

SPORT

Aerobatics

December 2013

OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB



WAC 2013 Results

- Low-Altitude Rolls
- Pitts Over the Alps
- Racing the Rain
- Keeping the Sport Fun



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THE COVER

Gerald Cooper flies his Xtreme Air XA41 to a second-place finish during the Four-minute Free program.
Photo by Laurie Zaleski.

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REGGIE PAULK
COMMENTARY / EDITOR'S LOG

out of the photo of him smiling while surrounded by his frowning competition. When I think about competition, Aaron's story is the type I think of: good-natured and light-hearted. He reminds us that competition, first and foremost, is fun. It's sometimes easy to forget that when we're in the heat of the moment.

I would like to wish you a happy and healthy holiday season, and I'll see you again in the coming New Year. Thank you for your membership. Without you, none of what the IAC does would be possible.

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IT'S HARD TO BELIEVE THE
Christmas season is upon us, and Old Man Winter is rapidly descending to take over as the remnants of fall fade away. In northern climes, winter is a time for reflection upon the past flying season, and a time for anticipation of the gentle months of spring ahead. Those of you who live in more southern climes often brag about the wonderful flying weather you're experiencing this time of year as those of us holed up next to a crackling fire try to remind ourselves just why it is we choose to live in such wretched cold. It's for the seasons, you know . . .

This month, we're featuring a story by Doug Jenkins. You may remember Doug from past contributions, but this one stands out. I can't recall ever reading a flying-related story that touches on his chosen subject. There seem to be two types of articles—those that speak to the head, and those that speak to the heart. I believe this particular piece speaks to the heart because, even if you've never stepped foot in an airplane, you can clearly envision yourself buckled into the cockpit alongside Doug as he kicks the rudder and heads for the ground.

Aaron McCartan gives us a whimsical story of brotherly competition. I got quite a chuckle

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A Pitts Over the Alps

Taking a different approach

BY ALBERTO BECCARO
IAC 25833
PHOTOS COURTESY OF THE AUTHOR

I really liked Budd Davisson's article *Pitts as Basic Trainer* in the July 2013 issue of *Sport Aerobatics*. Not because it was strange to me or because it was challenging my beliefs. In fact, it is what I think and what I try to explain to the other pilots, sometimes scared only by the word "Pitts." In my opinion the article is interesting and well-written, and a broad dissemination of it would be

useful to the pilot community.

I think my opinion could be interesting because I am exactly the opposite of Budd: I am a low-time private pilot, flying for fun and not very often (usually only during the weekends). I can say I have a good understanding of what aircraft are, since I am an aeronautical engineer with 20 years of working experience in the field, but I am not a

very skilled pilot. Nevertheless, I've owned a Pitts S-2A since 2010, and I am very happy about her.

Therefore, looking at the Pitts from a completely different point of view, I totally agree with Budd. You do not have to be an ace or an air show performer to fly a Pitts; you just have to have good basic skills (that means good training from the beginning, without skipping after a few flight



My first flight in the going-to-be-my aircraft (I am the head in the front cockpit).

hours to GPS, VOR, etc. only) and be ready to feel and understand the aircraft (obviously, a good instructor is mandatory). And the Pitts will teach you how to improve. As Budd points out, the Pitts is not optimized for one condition or design point; most aircraft are designed for one or a few conditions (usually cruise, not forgetting takeoff and landing), so you can balance all the effects in order to have the aircraft flying straight in that condition almost without pilot input. It is not the same with the Pitts; it, being an aerobatic aircraft, must have good characteristics throughout the flight envelope, and if you balance one condition by design, you could have the aircraft highly unbalanced in others (just think inverted versus upright flight).

Let me share my experience with you to corroborate my opinion and some nice pictures of the Alps. You read correctly. I am talking about the Alps since I bought my Pitts in Germany, and I crossed the Alps to ferry it to Italy where I live.

I have always been interested in aerobatics but not able to pursue my passion until 1997 when I lived for one year in the United States



Still some clouds over Switzerland.

for business. While there, I got my basic aerobatic training and took a few flights in the Pitts; I was really impressed by its performance but particularly by the handling qualities. Handling qualities are related to pilot impression and feel of the aircraft, and I felt the Pitts "tuned" with me from the beginning. I also

flew other aerobatic airplanes, even Unlimited category ones, but I did not get the same feeling. Not to object on performance and agility, but my main issues were the stick forces and travel (and related aircraft responses) that in other high-performance airplanes were too light and too short, so it took a while for me to



Blue sky over the Alps approaching the Italian border.

get acquainted with them (remember, I am a low-time pilot). Instead, it was more immediate to get the right feeling with the Pitts. For these reasons and for its behavior in flight, I love the Pitts and I think every pilot with good basic skills can fly it. And every pilot should fly it to improve his skills and have fun.

After my American experience I put aside aerobatics for a while. In 2009, around my 50th birthday, I was searching the web for other stuff when a website with two Pitts S-2As for sale popped open. Destiny? I decided to ask for information on both (wasn't that a wonderful present for my birthday?); both were located in Germany, not too far from my city.

In February 2010, I bought one of them. The deal included training (I never soloed a Pitts, I had just a few flights several years before) and the safety pilot for the ferry flight. At



Close to the Italian border in the Gran San Bernardo area (around 12,000 feet).



Italy!



An enthusiastic new owner after refueling in Aosta, a few miles from home.

the beginning of April I went back to Germany to get the training and fly the aircraft to Italy.

Unfortunately, the weather was not good, so I was only able to perform about half an hour of taxiing (low speed and high speed) and one hour of touch-and-goes, while avoiding the clouds, in the evening. I refueled the aircraft when it was al-

most dark. The people at the Trier airport (EDRT), where the aircraft was based, were very kind and supportive. (Trier is a beautiful city near Luxembourg.) The weather was better the next day, and the forecast was so-so for the next few days, so I decided to fly to Italy instead of completing the training in Germany.

