SPORT Aerobatics

June 2015

OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB

the Pitts

- The Right Shot
- Decathlon Report
- ADS-B Integration

2016 Explorer

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Photo by Evan Peers

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MIKE HEUER
COMMENTARY / **IAC PRESIDENT, IAC 4**

Please send your comments, questions, or suggestions to: *mike@mheuer.com*

What we're doing

Aerobatics is a dynamic, colorful, exciting sport that thousands of pilots enjoy and participate in on various levels. I believe it should be a part of every pilot's training regimen very early in their careers. I took my own aerobatic lessons prior to solo, and the confidence it instilled stayed with me my entire aviation career.

Aerobatics requires discipline, training, proper aircraft, good instructors, and experienced mentors who help us along the way. This is why the IAC is so important and cannot be an organization that rests on its laurels. We always must be promoting our programs, encouraging people to join with us, and thinking of new ways to reach out to the aviation community. Thus, it is a constant challenge to the IAC leadership team to advance our cause and objectives.

When I assumed office last year, I was determined to revive what I felt was a rather moribund organization. We have had effective volunteers running our programs for many years, and they kept us alive. But I believed we needed more than that—a revitalization, a new commitment to membership service, a dedication to quality in everything we do, and a new and more effective presence in the aviation community and within the EAA family of organizations. Since August, we have been moving in a number of directions with our objective being a constant improvement of the IAC and what it offers you for your membership dues. Let me summarize some of those initiatives and programs.

Our principal membership service is this magazine, *Sport Aerobatics*. Reggie Paulk, our editor, has been a personal joy to work with and is deeply dedicated to providing you the best publication we can. As with all things, he operates under constraints as well, including the uncertainties of article submissions by a largely volunteer group of authors and the limit of 32 pages (plus covers) due to budgetary restrictions. Monthly deadlines are unrelenting, and having occupied the chair myself as editor, I can assure you those deadlines seem to come faster every month. If you have something to contribute, be sure to contact Reggie. We need a constant flow of articles from our membership—who are incredibly skilled and knowledgeable about all subjects related to aerobatics—to keep this magazine alive and improving. I am assisting Reggie, as publisher of *Sport Aerobatics*, in any way I can—and so can you.

Aerobatics requires discipline, training, proper aircraft, good instructors, and experienced mentors who help us along the way. This is why the IAC is so important and cannot be an organization that rests on its laurels.

The IAC's other major activities are the U.S. National Aerobatic Championships in Texas and our participation as one of EAA's divisions in the annual EAA AirVenture fly-in convention in Oshkosh, Wisconsin. The Nationals is pure and intense competition with all its organizational challenges. AirVenture is a place for us to showcase our organization, bring educational seminars to the aviation community, distribute information, meet and talk with IAC members from around the world, and provide special exhibits.

At Nationals 2015, we are making improvements in the competition that will benefit all who participate. For the first time, an IAC Welcome Center will be provided—a place for the volunteers to stop by, to visit with IAC members and officials, and to refresh a bit. This has never been provided before, though we have not lacked in evening social activities. Volunteers need a home, too, and the proliferation of private trailers on the contest site made me determined to put something in place for our other members who did not have some place they could call their own.

At last year's Nationals, we invested in expensive sighting devices to assure the highest quality of boundary judging. This year, another full set of judging line equipment will be provided so

continued on page 27

IAC Government Relations Representatives

Saying thank you for your hard work

BY GORDON PENNER
IAC 34, MASTER CFI–AEROBATIC, FAA GOLD SEAL CFI

Mike Heuer, Reggie Paulk, and I, among others, want to take this time to send a hearty *thank you* to our IAC government relations representatives. They are:

Dennis Thompson
Chairman, Eastern Regions Representative

Wayne Roberts
Vice Chairman, At Large Representative

Bill Finagin
National Regions Representative

Darren Pleasance
Western Regions Representative

Bruce Ballew
At Large Representative

We always jokingly say that most people don't want to see how sausage is made or how their government is run. These poor guys see it all the time.

We all know that aviation in general and aerobatics in particular are up against unprecedented threats to their existence. These poor souls have to look behind the curtain, working with the government to advance and defend our kind of flying.

This job can be a somewhat soul-killing activity. It can be the kind of activity where they see so many aviation threats that they feel they are trying to cut down a redwood tree with a herring, to paraphrase Monty Python, or that they are, in the words of Simón Bolivar, ". . . plowing the sea."

They are making a difference, however.

If they are doing their jobs right, there will have been many threats that they stopped and that we never saw. The fact that we can set up practice aerobatic boxes *at all* is a testament to their tenacity, but we at the general level would never notice their work unless we were prevented from doing that. That is just one example. These facts can place them in an "out of sight—out of mind" position to us as we move around on our individual ant hills.

So let us bring them into the light, and give them the hearty thank you(s) that we *know* they deserve. IAC

Timothy "Tim" Brill

Meet the IAC's new safety chairman

BY TIMOTHY "TIM" BRILL, IAC SAFETY CHAIRMAN

Tim Brill

Allow me to introduce myself. My name is Timothy "Tim" Brill, and I was formally appointed by Mike Heuer as the new IAC safety chairman.

I own and operate the Aerobatic Company and Flight School Inc. located at the Reno-Stead Airport in Reno Nevada. I specialize in tailwheel endorsements, emergency maneuver training, spin training, aerobatics, and mountain flying and have more than 4,000 hours of instructional experience in tailwheel airplanes.

I am an ATP, CFI, and CFII; a Master Certificated Flight Instructor–Aerobatic (MCFI-A); a member

of the IAC (the past president of the now-closed IAC Chapter 118, a national judge, holder of the IAC All Five patch plus a few Stars patches), CUATE (Council on Unusual Attitude Training & Education), SAFE, EAA (an EAA Flight Advisor), and AOPA; and an FAA Safety Team Representative for the FAA WP-11 district. In 2013 I was selected the Western-Pacific Region CFI of the Year.

I am a divorced, single parent of two teenage boys, spent three years as an infantry officer in the U.S. Army, traveled extensively as an international mountaineering guide, ran for the U.S. House of Representatives, have been imprisoned for civil disobedience, have been shot at, drank some beer, and was present when the fat lady sang. I graduated with a bachelor's degree in philosophy and a master's in theology. I am an adventure junkie at heart. I love traveling, plus skiing, camping, hiking, mountain biking, practicing tae kwon do, mountain climbing and, of course, ocean sailing.

Recently I have been conducting some safety seminars regarding loss of control accidents. A good note is that as a group, IAC aerobatic pilots do a very good job of controlling their airplanes. An interesting anomaly seems to be expert pilots flying in similar-type aircraft (borrowed airplanes), but not their personal aircraft. Air show pilots, another story. Overall, however, GA pilots continue to struggle for control of their airplane when flying low and slow and when turning. In subsequent articles, my intent is to dissect loss of control accidents with the intent to make us all safer pilots. Your input is always accepted.

Finally, I'd like to thank Steve Johnson for the fantastic job he did as the previous IAC safety chairman. Steve set the safety bar pretty high!

Notice of Election

March 31 through July 21, 2015

The IAC board of directors invites members to vote in the 2015 election for club officers and directors. Balloting opened on Tuesday, March 31, at 10:43 a.m. CDT and closes on Tuesday, July 21, at 6:00 p.m. CDT. Balloting this year will be electronic only.

We encourage members to vote securely online at *www.IAC.org/2015-board-election*. Voting via the IAC website requires logging in using a member-specific user name and password. Our webmaster (*webmaster@iac.org*) can provide any assistance needed. The ballot as well as candidate profiles can be found on that page.

A member may not vote in this election in person at the annual meeting; it must be done by electronic ballot.

A presidential-appointed Ballot Certification Committee will tabulate the election results and announce the election outcome at the annual meeting of members on Friday, July 24, 2015. That meeting will convene at 8:30 a.m. at the IAC Pavilion in Oshkosh, Wisconsin.

By order of the board of directors.

Lynne Stoltenberg, IAC Nominating Committee Chair

DJ Molny, IAC Ballot Certification Committee Chair.

IAC Annual Meeting

The International Aerobatic Club will hold its annual meeting of the membership on Friday, July 24, 2015, at the IAC Pavilion during EAA AirVenture in Oshkosh, Wisconsin. The meeting will begin at 8:30 a.m.

Agenda for the meeting will include:

President's Report
Treasurer's Report
IAC Awards Announcements
IAC Election Results
Old and New Business
Induction of New Officers and Directors

All IAC members are urged to attend and are encouraged to bring up any matters of business or concern you may wish. The meeting will be chaired by IAC President Mike Heuer, and many of the members of the board of directors will be in attendance. ***IAC***

Meet Evan Peers, aviation photographer

BY WILHELMINE ZOE PEERS
PHOTOS BY EVAN PEERR

The Right Shot at the Right Time

Evan Peers is a perfectionist when it comes to the images he seeks out. It is debatable what came first, his love for aviation or photography. Early on, he fell in love, awed by the brand new Lockheed L-1011s at the airport. At the same time, he began seeing the world through the lens of a camera, naturally capturing the grace and power found in movement, such as those of high-speed skiers in a race for the finish line.

He stays on top of technological breakthroughs, and he chooses his equipment specifically for each event. "Every scenario demands a different mix," he says.

You can easily see him coming: his signature red shoes, a camera slung around each shoulder, a third in his hands, and a set of lenses in assorted pockets of his cargo pants. There is never a one-size-fits-all for him.

At air shows he was one of a bevy of kids at the fence, a spectator. Then he began photographing the planes. The jets were his favorite, not just because they represented the latest technology, but also because of their speed. Just like the skiers, he loved watching them race through the air capturing the essence of their agility from every angle and every aspect.

