Penner: Flying the 2013 Sportsman Sequence

• Forced Landing Excitement
• Move Up? Maybe Not
• Roll With Us
2014 Mustang

The Brood in a Mood
Meet the Mustang family – a good group with bad intentions. For 2014, they take to the street meaner than ever, led by the powerful Shelby® GT500®, which delivers 660 hp and boasts a test track top speed of more than 200 mph. Of course, power runs in the family and even Mustang V6 produces an incredible 305 hp while delivering an impressive 31 mpg hwy as well. But the advancements are not limited to the engine compartment. With the 2014 Mustang lineup, cool features are as abundant as horsepower. It starts with the available Pony projection lamp. When the unlock button is activated, each side view mirror casts an image of the famous Mustang Pony on the ground. Other standard features include HID headlamps that help you see what's destined for your LED taillamps. With so many possibilities, the thrills just keep coming!

1 EPA-estimated 19 city/31 hwy/23 combined mpg, coupe automatic.

The Privilege of Partnership
EAA members are eligible for special pricing on Ford Motor Company vehicles through Ford's Partner Recognition Program. To learn more on this exclusive opportunity for EAA members to save on a new Ford vehicle, please visit www.eaa.org/ford.
With no particular agenda beyond having fun and knocking some rust off my flying skills, blasting around the nearly-empty skies was a joy.

— DJ Molny

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A Sukhoi greets the setting sun at the 2012 IAC Nationals  
Photo: Laurie Zaleski
A Full Slate

Highlighting this issue

WE’RE PRIVILEGED THIS MONTH to have Gordon Penner’s thorough examination of the 2013 Sportsman Known sequence. Gordon. Penner has given us his take on the sequence for the last couple of years, and I always come away from reading his pieces with a real sense of how each maneuver should be flown. If you’re thinking of entering competitive aerobatics, this piece is a great mental primer before and during your aerobatic instruction and training. Gordon’s day job is as a captain a 747 carrying cargo all over the world. I’m very appreciative of him taking the time out of his busy schedule to bring us his vision of how to fly the Sportsman sequence. Thank you, Gordon!

DJ Molny had a bit more excitement on a recent flight than he bargained for but, thankfully, was able to bring himself and his airplane home safely. You may remember DJ’s airplane from the Oshkosh issue last year—it was the one with the wind-up knob behind the cockpit. I hope DJ is able to fly his airplane at the Ben Lowell Aerial Confrontation being held at the Air Force Academy in April. Visit their contest page here: bit.ly/WCi6nv

Tom Adams approached me about writing a piece on competitors who reach a peak in a particular category and are then chided by their fellow competitors to, “move up!” I’m sure Giles Henderson may have heard those words a time or two, but he isn’t ‘Mr. Sportsman’ for nothing! I think Tom makes some valid arguments as to a pilot’s comfort level at any level of competition.

People constantly send ideas and stories, and I just want to reiterate my deep appreciation for all of the hard work each of those people puts into pages of this magazine.

If you’re a subscriber to In The Loop, the IAC’s e-newsletter, you probably will have seen Greg Koontz’ piece on performing pre-buy inspections for the Decathlon. That piece is just a teaser, so look for the full article in the April issue of Sport Aerobatics.

Remember, this magazine thrives on the multitude of voices in the aerobatic community. People constantly send ideas and stories, and I just want to reiterate my deep appreciation for all of the hard work each of those people puts into pages of this magazine. We couldn’t do it without them!

As a final note, I mistakenly ran a photo of the 2011 Unlimited Team in last month’s issue when we called out the 2013 WAC team; my apologies. Check page 11 for a picture of this year’s team.
Q — What is the difference between the various models of the Pitts Specials?—To those new to aerobatics this is a reasonable question indeed. After all, they are all seemingly similar looking little biplanes. Many are even painted alike. The most obvious difference is that between the one and two-place versions. Does this mean that all models that begin with the designation S-1 are single place and S-2, two-place? Not exactly. Maybe we’d better start at the beginning.

A — S-1C — This is the original Pitts Special made available as plans for homebuilders in the early sixties by Curtis Pitts. The S-1C used an M-6 airfoil, known as the flat wing, with two ailerons and powerplants ranging from 85 HP Continentals to 180 HP Lycomings, depending on the version of the plans. Lycoming 125 HP and 150 HP engines are most common.

S-1S — In 1966, the Pitts was modified by enlarging the cockpit and most importantly the introduction of a symmetrical airfoil with four ailerons. This greatly increased the roll rate and inverted performance. The 180 HP Lycoming engine became standard.

This airplane, flown by members of the U.S. Aerobatic Teams, finally broke the domination of the Soviet block in world competition. The S-1S won its FAA type certificate in 1973 with no aerobatic restrictions and began being produced as a complete production aircraft.

S-1T — First introduced in 1976, the S-1T went into production in 1981. The T-model differs from the S-1S by coming equipped with a 200 HP Lycoming and swinging a Hartzell constant speed prop. Other changes included the use of symmetrical ailerons and servo spades to increase the roll rate. The rudder was enlarged and canopies became standard equipment.

S-2 A—The S-2 A, when introduced into production in 1971, became the first open cockpit biplane certificated in the U.S. since the 1930s—a testament to the tenacity of Curtis Pitts. The S-2A is a two-seat version of the Pitts Special. Developed from the S-1, the S-2A is considerably larger with a 20-foot wingspan (vs. 17’4”), a length of 17’9” (vs. 15’6”), and an empty weight of 1,025 lbs. (vs. 750 lbs.). It is powered by a 200 HP Lycoming with a constant speed prop.

S-2S—The S-2S was based on the airframe of the S-2A with a single seat configuration and a 260 HP, six cylinder, Lycoming and constant speed prop.

Designated Models
- S-1D-EW (S-1D)*—Plans built S-1, similar to S-1S but using the original M-6, non-symmetrical airfoil with four ailerons. (Slower roll rate and more docile handling characteristics than the S-1S).
- S-1S-E (S-1E)* — Kit built S-1S.
- S-1S-EW — Plans built S-1S.
- S-1T-E — Kit built S-1T.
- S-2S-E—Kit built S-2S.
- S-2—Two-place with 180 HP engine and fixed pitch prop.
- S-2E—Kit built S-2.
- S-2A-E—Kit built S-2A.

*01d Designation

The Modified—The S-1 is one of the most modified of aircraft, factory or homebuilt. It seems that few can resist the temptation to add their personal performance touches to their aircraft — though it has been said they’d probably be better off putting their money into avgas and practice.

Since many components are interchangeable, the nomenclature of the Pitts quickly becomes blurred. What do you call an S-1C with T-model wings or a plans built S-1S with a 200 HP engine and a constant speed prop?

If you are considering purchasing a Pitts Special, spend some time educating yourself before you plunk down your hard earned cash. Talk to dealers, owners and mechanics who know Pitts aircraft well. Find out all the subtle differences between planes. Read the IAC publications like the TECH TIPS I and II manuals and SPORT AEROBATICS magazine. Sam Burgess wrote a great article on buying a used aerobatic aircraft in the August 1984 issue of SPORT AEROBATICS.

Remember, all Pitts were not created (or maintained) equal.

