
SPORT
Aerobatics
March 2015
OFFICIAL MAGAZI ERNATIONAL AEROBATIC CLUB
IAC
INTERNATIONAL AEROBATIC CLUB
EAA
•Coast to Coast in a Pitts
•Perfect Maneuvers
•Trip of a Lifetime
Year of the
Pitts
AirVenture 2015

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SPORT Aerobatics

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Under the assumption that one didn't merely hop into the seat of a Pitts without something in between, but, with a confident, yet simple, response, "Of course. That's just fine," came back to me.

—Brennon York

FEATURES

DEPARTMENTS

THE COVER

Mark, a new Christen Eagle owner with an amazing story, needed photos taken for an upcoming EAA article. I asked him if he would like four Pitts to join his flight to make it more interesting. The answer was an enthusiastic yes! After careful planning we departed Georgetown, Texas as a 6-ship. I was very pleased to successfully direct and photograph this formation of Jack Stovall, John Harlan, Aaron Taylor, Andrew Wright flying Mark Ciaglia, and Simon Diver into perfect symmetry. David Zavaleta flew lead in the photoship. Models are as follows: #1: S-1S, #2: S-1S, #3: S-1S, #4: Christen Eagle, #5: S-2A. Photographed by Glenn Watson—*www.machpointoneaviation.com*.

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PUBLISHER: Mike Heuer

IAC MANAGER: Trish Deimer-Steineke

EDITOR: Reggie Paulk

CONTRIBUTING AUTHORS:
Jim Bourke
Budd Davisson
Doug McConnell
Mike Heuer
Allen Silver
Dave Watson
Brennon York

IAC CORRESPONDENCE
International Aerobatic Club, P.O. Box 3086
Oshkosh, WI 54903-3086
Tel: 920.426.6574 • **Fax:** 920.426.6579
E-mail: *reggie.paulk@gmail.com*

ADVERTISING
Vice President of Business Development:
Dave Chaimson *dchaimson@eaa.org*

Advertising Manager:
Sue Anderson *sanderson@eaa.org*

Business Relationship Manager:
Larry Phillip *lphillip@eaa.org*

MAILING: Change of address, lost or damaged magazines, back issues.

EAA-IAC Membership Services
Tel: 800.843.3612 **Fax:** 920.426.6761
E-mail: *membership@eaa.org*

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DOUG McCONNELL
COMMENTARY / **IAC VICE PRESIDENT**

Good News!

YES, IT'S REALLY NICE TO HAVE some good news to share! Our good news is that the International Aerobatic Club's total membership is once again enjoying steady growth! Here's hoping that we all go out of our way to offer a big welcome to these new members and to help guide them into the many IAC chapter activities and special events planned for 2015! It's going to be a great year!

The membership equation: Chapter involvement (meeting new friends) creates exciting new experiences, which bring real personal enjoyment, resulting in positive member retention and overall IAC growth! Hey, it's working!

For those who have not been monitoring this situation, several recent factors (such as a rise in the costs of aviation equipment and supplies, along with the recent recession) have caused the IAC to slowly lose some members. But now, with the recession over and the price of gas at a recent historical low, sport aviation activity and interest are booming once again! As an example, the attendance during last summer's EAA AirVenture Oshkosh was huge…maybe an all-time record setter! And this year is shaping up to be as strong as any in the past!

You may recognize the IAC Wings shown above. These wings (with our prior logo*) were introduced two years ago as a way to say thank you to current IAC members who bring in a new member. This program is still ongoing, and the revitalized sport aviation activity of 2015 will be a good year to earn your very own set of these IAC Wings. All you have to do is get a friend to give us a try!

But (as they say on TV), there's more! You also receive 50 percent off your own IAC membership! These wings were introduced as "IAC Takes Flight" to signify how every member can make a significant contribution to IAC's growth (Flight) by getting a new member. And this can happen every year if you wish—not another set of wings but even better, another 50 percent discount! Just think, if every member would get a friend to join the IAC, our organization would double in size in a very short time!

Here's a chance to earn your wings, even if you're not a pilot. We all know how hard Clarence had to work to earn his wings in the film "It's A Wonderful Life," but for us it's easy; just get a friend to give the IAC a try! Remember, a new member also gets a 50 percent discount during the first year, so the amount of selling you need to do is really minimized!

With sport aviation back on the rise, now is the time to "make the ask"! Your beautiful IAC Wings (and your 50 percent discount) will be a wonderful reminder of how you made a significant contribution toward rebuilding the IAC and assuring its future. Good luck and good flying!

*Please note: Once our limited stock of (collector item) wings featuring our past logo is exhausted, the new logo (shown above) will automatically ship. IAC

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

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

The Pitts

Last month, I wrote about the things that happen to us in life, how they change our course, and how deeply they affect us, though we often don't realize it at the time. I talked about that first aerobatic ride—my own experience but also what I thought it meant to all of us. The memory of that first time upside down, seeing the world from a totally different view, and experiencing *g*-forces remain indelibly fixed in my memory.

There are not only events in our lives which affect our future but also specific aircraft. In 2015, we will celebrate the 70th anniversary of the first flight of the prototype Pitts Special. Curtis Pitts' logbook shows that test flight occurred on August 28, 1945. I am not sure Curtis realized what an effect that airplane would have throughout the world.

It was in the hands of champion pilot Betty Skelton that the airplane first became famous. Her "Little Stinker" N22E resides in the Smithsonian today. Other women pilots like Joyce Case and Caro Bayley flew other variations of the Pitts in airshows and competitions in the 1950s and 1960s. When Curtis introduced plans for the Pitts S-1C in the early 1960s, the sport aviation world was set on fire. Plans were $100 and the airplanes began sprouting up all over the country. In those early years, some parts and pieces were available from Pitts Aviation Enterprises in Homestead, Florida, which aided many of us in building our own airplanes.

The Pitts S-2 was first flown in the late 1960s, was later certified, and then put into production. Back then, they were about $20,000. Along with the Champion Citabria ("airbatic" spelled backward), this was the dawn of a new day in sport aerobatics in the USA—two factory-production aircraft were now available to serve as trainers and pilots could build a world-class aerobatic airplane in their shops. Up until then, pilots had to be content with modified antique or military airplanes.

Bob Herendeen proved that the airplane was also a serious contender on the world competition scene when he took it to the WAC in 1996 in Moscow and placed 26th. Our friends in Europe thought it was a toy. In 1968, Bob returned to WAC with his new Pitts S-1S, N266Y, which sported the new symmetrical airfoil that Curtis had developed and which really revolutionized the airplane. Bob would likely have been World Champion in 1970 had it not been for a dose of contaminated fuel which caused his engine to quit during a spin. In those days, rules for mechanical failures were much different and on his re-fly, Bob was not scored on this figure. The rules were later changed due to this injustice.

In subsequent years, a host of Pitts models were introduced—in factory versions as well as kits and parts. Today, the Pitts lives on with the S-2C the latest production model available from the factory in Afton, Wyoming. Today it is Aviat Aircraft owned by Stu Horn—a consistent supporter of IAC and sport aerobatics. The "Husky" is now the bulk of the production in Afton.

IAC enters its 45th year in 2015—and Pitts models will probably be on the ramp at every IAC-sanctioned contest this year. Without it, as well as the Citabria, we would not exist in the form we do today and for this, we owe Curtis Pitts and his beautiful inventions a debt of gratitude. We will celebrate this special anniversary at EAA AirVenture this year in Oshkosh. IAC plans a special display of selected Pitts models as well as an exhibit inside the IAC Pavilion. Seminars, forums, and informal discussions are also on the agenda. It will be a great time to share our wonderful experiences with this very special airplane.

Incidentally, my own first flight in a Pitts was in an S-1S. It was N11D, owned by Bill Dodd. That flight took place in Okeechobee, Florida, on January 9, 1969. My father and I were on the way back from Curtis' place in Homestead with a new set of S-1S wings strapped to our truck. We would complete N442X that spring. Bill offered me the chance to fly the airplane—why he trusted me with his brand-new S-1S is something I still don't understand—but like that first aerobatic flight, it was 30 minutes in the air I will never forget. I had never enjoyed an airplane as much as that one. We went home to Illinois and worked tirelessly to get our own Pitts in the air, motivated by those flights which could not have been more effective in getting us to spend the hours necessary to finish an airplane only five months later. I went on to fly N442X in Advanced that year. The airplane now rests in the atrium of the EAA Museum in Oshkosh.

More information will be provided soon and we invite all IAC members who are Pitts owners to attend AirVenture this year and mark this anniversary. See you there! *IAC*

ASK MIKE

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

The Year of the Pitts:

AirVenture 2015

BE THERE!

by Budd Davisson

Right up Front: If you own a Pitts of any variety, homebuilt or otherwise, or if you just love the breed, AirVenture 2015 is the place to be, July 20-26. It's going to be a monster gathering of the bi-wing *g*-pullers, and you don't want friends to come home saying "Man, you should have been there!"

It's hard to believe it has been 70 years since Curtis Pitts took to the air with his very first "Special." In the time since, his diminutive little acrobat has carved out a legend equaled by none. And this year the EAA/IAC is celebrating that anniversary by dedicating a portion of the Oshkosh grounds and the activities to the man and the wonderful machine he gave us.

As of this writing, plans are rapidly coming together, but the most important thing is to get the word out. If you're reading this and you know someone who owns a Pitts, make sure he/she knows that a gathering of the Pitts faithful will be happening in Oshkosh. Regardless of what else is planned, the basic ingredient for it all will be that special breed of aviator known as "Pitts Pilot," a moniker we all wear proudly, and his airplane. We're hoping to see at least 70 of our favorite birds parked in a designated area near the IAC building. Can you imagine how cool that's going to look?

Among the activities planned is a rebuilding of part of the interior of the IAC building to house a Pitts museum that will reach back and remind us where American aerobatics got its serious post-war start. In addition, a sizeable amount of Pitts merchandise is going to be on display. An exhibit in front of the building will feature several different models of Pitts aircraft, going back to their birth. There's even talk of pulling the replica of the No. 1 Pitts out of the museum to start the line-up off.

Forums will be ongoing in the IAC area that will delve into all areas of the airplane and the aerobatics for which it is known. Although the subjects are still being formulated and presenters are being sought, they will include, but not be limited to, such things as,

-The right Pitts for you: explaining the various models
-Maintenance: problem areas and how to address them
-Pitts and spins
- The Pitts landing myth: Anyone can do it…no…really!
-Pitts Modifications: the good, the bad, the ugly
-Pitts partnerships: the dos and don'ts.
-On buying a used Pitts
-Single-hole vs two-place
-Scratch building a Pitts: where to start and what to expect.
-Curtis Pitts: an original—remembering the man

If you have a Pitts subject you'd like to speak about, let us know.

The IAC always has an annual dinner as part of the convention, but this year a special invitation is going out to those who arrive via Pitts. Plus, it's going to be inevitable that, as Pitts pilots gather around the IAC building, we're going to gravitate to the closest hamburger to continue discussing our favorite little airplane.

