
SPORT
Aerobatics
AUGUST 2020
OFFICIAL MAGAZINE OF THE INTERNATIONAL AEROBATIC CLUB
IAC
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SO, YOU WANT TO BUY A PITTS?
TALE OF TWO LLCS
AIRCRAFT
OWNERSHIP
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CGI image. Pre-production models shown.

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Photo by Jim Koepnick

ABOVE: Skip Stewart flying *Prometheus*, which started its life as a Pitts S-2S and was modified to give Skip the air show machine he wanted.
Photo by DeKevin Thornton

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Summer of 2020

Reflection, celebration and staying positive

BY ROBERT ARMSTRONG, IAC 6712

GREETINGS, all aerobatic enthusiasts!

The summer of 2020 is passing by without any of the usual activity that is normally enjoyed by IAC members. Although there have been some chapter play days, the first contests were scheduled to take place in the second half of July. I hope the organizers pulled them together without the burden of restrictions. I appreciate most feedback on activities being positive as the cities, counties, and states work through public safety concerns. It's hard work we are doing by being patient.

As of this writing, the expected improvement in the COVID-19 situation has taken some steps back in at least half the states. I have been checking the online available data daily and seem to be spending hours each day tracking, reading links, and researching as much information as I can find.

I am comparing all the sources and analyzing the information to the best of my ability to see how it may affect our operations going forward in 2020, especially planning for the U.S. Nationals. Information available on June 24 was rather negative, and the U.S. Nationals organizers, your board, and I will be watching with care and concern in the coming weeks.

A part of the IAC not suffering from outside issues is our wonderful membership magazine, *Sport Aerobatics,* thanks to editor Lorrie Penner. This month's issue includes the IAC 50th Anniversary Spotlight pages featuring the exhibition panels that would have hung in the pavilion during EAA AirVenture Oshkosh. The panels depict five decades of IAC's purpose to promote and enhance safety and the enjoyment of sport aerobatics, the start of our organization, and the faces and places.

In addition to the wonderful display panels, we have produced a photo poster of members' aircraft to celebrate the 50! Thank you to the 200 IAC members who submitted a photo of their aircraft from January through March to make this treasured keepsake happen. The 50th anniversary poster can be purchased from the IAC online store. It is certain to be a collectors' item as only a limited number will be printed.

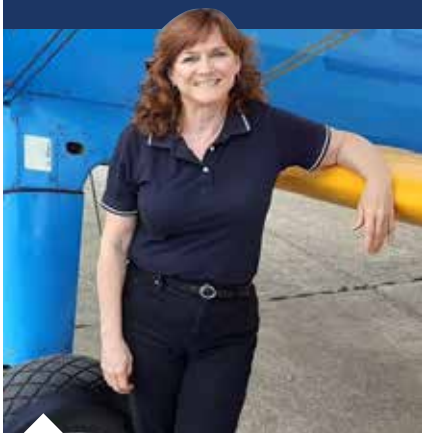
A big part of what made the IAC happen those 50 years ago was the release of some rather simple drawings, with guidance on how to build your own biplane, by a gentleman named Curtis Pitts. Within a few years of the release of the design plans, a purpose-built airplane with tremendous in-air capabilities was on the scene. For many years the Pitts Special was the go-to mount for aerobatic flying. My first exposure to a Pitts was at an air show in Athens, Georgia, that featured both Beverly "Bevo" Howard in his Bücker Jungmeister and Mary Gaffaney in her Pitts Special. In 1969 that was very exciting to me, and it spurred me to build my own competition Pitts. Another story for another time, but that little Pitts served me quite well for many, many years.

This month you are treated to Part 2 of Budd Davisson's series on buying a Pitts Special. Budd is one of a very few who has had a close relationship with the creation and evolution of every airplane that Curtis Pitts created. While you may not recognize his name from any contest results, Budd is by far a true expert on the Pitts fleet and is the go-to person for instruction on flying the Pitts.

As always fly safely, and for the times we are in, protect your health! IAC

A BIG PART OF WHAT MADE THE IAC HAPPEN THOSE 50 YEARS AGO WAS THE RELEASE OF SOME RATHER SIMPLE DRAWINGS, WITH GUIDANCE ON HOW TO BUILD YOUR OWN BIPLANE, BY A GENTLEMAN NAMED CURTIS PITTS.

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



Aircraft Ownership, Safety, and Technical Writing

BY LORRIE PENNER, IAC 431036

YOU HEAR THESE STATEMENTS all the time: "I can't afford to buy an aerobatic airplane, let alone one for $400K," or "Hardly anyone is building their own planes anymore," and even, "My flight school doesn't have an aerobatic capable plane for rent." I agree with all of them, but, what about a type club, partnership, or an LLC? In this issue Bruce Mamont, from IAC Chapter 67 in Washington, gives us all a little behind-the-scenes look into two such deals he has been in and what he learned about the whole process. This is the first in a series of articles exploring how a few pilots can co-own an aerobatic airplane and not break the bank or their wallets.

Bruce is working with a couple of others to bring his findings to IAC leadership to see if there is an initiative or aerobatic club program that the IAC could spearhead for the benefit of its members. For the last five years, EAA has been encouraging members to look at flying clubs as a way to make aviation more accessible and affordable. Its website (www.EAA.org/eaa/pilots/flying-club) features a Flying Club Resource Center, where you can access resources on how to get started, learn more about flying clubs, apply for a grant to get started, look at samples of required club documents, and get help on tax-exempt questions.

Elsewhere in this issue, Larry Drake's article on safety and the proper transfer of pilot-in-command responsibility may strike a chord with you as it did me. A few years ago, I was getting a ride from a friend of ours in his Yak-55M. At one point he apparently asked me if I wanted to take the controls. Unfortunately, the headset wasn't working properly. I heard about every fifth word and responded, "What?" He thought I'd said yes and believed I had taken control of the plane. He realized I wasn't actually in control when I didn't bank, dive, or climb. Instead we slowly descended toward the lake a couple miles from the airport. Thank goodness for nose-up trim!

In the June issue of the magazine, Jim Luger wrote an article titled "Learning to Love Getting All Shook Up." In it were excerpts from his book, *Loop, Roll & Keep Control*. The book is now out on Amazon, and Gordon Penner gives us a review of this step-by-step aerobatic syllabus geared toward a beginning aerobatic student.

I have had a few more requests to put more technical articles in the magazine, which are not my personal forte. By technical writing I refer to articles that would be found in the *IAC Technical Tips* manuals, which range from identifying bugs and glitches found in airplanes or their parts to modifications, upgrades, or design features. If you have some mechanical expertise, have personal experience with a problem you found a solution to, or are a really good researcher with an opinion, please contact me. I am looking for a volunteer columnist to write quarterly. IAC

SUBMISSIONS: Photos, articles, news, and letters to the editor intended for publication should be emailed to editor@iac.org. Please include your IAC number, city, and state/country. Letters should be concise, polite, and to the point. All letters are subject to editing for clarity and length.

Loop, Roll & Keep Control — A Book Review

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

Jim Luger's new book can be found on Amazon.

UPSET RECOVERY AND AEROBATIC MANEUVERS INSTRUCTOR JIM LUGER has written an aerobatic, spin, and upset recovery manual that will be a fine addition to the instruction books available for interested pilots. As an instructor in these fields for over 50 years, Jim has set up a manual that is easy to read, use, and follow. It also includes some comments for the instructor.

Not only is it broken down well, but also it spends some time at the beginning telling the reader about the learning process and what to expect. The manual has a nice tone for beginner aerobatic pilots and sets up an easy-to-follow building-block approach as they become safer, "all-attitude" pilots.

Patty Wagstaff had a good comment in the safety webinar she and Rich Stowell did a few years ago for the Society for Aviation and Flight Educators (SAFE). She said, "To the aircraft there is no such thing as unusual attitudes." This simple yet profound statement shows that we need to change the way modern flight training thinks about flying. We must learn to think and operate the way the airplane does. The statistics from the AOPA in the *Joseph T. Nall Report* shows we need to do better. Any tool or training program that can make the pilot comfortable and competent in all corners of the envelope deserves a spotlight.

The upset recovery training title floating around out there is kind of a misnomer, as it is incomplete. The full term is actually UPRT, or upset prevention and recovery training. Understanding and prevention of upsets and spin entries is as important as, or even more important than, the recoveries. The main value of aerobatic and upset training is in raising flight awareness to the point where bad situations are anticipated and avoided.

Remember, the best way to win a knife fight is to never be in one.

The book starts out with "If your airplane falls out of the sky," "Introduction to taming your airplane," and then Part 1, "Preflight Briefing." These sections quickly explain to the new pilot why this training is important, what the training will entail, and the environment the pilot will be operating in.

The next two sections are Part 2, "Flight Training Syllabus," which is 13 chapters or lessons covering the maneuvers, and Part 3, which is "Controlling Upsets." The lessons each have a "How it is done, and where to look" subsection and a "Common errors and corrections" subsection. These subsections are to the point and written with the newer pilot in mind.

Part 2 will get the pilot to the point where they will be able to do safe recreational aerobatics, or to compete in the Primary category if they wish to. Abbreviated syllabi for shorter courses are in the back if that is desired.

