



IN THE LOOP

PRESIDENT'S LETTER

Looking out the window, I'm reminded why Southern California is a great place to live and fly. In spite of some recent rains the sky is clear once again with cool but fair temperatures and light winds. With the days getting longer, we now have a chance to spend a bit more time in the air again for fun or to get ready for the upcoming contest season.

Speaking of contests, if you've seen the recent announcements from Judy Phelps, CP Aviation is once again hosting Judges School which is scheduled for March 28th and 29th. Thanks Judy for hosting and saving many of us what would have been a longer drive. Even if you're not thinking of being a judge, I strongly recommend attending if you plan to compete. Knowing how you're judged, and practicing accordingly, can do a lot to improve your scores and make the most out of your gas money. Also, we're currently looking into a follow on "Baby Judges Workshop" on April 4th to go through the exam and provide some hands on judging practice and perhaps a BBQ. Stay tuned!

We also have a few more talks scheduled and finally our own LA Gold Cup, Duel in the Desert, which is coming along nicely. Upcoming Chapter meetings will include presentations on Parachutes by Al Longobardi at Al's hangar and a Maintenance discussion by Ray Maxon (of Ray's Aviation) at his Shop. If you have other suggestions for future events, please let us know.

On a final note, for those of you who didn't see the last newsletter, Margo has created an incredible design for Chapter T-shirts

and posters which are going fast. We still have T-Shirts left and posters can be ordered anytime. Please contact me if you'd like to order either one.

Well, enough writing, time to take advantage of this nice weather and get some flying in!

Best Regards,

David Platt

LETTER FROM THE EDITOR

As many of you know, Patrick and I moved our plane to Apple Valley at the first of the year. We love flying in the desert. We have good friends and a nice clean hangar all to ourselves. While I can do a fairly good job of keeping you all up to date on desert doings, it's a long way from Santa Paula. This tends to put a cramp in my wider ranging journalistic reportage. If you have news, notes, stories or pictures of what you've been up to please email them to me so I can share them with the members.

In this issue we are featuring a reprint of an article on wind correction kindly updated for our newsletter by the author, John Morrissey, a story by Patrick Dugan, freestyle tips from Vicki Cruse and pictures of the intrepid Steve DeLaCruz's wing recovering saga. Enjoy!

Margo Chase, Editor

margo@chasedesigngroup.com

DRIFT

By John Morrissey

Great Planes Aerobatics

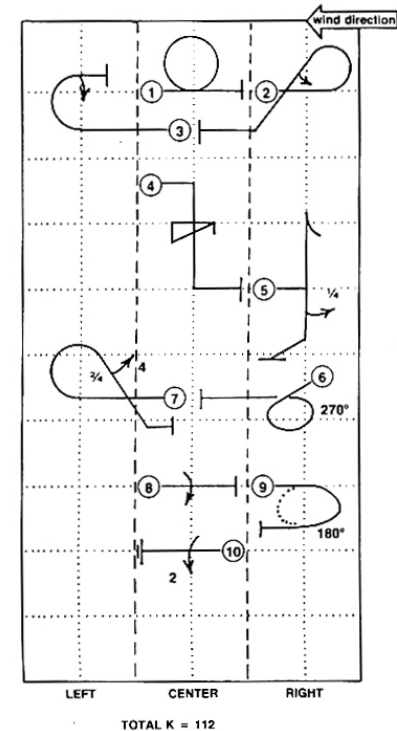
Abridged Reprint from Sport Aerobatics, September 1990.

Drift correction during a competition flight or an airshow sequence has always been a controversial subject. Generally, there have been two schools of thought. One group says that heading should be changed to produce the required track; the other camp says the heading of the aircraft should always be parallel to the axis being flown and that drift correction should be controlled by inducing a sideslip proportionate to the wind during the maneuvers in order to cancel drift. The second group points out that changing headings only on the straight lines between maneuvers constitutes only a small percentage of the total time spent in the sequence and therefore changing the heading during this time will not significantly change the drift profile of the flight. They also correctly point out that the contest rules prohibit crabbing between maneuvers.

