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### The SENIOR PATTERN ASSOCIATION

Official S I G (Special Interest Group) of AMA

### Dedicated to the building, flying and competition of vintage Pattern model aircraft

SPA NEWSLETTER www.seniorpattern.com MAR/APRIL 2013

### PRECISION AEROBATICS from PATTERN'S Golden Age

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### **IN 2013 \*\*\*SPA ALL THE WAY \*\*\***

Late SPA News

**Event** Jay Marshall recently posted the following e-mail to the Discussion list: "Just saw where a manufacturer is

building a 3-Axis stabilization system, gyros and software, right into the receiver. Are we now going to have to open up and have an equipment model check at each contest? Or allow it?"

In response, the BOD did some quick additional research, and after e-mail discussions, passed the following addition to the Competitor's Guide. Phil Spelt made the announcement to the Discussion List the other day—here it is:

The BoD has adopted the following material, in response to the new Spread Spectrum receivers that incorporate 2- or 3-axis stabilization (e.g., Spektrum Rxs) – new material is in red :

1. GENERAL: section e. Radio: All 72 MHz radio equipment and operation must conform to the regulations of the FCC (Airplane frequencies, narrow band). All older wideband transmitters are illegal after March 1, 1998. Of course, all spread spectrum (SS) radio systems operating in the 2.4 GHz band, as approved by the FCC, are permitted. All automated stabilization devices are prohibited in accordance with the AMA RC Aerobatic rules for 2013–14, Section 4.4 Equipment Functions. The prohibition includes, but is not limited to, receivers that contain stabilization (e.g., gyroscopes) in one or more of the aircraft axes, snap roll buttons with automatic timers, or any other closed-loop control functions. Pre-programmed, non-timed transmitter functions (mixings) are permitted.

Simply put, <u>ALL CLOSED-LOOP</u> (e.g., automatic) control functions are <u>PROHIBITED</u>. Movement of a second surface tied to a first surface, (i.e., <u>mixing</u>), IS permitted, (as we now do things). The wording of the new rule was taken from the AMA rule cited above. If you have any questions, please post them to the List, and we will answer them. We are in the process of reprinting the Competitor's Guide, and will get them distributed to CDs as soon as we can.

This action must be taken in order to cope with ever-increasing technology that can, in effect, at least partially fly our planes for us by means of automation. This contradicts what we are trying to do when flying competitive aerobatics. We want to demonstrate flying skill, not see who uses the latest technology equipment. As AMA aerobatic rule-makers understand, we must resist the luse of any device that would "trump" pilot skill....Duane





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#### FROM THE PRESIDENT...Bruce Underwood L15 At the time of this writing, we just learned the "season-opener" contest for SPA East in Prattville,

AL has had to be cancelled due to a slower than hoped for recovery by our own Jamie Strong, and a surgical procedure for Larry Hill's wife Sandra. We are of course very disappointed, but these things happen sometimes. You guys concentrate on your recoveries, and we'll be gearing up for Cullman in late April before we know it.

We'll be looking forward to seeing you with that new knee in better working order. I have very sad news to announce in the recent passing of our dear friend, charter member, and former

Vice President of SPA, Mr. Tom Atkins. As vice president, he had a regular column in the

newsletter and contributed many fine articles a few years back. Tom passed away March 16th after battling cancer. In an e-mail to Mickey Walker, his Daughter says in her post ".....After shedding many tears, we were able to sit on the back porch and remember some of the good times that we had together......we know he's in Paradise, probably in "Ready Box 1".

Tom was best known by pattern enthusiasts as the designer of the famed T2A model series and readily assisted modelers all over the Southern USA with hints to improve their model crafting and flying skills. He never turned down a request for an idea or favor. Our thoughts and prayers are certainly with his many friends and family members. I think of Tom every time I reach for the machined tool for tightening and removing my wing



Tom Adkins 1940-2013

bolts—he gave it to me many years ago and it has adorned my flight box ever since.