Editor’s Note: This piece is from the Technical Tips Manual: Volume IV. There have been a few iterations of Pitts models added to the lineup since that printing, but the guide is helpful when identifying single-seat Pitts models.
The 2013 Sportsman sequence is going to be a bit of a challenge, so let’s dig into it to make it fun and safe. Even though the K is on the high side, there is no spin in the sequence. As a result, this sequence doesn’t lose as much altitude as some in the past, and the energy flow is nice and high, which I like. So, with the rulebook at our side we will talk about how to do the figures correctly, how to maintain energy, and we’ll add in some tidbits about maneuver placement within the aerobatic box. I will hit a couple of general subjects first before we get into the individual maneuvers.

Former IAC president Rob Dorsey repeatedly said that you could always identify the new people because they pulled the throttle to idle on the downlines, and they rushed their point rolls. This sequence has a good amount of rolls with points that must look distinct and crisp. There must be a pause at the points that the judges can see. Those with slow-rolling airplanes will be tempted to rush the points. Don’t do it, even if you think you’re going out of the box. Good box placement should help you have enough room for your rolls.

Pilots of airplanes with low horsepower and high drag will also have to work hard to maintain energy. In these airplanes you must hammer the power on the downlines. This will not only make your elevators more effective, but it will also will help you lose less altitude per maneuver. I know that seems backward, but it is true.

The key to aerobatics, as said by 1972 World Aerobatic Champion Charlie Hillard is, “...where to look and when.” Aerobatic coach John Morrissey calls it “deep focus,” where he maintains that a “...clear and distinct focus to the furthest point ahead of the aircraft’s flight path must be maintained....” In level flight he wants pilots to focus on a spot 20 miles away. When pilots are on a vertical downline he says, “...I want them to pick out blades of grass.”

The eyes at rest will go to what is called infinity focus, which means they focus on a spot about 10 to 30 feet in front of them. The second you relax your focus, your eyes will naturally go back to the infinity focus position.

When rolling the aircraft, most pilots’ eyes go back to their infinity focus position. If they are not specifically concentrating on a spot on the horizon or the ground, they cannot maintain deep focus. Not having this deep focus will keep pilots from making the aircraft’s nose draw the “sacred circle” described by British Champion Alan Cassidy in Better Aerobatics. We’ll talk more about the sacred circle later in the Aileron Rolls section.

Lastly, as I’ve said before, the Sportsman pilot must mentally prepare himself to “take the out” or “take a break” during a sequence. By this I mean that it is better to take a break and take the penalty, or take the “out” penalty, than it is to fly a truncated maneuver that scores badly. The penalty points hurt a lot less, mathematically. More importantly, the flying of a chopped-up maneuver by new (and not so new) pilots, in an attempt to stay in bounds, is what frequently causes unsafe flying. Beware, take the “out,” or be ready to “take a break.” Your flying will not only be safer, but also will score higher.

Now let us get into individual maneuvers.

Box Entry

Yes, the box entry and the wing-wags are a maneuver. Call it maneuver 1A, and it must be practiced like any other. The first impression you are giving to the
flawed human judges is the entry and the wing-wags. So come in fast, loud, strong, and snappy. Announce to the world that you are here to fly and here to win!

Please, please, please make your wing-wags at least 45 degrees of bank, with a pause between each “wag.” Also, set up your box entry in such a way that your aircraft is exactly at the speed and altitude desired for the initial pull-up into the first printed maneuver, or maneuver 1B. That takes some practice.

The Pull-Pull-Pull Humpty

Under the heading of “Lines,” the rulebook says that the length of the lines in a humpty-bump do not need to be equal. Under the heading of “Humpty-Bumps,” the rulebook says, “...the radii of the first and last partial loops (meaning the partial loops at the entry and exit) must be equal. However, the half-loop in the middle of the figure can be of a different radius. These half-loops must still have a constant radius from the time they depart the vertical or 45-degree line. This requires a change in angular velocity during the half-loop.”

Those last two sentences illuminate the main problem of flying the humpty-bump. The half-loop in the middle of the maneuver must be a perfect half-circle, and the half-loop must be completed directly across from the point where it began. If the half-loop finishes after, or lower than, the beginning point it is called “finishing late,” which is a downgrade. Since the speed of the aircraft is changing quite a bit throughout the half-loop, quite slow at first, then faster and faster, the pilot must change the pitch rate throughout to match it.

That is precisely where the difficulty comes in. In the first part of the half-loop your speed is slow, as you are still going uphill. As a result the pitch rate, or speed of pitch change, is low, and you must fly a widened arc across the top. Make sure you enter the maneuver with enough speed to perform the upline and the beginning of the half-loop. Since the humpty is maneuver No. 1, there should be no excuse for not being fast enough. In the second part of the half-loop you’re going downhill and the air-speed is increasing, so the pitch rate must be increased with it to continue to draw a constant radius and, to avoid finishing late.

As you pull on the stick faster and faster the gyroscopic forces of the propeller induce a right yaw force. The yaw then induces a right roll due to yaw-roll coupling. There won’t be much yaw initially when the pitch rate is low. Unfortunately, when on the downside of the half-loop with an American engine, more and more left rudder will be required on an inside half-loop as the pilot pulls faster and faster on the stick.

I like the humpty maneuver. With a quarter, half, or three-quarter roll on the downline, the humpty-bump is a high-energy way to go from one direction to another with a lot of smash being fed into the next maneuver. This makes it a great maneuver for a Freestyle sequence. Watch your airspeed redlines!

The Hammerhead

The Hammerhead is fun to do. It is also a maneuver that can induce an inverted spin if mishandled. The important points to discuss are the upline and the rotation.

First, the more vertical the upline the better the rotation. What I have found is that once the vertical line has been set, the stick cannot be frozen in position. The Decathlon, for instance, will slowly creep on its back (negative) as it goes uphill. The stick must be moved in pitch (head-to-foot) as necessary to maintain a perfect vertical attitude until the time of the pivot, or “kick,” as some call it.

In this discussion we’re in a left hammerhead with an American, or a clockwise-turning (from the pilot’s perspective), engine. The engine at full power will “torque” the aircraft as it slows while going uphill. This will cause the aircraft to roll left, which is a downgrade. Put in right aileron as necessary to prevent any rolling on the upline.

The “kick,” or pivot, is really not a kick, but a rapid and smooth push of the rudder to the stop, followed a split-second later by opposite aileron and forward stick. These movements are not to be done simultaneously, but sequentially. The aircraft type will determine the timing.

The rudder and elevator are effective immediately because they are in the propeller’s energized slipstream. The aileron only becomes effective once the wingtip is moving in yaw and has some relative wind over it. Enough aileron must be added so that the aircraft yaws “in plane” with no rolling motion present. Any roll is a downgrade.

Now here is where we enter the possible inverted spin zone. The left yaw motion causes gyroscopic forces in the propeller to pitch the airplane on its back. Pushing the stick forward cancels out this pitching to keep the aircraft yawing “in plane.” Pushing forward also adds another left yaw force. Preventing an inverted spin entry is all about not overdoing the forward stick input.

