SPORT Aerobatics

March 2017

OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB

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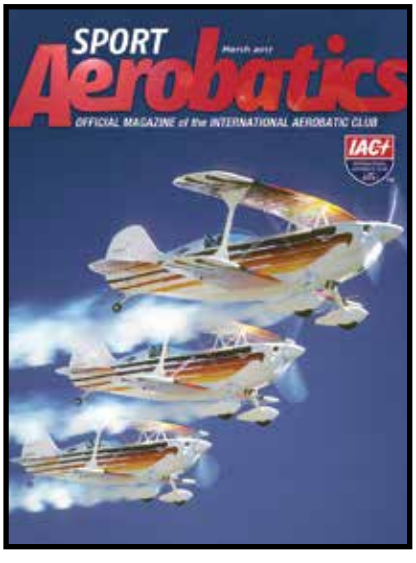
CONTENTS

We originally intended to make the Eagle an FAA-certificated production aircraft, and we prepared a complete FAR Part 23 certification package, but as the project proceeded, we realized that we would be competing with Pitts in an already limited market.

— Frank Christensen

FEATURES

DEPARTMENTS



COVER

The Eagles Aerobatic Flight Team performs with Tom Poberezny, Charlie Hillard, and Gene Soucy piloting their individual aircrafts to the pleasure of audiences.

SPORT Aerobatics
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EDITOR'S LOG

BY REGGIE PAULK

Our Digital Age

And the timelessness of flight

In this month's President's Page, Mike Heuer discusses the early days of the IAC and its publications — I for one am thankful for the digital age in printing. The digital age allows me to perform my job far from the printing press and publications people who help make *Sport Aerobatics* possible each month.

Through the miracle of e-mail and software programs, we are able to communicate quickly and efficiently with people all over the country in a way that brings maximum benefit to our membership — all at little cost.

In this month's issue, you'll read about the 40th anniversary of the Christen Eagle kit biplane. I was a year old when that kit came onto the market, and a lot has changed in the digital space in that span of time. I remember long-distance phone calls and party lines, tape players, eight tracks, and record players. Think about that for a moment — during the time the Christen Eagle kit has been available, very little has been changed. But the world around it has changed very much.

It is now possible to put airliner class avionics in a small biplane while adding little weight. A pilot lost in his or her Eagle in the '70s, '80s, and early '90s would need to consult a paper chart and perhaps make a radio call — today, that capability can be had at the push of a button. GPS has enabled handheld devices to display our position anywhere on the planet's surface to within a few feet.

> . . . but there is still something all of the technology in the world cannot replace — stick and rudder skills.

All of that capability has added functionality to and increased efficiency of flying operations exponentially, but there is still something all of the technology in the world cannot replace — stick and rudder skills.

Today, that Christen Eagle is still just as challenging to fly as it was all those years ago. A modern pilot will find little benefit to be had from all of those modern gadgets without a solid skill set earned just like it was all those years ago — through hard work and practice. And that's the beauty of this sport. Although we have made leaps and bounds in the digital age, the actual art of flying has changed very little. *IAC*

Please submit news, comments, articles or suggestions to: *editor@iac.org*

PRESIDENT'S COLUMN

BY MIKE HEUER, IAC PRESIDENT, IAC 4

Getting the Word Out

Communication — a key to success

When the IAC first started in 1970, our officers and directors recognized the need for regular and reliable communication with the membership. In that first year, our numbers exploded to more than 1,000 members, and they all received a semiregular newsletter that usually came out about once a month. There was no particular publication schedule. We just put it together when there was enough news.

Starting in October 1971, that all changed with the publication of the first *Sport Aerobatics* magazine. One of our first members, Verne Jobst of McHenry, Illinois, was our first editor. It was printed at Times Printing in Random Lake, Wisconsin. Times was a family-owned business, and we worked with various members of that family over the years in getting our magazine out at a reasonable price. Ray Scholler was the company's president and was deeply involved and committed to EAA and sport aviation, and he kept the magazine's production costs low for many years. Today, the magazine is printed elsewhere, but I will always be grateful to the Scholler family and their company for doing such a great job for us, practically subsidizing us in the early years through their support for the IAC and their desire to help us get this fledgling organization off the ground.

For the first few issues of the IAC newsletter in 1970, we would type the publication on a stencil at our home in the Chicago area and then travel by car to EAA headquarters in Milwaukee, where EAA's reproduction machine awaited the insertion of the stencils. The newsletter would be run off page by page, and it took a long time. Then the Heuer family, along with EAA staff, would pitch in and we would collate the pages, staple the newsletters together, and stuff them in preaddressed magazines. It was all quite primitive, but it was still amazing and exciting, as we were playing a part in the formation of an organization we deeply believed in. Our goal was to spread aerobatics to the grassroots, and the formation of chapters and a full schedule of regional contests got us well on the way. Much of those traditions survive to this day, though our business is incredibly more complex.

That said, technology has made much of it so much easier and quicker. Instead of mailing my monthly president's column to the printer in Wisconsin, it goes to a copy editor in Oshkosh, then to layout at EAA, and finally an upload of the entire completed magazine goes to our printer. All of this is done by e-mail. The schedule is much tighter, with the text due to the copy editor during the first week of the month and the upload to the printer typically in the third week. For this March issue, for example, the finished magazine was uploaded to the printer on February 24 and mailed on March 7. The whole process, from beginning to end, takes just a little more than four weeks.

Of course, IAC's communication outlets to the membership are no longer limited to a printed monthly magazine. We now have *In the Loop*, an e-newsletter that's sent automatically to all IAC members. It is also available to anyone subscribing through the EAA website. EAA offers a number of superb e-newsletters covering a wide variety of subjects. All told, *In the Loop* now reaches about 10,800 subscribers. Surprisingly, only about 42 percent of our subscribers actually open it on their e-mail. I found this statistic to be pretty interesting, as I thought more people would take the time to read it. I would certainly suggest you do so. It is not junk mail, and it's definitely worth your valuable time. Our editor does his best to provide relevant and up-to-date news and information in this e-newsletter.

IAC also operates two Facebook pages — one for the IAC itself and another for the U.S. National Aerobatic Championships. Our Unlimited and Advanced teams have a Facebook presence as well. All of the IAC's Facebook pages link to Twitter, so whenever we post something it's sent to Twitter users as well. Facebook and Twitter were put to very good use last year during the U.S. Nationals, helping us keep everyone informed about what was happening. Often during the course of

continued on page 31

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

LINES & ANGLES

BY MIKE HEUER

IAC AirVenture 2017 Plans

IAC's plans for EAA AirVenture 2017 are coming together and the 2017 IAC exhibit will center around two significant aerobatic aircraft the: Aviat Christen Eagle II and the Extra series of champion aerobatic airplanes.

The Eagle celebrates its 40th anniversary this year, having been introduced in Oshkosh in 1977 by its designer, Frank Christensen of Christen Industries. One of the most beautiful aerobatic airplanes of all time with its distinctive paint schemes, Christen Industries set the industry standard for kit-built aircraft, providing the most comprehensive kits and builder manuals that sport aviation has ever seen. As of this writing, 32 Eagles have pre-registered for AirVenture.

The Extra series of aerobatic airplanes — now flown by the top aerobatic competition pilots in the world — will be featured at AirVenture as well. A "gathering" of Extra aircraft is planned, and the Extra factory in Germany as well as Southeast Aero in St. Augustine, Florida, are now the major sponsors of our exhibit in Oshkosh.

Seminars on these aircraft are planned at the IAC pavilion. Eagle and Extra owners and pilots are encouraged to pre-register for AirVenture on the EAA website as follows: *www.eaa.org/en/airventure/features-and-attractions/airventure-highlight/featured-aircraft-anniversaries*.

This enables IAC to plan appropriate parking spots for all aircraft. Eagles and Extras will be parked adjacent to the IAC pavilion.

Our thanks to IAC chapter 119 for sponsoring a bench on the porch of the pavilion. If anyone else would like to donate to improving our building, please contact Lorrie Penner, IAC executive director, at *execdir@iac.org*.

Countdown to Nationals

Information on this year's National Aerobatic Championships in Oshkosh can be found here: *www.iac.org/us-national-aerobatic-championships-2017*

The schedule is fully detailed and note the opening ceremonies will take place on Saturday, September 23, in the Founder's Wing of the EAA Aviation Museum in Oshkosh at 11 am. The Oshkosh mayor and city manager will be on hand to officially open the event. Advanced will be the first category in the air that afternoon at 2 pm.

IAC is proud to announce that Jack J. Pelton, CEO of EAA, will be the keynote speaker at the Nationals awards banquet on Friday, September 29. Jack has given his full support to the Nationals relocating to Oshkosh and the EAA staff has been doing a great job in cooperating with contest officials with its enormous resources at hand for events of this sort.

We will fly the traditional Known and Free Programs in all categories this year. The Free Knowns, flown at last year's Nationals, will not be repeated. This means pilots will be flying the same sequences as at regional contests across the country. The exception is the Free Unknowns, to be flown in both Advanced and Unlimited, which we have done at the last several Nationals to great success.

