

MAY 2019

# SPORT *Aerobatics*

OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB



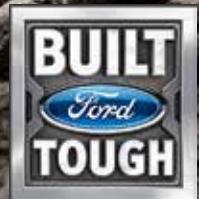
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**Giles**  
G-200

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### COVER

On the cover: Bob Freeman, DJ Molny, and Phil DeTurck in formation with their Giles G-200s.

Photo by Marijke Unger.

Above: Mike Arensmeyer flies his Giles 200 near Fort Collins, Colorado.

Photo by Julia Apfelbaum/Distant Thunder Aviation.

# The Quiz



BY JONATHAN APFELBAUM, IAC 433983

- 1** What was the first manufactured all-carbon fiber kit aircraft?
- 2** The Giles aircraft are all carbon fiber except the tail. Why?
- 3** Which aircraft came first, the MXS or the MX2?
- 4** What does MX stand for and who came up with the name?
- 5** True or False: The original MX2 concept specified a four-cylinder engine.

LOOK FOR THE ANSWERS ON PAGE 21

► **SUBMISSIONS:** Photos, articles, news, and letters to the editor intended for publication should be emailed to [editor@iac.org](mailto: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.

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# The 2019 Season Opens

BY ROBERT ARMSTRONG, IAC 6712

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**WELCOME AND A WARM** thank-you to all International Aerobatic Club members. The organization we know as the world's largest group of aerobatic enthusiasts would be nothing without each and every member.

The weather has made the turn in most of the country now, the SUN 'n FUN International Fly-In & Expo has occurred, and the first contests have now been flown. This is the fun time of the flying season.

The directors and executive director have been busy working on EAA AirVenture Oshkosh and the 2019 U.S. National Aerobatic Championships. It is not a simple task to make these events happen. Many hours over many months are needed to get all the programs in order to deliver a great experience for all. We do have room for more members to help with some details so if you are willing, please get in touch; it will be greatly appreciated!

With the changes directed by the board of directors at the fall 2018 meeting, the rules committee and the sequence committee have been separated. The revised sections for the *IAC Policy & Procedures Manual* have not been completed as of now — we are looking to have this addressed in the spring board meeting.

The board has unanimously approved the chair of the new sequence committee

**THIS FORMAT SHOULD RESULT IN PROGRAMS THAT BETTER REFLECT THE NEEDS AND EQUIPMENT THAT HAVE BEEN EXPRESSED.**

— Michael Lents. Michael is an active competition pilot and aerobatic instructor at the University of North Dakota. In his position Michael will be assembling a committee that will begin the task of producing the Known and Unknown programs to be used in IAC-sanctioned events. This is an expansion of the former Known sequence committee. Previously, the committee was engaged for Known programs but not Unknowns. This format should result in programs that better reflect the needs and equipment that have been expressed.

It is the time of year when IAC board positions that have reached their term limit are posted and candidates submit nominations for election. The staggered terms allow for a smooth transition for new board members. In a few weeks the ballot will be posted in the IAC members section at [www.IAC.org](http://www.IAC.org) with information on how to cast your vote. I hope all will take a small bit of time and participate in this important task.

Remember that for the board of directors and me to continue in the direction that you, the members, want we need to hear from you! The directors are for all to communicate with and represent all members so let us hear from you! **IAC**

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► Please send your comments, questions, or suggestions to [president@iac.org](mailto:president@iac.org).

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## ► TOP STORY

# IAC 2019 AirVenture Forums Announced

**EAA AIRVENTURE OSHKOSH 2019** will include a full roster of forums at the International Aerobatic Club's Vicki Cruse Educational Pavilion. The forums are scheduled daily from Tuesday, July 23, through Friday, July 27, 2019, and run for approximately one hour and 15 minutes each. Special guest Richard Giles will give a forum on Wednesday morning about the Giles G-200 design and build process as part of the type's 25th anniversary celebration at AirVenture. Engineer and test pilot for American Champion Jody Bradt will talk about designing the Decathlon the same morning.

A fantastic lineup of aerobatic and unusual attitude forums throughout the week will be kicked off by Budd Davisson, aviation writer and CFI, on Tuesday at 8:30 a.m. He'll let you know the pitfalls of buying your first aerobatic airplane and if getting something for free will end up costing you a bundle. You won't want



to miss Greg Koontz on Friday at 1 p.m. when he lets us in on "Five Tools to Tame a Taildragger."

## ► 2019 FORUMS SCHEDULE

### CHECK OUT ALL THE PLANS FOR AIRVENTURE ON THE IAC WEBSITE.

#### TUESDAY, JULY 23

- 8:30 A.M. – Budd Davisson: Buying Your First Aerobatic Airplane: When Free Is Too Much
- 10 A.M. – Michael Lents: Flying the Decathlon
- 11:30 A.M. – Dagmar Kress: Basic Elements of Aerobatics

#### WEDNESDAY, JULY 24

- 8:30 A.M. – Richard Giles: Giles G-200 Design and Build Experience
- 10 A.M. – Jody Bradt: Decathlon – Designing the Best Aerobatic Trainer
- 11:30 A.M. – Michael Church: Spins – Falling with Style
- 1 P.M. – Mitch Velickovich – Development of the MXS and MX2

#### THURSDAY, JULY 25

- 8:30 A.M. – Doug Vayda: Extra Aircraft: Extra 230s Through Today's 300XC
- 10 A.M. – Gordon Penner: Spin Avoidance
- 11:30 A.M. – Susan Bell: Zero to Hero in Three Years
- 1 P.M. – Jim Bourke: Jim Bourke Airshow Trainer

#### FRIDAY, JULY 26

- 8:30 A.M. – Annual IAC Membership Meeting
- 10 A.M. – John Strong: Surviving Your First Year of Competition Aerobatics
- 11:30 A.M. – Jim Bourke: Your First Aerobatic Airplane
- 1 P.M. – Greg Koontz: Five Tools to Tame a Taildragger

# New Sequence Committee Chair

**THE IAC BOARD OF DIRECTORS** approved Michael Lents as the new sequence committee chair, effective immediately.

Michael has been competing in the Sportsman though Advanced levels since 2009 and has been the guiding force and coach of the University of North Dakota collegiate aerobatic team since 2008. In 2018, he was the top U.S. competitor at the World Advanced Aerobatic Championships in Romania. He is a member of the collegiate committee, as well as a member of the sequence committee for the past three seasons. The bulk of his competitive career, as well as flight time, has consisted of teaching in the Super Decathlon for UND.

His goals for the sequence committee include early coordination and communication, with an attempt to build sequences that can be updated and modified as input from the current season's sequences are received. Design philosophy will focus on maintaining energy and box placement for legacy aircraft, with consistent difficulty level from

season to season, while continuing the incremental mental challenges that increase between categories. Coordination and input from the sequence committee will continue to be critical to pull together expertise from the various backgrounds and specialties, given the breadth of aircraft competing in the IAC.



Michael Lents

# New Webmaster Comes On Board

**AFTER SERVING SEVEN YEARS** DJ Molny is stepping down from his volunteer position as IAC webmaster. DJ assisted the board in finding his replacement, and Brennon York has been approved by the board of directors to become the new IAC webmaster.

