



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/APR 2014**

PRECISION AEROBATICS from PATTERN'S Golden Age

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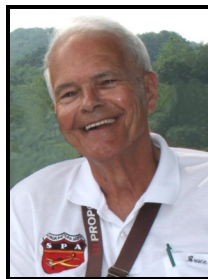
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FROM THE PRESIDENT.....Welcome to the 2nd edition of the “Keen” (rhyming with “teen”) year of 2014. Newsletter editor Duane Wilson will explain in detail deeper in this issue.

The last day of February and first of March was spent by many SPA-ers in weather-comfortable Perry, GA at the annual SE Modeler show, sponsored by the Georgia Aeromodellers. Jeff and Linda had totally re-worked the SPA Banner constructing a new

frame for mounting the method of mounting it to the tables with nylon rope and clamps. As a result folks were able to spot the banner from most anywhere within the McGill building (1 of the 3 show buildings). He brought his Compensator and Duane brought Ed Kazmirski’s personal “ULTRA” TAURUS, (meaning Ed’s 2nd generation Taurus flown during the 1963-1965 seasons). These planes were real “conversation-starters”.



The Sunday after the Perry Show, most all posts on the SPA Discussion List included the spreading of a modelers disease known as “cabin fever”. Most authorities agree the only antidote is Spring. Since we know the “authorities” are correct...let’s make preparation for that initial practice session. This being year (2) of the two year pattern cycle, it’s most convenient to go to the SPA website and print out a few copies of the patterns, laminate one or two (protection from oil and residue in a field box), grab a buddy to call for you and put a caboose on that cabin fever.



The minutes of the annual BOD meeting are contained in this newsletter. While speaking earlier of patterns, the same three that composed the current patterns have been reappointed for the coming cycle (2015-16). Jeff is chairing, Phil and Eric serving. If you have suggestions, please let them know. At the discretion of the committee, we will probably soon see the reintroduction of two slightly out of era maneuvers included by popular request.....the “Double Stall Turn”

and the “Figure M with ¼ Rolls”. See page 3 for all the BOD meeting details.

Let me conclude the “intro” with another gigantic “thanks” to all for visiting, manning and maintaining the SPA tables at Perry, GA. So let’s flip this page and start reading..... BRUCE



Join our Discussion list from within the webpage or inform any officer and we’ll “sign you up”. It’s like a gigantic Mailing-list, but at NO CHARGE. A service to membership and potentials from SPA.



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FROM THE EDITOR *There are several topics to discuss this issue*—first off, the chosen colors for the cover page of the next few issues. Up to now, I have just chosen whatever colors I liked, based on how they look together. Now I'm going to try something a little different—the colors will have some extra meaning. I'm going to use "signature colors" used by some of pattern's pioneers, (at least to the best of my knowledge), so let's test your early "Founding Fathers of Pattern" knowledge, (not just southern pattern). I'd like to see your answers on the Discussion List. Let's really see, (as Jeff asked last issue) if "there is anybody out there". What pattern pioneer used signature **YELLOW/BLACK/WHITE** colors, (**he was instrumental in the pioneering of foam wings**)?

Next, March is traditionally the time of year to promote **membership**, and we'd like to get that SPA member role up ASAP. **Bruce has traditionally used a little rhyme** to help promote the next modeling season. This goes back at least as far as 2005, (with a little "gap-o-sis" here and there). In the shaded box below are the slogans I can find:

- "COMIN' ALIVE IN TWO-THOUSAND FIVE"
- "LOOKIN' GREAT IN TWO-THOUSAND EIGHT"
- "PATTERN FLYIN'S FINE IN TWO THOUSAND-NINE"
- "BETTER THAN IT'S BEEN IN 2010"
- "A BIT OF HEAVEN IN 2011"
- "THINGS WILL BE SWELL IN 2012"
- "THE PATTERNS ARE KEEN IN 2013"

So how about some NEW ones? We have a lot more years ahead of us that end in "...een", and we can't keep using the word "keen" every year. Eric Nessler and I were discussing this by phone a couple weeks back, and soon we were "hard-up" for slogans. Before long we were down to slogan "beauts" like this:
"DON'T RUPTURE YOUR SLEEN IN TWENTY-18" !!
 While these were entertaining to us, (LOL), we quickly realized we need something much better than that!

Bruce was brought in for consultation, and suggested a **contest** to come up with original slogans rhyming with "een"—**members only**, the winner getting a refund of his \$20 membership for 2014. Lifetime members are eligible for the \$20 bucks too, so **JOIN NOW**, (you know you're going to do it later anyway), to be in the drawing. We will pick the winner, (and chances are that we'll be using the "runner-ups") in later "teen-years". The winner will be announced in the NEXT issue.