2017 is Advanced team selection. Advanced pilots who declare for the team should note the 2018 FAI World Advanced Aerobatic Championships will be held at Strejnic Airfield, Romania, on August 16-26, 2018. Team aspirants should be fully prepared to train for WAAC, ship aircraft to Romania, and cover most of the expenses themselves.

Entry fees will be in accordance with the following schedule: Active Duty Military, $310; Collegiate, $235; Primary, $260; Sportsman through Unlimited, $460; and Four Minute Freestyle, $160. These fees are a $60 increase across the board from 2016 but include the video filming of all pilots' flights. The video crew will be headed by Forrest Fox.

Hangarage for competition aircraft will be provided in EAA exhibit buildings C and D. Hangars will be free of charge this year, more than offsetting the increase in entry fees.

Our thanks to the Oshkosh Convention and

continued on page 27


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FRANK CHRISTENSEN KIT PLANE REVOLUTION

By David Gustafson with Frank Christensen

Article first appeared in Aircraft Spruce & Specialties'
Perspectives on Homebuilding
Reprinted with permission of the author

Forty years ago, Frank Christensen started a revolution. He introduced his kit for the Eagle aerobatic biplane at the 1977 EAA Fly-In, and with that, he changed the image of homebuilding. Prior to that historic annual Fly-In Convention, no one had ever seen or even envisioned anything like the Eagle kit. On opening day it became the buzz of the convention, the thing to see, the new reason for building an airplane. Frank introduced his kit with such professionalism, so much class and theatricalism that suddenly all kinds of people realized that they, too, could build an airplane. And indeed they did.

The quality and thoroughness of the kits, the step-by-step "fail-safe" process detailed and richly illustrated in the construction manuals, and the option to order kits as needed, convinced people that there would be plenty of fun, education, adventure and excitement in working with one of Frank's kits. He easily sold a hundred kits during the week at Oshkosh 1977.

The story of the Christen Eagle is a story of departure, of a fork in the road, a dramatic change in the progression and maturing of homebuilding. To fully appreciate that story, we have to go back to Frank's roots, to the experiences that not only made the Eagle financially possible, but that imbued Frank

Frank with his Pitts Special S-1S at the time of Eagle startup.

with an attention to detail and a determination to see it all through.

He learned to fly at 16. He went off to Stanford to study industrial engineering and economics. He happened to be near a new movement in technology while it was still in its infancy: Silicon Valley. During his senior year at Stanford, he formed Tempress Industries, Inc. in Los Gatos, California, which became a leading manufacturer of miniature production tools and machinery for the fast-growing microchip industry. In 1972, his company had grown to more than 400 employees and was the sole source of critical products used in microchip production. He sold the company and went off to the World Aerobatic Championships as the team manager. According to Tom Poberezny, "Frank never missed a deadline, never overlooked a detail, and made it all look seamless and easy." A couple years later, Frank formed Christen Industries, Inc., in Hollister, California.

From here on, I'm going to let Frank tell his own story. Normally, I write up a series of questions in advance of an interview and send them to the person I want to interview. I did that with Frank. He didn't wait. He sat down and wrote out answers to all my questions and upon reading his comments, I realized that I couldn't improve on them. Typical Frank. When I called him for the interview, we had a wonderful chat, but I told him that I already had my story. I think you'll agree. Here's Frank's perspective on homebuilding:

What got you interested in homebuilding?

My interest in homebuilding was a byproduct of an interest in aerobatic flying that emerged while being checked out in a Cavalier P-51 Mustang that I bought from Trans Florida Aviation in 1967. My instructor required that I do basic aerobatics in the Mustang, and when he observed my pleasure in this, he told me that if I really wanted to pursue aerobatics I should visit Curtis Pitts, who made the Pitts Special. I soon became acquainted with Curtis, and he produced a custom homebuilt Pitts Special S-1S for me in 1968. Back home in Northern California, I shared it with a fellow pilot who joined me in self-teaching aerobatics, and we both entered aerobatic competition in 1969.

Having mechanical interests and experience, I did my own maintenance work on the Pitts with the occasional help of local aircraft mechanics and homebuilders who were curious about it. This made me aware of the world of aircraft homebuilding for the first time. I became intrigued with the processes, materials, and methods. My interest continued when I later purchased from Curtis a two-place S-2A that was produced at his new Afton, Wyoming, factory. Touring the factory and seeing the craft-oriented manufacturing processes was fascinating. It made me wonder what kind of special people built aircraft like this at home.

I started designing and making things to improve my Pitts, and this led to my designing and manufacturing for Curtis an inverted oil system, manual fuel pump system, and canopy for the Pitts S-2A. I eventually formed Christen Industries, Inc. and started offering these and other products to homebuilders as well. This limited array of products was not sufficient to support the small group of employees Christen had accumulated, so we were always looking for other products to produce.

When did you come up with the idea for the Eagle and why did you decide to go ahead with the project?

I constantly complained to Curtis about deficiencies in my S-2A, such as poor forward visibility, cramped and uncomfortable seats, lack of a canopy, and excessive quickness on the runway. I tried unsuccessfully to get him to make improvements. He always said, "They're buying it the way it is. Why change it?"

I eventually tried to buy Curtis' company so I could improve the Pitts Special S-2A and add it to the Christen product line, but we couldn't agree on a value. So, having experience in design, manufacturing, and aerobatic flying, I decided to try my own hand at producing a two-place aerobatic aircraft similar to the Pitts, but with

Christen draftsman Don Lee, with Eagle kit array.

better performance and appearance, and without the deficiencies I perceived. I was confident that my talented Christen team could do it.

I envisioned an aircraft with more modern lines than the Pitts, a revolutionary paint design, and some creature comforts. The name, "Eagle" quickly came to mind, and I commissioned our industrial designers, Budd Steinhilber and Barry Deutsch, to develop a sporty and highly colorful "Eagle" paint design, and the concept of the Christen Eagle II ("II" for two-place) was born.

We originally intended to make the Eagle an FAA-certificated production aircraft, and we prepared a complete FAR Part 23 certification package, but as the project proceeded, we realized that we would be competing with Pitts in an already limited market. We decided there would be a larger market for the aircraft as a homebuilt if it was offered in kits that were totally complete and accompanied by inviting illustrated instruction manuals that would enable anyone to build it. We thought that all pilots would be intrigued by the education and adventure of building their own high-performance aircraft if they were sure they could really do it safely, in reasonable time, and at moderate cost.

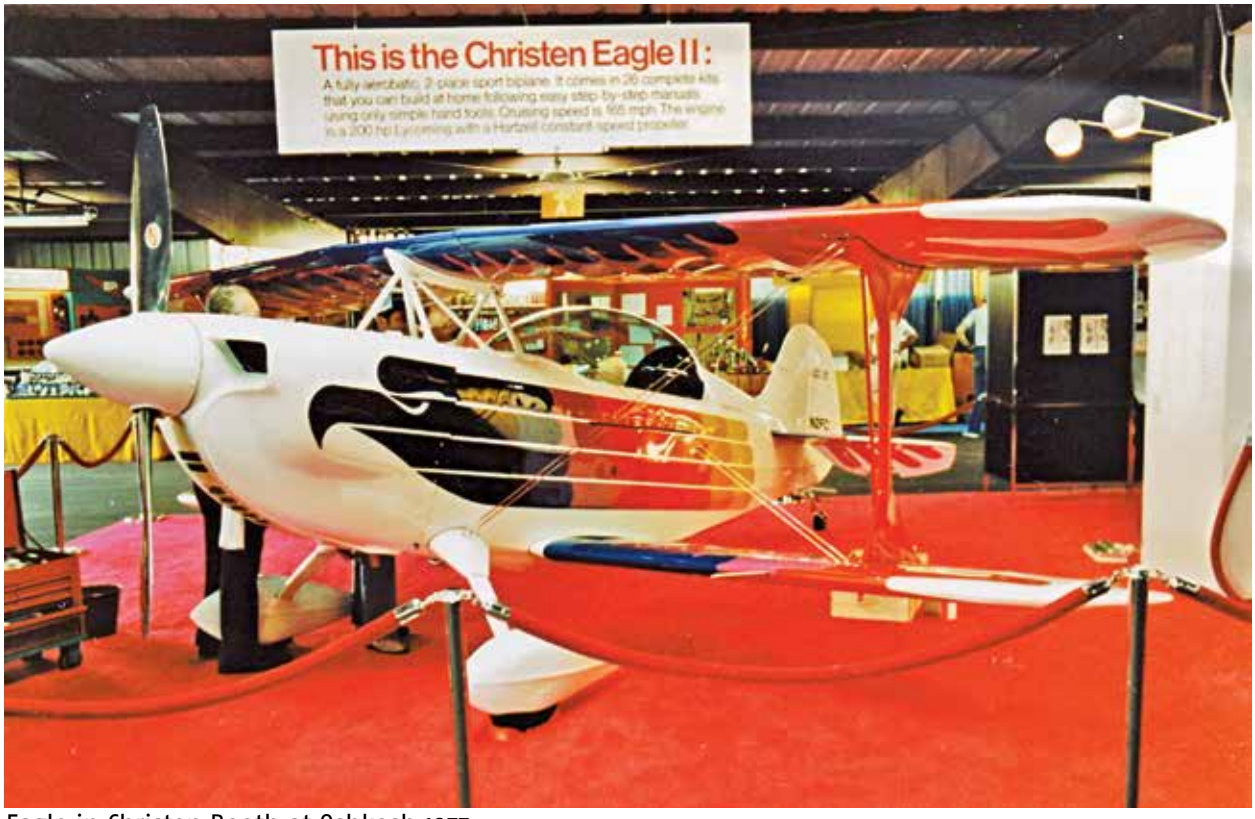
What kind of a team did you put together for this project and what were you/they trying to accomplish?

