SPORT
Aerobatics
SEPTEMBER 2019
OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB

IAC
INTERNATIONAL AEROBATIC CLUB
EAA

- OSHKOSH OR BUST
- HONORING RICHARD GILES

AirVenture 2019

“THIS TECHNOLOGY HAS COMPLETELY RE-ENERGIZED MY WAY OF THINKING. IF YOU WOULD’VE ASKED ME ABOUT THIS CAPABILITY IN THE ’90S, IT WOULD’VE BEEN UNFORESEEABLE, BECAUSE IT WAS ALL SCI-FI THEN. BUT NOW WE’RE LIVING IT, AND IT MAKES THE LITTLE KID IN ME SMILE.”

– **MICHAEL SMITH**, FORD DESIGN MANAGER

MICHAEL SMITH AND JORDAN BECKLEY, DESIGN MANAGERS AT THE FORD PRODUCT DEVELOPMENT CENTER, ARE DESIGNING VEHICLES FOR THE CITIES OF TOMORROW THAT PUT CONSUMERS FIRST. TO DO SO, THEY ARE USING SOME OF THE MOST ADVANCED TECHNOLOGY — GRAVITY SKETCH.

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ON THE COVER: Enjoying the Saturday night fireworks next to Mike Tryggvason's G-202. Photo by Evan Peers.

ABOVE: Greg Howard leads the way in his Giles G-200 with Mike Tryggvason and passenger Lorrie Penner trailing in Mike's Giles G-202. Photo by Jack Fleetwood.

Aerobatics

It's a special skill

BY LORRIE PENNER, IAC 431036

AS I SAT DRINKING MY EARLY MORNING COFFEE, I overheard a conversation that made me stop midsip. A heavyset older man with a black and lime green ball cap graced by a red Dairy CO-OP patch was expounding on the special skills a pilot must possess to fly aerobatics.

He had come from an air show and was describing all the "stunts" he'd seen and how awfully hard it was to fly those loop-the-loops. After all, he had taken a lesson in a Cessna 182 and knew how skillful one needed to be just to keep the plane flying straight and level.

Having been in the aerobatic community for 17 years now, I sometimes forget that the skills and talents of aerobatic pilots far exceed what is required of a regular general aviation pilot. I have become accustomed to critiquing loops for roundness and 45-degree lines for being too shallow or too steep. I don't usually put myself in the pilot seat and consider the workout they are going through. The physical and mental demands alone are often more demanding than the average person would want to tackle.

This month I'll be watching the U.S. National Aerobatic Championships in Salina, Kansas. The expectation is that 100 pilots will be participating. At time of this writing it was 44 days leading up to nationals and preregistration sat at 62, which is fairly typical at that stage of the game. The 2017 Nationals had about 58 registered at this point, and we ended up with 101 registered and 94 competing.

Instead of looking at straight lines and round loops, I think I will imagine all those pilots with their many hours of practice, dedication to the sport, and all the effort they are putting in. It really does take someone with a real obsession and special skill to fly aerobatics. See you at Nationals! IAC

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AirVenture Wrap-Up and the Future of Sportsman

BY ROBERT ARMSTRONG, IAC 6712

GREETINGS, ALL IAC MEMBERS!

The World's Greatest Aviation Celebration has concluded for 2019, and for those who only had a web view, you missed another great EAA AirVenture Oshkosh. Unfortunately, the 5 inches of rain Saturday before the opening of AirVenture left a lot of standing water on the grounds, making some areas unusable for the first days. In fact, if you weren't already parked, tied down on the grounds, or camped, it was impossible to get in, and if you were tied down or camped, it was impossible to get out. Some found new campsites in neighboring Oshkosh parking lots that opened for anyone who needed a spot for the night. However, EAA staff pulled together and worked tirelessly to find places for everyone, and the weather for the actual event was remarkable.

Thanks to the hard work of Lorrie Penner and her volunteer staff, the IAC Pavilion was open for business on Sunday with many IAC members volunteering their time to welcome all who came in. It truly was a wonderful experience to welcome members from Norway, France, Germany, Canada, New Zealand, and many more. And an especially big thank-you to Lorrie and her volunteers for the hours of work dedicated to the exhibition panels for our 2019 aircraft anniversary — the Giles G-200 series. These made for a wonderful display. (And if you missed seeing those in person, check out the August issue of *Sport Aerobatics*.)

Parking was at a premium through the week around our pavilion with 62 airplanes — up from 55 in 2018 — and we appreciate Jordan Ashley and the crew finding spots for all aircraft with a few rows cut back for the heavies. Forums were well attended and informative thanks to our speakers, who always do a great job of holding audiences. Everything in and around the IAC Pavilion was in tip-top shape, and I think we all can be congratulated for jobs well done.

The official annual members meeting was conducted during AirVenture, as has been our custom for many years. The primary purpose is to cover a general report to members on the state of the IAC in addition to announcing the election results. Reelected are Doug Bartlett as vice president; Bob Hart as treasurer; Bruce Ballew, Jim Bourke, and Peggy Riedinger as directors, and we welcome a new director, Tom Rhodes. I thank all for their willingness to give their time to the membership.

The 2019 contest season is moving along well. To date, of the 20 events scheduled, only two have been canceled or rescheduled for weather. There are seven scheduled from this writing until the really big event, the 2019 U.S. Nationals! IAC and Contest Director Ron Schreck attended AirVenture and reported that everything was going very well. The historical weather data indicates every day will be filled with airplane noises, and the location and host indicates there will be no complaints. It is so encouraging to be in a location where we are welcomed enthusiastically by all.

I have had encouragement from members on the direction IAC is heading, and it's clear that we all want the best for the membership. This is a good time to start discussion on a subject dear to many since most of us started there: the Sportsman category. Since I took office over a year ago, I have voiced my opinions to many members on category creep, sequence difficulty, aircraft that can, and aircraft that can't, and now your opinions and feedback are needed. We have a new sequence committee chair, Michael Lents, whom many of you know. Michael is a professional flight instructor and faculty member at the University of North Dakota, and as such, he has the insight into the basics of the Sportsman sequence that we've wanted for some time: the issues of the first aerobatics flown by a new aerobatic pilot. How do you decide what is Sportsman? One idea is to develop a bank of maneuvers that reflect the aircraft type for the category — for example, a low-power aircraft with no inverted system. The selection of figures will then be used for sequence designs. When you take this further, another solution evolves, and this is where I want your feedback.

We have constructed Sportsman programs for 49 years, and they have not all been met with member approval, which may have resulted in the loss of some pilots' desire to participate in an IAC contest. With the rather limited selection of figures, I propose to the sequence chair to generate a manageable number of Sportsman programs, five or six, that can meet the requirements for the target aircraft, whatever that aircraft is determined to be, which the members review and approve. With these programs in a bank, we can simply use them in sequence. Each fall board meeting, the next Sportsman sequence can be chosen and the previous sent to the back of the line. When we get to the end, start back at the first sequence. My personal opinion is that we ought not try to make Sportsman anything other than flyable. This will reduce the workload on the sequence committee, and everyone will know what the future holds in Sportsman. We just need everyone to have fun!

Remember, the IAC board members work for the IAC membership. I encourage you to communicate with all of us. I hope to see you all in Salina, Kansas, in September! Fly safe and may you always have gentle tailwinds. IAC

▸ Please send your comments, questions, or suggestions to president@iac.org.

TOP STORY

2018 Annual Volunteer Awards

BY LORRIE PENNER, IAC 431036

EACH YEAR, the membership of the International Aerobatic Club nominates outstanding volunteers to be recognized for their contributions to the sport of aerobatics. The award winners are selected by a secret ballot of the IAC board of directors.

On Friday, July 26, in Oshkosh, Wisconsin, IAC President Robert Armstrong announced the recipients of the 2018 Non-Flying Awards at the IAC annual membership meeting. Later that evening awards were presented to the attending recipients at the IAC member gathering and dinner. Recipients not in attendance will receive their awards at the U.S. National Aerobatic Championships in September.

Please congratulate the following IAC members for their contributions to the aerobatics community.

FRANK PRICE CUP: DAGMAR KRESS

Dagmar Kress, IAC, almost single-handedly put together a college aerobatics team. She has been an amazing ambassador for the sport, giving out countless rides and getting people into competitions. She does all of this on her own dime, too, letting members of her team fly her plane for just the cost of fuel. She acts as a safety pilot for everyone who flies with her, which means in a single competition she could fly as many as 15 times, not including practice day.

On top of that she also attends many charity events, acts as a contest director, and is an aerobatics judge at multiple contests throughout the United States. She led the MSU Denver team in 2017 to win the Collegiate National Championship Team Award.

ROBERT L. HEUER AWARD FOR JUDGING EXCELLENCE: STEVE JOHNSON

Steve is a current IAC national judge who demonstrates his deep knowledge of the IAC official contest rules by serving as an instructor at IAC judges schools. He volunteers to travel some distance from his home in Tennessee to present judges schools to IAC chapters in other states every year. This commitment of time and effort is a positive influence on his IAC judge peers, fellow competitors, and new regional judge candidates.