I am aware of two of us who have some experience with the recently approved OS .95 4S engine. Eric Nessler and myself have been comparing notes on the initial runs and they have all been favorable. He and I both are running the favored 13.5/9 APC props for the first few runs and of this writing, have yet to step up to the regular size 13/10 which I feel like the minute addition to the stroke of this engine, over the .91, should handle. I'll report further when I get the chance to try some additional props. I think Eric runs 30% Cool Power with his and I use 25% Pro-Pattern Cool Power in mine. To be frank, I can't tell the difference other than I get a bit lesser oil residue with the Pro-Pattern 25%.

Lindy just keeps honing his talents on the SPA website with new and improved features added almost weekly. Spend a little time browsing on the website and suggest to your fellow modeler they do likewise.

The Southeast Model Show in Perry, GA the first week-end in March was very well attended and we had a great time "jawing" and answering questions at our four tables. Duane and Kevin Clark came from NC, probably the farthest North and Jeff and Linda Owens from Tallahassee, FL, probably farthest South and lots from in between . Thanks to all that attended and welcome to our 3 new members who joined there. It's gonna be a thrill to see Ben and Son Jay Clarke back on the contest circuit after having flown AMA pre-turnaround with them years ago.

Duane has done his usual best in compiling this edition (don't you love his color selection?)....if you're like me, you'll first thumb through it, then refer back to it for specific articles and information (especially the contest schedule) for the whole year. Our Western folks are contributing more and more each edition and we are thankful......Best, Bruce Underwood

## **2013 SPA EAST SCHEDULE**

March 23rd-24th Prattville, Al	(CANCELLED)
April 27th-28th Cullman, Al(	CD Steve Bryum)
May 18th-19th Knoxville, TN	CD Phil Spelt)
June 22nd-23rd Americus, GA. [Hodges](	CD Dan Dougherty)
July 20th-21st Hotlanta, GA.	(CD Dan Dougherty)
August 24th- 25th Chattanooga, TN	(CD Mike Robinson)
September 14th-15th Asheville, NC. Masters	(CD Will Hicks)

SPA's "Electric Guru" Ed Lyerly continues the second of his two-part series on electric propulsion for our SPA-style aircraft. If you have questions or comments I know he'd be happy to hear from you. With a little coaxing from the readers, I think we could get Ed to make more contributions on various subjects relating to electric power. What do you say?? ...let him know....Editor



Now that we have motor, speed control, BEC, and servo

**choices** completed, lets talk about Lipo batteries, and what will work best for a SPA setup. First, lets talk about the "C" rating of Lipo batteries. What the "C" rating means is what you can expect the pack to sustain (voltage wise) if you apply a constant power via your throttle position.



You are not going to hold a constant throttle position throughout your flight, so this is sort of like KV rating on electric motors, it just gives you a point of reference.

Lets say you want to make the SPA limit of 1400 watts when you open your throttle to the maximum. To do that you would need to be drawing about 63 amps if you have a quality Lipo pack that will hold 3.7 volts/cell under that 63 amp load. The key to choosing your Lipo pack is to make sure it will hold 3.7 volts/cell when you open the throttle to the maximum and draw those 63 amps. The math is simple: 63 amps x 22.2 volts (3.7voltsx6 cells) = 1399 watts.

Now lets focus on the "C" rating. Lipo packs have various "C" ratings like 20C, 30C, 40C etc. What this means is that if a pack is a 5000mah pack and has a 20C rating it should be able to deliver 100 amps continuous. 5000mah = 5ahx20 = 100 amps. My experience says that is a bit optimistic. You may be able to draw 100 amps from that pack, but the voltage/cell will drop well below then 3.7 volts/cell, and as a result your total watts of output power will drop accordingly. The key issue here is to use a quality Lipo pack that will hold the 3.7 volts/cell at the 63 amp loading. Many Lipo packs will do this ...... but remember about the weight issue. You want the lightest pack weight, and you want the highest "C" rating. Experience has shown me that a 25-30C pack of 600 grams (3750mah Zippy Rhino 25C) is perfect for the Novice division. For the higher divisions (Sportsman and Expert) you will need a 5000mah pack. You want one like the Zippy Rhino 4900mah 25C packs at 800 grams. Remember ..... the weight issue is paramount.

