



SPORT

# AEROBATICS

OFFICIAL MAGAZINE OF THE INTERNATIONAL AEROBATIC CLUB

JANUARY/FEBRUARY 2023



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AEROBATICS ARE

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## COVER

**ON THE COVER:**  
Lined up and ready to go at the 2022 Hammers over Hondo contest in Hondo, Texas. Joseph Card and John Farrington shared the American Champion Decathlon pictured to clinch third place finishes in Primary and Sportsman respectively. Cover photo by Fernandez Imaging.

**ABOVE:**  
The caravan out to the judges line and boundaries at the 2022 U.S. Nationals in Salina, Kansas.  
Above photo by Hector Ramirez.

**Publisher:** Jim Bourke, president@iac.org  
**Executive Director:** Stephen Kurtzahn, execdir@iac.org, 920-426-6574  
**Editor:** Lorrie Penner, editor@iac.org  
**Contributing Authors:** Jim Bourke, Mike Heuer, Andrea McGilvray, DJ Molny, Lorrie Penner, Dave Watson  
**Senior Copy Editor:** Colleen Walsh  
**Copy Editors:** Jennifer Knaack, Bryant Shiu  
**Proofreader:** Tara Bann  
**Print Production Team Lead:** Marie Rayome-Gill

## IAC CORRESPONDENCE

International Aerobic Club, P.O. Box 3086  
Oshkosh, WI 54903-3086  
Tel: 920-426-6574 • Fax: 920-426-6579  
Email: execdir@iac.org

## ADVERTISING

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

## MAILING

Change of address, lost or damaged magazines, back issues.  
EAA-IAC Membership Services  
Tel: 800-843-3612 • Fax: 920-426-6761  
Email: membership@eaa.org

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**POSTMASTER:** Send address changes to EAA MEMBERSHIP SERVICES, P.O. Box 3086, Oshkosh, WI 54903-3086. CPC 40612608

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# Looking Forward

BY JIM BOURKE, IAC 434151



**I TRUST THAT EVERYONE** reading this is looking forward to a whole new year of aerobatic fun!

## IAC Fall Board Meeting

At this year's IAC fall board meeting, the IAC board took a few actions that will be of interest to our members. New program forms, called "L" and "R" forms, have been approved for use in IAC contests. (Optional — regular A/B/C forms can still be used.) These have been used for a while in CIVA contests but will be new to most of you. Essentially, these forms combine the scoresheet with the sequence diagram, which saves paper. This step allows us to run contests more easily with two-person judge teams (judge and assistant) rather than the three (judge, assistant, and recorder) that we are used to. These L and R forms do not have as much space for judge comments, but they still work well because the assistant can write the comments directly on the diagram instead.

The IAC board also took the step to make boundary judges optional at our contests. Last year, 18 of our 33 contests operated without boundary judges for one reason or another, so this rule change will be welcome by many. Meanwhile, contest directors who want to staff boundaries still can. I've heard from members who are nervous about this change, but try to keep

in mind that we are already operating without boundary judges *at most of our contests*. It will be okay.

The IAC board carefully considered the use of video in protests at the IAC Nationals and decided that in future years protests can only be made using official contest video. This eliminates the use of cockpit video or third-party video sources to resolve protests at the Nationals.

## CIVA Plenary

The CIVA plenary also occurred where it was decided that Mike Heuer should be jury chair of the 2023 World Advanced Aerobatic Championships. This is a prestigious role for Mike that is a perfect fit for his knowledgeable, patient, and statesmanlike decision-making abilities. Meanwhile, I've been appointed to chair the Aresti catalogue committee to replace the late and sorely missed John Gaillard, and Mike Gallaway continues as U.S. delegate and serves as a member of the CIVA judging committee. I'm pleased that we have several Americans in prominent roles in international matters.

## Budget

Some of you may recall we had planned for a membership dues increase in the spring, but for various technical reasons the new membership pricing didn't take effect until October. For this reason, the IAC is way behind our revenue expectations for the year, at least on paper, and this shows up in the financial report filed by our treasurer Jordan Ashley for the fall meeting. Membership levels are so far unaffected by the rate increase and holding steady at just over 4,000 members. Consequently, we expect this budget deficit to be a temporary hiccup for 2022 as we were expecting to have a full year's worth of increased membership dues.

## 2023 U.S. Advanced Team

A bit of personal news: I've accepted the honor of serving as coach of the U.S. Advanced Aerobatic Team this year. I'm delighted to be working again with Alice Johnson, who has agreed to serve as team manager.

We have a great, talented bunch of pilots who have already built a lot of skill, and I am really excited to get to know them better. I've already sent them a few sequences, and I've gotten a few of their cockpit videos so I know they are practicing!

Appearance  
Maintenance



## FACTS, FIXES & TIPS

FROM THE PROS

### BUSY BOTS: SUPPORTING AVIATION



In flight, aircraft can be damaged by lightning, ice, and bird strikes. During take-off and landing, runway FOD is a sizeable menace. Even while stationary, there's collision damage from service vehicles and other aircraft. Whatever the culprit, damage requires the plane be pulled from service and its exterior inspected, a complicated, time-consuming process that includes a gantry system, lifting gear and a full team of technicians.

Enter "BOTS," robotic alternatives that inspect aircraft in minutes rather than hours, freeing-up engineers for skill-driven tasks, and reducing maintenance costs. Coming off Japan's Fukushima nuclear disaster where drones captured 3D images of the damage, drones today are equipped with high-def imaging systems recording features as small as 1mm. Airbus' Advanced Inspection Drone is used in and outside hangars. Fitted with aircraft inspection software and laser-based obstacle detection sensors, it can be operated with minimal training.

Not all inspection robots fly. A system born from inspecting the stainless steel tanks used in the dairy industry also uses suction mechanisms to cling to the outside of an aircraft at any angle, including upside down. Operating on dry and wet surfaces, even fully submersible, these robots are also purposed for repair, repaint, and even routine cleaning maintenance.

As the level of sophistication advances with better sensors, greater agility, and in ever-smaller sizes the goal to automate inspection, repair and maintenance procedures is more fully integrated than you may realize.



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Please mark October 24 through November 4, 2023, on your calendars so you can come to Jean, Nevada, and cheer Team USA on! I'm told the surrounding area offers many distractions that can keep you entertained between flights. Looking to volunteer at WAAC? Contact Duncan Koerbel at [duncan.koerbel@gmail.com](mailto:duncan.koerbel@gmail.com).

### Gliders

Our 2023 contest season kicks off February 16-18 with the Estrella Classic Glider competition in sunny Maricopa, Arizona. Once again, the Advanced and Unlimited glider champions will be selected at this event, as will the U.S.'s Advanced and Unlimited glider teams. I'll be there flying my Swift S-1 in Unlimited. Hope to see you there!

I spent some time working with Mallory Lynch, Jason Stephens, and Shad Coulson on our team management policies and our code of conduct for the U.S. Aerobatic Teams. These glider pilots really care about the sport and made great suggestions. Sometimes the IAC gets focused on power competition and forgets to write things so they will apply equally well to gliders, such as the line in our policy document about how pilots must be responsible for fueling their own aircraft! I really appreciate it when people take time to make suggestions constructively. This meeting resulted in better policies for everyone.

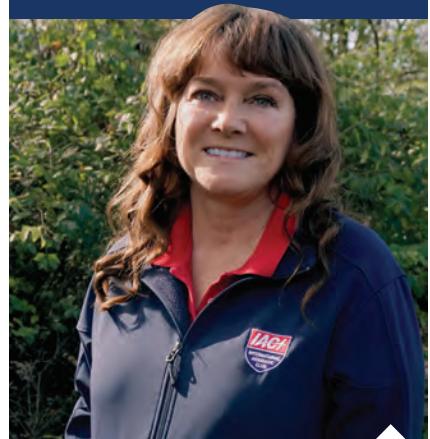
In other glider happenings, we have a Primary glider category brand-spanking-new for 2023! Previously, glider pilots who weren't ready for Sportsman had no Primary category of their own, though they were allowed to compete in the Primary power category. This didn't always work out that great because there are some training gliders that cannot spin, and spins are featured regularly in the power sequences. I hope that by adding this new category we will encourage more glider pilots to take that first brave step into the world of aerobatic competition.

### Thank You!

If you reached out to me with suggestions, comments, complaints, or even harsh criticism in 2022, thank you so much for being willing to share your thoughts with me. Everything I hear from you makes me a better IAC president. Keep it coming! Please reach out to discuss this article or anything else at [president@iac.org](mailto:president@iac.org)! **IAC**

# It's a New Year – Get Your Vitamin G!

BY LORRIE PENNER, IAC 431036



**HAPPY NEW YEAR! TIME** for a few resolutions? I don't know about you, but I usually end up making a couple of resolutions and keep at it until the end of January. So, since I can't seem to keep the resolution, I have started calling my New Year's goal-setting my "intentions." It makes me feel better and gives me some space to experience less stress over them.

What are your intentions this year? Do you have some mods you want to make on your airplane, want to move up a category, or become more involved in volunteering? One intention I would like to advocate for is that you share your love of aerobatics by writing an article for the magazine, *In the Loop*, or create a post for sharing on social media. Encourage someone to get their vitamin g this year! A popular resolution for many people is to get healthy. By undertaking aerobatic activity, we find ourselves at a heightened level of awareness, excited and breathing faster. That breathing is controlling the amount of oxygen that can make it to the muscles to help them burn fuel and move. Taking your vitamin g is really good for you!

Speaking of exercise and muscles, muscle memory to be precise, many of us live in climates that are not conducive to flying aerobatics over the winter months and into early spring. Rain, snow, fog, and frost close in all around us. While we wait for the ground to firm up, we lose some of our skills and can become rusty. I was impressed when I learned more about the *Sim Your Plane* hardware that takes your aircraft control movements and transmits them to popular aircraft simulator programs. I can fly a sim with VR glasses and get the experience of flying my own airplane without ever having left the ground! Just like real life, sims move fast; you have to make quick decisions and focus your attention. Wouldn't it be great to spend more hours flying aerobatics and lose less of your proficiency this winter?

The other application that keeps rolling around in my brain is creating an opportunity for taking people for aerobic rides. With limitations surrounding insurance, the IAC has been unable to come up with a ride program that the insurance underwriters will approve as an acceptable risk. What if the IAC made a concerted effort to partner with *Sim Your Ride* in getting discounts on the hardware and pass that savings along to IAC members? Would your chapter like an opportunity to introduce aerobatics in a realistic environment in one or more of your chapter members' airplanes without having to put more wear and tear on those airplanes and even save money on avgas? Sure, I'd rather take someone up for an aerobic ride, but our desire to do so isn't getting us anywhere as long as insurance guidelines keep putting up a wall.

Sometimes, like in Dave Watson's article, *An Interesting Way to Handle a Complaint*, about the Tracy contest, you have to press into an idea or even do exactly the opposite of what you thought would fix a problem. Change your way of thinking to break the insanity cycle. In their case, a complaint led to Chapter 38 making the Tracy, California, airport their base of operations for their annual contest venue. This was a radical turnaround from how some might have handled a complaint situation.

This year, 2023, is your year to get more vitamin g in your life and someone else's! State your intention, make a resolution, or set a goal. You can do it! **IAC**



*Here's to a  
Winning Season*



Craig Gifford, Marty Flournoy, Doug Jenkins, Brittanie Lincoln, Jim Bourke, Doug Bartlett, Executive Director Steve Kurtzahn, Peggy Riedinger, and John Ostmeyer.

Not pictured: Rob Holland, Jordan Ashley, Dagmar Kress, David Martin, Sara Arnold, Mike Goulian, and Greg Principato.

*from your Board*

# International Aerobatic Club Fall Board Meeting Summary

## DECISION OF INTEREST TO THE IAC MEMBERS

BY JIM BOURKE, IAC 434151

**THE INTERNATIONAL AEROBATIC CLUB** fall board meeting was held November 11-12 in the EAA Aviation Museum in Oshkosh, Wisconsin.

### Committee Appointments

- Ballot Certification Chair: Doug Jenkins appointed.
- Sequence Chair: Resignation of Mike Ciliberti accepted; Rob Holland appointed.
- Executive Committee: Dagmar Kress and Craig Gifford appointed.
- 2023 AirVenture Chair: Jordan Ashley appointed.

### U.S. National Aerobatic Championships

- The winner of the Primary category will be given a National Champion title from here forward.
- The jury may no longer allow any video evidence except official contest video.
- Figures selected for the first Advanced Free Unknown program will have a minimum K value of 15 and a maximum of 30.
- The contest director will be able to proceed with team selection flights when video is not available due to circumstances beyond the contest director's control.

### Gliders

- A new glider Primary category has been created.
- The Advanced and Unlimited Glider National Championships will be held at Estrella in Arizona February 16-18.
- The 2023 U.S. Advanced and Unlimited Glider teams will be selected by the glider chair in accordance with his proposal.
- Several team management policies were updated to better reflect the needs of glider pilots.

### Policy Changes

- Proposed technical inspection forms are adopted pending legal and risk management review by the executive director.
- The language in the Chapter Relations Policies (P&P 204) will be amended to make it clear that directors are elected by the members at large and do not specifically represent particular regions, though they are assigned to regions to assist with communication.



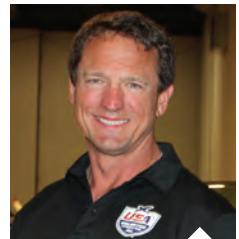
JORDAN ASHLEY  
2023 AV CHAIR



JIM BOURKE



MIKE CILIBERTI



CRAIG GIFFORD



ROB HOLLAND



DOUG JENKINS



Alice Johnson



DAGMAR KRESS

- The contest sanctioning committee (P&P 206) is now responsible for maintaining contest forms and is directly authorized to give guidance to contest directors and contest juries.
- The policy on IAC elections (P&P 218) no longer requires that presidential candidates must be board members. Any member can run for president.
- The Code of Conduct found in the IAC Team Management policies (P&P 505) is simplified.

#### **Sequences**

- All sequences proposed by the outgoing sequence chair, Mike Ciliberti, were approved.