And then there will be the air show. Although the exact performer list is still literally up in the air, it can be assumed that we'll be seeing every variation of Pitts we can imagine doing what it does best, being flown by the best.

The best part of the gathering will be the opportunity for the sport aviation world to soak in the aura generated by what will be the largest number of Pitts ever assembled in one place. With so many Pitts pilots in one place, lots of hand-maneuvers will be flown and anyone seeking information about the famous little airplane will find it in abundance.

Pass the word: Oshkosh will be temporarily converted to Pittsburg (or is it Pittsville?) for the week. Be there!

There will be space for only 70 Pitts. To register or if you like more information about this event, please contact Andrew Ovans at EAA headquarter: *aovans@eaa.org*

IAC

Conrad "Casey" Kay

by Don Taylor
IAC 3

The IAC has recently learned of the death of Conrad "Casey" Kay, retired American Airlines captain and early IAC member. Casey was killed in March 2014 when he was struck by a car while riding his bicycle late at night in Arlington, Texas. Neither the driver nor Casey were able to see each other when the accident happened. Casey was born in Santa Fe and raised in Taos, New Mexico. He attended the New Mexico Military Institute and was accepted for the first class at the USAF Academy, beginning classes at Lowry field in Denver and graduating in 1959 at Colorado Springs. He was a gymnast and expert unicycle rider as well as an aerobatic pilot.

After Air Force pilot training, Casey did a tour as an instructor pilot (IP) for the Vietnamese air force, but soon after his return to the States was hired by American Airlines.

Casey was instrumental in forming IAC Chapter 24 in Arlington, Texas, and was an early customer for one of the Curtis Pitts S-1S biplanes, built in Homestead, Florida, which he flew in Unlimited competition. The Lone Star Aerobatic Contest was his idea, and many of us flew in the early contests. Casey later became part of the announcing team for EAA Oshkosh air show performers. In 1976, Casey was chosen as assistant judge for the U.S. Aerobatic Team that would compete in Kiev, USSR. I was the U.S. judge.

This was the first World Aerobatic Championships (WAC) for the U.S. Aerobatic Team to compete under the IAC banner. The World Aerobatic Championships in Salon de Provence, France, in 1972 was won by the United States, with Charlie Hillard and Mary Gaffney as world champions. Everyone assumed the United States would then host a championship in 1974, but the United States was not able to organize a team, much less a championship, so there was no WAC contest in 1974. The FAI, through CIVA, awarded the 1976 event to the USSR, and Kiev, Ukraine, was the venue.

The story of the 1976 team has recently been well-documented in *Sport Aviation* magazine, but that great adventure is missing one piece in which Casey Kay played a part.

The 1976 contest at "Chaika" airfield, just west of Kiev, had completed the Known program. The judges were gathered in their meeting room to prepare for the Freestyle program. The chief judge announced we must draw lots, as there were 12 qualified judging teams and only 10 active judging slots. Twelve cards were placed face down on a table. I drew one of the 10 active cards. Vasilli, the Soviet judge, did not. Yuri Tarasov, the Soviet chief judge said that was a problem. We would have to draw again as we had not used the Cyrillic alphabet. Casey and I looked at each other and said, "No we don't," and we refused. The contest ground to a halt.

Gen. Koss (contest chairman and USSR CIVA delegate) was called in (I was U.S. CIVA delegate and knew Gen. Koss well from FAI-CIVA meetings at the Aero Club in Paris). After about an hour of discussion, it was announced competition flying would resume. We resumed our stations on the judging line.

We flew and judged one flight program. All the judging sheets were collected by the Soviet score runner, and we waited. Another flight was flown. We waited again. It was now apparent that each flight's judging was being evaluated. The U.K. judge, John Blake, was warned he was outside the "norm." We continued with one flight every 20 minutes for another hour, and then it was announced that the U.K. judge had been "out of the norm," and he was removed from the judging line. Vasilli, who had been sitting behind the judging line waiting, moved into the British slot.

The contest resumed with the Soviet judge now in place. After each flight, the scores were collected and brought to Vasilli's table where he examined them and then entered his scores. The rest of the contest continued with the same process for each flight.

Casey and I had a moral victory, but the Soviet team won all the medals and the world championships. We sure got tired of their national anthem before we left.

Casey Kay was a fine pilot, a great asset to the IAC in its early days, and a wonderful friend and companion. He is survived by wife, Rosalind; two lovely daughters, Jennifer and Rachel; and two fine grandsons, Jonathan and David. I will miss him very much and will always remember our great adventure together in Kiev. Rest well my friend . . . IAC

Coast to Coast in a Pitts

Flying cross-country in an S-2C

ARTICLE AND PHOTOS BY BRENNON YORK

One fateful Saturday afternoon, I stumbled upon a GoPro video of Kirby Chambliss and his Edge 540 looping and rolling across, what I believe, was the Arizona desert. Little did I realize that the feeling that video evoked in me would set my life on a course that would end in my flying my very own aerobatic aircraft across the country from Annapolis, Maryland (KANP) to San Francisco, California (KOAK).

After watching that video, it was the first moment I realized I needed to conquer something I had been excited about but putting off for years: becoming an aerobatic pilot. Not knowing where to begin other than the option of going up on a "discovery flight," I began my Google search there. Fast-forward two weeks and I not only completed my discovery flight but also signed up for flight lessons with the goal of a private pilot certificate at Gaithersburg (KGAI). Step one to becoming an aerobatic pilot.

With only a few sessions left be-

fore my final checkride, I began doing my due diligence to find an aerobatic instructor. I knew from my previous flight school that my piloting ability would only grow as far and fast as the compatibility between the instructor and me, so I took to hunting through the IAC listings of all aerobatic instructors in the Maryland area. There weren't too many. I checked out their respective websites, ran some Google searches, and did all the normal things someone of my 27 years of age would do.

Then I re-evaluated my criteria and began looking at the merits of the instructor. One stuck out in Annapolis (KANP), and not listing any information other than a contact number, I gave him a call recounting the short story of my piloting career and what my goals were. I remember saying, "I've never flown tailwheel, any other aerobatic plane, or, really, anything other than a Cessna 172. Is that okay?"

Under the assumption that one didn't merely hop into the seat of a Pitts without something in between but, with a confident, yet simple, response, "Of course. That's just fine," came back to me. A few weeks following that call, I finished up my checkride, received my PPC, and got on the schedule to fly the Pitts for the first time. Step two to becoming an aerobatic pilot.

The Pitts and I visiting the museum.

Green grass, short runways, and friendly people. What more could you ask for as a pilot?

Flying into icing conditions for the first time is something no one can prepare you for.

Months upon months of training went by, and at some point, I realized that it wasn't going to continue being economically feasible to fly with my instructor and that, if I were serious about this, I needed to honestly think about purchasing my first aircraft. Given I had only flown the Pitts, and that my instructor was also keen on them, it came to be that I thought a Pitts would be the perfect fit. Working with my instructor, scouring *Trade-A-Plane* and Barnstormers, following e-mails and forums, I did everything I could to find something. Nothing was available. I soon realized I might not be able to get a Pitts any time soon and would need to wait until something came on the market. The only other option would be to buy new, and that was just too expensive to be reasonable.

Doubt started to creep in at this point as well as whether I actually should be spending this amount of money on something like this. Most people my age and in my position would look at buying houses, investing, or starting a company. Then my instructor introduced me to some of the other Pitts pilots at Lee. I was discussing my thoughts on a purchase with them, and they all came back with roughly the same response. The Pitts isn't about a dollar amount, it's about a feeling you get when you're flying it. The money would work itself out. Deep down I knew I felt that too, but it took their words for me to realize it.

Then, one fateful day, my instructor called and asked, "What's your top dollar on an aircraft?" I gave him my number, and he said, "Well, I might've found you a plane. And it's here at Lee." I was astonished. The following weekend I went back to Lee and met N252PS.

Covered in flames, this was honestly one of the most unique Pitts I'd ever seen. Not only that, after talking to the owner, it had a unique history as it was the first Pitts S2-C ever built by the factory. I was sold. Months went by as I looked for someone to finance and insure a pilot with the qualifications I had, which wasn't much. Finally everything came into place in August of 2014, and I became the proud owner of my first Pitts Special. Step three to becoming an aerobatic pilot.

A few months after the purchase my job provided me an offer I couldn't refuse, a paid-for relocation to San Francisco, the mecca for technology. I had to take the opportunity. There was one single outstanding item with regard to the move, though: how to get the Pitts to the West Coast. I figured there was no better time and no greater opportunity than now to fly it out myself. I decided a true cross-country flight would be in order and likely turn into a story I'd remember for the rest of my life. Other than minor cross-country trips as a student pilot, this would be the first time I was going on an actual cross-country journey. I knew, no matter what, I wasn't going to be able to prepare for what I didn't know and, at the time, what seemed like a lot.

Flight Planning

I had mapped my journey according to two general rules: One, never

fly more than 200 miles in a single leg, and two, never fly more than six hours in a single day. I received some helpful hints as far as different airports, legs, and the above guidelines from my instructor, which all together was enough to get me into Texas. From there it was up to me. I had also heard about the impending cold front that would plague a majority of the United States throughout the rest of that week and knew that proper clothing would be a necessity. I made sure to include extra layers for every portion of my body. Next came the tools. Thinking about all the common things that could break, which I honestly wasn't sure about, I chose to bring the few tools I thought would come in handy: a 3/8 ratchet, sockets, 3/8 extension, and a Phillips screwdriver.

The only portion left to overcome as far as planning was my personal comfort in the Pitts. As most Pitts pilots will tell you, they're actually never truly confident in the craft, but blissfully ecstatic to just go along for the ride. I was certainly on board for the latter, but the former was starting to give way to an artificial nervousness that I was sure I would need to shake. For this I knew there was no antidote other than to prepare the best I could and maintain confidence in my abilities. It helped to have the support of the rest of the "Pitts crew" at Lee (KANP) to help keep my mind at ease.

Day 1: January 5, 2015

- Intended Route: KANP > KDAN > KGMU > KANB
- Actual Route: KANP > KFVX > KDAN > KGMU > KANB

It's something of an auspicious day when you arrive at your local airport in a taxi with only two bags to your name under the premise of ferrying your plane across the continental United States. I'll admit the magnitude of what I was about to undergo hadn't sunk in fully. Upon arrival my first task was to make sure everything I had in the hangar was in the plane and ready to go. This included some miscellaneous parts, the pitot cover, and checking for the various ARROW components. Next, preflight the plane and "install" the two bags I brought as my front seat passenger. Last came a final stop at the local FBO for an emergency quart of W15W-50 engine oil if the situation were to arise.

The morning was brisk and beautiful with barely a cloud in the sky. The METAR was reporting light winds from the northwest meaning a Runway 30 departure. The last run-up at KANP proved the Pitts was more than ready for this extended journey. Takeoff, working with Potomac inside the SFRA, and navigating out of GRUBY gate were the last portions of my adventure before I entered uncharted territory. Roughly halfway through my first leg after leaving GRUBY, I panicked and stopped early. Since I had never flown any version of a cross-country with the Pitts, I was not used to flying to optimize for range rather than, well, fun and was completely unsure of fuel burn rates. This slowly eased its way into my head as something I became acutely aware of.