The flight went from Germany to

northeastern France (Alsace), with a landing in France for refueling; then across Switzerland and over the Alps to Aosta in Italy, where we refueled again for the final short leg to Vercelli, a city near Turin in northwestern Italy. The weather was cloudy for the first part of the flight, then better over Switzerland, and ceiling and visibility okay (CAVOK) over the



Flying in the beautiful Aosta Valley.



Alps and into Italy.

It took me another month before soloing the aircraft as it is not easy to find a good Pitts instructor with matching availability in Italy, but in the end I did it. Freccie Tricolori,

an air show performer and former military pilot, who was also a member of the Italian military aerobatic team, completed my training on takeoffs and landings in addition to basic aerobatics.

Now I fly the aircraft for fun; usually when I fly I do some exercises in basic maneuvers and practice a Sportsman sequence (maybe I will do some competitions next year). From time to time I get some lessons from a very expert pilot and former Italian champion, to improve my skills and try new maneuvers (I am over 50 years old and, being an engineer, I have to think and know what is going to happen and then try it with an instructor).

This is to show an inexperienced pilot can handle a Pitts and, more important, have fun safely with it. I think the Pitts is a great airplane both for performance and for handling qualities (remember, handling qualities are what you feel when piloting the aircraft), and the pilots who have flown with me share the same feeling, sometimes after a few minutes of apprehension because somebody, who never flew the Pitts, told them, "Be careful, it is a difficult aircraft, and can have bad reactions."

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...I had to dead stick my Pitts in and an old timer said "Nice save. Someone taught you well." Yes they did! Thanks, Budd. -Craig H.

My insurance company covered me, a low-time, low-tailwheel-time pilot, in a single-hole Pitts largely because I went to Budd for my training. -Tom P

...the engine failed at low altitude and the accident investigators said that my fundamentals saved me. Thanks my friend. -Maynard H.

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Racing the Rain

I have never been accused of being a deep thinker, a philosopher, or even particularly introspective. In fact, most people would tell you that I have roughly the depth of a parking lot puddle. Some may even say that I am out of my depth in a parking lot puddle. That's just their opinion, though. All of this, however, does not mean that I do not mentally file events away to bring out and review later. It just means that there are not too many events on my mental DVR. It also means that when I do surf through that

DVR and bring the memories out, it's usually just for the fun of watching them and not for any life-changing revelation. Since this article is appearing in *Sport Aerobatics* magazine, I'm sure it will be no surprise to you that a lot of my mental DVR is filled with flying, and some of my favorite episodes are aerobatics-related. Today I am going to open up the DVR and flip to Chapter 6, Episode 9 and see where that may take us. Even on the DVR some episodes are crisper than others, and this one in particular is laser-etched into diamond crystal for unmatched clarity and lon-

gevity. I want this particular memory to be among the last deleted from the mental hard drive. In case you were wondering why we're doing this little exercise, the purpose of this pleasant trip down memory lane is to inspire you to either dust off some of your own hazy memories . . . or go make some new ones!

Step into the way-back machine with me. The time is late spring in 1989, and I am a happy-go-lucky college student living the dream and getting paid to teach aerobatics in a Bellanca Decathlon flying from a small airport just north



An aerobatic pilot's thrilling opportunity

BY DOUG JENKINS

of the booming metropolis of San Antonio. I am sitting in the line shack/pilot lounge/flight school/gathering place waiting for my last student of the day. The weather is fine; scattered showers, no wind, and good visibility. The airplane is fine; gassed up and parked on the ramp awaiting another flight. I am fine; ready to teach the (ahem) finer points (cough, cough) of loops and rolls to a returning student. The student is . . . late. This is well before cellphones, remember, so notification of a cancellation was sometimes not forthcoming, and I could often just sit at

the airport waiting for a student who never arrived. I think a few dozen people in San Antonio did have "car phones" at this time. Everyone remember those pig tail antennas on car roofs as a status symbol? A certain younger sibling of mine put a fake one on his car in an attempt to look cool(er). But I digress. Anyway, it's a nice day to fly, and all I need to complete the perfect picture is a student. Finally, about 15 minutes after our scheduled meeting time the land-line phone rings . . . my student has cancelled for some silly reason. I think it was something about being out of money.



Well, that sucks; I really wanted to get in one more flight. After all without students I will be out of money soon, too. And it's such a nice day. Oh well, I guess I might as well put the airplane away (deep sigh). Hey, wait, the ever-gracious flight school I work for authorizes one hour of proficiency flying per decade, why not just go fly anyway? Just for me. Just for the fun of it. Now we're cooking with gas! With a new outlook on the afternoon I tie up the back seat and get ready to fly. The trusty red, white, and blue steed fires up somewhat reluctantly (it was a hot start after all), and we taxi to the end of the runway. Pointed in the right direction (south) we rocket (okay, loaf) down the runway and scream (okay, stagger) skyward. The aerobatic practice area is about a 10-minute drive north. This little annoyance is created by the pesky Victor airways that depart the San Antonio VORTAC to the north. Oh well, in reality the drive gives us some time to climb to a reasonable altitude. When the airways have finally diverged enough we can start flying upside down. Yay!

My already well-bruised ego will allow me to admit that I was not then the formidable aerobatic pilot and steely eyed competitor you know me as today (stop laugh-

ing . . . no, please, stop laughing). I truly had no idea about competition aerobatics and precision and pretty lines and all of those other things I now know are important. I was taught to muddle through the basics safely; I then improved my muddling to the point where my aerobatic skills were safe but decidedly limited. I could fly and teach the fundamentals, but I now know that any self-respecting judge would have been forced to either vomit or laugh if made to watch me flop around like a fish on a dock. But, boy did I have fun! Ignorance surely is bliss. Not knowing what a maneuver is supposed to look like lets you make it look like anything and still be reasonably happy with it! Come to think of it, not worrying about perfection every now and then can be kind of liberating. I commenced to fly loops, rolls, snap rolls, spins, Cuban-eights, and reverse Cuban-eights just for the sheer joy of pulling g's, hearing the wind rush, and watching the horizon rotate at my command. Not a bad way to pass a spring afternoon!