#### **U.S. Advanced Team 2023**

- Alice Johnson approved as team manager.
- Jim Bourke approved as team coach.

#### **Rule Changes**

- L and R forms will be accepted at all contests in addition to A, B, and C forms.
- Glider rules for horizontal S's now include criteria that was mistakenly applied only to Horizontal 8s.
- Glider 4-Minute Freestyle flights may begin at 5,000 feet and do not have to last four minutes.
- When considering disqualification, juries may rely on the input of all relevant contest officials instead of an approved list.
- Seat belt requirements for gliders now match historical practice; meaning the SZD 59 and DG-1000 are formally allowed in Advanced glider competition.
- The meaning of zero lift axis is better explained for rolls on 45-degree lines.
- Boundary judges are now optional at all contests, at the contest director's discretion.
- The presentation K-factor for the Intermediate and Advanced categories are increased to 20 and 30, respectively.
- Up- and downlines for hammerheads and tailslides are better defined.
- The standard 1-point-per-5-degrees rule is now restated for quarter clover angle errors.
- Rolls are once again allowed after spins in Unlimited Unknowns, which corrects an editing mistake made a few years ago.
- The application of the standard 1-point-per-5-degrees rule is clarified for competition turns.
- It is now clear to juries that sequences are only illegal if they do not conform to the rules contained in the *rulebook*, as opposed to the policy documents. Contest directors are encouraged to have sequences reviewed prior to a contest so that juries will not be faced with requests to modify sequences.

#### **Open Championships**

- Chapter 88 is appointed host of the Open East Championship.
- Chapter 36 is appointed host of the Open West Championship.

Minutes from the meeting can be found online at [IAC.org](http://IAC.org).

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In the spring of 2021, Phillip acquired Aerotek-Pitts S-2A S/N 2254.

## L. Paul Soucy Award Winner – Phillip Gragg

**THE 2022 WINNER OF** the L. Paul Soucy Trophy is Phillip Gragg, IAC 431292, of Ramona, California.

The purpose of the L. Paul Soucy Trophy is to recognize the pilot who achieves the highest scoring percentage at three or more contests during a contest season (best scores averaged together). To qualify, one of those contests must be the U.S. National Aerobatic Championships.

Phillip has been an IAC member since the mid-1990s. He flew his first contest in a rented Super Decathlon at the 2008 Cajun Contest in LeGros, Louisiana. In fall 2008 he acquired the factory-built Aerotek-Pitts S-1S S/N 1-0058. The plane would later be sold to a pilot from Guernsey, UK, who had it recovered in its original livery. Today N44EW is back in the United States. Phillip did fly the S-1 in four more contests before taking an unexpected 11-year hiatus from competition.

Life and distance took him from an aerobatic-rich location with a stint as dean and as a founding faculty member and library director for the George R. White Law Library at Concordia University School of Law in Boise, Idaho, from 2012 to 2016. Previous to that he had served in several roles, including associate director of the Louisiana State University Paul M. Herbert Law Center Library. In 2016, life took him west, and he joined the faculty at California Western School of Law in San Diego, where he is back in an aerobatic-rich environment.

Since Phillip has been back in the competition arena, he has done well. In the Spring of 2021, Phillip acquired his 1981 Aerotek-Pitts S-2A S/N



Phillip at the 2010 U.S. National Aerobatic Championships with his Pitts S-1.

2254 and competed in six contests. This year he flew one contest in the Mid-America Region, two contests in the South-Central Region (finishing first in Sportsman for the Regional Series), two contests in the Southwestern Region (also finishing first in Sportsman for the Regional Series), and placed second overall at the U.S. National Championships in Sportsman. He is the first Sportsman category pilot to earn “The Leo” (the IAC’s new National Point Series Championship in 2021), which requires the competitor to fly in three different regions.

Because the L. Paul Soucy trophy takes the highest scoring percentage at three or more contests during a contest season (best scores averaged together), Phillip was able to clinch the coveted L. Paul Soucy Trophy. He scored between an 82.31% (at the Borrego, California, Hammerhead Roundup) and an 89.14% (his highest score, in Seward, Nebraska, at the MAC 80 50th Anniversary Championship), finishing the season with an average of 86.97%.

Congratulations to Phillip for his well-deserved success in winning the L. Paul Soucy Award! **IAC**



Phillip's Aerotek-Pitts S-1S S/N 1-0058.

## WHY FLY THE REST COME FLY THE BEST, MX.



A yellow MX aircraft is shown performing a high-speed roll maneuver, creating a strong sense of motion blur in the background. The aircraft has "BREITLING" written vertically on its side and "1884" on its vertical stabilizer.

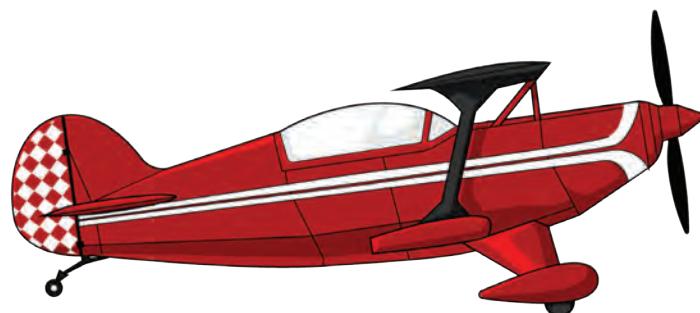
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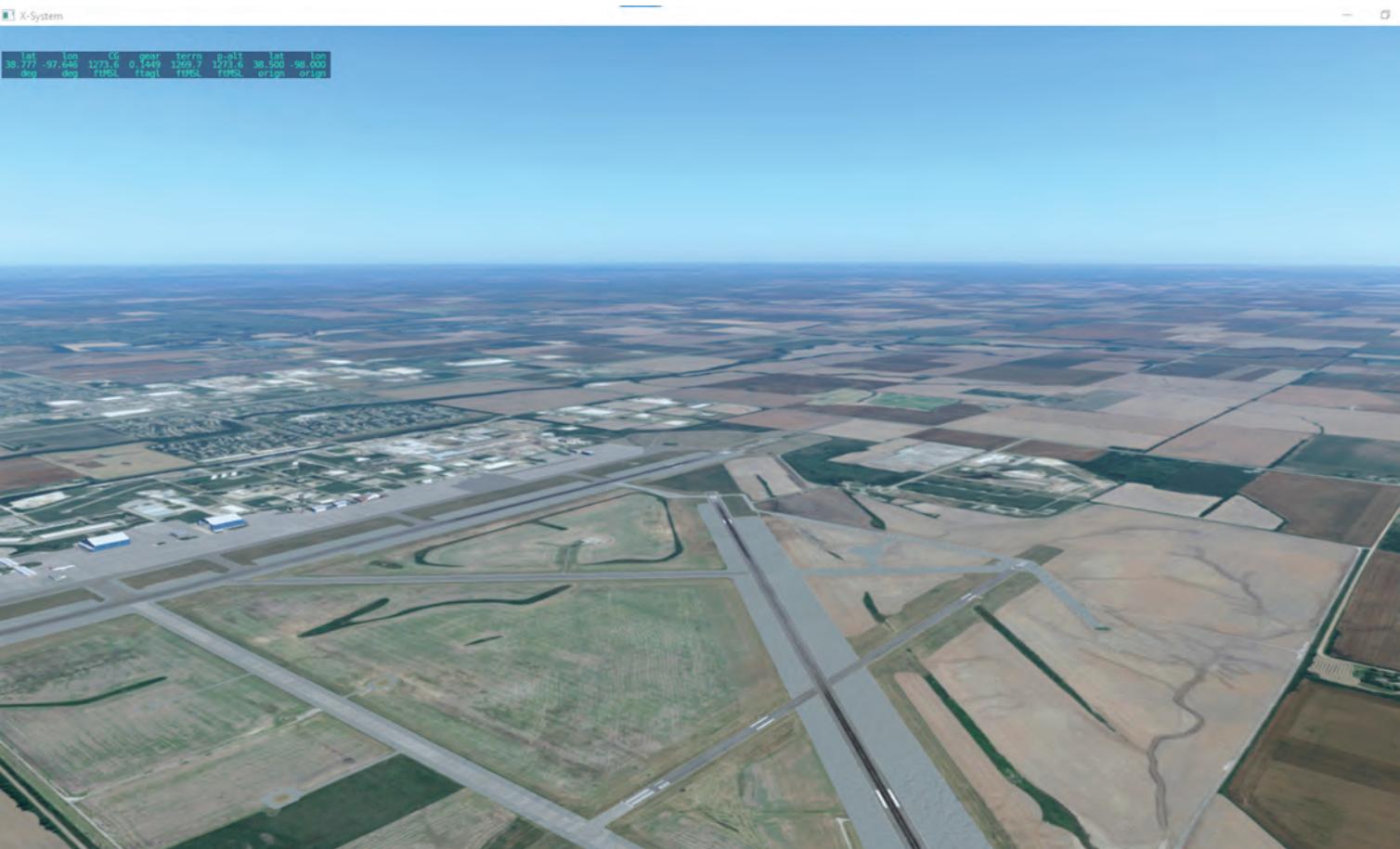
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# Fly Aerobatics In Your Plane Without Ever Leaving The Ground



## Sim YOUR PLANE

BY LORRIE PENNER, IAC 431036



The field at Salina, Kansas, as seen in the sim.

**Y**OU LOOK OUT THE window and it's raining ... again. It has been raining for 10 days! How in the world are you going to practice the 2023 IAC Knowns?

Imagine walking into your hangar and turning your own aerobatic airplane into a realistic, immersive flight simulator experience. Rather than buying a \$1,000 yoke-and-rudder pedal kit and sitting in front of your computer, why not just use your own airplane?

Ben Myburgh, creator of *Sim Your Plane* and owner of Pretoria Engineering, has developed a way to use technology on your airplane to



Ben Myburgh, creator of *Sim Your Plane*.



When you can't get out to the airport to hook up *Sim Your Plane*, you can review your flights on your laptop.



Cristian Bolton uses *Sim Your Plane* for some VR training for one of the Red Bull Air Race series competitions.



The *Sim Your Plane* hardware kit that comes for use with a simulator program like X-Plane.

turn it into a real-life simulator. The idea was born out of a desire to teach students hang gliding. Since then, the *Sim Your Plane* kit has been adapted to fit a variety of aerobatic aircraft and even Red Bull race planes.

"The *Sim Your Plane* kit works by transforming your aircraft into the joystick for your PC, Mac, or Android device," Ben said. "By using the very best in high-precision sensors and Bluetooth technology, it's simply a 'plug and play' into your aircraft. The kit works by transforming your yoke or stick movements into the flight simulator software. So when you move your rudder pedals or your yoke, the movement is transmitted into the software."

The idea is to create an environment where you are using your own airplane to fly your sequences in virtual reality (VR). It gives you the opportunity to test various aerobatic maneuvers and see the flight from inside the cockpit, as well as from the ground like a judge, coach, or audience would.

"You can better train by doing muscle memory training or emergency procedures from right inside your cockpit, without ever leaving the ground," Ben said. "The *Sim Your Plane* kit makes a great addition to a CFI's flight bag. You can train your students before ever turning on the master switch."

The installation and removal of the kit is easy. “I can hook it up in 10 minutes once I have done the initial setup,” Zach Braddock, a beta tester for *Sim Your Plane*, said. “Then remove it in five minutes to go fly my airplane.”

All the hardware is included in the kit, from the Velcro to the GripLockTies. Most clients use a laptop with gaming capability and add VR goggles or augmented reality glasses. Augmented reality glasses enable the wearer to see through the display, look around the cockpit, select switches, and move the controls easily. They allow you to have that realistic experience you’re looking for.

During EAA AirVenture Oshkosh 2021, Ben set up the sim kit in Kyle Fowler’s Long-EZ and Patrick McAlee’s Pitts Special S-1S. “I’ve been using the *Sim Your Plane* kit to keep me prepared for air shows,” Pat said. “I will use it to practice when I can’t access my Pitts due to weather or work and to plan out my air show routines. I have had the controls adjusted to make the simulation a more sensitive feel than my real plane. Later, when I jump into my plane, I notice my maneuvers are really crisp. Practicing in the sim with more difficult control inflections makes my real-life performance better.”

Pat went on to point out the biggest reasons he uses the sim: “Having the sim creates

more time and opportunity for training and practice. I travel a lot for work and can practice at home, then replay that practice and critique my own flying while I am on the road. Because of the increase in practice time, I have increased my safety during air shows. It also saves a lot of wear and tear on my plane, and I can’t even imagine how much money I have saved in fuel!”

Kyle readily agreed with the comment about saving fuel. “Not only is there a cost savings for me, but the sim creates an opportunity and an affordable way for someone to get into an aerobatic plane and have the experience that may lead them to take aerobatic training. It is a way that the ordinary person or general aviation pilot can see that they can get into this type of flying.”

While both Kyle and Pat use the simulator to practice and develop their own air show routines, they like being able to offer the sim experience to others between their flights at air shows. “I set up the sim in my Long-EZ and extend an open invitation to other air show pilots and all their ground crews,” Kyle said. “It’s a nice way to give back to people who work hard in putting on a great show. I also spend a lot of time introducing kids to aviation with it. When I hit the start button, Wittman field at Oshkosh, Wisconsin, comes up on the screen. The kids get a perspective of the performer flying at EAA AirVenture. Kids really get a huge kick out of it because they are into video games and love it.”

Another benefit of having *Sim Your Plane* on your actual airplane is the ability to test adjustments in the design of your aircraft. “I did not make any significant changes to my plane because the Long-EZ is not an aerobatic category airplane,” Kyle said. “I did change the throw on the ailerons a little. I’m getting ready to look for another



Patrick McAlee, Ben and Kyle Fowler (left to right).



Brett Hunter takes Pat's Pitts for a spin at AirVenture.



A benefit to using *Sim Your Plane* is that your coach can watch what you are doing real time and see a laptop with the view of what the pilot is seeing simultaneously.



Ben shows John where some of the sensing hardware is placed inside the cockpit.

nonaerobatic plane to do air shows with and will be doing a lot of testing on various planes in the sim until I find the airplane I want to buy."

