the airplane was doing, unlike the stock Vanquish scheme I had at the time. I talked to John about it after the flight, and he said words to the effect of "I couldn't see the damn thing, so I stripped off the original covering and recovered the bottoms of the wings." I filed this information away for future reference. On my Vanquish, the red and white stripes on the bottom of the wings blended into a pinkish white, and the stripes were indistinguishable. I also noticed that the day glow orange didn't fade over time on his plane, unlike what I had seen before when it was used on the top surfaces.



Scheme 1: Original Vanquish wing bottom scheme. Doesn't work



Scheme 2: John Fuqua's scheme on his current Prolog. Same as his Vanquish

My next airplane was a Nuance. It had an orange and white scheme on the bottom of the wings. While it was better than the Vanquish, it wasn't ideal. In addition, the top of the wings and tails appeared as though they were made for looking at on the ground, not in the air. Looking around at other ARF pattern airplanes, most of the schemes looked good on the ground, but many were hard to see in the air. Biplanes could be especially bad because of their smaller wings. Another few pieces of data filed away.

I also talked to my Dad about color schemes. He reminded me that when he had been competing, most of his airplanes were red, with large white wing and tail tips, all for visibility. Large, simple, geometric shapes, another piece of data filed away.

When I got my Proteus fuselages last year, one of them was already painted in Andrew Jesky's color scheme, primarily red/white/blue, with some yellow accents. When it came time to cover the wings and tails, I looked at his scheme, but wanted to do something a little different. On the bottom, I used day glow orange at the wingtips, and on top, I used red on the tips. I contrasted that with large white and blue panels, top and bottom, with a dash of yellow on the top. For the most part, this scheme worked for me, and I could clearly see the wingtips inverted or upright. However at the Huntsville contest in September of last year, Jason Shulman flew

one of my Proteus' in the contest. He noted that he had a hard time seeing the wing leading edges in the large white panels on the top and bottom of the wings. He suggested a contrasting color at the leading edges.



Scheme 3: My Proteus wing scheme, bottom and top



Scheme 4: Spark wings bottom, Original day glow Green on the left, current day glow orange, right

We talked about doing it while he was in Huntsville, but didn't get around to it. Another piece of information filed away.

When I got the Spark as a test bed, I thought about getting a set of Dave Snow wings for it since they are much lighter than the stock wings. It turned out that Andrew Jesky had a set that had been fitted to a Spark, and were ready to cover, that he didn't need. I bought them from him. At the same time, as I mentioned previously in my monthly column, I was going to use



Scheme 5: Spark wing, top

HobbyKing covering film on the wings and tails, as I had had good luck with it in smaller applications previously. HobbyKing didn't not have a day glow orange, but they did have a

day glow green. So I decided to try it on the bottom wing tips. The top surfaces had a different scheme than my Proteus' due to the color scheme on the Spark fuselage, but the upper wing and tail tips were still red, contrasting with white on the bottom, and yellow/white on the top.

The first flights with this scheme on the Spark worked pretty well. The days were generally overcast or cloudy, and the day glow green showed up well. However, I had one day where the sky was mostly clear, and I had a harder time seeing the tips. I didn't think too much about it at the time, because I was only getting one good flying day per couple of weeks this past winter.



Scheme 6: Spark wing, bottom, orange leading edge. Didn't work

I took the Spark to a contest in Apopka, FL. The sky was mostly blue. I was having a hard time seeing the bottom wing tips. I let Jason Shulman fly it, and he noticed the same thing. Day glow green just disappeared against a blue sky! I flew it at the contest like that, but resolved to fix it when I got home. He also made a comment about the



Scheme 7: Final Spark wing, bottom

leading edges of the wings similar to the one he made about my Proteus scheme.

When I got home, I stripped off the day glow green and recovered with day glow orange. I also put a stripe of day glow orange on the white panel leading edge on the bottom of the wings, about 2.5 inches wide. The next nice day, I flew the plane, and while I could now see the tips, I couldn't see the orange strip at the leading edge at all! It blended right into the white.

When I got home from flying that day, I stripped off the orange stripe, and put a dark blue stripe at the leading edge on bottom, red on top, 3.5 inches wide. The next time I flew, while I really couldn't see the strip of blue or red at box ends, I could tell where the leading edges of the wings were, top and bottom.

My conclusions/observations to date are these. Stripes or blocks of color need to be around 3.5 to 4 inches wide to be distinguishable in the air. Simple large blocks of high contrasting colors are best in all kinds of light and colors of sky. Narrower stripes just blend together at any distance. I suspect that the day glow green didn't work because it is too light in color. My next airplane will have the 4 square day glow/ dark blue scheme on the bottom. It is the easiest to do, and the most visible. I would have done it on my Proteus originally, but the stepped tip suggested the contrasting tip approach. Now I know different.

I've had some people suggest that with the day glow colors that the judges can see the wings better, and will downgrade more. I take the opposite approach. In order for judges to see good or bad, they first need to see the plane. If they can't tell what the airplane is doing, how can they be expected to give high scores? If the judge can see the wings, then he is more likely to see the points of a roll, the roundness of a loop, the straightness of a line, and the

higher he will score.

For what it is worth, Monokote day glow/florescent orange, is extremely difficult to put down. It does not act like other Monokote colors, and leaves white stripes if there is even a hint of a crease when ironing it down. Day glow/florescent orange Ultracote is much easier to apply. It isn't quite as bright as the Monokote, but it goes on well. The other colors on the Spark wings are HobbyKing covering. It lays down well, and I actually prefer it to either Monokote or Ultracote.

Now, after all of this, I go back and look again at the scheme Andrew Jesky uses on all of his planes. Simple, large geometric shapes, top and bottom, in contrasting colors, with a wide stripe near the leading edge. Hmm, maybe, just maybe, he's on to something!



Scheme 9: Andrew Jesky's scheme

What's New in Your District?

D1



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CT•DE•ME•MD•MA•NH•NJ•NY•PA•RI•VT

The weather is finally breaking in the North East and it is time to get the outdoor planes back out and in the air with the contest season fast approaching. We have contests lined up beginning May 3 with oaxis right up through LVRCs before Nats this year. I am working with Jim Quinn and Frank Gioffredo on finalizing the dates for the Penguin and AGS contests to occur after Nats in August, keep an eye on the website for the final dates for these contests.

D2



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DC•NC•SC•VA

Once again, D2's own Joseph Szczur has done us proud. Having barely overcome jet lag after the F3A championship in South Africa, Joseph has earned his place as the Junior Member of U.S. Team for the F3P World Championships to be held in Warsaw Poland in 2015. Congratulations Joseph!

In the middle of March I took a trip to Florida to see some spring training baseball, play some golf, and attend the Tangerine Contest just outside of Orlando. My finish at the contest revealed a large buildup of rust from a hard winter with no practice, but it was better than my golf. Thank you to the members of Remote Control Association of Central Florida for their warm welcome. What did I learn? When you get to practice pretty much year-round it sure helps your game.

I also had chance to catch up with Larry Kauffman, who has been recruited as the VP for District 3. It was good to see Larry and I can assure you he's doing very well and that Florida suits him just fine. Kinda got me to thinking ... just saying.

We had our first contest of the year in Green Sea, SC over the weekend of April 12 – 13. What a success it was! We had perfect weather and good attendance. Just two weeks earlier the D2/D3 challenge contest had to be canceled because of weather, but I'm nonetheless certain that D2 would have been victorious. Trying to catch D2 by surprise, it looks like D3 planned a sneak attack by seizing the opportunity to send Jason Shulman and Richard Bohn to Green Sea to pick up the lost challenge. Both finished first in their class. As in baseball, there's always next year ... just saying.

At the contest we decided that it would be a good idea for the district to have it's own laser printer to reduce printing costs and to speed up the reporting of contest results. Since the district has no money of its own, we "passed the hat" to start a collection to cover the cost. We received about half of what is needed. If you missed the contest, please consider making a contribution the next time we're together (or by mail or PayPal to my email address).

And finally, this from Marvin Marozas: It was with great sadness that I announced at the Green Sea, SC contest on April 12-13 that Skip (Ewing) Board passed away this past February after a prolonged battle with cancer. Skip had retired to Murrells Inlet, SC from Reston, VA just a few years ago. Many pattern flyers, particularly those that flew in District II back in the 90's, will remember Skip. He was a member

of the USPJA (Unified Scale and Pattern Judge Association) and voluntarily judged many contests. I first met Skip in the early 90's shortly after I started flying pattern. He was always one to offer advice and encouragement after a flight. When Skip retired to my area he quickly volunteered to get back in the judges chair and work the Green Sea contests in both the fall and spring. Having this past contest without Skip in the chair left a hollow spot in many of our hearts.