DJ began on the web task force in 2011 when the IAC board of directors approved the development of a stand-alone website for the club. Prior to this, IAC had published pages on the EAA website platform.

DJ has been a member of IAC Chapter 12 since 1997 and has been an active volunteer in many roles besides the one of webmaster. He has served as a line judge and chief judge, and has taught about 40 judges schools. He has been the

contest director for many regional events, including the popular but logistically challenging U.S. Air Force Academy's contest. DJ is the 2013 recipient of the Kathy Jaffe Volunteer Award. In his day job, he has been a senior executive at several successful software companies.

Our new IAC webmaster, Brennon York, comes highly recommended by DJ, who worked with Brennon to create the new contest preregistration feature on the IAC website in 2017. Brennon quickly picked up what he needed to know about the Drupal software that powers the web platform.

Tom Myers, IAC's IT committee chair, also notes that Brennon has been a dedicated and reliable volunteer for IAC Chapter 38 for many years. They have worked together running the Coalinga contest, and Brennon is already a member of the IAC IT committee. Tom believes that Brennon not only has the expertise to be the IAC webmaster, but also will use the opportunity to innovate and make improvements moving forward.

Brennon currently works at Lyft as an engineering manager in the San Francisco Bay Area and at Simpatica Medicine Inc. as a technical advisor. He is a regional judge and an Intermediate competitor, flying a Pitts S-2C.

Thank you, DJ, for your years of service to the IAC, and welcome, Brennon! **IAC**



Brennon York



DJ Molny



## 2019 IAC Contest Season Calendar

DATES	HOST CHAPTER	NAME	REGION	LOCATION	AIRPORT
Mar. 28, 2019	89	Snowbird Classic	Southeast	Florida	X35
Mar. 29, 2019	25	Early Bird 2019	South Central	Texas	26R
April 12, 2019	36	Hammerhead Round Up	Southwest	California	Lo8
April 19, 2019	19	Mason-Dixon Clash	Northeast	Virginia	KFVX
May 3, 2019	23	Sebring 79	Southeast	Florida	KSEF
May 3, 2019	49	Duel in the Desert	Southwest	California	KAPV
May 3, 2019	24	Lone Star Aerobatic Contest	South Central	Texas	KBKD
May 18, 2019	61	Giles Henderson Memorial Challenge	Mid America	Illinois	KSLQ
May 31, 2019	38	Coalinga Western Showdown	Southwest	California	C80
June 1, 2019	12	Ben Lowell Aerial Confrontation	South Central	Colorado	KAFF
June 6, 2019	3	Mark Fullerton Memorial 2019 Bear Creek Bash	Southeast	Georgia	KRMG
June 8, 2019	AC7	Killam Aerobic Contest	Northwest	Alberta, Canada	CEK6
June 14, 2019	67	Apple Cup	Northwest	Washington	KEPH
June 14, 2019	58	Wildwoods Acroblast!	Northeast	New Jersey	KWWD
June 22, 2019	80	Midwest Aerobic Championships	South Central	Nebraska	KSWT
July 12, 2019	35	Green Mountain Aerobic Contest	Northeast	Vermont	KVSF
July 12, 2019	77	The Corvallis Corkscrew	Northwest	Oregon	KCVO
July 13, 2019	12	High Planes HotPoxia Fest	South Central	Colorado	KFMM
July 13, 2019	88	Michigan Aerobic Open	Mid America	Michigan	3CM
Aug. 3, 2019	78	Doug Yost Challenge	Mid America	Iowa	KSPW
Aug. 9, 2019	67	Can-Am Championship	Northwest	Montana	KCTB
Aug. 16, 2019	52	Kathy Jaffe Challenge	Northeast	New Jersey	KVAY
Aug. 16, 2019	AC3	Canadian National Aerobic Championships	Mid America	Ontario	CNY3
Aug. 31, 2019	AC7	Rocky Mountain House Contest	Northwest	Alberta, Canada	CYRM
Sep. 6, 2019	67	Apple Turnover	Northwest	Washington	KEPH
Sep. 21, 2019	-	U.S. National Aerobic Championships	National	Kansas	KSLN
Oct. 5, 2019	5	The Clyde Cable Rocky Mountain Aerobic Contest	South Central	Colorado	KLAA
Oct. 11, 2019	19	Mason-Dixon Shoot Out	Northeast	Virginia	KFVX
Oct. 19, 2019	12	Las Vegas IAC West Open Championship	South Central	Nevada	OL7
Nov. 1, 2019	23	Sebring 80	Southeast	Florida	KSEF
Nov. 1, 2019	26	Foxy Figures	Southwest	California	KWFJ
Nov. 15, 2019	62	Tequila Cup	Southwest	Arizona	KAVQ

# Just Do It — Again

BY SEAN SWEENEY, IAC 436562

**LIKE THE AD SAYS** — just do it! In one of his editorials, our past IAC president encouraged us to just step up, volunteer, and do it. We have been trying to do just that ever since we read the article. What I hope to convey in this note is that anyone can volunteer with their IAC chapter, and make a real impact.

My wife, Cleta, and I belong to IAC Chapters 61 and 27 to support both regional clubs. We have enjoyed the last few years volunteering at contests as well as organizing and sponsoring play days. This year, we could not find a judges school anywhere in our proximity. Chapter 61 President John Housley encouraged us to just go ahead and arrange one — so we did! We own three businesses and ranch almost 200 acres in managed grazing; we are most definitely not retired. We find it amusing when so many of our peers complain they are too busy to volunteer. With maybe five to six hours of planning and work, we put the school together. We received verbal as well as written compliments about what a great school it was. All we did was ask IAC to help us — and it did!



Steve Johnson instructing at the West Plains, Missouri, judges school.



Several of the attendees at the West Plains Regional Airport IAC judges school.

Steve Johnson volunteered to teach and then, months ahead of time, helped us plan and organize. Wes Liu provide materials, directions, suggestions, and a timeline to follow. Local businesses were eager to welcome the group: Holiday Inn Express and locally owned restaurants gladly discounted and accommodated our needs. Our local airport, West Plains Regional Airport (KUNO), provided conference room and kitchen access. Then the airport staff went to city hall to gather the items needed for online presentations and PowerPoint displays. In anticipation of good weather, the airport graciously offered discount avgas, hangar space, and loaner cars. Unfortunately, ice and snow hit most areas that weekend, and even though we still had more than a dozen participants, we all drove. As of press time, we planned to return to KUNO in April for a practice day and hope to schedule an aerobatics camp later this spring.

The success of the school also came from fellow IAC members who were committed to drive hours to attend and help us hold the event. John along with fellow members Bruce Ballew, Steve Grossmeyer, and Don Nevels all committed ahead of time to help meet our minimums. We enjoyed the company of several new area members and potential members. We used the school as an opportunity to invite and include several of my students, as well as a fellow flight instructor. He said it was a "real eye-opener" as to what all these aerobatics are about!