Turning his attention to aerobatics, there was a new element of the unknown and the unpredictable. Aerobatic airplanes seem to defy physics. Rolls, spins, a dive, then climb, stall the plane, idle engine, and she's falling backward toward the ground. The maneuvers became so intriguing that every movement, every moment, needed to be seized. He began making friends with the pilots, and therein his understanding of what really keeps aerobatic airplanes flying came to him: the camaraderie between the pilots. To Evan, photography has become not just about the photo, but the story that gets told.

Beth Stanton, president of IAC Chapter 38, had this to say: "Evan's contributions have been a significant component of our growth. His images are worth a thousand words. His stunning photography has chronicled our chapter's activities with more energy than words alone could describe. He's not just a consummate professional; his love of aviation is absolute. We're lucky to have him on our team."

He built his skill from the ground up—from the sidelines, to the general media pool, to select hangars, to the air show and competition boxes.

"Aviation photography is an art not taught in a classroom but in the field," Evan says. "It takes patience, focus, and a lot of imagination. It takes an understanding of the magic of light and time, anticipation and observation, and an eye for seeing the extraordinary where others might see ordinary."

He is looking for the photo with the most expression; that particular perspective that evokes drama, feeling, and draws the viewer into the experience. It is not just a surface any longer, but a universe of mystery to be revealed.

To Evan, creating these images has become a form of his personal expression. Normally quiet, he envisions the unexpected, aims his lens, waits, and lets nature take its course. When you least expect it…he is just

This was a magic moment in light and time. At the 2014 US Nationals, Goody Thomas's canopy was suddenly lit by the reflection of the setting sun on the windows of the hangar doors behind me. It was a moment that came and went. Now the whole world will experience that moment forever through this image.

Left: In 2010, Sean D. Tucker showed off the new Challenger III, built by Steve Wolf, in it's first photo flight; alongside is the original Wolf Pitts flown by Tucker's son Eric. Turn this photo upside down--showing true aerobatic style, inverted is equally spectacular.

A case of the right timing at the 2014 Oshkosh AirVenture yielded this pin-sharp visualization of wingtip vortices, while Gene Soucy performs his night pyrotechnic routine. Awarded 2014 Best of the Best by Aviation Week & Space Technology.

there, capturing that special, incredible point in time. "We know it will be a good one even before he takes the picture," says Tim Just.

Tim, president of IAC Chapter 26 and a 2015 U.S. National Unlimited Team member, recalled the evening before the team gathered for its first photo. "I called him at 10 o'clock at night and asked, 'Can you be here at first light tomorrow morning?' With no hesitation and an enthusiastic 'yes,' he was there ready and waiting before sunrise. He even beat me to the photo shoot."

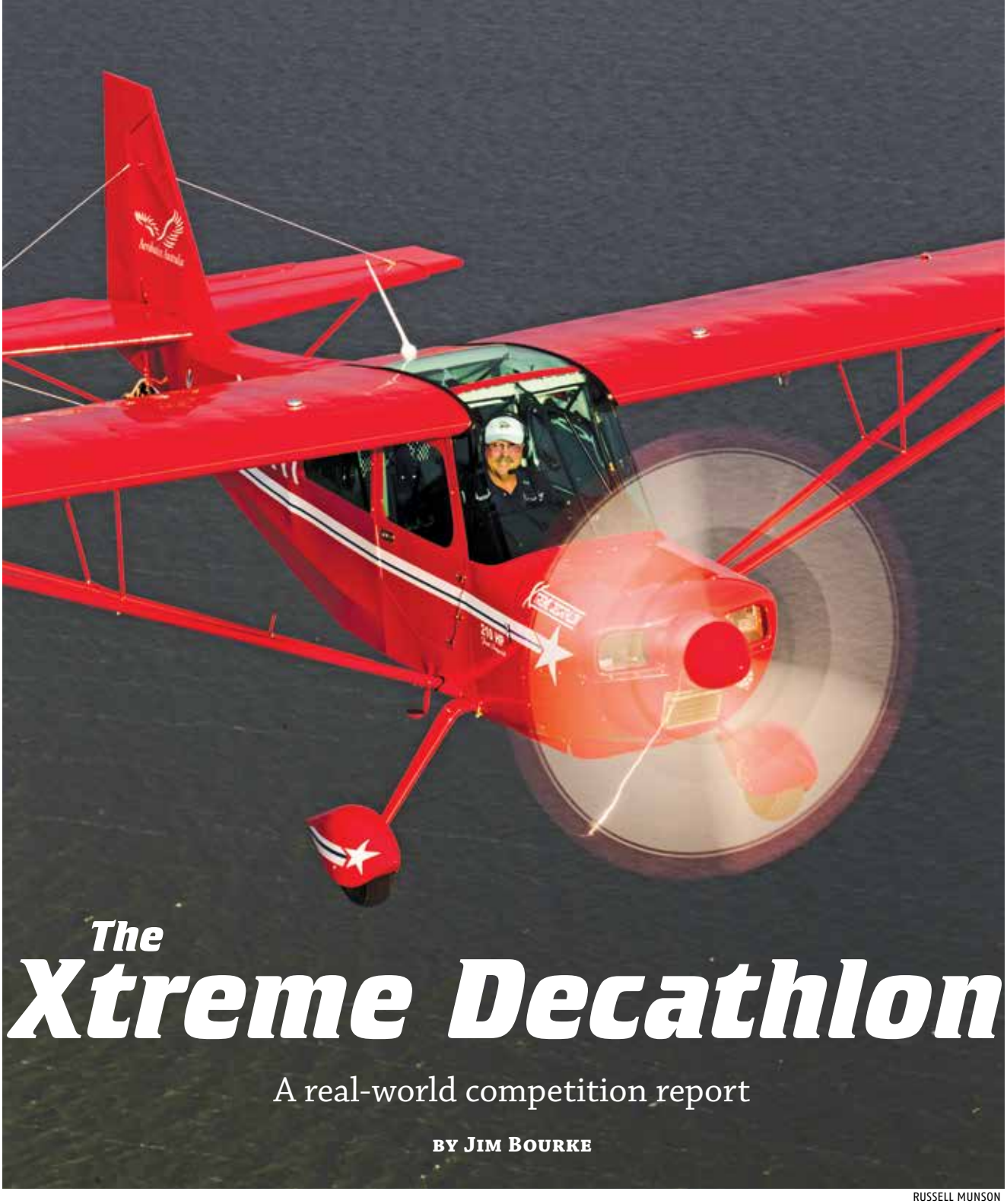
He takes pride in his work, and he takes it seriously. Often pressed for time, he will work around the clock. Incessantly. Undeterred. He will likely be the first one there and always the last one to leave.

With both aviation and photography exceeding the boundary of "just a hobby," he founded his company Airspace Media, offering contract photo and video services as well as journalism, event, and award ceremony coverage. He is the official photographer for IAC Chapter 38, three West Coast competitions, and a photographer at the U.S. National Aerobatic Championships in Texas. He is also staff photographer for major air shows such as the Oregon International Air Show, Truckee Tahoe Air Show, and MCAS Miramar Air Show.

Alfred Stieglitz said, "In photography there is a reality so subtle that it becomes more real than reality." How true. Evan was the recipient of the Aviation Week & Space Technology Best of the Best award in 2014, and took grand prize in the National Geographic Ultimate Photo competition. Numerous prizes, honorable mentions, and editor's choices tell his reality.

In the perfection of real time aviation, where there is no second chance, Evan Peers clearly knows how to take the right shot at the right time.

Contact Evan at *evan@airspacemedia.com* or via *www.AirspaceMedia.com*. **IAC**



The Xtreme Decathlon

A real-world competition report

BY JIM BOURKE

RUSSELL MUNSON

In 2012 American Champion announced the Xtreme Decathlon. I placed my order in 2013 and flew it throughout the 2014 competition season. I understand many new Decathlon orders are for the Xtreme variant. I thought it would be helpful if I shared my experience.

Background

The Xtreme Decathlon is similar to the Super Decathlon but with some important changes for aerobatic pilots:

The engine is an AEIO-390 instead of an AEIO-360, which provides a 30 hp increase over the Super.

The new ailerons, also available on the Super as an option, provide higher roll rates.

An overall effort to lighten the aircraft shed 50 pounds, which fully offsets the extra weight of the engine.

I put over 200 hours on my airplane last year, which included six contests, including the Nationals, and one air show.

More Power

The primary advantage most people see in the Xtreme is the extra horsepower. An additional 30 hp allows for longer lines and faster acceleration on top of half-loops. The extra horsepower also allows for a higher rate of climb that is helpful for practice. It takes much less time to return to a safe spin altitude, or to reach a practice height after takeoff.

What the extra horsepower does not do, however, is turn the aircraft into a juggernaut. There seems to be a perception that 30 hp dramatically changes how the pilot flies the Decathlon. It does not. In competition you can draw out the counts, and that is pretty much all you notice.

For air shows I found the extra horsepower allowed the plane to do a nice ruade (pull to vertical, full left aileron, short pause, full left rudder, and full forward stick) as well as other tumbling maneuvers.

The Ailerons

I believe the faster roll rate to be the most important change to the Decathlon. I confirmed an extra 30 percent roll rate. Rolls at the top of half-loops look better because they are less of a struggle. It is also easier to fly half-rolls on 45s. The roll takes less time so less finesse is needed to maintain the line during the roll. There is also more time to set the line both before and after the roll.