2014 SCHEDULES	SPA EAST	2014 SCHEDULES
APRIL 26TH—27TH	ALABASTER, AL	DAVE PHILLIPS JR. CD
MAY 17TH—18TH	KNOXVILLE, TN	PHIL SPELT CD
JUNE 21ST—22ND	AMERICUS, GA (HODGES)	DAN DOUGHERTY CD
JULY 19TH—20TH	"HOTLANTA", GA	DAN DOUGHERTY CD
AUGUST 16TH—17TH	CHATTANOOGA, TN	MIKE ROBINSON CD
SEPTEMBER 13TH—14TH	ASHEVILLE, NC	WILL HICKS CD
SEPTEMBER 27TH (1 DAY)	ALABASTER (TOP NOVICE)	DAVE PHILLIPS CD
OCTOBER 4TH—5TH	CULLMAN, AL (SPA MASTERS)	STEVE BYRUM CD
SPA WEST		
APRIL 26TH	FT. WORTH, TX	KEN KNOTTS CD
MAY 10TH	TEXAS WINGS	TIM REED CD
JUNE 10TH	TULSA, OK (TENTATIVE)	LINDY QUINTEN CD
JUNE 28TH—29TH	GOLDEN TRIANGLE, TX	FRANK COX CD
JULY 12TH—13TH	ARKANSAS FARM	RICHARD TIBBITS CD
AUGUST 2ND	GSW, HURST, TX	TIM LOVETT CD
SEPTEMBER 27TH—28TH	FT. WORTH, TX (SPA OPEN)	KEN KNOTTS CD

SPA – Board of Directors Annual Meeting January 25, 2014 ...Dalton, GA

All Directors in Attendance:

Founder Emeritus - Mickey Walker
President - Bruce Underwood
Vice President - Jeff Owens
Secretary / Treasurer - Eric Nessler
Appointed - Phil Spelt
Newsletter Editor - Duane Wilson
Scheduling /Special Projects - Dan Dougherty
Webmaster - Lindy Quinten – By Telephone

Guests in Attendance: Carolyn Spelt, Chris Gregory, Genelle Gregory, Mike Robinson, Keith Watson, Dave Phillips II, Dave Phillips III, Scott Sappington, Jim Johns, Tom Hopkins and Roy Thompson



The Meeting was called to order at 9:50

- **A Motion was made** by Eric Nessler that the competitors qualifying for the Memorial Trophy Fly-off be the two highest scoring Eligible pilots (under the current rules of eligibility as stated in the Competitors Guide) for the current season of competition, rather than the previous year's winner receiving an automatic bid into the fly-off. The Motion was seconded by Phil Spelt, a vote was taken and the motion passed unanimously 8-0.
- **A Motion was made** by Eric Nessler to recognize the Season Points Champion in the Senior Expert class with an end of season "Loving Cup" trophy and recognition as is done for the other classes of competition in SPA. In previous years, the Memorial Trophy winner was the only recognition given for Senior Expert, and the Memorial Trophy Winner and Season Point Champion are not guaranteed to be one and the same. The Motion was seconded by Dan Dougherty, a vote was taken and the motion passed unanimously 8-0
- **A Motion was made** by Eric Nessler on the issue of removing the language "with no air chamber or supercharging of any kind" from the current competitors guide outlining legal engines: Section I; I. General; d. Power; (I) Regular SPA Pattern; (b) Any four cycle engine p to .95 cubic inches **with no air chamber or supercharging of any kind**. The Motion was tabled pending more "real world" testing of the YS 70 vs. an OS 95 on SPA legal propellers to determine if there would be an unfair thrust advantage given with YS legality.
- Bruce Underwood brought up the Pattern Committee for the coming cycle, and Dan Dougherty made a motion to keep the same pattern committee as the past cycle which consists of Jeff Owens as chair, Phil Spelt and Eric Nessler assisting. The Motion was unanimously seconded and passed 8-0.
- Comments were welcomed from guests regarding the coming pattern cycle, and input was received from Scott Sappington asking to keep the maneuver selections to the "pre-'76" window as well as to consider reducing the skill level required for Novice. Dan Dougherty also asked that the pattern committee consider the inclusion of the "Traffic Pattern" maneuver in Novice to aid in landing setup. The "Pre-'76" request spawned a productive discussion on the issue with Jeff Owens making the point that "pre-'76" has never been a hard and fast rule with regard to sequence maneuver selection and has been followed more as a loose guideline. Jeff argued that a couple post-76 maneuvers have been in the past, and could be included going forward to aid in continuity and progression through the classes, such as a "Double Stall Turn" for Sportsman competitors to aid in their progression to the "Figure M" in Advanced. The lengthy discussion with input received from all Directors and Guests alike, culminated with a motion that was hammered out and sharpened in real time:
- Jeff Owens made a motion to allow "Post 1975" maneuvers for consideration for inclusion in future maneuver sequences provided the new maneuvers "are not significantly different and add no new elements". Furthermore, that potential "Post 1975" maneuvers must be voted on by the Board of Directors on a case-by-case basis. At this time, 2 maneuvers were selected which included the "Double Stall Turn" as well as the "Figure-M with ¼ Rolls". The Motion was seconded by Phil Spelt, a vote was taken and the motion passed unanimously 8-0.
- Dan Dougherty made a motion for the SPA to cover the costs associated with the Annual "Low Country Boil Cookout and Gathering" at the Wilson Home the Friday night of the Asheville Contest. The Motion was seconded by Phil Spelt, a vote was taken and the motion passed unanimously 8-0.
- Jim Johns explained his Power Point Presentation covering training on the use of the Scoring Program, and Dan Dougherty suggested each CD find a local club member (who is not flying in the contest) to run the scoring program at their contests.
- Eric Nessler presented the Perry Show receipt and table assignment and also the annual financial report.