This school was relatively easy to schedule, created goodwill for IAC in our community, and gave us a chance to connect and reconnect with fellow pilots. It was also a good introduction for pilots considering aerobatics, and Steve kept the teaching and conversation inclusive for all levels to understand. I hope we can encourage others to set a few hours aside and commit to volunteering. Remember, only two people in the IAC get paid; we volunteers make all of the rest happen. Look forward to seeing you all soon at the KUNO play day and the Salem contest. **IAC**

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# A TALE OF TWO GILLES

**LOVE AT FIRST SIGHT**

By DJ Molny, IAC 25097





# I

first saw a Giles G-200 in 1998. My late friend Mike Jones was flying hammerheads in one back to back to back. No line between, just pulling right from one to the next and finishing higher with each successive maneuver — despite a density altitude of about 7,000 feet. Not bad for a little four-cylinder machine!

Once it was back on the ground,

Mike showed me around his newly finished pride and joy. It's a remarkably small design, with the same wingspan and length as a Pitts S-2B but much slimmer all the way around. It's just about the smallest airframe you can wrap around an IO-360.

In the next few years I watched Bob Freeman fly his G-200 successfully in Unlimited aerobatics, proving that this is the world's best four-cylinder aerobatic aircraft.

I've always loved nimble little vehicles, and the G-200 really captured my attention, but a dozen years would pass before I got my hands on one.

## THE DESIGN

By the mid-1990s, a few aerobatic planes such as the Rebel, Sukhoi, and Extra 300 had flown with relatively heavy fiberglass wings that used carbon fiber in a very limited way. Carbon fiber materials were just starting to reach the consumer market, and Richard Giles spotted an opportunity to design an all-carbon aerobatic plane; the only exception is the vertical stabilizer, which is fiberglass to allow for internal antennas — carbon blocks radio signals.

The fuselage is monocoque, essentially a tube that transitions from a horizontal oval at the firewall to a vertical oval aft of the pilot's seat. The rear spar carry-through, the arch-shaped bulkhead behind the pilot, and the "banjo" bulkhead just ahead of the empennage all add stiffness.

The area between the instrument panel and the firewall is dominated by a generous 20-gallon fuel tank. The rudder pedal trays straddle the base of the tank. Once seated, pilots can move their feet a little but not much.

The seat is reclined at a 45-degree angle for improved g-tolerance. I wondered if that might cause neck strain from peering forward, but it's been a total nonissue. And it definitely increased my tolerance by about 2g.

Unlike most monoplanes, the left and right wings are separate units, each with its own tapered main spar. When slid into the fuselage, the spars overlap to form a rectangular cross section. They're secured with hefty 5/8-inch diameter bolts that pass through finely machined bushings. Two people can remove the wings in less than two hours, which is really handy for inspections, maintenance, and shipping.

Most builders incorporated two wing tanks that each carry 12 gallons of fuel. Combined with the 20-gallon main tank, the total capacity of 44 gallons provides a range of well over 600 nm including reserves. At least one G-200 was built with no wing tanks in the interest of saving weight. Another builder went in the other direction and nearly doubled the size of each wing tank for a total of 65 gallons, including the main tank.

The wings have swept leading edges to make snap rolls snappier and full-span ailerons that deliver a world-blurring roll rate of 500 degrees per second. The spades and spade arms are conventional and provide a counter-balance for the ailerons; the manual cautions against flying without them.

Because the ailerons are so large, rigging the spades has to proceed in tiny incremental steps. After several iterations, I reached a point where adding one thin washer made the plane roll gently left and removing it made the plane roll gently right, showing just how sensitive the rigging process really is.

## MY FIRST G-200

I flew an Extra 300L from 2000 until 2010, racking up almost 800 hours. My partner in the aircraft asked me to buy him out, and I eventually decided to look for an Advanced-capable airplane that wouldn't tie up quite so much of my net worth.

After several months asking around and watching the usual publications for G-200s for sale, I had nothing to show for my efforts. I even called up folks who were still building kits to see if they wanted to sell, but no dice. Then Pete McLeod posted an ad for his G-200 on Barnstormer's on a Wednesday; by Sunday I was in London, Ontario, and put a check in Pete's hand.



Because the plane was on the Canadian registry, I asked Pete to de-register it and truck it into the United States, where it would need a new airworthiness certificate from a DAR. A friend suggested I ask Walt Plentis, an IAC member and pilot/mechanic based in Pontiac, Michigan, for help. Walt very graciously took delivery of the airplane and got it ready for its inspection. I went on to fly it for 325 hours over seven years as N220DJ.

Ironically, soon after I bought Pete's plane, Bob Freeman sold his to Randy Skiba in Alberta. So that G-200 crossed the border in the opposite direction.

#### MY FIRST RODEO

That first takeoff was — *exciting*.

Pontiac has two parallel east-west runways. The "small" one is 5,600 by 100 feet, and the big one is 6,500 by 150 feet. I told ground that it was my first flight in the plane and asked for the large runway. They said that would be no problem provided I didn't mind waiting for a few bizjets to land first. "Of course," I said and pulled the mixture back to avoid fouling the plugs. After maybe 10 minutes, the tower cleared me to line up and wait. Upon receiving takeoff clearance I advanced the throttle. Cough, spit, pop, pop — naturally, I forgot to advance the dang mixture!

**Mistake No. 1.** Pilot wisdom says that if you move a control and you don't like what happened, put it back where you found it. But Einstein (me) decided to advance the mixture instead of pulling back the throttle. Vroom, we're off! And by *off* I mean headed for the weeds on the left side of the runway. #\$\$@! Push right rudder. *More* right rudder. Yeesh, now we're headed for the other edge! Left, right, left, right — aww, forget that noise, just get the tail up. Whew, that's better, now it's tracking straight. And hopping on the gear, already up to flying speed.

**Mistake No. 2.** Everyone I talked to about flying the G-200 told me — over and over — not to pull back on the stick for takeoff. Apply just a tiny bit of back-pressure and the plane will fly itself off. But in the heat of the moment I forgot all about that and pulled the stick back as if I were flying the Extra. And instantly pitched up to what felt like 45 degrees. #\$\$@! Push the stick forward, and now I'm looking at the runway again. Pull, yikes! Push, aaaaah! I finally grabbed the stick in both hands and just held it steady while the plane climbed out more or less normally.

I flew a few miles north, did some light aerobatics, a couple of stalls, and returned to Pontiac. In contrast with the "sporty" takeoff, the landing was completely uneventful. The sight picture in the flare was exactly the same as my trusty 300L, and the plane tracked nicely on rollout.

Subsequent takeoffs were equally uneventful now that I had a feel for the incredible sensitivity of the controls. By the end of an hour, I was climbing off the deck at a 40-degree angle at 100 knots indicated airspeed while practically standing on the right rudder pedal. What a hoot!

#### MODIFICATIONS

The beauty of experimental aircraft is that the FAA gives us wide latitude to make changes. Since my skills as a craftsman are still evolving (ahem), I roped Phil DeTurck into helping me with some modifications. He had worked on the production of the Giles kits and turned many of those into flying aircraft. And by "helping," I mean that Phil did all of the hard stuff.

N220DJ came with an angle-valve IO-360 with 10-to-1 pistons. It ran well and provided plenty of power, but the oil temperature and CHTs were both so high that I had to reduce power even in cruise flight. A second small oil cooler took care of the oil temperature problems, but the high CHTs — not unusual for angle-valve IO-360s — required several iterations to resolve.