During my years in the microchip industry, I had become acquainted with a group of people who eventually formed the team for the Eagle project. The group included an aircraft production technician experienced in wood, metal, and fabric aircraft, an A&P mechanic, an industrial designer, a draftsman, a technical illustrator, a technical writer, an advertising executive, a computer programmer, and a secretary. To complement these talented people was an array of outside industrial suppliers that included machinists, sheet metal fabricators, welders, and industrial painters. Finally, there was a group of pilot friends. All had aviation interests of some sort, and all were sworn to secrecy.

We set out to produce a two-place aerobatic aircraft that could compete effectively with the Pitts S-2A as a result of better aerobatic performance, handling, appearance, comfort, and convenience. The second objective was to develop a kit system by which the aircraft could be built in limited time by anyone with reasonable mechanical aptitude using only hardware store tools. There would be a series of kits, 26 in all, to be purchased and built one at a time in a specific order until the complete aircraft resulted. Absolutely everything would be supplied in the kits including parts, materials, tools and highly detailed and illustrated step-by-step instruction manuals. The system would range from the ailerons kit all the way to a tie down kit, flight test kit, and aerobatic training kit.

How did you approach and ultimately satisfy the 51 percent rule...and how did the FAA respond to/work with your program? In other words, how did you get to that transformative photo of the man in the white coat with all the components of the kit laid out in front of him?

I must digress about the now-famous runway photo. The man in the white coat with the kit



Eagle in Christen Booth at Oshkosh 1977.

array in the foreground was a Christen draftsman photographed with the kit parts for the Eagle introductory advertisement and brochure — long before the FAA knew of the existence of the aircraft. For six months prior to the 1977 EAA Oshkosh Convention, we ran in *Sport Aviation* magazine a full-page black-and-white advertisement presenting a close-up of the head of a screaming eagle with the heading, "The Eagles are Coming!" Nothing else. This generated intense interest and curiosity in the sport aviation community.

By the summer of 1977, the Eagle and its kits were ready, and in the August issue of *Sport Aviation*, we presented a four-page insert advertisement that featured the screaming eagle again on the cover, this time in full color with the heading, "The Eagles are Here!" Inside the insert was the runway photo with the aircraft and its kit parts array. On the back was a description of the kit system and an offer to supply an information package to interested parties. The curiosity was satisfied, but people now wanted to see the Eagle aircraft.

The Eagle was introduced at the EAA Oshkosh Convention in August 1977, where it was displayed in a large and sophisticated red-carpeted booth surrounded by sample kits and instruction manuals. It was a sensation, and we received more than 100 orders for kit sets by the end of Convention week.

Unfortunately, FAA personnel present at Oshkosh saw the frenzied interest and apparently envisioned that the sky would soon be clouded over by Eagles. They quickly circulated the rumor that the kit system was so complete that it did not satisfy the FAA 51 percent rule. We originally envisioned that building the Eagle would be basically a process of assembling from prefabricated parts and materials. There would be gluing, sanding, fitting and painting, of course, but no fabrication of parts from raw materials. We assumed that if the builder performed 51 percent of the labor to assemble the aircraft, the 51% rule would be satisfied. This approach had never been seen before by the FAA, so it raised new issues.

In what ways did the EAA/Oshkosh play a role in the success of the Eagle?

After the big splash at Oshkosh 1977 and the FAA reaction, we became concerned about the conformity of our kits with the 51 percent rule. I made an appointment to meet with the senior authority at the FAA Engineering District Office in Los Angeles. I took with me to the meeting sample kits and sample instruction manuals. The meeting was brief. He didn't look at the kits or manuals, and he simply said that the kit system did not qualify for amateur-built approval. When I asked why, he said the reasons were subjective, but that he had the authority to make the decision of behalf of the FAA. He had obviously made up his mind before I arrived.

Having invested much time, en-

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PHOTOS BY EVAN PEERS, AIRSPACE MEDIA

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EAA

ergy and money in the Eagle project, I was not willing to accept a subjective decision from the FAA. I asked Paul and Tom Poberezny for help, and they communicated with FAA officials in Washington who told their Los Angeles representative that his "subjective" explanation was not sufficient. They directed him to give me a detailed definition of what constituted amateur-built qualification under FAR Part 21, particularly as it related to aircraft construction kits.

In a second meeting, the FAA representative told me that for an aircraft to be amateur-built, 51 percent of the normally fabricated parts (excluding the normally procured parts such as engine, propeller, wheels, brakes, instruments, and so on) must be fabricated by the builder from raw materials such as random lengths of wood, metal, plastic, fabric, and so on.

Our computer programmer wrote a program to analyze the raw material contents of all the Eagle kits. It showed that the builder would fabricate less than 51 percent of the parts from raw materials; however, it also showed that the many wing ribs in the aircraft contained hundreds of simple spruce caps, struts and plywood gussets. If the builder cut these from random lengths of spruce, and plywood, substantially more than 51 percent of the parts of the aircraft would be made from raw materials. So, we created wing rib kits that contained rib templates, saws, glue, nails, and an illustrated manual, and the FAA was forced to approve the Eagle kit system by their own definition. When word of the FAA approval got out, more orders started pouring in.

How does the Eagle compare to the Pitts?

Many describe the Eagle inaccurately as a copy of the Pitts; however, there are no identical parts other than procured items like the engine, propeller, wheels, brakes, instruments, and so on. The wing size and airfoils are the same for both, but the Eagle has different ailerons and no dihedral in the lower wing, and the wood and metal structures are different. The Eagle has larger cockpit spaces with no aft instrument panel and a further aft CG to allow tighter aerobatic turning. The Eagle tail surfaces are a different shape and size with a different hinge design. The Eagle has a clean aluminum landing gear strut, whereas the Pitts has high-drag panel struts with bungee suspension. There are many other significant physical differences too numerous to mention. Pilots generally agree that the Eagle is faster with less drag and is lighter on the controls. It has a higher roll and pitch rate in aerobatics, and visibility and ground handling is significantly better. Equally important, the Eagle is better looking with its dramatic paint design, integrated canopy, clean landing gear, and more streamlined shape.

How did you, Tom Poberezny, Charlie Hillard, and Gene Soucy come together?

We knew that Christen needed a really effective marketing program to overcome the entrenched popularity of the Pitts and to get pilots to consider homebuilding. The look of the Eagle and its groundbreaking kits did much to attract attention, but we needed to demonstrate it in the air to really draw people to it. Tom, Charlie, Gene, and I had been good friends from our aerobatic competition days as well as the time we spent together in France at the 1972 World Aerobatic Championships. After the World Championships, they flew airshows in three Pitts Special S-1S aircraft using the name Red Devils while I was working on the Eagle idea.

Tom, Charlie, and Gene had flown the Eagle, and Gene, in particular, was impressed with it. He encouraged us to build a special competition-class super-light single-place version with a bigger engine and low-drag airframe. We did so, adding a mean-and-masculine black Eagle paint design, and we invited them all to fly it in the 1979 National Aerobatic Championships. They all flew, and Gene finished in second place after only two weeks practice in the new aircraft.

They all seemed impressed with the Black Eagle, so at the next EAA Convention, I got them together at the side of the runway during the airshow and proposed that they abandon their Pitts Specials and the Red Devils name to become

Tom Poberezny, Charlie Hillard, and Gene Soucy as the Eagles Aerobatic Flight Team

Frank proposing an Eagles team to Tom, Charlie, and Gene.

the Eagles Aerobatic Flight Team. In exchange, I would build three single-place Eagles like the Black Eagle, customized to their air show needs, and I would provide flight uniforms, travel luggage, and promotional literature. They would retain their air show fees and have no particular obligation to promote Christen or the Eagle except through their air shows. I would insure and maintain the aircraft to show-plane standards and provide advertising and product literature for them.

We agreed and shook hands, and the Eagles team was born. There was never a written agreement between us. The Eagle I aircraft were completed for the following air show season, and the rest is history.

We could not have expected more from the Eagles team. Their stature gave pilots great confidence in the Eagle, and their performances stimulated sales of Eagle kits dramatically.

Do you know of any other kits out there that are comparable to the breadth and quality of the Eagle kit?

I have never seen any aircraft kits that are comparable in breadth and quality to the Eagle kits, particularly when the quality of the parts, the kit packaging, and the illustrated instruction manuals are considered. I think most observers agree with this.

What kinds of people have built Eagles? Were there any surprises in the demographic you attracted?

Eagles were built by people from all walks of life — doctors, lawyers, airline pilots, military pilots, women, trade schools, and people who were not pilots but who just liked to build things. The latter group surprised us somewhat. Some pilots bought the kits and had friends or employees do the building for them, most notably, Thomas J. Watson, the retired chairman of IBM and John Denver of country music fame.

What are your thoughts about the state of homebuilding and EAA today?