From 2013 to present day, Steve annually averages four contests, where you will find him flying as a competitor in the Advanced category and serving on the judges line.

KATHY JAFFE VOLUNTEER AWARD: CLETA SWEENEY

Cleta Sweeney has tirelessly supported IAC Chapter 61 and its many activities, including acting as registrar for the chapter contest, providing logistical support, and coordinating volunteers. She performs her role as volunteer coordinator in a friendly and enthusiastic manner, assigning and ensuring the placement of the right people to the right tasks.

She did the logistical work setting up the chapter's judges school and coordinating with the airport for the use of the facility as well as arranging delivery of meals, advertising, and providing information to the attendees. While attending the judges school she arranged, she took the exams and evaluations and became a regional judge herself.

PHOTOGRAPHY BY **EVAN PEERS,** PHOTOGRAPHY COURTESY OF **IAC ARCHIVES**

HAROLD E. NEUMANN AWARD FOR OUTSTANDING CONTRIBUTION AS A CHIEF JUDGE: PEGGY RIEDINGER

Peggy has very high levels of skill, determination, and professionalism that truly warrant this recognition. She has made herself available to do this duty without hesitation and traveled long distances to do so. Her equanimity and demeanor have been a source of fairness and consistency. Her good cheer and friendliness are a source of fellowship, which encourages participation in our sport.

CURTIS PITTS MEMORIAL TROPHY: RICHARD GILES

In the early to mid-1990s, a few aerobatic planes such as the Rebel, Sukhoi, and Extra 300 had flown with relatively heavy fiberglass wings. Carbon fiber materials were just starting to reach the consumer market, and Richard Giles spotted an opportunity to design an all-carbon aerobatic plane. He developed a complete kit using only prepreg carbon, backed up by meticulous stress and load calculations. The result was the G-200, which remains the world's best-performing four-cylinder aerobatic plane some 25 years later.

Newest MXS Certified in Time for World Aerobatic Championships

BY RACHEL ASHLEY

MX AIRCRAFT ANNOUNCED AT EAA AirVenture Oshkosh 2019 that the newest iteration of the MXS received its airworthiness certification just in time for the 2019 World Aerobatic Championships.

Mitch Velickovich, global sales manager at MX Aircraft, said Rob Holland's new MXS-RH received its FAA airworthiness certificate on July 26, 2019, just in time for Holland to begin practicing for the WAC in August. The MXS-RH is part of the newest generation of the MXS, the most advanced aircraft in MX Aircraft's line of aerobatic planes.

"Rob's MXS-RH is modified to his specification to meet his demanding style. The MXS-RH has more flight control deflection and many other modifications than the standard MXS, but the aircraft are built exactly the same," Mitch said. "Rob's airplane is a production MXS that we have configured to his unique demands."

Mitch also clarified that even though the MXS-RH was configured differently for Rob, it is still a production MXS. He noted that the new generation MXS has a different rudder that is more like the rudder on Rob's MXS-RH. It also has a new engine cowl, firewall design, gearbox, and engine gussets.

Rob Holland and the MXS-RH.

Rob teased his social media followers for days with limited views of the new plane as it was being completed. On the day it received its airworthiness certificate, he revealed the finished plane and a video of the MXS-RH's first flight.

Rob was scheduled to fly the MXS-RH in the air show at EAA AirVenture Oshkosh 2019, but shipping complications caused delays in assembly and certification processes. However, AirVenture visitors were still able to see the first of the new-generation MX2, which debuted at Oshkosh. Mitch was also excited to announce that the MX2 on display at AirVenture sold en route to Oshkosh, before it reached the convention.

Rob Holland is team captain for the 2019 U.S. Unlimited Aerobatic Team. He is the only pilot to have won eight consecutive U.S. National Aerobatic Championships and was the 2008 World Advanced Aerobatic Champion. He competed in the MXS-RH during the World Aerobatic Championships in Chateauroux, France, in August.

MX Aircraft, founded originally in 2001 and under new ownership and management since 2015, designs and builds unlimited carbon fiber aerobatic experimental aircraft. For more information about the new MXS, visit www.MXAircraft.com.

2019 U.S. NATIONAL AEROBATIC CHAMPIONSHIPS UPDATE

BY RON SCHRECK, CONTEST DIRECTOR

OUR NATION'S CHAMPIONSHIP is roughly two weeks away. Registration is still open! We have approximately 65 pilots preregistered plus another 20-25 collegiate pilots who will be flying for the University of North Dakota, Metropolitan State University of Denver, and U.S. Air Force Academy. Please take the time to register now if you have not as it helps our planning immensely. Registration closes on September 17, 2019. It will cost you 10 percent more after that date. As soon as you register and pay, box master Gary DeBaun will get you a practice slot.

The official Contest Bulletin No. 2 was posted on the IAC website on August 24, 2019, to reflect updates since Bulletin No. 1 was published on July 4, 2019. Please download a copy from our website at www.IAC.org/us-national-aerobatic-championships-2019 (click on the "News & Updates" link). The bulletin has everything you need to know about Nationals, including rental cars, hotels, the schedule, where to park your plane, arrival, etc. We will update it at least once more before the contest. The overall schedule has been slightly tweaked to assist in judges who are flying and judging.

Kudos to Lynn Bowes for arranging to have a food truck provided by Dry Creek Buffalo Ranch at Hangar 606 ramp each day from 10 .a.m. to 2 p.m. Saturday, September 21, through Friday, September 27. This should ease personal logistics during official contest days and make sure everyone is well fed and hydrated. There are also options off the property by I-35.

By the time you read this we will be 10 days away from being on site! Please reach out to me or Assistant Contest Director Duncan Koerbel *(720-250-8442/duncin-denver@gmail.com)* if we can be of any help. We will be on site September 18. Open practice starts September 19, and scheduled practice is Friday, September 20, and Saturday morning, September 21. We look forward to seeing you soon in Salina!

2019 OFFICER AND DIRECTOR ELECTION RESULTS

IAC PRESIDENT ROBERT ARMSTRONG announced the results of the 2019 officer and director election. The results were certified by the IAC ballot certification committee chair, DJ Molny, and are as follows:

- **Vice President** – Doug Bartlett: 90 votes
- **Treasurer** – Bob Hart: 89 votes

Board of directors (four open seats)

- Bruce Ballew: 74 votes
- Jim Bourke: 83 votes
- Tom Rhodes: 78 votes
- Peggy Riedinger: 81 votes

All candidates were running unopposed, and the elected officers and four directors assumed office at the conclusion of the annual meeting.

Editor's Note: Votes were collected from IAC member voting off the IAC.org web server. The votes were cross-checked with copies of ballots sent through a protected Gmail account as backup. Totals from the Gmail ballots matched the results reported by the IAC.org web server.

U.S. Team Members Win Medals at WAC 2019

AS OF THE MAGAZINE'S DEADLINE, the results were not finalized for the World Aerobatic Championships held at Châteauroux-Centre Airport in France. We would, however, like to extend congratulations to Rob Holland for his gold medal finish in Programme 3 - Unknown #2. He finished in first with 3,910.20 points over French pilot, Louis Vanel with 3,863.84 points.

Top-ranked American pilots as of August 27 were Rob Holland (4th) and Mark Nowosielski (15th). The championship held a total of 61 competition pilots who competed fiercely for the top three spots. At the time of this writing, Team USA was running a tight race with Russia for a second place team silver medal.

Congratulations on hard work and dedication to all the pilots: Jim Bourke, Mike Ciliberti, Craig Gifford, Rob Holland, Mark Nowosielski, Krysta Paradis, A.J. Wilder, and team coach Claude "Coco" Bessiere and team manager Alice Johnson. *IAC*

OSHKOSH OR BUST

Reminiscing on EAA AirVenture Oshkosh 2015

BY RICHARD DENMAN, IAC 432729

LEO LOUDENSLAGER WAS THE HOMETOWN HERO in Sussex, New Jersey, where I grew up. He was a seven-time national champion and the 1980 world champion aerobatic pilot. Watching him fly at our local air show was a great thrill, and I always wondered what it would be like to dance through the air the way that he did. I was also thrilled to get to know him and the rest of the gang at Sussex Airport.

In 1983, I was invited to fly with some of them to Oshkosh, Wisconsin, for the big fly-in. I was wide-eyed with amazement as I toured the rows and rows of unique airplanes. It was an experience I never forgot, but because I run a campground and the busiest part of my season is in July, I had not been back since.

SUN 'n FUN is in April, before my season starts, so I always made that my last getaway before the summer hit. I have a great bunch of friends whom I go with every year, so it is not just about the airplanes, but also about the friendships and camaraderie.

I usually fly down to SUN 'n FUN commercial or with a friend, but in 2011 I flew my own airplane. It was quite an adventure, but I knew there was one thing that could top it: to return to Oshkosh, and to do it in my own airplane.