Factory vent replaced with custom-made gills.



In researching the problem, I found a rule of thumb saying that the cowling outlets should be about twice the size of the inlets. Measurements with a tape measure and a pocket calculator revealed that the inlets were actually twice the size of the outlets! Phil increased the size of the outlets on either side of the four-into-one exhaust, added a lip to each outlet to create some negative pressure, replaced the factory vents in the sides of the lower cowl with custom-made gills, and replaced the baffling atop the cylinders with a pressure plenum. Those fixes made it possible to manage the CHTs by enriching the mixture during full-power operations.

The plane came equipped with a Raven locking tailwheel that was fine for takeoff and landing but a real bear when taxiing in cross-wind conditions. Phil added a steering arm to the rudder and replaced the Raven unit with a steerable tail wheel from Aviation Products Inc. of Ojai, California. That upgrade significantly improved all ground operations with no weight penalty.

I'm not a big guy, 5 feet, 8 inches tall with a 30-inch inseam, and that made getting into and out of the plane a challenge. Standard procedure is to swing one leg into the cockpit and then jump up and pull the rest of your body in after it. Some folks put a small mat on the wing to step on, but that's still a challenge because you have to stretch over the full-span ailerons. (Neither of those maneuvers has gotten easier with age, I might add.) Egress involves a leap of faith: Stretch one leg toward the ground while gripping the cockpit side rails and then fall backward until that leg reaches terra firma. Which is all fun and games until you pull a hamstring — and I'm speaking from experience. Adding a step fixed the entry and egress problems once for all.

The simplest modifications — ones that I was capable of doing all by myself — were to remove the fire extinguisher and ELT mandated by Transport Canada. This left an antenna hole in the turtledeck, so I created a silver windup key for static displays. It was a big hit at contests and EAA AirVenture Oshkosh, and stowed nicely in the baggage box for travel to various events.



Handy step added.



Interior structure of the new step.



Wind-up key as an antenna hole cover.



### FLYING CHARACTERISTICS

My point of reference is the Extra 300L that I flew for a decade. That airplane is no slouch, yet the G-200 performs better in almost all regards: vertical penetration, roll rate, rudder authority, cruise speed, and range.

The only drawback is slow flight, or shall I say lack thereof? You have to start bringing the nose up at around 110 KIAS to maintain altitude, and at 100 KIAS forward visibility is seriously compromised. The AirVenture NOTAM calls for 1,800 feet and 90 knots at Ripon, and in my experience the traffic sometimes slows even further. That would require a lot of S-turning to watch for traffic, which the NOTAM forbids. I was much more comfortable using the 2,300-foot, 135 KIAS pattern instead.

An approach speed of 80 KIAS is quite manageable, but forward visibility is nil unless you slip or fly a curved approach. I usually shoot for 90 KIAS until very short final. Given the size of the prop relative to the wings, slowing down is no problem at all. Once you pull the power all the way back that big prop disk



## SPECS

<b>EMPTY WEIGHT:</b>	Approximately 900-1,000 pounds depending on equipment and build techniques
<b>CRUISE SPEED:</b>	Approximately 175 knots
<b>V<sub>NE</sub>:</b>	220 knots
<b>MAX LOADING:</b>	+/-10g
<b>ROLL RATE:</b>	500 degrees per second
<b>LENGTH:</b>	18 feet
<b>WINGSPAN:</b>	20 feet

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will slow you right down — and put you behind the power curve if you’re not careful.

Touchdown speed is high at more than 70 KIAS. I like to roll the tail wheel onto the runway slightly before the mains. That way it’s not inclined to resume flying in the event of a bounce or wind gust.

Ground handling is a little sportier than the (super easy) 300L but much tamer than a Pitts. It works best if you think in terms of flexing your toes rather than moving the rudder pedals. I tried a few wheel landings, but they required so much airspeed and ate up so much runway that I decided to stick with my “one plus two” landing technique (tail wheel, then mains).

With the power off, the sink rate is Pitts-like, but the glide ratio is much better. After my cylinder failure adventure (“Well THAT Was Exciting,” *Sport Aerobatics*, March 2013), I did some glide testing and determined that 120 KIAS with the prop set to full coarse pitch (i.e., pulled back) yields a pretty respectable glide ratio of 12-to-1. The Pitts is around 4-to-1. If you leave the prop in fine pitch, well, you’ll return to Mother Earth quite a bit sooner. I sometimes practice power-off approaches using the prop control the same way a glider uses speed brakes; the effects are a real eye-opener!

Spins are pretty conventional, and the big rudder helps a lot when it comes time to recover. It’s important to get the nose pretty high to get a crisp stall break, and the ball must be centered — or cheated slightly toward the spin direction — when the stall occurs. If the ball is biased even a little bit in the wrong direction, the plane will just hang there while your sixth sense warns you that the judges are totaling up some serious deductions.

I was shocked by how fast the plane rotated on inverted spins until Debby Rihm-Harvey pointed out that I wasn’t getting the nose nearly as high as I did for upright spins. Meaning that the forward speed at entry was higher, therefore rudder authority was higher, therefore the rotation rate was higher. Pushing the nose farther up in the deceleration phase made for a better stall break and much more straightforward recoveries.

The big rudder also makes snap rolls easier, as do the swept leading edges. When you kick the rudder, the yaw puts one leading edge square to the wind, thereby increasing its lift, while the other is

getting much less airflow, thereby deepening its stall. When you hit it right, the snaps are really brisk but clearly look like snaps from the ground. But hitting it right was always a challenge for me in N220DJ. Perhaps it was due to the forward CG, or because my technique was a little off — or both.

### COMPETITION FLIGHT

The G-200 is the barn swallow of aerobatic aircraft: small, fast, and able to change direction on a dime. It rewards pilots who fly aggressively in the box, so I normally aim for 180 KIAS between figures. The only times you can relax and reorient are on up- and downlines. So right from the outset of each sequence I make sure to finish each figure with a crisp stop at horizontal flight, count “one potato,” and pop right into the next figure. This signals the judges to expect a fast-paced flight and helps avoid the dreaded “no line between” penalty.

It doesn’t “show” as well as larger planes, but you’re also less likely to get a spurious “low” call. The pilot sits behind the trailing edge, so you can see the box markers below — but only at the last moment.

The small wing stalls with little warning, particularly when loaded, so it’s not hard to snap during a rolling turn. And wow, it is blatantly obvious if you do.

### MY NEXT G-200

When I was looking for a G-200 in the year 2000, I contacted Aaron Burhoe because he was building kit No. 8 at his machine shop in Sonora, California. He wasn’t interested in selling back then, but in late 2016 he called me out of the blue to see if I was still interested. After seven years of owning N220DJ I had so fully embraced the experimental mindset that I kept looking at my plane in terms of how it varied from my mental image of what a perfect G-200 configuration would be.

Aaron’s project checked an awful lot of boxes. The engine is a parallel-valve IO-375 engine (basically a stroked IO-360) that’s 30-40 pounds lighter than the angle-valve engines. It includes Sky Dynamics intake and exhaust, and uses one Slick magneto plus Lightspeed electronic ignition. Aaron went to considerable lengths to keep the plane light, including many custom vacuum-bagged carbon parts and Beringer alloy wheels and brakes.

