

SPORT

SEPTEMBER 2018

Aerobatics

OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB



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SCORING AT THE U.S. NATIONALS ◀



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COVER

Jeff Boerboon demonstrates the incredible Yak-110, made by mating two Yak-55s together, to thousands at EAA AirVenture 2018. Photo by Evan Peers.

Above: The aerobatics area of AirVenture on opening day. Photo by EAA/Ed Hicks.



US Team wins Silver Medal in Romania

THE FINAL RESULTS ARE now in and the U.S. Advanced Aerobatic Team has come in second place, just 1.4 percent behind France, and will bring home the FAI Silver Medal from Romania.

Top-ranked American pilots were Michael Lents (5th), Aaron McCartan (10th), and A.J. Wilder (12th). Results from individual flights brought Aaron McCartan the Gold Medal in the Free Unknown 2 and Matt Dunfee double Bronze Medals in the Free Known and the Free Unknown 3.

Congratulations to all the pilots, Aaron McCartan, Mike Lents, A.J. Wilder, Matt Dunfee, John Wacker, Marty Flournoy, and Stan Moye, as well as to team coach Nikolai Timofeev.

#forMark **IAC**

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Publisher: Robert Armstrong, president@iac.org
Executive Director: Lorrie Penner, execdir@iac.org, 920-479-0597
Editor: Evan Peers, editor@iac.org
Contributing Authors: Robert Armstrong, Jeff Boerboon, Nicole Brahm, Nick Buckenham, Gary DeBaun, Aaron McCartan, Adam Messenheimer, Evan Peers, Lorrie Penner, Charles Sikes.
Senior Copy Editor: Colleen Walsh
Assistant Copy Editor: Katie Holliday-Greenley
Proofreader: Jennifer Knaack
Graphic Designer: Cordell Walker

IAC CORRESPONDENCE

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

ADVERTISING

Vice President of Business Development and Marketing:
Dave Chaimson, dchaimson@eaa.org
Advertising Manager: Sue Anderson, sanderson@eaa.org

MAILING

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EAA-IAC Membership Services
Tel: 800-843-3612 • Fax: 920-426-6761
E-mail: membership@eaa.org

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Category Creep, Part 2

BY ROBERT ARMSTRONG, IAC 6712

A LOT OF AVGAS has been burned since my last column. I will continue with the Unlimited category in regard to creep, but there are some items I would like to touch on first.

As with all print media, there are always some news items that have been reported well before the issue will be published. One piece of news that has had an effect on many of us in the International Aerobatic Club is the untimely passing of Mark Fullerton. Mark was not only a personal friend, but also a great ambassador for our aerobatic community. His role as the manager of the 2018 U.S. Advanced Aerobatic Team has been one for us to model for future teams. His talents for understanding how humans behave and how to help them perform at their best will be missed.

EAA AirVenture Oshkosh has come and gone for this year, and the Vicki Cruse Educational Pavilion was very active as usual with well-attended forums each day and a special gathering for DR-107 One Design enthusiasts, which was attended by the designer, Dan Rihn. The Friday events included the annual membership meeting in the morning and the members gathering that night. If you came by and visited with us, thanks!

At AirVenture I tried to remain as available to all members as possible. I had many one-on-one conversations with members and encouraged input and criticism from all. I left with many pages of notes and will try to go forward with the

information gathered from these members to help make the IAC better for all and create an environment that will encourage more member activity, which in turn can restore some fun to our club.

My June 2018 President's Page column had been read by many of those who stopped by. The reaction to the

**THE EVOLUTION OF AIRPLANES
USED BY THE UPPER CATEGORY
OF COMPETITORS HAS BEEN
PART OF THE MOTIVATION
BEHIND THE CREEP.**

category creep concept was almost universal, and even got responses from readers in Germany and Norway as being a real threat to sport aerobatics beyond the shores of the

United States. All of the input has reinforced my desire to relieve some of the burdens that have been placed on members over time. From Germany I found that the airplanes that most of the present Unlimited pilots started in some years ago are not able to fly the compulsory programs of today, resulting in a tremendous decrease in the Sportsman competitors. This is very serious as, from a starting group in Sportsman, there will be a much lower number of competitors who continue on to become the Unlimited pilots of tomorrow. This is a recipe for extinction if it's not corrected.

Now on to the evolution of the Unlimited category. I was flying

CONTINUED ON PAGE 4

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

CONTINUED FROM PAGE 3

during the changes that occurred in this category starting in 1990. The evolution of airplanes used by the upper category of competitors has been part of the motivation behind the creep. There have been few changes not motivated by member input over many years, but the underlying motive may be described as greed. If I have a new and more advanced airplane, then I can perform some maneuver better than I could in my previous airplane. So, it follows that those with more advanced aircraft will propose sequences that favor them. This is an expression of the personalities that have a very competitive drive. From a competition perspective, this is what I, too, would do if I were the one with the more advanced airplane. But from a position of maintaining an organization with many players it can be a very bad idea. I have had the personal experience of watching the field of pilots just run away from me, acquiring (supposedly) greater aircraft. I was

able to hold on by being able to out-fly my opponents rather than out-spend them. This sounds a bit bold, but I have the awards to show for it. I fly a CAP now — a plane that flew in the 1990 world championships and by 2001 was thought to be not capable of competing in the

THE GOAL THAT I HAVE IS TO RETURN THESE VERY CAPABLE AIRPLANES TO FLYING STATUS.

Unlimited category anymore. As a point of interest, it is recorded in CIVA results as a later 231EX! In the United States there are many airplanes that were developed and built with the intention of being

Unlimited airplanes. The transition of the requirements to fly the CIVA events actually progressed faster than the building time for most of them. The goal that I have is to return these very capable airplanes to flying status. Not by changing the machine, but by changing the requirements to perform to the more modern standard. We have addressed in our policies and procedures the aircraft that the IAC feels should be able to fly in each category. Next is to enlist the sequence committee and members to help ensure that all sequences meet those requirements.

Now for rules. There are many rule change proposals this year. Several from myself and other board members. My hope is to relax many areas. I am not a fan of rule changes, but correction needs to start somewhere. I have noted that several proposed changes are in fact a reduction or removal of a rule. So, please read the proposals and make your preferences known by providing your comments. **IAC**

2018 Election Results

INTERNATIONAL AEROBATIC CLUB VICE PRESIDENT Doug Bartlett announced the results of the 2018 IAC election at the IAC annual membership meeting in Oshkosh, Wisconsin, on July 27, 2018.

The results were certified by the IAC ballot certification committee chair, DJ Molny, and were as follows (winners presented in bold):

PRESIDENT

Robert Armstrong:
294 votes (unopposed)



SECRETARY

Lynn Bowes:
300 votes (unopposed)



BOARD OF DIRECTORS

(three open seats)

Debby Rihn-Harvey:

228 votes

Rob Holland:

231 votes

Ron Schreck:

220 votes

Mike Heuer:

153 votes

Votes were collected from IAC member voting via the www.IAC.org web server. The votes were cross-checked with copies of ballots sent through a protected email account as backup. Totals from the email ballots matched the results reported by the www.IAC.org web server.

The newly elected officers and three directors assumed office at the conclusion of the annual meeting.

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2017 Nonflying Awards

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

IAC President Robert Armstrong presented the recipients with their awards at the IAC Gathering of Members on Friday evening, July 27, at the EAA Nature Center during EAA AirVenture Oshkosh 2018. In the past, these awards have been presented at the U.S. National Aerobatic Championships, but AirVenture offers a venue that is unique and well-attended.

FRANK PRICE CUP – TONY AND JULIA WOOD

The dynamic duo of Tony and Julia Wood has done more than most to help reinvigorate the sport of competition aerobatics within the South Central Region not only in 2017, but also throughout the last 15 years. Both Tony, IAC 20897, and Julia, IAC 23806, have been active competitors and judges. Tony competed at multiple contests including his last appearance at U.S. Nationals in 2015 in the Unlimited category. Julia has worked her way up the ladder to the Advanced category.

The power couple started an IAC chapter in Weatherford, Oklahoma, and ran several chapter regional contests, at Weatherford even after they moved away to Slidell, Texas.

Tony and Julia have served as officers for IAC Chapter 24 in Dallas, and Julia served as a contest director for U.S. Nationals and was the U.S. Advanced Aerobatic Team manager at one time. Tony is an instructor for the judging schools and taught an excellent and well-attended class in 2017 for IAC Chapter 119.