Pat stayed busy with his Pitts, which was parked by the IAC Aerobatic Center, showing the sim to multiple pilots at AirVenture. "Final work is in progress to integrate the sim into the STEM program," he said. "We love getting kids into the plane to encourage them to look at aviation as an attainable goal."

Among those who hopped into Pat's airplane for a demo were Brett Hunter, two-time U.S. Unlimited Aerobic Team member, and John Ostmeyer, an IAC director and the 2018 U.S. National Advanced champion. After their experiences in the sim, Brett and John sat down and discussed the advantages of using something like *Sim Your Plane* to prepare for competition aerobatics.

John was keen on finding out more about adjusting the roll rate on the sim to be closer to that of his own modified Pitts. His Pitts S-1T has a few modifications and doesn't fly the same numbers as a standard Pitts S-1. Ben confirmed that these types of tweaks can be made. "If someone wants to make changes to a base aircraft they have downloaded from X-Plane.com or another flight simulation program, I can make those adjustments," he said. "I can

also build a profile of an aircraft from the ground up for the sim. That was done with Patrick's Pitts. His Pitts model for the sim is totally custom. You can email [ben.myburgh@simyourplane.com](mailto:ben.myburgh@simyourplane.com) to discuss what changes you'd like to make to your simulated plane."

Brett used the 360fly app in 2015 while at the World Aerobatic Championships in Châteauroux, France. "We only had limited time for practice in the box, but you could go back and review someone else's flight and look at any direction [from within the

box] you wanted," he said. *Sim Your Plane* also has this feature, and you can send your coach or a judge the video of your sequence for critique. "You can hit 'replay mode' and share video, which can be paused at any point in the sequence," Ben said. "Then your coach can view the plane moving through the sequence from various locations on the field, whether it is along the Y- or X-axis or from the judge position."

John and Brett agreed that the *Sim Your Plane* program would be a great tool for putting you into a simulation where you can get data on your performance. "The VR environment would be great for practicing at a box that you were unfamiliar with," John said. "You would get a chance to get your visual cues for things like roads, tree lines, and buildings. I see this sim as a big box-positioning thing."

Ben confirmed that any airport with an aerobatic box could be put into the simulation with the latitude and longitude numbers from satellite imagery. He noted that, in addition to satellite imagery, he can add details like the box markers and other landmarks if needed.



Kyle Fowler sets up an enthusiastic young man for the ride of his life in Kyle's Long-EZ.



Pat and John discuss set-up of the hardware for *Sim Your Plane*.



Most kids find flying *Sim Your Plane* to be thrilling and realistic.



Pat and Ben watch on as John tries his hand at flying the sim.

"I'd like to see the U.S. Nationals box in something like this because it is only open for a couple of practice days and one official day," John said. "It is not like you can fly it in the offseason when Nationals isn't there. There is not another contest held in Salina to go to. It could be a real game changer. Having the ability to practice in your plane from the pilot's point of view, to stop and start a figure or sequence and determine altitude and box positioning, would be great."

Patrick was thankful to have practiced with *Sim Your Plane* when he was faced with a high-density-altitude situation. "Last year at a Kansas air show it was 105 degrees," Pat said. "Using the sim helped me prepare for the density altitude. It was instrumental in keeping me safe because I could run the sim at the real-time altitude at that specific airport and note the altitude numbers."

Brett agreed and added, "It certainly wouldn't give you any g-tolerance. However, some of our tolerance for flying is visual. This VR experience would help get your visual perception tuned up for maneuvers like rapid roll rates. And it would be helpful for saving your flight and sending it to a coach for critique."

Both Brett and John are impressed with the *Sim Your Plane* concept and feel it has

many great benefits. Would they buy one? John is on the fence. “I’m not a VR or sim kind of guy,” he said. Brett, on the other hand, quickly said he would buy a kit. “You would have to see how you would incorporate it into your training – in your own plane, creating muscle memory, in the actual seat position. If someone is serious about competition or is going to be on a team, I think it is a good investment.”

The *Sim Your Plane* kit can be found at [SimYourPlane.com](http://SimYourPlane.com). The base kit comes in a Bluetooth or a “wired” version. Included in the kits are five Bluetooth/wired string

sensor modules, feedback bungee cords, corner brackets, and mounting hardware.

In the end, there are many reasons to consider getting the *Sim Your Plane* kit. You may want to fly your airplane on a rainy day to practice a sequence or increase your awareness of box positioning. You might use the sim kit in your plane on a practice day or during a chapter event to introduce aerobatics to kids, general aviation pilots, or aerobic enthusiasts. As John and Brett suggested, you may want to prepare yourself for a contest or for an aerobatic team tryout. *Sim Your Plane* provides a realistic platform to improve your flying or to get others interested in aerobatics. **IAC**

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**Ben** is a Christ follower, husband, father, pilot, engineer, entrepreneur, business owner, and adventurer. He earned his private pilot certificate as a junior in high school. After two semesters of college, he decided to instead pursue his passion for aviation by attending ATP flight school and earning CFI, CFI, and MEI ratings. In 2009 he founded and operated a flight school in Murfreesboro, Tennessee. At the end of 2011, Ben decided to sell the flight school and finish his engineering degree. During college he worked part time repairing motorcycles, and in 2013 he had an internship with Chip Yates and Electrospace as a flight test engineer. Ben was hired at Nissan’s Smyrna, Tennessee, plant as lead quality engineer in his last semester of college. He graduated from Middle Tennessee State University at the top of his class in mechanical engineering. In 2015, Ben began working for Scaled Composites on Stratolaunch aircraft. Between 2018 and 2020, Ben was the mechanical structures engineering manager at Opener. Several years after the passing of his father, Ben reinstated the family engineering business, Pretoria Engineering, which is the company he runs all his projects through now, including *Sim Your Plane*.



One of the sensors attached to the throttle.



# 2022 U.S. NATIONAL AEROBATIC CHAMPIONSHIPS

BY MIKE HEUER, IAC 4, IAC President Emeritus



**THE 2022 U.S. NATIONAL** Aerobatic Championships began for me on November 12, 2021, when I was in Oshkosh for the annual International Aerobatics Hall of Fame ceremonies, followed by the fall meeting of the IAC board of directors. The Nationals was on the agenda, as always, but the contest director spot had not been filled. Almost on a whim, I stuck up my hand to volunteer, and there I was, in charge of the most important aerobatic event on the calendar in the United States. My volunteering for this task came as a surprise to the board as it can be easily assumed that, as an International Aerobic Club president emeritus, I would assume a role of elder statesman and as an adviser and counsel to the board. That said, I don't like having nothing to do, no problems to solve, and no immersion in aerobatic activities, so I decided to go for it.

I had headed up the IAC Championships in Fond du Lac, Wisconsin, for three years and was co-chair with my father one year. So, I had organized large contests, but these were well in the past, and championships have become more complex; our rulebook has changed many times in the intervening years. I was also faced with organizing a Nationals the year after a controversial contest in 2021, which I did not attend. My goal was to run as "normal" a contest as I could with the attention to detail that marks anything well organized. Thus, the work started right away.

After coming home from Oshkosh in November 2021, I began the job of recruiting the key volunteer group (KVG) and matching people and their skills and experience to the right jobs. With IAC's history of running the Nationals since 1982, we have had a pool of experienced and talented people. Much of my recruiting was from the corps of volunteers from recent contests. Every one of them, without exception, did an excellent job of handling their duties. It was a week or more of long days and intensive, high-pressure work, and I am proud of what they did. I could write an article on each one of them, and when I give credit, it is so easy to leave

someone out. But I could not have done it without them. If I was to give special credit to anyone, it would be Lynn Bowes and Lorrie Penner, who were with me in planning from the beginning, and hundreds of emails, texts, and phone calls were exchanged among the three of us starting in November 2021 and all the way through the contest. I am proud of them and all the others.

When the job of choosing a staff is complete, you then move to the schedule of events, and Nationals offers more complexity than any other aerobatic event in the world. We have eight categories, powered and glider aircraft, and many flights to complete safely and efficiently. The schedule is tight and strict, particularly in Advanced and Unlimited power where we use Free Unknowns as flight programs. The Free Unknowns are an addition to Nationals in the last decade. What it does is provide for pilot participation in selection of figures, composition of sequences, and choices of what they will fly. Ten figures are chosen by the pilots, in accordance with the rules (both IAC and CIVA), and they then prepare their own Free Unknowns. These are submitted to the jury for checking and publishing, and at the same time, the jury prepares all the paperwork needed for flying the program. All these steps run to strict deadlines that must be observed. Pilots can choose any of the published sequences.

World championships in both Unlimited and Advanced use the Free Unknowns, and therefore we use them at Nationals. At world championships, Free Knowns are also used, but these have not been adopted here for use. Other categories fly traditional IAC sequences, including the Known, Free, and Unknowns. Unknowns for them are derived by our sequence committee, headed by Mike Ciliberti at the time of the Nationals (now Rob Holland after November 2022).

Next comes the logistical, detailed planning for Nationals on the mundane but important aspects of a large competition, including trophies and awards, banquet, social events, contracts, signage, banners, and hundreds of other details. I have always believed the devil is in the details, and they make the difference between an average competition and an outstanding one. People remember details.

Part of this difference is the "brand" of the event, and my goal was to retain the quality of the brand that had been created for us by Margo Chase in 2015 and outlined in a brand guide she wrote and is now on the IAC's website. For this

project, I turned to Susan Bell from California. Susan is a graphic design artist for NASA but also active in competition. She was U.S. National Sportsman Champion in 2018 in Oshkosh, flying an Extra 300, and the winner of the first Giles Henderson Trophy. What impressed me, however, was her incredible creativity. She provided several poster and sticker designs to me, and the one we used, prominently featuring the American flag, was one of our best in our history. Image is important, and our design was well received by members; T-shirts featuring the design were gone quickly.

Good communication is also vital, and the key volunteers received many emails from me in the months leading up to the championships. I also published two lengthy and informative bulletins in May and September 2022 with details for participants to plan their visit to Salina, Kansas, and later, detailed operational procedures for the event.

For me and the chief judges, one of the major changes and improvements this year was using an air boss in all categories. With the various holding patterns we were using to accommodate both glider and powered aircraft, it was important that the chief judge not be burdened with this responsibility, and so John Smutny, one of our previous contest directors for Nationals and a professional air show air boss, took on the job and handled it flawlessly. It made the Nationals quick, efficient, and safe. Along those lines, we also published and issued cards with all the various frequencies on it, and we later saw those taped in cockpits, and in one case, written in grease pencil on the rear window of a Decathlon. Frequencies were ATIS to ground control to

tower to holding (air boss) to chief judge to tower to ground control — a lot of frequency changes. But thanks to good communications and meticulous attention to detail by our chief judges at the program briefings they ran, it went well.

I also created PowerPoint presentations for the chief judges so we could be standardized across the board. This step included standard radio terminology for recalls so the pilots knew what to expect. Briefings were consistent and in accordance with the rules.

Speaking of equipment and volunteers, our radios were provided by DJ Molny and Chapter 12 from Colorado, and a set of backup radios were brought to me by Ross Schoneboom of Chapter 119 in Kansas. So, our communication challenges were met; also thanks to the handheld VHF radios provided by various members.

Another aspect of Nationals that is unique to the event is the video recording of all flights. This implementation was first introduced so hard zeroes (HZs) could be conferred by the judges in the event there were issues with the grades. Videos also can be used in protests. The procedures for all of these things and the quality and training required is laid out in IAC's policy manual. (We call it the P&P.) Section 500 of the manual is devoted to Nationals and its peculiarities and requirements. But with a hurricane bearing down on Florida and our videographer,



Early-morning flightline.

Forrest Fox, traveling from there, we were worried about him arriving in time for the start of the contest on Sunday afternoon. He finally made it Saturday night, and it was a go for the contest. Without video, we could not have flown the Advanced category that day without special dispensation from the IAC board of directors.

Nationals today is dominated by monoplanes and, in particular, various models of the Extra. We still see a Pitts here and there with the Decathlon still an aircraft of choice by many pilots in the first categories and favored by the collegiate teams. That said, Rob Holland's MXS stands out from the crowd of Extras, but it was also great to see a Pitts S-2S in Unlimited this year, piloted by Yuichi Takagi. I am confident the Pitts will remain the backbone of American aerobatic contests for years to come. As a matter of interest, we also had four Pitts S-1s in Advanced. Three were S-1S models and a lone S-1T.

The Primary category was open to both powered and glider aircraft and flew the same sequence. To be clear, national champions in glider Advanced and Unlimited already had been named in February 2022 at the U.S. National Glider Championships in Maricopa, Arizona. But Sportsman and Intermediate glider pilots were eligible for national champion titles in Salina, though we did end up with two glider competitors in Advanced. They received trophies but no national titles. It does get confusing, but the Arizona contest was successful and attracted more Unlimited glider pilots than we have seen in years. And it will continue in early 2023.

At the U.S. Nationals in Salina, glider categories were dominated by cadets and instructors from the U.S. Air Force Academy in Colorado Springs, Colorado. The Academy has had a glider aerobatics program for a long time, and we see these young men and women every year at Nationals where they not only fly the Academy's gliders but also fill many of our volunteer positions. They have become vital to the Nationals' success.

By the time preregistration was closed and some had pulled out of the competition, we ended up with a total of 83 pilots in Salina this year. Sixty-six of these pilots were in the power categories, and 17 were glider pilots. It was a good turnout, though the Intermediate power category was the smallest in



Briefing held each day prior to the category being flown. Photo by Lorrie Penner



First stop for pilots: Get the paperwork done at registration. Photo by Hector Ramirez



Forrest Fox films each competitor's flight daily for use by judges and for protests.



Collegiate competitors from the Metropolitan State University of Denver and University of North Dakota celebrate at the Nationals award banquet.

our history with only six entries. I hope that number will change in 2023, but time will tell. Having been around aerobatics for over five decades, I know that many things are cyclical, and I trust that category will come back to more normal numbers in the future. We usually can expect around 90 pilots, plus or minus, at the Nationals, but it also depends on the team selection taking place that year.