Then, as now, the hammerhead was my favorite maneuver so I was saving those for last. The latest addition to my repertoire was a hammerhead with, wait for it, a quarter roll up (WOW). If I was feeling particularly adventurous, I might even throw in a quarter roll down (NO WAY). This was big time stuff for me (truth be told, it still is). As I was setting up for the hammerheads

one of those scattered showers I cleverly mentioned earlier in a bit of foreshadowing began to encroach on my practice area. I couldn't move farther south, east, or west due to the airways (On a side note: I have always been a hopeless rule follower. I have a lifelong pathological fear of the FAA meeting me upon landing and demanding I hand over my license. Perhaps my mom was scared by a fed while she was pregnant?), and moving north would just take me farther from home and limit the amount of time I could spend actually flying aerobatics. Hmm. What to do. Well, let's see . . . the rain is just a light shower and is falling from a cloud that I will most assuredly remain more than 500 feet below. The visibility, even in the shower, is well in excess of 3 miles (for the love of food, I can see through it). I really have been meaning to wash the airplane anyway. Well, that settles it. I'll just stay here and fly hammerheads in this little rain shower. This, by the way, is one of the best decisions I will ever make. Relax, honey. Sorry. Let me clarify; this is one of the best decisions I will ever make at least as it relates to aviation.

I am willing to wager that anyone who has ever done this knows what I am about to describe. For those of you who haven't, this is why you have read to this point. Assuming you are still reading at this point and haven't skipped to the centerfold. The next quarter hour was most

certainly among the coolest, most awe-inspiring 15 minutes of my life . . . involving airplanes, dear. Dive to pick up speed . . . pull to the vertical . . . eyes out the left window (gee the rain falling straight down looks cool) . . . wait for the speed to bleed off . . . kick full left rudder/opposite aileron/forward stick . . . eyes to the front window (Whoa! The rain is falling past me. THAT is the coolest thing ever!) . . . accelerate (Double

whoa!! I am catching up to the rain. THIS is now the coolest thing ever. Triple whoa!). The raindrops and my airplane and I are now traveling the same speed . . . no wait, I just started flying faster than the raindrops. It looked just like the Enterprise or the Millennium Falcon going to light speed! Okay, stop being overcome by awe and . . . recover before we hit V_{NE}! That was, without a doubt, the COOLEST THING EVER.

Okay dude (I said to myself), think about what you just saw. On the way up the raindrops were falling vertically straight down, and we were making our way up into them. As we pivoted at the top we were hanging motionless and the raindrops were falling downward at 9.8 meters per second squared, so they were moving faster toward terra firma than we were. As gravity took effect on the mighty 8KCAB

YEAH, WHOOHOO, YEE-HA!



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our speeds began to equalize . . . we were overtaking the raindrops. Then followed a split second where our velocities were equal before we began to pull away (aided by 150 roaring horses). It looked indeed just like a movie special effect, and it was way cooler than I can possibly describe here with my woefully inadequate words on paper. No, really, I would love to capture for you and be able to describe what it was like. Even almost 25 years later I can sit here and see the image clear as crystal in my mind. In that long ago 1989 moment all I realized was that I needed to do that again. So I did . . . repeatedly.

Now that I knew what was going to happen each time I could really watch and appreciate the effect, and it did not get old. Each hammerhead was a new laugh out loud, whoop with joy moment. THIS was why I started flying, why I had invested all the blood, sweat, tears, and dollars . . . for moments like this: *hanging motionless inside a tunnel of rain, looking straight down at the planet suspended below and racing raindrops toward the ground. Who gets to race raindrops!?* What an unbelievably unique experience. And in order to have this experience you needed to be not just a pilot, but a special breed of pilot . . . an aerobatic pilot! Having those skills, possessing that knowledge opened the door to a special moment that few could have experienced and created a memory that has lasted a lifetime.

The rain shower eventually moved off and my hour was up. I am sure the trip home was uneventful and the landing was akin to a butterfly perching on a rose petal, but I really don't remember those bits. I do remember driving my car home, though, and still replaying the flight in my mind. Then looking at the cars around me and pitying the people trapped within who could not or would not ever experience the sheer beauty and fun that I had. I am pretty sure that people would be happier and maybe even drive nicer

if they could race raindrops every now and then! What stops them? Fear? Fear of the unknown? Lack of money? Lack of time? Lack of desire? Whatever it is that they lack I hope they understand what they are missing. But if you never experience something, how can you know what you are missing? Now there's a vicious circle for you.

Not long after this experience I would go off to USAF pilot training. None of the airplanes I drove in the Air Force flew hammerheads (they were actually "prohibited maneuvers" and therefore expressly verboten in several), so I had to remain content with the memory of that one perfect day when I got to race the rain . . . vertically. Until, that is, I bought a certain bright yellow Pitts Special biplane and brought it home to South Texas. Most of our time together is spent practicing for competitions (hey, gas is expensive . . . no goofing off allowed), but every now and then we might spy a stray shower in the not too distant distance and the thought occurs . . .

So, what are you waiting for? You have phenomenal cosmic powers in your very own hands. Every flight, every day is a lifetime memory waiting to be made. The sunlight gently knocking on your window each morning is an opportunity to live your best life. Each of us, due to our experience and ability, has the opportunity to live a life of sheer joy and exultation that few can even imagine. We can see and do things that mere mortals can't ever hope to experience. The next time you're lamenting the price of gas/hangar/insurance/annual/etc., just remember what that price of admission buys you: the ability to escape the mundane humdrum every day drudgery and get out there and make memories that most people cannot even begin to comprehend, to take the world and bend it to your will, to be one with a machine, to set the horizon tumbling and laugh out loud for the sheer joy of having done it. To race the rain.