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## A PAIR OF GILES

Along the foothills of western Colorado, a Giles 200 (front) is flown by Mike Arensmeyer of Fort Collins, Colorado, in formation with a Giles 202, built and flown by Steve Bergiven out of Evergreen, Colorado.



## AIRVENTURE SHOWCASE

**THE INTERNATIONAL AEROBATIC CLUB** will feature the history and development of the Giles-200 in the IAC Pavilion on the EAA AirVenture Oshkosh grounds. Exhibit panels will tell the story of this pioneering design and the pilots who fly it.

In addition, G-200, G-202, and MX pilots and builders will gather at the IAC Pavilion, on Wednesday from 7 to 8:30 p.m., prior to the night air show.

We're also planning an aerobatic demonstration during the air show plus some flybys. Please join us!

I went back and forth for weeks trying to decide if I should sell a perfectly good airplane in order to buy a kit that would require many hundreds of hours of work. But I've always had the itch to do some building, and this was a chance to complete an aircraft that precisely fits my personal tastes. So I took the plunge, sold N220DJ, and purchased the kit from Aaron.

The future N10GZ (10g's, get it?) will feature an all-glass panel, the same entry step and steerable tail wheel mods as N220DJ, and adjustable cowl flaps. I'll probably add electric trim for the elevator and ailerons using linear motors and bias springs to reduce the workload on cross-country flights.

The kit also came with a high-intensity LED landing light and wingtip position/strobes. I plan to get night operations listed on the operating limitations, but only to allow for dawn takeoffs and dusk landings; the combination of high landing speed and limited forward visibility are just too scary for full-on night ops.

If you'd like to learn about the project, check out [www.N10GZ.us](http://www.N10GZ.us) for photos, notes, and my builder's log.

### SNUG FIT

People talk about "strapping on an airplane" to go fly, and that's especially apt for the G-200. Once you're belted in and close the canopy, you and the airplane feel like a single unit.

As I mentioned earlier, I'm a short guy with even shorter legs, and the plane fits me like a glove. Doug Lovell, who is 6 feet tall with a 32-inch inseam (i.e., long trunk) flew my plane with a helmet on and had zero headroom to spare. Fortunately, the rudder pedals have enough fore-aft adjustment to accommodate anyone who fits under the canopy.

When Phil built a G-200 for himself, he decided that he'd need to embark on some serious modifications to accommodate his lanky 6-foot-2-inch frame. He moved the cockpit back 4 inches, triggering a cascade of other design changes. Phil also eschewed the standard aluminum spring landing gear configuration in favor of Wittman gear that bolts to the engine mount. Last but not least, he fashioned a custom tip-up canopy that hinges at the rear and features a hidden latch mechanism that baffles anyone who isn't in on the secret.

### MAINTENANCE CONSIDERATIONS

There's little space between the engine and the firewall, making it awkward to work on the accessories.

The landing gear mounting box is the subject of a service bulletin; the original design wasn't beefy enough and required reinforcement. The landing gear attach bolts were upsized as well.

If you're inspecting a G-200 or 202, station one person at each wingtip and pull them up and down in unison. You should feel very little play. Any movement and clicking is likely due to worn bolts rattling around in the main spar bushings — an easy fix — or the bushings have de-bonded from the spars, which requires removal and re-gluing of the bushings.

Parts of the canopy latch mechanism rely on C-clips to hold pins in place; if a clip is lost, the assembly may come apart in flight. The recommended fix is to drill a hole into the pins and install cotter keys in place of the C-clips.



### THE DARK SIDE OF CARBON

Well-made carbon fiber parts are wonderfully light and stiff. That's the good news.

The bad news is that carbon conducts electricity pretty well, so you have to carefully isolate positive voltage sources from the airframe. Case in point: A disconnected GPS coax connector once touched an unshielded 12-volt terminal on the back of my instrument panel. Current flowed to the antenna, which was bolted to a carbon panel on the forward fuselage, and it literally started smoking. I've also heard tales of electric hand tools shorting out when carbon dust accumulated in their innards.

Carbon's lack of resistance also facilitates galvanic reactions. It's important to either insulate metal fittings or use non-corroding materials during construction or repairs.

Last but not least, extra caution is required around volatile liquids because carbon can build up quite a static charge in dry weather. I always ground my plane at the fuel pump and while working in the shop. (A tip of the hat to the late, great Giles Henderson for sharing his cautionary tale on that subject!)

### G-202 AND MX SERIES

Not long after Richard Giles introduced the G-200 to the world, he designed and began producing kits for a two-seat version, the G-202. These are a little larger in all dimensions and typically weigh 100-150 pounds more than the single-seater. But they proved (once again) that folks like to have that extra seat; more than 70 kits were eventually manufactured, eclipsing the G-200's mark of around 28 kits sold.

The French manufacturer Avions Mudry slightly modified the G-202 and sold completed aircraft as the Cap-222. One Cap-222 suffered a catastrophic failure of the tail section in flight in 2001, as did a G-202 in 2015. Both accidents were attributed to construction techniques that produced bonds with substandard strength. Eric Minnis of Bully Aero offers a beefed-up mod for the 202 tails, and there's now a published inspection procedure available at [dms.NTSB.gov/public/60000-60499/60297/607655.pdf](https://dms.NTSB.gov/public/60000-60499/60297/607655.pdf).

Later, Chris Meyer purchased and used the G-202 molds as a starting point to create the six-cylinder MX2 aircraft.

### WHERE ARE THEY NOW?

To my knowledge, all but one G-200 is still flying. That one grounded plane is the result of an inept forklift operator and a European regulator that wouldn't approve any sort of repair. Grant Piper is flying the prototype G-200 in Australia, and other examples are scattered around the world. In addition, three kits are still under construction: one in Italy, one in the Midwest, and mine in Colorado.

**“I'M CONSTANTLY  
DELIGHTED TO HAVE  
FOUND AN AEROBATIC  
PLANE THAT OFFERS SUCH  
GREAT PERFORMANCE  
AT A REASONABLE PRICE,  
SUITS MY TASTES, AND  
WILL ALWAYS BE MORE  
CAPABLE THAN I AM.”**

### CONCLUSIONS

I'm constantly delighted to have found an aerobatic plane that offers such great performance at a reasonable price, suits my tastes, and will always be more capable than I am. And yes, I like the fact that it's a bit unusual even in our close-knit aerobatic community.

If you'd like to get a G-200 of your own, ask around and watch the trade publications. They don't change hands often, but your patience will eventually be rewarded. Lately the sale prices have been in the high five figures to low six figures range, with G-202s selling for about twice that much.

Visit [www.GilesAerobatics.org](http://www.GilesAerobatics.org) to learn more about the G-200 and G-202, and to connect with the community of Giles owners.