This year the biggest category by far was Advanced power with 24 pilots. We anticipated this increase, as an Advanced team was being selected in Salina, and the 15th FAI World Advanced Aerobatic Championships will be

held near Las Vegas in 2023, making travel much easier for team pilots. More American Advanced pilots wanted a shot at the team. In the end, Advanced flew four flight programs (Known, Free, and two Free Unknowns). It was a hard-fought contest, and the new team pilots are Marty Flournoy, Marco Bouw, Don Hartmann, Matt Dunfee (team captain), Mike Ciliberti, Brittanee Lincoln, Kyle Collins, and Michael Lents. They will do a terrific job of representing the United States next year in Nevada and will be

The collegiate competitors from the U.S. Air Force Academy pose with team coach (far right) Mark Matticola and aerobatic judges (far left) Jerry and Peggy Riedinger.



# U.S. NATIONAL AEROBATIC CHAMPIONSHIPS

## A LOOK BACK

BY MIKE HEUER, IAC 4, IAC PRESIDENT EMERITUS

Let's step back a moment and let me talk a little bit about our history and what the U.S. Nationals means, a story important to me as the International Aerobatic Club's historian and also a participant in those early years.

It was in 1964 that the Nationals came to life. There had been aerobatic contests in our country prior to World War II and in the years afterward. But a true national championship did not exist. It was Bob Taylor with the Antique Airplane Association who ran contests in conjunction with his organization's fly-ins every year, and it was in Ottumwa, Iowa, where I got my first taste of aerobatic competition, though only as a spectator. The Aresti system was not used, and typically the rules were on a couple of pieces of paper. But pilots came, they flew, and aerobatic contests were kept alive.

In 1964, the Aerobatic Club of America (ACA) was formed by the aerobatic luminaries of the day and incorporated in Florida. They gained the recognition of the National Aeronautic Association in Washington, and an agreement was forged to have the ACA promote, manage, and govern aerobatics in the United States to include the Nationals and U.S. aerobatic teams going to Europe. That same year, a U.S. team had competed in Budapest, Hungary, and its pilots were finally versing themselves in world rules and the Aresti system.

Duane Cole, a famous air show and competition pilot, came forward and proposed Reno, Nevada, for that first Nationals in 1964 and in conjunction with the Reno air races, which were also beginning to flourish at that time. The Nationals continued in Reno under Duane's leadership until 1968 when they moved to Oak Grove airport in Fort Worth, Texas, which was also the headquarters of ACA, then presided over by M.H. "Pappy" Spinks. Pappy's aerobatic career and his role in promoting and growing aerobatics was covered in the November/December 2022 issue of *Sport Aerobatics*, and there is little to add here. However, without his work and strong financial support, I am not sure where the Nationals would have ended up or if they

would have even survived. The IAC wisely decided to recognize Pappy and induct him in the International Aerobatics Hall of Fame, shortly before this article was written.

Nationals remained at Oak Grove until 1972, when it moved to the former Perrin Air Force Base in Sherman/Denison, Texas, which today is the North Texas Regional Airport (KGY). IAC took over its management and responsibility in 1982. The Nationals remained there until 2017, so hundreds of aerobatic pilots competed in the skies over Texas in those years, national champions were named, and U.S. aerobatic teams selected. After a brief time in Oshkosh, the Nationals moved to its present location of Salina, Kansas (KSBN), in 2019, due to its facilities and central location. It has been a great airport and community in which to stage this weeklong event.

In the years spanning 1964 to 2022, 25 pilots have won the title of U.S. National Aerobatic Champion, a title reserved for the winner of the Unlimited power category, and presented the Mike Murphy Cup. Four of these pilots were women. Some won the title more than once, with Rob Holland setting the record of 11 victories in a row.

It was not until 1968 that there was a formal rulebook governing all contests in the United States, and this document created a multicategory system, including Primary (equivalent to today's Sportsman), Advanced, and Unlimited. Glider aerobatics was unknown and did not come along until decades later but is now a part of the U.S. Nationals. Those ACA categories were flown at the U.S. Nationals starting in 1968.

At the time, the most advanced aerobatic aircraft was the Pitts S-1S, but Unlimited was populated by mostly modified standard aircraft. And that year saw Harold Krier win in his 200-hp Ranger-powered de Havilland Chipmunk. Harold had switched to a monoplane early on after seeing Yaks and Zlins win in Europe at the World Aerobatic Championships, but for decades, the Pitts dominated the American aerobatic scene. That situation slowly changed when Leo Loudenslager flew in the 1971 Nationals in his

Stephens Akro, which he heavily modified over the years to become the Laser 200. Leo captured the national champion title seven times. The Extras came later, and now the North American market is the company's strongest.

When the IAC came along in 1970, it introduced the Intermediate category as our founders felt that there was too big of a jump from Primary (now Sportsman) to Advanced. That solution worked well. Basic was added in the 1980s, and its name eventually changed to Primary. And so the Nationals in 2022 featured five power categories and three glider categories.





Primary Power: Nina Stewart, Josh Feldman, Andrew Fisher.



Sportsman Power: Ryan Tierney, Palmer Timmons, Phillip Gragg.



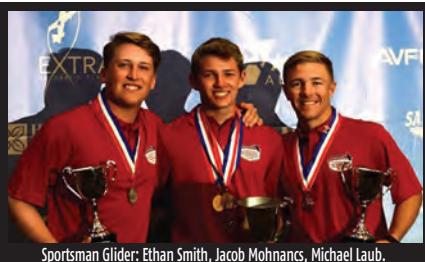
Intermediate Power: Jerry Esquenazi, Justin Hickson, Nathan Ruedy.



Advanced Power: Don Hartmann, Mike Ciliberti, Matt Dunfee.



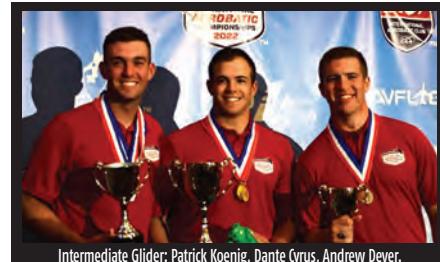
Unlimited Power: Jim Bourke, Rob Holland, Goody Thomas.



Sportsman Glider: Ethan Smith, Jacob Mohnacs, Michael Laub.



**Salina, Kansas  
October 2, 2022**



Intermediate Glider: Patrick Koenig, Dante Cyrus, Andrew Dever.



Advanced Glider: Shad Coulson, Joseph Gerner, Mallory Lynch.



Unlimited Glider: Jim Bourke, Eric Lentz-Gauthier, Sasha Marvin.

## 2022 U.S. National Championships – Power

Held in Salina, Kansas (National), 2022-10-02

Director: Mike Heuer Chief Judge(s): Nick Buckenham, Mark Matticola, DJ Molny, Hector Ramirez, Peggy Riedinger

### Primary Power

Pilot	Airplane	Known	Free	Unknown	Total
★ Andrew Fisher	(12) Pitts Special S-2C N317JK	525.78 83.46%	(2) 505.94 80.31%	(2) 525.20 83.37%	(2) 1556.92 82.38% (1)
★ Josh Feldman	(78) American Champion 8KCAB Decathlon N317JR	543.40 86.25%	(1) 524.50 83.25%	(1) 480.50 76.27%	(8) 1548.40 81.93% (2)
★ Nina Stewart	(12) American Champion 8KCAB Super Decathlon N151BH	519.10 82.40%	(4) 498.10 79.06%	(4) 512.30 81.32%	(3) 1529.50 80.93% (3)
Braeden Giltinan	(12) Pitts Special S-2C N317JK	514.16 81.61%	(5) 454.20 72.10%	(1) 532.10 84.46%	(1) 1500.46 79.39% (4)
★ Haley Brinson	(12) Pitts Special S-2C N317JK	479.00 76.03%	(2) 501.60 79.62%	(3) 507.90 80.62%	(5) 1488.50 78.76% (5)
★ Kieran Viggiano	(78) American Champion 8KCAB Super Decathlon N317JR	484.60 76.92%	(11) 474.80 75.37%	(7) 486.40 77.21%	(7) 1445.80 76.50% (6)
★ Tien Luu	Pitts Special S-2C N317JK	486.86 77.28%	(10) 464.30 73.70%	(10) 493.50 78.33%	(6) 1444.66 76.44% (7)
★ Cody Brown	(12) Pitts Special S-2C N317JK	501.80 79.65%	(7) 476.40 75.62%	(6) 466.06 73.98%	(10) 1444.26 76.42% (8)
★ Renée Lorenzen	(12) American Champion 8KCAB Super Decathlon N151BH	509.10 80.81%	(6) 470.28 74.65%	(8) 457.10 72.56%	(11) 1436.48 76.00% (9)
★ Ryan Peene	(78) American Champion 8KCAB Decathlon N317JR	487.00 77.30%	(9) 452.00 71.75%	(12) 476.50 75.63%	(9) 1415.50 74.89% (10)
Spencer Patterson	(78) American Champion 8KCAB Super Decathlon N317JR	409.83 65.05%	(14) 491.00 77.94%	(5) 511.00 81.11%	(4) 1411.83 74.70% (11)
Morgan Katnik	(12) American Champion 8KCAB Super Decathlon N151BH	522.50 82.94%	(3) 466.40 74.03%	(9) 410.36 65.14%	(13) 1399.26 74.03% (12)
Devin Graves	(78) American Champion 8KCAB Decathlon N317JR	491.20 77.97%	(8) 448.80 71.24%	(13) 360.80 57.27%	(14) 1300.80 68.83% (13)
Bryce Jukkola	DG Flugzeugbau DG-1000 N501DG	393.60 62.48%	(15) 371.90 59.03%	(14) 442.40 70.22%	(12) 1207.90 63.91% (4)
Christopher Rothe	DG Flugzeugbau DG-1000 N501DG	429.60 68.19%	(13) 0.00 0.00%	(15) 0.00 0.00%	(15) 429.60 22.73% (15)

### Sportsman Power

Pilot	Airplane	Known	Free	Unknown	Total
★ Palmer Timmons	(78) American Champion 8KCAB Decathlon N317JR	1173.50 85.66%	(1) 1143.70 83.48%	(4) 1183.38 86.38%	(1) 3500.58 85.17% (1)
★ Phillip Gragg	(15) Aerotek Pitts Special S-2A N5FV	1121.20 81.84%	(4) 1194.10 87.16%	(1) 1156.20 84.39%	(3) 3471.50 84.46% (2)
★ Ryan Tierney	(12) American Champion 8KCAB Super Decathlon N151BH	1136.00 82.92%	(2) 1134.10 82.78%	(5) 1175.10 85.77%	(2) 3445.20 83.82% (3)
★ Jared Bixenman	Extra 300 N252RF	1072.22 78.26%	(8) 1159.10 84.61%	(3) 1151.60 84.06%	(5) 3382.92 82.31% (4)
★ Dick Swanson	(78) Bellanca 8KCAB Decathlon N8SC	1134.96 82.84%	(3) 1063.40 77.62%	(11) 1156.10 84.39%	(4) 3354.46 81.62% (5)
★ Dylan Beal	(12) American Champion 8KCAB Super Decathlon N151BH	1103.80 80.57%	(5) 1102.30 80.46%	(6) 1133.00 82.70%	(7) 3339.10 81.24% (6)
★ Shawn Higgins	(78) American Champion 8KCAB Decathlon N317JR	1059.70 77.35%	(10) 1079.96 78.83%	(9) 1149.50 83.91%	(6) 3289.16 80.03% (7)
★ Sara Arnold	(78) American Champion 8KCAB Decathlon N8SC	1038.50 75.80%	(11) 1101.90 80.43%	(7) 1111.86 81.16%	(8) 3252.26 79.13% (8)
Andrew Coughlin	(78) American Champion 8KCAB Decathlon N317JR	1089.40 79.52%	(7) 1166.30 85.13%	(2) 959.00 70.00%	(12) 3214.70 78.22% (9)
★ Atamvir Singh Multani	(137) Extra 300 CGXRA	1091.00 79.64%	(6) 1034.52 75.51%	(12) 1068.40 77.99%	(10) 3193.92 77.71% (10)
Michael Hare	(89) American Champion 8KCAB Decathlon N64273	991.90 72.40%	(12) 1075.20 78.48%	(10) 1079.50 78.80%	(9) 3146.60 76.56% (11)
Andrea McGilvray	(107) Pitts Special S-1c N900DK	1062.50 77.55%	(9) 1093.30 79.80%	(8) 972.70 71.00%	(11) 3128.50 76.12% (12)

### Intermediate Power

Pilot	Airplane	Known	Free	Unknown	Total
★ Leigh Hubner	(3) Extra 300S N328PW	1503.00 77.47% (1)	1628.42 79.44% (3)	1467.83 78.92% (1)	4599.25 78.62% (1)
★ Justin Hickson	(78) Pitts Special S-2B N79AV	1432.98 73.86% (2)	1661.25 81.04% (1)	1445.00 77.69% (2)	4539.23 77.59% (2)
★ Nathan Ruedy	(78) American Champion 8KCAB Decathlon N40EM	1333.38 68.73% (5)	1643.45 80.17% (2)	1418.25 76.25% (4)	4395.08 75.13% (3)
★ Jerry Esquenazi	(3) Extra 300S N911CG	1414.43 72.91% (3)	1519.83 74.14% (5)	1419.42 76.31% (3)	4353.68 74.42% (4)
Corey Gerulis	(3) Extra 300SC N45CG	1284.08 66.19% (6)	1534.25 74.84% (4)	1386.55 74.55% (5)	4204.88 71.88% (5)
James Spaller	(35) Pitts Special S-2B N260JH	1343.00 69.23% (4)	1364.35 66.55% (6)	1049.75 56.44% (6)	3757.10 64.22% (6)