Can We Talk?

Last month (April, 2014) John Gayer wrote a column "To weigh or not to weigh?" It was an excellent summary of the issues and contradictions that the weight rule presents. I've struggled with the logic of the rule myself almost since I started in pattern. My first reaction was: What? You mean the weight restriction is on the maximum weight not the minimum weight of the airplane? Really?

Several years have passed since then and I'm now struggling with that maximum limit. Since I fly at the Nats I work to keep my plane within the rules. I have an airplane that can fairly be described as "battle tested" and keeping it under one or another of the weight rules is becoming a challenge and expensive. I suppose that once I reach a level of competence where I no longer am making regular repairs the weight rule will be a static issue. Until then, my airplane gets a little heavier each time it comes out of the shop. A little fiberglass here, some CA there. It adds up. I think that we should ask "Why we are doing this to ourselves?"

John asked if "the weight rule could be removed from the rulebook" saying that "flying a heavy airplane is its own penalty." I think his argument that the AMA rule is inconsistent with F3A, is complicated, and is generally ignored at local contests summarizes well the case for doing away with the rule for the AMA classes. Implicit in the argument, from those in favor of its removal, is the added burden that comes with the expense and effort needed to make weight. This burden is surely another penalty that many of us would rather not pay and it is the reason we care.

As I understand it, one counter argument is that getting rid of the rule will have a perverse effect and will result in changes that are the opposite what the rule-removal proponents seek. It is said that eliminating the rule will allow airplanes to be built that will exploit the new openness and that we'll wind up with airframes that have more volume, are stiffer, and have correspondingly larger power plants. All of

District news continued on page 18

BEHIND *the* STICKS with...

Chad Northeast *by Scott McHarg*



I grew up in the town of Oxbow Saskatchewan, where my parents have a grain farm on 21 quarter sections of land. My first RC solo experience occurred on the driveway into the farmyard, I got my PT-40 all lined up down that driveway hit the throttle, pulled the elevator and the plane went straight up did a nice quick stall turn and came straight down. I managed to pull out of that, but I was too far behind and my poor PT-40 smashed into the dirt in the field beside the lane. I was thirteen at the time and didn't realize that was the beginning of the next 24 years of my life!

A little more about me that doesn't involve RC. I am 37 years old, married to Agnes, who is very supportive of the hobby, I am sure there are many of you who have seen her calling for me over the years. We met at university while Agnes was taking a degree in Physiology; she ultimately finished that degree and went on to get a degree in Mechanical Engineering. We have two children Matthew (7) and Thomas (4), both of them really enjoy being around the flying field, and with any luck Matthew should be flying on his own this year.

I have a [B.Sc](#) in Mechanical Engineering from the University of Saskatchewan, where I graduated in 2000, and subsequently moved to Calgary to try and find work. I have spent my entire career since working in Canada's Oil & Gas sector for a variety of companies and in a variety of different areas of the industry. I have been very fortunate in my career to be able to travel a little for work and have been to Oman in the Middle East, and Venezuela, as well as to many areas of the USA.

Currently I work for Canada's largest oil producer, Cenovus, in the conventional oil group. We target primarily the light tight oil that has been opened up by the advanced in hydraulic fracturing technologies. My specific role is as a project manager coordinating facility engineering and construction projects that allow for the processing of the oil so that it can be sold to refineries. Typically I am responsible for projects in the \$1-\$20 million dollar range, I have however lead projects as large as \$150 million dollars, but those take up too much flying time!

It's a very small industry, and interestingly

Agnes and I have worked not only for the same company, but also on the same project at the same time. She works doing nearly the identical job that I do, except that she is on the engineering consulting side of the business. So you can imagine our dinnertime conversations!

I started to fly RC in 1990, mostly being taught from a club in Minot ND which was the closest club to where I grew up. I was a quick study and it didn't take me long to get the hang of things, racing Q-500 was very popular in that part of the world at that time so my second airplane was a hand me down Q-500 with an ASP 40 on the nose. Not very fast by racing standards, but plenty fast enough to keep me occupied.

I attended some races in the novice class between 1991-1994 but never was very competitive because I couldn't afford the Webra speed's and Rossi's that most were using. Nevertheless it was fun and taught me a lot of good flying skills. Since I am a very competitive person I really needed something where my abilities could thrive in spite of a lack of funding. I had been flying aerobatics with a Four Star 40 in the early 90's and enjoyed that part of it.

In 1994 the Canadian Nationals were coming to Brandon Manitoba, which was quite close to Oxbow. I knew I could never be competitive in racing, so I saw that pattern was going to be flown and ordered by mail the rule book from MAAC. I built an Ultimate Kaos from Direct Connection and powered it with a .46 ASP motor. I worked hard and practiced the Sportsman schedule from the rulebook and was ready to go, with a Midwest Sukhoi as my backup model!

When we arrived in Brandon for the Nats, the pattern team trials were underway for the '95 Worlds in Japan. For the first time I saw Ivan Kristensen, Colin Campbell, Greg Marsen all flying what seemed like huge airplanes and 4 stroke YS's. It was all pretty

surreal, as I had never seen that caliber of flying before.

We attended the pilots meeting for that Nats, and found out that the sequence that was in the rulebook I had ordered was quite old, since the rulebook had not been updated. In fact it was now a full turnaround sequence, vs. the non-turnaround one I had been practicing. I don't recall being phased by this, I guess ignorance is bliss. The contest began, for the first two rounds I was really just figuring out the sequence and getting my bearings since this was my first pattern contest ever. Most of the other Sportsman pilots were using 60 size pattern planes (Conquest's etc) with YS 61's in them. My Kaos seemed a little underwhelming by comparison. This was the part I loved about pattern though, that didn't matter. By the third round I had things figured out, and I won that round, and the 5 rounds after that, and was the Sportsman champion.

I continued in pattern, but only casually, as University would occupy a huge amount of time from 1995 onward. I moved through the classes fairly easily using a Conquest 7

right until I started flying FAI in 1998, when it was planned to have a team trials out in Moose Jaw, Saskatchewan. I knew I wanted to try out and see if I could make the team for the '99 Worlds in Pensacola. I made the jump to a pair of Finesse 2+2 models and the YS 120AC. I tried out for the team, but did not make it finishing in 4th place and becoming the alternate; however that event was a springboard for me. The timing of the event was June, and Ivan suggested that I still had time to register and attend the US Nats in July. He was quite insistent, and that it would be a big benefit to me if I could make it. So I did just that and Agnes and I drove down to Muncie with my Finesse in my Dodge Neon.

This was the shock of a lifetime, so many famous pattern flyers were there and Ivan was kind enough to tote me around a little bit. I remember practicing with Mike Harrison and Ivan one day. I tried my best, but finished second from last, but that was not the point. The things I learned in that week set the stage for a major change in my flying.

At this stage of my life I had a lot of time to

practice, and was probably doing 10 flights a day almost every day. This coupled with what I learned at the '99 Nats allowed me to go from just one of the local guys, to being very dominant at all the local competitions. This was a revolution for me in pattern.

The next 10 years from 2000 onward were really an evolution. Now that I knew what the sequences should look like it was much easier to make them look like that. I knew my equipment had to be at least at a certain level for a certain amount of performance. With this I was able to finish second to Ivan at the 2000 Canadian Nats, and secure a spot on the team for the 2001 Worlds in Ireland.

I managed to make the semi-finals in Ireland at my first Worlds, which was very exciting. I continued to improve and used that result to get some sponsorship that would help with the costs of competing. I went back to the US Nats in 2002 and finished middle of the pack, which was much better than I had done in 1999. I again made the team for the 2003 Worlds in Poland.

BJ Craft BiSide



- DTFS (Double Taper Fast Snap) wings, based on the wing platform utilized on the Episode and Nuance DTFS design.
- Flying stabilizer.
- Visible paint scheme making it easy to see in the air
- Lightweight
- Custom conversion for Contra available
- Building services available! Don't have the time or skill to build one? Let our expert team of builders do it for you for a nominal fee.

\$2,300.00

The name relates to the double natured aspects of a biplane and pattern flying. There are two wings and strong positives along with compromises in a biplane design, hence the two sided aspect of the design. In addition, when you compete against someone they are your foe, but at the same time they are also your flying buddy.



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I was flying a lot at this point, and working full time so I had more money available for equipment and went to Poland with top of the line gear and a lot of practice. I really finished poorly in Poland and learned the lesson of perfect practice makes perfect. Up to this point I had never really used a coach, just put in hundreds and hundreds of flights, and built up a lot of bad habits.