IAC

22TH WAVE

WORLD AEROBATIC CHAMPIONSHIPS 2013

Team Results: Men's Team Results

Consolidated Results

1	France		Aeroplane	Registration	Known	Free	FreeUnk	Totals	Overall %
FRA	M	Francois Le Vot	Extra 330SC	F-TGCJ	3255.01	3667.41	3715.10	10637.52	77.476
FRA	M	Olivier Masurel	CAP 232	F-HERA	3096.44	3631.75	3688.94	10417.13	75.871
FRA	M	Francois Rallet	Extra 330SC	F-TGCI	3148.97	3386.33	3733.41	10268.71	74.790
<u>31323.36</u> <u>76.046</u>									
2	United States								
USA	M	Robert Holland	MXS	N540JH	3135.94	3679.07	3531.42	10346.44	75.356
USA	M	Michael Racy	Sukhoi 31	N310BW	3214.55	3620.59	3496.96	10332.11	75.252
USA	M	Nikolay Timofeev	MXS	N-800XT	3210.34	3557.11	3525.90	10293.35	74.970
<u>30971.90</u> <u>75.193</u>									
3	Russian Federation								
RUS	M	Mikhail Mamistov	Sukhoi 31	N-310BW	3271.81	3702.99	3571.10	10545.89	76.809
RUS	M	Oleg Shpolyanskiy	Sukhoi 31	N-310BW	3103.09	3513.24	3556.37	10172.71	74.091
RUS	M	Anton Berkutov	Sukhoi 26	N-596TJ	2973.00	3472.06	3462.18	9907.24	72.158
<u>74.353</u> <u>30625.84</u>									



Francois Le Vot



Olivier Masurel



Rob Holland



Oleg Shpolyanskiy



Michael Racy



Nikolay Timofeev



Mikhail Mamistov



Anton Berkutov

WAC 2013 Overall Results

27th WAC 2013, N. Texas Regional/Perrin KGVI, October 9 - 20, 2013

Ranked by scores

Rank	Pilot	Aeroplane	Registration	Known	Free	FreeUnk1	Totals	O/all %
1	Francois Le Vot	Extra 330SC	F-TGCJ	3255.01	3667.41	3715.10	10637.52	77.476
2	Mikhail Mamistov	Sukhoi 31	N-310BW	3271.81	3702.99	3571.10	10545.89	76.809
3	Gerald Cooper	Xtremeair	G-IIR1	3141.22	3643.16	3689.78	10474.16	76.287
4	Olivier Masurel	CAP 232	F-HERA	3096.44	3631.75	3688.94	10417.13	75.871
5	Robert Holland	MXS	N540JH	3135.94	3679.07	3531.42	10346.44	75.356
6	Michael Racy	Sukhoi 31	N310BW	3214.55	3620.59	3496.96	10332.11	75.252
7	Nikolay Timofeev	MXS	N-800XT	3210.34	3557.11	3525.90	10293.35	74.970
8	Francois Rallet	Extra 330SC	F-TGCI	3148.97	3386.33	3733.41	10268.71	74.790
9	Nicolas Ivanoff	Edge 540	N-4767	3150.34	3521.88	3546.14	10218.36	74.424
10	Alexandre Leboulanger	Edge 540	N-4767	3160.10	3468.26	3579.09	10207.46	74.344
11	Goody Thomas	Extra 330SC	N-580BG	3061.28	3648.59	3488.10	10197.96	74.275
12	Aude Lemordant	CAP 232	F-HERA	3156.32	3581.14	3439.76	10177.22	74.124
13	Oleg Shpolyanskiy	Sukhoi 31	N-310BW	3103.09	3513.24	3556.37	10172.71	74.091
14	Petr Kopfstein	Extra 330SC	N-73KG	3012.07	3475.28	3655.29	10142.64	73.872
15	Baptiste Vignes	Extra 330	F-HSDA	3046.09	3461.29	3625.36	10132.74	73.800
16	Martin Sonka	Extra 300SR	OK-SON	3165.99	3404.46	3559.66	10130.11	73.781
17	Svetlana Kapanina	Sukhoi 26	N-596TJ	3061.91	3591.84	3365.40	10019.16	72.973
18	Kathel Boulanger	XtremeAir	D-EKTL	3007.80	3467.21	3438.00	9913.01	72.200
19	Anton Berkutov	Sukhoi 26	N-596TJ	2973.00	3472.06	3462.18	9907.24	72.158
20	Hector Ramirez	Extra 330SC	N-330EX	2937.03	3349.16	3455.55	9741.74	70.952
21	Pierre Varlotheaux	Extra 330SC	F-TGCI	3110.58	3414.22	3193.75	9718.55	70.783
22	Alexandr Krotov	Sukhoi 31	N-310BW	3153.02	3585.16	2923.19	9661.37	70.367
23	Brett Hunter	MXS	N-800XT	2900.26	3457.29	3265.89	9623.44	70.091
24	Mikael Brageot	Xtremeair	D-EMKF	3112.72	3557.23	2948.43	9618.38	70.054
25	Artur Kielak	Xtremeair	G-IIR1	2970.27	3383.20	3170.47	9523.93	69.366
26	Melissa Pemberton	Edge 540	N-540SG	3030.11	3217.72	3214.80	9462.63	68.919
27	Nigel Hopkins	MXS	N-540JH	2985.03	3451.58	2963.91	9400.52	68.467
28	David Martin	CAP 232	N232X	2893.27	3461.10	2922.67	9277.03	67.568
29	Robert Armstrong	CAP 231	N-3434F	2810.37	3386.92		6197.29	45.137
30	Dagmar Kress	Extra 330SC	N-60DK	2883.05	3312.98		6196.03	45.128
31	Yoshihide Muroya	Edge 540	N-19ZE	2853.84	3338.99		6192.83	45.104
32	Sergey Prolagayev	Sukhoi 26	N-226PS	2764.79	3401.01		6165.80	44.907
33	Andrey Bespalov	Sukhoi 26	N-596TJ	2820.52	3343.46		6163.98	44.894
34	Lukasz Czepiela	Extra 330SC	OK-SON	2822.01	3261.93		6083.94	44.311
35	Viktor Chmal	Sukhoi 26	N-596TJ	2635.62	3436.71		6072.33	44.227
36	Debby Rihn-Harvey	CAP 232	N-232DD	3041.13	2953.86		5994.99	43.66
37	Paul Andronicou	MX2	N-487MX	2541.79	3433.37		5975.16	43.519
38	Simon Johnson	Extra 330SC	G-IIIK	2597.16	3312.94		5910.09	43.045
39	Rob Noonan	MX2	N-487MX	2749.84	3118.31		5868.15	42.740
40	Hanspeter Rohner	CAP 232	N-659DM	2518.49	3293.00		5811.48	42.327
41	Francis Barros	Sukhoi 31	N-131BT	2401.39	3392.97		5794.36	42.202
42	Hein Sauels	Extra 330SC	N-60DK	2729.11	3048.01		5777.12	42.077
43	Claudius Spiegel	Extra 330SR	OK-SON	2493.01	3280.61		5773.62	42.051
44	Jerzy Strzyz	Sukhoi 26MX	C-GSUK	2702.45	3047.09		5749.54	41.876
45	Ann Marie Ward	Edge 540	N-540AW	2664.19	3072.17		5736.36	41.780
46	Heike Sauels	Extra 330SC	N-60DK	2430.59	3257.56		5688.15	41.4
47	David Barbet	Pitts S-1S	C-GJGB	2584.05	3083.76		5667.81	41.280
48	Thomas Bennett	CAP 232	G-IIA1	2306.65	3349.12		5655.77	41.193
49	Peter Podlunsek	Extra 330SC	S5-DPS	2502.17	3151.30		5653.47	41.176
50	Richard Wiltshire	MXS	N-540JH	2477.33	2989.11		5466.44	39.814
51	Didier Amelinckx	Extra 330SC	F-HSDA	2084.88	3313.41		5398.29	39.317
52	Grant Piper	MX2	N-487MX	1792.41	3051.60		4844.00	35.280