### Advanced Power

Pilot	Airplane	Known	Free	Unknown	Unknown II	Total
★ Matthew Dunfee	(77) Extra 330C N330MD	2717.21 83.10% (1)	2852.07 87.76% (1)	3193.71 82.10% (1)	2659.14 82.33% (1)	11422.13 83.74% (1)
★ Michael Ciliberti	(52) MX Aircraft MXS N10NS	2689.07 82.23% (2)	2723.21 83.79% (5)	3120.86 80.23% (2)	2592.14 80.25% (3)	11125.28 81.56% (2)
★ Don Hartmann	(138) Extra 300S N169DH	2612.71 79.90% (4)	2697.30 82.99% (7)	2980.36 76.62% (5)	2515.07 77.87% (5)	10805.44 79.22% (3)
★ Brittanie Lincoln	(38) Extra 330C N330CZ	2619.54 80.11% (3)	2733.71 84.11% (4)	2922.94 75.14% (8)	2510.39 77.72% (8)	10786.58 79.08% (4)
★ Marco Bouw	(138) Laser 200 N199L	2598.00 79.45% (5)	2655.99 81.70% (10)	2950.44 75.85% (6)	2511.26 77.75% (7)	10715.69 78.56% (5)
★ Kyle Collins	(3) Panz S-330 N330LS	2571.36 78.63% (6)	2610.37 80.32% (12)	2921.57 75.10% (9)	2591.10 80.22% (4)	10694.40 78.40% (6)
Martin Flournoy	(3) MX Aircraft MX2 N540RH	2551.00 78.01% (7)	2793.03 85.94% (2)	2673.76 68.73% (14)	2641.36 81.78% (2)	10659.15 78.15% (7)
★ Michael Lents	(8) Extra 300S N300BL	2420.90 74.03% (13)	2659.43 81.83% (9)	3030.84 77.91% (4)	2513.36 77.81% (6)	10624.53 77.89% (8)
John Ostmeyer	(15) Pitts Special S-1T N230JM	2403.63 73.51% (14)	2689.01 82.74% (8)	2913.76 74.90% (10)	2487.61 77.02% (11)	10494.01 76.94% (9)
Michael Gallaway	(24) Extra 330LX N330FZ	2497.40 76.37% (11)	2529.11 77.82% (17)	2933.54 75.41% (7)	2505.86 77.61% (9)	10466.94 76.74% (10)
Michael Hartenstein	(26) Pitts Special S-1S N104US	2466.93 75.44% (12)	2559.97 78.77% (15)	2828.99 72.72% (13)	2393.07 74.09% (14)	10248.96 75.14% (11)
David Taylor	(11) Giles G-200 N1210Y	2549.54 77.97% (8)	2613.04 80.40% (11)	2543.51 65.39% (18)	2461.29 76.20% (13)	10167.38 74.54% (12)
Mario Mena Marqua	Extra 330C N669AJ	2353.93 71.99% (16)	2608.07 80.25% (13)	2550.79 65.57% (17)	2654.84 76.34% (12)	9978.63 73.16% (13)
Stanley Moye	(3) Extra 300S N919GM	1623.31 49.64% (24)	2424.21 74.59% (22)	2870.77 73.80% (11)	2500.43 77.41% (10)	9418.72 69.05% (14)
Tom Thomason	(89) Giles G-202 N202SF	2120.07 64.83% (19)	2505.54 77.00% (19)	2508.33 64.48% (19)	2145.93 66.44% (15)	9279.87 68.03% (15)
Grant Nielsen	(138) Mudry CAP 232 N232KS	1775.67 54.30% (22)	2455.99 75.57% (19)	2716.46 68.68% (15)	1745.40 54.04% (19)	8648.52 63.41% (16)
Robert Dumovic	(35) Extra 300 N300BL	2239.31 68.48% (18)	1941.54 59.74% (24)	2454.14 63.09% (20)	1964.61 60.82% (17)	8599.60 63.05% (17)
Barrett Hines	(26) Extra 300 N101WB	1676.57 51.27% (23)	2514.84 77.38% (18)	2589.40 66.57% (16)	1704.20 52.76% (20)	8485.01 62.21% (18)
Luke Penner	(137) Extra 300L CGXRA	2533.14 77.47% (9)	2704.36 83.21% (6)	3069.00 78.89% (3)	0.00 0.00% (21)	8306.50 77.56% (19)
Duncan Koerbel	(12) Extra 300L N981KM	2065.99 63.18% (20)	2490.41 76.62% (20)	2730.07 44.47% (23)	1831.79 56.71% (18)	8117.99 59.52% (20)
Anthony Oshinuga	(36) Pitts Special S-1S N45SS	1818.17 55.60% (21)	2227.17 68.53% (23)	1772.93 45.58% (22)	2089.57 64.66% (16)	7907.84 57.98% (21)
Ryan Chapman	(3) Staudacher S-300XR C-GVUA	2348.57 71.82% (17)	2551.87 75.52% (16)	2838.64 72.97% (12)	0.00 0.00% (21)	7739.08 72.26% (22)
Klayton Kirkland	(25) Pitts Special S-1S N690AB	2359.91 72.17% (15)	2562.40 78.84% (14)	2101.14 54.01% (21)	0.00 0.00% (21)	7023.45 65.58% (23)
Steven Johnson	(27) MX Aircraft MX2 N487MX	2504.07 76.58% (10)	2745.36 84.47% (3)	0.00 0.00% (24)	0.00 0.00% (21)	5249.43 49.01% (24)

### Unlimited Power

Pilot	Airplane	Known	Free	Unknown	Total
Robert Holland	(35) MX Aircraft MXS N530RH	3629.21 84.01% (1)	3966.51 86.23% (1)	3774.79 75.20% (1)	11370.51 81.57% (1)
★ Jim Bourke	(77) Extra 330SC N331FZ	3371.43 78.04% (3)	3871.64 84.17% (2)	3739.74 74.50% (3)	10982.81 78.79% (2)
Goodwin Thomas	(23) Extra 330SC N580BG	3504.93 81.31% (2)	3771.79 82.00% (4)	3574.03 71.20% (4)	10850.75 77.84% (3)
Craig Gifford	(78) Extra 330SC N330CZ	3229.57 74.76% (5)	3778.79 82.15% (3)	3766.71 75.03% (2)	10775.07 77.30% (4)
A.J. Wilder	(49) Extra 330SC N669AJ	3184.86 73.72% (7)	3602.20 78.31% (5)	3445.36 68.65% (5)	10232.42 73.40% (5)
Steven Grohsmeier	MX Aircraft MXS N9161	3337.33 77.25% (4)	3441.94 74.81% (6)	2957.46 58.91% (8)	9735.93 69.84% (6)
John Wacker	(3) Extra 330SC N669AJ	3228.27 74.73% (6)	3117.61 67.77% (8)	3069.21 61.14% (6)	9415.09 67.54% (7)
Krysta Paradis	(11) Zivko Edge 540 N540HT	3048.37 70.56% (8)	3295.00 71.63% (7)	2979.09 59.34% (7)	9322.46 66.88% (8)
Yuichi Takagi	(38) Pitts Special S-2S N806UJ	2930.70 67.85% (9)	2456.50 53.40% (9)	2616.47 52.12% (9)	8003.94 57.42% (9)
Adam Cope	(11) Zivko Edge 540 N540HT	2747.71 63.60% (10)	2264.03 49.22% (11)	2299.11 45.80% (10)	7310.85 52.45% (10)
Hiroyasu Endo	(36) Extra 300 N300UY	0.00 0.00% (11)	2301.76 50.04% (10)	2112.91 42.09% (11)	4414.67 31.67% (11)

## 2022 U.S. National Championships – Glider

Held in Salina, Kansas (National), 2022-10-02

Chief Judge(s): Nick Buckenham, Mark Matticola, Hector Ramirez

### Sportsman Glider

Pilot	Airplane	Known	Free	Unknown	Total
★ Jacob Mohnanc	DG Flugzeugbau DG-1000 N501DG	1005.21 70.74% (1)	1057.00 80.69% (1)	972.20 74.21% (1)	3034.50 77.21% (1)
Ethan Smith	DG Flugzeugbau DG-1000 N501DG	952.70 72.73% (3)	935.10 71.38% (4)	942.00 71.91% (3)	2829.80 72.01% (2)
Michael Laub	DG Flugzeugbau DG-1000 N501DG	960.60 73.33% (2)	916.80 69.98% (5)	887.90 67.78% (4)	2765.30 70.36% (3)
Greg Borovych	MDM Fox-1P N412JR	867.72 66.24% (4)	989.90 75.56% (3)	882.60 67.37% (5)	2740.22 69.73% (4)
Oleg Shorokhov	MDM Fox-1P N412JR	832.20 63.53% (6)	833.70 63.64% (7)	963.70 73.56% (2)	2629.60 66.91% (5)
Gretchen Knox	DG Flugzeugbau DG-1000 N501DG	846.96 64.65% (5)	999.30 76.28% (2)	780.80 59.60% (7)	2627.06 66.85% (6)
Kelly Murphy	DG Flugzeugbau DG-1000 N501DG	832.20 63.53% (6)	911.00 69.54% (6)	811.48 61.95% (6)	2554.68 65.00% (7)

### Intermediate Glider

Pilot	Airplane	Known	Free	Unknown	Total
★ Dante Cyrus	DG Flugzeugbau DG-1001 N501DG	1131.58 72.54% (1)	1202.13 77.56% (1)	1011.92 72.28% (1)	3345.63 74.18% (1)
Patrick Koenig	DG Flugzeugbau DG-1001 N501DG	1094.30 70.15% (3)	1049.97 67.74% (2)	885.05 63.22% (3)	3029.32 67.17% (2)
Andrew Dever	DG Flugzeugbau DG-1001 N501DG	1107.67 71.00% (2)	1001.25 64.60% (3)	883.83 63.13% (4)	2992.75 66.36% (3)
Matthew Hamilton	DG Flugzeugbau DG-1000 N501DG	907.93 58.20% (4)	1000.52 64.55% (4)	779.67 55.69% (6)	2688.12 59.60% (4)
Isabella Gentile	DG Flugzeugbau DG-1001 N501DG	813.37 52.14% (6)	887.42 57.25% (6)	901.08 64.36% (2)	2601.87 57.69% (5)
Carter Margolis	DG Flugzeugbau DG-1001 N501DG	846.92 54.29% (5)	959.75 61.92% (5)	793.10 56.65% (5)	2599.77 57.64% (6)

### Advanced Glider

Pilot	Airplane	Free	Unknown	Unknown II	Total
Joseph Gerner	(62) Fox MDM-1 N1499F	1680.27 80.01% (1)	1273.25 76.24% (4)	1295.43 78.51% (2)	4248.95 78.39% (1)
Mallory Lynch	Fox MDM-1 N24NC	1552.17 73.91% (2)	1308.00 78.32% (1)	1058.72 64.16% (5)	3918.89 72.30% (2)
Shad Coulson	(62) Fox MDM-1P N412JR	1208.50 57.55% (8)	1300.58 77.88% (2)	1357.92 82.30% (1)	3867.00 71.35% (3)
Matthew Kuczajda	(12) Flugzeugbau DG 1001 N502DG	1498.25 71.35% (4)	1199.92 71.85% (5)	1038.00 62.91% (6)	3736.17 68.93% (4)
Jacob Szymanski	(12) DG Flugzeugbau DG-1001 N501DG	1455.50 69.31% (5)	1008.75 60.40% (6)	1248.00 75.64% (3)	3712.25 68.49% (5)
Guy Acheson	(38) Allstar PZL Glider SZD-59 N56SZ	1549.53 73.79% (3)	1278.58 76.56% (3)	706.83 42.84% (9)	3534.94 65.22% (6)
Jared Bachman	(1) DG Flugzeugbau DG-1001 N501DG	1421.97 67.71% (6)	932.10 55.81% (9)	1122.92 68.06% (4)	3476.99 64.19% (7)
Maria Norman	(12) DG Flugzeugbau DG-1001 N1001	1197.23 57.01% (9)	983.53 58.89% (7)	874.25 52.98% (7)	3055.01 56.37% (8)
Trevor Ervin	DG Flugzeugbau DG-1001 N501DG	1320.23 62.87% (7)	932.95 55.87% (8)	757.17 45.89% (8)	3010.35 55.54% (9)

### Unlimited Glider

Pilot	Airplane	Free	Unknown	Unknown II	Total
★ Eric Lentz Gauthier	Fox MDM N55ZZ	2032.90 76.71% (3)	1565.07 72.79% (2)	1735.85 81.11% (1)	5333.82 76.86% (1)
Jim Bourke	(77) Aeriane Swift N113TX	2057.55 77.64% (2)	1604.93 74.65% (1)	1530.08 71.50% (3)	5192.56 74.82% (2)
Jason Stephens	(62) Aeriane Swift N113TX	2109.53 79.60% (1)	1294.47 60.21% (4)	1714.30 80.11% (2)	5118.30 73.75% (3)
Sasa Marvin	Swift MDM N113TX	1871.13 70.61% (5)	1495.25 69.55% (3)	1340.25 62.63% (5)	4706.63 67.82% (4)
Jonathan Roe	Fox MDM-1 N48FL	1992.50 75.19% (4)	1246.45 57.97% (5)	1444.38 67.49% (4)	4683.33 67.48% (5)



Collegiate competitors from MSU check out Michael Hare's Xtreme Decathlon.



managed by Alice Johnson and coached by Jim Bourke. They are in good hands.

Aside from the recording of the flights, this year we had popular live streaming of the event, organized by Lorrie Penner. The Nationals flying was viewed by thousands of people and reached more enthusiasts than in any time in our history. Those numbers will be continued and increased in the years to come.

Aside from our registrar (Liza Weaver) and hospitality and social events coordinator (Lynn Bowes), I worked with and sought the advice of our safety director (Keith Doyne) and jury chair (Bob Meyer) more than anyone else. These two men are experienced and people I could trust. They made a huge difference, mostly behind the scenes.

What makes a good Nationals? While I get much of the credit since I was contest director, I give the credit to an outstanding group of volunteers, the ones we call the key volunteer group or KVG. Separate from them but also vital are the chief judges and contest jury. There were 22 people in the KVG, four chief judges and a judge coordinator as well as nine jury members and alternates.