Being no further business before the Board of Directors, the meeting was adjourned at 11:20.

How To Keep Scoring-Part II- Scorekeeping Made Easy-er



Last month we talked about setting up your contest and entering contestants. This month we'll discuss entering scores, printing those scores, backing up your work, and handling crashers, so let's get started.

(Fig 1) We begin at the home screen; click the Contest Data tab, then Enter Scores.

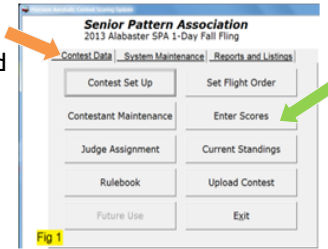


Fig 1

This will give you A list of all contestants in your contest (Fig 2), listed alphabetically within classes. That is, B-Novice A to Z, Novice A to Z, etc. Find the pilot to be scored and Double Click his name. This will bring up the Score Entry/Edit screen. (Fig 3)

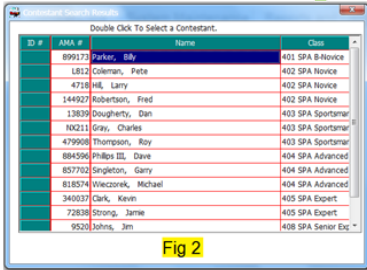


Fig 2

WARNING: This is the point where the program has been known to crash, especially early in the contest. See the "Crash Resolution" section for instructions on how to recognize and deal with this situation.

(Fig 4) Tab forward FOUR TIMES to place the cursor in the correct position to begin entering scores. You will

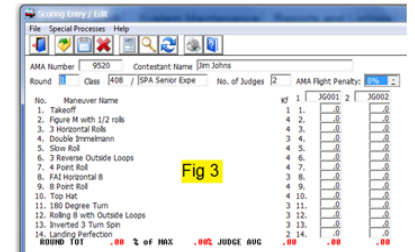


Fig 3

enter all scores from Judge 1 first, and then enter the scores from Judge 2. There are two different types of scores – full points and half points. If you enter the ".5" or the ".0" after the full point, the program will automatically move the cursor to the next field. If you don't type in the ".0" on a full point, use the TAB key to move to the next field. When you leave a field

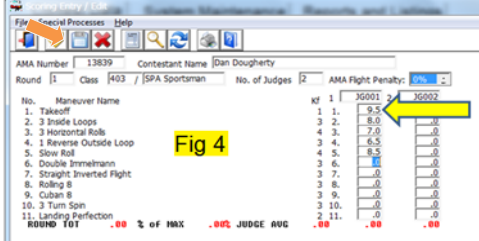


Fig 4

and have accidentally entered an illegal number outside the range of 0-10, the program will warn you and require you to correct it before you can continue.

(Fig 5) After you have entered both judges' scores, the program will automatically save the scores. However, it will warn you if either of two conditions occurs.