Team Results: Women's Team Results

Consolidated Results											
1	France		Aeroplane	Registration	Known	Free	FreeUnkl	Totals	O/all %		
FRA	F	Aude Lemordant		CAP 232	F-HERA	<u>3156.32</u>	<u>3581.14</u>	<u>3439.76</u>	10177.22	74.124	
FRA	F	Kathel Boulanger		XtremeAir	D-EKTL	<u>3007.80</u>	<u>3467.21</u>	<u>3438.00</u>	9913.01	72.200	
2	United States										
USA	F	Melissa Pemberton		Edge 540	N-540SG	<u>3030.11</u>	<u>3217.72</u>	<u>3214.80</u>	9462.63	68.919	
USA	F	Debby Rihn-Harvey		CAP 232	N-232DD	<u>3041.13</u>	<u>2953.86</u>		5994.99	43.663	
3	Germany										
GER	F	Dagmar Kress		Extra 330SC	N-60DK	<u>2883.05</u>	<u>3312.98</u>		6196.03	45.128	
GER	F	Heike Sauels		Extra 330SC	N-60DK	<u>2430.59</u>	<u>2257.56</u>		5688.15	41.429	
11884.18											
											
											
											
Aude Lemordant											
											
											
											
Debby Rihn-Harvey											
Dagmar Kress											
Heike Sauels											

Contest Results: Four Minute Freestyle - Final

Rank	Pilot	(Country)	Aeroplane	Registration	Ranked by scores		
					4m Free	Totals	O/all %
1	Robert Holland	(USA)	MXS	N540JH	<u>3573.48</u>	3573.48	89.337
2	Gerald Cooper	(Great Britain)	Xtremair	G-IIIR1	<u>3319.16</u>	3319.16	82.979
3	Martin Sonka	(Czech Republic)	Extra 300SR	OK-SON	<u>3122.93</u>	3122.93	78.073
4	Nigel Hopkins	(South Africa)	MXS	N-540JH	<u>2866.37</u>	2866.37	71.659
5	Brett Hunter	(USA)	MXS	N-800XT	<u>2865.17</u>	2865.17	71.629
6	Yoshihide Muroya	(Japan)	Edge 540	N-19ZE	<u>2845.71</u>	2845.71	71.143
7	Aude Lemordant	(France)	CAP 232	F-HERA	<u>2838.75</u>	2838.75	70.969
8	Hanspeter Rohner	(Switzerland)	CAP 232	N-659DM	<u>2762.93</u>	2762.93	69.073
9	Johann Arch	(Austria)	Edge 540	N-4767	<u>2734.69</u>	2734.69	68.367
10	Melissa Pemberton	(USA)	Edge 540	N-540SG	<u>2655.46</u>	2655.46	66.386
11	Debby Rihn-Harvey	(USA)	CAP 232	N-232DD	<u>2380.47</u>	2380.47	59.512
12	Kathel Boulanger	(France)	XtremeAir	D-EKTL	<u>2333.99</u>	2333.99	58.350

So You Want to Do a Low-Altitude Roll

**Or . . . the first rule in aerobatics is
learning when and how to think, "No."**

BY DUDLEY HENRIQUES





O

kay, so you've gone and taken a course in aerobatics to improve yourself and your flying abilities and/or you've purchased an aerobatic aircraft, now what?