I'm not in a locale where I can observe it much anymore, but I think homebuilding is probably alive and well. There may be a trend toward less skill and craftsmanship with the advent of composite designs and construction. I see a trend at EAA away from homebuilding toward conventional aircraft, warbirds, and Rutan space vehicles. This is evident from the change in content and advertising in *Sport Aviation* magazine. Hopefully, the do-it-yourself genes in people will live on, but the changes I see may be an inevitable byproduct of changing technology, a bit like the fading of the craftsmanship of the blacksmith of early America.

> I created the Eagle and its construction system because I thought that all pilots would enjoy the education, adventure, and accomplishment of building their own aircraft.
>
> — Frank Christensen

What advice do you have for future designers/kit makers?

I don't think I am qualified to give advice to designers and kit makers, since whether or not to design and manufacture is based on so many new variables and objectives today. I created the Eagle and its construction system because I thought that all pilots would enjoy the education, adventure, and accomplishment of building their own aircraft. I thought that the sequenced kit system and instruction manuals would make this possible, and I was convinced that if my team did it well, our venture would be successful and profitable. We succeeded in our time, but things may be different today. Even so, I continue to think that anything done really well usually finds its place in the world.

What led to the acquisition of Pitts Aerobatics and the creation of Aviat Aircraft?

The aircraft factory in Afton, Wyoming, was originally established before World War II by Reuel Call as the Call Aircraft Company. They manufactured a touring aircraft

Frank Christensen and Herb Andersen at the Afton factory.

named the CallAir, but operations were terminated by the war. After the war, they produced a crop duster named the CallAir A5. The company failed in 1959, and its assets were purchased in 1962 by an Afton businessman who formed the Intermountain Manufacturing Company (IMCO). In 1968, IMCO took a contract from Polaris of Minnesota to manufacture snowmobiles, but Polaris discontinued the Afton production in 1970, so the IMCO owner sought other products to manufacture with his skilled work force. At this time, Curtis Pitts had sought and received FAA certification for his Pitts S-2A, and the IMCO people offered to manufacture the aircraft for him, and he agreed. Pitts Aerobatics was established in the Afton factory, and the Pitts S-2A was put into production in 1971. In 1977, Curtis Pitts sold his interest in the operation to the former IMCO owner and retired.

By 1982, the U.S. economy was in decline, with interest rates having risen to astronomical rates as high as 20 percent. This slowed sales of Christen's Eagle kits. Coupled with this was competition from a fleet of newly completed Eagles put on the market by homebuilders who needed money to deal with the poor economy. So, we concluded that we should complete FAA certification of the Eagle to move beyond the homebuilder market. At the same time, Pitts Aerobatics had also experienced declining sales from both the economy and inroads into their market made by the Eagle. The Pitts Aerobatics owner learned that we were considering certification of the Eagle, and he reacted by making it known that the Pitts product line could be acquired. We concluded that combining the Eagle kits with the Pitts certificated aircraft was the best solution to the sales challenges of both companies, and after brief negotiations, Christen Industries acquired the assets of Pitts Aerobatics in 1983.

The Afton factory had lower labor and overhead costs than Christen's California factory, so the California production was moved to Afton in 1984, where all operations were consolidated with significant increases in efficiency, productivity, and profitability.

After the consolidation, we realized that the Afton factory had excess production capacity. To take advantage of this, we started development of a new utility aircraft to replace the retired Piper Super Cub for which there was unfilled demand. We did an analysis of Cub positives and negatives and started an all-new design. Although the Husky is somewhat similar in style to the Cub, it is an entirely different aircraft. The wing, ailerons, flaps, engine, propeller, tail configuration, and landing gear are all different, and the structures and details borrow from the Eagle and Pitts. We received certification under Far Part 23 in 1987, only 18 months after development began, an FAA record for an all-new aircraft.

We produced Christen Eagle kits and Pitts S1-S, Pitts S1-T, Pitts S-2, Pitts S2-B, and Husky A-1 aircraft thereafter at peak rates as high as 100 total aircraft per year.

In 1990, I decided to retire from aviation to pursue other interests, and I sold Christen Industries to Aviat, Inc., a company formed by a British industrialist who had developed an interest in aviation. Five years later, he elected to sell the company's assets to a new company named Aviat Aircraft, Inc. that was formed by a businessman from New York who also had aviation interests. Aviat Aircraft, Inc. continues to operate the Afton factory today, producing the Husky, Pitts, and Christen Eagle product lines.

What happened to the Black Eagle?

After the Christen operations were moved to Wyoming, I sold the aircraft to an aviation enthusiast who flies chartered 727s for a company in Alaska. He keeps it in a hangar in Texas where he flies it occasionally when there. He says he will never part with it because of its history and the fun of flying it. It's still in mint condition with only a few hundred hours total time.

How did you organize the certification program for the Husky?

When Christen acquired Pitts Aerobatics (the Afton factory), E.H. "Herb" Andersen was the president and general manager. Herb held an FAA DMER rating and had accumulated more than 30 years' experience in aircraft design, certification, and manufacturing at Mooney Aircraft, Piper Aircraft, Aero Commander Aircraft, and of course, Pitts Aerobatics. He was extraordinarily able in all phases of aircraft design, development, and production. He took responsibility for the basic Husky design, certification, tooling, and prototype development in Afton while I directed the detail design and drafting work with a team at the former Christen factory in California. Herb really produced the Husky, and it was his experience, skill, and knowledge of FAA procedures that enabled us to certificate it in record time. My role was primarily design details, financing, and marketing.

If you had all to do over, is there anything you'd do differently?

I would probably do exactly the same, but I would put the Eagle kit instruction manuals on a website where the latest revised pages could be downloaded and printed to eliminate the monthly mailing to all Eagle builders. I would also use a website for marketing and order processing.

I would revel in undertaking the Christen Eagle adventure again if I could find clones of the great Christen people whose knowledge, talent, and skills enabled me to realize my vision. Unfortunately, many of them are gone now. IAC

Frank sold Aviat Aircraft to Malcolm White, who later sold it to Stuart Horn, the current owner. Stuart has advanced the Pitts Special to Model S-2C and has brought the Husky up to the model A1C. Stuart also sells kits for the Christen Eagle.

For more information on any of these three aircraft visit *www.AviatAircraft.com*.

Aerobatic Pilots

Why do they fly that way?

BY BRUCE C. OGILVIE, PH.D., AND CHAMPE C. POOL, M.D.

Aerobatic flying, the sport, is precise, demanding, and highly competitive. The pilots are judged as they loop, spin, and roll their small, specially constructed aircraft through intricate geometric patterns, performing a sort of ballet in the sky.

Who are these aerobatic pilots, what are they, and what motivates them? They are, among other things, the introverts of the athletic world.

Four psychological tests were administered in a collaborative study designed to measure the personality traits of aerobatic pilots. This report is a summary of the psychological profiles, which were averaged for each of the individual personality traits.

A number of traits found in earlier studies of the best race drivers[1, 2], the best parachutists, and other professional athletes also appear in this one. There are, however, trends that are uniquely descriptive of the people who match their skills in competitive aerobatics.

Materials and Methods

The tests included the Cattell 16 PF[3], which is used to measure 16 relatively stable personality trends and seven other derived scores that suggest more basic personality dimensions. The second test was the Edward Personal Preference Schedule[4], which measures 15 personality traits. Third was the Minnesota Multiphasic Personality Inventory[5], administered to measure personality characteristics that may be pathological. And the fourth test, designed at the Institute for the Study of Athletic Motivation, was used to measure sports-specific traits[6].

By using the Minnesota Multiphasic Personality Inventory, we sought data that would allow us to reflect upon the generalizations so often heard about men who engage in stressful, risk-taking activities. And in risk taking, few sports surpass aerobatics.

Discussion

The literature in psychiatry and psychology contains many subjective interpretations. As in every other group of competitors that we have studied, however, once again we found a sample of emotionally healthy, reality-oriented human beings. Individuals with neurotic or overcompensatory behavior traits were exceptions in this study.

The emerging psychological profile shows aerobatic pilots to be cool, reserved, critical, and perhaps more emotionally detached than any athletic group yet tested at the institute. Race drivers and parachutists, though less extreme, are similar in personality.

Pilots fall at the extreme high end of the abstract reasoning scale, and may be the highest sample of this trait. They are enterprising, decisive, imperturbable, yet creative and inventive in the areas in which they have ability and training. Predictably, they face reality in a calm and deliberate manner.

In examining personality traits, whether tough-minded or tender, pilots move to the tough-minded end of the scale, suggestive of self-reliant, no-nonsense individuals. In measuring forthrightness versus shrewdness, they are inclined to be artless, natural, and sentimental by nature. They tend to be self-sufficient, rather than group-oriented.

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JULIE WEGNER

They also score high in the need for order and organization, indicating that this is a highly developed aspect of their personalities.

On the inventory measuring 16 major psychological needs, the pilots demonstrated a need for achievement exceeding that of all other athletes in our studies. Their drive to be successful, to accomplish tasks requiring skill and effort, to achieve something of great significance, to be recognized, to do a job well, placed them in a class by themselves. They are, clinically speaking, a collection of extremely driven men.