Day 2: January 6, 2015

- Intended Route: KANB > KMEI > KMLU > KTYR > KEDC
- Actual Route: KANB > KMEI > KMLU > KTYR > KEDC

Day two was smooth sailing. Checking the weather from the D.C. area showed that I had escaped just before the cold front came through and layered the city with 4 to 6 inches of snow. Winds throughout the day were never more than 15 knots and typically running right down the centerline, which made takeoffs and landings simple. My one concern was the fuel mixture. In N252PS, all I had to measure mixture was fuel flow and exhaust gas temperature (EGT). From there it became a series of experiments with some added information from my instructor that I should never have the EGT above 1,450°F with the preference that it should be below 1,420. This was difficult at first since, as altitude and manifold pressure changed, the fuel flow and EGT would change as well. As the day went on, though, I began to get very comfortable with optimizing for range in the Pitts.

Day two was also the day where a majority of my stops were at towered fields. Some were much busier than others, and although it shouldn't be this way, the tower certainly presented a stress level I'm not usually affiliated with flying into and out of KANP. This is where preparation came in again. Knowing the ground frequencies and the taxi diagrams helped ease my ability to navigate the busier airports safely and quickly. This day built up my confidence in towered fields and alleviated the heightened stress of working with them, especially as a solo pilot in a Pitts.

This was also the day where I learned to truly harness the power of the wind and negotiate the best altitude given my associated groundspeed. Since I was constantly heading west I'd work between 4,500, 6,500, and sometimes 8,500 feet to see if, compared to indicated airspeed, my groundspeed was more or less than that. This became a constant experiment on each leg, but something fun to optimize. It certainly felt good to have a ground speed 10 knots or more higher than indicated as the overall fuel consumption diminished greatly between legs, alleviating fuel worries.

Day 3: January 7, 2015

- Intended Route: KEDC > KSJT > KPEQ > KLRU > KLSB > KCGZ
- Actual Route: KEDC > KSJT > KINK > KCNM

Day three was complete heartache. I arrived back at KEDC in the morning only to hear from the FBO

San Jose airport from the sky, an indicator that I'm finally home.

Amazing example of wind estimations given the clouds over a mountain. This was my first mountain pass!

that my Pitts had a flat tire. Coincidentally, that was the one thing I hadn't prepared for in my initial flight planning from KANP. Feeling my pulse quicken, I decided the best solution would be to ring my instructor for advice. Thankfully he picked up, helped me understand how to resolve the problem, and whether he knew it or not, calmed me down into a stable mindset. With the help of one amazing crewman, Carlos, I was able to get in touch with a gracious A&P on-site who, miraculously, had worked on various Pitts aircraft and, even more so, had a replacement tire and tube for me. From there it was as if I were watching a loved one undergo surgery, but the tire replacement went off without issue. The flat turned out to be caused by a slight leak in the tube that only soap was able to verify. Wiping the bead of sweat from my forehead, I was able to look forward to the rest of the day.

That whole event should've been a premonition for the rest of the day, but given the kindness of the FBO and the A&P at KEDC, I let things get the better of me. From there, going from KEDC, to KSJT, and to KINK, the winds continued to get stronger than I had ever flown in before. I knew the Pitts had a demonstrated crosswind landing of 20 knots and, with METARs looking like this,

KSJT 071951Z 02022G30KT 10SM BKN030 02/M06 A3072 RMK AO2 PK WND 02033/1908 SLP417 T00221056,

I could only think of my instructor's voice saying, "Just fly the airplane, you'll be fine." That wind also created insufferable light to moderate chop along the route. What was worse though was that the cold front from the north had finally caught up to me and the temperatures were dropping into the high 20s on the ground. Agnostic of all the issues temperature can cause to a plane, if you're unfamiliar with a Pitts, there isn't any heat, so, again, I was grateful for my cold weather outfit. But at this point I was starting to feel it through all the layers. Then the unexpected came.

Flying into icing conditions for the first time is something no one can prepare you for. You can't read about it in a book, nor hear stories of others' tales and assume you're ready for it. As they say, when it rains, it storms. Having flight following from KINK, I vividly remember Albuquerque Center coming on the radio with, "Two five two papa sierra, radar contact terminated." At that point I was still watching the nose and, subsequently, the front of the canopy as it was slowly being peppered with a light mist that began to freeze. Realizing I had flown into icing conditions, I instantly pulled a 180-degree turn back the way I came, dropped altitude to, hopefully, hit warmer conditions, and finally started looking for the nearest airport. I found Carlsbad (KCNM) not more than 20 nm north of my location and made a change in course to fly directly there. At that point Center came back again stating, "November two five two papa sierra, Albuquerque Center, radar contact terminated," at which time I

was able to respond in kind. I began my report of light mist and icing conditions at my last known location. Unfortunately, Center couldn't even make out my transmissions as I was likely too low to the ground with a large overcast layer hovering above me. It took a Bonanza in the area to relay my calls up to Center and back again that I had changed course and hit the freezing conditions. All that time I was now direct to Carlsbad on a reroute, but consistently losing forward visibility and constantly negotiating landing spots in every direction from my current location if it came to that.

I was able to make it to Carlsbad and, although I had limited forward visibility, was able to glide the plane down the centerline. After landing I realized how much I had learned from all the landings, takeoffs, and, overall, tailwheel training. I was completely calm and in a place where, regardless of my forward visibility, I was able to confidently land the Pitts, always negotiating its flight path given only my peripheral vision. In short, thankful.

Taxiing up to the hangars, I can report that the line crew at Carlsbad were nothing if not top-notch. They set me up in a large, heated hangar that was perfect to de-ice the plane and, after shutting down the engine, met me with the best cup of hot, black coffee I had tasted. Some days it's the simplest things in life that are appreciated the most.

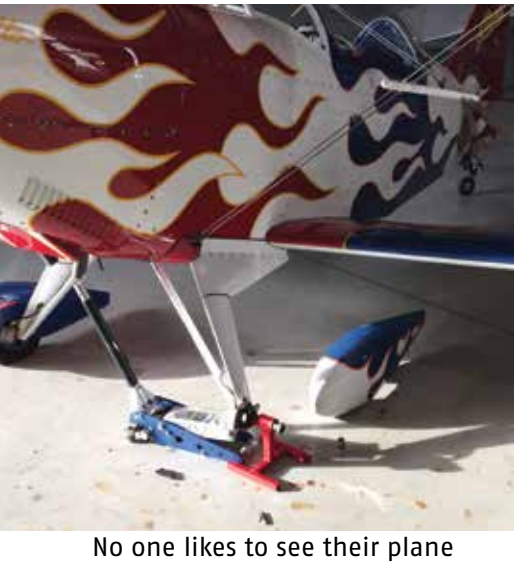
Day 4: January 8, 2015

- Intended Route: KCNM > KLRU > KLSB > KCGZ > KBLH > KBNG
- Actual Route: KCNM > KLRU > KLSB > KCGZ > KBLH > KTRM

Day four started out cold and overcast, which was reminiscent of the previous day, not helping to squelch the feelings of what had happened. Slowly the day warmed up to around 35°F and the clouds lifted to modest levels. I was able to take off without issue, call up Center—although they couldn't grab me on radar—and finally pass through the first large set of mountains. One note about mountain flying: Remember all those remarks about mountain turbulence when you received your PPC? Well, it's a thing; it's real, and remembering those bits of wisdom such as how to judge wind direction over the mountains by following the cloud patterns very much helped out.

After the first few stops, things got a little cloudier. I knew there were predominantly overcast clouds all throughout my route for the day, but everything was reporting around 2,500 feet above ground level (AGL) and, therefore, flyable. I wasn't seeing anything on any METAR regarding rain, mist,

Passing under a desolate 2500 ft. overcast layer. No airport around for miles.



No one likes to see their plane in this state during their cross-country journey.

or icing (I triple-checked this day), so went ahead with the intended route of flight. I will say, this leg of the adventure, the entire day's worth, was a veritable METAR dead zone. My predominant means of negotiating weather before the flight were the various radar, satellite, and prognostic charts that were available. This would be great if you were a larger jet, I'd assume, but not very useful for someone flying VFR at 2,000 AGL. Then the unexpected happened, again.

This time? Rain. I flew into, what I would consider, marginal visual flight rules (MVFR) conditions with moderate rain showers and around 5 miles' visibility. Again, it was something I've never flown through before, but, as with everything else on this journey, it was a learning experience. My route of flight dictated that this was the best and only possible option to stay below the cloud coverage, maintain visibility, avoid a large mountain range, and get to the next airport without running out of fuel. The great news was that I had finally passed the cold front and was sitting at what felt like 60°F under the canopy, which alleviated the possibility for icing again. Having not prepared for rain, or how the plane would react, I continued to listen to my conscience and focus on flying the plane. As it turned out, everything went fine save for some water leakage flowing in through the front of the canopy. I'm sure it comes to no one's surprise that this Pitts wasn't outfitted with weather sealant.

Day 5: January 9, 2015

- Intended Route: KTRM > KBNG > KIZA > KWVI > KOAK

- Actual Route: KTRM > KBNG > KIZA > KWVI > KOAK

This was, easily, the best day of the journey. I chose a route that would take me through a large canyon, later realizing from Approach it was called Banning Pass, and into another large portion of congested airspace: Los Angeles. By this time I was much more confident on the radio, and with flight following through the entire leg, it became such a joy to overfly the seemingly endless city. It was even more exhilarating watching 747s and other heavies taking off around me as well as seeing the various light and midsize jets.

What was most beautiful was the Santa Ynez Airport (KIZA). On a clear day with temperatures around 65°F in the cockpit and green grass all around, this airport was absolutely charming. At only 2,800 by 75 feet, the runway reminded me of Lee (KANP) and brought back my need to master the landing. I'll admit, I'd started to get a little sloppy on the landings at such large airports. A little drift to the left or right was just fine there, but at Santa Ynez that would put you in the grass. What was even better was the group of pilots sitting near the end of the runway by their hangars merely watching the planes land. For all this, Santa Ynez made me feel at home.

The only stress, and relief, came from talking to Approach navigating into Oakland. As with taking off from Lee on a journey you don't actually estimate in its magnitude, its end was equally surreptitiously gratifying. Finally switching over to Oakland Tower and being cleared to land on 28R nearly put tears in my eyes. After landing, taxiing to the new hangar, and pushing the plane inside, every emotion hit me at once. I was exhilarated, sad, overjoyed, and, overall, relieved. I was alive, safe, whole, and so was my plane. I couldn't really have asked for anything more.