The last thing you need to remember is that you need cooling air to run through the motor and exit the fuselage. You do not have a cylinder head sticking out in the air to provide cooling for the motor. You might consider leaving off the spinner to insure your electric motor is running at an appropriate temperature. I like to keep motor temps at 140F max. You can obtain an inexpensive IR temp gauge at Radio Shack to confirm the motor temps. So ..... what does all this cost ?

Motor choice #1 Scorpion 4020-12 (\$139.99 +\$22.99 shipping) http://www.scorpionsystem.com/catalog/motors/s40/S-4020-12/

Motor Choice #2 (\$104) Torque 4016T/500 http://www.atlantahobby.com/Store/pc/viewPrd.asp?idproduct=7050&idcategory=364

Motor choice #3 (\$155)AXI 4120/18 (515kv) http://www.atlantahobby.com/Store/pc/viewPrd.asp?idproduct=1157&idcategory=262

Turnigy Plush 80 ESC (motor speed controller) (\$40) http://www.hobbyking.com/hobbyking/store/ 3727 TURNIGY Plush 80A w UBEC Speed Controller.html

Program Card for ESC (\$7) http://www.hobbyking.com/hobbyking/store/uh\_viewItem.asp?idProduct=2169

BEC 6V output (allows use of flight batteries for receiver and servos) (\$21) Radical RC <u>http://www.radicalrc.com/category/BEC-Voltage-Regulators-32</u> SKU Number: UBEC40V6VA

Zippy Rhino 25C 3700mah for Novice (get at least 2 packs) (\$50 ea) http://www.hobbyking.com/hobbyking/store/ 9341 Rhino 3700mAh 6S 22 2v 25C Lipoly Pack.html

Zippy Rhino 25C 4900mah .... or Sportsman and Expert (again get at least 2 packs) \$69 ea) http://www.hobbyking.com/hobbyking/store/\_\_9315\_\_Rhino\_4900mAh\_6S\_22\_2v\_25C\_Lipoly\_Pack.html

Other support items you will need, (Here are some products I can personally recommend):

Battery Charger: http://www.hobbyking.com/hobbyking/store/\_\_7523\_\_Turnigy\_Accucel\_8\_150W\_7A\_Balancer\_Charger.html

Watt Meter (to test your power output) <u>http://www.hobbyking.com/hobbyking/store/uh\_viewltem.asp?idProduct=6380</u>

Please understand that electric power is just another SPA power option. There is a learning curve involved. There are advantages and disadvantages vs. glow power—each method has it's own advocates. If you want to give it a try to see what you think, I'll be <sup>3</sup> glad to help. Drop me an e-mail......Ed Lyerly [ed.lyerly@nctv.com]



### <mark>Building Lighter Wings</mark>....by Vic Koenig

I have seen constant improvement of electric powered planes to the point we now have the ability to fly in any venue we would want to try, and win at it. Batteries, motors, new electronics and carbon fiber are making it easier to build a plane that is light enough to not only compete but to stay aloft as long as the wet guys. The problem is to build your plane light enough to take full advantage of electrics best traits. As I see it, one of the best areas we can improve is in building lighter wings. I am going to list the steps I follow as well as give weights as pieces and parts are added or deleted. To give yourself something to shoot for, when you get your

foam wing cores, weigh them and record that weight on the shuck. I will label my cores and their shuck mate and always return

Image: second second



them to their original shuck . You will need an accurate scale to do all this but it really is worth the extra effort.