They rate high in deference, which is the inclination to take or accept suggestions, to follow instructions, praise others, and to conform to customs. They also score high in the need for order and organization, indicating that this is a highly developed aspect of their personalities. Within this trait is a concern for detail, a tendency to plan ahead, to jive by some system. But there is a definite trend toward exhibitionism.

Independence ranks high as a need among the pilots. They like to make their own decisions, often to do the unconventional, and to criticize those in authority. They also tested extremely high in psychological endurance, an old-fashioned trait of tenacity. They are able to work long periods of time and avoid distractions.

The pilots tend to resist becoming joiners or members of groups, and are reluctant to study or interpret the motivation and needs of other people. On the other hand, they exhibit little interest in having others take care of them. Neither do they seek to dominate or control other individuals.

Although they don't seek emotional support or even special understanding from others — they would resent being pampered — they are not likely to feel guilt for wrongdoing or accept personal blame, nor would they feel an inner need to be punished for failures. But these traits are consistent with our profiles of coaches at all levels — high school, university, and professional[7].

Summary

There is no single sign, or collective sign, to indicate that aerobatic pilots are less emotionally healthy than educated people in general. Anxiety or tension characteristically is turned toward some physical outlet allowing total physical release. There is, moreover, an elevated level of ego strength.

The pilots can be described as highly integrated individuals, stable and sound. Social status is important to them, and they have a tendency to gravitate toward activities that will reinforce status.

Successful competitors appear to be ambitious, organized, autonomous individuals with an unusual capacity to apply themselves over long periods of time.

They are not especially interested in others, but their independence enables them to derive satisfaction through personal achievement rather than seek social approval. The fascinating contradiction would seem to be their need for the spotlight. They enjoy attention and recognition, but it is an inner reaction rather than an outward exuberance.

Independence and an enterprising, decisive personality structure seems once again consistent with what we have found in the successful high-level competitor. *IAC*

References

1. Johnsgard KW, Ogilvie BC: The competitive racing driver. A preliminary report. Int J Sports Med Phys Fitness 3:87-95, 1968
2. Ogilvie BC: Psychological consistencies within the personality of high level competitors. JAMA 11:205, 1968
3. Cattell RB, Eber HW: Handbook for the Sixteen Personality Factor Questionnaire, IPAT, 111, 1957
4. Edwards AL: Edwards Personal Preference Schedule (Manual), New York, Psychological Corporation, 1954, p 36
5. Hathaway SR, McKinley JC: Minnesota Multiphasic Personality Inventory (Manual). New York, The Psychological Corporations, 1951
6. Ogilvie BC: Personality traits of competitors and coaches medical aspects of the Olympic games. Modem Medicine, June 26, 1972, pp 61-68
7. Ogilvie BC, Tutko TA: Self-perception as compared with measured personality of selected male physical educators, in Kenyon J (ed): Proceedings of the Second International Congress of Sport Psychology, 1968

Dr. Ogilvie was professor of psychology at California State University, San Jose, and coordinator of the Institute for Study of Athletic Motivation.

Dr. Pool was chief of the department of orthopedics, Harrisburg Polyclinic Hospital, Harrisburg, Pennsylvania. He was medical consultant and team physician for the U.S. aerobatic team in 1972.

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A True Grassroots Aerobatic Pioneer

Howard Sevdy

BY DAVID MOLL

I grew up in the 1960s in a small town in southwestern Minnesota called Worthington. Since my father flew a Cessna 182, I spent time at the airport, even taking my first flight lessons and my first solo flight. On this field was a shiny red biplane that I had to find out more about. It was a Pitts Special built and flown by Howard Sevdy, who owned a body shop in town. I had watched Howard practice his air show routine over our lake in town many times and was always totally amazed at what that Pitts could do.

I decided to write this after reading a great article in the December issue of *Sport Aerobatics* titled "Grass Roots to the Top of the World."

"A Pitts is still a Pitts, and it remains the airplane of preference for so many aerobatic pilots, not only due to the safety of the design, but also due in part to the craftsmanship of pioneers like Howard Sevdy."

Unfortunately, in his era, the term "stunt flying" was often used to sensationalize air show aerobatics. Howard campaigned his Pitts in air show after air show, but only in the upper Midwest. He wasn't a nationally known aerobat like those highlighted in *Sport Aerobatics*, but in the '60s the internet wasn't around to help us find out what was going on nationally. If it wasn't on TV shows like *ABC's Wide World of Sports*, showing the thrill of victory and the agony of defeat, we didn't care too much about it.

As did most of the pilots who got their start in the 1930s, Howard taught himself to fly, soloing on May 15, 1930. Being short of money, he didn't receive his pilot certificate until 1937. After earning his certificate, Howard started barnstorming in Iowa, South Dakota, and Minnesota — first as a ticket seller and engine cranker. He later owned and flew an American Eagle, Curtiss Robin, and Velie Monocoupe. From 1942 to 1945, Howard worked as a civilian flight instructor for the Army Air Forces towing gliders, then as a flight instructor and flight commander. Tex Rankin taught Howard aerobatics in Tulare, California, so that Howard could then teach his military students, and his love of aerobatics began. When the war ended, he found his way to Worthington, teaming up with Eldon Sorenson to teach flying and build sprayers, and he was named a pilot examiner for private and commercial applicants.


FLIGHT BREAKFAST
SUNDAY, JULY 14, 1968
ROCK RAPIDS MUNICIPAL AIRPORT
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Stunt Flying
HOMEMADE EXPERIMENTAL PLANE
ROCK RAPIDS JAYCEES
AND
AIRPORT COMMISSION


Howard Sevdy and his wife, Luella.


— Worthington, Minn. Globe Thursday, August 12, 1965

Wins National Competition

Howard Sevdy of Worthington was declared the winner of the Curtis Pitts trophy awarded at the annual International Experimental Aircraft association meet at Rockford, Ill. Sevdy's homemade stunt plane completed last spring was entered in the judging. The trophy goes to the person whose plane, built to the Pitts plans, shows the finest workmanship. There were 11 Pitts planes from throughout the nation competing for the honor. Over 2,000 other aircraft converged on the Rockford airport for the meet. On Friday, more than 6,000 take-offs and landings were completed without incident, setting a new record for airport use in a single day. Sevdy was notified of his selection as the winner Wednesday.

(Daily Globe photo)

After parting ways with Sorenson, he opened an auto body shop, repairing cars and building airplanes until he retired.

Howard built four Pitts Specials — all from plans and with engines starting at 125 hp, with the last one being 180 hp. The first one weighed 684 pounds and cost just over $2,000 to build. It was eventually sold to the president of Dow Chemical. Howard didn't call Homestead and ask Curtis Pitts to build one for him, but instead bought plans and used his skills as a mechanic along with his expertise in auto body repair, welding, and painting to create aviation masterpieces. In 1965 he won the Curtis Pitts Trophy at the EAA fly-in convention in Rockford for a plans-built Pitts that showed the finest workmanship.

Howard flew about 30 air shows per year, and as far as I can tell from the articles I've read about him, he never flew in any competitions. Howard in his Pitts, along with military aerobatic formation teams, flew air shows not only for entertainment and profit, but also for attracting young people's interest.

Howard was pictured in a February 1976 *National Geographic* article on Minnesota. The article's lead picture, taken from a camera attached to the landing wires aimed at the cockpit, showed him flying his Pitts inverted. When Howard was 60, he wrote an article for *Sport Planes* magazine titled "Roll, Roll, Roll Your Pitts — at 60." At the time, he believed he was one of the oldest pilots still flying air shows.

I last saw Howard at Worthington Municipal Airport. Not long after landing my Pitts S-2A, a beautiful red Auburn (see picture lower left) pulled up with Howard at the wheel. I asked him if he wanted to go up and do some loops and rolls, but his doctor had put a stop to all flying, so he just gave me a ride into town. On the way he said he had built the Auburn from a kit. He just could not stop building things. Sadly, Howard Sevdy, one of the true great pioneers of aerobatic flying in Pitts, passed away in 1991.

Aerobatic airplanes really have not changed much since the 1960s. Sure, there are high-powered monoplanes very few can afford, but take the picture of Howard and his Pitts, insert a picture of you kneeling next to it, and time has stood still. A Pitts is still a Pitts, and it remains the airplane of preference for so many aerobatic pilots, not only due to the safety of the design, but also due in part to the craftsmanship of pioneers like Howard Sevdy. IAC


Howard Sevdy driving his Auburn.

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2016 Regional Series **Winners Announced**

BY LORRIE PENNER, IAC EXECUTIVE DIRECTOR

The final scores are in for the 2016 regional series competition. Sixty-six pilots successfully competed at the three or more contests needed to qualify for the series and place in the top three in their category for their respective regions.

The regional series began in 2002. To be eligible, a pilot must fly at least three contests during the year, and one contest may include the U.S. Nationals. If more than three contests are flown, the highest scores are used to arrive at each participant's total percentage. First-, second-, and third-place decals are awarded to qualified participants in each category (Primary–Unlimited) in each of the six regions.

Congratulations to all the winners. For more detailed information on the 2016 series, visit *www.iac.org* and go to Competition, Regional Series, Results.