Chances are you've received great instruction from a good *aerobatic* instructor. If so, along with learning how to perform good maneuvers and recover from the bad ones, you have also been inspired by that good acro instructor into a mindset based on safety. You know about risk management and have a healthy respect for limits, both for the airplane *and* for yourself.

If you are one of these new aerobatic pilots, you are well ahead of the game and will no doubt fly safely through your tenure in aviation with little trouble. On the other hand there just might be a slight chance that a few of you have completed some aerobatic training out here and are entering into this new world of performance not quite as armed and prepared as you should be. This isn't to say you are unsafe. What it means is that you just might be one of the few pilots out here who go through an aerobatic course or receive some training either with an instructor or on your own, who continue on after receiving that training carrying with you the same mindset you had before the aerobatic training. In other words, you flew well before, made good decisions, flew safely, and were rewarded with accident-free results. In other words, your flying was okay prior to your aerobatic instruction so it should be okay afterward . . . even better now that you have your new skill set. Well . . . perhaps! In many cases this will true out, but there is something sinister that might be lurking in the shadows, and that sinister something involves the decision-making process. If all your deci-

sions concerning how you were handling the aircraft were good before your aerobatic training, why shouldn't they post-training remain good?

Let's hope they do, and in all likelihood you, as a new aerobatic pilot, will progress through a natural self-improvement process where the attitude you need to be a safe aerobatic pilot will prevail. With this process working you will be developing the proper mindset to keep you where you should be in the sky when doing aerobatics.

What I'm about to relate here is for those new aerobatic pilots who perhaps haven't had the time yet to develop by themselves what they might have missed in their training *if* that training wasn't exactly what it should or might have been.

So what does all this have to do with a low-altitude roll?

It has to do with a very simple thing—a thing so simple almost every new aerobatic pilot might say, "This would *never* happen to me." But trust me, it can, and sooner or later there's a better-than-even chance it *will* happen. It's called *temptation*!

There will come a moment that's just right. People and friends will be on the ground watching. The sky will be clear of traffic, and there you'll sit all nice and happy in your new or rented Citabria or Decathlon or whatever. You have done dozens of rolls at altitude with no trouble at all. In fact, the instructor told you your rolls were exceptional. You are proud of your abilities.

The only thing missing in this equation for you is the fact that all this great flying you have been doing has been done where most of your friends and especially *other pilots on the field* haven't had the pleasure of witnessing all this piloting skill.



AMY GESCH

You've had the training, you've done the roll before, and a roll is a roll right?

So there you are—now what?

If you're the smart pilot I think you are—and I *hope* you are—nothing will happen. You won't even think about "showing them your stuff." But alas, for some reason, you turn out to be the subject of this article and decide that NOW is the perfect opportunity to do a beautiful roll over the field, low enough they can appreciate the beauty and skill involved—just like the one you've envisioned in your head as doing so many times before and haven't done. You've had the training, you've done the roll before, and a roll is a roll right? Well not quite.

What you might not know is that pilots who do rolls at low altitude start preparing for those rolls by doing them at altitude. Not only at altitude but to specific and extremely strict and narrow parameters. They practice and practice some more until they can thread a needle on a hard deck they have given themselves on their altimeters. These pilots can slow roll their airplanes and recover within a needle width of their altimeter needles covering a zero. They then practice until they can do this a specific number of times in a row without the slightest error. This regimen might vary from pilot to pilot but not by much. Precision and *consistency* are the key words here. This is the hallmark of the professional display pilot...the *only* pilots in the world who should be doing a low-altitude roll!

So there you sit at low altitude over the field looking down on all those faces below. Let's assume you give in to temptation and decide

to do that low-altitude roll. What happens next?

Let's concede that if you are lucky enough to be flying a high-performance aerobatic mount like a Pitts or an Extra, what I'm about to discuss might not be as serious as with an aircraft of lesser roll performance due to the faster roll rate available. Faster roll rate equals less chance for a control error during the roll and less altitude loss as the roll progresses.

For the purpose of this discussion we'll assume a light aerobatic trainer, a novice pilot, and the desire to perform a rather slow display-type air show roll as opposed to a fast aileron roll. It's this type of roll that is usually the type of roll envisioned by a novice in these situations and usually the roll of choice in this situation. It's exactly this type of roll wherein lies the danger for an unwary low-altitude newbie.

So let's follow this hypothetical novice into this low-altitude roll and explore what can happen.

Of all the roll choices a novice

can choose from for a first attempt low-altitude roll, what might very well be the natural choice might be a nose-high modified aileron roll; not quite a slow roll, as it would be natural for the novice to want to do the roll cleanly and without the precision involved with cross-controlling a slow roll. This is conjecture, of course, but from discussions on these issues over the years with other aerobatic instructors, there seems to be an overall consensus among our community as relates to this factor.

For a "modified" aileron roll we'll assume the novice, having done these rolls at higher altitude, has the procedure pretty well set in his mind. This means the pilot will have a sense of expectation as the roll progresses. The control pressures should be the same down low as they were at higher altitude, so what can go wrong?

What this pilot might have left out of the roll equation for low altitude is the *sight picture* through the maneuver, and that sight picture can easily become a *very* impor-

tant player as a first-time roll at low altitude is attempted. Keep in mind that the professional knows this and has carefully prepared for it, carrying a completely different mindset into the low-altitude roll entries. These pilots have prepared carefully by bringing their rolls down gradually, noting and compensating for the change in sight picture as their rolls come down lower. The novice is attempting the roll without the benefit of this mindset. The novice might have some “idea” of what to expect, but it’s just a veiled concept. The professional pilot initiates the low-altitude roll relaxed and confident based on *proper preparation*. The novice might be confident, but

this confidence without preparation is a potential killer in low-altitude aerobatics. Let’s follow this pilot through a bad decision and into a low-altitude roll.