**Photo I (left)** shows the tools I use except for my vacuum cleaner (I hate tracking foam nodules throughout the house) and my scale. Note. the shinny flat 6 inch plate it's a razor saw that has no top rib. I use it like you would use a "Sawsall". It allows me to make all the cuts I want without tearing up foam. In electric you don't need to make any part of the plane as robust as if it were wet fueled. Every item you use should be weighed so you know how much weight you are adding as well as saving. Core "C" will be our reference core. It came to me at 64 grams after sanding, and the mate I chose (core B) was 2 grams more.

**Photo 2 (left below)** shows the core after I have drilled my wing tube holes. If you don't use tubes you can omit this step but then you could take more foam out of this heaviest portion of the core where the tube would have been. Core "C" lost a net 6 grams after installing the cardboard wing tube and honeycombing the tip, I didn't weigh the tube.

The cores were all marked at the same time so I could be consistent on the 2 sets. We'll mark it some more as you will see in the core lightening process. **Photo 3 (right),** shows how I cut my cores as well as a wing skin ready to be glued to the

core. I know some builders like to emulate ribs of a built up wing when they cut their lightening holes. Do it the way you are most comfortable with. This photo also shows a paper servo wire tube in place and the servo bay that has already been lined with balsa. On that core the bottom shuck is seen and my cut out for the servo. That's a handy thing to do before sheeting so you can find where to cut the servo bay, don't forget to mark the up side on the core too. You can also see from photo 3, that out near the wing tip, not much foam is needed for strength (foam doesn't have any strength) as well as the marks on the



inside of the wing skin where there will be no glue. Since glue is weight and there's no foam to glue to at the cutouts, don't put any



glue where there's nothing to stick to. I am a big fan of gorilla glue because it permeates the foam up to 1/8 inch and adds strength. When I do the gluing, I will weigh the whole glue bottle after doing each skin so I know how much weight I added. Glue is very heavy so use it sparingly. I have been able to get away with 26 grams of glue per wing and still make a very strong wing. That's almost an ounce of glue for each wing however, it is a good idea to be very precise here because if you get too much glue on one side, you will have to compensate with lead on the lighter wing. Pass the core under a water mist before applying the skins so the glue cures faster, water is the activator. If you mist your sheeting, you may get some warping. If you sanded the foam core when you got them and vacuumed the dust off, less glue will be required to put the skins on because the surface is smooth. The weight of cinder blocks will ensure good bonding of the skins. Chose whatever you may have around the house that's heavy. I've seen people use dumbbells, bags of stones, whatever-as long as the weight is distributed evenly.





**Now on photos 4 and 5, (above)** you can see me making my skins. Before I started the skins I made a matched set of I/16 contest balsa and placed the sheets exactly where I needed them to be. I weigh both ends of a sheet to see if there is a heavier end, and mark it as heavy and make sure it is the first end to be cut off. I will put the heavier sheets of the set on the trailing edge to get more strength for the aileron. I love the old Ambroid glue we got as kids to glue skins with. It's very light, dries very fast (acetone is the solvent) has a great applicator snout and it doesn't warp the skins. The smell takes me back to my youth as well. I used to use Tightbond but learned better after stumbling on Ambroid at my LHS and tried it again. The skin planks were taped with masking tape to hold them together while applying glue and the tape removed after 20 minutes. I also sanded the skins on my flat work table because it's easier to do sanding there while flat rather than on a curved wing.



**Photo 6 (right),** I use a bandsaw with the wing in the shuck while cutting ailerons.

**At photo 7, (left)** you can see the FINISHED PRODUCT wing root and the total weight for the set, including the carbon fiber 5/8 wing tube. This set is equal in weight on each side. Total weight to that point is 13.6 ounces. Yet to come is the servo, horn, and covering.