Part 3 breaks "Controlling Upsets" into an introduction, a "Loss of control during aerobatic practice" chapter, and a "Loss of control during normal operations" chapter. All of the scenarios, and their setups, are explained in a straightforward manner.

This manual is aimed at the newer or inexperienced pilot, and I feel it hits the target. IAC

PHOTOGRAPHY COURTTESY OF **JIM LUGER**

Misadventures of an Aerobatic Neophyte

BY LAWRENCE V. DRAKE, EAA 150242, SCHELLVILLE,CALIFORNIA; *THE HIPPIE AND THE AVIATOR*

FIVE THOUSAND FEET UP I could smell the sweet fragrance of eucalyptus trees lining the two-lane highway below. Chris and I had pushed the 150-hp Decathlon to that lofty height, where we planned to practice inverted spins. Our designated aerobatic training area lay 3 miles west of the airfield over brown coastal hills that separated the Sonoma Valley from Petaluma. Blue skies and pleasant 75-degree temperatures made it a perfect morning. San Pablo Bay gleamed in the early sun off to the south. A great day for seeing the sights, but we were up there to do some serious work.

Chris had an aerobatic competition coming up and wanted a second-party critique. I never pass up an opportunity to work on developing my skills, so we arranged to trade off flying the maneuver while the other observed. A good deal for me because, as an instructor, I spent most of my time in the back seat talking students through maneuvers rather than doing the flying. On this ride, I would not only fly but also compare my ability to that of a seasoned aerobatic pilot.

Since Chris had rented the airplane with me as safety pilot, he served as pilot in command. He sat in the front seat while I occupied my normal office in the back. With our slim-pack parachutes strapped on and five-point harnesses snugly attaching us to the aircraft, we arrived at altitude ready for action.

"Okay, Chris, show me how it's done," I said into the headset microphone, knowing that he undoubtedly would outperform me.

"Sure enough. One inverted spin coming up," my headset crackled. "This one from inverted flight."

WITH SECONDS TO SPARE, I TAPPED DAD ON THE SHOULDER, YELLED, "I GOT IT," AND SLID THE AIRPLANE IN UNDER THE HAWKS. UP WE WENT LIKE WE WERE IN AN ELEVATOR.

Just another day at the office.

Chris slow-rolled the airplane upside down and held it. The loose ends of my shoulder harness straps floated toward the ceiling as my weight hung on the lap belt. He pulled the power back and eased the stick forward, slowing the Decathlon to a stall. Full forward stick, kick a rudder pedal, and the world overhead spun around. Looking up through the windshield, one, two, three times the road passed by — then Chris pulled the control stick back for a moment, kicked opposite rudder, forward stick, and we flew out inverted. A quick half-roll and we were upright again.

"Nuts, I missed my point," came a disappointed voice from the front seat. "I didn't start my recovery soon enough."

Nose up, we climbed to gain altitude for another try.

"Your turn," Chris said. "You've got the airplane."

I took the controls. "I've got it," I said, and did a few clearing turns to make sure we were alone in the sky. I rolled inverted and proceeded to follow Chris' example. The idea was to spin three rotations and stop on the same heading at which the maneuver started. My entry was okay, but I made the recovery too soon and rolled out about 20 degrees off the entry point.

"Well, that's why we're here," I remarked, feeling a bit disappointed that I hadn't impressed him with my airmanship.

PHOTOGRAPHY COURTTESY OF **LAWRENCE V. DRAKE**

After about 20 minutes of dueling spins, we both improved to where each spin entered and exited on point.

"What about trying a half-snap-roll entry to an inverted spin?" I asked. "I found that is a quick and easy way to enter. After all, it's basically a horizontal spin converted to a vertical spin."

"Sure. Sounds fun. You do one, and I'll follow you through."

"Okay, I've got the airplane."

I set up, snap-rolled the plane to inverted, pushed forward, entered the inverted spin slick as could be, and then recovered after three turns.

"Now that's fun!" Chris said over the headset. "My turn."

"You've got it."

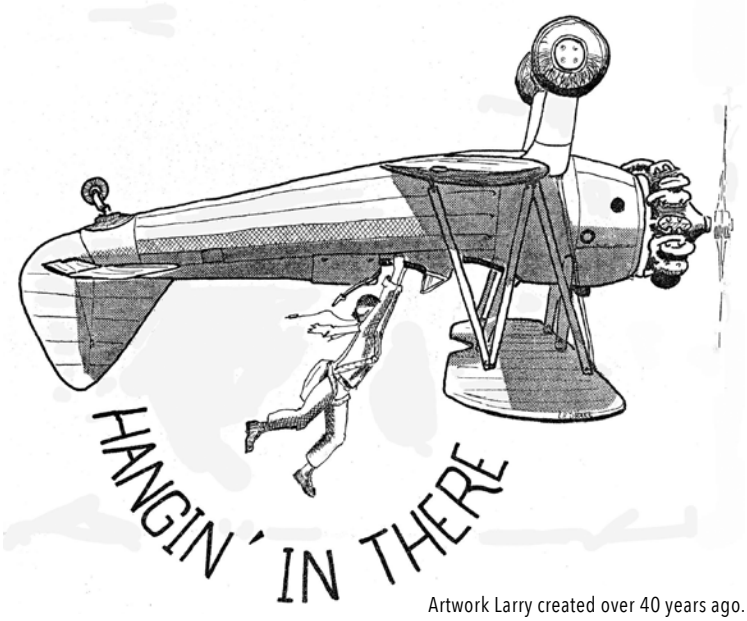
For the next 10 minutes we traded off flying the maneuver. Chris quickly got the hang of it.

"That was perfect," I said as he rolled upright. "Time to head back. I've got a student at 9."

The airport lay off to the east only a few miles away, and we were still at 4,000 feet. I sat back and relaxed as Chris put the plane in a gentle descending turn away from the field.

Good, I thought, *he is doing a slow letdown to cool the engine*. Some pilots would pull the power back and dive for the airport, which could shock the engine after working it hard.

We chatted away about the spins, discussing what we had done right and what we had done wrong while gently floating along in a shallow descent. As brown hills passed beneath the wings, I marveled at the way trees and brush grew up the draws, leaving the crest barren. We circled out over the foothills toward Petaluma and then back toward the ridges that separate the two valleys. The morning air had not yet become turbulent so the airplane felt like my easy chair back home. This time the hilltops were closer as we made our slow letdown. I figured Chris would pull the power back and head for the airport, but he opted to make one more circle. We cleared the tallest hilltop by about 200 feet. I liked flying low. A couple of years as a crop duster and counting wildlife from an airplane for the California Fish and Game Department got me hooked.



Artwork Larry created over 40 years ago.

We cruised in an arc one last time out toward Petaluma and back to the hills. The grass-covered crest loomed ahead as we approached. Chris was on course for a low saddleback between two hills that were obviously above our altitude. Years of flying in the Rocky Mountains in low-powered Cubs and Champs had taught me how to judge whether I had the altitude to clear a pass. On one trip across Utah, I had my father, a World War II bomber pilot, flying from the front seat of my Aeronca Champ. He graduated at the top of his class as a bomber pilot but was a nervous flyer, particularly in small planes. As we approached a pass, I began to sense that we were a couple of hundred feet too low to make it over. Not only that, but in a minute or two there would be no room to turn away. I had been watching a pair of hawks circling off to my right in the up-slope draft of our tailwind. With seconds to spare, I tapped Dad on the shoulder, yelled, "I got it," and slid the airplane in under the hawks. Up we went like we were in an elevator. That event became one of Dad's favorite flying stories.

Unfortunately, I didn't see any hawks to identify an elevator ride over these California hills as the pass rose in the windshield. I flashed back to a few months earlier when a guy I barely knew was giving a friend a ride in his WWII-era T-6. He had his friend flying the front seat when they smashed into these very hills. Both of them were killed. I wasn't about to let that happen to us.

I really didn't want to offend Chris by criticizing his judgment. After all, he was an experienced pilot. But if I didn't speak up we were going to end our days as a grease spot on the side of that hill ahead. The brown grass came rushing at us at an alarming rate.

"Hey, Chris, I don't think you're going to clear that pass."

A shocked voice came blasting back over my headset. "*Me?* I thought *you* were flying!"

I yelled back, "I thought *you* were flying!"

I shoved the throttle all the way forward and pulled back on the stick. We both yelled, "I've got it!" at the same time.

Luckily, 150 horses with a constant-speed prop made quick work of the altitude we needed to get over the pass, but I swear we left tracks in the dirt.

With the ground dropping off on the other side, I called over the mic, "You've got it!" and shook the control stick to make sure. The fact was, we both had it.

"Yeah, I know I've got it."

PHOTOGRAPHY COURTESY OF **LAWRENCE V. DRAKE**

"I'm off the controls," I reassured, and let go. "You've got it."

The short ride back to the airport was a quiet one with only a few comments like, "That was too close for comfort," "I can't believe we did that," and "A rookie mistake."