HAROLD E. NEUMANN AWARD FOR OUTSTANDING CONTRIBUTION AS A CHIEF JUDGE – MICHAEL CHURCH

Michael Church, IAC 12032, has served as the chief judge for the IAC Chapter 36 contests in Borrego Springs, California, since at least 2005. He has extensive knowledge of the rulebook and an impartial approach to judging a contest. Competitors always know they will receive a safe, fair,

and well-run contest as outlined by the IAC Official Contest Rules with Michael Church acting as chief judge.

Chapter 36 runs two contests each year, one in the spring and one in the fall. Without fail Michael leads as chief judge

each and every year for both contests, ensuring the judging and contest is strictly handled in accordance with IAC's prescribed rules. Additionally, Michael hosts a judging school at the beginning of each contest year. His dedication to the integrity of the sport is without question.

KATHY JAFFE VOLUNTEER AWARD – ALICE JOHNSON

When Alice Johnson, IAC 23463, was the volunteer coordinator (VC) at the U.S. Nationals in Texas, she was filling in at the last minute for Ellyn Robinson, who had to leave because her brother was very sick. Alice stepped in, got a quick rundown from Ellyn, and was off and running. Not only did she step in as VC at the U.S. Nationals, but she was also an assistant judge.

Alice volunteered, again on short notice, to be the Unlimited Aerobatic Team manager when Mike Steveson was unable to continue in the position for the 2017 World Aerobatic Championships. Alice jumped in, and everything ran smoothly, even through the international competition bickering that always happens.

Alice also volunteered to be the VC at the 2017 U.S. Nationals in its new location in Oshkosh, Wisconsin, on the AirVenture grounds.

This required her to develop new systems for communicating volunteer information for each category at several different locations throughout the contest site.



**ROBERT L. HEUER AWARD FOR JUDGING EXCELLENCE –
MICHAEL GALLAWAY**

Mike “Spanky” Gallaway, IAC 23924, has been a long-time judge in the Dallas area, a longtime CIVA judge, and has chief judged many contests internationally and within the United States. He has an outstanding performance record as an aerobatic judge in 2017 and in many past years. As an Unlimited competitor and past member of the U.S. Unlimited Aerobatic Team he pitches in to judge Primary through Unlimited in each contest he flies. He has judged the Lone Star Aerobatic



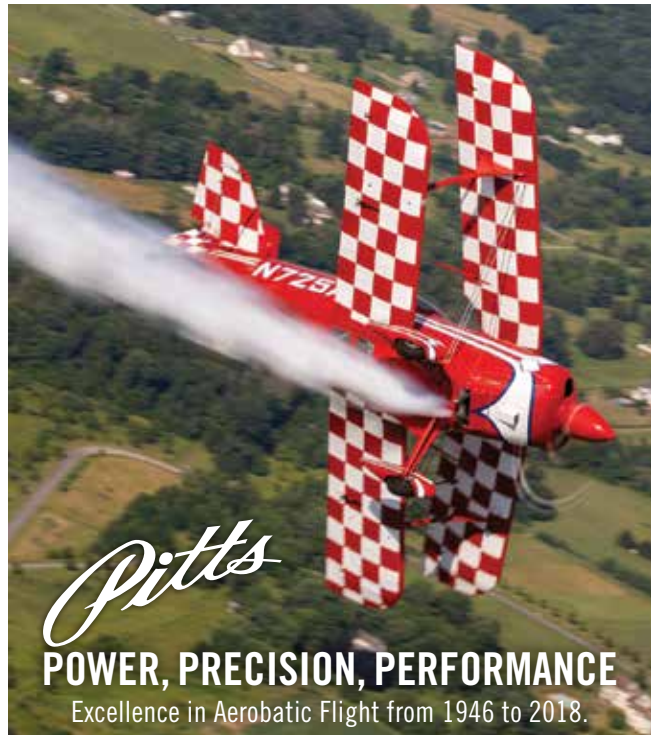
Contest since at least 2005 and the U.S. Nationals since 2011. If there was one person in the United States to call to fill a judge position at your contest, it would be Spanky.

CURTIS PITTS MEMORIAL TROPHY – DAN RIHN

Dan Rihn, IAC 3836, has touched more lives in the aerobatic community than many people realize — air show pilots trying to set a record, new aerobatic pilots excited about beginning construction on their One Design, or new pilots going up in a two-seater for spin or aerobatic training.

A prototype of the DR-107 was produced in 1993, and it was an immediate success from its first showing in assembled form at EAA Oshkosh. The aircraft made its first flight soon after, and was quickly sampled by the who’s who of the aerobatic world. The prototype had proven the design to be durable, and certainly capable of its proposed goals. There was immediate demand for plans.

To date, more than 600 sets of plans have been sold and more than 100 planes have been built from the DR-107 plans. It is a very popular plane, especially in England and Australia. It has been built in 12 other countries, including the United States, New Zealand, Tahiti, Canada, Argentina, Brazil, France, Spain, Germany, Switzerland, Iceland, and Italy. **IAC**



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IAC Members Mourn the Loss of Mark Fullerton

WITH DEEP SADNESS, WE share the news of the unexpected death of Mark Fullerton, IAC 434474, of Calhoun, Georgia. Mark suffered a massive stroke while driving home to Georgia from a business engagement in Columbus, Ohio, and never recovered. His passing leaves a huge hole in our aerobatic community.

Mark was a member of IAC Chapter 3 and was a frequent contest director for the Bear Creek Bash in Georgia. He started his aerobatic career with Michael Church of Sunrise Aviation. In recent years, he earned a place as a member of the 2014 and 2016 U.S. Advanced Aerobatic Teams. Again, he earned a spot on the 2018 U.S. Advanced Aerobatic Team as alternate and subsequently was named manager of the 2018 team.

As a contest director, he was always very active in ensuring that Primary and Sportsman categories flew three flights minimum. His attention to detail will be missed by all. He was enthusiastic beyond measure when it came to aerobatics and volunteered ceaselessly to keep the enthusiasm going in others. He was that tireless volunteer who is unsung but always helping.

— Robert Armstrong, IAC President



Showing off their THREEs! IAC₃ representing at the 2017 contest in Wilson: Tony, Shawn, Mark, and Cody.


ONE OF THE HARDEST things a man can be asked to do is to eulogize one of his best friends. In this case it is no different, but it is also an honor to do so as this individual affected so many. Mark Fullerton or, as he was so affectionately called, Fullerton, lived for aviation. Not just aerobatics but aviation in general and his aviation family. He gave in so many ways: He was EAA Chapter 709 president and a former president of IAC Chapter 3, he arranged IAC judges schools, he was a multi-time contest director for the Bear Creek Bash in Rome, Georgia, he put together pre-nationals training camps, and he was a three-time member of the U.S. Advanced Aerobatic Team. Mark lived for aviation. He made sure that when we showed up to a contest that we felt welcome as a friend, a competitor, and in the end a family member. I have been welcomed by Mark as well as seen him welcome new pilots into the IAC family. But Mark also was extremely competitive. So much so that when it was game time he would pull into his own world and have extreme focus on the flight in front of him. And when that flight was over, he would be back to making sure all was right with the tempo of the contest. It was not uncommon for the competitors of the Bear Creek Bash to get four flights. After all, that's why we came — to fly. Mark was not a certified IAC judge, but he had an eye for the details in a flight. We always gave him a hard time about this especially after he attended several judging schools. He said he didn't want to make any enemies! That was made clear to you from that unmistakable southern drawl over the radio. I always loved flying for Mark. You never knew what he would say. His sarcasm was one of his best qualities. He would dish it out just as fast as he could take it.

Mark was certainly my friend, but more importantly he was a friend of our community. He affected countless people in many different capacities. He led, coached, and inspired the people who were lucky enough to cross his path. My personal journey with Mark has been no different. His biggest gift to me was perspective. The perspective that you don't just come to these contests to win. You come to them for the camaraderie and the friends that you will meet. Friends that become lifelong not only from common interests but from them being good people. Mark was one of the best a man could know. And with that I was one of many lucky people to be part of his family.

Mark, I will miss you, my friend. Thank you for all that you have given. Save a box slot for me, and I look forward to flying with you again in His glory.