EMT instructor Rich Stowell taught me a neat visual trick that helps the pilot use the correct amount of forward stick. It is natural for the eye to want to follow the wingtip or sight gauge down across the ground as the rotation begins, but you must resist it. Instead, keep the eyes on that spot on the horizon where the wingtip or sight gauge was, and let the wingtip or sight gauge drop away, out of sight. Then, apply just enough forward stick to put the tip of the nose through the same spot on the horizon the wingtip or sight gauge just vacated. Once the nose is on the horizon you can look elsewhere for
When the nose reaches straight down, just neutralizing the rudder pedals will bring about a "pendulum" effect, which is a downgrade. To avoid this, put in full opposite (right) rudder when about 30 degrees away from straight down, then quickly go to neutral. That will stop the nose quite smartly, with it pointing straight down. Once the rotation stops you don’t need as much forward stick, so ease off. Avoid pushing negative on the downline.

The Aileron Roll

I am doing the Aileron Roll out of order because its elements and techniques apply to the half-rolls in maneuvers No. 3, 5, and 6 as well as maneuvers No. 8 and 10. Competition aileron rolls, which are really slow rolls in technique, are one of the harder things to teach in the basic aerobatics course. You must not pitch first before initiating the roll.

The main problem in this maneuver is that people do not maintain the straight path before, during, and after the roll. The straight path of the aircraft’s CG "dot" is the judging standard. Sinking during the roll is quite common, especially in the inverted and knife-edge portions of the roll. That means they didn’t use enough top rudder in the knife edge, or enough push when inverted. You see in the illustration above the attitudes needed to fly a straight line when inverted or when in knife-edge flight, especially in a slow, low horsepower airplane. Another problem is not maintaining a constant roll rate. Lastly, people end up heading usually to the right in a left roll.

The key to a good competition aileron roll is picking a spot on the horizon, and then drawing Alan Cassidy’s ‘sacred circle’ with the tip of the nose around that spot. The spot on the horizon will remain within the cabane strut triangle in a Pitts. John Morrissey’s “deep focus” must be maintained throughout the roll, which will be a challenge in and of itself.

If we consider a left roll, the tip of the nose starts at the 6 o’clock position on the sacred circle, rotates counterclockwise up to 3 o’clock for the first knife-edge, continues up to 12 o’clock when inverted, down to 9 o’clock for the second knife-edge, then back to 6 o’clock. The controls must be manipulated in such a way to fly that “sacred circle” with the tip of the nose around that point, or target, on the horizon.

Airplanes with the wing mounted at a high angle of incidence, like the Decathlon, need a higher nose attitude when inverted at the 12 o’clock position on the sacred circle. To find this 12 o’clock attitude the pilot must first fly inverted at the expected speeds and see how high the nose has to be above the horizon while holding an altitude. Pilots will be slow for the rolls in maneuvers No. 8 and 10. Try at least 95 mph in the Decathlon, as the judges will tend to call the roll “barreled” when you try to roll at 80 mph, even when you are not.

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**INCLUDING PRESENTATION =** 155

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**Judge**

**Name**

**Number**

[www.iac.org](http://www.iac.org)
there must be enough push added to smoothly get the nose up to the correct inverted attitude. This will keep you from sinking as you transition from knife-edge to inverted. Blend this push in. Don’t try to put the push in all at once at 12 o’clock or you may get an inverted mush or stall, especially in the Citabria.

Enough knife-edge practice must be flown to determine how much top rudder is needed to maintain altitude at the expected speeds. As you see in the diagrams above, the nose will be above the horizon in knife-edge. Since an aircraft in a slow roll is basically in a slip at the first knife-edge, and over the top, it is losing energy throughout. That is why the second knife-edge always takes a little more top rudder than the first one.

A good trick taught to me by Emerson Stewart here in Ohio was to not switch the rudders (when switching to the ‘other’ top rudder) when passing through 12 o’clock, but to wait until about the 10:30 position.

Additionally, as it says in Alan Cassidy’s book Better Aerobatics, a little push toward your feet about the same time as the feet are switched on the rudders (10:30) will also keep the nose pointed in the right direction as the rolling motion continues, rounding out the second half of the sacred circle. This push will fix the problem of ending off heading to the right all the time.

Additionally, once the rudder pedals are switched the roll rate will increase, which is a downgrade. Ease off the aileron deflection a bit when the rudder pedals are switched so the roll rate stays the same.

The Wedges

Maneuvers No. 3 and No. 5, which are mirror images of each other, have some of the same things to watch out for.

First, they are both family 1 figures, which means that the three radii do not have to be the same size. With that being said, though, you can’t just flop over the tops of these figures. You must have enough energy to draw a constant radius across the top, even though that radius can be a lot smaller than the other two.

Second, the lines within the figure do not have to be the same length. In Figure 5 it will be very hard for low horsepower/high drag aircraft to have enough energy to show the vertical line and to also like the level rolls the aircraft must follow the same line throughout the roll. Again, the greatest problems in maintaining a straight line are in the inverted and knife-edge portions of the roll. See the aileron roll about this. On the 45-degree downlines pick that spot on the ground for your deep focus and do your sacred circle around that point. On the 45-degree uplines I pick a spot in the sky ahead of me and roll around that.

The Loop

We fly the loop in three parts, but we must analyze it, and judge it, in quarters. Quarter No. 1 is free and sets the standard. Whatever radius is drawn during the initial pull-up in quarter one must be recreated in quarters two, three, and four. Quarters two and three are the hardest to draw over the top of the loop as the airplane’s energy state is at its lowest, with quarter three being “the downgrade zone.”

The first key, especially in a low-performance airplane, is to make quarter one small. Keep quarter one small enough that you can duplicate it three more times. You don’t have the horsepower to drive around a bigger loop. It is very important to pull enough g in the first quarter (at least 3 to 4 g for you Decathlon/Citabria drivers.)
along with the proper entry speed, or you won’t have enough energy left over to make quarters two and three look good.

The third quarter is where the pilot must fly “out” to make this quarter equal to quarter one. Because of the low energy this quarter is where “segmenting,” or flat spots, are commonly seen, and where the radius is not constant. This quarter must be rounded out with a smooth, tiny, gentle push, and only ground coaching can tell you when and how much. As a starting point, put the gentle push in (smoothly) before you hit the middle of quarter three. The middle is too late. If you don’t have the energy, the push here won’t help.

As you finish the loop, pull just a little less g at end of the fourth quarter than you did in the first. The aircraft is going a little slower in the fourth quarter, and it is very common for most people to finish the loop “high.” This means the exit altitude was higher than the entry altitude, which is a downgrade. Watch your finish altitude at the end of your loops in practice if you don’t have a ground coach.

Loops are hard to do well and usually suffer under the judges’ pens. I highly recommend that every Sportsman pilot get a Freestyle, even if they borrow it from someone else. The first thing I do...
on my Freestyles is get rid of the loop! If you look in the rulebook the loop is not required in the Freestyle. Why do the loop three times?

The Immelmann and the downward 5/8ths Loop

Maneuvers No. 7 and No. 9 have similar problems with a half-roll right after the up-looping segment is complete. There must not be a line drawn between the finish of the looping segment and the beginning of the roll. They must not, however, be blended together. To quote the “good book,” “This criterion (no line) is not meant to imply that one element (roll or loop) must start before the preceding element is completely finished. A brief hesitation between elements (similar to opposite rolls) must not be downgraded.”

Be careful when initiating the half-roll. Here is where one could get into an inverted spin entry. If the airplane begins to do something you did not expect, abandon the maneuver immediately. Aggressively centering the rudders and the stick and getting the power back will normally keep the airplane from departing, but only for a short period of time.