Once we were on the ground, the incident became the joke of the day, although we both knew it was far more serious. The "I've got it" stories came flooding out of the hangar-flying crowd, some comical and some downright scary. In the end, safety and proper cockpit procedure formed the bottom line of the conversation. Lots of people shared their opinions on how to properly transfer pilot-in-command responsibility. Everyone agreed that a good shake of the stick by the pilot flying to let the other person know he or she had positive control was a good idea. ***IAC***

Dave Pilkington, IAC6184 in his Super Decathlon.

SO, YOU WANNA BUY A Pitts?

PART 2

The two-place birds

BY BUDD DAVISSON, IAC 435420

First, contrary to what you hear, not all of the S-2s were certified and factory built. They had a small production run of some of the certified models that had an "E" suffix (e.g., S-2E). Same thing for the single-holes (e.g., S-1E). Those were factory airframes sold as kits. The fuselages and all steel work were finished, the spars spliced, but the ribs, etc., had to be built up and assembled.

There were about 30 S-2E kits built, and an unknown number of S-1Es because some were finished as S-1Ss by the factory. Only about half of the S-2Es have surfaced, so somewhere in barns or basement workshops there are Pitts treasures yet to be found. The prototype S-2 was a 180-hp, fixed-pitch prop airplane and only weighed a little over 900 pounds. It was an absolutely wonderful-flying airplane. It was never produced, but when the 200-hp IO-360 (37 pounds heavier) and constant-speed prop was installed, it became the S-2A.

PITTS S2B

Kate Kyer, IAC 23270; Honey Grove, Texas

PHOTOGRAPHY COURTESY OF **KATE KYER**

PITTS S2B

Josh Pruzek, IAC 24408; West Linn, Oregon

There were also about 30 of the ultra-rare, ultra-desirable S-2Ss built. They were the bridge from the S-2A (200 hp, constant speed) and the S-2B (260 hp, constant speed). Essentially, they were the late S-2A airframe with the front pit covered over and a 260 Lyc hung on the nose. The first six or seven were built with a spring gear, but, when they couldn't get it to pass the FAA drop tests, they went back to the standard bungee gear. The spring gear airplanes were certificated experimental–air show/exhibition. The rest were certified. Many consider the S-2S to be the ultimate Pitts, the author included. They have the pleasant karma of the A with more performance than the B. They went into production in May of 1979, and Stu Horn, Aviat's owner, said they'd still build one, if someone wants one badly enough ($$).

The S-2A went into production in May of 1971 and was built until March of 1982, with about 272 built. Only something like 60 remain in the United States, the rest going overseas. In November of 1979 (SN2206), the fuselage was widened 2 inches at the firewall and the landing gear was lengthened 4 inches. At the same time, the front seat bottom and rudder pedals were moved ahead an inch. When that fuselage became the S-2B, the seat bottom and rudders were moved ahead another 4 inches, making it quite comfortable. In the B, the top wing was moved ahead 4 inches to work with the new CG location, making the forward leg of the cabane strut vertical rather than swept back as on the A.

The wings on the S-2A originally had Frise ailerons but were modified to symmetrical ailerons in June of 1980 with SN2231. Those are the wings that are on the B.

The S-2C uses the wide B fuselage, and although the landing gear is profiled to look like a spring steel gear, it's still the same old bungee gear. The sheet metal under the windshield of a C was subtly reshaped, giving more visibility on the ground. With all of the changes, the front hole of a C is probably the most comfortable seat in all of Pittsdom, where the front seat of an A is the least comfortable (back is too vertical, rudders almost too close).

The S-2C got some major redesign work in the wing structure that included the squared-off tips, which gave slightly longer ailerons and are of the Super Stinker design: The aileron nose is shaped to gap-seal the aileron cove as the aileron is deflected, making them much more effective. Also, the hinge points are moved back in the aileron, making the controls much lighter. The aileron pressures of the C are around a quarter of what the A and B have. The new aileron design also eliminated the need for spades and gives the airplane a roll rate of over 300 degrees/second.

At the same time the wings were updated on the C, the tail received aerodynamic and mass balances on both the horizontal and vertical surfaces. The net result being that the stick force per *g* is nearly identical in both inside and outside maneuvers. Prior models require a harder push outside than the pull inside to get *g*.

For reasons no one can adequately explain, an S-2C is directionally more stable on the runway than any of the prior airplanes, even though the landing gear geometry is identical.

PHOTOGRAPHY COURTESY OF **JOSH PRUZEK**

AGING IN PHASES

S-2As can be as much as 49 years old, S-2Bs 38 years old, so both have become polarized between those that have been rebuilt and those that need to be rebuilt. At the same time, these are not airplanes that build flight time quickly unless used as trainers. Aerobatics are quick little 45-minute flights, so it is very, very seldom that you run into a Pitts that has in excess of 3,000 hours (ignore S-2A N8PB at 8,300 hours). In fact, the majority of both types will fall between 1,000 and 2,000 hours, with some much less than that, which brings up an important point: Beware the low-time Pitts.

It's not uncommon for Pittses of both models to surface with what seem to be impossible low times: 200-400 hours. This happens because the majority of these types of airplanes are hobby airplanes and get flown a lot for the first couple of years, and then their original owners hardly fly them at all. These are the airplanes that suffer horribly because they aren't flown. It is very common for a 200-hour A or B to pop up and people excitedly snap it up only to have the engine start making metal 50-100 hours later. Lycoming engines absolutely cannot go for a year or two without flying. And don't go for the old "I go out and start it once a month" routine. It is a physical impossibility to get the oil up to operating temperature to cook the moisture out of the oil without actually flying it. So, the cams rust. If it's not being flown, the engine should be pickled, and if it hasn't been, pre-oil it before the first start after hibernation so the bearings are lubed before they start turning. Periodically starting the engine without getting it up to temperature just circulates the rust through the bearings. There is no price cheap enough to justify buying such an airplane because an engine overhaul is about to happen. Also, TBO on these engines is only 1,400 hours, so keep that in mind when you're going through the logbooks.

If you do buy an airplane that has been hibernating too long, pay to have one jug pulled and then put back on so you can physically see the end of the camshaft. If the owner won't let you do that, and he probably won't, just know that before you bring it home, you have to see that cam. If he has been starting it periodically, buy the airplane knowing there is a 50/50 chance or less that the engine will survive 100-200 hours. Sometimes, much less.

Here are some hard cost numbers about Pitts repairs. In this case they are known numbers for an S-2A. Keep these in mind if you find a low-priced Pitts as a project for you to have rebuilt.

PITTS S2C

John Housley, IAC 433114; Wildwood, Missouri

PHOTOGRAPHY BY **CARMELO TURDO**

PITTS S2SE

Yuichi Takagi, IAC 431712; King City, California

PHOTOGRAPHY COURTESY OF **ZINNIA KILKENNY**

If someone gives you the airplane (as in free!) and it needs both fabric and an engine/prop overhaul, even when it's free, it's not a good deal. The engine will cost $28,000, the prop $3,500, installation $2,000, for a total of $33,000. The cover will run right at $35,000, including miscellaneous internal stuff you'll want fixed. That's a total of $68,000 for an airplane you got for free. However, you won't get it for free. An S-2A in that condition is likely to sell for $40,000-$45,000, give or take a little. So, now you have $113,000 or so in an airplane that'll sell for around $70,000 at the most. This assumes you're doing none of the work yourself.

The only time this kind of thing makes sense is either when you're doing every bit of the work yourself, including the engine, or you're having it rebuilt for the long term. If you're planning on keeping the airplane for a long, long time, by spending this money, you're buying peace of mind by knowing the exact condition of every nut and bolt. In that situation, it's worth what it costs, regardless of what that is.

S-2As are actually selling for $55,000-$70,000, although asking prices are sometimes higher.

S-2Bs are running $75,000-$105,000 with $90,000-$95,000 being more common.

S-2Cs have been seen for $130,000, but are usually higher and go up to frightening numbers.

The inspecting of the S-2 series is identical to the S-1, so go back to Part 1 of this article. It's all about condition. So, the rule is, and it is the same for every airplane, Pitts or otherwise: Always be willing to pay top dollar for the best quality airplane on the market. Don't think you can buy a so-so airplane and nickel and dime it up to top quality standards. Airplanes and nickels and dimes don't belong in the same sentence. Costs on improving airplanes spiral out of sight unbelievably fast. Look for an airplane that the seller has already spent the money to rebuild. Let the seller take the loss.