There is, unfortunately, a downside to the new ailerons. The stick forces are extremely high anywhere near design maneuvering speed (V_A). I believe, in fact, they are dangerously high in some situations. A pilot who reaches never-exceed speed (V_{NE}) while in an inverted 45 cannot pull to safety and, due to the nose heavy CG, may have trouble pushing with a high enough *g*-loading to bleed off airspeed. He will be forced to roll out and will consume a great deal of time doing so. Even with two hands on the stick, it becomes difficult to roll the aircraft at V_{NE}.

The stick force was high enough that I favored rolling to the left. It allows the pilot to use the right pectoral instead of the rotator cuff. At times I used two hands.

At lower airspeeds, the stick forces are reasonable and the ailerons work nicely. For competition flying in the Sportsman category, they are more than adequate. It is only when we venture into the Intermediate figures, or I suppose when we make a mistake in Sportsman, that we come up against a roll rate limit. With any new airplane, it pays to practice at a high altitude, and given that the Decathlon has meager limits this applies even more than in a higher-performance airplane.

The aileron design is of the Super Stinker style without spades. It's possible a future development will reintroduce spades to the ailerons.

Lower Weight

For the Xtreme, the Decathlon's weight reduction of 50 pounds is offset by the heavier engine so in a sense there is no weight reduction. However, the CG is moved forward, close to the limit for single-pilot operations.

For Primary and Sportsman this isn't much of a concern. A nose-heavy aircraft recovers nicely from spins and tracks beautifully. However, for practicing more advanced figures, being nose-heavy is a disadvantage.

If I bought the plane over again, I would order it with the baggage door, bigger battery, and other options that increase weight in the rear of the airplane.

Sportsman

I flew in Sportsman at the Borrego and Apple Valley contests last year. When I bought the plane, I thought I would stay in Sportsman for a while, but it only took those two contests to decide I wanted to move up.

Midway through the season, I offered the use of my airplane to a couple of fellow Chapter 77 Oregonauts, Kevin DeVan and Sean VanHatten. Kevin's experience is interesting because he owned a Super Decathlon at the time and was flying successfully in Sportsman. His intent was to borrow the plane for the Nationals, so we only had to work out the transition. He climbed into the box for the first time and expressed some serious consternation over the difference in feel, mostly due to the ailerons. However, after a few hours of acclimation and ground critiquing, he adjusted and began looking at home. Therefore I can say that the transition time is three to five hours. Most of that will be spent getting used to the roll characteristics.

I did not fly in Sportsman at the Nationals, but I got to watch Sean and Kevin do so. They took third and fifth, respectively, the result of lots of hard work. What I noticed from watching their flights compared with other Decathlons is that the Xtreme is louder than the Super. It also looks more crisp. There is more power available to overcome induced drag so pulls can be firmer. The extra power and roll rate really show up in the 45-degree lines, which are noticeably longer in the Xtreme. The difference might only be a second, but that is significant.

However, late in the season, I had the chance to fly the Xtreme Decathlon and the Super Decathlon back-to-back. I flew through the 2014 Sportsman sequence in the Super, and the results surprised me. My experience is that the airplanes are comparable for Sportsman. The Xtreme is more powerful, shows better, and is more fun to fly, but there is no scoring advantage over a Super that is also flown well. We only have to look at the scores in Sportsman over the last few decades to confirm that the Super Decathlon is already able to

dominate in this category.

Intermediate

I began practicing the Intermediate figures in March of last year and made the switch after the Apple Valley, California, contest.

In Intermediate the Xtreme Decathlon has significant advantages over the Super Decathlon. The extra power is more noticeable here, and the higher roll rate is more of an advantage.

About Snaps

For snaps the best approach seems to be a mirror of what is done with Extras and other Unlimited aircraft, just much slower. At no faster than 85 mph, aggressively pull the stick back. Almost simultaneously add full rudder and then push the stick forward and toward the same knee.

My first snaps were with rudder and elevator primarily, with just a slight touch of aileron. After some of these, I realized how hard this was on the airplane, and I switched techniques. It is possible to use less than full rudder and still pull off a snap that can convince a judge. In fact I found that the more I cheated the better the scores were, but let's keep that between us!

A number of people have reported fuel tank ruptures in Decathlons, apparently a problem that occurs only after snap rolls. A friend at the factory told me that there was an issue with tanks in older aircraft, but this is now resolved. I talked to several owners of newer Decathlons, one of whom has done hundreds of snaps, and none of them reported any issues. For what it's worth my fuel tanks held together.

If you are still reading, then you must be one of those people willing to snap a Decathlon. To learn snaps hold the aircraft a few miles per hour above stall in a slight climb and quickly bring the stick back, then add rudder. Bring the controls to neutral as soon as you feel the yaw rotation. That will give you the feel you are looking for. The next step is to unload the snap with a bit of down elevator while simultaneously adding aileron to the same side as the rudder. Learn to snap at 75 mph before trying it at higher airspeeds. While 90 mph is the placarded speed, 85 mph is a good absolute personal limit for snaps. The airplane refuses to snap at a speed higher than the rated snap speed so forget about trying any of that nonsense.

. . . but you'll have more fun doing it in the Xtreme, and you can say "Eat your heart out" to anyone who complains about your power advantage.

On a 45 down begin the snap at 70 mph because you will be at 85 by the time the snap happens. From level flight at stall speed, push the throttle forward along with the control stick, and just when you get to 45 degrees it will be time to snap.

The goal is to learn how to give the aircraft just what it needs to snap and no more. At the right airspeed it will take 4.5*g*'s or so to get a good snap. If you find that you need more than 6*g*'s, slow down. There is nothing gained by being hard on the airplane.

I found it easier to snap the plane to the left, so I always flew competition snaps in that direction.

Winning in Intermediate

It is possible to fly the plane to win in Intermediate. This is no different than flying any airplane to win: fly good lines, pop in and out of them briskly, establish 6*g*'s for most pulls, and practice with ground critique to make your lines as close to perfect as possible. In Intermediate you will face a disadvantage in power and roll rate against every other aircraft so you will have to make up for it with aggressive flying.

Inspect the plane carefully between flights because you will find loose screws. Put tape on all the inspection covers so they stay with the airplane.

In every contest I flew, I had to make the choice between my safety and my score. I took the hit in points without regret. Some maneuvers can show up on an Unknown that will require a break or a cheat to fly safely. In one contest I was faced with an opening figure of a horizontal eight with a snap roll on the 45 down to start things off. I knew that I had to pull the snap right away after establishing the 45 or I would be faster than my personal limit, so that's what I did. I got a "long after" comment from every judge. My average score on this 38 K figure was a 6.5! I have no regrets about that decision.

At some contests people asked if I thought I was flying the airplane too hard. I only exceeded V_{NE} once, which I'll tell you about in a minute, and I never exceeded the other limits. Once you can fly the airplane smoothly, it is easy to keep it well within limits in Intermediate.

Advanced

After flying some Intermediate contests, I thought it would be fun to fly the Advanced sequences. I was able to fly through the 2014 Advanced Known and my Free without trouble. I started paying attention to the Advanced Unknowns at the regional contests I attended. Some of the Unknowns would have been impossible without breaks, but all of them were

flyable, I felt, until I saw the ones at the Nationals. I think even with breaks that would have been a real trick! I stopped short of entering a contest in Advanced because, not only was I reaching my personal limits, I realized how close the plane was to its V_{NE} and *g* limits during every flight, and there was too much potential that I would make a mistake and exceed them.

That said, there is no reason why you can't fly the figures for practice. The Decathlon does wonderful inverted spins. It also does beautiful rolling turns, half-snaps, and all the other Advanced figures. Outside loops are great at negative 4*g*, but the upright seating makes prolonged g's uncomfortable so don't overdo it.

Problems

I did encounter some problems with the airplane. During my air show in Arlington, Washington, last year, the carburetor inlet box vibrated loose. The resulting vibration did some damage to the cowl, the hoses, and the baffles. The factory provided new parts and changed the design so this should not be a problem on Xtremes from here out.

I also ran into something that demonstrates how rarely people fly these airplanes in so many hours of hard acro in a year. I discovered that my control cables had developed a dangerous amount of slack during one momentous flight late in the season, just before Nationals. I was feeling confident and maybe a bit bored with Intermediate. I decided to fly the Advanced 2014 Known for a friend. In the first figure, there was a pull from 45 up inverted to a 45 down upright followed by a 2 of 4 and push to exit inverted.

I waited a bit too long before the roll so I found myself hanging upside down at a 45 a bit faster than I'd like. I pushed the stick forward and found the aircraft only wanted to give me about negative 2*g*'s. I grabbed the panel with my left hand and pushed hard with my right, but the stick was against the stop. As I reached V_{NE}, I realized that even with a maximum push I was still accelerating but, curiously, the pitch rate seemed to be slowing. I put both hands on the stick and began the roll to upright. It seemed to take forever to right the airplane. I began pulling positive *g*'s as soon as I passed through knife-edge and recovered several hundred feet above the ground. Everything turned out okay and I have a story to tell, but I lost some sleep over it.

The control cable tension is checked in the annual. Do it more often than that. I recommend that an annual inspection be performed every 100 hours of acro, regardless of the calendar. As I look back on it, I should have done some warm-up figures with negative *g* at a higher altitude before attempting to fly a sequence.

I found that the door liked to pop open during snap rolls and so did the window on the left side. This happened to me during the Unknown at the Nationals, and it didn't help my concentration one bit! The only recommendation I have is to add shims until you can barely latch the door.

I also broke the welds on the seat straps. This did not create a dangerous situation because the straps are not structural, but it was still disconcerting. This is another area worth inspection in any Decathlon whether you are doing snap rolls or not. Just repeatedly pressing your body against the seat hard enough can break these welds. You might find cracks in this area after pulling *g*'s a number of times, so take off the cushions and have a look.