My airplane is an Extra 300L, a direct descendent of Leo Loudenslager's Laser 200. It is a world-class aerobatic airplane, which I feel very fortunate to own. I put it to good use every weekend in the summer, pretending to be Leo by doing impromptu air shows for my customers at the campground. They enjoy it and so do I. Smoke on!

PHOTOGRAPHY COURTESY OF **RICHARD DENMAN**

In 2015, SUN 'n FUN was moved to the last week in April, which was opening weekend at the campground. There was no way I could take off that week, so I told the gang to have fun without me, and I would see them next year.

Then I got to thinking: This would be a good excuse to play hooky in July. I couldn't go to SUN 'n FUN, so I would just have to go to Oshkosh. I could slip out on Tuesday and be back by the weekend. They would barely miss me. It was time to start planning.

First, I needed someone to go with me. I learned from my last fly-in trip that it was a good idea to have another pilot to help with the radios and navigation. A few calls and emails and I had several potential co-pilots.

Flying an Extra cross-country can be a challenge. It is built to be unstable, so you can't take your hands off the stick and expect it to fly straight and level. Plus, the radios are between your legs, so you have to move the stick to change the frequency or squawk code. With a roll rate of 360 degrees per second, moving the stick creates an interesting flight path. Like I said, it can be a challenge. Add to that the fact that I rarely venture away from my home airport and almost never talk to controllers and you can see why I wanted someone up front to give me a hand.

In preparation for the trip, I added a radio and GPS in the front seat so whoever went with me could run the radio and we could take turns following the magenta line. I did my flight plan and programmed it into both GPSes.

I PUT IT TO GOOD USE EVERY WEEKEND IN THE SUMMER, PRETENDING TO BE LEO BY DOING IMPROMPTU AIR SHOWS FOR MY CUSTOMERS AT THE CAMPGROUND. THEY ENJOY IT AND SO DO I. SMOKE ON!

I felt I was prepared, but not really ready. I needed to practice my cross-country skills. So, a week before AirVenture, I decided to make a run to the first stop in my flight plan. It was a typical July day: hazy, very hot, and humid. I focused on the GPS and was surprised at how well I was staying on course. Then I looked at my compass and realized I was heading way off course. That's when I realized that my GPS had frozen, or more accurately, overheated. Even the clock had stopped. I could see the GPS in the front seat, but I couldn't reach it to activate the flight plan. Mission aborted. I headed home the way I was taught many years ago: with a map and compass.

Back on the ground, I called tech support and found out it was a known issue — you can't have the brightness turned all the way up on a hot day. Really? So, I turned it down a couple of notches, which forced me to remove my sunglasses to see it. Not the end of the world, and certainly not enough to stop me from fulfilling my dream.

Work and weather prevented me from making another practice run. So, I set my sights on Tuesday, happy that I had learned about the GPS problem before I actually made the trip.

Over the weekend the forecast was not looking good for Tuesday. There was a front coming through that would delay me until Wednesday. Meanwhile, every guy who said he would go backed out. It looked like I was on my own, so I decided to leave on Monday. I could head west to my first or second stop, lay over there to let the front pass, then continue. I also moved the portable GPS from the front to the back so I had my backup within reach.

On Monday, I strapped my duffle bag into the front seat and launched as planned. I climbed to altitude and headed west toward Scranton, where I planned to pick up flight following. All went well until the controller gave me a squawk code. I punched the right buttons, but the transponder stayed on 1200. I cycled the power, but it was no good. I was able to ident, so the controller followed me through his airspace, but told me he couldn't

PHOTOGRAPHY BY **CHRIS MILLER**

pass me along if I couldn't transmit a code. So, that was it: no copilot, no transponder, and no flight following. I was doing this on my own.

I made it to my first stop in Jamestown, New York, topped off the tanks, and went inside to call flight service. It was not good news, but not unexpected: The front would beat me to my next stop, so I would spend the night. I hangared the plane and called for a cab. The cabby barely spoke a word until we were halfway into town, at which point he asked, "So, are you one of them jet-setters?" I checked my watch to see if I had gone back in time.

The next day, the storm passed by around noon, so I was back in the air by 1 p.m. but fighting a strong headwind. My next stop was Alma, Michigan, and the wind was gusty. Fortunately, it was blowing steadily straight down the runway when I touched down. There wasn't an airplane in sight as I taxied up to the pumps, but a guy came out of a hangar to greet me and show me some tricks with the pump. I topped off again and went inside to call flight service. My next stop would be Oshkosh, but the wind there was gusting all over the place. The forecast for the morning, however, was clear and calm, so I decided Alma would be a good place to spend the night.

When I inquired about staying, the manager said, "Well, you picked the worst possible day. The hangar door is broke, so I can't put you in the hanger. The courtesy car is down for repairs, and I can't take you anywhere because I have to wait for the guy to come and fix the door."

The local crop duster showed up and said I could park the Extra in his hangar, then proceeded to arrange his planes behind it so he could get a picture. We went into the lounge to get the number for a taxi. The manager said, "There's no taxi company in this town, so you'll have to call the one in Mount Pleasant. But you'll need to go to Mount Pleasant anyway, 'cause there are no good hotels in this town either." I called the cab company and the employee said it would be 20 minutes to get there. Then he gave me a list of hotels. I called the first three on the list, and they were all booked. He suggested I call the casino because they had "hundreds of rooms." They said they were all booked, too. It turns out they were having a Def Leppard concert there that night. Apparently, that's a big deal in Mount Pleasant.

Richard looked back and saw a cloud of smoke. The arriving Malibu had crashed after Richard cleared the runway.

Finally, I said to the manager, "Hey, you said there are no good hotels in this town. Are there *any* hotels?" He said, "Well, there's one, but I don't recommend it." At this point, I didn't care how bad it was. I called and got the very last room. The taxi showed up and charged me $38 to go 3 miles because he had to travel all the way from Mount Pleasant. Next time I'm just going to land in Mount Pleasant.

So, the hotel was everything the man said it would be. It was all construction workers and truckers. There were actually three septic pumping trucks parked right outside my window. I could see a small plaza about a half mile down the road, so I walked down and found a salad and some drinks at the deli there.

I got all set up in my room with my salad and my flight planning material on the table, but when I hit the switch for the table lamp, it didn't come on. I looked over and saw that it was unplugged, so I reached down, plugged it in, and it lit up. But when I turned back around, I could now see a condom hanging on the lampshade, right over my food. When a Yooper tells you it's bad, believe him.

The next morning, I was up early because the manager said he would pick me up. He did just that, and I was in the air shortly thereafter. I climbed through some patchy morning fog and headed across Lake Michigan. Apparently a lot of people go around the lake, because they say, "If you go in, you never come out." But I figured the plane flies the same over water as it does over land. And, so it did.

As I reached the western shore, my GPS started lighting up with ADS-B traffic information. It was early, but the planes were already flowing toward the special approach pattern. As I neared Ripon, I could see there was another plane on my six about 500 feet below me. I needed to start my descent, but I didn't like the idea of dropping down right in front of him, so I did a wide 360 and let him head out in front of me.

When I got to Ripon, I could hear Fisk call for a Malibu to rock his wings and proceed straight ahead for an approach to 27. The Malibu responded, "Ten-four," which I thought was very odd.

As I turned toward Fisk and slowed to approach speed, I had to drop one wing and slip the Extra so

PHOTOGRAPHY COURTESY OF **RICHARD DENMAN**

IT WAS AN INCREDIBLE WEEK. AIRVENTURE IS THE EXPERIENCE OF A LIFETIME FOR ANY AVIATION ENTHUSIAST, AND IAC IS ONE OF THE FRIENDLIEST GROUPS OF PEOPLE I HAVE EVER GOTTEN TO KNOW.

I could see and follow the railroad tracks. I got my call, rocked my wings, and requested 36L for landing. I made it. I was landing at Oshkosh. I turned base to final and lined up for the runway, when I suddenly saw a plume of black smoke rising from Runway 27. The Malibu had crashed, and just as I touched down the controllers announced that the airport was closed.

I turned off on the taxiway and was stopped by the flagger, who motioned for me to kill the engine. When I opened the canopy, he came over and said everything had to stop to allow full access to the emergency vehicles. I didn't mind at all. I had done it; I flew to Oshkosh. A lifelong dream had come true.

I climbed out and called my family and friends to assure them that it was not me who crashed. Then an official-looking truck with flashing lights came by. The driver informed me again about the emergency and said, "You're gonna be here for a while. Do you want a sandwich or some Gatorade?" I took the Gatorade, and by then some of the AeroShell team came over to find out more about what was going on.

As we stood around chatting, I noticed that the IAC Pavilion was only about 100 yards away. I mentioned to the sandwich truck driver that I would be parking there, and he said, "Well, let's see what we can do about that." With that, he grabbed his radio, and soon there were a bunch of teenage volunteers headed our way to push my airplane into the show.