Some instructors teach a trick at the beginning of the half-roll where, instead of pushing to -1 g and then beginning the half-roll, they just get to 0 g and then commence rolling. Being at 0 g requires almost no coordinated rudder, requires just a little less energy, and a lot less push.

The Cuban–Eight

Here we have a finesse maneuver that is not seen very often in its full form “in the wild” by those of us in the lower categories. It is also a classic. The rulebook brings up a few requirements that could trip us up, and we need to pay attention to them to score well.

First, the rulebook says that the 5/8 and 3/4 loops must be the same radii, meaning they must both be the same size. The easiest way to accomplish that is to try to do them at the same entry speed and with the same beginning g. Refer again to the previous section on the loop.

Secondly, these loops must be at the same altitude. The only way to get out of that requirement is if one of the 45-degree lines has multiple rolls on it, which is not the case here. Also, the start and finish altitude must be the same.

To meet the above requirements both 45-degree lines need to be the same length. You will have to drive long enough on the line without the 2x4 half-roll in it to make it as long as the one that does have the 2x4 half-roll.

Placement Within the Box

I offer this box placement section as an initial planning document because most Sportsman pilots do not have access to a ground coach. Also, there are many excellent aerobatic instructors out there working with these Sportsman pilots who may not have had the chance to compete. Some airplanes will have the weight of a safety pilot on board, which puts them in the low/lower horsepower category. This section is for them.

This section is not complete, but it is a starting place. Each aircraft will have different require-
2013 Unlimited Team

Correction. This photo should have run on page 10 of the February 2013 Sport Aerobatic.

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Jason Newburg
Viper Airshows
ments. While it is true that no plan survives contact with the enemy, the more simple planning you can do up front (like making sure you have enough ammunition at hand) will help get the battle to end like you want it to.

Maneuvers No. 5, No. 8, and No. 10 are the keys to this sequence. The high amount of energy required by maneuver No. 5 (the wedge that starts with the vertical upline) is what regulates the box placement and energy state of maneuvers No. 1, 2, 3, and 4. Placement of maneuver No. 5 also affects what happens after for maneuvers No. 8 and 10.

Most low power/high drag airplanes, and those airplanes that may have the weight of a safety pilot on board, will need to be as fast as possible to do the upline in No. 5 so the judges can see it, and to then have some energy left over to do a passable radius over the top. Since most of these airplanes slow down in level flight they need to finish the loop fast and get into No. 5 quickly, with very little level flight in between.

That means they need to do the loop faster than normal, which then means they have to hold the downline on No. 3 long enough to feed the necessary speed into the loop. That will mean losing more altitude, which will require that maneuver No. 1 be started a bit higher.

When it comes to placement, maneuver No. 5 must be placed against the upwind edge of the box. This is to fit the requirements of the later maneuvers for reasons I will explain in the following paragraphs. Putting No. 5 against the upwind edge of the box also means that maneuvers No. 4 and No. 3 must be crowded up against it. Again, there must be very little level flight between No. 3 and No. 4, and between No. 4 and No. 5, so that No. 5 gets the speed it requires.

Now you are thinking, what about my positioning score? While it is true that No. 3, No. 4, and No. 5 will be crowded against the upwind side of the box, maneuvers No. 6 through 10 will give you the opportunity to balance the rest of the sequence evenly about the box centerline. Remember, though, that maneuvers No. 1 through 4 must be done in such a way as to feed that hungry maneuver No. 5 what it needs. Those of you with a little more horsepower won’t have to work quite so hard at this.

Maneuver No. 8 is the main driver of requirements for the rest of the sequence. This is because a lot of room will be needed for slow-rolling airplanes to be able to do the two-point roll, and then to be able to do No. 9 without going out of the box. Since the exit from the Immelmann (No. 7) will make the aircraft very slow, a little room will also be needed to gain enough speed (try at least 95 mph in the Decathlon) to make the roll look good. All of this requires that No. 7 be placed against the downwind edge of the box.

The Cuban-eight (No. 6) requires a lot of energy, but by the time you have completed the 2x4 roll and the 45-degree downline from No. 5, you should have enough. Make sure, though. The exit from No. 6 should give you enough speed to perform the Immelmann, and to place that Immelmann against the downwind edge of the box. If not, you may need more exit speed from No. 5.

The faster you can perform No. 10 the prettier it will be. Take a little time to gain some speed after No. 9 before doing 10. The closer you put No. 9 to the upwind edge of the box, the more room you will have for No. 10. Don’t go out on the downwind side of the box, though. Your first impression to the judges is very important, but this roll is the last thing they will remember as they finish their paperwork. End on a good note.

Lastly, don’t go low! In your practice, check your altitude at the beginning of No. 9 and see if you go below 1,500 AGL before looping up. Learn what that beginning altitude should be, and if you are below it don’t push down. Your altitude at the beginning of No. 9, plus the energy you have to feed into things like No. 5 and No. 6, will determine the start altitude for No. 1.

Also, I found that with a big airplane, like my old Decathlon, if I was at 1,500 to 1,550 feet AGL I would always be called low. It seemed I had to be at 1,600 to 1,700 feet AGL to not be called low. Irritating, yes, but it is a factor that you must consider.

Conclusion

The Sportsman category is unique in that the pilot can pick her level of participation. First of all, there is no unknown. The pilot can use the category as a springboard to higher categories, or stay there for a lifetime. I support the life timers and resist anything that edges the Citabrias and 150-hp Decathlons out. Besides, Sportsman should be about finesse, not horsepower. The high-energy parts of this Known help the little guys.

This economy has hurt our sport. Money, or lack of available time, directly affects practice time. How well you do is directly proportional to how much fuel goes through your fuel injectors. To compete with such meager resources a pilot might elect to fly the Known three times, which requires less practice time than flying the Known and a Freestyle.

If time and resources permit, however, I highly recommend flying a Freestyle sequence. Whether a pilot is staying in Sportsman forever or trying to move up, a Freestyle is challenging and fun. If a Freestyle is well designed to show off your airplane’s attributes (and to hide what it doesn’t do well, like the loop!), it can earn you higher placing.

This Known is a high-energy sequence, and there are many pieces, or strings of maneuvers, that would fit well in a Freestyle. Either way, this Known is a fun sequence to fly.

Watch your redlines, watch your altitudes, wear your parachute, and have fun!
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*Photo provided by Howard E. Thurston

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Flying at Last? Not so Fast.
We’ve all experienced dry spells in our flying careers—those frustrating periods when it just doesn’t seem possible to get airborne. For me, last summer and fall, were a combination of work pressures, foreign travel, a prop overhaul, and a lapsed medical. But the stars finally aligned, as they always do, and I headed to the airport to address my “Vitamin g” deficiency. It was a typical late September day in Colorado: clear skies, light winds, pleasantly cool temperatures. After a thorough preflight, I strapped on my Giles G-200 and headed for the nearby practice area. With no particular agenda beyond having fun and knocking some rust off my flying skills, blasting around the nearly-empty skies was a joy. Pull vertical and roll as fast as the little bird will go. Humpty over the top, build speed, snap, more speed, +7g back to level, outside half-loops, a roller or two., and so on.

Unexpected Orange
So there I was (you knew that was coming, right?) up high and inverted at maybe 80 knots. Pull to the downline, throttle to idle. Accelerate, roll, accelerate, advance the throttle and... BANG!...a bright orange flash at the front of the cowl.