I'd like to thank my friends Phil DeTurck, Bob Freeman, Mike Jones, Steve Bergevin, Walt Plentis, and Richard Giles for helping me buy, build, fly, and maintain two of these wonderful planes. Their wisdom and hands-on assistance have been invaluable. **iac**



# U.S. NATIONAL AEROBATIC CHAMPIONSHIPS

## Info Bulletin No. 1

BY RON SCHRECK, CONTEST DIRECTOR, IAC 433751, AND DUNCAN KOERBEL, ASSISTANT CONTEST DIRECTOR, IAC 437649

**THE U.S. NATIONAL AEROBATIC** Championships is moving, and I am excited. It's gonna be big! Capitalizing on the new centralized location, my goal is to have 100 or more pilots join us for this year's contest in Salina, Kansas, starting Saturday, September 21, and wrapping up on Friday, September 27, 2019. Reserve these dates now on your contest season calendar. I will provide an update each month to help with your planning.

We have a huge hangar and runway courtesy of 1942 tax dollars at work. Built in only four months, today Salina Regional Airport (SLN) boasts a 12,000-foot runway and hangars designed for B-17s and B-29s. Affectionately known in some circles as Big Bertha, one of these historic hangars will be home to our contest. These World War II bomber-sized accommodations will allow us to have all of our planes, pilots, family, and friends under one roof. Think Indy 500 and pit row. This is one of the greatest things about our sport — the people. I look forward to having everyone in one spot and ramp dances galore. The box will also be front and center

outside the hangar so we can all watch everyone compete and enjoy the camaraderie of our sport.

Our goal will be to fly when the sun is up and the weather is good to make sure we use everyone's time in the most efficient fashion. We want *all* powered and glider contestants from Primary to Unlimited to get their flights in. I will discuss the schedule in more detail in the next article. For now, know that we will launch the best we can categories back-to-back versus calling it a day if we get done with the planned sorties.

Entry fees are shown in the sidebar. This is an excellent value for a weeklong event as it includes all of your entry fees, shirts, grab bag, videos of all flights, taco Tuesday, and banquet contributions for Thursday and Friday nights. In addition, open practice sessions in the box will be available on



## U.S. NATIONAL AEROBATIC CHAMPIONSHIPS ENTRY FEES

4-MINUTE FREE	\$150
COLLEGIATE	\$235
PRIMARY	\$260
ACTIVE DUTY MILITARY	\$310
SPORTSMAN-UNLIMITED CATEGORIES	\$460
HANGAR FEE, PER AIRCRAFT	\$100

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Wednesday and Thursday (September 18-19). We will move to scheduled practice slots on Friday and Saturday (September 20-21). Fuel is not included in the entry fee, but we have secured a discount with AVFlight of 80 cents per gallon for the contest. Fuel will be easy to get — we guarantee that as SLN is known as America's fuel stop.

We are working on ground logistics for rental cars available at SLN and event vans. Hotel information, including RV parking accommodations at SLN Hangar 606, is already on the website. Make your reservation before September 1 to secure IAC discounts. See [www.IAC.org/nationals-2019-lodging-camping](http://www.IAC.org/nationals-2019-lodging-camping).

Scheduled air service is available directly to SLN and also to nearby Wichita Dwight D. Eisenhower National Airport (ICT) and Kansas City International Airport (MCI). We have the full support of SLN and city event management.

I can promise you that coming to Nationals will make you a better pilot. You will get judging from seven qualified judges, videos of each of your flights, and the chance to raise your game under a little more pressure at the National Championships. And you will have fun.

I look forward to seeing you there! **IAC**

# The Quiz Answers



Giles G-200 and G-202 series of aircraft.

1

This allows a place to mount the antenna internally out of the slipstream yet still have good radio reception. Carbon fiber blocks radio transmission and reception but fiberglass does not.

2

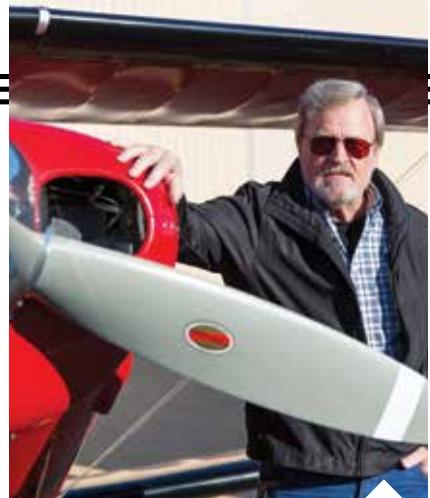
The MX2 was first. It was based on input from the Giles G-202 owner community, who demanded a different wing. The MX Aircraft Co. had all the G-202 molds acquired from its previous owners but did not have any engineering data, which by then belonged to CAP and the 222 (French factory-built 202). New engineering data had to be created, including new carbon fiber layup schedules and different tail attachments and support. New wings and new tail surfaces, including major modifications to the fuselage design, also had to be incorporated to accept a larger engine displacement.

3

Before the MX Aircraft was known, it was simply a Chris Meyer design. Composite Unlimited nicknamed the design MX, which stands for Meyer Experimental.

4

True. The MX Aircraft Co. had purchased the Giles G-202 molds but never got the engineering data. Airboss Aviation Group was hired for the engineering data with the idea to maintain the original G-202 four-cylinder configuration. A small calculation error made the prototype aircraft aft heavy. Test pilot Len Fox suggested that a six-cylinder engine would eliminate the issue, and so the MX2 became a six-cylinder machine.



# The Dawning of the Modern Pitts: Curtis, Pat Ledford, and N8L

BY BUDD DAVISSON

**IN THE BEGINNING, THERE** was Curtis Pitts. He died in 2005. Just a few months ago, February 22, 2019, Pat Ledford died at 89 years old. Although his name isn't as well-known as many other characters in the Pitts Special saga in terms of Pitts milestones, he is one of the most important individuals in the modern Pitts era.



Pat Ledford preparing for a flight in N8L.

## THE TWO PITTS ERAS

First a little Pitts history. It's important to note that prior to 1963 very few Pitts Specials were built. Three, to be exact.

- **NX52650:** The prototype flew in 1945. It was rolled into a ball by a purchaser (nonfatal) a few years later.
- **NX86401:** No. 2 was flown by Curtis' cohort Phil Quigley in Jess Bristow's air shows before it was sold to a young Betty Skelton, who repainted it and in 1948 reregistered it as N22E. That was the legendary *Little Stinker*, which today hangs in the Smithsonian National Air and Space Museum in Washington, D.C.
- **N8M:** Curtis built No. 3, *Black Magic*, for Caro Bayley, who followed Betty as National Women's Champion. After she sold it, it was destroyed in a nonfatal in-flight fire in the early '50s.

After Betty's and Caro's successes in both competition and air shows, Curtis was looking forward to selling airplanes to air show performers, but a tragic 1951 air show accident in Flagler, Colorado, pretty much killed the air show business for the rest of the decade. A spectator/pilot decided to try a roll on take-off, snagged a wing, and cartwheeled into the crowd. There were 20 fatalities — 13 of them children.