After Poland I really evaluated what I needed to do in order to move forward in my flying. Agnes and my good friend Nedim Bek would play a pivotal role in this. We

worked through each maneuver of the sequences a few at a time for months on end. Really picking apart the mistakes and slowly but surely fixing them and breaking the habits that I had learned along the way. This was a far more disciplined approach to flying than I had ever had previously, and the improvement was dramatic. I also knew I had to get back to doing the big contests like the US Nats more frequently. I went again in 2004 and 2005 finishing in 11th both times, but knew that the consistency and focused practice was

working. I went again in 2006 and finally made the finals, 7 years after my first Nats the goal of the finals had come true.

Since that time having children has cut into the flying time quite a bit, but the practice routine remains the same to this day. Focused practice on the little elements, perfect practice makes perfect! Today I would normally get in about 200-250 flights of pattern, maybe 300 on a good year. My biggest goal today is to make the finals at the World Championships, something I have never done.

I really enjoy flying pattern, there is always something new to play with and the evolution of the technology has been incredible. The airplanes are so amazing to fly compared to 15 years ago, and I am excited to try as many different planes as possible. For 2014 I am using both a Citrin and Acuracy biplanes from Oxai. I have flown monoplanes for such a long time that the biplanes are just another challenge along the path to learn and conquer.

I hope you enjoyed reading a little bit about my life as much as I had fun trying to remember it all.



Districts

these changes, so the argument goes, will actually increase the cost of our airplanes.

Another argument, though not strictly about eliminating the rule, is that fuel powered and electric powered planes are not treated equally with respect to weight. The former are weighed with the main power batteries installed so that the airplane is ready for flight, but the latter are not weighed with fuel and are not ready for flight. What is the rationale for this? Is it fair? Can it ever be resolved?

This differing treatment of fuel and electric power brings us to FAI/F3A. Tackling the issues of the weight limit and treatment of fuel/electric in that realm is massive and well beyond the understanding of most of us, and I'm not suggesting that we go there. Rather, as John suggests, let's just deal with the AMA rulebook. I'm not sure how the FAI weight rule originally came about, but I do think we should ask whether it's time for a change in the AMA rule. I'd like to know "What problem is being solved by having this rule?"

Can we talk? Let's hear from you and let's use this forum to hash it out in the open and on the record. I encourage you to submit something to this column, or better yet, send your thoughts to the Member Sound Off space in K-Factor.

D3



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AL•FL•GA•MS•PR•TN

Getting Started in Pattern

By the time you read this article the 2014 flying season will be under way. With that in mind I thought an article dealing with getting started in pattern could benefit those pilots out there that are thinking

about giving it a try.

Do you fly for your enjoyment or do you need people going ooooh and aaaaahhh when you fly? If you need the oohhs and aaahs, pattern may not be for you.. If you decide to try pattern you will spend many flights practicing. Every practice session you fly you get better and then you find yourself slipping back, then more practice and more practice and you get better. It is a continuous cycle. If you enjoy this process, you're a go. I get as much enjoyment out of a practice session as I do flying a contest. In pattern you fly against yourself first, and test yourself against others second. Pattern is an individual sport like golf. In a contest your score is determined by how well you fly and is not effected by how well or poorly your competitor flies.

Getting Started

You are going to need help! Anyone starting pattern and wants to succeed is going to need a coach. You will find different coaches will have different flying and coaching styles. Use those different styles to help you progress in your quest. Yes, it's a quest, a quest for perfection. You will never achieve perfection but that is the quest. So let's look at the quest.

Coaches

Your coach should give you the good news and the bad during practice. I have seen coaches who only give you the good news and I have seen some that only tell you what is wrong. Find a coach that will give you both. You need to know how to improve but at the same time you need to understand what is going right and build on it. Some days your coach will pat you on the back telling you how far you have progressed and the next day he or she may be very critical of your performance. You must take both and build on the feedback. Because we all have egos, sometimes you want to defend what happened and explain to your coach that; "the wind shifted and the sun was in my eyes and the engine running behind me was a distraction and the sun block was burning my eyes, blah, blah, blah". Remember, your coach is trying to help you get better and no matter what, he is looking at the results of your actions. Some days you just don't want to hear it. You're struggling and can't seem to get anything right. Level with your coach and tell him what is going on and if he is good he will understand. He has a coach too, he will understand. On the other hand you need to get over it and move on with his help.

Which Airplane

What airplane should you use to begin pattern? When I started, I read article after article, surfed the web for hours and came up with this answer: Fly something you are comfortable with! As long as it will do simple aerobatics you can start

with it. There are several inexpensive planes produced today that are very competitive. Find one that fits your style and budget. You can use any of many sport flyers that will perform the maneuvers. I have flown the Sportsman sequence with a trainer. Can it be done? Yes! Is the plane competitive? NO! As you get serious, you will need an airplane designed for pattern. Can you compete with a sport plane? Yes! But pattern planes are designed for one thing, the sequence. The better you get, the more you will need a plane that is designed for the sport. Look at all the competitors and talk to them about their planes. Everybody has an opinion about which is the best plane. Listen to them and then make up your mind.

Trimming

Whatever airplane you choose make sure you properly trim the plane. If the plane is out of trim you will increase your work load. You will be fighting the plane to keep it on track and level while trying to fly your sequence. There are several trimming processes on various web sites. Whichever process you use, work on trimming your plane and keep checking the trim. I have had the trim change on my plane and I fought the airplane all day. Trimming is an ongoing process. Checking the trim it will keep you from fighting the plane. Most kits come with a starting point for control throws in the kit directions. As you work to trim the plane, also start adjusting the throws to fit your style of flying. When I started I used a lot of throw on my controls (old sport flying habits). The pattern sequence is like a ballet. It should be smooth and rhythmic, not quick and jerky. Adjust your throws and add Expo until the plane feels good to you and presents well. Check and recheck the CG on your plane. As a sport flyer if the CG is too far forward, not a big deal; and if it was too far aft, it was squirrely. No big deal, it made 3D easy. In pattern correct CG is essential! Remember we are trying to be smooth and exact in our flight. Trimming takes time and attention to detail. But it is essential to your success in pattern. If your plane is out of trim you can't keep it on track and you will fight the plane the entire flight. A well trimmed plane will go where you point it and stay there. As I started pattern I read several trimming processes and thought "These people are crazy. What's the big deal?" Then as I started to fly pattern, and I realized the need for the effort in trimming. The better the trim, the better the plane flies.

Which class should I start with?

There are 5 classes – Sportsman, Intermediate, Advanced, Masters, and FAI. The obvious answer is Sportsman. I have talked to a couple of people who started in Intermediate and they all said they wished they had started in Sportsman. Learn the basics in Sportsman and then progress to

the other classes. The Sportsman sequence looks easy. **WRONG!** Boy did I get a wakeup call. Learning the sequence there wasn't anything I had not done before but trying to do it correctly was a different story. Sportsman's maneuvers start the skills you will need as you progress through the classes. It sets you up for the Intermediate class. You learn how to set your line, get a feel for distance from the runway, and which altitude to use. You also learn the basics for the maneuvers in other classes.

Learning the Sequence

Learning the Sportsman sequence can be a daunting process. It doesn't matter if it is the Sportsman, Intermediate, or any other sequence - it's a lot to learn. But there is an easy process. Yes, this is a repeat of my last column.) Break the maneuvers down into individual pieces. Then look at the pieces and group them together. There are several pieces that will show up in most sequences: 45 degree lines both up and down; vertical lines both up and down; rolling moves; looping moves; and horizontal lines both upright and inverted. If you start by learning the pieces in your sequence then it's a matter of putting the pieces together and working on the maneuvers. Once you master the maneuvers, put them together in sequence order and you are now ready. As you learn the Sportsman maneuvers and sequence you are setting up the basics for Intermediate sequence. The Sportsman maneuvers teach you the pieces you will use in any class. Learn them well and you will progress through the classes. There is no magic in going from Sportsman to Intermediate. It is a matter of learning the Sportsman pieces and using them to transition to Intermediate.

Practice

Practice has two purposes: one is to train your eye, and the other is to practice getting the airplane to do what you need it to do during a sequence.

Training my eye for the maneuvers is the hardest part of the practice session for me. What should the maneuver look like? You think you know, but are you sure? That may sound silly but how we imagine how it looks and what it actually looks like can be very different. Take the half reverse Cuban eight as an example. The 45 degree up line looks different out at the turn around point than it does in front of you. So how do you train your eye? If the maneuver is a turnaround maneuver practice the maneuver in front of you. Example: the Half Reverse Cuban Eight. Practice the pull to 45 degree on center until you have the feel for how much and how long you need to pull to make a smooth transition to the 45 degree line. The same applies for the half roll and the 5/8's loop. Keep practicing the maneuver in front of yourself until you have it to the point where it is

almost second nature to you. Then move it half way to the end of the box. Practice it there, get a good look how the perspective changes, the up line.