Conclusion

I'm a computer scientist by education and, recently, a professor on the topic. During all my years of learning, mentoring, and now teaching others, I realized that the best scientists (be they of the computer brand or otherwise) were always the ones who harnessed the fundamentals. They left out the cruft of the years, reiteration, reimplementation, renewals in design, and focused on mastering the things that never changed. Looking back on this journey, that principle still applied in this field. Daunting, some might say dan-

The Pitts made some friends!

gerous, and certainly eventful, I can guarantee what kept me alive through it all were the fundamentals. That said, I've been lucky to have some amazing teachers who made sure that I embraced those from the start of my piloting career. Those same teachers have become valued friends in my life, and in the same vein, I'm grateful those instructors were with me in mind and spirit during this adventure.

Since the journey, people have asked a few questions. One, would I do it again? In short, yes. I'm not sure I'll ever have this opportunity again, but if it arose, I wouldn't even hesitate. What are some of the biggest concepts I took away from this adventure? I'd say there are four major things I took away, and here they are in order:

1. Stay calm. Above all else, nothing will keep you alive better than maintaining a collected and sound head on your shoulders.

2. Aviate, navigate, communicate. Never feel pressured under any circumstance to flip the order of these. See the first bullet as reference.

3. You will never prepare enough. Accept this, see bullet one again, and think of a solution forward from the current predicament. There is no point living in the past thinking about what you could've done.

4. If all else is good, as my instructor would say…"Watch the nose, level the wings, and center the ball." Enjoy the flight!

As you can see, they're all centered on the fundamentals. It turned out, as these things became clear in my head, my general ability to control the plane grew significantly. This didn't just entail the literal flying of the plane, but incorporating navigation and communication as well into one fluid package.

So, whether you're a new pilot just beginning your experience in aviation, or a veteran ATP flying one of those heavies I flew by in L.A., my advice is to never forget the fundamentals. They'll take you places you never thought you'd go, keep you grounded when you need to be, and give you the confidence and courage to overcome whatever obstacle comes in your way. **IAC**

Seeing the Perfect Maneuvers

Turns

ARTICLE AND PHOTOS BY DAVE WATSON

This article is in response to member feedback in the September issue of *Sport Aerobatics*. A member suggested that SA include more articles on how to fly the competition maneuvers. I have to say that even after 16 seasons of aerobatic competition, I don't claim I'm capable of performing a perfect loop, or roll, or otherwise. I have given primary aerobatic coaching to more than 100 people in my Super Decathlon (and some in their own various airplanes), and many have gone on to advancing levels of competition—something I am very proud of.

I also truly believe it is nearly as futile to read how to perform these complex activities of strength and dexterity, much in the same way most of us could not read about how to deliver newspapers on a unicycle (something I did as a youth); you just need to bloody your nose and elbows a few times and let your cerebellum figure it out. However, unlike learning to ride a unicycle while juggling newspapers, we always try to limit the bloodletting during any aerobatic training—okay?

Two things of note:

1. I can tell within minutes the pilots who have read any of the excellent books out there on aerobatic flying and then memorized the control inputs of how to do a roll or loop described therein. I hope you don't try to do the same here. Beautiful aerobatics is about seeing and reacting, not anticipation and pure muscle memory. Every plane is different, every loop or roll will be different, so seeing and reacting is key.

2. I have had some of my "students" tell me that they went home and sat in a chair with a potato whip in their hands and flew loops and rolls at home after flying. To which I cringed and asked them not to do this again. Without the concurrent visual picture, you are training your hands to react to your mind and not your eyes. Don't do this!

Let me be clear—I do not believe you can train your hands and feet to do aerobatics by *reading* how to do it and then visualizing those movements while stationary. Therefore, it took me a while to think of how I can write differently about the *un-readable*, so please bear with me here.

I am not a professional flight instructor. I do this stuff for fun. I am a biomedical engineer and have spent my entire career in the neurosciences, so I have had a bit of training in how the brain works. I am going to come at this article from a different angle. I am not going to emphasize what to do with the aircraft controls to perform these maneuvers, rather I am going to focus on *where* and *how* to look and *what* you should see.

Although repetitive complex physical maneuvers can become autonomic within the cerebellum (the part of your brain that allows you to ride your bike without you having to think), flying a loop or roll needs *some* (as little as possible actually) cortex activity. The faster these activities get trained into your cerebellum, and the more you can disengage that slow-working over-controlling cortex, the sooner you can fly beautiful maneuvers.

That being said—nothing in aerobatics can, or should, be committed purely to muscle memory. I will attempt to help your eyes *see* the perfect competition turn so that your cerebellum can learn it and later make it happen on its own without you having to think so much during it.

Important note: Please don't try any new aerobatic maneuvers without a properly trained instructor or safety pilot on board.

The Competition Turn

You want to see the world and watch the plane moving through it, rather than seeing the plane as it moves through the world. This is a subtle, but critical, thing. I have had the opportunity to drive really fast on the German Autobahn—back in the day when you could actually go really fast there, and at about 160 mph, the view changes. Instead of feeling as the car is moving down the street, you feel is if you are stationary and the street is rushing at you. I feel it helps with aerobatics if you can achieve the latter sight picture. If you feel stationary within the plane and observe it moving in relation to the world about, then you become less distracted by the changing sight picture and you keep your orientation to the plane intact. Try to see the world about you in this manner.

As mundane as a turn may sound, it is a very complex, un-coordinated maneuver. A competition aerobatic turn is nothing like the coordinated turns we learned in primary flight

training. You may hear this maneuver somewhat accurately referred to as "yank and bank."

There are three elements to a perfect competition turn:

1. A constant-rate roll to at least 60 degrees of bank angle. The bank angle is frozen steady while maintaining constant attitude and still on initial heading.

2. A constant rate of turn at a constant altitude with that bank angle fixed exactly where you froze it during the roll in.

3. The turn stops on heading at that bank angle and then immediately ends with a constant rate roll to wings-level flight at constant altitude, at the same rate of roll that you used to start the maneuver while maintaining the exit heading.

First Things First

Straight-and-level sight picture and trim

The first thing to train your eyes to see is the start and finish sight picture. Before you start a roll, ensure that you can fly straight and level and at constant altitude. For beginning to learn the turn, I recommend you attain maximum cruise speed at whatever power level you are comfortable with. This way your sight picture should be very consistent every time, if the airspeed is consistent. Also, set the elevator trim to a position appropriate to your plane.

If you are flying a Citabria or other flat-bottomed wing, you should give some nose-down trim. If you let go of the stick, the nose should drop smartly 5-10 degrees in a couple of seconds. In a high-performance monoplane you should trim for neutral elevator. Every plane, depending on angle of incidence and airfoil symmetry, should be somewhere between those two extremes, so that inverted flight does not take significantly more stick-force than upright. Set up this condition in your plane and memorize where the nose is in relation to the horizon directly in front of you and try to standardize that trim position. Use whatever sight mechanism helps you to *see* and memorize exactly how far below or above the nose is in relation to the horizon is as you simply maintain straight-and-level flight at that airspeed.

Big eyes

Do not stare at the spinner or top of your cowl. Use the full range of your vision, and keep the whole world in front of you in perspective. For this reason, I don't recommend sticking a piece of tape on the windscreen at the horizon level—this will train your eyes to focus too closely, and any changes in the height of the terrain at the horizon will make big errors in pitch attitude. Just like when you drive a car, you don't (hopefully) stare at the ground in front of your bumper, you look as distantly as you can and aim the car with "big eyes," not tunnel vision. Do the same thing here.

Now that you have memorized this "nose" start position (Photo 1), consider that in this aerobatic turn or a horizontal aileron roll, your airspeed is not going to change much within the next few seconds so your "perfect" turn or roll is going to end with the nose in *exactly* the same place as where it started—at the same distance above or below the horizon and pointing at exactly the same feature on the distant horizon (in a roll or 360-degree turn) and your wingtips will start and end in your peripheral vision equally aligned on the horizon's left and right.

Let's Do One

Now let's do a turn in our mind's eye and follow along with the pictures. Take a quick look at the altimeter and get your start altitude. Now forget about the stuff inside the cockpit for five seconds, you and the plane are one and the world will pass through you. If you care to watch the video of me flying the 2014 Primary sequence in a Super D, please use this link and ignore the first half for now and just watch the 270-degree turn that is the third figure. The photos are extracted from that video.

www.YouTube.com/watch?v=QMRQBX740xM&feature=youtu.be&t=28s

Bank

The first element in the aerobatic turn is initiated by a crisp full deflection of the ailerons to the stop. At first, try to keep the elevator pressure as it was for straight-and-level flight. As you roll (Photo 2), keep your vision in *big eyes* mode. Do not let the rapidly changing sight picture allow your vision to tunnel in, as it will instinctively. If you keep a wide-angle vision (like this GoPro does), you will see a few things. The horizon will go up on the left (you are rolling that way) and your nose will lift and shift to the right a bit (consequences of adverse yaw). The nose is going up because as the plane rolls left, the right yaw of the plane will soon actually be in the upward direction in relation to the horizon. Use whatever control inputs are necessary to keep the fuselage pointing on heading during the roll in, but let the nose go up in relation to the horizon (Photos 2 and 3). Note that the upper window frame and the top left edge of the greenhouse are aligned with the section lines—this is the best way to know you are on heading; the nose is curved and not parallel to the longitudinal axis and therefore less reliable as an attitude indicator. Most importantly, the world should roll only and not shift at all.

I am assuming you have plenty of flight time in your aircraft, so you should know what happens when you push or pull the stick or stomp on a rudder. Remember, you are fixed solidly in the airplane, those same straight-and-level control inputs will make the plane react in relation to *you* regardless of where the horizon is in your sight picture.

When you start the roll, the heading tries to shift to the right

Photo 1, On start heading.

Photo 2, Rolling in.

(and then up) from the increased drag on the right wing. Don't let it go right. Keep on heading (usually with a momentary touch of left rudder, and then in *some* planes, a touch of right rudder), but the nose will need to go up a bit to increase the angle of attack to compensate for loss of vertical lift.

Remember, we need to get to 60 degrees' minimum bank so the wings will have half the vertical lift they did in straight-and-level flight. Therefore the nose must come up without any heading change. Focus your attention straight ahead with *big eyes* and use as much or little of left rudder to keep that sight picture pointing at your reference point, and let adverse yaw and your minor adjustments bring the nose up as you watch the world before you *purely rotate without shifting*.

Try not to cock your head in an attempt to keep your head in relation to the horizon. In these photos, the camera was mounted to my headset's left ear cup. Note that my head does tilt about 15 to 40 degrees throughout the sequence (as evident by the angle of the instrument panel to the picture border). Tilting your head in an attempt to stay oriented to the horizon hinders your ability to keep your physical orientation to the plane intact, and eventually, unless you are demonically possessed, you just don't have enough range of motion to do this in a roll! I find it impossible not to tilt your head somewhat, but try to minimize it.

Once you start the turn you may also need to position (turn) your head in the direction of the turn for a better view over your shoulder to see the upcoming world (as I did to see out the green house). You now see the horizon approaching 60 degrees, the nose has risen, and the sight picture ahead has you still pointing directly at your original start point but slightly higher.