The 2016 Regional Series Champions are:

NAME	CATEGORY	REGION	PP	Place
Giles Henderson	Primary	Mid-America	87.68%	1
Brendan Shay	Sportsman	Mid-America	85.40%	1
Larry Ernewein	Sportsman	Mid-America	85.05%	2
Justin Hickson	Intermediate	Mid-America	81.10%	1
William Ludwig	Intermediate	Mid-America	80.47%	2
Klaus Mueller	Advanced	Mid-America	83.78%	1
Andy Ernewein	Advanced	Mid-America	82.50%	2
Mitch Wild	Advanced	Mid-America	81.19%	3
Ron Schreck	Sportsman	Northeast	81.05%	1
Glen Becker	Sportsman	Northeast	79.16%	2
Pete Muntean	Sportsman	Northeast	78.60%	3
David Taylor	Intermediate	Northeast	81.27%	1
Daniel Bond	Intermediate	Northeast	78.40%	2
Wes Liu	Intermediate	Northeast	77.66%	3
Angelo Cillaroto	Advanced	Northeast	74.37%	1
Krysta Paradis	Advanced	Northeast	72.29%	2
Tony Zorn	Advanced	Northeast	71.67%	3
Scott Emery	Primary	Northwest	70.89%	1
Ben Rose	Sportsman	Northwest	83.49%	1
Peter Dreyer	Sportsman	Northwest	80.32%	2
Stuart Ostlund	Sportsman	Northwest	80.14%	3
Mike Neuman	Intermediate	Northwest	80.95%	1
Matthew Warden	Intermediate	Northwest	78.12%	2
Rochelle Oslick	Intermediate	Northwest	75.61%	3

Jerzy Strzyz	Advanced	Northwest	79.42%	1
Jerry Riedinger	Advanced	Northwest	75.61%	2
Jeff Hirschauer	Advanced	Northwest	74.89%	3
Jim Bourke	Unlimited	Northwest	74.49%	1
Dave Watson	Unlimited	Northwest	74.35%	2
Lewis Shattuck	Unlimited	Northwest	47.84%	3
Brandon Ramberg	Primary	South Central	83.48%	1
Spencer Downs	Primary	South Central	82.09%	2
Douglas Evans	Primary	South Central	80.42%	3
Craig Fitzgerald	Sportsman	South Central	80.79%	1
Patric Coggin	Sportsman	South Central	80.13%	2
Michael Towle	Sportsman	South Central	79.46%	3
Erik McDaniel	Intermediate	South Central	74.01%	1
William Barnard	Intermediate	South Central	73.37%	2
David Prather	Intermediate	South Central	71.84%	3
John Ostmeyer	Advanced	South Central	71.88%	1
Mike Forney	Advanced	South Central	71.03%	2
A.J. Hefel	Advanced	South Central	66.65%	3
Jon Elam	Primary	Southeast	71.21%	1
Mark Budd	Sportsman	Southeast	84.97%	1
William McLean	Sportsman	Southeast	83.39%	2
Ron Hill	Sportsman	Southeast	83.36%	3
Cody Zorn	Intermediate	Southeast	81.44%	1
Chris Magon	Intermediate	Southeast	80.41%	2
Evgeny Komarov	Intermediate	Southeast	75.16%	3
Martin Flournoy	Advanced	Southeast	80.43%	1
Steven Johnson	Advanced	Southeast	79.94%	2
Mark Fullerton	Advanced	Southeast	78.40%	3
Ronald Hansen	Primary	Southwest	75.65%	1
Susan Bell	Primary	Southwest	74.25%	2
Mike Eggen	Sportsman	Southwest	85.25%	1
Michael Mohn	Sportsman	Southwest	81.38%	2
Tommy Suell	Sportsman	Southwest	78.67%	3
Howard Kirker	Intermediate	Southwest	81.05%	1
Stephen De La Cruz	Intermediate	Southwest	80.54%	2
Barrett Hines	Intermediate	Southwest	78.16%	3
Michael Hartenstine	Advanced	Southwest	78.70%	1
Matthew Dunfee	Advanced	Southwest	76.35%	2
A.J. Wilder	Advanced	Southwest	70.63%	3
Jim Bourke	Unlimited	Southwest	76.02%	1
Hiroyasu Endo	Unlimited	Southwest	75.58%	2
Yuichi Takagi	Unlimited	Southwest	67.55%	3

By Beth E. Stanton *bethestanton@gmail.com*

Wildly Improbable

Attaining the unattainable

At the International Women in Aviation Conference in Nashville this past March, I presented a talk entitled "Achieving Wildly Improbable Goals." I call them WIGs for short. The takeaway message is that no matter how, um, wild and improbable a goal seems, it is never beyond attaining.

I know this because I've lived it.

This is no superpower that I possess. Every one of us has the ability to achieve our WIGs. The trick is not to talk yourself out of them before you even start. Take a risk and make a leap of faith. Then hang on, because it's going to be a wild ride.

At the beginning of October, two weeks before the Borrego Akrofest in Borrego Springs, California, my coach Dave Watson asked, "How would you like to fly the Pitts at Borrego?" The Lazer that Dave, Dale Roberts, and I fly broke at the Delano contest over Labor Day, effectively ending the contest season for us. "Fly *the Pitts*?!" I sputtered. This has been kind of a "rest" season for me. After four years of intense aerobatic competition, I needed a bit of a breather. Aerobatic practice this year has been minimal, and I'd flown

Blasting off at Borrego.

just one contest, in Corvallis, Oregon (where I flew through the Intermediate Known for the first time). I reasoned, "Borrego is in two weeks, and I haven't flown the Pitts in a few years. Plus, I've hardly flown the Intermediate sequence at all!" It was ridiculous to consider.

So of course I had to do it.

After a handful of training flights over the next couple of weeks to reacquaint myself with the Pitts, off we flew to Borrego. It was fun to show up at a contest with no expectations or pressure — this was purely for fun (and hopefully not too much buffoonery!). It has been a rueful standing joke that our dear friend Malcolm Pond had yet to score any snap-roll of mine higher than a zero. I will be the first to admit that I'm still working on perfecting my snaps, and a judge with a sharp eye like Malcolm cannot be fooled. True to both our forms, Malcolm (along with another judge) zeroed my snaps in the Known, which placed me dead last after the flight. It was disappointing, but I didn't sweat it (too much).

Toward the end of my last practice flight a few days prior, Dave had said, "We should practice a half-snap on a 45-degree upline. That can show up in an Unknown." In my entire experience of six whole contests flying the Intermediate category, I had yet to see a half-snap on a 45-degree upline. I was tired and said, rather impatiently, "There won't be one!" He insisted that I do one anyway, so I flew one crappy snap and headed back to the airport. At the contest, when I finally got a chance to glance at the Unknown, there it was: a half-snap on a 45 upline. *Noooooooooo!*

On the morning of the Unknown, I posted this on Facebook: "I know I will have arrived in the sport of competition aerobatics when Malcolm Pond does not zero my snaps." I was flying a clean Unknown, and when I got to the snap, I didn't think about it and just "winged" it. After finishing my sequence and flying back to the airport, I was feeling pretty good. I thought it went well, but you never know. I keep the cockpit sterile even after I'm finished flying aerobatics so that I may focus on landing the airplane. (Dave was in the plane for safety.) Before turning downwind, I couldn't resist asking him, "So how was that snap?" He had been keeping quiet as requested but burst out, "You nailed it!" I wondered if Malcolm thought so too.

When the judges' line came in, I was hanging out on the porch of the FBO. Malcolm approached me with a big smile. I began to shake. He said, "Beth! I loved your snap — great job!" I grabbed him and hugged him hard. I could feel my eyes welling up with tears. That half-snap was worth the entire price of admission. **IAC**

LINES & ANGLES CONTINUED from page 4

Visitors Bureau (OCVB) for sponsoring the opening reception and dinner, which will be held at the EAA Nature Center after flying is completed on the first day of the Nationals. The OCVB has been very helpful in making the transition to Oshkosh.

The Nationals pages on the IAC website have also been updated with hotel information. Please book your rooms in accordance with the instructions on those pages. We have contracts with the Hawthorn Inn and Motel 6 and it is important those rooms be booked properly so IAC receives credit for the bookings. In turn, this provides IAC with complimentary rooms which we subsequently provide to key volunteer officials. This helps us reduce costs for the event. Reservations must be made by phone directly with the hotel and not through websites.

Camping is also available in Audrey's Park, part of EAA's property on the airport. The website provides the necessary information on booking. Cost will be $25 per day. **IAC**

CONTEST CALENDAR

Mark your calendars for these upcoming contests. For a complete list of contests and for the most up-to-date calendar, visit *www.IAC.org*. If your chapter is hosting a contest, be sure to let the world know by posting your event on the IAC website.