Conclusion

The Xtreme is just about perfect for Primary and Sportsman because the Super is just about perfect for these categories. With the Xtreme, you get more horsepower and a faster roll rate. I can't say that you can't fly a Sportsman sequence to equally good effect in a Super, but you'll have more fun doing it in the Xtreme, and you can say "Eat your heart out" to anyone who complains about your power advantage. That's worth something right there!

The extra climb performance is a big aid for practice, and that translates into scores. You are more able to practice Intermediate and Advanced figures in the Xtreme. If you are flying with the intent of moving beyond Sportsman, the Xtreme is a better learning tool than the Super.

For Intermediate, the Xtreme is definitely capable, but I have to stop short of recommending the airplane for that category. There are many other designs to choose from and all of them have more hours at that level. That directly translates to safety. There are not enough people flying Decathlons in Intermediate that you should feel like anything other than a test pilot doing so. That said, if you choose to do it, it can be done without exceeding the limits. Take it slow, make the decision to give up points in the name of safety when the situation warrants, and rigorously inspect the aircraft.

After the Nationals, I placed an order for an Extra 330LX and decided I didn't need the Decathlon any longer. I think the biggest thing I got from flying the Xtreme D is confidence. I got over a lot of my little fears about flying aerobatics because I was able, or maybe forced, to take things slow. I learned how to properly roll an airplane in a deep way that will never leave me. Every hour I've spent in a Decathlon has helped me become a better pilot because I've found my new Extra needs all the same inputs, it just needs them quicker. While I've moved on, I will never regret one moment of the time I spent flying my Xtreme. IAC

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ADS-B Integration Into a Pitts S-2B

Are you crazy?

BY JOHN HOUSLEY
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Introduction

I had hoped to avoid installing an ADS-B system in my factory Pitts S-2B through a stroke of sanity or kindness from the FAA, but since I am based under the St. Louis Class B 30 nm veil, I had to bite the bullet at some point. I figured I may as well stop complaining, get with the program, and see if I could make use of the new broadcast data. This adventure took approximately eight months, mostly due to coordination with the FAA for a Form 337 field approval, and I hope the following information will be of use to you and shorten your installation time if you are in a similar situation. The TIS-B and FIS-B data are good features and improve safety, especially in an aircraft with limited visibility.

System Selection

There are a growing number of systems available and ways to meet the mandate. I decided that if I was going to all the trouble of making a permanent installation, I was going to have "out" and "in" capability. I wanted a system that was mature; was tested (in production); already had a technical standard order (TSO); had an STC that included the Pitts S-2B in the approved model list (AML); was small, lightweight, and relatively inexpensive; had a low power requirement; and would interface with my existing Adventure Pilot GPS display through a Wi-Fi interface. The Garmin GDL 88 met the maturity and STC requirements, but none of the rest. The FreeFlight FDL-978-XVR met all the requirements except the STC, and the company was providing a promotional "everything included" package, so I opted to go that route. After all, how hard could it be to get a field approval for a TSO'd system that the FAA mandated to be installed?

Installation/Integration Constraints

Control-head accessible to pilot and not panel-mounted (no space).

Traffic/weather display does not occupy panel or interfere with outside vision.

Same altitude data sent from the transponder as the ADS-B.

Retain use of existing transponder (KT76A in my case).

UAT* antenna at least 6 feet and no further than 12 feet away from the transponder antenna.

UAT antenna ground plane (30.5

Figure 1: ADS-B cockpit installation.

Figure 2: ADS-B control-head installation.

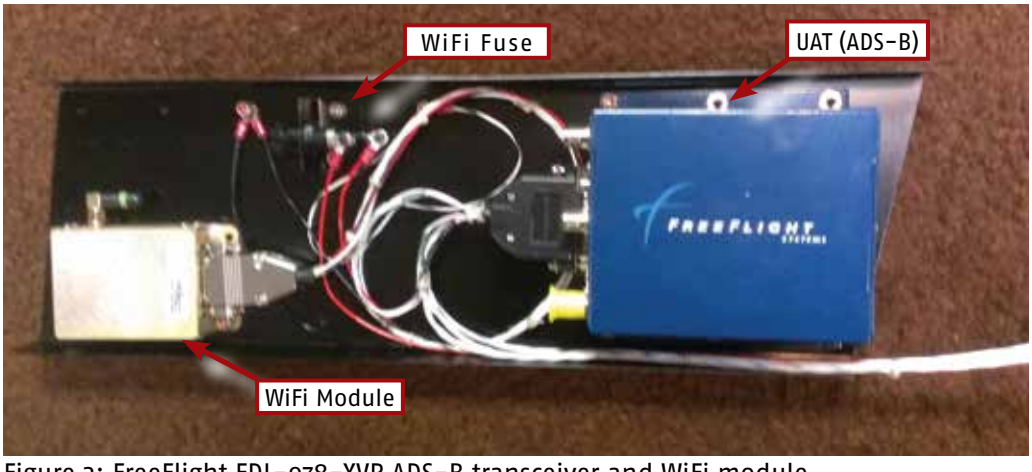

Figure 3: FreeFlight FDL-978-XVR ADS-B transceiver and WiFi module.

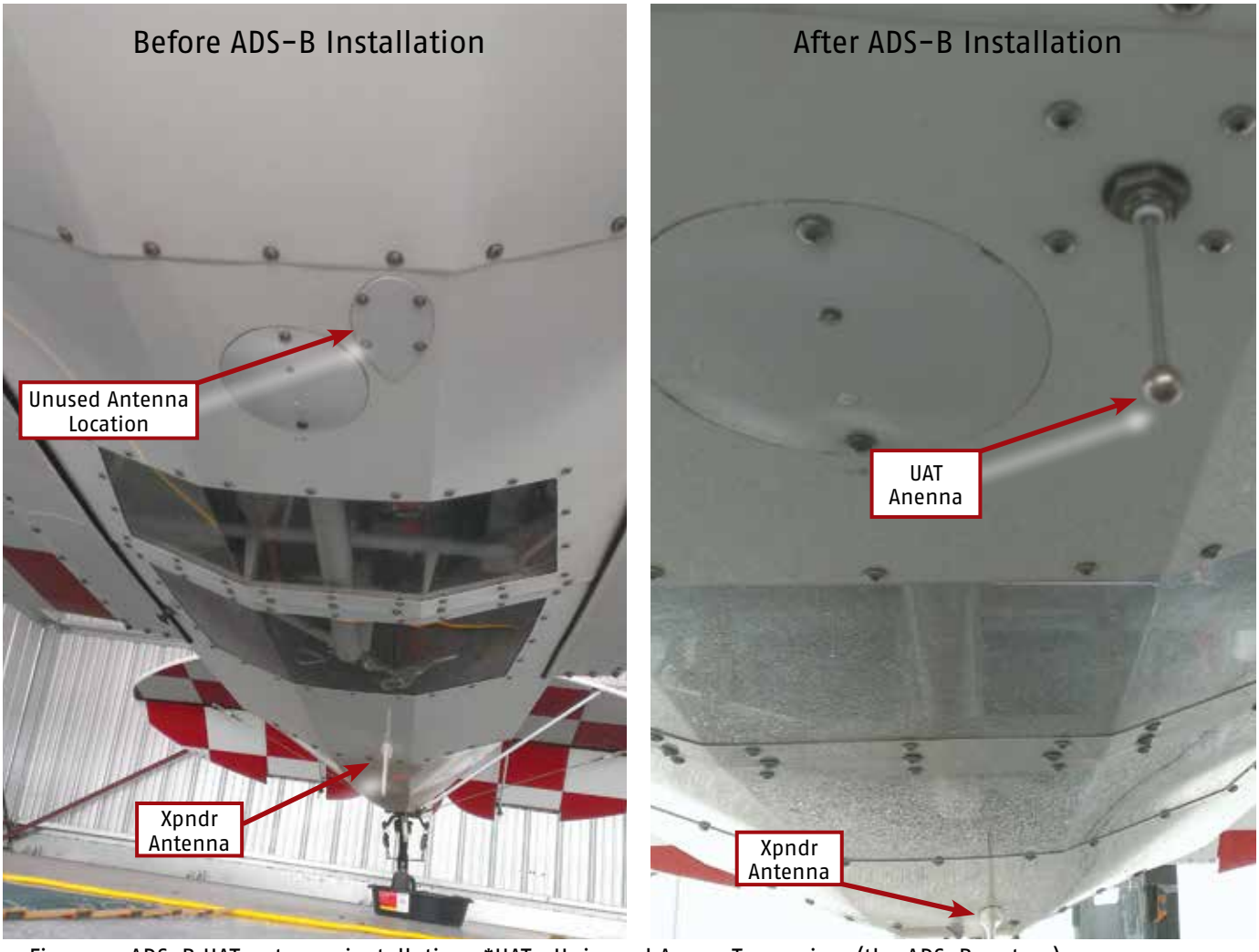

Figure 4: ADS-B UAT antenna installation. *UAT= Universal Access Transceiver (the ADS-B system)

inches by 30.5 inches).

UAT antenna away from metallic elements (landing gear legs) that would interfere with radiation.

GPS antenna no less than 2 feet from any VHF comm antenna.

No loss in baggage carriage capability (volume or weight).

No additional holes in aircraft structure.

No risk of wiring/coax/components interfering with flight controls.

I don't think it's possible to meet all of these constraints (especially the antenna placement) in a Pitts. But I did find a combination that works well.