It all ended on Friday, October 7, with the 4-Minute Free program that afternoon. The banquet was held that night at the Hilton Garden

Mike Heuer with the 2022 U.S. Nationals shirt designed by Susan Bell.



Tuesday night at The Garage was a fun, casual activity after a full day of flying.

Inn, where we gave away many trophies, plaques, and medals to a large crowd of enthusiastic pilots, volunteers, and family members. But while we were enjoying our meal in that big room, three of our friends and colleagues were restricted to their rooms, having contracted COVID-19 while at the contest. We missed having Nick Buckenham (chief judge in Primary/Sportsman), DJ Molny (Advanced chief judge), and Lorrie Penner (assistant contest director) with us.

Others contracted the virus as well, which was difficult for them as they had to confine themselves to hotel rooms but also challenged me to fill their spots. Once again, people stepped forward; Hector Ramirez headed up Primary/Sportsman in addition to Unlimited, and Matty Matticola acted as chief for the Intermediate category while Peggy Riedinger was confined to her room. All of it was the last thing we expected, but they made it work.

My thanks and congratulations to everyone, and I hope to see you in 2023. I will be directing the Nationals once again, this time with a vast amount of experience and insights gained in 2022, making the job incredibly easier. I look forward to a successful and large contest in September 2023. **IAC†**

## U.S. NATIONAL AEROBATIC CHAMPIONSHIPS

### KEY VOLUNTEER GROUP AND OTHER OFFICIALS

BY MIKE HEUER, IAC 4, IAC PRESIDENT EMERITUS

NAME	TITLE
MIKE HEUER	CONTEST DIRECTOR
LORRIE PENNER	ASSISTANT CONTEST DIRECTOR, FINANCE, AND SOCIAL MEDIA
LIZA WEAVER	REGISTRAR
Alice Johnson	VOLUNTEER COORDINATOR
DJ MOLNY	JUDGES COORDINATOR
MONIQUE HARTMANN	COMMUNICATIONS
KEITH DOYNE	SAFETY DIRECTOR
JOHN SMUTNY	FAA LIAISON AND AIR BOSS
DALE BYRKIT	STARTER
DOUG VAYDA	ASSISTANT STARTER
GARY DEBAUN	PRACTICE BOXMASTER
JEFF GRANGER	ASSISTANT BOXMASTER AND ASSISTANT MEDICAL DIRECTOR
JOHN OSTMEYER	CHIEF TECH MONITOR
MARY BETH RUDD	SCORING DIRECTOR
BOB BUCKLEY	ASSISTANT SCORING DIRECTOR
FORREST FOX	VIDEOGRAPHER
LYNN BOWES	HOSPITALITY AND SOCIAL EVENTS
SARA ARNOLD	ASSISTANT HOSPITALITY
SUSAN BELL	GRAPHIC DESIGN
DR. JONATHAN APFELBAUM	MEDICAL DIRECTOR
DOUG BARTLETT	TRANSPORTATION COORDINATOR

### CHIEF JUDGES

NICK BUCKENHAM	PRIMARY/SPORTSMAN
PEGGY RIEDINGER	INTERMEDIATE
DJ MOLNY	ADVANCED
HECTOR RAMIREZ	UNLIMITED
MARK MATTICOLA	BACKUP CHIEF JUDGE

### CONTEST JURY

BOB MEYER (JURY CHAIR)	SOUTHWEST REGION
BARRETT HINES	SOUTHWEST REGION
MONIQUE HARTMANN	SOUTHEAST REGION
DAVID TAYLOR	NORTHEAST REGION
JOHN SMUTNY	NORTHWEST REGION
MIKE LENTS	MID-AMERICA REGION
KEITH DOYNE (SAFETY DIRECTOR)	NORTHEAST REGION
NICK BUCKENHAM (ALTERNATE)	INTERNATIONAL REGION
MIKE GALLAWAY (ALTERNATE)	SOUTH CENTRAL REGION



# HAMMERS *Over* HONDO

BY ANDREA MCGILVRAY, IAC 440477



**I FELL IN LOVE** with aerobatics before I had my private pilot certificate, but I was only along for the ride at that time. I did do gentle wingovers and spins in a Cessna 172 and found them super fun from the beginning. My first flight instructor, James Sorensen, is the cause and effect of my love for aerobatics. He made it fun and challenging. Every time he said "I have to practice in the Stearman for an air show," I was out the door to meet him. What a blast from the past.

My original dream was to own an ultralight, and it came true in 2015. It was a yellow Kitten named *Queen A*. We flew all over Medina County, Texas, and it was a great teaching experience for me. I put about 70 hours on that little ultralight.

The next unbelievable dream that came true for me happened while I was acquiring *Lucky Lady*, my Hatz biplane. We flew at least 100 hours together, and I flew my first aerobatic contest in the aircraft one month after training with Patty Wagstaff, one of the best aerobatic pilots in the world. I had yet to fly the whole Primary sequence by the time the contest came around, but the folks at the contest poked and pushed and helped me





complete my first-ever aerobatic contest. During the contest, the engine went quiet when I was on a 45-degree inverted downline, but it started again as soon as it got gas. My heart pitter-pattered, and upon landing, I saw oil all over its side and wing. The Hatz had lost a quart! Despite the oil situation, I flew the Primary sequence two more times that weekend.

Another dream came true for me in the form of the Pitts Special. I had been daydreaming about it from the first time I spotted one at an air show. Watching the little Pitts jump and hop as it landed struck fear into me, and that was why flying or owning one had been merely a daydream. When I accumulated enough funds to get the training, I thought to myself that maybe, just maybe, I could learn to overcome this fear and do it. Others fly them, so why not me?

It was a tall order for me to train in the Pitts, and multiple friends with good intentions thought perhaps it was not a good idea. Rather than back away from the challenge, I went for a week to train with Budd Davisson. A little more than seven hours later, I had survived and the airplane had, too. Among other things, I learned what not to do: namely, don't taxi too fast. It was a hair-raising lesson, and it also taught me that "don't do this at home!" was an understatement.

After training to land the Pitts and surviving, I set my sights on finding the right Pitts for me. Budd helped me narrow down my choices, and I found a Pitts Special S-1C in Florida. It was and still is stunningly beautiful. N900DK's wings are newly re-covered and otherwise in super condition. I asked the seller, Matt Thomas, to fly it and show me from the ground. So he hopped in and off he went. I was so excited I could barely contain myself. I paid him, and part of the deal was he would fly it

Top photo by Joe Fernandez.

Michael Gallaway goes vertical in his Extra 300 SX at Hammers Over Hondo. Photo by Doug Smith

back to Texas for me. The only thing left for me to do was get some more dual and get in more landings.

By pure luck, Matt knew Steve Wolf, who lives in Florida. I had told Matt of my dilemma, and he said he would make a phone call. Silly me, I was unfamiliar with Steve, who happens to be a superhero and common household name in the Pitts world. I needed to get this checkride now or I would have to come back, and I'm not known for my patience when I really want something. When Steve called me back and said yes, I waited patiently at the airport to rent a car.

After arriving at Steve's place, we chatted, and I saw some pretty impressive photos on the wall. When he stepped out of the room, I Googled him and was in awe that I would have this amazing privilege and honor to fly with him. We flew his Pitts Special

S-2B for three hours. We did 28 landings and a lot of upside-down spins/inverted spins/aggravated and flat spins. He even showed me how to do a barrel roll — not to be confused with competition slow rolls; there's much more to a barrel roll than I thought. After three hours of training, I felt somewhat confident that I could get it landed and rolled out. The little "squeeze the brakes like they are tiny mice" tip he gave me was critical!

The day finally arrived when Matt flew my Pitts, *Lit'l Bit*, home to me. I was so ecstatic that my friends practically had to hold me down to keep me from floating away. What a day!

The first flight in my new plane was uneventful. The landing, I will never forget. After flying to Uvalde, Texas, and back to avoid landing in a storm with high crosswinds, I returned to my home field. After a few go-arounds to get the feel of speed and ground rush, I held my breath for the landing. I tapped the brakes lightly and heard a series of squeals and screeches. The aircraft experienced wild gyrations left and right as I tapped as lightly as I could with my heavy feet, and the screeching finally came to a halt as the plane slowed enough to taxi off the runway. I released the





Todd Nelson flies Intermediate in his Meador Skybolt.



Andrea flies as safety pilot for primary competitor Jim Smith in her American Champion Decathlon.



Jerry Esquenazi, in his Extra 300S, flies in the Intermediate category.

air that was trapped in my lungs and yelled very loudly. “Yahoo! I did it!”

My first contest in Lit'l Bit came in the fall of 2019 in Llano, Texas. I had practiced the Known sequence and had designed a Freestyle. There were six competitors in the Sportsman category. The array of aircraft seemed bigger and better than what I was used to, and this was somewhat intimidating, but I promised to fly my best. I will never forget my first competition. The wind was screaming at speeds of up to 22 mph, and I had never done such a hard-crosswind landing before. When my little wings were flapping and I was on the ground, I was spooked! Since takeoffs are optional and the landing is mandatory, I gave it a hard look. This may be crazy, but I said to myself, “I am among friends, and if something happens, at least my friends are here and I’m not alone somewhere.” I knew how to land, and I knew the airplane was more than capable, so off we went.

I flew my best, and I nailed the Known sequence — or at least I flew my best and *thought* I did a great job. I lined up for my landing, and it was a better landing than many of my usual landings, so I chalked that up as a win-win. A little while later, one of the other competitors came to me and said I was sitting in first place! I said there was no way that could be true, but I went to look, and sure enough, I was.

My second flight was my Freestyle sequence. I flew it exceptionally well, in my humble opinion. After the flight and landing, I rolled out with a big smile and waited for the scores. One of the judges, asked to see my card in my airplane, so I showed him. He pointed to the half-Cuban, which I'd been practicing, but I had written it as a reverse-Cuban, so I received a hard zero on the figure. That dropped me from first place, and in the end, I

got third. One judge never even saw the mistake! That was a good lesson. You should show your routine to someone who does not know your sequence and have them tell you what they see!

The years 2020 and 2021 passed, and in 2022, during the Lone Star contest, I placed second out of four competitors and even beat an Extra 300 in *Lit'l Bit*.

I live in Bandera, Texas, and it's just a short flight to Hondo. I had the opportunity to check out the aerobatic box a little more thoroughly than some of my competitors. Having the home-field advantage, I had lots of friends come to watch and cheer. I am so grateful for this group of cheerleaders! They included some ladies from my Ninety-Nines chapter, as well as some of my EAA chapter friends.

I felt I did well on my first flight, but a common complaint among the judges was that I was "too high." The plane is small, and when I'm high I'm hard to see. At a competition, being invisible is not a good thing. The judges do miss the bad stuff, but they don't see the good stuff either. Even with my position high in the box, I ended up placing first. I did not make any stupid mistakes on that second flight, and I kept the flow of the sequence well in front of the judges.

Mike Lents, the University of North Dakota's aerobatics coach, had come in the spring, and we worked together on getting some things fixed. He helped me design the good Freestyle I was using at the Hondo contests. My second Freestyle flight has some vertical maneuvers, and I ended up inverted while having to fly to my next maneuver inverted. He guided me in practicing the sequence and pulling over at 80 mph so I didn't wobble, stall, and fall out of the inverted figures.



First-place finisher in Primary, Loren May with his Christen Eagle.



Andrea's Decathlon serves as backdrop for Jim Smith and his father, Jimmy, and his mother, Judith.



John Harlan flew his Pitts S-1E to a successful second-place finish in the Advanced category.



Keith Gyger flew his Ultimate 10-200 to a second-place finish in Sportsman.



Rob Ator flies his Pitts S-1S in the Intermediate category.



Tom Rhodes flew his CAP 232 to a second-place finish in Intermediate.

In my practice session, I fell out of the inverted section of the Freestyle quite a few times. Then Doug Jenkins, a fellow Texan, Pitts driver, and Intermediate competitor, told me to “pump the stick.” I looked at him and said, “What? Really?” After listening to his advice, I did another practice flight and felt the difference to the point where it seemed like I was flying a different airplane. I don’t know the limits of the technique and did not want to find out during the contest, but after the contest I will be practicing “pumping the stick.” The most common response to my second flight was that my uplines are too short. I stayed in first place, because other than my verticals on those two-maneuvers being short, the flight scored very well at 81.59%.

Then came my third flight. The ceiling was a little lower than I wanted, and I had to start the sequence a little lower than I normally do. I had an amazing entrance, an amazing flight, and did my absolute best, but after my reverse-Cuban, I looked to see what my altitude was and noticed I was at 1,600 feet, which was lower than where I would have expected or planned to be at this point in the sequence. The altitude distracted me from doing the next figure, which was my humpty. Thankfully, I did not end up lower than expected again or go in the wrong direction. Only after I left the box and was headed back to land did I ask myself, “Did I do the humpty? Did I forget it?” I feared I had messed up. So much for first place! I landed and got a thumbs-down confirming that I had messed up. When I saw my fellow competitors, I told them I had given them a chance, and they all cheered up.

Later at the awards dinner, Doug called third place, and I was bummed it was not me. When Doug called second place, I was super bummed.

When he announced me as the first-place winner, I couldn't believe it. You can ask others, but I danced with excitement all the way to him and back. I received my scores, and I saw a few 10s that had offset that hard zero.

With this feather in my cap, I flew to Kansas to get four days of hardcore training from one of the best aerobatic coaches in the country, Linda Morrissey. As I flew to the U.S. National Aerobatic Championships, I had no expectations, other than to keep improving and doing better. There are folks at Nationals who are far more skilled in my category, and I knew the stars would have to be perfectly aligned for me to place. I promised myself I'd do my best and put the emphasis on having fun — and living my dreams one at a time. **IAC**



Left to right Enthusiastic volunteer, Judge Jeff Stoltenberg and Thomas Braymer.