All lined up over the field in our slow-roll-rate aerobatic trainer—let’s say at around 600 feet—our novice initiates a nose-up pitch control input to set for a roll entry to a nose attitude of 40 degrees. The roll is initiated using inside aileron and inside rudder to offset the rather considerable adverse yaw. So far so good. Now rolling, the novice attempts to “trim up” the roll a bit by switching to some outside rudder going through knife-edge. Now here is where

things begin to have a huge potential to go wrong.

Holding in rolling aileron without *considerable* forward stick in this slow roll rate trainer, the nose really wants to come down. Now doing these rolls at altitude, you can allow for some degree of nose-low excursion from the intended roll axis and get away with it. At 600 feet, this error margin disappears like a pork chop into a starving pit bull. In other words, what the novice has experienced before and gotten away with is now something that under no circumstances should be allowed to happen.

So the roll continues. The novice may or may not notice the down-

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SPENCER THORNTON

What can happen next can seal the bad decisions that have prevailed so far in this roll.



MIKE STEINEKE

plied can now be focused. The first result of this new focus can easily be a relaxing of the forward pressure that exacerbates the nose-low condition. What can happen next can seal the bad decisions that have prevailed so far in this roll. The mind sees the new nose-low condition as the nose lowers, passing through inverted, and a natural instinct to rush the recovery can take over in a heartbeat. If this happens, back pressure is applied. If this happens along with neglecting a rudder switch to top rudder as the aircraft rolls through the inverted position, the result can be catastrophic; a nose-low scooping dish-out from the roll that ends in ground contact. Game over!

Keep in mind that what I have described here isn't a certainty to happen, but considering all the aspects involved there is enough wiggle room here to say that the warnings I've projected in this article just might be worth remembering if you are new to aerobatics.

The answer of course is that along with aerobatic training comes responsibility; responsibility to the aerobatic community and most importantly to yourself. Learn the limits and never exceed them, either the airplane's or your own personal limits. I realize most of you reading this article after learning acro would never attempt a low-altitude roll without proper training and indoctrination to the low-altitude environment. For those of you who just might be tempted, think twice. The respect goes to those pilots who others know always use good judgment. The aside to all this talk about low-altitude rolls is that even if you did one and got away with it, those who matter to you as peers in the community won't see you as they did before you did that roll. So the bottom line is that doing low-altitude rolls outside the professional arena is a loser either way you cut it.

Stay safe out there, you newbies, and enjoy a long tenure in the aerobatic community.

IAC



Keeping the Sport *Fun!*

... or how to get a really poor score
in Sportsman using a Freestyle

BY AARON McCARTAN

Afew years ago during a practice day some of the muscle biplane guys in Chapter 78 of Minnesota were discussing the capabilities of our airplanes. During subsequent aviation events two of us continued our discussion of how tough our airplanes were, and as pilot ego dictates, we decided to do something about it. This was to be the birth of a Sportsman three-figure Freestyle.

It all started between Craig Gif-

ford, with a beautiful 540-powered Eagle, and me, who at the time owned a stock Pitts S-2S. Between formation commutes to contests (my Pitts was faster . . .) and our competitive spirit (dang, he drew a longer vertical upline . . .), the challenge began. We decided to settle our little wager on who had the hotter airplane at a contest. Should we go heads-up in Advanced? No, that would level the playing field too well. In Intermediate? Nope, not enough complex figures. Let's fly Sportsman for a contest and develop a legal Free program that

consists of a maximum of three figures. It sure seemed like a fun idea!

At the 2011 U.S. Nationals Craig qualified for the Advanced Team. This prompted him to upgrade aircraft to a Panzl S-330. Now the wagers got really fun—biplane versus monoplane, the ultimate showdown! Problem was, I too had started shopping for a monoplane to ascend the categories. I ended up not competing in the 2012 season as I was preparing the Pitts for sale and shopping a rash of monoplanes. In addition to this I had obligations volunteering at the 2012



U.S. Nationals that topped my priority list. Shortly before Nationals I managed to purchase a gorgeous Panzl S-330 of my own. Immediately Craig started pushing for our little three-figure challenge. Game on, Mr. Gifford!

Craig and I had started e-mailing each other drafts of sequences. The figures were getting pretty complicated. Then the 2013 sequences were published. Turns out the Sportsman Known had a figure K value of 149! Now the figures became a greater challenge. We were going to be in Sportsman flying Unlimited level maneuvers. To top it off Craig and I had established a wager. We weren't gambling for currency; instead we had wagered a bottle of the other pilot's favorite beverage. As you may imagine, the



Aaron McCartan (center) revels in glory as Craig Gifford (left) and Bill Denton (right) lick their wounds.

INTERNATIONAL AEROBATIC CLUB SCORESHEET						
A	Contest:			Date:	Category: Sportsman	Programme: Free
No	Symbol	Catalogue No.	K	Total K	Grade	Remarks
1		1.3.12.1 9.1.1.6 9.1.4.5 9.1.4.7 9.4.1.3	21 15 9 11 12	68	[SF 07]	Presentation 6
2		8.6.4.3 9.1.3.6 9.9.3.4 9.11.1.5	13 10 11 4	38	[SF 03]	FIGURE TOTAL K = 149 INCLUDING PRESENTATION = 155
3		7.2.3.3 9.9.3.6 9.2.3.8 9.1.3.4	6 14 15 8	43	[SF 04]	Aircraft Type: Panzl S-330 P
FREE PROGRAM CHECKED BY: Signature: _____ Printed Name: _____ Date: _____ IAC No: _____						
Judge Name _____ Number _____						
Aaron McCartan pgf						

Created Using Aerobat 2013™ software ACC-wx@jail.com



pregame rivalry (read: trash talking) had also began.