The aroma of overheated oil is unmistakable
BY DJ Molny, IAC 25097
and some pretty abnormal shaking. Ruh-roh. Either the airplane is already pointing at the airport or my hindbrain automatically rolls to that heading without consulting the cerebral cortex. With plenty of speed and about 2,500 feet of altitude, I make a beeline for home and call a mayday on UNICOM, mostly to let any other traffic know to stay out of my way.

A glance at the engine monitor shows good oil pressure, no exhaust gas temperature (EGT) on No. 1 cylinder but very high EGTs on No. 2, 3, and 4. Yup, we’ve lost a jug.

So here’s one of the many reasons I love aerobatic planes: surplus horsepower. A buddy once had a forced landing in an old C-175 when one of its six cylinders stopped making power and it was unable to climb due to high-density altitude. But I’m zipping along at 150 knots on just three-quarters of the usual displacement.

You know the old sayings: “Don’t mess with success,” and “If it ain’t broke, don’t fix it?” Yeah, sure, good luck remembering that stuff when the adrenaline dial is turned up to 11.

If this is in fact a cylinder failure, one of the injector nozzles is spraying fuel into the engine compartment. So leaning the mixture should at least reduce the risk of fire, right? But as soon as I pull the mixture control back from the acro-rich position, engine power drops off dramatically. Whoa, put that back where it was!

How about the throttle? Reducing power should reduce damage from busted engine parts flailing around, right? Rats, same result as the mixture, so I push the throttle forward again.

By now the aroma of overheated oil is unmistakable, but the pressure is still over 50 psi. Years ago I decided that if major-league fire ever breaks out, I’m gonna jump. But the airport’s getting closer by the second, and I’m pretty confident that what’s left of the IO-360 (IO-270?) will get us home. Being almost 100 percent target-focused, it doesn’t occur to me to look around for off-airport landing sites.

Another Mayday call for good measure, and the one other aircraft on frequency replies that he will stay well clear until we’re safely on the ground. Click-click.

None too soon, I roll from a modified base onto final, only to realize that at a half-mile from the numbers and 500 feet AGL, 140 knots indicated airspeed (KIAS) is way too much speed. As before, the power drops off sharply as soon as I pull the throttle even part way back. And again, the virtues of acro planes come in handy: I mash the rudder and skid hard until the airspeed drops to about 100, then slip the rest of the way to the concrete.

As soon as all three wheels make contact, I pull the mixture to idle cut-off—still concerned about fire—and get on the brakes. I’m no Bob Hoover, but as luck would have it I make the mid-field turn-off, stop on the connector, and exit as quickly as possible.

Used oil was pouring out of the cowling, as if you had opened two one-quart containers and upended them simultaneously. Sure enough, nothing’s burning, just a lot of smoke from the oil that’s coating the hot exhaust pipes (and everything else).

Aftermath

The No. 1 cylinder did indeed fail, and in a very unusual fashion. Rather than cracking at the base,
the head blew clean off the body, right at the top of the piston sleeve. There are exhaust stains partway around the diameter, indicating that hot gases were escaping before the cylinder fractured completely, although there’s no way of knowing for how long. That said, there was no scorching in the areas around the No. 1 cylinder.

When the cylinder head and body parted company, the head took some neighboring hardware along for the ride. The pushrod tubes and intake runner were pulled out of the case, the baffling and top spark plug wire tore, and the impact cracked the cowl in several places. The exhaust tube was the only thing holding the head more or less in place.

Removing the cowl reveals damaged baffling.

The pushrod tubes were pulled from the case.

Cylinder head after removal from aircraft.

The cylinder as it appeared after landing.

Top of piston after broken head removed.

Intake and exhaust valves.
The oil loss—2.5 quarts in the two minutes between engine failure and landing—came from the pushrod tube holes. The displaced intake tube created a massive induction leak, which explains why EGTs were so high and why the engine would only make power with a rich mixture and full throttle.

About That Engine. . .

The engine is a stock angle-valve AEIO-360, except for 10:1 piston that were installed about 280 hours ago. I don’t worry about the high-compression setup because the penalty of Colorado’s high-density altitudes more than offsets the extra horsepower. Although the prop governor is set for a maximum of 2,850 rpm, I almost always set 2,700 rpm for takeoff and acro.

At the time of the failure the engine had accumulated a total of 800 hours. In its previous life it was an air show plane, flown hard 0.5 or 0.6 hours at a time, and trailered from event to event. This is in no way a criticism; I knew the history when I bought it, and the price reflected the possibility of an imminent overhaul.

Speaking of which, EAA ran a webinar last year entitled “Deciding When to Overhaul.” Many different factors typically play into that decision, but this one was a no-brainer for me.

The tear-down revealed multiple cracks in the case halves, as well as some fretting. These are both indicative of insufficient torque on the case bolts, but it’s unlikely that contributed to the failure. Fortunately, the case was deemed serviceable after some extensive welding.

The main bearings were fairly worn, but not unusually so for a mid-to-high time acro engine. Thankfully the crankshaft, camshaft, and connecting rods were undamaged, and the pistons were also serviceable. Out of an abundance of caution, I asked the shop to order all new cylinders. Lastly, I took the opportunity swap out the mags because they’re extremely hard to reach when the engine is mounted.

And in Conclusion. . .

Many causal theories have been put forth ranging from detonation (no evidence of that on the top of the combustion chamber) to improper cleaning after an acid bath (no way to tell) to shock cooling (ditto). I’ve decided it was just one of those things, and I will do my best to treat the rebuilt engine well.

Many people congratulated me on my skill in getting the airplane down safely. Much as I appreciate their kind words, luck was a much greater factor. The engine kept running, I got down before the oil was depleted, and the failure was pretty well contained.

More than anything, this “exciting” experience certainly underlined the benefits of practicing near an airport.
Move Up! Move Up! Move Up!
The next category of competition

by Tom Adams, IAC 1999

How often have we heard that phrase chanted at an awards banquet when one of our friends walks up to the front to receive a trophy? Well, at this year’s Nationals we heard it. Often you hear it at regionals as well. Obviously, it is chanted by the recipient’s buddies in jest. Well, maybe not in jest, but for sure generally after a beer or two.

This chant is absolutely no reason for a pilot to move up to the next category of competition. You never want to allow others to influence a decision that important. Moving to the next higher category should be done with coaching, practice, and forethought. Look closely at the next Known if you are serious. Are you comfortable with each of the figures? Do you know what entry speeds and altitudes are required for your airplane to do them? Have you flown the Unknown figures for the new category? Have you designed a safe, flyable Free? Do you have someone who can coach you? Not to critique you, but to coach. Anyone can tell if you are positive or negative. Most pilots can determine if a line is short or long after a roll. A coach should be able to tell you how to fix your problem as well as what you did to get there.

We all have seen pilots just jump in and start flying. There have been pilots who fly their first contest in Intermediate. I have seen a couple who just showed up and registered in Advanced. One flew it well, and one didn’t. When I went to my first contest at Fond du Lac in 1972, which was the IAC Championships at the time, I was required to fly in the box in front of an IAC official. I flew the Sportsman Known for Don Taylor. When I landed he actually signed me and my aircraft off in the aircraft logbook before I was permitted to register. The IAC now has no specific rules or requirements that dictate what an individual has to do to be a competitor or to work his way up through the categories.