## 2023 IAC CONTEST SEASON CALENDAR



► [IAC.org/Contests](https://IAC.org/Contests)



DATES	HOST CHAPTER	NAME	REGION	LOCATION	AIRPORT
February 16, 2023	62	Estrella Classic	Southwest	Maricopa, Arizona	E68
February 16, 2023	62	2023 ADV/UNL Glider Championships	Southwest	Maricopa, Arizona	E68
March 23, 2023	89	Snowbird Classic	Southeast	Starke, Florida	42J
April 27, 2023	23	85th Sebring Championship	Southeast	Sebring, Florida	KSEF
May 12, 2023	49	Duel in the Desert	Southwest	Apple Valley, California	KAPV
June 16, 2023	15	H. Neumann Barnstormer	South Central	Ottawa, Kansas	KOWI
June 23, 2023	67	Apple Cup	Northwest	Ephrata, Washington	KEPH
July 8, 2023	88	IAC Open Championship East	MidAmerica	Bay City, Michigan	3CM

# The IAC 2023 Approved Known Sequences

IAC ARCHIVES

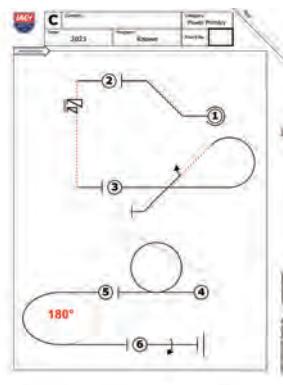
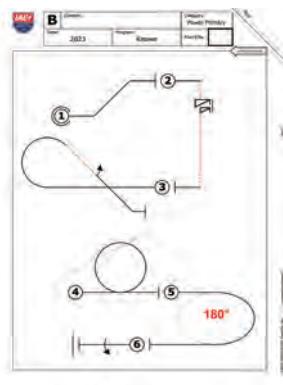
**ANNUALLY YOU WILL SEE** a familiar call for IAC member participation on foundational programs that govern all IAC-sanctioned contests. This year, Sequence Committee Chair Michael Ciliberti and Rules Committee Chair Barrett Hines sent out the same appeal to IAC members in the July/August time frame for rule change proposals and Known sequences.

Once sequences were received, they were sent out to the membership for a 30-day comment period. The submissions were reviewed by the sequence committee, and Mike prepared a report with recommendations to the IAC board of directors at the IAC fall board meeting November 11-12. In his report Mike

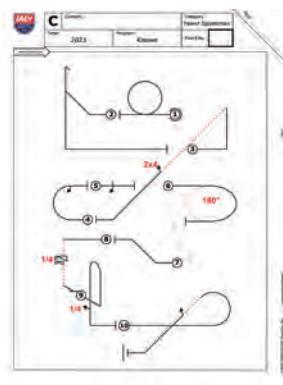
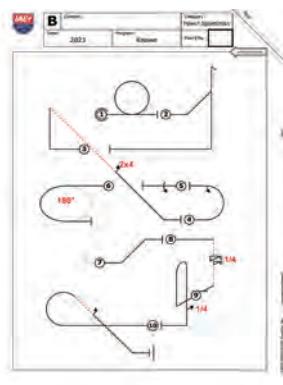
said, "Various comments were returned and discussed. Some changes were made and all sequences were flown by committee members as well as others in the general membership before the final list and structures were determined. Both safety and flyability were confirmed."

Following are the 2023 Knowns including the glider sequences submitted by Glider Chair Jason Stephens. You can download the sequences on the IAC website: [IAC.org/known-sequences](http://IAC.org/known-sequences). **IAC**

## ► PRIMARY POWER



## ► SPORTSMAN POWER



## ►INTERMEDIATE POWER

**A**

Score	1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m	21m	22m	23m	24m	25m	26m	27m	28m	29m	30m	31m	32m	33m	34m	35m	36m	37m	38m	39m	40m	41m	42m	43m	44m	45m	46m	47m	48m	49m	50m	51m	52m	53m	54m	55m	56m	57m	58m	59m	60m	61m	62m	63m	64m	65m	66m	67m	68m	69m	70m	71m	72m	73m	74m	75m	76m	77m	78m	79m	80m	81m	82m	83m	84m	85m	86m	87m	88m	89m	90m	91m	92m	93m	94m	95m	96m	97m	98m	99m	100m
Score	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

**B**

**C**

## ►ADVANCED POWER

**A**

Score	1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m	21m	22m	23m	24m	25m	26m	27m	28m	29m	30m	31m	32m	33m	34m	35m	36m	37m	38m	39m	40m	41m	42m	43m	44m	45m	46m	47m	48m	49m	50m	51m	52m	53m	54m	55m	56m	57m	58m	59m	60m	61m	62m	63m	64m	65m	66m	67m	68m	69m	70m	71m	72m	73m	74m	75m	76m	77m	78m	79m	80m	81m	82m	83m	84m	85m	86m	87m	88m	89m	90m	91m	92m	93m	94m	95m	96m	97m	98m	99m	100m
Score	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

**B**

**C**

## ►UNLIMITED POWER

**A**

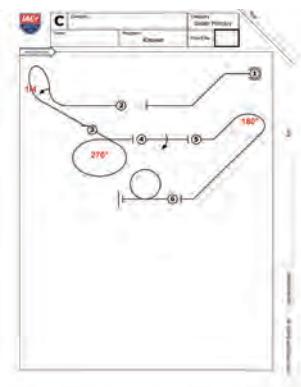
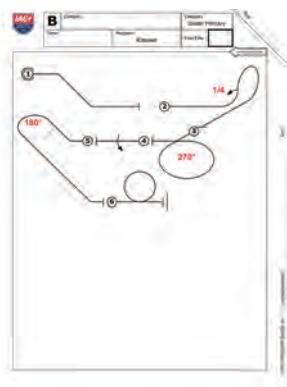
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Score	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

**B**

**C**

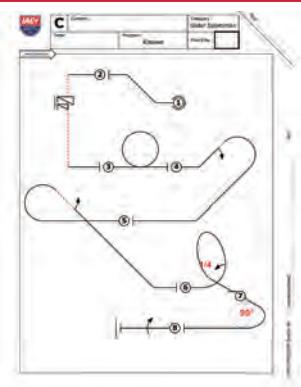
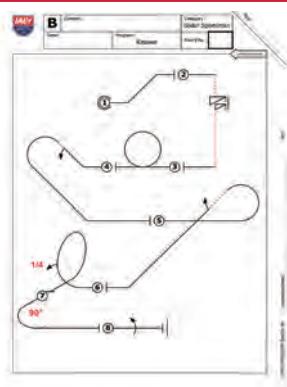
## ► PRIMARY GLIDER

INTERNATIONAL AEROBATIC CLUB SCORESHEET									
Score	Col. No.	Name	Class	Category	Programme	Altitude	pts.	Score	
1	1	1	1	1	1	1	1	1	
2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	
7	7	7	7	7	7	7	7	7	
8	8	8	8	8	8	8	8	8	
9	9	9	9	9	9	9	9	9	
10	10	10	10	10	10	10	10	10	
<b>Total</b>									
IACF									



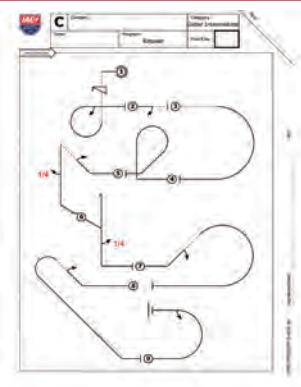
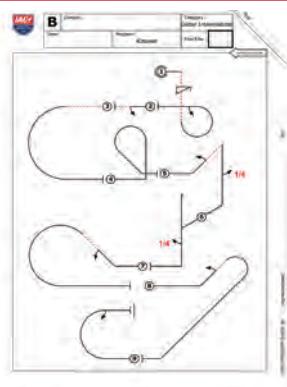
## ► SPORTSMAN GLIDER

INTERNATIONAL AEROBATIC CLUB SCORESHEET									
Score	Col. No.	Name	Class	Category	Programme	Altitude	pts.	Score	
1	1	1	1	1	1	1	1	1	
2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	
7	7	7	7	7	7	7	7	7	
8	8	8	8	8	8	8	8	8	
9	9	9	9	9	9	9	9	9	
10	10	10	10	10	10	10	10	10	
<b>Total</b>									
IACF									

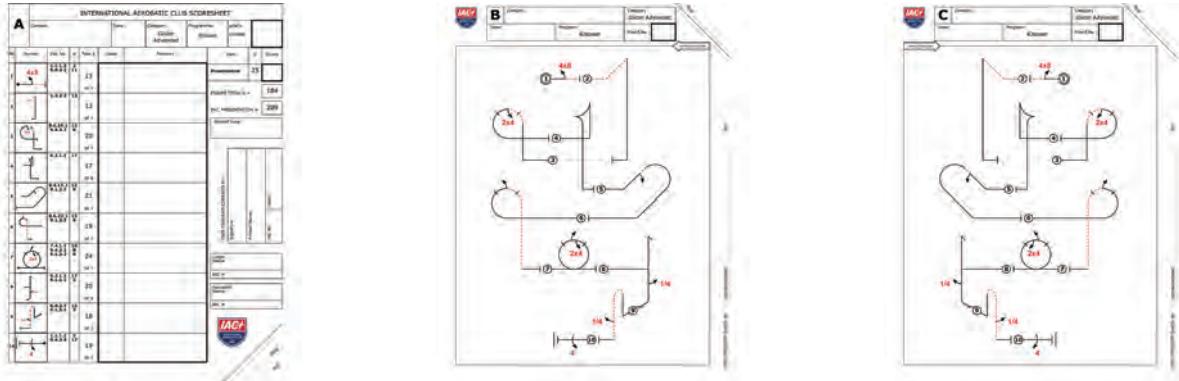


## ► INTERMEDIATE GLIDER

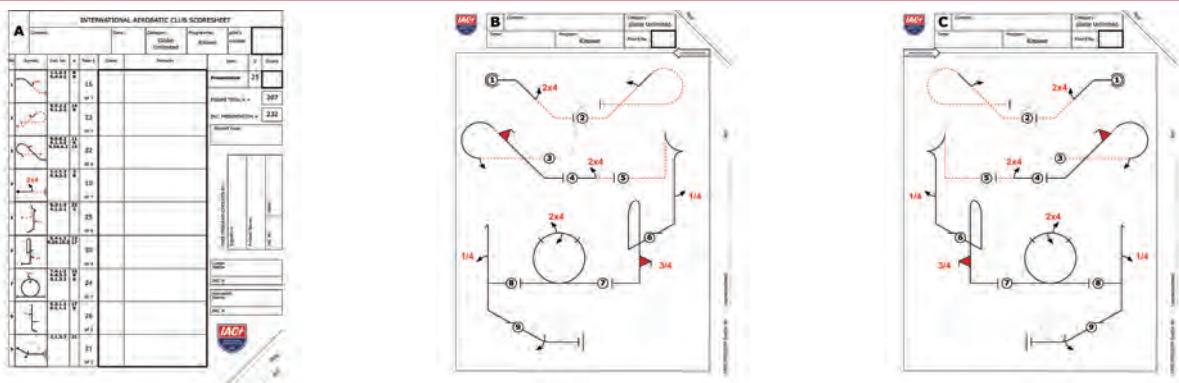
INTERNATIONAL AEROBATIC CLUB SCORESHEET									
Score	Col. No.	Name	Class	Category	Programme	Altitude	pts.	Score	
1	1	1	1	1	1	1	1	1	
2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	
7	7	7	7	7	7	7	7	7	
8	8	8	8	8	8	8	8	8	
9	9	9	9	9	9	9	9	9	
10	10	10	10	10	10	10	10	10	
<b>Total</b>									
IACF									



## ►ADVANCED GLIDER



## ►UNLIMITED GLIDER



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# An Interesting Way to Deal with a Noise Complaint!

BY DAVE WATSON, IAC 26557, IAC 38, CHAPTER VICE PRESIDENT

**FOR DECADES, OUR CHAPTER** has had an aerobatic practice area (APA) adjacent to the Tracy (KTCY) airport in California. This box is bordered to the west by the airport and by dense tracts of homes just 200 feet to the north of the waivered airspace. I have been the waiver holder for the past 12 of those years. We only use the box on “critique days” when ground coaches are present and can keep an eye (and ear) out for the IFR pilots who routinely practice missed approaches (that fly right through the box). The ground coaches keep watchful eyes for the local traffic that commonly miss our NOTAMs. We routinely get a few noise complaints from the three to four locals who object to our presence, and we often get families who come by to enjoy the free “air show” with their kids. We always take time to talk with our visitors and show our airplanes to the kids.

We go out of our way to be good neighbors, and we stay as far to the south in our box to avoid the neighborhood as we safely can.

Since we don’t keep track of the friendly visitors, I would say that we rightly get three to four as many people out to enjoy the “show” as we get complaints. However, it was March 2021 when Britt Lincoln and I were using the APA and her phone rang. (She was chapter president at the time.) The person on the phone addressed himself as “Kevin from the Oakland FSDO,” and he told us he was assigned to investigate our chapter for a U.S. congressional “disturbing the peace” complaint for our use of the APA.”



The 2022 Redlands Aerobatic Cup took place in September with 22 pilots competing in five power categories.



Eleassia Davis Tracy City Council and Richard Ortenheim of Skyview Aviation with Dave.

How is that for a conversation starter?

We talked with him about the complaint for 10-15 minutes, and it seemed he had a lot more questions for us. So I told him we were at the box and that we would welcome him to come out and see (and hear) for himself just what nuisances we are. He got approval (despite new COVID-19 restrictions) and joined us a couple of hours later. We answered his questions, and I flew for him as close and as loudly as I normally would. The meeting was totally professional and dare I say pleasant. Although he was surprised that our flying could be any source of a complaint at any level, he had a job to do and could not dismiss the complaint. He asked for — and I subsequently gave him — the records of all our APA use for the past two years.

Our waiver requires us to log its use, so he had every right to ask for and receive this information — I would have given it to him in any case. We felt we had nothing to fear or hide and nothing to gain by not fully cooperating. Months of calls and Zoom meetings (many of which we were not privy to) passed, and the FAA determined and defended us because the

data I had provided did not match the timing (and volume) of the complaints that had been logged against us. To be clear, our FSDO was supporting us because of our records and past safety history and likely because we were collaborating with them. If I may be so bold to say, it seemed as if they were on our side. Furthermore, as the waiver holder, I had never been made aware of many of the recent complaints that had come up during the investigation. Prior airport managers had always forwarded me any complaints, most of which came from one individual who had for many years used vulgar and threatening terminology in his complaints. I had kept records for years of these obnoxious and illiterate complaints that had come from the person who had escalated this to his congressman. Of course, I provided all these to the FAA as “character witness” to the prosecution.