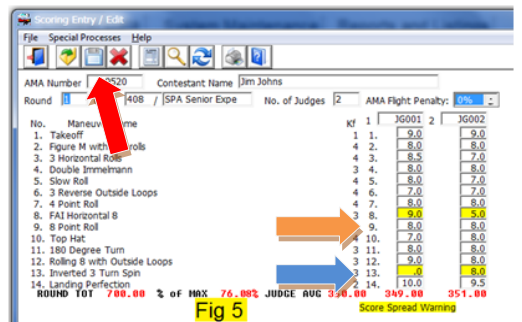


Fig 5

The first condition (Maneuver 8) indicates a difference of more than two (2) points between judges on any maneuver. Check the paper score sheets to confirm you typed the correct scores. If you did, proceed normally. If not, correct the one that's wrong.

The second condition (Maneuver 13) indicates a Zero discrepancy. Both judges must agree on any Zero score by rule, so the program warns if this occurs. If there is a discrepancy on paper score sheets, check with the judges. Correct and continue.

You can also save the scores at any time by simply clicking the Save icon.

(Fig 6) There are two methods of getting the next pilot to score. Clicking the Open icon gives you a list of all pilots in the contest, and clicking the Find icon shows only those pilots who do not have scores in the current round. Find the next pilot, double click his name,

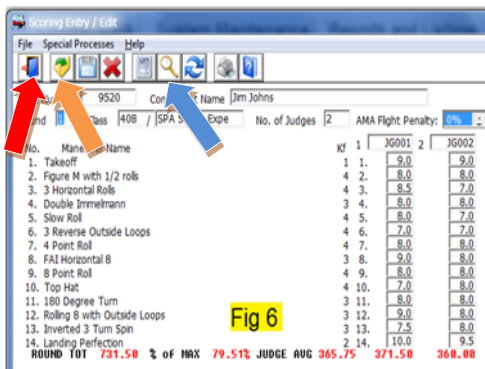


Fig 6

and continue as shown beginning in Fig 3. If all pilots have scores in the current round, you'll want to print the round results. Click the Exit icon to return to the main menu (Fig 1), and then click the Current Standings button.

(Fig 7) You'll be asked which round you want score for. The default is always the current round, but you can pick any previous round as well. Enter the desired round and click the

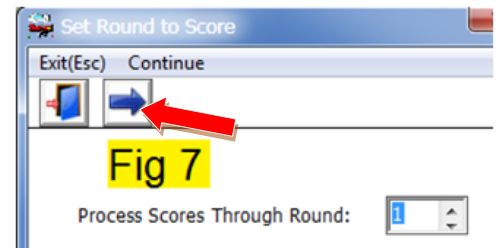


Fig 7

Continue icon.

(Fig 8) You'll be shown the first class that has scores. You have two options – View the scores or print them. Click the Continue icon to View each of the classes or click the Print icon to Print.

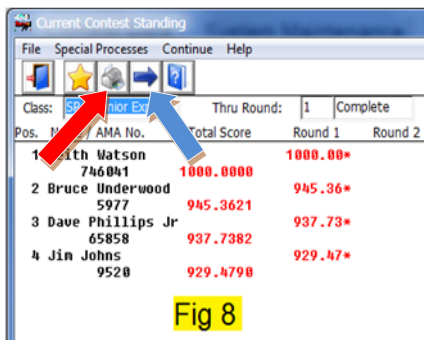


Fig 8

(Fig 9) Clicking Print in Fig 8 will give you the option of printing All Class in the contest (default) or any single class. Click to Print or to Exit without printing.

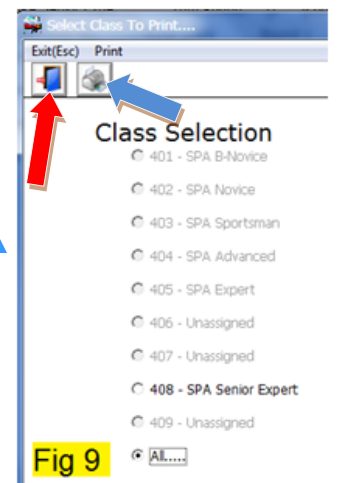


Fig 9

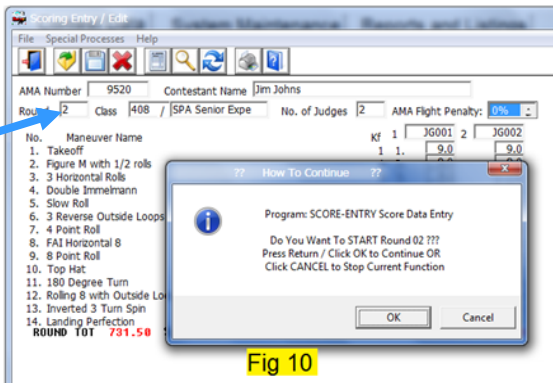


Fig 10

(Fig 10) After all pilots have scores in the current round, use the Open icon (Fig 6) to get the first pilot in the new round. Enter the new round number and you'll get this question. Click Yes to begin a new round and then proceed beginning with Fig 4.