You can see at the initiation of the turn (Photo 1) the nose is slightly be-

Left: Photo 3, Roll in complete.

low the horizon, and after the bank of 60 degrees is attained the nose is now directly on the horizon (Photos 2 and 3). You may also note that the horizon is cutting through the left leading edge of the wing in my visual foreground (Photos 3-7).

Note that in Photo 3, I actually over-banked slightly and the inner left wing root is slightly lower than in the rest of the photos throughout the turn—a minor mistake that could be detected by a keen eye on the ground. At my height in this plane, these are the perfect visual clues for a straight-and-level 60-degree bank turn. Once that bank is achieved, you must freeze the bank on heading and start the turn.

To stop the banking, you must neutralize the ailerons to stop the roll. Some planes may have over-banking tendencies so neutralize is not a reference to the dead center point on the stick in front of you, but that place where no rolling is detected by your eyes in relation to the horizon.

Yank

The turn is started by immediate application of some back stick thereby increasing horizontal lift (Photo 3). This is not a coordinated turn. The bank angle and rate of turn have *nothing* to do with each other. Your turn rate is totally dependent on how hard you pull the stick to increase lift and/or use rudder to skid or in the case of any aerobatic turn it is often a bit of both. Use your *big eyes* on the horizon—not the nose—to ensure that the spinner stays right on the horizon (as it was in this example—this may vary for you and you can only determine by doing some consistent turns and keeping an eye on altitude loss or gain—more on this later).

If you want to do a tight turn (small turn radius), then tense up your abdomen and legs and load those wings up with back pressure and use your *big eyes* to hold that nose cutting right through the horizon. The rate of turn must be held constant so any changes in elevator pressure will likely change your rate of turn and earn you a nice deduction. Therefore, the rudder (not the elevator) is your primary means of keeping the nose on the horizon as the turn begins and proceeds.

If the nose did not adversely react to the back pressure and stayed put on the horizon (congratulations, you nailed it!), hold these control inputs through your designated amount of turn and only make minor smooth control input changes if the nose is moving in any relation to the horizon except across it smoothly (Photo 3 is on initial heading, Photo 4 at 90 degrees of turn, Photo 5 at 180, and Photo 6 at 270). Keep *big eyes* mode and don't let changes in the elevation of the distant horizon fool you.

Use the whole world as your attitude indicator and cut that nose

Photo 4, At 90 degrees.

Photo 5, At 180 degrees.

through the "imaginary" horizon if your actual horizon is varying. I hesitate to say this because I am not here to tell you what to do with control inputs (so much), but be aware that many planes will "want" to over-bank at this attitude and wing loading. So some opposite aileron may actually be necessary to keep that bank angle from increasing—do what you need to do to keep it consistent—let your hands follow what your eyes see and keep your cortex out of it.

The turn rate must be consistent, so don't change the elevator pressure. The bank angle must be consistent as well, so don't vary the aileron pressure, and use rudder only to fix any sight picture changes. Once again, do not stare at the nose of the plane. Watch the whole world and the plane in relation to the horizon. Once the turn is initiated, lead the plane with your principle attention well ahead of the nose. If you continue to stare down the nose, you will always be behind the plane and will likely overshoot your stop heading. Lead with your eyes (and maybe a little head tilting—slightly back but not side to side) by at least 45 degrees ahead of the nose while keeping that nose passing across the horizon.

Freeze

Once you detect the stop-heading coming into view, freeze your eye movement on the exit heading and keep the nose coming to this point (your attention continuously focused directly on the exit heading on the horizon).

Note: In this sequence of photos, the 270 exit heading is difficult to see in these photos. If you look in the very lower corner of the left window, you can see the end of a gravel road below. This was my cue (as are some features on the horizon that the wide-angle view of the camera does not show).

As soon as the nose aligns with the finish heading (Photo 6), freeze

Left: Photo 6, At 270 degrees at exit.

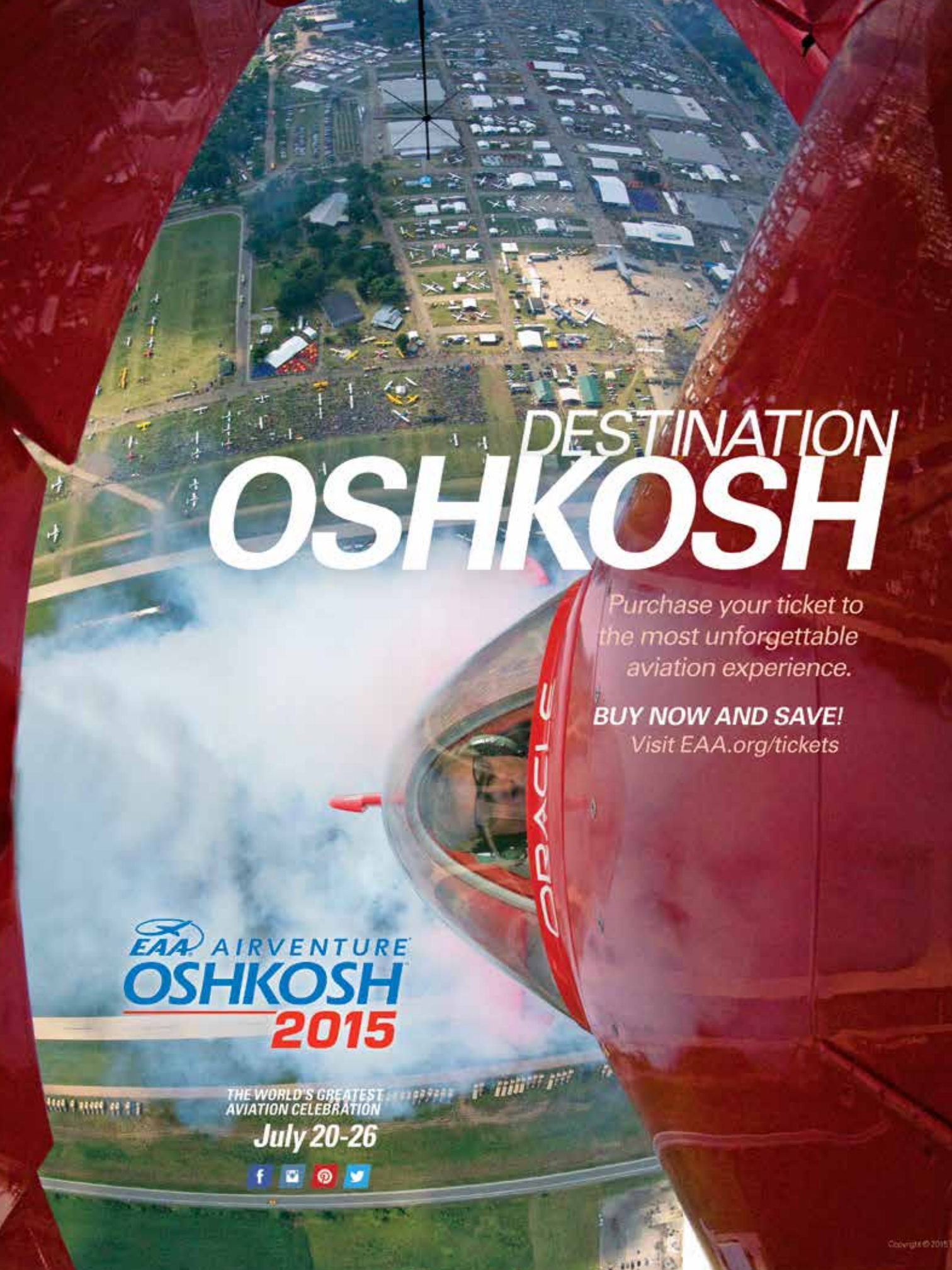

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Photo 7, Rolling out.

Photo 8, Complete.

the turn with immediate release of the elevator pressure (pop the stick forward smartly to unload the *g*'s but don't drive the nose down) and then immediately roll out to wings-level with full right aileron (Photo 7 is halfway through the roll out). Stop the rollout when wings attain level flight (Photo 8). Use the same rollout rate as you used to start the turn.

Again, use your sight picture and any rudder-coordination necessary to keep that nose pointing straight on your finish heading while dropping the nose back to its initial starting point in relation to the horizon (compare nose height in Photos 1 and 8. Note once again my minor error of being slightly higher at exit). If done well, there should be no residual slip. You should be on heading and at wings-level, straight-and-level flight again.

I hate to say it, but anticipate that the adverse yaw will usually mandate significant opposite rudder. Anticipate this, but *do not* just mechanically stomp on the left rudder; use your *big eyes* and keep that heading consistent with as much or little rudder is necessary. Also, use your peripheral vision to ensure the wings finish level (compare where the horizon cuts through the wing attach point on the wing in Photos 1 and 8—note this is an artifact of the wide-angle lens, but you will have a similar picture of the relation of the wingtips to the height of the horizons, and they must be equal on both sides). Check your altitude, and if you lost altitude, you know next time you will need your nose a bit higher as you turn or likewise lower if you gained altitude.

One really good way to practice for these turns and ultimately rolls is to do Dutch rolls, or more correctly as I like to practice, half-Dutch rolls. In this exercise achieve straight-and-level full-throttle attitude as described earlier (Photo 1), then bank to 45 degrees (Photo 2), and then without any heading change bank oppositely back to wings-level straight-and-level flight (back to Photo 1). Do not bank on through to the other side as you would in a Dutch roll; stop at straight and level with nose having not varied in heading at all and finishing exactly where it started (it should look like Photos 1, 2, 1).

After you master that, try to hold that heading at the 45-degree bank for a few seconds and then roll back to wings level. That is the hesitation half-Dutch roll. As your skills progress increase the bank to at least 60 degrees and then back to wings level while always keeping the plane on heading as described here (as in photos 1, 2, 3—2, 1). This is exactly the maneuver(s) you need to perfect for a turn; in fact, it is a zero-degree aerobatic turn. Doing these half-Dutch rolls will better teach you how to see and feel the start and finish elements of the turn more efficiently, and if kept to within the limits of non-aerobatic flight, can be practiced at almost any time while training your cerebellum to use those rudders without you having to think about it. One last suggestion: Don't let yourself get mono-dexterous. Practice the Dutch rolls and turns in both directions equally. You never know when you may have to take that wind corrector to the opposite way you practice!

I hope you gleaned some helpful points from this article. If this was beneficial, please send feedback to Reggie, and we will take on the competition aileron roll, loops, etc. in subsequent issues. IAC

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"I knew I wanted to be a rocket scientist from the moment I watched John Glenn pilot the "Friendship 7" spacecraft on the first manned orbital mission of the United States, back in 1962. 14 years later I did realize my dream of becoming a rocket scientist and in 1978, a member of EAA.

I've owned many Ford vehicles throughout the years, but none that provides as much fun as my 2014 Mustang. I took delivery last month at Grapevine Ford, in Grapevine, Texas. The people there were fantastic and the process was great. They installed the stripe with my "moniker" on the car. I love my new Mustang and apparently so does everyone else. I've received hundreds of comments and thumbs up from total strangers. It's incredible!

I've learned that it doesn't take a rocket scientist to take advantage of the EAA – Ford Partner Recognition Program!"