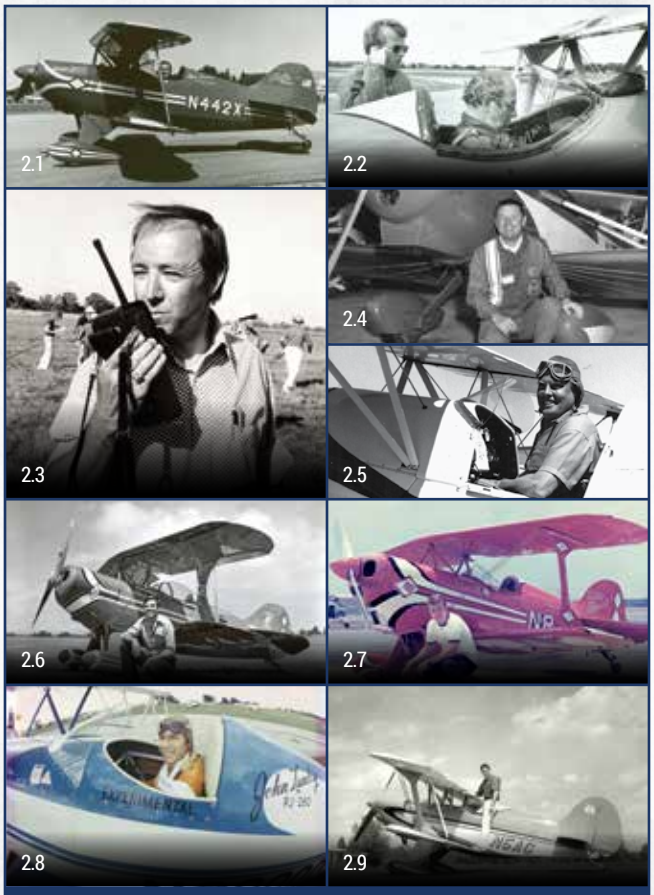
A FINAL THOUGHT

A word of caution: Regardless of how much tailwheel time you have, if you haven't flown a Pitts at least a little, get some instruction. It may not take much, but you won't know that until you drop the hammer for the first time or you're 5 feet over the runway wondering exactly where the runway is and marveling at how fast you're moving. The airplane is definitely not hard to fly, but nothing else in aviation prepares you for it. Also, regardless of how much aerobatics time you have in your logbook, if you haven't received inside/outside spin training, get it.

Now, start haunting *Trade-A-Plane, Barnstormers*, and bulletin boards. And be prepared for a ton of fun and exciting times. IAC

IAC EXHIBITION 2020
IAC 50TH ANNIVERSARY

ORIGINAL EXHIBITION PANELS CREATED BY LORRIE PENNER, IAC 431036;
MIKE HEUER, IAC 4; LYNN BOWES, IAC 14305; AND LIVY TRABBOLD



WHERE IT ALL STARTED

Before the IAC was formed, an aerobatic division of the EAA was first called the Precision Flying Division. Its purpose was to promote safety and to be a central point for pilots to join with each other in sharing information.

The formation of the IAC was a confluence of ideas, personalities, and events that likely could not be duplicated. In 1970, Robert "Bob" Heuer, an airline pilot from Maple Park, Illinois, and a group of aerobatic pilots, mostly from the Chicago area, officially would form the International Aerobatic Club. Their purpose was to formalize the EAA's Precision Flying Division into a true membership organization, write the rules, and set up a corporate structure promoting grassroots aerobatics.

1.1. Bill Dodd, then chairman of EAA's Precision Flying Division.
1.2. The 1974 IAC board of directors at EAA headquarters in Hales Corners, Wisconsin.
1.3. Three of IAC's founders: Jim Lacey, Jim Dees, and Bob Heuer.
1.4. Bill Thomas, a well-known aerobatic instructor and author.
1.5. Bill Dodd in the cockpit of his Bücker Jungmeister in 1968.
1.6. The 1973 IAC Championships in Fond du Lac, Wisconsin.
1.7. Charlie Hillard in the cockpit of his Pitts S-1S, N442X.
1.8. IAC's first five presidents: Bob Heuer, Verne Jobst, Carl Bury, Mike Heuer, Steve Morris.
1.9. Verne Jobst, IAC president from 1973 to 1978, in the cockpit of his Pitts S-1S, N714H.
1.10. 1970 IAC membership brochure and first set of IAC Official Contest Rules.
1.11. Verne Jobst and Bob Davis by their Pitts S-1S.

THE FOUNDERS

Paul Poberezny, IAC 1, was the founder of EAA and IAC's first member. Bob Heuer, IAC 2, was its first president in 1970. Don Taylor, IAC 3, became a moving force in IAC because of his energy, focus, judging and flying expertise, and talent for organization. Mike Heuer, IAC 4, only 20 years old at the time, helped his father and other founders with IAC administrative support. Jim Dees, IAC 5, was on the first board of directors, always there with solid, common-sense advice.

Jim Lacey, IAC 6, headed the flight operations at Fond du Lac. Tom Poberezny, IAC 7 and former president of EAA, had a passion and energy that were infectious and vital in those first years. John Lumley, IAC 8, was at the early meetings of the IAC founders and on the first board of directors. Marion Cole, IAC 9, qualified for the U.S. Aerobatic Team and flew at the World Aerobatic Championships in East Germany. Frank Price, IAC 10, was the first American to compete at a World Aerobatic Championships in Czechoslovakia in 1960.

2.1. Bob Heuer in his Pitts S-1S, N442X.
2.2. Paul Poberezny in the Super Acro Sport, N5AC, that he designed.
2.3. Don Taylor, IAC's first vice president.
2.4. Marion Cole in front of his Stits Playboy.
2.5. Frank Price in his Jungmeister.
2.6. Jim Lacey with one of his many Pittses.
2.7. Tom Poberezny with Pitts S-1S N9J, which belonged to Gene Soucy.
2.8. John Lumley in his PJ-260.
2.9. Mike Heuer in the Super Acro Sport N5AC.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PURPOSE AND MISSION

The IAC is also a division of the National Aeronautic Association and is responsible for the administration, management, and promotion of the sport of aerobatics in the United States under the applicable regulations of the Fédération Aéronautique Internationale, Lausanne, Switzerland. IAC represents the United States at meetings of the FAI Aerobatics Commission (CIVA), which establishes rules worldwide for aerobatic competitions and sends U.S. aerobatic teams to FAI world championships.

As it has improved and expanded its activities and developed new programs, the IAC is recognized as the premier aerobatic organization in the world. IAC has a large membership composed of a traditional core constituency as well as members representing a wide variety of sport aerobatic interests. Individual participation and volunteerism, which benefit all members, are part of IAC's core values.

3.1. The first transition of IAC officers in 1973. From left to right: Verne Jobst, Bob Heuer, Mike Heuer, and Don Taylor.
3.2. In 1988, left to right: Verne Jobst, Herb Cox, Carl Bury, Leo Loudenslager, Ray Scholler, Dr. Dick Rihn, Val Beaudrault, Linda Hamer, Louie Andrew, Mike Heuer, and Steve Morris.
3.3. In 1999, standing left to right: Tom Myers, Glenn Frick, Gerry Molidor, Howie Stock, Ray Rose, Tom Adams, and Mike Heuer. Seated left to right: Lloyd Byerhof, Allyson Parker-Lauck, Doug McConnell, and Dave Lammers.
3.4. In 2019, left to right: Peggy Riedinger, Tom Rhodes, Debby Rihn-Harvey, Ron Schreck, Doug Bartlett, Justin Hickson, Bruce Ballew, Jim Bourke, Robert Armstrong, Steve Kurtzahn, Lynn Bowes, Greg Principato, and Bob Hart.

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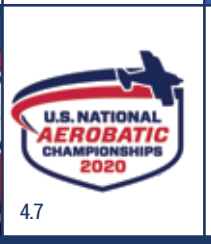

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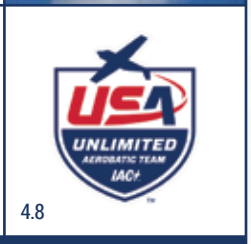

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BRANDING – GETTING THE IAC LOOK

Where the IAC Logo Originated

Jim Dees came up with a drawing of a shield with stars on the top, the words "National Aerobatic Club," and an American flag in the middle. Bob Heuer suggested the club should be international in scope. Mike Heuer recommended the EAA logo replace the American flag. This original logo that was developed at the founding of IAC remained in use for 17 years.

In 1987, Jack Cox, then editor-in-chief of *EAA Sport Aviation* magazine, was called on to design a new logo. About a dozen years later, the logo was changed to incorporate EAA's new logo, known as the "swoosh."

In 2015, a new, reenergized logo and brand system was unveiled, led by Margo Chase's design team, representing the best of the IAC history and powerful future the club could create together.

4.1. The first IAC logo, developed in 1970.
4.2. The updated logo designed by Jack Cox came into use in 1987.
4.3. In 1998, the logo changed to incorporate EAA's new logo, known as the "swoosh."
4.4. The 2015 logo designed by Margo Chase.
4.5. The 2015 brand guide can be found on the IAC website.
4.6. Margo Chase flew aerobatic competition and was deeply devoted to the sport.
4.7. The 2015 rebranded U.S. National Aerobatic Championships logo.
4.8. The U.S. Unlimited Aerobatic Team's rebranded logo. Similar logos exist for the Advanced, Glider, and Yak-52 aerobatic teams.

PHOTOGRAPHY COURTESY OF **IAC ARCHIVES**


EAA Aviators Club

PITTS 70TH ANNIVERSARY

More than 50 Pitts Special aircraft owners enjoyed celebrating with IAC at EAA AirVenture Oshkosh 2015.