(Fig 11) It's a VERY GOOD IDEA to back up your data regularly – remember that CRASH I mentioned earlier? Nothing could be easier. Click Exit to go back to the Main Menu (Fig 1). Click the System Maintenance tab then click Backup/Restore.

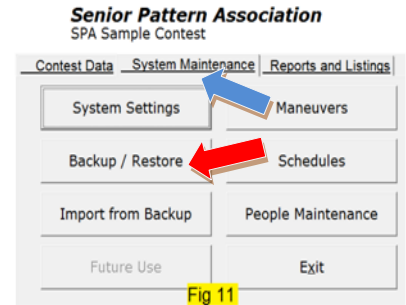


Fig 11

(Fig 12) You'll have a choice to backup to your hard drive (easiest) or to any other drive such as a USB (thumb) drive.

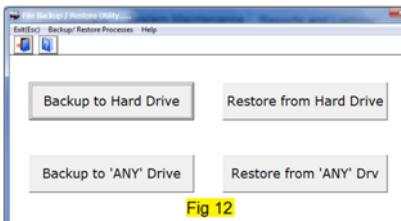


Fig 12

(Fig 13) Selecting Backup to Hard Drive will result in begin an immediate backup and you'll see the following message when the backup is complete. This backup will be created in the C:\PACSS\Backup directory and named as shown. The format is BAKDAT-MonthMonthDayDay-HourHourMminuteMminuteSecondSecond. Click the Exit icon to return to the Main Menu, then the Contest Data tab (see Fig 1) to get back to entering more scores.

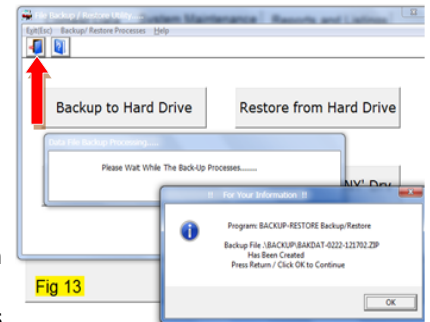


Fig 13

PROGRAM CRASH:

It's time to talk about that program crash I mentioned earlier. The PACSS program can crash while entering scores. This can result in an unrecoverable corruption of the databases if not handled correctly because the databases will not close properly. The fix for this corruption is to completely reinstall the entire program and Restore the database from the latest backup. If you've backed up recently, you'll lose only the data entered since the last backup. If you haven't backup up, you'll lose all of your previously entered contest and score data. This happened Sunday morning at Hotlanta in 2013 and required re-entry of ALL SCORES from the first day of competition. I was the score-keeper that day and it turned into a nightmare for me and all the competitors. Since that time I've learned how to handle this problem properly and allow the databases will be closed gracefully. All you will need to do then is restart the program and continue.

(Fig 14) Let's start by identifying when a CRASH has occurred. Notice the top line of the two pictures. The upper shows the program in normal operation with the icons showing. The lower shows the crashed condition with score sheet data overlaid where the icons should be.

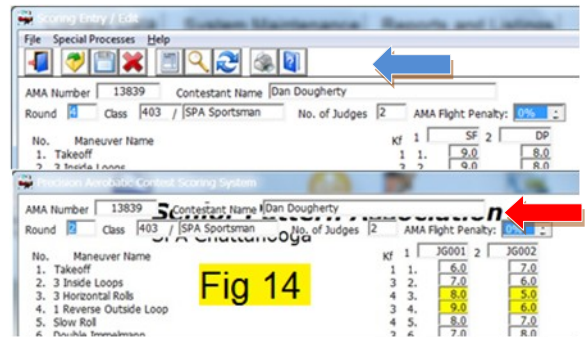


Fig 14

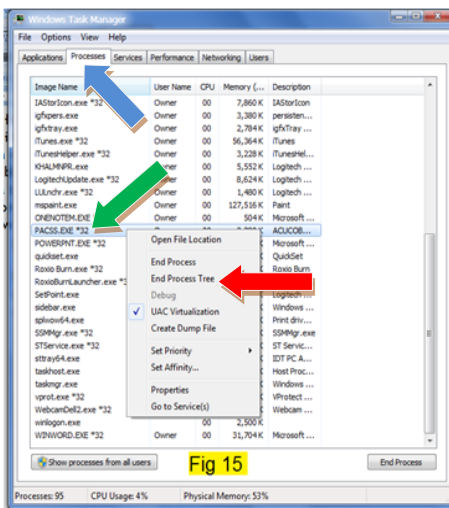


Fig 15

At this point you won't be able to do anything – continue, exit, type, nothing. This is usually your first indication that a crash has occurred. This is the critical point that determines if your databases will be corrupted or not. Follow these steps EXACTLY and all will come out fine. Fail to follow them and you will get to reinstall the program and reenter all the scores. Been there, done that!