It also helps to set a goal for the practice session. What do you want to accomplish? Improve a maneuver or work on lines? Set your goal, do a preflight brief with your coach, fly, and debrief the flight. Then set the goal for the next flight. If you don't have a goal for the flights, you are just banging sticks. You should know what needs improvement and work on it. If you are sport flying and a maneuver doesn't come out exactly as planned, you just do something else. But when you start pattern and you blow a maneuver, you'll probably blow the next maneuver as well. When I started practicing pattern, I didn't realize how many times I just went with the flow from one maneuver to the next and it took effort to keep on track during the sequence. But once it started to come together it really felt great. Wait until you try the first maneuver and you have trouble with it. -- Straight and level flight -- I thought "this is simple why don't they do something hard?" Well just wait -- the flight path is level and parallel to the flight line, no skew, no increase or decrease in altitude. Not as easy as it sounds. It takes a lot of practice to get that first maneuver right. My problem was judging the line parallel to the flight line. My airplane was always slightly leaning which caused the airplane to move away from the flight line. The straight flight is not easy, and because you aren't adding any other movement, the judges can see any little variation in the line of flight. When my coaches said to practice straight and level, I thought they were kidding. They weren't. The straight and level is a foundation for the rest of the sequence. It gives you the reference for the other maneuvers. When you get the line consistent, start the other maneuvers. That's when you feel like you are starting to fly the pattern. I have always liked the stall turn and the half reverse Cuban eight. Was I ever surprised when I started to get negative feedback from my coaches! I thought I was good at the two. The ego was slightly bruised. That is when I learned to leave my ego in the pit area. You can't get better if you are trying to justify what you just flew. Your coaches are watching the maneuver and they see things you don't because you are trying to control your airplane. Just believe them and listen to what they are saying and don't take offence. Remember, you chose them because they knew what they were talking about and you trust them. So trust what they say.

One thing I see often during practice sessions are pilots going through their sequence over and over. What are they trying to improve? The best practice routine is not to just go through the sequence over and over. You need a process to improve each maneuver hence improving the sequence. If you just go through the sequence over and over, you

are practicing that old half truth "practice makes perfect". If you practice the same thing over and over, and it's wrong you will do the sequence perfectly wrong. Find what you need to improve, take that maneuver and practice it until you improve and then put it back in the sequence and try the whole sequence again. But what maneuver to practice? Starting out you will need to practice all the maneuvers and the entire sequence. Once you start competing you have your scores to help you find your weaknesses. But how do you decide which ones? The answer to that question is to build an Excel spreadsheet that lists each maneuver. Record all the scores from the score sheets after a contest. The spreadsheet averages the scores and will show you the lowest scores for the contest. Now you know where to spend your time practicing. The areas that you remember from the contest are not necessarily the lowest scores. We tend to remember a critical moment not necessarily the average. You remember dumb thumbing a loop and almost flying over the judges, so you work on your loops over and over. Of course all the other loops scored 8s and 9s but all of your double Immelmann scored 4s and 5s... Do we need to practice the sequence over and over? Of course. But if we are going to improve we need to focus on the weak areas and work on them and then put them back in the sequence. If you only practice the sequence over and over, you only practice the weakest maneuver once per flight. Did you remember what you should have done to make the maneuver better from the previous flight? If you spend one flight working a single maneuver, you will perform it several times. With your coach watching and coaching during the flight, the maneuver should get better and better. When you practice the entire sequence, the maneuver should show improvement. Then work on the next maneuver, and the next, and the next until your entire sequence is natural and comfortable. As you practice the sequence remember to practice both ways. At our field because of the prevailing wind we tend to practice right to left. At the first contest I attended the wind made the sequence left to right. Don't fall into that trap. Practice both ways when the wind allows. The wind direction at your first contest may be the exact reason for this action.

We have went through getting started in pattern to include; Coaching, choice of airplane, trimming, choosing your class, learning the sequence and finally practicing the sequence. All that is left now is showing up at the next contest in your district and enjoying a great weekend at the field. I'm sure you will learn a lot and make some new friends.

D3 Updates:

The 2014 Tangerine Pattern Classic, at the Remote Control Association of Central Florida flying club field in Apopka, FL was held during the weekend of March 15 & 16.

Districts

Twenty registered pilots from D-3 & one from D-2, (2 Sportsman, 9 Intermediate, 5 Advanced, 2 Masters, 2 FAI) battled it out during "chamber of commerce" weather on Saturday followed by gale force winds on Sunday. Half of those in attendance did not fly Sunday as a result.

Results:

Sportsman (4 Rounds flown)

1st Place - Carson Kruse 3000.0000

2nd Place - Jack Keiser 2820.1681

Intermediate (5 rounds flown)

1st Place - Zachary Ketchersid - 3992.1

2nd Place - Gary Freeman, Jr - 3903.7

3rd Place - Richard Bohn - 3837.5

Advanced (5 rounds flown)

1st Place - Mike Costantine - 3995.2037

2nd Place - Neil Rivera - 3889.3517

3rd Place - James Hannah - 3872.7429

Masters (4 rounds flown)

1st Place - John Fuqua - 2993.6941

2nd Place - Jon Lowe - 2980.0796

FAI - F3A (4 rounds P & 1 round F flown)

1st Place - Jason Shulman - 4000.000

2nd Place - Bill Ahrens

I want to commend CD Steve Homenda and the Remote Control Association of Central Florida flying club on a job well done. Standings have also been posted on the D3 web page. Thanks Mike!

Until next month,
Larry Kauffman
D3VP

D4



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Well, as this nicer weather hits I know we are all eager to get out and start getting ready for the start of the season. I for one have not been out to my clubs field yet, but will be ready to start up my regular flying schedule in the next week or so. I recently returned home from the 2014 Weak Signals Expo in Toledo, Ohio. The Weak Signals Club really puts on a great show every year, and I personally want to thank every member that helps put on one awesome show. This was my first year being there for all four days, and I must say it went very quick. I arrived to the show early Thursday morning to set up the NSRCA booth, and I am glad I did because it was a mad house by late morning with all of the vendors setting up. Dave Cook showed up Thursday afternoon to speak to the vendors about advertising and supporting NSRCA. He is really taking the reins on the advertising side, and his hard work is greatly appreciated. The show this year was pretty steady in my opinion on Friday and Saturday. Sunday was another story, with I would guess probably a total of about 500 +/- people total in the Seagate Center. I did have close to a dozen or so people stop by the booth showing interest in NSRCA, and took several brochures and applications. I want to work with Weak Signals next year on trying to get a little better booth position. The booth that we were in this year was kind of hidden being right next to the Hobbico booth, and I feel it was overlooked with it being in the position it was in. Being the first year manning the NSRCA booth, I did not know really what to expect as far as how many people would renew or apply at the show. I ended up taking one renewal, and one new member application at the show. I had my Extreme Flight 2M Vanquish on display, and answered quite a few questions that people had in regards to theirs, or building. It was nice to also have Mike Mueller there at the booth representing F3A Unlimited. He brought one of their new Axeome 70's to display, and ended up selling it, and I believe one other one he had brought with him. I am hoping that next year with possibly a larger booth, we can showcase even more products from his company. Mike's vision and ideas for F3A Unlimited are many, and I know that he will take the company to new heights, and I wish him the best of luck with his new venture. I for one think it is an asset to our hobby having



a person such as Mike leading a company that focuses its attention to Pattern. Mike and I also talked about the adding a link to his site for applying to NSRCA, and it was motioned at the last board meeting to proceed with the addition to his site. I also want to personally thank everyone who stopped by the booth to help out and relieve me throughout the weekend, it was greatly appreciated!

I was hoping to have a review article done this month on the FMS F3A Olympus that I purchased at the show, but time was not on my side. I will have a full review in next month's article with the build, and hopefully a flight review weather permitting.

Until next month, please enjoy the start of our season and be safe!

Matt Finley

D5



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IL•IA•KS•MN•MO•NE•ND•SD•WI

It finally looks like the Mother Nature, has given D5'ers a few days of good weather. Hopefully it won't be long until the weather becomes consistently nice. With the weather becoming nice, this means we get to finally go out and do what we love to do. With that being said, remember always, safety first.