Your friend,
Charles Sikes

The Quiz



BY JONATHAN APFELBAUM, IAC 433983

AS I'M SURE IT has for most of you, the sudden passing of Mark Fullerton has brought me great sadness. That sadness causes us all to realize how important the moments are that we have together and truly appreciate the memories we create throughout our lives.

At the IAC Chapter 3 contest in Rome, Georgia, this year, Mark was conducting the briefing and stated that fact very succinctly. He wanted to recognize the efforts of one competitor who saved another's life and how important we are to each other. He told us, "If you come to these things for a trophy, you're doing it wrong. It's the people you meet and relationships you forge that last forever."

Most of you have met, known, or been positively influenced in some way by Mark Fullerton. That goes double for the members of the U.S. Advanced Aerobatic Team. We would have been lost reaching for the World Advanced Aerobatic Championships without Mark's attention to detail and tenacity. Heck, he talked me down from forfeiting when the going got tough along the way.

Prior to the stroke Mark had already announced he was unable to attend WAAC 2018 due to career obligations. He was diligent in organizing our team for success despite being stuck stateside. Due to his generosity, tenacity, and the positive attitude that led us through logistics and built our training program, we all felt that it was necessary to honor Mark by pressing on. All of the pilots made it to Europe, and this attendance is largely due to Mark's work.

If we hang it up, all that work of his would be for nothing. That is not going to happen.

*"Oh, I have slipped the surly bonds of Earth
and danced the skies on laughter-silvered wings.
Sunward I've climbed and joined the tumbling mirth
of sun-split clouds — and done a hundred things
you have not dreamed of — wheeled and soared
and swung high in the sunlit silence. Hov'ring there,
I've chased the shouting wind along and flung
my eager craft through footless halls of air.*

*Up, up the long, delirious burning blue I've topped
the windswept heights with easy grace where never
lark or even eagle flew. And while the silent lifting
mind I've trod the high untrampled sanctity of space,
put out my hand and touched the face of God."*
— John Gillespie Magee, *High Flight*

— Aaron McCartan, U.S. Advanced Aerobatic Team Captain 

1

What was the aerobatic group within the EAA first called?

2

Which IAC member has flown in the most EAA AirVenture Oshkosh air shows?

3

Over the years, multiple aerobatic aircraft have debuted at AirVenture. Can you match the aircraft with the year of its first display?

2018	RV-3
1993	Sorrell Hiperbipe
1978	Yak-110
1975	VariEze
1973	DR-107
1972	Christen Eagle II

4

This year's AirVenture had record-setting numbers in attendance, aircraft, and number of people at IAC forums as well as at the IAC dinner. How many aerobatic aircraft participated?

5

The International Aerobatic Club's Curtis Pitts Memorial Trophy is awarded each year to honor those who have made significant innovations in the realm of aerobatic design. This year, Dan Rihn was recognized with this honor for his creation of the DR-107 One Design.

The trophy itself has a great deal of symbolism with attention to detail in its components. Can you identify the meaning attached to each component?

- The wood base
- The steel tube truss
- The mid-level wood
- The aluminum legs
- The crystal block

LOOK FOR THE ANSWERS ON PAGE 29

2018 Greg Koontz Airshows Aerobatic Instructor Scholarship in Memory of Bobby Younkin

Nikolett Ficze



THE GREG KOONTZ AIRSHOWS

Aerobatic Instructor Scholarship in Memory of Bobby Younkin is awarded annually to an applicant who is a certificated flight instructor, has some tangible experience in aerobatics, and has demonstrated by their activities that they are interested in becoming involved in aerobatic instruction.

Nikolett Ficze (aka Lara Isaac), IAC 439337, is the perfect candidate for this scholarship. The Hungary native arrived in the United States at the age of 20 and knew right away, from her first small airplane ride, that she was destined to be involved in aviation.

Interacting with the aviation community gave Lara the opportunity to make friends, find related jobs, and develop her budding aviation passion. She currently lives in Dayton Beach, Florida, and works at

Embry-Riddle Aeronautical University as an immigration coordinator helping international students achieve their aviation dreams while helping them with their legal immigration status during their study in the United States.

Lara has been in International Aerobatic Club competition three times. She has had two very successful experiences at contests, including winning in the Primary category receiving the Best First Time Sportsman Award. Even if she's not on the podium, she enjoys attending aerobatic competitions where she meets fellow aerobatic pilots, watches how others fly their sequences, and is continually learning something new.

While working at Embry-Riddle, Lara is earning her bachelor's degree in aeronautics. She has earned her CFI ticket and has been teaching

aerobatics in the Eagle Sport Aviation Club's Pitts S-2B and 260AB. She enjoys teaching her students aerobatics and finds it extremely fun because it is a brand new experience for them. Lara finds satisfaction in walking the students through their first loops and rolls.

Volunteering much of her time, Lara has been introducing new people to the sport of aerobatics by giving them a taste of aerobatics. She looks for opportunities to pay it forward and believes the scholarship will help her continue providing a quality aerobatic experience to those interested in aerobatics. Her goal in instruction is to be able to gain more experience through the training that the scholarship provides and pass along techniques to help her students improve their own flying.

Congratulations, Lara! **IACF**

2018 CP Aviation Emergency Maneuver Training Scholarship in Memory of Vicki Cruse

Zachary Haskins

JUDY PHELPS OF CP AVIATION, a family-owned business located in Santa Paula, California, awards the Emergency Maneuver Training Scholarship annually in memory of her friend and former IAC president Vicki Cruse. The scholarship aims to promote aviation safety through unusual attitude and aerobatic training.

The scholarship is open to women or men, and she works with a group,

which includes past recipients, to determine the next recipient. She especially focuses on applicants who are already members of the International Aerobatic Club because it was important to Vicki to build and support the membership of the IAC.

This year's recipient is Zachary (Zach) Haskins, IAC 440264. Zach is a private pilot with a commercial limited use certificate. He currently works

as an agricultural pilot and mechanic in Ohio and has 1,634 flight hours.

Zach's path to aviation started with his parents who were both pilots and owned a couple different airplanes over the years. They had a lot of fun flying as a family. He had early ambitions to become a bush pilot, but his dream faded temporarily after they sold their last airplane around his 9th or 10th birthday.

After high school, Zach spent five years in the U.S. Army. At the end of his hitch he decided to go home to the family farm, set down roots, and start his adult life. Combining his need for a pipeline for income to support the small family farm with his dream of becoming a pilot, Zach found a local aerial applicator company. He started out by loading and washing the airplanes while simultaneously taking flying lessons.

When Zach earned his commercial certificate through Butch Fisher of Fisher Ag Service he was hired full time to fly Butch's Cessna 188. After two seasons of spraying in the Cessna he transitioned to a turbine Air Tractor. Zach is now in his fifth year flying as an agricultural pilot in central Ohio.

Being awarded the CP Aviation Scholarship will allow Zach to develop skills that will help in his job. He has a great desire to learn aerobatic flying to add a safety margin to his flying while doing aerial application. Ag flying

involves maneuvering while heavy, slow, and at low altitude where there is no room for error. He knows his life depends on having the correct reaction to any emergency or abnormal flight attitude that might occur. The training he will receive at CP Aviation will help him to learn energy management and how to make his flying smoother and more fluid. Because of the nature of the single-seat agricultural aircraft that he is flying, much of his flight time has been solo. The scholarship presents a fantastic opportunity to spend time flying with an instructor who can recognize and correct any bad habits that he has developed or techniques that he hasn't fully mastered.

In addition to developing and mastering new skills for his job, Zach would also like to take the emergency maneuver training (EMT) course that CP Aviation offers for just the plain fun of it. He would take great satisfaction from making an airplane do exactly what he wants it to do. Zach

said he would love to learn how to perform loops and rolls and other aerobatic maneuvers. To Zach, learning how to fly a basic aerobatic sequence, the right way, would really be spectacular. Someday he would love to become involved in competition aerobatics through his local IAC chapter.

Congratulations, Zach! **IAC**

An aerial photograph showing a person in a green inflatable parachute (Softie) floating over a town and a large airfield. The parachute is inflated and the person is visible inside. The background shows a town, a large airfield with runways, and mountains in the distance under a clear sky.

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2019 Rulebook Proposals

Now open for member comment

JULY 1 WAS THE deadline for submission of proposals to the rules committee for evaluation for the IAC Official Contest Rules for the 2019 contest season. Following are the 46 proposed rule changes submitted. The entire text of the proposals can be found on the IAC website at [www.IAC.org/system/files/2019 Rules Proposals.pdf](http://www.IAC.org/system/files/2019%20Rules%20Proposals.pdf).