Craig W. EAA #165239

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BETTY EASLEY

Homeward bound in my new Extra 330LX

BY JIM BOURKE

I picked up my new Extra 330LX in St. Augustine, Florida, last weekend and flew it home.

Florida

I arrived in Florida on Friday, January 2. I made it to Southeast Aero at about 4 p.m., giving me enough time to see the plane in person before it closed for the day. I met with some of the staff at Southeast Aero and went back to the hotel feeling very comfortable about working with them.

Training began on Saturday morning. I flew with Doug "Darth" Vayda, who is about as experienced an Extra pilot as you can find. People purchasing Extras from Doug also have the option of seeking training from Patty Wagstaff, who is hangared directly opposite from Southeast Aero.

I also got to see my Xtreme Decathlon, N210XD, one last time. It's in Doug's care waiting for a new buyer to come along. I hope the next owner takes good care of it.

I found Doug to be very easy to work with. From the moment I first strapped the airplane on to the point where I left St. Augustine I felt comfortable and safe. I worked with Doug to learn every aspect of the plane's operation, in preparation for my long cross-country to Oregon. Doug also took time to point out emergency procedures with me. For example, if a pilot forgets to switch to the acro tank before rolling upside down, the engine will stop. We simulated this to make sure I understood how much time it would take for the engine to start up again. I hope I never make that mistake, but it's helpful to know what to do if it happens.

I didn't do any significant acro in

BETTY EASLEY

Florida because I'm still breaking in the engine, but I did manage to see +6/-3 on the *g*-meter. I'm happy to say it is much easier on the body to pull *g*'s in the Extra than the Xtreme Decathlon, probably due to the more reclined seating.

Thunderstorms kept me in Florida until Monday morning, at which point I said goodbye to my new friends. My thanks to Warren, Kramer, and Doug for their hospitality!

Happy pilot Jim Bourke.

Monday, January 5

As I struggled to fit my bag in the turtledeck I realized how I'd miss the extra room in the Decathlon! I was forced to strap my bag into the front seat for the ride home. I'll have to pack lighter next time.

It's not possible to make the trip without stopping for the night somewhere because the Extra is limited to day VFR trips only. I chose KGOK in Guthrie, Oklahoma, as my destination for the day. Because I was headed west I knew I'd get a bit more daylight than someone going east, but also I knew I'd see headwinds. I planned fuel stops accordingly, in Selma, Alabama (KSEM), and Clarksdale, Mississippi (KCKM).

http://skyvectorcom/?ll=31.79542275 . . . KCKM:A.K4.KGOK

There is a lot to learn on the first leg of a cross-country trip in a new airplane. My plane is equipped with the Garmin GTN 650 for primary navigation. I used the ForeFlight software on an iPad mini with a Stratus 2 ADS-B antenna (thanks, Doug!) for backup navigation and weather. I ran the engine hard at 2500 rpm and as much manifold pressure as I could muster. The best winds were at 8,500 feet so that's where I stayed. I managed only about 155 knots of groundspeed during this leg of the trip, which was disappointing, but the real struggle was with the cold. I left St. Augustine feeling a bit overdressed as it was 75 degrees, and I had on jeans and a couple of layers. By the time I started my descent into Selma I was cold to the bone. It didn't help that I hadn't thought to close the air vents in the front cockpit before I took off. They stared at me the whole way, like little black eyes, streaming freezing air directly into my face.

Selma was a short stop with temperatures somewhere around 40 degrees. I dug into my bag to get my jacket before I started refueling. There is no place on earth colder than an airport tarmac. I ducked inside to get warm. It seems at every airport there is a dog. I petted a brown Labrador mix at the FBO for a few minutes while I warmed up, then hopped back in the plane for the next leg. I remembered to close the front vents before I latched the canopy.

Clarksdale is only about an hour flight from Selma, and the winds were against me at altitude so I stayed quite low, about 1,000 feet AGL, for the next leg. I encountered a number of large flocks of birds but had no trouble avoiding them. At Clarksdale a friend of the family, Jim, waited for me. I buzzed the field a couple of times to say hi, then put the plane down and taxied up for fuel. I hadn't seen Jim in more than 20 years. He is flying medevac helis in Clarksdale. We spent lunch at Ground Zero, which apparently is owned by Morgan Freeman. The food was excellent. Clarksdale is home of the blues, so we drove by the famous crossroads. Unfortunately I couldn't stay long because I had two hours of flying before I made it to Guthrie, and we were nearing 2:30. A trip to the blues museums would have to wait. Jim drove me by a Wal-Mart so I could get some long underwear, we said our goodbyes, and I tore out of Clarksdale as fast as the engine could take me.

I flew the plane hard to Guthrie. That's okay because the engine is being broken in, but the fuel burn was a bit over 20 gph. Given 47 gallons of fuel, and a strong headwind, I knew I had just enough fuel to get there, and I knew I would hit Guthrie just as the sun set. It was also getting colder. I played around with the heater and found that if I used the electric pedal slides to push the pedals back as far as they could go, I could feel the hot air on my ankles. The rear vents, while closed, still allowed cold air to come into the cabin, as did the slight gap in the canopy. The cold

BETTY EASLEY

air hit me in the middle of my back just under my armpits. At least I could feel my toes.

As I crossed the border into Oklahoma I was as low as I could legally get in an effort to stay as warm as possible. I climbed only as I saw the main tank was running dry. I left the engine sputter before switching to the acro tank to conserve fuel. I didn't dare throttle back or I'd be landing in the dark, and the cold was becoming a concern. By the time I reached Guthrie I could see my breath in the cockpit and condensation on the instrument faces.

My spirits soared when I saw my parents on the airport tarmac, so I did a couple of passes before landing.

I had asked for a hangar, but none was available. I had no option but to leave my new airplane out in the cold. I tied it down as best as my frozen fingers and brain could allow and said goodbye for the night.

That evening I had hot cocoa and barbecue in Guthrie. We drove to my parents' house in Edmond for the night. I sat by the fire, read e-mails, and plotted the next day of flying. I decided I'd take in a day or two of the Consumer Electronics Show on the way back to Oregon, which meant I needed to get to Las Vegas the next day. After some reflection about the cold I opted to take a more southerly route. Sedona forecasted 60-plus degrees, and that sounded good to me. I typed up KGOK->KTDW->KABQ->KSEZ->KHND and went to bed.

http://skyvector.com/?ll=34.86670308...KSEZ:A.K2.KHND

Tuesday, January 6

In the morning I took in some water, and we made our way to the airport. I don't eat much when I fly cross-country. There are lots of places to stop in the eastern half of the United States, but once you get to New Mexico, those places are harder to come by. There is nothing worse than being strapped into an aerobatic plane with a parachute and seven-point harness on, wishing for a toilet. A granola bar and a sip of water is all I allowed myself.

It was in the low to mid 20s when we got to the airport. The sun was still below the horizon. I walked out to the plane and saw a thick layer of frost on the wings. I untied it and turned it so that the sun would hit the frost when it came over the horizon. After refueling the plane I checked the oil and decided it needed another quart. The mineral oil oozed out of the container like thick maple syrup. I enjoyed stopping in Guthrie, but the detour north had cost me too much in comfort. I was glad to be leaving for a warmer area.

We sat in the FBO and talked airplanes while the morning glow appeared. I decided I had time to spare so we waited until the temperatures reached the low 30s before I climbed back into the plane. This took longer than I expected.

At about 9:30 I realized I couldn't afford any further delay. I strapped myself in, waved goodbye, primed the engine (full throttle, full mixture, boost pump on until the fuel pressure stabilizes), set the controls for start (throttle cracked, mixture cracked, boost pump off), and turned the key. The starter motor struggled to move the propeller at first, but then inertia started helping instead of hurting the cause, and I watched the blades turn. Unfortunately nothing else happened. I gave it about 10 attempts before calling Doug. We puzzled over it together, deduced it was the cold, and added more fuel. Eventually we got the plane started. I thought nothing more about it until I got to the run-up when I noticed that the engine ran a bit rougher on one magneto than the other. I took off, did a couple of low passes to impress my parents, and set the GPS for Amarillo.

The flight to Amarillo was quick and uneventful. By a stroke of luck I found a tailwind and clear weather. I was worried that I had fouled the plugs in the starting attempt at Guthrie so I leaned back to 15 gph. I saw 203 knots at 8,500 feet. The world scrolled by. The cabin temperatures started to get better, and I began feeling warm enough to have some fun. I carved around a little bit here and there as I neared KAMA. My destination, Tradewind (KTDW), is a small airport west of Amarillo (KAMA).

As I neared Amarillo's airspace I started to play around with the Garmin GTN 650 and ForeFlight. I hadn't become very familiar yet because I flew the previous day with my gloves on as much as possible. One thing I didn't like about the Garmin unit was how it kept

reminding me of airspaces of no consequence. Every time you are pointed at an airspace it gives you a little warning. If you don't actually go and look at the warning, it flashes on the screen. You have to get used to disregarding these.

I had built up such a tolerance to the warnings that I didn't realize I had just managed to fly into KAMA's airspace without permission. I was at 5,500 feet in the outer ring of the airspace with a 4,800-foot floor. I pushed the nose down so hard that my Stratus antenna leapt from the panel. I caught it with my left hand and brought it to my chest. I leveled out at 4,500 feet and made for Tradewind. I knew what to expect when I walked into the FBO. A KAMA controller had deduced my destination and a message waited for me. I called the controller, owned up to the mistake, and that seems to be the end of it. I decided that for the rest of the trip I would pay attention to the warnings on the GPS.

I had hoped that maybe no one was paying attention, but as I reflect on it, I see how silly I am: I have no memory of ever getting away with anything, in my entire life.

I left Tradewind using flight following services and found my way to KABQ. My plan was to land at Double Eagle, but after reflecting on how my unfamiliarity with these airports and my new plane contributed to my earlier mistake, I opted to land at KABQ proper. Air traffic control was helpful as always, but visiting a large airport like KABQ takes a lot more time than I had to spare. I stopped only briefly in KABQ because I was getting worried about daylight. Also I noticed that the engine was running a bit differently than it had before. I did a short run-up at KABQ, saw significant rpm drop on one mag, convinced myself everything was okay, and headed off to Sedona.

Flying yourself into the Sedona airport is probably the coolest thing a human being can do. The airport is on a mesa surrounded by the most beautiful terrain in the United States. I can't put it into words.

I taxied the plane up to the FBO and did a quick mag check before shutting down. The left magneto was showing a 300 rpm drop. The engine kept running on that mag, but not well. I talked to a mechanic named Bob in Sedona, and we reasoned that I could have a couple of bad spark plugs, or possibly the magneto was faulty. We discussed options for repairing it in Sedona and eventually came up with a plan to fly the plane to Prescott or Flagstaff for a quick repair the next day, or even continuing on to Las Vegas.