Before discussing the merits of these antagonist positions, I thought it might be useful to quantify the amount of drift that occurs during a sequence prior to deciding on the corrective action required to counter the wind. The drift in feet for any maneuver can be figured very easily by using the following formula: Drift in feet = wind velocity in knots X the time of the maneuver in seconds X 1.69. This 1.69 is a K factor which converts knots into feet per second. Representative times for various maneuvers in a Pitts S-2A would show a hammerhead at approximately 22", an inside /outside 8 at 40", a loop at 21" and a humpty at 24". Naturally, these times will change with entry speed and power. You should have the time required for all Appendix III maneuvers in your 'journal' for reference when planning your unknowns. IAC contest rules allow a maximum wind velocity of 20 knots – right! When performing an airshow, the axis can never be changed and

the performer is forced to do the best in any given wind situation. It has been my experience that 30+ knots into the crowd is not all that uncommon. The following examples will use 20 knots as the assumed wind.

1990 SPORTSMAN SEQUENCE:



During a single hammerhead, we can see that the drift during the maneuver will be 20 knots X 22" X 1.69, or 743.6'. If we use the 1990 Sportsman sequence to illustrate the total amount of drift experienced during a sequence, we can see that if the average time to fly the first nine maneuvers is 130" for a Pitts then the total drift during that portion of the flight prior to the first crosswind maneuver will be 4,394'. Since the box is only 3,300' wide, this leaves us a 1,094' shortfall. The above example also gives us a very important figure, the drift in feet per one knot of wind for a

representative figure. In the first example, we can see that if the drift is 743.6' for 20 knots in a hammerhead, then we will drift 38' per knot downwind during the maneuver.

This figure is very important, especially during airshows, as it allows the performer to use the concept of offset aim points for selecting their pull up points. As an example, if you determined that you were going to drift 500' into the crowd during a hammerhead, then your pull up point would have to be 500' outboard of the showline in order to complete the maneuver "in bounds". The same philosophy can be used in contests; i.e. how far from the downwind edge of the box must I start my pull up for a humpty with a 15 knot tail wind? The answer is 811' plus or minus the top radius. If you push or pull into the wind, subtract approximately 150' from the drift; on the other hand if you push or pull downwind, add the 150' to the drift.

Now that we have a feel for the effect of the wind drift in feet, the problem now reverts back to our introduction, namely, what to do about it? In making your decision, remember a few unavoidable realities. All vertical maneuvers are fully drifting. During the vertical portions of all maneuvers you are drifting downwind at the speed of the wind. All spinning maneuvers are fully drifting. There are some techniques that will help during the entry and exit portions of the aforementioned maneuvers; however, they are, for all practical purposes, headed downwind at the speed of the wind in which they are encased. If you use the technique of "sideslipping" into the wind without changing the heading, the drag profile on the aircraft will increase considerably. This will usually cause altitude and energy problems later on in the performance. Lastly, remember that it rains on both teams, which is to say that you are not so much competing against the rule book as you are the other competitors. If you stay in the box and complete the maneuvers and other do not, you will win. If you

stay on the "good side" of the show line and miss the ground at your airshow, you will win, i.e. get paid, not violated and live to fly another day.

One of the best perspectives on contest flying and doing what it takes to win is to be found in Neil Williams' book AEROBATICS on page 148 where he discusses Bezak's performance during a world contest and observes that he can see all his errors (wind correction techniques) from anywhere on the field EXCEPT THE JUDGES' POSITION. It was this small aside in his book that gave me the big clue to correcting for the wind and it has worked very well for me in contests as well as airshows. The technique is as follows – any time the aircraft is not vertical, point the nose into the wind as much as needed to counter the wind. The technique for achieving this correction is beyond the scope of a short article, but I will say that any time the aircraft is vertical or passing through the vertical it must be square with the box. You just cannot sideslip an aircraft sufficiently to correct for crosswinds in the 20 knot class. Other assists for wind control are to limit one's time in the vertical by shortening vertical lines in heavy winds to minimize the time spent in them and thus reducing drift. On higher powered aircraft the throttle can be reduced to slow the aircraft when heading downwind. During formation flight, coordinated heading changes and offset aim points for pull ups are the only workable solution for nasty crosswinds.

Remember that if you are held hostage by the wind, good consistent presentation will not be possible.

Good luck!

FIRST UNKNOWN (or, You don't know what you don't know.)

By Patrick Dugan

Steve said, "Wow it looks like a 2 year old drew this." I thought it looked like my first finger painting in kindergarten. What was flying it going to be like? Margo stared at it for a minute and said, "Please stay high." I wondered if you could pressurize an Extra. There in the Paso Robles terminal I started a journey of self discovery and was soon to take what would turn out to be the most memorable flight of my life.