In cases where more than one person submitted a proposal for the same change, only the most complete version is included. For the most part, the Background section of each proposal is a direct quote of what was received from the original proposer. In some cases, those sections were edited for readability and clarity.

It is the task of the rules committee to review these proposals and recommend to the IAC board of directors only those proposals that add value to the IAC Official Contest Rules book. While it is tempting to codify away all possible scenarios, consideration is taken for each of these proposals on whether it is absolutely necessary to have a particular, and sometimes rare, issue covered by a specific rule, or does the issue lend itself to common sense resolution based on rules that already exist.

Members may submit their comments to the rules committee via an online form, a link to which can be found on the IAC website. Comments must be received by October 1, 2018, and will be compiled and submitted to the board of directors in November. The rules committee will present its recommendations on these proposals during that meeting as well.

Thank you to the many members who submitted their ideas to improve our rules and our competitions. **IAC**

Proposal Number	Affected Rule(s)	Subject
2019-01	Appendix 5 - Unlimited Power	Smooth Patch requirements
2019-02	2.3(k)	Glider seat belt requirements
2019-03	4.16	Change signaling to radio primary
2019-04	2.6(e)	Judge qualification for Nationals
2019-05	Appendix 5	Glider Smooth Patch figures
2019-06	7.6.6	Distribution of judging performance data at Nationals
2019-07	Appendix 3	Allowable Intermediate Unknown figures
2019-08	6.2	Maximum number of figures in Free Program
2019-09	8.6 Presentation, Section 8.6.1 Grading	Presentation criteria
2019-10	2.6.3(a)	Judge currency
2019-11	2.6.3(c)	Judge recurrency
2019-12	4.14.3, 4.6.1(i)	Remove requirement for smoke bombs
2019-13	2.8, 4.8.2, Chapter 7	Require scores to be written in ink
2019-14	4.11.3, 4.17	Advanced Power low altitude limits
2019-15	Appendix 3 - Intermediate	Remove certain Family 8 figures
2019-16	4.6.1(f), 4.6.1(m), 4.8.2, 8.6.3	Penalties for unguarded box boundaries
2019-17	5.8.1	Presentation K for boxes with unguarded boundaries
2019-18	Appendix 3 - Unlimited	Removal of Family 8.8
2019-19	1.16	Make box boundaries optional
2019-20	Appendix 3 - Unlimited	Family 8.6 restrictions
2019-21	3.8	Eligibility of H/C competitors for awards
2019-22	4.19.5	Optional break
2019-23	2.6, 2.6.1, 2.6.2, 2.6.3	Replace the R&C exam with focused online training
2019-24	2.6.3	Eliminate the prerequisites to take the R&C exam
2019-25	3.14	Noncompetition flying during contests
2019-26	6.13.1	Allow B and C forms to be printed back-to-back
2019-27	2.6.2(c)	National judge candidate significant experience
2019-28		Chief judges must be trained in standard radio phraseology
2019-29	5.8.1	Increase presentation K across the board
2019-30	5.8	Increase presentation K for no boundary judges
2019-31	6.2, Table 6.2.1	Reduce allowed number of figures in Sportsman Free to 10
2019-32	4.16(b)	Allow signaling in upright level flight
2019-33	Appendix 5	Remove effect of minority HZ in Star Award calculation
2019-34	4.8.2	Recommend that chief judges review sequences with line judges
2019-35	2.6.1	Eliminate practical training requirement
2019-36	7.1.6	Eliminate directionality requirements within a figure
2019-37	7.3, 7.3.3, 7.3.4	Clarify rationale for majority/minority HZ
2019-38	6.14	Free Program certification
2019-39	8.5	Deduction for correcting errors
2019-40	5.5 and 6.2	Category uncreep
2019-41	Multiple	Eliminate HZs
2019-42	Appendix 3, Advanced and Unlimited Power	Limits to crossover snap intensity
2019-43	7.3.1	Amend HZ rule to exclude big errors
2019-44	Appendix 3, Intermediate Power	Eliminate all but snap at apex of loop from Intermediate
2019-45	8.1.3.3	Regarding 45 lines - added clarity
2019-46		Basic rule for "Rule changes"

AERO

- APR 05 Snowbird Classic • Chapter 89 • X35: Marion County Airport, Dunnellon, FL
APR 13 Hammerhead Roundup • Chapter 36 • L08: Borrego Valley Airport, Borrego Springs, CA
APR 27 Carolina Boogie • Chapter 19 • W03: Wilson Industrial Air Center Airport, Wilson, NC
APR 27 Early Bird 2018 • Chapter 25 • 26R: Jackson County Airport, Edna, TX
MAY 03 Sebring 77 • Chapter 23 • SEF: Sebring Regional Airport, Sebring, FL
MAY 04 Duel in the Desert • Chapter 49 • KAPV: Apple Valley Airport, Apple Valley, CA
MAY 19 CANCELED 2018 Wildwood Acroblast • Chapter 58 • KWWD: Cape May County Airport, Wildwood, NJ
JUN 01 Ben Lowell Aerial Confrontation & 2018 IAC West Open Championship
Chapter 12 • KFMM: Fort Morgan Municipal Airport, Fort Morgan, CO
JUN 01 Coalinga Western Showdown • Chapter 38 • C80: New Coalinga Municipal Airport, Coalinga, CA
JUN 08 Bear Creek Bash 2018 • Chapter 3 • KRMG: Richard B. Russell Regional Airport, Rome, GA
JUN 09 Giles Henderson Memorial Challenge • Chapter 61 • SLO: Salem-Leckrone Airport, Salem, IL
JUN 15 CANCELED Ohio Aerobatic Open • Chapter 34 • KEDJ: Bellefontaine Regional Airport, Bellefontaine, OH
JUN 16 Flagstaff Regional Contest • AC Chapter 7 • CEK6: Flagstaff Regional Airport, Killam, AB, Canada
JUN 22 Apple Cup • Chapter 67 • KEPH: Ephrata Municipal Airport, Ephrata, WA
JUN 22 Lone Star Aerobatic Championships • Chapter 24 • KGYI: North Texas Regional Airport, Sherman, TX

- JUL 13 Green Mountain Aerobatics Contest • Chapter 35 • KVSF: Hartness State Airport, Springfield, VT
JUL 13 High Planes Hotpoxia Fest • Chapter 12 • KSTK: Sterling Municipal Airport, Sterling, CO
JUL 13 The Corvallis Corkscrew • Chapter 77 • KCVO: Corvallis Municipal Airport, Corvallis, OR
JUL 14 Michigan Aerobatic Open • Chapter 88 • 3CM: James Clements Municipal Airport, Bay City, MI
JUL 14 CANCELED Super D Tango • Chapter 24 • XA68: Akroville Airport, Slidell, TX
AUG 04 Doug Yost Challenge • Chapter 78 • KSPW: Spencer Municipal Airport, Spencer, IA
AUG 10 Can-Am Championship • Chapter 67 • KCTB: Cut Bank International Airport, Cut Bank, MT
AUG 17 Kathy Jaffe Challenge • Chapter 52 • KWAY: South Jersey Regional Airport, Mount Holly, NJ
AUG 17 Upper Canada Open • AC Chapter 3 • CYHS: Hanover Saugeen Municipal Airport, Hanover, ON Canada
SEP 01 Rocky Mountain House Canadian Nationals • AC Chapter 7 • CYRM: Rocky Mountain House, AB Canada
SEP 01 CANCELED ¡Viva Santa Maria! • Chapter 26 • KSMX: Santa Maria Public Airport, Santa Maria, CA
SEP 08 Apple Turnover • Chapter 67 • KEPH: Ephrata Municipal Airport, Ephrata, WA
SEP 08 ACE's High Aerobatic Contest, • Chapter 119 • KEWK: Newton City/County Airport, Newton, KS
SEP 08 Hoosier Hoedown • Chapter 124 • KOKK: Kokomo Municipal Airport, Kokomo, IN
SEP 08 James K. Polk Open Invitational • Chapter 11 • KHWY: Warrenton-Fauquier Airport, Warrenton, VA
SEP 22 U.S. National Aerobatic Championships • KOSH: Wittman Regional Airport, Oshkosh, WI
OCT 06 The Clyde Cable Rocky Mountain Aerobatic Contest • Chapter 5 • KLAA: Lamar Municipal Airport, Lamar, CO
OCT 12 **NEW DATE** Akrofest • Chapter 36 • L08: Borrego Valley Airport, Borrego Springs, CA
OCT 12 Texas Hill Country Hammerfest • Chapter 107 • KAQQ: Llano Municipal Airport, Llano, TX
OCT 19 Mason-Dixon Clash • Chapter 19 • KFBX: Farmville Regional Airport, Farmville, VA
OCT 19 Phil Schacht Fly Like Your Hair is on Fire • Chapter 288 • 42J: Keystone Airpark, Keystone Heights, FL
NOV 01 Sebring 78 • Chapter 23 • SEF: Sebring Regional Airport, Sebring, FL
NOV 02 The Tequila Cup • Chapter 62 • AVQ: Marana Regional Airport, Marana, AZ

2018

AEROBATIC CONTEST CALENDAR

Roll with us. Join the International Aerobatic Club through your local chapter, or at www.IAC.org
For the most up-to-date contest listing, visit www.IAC.org/contests

2018 US Advanced Aerobatic Team pilot A.J. Wilder
Poster design and photo by Evan Peers. © Airspace Media & International Aerobatic Club, Inc.