I thanked him for his time and suited back up. This time I really struggled to get the engine started. I realized now for the first time that I had a very real problem with the airplane. Eventually after nearly wearing out the starter trying various combinations of mixture, throttle, and priming, the engine roared to life. I sat in the run-up considering my options. I set the rpm to 1500 and switched the mags. The engine immediately lost rpm and stumbled, but didn't quit. I felt sure it would quit at a lower rpm. At 1800 the situation was slightly better. At 2,000 rpm the drop in power was noticeable, but the engine showed no sign of actually stopping.

At that point I made the decision to continue to Las Vegas. My reasoning was that a) I had a second magneto that was working perfectly by all accounts, b) I was more likely to find a qualified mechanic and parts in Las Vegas, and c) I would be at a comfortable bail-out altitude within 30 seconds of liftoff. Bailing out is never my intent, but it does add somewhat to the options available when you are flying over the kind of terrain you find near Sedona.

A different pilot might have come up with a different decision. I weighed everything, and that's

At Southeast Aero with my new Extra 330LX, N330FZ.

PHOTO COURTESY JIM BOURKE

what I came up with.

I climbed to 10,500 feet to give myself all the cushion I could and pointed the plane at Henderson airport (KHND) in Las Vegas. This terrain is a nightmare for a forced landing, so I kept my ears tuned to the sound of the engine. This is the kind of situation where I'm glad I fly with a Clarity Aloft headset. A noise-cancelling headset is great, but the Clarity Aloft lets me hear what is going on a lot better.

Despite my concern, I'm glad to say that the engine got me to my destination. When I landed at Henderson I asked the controller for an expedited landing. Ground offered a suggestion for maintenance. I taxied behind a service van who led me to a brilliant mechanic named Joe. I felt comfortable right away. He took the airplane and told me not to worry; he'd find the problem.

I decided I needed some comfort so I checked into the Venetian hotel. I fell onto the bed and experienced a deep, dark, dreamless 12-hour slumber.

Wednesday, January 7

The next day at CES was amazing. There were more than a dozen vendors showing off various "drone" products. I'm not going to give a show report here. I'll only say that the show changed my strategic vision in many ways.

Meanwhile, Joe was working on the airplane and found the problem: one of the magnetos had a loose condenser. This was tightened up, and I seemed good to go. I hopped in the plane and did a run-up. The engine worked better than ever. I called Southeast Aero, and they agreed to replace the magneto entirely, which I think is a reasonable precaution, but I felt perfectly fine continuing on my trip as things were.

Thursday, January 8

On this day my goal was to do KHND->KHTH->KAAT->KCVO. As I discussed my plan to fly VFR "direct" to KHTH I found the clearance controller especially interested in exactly how I planned to get there. I told him I was already aware that Groom Lake, Area 51, etc. are directly north of Las Vegas, and my route was actually KHND->NV00->KBTY->KHTH. He seemed satisfied. I assume that every year pilots blast right out of Las Vegas headed straight north and encounter an F-16 escort. If that happens, he is not there to check out your new airplane!

http://skyvector.com/?ll=36.21827801...KAAT:A.K1.KCVO

Flight following handed me off to several different controllers, each of whom seemed interested in my exact route to Hawthorne. After my experience in Amarillo I didn't mind the reminder.

Hawthorne was an experience of its own. I called in on the UNICOM frequency, and a lady answered saying she was on her way to the airport to meet me. This turned out to be Betty Easley. Betty greeted me at the self-service fuel pump, explaining that she is a volunteer who lives near the airport and loves planes. She puts on her safety vest, picks up a radio, and runs out to the airport whenever someone needs fuel. Her hours of availability are 24/7. She is enthusiastic, cheerful, and genuinely helpful. She wasn't allowed to fuel my plane but explained to me how the new system works, offered me a ride into town, and gave me a bottle of water and a snack for my next leg. Betty is the kind of person I hope to run into at every airport I visit.

As I got back in the plane she said she wanted to take some pictures of me. I did a few flybys over the runway for her, and the attached pictures showed up in my e-mail a few days later. Thank you, Betty. I hope our paths cross again.

From Hawthorne to Alturas was a nonevent compared to the rest of my trip. The only problem was the Stratus 2 receiver wasn't in range of any ADS-B towers, so I

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was flying without weather information ahead of my position. The skies were clear over Nevada, but I know from experience that Oregon in the winter is a very cloudy place. I started my descent into Alturas when suddenly the system located a tower. I immediately arrested my descent and checked the weather in Corvallis. My heart sank. While I had been lucky to have a completely cloud- and weather-free trip so far, I would not be so fortunate when I reached the Willamette Valley. Every reporting station showed fog and a 200-foot overcast. I changed my destination to Klamath Falls so I could do my fuel stop as close to the overcast as possible.

Klamath Falls was a nice stop. The air was crisp but not as cold as Oklahoma. The nearby lake looked frozen solid. F-15s filled the pattern. I rested for a bit in the FBO and watched the weather, deciding I would have to spend the night if it didn't break soon. At about 1:30 p.m. I checked the METAR in Portland, and the station there was reporting some daylight breaking through the clouds. Fifteen minutes later so was Salem.

I decided I'd hop right in the plane and blast out over there to take a look. I had enough fuel and daylight to make it back. I jumped into the plane, started it up, and tried to taxi forward. In my haste I had forgotten to pull the chocks! A couple of F-15 pilots watched my whole routine, enjoying every minute of it. I shut down the engine, opened the canopy, and asked them if they could be so kind as to set my plane free. I was too worried about daylight and weather to stay and make friends. We joked about trading rides in our airplanes, shook hands, and I went on my way.

I poured on the coals, making a beeline for KCVO, hoping that by the time I got there the fog would have lifted. I climbed steeply, afraid of the frigid waters of Lake Klamath below me, but the engine ran beautifully.

The direct route from KLMT to KCVO goes over many miles of wilderness. This is the most dangerous part of the trip by far. Whereas engine trouble in the Nevada desert would be very inconvenient, the same scenario near Crater Lake would likely be fatal. There are absolutely no options for setting the plane down in this kind of terrain. At 10,500 feet there is only a couple of thousand feet of clearance between the trees and the airplane. The decision to bail out must be made quickly. The thin air increases the chance of breaking a bone on landing, the dense forest increases the likelihood of injury or entanglement, and there is a very real possibility that a pilot could survive the initial misfortune only to become hopelessly lost, never to be seen again.

I took a quick video with my phone to show how isolated a person can feel flying around here. At this point in the trip I am farther from another living human being than most people will ever be in their lives.

I had bundled myself up as best as I could. Long underwear, thick socks, good shoes, jeans, T-shirt, flannel shirt, wool sweater, rain coat, cap, and gloves. I knew the cap would disappear immediately if the canopy opened so I had a stocking cap in one of my zipper pockets. My phone was in the other zippered pocket, not that there are any cell towers around, but a phone could provide light, and the sectional maps I've downloaded could be a reference. My gloves were inadequate. I made a mental note to prepare better next time.

I spent about 45 minutes at about 180 knots flying over this kind of terrain until I saw my home: the Willamette Valley. Unfortunately it looked as if the hand of God had reached down and smeared a layer of shaving cream over the valley floor. As far as I could see the valley was filled with a very low but extremely dense fog. That isn't unusual this time of year.

I made my way north from Eugene to Salem. My Stratus weather antenna came back to life after showing me zero towers since leaving Klamath. I miss the XM weather system in my Decathlon. I never had to go without weather updates with XM. Where I live that can make the difference between life and death.

Now I could see that the area north of Salem was open. I checked the weather report, and the field at Salem, only 30 miles from my home airport, was VFR. I did a quick calculation and realized it only takes nine minutes to get from one to the other. I decided to hover over KCVO until I ran out of daylight. I pulled back on the throttle and set the mixture to the lowest possible setting that would maintain 80 knots in a shallow bank.

At various times I could see the ground underneath me but never clearly enough to feel comfortable getting in. At one moment it seemed sure it was going to lift. I descended into a clear area and performed tight circles about 500 feet off the ground. I could see the railroad tracks on the east side of the airport, but not the airport itself. After only a few revolutions I could feel the opening in the fog closing in on me. I pushed the throttle all the way forward and decided I was simply not destined to get in to Corvallis, despite how far I had come. I landed the plane in Salem, rented a car, and drove home.

Friday, January 9

The next day the weather was clear, and I was able to drive back to Salem and bring the airplane to Corvallis. I buzzed the field three or four times before landing and drew a small crowd. I'm well-known at the local airport for being the crazy guy who flies aerobatics. Everyone commented on how beautiful the paint scheme is. I shared some of the adventure with my friends and closed the hangar door, reflecting on my good fortune. IAC

Speak Up

You might save a life

For more than 25 years I've been attending the ICAS (International Council of Air Shows) annual convention. I've always come away with great information, and this year was no exception. Each year there are numerous educational programs. One in particular for performers is titled "Air Show Performer Safety Stand-Down." Tragically, a lot of time is spent on discussing accidents that usually occurred during the year. One particular comment that came through loud and clear was that pilots haven't invented a new way of killing themselves; they just keep repeating the same mistakes over and over. One of the guest speakers also showed a slide that said, **"Accidents do not just happen to THEM; they happen to YOU."** Several very experienced pilots got up and said they wished they had stepped in earlier when they observed an unsafe practice that later led to an accident, but hesitated because they didn't want to feel like the Grinch and embarrass themselves or the other person. It's our duty to pass on our experience and knowledge to anyone willing to listen and learn so the same mistakes are not repeated each year.

My challenge to you is to create a culture of safety, not only for yourself, but also for those in your flying community.

I can't help you if you pull out of your *last* maneuver too low. But, if you ever have to bail out, remaining disciplined enhances your chance of survival. Practicing your egress procedures faithfully will give you an edge and greater chance of survival than someone who flies occasionally with little thought or preparation on what to do in case of an emergency. Listen to your inner self; when the hair on the back of your neck stands up, you need to listen to that feeling. After all, it kept the caveman alive when the saber-toothed tiger was stalking him.

To create a culture of safety for your flying community you *must* be disciplined, and that starts with you. Discipline is at the core of good judgment. Discipline in an emergency allows you to think under stress. This is a subject I teach in my bailout seminars and has everything to do with your ability to bail out safely before you permanently inherit the earth. You can help by creating an atmosphere where you and your fellow aviators can discuss safety concerns one-on-one or in a group before someone makes the 6 o'clock news.

Your ability to be disciplined starts with being able to control your ego. Another great quote from the safety stand-down was, "If you think safety is expensive, try an accident." Now is the time for you to suck up your ego and realize there are many threats to establishing safety discipline. Specific threats are:

- Normalization of bad habits.
- Judgment and proficiency (or lack of).
- Loss of situational awareness.

Strive to *be good*. This requires you to hone your skills and discipline, or you can just roll the dice and *be lucky*.

Discipline requires you to preflight not only your aircraft and flight plan but also your parachute and other safety equipment each and every time you put them on. Practice your egress procedures before and after each flight until they become second nature. Go to my website, *www.SilverParachutes.com*, and download a copy of my "Bailout Seminar Handout." I usually hand this out at my seminars, but will post it to my home page. I also have numerous articles and all my "Ask Allen" columns available. They all go down well with a glass of wine or a cold beer.