The equipment we use brings us a lot of joy, however, they can also be very dangerous. Lipo batteries can be volatile and even our glow engines can cause some significant pain; and I am not talking about when the don't start...lol.

Some of you who read the points below may say, what kind of person wouldn't do that before flying. I will tell you that a few

of the below happened to me, and it seems to happen after a long winter; where it takes a few trips to the field to get re-acclimated to the flying season. I won't say which one happened, but if you see me at the field, ask me and I will share it with you.

Roberts' Rules for Safety.

1. Always plug your discharge lead into your charger correctly, and double check before charging your battery.
2. Never plug your batteries into the discharge lead, until you have them secure to your charger.
3. Never discharge your Lipo past 80%.
4. Set a fail safe for your throttle and elevator.
5. As soon as you land disconnect battery and disarm speed controller.
6. Have a way to disconnect your battery from your speed controller from outside the plane.
7. If possible and you can spare the weight gain- have redundancy in your model in case your receiver battery fails.
8. Always double check that your motor batteries are fully charged before flying.
9. Never charge your batteries over the charge rating specified by the manufacturer.
10. Charge your Lipo's in a safe place in case something happens, that way

you can get them out of your house or garage quickly.

11. Before you fly for the first time, move all your control surfaces to make sure that they are moving in the right direction.
12. Check your receiver battery before each flight. This will take you at most 10 seconds, if you have a failure and did not check your receiver battery you are going to want those 10 seconds back.
13. Keep equipment and your fingers away from the Prop, once it is engaged; flying with four fingers and a thumb is difficult enough.
14. If you feel something is not quite right with the plane or it's making a odd noise, land immediately and inspect for damage.

I am sure there are many more safety tips I could add to this, but I think this will be a good starting point.

We have been watching the progress of Mark Barnett's, black magic build, and I could not be a happier to report that Mark, has finished his model. Please join me in congratulating a rookie builder, who is a rookie no more! Cheers Mark and great job!!!!





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D6



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AR•CO•LA•NM•OK•TX

I had an article ready for transmittal, but recent events led me to change my words. First, the Sulphur Louisiana contest happened. I, having been hampered by a demanding job, felt it was more important to play a bigger game and stay home to practice. My rationale was that I'd get no more than six flights in Sulphur whereas I could fly triple that, easily, at home. In doing so, I made two mistakes.

The first mistake was that I missed a great get together. Monroe Michaelis relates the following;

"The 2014 version of the Gulf Coast Pattern Championship was a great success. There were 26 contestants and for several pilots from the Sportsman class, this was their very first full Pattern contest. Only one airplane was lost all weekend, and

this was due to the failure of the onboard receiver batteries. The pilots had their hands full with gusty winds on Saturday and a strong wind on Sunday. The pilots who persevered through these adverse weather conditions became better pilots for doing so.

The Lake Area Radio Kontrol Society (LARKS) members pulled together and offered a nicely groomed field, a great lunch for Saturday and Sunday, numerous pilot prizes and exception hospitality. A special 'Thank you' for our sponsors: Petrobowl of Lake Charles, Tru-Turn, APC and Chick-fil-A. Another big thank you goes to Leslie Hochalter who took care of scoring all weekend and Monte Richard who handled the lineup of pilots and judges.

Due to solid overcast conditions on Sunday, the contest was able to begin and end sooner than Saturday. This allowed some of the pilots who traveled long distance to get home earlier. Before the contest ended, there was talk of having this club host 2 contests a year. The Pattern calendar is already pretty full, but we are open to the possibilities.

As always, fly the straight and level and stay centered in the box."

I've included the pictures he transmitted as well. There are more contests in District six than I can share through the course of the year; it is not possible to have a full blown contest report on every contest, nor is it a necessity in the age of the Internet; most people know what happened the very night the contestants get home and post on Facebook and RCU. What sets this contest apart is the fact that it was my first opportunity to get together with the finest people in the world and I squandered it. So, you ask, how did the weekend of practice go?

Gee, I'm glad you asked that. I flew until the battery needed a recharge, and then mowed grass. When the grass was done, I swapped the charger to my starter pack

(since I fly glow) and proceeded to hang a fresh new windsock on our twenty foot tall tower. Being that this was in fact April, and windy conditions prevail, a freak wind gust grabbed the sock and snapped it taut, jerking the pole from my hands. I heard a pop that sounded like a grape being squashed, and my hand opened of its own accord. To make a long story short, I ripped a tendon and a bicep muscle. Meeting a surgeon in the morning.

The moral of the story is, never squander a moment. I should have been in Sulphur, and this would never have happened. Go to your contests when you can. These days are rare. Moral number two is; be very careful when at the field by yourself. Fortunately, I was able to pick myself up. Had I fallen onto my tools below, the story might have had a different ending.

Thanks, Monroe, for the contest and the report. Everybody else; looking forward to seeing you soon.

Brian

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Contest Scoring

Article by Peter Vogel, photos by Sean Mersh

At the recent Oakdale contest, we tested a new electronic pattern scribe system designed to reduce task loading for pilots, judges, CDs, and score keepers. Consider:

- At a contest with 20 pilots flying six rounds, there are 4560 individual scores to be entered into the computer. That's 4560 chances for an error to be made in data entry, requiring each pilot to cross-check 228 scores. Not to mention cutting previous round scores off the scoresheets and dealing with the wind invariably blowing sheets and printouts everywhere.
- A judge must simultaneously keep their eye on the plane while reading the maneuver description and mentally counting downgrades, then write the score down without losing sight of the airplane. This essentially impossible task (unless a scribe is provided) means that judging often degrades to "impression judging" because of the excessive task loading.
- The score keepers are unable to participate in the camaraderie of a contest and cannot learn from watching other pilots fly or relax prior to their competition flights, because falling behind in score entry delays the entire contest.

The electronic scribe is designed to solve these problems by providing a very simple, eyes-free scoring interface.



- The maneuver is read to the judge through earbuds (at the judge's discretion).
- A standard iPod with simple game controller interface allows the judge to tally downgrades as they are seen without taking eyes off the contestant's plane: one button for a 1-point deduction, another for a 1/2-point deduction. Other buttons are provided for Zero, Not Observed (which should be very rare now), and Reset as well as +1 and +0.5 points. The right trigger advances to the next maneuver, the left trigger reverses to the previous maneuver, in case you get ahead of yourself.
- By default, the current score is voiced through the earbuds as it is changed, so the judge is always aware of the score and sure that the button click has registered. By individual preference, a judge can disable this function.

Upon completion of a flight, the judge may



review the scoresheet for errors, as well as with the pilot if desired, prior to saving the scores

over the wireless network to the scoring computer. To ensure the integrity of scores in the event of a network failure, all scores are saved locally on the iPod and deleted only after successful save to the scoring computer. Before saving, scores can also be printed wirelessly from the iPod, if the judge or pilot desires to do so.

In its current state, the score keeper is still responsible for a small amount of work on the scoring computer to verify the transmitted scores for each pilot and record them into the scoring system's Excel spreadsheet with a button click from the scoring app. This serves as an additional check and balance for the system. Once scores are recorded, results are kept up-to-date in real-time on a web server hosted on the scoring computer for continuous display at the contest. Contestants may even access the same data over the contest WiFi on their own devices and drill down to their scores for the same analysis currently delivered by the printed score report along with a bonus comparison of the individual scores against the average score by maneuver of the current top pilot in the class. Again, data is kept up-to-date in real-time, as scores are accepted by the scorekeeper.

The judge interface is an Apple standard game controller that also provides additional power for the iPod Touch. The yellow X button subtracts 0.5, and the Red A button subtracts 1 point. The blue Y and



green B add 1 and 0.5 points, respectively. The lower left D-pad down records an instant zero, D-pad up resets to 10, and D-pad left records "Not Observed". The upper left joystick can be used to record a box violation left/top/right, though this is currently not displayed anywhere other than the screen, a scoresheet printed from the iPod, or the review screen. Future updates to the web-based scoresheet will show the box violations. This is entirely optional and is meant to emulate the notations made by some judges on paper scoresheets; it does NOT change the score, you'll have to click A or X for that. Finally, the right trigger advances to the next maneuver (a Not Observed click also advances automatically as it is assumed you need to catch up if you didn't observe a maneuver), and in case you get ahead of yourself the left trigger moves back one maneuver.