The club has the Achievement Awards program—which makes a great guide for just that. There is no requirement in the rules for stepping up into the next category, so one has to use common sense. I can see no reason that the club would wish to address this subject and increase the thickness of the already gargantuan rulebook in an area where common sense should prevail. If you would like to move up to the next highest category, consider the items mentioned earlier and prepare yourself accordingly.

The Achievement Awards program is an often-overlooked prepa-
ration tool to move up. The program was originated in the early ’70s by then President Carl Bury to help boost interest in aerobatics. If you were to look up the list of competition pilots, on the IAC Members page, who have patches or pins, you will be surprised by some of those who have made the effort. The list is long, and some of the names are impressive. The requirement for one of the Flat or Smooth patch awards can be satisfied at your local box with a regional judge watching. The basic figures of the category have to be flown with at least a score of 5.0 and the form signed by the judge. Acquiring the Flat patch in your next category is an outstanding second step when planning a move up. The first step would be to have already obtained the patch with Stars for the category in which you are currently competing.

Let’s look at some of the things you need to be familiar with in regards to the new figures. How much speed does your aircraft need to perform specific figures? The only way to figure that out is to burn some gas. Get high and do same family figures from different entry speeds. Note the altitudes at the top of figures and compare them to varying airspeeds used for entry. Obviously if you do a hammerhead from an entry speed of 180 mph, you will get more vertical penetration than one entered from 140 mph. Also, how much altitude will you use if there is a half-roll on the downline? If you enter at the faster speed giving you a longer upline, what is the exit altitude? When entering the hammerhead at the slower speed, what will the exit altitude be with that same half-roll down? When you look at the new category’s Known and Unknown, you will more than likely be getting into figures you haven’t even tried. For instance, the P-loop, the bow tie, and a snap roll. The P-loop can eat a lot of altitude. You need to know how much of a loss is to be expected. If you are moving into a category that has an Unknown sequence, you have a lot to do. The better you know what your aircraft requires to complete these new figures, the better you will be able to present them to the judges. And that’s what it’s all about!

Don’t be bashful. You will need a good, smooth-flowing Freestyle for the next category. Make one up and show it or e-mail it to someone to look at. I would suggest an experienced competition pilot. This is where knowing the performance of your airplane gets important. When making a Free you need to be aware of altitude use and presentation (box placement) and have an energy plan.

One of the best ways I can think of to prepare for a move up in categories is to use a coach. The folks coaching now have it down to a science. They will work with you in all aspects from basic aerobatics through Frees and Unknowns for the category you wish. The lion’s share of competitors who take home trophies at the U.S. Nationals take advantage of a coach.
IAC Takes Flight in 2013

The IAC’s new membership marketing campaign

BY DOUG McCONNELL,
MEMBERSHIP CHAIR, IAC PRESIDENT EMERITUS, IAC 862

We have BIG excitement in store for us in 2013 because the IAC board has authorized a professional membership development campaign to attract new members, and to inspire our current members to help with the nationwide effort. Our goal is to have a 10 percent net add to our total membership by the end of the year! Can we do it? Well, with your help, you bet your sweet tailfeathers we can...and maybe do even better!

The clipped-wing Cub shown on this old membership campaign poster from 20 years ago features the craft that made Giles Henderson famous (or was it the other way around?). You know, IAC’s new Hall of Famer (see the recent January 2013 Sport Aerobatics).

Back then, the IAC membership was at its peak, around 6,300 total members of all types. Due to the recession and other factors, our membership is now down to about 3,800. Wow, what a difference! But we have plans now in place to attack our true potential and to build our membership back to a more robust and dynamic level. It will take several years, but with our chapters and members lending a hand, we can reach out to the many thousands of aerobatics enthusiasts and invite them to get to know us.

Roll With Us: The Campaign

Our new membership campaign is designed with a broad array of marketing and communications elements, all targeted to reach as many aerobatics enthusiasts as possible (within our modest media budget). We will have new posters, brochures, fliers, magazine ads, classified listings, direct mail pieces, website links, and chapter directories, all with the common dynamic attention-getting visual theme Roll With Us, featuring an eye-catching air-show maneuvering S-Bach aircraft.

While we hope this marketing campaign will have a positive impact on our membership numbers, it won’t be successful without your help. That’s where you come in.

The IAC Takes Flight Program

How hard is it to “sell” something that is free? What if you received a significant monetary benefit for the sale? What a deal...a commission for giving something away! That’s what the IAC Takes Flight program offers our renewing members. The key for success will be you—your personal engagement in this campaign motivated by your love for aerobatics, your devotion to the IAC’s future, and a direct personal benefit for finding enthusiasts who will get something free!
Six-Month Free Trial Membership

The first piece of our new membership campaign offer is the six-month free trial membership. Any first-time member will get his or her first six months free, including six months of Sport Aerobatics. What a great way to get aerobatic enthusiasts hooked on our club!

This concept was tested in 2011 and produced real success on a limited trial basis. After experiencing a significant yearly net drop in total membership for the past 15 years straight (from 6,300 to 3,800), in 2011 the IAC created a six-month free trial membership, and tested it with flight schools and with a sample of aerobatic aircraft owners. We were impressed with the response. Not only did hundreds sign up for the free six months, but more than 50 percent renewed to a fully paid membership at the end of the six-month trial period. We not only achieved a net growth in total membership during 2011 for the first time in 15 years, but the very high renewal rate also produced enough added revenue to finance the effort—it was a win-win. So in 2013, we are going big, and we'd like to have you involved.

The Fantastic Member Benefit

Getting six months free is a good deal, but why should only new members get this benefit? Why leave out our loyal current membership—you? So here is the “fantastic member benefit” part! The IAC is offering an incentive for all current members to get personally involved in this new 2013 membership campaign. Each time you sign up a six-month free trial membership, you will earn six months of free membership of your own! When your regular renewal comes around, your next 12-month membership cost will be cut in half! And if you give away two free memberships, then you will have earned another six-month discount to be applied at the following renewal, and so forth!

Now, can you sell something that is free?

By having 3,800 current members go out and give away IAC trial memberships to all of their aerobatic friends and acquaintances, we should easily find 1,000 new (trial) members who, we anticipate, will renew at about the 50 percent rate because they were handpicked by you on the basis of their enthusiasm for aerobatics in the first place. We are talking about their very first renewal at the end of the six-month trial period. If we can achieve this, the IAC will enjoy a net gain of 500
The heart of our sport is the passion we all have for aerobatics.

new memberships—thus eclipsing our 380 member (10 percent) growth goal.

So, who do you approach with this offer? Well, think about whom you know from the years of your personal involvement in sport aerobatics. I’m not just addressing pilots here, but all members of the IAC, including non-pilots, spouses, and students. Think about who you know: contest volunteers, spouses, enthusiastic children, local university program members, friends with aerobatic capable aircraft [like RVs], line attendants, mechanics, FBO personnel, local FAA employees, commercial pilot buddies, CAP members, EAA chapter members, classic and antique owners, etc. It is very likely that if you attend a local EAA chapter meeting with permission to speak about this new program, you could attract immediate positive results. There are literally thousands of great candidates for this program within EAA who are either flying aerobatic aircraft or, being real air show addicts, would like to learn more!