As we determined later, a key factor in this “disturbing the peace complaint” getting out of control was that over the past year, the new airport manager apparently became tired of dealing with any noise complaints (not just aerobatic ones) and had created a means for the locals to log their complaints directly to the city government representatives via a city management internet portal. Consequently, I was rarely made aware of the complaints that had been filed for the past year. Once,



## GOVERNMENT RELATIONS

when I asked her if there had been any complaints, she said I could request them from the city clerk through the Freedom of Information Act! Also, several months before the complaint came up, she told me that she was using reverse psychology with him (the vulgar complainer) and had asked him to file “better complaints,” such as getting tail numbers and exact use times. She shared with me that this would involve him and he’d likely get tired of it! At the time, I just shook my head and went on fueling my airplane.

As the investigation was proceeding, it got to the level of the city council. A few council members and city staff members raised the question, “How did this get to a congressional level without their prior involvement?” Numerous levels of city management apparently had been left out of the process! Once the city started to talk to me, we provided them the same data we provided the FAA, including the vulgarity of the individual the congressman was apparently unwittingly supporting, and things started to turn around.

Despite the investigation, we did not change our use patterns of the APA, remaining as good of neighbors as we could, as we had for years. Weeks later, with the investigation still open, at the request of the airport manager, we opened our practice box the day the airport was having an event for Halloween (2021), to provide some additional entertainment for the locals. Several of the city managers and council members were there for the event. We “practiced” and gave out candy, put kids in our airplanes, and talked with locals (things we have been doing all along). This occasion brought us to some interesting discussions with the city council members who were now aware of what we were doing there (such as buying lots of avgas over the years). In one pivotal discussion, I was telling them all about competition aerobatics and how we practice here for local and national



Highest-scoring chapter, IAC 38. All the scores can be found on IAC.org.

competitions, and the issue just flipped upside down. During that conversation, the city councilwoman and a member of the transportation committee (who oversees the airport) asked me if we could bring our local contest to Tracy!

My honest and immediate response was negative, and I immediately pressed a pause on my response. I explained that it was because of these noise complaints and the lingering “congressional issue” that we would have to say no. I explained that on most of the days we use the APA, we fly as few as three or four 10-15-minute flights (between 11 a.m. to 2 p.m., and we use this box only three to six days a month), and yet we get complaints. I went on to explain that a contest would be more than three days of constant Doppler-effect aircraft noise from 0700 to sunset. The response I got was priceless! It went something like this, “We don’t care. This airport is our resource, and those people signed waivers when they bought their homes next to it. And besides, it is just a



IAC 36 Chapter President Matt Schulz.

very few chronic complainers, and look around at how these people love watching you.” All this of course we knew, but it was music to my ears to hear it from the organization that had apparently wanted to run us out of town nine months prior!

The tide instantly changed; we now had friends in high places. Instead of us being the bad guys, we were seen as athletes, polite and respectful. The prosecution was seen as

the perpetrators. Had the normal city channels not been



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circumvented, this matter never would have gotten this far out of control.

Shortly after the Halloween event, after eight to nine months of worrying about the future of our beloved APA, the FAA and the city concluded that we had never broken a FAR and were using the box far less frequently than we are permitted, and they supported our continued use. As fate would have it, our waiver(s) for this one and our other APAs were due for renewal in February 2022, and that review and renewal process went amazingly smoothly, too! We have since collaborated with the FAA investigator who was involved in our investigation. [He is also head of the local FAA Safety Team (FAAST) program that we have long supported.] The congressman dropped the case, and the city welcomed us to bring it on! Moving our chapter contest to their city, that is!

I was reluctant at first, fearing that the short-term benefit of moving our contest to this much better facility for the contest could be offset by us potentially losing our practice area, resulting from the likelihood of the “complaint phone” constantly ringing during the entire contest weekend. However, the Tracy airport and surrounding city amenities did present us a much better venue than where we had been holding our contest. So,

our chapter leadership and I agreed to give it a shot. Although I still feared this move could certainly backfire, I began the process of writing a contest waiver.

I decided to be the contest director this year (since we had burned out Tom Myers for the past eight-plus years), and I drafted and filed the waivers. Our practice box location did not have an area suitable for the judges line for a contest, so I had to move it a bit. This step put a large section of the box directly over the approach end of the primary runway, and we would have to temporarily close the primary runway (during Unlimited and Advanced flights). We also had to reverse two traffic patterns to keep them out of the box. This was not going to be a slam-dunk waiver.

I developed the contest plan and waiver in full cooperation with the FAA, the local FBO, and the airport manager. After the airport manager and I finally agreed to it all, I submitted the completed contest waiver to Kevin in January 2022. He called me the next day, and



Hiroyasu Endo Extra 300.

he relayed to me that when he presented the waiver to the FSDO manager, he just looked up at him, smiled, and said, "What an interesting way to deal with a noise complaint." Getting the waiver approved was not simple due to its complexity, but again, I was grateful for the collaborative, punctual, and professional way that our FSDO negotiated and processed the waiver. It was approved in less than six weeks, and more importantly, three months before our contest date!

In June, we held the 2022 IAC West Open Championship in Tracy for the first time. We had 31 competitors, news reporters, and the local EAA set up its PA system and announced the entire contest. We had planned for some spectators but instead we had hundreds of spectators each day. In conjunction with the city and our wonderful host FBO (Skyview Aviation), we even had food trucks on-site. The FAA and city council members were there to support us. (Two city council members even

came to our contest banquet, but the FAA could not attend because of a stricter COVID-19 policy.) The contest was a win-win-win. Tracy is now our contest home, and we have forged long, beneficial relationships with several of the city staff and council members. And we have reinforced our already good standing with our FSDO. All as a result of a few chronic noise complainers.

*Postscript.* During the contest, we had only three noise complaints — I suspect because we did a lot of prenotification of our contest and because those regular complainers could look across their yards and see that they were outnumbered by hundreds of people enjoying our event. I am extremely proud that, with our open collaboration, we managed to turn what could have been a disaster for us into new mutually respectful relationships — and a better new home for our contest. **IAC\***

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**Dave Watson** is the IAC Achievement Award chair and the third recipient of the Mastery of Flight award. The award is presented to the pilot who has achieved 12 out of 19 possible achievement awards for power and glider categories. Dave is an Unlimited category competitor who flies an MX2 aircraft primarily in the Southwest Region.

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STEP 3  
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STEP 4  
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# Evaluating a 45-Degree Upline With a Double Roll

BY DJ MOLNY, IAC 25097



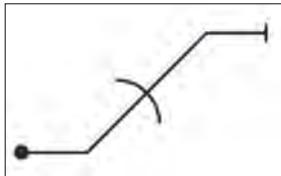
**THIS IS THE FIRST** in a series of columns about judging aerobatic figures. We'll review the symbols for the figure, how the airplane should move, and what the rulebook tells the judges to look for.

## Aresti Symbols

Originally developed by Spain's Jose Luis Aresti in 1961, the *Aresti Aerobatic Catalogue* lists all elements that can go into a competition aerobatic sequence and assigns a difficulty (K-factor) for each.

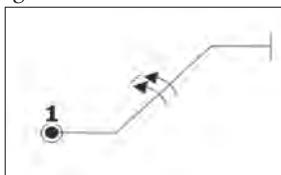
There are two types of elements: basic figures and rotations that can be added to them. This gives sequence designers thousands of combinations to choose from.

Today's base figure, the 45-degree upline, has just one place where a roll can appear, and it looks like this in the catalogue:



The figure starts at the black dot, then comes the 45-degree line, then the vertical dash showing where the figure ends. The arc in the middle means the sequence designer is free to use no roll, a full roll (360 degrees), or a double roll (720 degrees).

This is what the figure looks like on an actual competition sequence card. The number 1 means it's the first figure in the sequence, and the two arrows with the bar across their tips indicate that the sequence designer chose a double roll.



## Flying the Figure

The aircraft should pitch up to a 45-degree nose-high attitude, draw a line, roll twice, draw another line, and then resume level flight.

## Judging the Figure

Every figure starts as a 10, and the judges deduct points as errors are observed.

Before the figure even begins, the judges make sure the aircraft is flying a perfectly horizontal line, parallel to the horizon. If the aircraft is climbing or descending before the figure, the penalty is 1 point per 5 degrees (1-in-5).

Although the diagram shows a sharp angle from horizontal to the 45-degree line, the rules require the pilot to fly a constant radius. Any changes to the radius will trigger a deduction, although the rulebook leaves the amount up to the judge.

Once the radius is complete, the airplane should be flying upward at a 45-degree attitude (not flight path) and will receive a 1-in-5 deduction if the attitude is steep or shallow. As the roll begins, judges should make a mental note of the length of the 45-degree line.

During the roll itself, the aircraft's attitude should remain constant, although the nose and tail may move in a corkscrew motion without penalty. The roll rate should also remain constant, with a deduction of 1 point per variation. Once the roll is complete, the aircraft should again be at a 45-degree attitude.

The airplane should then continue to fly until the line after the roll is the same length as the line before. Any visible variation is a 1-point deduction. If the second line is twice as long, or half as long, that's a 2-point deduction. More than that is a 3-point deduction, and if either the line before the roll or the line after the roll is missing altogether, that's a 4-point deduction.

Then the airplane should fly a constant radius until the aircraft's flight path is once again horizontal, at which point the figure is finished.

## Conclusion

It takes a lot of words to describe a maneuver that takes maybe 10 seconds to fly, and the judges look for many possible faults in that short time. But don't let that worry you; judges quickly learn how to spot deviations from perfection and assign appropriate penalties.

Next time we'll talk about another maneuver with some surprising subtleties: competition turns. **IAC**

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**An IAC member since 1998,** DJ has been a judge for over 20 years and competed in the Advanced category. He serves on the tech committee and rules committee in addition to chairing the judges' program.

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## BOOKS

"**To Look Upward:** One Flight Instructor's Journey," Rob Mixon, Amazon



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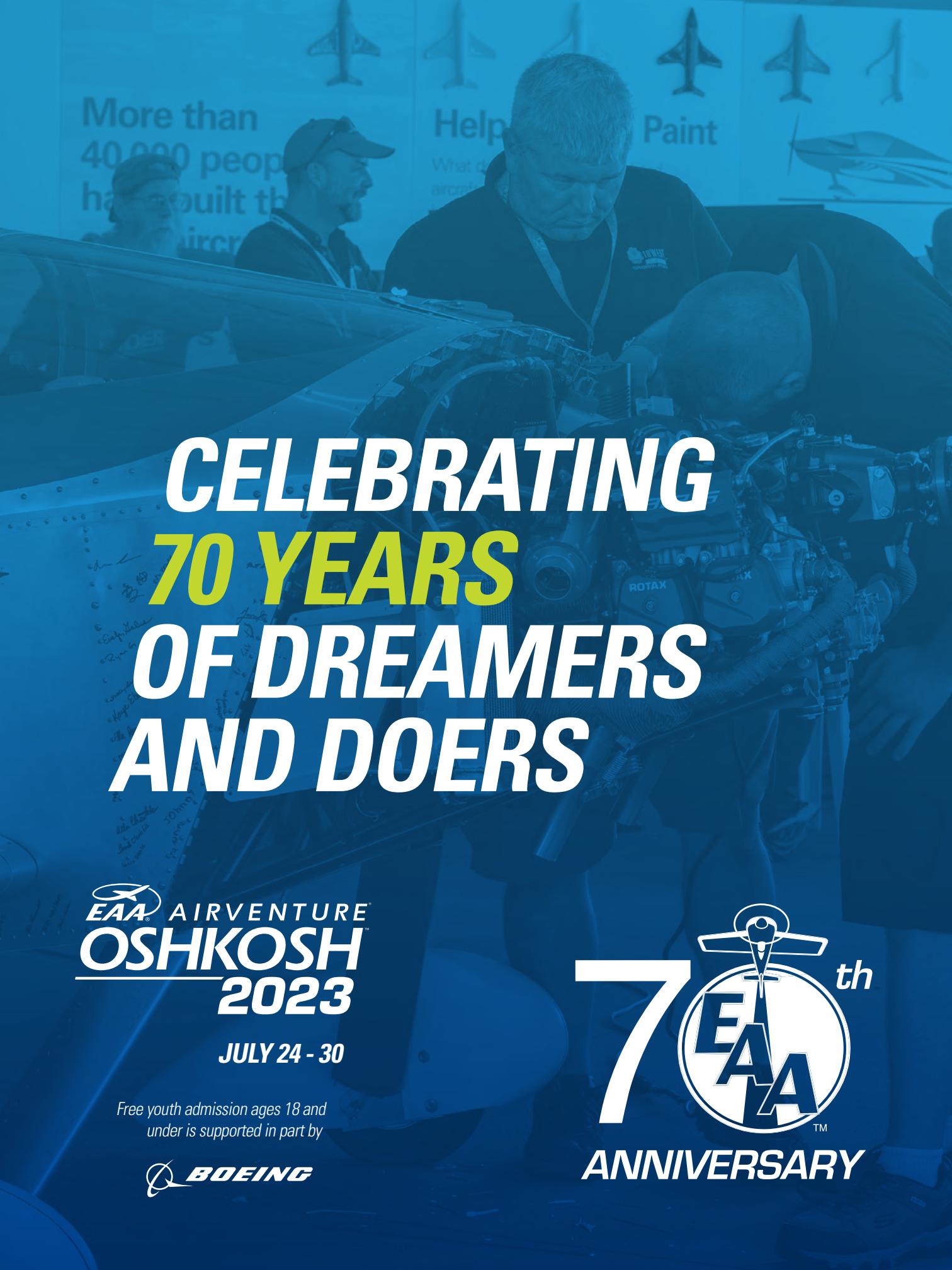
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