I would like to thank Gordon Anderson (D8) for generating the original Excel scoring system upon which this is based and for encouragement to pursue the app; the pilots of D7 for providing feedback on the various prototypes I've experimented with since 2012; my wife, for putting up with me getting home from work and burying myself in my computer for hours working on this thing; Daniel Lipton, an Apple employee who was so impressed with the system at the Oakdale contest that he donated an iPod Touch for use at the upcoming Arvin contest where we'll be running three lines; the open source community for: [Node.js](#) upon which the web server for real-time score display is based; [Angular.js](#), the JavaScript framework upon which the real-time score display page is built; [Bootstrap.js](#), the Responsive web framework that allows the score display page to work on any size display, from a phone to a tablet and up to the 27" display I used at the contest; [IOSocket4Net](#), a web socket client for C# allowing the main scoring computer to inform the real-time score display of updated scores; [MongoDB](#), the NOSQL database used to manage contest data in a structured form not only for a single contest, but for all contests and that serves as a simple API layer for phone, web, and scoring computer to communicate in a loosely coupled fashion; [ObjCMongoDB](#), an iOS library for communicating with MongoDB.

Because the system was designed from

Districts

the outset to be loosely coupled with the scoring application itself as well as the scoreboard, it's simply a matter of spare time to use the system with other scoring applications, such as Scott Smith's Matrix scoring system used at the NATs. As long as there is a structured way for the data from the scoring system to be accessed from a program, this can work with any scoring app.

Thanks Peter for your report and the tremendous efforts you invested in making this work!!! The Oakdale experiment was a huge success (also see Dale Olstink's contest report)! Even for "digital immigrants" like myself, the learning curve was minimal, and using the game interface was intuitive. All the judges and pilots I talked to really liked the system; and for a contestant, it's great to receive your score printout as you bring back your airplane to the pits! For an example of a score printout, go to: <http://www.patternscoring.com/396/class/402/contestant/71547>

I'm sure this system will continue to evolve, thanks to inputs from judges and pilots. Peter is already making improvements based on feedback from Oakdale and his own observations. But, even in its current version, it beats writing and inputting scores hands down! Very, very well done!!!

Fifth Annual Harry Gould Memorial Pattern Contest, Hemet, Ca.

Contest report by Bill "Sir William" Wallace, photos by Sean Mersh



In spite of some iffy weather predictions, the 5th Harry Gould Memorial contest went off without a hitch. Of course John Bentley and Greg Meierhoff might argue that a bit – they mid-aired in the first round – two Nuances were lost. John was done for the contest, and Greg valiantly tried to continue with a borrowed plane but just couldn't get it together - our condolences.

The rest of the weekend had great weather and some good competition. We also had the first real test of the new FAI-Silver class, and with the concern being that we wouldn't get enough interest, we actually had more entrants in that class than in Masters. It will be interesting to see how participation goes for the rest of the season. We also had a great turnout for the pre-contest party at my house with Nancy doing Yeoman's duty, getting the house and

food ready, and a good time was had by all. Now for the results – in Sportsman, Mike Whitacre continued his winning streak from last year and took the class with a perfect 4000, Steven Lampert was with him all the way to keep him honest, with Dick Chrystie in third.

In Intermediate, Gary Banducci – flying a beautiful Galactic with a Contra drive took 1st with 4000, with Randy McElhatten in 2nd, and Jean Greear in 3rd.

In Advanced, Mike Greear and Gary Switala battled it out all weekend with Mike squeaking out a close 28- point win – Greg Meierhoff was in third and out of contention because of his plane issues.

In Masters we had four entrants, and Frank Capone traveled down south and put a whooping on the southern boys



with a perfect 4000. Lynn Burks and Steve Kaneshiro were in 2nd and 3rd.

The new FAI-Silver class had the most entrants with six pilots vying for the top spot. Jon Carter, Sean Mersh and Dale Olstinske put on a great show all weekend with Jon finally coming out on top by a mere 20 points over Sean, and Dale was only 40 points further back. It looks good for this new class, and as a CD, it makes my



job a bit easier when we have these two manageable sized classes, rather than 10+ Masters flyers to judge.

FAI was the only class we had without at least three participants with Steve Hannah being the only entrant. But he was flying the Bi-Side very well and gave everyone a look at the new F-15 sequence on Sunday.

I'm telling you: that sequence is a mind bender!

I want to thank everyone for coming and not complaining too much when I walked up with the clipboard to ask you to judge. And a special thank you to Mike and Jean for prepping the scoring program and making sure the contest scoring ran smoothly all weekend!

Sportsman

1. Mike Whitacre	4000.00
2. Steven Lampert	3916.82
3. Dick Chrystie	3701.54
4. James Whitacre	3588.94
5. Gene Wagner	3257.96

Intermediate

1. Gary Banducci	4000.00
2. Randy McElhatten	3865.11
3. Jean Greear	3531.97



Advanced

1. Mike Greear	3999.36
2. Gary Switala	3971.54
3. Greg Meierhoff	2234.64

Masters

1. Frank Capone	4000.00
2. Lynn Burks	3892.53
3. Steve Kaneshiro	3810.95
4. John Bentley	317.43

FAI-Silver

1. Jon Carter	3989.58
2. Sean Mersh	3969.17
3. Dale Olstinske	3930.74
4. Bill Sheets	3721.26
5. Jarvis Johnson	3443.48
6. Tak Takayama	3380.18

FAI

1. Steve Hannah	4000.00
-----------------	---------

Thanks Bill for your inputs!

A Funny Thing Happened on my Way to the Flying Field

Article and photos by Frank Capone

Hello to all,

I have a story that I would like to share. A few months ago, I purchased a new truck. My previous pickup had all the conveniences needed to safely transport my pattern plane to anywhere I wished to go. Tonneau cover, carpet kit, tie-down hooks, etc. However, the new pickup was not yet set up and I had not planned on using it.

Well, one day in February it was an

absolutely PERFECT DAY!!!! I couldn't resist taking the new pickup for a ride. SHINY BLACK AND RECENTLY WAXED!!! The weather was perfect too. Sunny and mild temperature with little to no wind. I had my new Angel Shadow (only 19 prior flights) and headed down to the Sacramento Area Modelers flying site to spend a perfect day flying with my buddies. You know that great feeling when you are driving in your new truck. The world just feels better, and you feel better, and everything just feels good. Well, I'm feeling like a million bucks as I get on the on-ramp and start to merge with my airplane in the back. Still in the right lane and just approaching 65 MPH, I had one of the scariest moments I can remember, as my airplane ROSE UP AND OUT of the pickup and over the tailgate it went! Yes, that's what I said..... It completely lifted and blew out of my truck and disappeared. I immediately pulled over to the right shoulder and stopped.

With my Emergency flashers on, I exited the cab and began walking back along the edge of the highway. The airplane was gone!!!! It was nowhere to be seen. The canopy along with one wheel pant was blowing down the center median. With great caution I was able to recover those pieces, but still no sign of the airframe. Have I mentioned that I have a serious heart condition? I walked back to the truck only to find that in my haste, I had inadvertently closed the door with the motor running and my smart phone resting on the center console. I found myself locked out. I had to take a step back and ask myself if this was really happening. All was not lost, as I noticed the passenger door was unlocked. I regained my composure and began to drive ahead looking along the right edge of the highway and there about 400' feet in front way down along the right side of the freeway I saw the airplane. I climbed down and recovered the plane and put it back into the truck. With extra caution I drove away and took the very next off ramp. There I stopped and examined the remains.

I feared the worst, but upon full examination, I have to say, it wasn't in that bad of condition. The

canopy was crushed, both carbon fiber landing gear struts were broken, one wheel pant was cracked, and the other was torn away, both tire rims were broken, the cowl chin area from the air inlet back to the struts was crushed, a small crack on the right side of the fuse just above the wing tube, and my brand new never used Falcon carbon fiber propeller was also broken; but that's about it, and it was all

that I could find wrong.

I was sick, yet relieved that I didn't hurt someone or worse yet, kill somebody with my flying debris. I was very lucky in both regards. The repairs only took about a week and a half and my local auto parts store did a great job in matching all four colors. I used an inexpensive Napa brand base coat clear coat product. Unless you know the story, you would find it hard to spot the repairs. Here is a picture of the finished project after all the repairs were made.



So, the next time you head to the flying site, do yourself a favor and make sure everything is secure and that nothing can get loose. You'll feel better for it!

Thanks Frank for your inputs!

Eighth Annual Oakdale Pattern Contest 29-30 March

Contest report by Dale Olstinske, photos by Sean Marsh



With all the weather forecasts predicting 100% chance of rain for Saturday, many pilots canceled their plans to attend. We had actually moved this contest from its previous June date, because of the blazing hot temps that are normal for June. I guess we can still fly in the heat, we can't in rain!