As we approached IAC aircraft parking area, the parking manager called for us to bring it up to the display area on the south side of the IAC building. He said he wanted to put it there right next toBoeing Plaza. I couldn't believe it; more than 10,000 airplanes were there, and my Extra was going to be on display in the middle of the show. I felt like a king.

We parked my plane on the circle, and I dutifully chocked the wheels and tied it down. As I was cleaning the bugs off the wings, I began to take it all in: I had done it. I had flown to Oshkosh. And, as I looked around, all I saw were smiling, happy, friendly faces. Lots of people just like me, who had made the journey to be a part of the greatest aviation event in the world.

It was an incredible week. AirVenture is the experience of a lifetime for any aviation enthusiast, and IAC is one of the friendliest groups of people I have ever gotten to know. In fact, I could write a whole other story about all of the great IAC members I met over the years. And by the way, thanks for taking the time to read my stories. I hope you've enjoyed them. If so, I would love to hear from you at richard@pleasantacres.com. Fly safe. ***IAC+***

EAA AIRVENTURE OSHKOSH 2019

TOP: The beautiful Vicki Cruse Educational Pavilion is home to the International Aerobatic Club.
Photography by Evan Peers

MIDDLE: This year 62 aerobatic airplanes parked at the IAC parking area next to air show center.
Photography by Camden Thrasher

BOTTOM LEFT: Jonathan and Julie Apfelbaum with Doedo Schipper, #IAmTheIAC.
Photography by Lorrie Penner

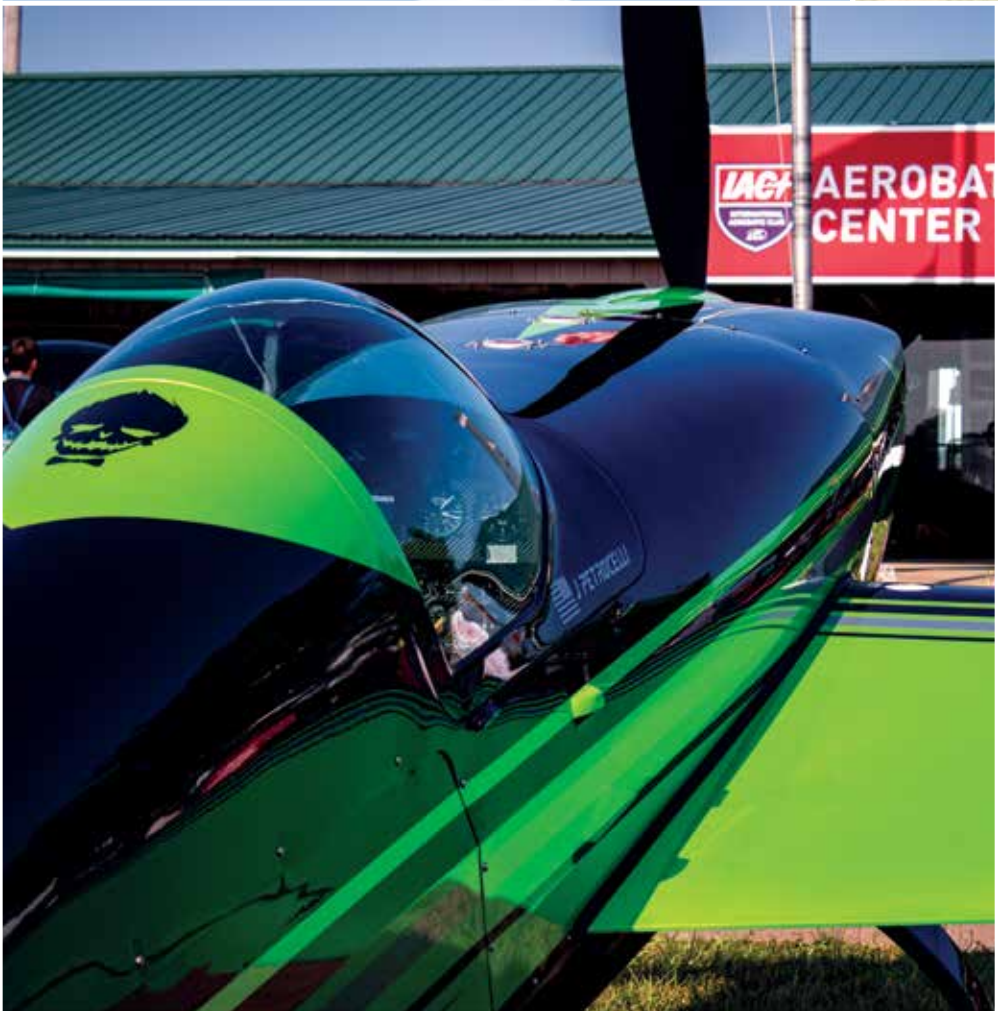
BOTTOM RIGHT: The two place GameBird GB1 received its first airworthiness certificate in the Aerobatics category in June 2019.
Photography by Laurie Goossens

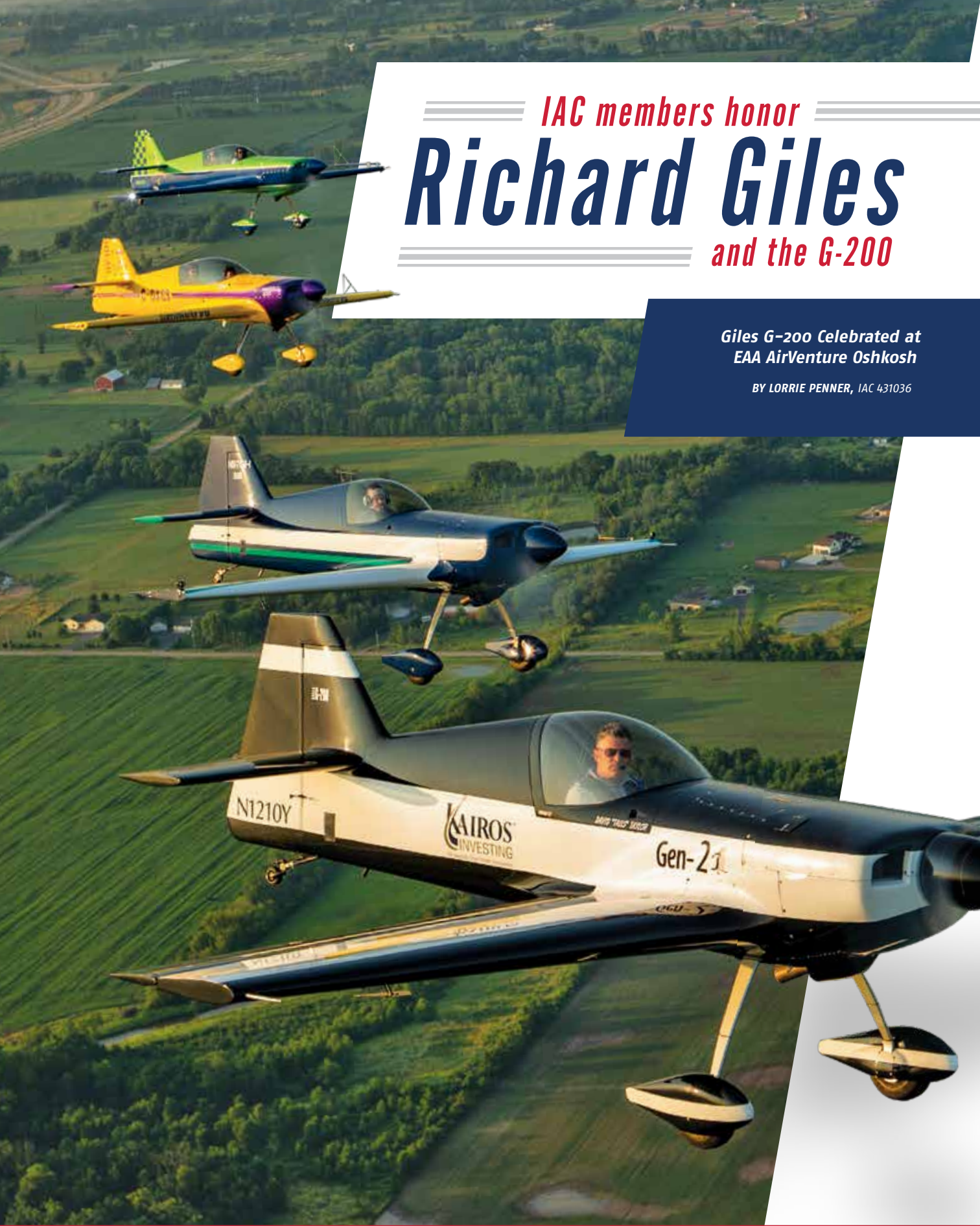
TOP: Gene Soucy and the Grumman Showcat.
Photography by Bernie Koszewa

MIDDLE: Beautiful Pitts Model 12 owned by John Garred of Whiting, Iowa.
Photography by Evan Peers

BOTTOM LEFT: Jeff Petrocelli's Extra 330SC.
Photography by Laurie Goossens

BOTTOM RIGHT: IAC Achievement Award Co-Chairs Dave Watson and Brittanee Lincoln.
Photography by Lorrie Penner





IAC members honor

Richard Giles

and the G-200

Giles G-200 Celebrated at EAA AirVenture Oshkosh

BY LORRIE PENNER, *IAC 431036*

The P-51s roared by the announcers stand as IAC member and air show announcer Brittany Nielsen, IAC 437631, took the microphone for a flyby celebrating the 25th anniversary of the Giles G-200 on Monday, July 22, during EAA AirVenture Oshkosh 2019.