AIRCRAFT LOG						
YEAR	RECORDING MO. DAY	TACH. READING	TIME THIS FLIGHT	TOTAL TIME	FROM	TO
7/16			30	30	Holland Airport	Hartman
7/16			1:30	2:00	"	W.P. Ledford
7/16			1:30	3:30	"	Phil
7/16			1:00	4:30	"	Curtis
7/16			1:00	5:30	"	P.C. Ledford
7/16			1:00	6:30	"	P.C. Ledford
7/17			2:00	8:30	"	P.C. Ledford
7/17			3:00	11:30	"	P.C. Ledford
7/17			2:30	14:00	"	P.C. Ledford
7/17			3:00	17:00	"	J.S. Brooks
7/17			2:00	19:00	"	P.C. Ledford
7/17			1:00	20:00	"	P.C. Ledford

CARRY TOTAL TIME TO TOP OF NEXT PAGE

The historic logbook of Pat Ledford's N8L.

No more Pitts Specials were built until the 1960s, although one of Curtis' duster pilots, Jim Meeks, used what info was available and built one — *Mr. Muscles* (N39J, it had 170 hp) — in 1959, but it is no longer registered. In 1959, Dean Case of Wichita bought a welded Pitts project fuselage, but inasmuch as no plans existed for the airplane, Case pretty much designed new wings (aluminum ribs, etc.) for his daughter, Joyce. He subsequently built more Pittses for her, and she gained a solid national reputation as a pilot.

#### THE FLATWING S-1C IS BORN

As the '60s dawned, the group of pilots and airplane builders who always seemed attracted to Curtis' little grass runway west of Homestead, Florida, began to pressure him to draw up plans for the airplane. They all wanted to build one and weren't going to let up until he came up with plans. The original plans had been lost in a flood and only a few scraps remained. As a group, all of them good friends of Curtis, they kept the good-natured pressure up until Pat finally volunteered to build an airplane with Curtis' assistance. Curtis' real role was to look over Pat's shoulder both directing him and sketching up the parts as they were being made. The result was a full set of plans that was to be available nationally.

That first airplane was designated S-1A (N8L) and used a converted Lycoming O-290-G 125-hp APU

motor. It flew for the first time on July 16, 1963, with Pat at the controls. He made the first two flights, Phil (himself a legend) the third, and Curtis the fourth. It was a busy day for the crew because — make sure you note the following numbers — the logs show that the airplane flew seven hops, 8-1/2 hours, that first day. They were having too much fun! N8L is the seed from which Pitts Specials as we know them today grew, and Pat was the guy who sowed it.

Pat and Curtis were never very far apart, and Pat was integral to virtually every design that Curtis created from that point on. That included variations on the flatwing S-1C: flatwing, four-aileron S-1D; S-1S; S-1T; S-1-11B; and Model 12. He never owned another

Pitts after N8L because he didn't have to. He was flying his brains out in Curtis' new designs.

Pat had learned to fly in 1950 and crewed a B-26 Invader in the Korean War. His adventures there included having to bail out of a severely wounded Invader, the result being that he carried a Chicom machine gun slug in his leg for the rest of his life. Back in civilian life he continued flying, eventually working his way into the left seat for both National and Pan Am airlines.

He was born in Chattanooga, Tennessee, and after his military service moved to Homestead, Florida, where his mother lived. It didn't take long for him to plug into the local



Pat with his S-1-11B.

# HIGH ON PITTS

Pat and Curtis Pitts in the workshop.



sport aviation scene, which, naturally, led him to Curtis' unique operation. He quickly became a part of the brotherhood of aviators who spent most of their free time hanging out at Curtis' duster operation. Curtis often put them to work on airplanes he was building, although he did have several craftsmen working for him.

N8L lived on Curtis' little strip and became the shop's trial machine. If Curtis had an idea, it was tried on N8L first, and Pat usually got his hands dirty making it happen and shared in the test flying with Curtis (and anyone else who was standing around).

#### ROUND WINGS ARE INVENTED

When, in the mid-1960s, it became obvious in international competition that outside maneuvers presented a challenge to the S-1C's semi-flat-bottomed M-6 airfoil, Curtis decided he had to try a set of symmetrical wings on N8L. So, in 1965 he and Pat began cutting wood. Saying that the first wings proved to be less than satisfactory is an understatement. Curtis said he was enjoying them until he stalled it upside down and it did things he didn't know an airplane could do. He took a saw to that set of wings and built another.

This marked the birth of the S-1S, which became the aerobatic gold standard for the next generation and is still taking home its share of trophies. N8L quickly became superfluous to their needs and it took up hangar space, so

Pat sold it in 1965. At the time, he estimated that between 150 and 200 pilots had flown the airplane. He and Curtis made it available to whoever wanted to try it out.

It's worth noticing that the successful symmetrical wings that N8L tested sported only two ailerons. Also, the top wing was significantly longer than the bottom. When he designed the next Pitts iteration, the S-1S, using N8L as the pattern, he lengthened the bottom wings, added ailerons to the top wings, and added 3 inches to the fuselage in the cockpit, as he had done to later S-1Cs. N8L still had the shorter 121-3/4 inch fuselage.

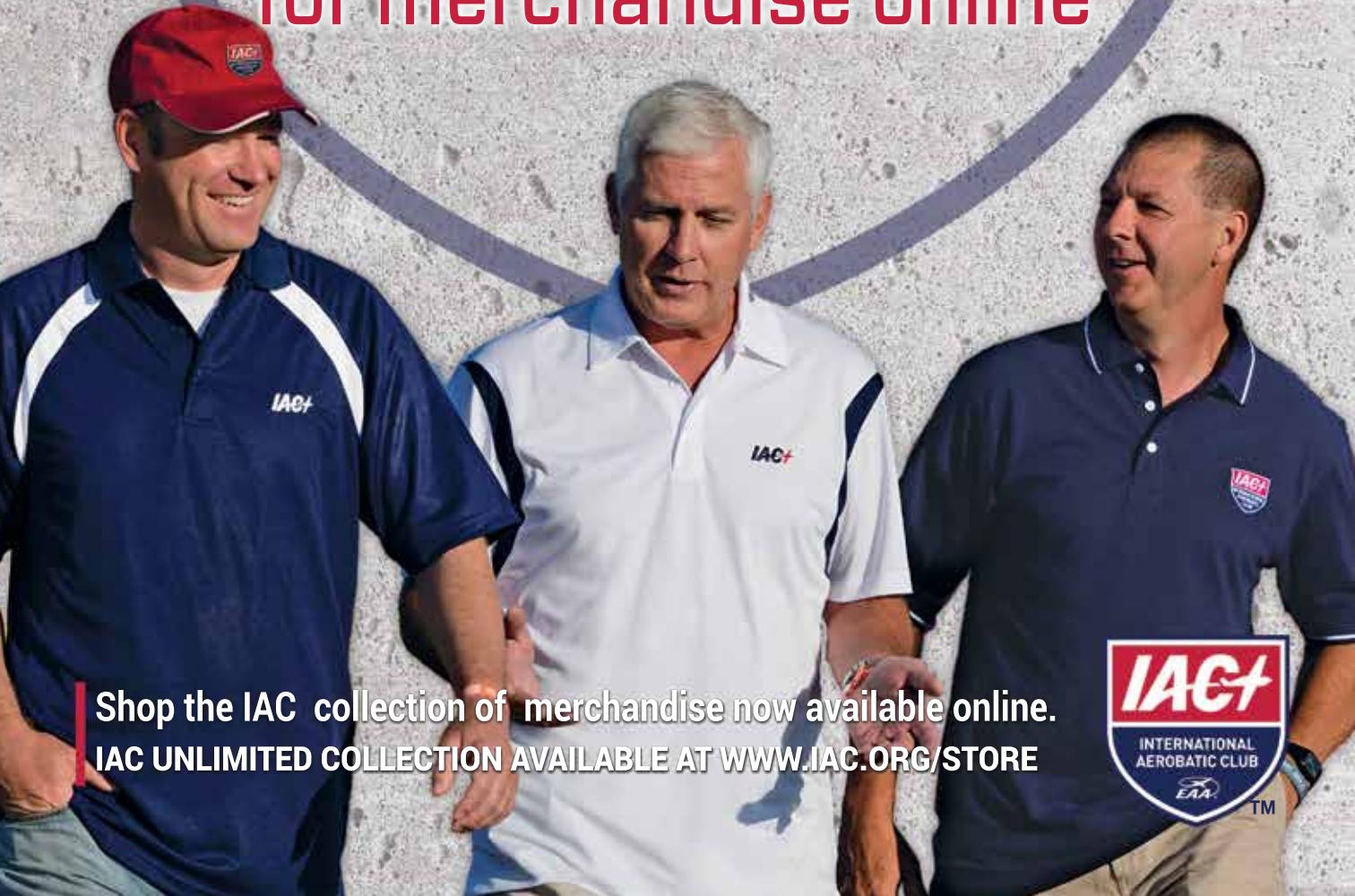
Pat went on to test fly the rocket ship S-1-11B *Super Stinker* and the Model 12 *Macho Stinker* (although the airplane has had several names) and came to view both