Solution

As shown in Figures 1 and 2, the Adventure Pilot nav/display system is mounted to the instrument panel on the right side below the tachometer, and the control head is mounted to the radio stack ahead of the control stick. The ADS-B transceiver, Wi-Fi module, and Wi-Fi fuse (1.6 pounds total), shown in Figure 3, are mounted to a bracket that replaces the emergency locator transmitter (ELT) and bracket (1.2 pounds) on the bottom of the baggage compartment (net weight increase 0.4 pounds). The UAT antenna is mounted in an existing hole at the trailing edge of the landing gear fairings, as shown in Figure 4. The original ACK-30 altitude encoder has been replaced with a new, current-production ACK-30 Mod 9 encoder that includes gray code output to the KT76A transponder and RS232 output (configured for 100-foot increments) to the ADS-B system. As shown in Figure 5, the GPS/WAAS antenna is mounted to the canopy crossbar. The old EBC-102A 121.5-MHz ELT is permanently removed, and the regulatory requirement is met with a 406 MHz personal locator beacon with integral GPS. The minimum UAT-transponder antenna spacing deviation has been reconciled with longer coax to the

UAT. The installation manual for just the FreeFlight ADS-B system (excluding the WiFi module) is 98 pages, whereas the GDL 88 manual is 200 pages—this isn't as trivial of an installation/setup as you might have expected.

Administrative Process

I thought this would be easy since I was starting with an STC (it didn't include the Pitts, but many other planes), a field approval (337) for the same system installation in another non-AML aircraft (not a Pitts), and an FAA-approved aircraft flight manual supplement (but not specifically for the Pitts). I was thinking a two-page Form 337 should suffice . . . not so fast. It turns out that just because one flight standards district office (FSDO) approved a 337 doesn't mean another office agrees with the details and format. I had to research the rulings on antenna diversity (not required—you only need one bottom-mounted antenna), complete an electrical load analysis, cite the relevant paragraphs of Part 43.13, do the detailed weight and balance, and prove the system worked with my antenna placements via an FAA ground check. My 337 form is five pages long, and the aircraft flight manual supplement an additional seven pages. The FSDO was actually helpful with the details and formatting, but it took a long time to progressively identify all the requirements and get them approved. I will be glad to send anyone interested a copy of my 337 and AFMS.

It turns out that just because one flight standards district office (FSDO) approved a 337 doesn't mean another office agrees with the details and format.

Performance

The system is working pretty much as advertised. The FAA operation compliance report (six pages of details) came back "Everything looks good." The ADS-B system is supposed to (not required to) auto-detect the squawk code and ident from the transponder and replicate them, but this feature was sporadic, so I disabled it. FreeFlight said that may be because the UAT antenna is too close

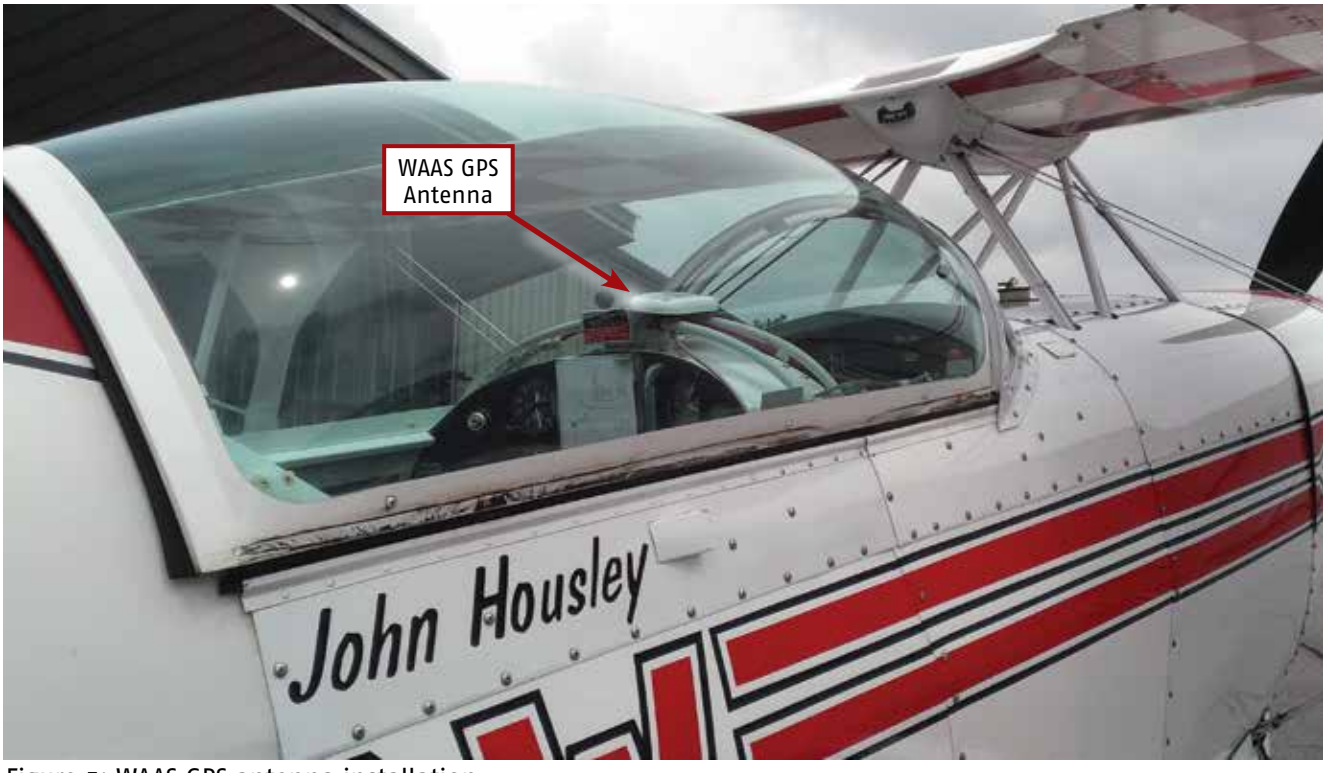

Figure 5: WAAS GPS antenna installation.

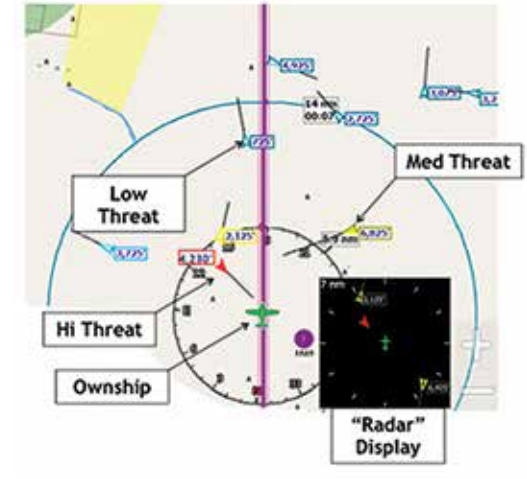

Figure 6: Traffic display with radar inset.

to the gear legs.

The weather information is nice, but the really significant benefit is the traffic information (Figure 6). I always teach and do clearing turns before maneuvering, but let's be honest—how far and how well do you really think you are seeing when you do those turns? With the TIS-B data, you get the benefit and alerts for traffic detected by radar a long way out above and below your altitude, plus you get projections of where that traffic will be in the next 60 seconds (the lines from the targets), including altitude displays. The Adventure Pilot also has a "radar" display that you can select (and choose the range) to eliminate all info except the traffic, so you can just glance at this during your regular instrument scan to see if there are any threats nearby. The threats are color-coded (blue/yellow/red) depending on their degree of possible conflict. Once you're done practicing, the traffic display is also useful when coming back to a nontowered field.

Another performance benefit is the continuous tracking of your flight (altitude, speed, position) by registration number. If you have an emergency and don't make it to an airport, this will enable rescuers to get very close to your location, even if your beacon/ELT does not activate. This feature might also help prevent SLOJ (sudden loss of judgment) in case you were considering a low approach to your friend's house.

Recommendation

The ADS-B system you choose depends a lot on what components you already have in your aircraft and your operational requirements. You can't mix and match components at will—they have to be a certified system. An ADS-B "out" (only) system is less expensive than an out/in, and you can add portable "in" systems (like Stratus or GDL 39) later, but this is additional cockpit clutter. Patience (procrastination) may produce more options or lower prices, and maybe the FAA will grant waivers or extensions, or allow portable systems. Start doing your homework now, define your plan, watch for opportunities, and allow time to do a quality installation, especially if it will require FAA approval. The safety benefits are worth the hassle. IAC

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Airshow performer & Young Eagles chairman

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The best part

Why we love aerobatic contests

I put out a call asking pilots what they thought was the best part of an aerobatic contest. As dozens of responses rolled in, I noticed trends right away.

The number one response was the people. The fun and camaraderie of a contest is a universal and striking phenomenon.

The second-most repeated response was that moment of breathless suspense between the aerobatic hold and starting your sequence.

There's much to love about aerobatic competition. Let's take a look.

People

Aerobatic pilots are a diverse bunch united by their singular passion for unusual attitudes. They tend to be competitive, driven, slightly twisted, and majorly fun. Or majorly twisted and slightly fun. It depends upon the individual. It's good to be surrounded for a weekend by people who "get you."

Camaraderie!

Seeing friends again.

Reuniting with competitors/friends I've met over the years at contests.

Going to "summer camp" five times a year.

Showing up.

Girl talk, hilarious stories.

Bantering with fellow pilots.

Talking with fellow pilots while watching the 4-Minute Free.

Cool people, cool stories.

Watching the look on the Unlimited competitors' faces when they get their Unknown.

Anticipation

Time, energy, and money…you've spent lots of these things to be here right now. All your training and preparation is about to be put to the test.