Once the P-51 cleared the air show box, the first pilot in the flyby was David Taylor, IAC 435489, flying his black and white G-200, serial No. 12, tail No. N1210Y. The plane was built at the AkroTech Aviation Inc. factory in 1996 and put into service in 1997. The original paint scheme was all black, but the second owner added a bold white stripe to improve the plane's presentation to aerobatics judges.

As an ensign in the U.S. Navy, David started flying in 1982. In his 27 years as a naval officer, he had the privilege to operationally fly the A-7E Corsair II and F/A-18C Hornet.

David is a competitor in the Advanced category, flying the G-200 in competition for the last two years. His previous mount for three seasons was a Staudacher 600F. David originally began flying aerobatics in a Van's RV-4.

David Taylor flying his black and white G-200.

Mike Tryggvason, IAC 433069, was next up in his yellow and purple G-202, serial No. 61, tail No. C-GXGS. Mike is a Canadian air show and competition pilot based out of Toronto with more than 5,000 hours of total flight time. He flies as a pilot at a major airline, is a flight instructor, and holds a bachelor's in mechanical engineering from the University of Western Ontario.

His group, 10g Aerosports, strives to promote and inspire the next generation of aviators across Canada and the United States.

Like all G-200 and G-202s, Mike's airplane is constructed primarily of carbon fiber, creating a strong and rigid airframe. Richard Giles' design maximizes the performance of the IO 360 engine. While the plane may only have four cylinders under the hood, its blindingly fast roll rate is a capability multiplier in terms of performance.

Brittany Nielsen

Mike Tryggvason flying his yellow and purple G-202.

PHOTOGRAPHY BY **JACK FLEETWOOD, EVAN PEERS**

PHOTOGRAPHY BY **LYLE JANSMA**

ANTICIPATION

Five Giles airplanes at rest before their flyby to celebrate the 25th anniversary of the Giles G-200 at AirVenture 2019.

THE PLANE IS BRILLIANT TO WATCH WITH ITS BALANCE OF SMOOTH LINES AND LIGHTNING-FAST MANEUVERABILITY.

Sportsman pilot Phil Sciuk, IAC 20642, of Oshawa, Ontario, Canada, was next in the lineup. Joe Gerhart built Phil's G-202, and Phil has owned tail No. C-GZOZ since 2010. He said, "It's a joy to fly, and I feel privileged to own it."

Competing since the mid-1990s, Phil eats, thinks, and breathes aviation, especially aerobatics. He has built six airplanes. His current project is a Christen Eagle with an IO-540 Lycoming engine.

The G-202 concept was born and most of the design work was completed even prior to the first flight of the G-200. The G-202 received many good reviews, including this one from Phil's fellow Canadian and former Canadian Nationals Champion, Lloyd Beaule. "I had to look under the cowl and make sure there were four cylinders under there! The performance of the airplane is absolutely amazing. The controls are so well harmonized, it leaves you speechless."

Phil Sciuk flying his G-202.

Jay Hanson flying the MX2 prototype.

The last plane in the flyby was Jay Hanson, IAC 432760, flying the MX2 prototype. The lime green and royal blue striped plane started its life as a G-202. Tail No. N22120 is currently owned by Big Red Aerobatics LLC and was originally built by Chris Meyer, who modified the plane from May 2002-2003.

Initial modification included replacing the 22-foot two-spar wing with a 23-1/2-foot single-spar wing. The 8-foot-span horizontal elevator was replaced with a 9-foot, 4-inch horizontal elevator. The rudder surface was increased by 1.5 square feet along with reinforcing the fuselage with unidirectional carbon fiber. Finally, the IO-360 engine was replaced with an IO-540, giving it 300 hp.

Additional modifications continued, and the tail section was elongated, reinforced with new larger-diameter longerons, horizontal stabilizer, elevator, new vertical spars, and tail post. Again, a new rudder was installed.

With the flyby pilots returned to Boeing Plaza, Greg Howard, IAC 5954, dove into the air show box with smoke on. He skillfully guided his G-200 on a vertical upline with multiple rolls, displaying the airplane's best-known feature: its ability to roll up to 500 degrees per second.

PHOTOGRAPHY BY **JACK FLEETWOOD, EVAN PEERS**

From left to right: Mike Tryggvason, Greg Howard, Richard Giles, Phil Sciuk, and Jay Hanson.

Greg started flying in 1974, doing odd jobs at the airport to pay for flying lessons. He got his private pilot certificate and eventually got his own plane, a 1947 Luscombe. He used the Luscombe to commute to work, but like any commute, it quickly became boring. So to combat the boredom, Greg began doing basic aerobatics on his way to and from work. He subsequently acquired a series of Pitts Special aircraft, in which he regularly competed.

Greg Howard flying his G-200.

In 1994, Greg met Richard Giles at a local IAC meeting. Richard was in the process of developing a new aircraft — the G-200. Over the next several months, Greg would be one of the test pilots helping fine-tune the prototype G-200.

Greg took delivery of kit No. 14 in January 1996 and accomplished first flight in October 1999. At 900 pounds with 200 hp, the carbon fiber aircraft, tail No. N97GH, is high-energy and high-performance.

Greg has been performing precision aerobatics since 1980 and has more than 4,000 aerobatic hours logged (more than 1,500 of those in the G-200). He is a five-time Northwest regional aerobatics champion in the Unlimited category. Greg's sequence is constantly moving and has been affectionately described as ADHD with an airplane.

The IAC is thankful for all IAC member-pilots and the air show announcer who helped celebrate the 25th anniversary of the Giles G-200. Brittany Nielsen, an announcer since 2015 for Grant Nielsen Airshows, narrated the flybys and Greg's performance with her high energy and enthusiasm. Her presentation style took the audience into the cockpit with details about the aircraft, its history, and its performance. She sprinkled in educational details about IAC and the pilots taking part in the flyby and air show to help the crowd appreciate the spirit of flight and the exhilaration of aerobatics. ***IAC+***

The Hammerhead

BY GORDON PENNER, IAC 429704, FAA GOLD SEAL CFI,
THREE-TIME MASTER CFI-AEROBATIC

THE HAMMERHEAD MANEUVER is one of my favorites. It is fun to do and very satisfying when done well. It is also one of the harder maneuvers to teach and it can induce an inverted spin if mishandled. With that being said it is still one a junior aerobat can do well with just a little training, so let's do it right and have fun!

All discussions about maneuvers in this column are geared for those doing recreational aerobatics as well as those who compete.

The hammerhead is also a maneuver that always generates a lot of discussion and re-thinking. It is a great thought exercise when analyzing it with someone who is new to aerobatics as we discuss which control does what on the vertical upline as well as in the pivot. The hammerhead can even be a good discussion about flight control inputs with those pilots who will not be doing aerobatics in the near future. It really gets the brain going in a different direction for those trained in the standard, "car-type driving" flight school.

As Emergency Maneuver Training guru Rich Stowell says, "... the flight controls work in relation to the pilot, not the horizon. Pitch, Roll, and Yaw are 'attitude independent.' Pitch is not nose up/nose down, and yaw is not left/right. Pitch is actually a head-to-foot motion of the tip of the nose. Yaw is an ear-to-ear motion of the tip of the nose. In Roll the wingtip moves from the pilot's head to the pilot's hip. These rules work in any attitude." These statements are the key to understanding how to fly these maneuvers.

The hammerhead also zeros in on the important parts of 1972 World Champion Charlie Hillard's "where to look and when" advice. He felt that if a pilot looked in the right place at the right time the maneuver in question was much easier to perform.

In this discussion, we're in a left hammerhead with a (from the pilot's perspective) clockwise-turning, or American, engine.

Now we're going to fly using the wingtip part of the time. Pilots are initially taught to fly using a tip of the nose reference, from the pilot's perspective, for pitch, roll, and yaw. The hammerhead and most aerobatic maneuvers are instead flown with a wingtip (or wing sight gauge) reference, from the pilot's perspective. Flying by a wingtip reference is not in most pilots' experience. This discussion will be using the left wingtip as a reference.

Wingtips on horizon from *Airplane Flying Handbook (FAA-H-8083-3B, Chapter 3, Fig. 3-7).*

Control of the wingtip with the flight controls is done the same way as if the regular nose reference is used, but the orientation is different. In level flight, a wingtip forward or aft motion is yaw and is done with the rudder. Wingtip up and down motion is done with the roll control. Challenges your brain at first, doesn't it?