**If I had the wings ready to go** they would still need to have servos and horns that will weigh in at one ounce per wing, so weight is now up to 16 ounces total. I have been using Hitec 5245 servos for ailerons which are 1.1 ounces each. Covering is a personal preference. I have gone back to plastic film for my wings but I've gotten more particular on what I use. Believe it or not, the cheap "Towercoat" is one of the lightest coverings you can find. Different colors will weigh more so choose carefully. There is also a limited number of color choices in that brand. Never, never ever use metallic covering, it's the heaviest there is. I usually end up with another 1.5oz. or less for covering per side so add another 3 ounces and the wing set should come in under 19 ounces.

Now take it out and fly it. You'll find the rolls you do are more precise since there's no inertia to fight against. Also if you paid attention to keeping the wings equal when you added items you don't need to add lead to a wing tip. You will also be able to fly at a much slower speed (saving watts and fuel). Landings can be slower too if you are so inclined. I had to lighten all I could because I want to use better (heavier) 6S batteries. These are real Dirty Birdy wings and I have left the designed tips off on purpose. Tips do nothing to aid flying accuracy or lift so why have them? Simply glue a flat 1/16 end cap on and go. I will also add some narrow clear teflon tape strips to the underside of the wing out on the end because I've spent a load of time getting them where I want them and I want to protect that area.

Don't ever throw away your shucks till you have completed the wing. Keep each core in its own shuck and do your cutting of the ailerons, and the sanding of the leading edge. That way your cuts will be true vertical. Photo 8 shows me getting ready to cut ailerons on my band saw, the sheeted wing is in the bottom 1/2 of its shuck.

- I. Sand the core surfaces then vacuum
- 2. Weigh and mark all the cores and top and bottom shucks
- 3. Match core sets by weight if doing more than one set
- 4. Be careful choosing wood sheeting (not more than 16 grams per sheet for 4 inch width X 36)
- 5. I/16" sheeting is more than strong enough for SPA planes
- 6. Use Ambroid to glue sheets together
- 7. Sand skins on a flat surface rather than the core
- 8. Honeycomb the foam cores (measure what you have removed, you'll be surprised)
- 9. Aileron facing can use 3/16 balsa instead if  $\frac{1}{4}$  inch (it's better to have foam and not heavier balsa) 5

## All Roads Lead to Perry ....

Especially if That's Where Your "Garmin" Is Set.....By Duane Wilson



#### I have always considered the Southeast Model & Trade

**Show,** (commonly referred to as simply "Perry"), a DO NOT MISS event each year for many reasons. Probably the single most important for me as an SPA member, is the chance to get together and fellowship with "the guys" after not seeing them for several months. It's a time to renew friendships. There is something special about taking a weekend off, traveling the 4-5 hours, and spending the night "somewhere else" that has a very familiar, comfortable feeling to it, reminiscent of contests past and those that are to come.

Perry is the unofficial but traditional

opening of the new contest season. Immersing yourself into the "airplane scene", where everyone is talking about

planes, former contest seasons, and flying gets you into the mood—it gets your "batteries charged," and your "juices flowing". For me it's just the traditional and right thing to do, like baseball's spring training. You can't start the season without spring training—right??

Discussed above are some of the "intangible" reasons for coming, but there are other, more concrete reasons as well. The most obvious is the desire to either "get a deal", or "make some money"—one man's "useless stuff" that sits on the shelf for years is very often

another man's "find" of the year. It's funny how that works, and the prices are always a lot better than buying retail. The show this year had lower attendance than the past few years, but that didn't seem to hurt sales—people knew what they wanted, and made sure they left with something "new and valuable"—at least to them. People come to "play the game" of finding those special "jewels" hidden within three buildings; each of which has row after row of what could be described by most of us, (and all wives), as glorified junk. Some people simply bring their dusty, well worn planes and dirty engines up from the basement, (without bothering to dust them), then take them all back home again to wait for next year. You literally see broken wings that are half-covered, cracked, (and without fuselages), and you say to yourself, "who would ever want to buy THAT...", but you just

never know because everyone's definition of a "jewel" is different.