As it turns out, all the weathermen got it wrong, and we didn't get a drop until late that day. Saturday was overcast all day, and we could see a big storm front off to the NW, but it never came. One good thing about overcast weather at this field is that it allowed us to start flying much earlier in the morning. With an E facing direction, the sun is an issue until around 10:30 or so. In the end, we had 16 pilots for this contest. We were able to get in four rounds of AMA classes on Saturday and two finals on Sunday, along with a few rounds of Classic. Sunday was sunny and mild.

This time, the biggest class was Intermediate, but that was only because of

our experiment this season with the FAI-Silver alternative. This is a good example of why we are trying it and how it helps. If FAI-Silver were not offered at this contest, we would have had nine pilots in Masters and everyone else in Intermediate (there was one lone Sportsman). We would have had to run only one line, (in which case we would never have completed four rounds in one day), or use two lines for two consecutive rounds. Either way, we would have to use all Intermediate pilots as judges for Masters. Many of the Intermediate pilots will tell you they are not comfortable judging Masters. By splitting the Masters field in two, with the addition of FAI-Silver, each class was able to judge the other. The only downside here was all Masters and FAI pilots had to judge most every round, since we also had to judge Intermediate, and only one Sportsman to fill in. But we flew two lines all day, with no delays.

This was the first contest we tried Peter Vogel's new automated scribing system. This system uses an iPod Touch, fitted with a very small game interface. The judge simply pushes a few buttons to record the final score for each maneuver. The judge also has an earpiece, so each maneuver (if desired) is spoken to the judge and each score is fed back through the earpiece before being recorded. At the end of the flight, the judge can look at a summary screen and still make edits if necessary.

I have to say, there were more than a few skeptics about this system. Many felt it would not be reliable, and scores would get lost. Also, many like me,



can't remember which button to push for what, every time I ever used one of these game consoles. But everyone who tried said it was not a problem at all. I didn't hear of any judge who forgot which button to push or made a gross error of any kind. As I see it, this system has three big advantages and many more minor ones:

1. The judge never has to take their eyes off the plane.
2. Eliminates the human error associated with someone (like Peter) manually entering over 5,000 numbers (scores) for a typical contest.
3. Potentially improves judging; used as designed, the judge pushes a button once for each observed error/downgrade throughout the maneuver. This is the correct way we are supposed to judge, but as we know, some just give an overall impression score (9 for excellent, 8 for good and 7 for so-so).

I think Peter has created a winner here!

Districts

Here are the final results from the weekend:

Sportsman

1. Fred Light 4000

Intermediate

1. Lawrence Tougas 4000
2. Daniel Lipton 3928.42
3. Geoffrey Hodies 3853.66
4. Ed Lührman 3808.74
5. Gary Banducci 3727
6. Peter Vogel 3572.54

Masters

1. Frank Capone 4000
2. Bill Sneed 3860.62
3. Dick Belden 3536.72
4. Jon Bruml 3329.54

FAI-Silver

1. Sean Merish 4000
2. Jon Carter 3846.18
3. Dale Olstinske 3818.4
4. Tak Takayama 2860.21
5. Herb Kurlan 1669.07

CPA-Advanced

1. Dale Olstinske 1992.17
2. Sean Merish 1961.75
3. Jon Carter 1906.68
4. Dick Belden 1884.82
5. Tak Takayama 1840.62
6. Frank Capone 1821.43



Thanks for your inputs! Dale flew his new electric powered EUA in Classic, promptly taking first place!

Nice Stuff

Below are some pics of a well made battery tray by Gator RC. The kit includes two sturdy adjustable Velcro straps, two 6-inch long carbon fiber tubes, and laser cut plywood parts (the tray, an interconnecting reinforcement that also serves as the CF tube holder, and four plywood donuts to spread the load of the tube-to-fuselage glue joints).

From top to bottom (pic in next column)
Plywood parts before removal of laser cut outs
Unit ready for assembly
Unit ready for fuselage installation

The dimensions of the tray are 7x4 inches, giving you about 1.5 inches of forward and aft adjustment for a 5.5-inch long TP 5000mAh battery, for example. Cutting two additional slots at the center of the tray, as shown in the bottom pic, will give you more options for positioning



the Velcro straps. Total weight of the tray (without straps) is 38g. They are available from F3A Unlimited for about \$25.00.

Not so Nice Stuff

Would you trust a battery with this warning label (published in the May 2014 Consumer Report)? What's in your equipment?



D7 Pilot of the Month, Jon Bruml, 2013 D7 Advanced Champion and "Pattern Animal of the Year"

Article and photos by Jon Bruml



"My wife and I own a clothing manufacturing business located in the Bay Area. We have two college aged children whom we are very involved with and two Golden Retrievers. I travel for business or to see my kids play volleyball or baseball several times a month.



I started flying rc airplanes as a kid. I was a horrible builder, and it took me a long time to figure out how to fly. When I

was 15, I finally built a reasonably straight .60 size trainer and received good flying instructions. After college, I moved to New York where I eventually met my wife. We built another trainer in my apartment



and relearned to fly out in Long Island. Eventually Lisa started flying too. After we got married, we moved to Cleveland and met Matt, Mike and Dave Klein,

all of whom were top notch pattern flyers and builders. Lisa worked hard at learning to fly, and Dave Klein worked hard at teaching me to build a pattern plane. My first real pattern plane was a Tipo and Lisa's was a Kaos 60. We started attending contests and really had a lot of fun in the Ohio area. Lisa and I joined NSRCA in 1987 and we



both flew Novice. In 1989 we moved to the Bay Area, and Steve Lock turned us on to South County where we encountered Jerry Jay, Bob Whitacre and Dale Olstinske who were all flying pattern. Lisa and I had





matching Tipo's and started attending contests out here. The picture below is from a contest in the South County around 1991. The pilots are: Bob Whitacre, Jerry Jay, Steve Colen Senior, Steve Colen Junior (who has recently returned to flying pattern), and Terry Walker.

After our second child in 1996, it was time to focus on our family and earning a living, so we set down our transmitters for a while. In 2009 I started going out to the Tomcats field with my Icepoint; low and behold, I ran into Dale and several new faces flying pattern. In no time at all I had a glow powered Shinden, and Luke Peng helped me learn the Intermediate pattern and introduced me to the Oakdale contest... You guys know the rest since then. I spent a year in Intermediate and then moved up to Advanced. We have a great group in the Bay Area from the South Bay to the East Bay, and someone is always available to coach, critique and help answer equipment questions. I will move up to Masters before this season ends and hope to eventually be able to fly the FAI sequence, but am in absolutely no hurry. I fly pattern because of the focus and discipline it requires. It is of course fun, and most importantly, I feel there is great fellowship among our group, and I have enjoyed cultivating and nurturing some great friendships. It really takes a village to keep me in the air!!! Dale Olstinske, Jon Carter, Derek Koopowitz, and Frank Capone are always around to straighten me out - and Don Atwood is just two hours away when the other guys get sick of me.

Actually at this point I would say that the experience hanging out with a bunch of likeminded guys (politics aside) is why I'm flying pattern. Another benefit is that I managed to become a decent builder and truly enjoy "crafting" something elegant and well executed. I just finished building an original Don Lowe P8. Great pride of authorship and great fun! Although it may not be a crafted work of art, I relearned many things about building and am looking forward to building another plane and applying better craftsmanship.

Some of my goals are to become a better flyer and contribute back to the hobby wherever I can. I served as the Advertising Manager for the Kfactor for several years and have helped in my own way with raising money for the NSRCA and the US World



Team. I'm a Futaba guy, but have become a believer in JR servos. I like Hacker Motors and Jeti ESCs. As for my upcoming projects, I'm considering restoring an original Jeff Combs LA-1 and am looking for another classic plane to build. Generally, I try to get 10-12 flights in a weekend, although this spring, travel and work have really kept me from flying much at all."

Thanks Jon for your inputs!

D8



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AK•ID•MT•OR•WA•WY

Greetings from D8.

We are just getting going in D8 with the snow melting and the monsoons coming to an end. By the time you read this, Bill and Brett Bowen will have a Pattern Primer in the books. These are the kind of events we need to promote our small segment of

the hobby. My thanks to Bill and Brett. Our first contest will be at Wenatchee on May 24th and 25th.

We recently rapped up our judging seminar with good attendance and want to thank Gary McClellan, Ray Gauthier, Rex Leshner and most of all Gordon Anderson. Without Gordon, none of this stuff would get done.

I have been seeing a bit of confusion on the RC Universe pattern threads of late about charging that I thought I would address. One of the features of using a 10XP or other 10 cell chargers is the ability to balance each cell individually against all other cells. When parallel charging we are stacking cells together.