The best thing a person new to aerobatics can do in preparation is to learn to do a stall entry and recovery using a left wingtip reference instead of the nose reference. If coordination is maintained throughout the stall entry, break, and recovery, the wingtip will not move

PHOTOGRAPHY COURTESY OF ***AIRPLANE FLYING HANDBOOK***

forward or aft of a spot on the far horizon off the wingtip. Heading will be held constant throughout, and the wingtip will not drop or rise in relation to the horizon as the pitch is increased or decreased.

Just as a good landing is more likely to occur following a good stabilized approach, a good hammerhead pivot or rotation begins with a good upline. The more vertical the upline is the better the pivot is. I have found that once the vertical line has been set the stick cannot be frozen in position. The Decathlon, for instance, will slowly creep on its back (negative) as it goes uphill and slows down. Don't let it.

The engine at full power will "torque" the aircraft as it slows. This will cause the aircraft to roll left, which is a downgrade. This looks to the pilot as the wingtip wanting to walk across the horizon as it is being held vertical in pitch. Put in right aileron as necessary to prevent any rolling on the upline.

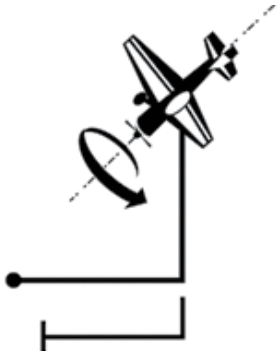
As the aircraft slows on the upline with the engine at full power the left wingtip will start to drop, which is a left yaw motion. The pilot must use some right rudder to keep the wingtip in position on the horizon.

The "kick," or pivot, is really a rapid and smooth push of the rudder to the stop, followed a split-second later by opposite aileron and then forward stick. These movements are not normally done simultaneously but sequentially. The aircraft type will determine the timing. The rudder and elevator are effective immediately because they are in the propeller slipstream. The aileron only becomes effective once the wingtip is moving in yaw and has some relative wind over it.

The rudder begins the left yaw motion, giving the right wingtip more relative wind. This pulls the right wingtip into a left roll. The opposite aileron input, in this case right aileron, is added to prevent this roll. Enough aileron must be added so the aircraft yaws "in plane" with no rolling motion present. Any roll is a downgrade.

We should be pivoting around a point within a half wingspan of the pilot. See diagram 8.5.11 on Page 22. Most people kick too early. This causes what we call a "flyover," when the airplane flies up and over in an arc instead of rotating about a point close to or within the dimensions of the aircraft.

In a flyover, the aircraft still has some energy left over when the rudder input is initiated. It also doesn't feel good. The pilot is thrown to the high side of the aircraft during the rotation.



"Torquing" is rotation about the longitudinal axis during a hammerhead pivot.

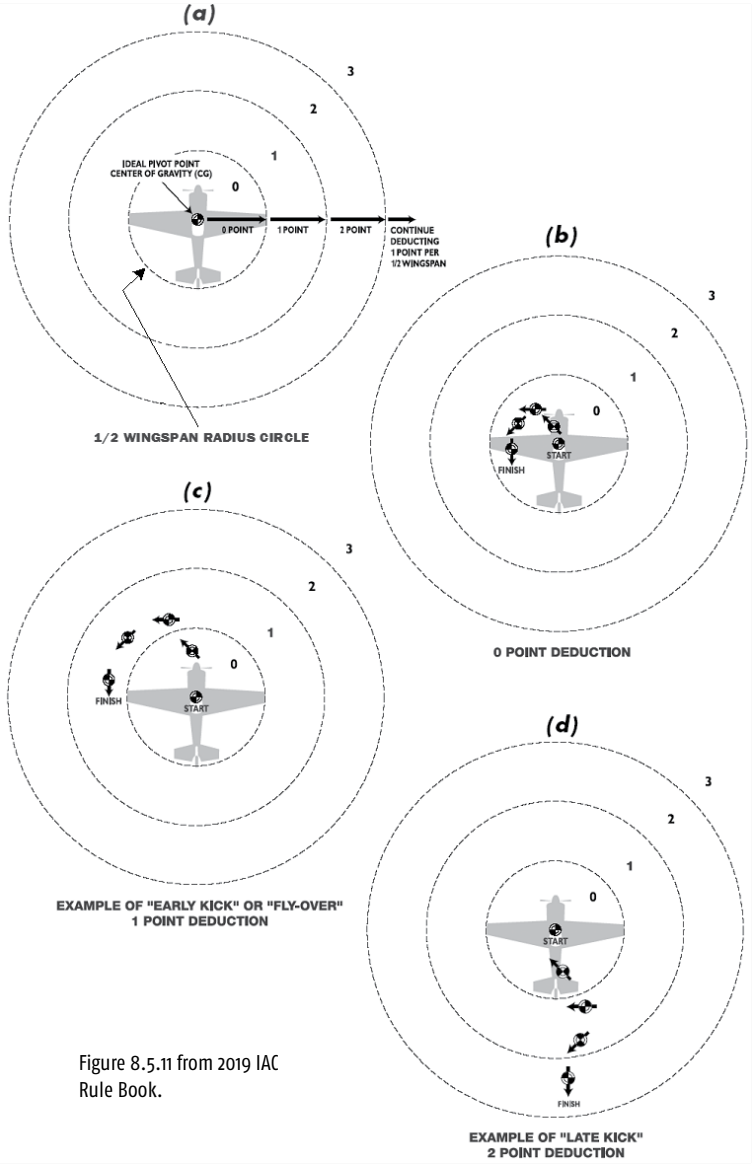


Figure 8.5.11 from 2019 IAC Rule Book.

Beware of kicking late and getting into a tailslide. Many airplanes cannot handle a tailslide.

Each airplane is different, but kicking at the proper time will cause the aircraft to pirouette around a point close to the aircraft without much fuss. Kicking too early or too late, however, will cause the aircraft to buck and snort, and it will look like a partially unfolded lawn chair thrown out of the back of a moving pickup truck. It also doesn't feel good to the pilot.

In the case of the Decathlon, there is a very gentle shudder the aircraft gets when the time is right.

Also, as I'm looking to the horizon at my wingtip sight reference, it seems that when the time is right I am still moving slowly upward. Although I perceive this slight upward movement, a ground observer will see the aircraft stop. Here is where some ground coaching can help. When the pilot sees all motion stop, however, the ground observer sees backward motion.

Now we enter the possible inverted spin zone. The left yaw motion causes gyroscopic forces in the propeller to pitch the airplane on its back. Pushing the stick forward during the pivot cancels out this pitching to keep the aircraft yawing "in plane."

Preventing the inverted spin entry is all about not overdoing the forward stick input.

Rich Stowell taught me a neat trick that helps the pilot use the correct amount of forward stick.

At the end of the vertical line, the pilot is looking at the sight gauge or the wingtip in relation to a spot on the left horizon. It is natural for the eye to want to follow the wingtip down across the ground as the rotation begins, but you must resist it.

Instead, keep the eyes on that spot on the horizon and let the wingtip drop out of sight. Then, apply just enough forward stick to put the tip of the nose through the same spot on the horizon the wingtip or sight gauge just vacated.

It is very hard to keep the Pitts Specials from torquing around during the rotation. I was taught to pull power a little just before the rotation begins, which really helps. Don't pull power too much, though, or the rotation will stop working. It sure takes a lot more forward stick to counteract the gyroscopic pitching in the Pitts than it did in the Decathlon.

When the nose reaches straight down just neutralizing the rudder pedals will bring about a pendulum effect, which is a downgrade. To avoid this, put in full opposite (right) rudder when about 30 degrees away from straight down, and then quickly go to neutral. That will stop the nose quite smartly, with it pointing straight down. Once the pivot stops you don't need as much forward stick, so ease off. Avoid pushing negative on the downline.

I mentioned before that the control inputs for beginning the hammerhead rotation could also inadvertently cause an inverted spin. Kicking at the right time and using the Rich Stowell method with the forward stick, as outlined earlier, will usually prevent an inverted spin entry.

PHOTOGRAPHY COURTESY OF *IAC OFFICIAL CONTEST RULES 2019*

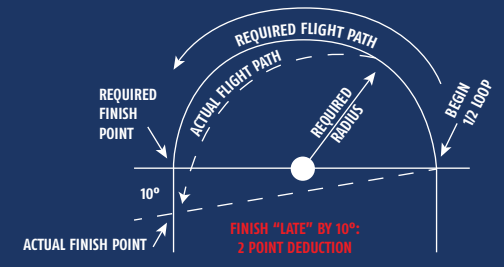
However, as soon as you find the airplane doing anything you didn't expect, discontinue the maneuver *immediately*. As they say in *Top Gun*, "Don't push a bad position." Center the rudder, aileron, and elevator controls, and once the nose is at or below the horizon, pull the throttle to idle. The heavy end of the aircraft will seek the center of the earth, and it will begin flying again. If you stop using the offending inputs as soon as things start getting ugly, the aircraft should never fully enter the spin. If a spin does result, using the PARE spin recovery procedure (power idle, ailerons neutral, rudder full opposite the spin, elevator sharply through neutral) works whether upright or inverted.