"Snowbird Classic" Aerobatic Contest (Southeast)
March 31 - April 1, 2017
Practice/Registration: Mon, March 27 - Thurs, March 30
Rain/Weather: Sunday, April 2
Gliders Categories: Sportsman
Power: Primary through Unlimited
Location: Marion County Airport, Dunnellon, Florida (X35): Dunnellon, Florida
Region: Southeast
Contest Director: Mark Nowosielski
Phone: (678)438-0533
E-Mail: *av8ter76@yahoo.com*
Website: *http://www.iac89.eaachapter.org/events.htm*

Hammerhead Roundup (Southwest)
April 7 - April 8, 2017
Practice/Registration: Thursday, April 6
Rain/Weather: Sunday, April 9
Power: Primary through Unlimited and 4 Minute Free
Location: Borrego Valley Airport (L08): Borrego Springs, CA
Region: Southwest
Contest Director: Zachary Niles
Phone: 949-278-6608
E-Mail: *zniles@outlook.com*
Website: *www.iac36.org*

Carolina Boogie (Northeast)
April 14 - April 15, 2017
Practice/Registration: April 13-14
Power: Primary through Unlimited
Location: Wilson Industrial Airport, NC (W03)
Region: Northeast
Contest Director: Eric Sandifer
Phone: 919-605-9585
E-Mail: *n100mp@yahoo.com*

Ben Lowell Aerial Confrontation (South Central)
April 22 - April 23, 2017
Practice/Registration: Thursday, April 21
Power: Primary through Unlimited
Glider: Sportsman through Advanced
Location: USAF Academy Airfield, CO (KAFF)
Region: South Central
Contest Director: Mark Matticola
Civilian Liaison/Contact: DJ Molny
Phone: 303-619-4814
E-Mail: *djmolny@gmail.com*
Website: *http://www.iac12.org*

Sebring 75! (Southeast)
May 4 - May 6, 2017
Practice/Registration: April 29-May 3
Power: Primary through Unlimited
Glider: Sportsman through Unlimited
Location: Sebring, FL (SEF)
Region: Southeast
Content Director: Joe Brinker
Phone: 561-346-1656
E-Mail: *mechartistry@gmail.com*

Duel in the Desert (Southwest)
May 5 – May 6, 2017
Practice/Registration: Thursday, May 4
Power: Primary through Unlimited
Location: Apple Valley, CA (KAPV)
Region: Southwest
Contest Director: A.J. Wilder
Contact Info: Chris Olmstead
Phone: 831-334-7232
E-mail: *chris@olmstedaviation.com*

Wildwood Acroblast (Northeast)
May 20 – May 21, 2017
Practice/Registration: Friday, May 19
Power: Primary through Unlimited
Location: Cape May County Airport (KWWD)
Region: Northeast
Contest Director: Tom Barrett
Phone: 301-320-9300
E-mail: *tbarrett@nert.com*

Hoosier Hoedown (Mid-America)
May 20 - May 21, 2017
Practice/Registration: Friday, May 19
Power: Primary through Unlimited
Location: Kokomo Municipal Airport, IN (KOKK)
Region: Mid-America
Contest Director: Mike Wild
Phone: 765-860-3231
E-Mail: *mike.wild@comcast.net*

Armed Forces Memorial Aerobatic Contest (Southeast)
May 26- May 277, 2017
Practice/Registration: Thursday, May 25
Power: Primary through Unlimited
Location: Grenada Municipal Airport (KGNF)
Region: Southeast
Contest Director: Jimmy Risher
Phone: 662-466-6909
E-mail: *jimrisher@gmail.com*

Coalinga Western Showdown (Southwest)
June 2 - June 3, 2017
Practice/Registration: June 1
Power: Primary through Unlimited
Location: New Coalinga (C80): Coalinga, CA
Region: Southwest
Contest Director: Brennon York
Phone: 260-705-0755
E-mail: brennon.york@gmail.com
Website: *www.iac38.org*

Lone Star Aerobatic Championships (South Central)
June 2 - June 3, 2017
Practice/Registration: Thursday, June 1
Power: Primary through Unlimited
Location: Nort Texas Regional Airport (KGYI)
Region: South Central
Contest Director: Bill Denton
E-Mail: loop4fun@gmail.com
Website: www.iac24.org

Salem Regional Aerobatic Contest (Mid-America)
June 3- June 4, 2017
Practice/Registration: Friday, June 2
Power: Primary through Unlimited
Location: Salem
Region: Mid-America
Contest Director: Joseph Overman
Phone: 636-751-1008
E-mail; *joeoverman2000@yahoo.com*
Website: *http://www.iac61.eaachapter.org*

Southeast Aerobatic Open-Bear Creek Bash (Southeast)
June 9 - June 10, 2017
Registration: Thursday, June 8
Power: Primary through Unlimited
Location: Rome, GA (KRMG)
Region: Southeast
Contest Director: Mark Fullerton
Primary Phone: 864-316-5250
E-Mail: *markpcc2003@yahoo.com*

Ohio Aerobatic Open (Mid-America)
June 16 - June 17, 2017
Practice/Registration: Thursday, June 15
Rain/Weather: Sunday, June 19
Power: Primary through Unlimited
Location: Bellefontaine Regional Airport (KEDJ): Bellefontaine, OH
Region: Mid-America
Contest Director: Gordon Penner
Phone: 513-520-6065
E-Mail: *penner.gk@gmail.com*
Website: *http://www.iac34.eaachapter.org/*

Apple Cup – IAC West Open Championship
June 23 - June 24, 2017
Practice/Registration: Wednesday, June 21-22
Glider: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Ephrata Municipal Airport (KEPH)
Region: Region Northwest
Contest Director: Rochelle Oslick
Phone: 206- 783-5141 (Peggy Riedinger)
E-Mail: *rhoslick@gmail.com* or *iac67president@gmail.com*

Gulf Coast Regional Aerobatic Contest (South Central)
June 23 - June 25, 2017
Practice/Registration: June 22-23
Power: Primary through Unlimited
Location: Jackson County, TX (26R)
Region: South Central
Contest Director: Denny Beacham
Primary Phone: 832-248-5560
E-Mail: *denny.beacham-1@nasa.gov*

MAC 80 – Midwest Aerobatic Championship
June 24- June 25, 2017
Practice/Registration: Friday, June 23
Power: Primary through Unlimited
Location: Seward Municipal Airport (KSWT)
Region: South Central
Contest Director: Doug Roth
Phone: 402-432-7124
E-mail: *acrod@aol.com*
Website: *https://www.facebook.com/MidwestAerobaticClub/*

Michigan Aerobatic Open (Mid-America)
July 8 - July 9, 2017
Practice/Registration: Friday, July 7
Power: Primary through Unlimited
Location: Bay City James Clements Municipal Airport (3CM): Bay City, Michigan
Region: Mid-America
Contest Director: Brian Roodvoets
E-Mail: *redfoot@chartermi.net*
Website: *iac88.eaachapter.org*

Green Mountain Aerobatics Contest (GMAC) (Northeast)
July 14 - July 15, 2017
Practice/Registration: Friday, July 13
Power: Primary through Unlimited
Location: Hartness State Airport (Springfield) (VSF): Springfield, Vermont
Region: Northeast
Contest Director: Bill Gordon
E-Mail: *wsgordon@earthlink.net*
Website: *IAC35.aerobaticsweb.org*

Corvallis Corkscrew (Northwest)
July 14 - July 15, 2017
Practice/Registration: Thursday, July 13
Power: Primary through Unlimited
Location: Corvallis Municipal Airport, WA (KCVO)
Region: Northwest
Contest Director: Jim Bourke
Phone: 541-231-6077
E-Mail: *jtbourke@gmail.com*

High Planes Hotpoxia Fest (Southwest)
July 15 - July 16, 2017
Practice/Registration: Friday, July 14
Power: Primary through Unlimited
Location: Fort Morgan Municipal Airport, CO (KFMM)
Region: Southwest
Contest Director: Dagmar Kress
Phone: 303-887-4473
E-Mail: *dagmaraerobatics@me.com*

Can-Am Aerobatic Challenge
July 21 - July 22, 2017
Practice/Registration: Thursday, July 20
Power: Primary through Unlimited
Location: Cut Bank International Airport (KCTB)
Region: Southeast
Contest Director: Robert Harris
Phone: 503-550-1496
E-Mail: *flyhran@aol.com*
Website: *https://www.facebook.com/IAC67*

Happiness is Delano (Southwest)
September 2 - September 3, 2017
Registration: Friday, September 1
Power: Primary through Unlimited
Location: City of Delano Municipal Airport, CA (KDLO)
Region: Southwest
Contest Director: Stephen De La Cruz
Primary Phone: 760-963-6426
E-Mail: *delanocd@iacchapter26.org*

Apple Turnover
September 8 - September 9, 2017
Practice/Registration: Wed., September 6- Thurs. September 7
Power: Primary through Unlimited
Location: Ephrata Municipal Airport (KEPH)
Region: Northwest
Contest Director: Jerry Riedinger
Primary Phone: 425-985-9469
E-Mail: *jriedinger@perkinscoie.com*

Ace's High Aerobatic Contest (South Central)
September 9 - September 10, 2017
Practice/Registration: Friday, September 8
Glider: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Newton City (KEWK): Newton, KS
Region: South Central
Contest Director: Ross Schoneboom
E-Mail: *schoneboomr@prodigy.net*
Website: *www.facebook.com/iac119*

East Coast Aerobatic Contest (Northwest)
September 8-9, 2017
Practice/Registrations: Wednesday-Thursday, September 6-7
Power: Primary through Unlimited
Location: Warrenton – Fauquier Airport (KHWY)
Region: Northwest
Contest Director: Adam Cope
Phone: 703-623-9445
E-mail: *adam.cope@signatureflight.com*

United States National Aerobatic Championships
September 23 - September 29, 2017
Practice/Registration: Friday, September 22-23
Glider: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Wittman Regional Airport (KOSH): Oshkosh, WI
Region: Mid-America
Contest Director: Gary DeBaun
Phone: 612-810-6783
E-Mail: *b747inst@aol.com*
Website: *www.iac.org/nationals*

by Gary DeBaun, IAC 4145

Juan Miguel Garcia Salas

IAC 437400
Nickname: Juanmi
Occupation: Banana producer
Hometown: Guatemala City, Guatemala

Gary DeBaun (GD): Juan, it's always great to see International members showing up at the Nationals in Texas. Tell us why you and Mario [Mena] decided to make the trip.