PHOTOGRAPHY BY **EVAN PEERS**

IAC EXHIBITION 2020
IAC 50TH ANNIVERSARY

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IAC COLLEGIATE PROGRAM

The purpose of the program and awards is to increase the flying safety and interest level of collegiate pilots in aerobatics, aerobatic competition, and the International Aerobatic Club. Additionally, this program is intended to be a springboard for competitors to continue their pursuit of competition aerobatics upon leaving the collegiate environment. Two awards exist to recognize skill and proficiency for the collegiate aerobatic competitor: the Collegiate National Championship Team Award and Individual Collegiate National Champion Award.

Safety is always first and foremost in priority. Second is the inclusion of as many college-age student competitors as possible. As the years progressed, there have been 14 participating schools in the program.

The University of North Dakota holds the record for winning the team trophy nine times between 2008 and 2018. In 2017 and 2019, Metropolitan State University in Denver dethroned UND for the team trophy.

5.1. IAC Collegiate National Championship Award program's official logo.
5.2. The UND's National Collegiate Championship Team coached by Michael Lents.
5.3. United States Air Force Academy cadets, coached by Mark "Matty" Matticola.
5.4. Embry-Riddle Aeronautical University Aerobatic Team, Daytona Beach, Florida.
5.5. MSU Aerobatic Team, Denver, Colorado, coached by Dagmar Kress.
5.6. Purdue University Decathlon Coach Jamie Poppe, West Lafayette, Indiana.
5.7. Coach Troy Brockway with two of his 2012 Kansas State University Team pilots
5.8. Southern Illinois University, Carbondale, collegiate competitor Jason Duesel with his 2005 U.S. National Aerobatic Championships trophy.
5.9. Individual and team trophies at the IAC's membership gathering, EAA AirVenture Oshkosh, Wisconsin.

CHAPTERS AND REGIONAL EVENTS

The International Aerobatic Club has 40 chapters. Regional contests are scheduled throughout the United States and Canada. In addition to regional contests, chapters bid to host the IAC East and West Open Championships, whose dividing line is the Mississippi River.

The L. Paul Soucy Trophy was created by L. Paul Soucy of Louisville, Kentucky. An early board member, Soucy established the trophy to recognize not only skilled pilots, but also those who compete in three or more contests. The award is given to the pilot with the highest percentage points during each contest season; one contest must include the U.S. National Aerobatic Championships.

The IAC Regional Championship Series created in 2002 gives recognition to pilots who compete in a minimum of three contests in their category in one of IAC's six regions.

6.1. IAC Chapter 11 attracts members from the Virginia, Maryland, and Washington, D.C., areas.
6.2. IAC Chapter 78 members are from Minnesota, Iowa, Wisconsin, and the Dakotas.
6.3. IAC Chapter 89, Ocala, Florida, at the Snowbird Classic.
6.4. IAC Chapter 36, aka San Diego Hammerheads.
6.5. IAC Chapter 777 is based out of Las Vegas, Nevada.
6.6. IAC Chapter 34, established in 1974, hosts the Ohio Aerobatic Open.
6.7. IAC Chapter 49, aka Los Angeles Aerobatic Club, hosts Duel in the Desert.
6.8. IAC Chapter 26 at the 2018 Foxy Figures contest in Lancaster, California.
6.9. IAC Chapter 88 in Michigan at the Michigan Aerobatic Open in Bay City, Michigan.
6.10. IAC Chapter 80, aka MAC80, hosts the Midwest Aerobatic Championships, Seward, Nebraska.

PHOTOGRAPHY COURTESY OF **IAC ARCHIVES**

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THE AIRPLANES — BIPLANES

The Great Lakes 21-IA is considered to be the best aerobatic biplane ever produced by the American aircraft industry. The plane rose to fame in 1960, when U.S. Aerobatic Team member Frank Price flew it in the first FAI World Aerobatic Championships.

The Bücker Jungmeister was greatly admired by many U.S. pilots. The Jungmeister was the top aerobatic airplane in the United States until Curtis Pitts came along with his Pitts Special design.

By far one of the most famous biplanes in the world of aerobatics is the Pitts Special. The Pitts Special rose on the world stage in 1972 when the U.S. Unlimited Aerobatic Team — with Charlie Hillard, Gene Soucy, and Tom Poberezny as the top three finishers — won the team trophy flying their Pitts Specials.

7.1. The Bücker Jungmeister biplane owned by Mike Murphy. In 1940 he purchased the airplane and restored it. Beverly "Bevo" Howard purchased it from Mike in 1948.
7.2. Frank Price with the Great Lakes that he flew in the first FAI World Aerobatic Championships.
7.3. Harold Krier with his Great Lakes.
7.4. A Great Lakes of modern manufacture. Owner Howard Kirker.
7.5. EAA Super Acro Sport N5AC. Former U.S. National Aerobatic Champion Bob Herendeen is in the cockpit.
7.6. The first factory-built Pitts S-1S, N9JT.
7.7. Art Scholl of Riverside, California, with one of the first Pitts S-2As built.
7.8. A Pitts S-2C with its distinctive paint scheme. N252PS was the prototype C model.
7.9. Betty Skelton's famous Pitts S-1, *Little Stinker*.


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THE AIRPLANES – CLASSICS AND HOMEBUILTS

Clipped wing Cub — Many of the best-known aerobatic pilots in the country, including Pappy Spinks, Charlie Hillard, Duane Cole, Harold Krier, and Mary Gaffaney, started their aerobatic careers in this classic.

Decathlon — In 1970, the 150- and 180-hp Decathlons, with their constant-speed props, became the modern-day aerobatic trainers.

Christen Eagle I and II — From a custom Pitts S-1S designed by Curtis Pitts for Frank Christensen, Frank made improvements and his tweaking led him to enter the homebuilt market with a colorful two-place Christen Eagle II kit.

DR-107/One Design — Dan Rihn set out to create an aerobatic airplane capable of competing up to the Unlimited category level, all with the average homebuilder in mind.

Giles G-200/202 — When carbon fiber materials started to reach the consumer market, Richard Giles used them to build a small, lightweight, Unlimited-class aerobatic airplane. In late 1994, Richard formed AkroTech Aviation Inc. to produce parts and kits for the G-200.

8.1. Giles Henderson and Bob Heuer with Giles' iconic clipped wing Cub.
8.2. 1946 Piper clipped wing Cub owned by Don McDonald.
8.3. Doug McConnell, president emeritus of IAC, with a Bellanca Decathlon.
8.4. A Giles G-200 flown by Charlie Teeuwsen.
8.5. Doug Jardine, one of the early builders, with his 1996 DR-107.
8.6. Dan Rihn crafted a two-seat version of the One Design, called the DR-109.
8.7. The prototype Christen Eagle N2FC on display in the EAA Aviation Museum in Oshkosh, Wisconsin.
8.8. The Curtis H. Pitts Memorial Award for innovative aerobatic design.

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THE AIRPLANES — MONOPLANES

The Laser 200 was America's revolution on the monoplane. The lineage of the Laser 200 begins with the Stephens Akro with its 180-hp Lycoming, which was given its first test flight on 1967.

Leo Loudenslager saw a photo of the Akro in an issue of *Private Pilot* magazine. By 1971, he had completed the first 200-hp Akro. The 1975 U.S. National Aerobatic Championships saw the realization of the plane's promise, as Leo won the first of his seven U.S. National Aerobatic Championships.

Meanwhile in Germany, Walter Extra took notice when he witnessed Leo fly his Akro/Laser 200 to win the 1980 World Aerobatic Championships. Walter determined that he would build his own airplane, which would later become the Extra 230.

In the mid-1990s, the American-made Zivko Edge 540, designed by Bill Zivko, began to fly to victory in international Unlimited aerobatics.

MX Aircraft came on the scene in 2001, with its MXS and MX2 aerobatic and race aircraft. The MX came about after the kitbuilt Giles aircraft plans were purchased and morphed into a state-of-the-art, certified aerospace grade material aircraft.

9.1. Leo Loudenslager in his newly built Stephens Akro, 1971.
9.2. Bob Davis pilots the Sukhoi SU-29 in the skies over south Florida.
9.3. Walter Extra of Dinslaken, Germany.
9.4. Patty Wagstaff in her Extra 260.
9.5. Malcolm Pond of California in his Edge 540, a design by Zivko Aeronautics.
9.6. Rob Holland, nine-time U.S. National Champion, in his new MXS-RH.
9.7. Tom Myers of California in his 1997 Stephens Akro.


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THE AIRPLANES — U.S. UNLIMITED TEAMS

WAC 1970 — The U.S. Team won the team championship, bringing home the Nesterov Cup.

WAC 1972 — The U.S. Team returns from France with the team trophy once again in tow. Charlie Hillard becomes the first American man to win Men's World Champion. Mary Gaffaney became the first American Women's World Champion.

The 1980 World Aerobatic Championships was held in Oshkosh, Wisconsin. The U.S. Men's Team again earned the Nesterov Cup, and Leo Loudenslager was the second American to win the Men's World Aerobatic Champion. Betty Stewart earned the title of Women's World Aerobatic Champion.

The U.S. Team would mount the podium again in first place at the 1988 World Aerobatic Championships in Red Deer, Canada. Henry Haigh became the third American to earn the World Champion title.