The Real Deal

The six-month free trial membership is a true membership... with no restrictions. The new member can participate in any/all IAC activities, will have access to insurance coverage as provided to all IAC members, will receive Sport Aerobatics magazine, will receive our new electronic newsletter In The Loop,* and will be welcomed into all of our nationwide IAC chapters. You may ask, what about the requirement that all IACers also be members of the EAA? Will they have to pay the full going rate for an EAA membership to get the free IAC trial membership? They have two options: either pay $10 for an EAA membership without EAA’s Sport Aviation magazine, or pay the regular full $40 EAA membership that includes its magazine.

The Personal Touch

We are all in this together! We have a great new membership campaign for 2013 with enticing offers and the help of some enthusiastic professionals. But none of this will be enough to turn the IAC membership numbers around without the active participation and support of our chapters. The heart of our sport is the passion we all have for aerobatics. Sharing the passion with like-minded “nuts” like ourselves happens best on a personal level. That personal touch is the key to keeping the IAC healthy and growing. So reach out to the new and expiring members in your area. Invite them to your chapter events and contests. Urge them to join the IAC and to get involved.

Professional Help

The IAC is very lucky to have a professional communicator within our midst...none other than the very well-known (and active advanced competitor) Margo Chase. Margo is generously donating her professional talents as a designer and the skills of her company (Chase Design Group) to support the IAC. Take a look at its website www.ChaseDesignGroup.com and see its client list and list of awards. wow! Next time you see her on the ramp, give her a big hug from all of us!

But don’t forget; not everything is free. The IAC still has to pay for printing and mailing of the materials, advertising placement costs, and all those free months of membership we know you will give away. So share your love of aerobatics and help the IAC “take flight” in 2013!

*To get In the Loop automatically each month, make sure IAC headquarters has your e-mail address and the e-mail address for your new six-month sign-up friend!
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Scott Poehlmann, Chair, Human Factors
Doug Sowder, Technical Safety

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Brenda Anderson, EAA Chapter Office

Insurance

EAA Aircraft Insurance Plan
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<th>Name</th>
<th>Address</th>
<th>Telephone</th>
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<tr>
<td>Tom Adams</td>
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<td>Brenda Anderson</td>
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<td>206/448-6175</td>
<td>603/860-4456</td>
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<td><a href="mailto:james.roger.ward@gmail.com">james.roger.ward@gmail.com</a></td>
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CONTEST CALENDAR

Mark your calendars for these upcoming contests. For a complete list of contests and for the most up-to-date contest calendar, visit www.IAC.org. If your chapter is hosting a contest, be sure to let the world know by posting your event on the IAC website.

April 2013

**2013 Phil Schacht Aerobatic Kickoff** (Southeast)
- **Location:** Sebring (SEF), Sebring, FL
- **Power:** Primary through Unlimited
- **Practice/Registration:** Saturday, April 27 – Friday, May 3
- **Contest Director:** Mike Mays
- **Contact Information:** Primary Phone 561-734-1955
- **Alternate Phone:** 561-734-1955
- **Website:** www.iac28.org

**Borrego Hammerhead Roundup** (Southwest)
- **Location:** Borrego Valley Airport (081), Borrego Springs, CA
- **Power:** Primary through Unlimited
- **Practice/Registration:** Thursday, April 11 – Sunday, April 14
- **Contest Director:** Gray Brandt
- **Contact Information:** Primary Phone 791-948-0816
- **E-Mail:** graybrandt@yahoo.com
- **Website:** www.iac28.org

**Ben Lowell Competition** (Mid-America)
- **Location:** USAF Academy Airfield (KAFF), USAF Academy, CO
- **Practice/Registration:** Thursday, April 11 – Sunday, April 14
- **Contest Director:** Jeffery W Riddlebarger
- **E-Mail:** F15Cheese@gmail.com or jeffrey.riddlebarger@us.af.mil
- **Website:** www.iac27.org

**The Early Bird** (South Central)
- **Location:** Olean Municipal Airport (KOLE), Olean, NY
- **Practice/Registration:** Thursday, June 20 – Friday, June 21
- **Contest Director:** Gray Brandt
- **Contact Information:** Primary Phone 716-361-7888
- **E-Mail:** cbpbmb@aol.com
- **Website:** www.iac34.com

**Great Plains Collegiate Challenge** (South Central)
- **Location:** McPherson (KMPR): McPherson, KS
- **Practice/Registration:** Thursday, April 25
- **Contest Director:** David Moll
- **Contact Information:** Primary Phone 801-499-4501
- **Alternate Phone:** 970-948-0816
- **E-Mail:** davidmoll66@gmail.com
- **Website:** www.iac19.org

**Sebring Aerobatic Championships** (Southeast)
- **Location:** Sebring (SEF), Sebring, FL
- **Practice/Registration:** Saturday, April 27 – Friday, May 3
- **Contest Director:** Mike Mays
- **Contact Information:** Primary Phone 561-734-8503
- **Alternate Phone:** 561-734-1955
- **E-Mail:** saerobatics@aol.com
- **Website:** www.iac23.com

**Los Angeles Gold Cup – Duel in the Desert** (Southwest)
- **Location:** Wilson Industrial Airport (W03), Wilson, NC
- **Practice/Registration:** Thursday, April 25
- **Contest Director:** Chris Olmsted
- **Contact Information:** Primary Phone 919-605-9585
- **E-Mail:** nnoomp@yahoo.com
- **Website:** www.iac36.org

**Navy Mid-Atlantic Challenge** (Northeast)
- **Location:** Winfield Municipal Airport (60R), Winfield, WV
- **Practice/Registration:** Thursday, April 25
- **Contest Director:** Eric Sandifer
- **Contact Information:** Primary Phone 304-295-0382
- **Website:** www.iac27.org

**Wildwoods AcroBlast** (Northeast)
- **Location:** Cape May County Airport (WWD), Cape May, NJ
- **Practice/Registration:** Thursday, June 13 – Friday, June 14
- **Contest Director:** Craig B. Wisman
- **Contact Information:** Primary Phone 717-756-6781
- **E-Mail:** cwisman@comcast.net
- **Website:** www.iac58.org

**Ohio Open** (Mid-America)
- **Location:** SKYDive Team (YSH), Skydive Team, MI
- **Practice/Registration:** Thursday, June 20
- **Contest Director:** Sheri Davis
- **Contact Information:** Primary Phone 513-548-7392
- **E-Mail:** invertebrriboncut@gmail.com
- **Website:** www.iac27.org

**U.S./Canada Aerobatic Challenge** (Northeast)
- **Location:** Olean Municipal Airport (KOLE), Olean, NY
- **Practice/Registration:** Thursday, June 20
- **Contest Director:** Patrick Barrett
- **Contact Information:** Primary Phone 716-361-7888
- **E-Mail:** cbpbmb@aol.com
- **Website:** www.iac34.com
Apple Cup (Northwest)
Friday, June 21 – Saturday, June 22, 2013
Practice/Registration: Thursday, June 20
Rain/Weather: Sunday, June 23
Glider Categories: Sportsman Unlimited
Power: Primary through Unlimited
Location: Ephrata Municipal Airport (KEPH): Ephrata, WA
Region: Northwest
Contest Director: Will Allen and Jerry Riedinger
Contact Information Primary Phone: 425-985-9469
Alternate Phone: 425-653-1107
E-Mail: jriedinger@perkinscoie.com
Website: www.applecup.org