EAA AIRVENTURE
OSHKOSH
2018



1: Pilots and owners of DR-107 One Designs gather for a group photo with Dan Rihn (center).

2: Dennis Flamini's 2013 Acro Sport II.

3: Melanie Astles, France's top women's aerobatic pilot, made a surprise visit to the IAC Pavilion to chat with our members, including Team USA Captain Aaron McCartan and One Design Unlimited pilot Krysta Paradis. Krysta flew her One Design to AirVenture for the 1D celebration, and it is shown above to Melanie's left in the exhibition panel.



4: Love, AirVenture style.

5: Bob Freeman wins the "Pigs can fly" award.



6: A framed poster signed by all members of the U.S. Advanced Aerobatic Team was auctioned to benefit the pilots in their quest for gold. Kramer Upchurch of Southeast Aero, who beat out Doug Vayda also from Southeast Aero, was the successful bidder. Left to right, Aaron McCartan, Mike Lents, and Mark Fullerton presented the poster to Kramer and Doug.

7: Greg Thorson brought his newly acquired Acro Sport II directly to Oshkosh!





8



9



10



11



12



13



14

8: Brett Schuck's racy 1996 Staudacher S-300.

9: Team MSU Denver and Team UND gathered at the EAA Nature Center with their first- and second-place Collegiate Program trophies, respectively, during the IAC's Gathering of Members and award dinner.

10: Rob Holland is presented with his second Hillard Award for highest-scoring USA team member at the World Aerobatic Championships. Robert Armstrong, a two-time winner himself, presents the award with Doreen Hillard. This took place on the hot ramp at show center, in front of the Charlie Hillard Pavilion, which serves as air operations center during AirVenture.

11: Mark Fullerton talking aerobatics. Yeah!

12: The Giles Henderson Trophy for the United States Sportsman Aerobatic Champion takes its place in the IAC display case.

13: Darrell Lowrance's colorful Pitts Model 12.

14: Giles Henderson's iconic Cub, now owned by Joe Flood, looks on with a pair of One Designs during the balloon glow event held just outside IAC's parking area on Monday evening.



▶ A FRONT-ROW SEAT

Visitors to the IAC's Aerobatic Center are treated to front row seats during all of the EAA AirVenture festivities. Bob Freeman's Extra 330SC glistens with reflections during the Thursday night fireworks spectacular.



**UNITED
PARALYMPIC
TEAM**

- 2011 World Para Swimming Kyrgyzstan Team
- 2011 World Para Swimming Russia Team
- 2011 World Para Swimming USA Team
- 2011 World Para Swimming Ukraine Team
- 2011 World Para Swimming Uzbekistan Team
- 2011 World Para Swimming Venezuela Team
- 2011 World Para Swimming Vietnam Team
- 2011 World Para Swimming Zimbabwe Team

EXTRA

YAK

110

DESIGNED TO INSPIRE

BY JEFF BOERBOON, IAC 16931





The story of the Yak-110 is not only about an amazing airplane, but more importantly it's about meeting and working with some of the most incredibly talented, inspirational, and supportive people I have ever met. I have been very fortunate in my aviation career and have achieved many of my life-long goals, but it is the people I've met along the way who have made the difference. This is a story of passion, persistence, and a love of all things aviation by the people who have had a profound influence in my life.

In 1996, my good friend Mark Leseberg and I acquired a wrecked Pitts S-1S that we spent the next four years rebuilding. In honor of Leo Loudenslager, whose accomplishments were an inspiration to me, the N-number of that Pitts, N17NV, was a tribute to his one (1) world and seven (7) national (N) victories (V). In 2003, I flew the Pitts to Denison, Texas, to fly in the U.S. National Aerobatic Championships and to compete for a spot on the U.S. Advanced Aerobatic Team. I won the Advanced category and was selected captain of the team to represent the United States at the 2004 Advanced World Aerobatic Championships (AWAC) in Sweden.

Flying the Pitts was fun, but I was looking to advance my aerobatic skills. At the time, I was considering moving into a Sukhoi. The Yak-55M was a good aircraft to train in for the transition into the Sukhoi, so I set out to find a Yak

to fly at the world championship. Michael Racy had worked closely with the Russian aerobatic team and offered to help me secure one of the team's Yak-55s to fly at AWAC.

Locally, I wanted to rent a Yak-55 and heard that Klein Gillhousen of Bozeman, Montana, had one. I called Klein and described my need for an aircraft to train in since I was planning to fly the Russian Yak in Sweden. At the end of my pitch he said, "I would love for you to fly my Yak-55, but I just sold it to Chad Bartee in Lubbock, Texas."

As fate would have it, Chad and I had met at the U.S. Nationals in 2003. I explained to him my need to fly a Yak-55, and he was quick to invite me to Texas to fly his. After he purchased N41126 from Klein he hired a local hot rod shop to custom paint the Yak blue and white with orange flames. This aircraft would later become the right-side airframe of the Yak-110.

In March of 2004 I sold my Pitts to Steve Falon, an air show pilot from Sioux Falls, South Dakota. I offered to fly the Pitts to South Dakota and stopped at Chad's airport on the way for an introduction to the Yak-55. David Kujawa, the Sport Aerobatics editor at the time, was intrigued about my decision to transition from a Pitts S-1S to a Yak-55 and commissioned an

article about it, which Chad wrote: “From Super Sexy to Coyote Ugly” (Sport Aerobatics, July 2004). Flying both airplanes back to back gave me great insight into their different flying characteristics, and I knew I could do something great with a Yak-55.

Flying Chad’s airplane in Lubbock made me realize I wanted one of my own in Phoenix to get the required training for AWAC. I found N955SF for sale in Atlanta. The airplane was perfect with a custom red, white, and blue paint job and only about 50 hours’ total time since new. This Yak would eventually become the left-side airframe of the Yak-110.

En route from Atlanta to Phoenix I stopped at Chad’s place to show him the new Yak and give him the opportunity to fly it. This was the first meeting of the two Yak-55s that would eventually become the Yak-110. They would not meet again until October 24, 2016; who knew that 12 years later we would be joining these two aircraft!

I spent the next year flying aerobatics and perfecting maneuvers in the Yak-55, always knowing that flying a Sukhoi was my goal. I continued flying Chad’s airplane at contests in the Midwest and my airplane out west to improve my skills in the Yak. However, I was also looking for a new aircraft to fly at the U.S. Nationals in 2005.

By this point, Klein and I had become good friends, and he offered to let me fly his Extra 300L at the 2005 and 2006 U.S. Nationals. This set the stage for my run to the Unlimited Aerobatic Team. I eventually got to fly the Sukhoi 31, but a friend had an unfortunate incident, which totaled the airplane. Thankfully no one was hurt. It turned out to be a blessing in disguise that led to the purchase of the Extra 330SC that I fly to this day.

This was really the launching point to the rest of the story. With the help of my longtime friend and coach Mike Steveson, I won the U.S. National Aerobatic Championship in the Unlimited category in 2010 — a lifelong dream that was the pinnacle of my contest career. I went on to compete at the next three world championships and one European championship flying the Extra 330SC. I also was invited to fly, for the first time, at EAA AirVenture Oshkosh in 2011 — another lifelong goal.