Since 1990, the U.S. Team has swapped back and forth with France and Russia for second or third place in team points. Rob Holland has won the 4-Minute Freestyle five times consecutively between 2011 and 2019, which is a world record achievement.

10.1. The Nesterov Cup presented to the winning team at the World Aerobatic Championships.
10.2. 1976 U.S. Aerobatic Team, Kiev, USSR.
10.3. 1972 U.S. Aerobatic Team.
10.4. The 1970 U.S. Team wins the team competition, bringing home the Nesterov Cup.
10.5. The Aresti Cup presented to the Overall World Aerobatic Champion.
10.6. 1980 U.S. Aerobatic Team.
10.7. 2019 U.S. Aerobatic Team, which competed in Chateauroux, France.
10.8. 1988 U.S. Aerobatic Team, Red Deer, Canada.
10.9. 2003 U.S. Aerobatic Team, Lakeland, Florida.


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U.S. ADVANCED TEAMS

The first World Advanced Aerobatic Championships were held in Cape Town, South Africa, in 1995. The U.S. Advanced Team pilots that year were John Morrissey, Matt Morrissey, Bruce Thalheimer, Don Rhynalds, Gerry Molidor, Tom Adams, and Larry Owen.

In 1997 the United States hosted WAAC in Lawrence, Kansas, where the American Team, composed of John Morrissey, his son Matt Morrissey, and Gerry Molidor, won gold.

At 2000 WAAC the U.S. Advanced Team won a bronze, with Bubba Vidrine, Goody Thomas, and Paul Donner the top finishers.

At 2006 WAAC in Radom, Poland, the top three pilots, Rob Holland, Jeff Boerboon, and Hector Ramirez, clinched team silver.

In 2008 the quest for gold was reached on home turf in Pendleton, Oregon. The team's top three placing pilots were Rob Holland, Todd Whitmer, and Hector Ramirez. Rob Holland was the first American to earn the title of World Advanced Aerobatic Champion.

The Advanced Team returned from Radom, Poland, in 2016 with a second-place finish. Cameron Jaxheimer, the youngest ever team pilot, placed fifth in the individual results.

In the most recent championship, which took place in Strejnic, Romania, in 2018, the team once again brought home the silver.

11.1. The 1995 U.S. Advanced Aerobatic Team, Cape Town, South Africa.
11.2. The 2008 U.S. Advanced Aerobatic Team, Pendleton, Oregon.
11.3. The 1997 U.S. Advanced Aerobatic Team, Lawrence, Kansas.
11.4. The current U.S. Advanced Aerobatic Team logo.
11.5. "One Team, One Goal" — the motto of the 2016 U.S. Advanced Aerobatic Team.
11.6. The 2006 U.S. Advanced Aerobatic Team, Radom, Poland.


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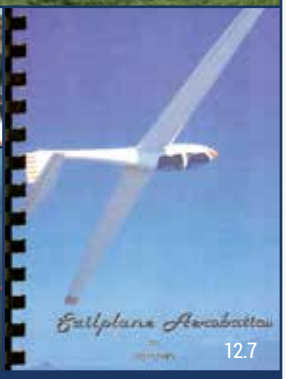

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U.S. UNLIMITED AND ADVANCED GLIDER TEAMS

The FAI World Glider Aerobatic Championships (Unlimited category) has taken place annually since 1985. In 2010, an additional event was organized in the Advanced category: the World Advanced Glider Aerobatic Championships.

1985 — U.S. members in the inaugural WGAC were Nancy Blank, Les Horvath, Charles Kalko, David Keeling, Bill Lumley, and Bob O'Dell. There were only 31 pilots at this first championship, representing eight countries.

Nancy Blank, Les Horvath, Charles Kalko, and Bob O'Dell all signed up again to travel to Bielsko-Biala, Poland, for the second WGAC in 1987. Nancy placed third overall, the only individual American to win a medal in the history of U.S. Glider Team participation at WGAC.

In 1991, at Zielona Gora, Poland, the U.S. Glider Team succeeded in placing on the podium. Team members Stephen Coan, Charles Kalko, and Chris Smisson were delighted with their third-place team finish. The 1991 team is the only American team to successfully place at a WGAC.

12.1. 1985 U.S. Team member Nancy Blank.
12.2. The official patch of the 1987 U.S. Sailplane Aerobatics Team.
12.3. The 2017 U.S. Glider Aerobatic Team in Advanced and Unlimited. Left to right: Mallory Lynch, Guy Acheson, Jim Alaggio, and Eric Lentz-Gauthier.
12.4. An MDM-1 Fox, a popular aerobatic glider used at World Glider Aerobatic Championships.
12.5. The 1999 U.S. Glider Aerobatic Team. Left to right: Bill Lumley, Charles Kalko, Kim Reniska, John Lumley, and Walter Parrasch.
12.6. The Swift S-1 N1PM glider flown in 1994 by both Bill and John Lumley.
12.7. Sailplane Aerobatics written by Les Horvath.

PHOTOGRAPHY COURTESY OF **IAC ARCHIVES**

IAC EXHIBITION 2020
IAC 50TH ANNIVERSARY

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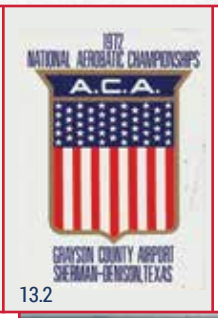

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U.S. NATIONAL AEROBATIC CHAMPIONSHIPS — THE FIRST 25 YEARS

The U.S. National Aerobatic Championships were held in Texas from 1968 to 2016; in Oshkosh, Wisconsin, in 2017 and 2018; then were moved to Salina, Kansas, in 2019.

Between 1964 and 1973, U.S. team members would grace the top spot: Duane Cole, Harold Krier (two-time champ), Bob Herendeen (also won twice), Charlie Hillard, Gene Soucy (three-time champ), and Tom Poberezny.

The 1972 U.S. Nationals were hosted for the first time at the old Perrin Air Force Base, now Grayson County Airport, Sherman, Texas.

From 1974 through the first 25 years, a number of pilots would gain the title of U.S. National Aerobatic Champion and some more than once. Kermit Weeks won in 1983 and 1985. Clint McHenry won three times in 1986, 1987, and again in 1989. Patty Wagstaff was the first woman to win the U.S. National Aerobatic Champion title. She won three times from 1991 through 1993.

13.1. The logo for the 1971 U.S. National Aerobatic Championships.
13.2. The 1972 U.S. National Aerobatic Championships logo.
13.3. In 1982, this logo was the first designed for the IAC-managed Nationals.
13.4. The U.S. National Aerobatic Championships logo designed by Margo Chase in 2015.
13.5. U.S. National Aerobatic Championships at Sherman-Denison, Texas.
13.6. Paul Poberezny with Bob Heuer at the 1972 U.S. Nationals.
13.7. Clint McHenry and Bill Thomas pictured at the Nationals in 1975.
13.8. M.H. "Pappy" Spinks, former president of the Aerobatic Club of America.
13.9. At the 1983 Nationals are Mike Heuer with Kermit Weeks, Henry Haigh, and Harold Chappell.


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U.S. NATIONAL AEROBATIC CHAMPIONSHIPS — THE SECOND 25 YEARS

The U.S. Nationals brings together pilots from across the United States. Traditionally, the event attracts between 90 and 100 competitors.

The U.S. Nationals have been blessed with talented pilots winning U.S. National Unlimited Champion multiple times. In the second 25 years (1996-2019), Kirby Chambliss was the five-time national champion in 1998 and 2002 through 2005.

Besides Patty Wagstaff, three other women have won the U.S. Nationals title: Diane Hakala in 1997, Vicki Cruse in 2007, and Debby Rihn-Harvey in 2006, 2008, and 2009.

Leo Loudenslager was a seven-time National Champion, between 1975 and 1982. His record survived until 2017, when Rob Holland tied it. Rob has gone on to repeat his wins and is currently a nine-time U.S. National Aerobatic Champion.

In Unlimited glider aerobatic competition, Ken Hadden won three times between 1995 and 1997, John Lumley won it three times from 1999 to 2002, and Jason Stephens was crowned champion five times between 2006 and 2013.

14.1. The 2016 U.S. Nationals, the last year they were held in Sherman-Denison, Texas.
14.2. The 2019 U.S. National Aerobatic Championships, Salina, Kansas.
14.3.&4. The U.S. Nationals logo introduced in 2015 during IAC's rebranding.
14.5. The 2017 U.S. Nationals, Wittmann Regional Airport (KOSH), Oshkosh, Wisconsin.
14.6. The 2017 U.S. Nationals opening ceremonies at the EAA Aviation Museum in Oshkosh, Wisconsin.
14.7. Advanced competitors line up for their next flight program, Sherman, Texas.
14.8. A 2019 Christen Eagle graces the ramp in Salina, Kansas.
14.9. The 2017 Nationals Key Volunteer Group (KVG), Pioneer Airport, Oshkosh, Wisconsin.
14.10. A U.S. Air Force Academy cadet takes a turn in the aerobatic box in Salina, Kansas.