Juan Miguel Garcia Salas (JGS): Well, Gary, this has been a process in which we started out just interested in flying acrobatics and performing in local air shows. After doing a couple of air shows and meeting some performers, like Melissa, Skip, Gary Ward, and some others, we came to the conclusion that all of them agreed that practicing for competition would make us better pilots and give us good discipline for air shows. So actually Mario got very interested in competition, and we did a camp with Nikolay Timofeev. He gave us the crazy idea that it would be great for us to go to the U.S. Nationals. We talked about it for a while, and a couple of beers later Mario convinced me to take our Extra through Mexico and attend the U.S. Nationals.

GD: What is your aviation background, and how did you become interested in aerobatics?

JGS: Living on a farm in Guatemala, I was surrounded by a bunch of pilots — crop dusters, especially. My father had a Cessna 182 in which we would fly from the city to the farm. My godfather used to be a crop duster and a very good air show pilot. I remember that I used to see him maneuvering close to where I lived and thought, "Out of all the people who are flying, he's got to be the one having the most fun." Around 1998, I decided that I wanted to learn how to fly and thought that eventually I could learn how to do some aerobatics. I started flying ultralights, and then I bought a RANS S-10 in which I started doing some loops and rolls. Next thing I know, Mario and I were taking a plane to the U.S. to learn some aerobatics, and in 2012, we bought an Extra 300L. I have trained at Harvey & Rihn School, Tutima Academy, Aerobatic Experience with Craig Fordem, and finally with Nikolay Timofeev of Hi-Tech Aerobatics.

GD: When and where did you fly your first contest, and how did you do?

JGS: It was in the 2014 U.S. Nationals. How did I do? Eighteenth out of 21. I could say that almost everybody kicked my butt. It wasn't bad considering I had only taken one camp; I barely trained following the Aresti card and was competing for the first time in Intermediate! I was happy — didn't get any outs! I hope I can bring my score up next time.

GD: What is the situation with aerobatics in Guatemala? Do you have an aerobatic club there? How about contests?

JGS: Aerobatics in Guatemala are not very big. There are only three active performers. The Aeroclub does an air show every year in which we get to fly, and that's about it. Now that we are making more friends in this sport, we hope to put together a nice, friendly competition — the Rumble in the Jungle, as Mario calls it!

GD: Do you or Mario fly any air shows in Central America?

JGS: We have done one in Costa Rica, El Salvador, and Guatemala. There was one in Mexico that we were invited to, but we couldn't make it.

GD: What aerobatic aircraft have you flown, and what is your current ride?

JGS: There is not much to say about that. I have

flown dual in a Pitts and Super Decathlon. After that, only Extras. The one I have is a 1994 300L.

GD: Do you have any other interests outside of aviation? I heard somewhere that you were a part-time model for a watch company.

JGS: [Laughs] Not even close. That was a favor for a friend who sells watches, and for his 10th anniversary he wanted to do something different. He needed a pilot for the Breitling. I hope he gives me a sponsorship after that [laughs]. Actually, I am a banana producer. I grow bananas for Chiquita Bananas.

GD: What were your impressions of the 2014 Nationals, and would you come back?

JGS: I was very impressed. I expected it to be very well organized and it was, but what impressed me the most were the people, pilots, staff and, I could say, just about everyone. After just a couple of hours I didn't feel like it was a competition. They made me feel like it was a group of friends having fun and just trying to evaluate how much better you are now compared to how you were before. We had a big issue with one of our pedals on the way up there, and I could say that probably less than an hour after we had landed, there were a lot of people involved trying to fix the pedal. I would like to thank Chris Rudd for fixing the problem well enough for us to compete, and fixing it again when the motor arrived.

GD: How's the banana business going? As an avid cyclist I eat lots of them.

JGS: The banana business is walking — it would be better if everybody in the U.S. started eating more bananas! *IAC*

PRESIDENT'S COLUMN continued from page 3

the contest, several tweets were posted every day. This is a valuable tool for us. Though some resist the idea of maintaining a Facebook account for reasons I fully understand, without it I could not do my job. It is not only effective for getting information out to the aerobatic community but also for seeing what others are doing around the world. This can help us find contacts and follow up on information, which allows us to produce news, articles, and photos for all our publications.

All I can say is I wish we would have had all these tools available to us in those years before the introduction of the internet and the vast network of communication and information tools that have since been invented. If anything it is almost too busy, and during the course of each business day in my own office here at home I deal with dozens of e-mails. This is true for many of the members of IAC's leadership team. But we wouldn't have it any other way. My own e-mail address appears at the bottom of this page, and I ask that you never hesitate to contact me. It's a fast-moving world, and we often suffer from information overload, but this does not negate the importance of staying in touch with the members we serve.

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

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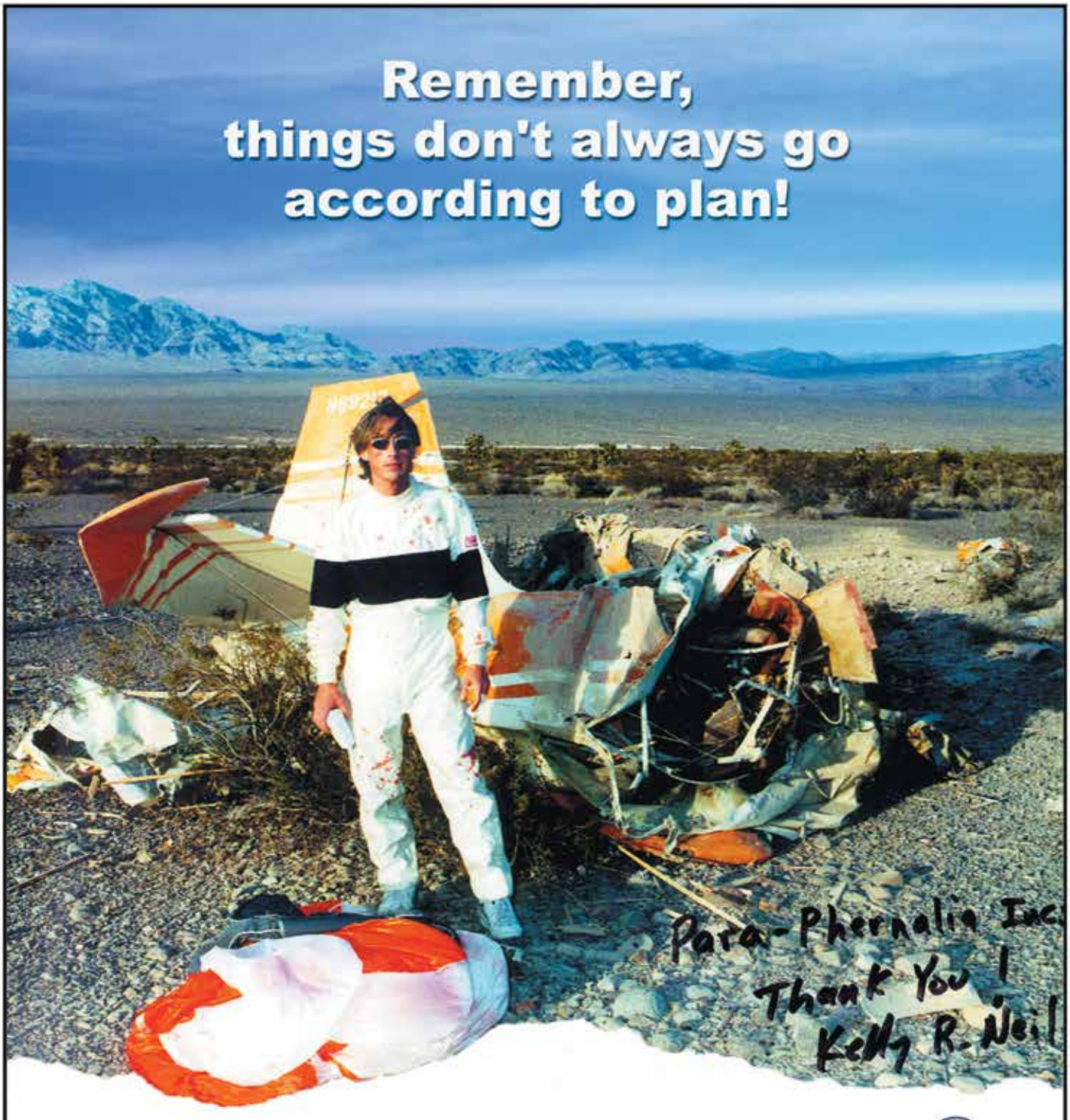

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