John Klatt hired me in 2012 to join his air show team so I spent the next two years flying formation aerobatics with John and eventually got an incredible opportunity to fly the Screamin’ Sasquatch Jet Waco at all the largest shows in the United States. Jimmy Franklin was an early influence for me, and I would have never imagined that one day I would be flying a Jet Waco similar to the one he introduced to the air show world.

For many years, I flew multiple types of aerobatic aircraft, but I still owned the Yak-55 knowing there would be some way I could repurpose this unique and

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capable machine. In the fall of 2012, the idea of joining two Yak-55s and adding a jet engine went from something I had been thinking about for years to actually discussing the project in an effort to make it happen.

I met Dell Collier in the spring of 2013, and we began talking about interesting aircraft projects. I mentioned my Yak-110 idea, and we immediately started to brainstorm the concept. Dell had a concept drawing of the Yak-110 put together, and it looked amazing. The Yak-55 by itself is a very capable aerobatic aircraft. With its symmetrical configuration and bolt-on wings the Yak lends itself perfectly to combine two of them together. We spent the next three years discussing the concept and knew the two planes we'd join had to be my Yak N955SF and Chad's N41126.

In September 2016, I called Chad to see if he would be interested in partnering with Dell and me on the Yak-110 project. After I explained the concept to him, he said, "I'm still listening!" Later in the day he called back and said, "Let's go for it." It didn't take long to get the project started. Chad had previously sold his Yak-55, but we tracked it down and it happened to be for sale. The stage was set for this one-of-a-kind aircraft to take shape.

On October 24, 2016, Chad, Dell, and I were at Dell's shop in Caldwell, Idaho, as Ben Anderson taxied N41126 to the hangar where the two Yak-55s would meet again. The two airplanes and the three of us had many encounters over the years. In fact, when Chad sold his airplane, Dell was hired to ferry the plane to the new owner. This was long before I met Dell and before he flew his first aerobatic contest in N41126. Dell flew N955SF and I flew N41126 for the last time as single airplanes before it was time to join them together.

After 19 months of intense effort by Dell and his team at Aero Speed, I flew the Yak-110 at its first air show in Mountain Home, Idaho, in June 2018. The Yak-110 weighs less than 5,000 pounds, and with its J-85 jet engine and two M-14s it has more than a one-to-one power-to-weight ratio. It's hard to describe the incredible satisfaction sitting in the left cockpit of this one-of-a-kind aircraft flying in front of a disbelieving crowd. The Yak-110 is the result of many great people coming together with an incredible passion for aviation innovation and is a repurpose of two aerobatic aircraft that will certainly inspire the next generation of aviation enthusiasts. **IAC**



Left to right: Dell Collier, Chad Bartee, Jeff Boerboon.





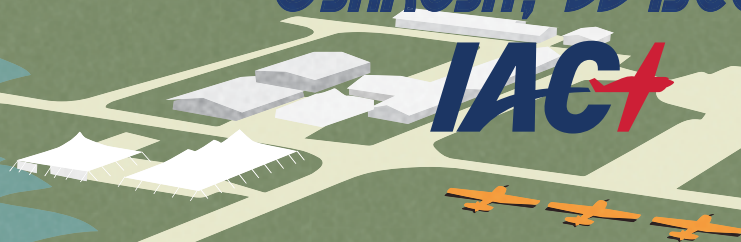
U.S. NATIONAL AEROBATIC

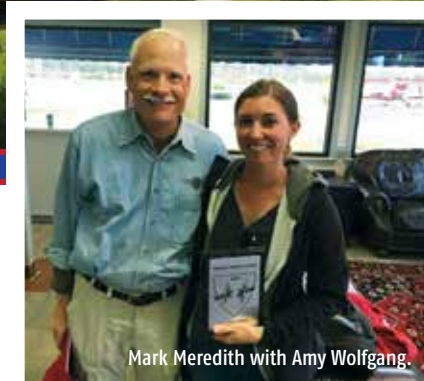
CHAMPIONSHIPS

SEPTEMBER 22-28, 2018

WITTMAN REGIONAL AIRPORT

OSHKOSH, WISCONSIN





Mark Meredith with Amy Wolfgang.

BY NICOLE BRAHM *Super Chipmunk* For the Love of Chippy

Mark Meredith, IAC 432625, is flying a Super Chipmunk with a rich history. He wanted to fly at a young age, but didn't pick up the sport until later in his life. At the age of 17 Mark inherited his love for vintage airplanes from his dad, who was in the Air Force. Due to his vision, Mark couldn't be a pilot and instead joined the Annapolis Naval Academy, becoming a naval flight officer, right seat bombardier, and later did aircraft maintenance.

"I did a 25-year career and retired as a captain, but all that time, even though I was around airplanes ... I wasn't a pilot," Mark said. A year before retiring from the Navy in 2004, Mark started taking flying lessons. "I was 47 when I retired and became a pilot, so I felt like I was making up for lost time, and I went pretty hard at it," Mark said.

After gaining experience flying as a flight instructor, he wanted to fly aerobatics. "I sold a perfectly good Bonanza to buy this Chipmunk project," Mark said. Even though the plane was flyable, it needed work. After

losing a part of the plane while inverted in the middle of performing aerobatics, Mark decided he needed to rebuild it. The project took him five years and a total of about 5,000 hours.

Mark describes the plane itself as cold, windy, noisy, and overall not practical. "Everybody I knew told me, 'Don't buy this airplane' because it was pretty ragged looking even though it was supposedly flyable," he said. "But there was just something about it, and it didn't scare me. It needed a rebuild because I wanted a rebuild. I just didn't know what I was getting into. But what drew me to it, and I think that's what draws a lot of people to it, it looks like a sleek 1930s racer in this configuration. You see that that's what makes it unique and, I think, makes it look beautiful."

After three and a half years of part-time rebuilding Mark decided to work on his plane full time. "I quit my contracting job on Friday, and I showed up at the hangar on Monday morning. For the next year and a half this was my day job," Mark said. "I worked on it 12 hours a day five or six days a week

for another year and a half to finish it. I finished it just in time for Oshkosh 2014. I literally picked it up from the paint shop on Friday, and I launched off to fly cross-country to Oshkosh from Annapolis on Saturday."

Stopping 11 times on his way to EAA AirVenture Oshkosh, Mark said he was able to see a lot of middle America and meet a variety of people. The following summer he started flying aerobatic competitions with the IAC. After three years of flying aerobatics, in 2017 he started flying air shows. His favorite part about flying is the community.

"You just look forward to seeing them every contest, and they're not just your peers, they're your mentors," he said. "Everybody came up the same way, learning to fly aerobatics with tutelage and round coaching from those ahead of them."

Mark recounted the experience of mentoring a student, Amy Wolfgang, on aerobatics after inheriting her as a student from another instructor.

"I discovered when I flew with her that she was interested in air show

flying and aerobatics, and so I said, 'Do I have a treat for you!'" Mark recalled. "We got out of the Cessna and jumped into my Chipmunk. She was hooked."

Amy went on to complete her private pilot certificate and shortly thereafter flew in her first contest, scoring first in her category. "I was really proud of her, and it introduced her to this aerobatic community, which she immediately took to," Mark said. "And she kind of says she found her people." **IAC+**



The Many Lives of N7DW

A Hard Workin' Chippy

- 1951: Built in Britain for the Royal Air Force, as DHC-1 Serial No WG 427
- Issued to No 4 Basic Flying Training School (BFTS) Sywell, Northampton
- 1956: Australia, Tasmanian Aero Club as VH-BSQ
- 1965: Australia, Glider tug and SA-29 "Spraymaster" as VH-GEB
- 1972: Imported to Texas by Dean Whitacker; converted to Super Chipmunk
- 1974-1988: Airshows with Doug Warren and Howard Davenport
- 1988-2000: Airshows, Chuck Stockdale/Nadir Fahn (*Pilot Watches, Tag Huer*)
- 2009-2014: 5000+ hr rebuild by Mark Meredith, CAPT USN (Ret) and friends

1951 de Havilland DHC-1

Super Chipmunk

Scrapbook



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THE SCORING OFFICE

The Final Step

BY NICK BUCKENHAM, IAC 16011, CIVA PRESIDENT



Travel a bit and you'll soon realise that classic Aresti-style aerobatic competitions follow pretty much the same pattern the world over. The mix of pilot skill categories kicks off with relatively simple figures for newbies followed by rather more demanding ones as the level of skill rises. The part the airplane plays and the training required to fly it well become more critical as the skill levels ramp up. The pressure on the panel of judges who are dedicated to assessing every detail of every flight to turn subjective opinions into figure grades is never for the faint hearted. My focus here, however, is the final step in determining the results – the scoring office – the domain of the volunteers who toil throughout the competition to turn thousands of grades into valid sequence scores that are set out in rank order. This process takes in opinions and grades and somehow creates reliable scores and ranks. Carefully regulated and extremely detailed, it allows many often-conflicting elements to be considered and evaluated correctly to establish a robust set of conclusions.