(Fig 15) IMMEDIATELY Go to the bottom right corner of your PC screen and find the clock. Right click on the clock then Left click on Start Task Manager. Click the PROCESSES tab at the top and scroll through until you find PACSS.EXE *32 in the Image Name column, Right Click on it then Click on End Process Tree in the dialog box.

(Fig 16). You'll get this dialog box. Verify that the correct program is selected (PACSS.EXE *32) and click End Process Tree.

DO NOT SELECT END PROCESS in Fig 15!!!! This will end the program without closing the databases and corrupt them.

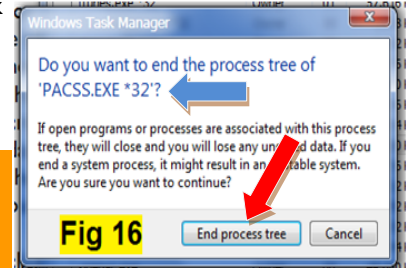


Fig 16

That's PACSS made easier in a nutshell.

There are lots of other features in the program – we'll explore some of them next time. Feel free to email me at the address below if you have any questions. Smooth Landings!



MOVING UP—THE ROLLING GAMES!

OMG-osh... I just moved from novice to sportsman and now I have to do knife edge flight and 4 point rolls. Oh wait... I also have to do a slow roll and **eeee-gads...** I've got to do 3 horizontal rolls! I'm gonna crash everything I've got and won't have an airplane left to fly!! Feel familiar? If you've moved up within SPA, you've probably experienced the roll-a-

mania panic. Trust me, I've been there, done that, saw the movie, got the t-shirt, and nearly the top of a tree for a souvenir. You can overcome your fears, learn to do these rolls well, and you can do this without sacrificing your beautiful pattern plane! Before starting on the actual maneuvers, let's talk very briefly about some changes that may need to be made to your aircraft to make it ready for the sportsman sequence.

The 1st thing to look at is the CG of your aircraft. Most folks prefer to fly a "slightly nose heavy" aircraft because it seems smoother and more forgiving. The truth is, a slightly nose heavy aircraft has been making you look like a worse pilot than you are, because whether you know it or not, you've been forced to fight that slightly out of balance aircraft. You've got plenty of challenges ahead of you. There is no good reason to fly a harder schedule with a less capable plane. Get the CG where it needs to be!

The next thing to look at will be how your aircraft performs in a knife edge position. You may want to get an experienced pilot to fly your aircraft, and make suggestions about how to improve its knife edge performance. Some issues may be resolved by programming some mixing functions on the radio, and some require changes to wing/tail/thrust incidences. Seek experienced help to get your aircraft dialed in. I don't care where you live, there are some great resources within the SPA and you will not spend your time or money any better than making a trip to get the help that you need to get your aircraft dialed in. My intention is not to point you toward a particular person, but rather to point you toward "experienced help". Knoxville, Guntersville, Prattville, Orlando, Dallas... you name it, there are experienced pattern fliers that you can get to for help. Take a couple of days, a long weekend or what have you, but get some help! Not only will you get your aircraft dialed in, but you'll have the chance to spend some quality time with a vast fountain of knowledge. Heck, buy lunch dinner, whatever.. make a great time of the experience!!

The time and money that you spend doing this is probably the best bang for the buck you'll find anywhere in our hobby!

Once the aircraft is sorted out and made to be the best it can be, it's time to start focusing on your piloting skill set!! I'm going to go over what has worked for me. There may be many roads, but this is the one I traveled and I feel it has served me very well.