In parallel charging we are, via the balance taps, hooking cell number one of battery "1" to cell number one of battery number "2". Let's assume battery "1"'s number one cell has a voltage of 3.7 and battery "2"'s number one cell has a voltage of 3.8. What is going to happen immediately is current is going to flow from the higher voltage cell to the lower voltage cell via the balance taps until both cells are at or very close to the same voltage. This is why when parallel charging you want to charge packs that have voltages very close to each other.

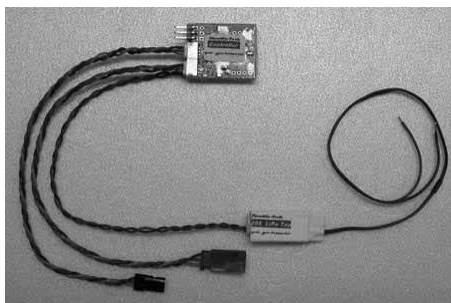
Some believe the charger is seeing the "average" of the cells voltage ($3.7 + 3.8 = 3.75$). Think about hooking up a fresh battery when you need a jump start in your car. Is your cars system seeing the average of your dead battery and the fresh one? The answer is an obvious no. What your car sees is 12 volts. Now if you were to leave the two batteries hooked in parallel, the dead battery would eventually take on some charge from the stronger (fresh) battery. The bottom line is, initially the charger is seeing the voltage of the higher cell, but as the voltages level between the cells, the charger is seeing the true voltage of those two cells, which is going to be within a fraction of a volt.

I have hundreds of charges paralleling packs and have rarely had an issue with balancing. I did have some older packs that would take longer to balance while paralleling, but they were very close to their end. Long story short, use the system you feel comfortable with, but for me paralleling is the only way to go. I run two 30 amp IChargers and can charge six sets of batteries (12 packs) in about 45 minutes. If I don't balance charge (always at home), I can top them off in about 35 to 40 minutes.

One thing to also keep in mind is these heavy duty chargers are only as good as their power supplies. If you can't get enough juice coming into your charger, you aren't going to get them up to their maximum stated output.

Districts

A cool new device just came on the market, the Throttle –Tech from Tech Aero. I don't have a lot of time on it, but I can say I really like it. If you haven't seen the RC Universe thread, you might want to check it out. What this unit does is constantly monitor your big flight batteries and adjust the voltage flowing to your speed controller to get more consistent throttle response.



Basically the unit reduces the voltage to the ESC initially so by the end of the flight you have the same throttle response you started with.

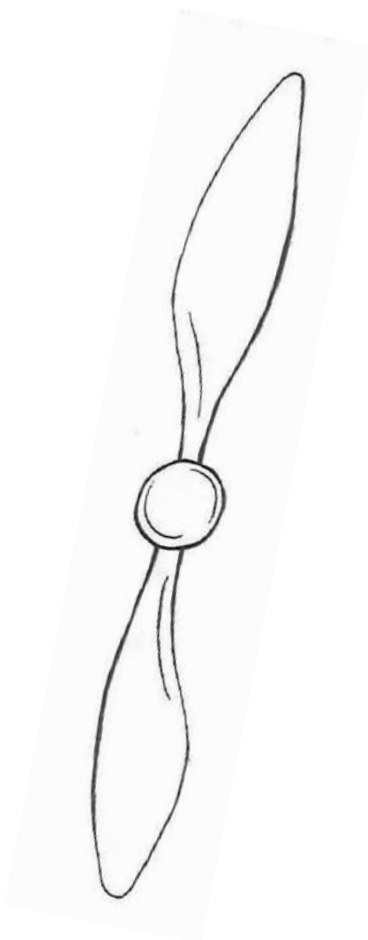
One thing interesting is I used to run all the way from 3,100 to 3,600 ma to fly the Masters sequence. After Throttle-Tech, I am running right at 3,200 to 3,300 no matter if I am in big winds or calm.

Other cool features are the indicator lights. I run dual Tech Aero regulators with two small lipos for redundancy. What I do is turn on one regulator first, then turn it off and check the other regulator and then turn the first one back on before each flight. On the Throttle-Tech board, diodes light up to tell you if your receiver batteries have an adequate charge to fly. If the light is blinking it tells you better check your receiver battery.

When you plug in your big flight pack, the unit now switches over to monitor the state of charge on that pack. If the light is blinking it's an indication you may have plugged in a pack that has been used already and will keep you from toasting it.

One thing I did need to do is increase my mid range throttle curve to get back to the feel without the unit. This proves to me it's doing its intended job by lowering the voltage to the motor at the outset.

*Until next time,
Pat*



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If you have any articles that you would like to write for the Kfactor, please submit them to me. We welcome your input. If you would like to send pictures of your pattern planes, contest, etc., we are always looking for great photos to feature.

Scott McHarg, Editor

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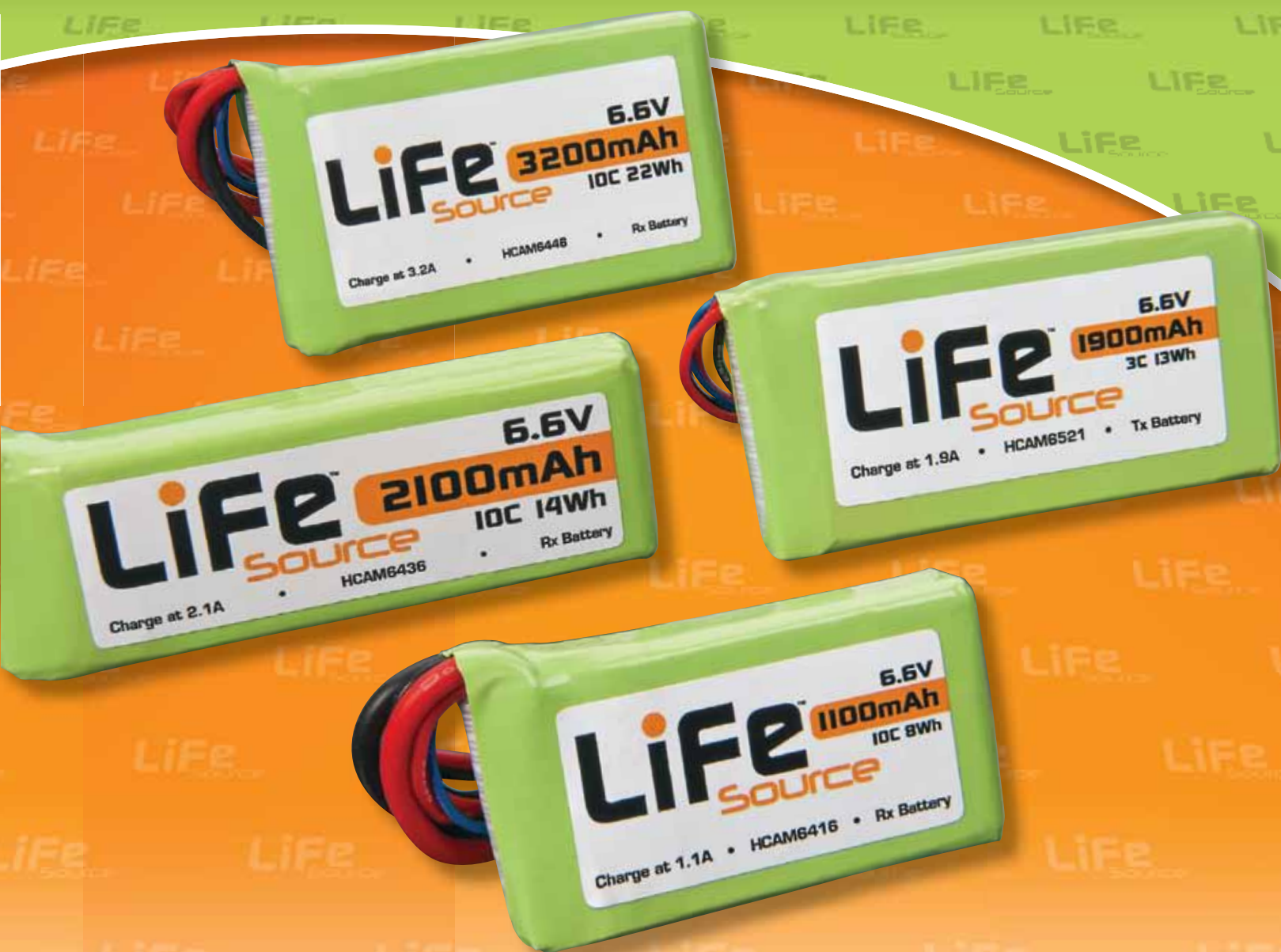
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