The first briefing.

Early morning, getting the airplanes out of the hangar.

*The smell of cowsh*t and gunfire in the morning.*

"The Ritual"—the five minutes or so between my last walk-through and my thumbs-up to the starter during which I blank everything out but the precise, economical movements necessary to complete a cursory walk-around, chute up, climb in, strap in, and check switches. At the end of the ritual, everything is possible and I still have all 10s.

That Magic Moment

You circle in the hold on box frequency, poised and alert while waiting your turn. Triple-checking the power setting and trim, you're all eager readiness. Finally, it's Go Time.

The box is yours.

Chief judge: "The box is yours."

The tension of competition leaving the hold for the box.

Diving in the box for those couple minutes of raging adrenaline and fun hoping I get it right.

The feeling of pulling for your first maneuver because now you are committed.

Ecstasy

When you've done well, you know it. Or you *think* you've done well and actually got turned around and

have a bunch of zeros. Either way, that knowledge is in the future. You swoop to the traffic pattern on wings of joy.

Pulling out of the last figure, on airspeed, on location, on altitude, and in the box!

The relief I feel after landing…it's like OMG, I'm still alive!

The release of tension and anticipation when you wag out of a well-flown Unknown. I have screamed in the cockpit when I know I've nailed it.

Judging

Half of any given contest is spent on the judges line. You witness brilliance and buffoonery and quantify it. It's hot, dusty, and squinty work. It's why you're here: to test your mettle against your peers.

Line judging.

Calling on the judging line for a good judge.

Watching.

Everyone keeping safe.

Flying in front of the judges in an actual marked box.

Critiquing someone who is struggling with a maneuver, and they finally get it right.

Nudity

There is an urban legend that a favorite pastime of boundary judges is to work on their "no-tan-lines" tan while stationed at their remote and lonely outposts.

It is rumored that certain pilots have such great powers of concentration while taking their (of course) inadvertent "outs" that even when pointed straight down at full throttle, they manage to capture a glimpse of au natural splendor.

If you're going to get penalized with an out, at least you should get a consolation prize for the trouble.

The 20 points will be a fair exchange.

A LOW-LOW call might be a fair exchange!

Food and Beverage

Pilots are a hungry bunch who need fuel of dubious quality and quantity to sustain their superhuman efforts. From the ubiquitous brown bag lunch of sandwich, chips, cookie and fruit, to junk food on the judges line, to full-on banquet splendor, they are chowing down all day long. And drinking Gatorade. Lots of Gatorade. When the flying is concluded, some enjoy adult beverages in moderation as well.

Snacks on the judges line.

After the flying, the unwinding.

That first gin & tonic after you finish flying for the day.

The beer.

Drinks at the pool.

Food fight at the banquet.

Airplanes

Last, but not least, the aerobatic airplane.

Cool planes.

*Kicking monoplane a**.*

As much as we universally love airplanes, this category had the least amount of responses. Magnificent as these machines are, it is the pilots and their passion that is the true horsepower that drives this sport. IAC

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A Reason to Replace Old Parachutes

20-year expiration date

Recently I've received more than the usual number of inquiries from pilots asking me to explain to them why their parachute rigger won't pack their parachute anymore. They usually tell me they store it carefully and it looks brand new followed by, "Is this a plot by the manufacturers to sell more parachutes?" I've covered this before, but I've decided to cover how we came to the 20-year decision in more detail.

Fortunately, the vast majority of riggers will not pack a pilot emergency parachute after it and the harness/container holding it reach their 20th birthday. To put things in perspective, we're also not the same person we were 20 years ago. Fortunately *we* do not have to be replaced after 20 years as the manufacturers recommend. Like our parachutes, we too must take care of ourselves so our lifetime warranty doesn't expire early. We all know we should minimize our exposure to the sun, eat healthy, and all that good stuff. Well, our parachutes are the same. Even with the best of tender loving care, they should be replaced after 20 years.

Here, in a nutshell, is why the parachute industry came to that decision. When I was chairman of the Parachute Industry Association's rigging committee, we had gathered a significant amount of information on why some parachutes were ripping apart while doing nondestructive 40-pound pull tests on the fabric. The technical standard procedures at the time (TS-108) called for a 40-pound pull test. Remember, parachutes are a petroleum-based product and weaken over time, no matter how diligently you take care of your expensive cushion. What was alarming to me and other riggers was the areas that failed were invisible to the eye. This probably is one of the reasons drug manufacturers put a shelf life on medications. They too weaken and lose their strength over time. The areas

Photo 1

Photo 2

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Ron B. EAA #349641

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LINCOLN

partner recognition
VEHICLE PURCHASE PLAN

Photo 3

I had chosen and that failed the nondestructive pull tests were areas that I had selected at random. Most ripped and came apart with a pull as little as 10-15 pounds. The material shouldn't have failed until close to 80 pounds. I was curious, so I pull-tested all around the area that had failed to see if there were other weak areas. This is where the mystery broadened. These other areas passed the 40-pound pull tests. This was puzzling.

Before I go on, let me show and explain to you how pull tests are performed. First I mark the area to be tested (see Photo 1) as stated in TS-108 and clamp modified vise grips to that area. The vise grips have rubber jaws to prevent damage to the material. One vise grip is anchored, in my case, to my packing table so it cannot move. On the end of the other vise grip, a calibrated fish-type scale is attached (see Photo 2). The scale is slowly pulled until it reaches 40 pounds, then I count to three. Next, I slowly release the pressure and remove the vise grips. I then inspect the area and stamp or write the date on it, along with the word "passed" (see Photo 3). I use a stamp to mark the area. Some riggers mark the area with a pen. Whatever method your rigger uses, the area tested must be identified with the type of test, the date the test was performed, and the results. The rigger must also annotate your packing date card, explaining the work performed.

Was I the only person having this problem? Did I do something wrong? Did I improperly clamp the modified vise grips to the material causing the problem? I brought this problem up to the members of my rigging committee and discovered other riggers had experienced the same problem. Fortunately they also had kept records, and a pattern soon became evident. When I compared the records I had kept with those of other riggers, a common denominator appeared. The notes we kept showed the age of the parachutes and the pounds or kilograms they had failed at. These findings were the reason we recommended a 20-year service life. All of these parachutes generally had one thing in common—they were all older parachutes. What became clearly apparent was all but a few of those tested, which may have had other issues, were about 25 years of age and older.

We put our heads together with the manufacturers, and most everyone agreed that we had a problem. Not all agreed on how to deal with it. Many European countries and other countries around the world already had a service life on their parachutes. They had a 15-year mandatory service life imposed on their pilot emergency parachutes by the equivalent of our FAA. They felt then, and still do, that a pilot emergency parachute should be removed from service in 15 years. Remember, this includes the harness and container also.

My committee and the Parachute Industry Association's technical committee felt removing a parachute after 15 years was on the low side and 25 years was on the high side. Based on our findings, we then came up with and recommended a 20-year service life on the parachute and the harness/container holding it. The vast majority of professional riggers agreed and will not go beyond this, even though the FAA feels a rigger can determine the serviceability of a parachute. Remember the areas that typically fail often look like new and may be invisible to the naked eye. Riggers doing pull tests may have missed the defective areas by a few inches. This could give you a false sense of security that your 25-year or older parachute is in airworthy condition. I'll be the first to say that it probably is, but I'm not that kind of a gambler. Are you? The 20-year service life is a good number—something that you and I can live with.

The parachute industry now has a new technical standard (TS-108) for doing pull tests. Material has changed for the better over the years, and each manufacturer now sets its own pull-test requirements based on the material used in the construction of its parachutes. The procedures for doing the tests are the same, but the manufacturers may want the person performing them to use 30 pounds, not 40. The

manufacturers now prescribe what they feel is best for their product. However, no matter how careful you are with your parachute, or how good the material appears, over time it will weaken. The care or lack of care you give your parachute may speed the aging process. I consider UV exposure the worst of the problems. Try to keep your parachute out of the sun as much as possible.

If there is a problem with your geriatric parachute and it fails when you need it the most—causing serious injury or death—lawyers will smell the blood a mile away and will have a field day, especially with all the information that is available today.

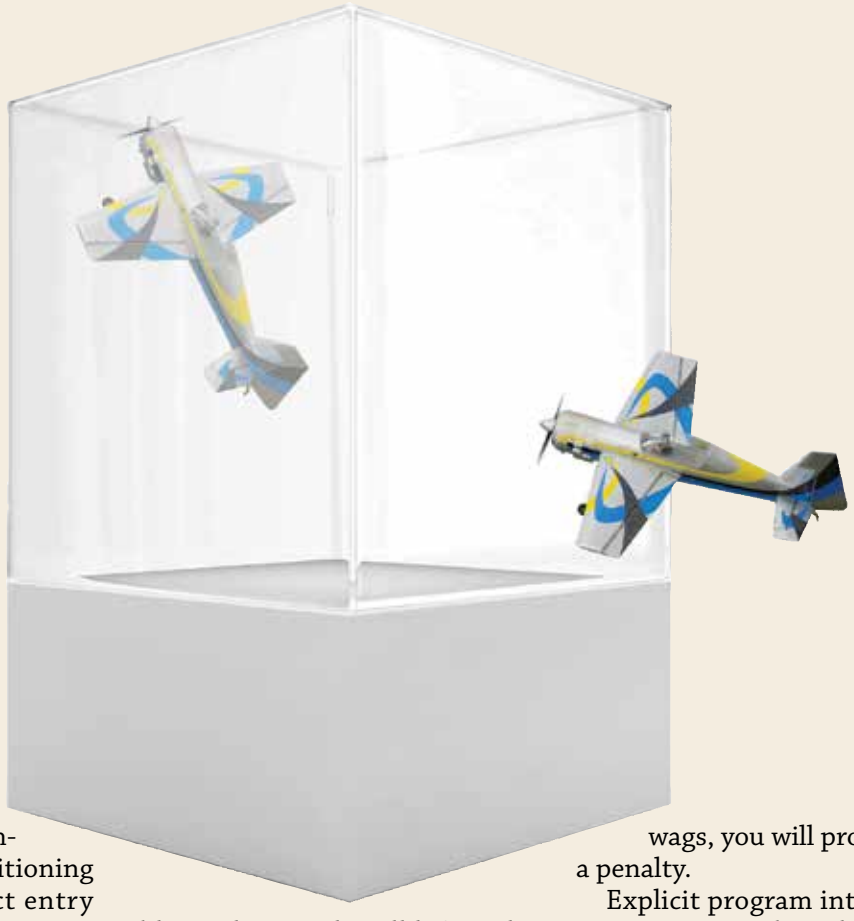
When I receive an old parachute and refuse to service it, I always explain to my customer that it's still legal to have it packed, no matter what its age, if you can find someone to pack it, but I won't. Unlike other countries, we do not have laws carved in stone that govern the service life of a pilot emergency parachute. It's left up to you and your rigger. All I can say is, "I wouldn't want to be standing under you after you've pulled your rip cord."