PHOTOGRAPHY COURTESY OF **IAC ARCHIVES**


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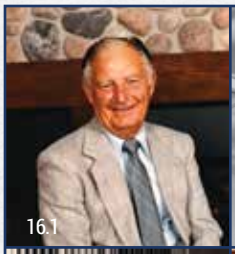
IAC CHAMPIONSHIPS — FOND DU LAC

In 1971, the EAA-IAC contest held at Fond du Lac, Wisconsin, in conjunction with the EAA annual convention at Oshkosh, was such an outstanding event that it turned out to be the largest aerobatic contest ever held in the United States. There were 61 competitors. A few years later, the contest grew to 135 competitors, making it the largest aerobatic contest in world history.

A team trophy was presented to top-scoring chapters at the IAC Championships. The awards started in 1971 for the IAC Championships, and since 1982 it has been awarded at the U.S. National Aerobatic Championships. The chapter whose top three members, regardless of category, achieve the highest points percentage possible for all flight programs in the category take home the team trophy.

Since 1971, IAC Chapter 24, Texas, has received the team trophy 14 times. IAC Chapter 1, Illinois, won it seven times; IAC Chapters 23 and 37, both from Florida, each won it five times; and Chapter 88, Michigan, won five times. IAC Chapter 78, Minnesota, has won it four times.

15.1. 1970 IAC Championships Sportsman competitors.
15.2. Score computing at the IAC Championships in the 1970s.
15.3. At the 1976 IAC Championships: Bob Heuer, Curtis Pitts, and Mike Heuer.
15.4. The 1974 IAC Championships.
15.5. The 1973 IAC Championships.
15.6. Logos from the IAC Championships over the years.
15.7. The IAC Championships opening ceremony. Chapters and competitors with flags of their chapter, country, or state.
15.8. Pilots and spectators at the 1976 IAC Championships.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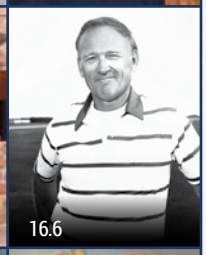
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IAC HALL OF FAME

The International Aerobatics Hall of Fame was formed in 1986 to give appropriate recognition to those who have made a significant contribution to aerobatics. Many people have made significant contributions to the sport and art of aerobatic flight. Some have dedicated their lives to aerobatics. Some of these people may not be pilots, but all shared a love of aerobatics.

Hall of Fame Award Recipients Listed by Year of Induction

1987 — José Aresti, Duane Cole (16.1)
1987 — Curtis Pitts and Frank Price
1988 — Marion Cole, Mike Murphy, Betty Skelton Frankman (16.2)
1989 — Bob Heuer (16.3), Bevo Howard
1989 — Harold Krier
1990 — Lincoln Beachey, Bob Herendeen
1990 — Charlie Hillard (16.4) and Art Scholl
1991 — Mary Gaffaney and Leo Loudenslager (16.5)
1993 — Clint McHenry and Neil Williams
1998 — Bill Barber, Rod Jocelyn, Harold Neumann
1998 — Tom Poberezny, Tex Rankin
1999 — Henry Haigh (16.6)
2000 — Gene Beggs
2001 — Mike Heuer (16.9)
2002 — Bob Davis, Bill Thomas
2003 — Don Taylor
2004 — Dorothy Hester, Betty Stewart (16.7)
2005 — Patty Wagstaff
2006 — Gene Soucy (16.8)
2007 — Debby Rihn-Harvey (16.8), William K. Kershner
2008 — Bill Finagin
2009 — Bob Hoover
2010 — Jimmy Franklin
2011 — Tony LeVier
2012 — Giles Henderson
2013 — Bill Adams
2014 — Sammy Mason
2015 — Sean D. Tucker
2016 — Robert Armstrong
2017 — Frank Christensen (16.9)
2018 — Tom Adams
2019 — John Morrissey (16.10)

THE TALE OF 2 LLCS, PART 1

First challenge: Find and recruit pilots

BY BRUCE MAMONT, IAC 432407

I ATTENDED EAA AIRVENTURE OSHKOSH 2015 to hang out with Michael Church and listen to his "What's Next?" presentation at the IAC Pavilion. Michael asked, "What do you do with your certificate after you flew over the house and ate a few $100 hamburgers?" His answer, aerobatics (and for structure, contests), was so compelling I committed to it.

The challenge for many of us is that there are few to no aerobatic airplanes for solo rental. I decided to get my own ride, but my flight instructor earnings didn't support the purchase of an aerobatic airplane. I needed help. I thought that I might find other pilots close to me in the same situation. Plenty of desire; cash, not so much. Maybe we could find a way to share.

I'd hoped to find someone at one of the airports within a reasonable distance from my home field who would be interested in sharing expenses. Unfortunately, no one with an aerobatic airplane was advertising for a partner. The few people I knew who owned aerobatic airplanes weren't interested in selling a share in their airplanes.

It seemed to me that I should be able to find three other pilots who could come up with the cost of a compact car to buy a share in an airplane. Most of my time had been in a Super Decathlon; could four of us find a good Super D for $100,000-$125,000?

The first challenge was to find and recruit pilots. A Facebook post to Flights Above The Pacific Northwest (FATPNW) produced about a dozen inquiries and several prospective co-buyers. Former students and instructors at the school where I work as an instructor also expressed interest. The group of people who seemed genuinely interested gained and lost prospects over a three-month period, swelling to as many as six members and stabilizing at four.

Discussions with AOPA Finance suggested that financing a group purchase would be cumbersome. Even though the membership buy-in cost was (for example) $25,000, that wouldn't be the amount to be financed. Every member would have to qualify for the full amount of the purchase loan. We decided to pay cash for an equal share of the budgeted purchase price of $125,000. As you'll see for the second limited liability company (LLC) in this tale, financing is still an option.

Bruce Mamont is a CFI. He has worked at Sunrise Aviation and most recently at Regal Air Flight School in Everett, Washington.

Two of the initial members of our acro-airplane group were exploring the purchase of a cross-country airplane. From them we learned that a group forming to share the cost of buying and operating an airplane for the recreational use of its members was technically not a "partnership." A partnership would be presumed by various governmental entities (like the IRS) to be a for-profit business, which we definitely were not. We should be a "co-ownership in tenancy." Mike and John had adapted an AOPA template for a co-ownership in tenancy for their airplane purchase and offered it for the use of our aerobatics group as an operating agreement.

N148PC, affectoinately nicknamed *Sunshine*, is owned by the first group of pilots Bruce organized, SuperD LLC.

PHOTO COURTESY OF **BRUCE MAMONT**

In the process of tailoring the operating agreement for our LLC, I learned about an AOPA webinar series, *Aircraft Ownership Series*. Part 1 discussed co-ownership. Part 2 described the benefits of an LLC as an alternative to a co-ownership in tenancy. Several of us watched both and decided that forming as an LLC would offer the best method of protecting us and our families.

EAA FLYING CLUB RESOURCE CENTER

EAA has long believed that flying clubs are a great way to make aviation more accessible and affordable. Throughout the years, many members have approached EAA asking for information about establishing a flying club. To help and provide guidance, EAA has developed a Flying Club Resource Center to address the unique requirements of EAA members. Topics included in the resource center are Getting Started, Flying Club FAQs, Benefits & Discounts, Flying Club Grant Program, Sample Documents, and Flying Club Tax Exempt Basics. There is also a forum page for discussion among operational clubs and clubs in the formation stage. This offers a platform for clubs to ask questions and share ideas. Additionally, there is a Videos & Webinars section about how to schedule club members, financing, insurance, and how to grow participating in aviation.

Visit the EAA Flying Club Resource Center online at www.EAA.org/eaa/pilots/flying-club.

IT SEEMED TO ME THAT I SHOULD BE ABLE TO FIND THREE OTHER PILOTS WHO COULD COME UP WITH THE COST OF A COMPACT CAR TO BUY A SHARE IN AN AIRPLANE.

An AOPA Legal Services aviation attorney helped us make sure that our operating agreement would conform to the Washington state law for LLCs; he filed our application to form the SuperD LLC. The work he did for us to form the LLC wasn't covered under our Pilot Protection Plan benefit, but his help on a purchase agreement would be. His LLC work was performed at the AOPA rate.

Last year the SuperD LLC operating agreement was reviewed by a Legal Services attorney on staff at AOPA. He suggested that while the operating agreement was a good co-ownership agreement (it should be; we adapted it from an AOPA co-ownership agreement), it wasn't providing the optimal protection available in an LLC. He recommended that we change the operating agreement to distance the LLC as a legal entity from the members. The members own the LLC, which rents the airplane exclusively to the members. This definition provides more liability protection to the members (and their families). No one would ever confuse me with a lawyer, but this seems to make sense to me. I wish I could report that we've acted on this sound advice, but AOPA hasn't yet published a sample template for an LLC operating/rental agreement for this purpose.