**You see things there you will see nowhere else.** For example, there are many NIB kits that you might have wished you had bought "back when", but didn't get around to, (or didn't have the money), to buy at the time. These kits are now gone from the store shelves— <u>no longer available anywhere</u>. These were planes that somebody else thought would make a great project—they bought them thinking they would build them but NEVER DID. Whatever their original intention was, what they <u>really did</u> was to take them out of circulation and in effect, "hold them" for you to buy up to 30 years later! Is that not cool when you stop to think about it? We have all done this over the years—many of us have cool planes just sitting there; what are we going to do with them? Make somebody else's day, and make some money in the process.

Let me tell you how this worked out in my own case. Back in the early 80s, I used to look through the kit ads in the magazines,

and I remember always stopping to look at the picture of the <u>Prather Panther</u>. I thought this was without a doubt the "coolest" looking shoulder wing design ever conceived, but because I was flying Novice pattern on a limited budget, I just didn't think it was "pattern enough" to spend the extra money and time. Well guess what—Kevin Clark and I just happened upon one at Perry. It turned out the owner was the man behind the "**Classic Pattern Model Database**" on RCU, (his RCU name is "CA Sniffer"). Before we knew it, Kevin and I went in together \$100 each, (it was actually much cheaper brand new back then, but recently the Panther has sold on e-Bay for over \$400 so we did great)—now we'll finally find out how good a pattern plane it is! There are lots of examples of this. Dan Dougherty announced he picked up a Pulsar



plane it is! There are lots of examples of this. Dan Dougherty announced he picked up a Pulsar **Prather Panther** Bipe to restore, and left a happy man. The trick is to have an idea of what you're looking for, but have an "eye" for a find when you see something unexpected, and be ready to snap it up.

**Put your unused modeling "stuff" to use—get some "spendin' cash".** Like I said, we have all done it bought this or that for a "future project", thinking we would build it or use it, then our plans changed. I have had this tendency over the years to collect engines, then not use them—some of them I've had for years NIB. It took a while, but I finally got honest with myself and admitted that the chance of me using these engines was close to nil. I brought 6-7 engines to Perry last year and they just sat there—only sold one little one. Oh well... This year I brought the same 6 engines and sold all by two. I also sold a nearly "new" (only 26 flights but 8 years old JR 9303 transmitter, 72mhz) and receiver that had been on my shelf a long time. I put it in the car at the last minute—turns out that someone from SPA had a worn out 9303 transmitter, and this was like getting a new one for him. I made almost \$700 total this year—not bad!!

As I said, there are many, many good reasons to come to Perry—one of the largest shows in the southeast. There are always good finds for someone willing to play "the scavenger hunt" game. Be sure to join us next year.....Duane





# Cabin Fever

A new way of spending quality time with your SPA flying buddies during those winter months, (after all, you can't build, and talk on the DL <u>all the time</u>-Ed).

## The aircraft came sweeping out of a Split-S at top speed,

perfectly lined up for the next maneuver. It then proceeded to execute a nearperfect axial roll. This was followed by a second and then SPLAT! What was left was a long line of debris, perfectly lined up parallel to the flight line. The dreaded

"third roll" had struck again! But this time the cost was not hundreds of dollars and months of building. A mere push of the reset button and the plane was a good as new and the pilot had a chance for a "do-over."

Sure, most of us have experimented with flight simulators at one time or another. I've used Microsoft's Flight program going back to the original DOS version. But flight simulators have progressed a lot in recent years as computers have become increasingly able to handle complicated graphics. And there are several different simulators designed for models. But recently I was introduced to another aspect of simulators. Eric Nessler was using Real Flight 6.5 and he mentioned on the SPA Discussion List that he was interested in taking advantage of the "Multiplayer Mode." This allows someone to set up a field and then invite others to join in over the internet. This sounded like so much fun that I purchased a copy along with a headset with a boom microphone in order to join in. Here is what a typical session is like.