DON'T CRASH!!!! This may seem obvious, but I thought I'd toss it in anyway. If you are uncomfortable with rolls in general, then the best thing you can do to prevent plowing your pattern ship into the ground is to start each and every rolling maneuver by pulling the nose up before starting the roll. I can hear folks screaming about point deductions already, but please don't listen to the noise. If you're uncomfortable, play it safe and pull the nose up 1st. If you wind up at a contest and are still uncomfortable with rolling maneuvers, please pull the nose up before starting the roll. Yep, you'll get a deduction, but chances are you won't crash your airplane—you'll live to fly another day. You get TONS of deductions when you crash, just a relative few deductions for pulling the nose up. As you get better, you gradually eliminate the pull. **Safety first means, no crashing during rolling maneuvers!!**

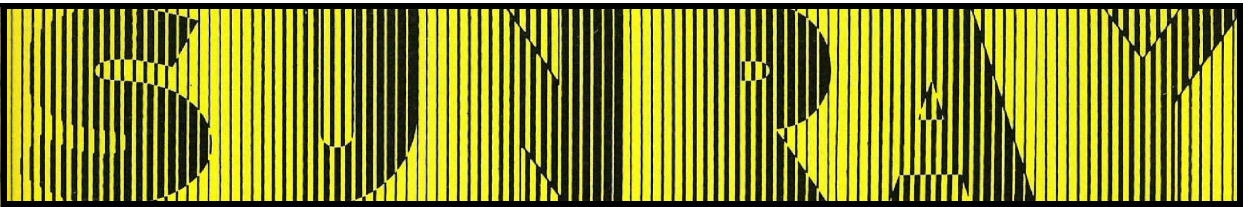
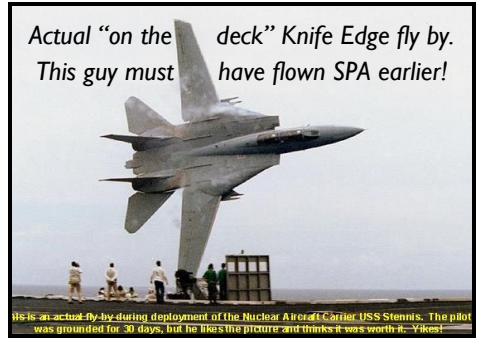
Here's another word of advice. Most crashes I've seen during rolling maneuvers are due to the pilot getting "out of timing" with the elevator control as the plane rolls. If you get into trouble, the main thing to do is to **level your wings**. It doesn't matter if you level them upside down or right side up. Job# 1 is to level the wings. Job #2 is to PUSH OUT of trouble if you are inverted, or pull out of trouble if you are right side up. Wings level 1st, then figure out if you need to push or pull. IMPORTANT-Use your caller; by having your wings level, you give your caller a chance to help you by saying "push out" or "pull out" If the plane is still rolling, **the caller can't really help you** because by the time he says something the plane's attitude will have changed.

While on the subject, where possible, it's wise to **have a very competent pilot as your caller**. A good caller will not only call your next maneuver in plenty of time to allow you to set up for it properly, but he will also be watching traffic, positioning, and should be able to talk you out of trouble if you give him 1/2 a chance!! When you are calling for somebody, please take the job seriously and remember that you are just as responsible for a safe flight as the pilot is. With regard to safety, I assure you that no judge wants to see an aircraft flown in an out of control manner. Every judge would much rather you abort a maneuver right in the middle of it than to try to force your way through a maneuver that is going bad. Saving the aircraft allows room for redemption. Crashing the aircraft leaves no room for mercy and may cause injury. Nuff about that I suppose.

If there is one maneuver in the SPA sportsman schedule that serves as an anchor for the entire sequence, it's the one called "Straight inverted flight". Most pilots venturing into the deep rolling waters of pattern flying overlook this maneuver, but it is the foundation upon which you can build a winning SPA sportsman season! **The maneuver is deceptively simple sounding**. Come in level and on heading, 1/2 roll to the inverted position, fly straight, and then 1/2 roll back to the upright position. Trust me, if you can't perform those 1/2 rolls into and out of the inverted segment well, then you will not get any decent scores on what you think may be the easiest of all the sportsman maneuvers!

Ok.. lesson #1 is the "Straight inverted flight" maneuver. As you roll to the inverted position, be absolutely certain that the aircraft is NOT in a nose down attitude. I mean, not even the possibility of being even a millionth of 1 percent nose down... be absolutely level or slightly nose up! When you start your roll, don't jam the aileron stick over, but don't try doing it very slowly either. We're looking for about a 1.25 – 1.5 second period of time between when you start the roll, and when the wings become level in the inverted position. The roll rate should not look like you flipped the plane over on its back, nor should it look like you did a slow roll into the inverted position. You're looking for a roll rate that is intentionally smooth and controlled. If you go too fast, you don't really have a chance of consistently stopping the roll perfectly wings level. If you roll too slow, you'll wind up having to battle the transition into and out of the knife edge portion of your 1/2 roll. Once the plane is inverted, do what you need to do to establish level flight. I've not flown a properly trimmed aircraft that doesn't require at least a very minor amount of forward