In most settings where multiple opinions are collected, the usual approach is to take an average value (AV) to have some confidence that the majority opinion will dominate and any rogue views will only have a limited influence on the result. Where possible, a better solution is to identify and reject opinions that are likely to be wrong, and IAC's majority/minority approach to hard zeros (HZs) provides such an example. For any pilot/figure, only a majority of HZs can carry the day – anything less and the HZs must have an average of the scoring judges substituted to give the pilot the benefit of doubt. There's some slightly more complex logic to handle the situation when AVs, conference averages (CA), and HZs are all mixed together, but you get the drift.

For those occasions in which the judges award a mixture of grades for the same figure, the diversity (the grades, not the judges!) can present an interesting dilemma. Either the judges saw different things or they made different assessments of the same thing and somehow the scoring system has to make a decent hash of the result. Pilots know that a better job at the stick-and-rudder end would have provided a clearer picture for the judges to work with. However, who judged it correctly and who made the wrong call remains unresolved, and sometimes a straight average may not even give the best outcome. Other solutions like dropping the highest and lowest grades have been tried, but these methods have faults too as shown in Doug Lovell's article "Throwing Away High and Low – A question of fairness" in the September 2012 *Sport Aerobatics*.

Clearly, it takes two separate groups of fun-loving people to make the aerobatic competition game come alive. There are the aces in the air who commit bundles of cash, training time, and motivation to turn avgas into noise while hopefully refining their interpretation of the rules, but there are also those on the ground whose mission in life is to detect when the former don't reach the ideal standard. The true complexity of the judge's job is a subject of long running debate in many quarters. At aerobatic contests, the pairing of pilot optimism with judge pessimism — can-do with bet-you-can't-do — is the very epitome of that basic sporting principle: Do your best, accept credit where it's due but always be prepared to take the judgement. There's never much room for sore losers. Stick, rudder, throttle; just how hard can it be?

Of course, an essential part of all of this is the credibility of the final scores and how they have been reached. Aerobatic figures as directed by the Aresti system comprise flight paths, attitudes, lines, arcs, and rotations that even the best flying machines require strong guidance to follow, and often the most stable and accurate appearance throughout a sequence can belie a frantic performance inside the aeroplane. Ultimately, it's the people on the ground who determine the fate of those they observe, and — pilots please note — even the box arrival and warmup elements can add their own little influence to a score. Almost from birth, humans learn to be great pattern matchers — if this happens, then do that — but we are a good deal less wonderful at thinking under stress. In situations when the “this” bit doesn't match what was planned or expected, a pigeon-holed answer refuses to pop right out. Comparing the fleeting twists and turns of the dot in the sky to the expectations raised by the caller plays a major part in judging aerobatics, and since there's no stop-and-repeat button, we should not be too surprised at the diversity of grades sometimes awarded for the same thing. Multiple judges, “wrong grade” detection/rejection, and sensible averaging are the best ways to reach a workable result, short of consigning the whole game to the land of electronic gizmos, but then the programming would be a nightmare and we'd lose the joy of judging, too. Not a happy thought.

It's important to keep domestic event processing as simple as possible, otherwise the fun element can mysteriously disappear, and that won't do at all. When things get more serious there are always more rules to reinforce the need for impeccable results, and dealing very carefully with disparate opinions becomes a critical matter. Beyond that good old average there's a

Pilot #	Judge 1	Judge 2	Judge 3	Judge 4	Judge 5	Judge 6	Judge 7	Judge 8	Judge 9
1	8.5	8.5	8.5	8.0	8.0	8.0	7.0		
2	9.0	8.5	8.5	8.5	8.5	8.0	8.0		
3	8.5	8.0	7.5	8.0	6.5	7.0	6.5		
4	8.0	7.5	7.5	8.5	6.0	8.5	8.5		
5	8.0	7.5	8.0	8.5	8.0	8.0	6.5		
6	7.0	7.5	5.0	8.5	6.5	6.5	5.0		
7	8.0	8.0	6.5	8.0	6.5	8.0	7.0		
8	9.0	8.0	7.0	9.0	6.0	8.0	6.0		
9	8.5	8.0	7.0	8.5	8.0	7.5	5.5		
10	7.5	7.0	7.0	8.5	8.0	6.5	7.0		
11	HZ	7.0	7.5	HZ	8.0	HZ	HZ		
12	8.5	7.5	8.0	8.5	8.0	7.0	8.5		
Pre	9.0	7.8	8.0	8.0	7.5	5.5	6.0		

world of well-established mathematical probability theory (essentially more refined averaging) that can shine a very useful light onto rights, wrongs, and unlikely grades, and here the Fair Play System (FPS) has a key role to play. Forget the math for a moment, the essence of how FPS does its job is very simple:

- Balance the judges' output in groups of same-or-similar figures.
- For each pilot/figure, look for unlikely or ill-fitting grades compared to the others.
- Reject any that are beyond some clear go/no-go criteria.
- Then loop back to A and insert calculated replacements for the rejected grades then repeat.
- Construct a complete set of pilot scores for each judge.
- Check for bias between them and adjust any outside a high/low criteria.
- Publish a final set of results that should now be free of detectable errors and bias.

When the mixture of judges and pilots is broad enough, the natural inclination of any human, even an aerobatic judge, is to adapt what they see, however unexpected, to what they know (pattern match, remember?). It's an entirely natural and unconscious process. However in an intense sporting environment like ours, just occasionally opinions can be skewed leading to suspicion of unfairness and, worse still, distrust. Experience shows that even with an honest outlook, the pilot you train with is the one you'll warm to, but unavoidable quirks of the mind can have a similar or even an opposite effect on others. This is where you'll see the added lines of decimal info on score sheets, indicating the presence of that extra balancing step between raw grades and their harmonised valuations. An extremely useful byproduct of this approach is that each judge's output can quickly be compared to that of their panel colleagues. This provides a convenient way to show where the group is in agreement and also reveal things from some judges that may have been missed, or where some more attention to the rules is perhaps indicated. Without this analysis you would never



really know. And besides, it openly brings the judges into the picture as real contributors to the event and not just those people you see in the morning and evening, between which they spend time polishing their tan somewhere far, far away.

It has been IAC's practice for many years to use the international software with its FPS switch set to on at the U.S. Nationals, and a quick look at previous years of results reveals the output style competitors can expect again in 2018. This scoring program handles all the judging stuff in pretty much the IAC way, though a few items do merit explanation.

1. A PZ grade is available to categorize perception zeros in snaps, slides, spins, and snappy wobbles in rollers. It's just a zero and has no effect from the pilot's perspective beyond explaining the reason for the downgrade. In any figure, if there's a majority of PZs or the other grades are near zero, then a zero it remains, otherwise it will simply be replaced by an FPS-style average. By comparison, the plain numeric 0.0 is a fixed grade that never alters.
2. Chief judges will use something called the confirmed hard zero (CHZ) on the chief judge penalty form to signify when the computer must set a figure to HZ. This should be the final majority view from the panel, preferably using video to settle any disputes, though if necessary the chief judge can take it from a simple majority on the judges' Form-A's. The scorer has an extra judging column on the grades entry form that accepts only CHZs or remains blank, and this determines how the figure is handled. Where there is no CHZ on the penalty sheet, any minority or unproven HZs are simply replaced by an FPS-style average.
3. To keep the judge analysis honest, judges should not change the original grades on their Form-A's. Averages and correct versus incorrect HZs are handled as above, and the computer must be left to calculate the right result. This means that a "wrong" grade (HZ or not) will influence the judge's record, contributing to a true and authentic analysis.