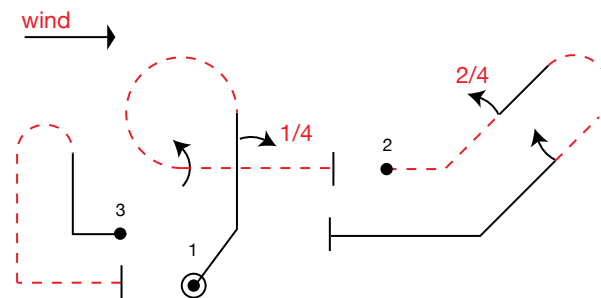
I had decided a short (maybe too short?) 9 months earlier that I was going to move up to Advanced. Now I was flying in my first Advanced contest, wondering if skipping Intermediate had been a such good idea. After seeing the unknown I needed a beer more for the my headache than for my thirst. Flying Advanced was hard work!

As the first day of the contest came to an end, I strolled along with my ipod turned up and a cold wind blowing across the ramp at Paso. Looking through the figures I realized that out of 13 figures in the unknown sequence I had flown only 1 before. "Oh great," I thought. "Lucky number 13." Sometimes you just have to say, "What the ^**#!"

"OK, so it's a Y axis entry... then, to end up pushing at the top upwind, I have to roll to put my butt upwind on the vertical.... then an outside P with a roll on the bottom. OK, then what? Lay down humpty, push... OK." Much of the next hour was spent trying to figure out which way to roll, which way to step, find energy trouble, look for sleepers, etc. After a few more hours dancing on the ramp in the cold I figured I had wasted enough sleep on my feet and finally put my head on the pillow.

As the time for the unknown closed around me like a shroud, I

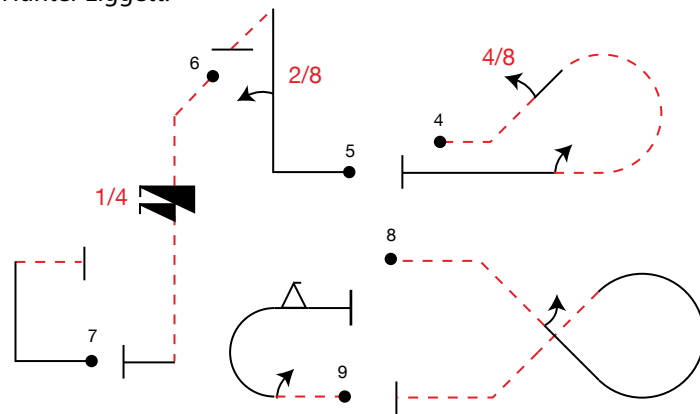
felt the adrenaline dumping into my system. Sequence in the holder, check... fuel, check... oil, check... butterflies, CHECK!! Once I was airborne, it didn't get any better. I spent the first few minutes circling, gathering my slushy brain up and tucking some of it into a corner so I could use it to land. "Patrick Dugan, the box is yours." A familiar voice crackled through my headset. As I moved into position my goal was simply to finish. "No Zeroes," was my mantra.



I dove toward the judges and did some quite audacious 20 degree wing wags (at this point it was fortunate I remembered to move the stick at all). I flew into the first figure with smash, got the roll finished and then... "OK, what do I do at the top???? Oh, yeah. PUSH!" The airplane "flew" the outside P loop (please use your fingers for quotation marks here). I got to the bottom and yelled "Roll!" to nobody in particular. "OK. Next... push up to a lay down humpty. OK, now a 2 of 4..."

There are times in your life when it is amazing that you can remember to breathe. This was one of those times. I had to actually ask myself, "How do I do a 2 of 4 roll from inverted?" I gingerly nudged the stick in what I hoped was the appropriate movement. Much to my amazement, it was! The plane ended upright on what I would hazard was an angular up-line somewhere near 45 degrees. Then it was time to push again. "Wow!" Watching the scenery from that angle was like sitting in an IMax theater. "So that's what its like to push." As the nose came around to inverted

on a 45 degree down-line, the plane was stalling, buffeting, and telling me to do something! "I am!" I yelled back. "Oh yeah. ROLL!" Much of figures 3-9 was a blur of ground, sky and runway accompanied by a considerable amount of vocalization due to effort and as a way of keeping me from ending up somewhere over Hunter Liggett.