Some of the air show industry's greatest stars flying today shared their personal near-death experiences with everyone there. They discussed what happened and wished someone had stepped in earlier to mentor them. But they were lucky and now freely pass on their experience, with no ego attached.

One item that keeps rearing its ugly head, and is of particular concern to me, is how many parachutes come to me for servicing so far out of adjustment that if the pilot bailed out, he or she stands a good chance of falling out of the harness. Is your parachute constantly feeling like it's falling off your shoulders? Is it constantly shifting about when you do that loop or roll? If so then you need to have someone check your parachute immediately for proper fit. While this may best be done in person with your parachute rigger or someone very familiar with your parachute, I've had people send me photos of them wearing their parachute for me to evaluate the fit. Sometimes even a phone call or e-mail will help.

Until next time remember to practice—practice—practice. Learn discipline so you don't have to endure the pain of regret. IAC

***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.*

Snowbird Acro Classic (Southeast)
Friday, March 13 – Saturday, March 14, 2015
Practice/Registration: Wed., March 11 – Thur., March 12
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Marion County Airport (X35): Dunnellon, FL
Region: Southeast
Contest Director: Chris Rudd
Phone: 850-766-3756
E-Mail: *invertedribboncut@gmail.com*

Borrego Springs Hammerhead Roundup (Southwest)
Thursday, March 26 – Saturday, March 28, 2015
Practice/Registration: Thursday, March 26
Rain/Weather: Friday, March 27
Power: Primary through Unlimited
Location: Borrego Springs Airport (L08): Borrego Springs
Region: Southwest
Contest Director: Bill Hill
Phone: 949-637-0483
E-Mail: *hillgroup@cox.net*
Website: *http://www.iac36.org/*

Ben Lowell Aerial Confrontation (South Central)
Saturday, April 25 – Sunday, April 26, 2015
Practice/Registration: Friday, April 24
Gliders Categories: Sportsman Intermediate
Power: Primary through Unlimited
Location: USAF Academy Field (AFF): Colorado Springs, CO
Region: South Central
Contest Director: Billy Jacks
E-Mail: *william.jacks.2@us.af.mil*
Website: *www.iac12.org*

Duel in the Desert (Southwest)
Friday, May 1 – Saturday, May 2, 2015
Practice/Registration: Thursday, April 30
Rain/Weather: Saturday, May 2 – Sunday, May 3
Power: Primary through Unlimited
Location: Apple Valley (APV): Apple Valley, CA
Region: Southwest
Contest Director: Barrett Hines
Contact Information: Primary Phone: 805-217-3998
E-Mail: barretthines@verizon.net

Carolina Boogie (Northeast)
Friday, May 1 – Sunday, May 3, 2015
Practice/Registration: Thursday, April 30 – Sunday, May 3
Rain/Weather: Sunday, May 3
Power: Primary through Unlimited
Location: Wilson Industrial Airport (W03): Wilson, NC
Region: Northeast
Contest Director: Eric Sandifer
Phone: 919-605-9585
E-Mail: *n100mp@yahoo.com*
Website: *iac19.org*

Sebring Spring #71 (Southeast)
Friday, May 1 – Sunday, May 3, 2015
Practice/Registration: Sat., April 25 – Thurs., April 30
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Sebring Regional (SEF): Sebring, FL
Region: Southeast
Contest Director: Travis Gier
Phone: 321-258-5880
E-Mail: *acrotrav@gmail.com*

ACE's High Spring Opener (South Central)
Saturday, May 9 – Saturday, May 9, 2015
Practice/Registration: Friday, May 8
Rain/Weather: Sunday, May 10
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*

Coalinga Western Showdown (Southwest)
Friday, May 29 – Saturday, May 30, 2015
Practice/Registration: Thursday, May 28
Power: Primary through Unlimited
Location: New Coalinga Municipal Airport (C80): Coalinga, CA
Region: Southwest
Contest Director: Martin Price
Phone: 510-579-3407
E-Mail: *martin@pull.gs*
Website: *http://www.iac38.org*

Hoosier Hoedown (Mid-America)
Saturday, May 30 – Sunday, May 31, 2015
Practice/Registration: Friday, May 29
Power: Primary through Unlimited
Location: Kokomo Municipal Airport (OKK): Kokomo, Indiana
Region: Mid-America
Contest Director: Mike Wild
Phone: 765-860-3231
E-Mail: *mike.wild@hotmail.com*

IAC East Coast Championship (Southeast)
Thursday, June 4 – Saturday, June 6, 2015
Practice/Registration: Wednesday, June 3
Rain/Weather: Sunday, June 7
Power: Primary through Unlimited
Location: Richard B. Russell Regional (RMG): Rome , Georgia
Region: Southeast
Contest Director: Ken Lumpkin
Phone: 7065060550
E-Mail: *capitoline@bellsouth.net*

Lone Star Aerobatic Championship (South Central)
Friday, June 12 – Saturday, June 13, 2015
Practice/Registration: Thursday, June 11
Rain/Weather: Sunday, June 14
Power: Primary through Unlimited
Location: North Texas Regional (GYI): Sherman/Denison, TX
Region: South Central
Contest Director: Patrick Clark
Phone: 817-845-6445
E-Mail: *psc4aero@tx.rr.com*
Website: *http://iac24.org/*

Ohio Aerobatic Open (Mid-America)
Friday, June 19 – Saturday, June 20, 2015
Practice/Registration: Thursday, June 18
Rain/Weather: Sunday, June 21
Power: Primary through Unlimited
Location: Bellefontaine Regional (EDJ): Bellefontaine, OH
Region: Mid-America
Contest Director: Gordon Penner
Phone: 513-520-6065
E-Mail: *penner.gk@gmail.com*
Website: *iac34.eaachapter.org*

Apple Cup (Northwest)
Friday, June 26 – Saturday, June 27, 2015
Practice/Registration: Thursday, June 25
Rain/Weather: Sunday, June 28
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Ephrata Municipal Airport (EPH): Ephrata, WA
Region: Northwest
Contest Director: Patrick Lavielle
Phone: 206-226-8738
E-Mail: *patricklavielle@gmail.com*
Website: *www.applecup.org*

IAC West Open Championship (South Central)
Saturday, June 27 – Sunday, June 28, 2015
Practice/Registration: Thursday, June 25 – Friday, June 26
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Seward Municipal Airport (SWT): Nebraska
Region: South Central
Contest Director: Ed Bowes
Phone: 402-770-5966
E-Mail: *edbowes@windstream.net*
Website: *IAC80.org*

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/*

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, Michigan
Region: Mid-America
Contest Director: Brian Roodvoets
Phone: 810-667-0642
E-Mail: *redfoot@chartermi.net*
Website: *http://www.iac88.eaachapter.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*

Beaver State Regional (Northwest)
Friday, August 14 – Saturday, August 15, 2015
Practice/Registration: Wednesday, August 12 – Thursday, August 13
Power: Primary through Unlimited
Location: Pendleton 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,New York
Region: Northeast
Contest Director: Pat Barrett
Phone: 716-361-7888
E-Mail: *cbpbmb@aol.com*
Website: *IAC126.blogspot.com*

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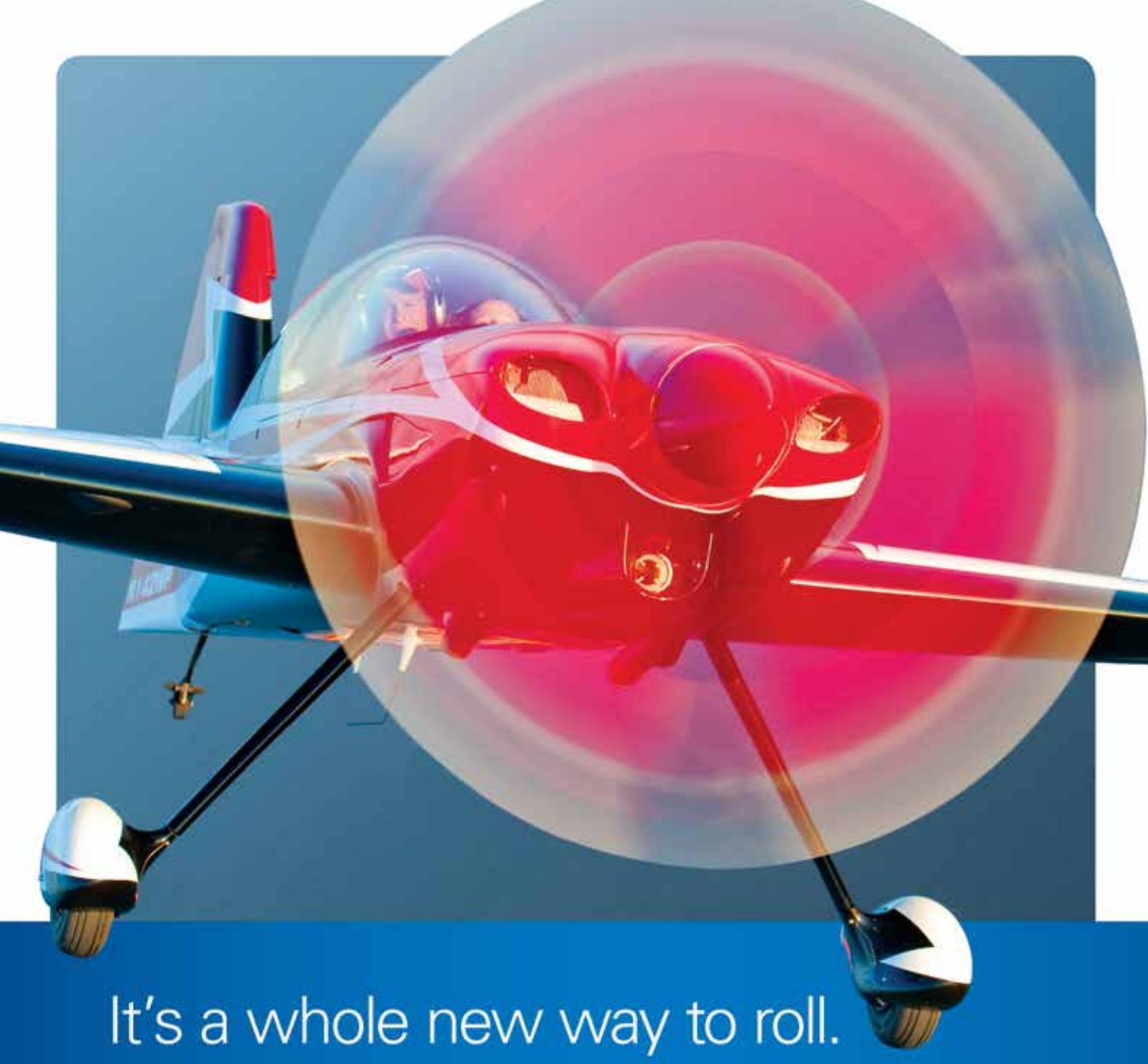

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