Ultimately, we should expect business at the 2018 U.S. Nationals to be the same mixture as before. It's a memorable week of solid competition flying by around a hundred determined competitors; fun for pilots; hard work for lots of officials; the best seat in the house for many panels of judges, assistants, and scribes; and a major challenge for our dedicated scorer tapping the keys back in the scoring office. Perfect. *IAC*



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The IAC Quiz Answers

1

It was originally called the Precision Flying Division, and it was led by Bill Dodd of Prairie View, Illinois. The IAC was formed in 1970 to formalize the Precision Flying Division into an organization to promote grassroots aerobatics.

2

A: Gene Soucy, IAC 25. He has been flying professionally for 48 years, including 25 with the Red Devils and Eagles Aerobatic teams.

3

2018
Yak-110: This monster, powered by two radial and one jet engine, was built by Dell Collier and flown by Jeff Boerboon. It debuted this year and wowed the crowd!

1993
DR-107 One Design: Created by Dan Rihn, it was one of the featured stars this year while celebrating its 25th year. A single-seat, mid-wing monoplane, it offered competitive performance at a reasonable price.

1978
Christen Eagle II: Designed by Frank Christensen, the Eagle set a new standard for organizing homebuilt kits.

1975
VariEze: The VariEze was designed by Burt Rutan and pioneered the use of composite construction in aircraft. AirVenture 2018 featured a Long-EZ flown by Kyle Fowler.

1973
Sorrell Hiperbipe: The SNS-7 (Sorrell Negative Stagger, Model 7) is a two-seat conventional landing gear cabin biplane produced by Sorrell Aviation in the 1970s. It is capable of mid-range aerobatics. One competed in the 2018 AirVenture Cup Race and placed first in its category.

1972
RV-3: Richard VanGrunsven's single seat RV-3 revolutionized the homebuilding world and brought sport aerobatics to many. AirVenture 2018 featured multiple teams/performers flying RV-8 aircraft, including Ken Rieder and Jon Thocker of Team Redline, and Jerry Kerby.

4

Officially, a record 52 aerobatic airplanes parked in the IAC area. Untold numbers parked in various other areas of Homebuilt, Vintage, and GA parking.

5

Commissioned by Curtis C. Holder, grandson of Curtis Pitts, and designed by the Canadian artist Francois Bougie, the Curtis Pitts trophy was created to represent and honor Curtis and his significant contribution to aerobatics.

- The base is rosewood to honor Rose, his longtime secretary of 35 years.
- The steel tube truss represents the fuselage structure of his designs.
- The mid-level wood is aircraft grade Sitka spruce, representing the spar used in his wings.
- The red machined aluminum stands that make up the legs of the top, canted as a drafting table, are in the shape of the letter H, reflecting Curtis Pitts' middle name (and they have to be red, of course).
- The large crystal block represents his toolbox and has Curtis' photo with some of his major designs flying around his head, in addition to having his famous logo laser engraved. The title block in the lower right-hand corner represents drafting paper.

When viewed from behind, the welded steel truss forms the letter M in honor of Curtis' daughters, Martha and Mary. The trophy was commissioned in 2005 and took four years to create. It was first awarded in 2009 to Kevin Kimball.



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Adam Messenheimer

BY GARY DEBAUN, IAC 4145

IAC 436578

Occupation: Flight Instructor

Chapter Affiliation: 11

Age: 24

GD: ADAM, HOW DID YOU BECOME INTERESTED IN AVIATION AND AEROBATICS?

AM: I can't remember a time when I didn't want to fly. My dad is a professional pilot and was always a huge inspiration to me. After hearing his stories as a kid, I knew that I absolutely *had* to be a pilot. As many of us in this community are, I am quite fond of speed and pushing the boundaries. I discovered a few aerobatic YouTube videos while in high school. I remember thinking, "This is a thing? I have to do this!"

GD: YOU ARE CURRENTLY FLYING A PITTS S-2C AS A PARTNERSHIP WITH SEVERAL OTHERS. HOW DID THAT COME ABOUT?

AM: As we all know, flight instructors don't make any money. I was teaching in a Super Decathlon but couldn't afford to rent it myself to compete. A former student and great friend of mine, Rahul, noticed the passion that I had for aerobatics and began to help me with my goals. Over the course of several months, he decided to help me even further by purchasing a beautiful Pitts for me to fly. Totally unreal, I know. I still can't even believe that I have been blessed with such a rare opportunity. The generosity and trust that Rahul showed me is something that I hope I can pass along to someone else later in my life.

"I REALLY JUST WANT TO BE THE BEST THAT I CAN BE."

GD: WHEN AND WHERE WAS YOUR FIRST CONTEST? HOW DID IT GO?

AM: My first contest was the infamous Wildwood Acroblast. I attended in 2016 with zero knowledge of competition aerobatics. The camaraderie of the whole group was something I noticed right off the bat. What a bunch of crazy people! (Looking at you, Russo.) My flights were so bad that I probably should've been excommunicated from the IAC right then and there. Even so, the group welcomed me, and several individuals took time to talk with me and provide much needed guidance. I am proud to call these people my friends.

GD: WHAT ARE YOUR AMBITIONS IN AEROBATICS?

AM: *Fly good, don't suck!* I really just want to be the best that I can be. It's been humbling having the opportunity to train with some very accomplished pilots and coaches. When the time is right, I would love to fly on the team one day.

GD: WHAT IS YOUR FAVORITE VOLUNTEER POSITION AT A CONTEST AND WHY?

AM: Boundaries are a lot of fun. Nothing quite resembles baking in 90-100 degree weather while staring directly into the sun. On a serious note, I think that I have learned the most as an assistant judge. Being able to watch the flying while listening to a judge is very helpful when it comes to knowing what to work on in my own routines. Plus, I've had nothing but great experiences with all of the judges that I have been able to work with. It also provides a great opportunity to bribe them in order to get better scores.

GD: WHAT IS YOUR FAVORITE FIGURE TO FLY?

AM: I don't know that I have a favorite figure. What I enjoy is the challenge of putting them all together and trying to utilize energy most efficiently while also presenting the figures in the right place within the box. I tend to be distracted very easily, so it's fun when I'm forced to focus on all these things at once!

GD: DO YOU HAVE ANY PRE-AEROBATIC ROUTINE, LIKE STRETCHING, YOGA, OR LISTENING TO MUSIC?

AM: Funny that you ask that. For anyone that has seen the movie *The Wolf of Wall Street*, they are probably familiar with the scene where Matthew McConaughey hums and beats his chest obnoxiously while at lunch. My buddy Erik and I quickly adopted this as the official preflight ritual. I've definitely gotten a few weird looks, but that's part of the fun. In addition, it is definitely important to be stretched and limber before getting in the airplane.

GD: YOU ARE RELATIVELY NEW TO THE IAC. IS THERE ANYTHING YOU WOULD LIKE TO SEE CHANGED?

AM: I think that the IAC and aerobatics as a sport could be marketed a bit better. I don't claim to have all the answers, but I do think that there is a lot of cool stuff going on that most people just don't know about.

GD: WHAT IS YOUR OPINION OF THE POST-CONTEST BANQUETS? ARE THEY REALLY NECESSARY OR WOULD YOU JUST LIKE A TROPHY, A SLICE OF PIZZA, AND GO HOME?

AM: I think this varies with the location. After traveling around to several contests over the last two years, it seems like each chapter has a slightly different culture. No matter what it is, the social aspect is very beneficial because it allows the opportunity to make new friends and strengthen existing friendships. Without the people, what would all of this be anyway?

GD: WHO IN THE SPORT HAS BEEN AN INSPIRATION TO YOU?

AM: The list would go on forever if I actually named everyone. I've met some truly amazing people and it's just so cool to be able to hang out and learn from them. I would, however, like to mention Bill Finagin. I met Bill when he began teaching me how to fly the Pitts. He took me on from the beginning and has provided priceless

wisdom and guidance throughout my journey thus far. I'm very thankful for his friendship. I'm also thankful for all of my friends in the community. They really make this sport something special.

"WITHOUT THE PEOPLE, WHAT WOULD ALL OF THIS BE ANYWAY?"

GD: DO YOU HAVE ANY INTERESTS OUTSIDE OF FLYING?

AM: I enjoy fitness, music, and motorcycles. Staying fit and strong has been extremely beneficial in this sport. Music has been a passion of mine for all of my life in addition to flying. Getting together with friends and jamming out is one of my favorite things to do. Motorcycles are just cool. Getting out and riding is my favorite way to blow off steam. I've also noticed that I share this interest with quite a few other pilots! **IAC+**

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