continued.....stick pressure to maintain absolute level flight. The common mistake is to use too much down elevator while the aircraft is on it's back. If you're properly trimmed, it takes a surprisingly little amount of down elevator though. Once the aircraft has established straight and level flight, finish the maneuver by continuing your roll back to the upright position. Since we're doing this to practice rolls, please make the roll to the upright position the same direction as your roll into the inverted position. Continue to work on this maneuver until your entry 1/2 roll and your exit 1/2 roll are very pretty, smooth, and 100% under control!!! Once you have done this, please pat yourself on the back because you've made a HUGE leap toward learning how to roll properly. Now all you have to do start removing that inverted straight segment between the entry and exit rolls. Don't try to skip ahead and eliminate the inverted segment right off the bat, but do start working on making the inverted segment very brief. Once you are stopping properly at the inverted position and are not fighting the aircraft to maintain straight inverted flight, then you can take the inverted straight inverted segment out all together and make 1 continuous, smooth, beautiful roll. One roll without the inverted straight segment should take you about 2.5 – 3 seconds to complete and you should not lose heading at any point. You will find that even though you're not stopping at the inverted position, you may need to put just a slight amount of down elevator in when the plane is inverted. **DO NOT BUMP the elevator**, make a very intentional, minimal push of the elevator stick. You can't control a bump well enough to do it consistently well, so learn to make that intentional stick control. **To be continued next issue...**



This season Kevin Clark introduces the first-ever Bi-Plane to the SPA circuit. He can send you the original magazine article by request.

Biplane

My search for the most advanced designed precision aerobatic plane nearest the cutoff date of January 1st, 1976 continued and lead me to the Sunray Biplane designed by Jack Scarbrough. My thought were at first I need something with a large side area to hold points during rolls at a slower speed, and something that had a lot of drag to even out the speed through down legs. I knew it had to be light as well. Maybe an airframe that would have a bit smaller wing and fuse length that would make it light enough to put any of the legal power plants on it and perform with authority.

My search ended with the Sunray Biplane. While most all other designs were going toward the sleek airfoils, speed, and bigger size, Mr. Scarbrough was on to something that is the rage of today's AMA pattern. The biplane with huge side areas and lots of drag. In general a biplane produces more drag naturally due to two wings and usually a larger guppy like fuse to accommodate the two wings. In the past most the biplanes had short fuses that would produce short coupling, bad for pattern and very sensitive. This design has closer to a 1:1 coupling so it is more stable with less sensitivity. The other added feature that has been overlooked by many I believe is the gull wing. This will be very effective to have a surface creating lift and flying at all points in the 8 point roll sequence. No other airframe out there can be compared to this feature during this time period. In my opinion this airframe was way ahead of its time and was overlooked greatly by the pattern community just because the trend was going a different direction. Now we can see Jack's ideas with the biplane and gull wing have come full circle in AMA pattern today.



I decided to order plans in September of 2012. I finally received them around December. I measured right off the plans and put together an order for balsa and ply. Once all was received I began the meticulous chore of cutting out each and every piece on a scroll saw and by razor knife. What a chore it was. I probably wasted more than I used in the plane itself learning this technique. Can anyone say "laser cutter". The next one will defiantly see the laser cutter before I cut all that out again by hand and hours of sanding and redoing. This was my first time scratch building from plans. I learned a lot about patience.

The construction was simple, but the wing mounting and fitting was very difficult to get it right. Double everything. Just when I wiped the sweat from my brow it was time to do it all again with the next wing. It all came together and I am now ready to start sanding and covering the skeleton. It is at all up weight of three and one half pounds in the bones. I have not had much time to complete it so far, but I will make every effort to do so.

The following equipment will be utilized: **Power Plant:** OS 490kv electric motor, OS 70 Amp ESC, Banana Hobbies 6S 5000mah 65C Lipo Battery, and a 13.5x13.5 APC Pattern Propeller. (This same set up has been tested and proven on a Model-sport Curare ARF and it hauls the mail just fine at all up weight of 6.25 pounds. I should be around 6.5 pounds at the heaviest finished weight. **Radio:** Airtronics SD-10G 2.4GHz Tx, Airtronics 92674 7 Channel 2.4GHz Rx, Hobbico Digital Servos, and HydriMax Ultra 6v 2000mah Rx pack. All wiring, switches, and extensions are HD. Total of four servos (2) Ailerons, (1) Elevator, and (1) Rudder. Once finished, I'll report on flight characteristics. Hope to see you all with the SunRay Bipe on the 2014 circuit.

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