I am assuming, of course, that when practicing this maneuver you have obtained sufficient altitude, put your parachute on, loaded the aircraft within the *aerobatic* CG, and already had spin training. You can also see that you should not teach yourself this or any other aerobatic maneuver. Get proper training first.

I love flying the hammerhead, and I love teaching it. It is one of the most satisfying maneuvers when done well — whether competing or not. It definitely has a sweet spot. Learn it safely and enjoy!

Retraction

In the July issue of *Sport Aerobatics* there was an error in the article titled "The Humpty Bumps." An incorrect illustration with a description of "Finishing Late" appeared on Page 31. The correct illustration has been provided by the author, Gordon Penner, along with the correct description.



The statement from *2019 Rule Book*, Chapter 8, Pages 8-21, Family 8.4:

"These figures, whether vertical or performed with 45-degree lines, are judged as a combination of lines and part-loops. None of the part-loops are required to have the same radii, though they must still have a constant radius from start to finish. **For vertical humpty bumps, this means that the half-loop must complete at the same altitude from which it began.**

"The lines in these figures may be of different lengths. Therefore the entry and exit altitudes need not be the same. Rolls on any of these lines must be centered."

Curtis Pitts Changed My Life Path in 1993

Winner of the 2018 Curtis Pitts Print

FORWARD BY LORRIE PENNER, IAC 431036

FRANCOIS BOUGIE, a talented artist from Canada, has a real fascination with the Pitts Special and has become something of a historical expert on the subject. When he met Curtis Pitts, it turned out that Curtis had a real appreciation for his art, and they worked together drawing various pictures of the Pitts. Francois donated one of their collaborations to IAC in 1996 at the time of the World Aerobatic Championships, and it still hangs in the IAC Pavilion today. The first 200 pictures were signed by not only Francois, but also Curtis Pitts, Gene Soucy, Charlie Hillard, Betty Skelton, Ed Saurenman, Malcolm White, and Tom Poberezny.

When the picture was originally completed and donated to IAC, Francois' purpose in holding a drawing for a print was to promote the Pitts Special and aerobatics. The first drawing with IAC for a print was held in Oshkosh in 1997. In the last 15 years, he has been personalizing the print with a request from the winner on his or her favorite Pitts Special airplane. In the case of our 2018 drawing winner, Kate Landdeck, the print was personalized with Caro Bayley Bosca's plane.

Kate was ecstatic to receive the beautiful print and wrote a note to Francois to let him know her appreciation and her connection to Curtis Pitts and Caro Bayley Bosca.

Close-up view of the print showcasing Caro Bayley Bosca.

PHOTOGRAPHY COURTESY OF **FRANCOIS BOUGIE**

Kate with Caro Bayley Bosca and Curtis Pitts.

Dear Francois,

I am beyond ecstatic to be receiving your beautiful print and what a fabulous surprise to have a personal drawing too. The print at IAC is just beautiful.

Curtis Pitts changed my life path in June 1993. I was at the Bartlesville Biplane Expo, and at the time I was working as a history instructor at Spartan School of Aeronautics in Tulsa, fresh out of college. The air show was over and as I was there by myself, I took the time to wander a bit more. I was sticking my nose into one of the Pitts Specials that had performed in the air show when the pilot walked up and chatted with me. He told me that Curtis Pitts himself was sitting in the shade of the hangar and I should go say hi, so I screwed up my courage and did.

Curtis was incredibly friendly and kind. He introduced me to an older lady sitting next to him. "This is Caro Bayley Bosca," he said. "She won the 1951 aerobatic championship in my second plane."

I was stunned. I knew about flying in the 1930s, but hadn't realized women did that sort of thing in the 1950s. Caro and Curtis talked to me for a long time and then I very cleverly asked if I could have my picture with them.

As we were taking the picture a woman ran up to us and said, "You are Caro Bayley Bosca. You flew B-25s in WWII as a WASP." That was the moment my life was changed forever. I had earned a bachelor's degree in history and was working at a flight school, but had never heard of the WASP before. I had found my mission.

Caro gave me her name and address on a little notecard and she said to write to her if I wanted to get in touch. In 1996, I was studying for my master's in history. I wrote to Caro and she invited me to Ohio for a WASP event. I began my oral histories with the WASP that summer and have been with them ever since.

I did my master's thesis and doctoral dissertation on the WASP and I intend to publish my book, The Women With Silver Wings*, soon with Crown Publishing. The book follows the WASP of World War II from the 1920s to 2017.*

It has been so hard to watch these women go — we lost Caro, who remained a close friend through 2007. I promised the WASP that I would tell their story. I promised Caro, who loved to tell people about the day she "found" me, that I would make her thin with thick blond hair and tell how much she loved to fly.

As you can see, your beautiful drawing will represent an incredible day that has shaped my entire adult life. I am grateful.

Blue Skies,

Kate

KATE LANDDECK is an associate professor of history and director of Pioneers Oral History Project at Texas Woman's University, Denton, Texas.

2019 Greg Koontz Airshows Aerobatic Instructor Scholarship

In Memory of Bobby Younkin

GREG KOONTZ AWARDS the 2019 Greg Koontz Airshows Aerobatic Instructor Scholarship in Memory of Bobby Younkin to Timothy J. Taylor. The scholarship is awarded annually to an applicant who is a CFI, has some tangible experience in aerobatics, and has demonstrated that he or she is interested in becoming involved in aerobatic instruction.

Timothy attended the IAC member gathering on Friday, July 26, at EAA AirVenture Oshkosh 2019 to enthusiastically receive his scholarship in person.

As a 38-year-old airline pilot with 6,900 hours of Part 121 time and 855 hours of dual given, Tim acknowledged that it probably seemed odd that he would apply for an aerobatic scholarship. His reasons became apparent in his application as he described the benefit not only to himself, but also to his aerobatic community in Louisville, Kentucky.

The Louisville area has a great deal of general aviation traffic, an aviation mentorship program, various clubs and volunteer organizations, a local EAA chapter, a number of warbird and experimental aircraft owners, and a robust infrastructure at the local airport. The missing component is aerobatic support and education. There is a lack of flight schools that teach aerobatics, no aerobatic aircraft for rent, and no IAC chapter within the state.

While he and his partner in a Decathlon are both CFIs and have both participated in formal aerobatics courses, neither has been formally trained in how to teach aerobatics to a novice.

Timothy J. Taylor

Additionally, by his own admission, neither of them are skilled in critiquing their own performance with regard to competition aerobatics or anyone else's. Therefore, they would not be able to teach others how to properly fly the maneuvers and be supportive of growing a fledgling aviation community into a flourishing group of aerobatic pilots. The scholarship is seen as an opportunity to accomplish Tim's own goals more efficiently while laying the foundation for teaching others the correct way to fly aerobatics.

CP Aviation Vicki Cruse Emergency Maneuver Training Scholarship

Shokoufeh Mirzaei awarded

THIS YEAR CP AVIATION awards the Vicki Cruse Emergency Maneuver Training Scholarship to Shokoufeh Mirzaei.

Shokoufeh lived most of her life on U.S. Air Force bases around Iran before moving to the United States to pursue her doctorate in industrial and systems engineering. In January 2009 she developed a passion for becoming a pilot; she started her flight training in 2018 and is now an instrument-rated pilot working toward her commercial certificate. She actively participates and volunteers in aviation events and organizations, and ultimately wants to become a CFI and fly in air races.

The scholarship, now in its 12th year, is awarded each summer to a member of the IAC who holds a pilot certificate and wishes to pursue spin, unusual attitude, and basic aerobatic training. The scholarship is given in memory of Santa Paula aerobatic champion Vicki Cruse, a member of the United States Unlimited Aerobatic Team and president of the IAC. On August 22, 2009, Vicki lost her life during a qualifying flight for the World Aerobatic Championships in England. It is CP Aviation's goal to help keep her memory alive by giving this scholarship each year.

The training is conducted in Citabria and Decathlon airplanes with emphasis on creating safer pilots. The program is broken down into three modules (stall/spin awareness, in-flight emergencies, and basic aerobatics), consisting of 12 flight lessons.

Shokoufeh Mirzaei

Brian Nordella

2019 Doug Yost Memorial Aerobatic Scholarship

Brian Nordella awarded

IAC CHAPTER 78 AWARDS Brian Nordella of Camarillo, California, the 2019 Doug Yost Memorial Aerobatic Scholarship, presented annually to promote aviation safety through aerobatics training.

Brian is a private pilot with 86 hours of flight time working toward his dream of becoming a commercial pilot and flight instructor. He believes that learning aerobatics will not only make him a safer and more knowledgeable pilot, but also will allow him the opportunity to be more involved in general aviation in new and exciting ways.