In selecting a contest to settle our wager we agreed on the Great Plains Collegiate Challenge hosted in McPherson, Kansas. The contest format was restricted to Primary and Sportsman with a "Veteran Sportsman" category for the upper category competitors. We would each fly the Known for legitimate scores. Then we would fly these ridiculous Freestyles and have our own side contest between the two of us. The goal was not to win a Sportsman title or claim a victory, just to survive a sequence with no zeroes, and hopefully the judges would decide the victor. Sportsman rules applied, and we had developed IAC legal Free programs that met all the required diversity of Chapter 6.3.2 in the rule book.

Soon enough spring arrives, and in late April we rally at the contest. The weather falls apart on arrival day, but some pilots manage to arrive. On the first scheduled day of the contest we lost several hours to



low ceilings and rain showers. Between weather events more competitors manage to arrive. We were able to fly the Known, and the contest jury moved to attempt one additional flight on the second day. Once again weather conditions degraded, and we were unable to fly.

At a mid-morning brief the contest authorities decided to call the contest off and send people home as conditions permitted; time was limited and no additional flights would occur.

Shortly before noon the weather broke. Word had spread amongst

In selecting a contest to settle our wager we agreed on the Great Plains Collegiate Challenge hosted in McPherson, Kansas.



the contestants about this illustrious Free program that would settle a bet. The rumors of our wager had spread enough that an additional pilot decided to join in the fun. The contest organizers asked if we

would fly our three-figure Frees to settle the wager and provide some entertainment prior to everyone's departure. We made an impromptu order of flight. Craig Gifford flew first in his Panzl, I would fly second

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Word had spread amongst the contestants about this illustrious free program that would settle a bet.

in my Panzl, and Bill Denton would fly last in his CAP 232. Bill made a copy of my Freestyle after reviewing both sequences.

Craig launched, positioned, and began running through his flight. He had chosen a really neat wow-factor maneuver, a 1-1/2 outside snap from inverted to upright on his N figure. From the ground he had a fantastic snap going. It really looked good. All 1-3/4 rotations of it! The snap broke, rotated, started to accelerate, and just kept going. It doesn't take much of a mathematician to realize zeroing a 50-plus K figure in a three-figure sequence is not good for the overall. Outside of this one folly, Craig's overall figure quality was excellent, and he did manage to complete the sequence masterfully.

As I was warming up, Craig inquired if I could hold. He wanted to offer some encouragement (subconsciously I think he was hoping for some zeroes on my part) and get clear of the runway in time to spectate. I climbed up to my starting altitude and flew the sequence without the critical errors that my colleagues were hoping for. Lots of 'over on the points,' soft snap, shallow after; usual errors. But I flew it all. As I had completed the sequence I was asked via radio if I would fly it again. The second time through the sequence I managed to fly a bit better but was still fly-

ing figures at the edge of my proficiency. Both Craig and Bill would like me to admit that I had been actively practicing this sequence. I won't. Call it denial, but I still defend my position that I had not been training this sequence. That stated the brotherly chiding still persists to this day.

As I landed, Bill prepared his turn at my sequence. I was contacted by the box master on field frequency and asked to talk to Bill on our box channel. After flipping frequency and inquiring, I was greeted with a comical response; Mr. Denton's sequence card had departed the holder and was out of reach. He couldn't remember the sequence! Now I found myself sitting in my Panzl, looking up at the box assisting Bill on the radio as he worked through the figures. The sequence I designed had a 1-1/4 roll with opposed 1-3/4 roll on the 45-degree downline of figure No. 1; this proved to trip up Bill as he hadn't planned the attitudes or orientation correctly. I am told that our radio exchange was quite entertaining!

In the end, it was a fun event. We took some group photos, had a big laugh, and started scheming for a new challenge. We collectively decided to construct a four-figure Intermediate Freestyle. Referencing back to Section 6.3 of the IAC rules it appears we will need to add a hammerhead. By appending a simple hammer to each of our sequences we will meet all required diversity. But the goal isn't simple; it's a legal Free program valued at 190K of Aresti figures. That means with no changes to the existing sequence we would add a hammerhead figure valued at 41K. This will require rolls and snaps galore. No venue has been selected as of yet, but the three of us are planning to fly an Intermediate contest for the patch and try our four-figure Frees. Depending on the 2014 contest schedule and our availability, we are planning to pursue this.

For most this sport is a journey of knowledge. It's a chance to learn what we can do with these fantastic aircraft in a controlled and safe environment. Why not have a little fun with our exploration of the flight envelope? As always, practice responsibly. Safe altitude, be familiar with emergency recoveries, know your limits and those of your airplane. Keep in mind competition aerobatics is a sport. Our little wager was done out of camaraderie formed during chapter activities. While I joke about egos being involved, this truly was a showing of good sportsmanship. We found another way to have fun. All of this stated I encourage fellow competitors to try things like this on their own; keep having fun and keep learning.

IAC

Aaron McCartan is an Iowa-based competitor with approximately 800 hours of Pitts Special time and 100 hours of aerobatic monoplane time for a total of 1,700 hours in roughly 30 airframes. Aaron has served numerous roles with contest organization at both regional and national events. When not pursuing aerobatics he is a proud father who works in the communication technology industry.



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Thanks to Tom Collins and Robert Collins at Sanderson Ford in Glendale, Arizona, the purchase went as smoothly as the Escape rides.

Walt Versen EAA#1129299
REO Speedwagon Tour Manager



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Happy Holidays



Back row, left to right: Mike Heuer, Louie Andrew Jr., Norm Dewitt, Mike Steveson, Doug Sowder, Jim Ward, and Bob Hart

Front row, left to right: Vicky Benzing, Trish Deimer-Steineke, Debby Rihn-Harvey, Lynn Bowes
Missing: Tom Adams, Bruce Ballew, Klein Gilhousen, Jonathan Gaffney

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