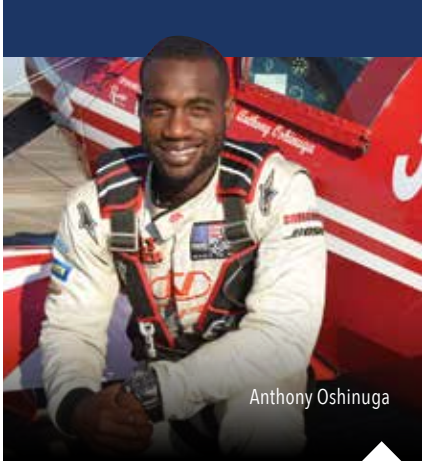
Taxes can be an issue depending on the state in which the LLC is operated; tax considerations might affect the decision about whether to form an LLC or stick with the co-ownership in tenancy structure.

THE MEMBERS OWN THE LLC, WHICH RENTS THE AIRPLANE EXCLUSIVELY TO THE MEMBERS.

The gang of four decided early that a Super Decathlon would be an ideal choice. We were very averse to tying down a fabric airplane. We started looking for hangar space at our home field and adjacent airports within a reasonable distance. Before forming the LLC, I applied for a hangar at my home field. The waiting list for a county hangar was 24-30 months. We decided to seek space wherever we could and not make securing hangar space a requirement to start shopping. We got lucky. I'd guessed that there might be a "gray market" for hangar space at our home field. Perhaps a hangar occupant had extra space we could rent. I asked the owner of an FBO if he knew of anyone looking to share hangar costs. As it turned out, he was able to rent us one of his maintenance bays until we could find another hangar.

In Part 2, we will take a look at the formation of the LLC and how we worked through the financial commitments and insurance issues. *IAC*

PHOTO COURTESY OF **EAA ARCHIVES, BRUCE MAMONT**


Anthony Oshinuga

Anthony Oshinuga

BY ZINNIA KILKENNY, IAC 437244

ZK: YOUR AVIATION INTRODUCTION WAS OVER A PEANUT BUTTER AND JELLY SANDWICH. CAN YOU ELABORATE THAT EXHILARATING TALE?
AO: Ha-ha, that's right! My father's friend was a professional pilot. He'd invited us to the airport to watch him fly. I was only 5 years old, and didn't know what an airplane was exactly. We drove to the airport, but I was mostly interested in the peanut butter and jelly sandwich.

To set the scene, it was a humid afternoon with very little wind. I sat on my father's lap, devouring the sandwich. We were parked on the approach end of the runway while facing oncoming traffic. I saw a bright light in the air coming towards us. Initially, I thought nothing of the light until it was close enough to see the wings and wheels, and to hear the roar from the engine bay. I dropped my sandwich, my teeth clenched as I watched in awe, the airplane seemed to be aimed right at us.

The next second, it flew over the hood of the car. I remember climbing up my father's lap to his shoulders to see the landing. Well, let's just say, my father and I spent the entire afternoon watching airplanes fly overhead.

ZK: THE SIMPLE DECISION TO HANG AROUND THE AIRPORT ENACTS A CHAIN OF OPPORTUNITIES THAT, ULTIMATELY, FINDS US IN THE PIC SEAT. HOW DID YOU FIND YOUR WAY TO THAT FIRST FLIGHT?
AO: Yes, I was obsessed with aviation. I was about 19 years old when I went on my first flight.

It was a sunny, clear day at Flabob Airport in Riverside, California, where I was walking around admiring the airplanes parked outside when I saw a gentleman pushing his Christen Eagle out of his hangar. Though we'd seen each other many times before, we'd hardly spoken, but he called out, "Hey, you want to go flying?" I jumped at the opportunity and 10 minutes later I'm strapping on a 'chute.

The takeoff was smooth, the engine sounded monstrous, and the acceleration was something I had never felt before. As we got settled in the air, he asked me if I wanted to do a roll and a loop. I had no idea what to expect, but there was no way I could refuse. "Yes, sir, let's see what this thing can do!" After a series of rolls and loops, I yelled, "This can't be legal!"

My first flight was an aerobatic one and left me in awe! The pilot who provided me the life-changing opportunity was Norm Manery.

ZK: WHAT SPARRING CIRCUMSTANCES CONTENDED WITH YOUR STICKTOITIVE MINDSET IN EARNING YOUR PPL?
AO: I didn't have the resources to obtain my private pilot's license. I was working a minimum-wage job. But quitting the goal of earning my certificate was never an option. Of course, it wasn't easy, but there was a host of life lessons. One was the gift of planning; that if I really wanted something, I needed to strategize to ensure a successful outcome. So, with discipline and time, four years to be exact, I was able to get through the curriculum and obtain my PPL. In my family lineage, I was the very first pilot to represent the household.

ZK: EVERY AVIATOR HAS THE OPPORTUNITY TO AVAIL THEMSELVES IN LIMITLESS EXPRESSION. WHAT HAS YOUR AVIATION PATH BEEN LIKE?
AO: Aviation has provided me with many opportunities to express my creative side. After I received my PPL, I immediately thought, "How am I going to afford the 'aviation lifestyle'?"

Taking my parents' advice, I earned a degree in mechanical engineering. I used all my funds from my engineering gig to put myself through instrument and commercial curriculums. I still had some money left over to save for the purchase of my very own airplane.

I purchased a Cessna 170A that was manufactured in 1949. Of all the taildraggers I've flown, this Cessna 170A was by far the most difficult for me to land during the initial phases. It taught me a lot that transferred over to the next airplane that I purchased, the Pitts S-1.

I was able to creatively develop a business around the Cessna 170A by partnering with the neighboring wineries to provide clients with aerial scenic flights. After I established my business, AirOshi, in 2012, I was able to focus on other goals, like competition aerobatics and air shows.

Both disciplines allow for creative expression but nothing more than air show flying. Where competition aerobatics is more about precision, air show flying allows me to fly with heart, mind, body, and soul. Having the ability to express myself creatively in the world of aviation, I've been lucky to live a life comprised of dreams.

ZK: WHAT CAN BE DONE TO ENCOURAGE A DIVERSE FLYING COMMUNITY?

AO: According to 2019 data, 91.9 percent of aircraft pilots and flight engineers are white. African American aviation professionals hover just below 3 percent.

The aviation industry can begin to shift perceptions by recognizing minority leaders and celebrating their achievements.

High schools and aviation companies can raise awareness of both the aviation shortage and the need to increase diversity. Making the topic a regular conversation helps foster a culture of inclusion.

Organizations can also provide mentorship and training to underrepresented groups. For example, the Organization of Black Aerospace Professionals (OBAP) promotes aviation careers for youth through its Aviation Career Education (ACE) Academy.

Similarly, Women in Aviation International (WAI) provides scholarships, mentoring, professional conferences, and networking opportunities.

Minorities are often underrepresented in STEM subjects when obtaining their education. By working with schools to bring more female, black, Asian, and other minority speakers to campuses, the industry can inspire more underrepresented groups to pursue an education that equips them for the field, and ultimately to join the field in competition aerobatics.

Anthony in his Pitts S-1S at the 2019 U.S. National Aerobatic Championships in Salina, Kansas.

ANTHONY OSHINUGA

IAC: 435544

Chapter: 36

Occupation: Pilot/entrepreneur/engineer

FAA Ratings and Certificates:

Instrument/commercial

We desperately need advertising. Getting the word out is the single most important thing we could do, and, quite frankly, we're not doing enough of it. Paired with a well-defined, nationwide, designated mentor program, how could we go wrong in bringing more curious minds into aerobatics? Personally, during my pilot training, I didn't notice any other African American pilots in general aviation, nor could I locate any mentors whom I could consult about my trials and tribulations.

I think it would be a blast creating more opportunity to invite international pilots to America to compete in our regional or national contests. Just imagine people from around the world having different cultures coming to play in the sky.

Anthony raced at the 2015 Nationals Championships Air Races located in Reno, Nevada, placing second in his category.

ZK: WHAT WOULD YOU LIKE YOUR LEGACY TO BE?

AO: Being one of the few African Americans who paved the way for members of the younger generation of color, or of any ethnic descent, to tackle their dreams no matter how big.

Through example showing how gratitude, fortitude, hustle, and a creative mind can get you anything you most desire. I've noticed that people quit way too soon and others give up right before the finish line.

I'm here to say, don't give up! For every struggle or hardship is an opportunity to bring you closer to that which you have been working towards. Remember why you started this journey. IAC

2020 IAC CONTEST SEASON CALENDAR

DATES	HOST CHAPTER	NAME	REGION	LOCATION	AIRPORT
Aug. 29, 2020	11	James K Polk Open Invitational	Northeast	Virginia	KHWY
Aug. 29, 2020	12	Ben Lowell Confrontation	South-Central	Colorado	KSTK
Sep. 5, 2020	26	Foxy Figures	Southwest	California	KWJF
Sep. 5, 2020	27	Tennessee Music Hwy Aerobatic Jam	Southeast	Tennessee	KMKL
Sep. 5, 2020	AC7	Canadian Nationals	Northwest	Rocky Mt. House	CYRM
Sep. 11, 2020	67	Apple Cup	Northwest	Washington	KEPH
Sep. 12, 2020	88	Michigan Aerobatic Open	Mid-America	Michigan	3CM
Oct. 2, 2020	35	Green Mountain Aerobatic Contest	Northeast	Vermont	KVSF

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