While Brian's long-term goal in aviation is to become a commercial pilot, he also would like to volunteer with different aviation organizations such as Angel Flight and EAA Young Eagles. He currently volunteers for Big Brothers Big Sisters of America and is a Big Brother to a 12-year-old boy. Brian is also an avid volunteer at the Aviation Museum of Santa Paula, where he works with a group that provides local youth the experience of working on aircraft and learning about different careers in the aviation field.

The IAC Chapter 78 scholarship is named for Doug Yost, an aspiring career pilot who worked as a corporate pilot for Jack Links and was a rising star in aerobatic competition. Doug tragically lost his life in a motorcycle accident in 2002. The scholarship is awarded annually from an endowment established by his family, with continuing sponsorship from Link Snacks Inc.

The International Aerobatic Club Inc. is a division of EAA. The IAC is also a division of the National Aeronautic Association and is responsible for the administration, management, and promotion of the sport of aerobatics in the United States under the applicable regulations of the Fédération Aéronautique Internationale, Lausanne, Switzerland.

For more information, contact Justin Hickson, IAC Chapter 78 president, at 651-338-3345. IAC

SALINA KANSAS

2019 U.S. NATIONAL AEROBATIC CHAMPIONSHIPS

SEPTEMBER 21-27

AT THE CENTER OF IT ALL!

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In-Flight Engine Event

BY LAYNE LISSER, IAC 432890, N229LL *AGUILA DE ORO*

ON A BREEZY DAY in May 2017, I decided to fly to my usual practice area about 10 miles from my home airport, Salinas Municipal Airport (KSNS), to work on the Advanced Known sequence. I planned on moving up from the Intermediate category that year.

During the end of my first run through the Advanced sequence, I noticed the No. 2 cylinder register in the yellow (413-plus degrees). The cylinder temperature returned to green as soon as I throttled back. I ran through the sequence again, and the temperature stayed in the green through the majority, until it slipped back in the yellow toward the end.

On the second practice round, I finished flying the last maneuver Figure 9, which was an Immelmann with a one and a half 2-point roll followed by a one and a half positive snap roll opposite direction with exit inverted. I rolled upright, headed in the direction of the airport as planned. Contemplating if I should work on some of the individual figures, I noticed what looked like smoke coming up between my legs. Could that be right? What?

Since I was pointed toward the airport, I continued in that direction and started using my senses to help me isolate the problem. There was no electrical or burning smell, but there was a strong scent of engine oil.

As I scanned the earth below to keep my direction on course for the airport or alternate landing location in case the engine quit, I also intermittently did a visual check in the inside of the cockpit. There was no visible flame, and I determined that the plane was *not* on fire. The smoke was more of a mist-like substance.

At this point, I weighed the options and decided that an airport landing was viable. I contacted the airport tower to report my position, current altitude, that I had smoke in the cockpit, and that I was going to attempt to get back to the airport.

The tower gave me clearance to land: "229LL, you are No. 1 for Runway 26," came the radio transmission. I did not declare an emergency, but did answer in the affirmative when the tower asked if I wanted assistance upon landing. In retrospect, it may have been appropriate to declare an emergency.

My oil pressure was substantially below normal operating pressure. Normal would be 60 psi or better; I had about 48 psi. The in-cockpit "smoke" dissipated fairly quickly, but my oil pressure continued to drop, and I advised the tower of its status. The tower asked how much fuel I had on board, and I reported I had 14.5 gallons. I was offered Runway 31, but I declined due to a significant crosswind, because I was concerned at the prospect of making a dead-stick landing.

I continued for Runway 26 and continued looking for potential landing spots should the engine fail. At about 2 miles out, I was down to 9 pounds of oil pressure. Aiming directly for the end of Runway 26, I maintained close to 2,000 feet MSL until I was sure I had the runway made even if the engine did quit, and then began my descent. The engine started shaking as soon as I reduced power, but I was able to land without incident. The engine quit shortly after touchdown.

With the help of the airport manager, we pushed my plane off the runway and eventually back to my hangar. As a result of my earlier agreement for assistance upon landing, firetrucks had been scrambled, and after determining I needed no further help and giving my name, tail number, and phone number, it was time to assess the damage.

After removing the engine cowl in the hangar, it was discovered the No. 1 cylinder had cracked the case, causing a complete loss of oil. I normally fly with 9 quarts of oil, but that particular day I measured 8.5 quarts during my preflight, and rather than measure out a half quart, I just threw a whole quart in, so I began the flight with 9.5 quarts of oil. Back in the hangar when we drained the crankcase of the remaining oil, we measured 20 ounces.

Amazing — just over half a quart! In my mind, true or not, that extra half quart I put in that morning is what got me home. We also found that two small bolts and one larger bolt on the bottom of the No. 1 cylinder had sheared off where the nut meets the barrel. Also, the intake tube for No. 1 was off; it probably happened after landing or on short final, which is when the engine shook the most violently. The case was cracked all the way around the No. 1 cylinder.

I had performed an oil and filter change three hours before this flight, and there was no sign of leakage or failure at either the filter or the quick drain, so the oil was lost from the No. 1 cylinder. Apparently, the temperatures noted in the No. 2 cylinder during the flight were unrelated to the issues going on in the No. 1 cylinder. No one has ever suggested a reason for the case failure. The engine had about 700 hours on it. It was a Lycoming IO-540 with 10-to-1 pistons and had been adapted for aerobatic flight and installed on the plane prior to my purchase. I can account for about 500 of those 700 hours.

I spent a fair amount of time assessing my performance during this event. My flight time was barely at 1,000 hours, mostly in my Christen Eagle II, N229LL. I also have some time in a C-195, Pitts Special, and smattering of Citabrias. I love aerobatics and hate flying away from airports. For the most part, the only non-aerobatic flying I do is going to and from my practice area and to and from a contest.

Here are my thoughts on the event, for whatever they are worth.

THINGS I DID RIGHT:

- I did not panic.
- I kept flying my plane until I got out.
- I looked for an open area to point the plane in anticipation of a bailout.
- I contacted the tower.
- I did not change any of the power settings until I had the runway made.
- I maintained altitude until I had the runway made.

THINGS I MIGHT DO DIFFERENTLY IN A FUTURE EVENT:

- Climb at the first sign of trouble. Climbing gives altitude, which equals more options. However, since the engine seized 100 feet after touchdown, time spent climbing earlier might have meant not making the runway.
- Mentally run through my bailout procedure, so that if I made that choice, I wouldn't waste time thinking about it while I was trying to execute it. I do review my bailout procedures now every time I get in prior to engine start, and every time I get out after shutting down. Doing this in the hope that it will become muscle memory and execution will be more efficient if I ever have to do it.
- Declare a mayday, because there was no way to know how long communications with the tower would last and I can't think of any reason not to. So this is one thing I will do differently in the future.

The plane has a new engine, and N229LL returned to flight on December 20, 2018. After a year off from competitive flying, I just flew in the Intermediate category at the Coalinga Western Showdown in May. Maybe I'll move up next year. At the end of the day, I'm still here to tell this story. Never argue with success, right? IAC

2019 IAC Contest Season Calendar

DATES	HOST CHAPTER	NAME	REGION	LOCATION	AIRPORT
Aug. 3, 2019	78	Doug Yost Challenge	Mid America	Iowa	KSPW
Aug. 9, 2019	67	Can-Am Championship	Northwest	Montana	KCTB
Aug. 16, 2019	52	Kathy Jaffe Challenge	Northeast	New Jersey	KVAY
Aug. 16, 2019	AC3	Canadian National Aerobatic Championships	Mid America	Ontario	CNY3
Aug. 31, 2019	AC7	Rocky Mountain House Contest	Northwest	Alberta, Canada	CYRM
Sep. 6, 2019	67	Apple Turnover	Northwest	Washington	KEPH
Sep. 7, 2019	11	James K. Polk Open Invitational	Northeast	Virginia	KHWY
Sep. 21, 2019	-	U.S. National Aerobatic Championships	National	Kansas	KSLN
Oct. 5, 2019	5	The Clyde Cable Rocky Mountain Aerobatic Contest	South Central	Colorado	KLAA
Oct. 11, 2019	36	Akrofest	Southwest	California	Lo8
Oct. 11, 2019	19	Mason-Dixon Shoot Out	Northeast	Virginia	KFVX
Oct. 18, 2019	107	Texas Hill Country Hammerfest	South Central	Texas	KAQO
Oct. 18, 2019	3	Mark Fullerton Memorial 2019 Bear Creek Bash 2.0	Southeast	Georgia	KRMG
Oct. 19, 2019	12	Las Vegas IAC West Open Championship	South Central	Nevada	oL7
Nov. 1, 2019	23	Sebring 80	Southeast	Florida	KSEF
Nov. 1, 2019	26	Foxy Figures	Southwest	California	KWJF
Nov. 15, 2019	62	Tequila Cup	Southwest	Arizona	KAVQ

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