Before I service a parachute and before it leaves my shop I ask myself this question: Would I put that parachute on my back and jump with it? If I'm not willing to do that, then it won't get packed by me. I encourage you to make sure your rigger would also be willing to do that. *IAC*

Getting In and Out of the Box

Doing it safely

BY CHARLIE HARRISON,
IAC 12614



Entering the box for competition involves both positioning the aircraft for the perfect entry position plus signaling intent to start a sequence, which is covered by the several parts of rule 4.16. The prescribed maneuver is three distinct wing wags, achieving at least a 45-degree bank, and, most importantly, they must be *seen* by the chief judge. A competitor who is capable of performing a competition turn, which requires rolling to a 60-degree bank minimum on constant heading, has the skills to smartly roll to 45 degrees, pause perceptibly at that bank angle, and roll back wings level. Repeat twice more, in the same direction, for a silent "10" from the chief judge, if he or she sees it. It is also acceptable to alternately roll left with a slight pause, roll smoothly through wings level to the right, pause, and roll back left, pause (or vice versa), and finish wings level. Ideally, the plane now should be perfectly positioned to start Figure 1. Consider the wing wags as Figure 0 in your sequence. Incorporate a proper signal into your practice sessions. Do all three wing wags on a horizontal, climbing, or descending flight path, either inside or outside the aerobatic box. If the first figure starts inverted, the pilot must signal inverted. One last time, if the aircraft is so far away that the chief judge doesn't see the wing wags, you will probably incur a penalty.

Explicit program interruptions, per 4.16.2, must be indicated by the prescribed signal and usually involve exiting the box. If the aircraft has finished a figure, by achieving wings-level horizontal flight, prior to crossing the boundary judge's sighting line, there is no boundary penalty for that figure, whether the signal is initiated inside or outside the box. The pilot may fly through the box to reposition for restarting the sequence. Intent to resume the program must be signaled.

Exiting the box, at the end of the sequence, may be in any direction. Altitude is not prescribed by the Red Book. One common suggestion is to exit over the judges. Another is

to exit directly to join the downwind of the traffic pattern. The latter provides little opportunity for competitors and nonparticipants on the downwind to see and avoid. This lack of standardization resulted in an alarmingly close call between a glider and a powered plane at a recent Nationals contest. A conference with Col. Matticola, commander of the Air Force Academy team, resulted in two strongly implied recommendations.

First, prior to entering the box and in order to provide positive separation between gliders and powered aircraft, gliders would climb to altitude and hold under tow, in a racetrack pattern, no closer than half a mile to the side of the box opposite the powered holding area while powered aircraft would not fly beyond that line. The restriction would automatically terminate when that competitor was cleared into the box.

Second, at the conclusion of the sequence, while the aircraft is within whatever protection provided by the box, maneuver to depart the box upwind (traffic pattern upwind, not official wind direction upwind), near the centerline of the X-axis, at or climbing/descending to pattern altitude. At towered airports, like the Nationals, the controllers know what to expect, and there is time to establish communications. At nontowered fields, there is an opportunity, while maneuvering, to observe any departing planes and then negotiate separation from traffic on or entering the downwind. IAC

MIKE HEUER

COMMENTARY / continued from page 3

both judging positions can be ready to go without the teardown and reassembly of equipment we have had to do in the past. This will make for faster transitions from one side of the airport to the other and no delays in flying. Participation at Nationals has been so strong recently that every minute of the day we can use for flying is crucial. Weather delays can do great damage to the schedule, and so we must do everything we can to not waste a minute of good flying weather. Other amenities are planned or will be improved.

AirVenture this year will feature IAC's exhibition honoring the 70th anniversary of the test flight of the Pitts Special. I am delighted to announce that as of late April, we met our goal of pre-registering 70 Pitts airplanes, and my thanks to everyone who has made the commitment to come to Oshkosh and honor the designer of this iconic airplane, Curtis Pitts, and the many models of Pitts that are out there. It will be colorful and exciting, and a beautiful exhibit will be presented in the IAC Pavilion.

Finally, there is our new brand with logos and a new "premium line" of merchandise we will offer at AirVenture, the U.S. Nationals, and through mail order. Our image is important, and wearing IAC colors and apparel you can be proud of is important to the organization and will be noticed by others. If you plan to come to AirVenture or Nationals, be sure to leave room in your luggage for our new line of clothing and other cool items.

See you in Oshkosh and Texas. IAC

ASK MIKE

Call or write at any time. My home number is (901) 850-1301. E-mail *mike@mheuer.com*

***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.

Best Box in Texas (South Central)
Thursday, July 9 – Sunday, July 12, 2015
Practice/Registration: Thursday, July 9
Rain/Weather: Sunday, July 12
Power: Primary through Unlimited
Location: Jackson County Airport (26R): Edna, TX
Region: South Central
Contest Director: Doug Jenkins
Phone: 210-485-8025
E-Mail: *bagsf15@yahoo.com*
Website: *http://www.iac127.eaachapter.org/*

ACE's High Spring / Summer Opener (South Central)
Saturday, July 11 – Saturday, July 11, 2015
Practice/Registration: Friday, July 10
Rain/Weather: Sunday, July 12
Power Categories: Primary Sportsman
Location: Newton City County Airport (EWK): Newton, KS
Region: South Central
Contest Director: Mark Wood
Phone: 602-361-3504
E-Mail: *Mark@dreamcatcheraviation.com*

Michigan Aerobatic Open (Mid-America)
Saturday, July 11 – Sunday, July 12, 2015
Practice/Registration: Friday, July 10
Power: Primary through Unlimited
Location: James Clements (3cm): Bay City, MI
Region: Mid-America
Contest Director: Brian Roodvoets
Phone: 810-667-0642
E-Mail: *redfoot@chartermi.net*
Website: *http://www.iac88.eaachapter.org/*

The Bluegrass Open (Mid-America)
Saturday, July 11 – Sunday, July 12, 2015
Practice/Registration: Friday, July 10
Power: Primary through Unlimited
Location: Hopkinsville-Christian County Airport (HVC): Hopkinsville, KY
Region: Mid-America
Contest Director: Wade Ayala
Phone: 1-270-350-0142
E-Mail: *ayala160@bellsouth.net*
Website: *www.iac27.org*

Green Mountain Aerobatics Contest (GMAC) (Northeast)
Friday, July 17 – Sunday, July 19, 2015
Practice/Registration: Thursday, July 16 – Friday, July 17
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Hartness State Airport (VSF): Springfield, VT
Region: Northeast
Contest Director: Bill Gordon
Phone: 802-585-0366
E-Mail: *wsgordon@earthlink.net*
Website: *www.iac35.aerobaticsweb.org*

Cut Bank – Rocky Mountain Can/Am (Northwest)
Friday, July 17 – Saturday, July 18, 2015
Practice/Registration: Wednesday, July 15 – Thursday, July 16
Power: Primary through Unlimited
Location: Cut Bank International Airport (CTB): Cut Bank, MT
Region: Northwest
Contest Director: Robert Harris
Phone: 503-550-1496
E-Mail: *flyhran@aol.com*

Beaver State Regional (Northwest)
Friday, August 14 – Saturday, August 15, 2015
Practice/Registration: Wednesday, August 12 – Thursday, August 13
Power: Primary through Unlimited
Location: Pendletion Regional Airport (PDT): Pendleton, OR
Region: Northwest
Contest Director: Christopher Branson
Phone: 503-803-7167
E-Mail: *christopher.branson@comcast.net*
Website: *http://www.iac77.eaachapter.org/*

2015 Canadian National Aerobatic Championship (Mid-America)
Saturday, August 15 – Sunday, August 16, 2015
Practice/Registration: Friday, August 14
Power: Primary through Unlimited
Location: Saugeen Municipal Airport (CYHS): Hanover, Ontario
Region: Mid-America
Contest Director: Phil Englishman
Phone: 519-377-3777
E-Mail: *mickeyd@wightman.ca*
Website: *aerobaticscanadachapter3.blogspot.ca*

Doug Yost Challenge (Mid-America)
Saturday, August 15 – Tuesday, August 16, 2016
Practice/Registration: Thursday, August 13 – Friday, August 14
Power: Primary through Unlimited
Location: Spencer Municipal Airport (SPW): Spencer, IA
Region: Mid-America
Contest Director: Justin Hickson (Temporary)
Phone: 651-338-3345
E-Mail: *jhisbatman@yahoo.com*
Website: *www.iac78.org*