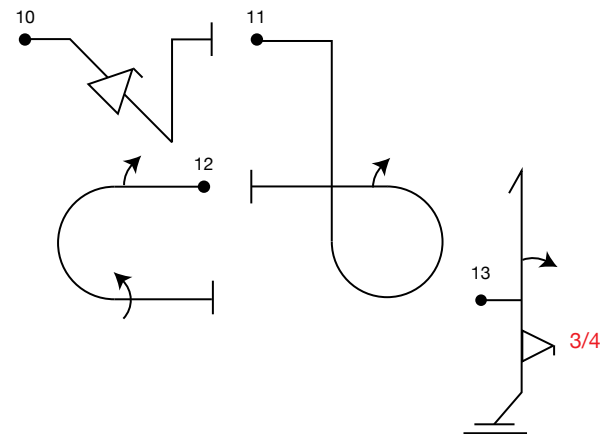
I finally arrived at figure 10, a full snap. A little background information may be helpful here. For weeks I had been working on snaps, trying to get them to rotate more quickly. I'd been doing practice flights of nothing but snap rolls, so many that my knees would ache for days afterward. But here it was for real. As I pushed onto the 45 down, I consciously thought, "Pitch- kick-unload." And... well, it stopped. But as usual it sucked. "Man, will I ever get those things right?" And I had one more snap still to come. "Oh, goody!"

Figure 11 & 12 slipped past and I arrived at the final figure. That's right, another snap roll. I was feeling very satisfied though. I had gotten through the entire sequence so far without missing a figure. I had flown it all in the right direction, made myself hoarse in the process and thoroughly and completely enjoyed every second of it. The last figure was a hammer with a half roll going up and a three-quarter snap on the way down. "Right roll! OK... hammer... and..."

As I pulled onto the vertical down, a strange sensation enveloped me. At this point I knew all I had to do was end up on the Y axis. "OK... SNAP!" The best pilots will tell you that when you hit a snap right, you know it. Having never done one right, I had no clue what it would feel like. This one went around so fast it made my vision blur. When I slammed to a stop on the Y axis I was, to say the least, elated! I couldn't believe it. I had just made it through my first unknown! That was absolutely the most fun I've ever had with my clothes on!!!

I landed, got fuel and chocked the plane. Then my cohorts in crime came up and asked, "Was that a 3/4 snap or was it a 1 1/4 snap?" At first I said, "3/4, of course." Then it hit me... Did I go 1 1/4? It felt like the same timing I had been using for a 3/4 snap in practice but those were much slower. Hmm... As I wandered on the ramp waving my hands in circles I soon came to realize that I had gone 1/2 a roll too far. I had passed 3/4 and stopped on 11/4. Oh ^**#!. Zeroed that one. At least it was on the Y axis! Holy crap that thing went around fast!

I still have the score sheet. It's fun to look at it and recall that flight. The best part is that last snap. It went around so fast that two out of the 5 judges actually scored it!



FREESTYLE TIPS

By Vicki Cruse

In the Beginning...

- Wing wag like you mean it.
- Start with a bang – something at center box that looks good and that you fly well. It sets the tone for the entire sequence.
- Place the more difficult figures at the beginning of the sequence – you will tend to practice them more and you are fresh for this portion

Dealing with Wind

- “Hangers” (Hammers, humpties and spins) should be on the upwind end of the box
- Wind correctors should be at the upwind end of the box
- Place a wind corrector every five figures (if flying contests outside California)

Upwind versus Downwind

- Set up the humpties to try and push or pull into the wind
- Try to place hammerheads so they pivot into the wind
- Immelmans should be downwind and split-S’s should be upwind so that the rolls are into the wind

45-lines and Verticals

- Try to place verticals at the ends of the box so you can fly right up to the edge.
- Try not to use ‘reverse’ figures unless you are flying a “California” free. These are “blind” figures.
- Reverse figures take up at least ½ box, do not fly the reverse portion downwind.

- If pushing to a vertical line, try not to place any rolls on that line
- Try to fulfill the roll requirements on downlines, both vertical and 45’s.

Spins

- 1-1/2 spins are the easiest to do because they stop relatively vertical and require less fixing at the end
- 1-1/4 spins are the hardest and are require much more practice to stop wings level
- Always put a spin after either a 45 upline or a vertical upline. This way you do not have to practice speed control before the entry and either lose altitude or fly out of the box while trying to slow down.