Lone Star Regional Aerobatic Contest (South Central)
Friday, June 21 – Sunday, June 23, 2013
Practice/Registration: Saturday, June 15 – Friday, June 21
Rain/Weather: Sunday, June 23
Power: Primary through Unlimited
Location: North Texas Regional (GYI): Sherman Texas
Region: South Central
Contest Director: Mike Gallaway
Contact Information Primary Phone: 214-673-9935
E-Mail: mike.gallaway@tx.rr.com
Website: iac24.org

Bear Creek Bash (Southeast)
Friday, June 28 – Saturday, June 29, 2013
Practice/Registration: Thursday, June 27
Rain/Weather: Sunday, June 30
Power: Primary through Unlimited
Location: Clayton County Airport - Tara Field (4A7): Hampton Georgia
Region: Southeast
Contest Director: Chris Rudd
Contact Information Primary Phone: 850 766 3756
Alternate Phone: 850 766 3756
E-Mail: invertedribboncut@gmail.com
Website: www.iac.org

Midwest Aerobatic Championship (Mid-America)
Friday, June 28 – Sunday, June 30, 2013
Practice/Registration: Friday, June 28
Power: Primary through Unlimited
Location: Seward (SWF): Seward, Nebraska
Region: Mid-America
Contest Director: David Moll
Contact Information Primary Phone: 402-613-5422
E-Mail: davidmoll66@gmail.com
Website: iac80.org

Green Mountain Aerobatic Contest (Northeast)
Friday, July 12 – Sunday, July 14, 2013
Practice/Registration: Thursday, July 11, Friday, July 12
Gliders Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Hartness State Airport (VSF), Springfield, VT
Region: Northeast
Contest Director: Bill Gordon
Contact Information Primary Phone: 803 585 0966
E-Mail: wsgordon@earthlink.net
Website: http://iac35.aerobaticsweb.org

Sun N Fun Aerobatic Speakers Schedule
April 10–13

<table>
<thead>
<tr>
<th>Wednesday, April 10</th>
<th>Time</th>
<th>Title of Presentation</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>11am</td>
<td>Rolls–if you have a good roll you have aerobatics figured out</td>
<td>Greg Koontz</td>
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<tr>
<td>12pm</td>
<td>Aerobatics – Why get into competition?</td>
<td>Patty Wagstaff</td>
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<thead>
<tr>
<th>Thursday, April 11</th>
<th>Time</th>
<th>Title of Presentation</th>
<th>Speaker</th>
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<tr>
<td>11am</td>
<td>&quot;Oh Shucks!&quot; Moments: Stall, Upset and Spin Recoveries</td>
<td>Jim Alsip</td>
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<tr>
<td>12pm</td>
<td>How to Teach a Basic Aerobatic Course</td>
<td>Greg Koontz</td>
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<thead>
<tr>
<th>Friday, April 12</th>
<th>Time</th>
<th>Title of Presentation</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>11am</td>
<td>The Tail Wheel</td>
<td>Johnny White</td>
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<tr>
<td>12pm</td>
<td>&quot;Emergency Bailout Procedures for Pilots&quot;</td>
<td>Allen Silver</td>
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<thead>
<tr>
<th>Grey Moisture Management Golfshirt with Throwback IAC Logo</th>
<th>Navy Poplin Long Sleeve Shirt with Throwback IAC Logo</th>
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Gary DeBaun (GD). Sammy, how did you get your start in competition aerobatics? We already know you have been flying since you were a day old.

SM: It all started in 2010. I was 16 years old and armed with a private glider certificate and a Fournier RF4D (aerobatic motorglider). Our family friend Andrew Slatkin was flying competition and encouraged me to enter the Paso Robles contest. I was apprehensive at first, but he eventually talked me into it. Thanks, Andy!

GD: I meet your grandfather at Santa Paula Airport back in the ’70s. I assume he was a great influence on your life?

SM: My grandfather has definitely been a big influence on my life. He passed away when I was 7, before I had the chance to fly with him. I would give just about anything to go shred the Stearman with him. His books also have a big impact on me. I try to read Faith & Flight at least once a year; it’s a GREAT book, and it helps me try and be a better pilot, and person. Stalls, Spins, and Safety is a great read, and it’s probably saved my life once or twice.

GD: You seem to be moving up the categories pretty quick. What are your expectations for 2013?

SM: I started out the 2012 season with one rule, not to move up until I had won. I was able to finish the year flying my first Advanced contest. I had a blast and learned a lot. In 2013 I would like to make the Advanced Team, and fly more air shows in the Pitts and Stearman.

GD: You are pretty much fresh out of high school. Do you have any college aspirations, and if so, what college and major are you interested in?

SM: I haven’t thought about college yet. I’ve been focusing on acquiring more ratings and flying the Pitts as much as possible.

GD: How did you acquire that beautiful Pitts S-1S of yours?

SM: In April 2011 I found a poor little Pitts that had ended up on its back during a landing incident. I talked my parents into helping me buy it, and a few weeks later I was completely broke, but I owned a third in a crashed Pitts! I was stoked. We spent the next 11 months rebuilding the little Pitts back to flying condition. My mom did the fabric work, Dad did the engine work, our friend Brooks did the wood work, and I did a lot of rib-stitching and tool-handing. In March of 2012 I took The Runt up for its first flight since rebuild; other than the airspeed not working, the flight went perfectly. It was and still is the sweetest-flying airplane I have ever flown.

GD: If you could change anything in the IAC, what would it be and why?

SM: I spend every bit of money I make flying competition aerobatics. I think having a cash prize for each category would help make it more cost-effective, as well as motivating people to practice more, and not only place higher in competition but be a safer pilot at the same time.

GD: What’s your favorite contest and why?

SM: My favorite contest is a tough one. I like them all. If I had to choose one, it would probably be Paso. It was my first contest, and I’m really bummed the FAA shut them down.

GD: You are a pretty talented skateboarder. What other interests do you have?

SM: I’ve been really lucky growing up on an airport, and having a great skate park two minutes away. I try and go surfing as much as I can; being out in the water with just your thoughts and the occasional dolphin is a great way to clear your head.

GD: What kind of music do you like?

SM: As I’m typing this I have Pandora on shuffle that includes Foo Fighters, ’70s Rock, Muse, and Today’s Country. Before I fly a competition or air show I like to listen to something with a good beat to get me pumped up to fly.

GD: It’s pretty late Sammy. Does your mom know where you are right now?

SM: Of course! I’m at the airport; where else would I be?

GD: Good answer, Sammy, good answer.

SAMMY MASON

I was completely broke, but I owned a third in a crashed Pitts! I was stoked. We spent the next 11 months rebuilding the little Pitts back to flying condition. My mom did the fabric work, Dad did the engine work, our friend Brooks did the wood work, and I did a lot of rib-stitching and tool-handing. In March of 2012 I took The Runt up for its first flight since rebuild; other than the airspeed not working, the flight went perfectly. It was and still is the sweetest-flying airplane I have ever flown.

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GD: It’s pretty late Sammy. Does your mom know where you are right now?

SM: Of course! I’m at the airport; where else would I be?

GD: Good answer, Sammy, good answer.
Remember, things don't always go according to plan!

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