Someone sets up a field (Eric in this case) and sets a time for others to join in. Then you start up your copy of Real Flight. Next, click the Multiplayer menu and choose "Join" – a list of active fields will show up. Click on the appropriate link (usually SPA Pattern Paradise). Note, the link will appear only when the field is activated by the person whose computer is acting as the server. That's why a message is sent out on the SPA Discussion List saying when the field will be active. When you join you will see the names of the other pilots at the field and you will be able to hear them and talk to them. You can choose whose airplane you want to follow – yours or that of someone else – by clicking on the "View" and "Look At" menu choices. I've been in sessions with members from Ohio, Kentucky, Tennessee, Texas, Arizona, and Georgia all at the same time. It's just like being in the pits at an SPA contest! Typically, we each practice various maneuvers, pausing to laugh at a particularly good crash or low maneuver. Eric and Ellis have had "low roll" competitions to see who could scrape the paint off the wing tip without crashing. After a while, though, it is time for something more daring. On the "View" menu you can choose to watch your plane from the ground or from the cockpit looking out the front (choose "Nose" camera type.) Inverted flight and rolls take on a whole new feeling when viewed from the inside! Actually, based on my full scale aerobatic flying the view is pretty realistic. After a bit of this it is time to choose another model – the P-51 (Combat) version. This one has machine guns! Still in the Nose camera view it is time to go hunting the other planes with a few strafing runs on the field thrown in for good measure! You'd be surprised how hard it is to get on someone's tail, much less actually hit their plane with gunfire. A few hours of this and it is time to sign off for a well-earned rest.

So, suppose that you want to join in. You will need a version of Real Flight that has a multiplayer mode – version 6.5 is what we are using. Then get a headset with a boom mike. Don't rely on speakers and a stand-alone mike unless it is a special noise canceling one since you can get feedback from the speakers through the mike. This shows up as an echo when someone speaks. It is hard to carry on a conversation when your voice is echoing a few seconds after you speak! One good practice is to mute your microphone except when you want to talk. But this can be a pain in the heat of battle, errr, practice. Next, you will want a model that flies like an SPA plane. People create various models and put them on the web. You can find them at Knifeedge.com or just Google "knife edge realflight models". So far we know of a Kwik Fli III and a Kaos. Eric has tuned them both and they fly rather realistically. Your best bet is to email him and he'll send you the necessary files. He also has a file for the practice field called "Pattern Paradise." Eric disabled tree collisions for the trees at either end of this field (but NOT the ones in front!) so you can do low split-s pullouts. There are a few other tricks that will help :

- Use "Keep ground in view" from the "View" menu under "Zoom type." This helps you to keep the plane oriented.
- Under Simulation à Settings à Camera set maximum field of view (deg) to 10 (the default is 30.) With 30 degrees the plane gets small rather quickly. It is easier to follow if you choose 10 degrees.
- Under "Gadgets" choose Nav Guides and Binoculars. Nav Guides will put a small window in the upper right corner with your fuel status, airspeed, and some other information. The Binoculars setting opens a small window that shows the plane's orientation when you are far away. The window closes when you get close in.
- Do not retract the gear on the Kwik Fli model you may find it addictive!

I have found that after a few sessions my timing starts to come back after several months without going to the field. This is also a great way to get used to the new maneuver sequences. Being able to chat with folks you haven't seen since the last contest season is definitely an added bonus. Give it a try. You may find that it helps your flying and it certainly is fun!

## **2013 SPA WEST SCHEDULE**

April 27th-28th Fort Worth	(CD Ken Knotts )
May 18th-19th LAFFS, Shirley, Ak(	CD Richard Tibbits)
June 8th-9th Dan Quinten Memorial, Tula, Ok	(CD Lindy Quinten)
September 7th-8th Texas Wings	CD Tim Ried )
October 12th-13th SPA West Open -Ft Worth	(CD Ken Knotts)

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