Altitude Thoughts

- Put the biggest altitude losers early in the sequence.
- Know the altitude loss and gain for every figure before you fly the sequence

K factors

- Always meet the maximum K required.
- Use all the figures allowed to minimize the cost of a blown figure
- Try and make all the K factors as close to equal value as you can.
- Take the total K required, subtract the spin and the roller and divide by the remaining number of figures. Try to make each figure be as close to this K as possible.

Intermediate – $(190-13)/15 = 12$

Advanced – $(300 - 13)/12 = 24$

- Know what figures work well for your airplane.
- Decathlons can do ¼ rolls up but not ½ rolls well

- For small Pitts' such as the S-1, you want a very flat sequence that does not reach the top of the box

- The bottom of the box should be as follows:

Intermediate – 1400 feet

Advanced – 1000 feet

Unlimited – 500 feet

Miscellaneous

- Never, ever put a loop in a freestyle. This includes any variation thereof (avalanche, loop with a roll on top)

- Keep the figures you don't fly well to a minimum – use a 90-degree roller

- The fewer rotations on a roll, the easier it is to judge. Full rolls are easier than two-point rolls, which are easier than 4-points, followed by 8-points.

- If you only need two snaps, only use two snaps. They are not reliable and you will get no extra points.

Make the choice

- Do you want to impress yourself, your friends or the judges? The same sequence won't necessarily do all three

How to Get Started

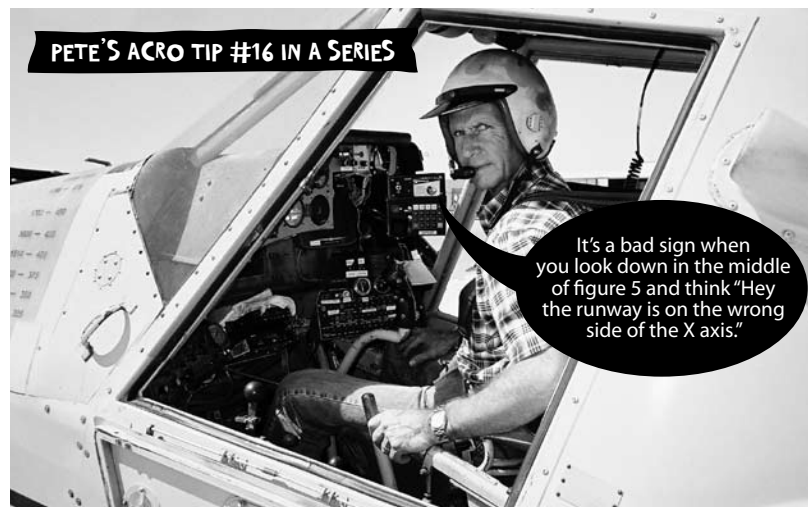
- Collect frees at contests and go fly them.

- See what you like and what you don't and begin changing the sequence to remove what you don't fly well and add the things you do like

- Test the sequence for altitude loss and presentation

- Fly it at a contest and see what works

- Change, change and more change to get what you want – this will only happen with experience



PICTURE GALLERY



As many of you know, Steve DeLaCruz has been working on recovering the wings on his Pitts S1T all winter. We hope to bring you the whole saga in the next issue. Until then, here are some pictures to keep you up to date on his progress.

Steve adds a decorative fringe to the wing root.



Patrick gives the engine a run-up. "Hmm. If one wing is better than two... maybe...!"



Friends stop by to pitch in on free weekends.



Ron Velkes wields the sandpaper with style.



Hey, I just figured out what clothes pins are good for!



What do you mean it's on backwards?

PICTURE GALLERY



Half covered.



Stitching the ribs



The hand is faster than the eye.



It'd be easier to get a camel through the eye of this needle!



The HazMat painter. Steve tries to avoid permanent brain damage.



Alien spray booth.

PICTURE GALLERY



Margo and Patrick's "Roo" in her new home in APV.



Lookin' Good! A hot new paint job on Tim Just's extra Extra 300s.



The Chapter 26 practice day included a few new faces. Van Snow's shiny new F1 Rocket has a beautiful paint job too. Watch for him in primary this year.