The Bill Thomas U.S.-Canada Aerobatic Challenge (Northeast)
Saturday, August 22 – Sunday, August 23, 2015
Practice/Registration: Thursday, August 20 – Friday, August 21
Power: Primary through Unlimited
Location: Olean Municipal Airport (KOLE): Olean,NY
Region: Northeast
Contest Director: Pat Barrett
Phone: 716-361-7888
E-Mail: *cbpbmb@aol.com*
Website: *IAC126.blogspot.com*

Harold Neumann Barnstormer (South Central)
Saturday, August 29 – Sunday, August 30, 2015
Practice/Registration: Friday, August 28 – Saturday, August 29
Power: Primary through Unlimited
Location: New Century Aircenter (IXD): Olathe, KS
Region: South Central
Contest Director: John Wittenborn
Phone: 913-782-6442
E-Mail: *Chiller_52@yahoo.com*
Website: *www.iac15.org*

Rebel Regional Aerobatic Contest (Southeast)
Friday, September 4 – Saturday, September 5, 2015
Practice/Registration: Thursday, September 3
Rain/Weather: Sunday, September 6
Power: Primary through Unlimited
Location: Everett-Stewart Regional Airport (UCY): Union City, TN
Region: Southeast
Contest Director: Michael Tipton
Phone: 573-922-9600
E-Mail: *michael.tipton@hotmail.com*
Website: *www.iac27.org*

Happiness Is Delano (Southwest)
Saturday, September 5 – Sunday, September 6, 2015
Practice/Registration: Friday, September 4
Rain/Weather: Monday, September 7
Power: Primary through Unlimited
Location: Delano Airport (DLO): Delano, CA
Region: Southwest
Contest Director: Steve De La Cruz
Phone: 760-963-6426
E-Mail: *DelanoCD@iacChapter26.org*
Website: *IACChapter26.org*

Hill Country Hammerfest (South Central)
Saturday, September 5 – Sunday, September 6, 2015
Practice/Registration: Friday, September 4
Power: Primary through Unlimited
Location: Llano Municipal (AQO): Llano, TX
Region: South Central
Contest Director: Jeffery Poehlmann (acting)
Phone: 512-423-5333
E-Mail: *jeffery@texas.net*
Website: *www.iac107.org*

Apple Turnover (Northwest)
Friday, September 11 – Saturday, September 12, 2015
Practice/Registration: Wednesday, Sept 9 – Thursday, Sept 10
Power: Primary through Unlimited
Location: Ephrata Municipal Airport (EPH): Ephrata, WA
Region: Northwest
Contest Director: Jerry Riedinger
Phone: 425-985-9469
E-Mail: *jriedinger@perkinscoie.com*

East Coast Aerobatic Contest (Northeast)
Friday, September 11 – Sunday, September 13, 2015
Practice/Registration: Thursday, Sept 10 – Friday, Sept 11
Power: Primary through Unlimited
Location: Warrenton Fauquier Airport (KHWY): Warrenton, VA
Region: Northeast
Contest Director: Krysta Paradis
Phone: 925-878-9830
E-Mail: *krysta.paradis@gmail.com*

Rocky Mountain Invitational Aerobatic Contest (South Central)
Saturday, September 12 – Sunday, September 13, 2015
Practice/Registration: Friday, Sept 11
Gliders Categories: Sportsman Intermediate
Power: Primary through Unlimited
Location: Lamar Municipal Airport (KLAA): Lamar, CO
Region: South Central
Contest Director: Jamie S. Treat
Phone: 303-304-7937
E-Mail: *jamietreat@q.com*
Website: *WWW.IAC5.org*

BY GARY DEBAUN, IAC #4145

STAN BURKS

IAC 16903
Occupation: Chief Pilot, Mississippi Forestry Commission; DPE; President, Burks Aviation Inc.
Chapter Affiliation: 3, 24, 27
Age: 49
E-mail: *N5ue@aol.com*

GD: Standard first question, Stan; how did you become involved in competition aerobatics?

SB: I saw my first Pitts Special when I was 6 years old, and I was hooked then. My singular goal in aviation has been to fly competitive aerobatics. A whole bunch of things got in the way before I could get started.

GD: I love your airplane, Stan; tell us about it.

SB: I am lucky to be flying N105DR, the prototype One Design. Much like the Pitts, when I first saw it I fell in love. It is a wonderful flying aircraft.

GD: When and where was your first contest, and how did you do?

SB: My first contest was Grenada, Mississippi, in 2011. I flew Primary and finished second behind Giles Henderson.

GD: You came to the Nationals for the first time last year; how was that experience?

SB: I really enjoyed the Nationals. It is slower-paced than regional contests, which gives you time to get into the zone. I really enjoyed meeting and talking with people I idolized over the years.

GD: You've been flying in Sportsman for some time now. Do you plan on moving up anytime in the future?

SB: Actually, I moved up to Intermediate last year. I plan on moving up to Advanced next year.

GD: What's your opinion of contest banquets, and what is your favorite banquet food?

SB: I love the banquets. It is fun to rehash the contest with fellow competitors. I really enjoy a good steak.

GD: If you could change anything about the IAC, what would it be?

SB: It would have to be the upward spiral of equipment cost. I think the cost to compete is a major impediment to our sport.

GD: Do you have any specific goals in the sport?

SB: Yes, win a national title and make a national team. One flight with all 10s!

GD: What is your favorite contest and why?

SB: I really enjoy the Grenada contest; it's home for me.

GD: Do you have any other interests or hobbies outside of aerobatics?

SB: Yes, I am big into amateur radio contests and DX-ing. I also enjoy hunting the elusive Mississippi turkey.

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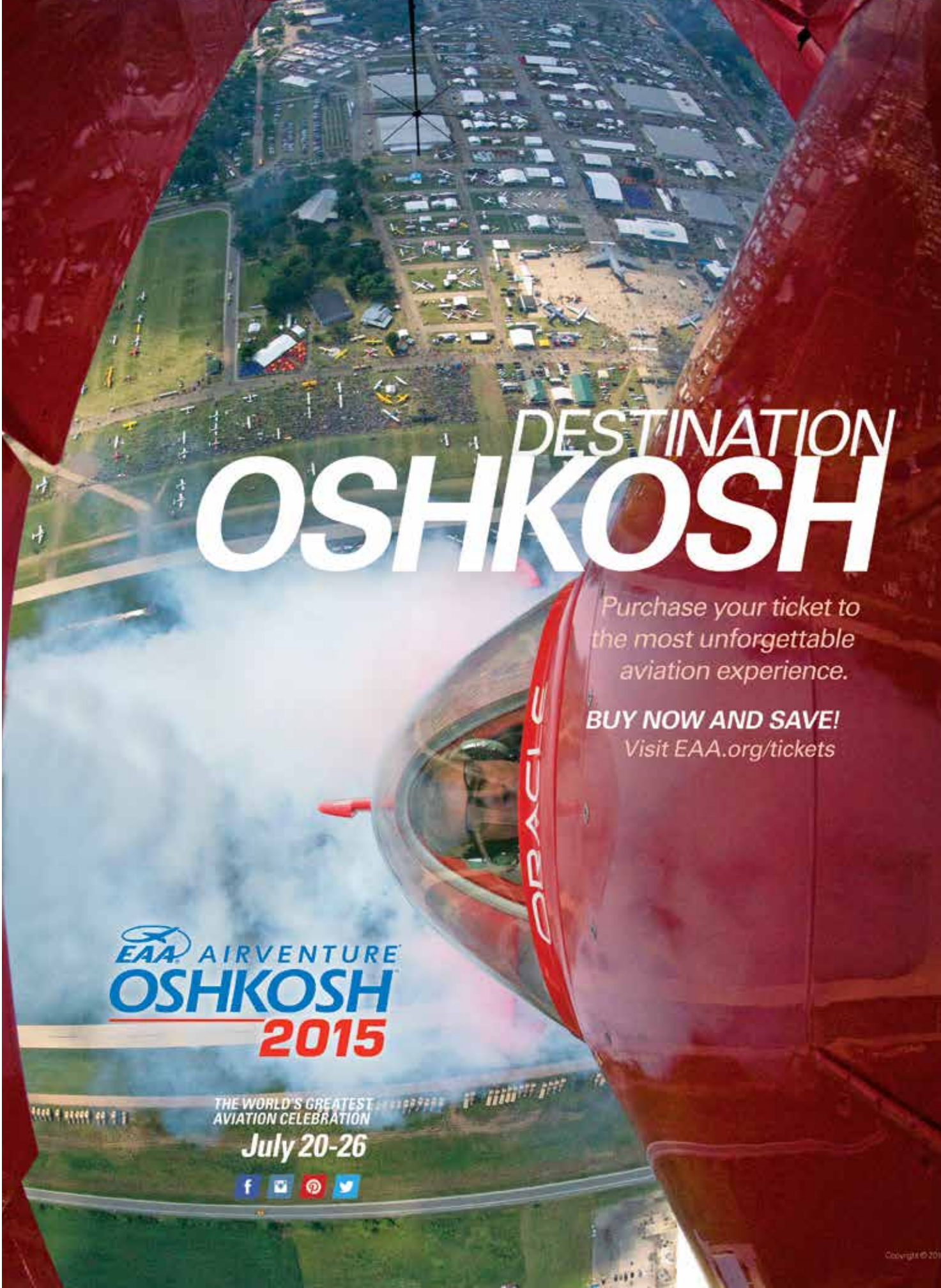
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