Kathy and John Howell, and Mike Hartenstein came for the Chapter 26 practice day in APV in the Extra formerly known as "pink."



Martin "Bash" Kennedy's "Italian job" made our heads spin. Was that a negative snap or a lomchevak?

CHAPTER 49 EVENTS

MARCH 28-29: JUDGES SCHOOL

Instructor Brian Howard.

CP Aviation and Chapter 49 will be hosting a Introduction to Aerobatic Judging School on Saturday March 28 & Sunday March 29. Class will start promptly at 7:30 am both days.

The cost for registration is \$75 for both days or \$50 if you come only on Sunday (second day refresher).

Required material 2009 IAC Rulebook which can be downloaded for free from the IAC website. If you don't wish to print the book I can have one printed for a fee of \$25.

Lodging - www.glentavern.com or www.santapaulainn.com

To register or for more information contact Judy Phelps at 805-525-2138 or judy@cpaviation.com

APRIL 4: CHAPTER MEETING

10 am Meeting: Chapter business. Non-members welcome.

Location: CP Aviation classroom, Santa Paula

APRIL 4: EVENT- JUDGING PRACTICE

A "junior judges" practice session is tentatively planned for April 4 as a follow-up to the judging school in Santa Paula. To keep more focus on the fun stuff, the next Chapter meeting is expected to occur over the lunch break between morning/afternoon practice sessions. Watch for details to come.

APPLE VALLEY CONTEST: DUEL IN THE DESERT

Preparations for the contest are going well. Patrick has created a contest website for updates and online registration:
www.lagoldcup.info

Thirty rooms have been reserved at the Ambassador for \$59/night including breakfast. Make your reservations early. The rooms will be released in mid-April. Ambassador: 760-245-6565. Block name: "Duel in the Desert Aerobatic Competition"



We need more sponsors! Anyone obtaining a new sponsor should please email their contact info to Ron Velkes (for booking), Judy Phelps (for billing) and Margo Chase (for program ad artwork).

Any sponsors willing to donate "stuff" for auction instead of cash are enthusiastically welcome and will also receive an ad in the program.

2008 CONTEST CALENDAR

APRIL 17-18

Chapter 36

BORREGO MINI FEST

Borrego Springs, CA

Practice/Registration: April 17

Contest: April 18

APRIL 30 - MAY 2

Chapter 49

LOS ANGELES GOLD CUP

Apple Valley, CA

Practice/Registration: April 30

Contest: May 1-2

JUNE 4-6

Chapter 38

NORTHERN CALIFORNIA

GLEAMING OF THE BOX

Paso Robles, CA

Practice/Registration: June 4

Contest: June 5-6

JUNE 18-20

Chapter 67

APPLE CUP

Ephrata, WA

Practice/Registration: June 18

Contest: June 19-20

AUGUST 6-8

Chapter 77

BEAVER STATE REGIONAL

Pendleton, OR

Practice/Registration: August 6

Contest: August 7-8

SEPT 4-6

Chapter 26

HAPPINESS IS DELANO

Delano, CA

Practice/Registration: September 4

Contest: September 5-6

SEPTEMBER 19-25

IAC

US NATIONAL AEROBATIC

CHAMPIONSHIPS

Grayson, TX

Practice/Registration: Sept. 19-20

Contest: Sept. 21-25

Rain Day: Sept. 26

OCTOBER ?

Chapter 36

BORREGO AKROFEST

Borrego Springs, CA

Dates to be announced

NOVEMBER

Chapter 62

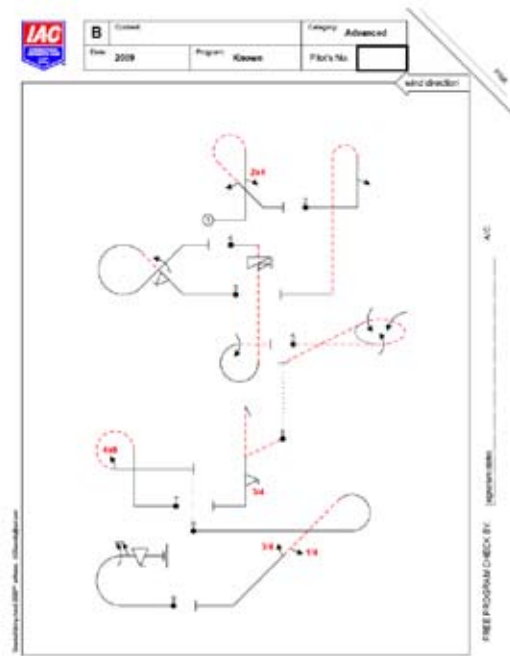
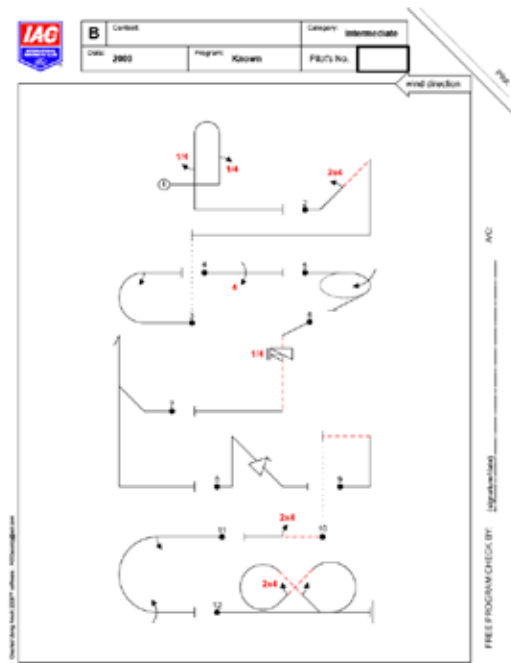
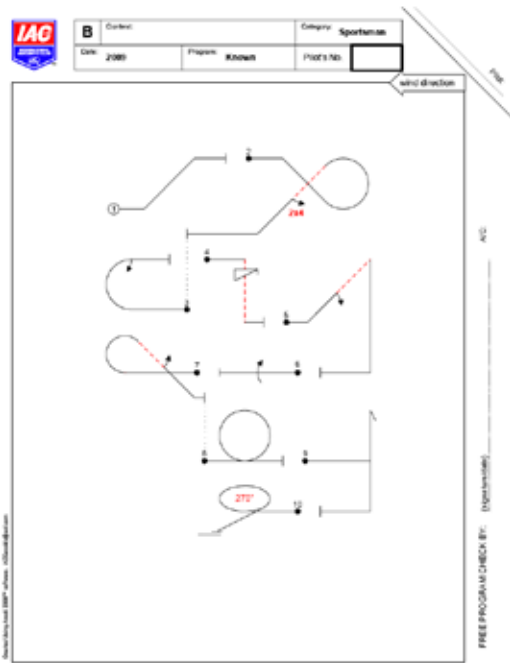
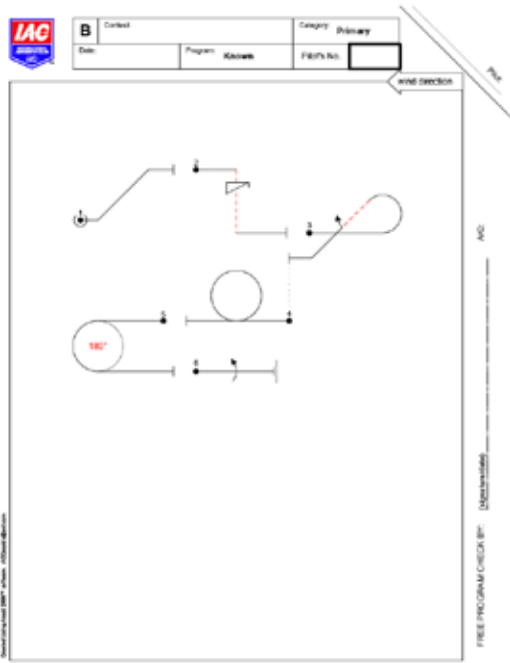
TEQUILA CUP

Tucson, AZ

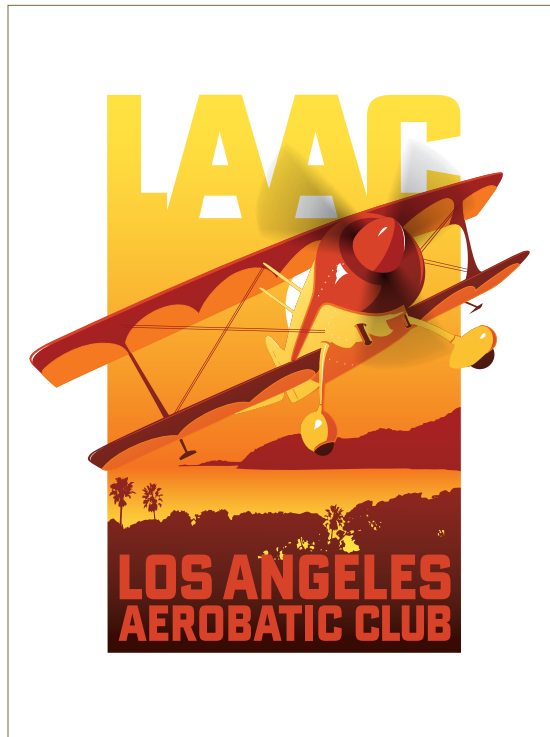
Dates to be announced

IN THE LOOP

2009 KNOWN PROGRAMS



CHAPTER 49 T-SHIRTS AND POSTERS



LAAC T-SHIRTS AND POSTERS:

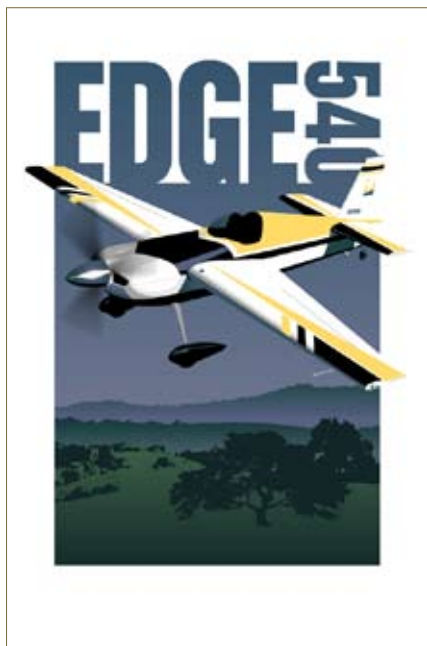
Support your chapter in style! Order a shirt or poster for yourself and your flying friends.

100% cotton heather grey T-shirt design features Chapter 49 logo in red on front and full color image of a Pitts Model 12 soaring over the Pacific on the back. T-shirts in men's S, M, L, XL. \$25.00 each plus shipping. Shirts available now supplies last.

18" x 24" poster on archival quality water color paper, suitable for framing. \$60.00 each plus shipping. Posters are available immediately by custom order. Allow a week for printing and delivery.

To order shirts or posters contact David Platt:
david_tracy_platt@yahoo.com
All proceeds go to support Chapter 49.

AEROBATIC POSTERS

**AEROBATIC AIRPLANE POSTER SET:**

Decorate your hangar and support your chapter. Margo Chase has combined her love of flying with her love of design to create the first four in a series of collectible aerobatic airplane posters. The first four posters include Vicki Cruse's Edge 540, Tim Just's Extra 300, Steve DeLaCruz's Pitts S1T and the Pitts Model 12 built by Ross Briegleb and flown by Alan Cassidy. Additional poster designs are in the works including a Sukhoi SU-31, Bucker Jungmeister, Staudacher and Super Decathlon.

12" x 18" posters are digitally printed on heavy stock, suitable for framing. \$20.00 each or \$60.00 for set of four. (Shipping additional). Posters are available immediately by custom order. Please allow two weeks for printing and delivery.

To order contact Margo Chase
margo@chasedesigngroup.com

Proceeds go to support Chapters 49 and 26.

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MEMBERSHIP APPLICATION

As every aerobatic pilot knows, nothing good in life is free. The same is true of membership in Chapter 49. So it's time to ante-up, fork over the dough and share the love. And don't forget, compared to everything else in aviation, at only \$35.00/year, membership is a deal!

Please print this form, fill it out and mail it with your check to:
Ron Velkes 1141 24th Street Santa Monica CA 90403

Please make checks payable to: Los Angeles Aerobatic Club - IAC Chapter 49

LOS ANGELES AEROBATIC CLUB- IAC CHAPTER 49

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DUES PER CALENDAR YEAR: **\$35.00**

COMPETITION EXPERIENCE:

NONE _____ PRIMARY _____ SPORTSMAN _____

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ARE YOU AN IAC APPROVED AEROBATIC JUDGE?

NO _____ REGIONAL _____ NATIONAL _____