Ready to fly the Model 12.

The screenshot shows the homepage of the IAC Premium Collection website. At the top left is the IAC logo. To its right, the text "IAC PREMIUM COLLECTION" is displayed above a red horizontal bar. A search bar is located at the top right. Below the header, a banner features a red biplane performing aerobatics against a blue sky with white clouds. The banner text reads "WELCOME TO THE IAC PREMIUM COLLECTION" in large white letters, followed by "EXCLUSIVE PREMIUM AEROBATIC MERCHANDISE" in smaller red letters. Underneath the banner, there is a section titled "Browse by Category:" with four categories: "MEN'S" (represented by a red polo shirt), "WOMEN'S" (represented by a dark blue polo shirt), "YOUTH" (represented by a black t-shirt with a Batman logo), and "ACCESSORIES" (represented by a red mug labeled "AEROBATIC FUEL").

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## HIGH ON PITTS



ABOVE: N8L takes its place at the Pitts Flying Museum.

BETWEEN: A look at N8L in its young life, courtesy IAC Archives.

airplanes as his own because he'd had such a hand in building both and test flew both of them.

Too often, dated airplanes like N8L slowly grind downhill as they are overtaken by later designs. Also, an S-1 Pitts is small enough it can be put in a forgotten back corner of a hangar where it deteriorates until it is no longer flyable. For whatever reason, that wasn't N8L's fate. It kept flying and passed through many hands before it was brought to the attention of Pete Diaz of Pegasus Airpark east of Phoenix, Arizona.

### A NEW HOME FOR N8L

Pete deserves an article of his own because his obvious addiction to Pitts has driven him to build a Pitts museum in a hangar on Pegasus Airpark near Chandler, Arizona. Do not make the mistake of thinking his hangar is a "museum" in name only. It is not simply a hangar with lots of little airplanes in it. The hangar has been remodeled into a full-fledged museum gallery with polished floors, tastefully decorated plasterboard walls, and a flat black ceiling with

custom lighting. The 7,000-square-foot hangar (officially, the Pitts Flying Museum) is bisected by a mezzanine viewing area that has a bar at one end, and a lounge and A/V library at the other. Pete's goal is to display an example of each factory-built Pitts. He currently has an S-1S (serial No. 001), S-2A, S-2B, and S-2S. Moreover, it is a flying museum, and he is working toward building a club where members can fly a number of different models of Pitts. When he learned of the historical importance of N8L, he tracked it down and negotiated a trade that involved his S-1T.

When examining N8L's logbook, which carries the signatures of all early Pitts luminaries — including Curtis, Pat, and Phil — Pete commented, "What I bought was a fantastic historical document with an airplane attached."

Pat Ledford's legacy and contributions will forever be known and protected. **IAC**

A man wearing a white flight helmet and a red harness is smiling from inside the cockpit of a biplane. He is wearing a microphone and a clear plastic visor. The cockpit has a blue and yellow striped cowling. The background shows a landscape of fields and roads from an aerial perspective. In the top left corner, there is a logo for the International Aerobatic Club (IAC) with the text "JOIN today" and the website "www.iac.org/roll-us".

Jim Bourke  
IAC 434151  
IAC Chapter 77  
Oregon

# ROLL WITH US!



## Decisions, Decisions!

BY THOMAS JOHNSON, IAC 436743

**NAVAL AVIATION IS SOME** of the riskiest flying imaginable. As young aviators, we were routinely challenged with complex and dynamic situations. We learned to cope with these situations through a combination of personal preparation, mentoring by our leadership, and watching out for each other.

Back in the day, I flew the venerable Grumman A-6E Intruder off aircraft carriers. The Intruder was a good, capable aircraft that did what it was designed to do well. However, it was a little under-powered. As a result, if you lost an engine on the catapult stroke, the aircraft could not accelerate to climb out of ground effect if the temperature was above 92 degrees Fahrenheit.

Fast-forward to an afternoon launch with a temperature of 95 degrees Fahrenheit. The catapult fires, and the left engine begins to stall. What do you do? Simple, you eject.

You see, the decision to eject was made in the ready room a long time ago. The aircraft would not perform, and trying to salvage an untenable situation was foolhardy at best. You made the decision based upon sound technical data and the experience of others. You established criteria for yourself, and if those criteria were met, the decision was already made. You just had to execute the plan.

Have you ever thought about situations in your aerobatic flying that might be similar?

What do you do if you are practicing and you go below the minimum altitude? What do you do if you start graying out halfway through the sequence? Have you established a personal minimum fuel?

The time to ask all of these questions and make your decisions is before you get into the airplane. Get a cup of coffee or tea, turn on *Matlock*, and systematically go through a flight playing what-if.

**"WHAT BETTER THING TO DO WHEN DOING SOMETHING MUNDANE THAN TO THINK ABOUT FLYING IN A SYSTEMATIC WAY?"**

Start in the preflight and work your way through a flight.

What do I do if I find my parachute pack is expired? What do I do if the rpm drop on the magneto check is a little high?

Time-consuming and tedious many would say, and besides, I don't like *Matlock*. How about during your commute to work? Pick an aspect of the flight and go through it. Do it a couple of times a week and you will be amazed at how your decision-making skills will improve. You will learn how to make better decisions through simple repetition.

Aeronautical decision-making (ADM) is a learned and perishable skill. What better thing to do when doing something mundane than to think about flying in a systematic way? Besides, you cannot reasonably expect to get back into the cockpit after your slow or off-season and pick up where you left off.

The beauty of good ADM is that it can be practiced and reviewed outside of the cockpit. It can be practiced whenever you have the desire and time to do it.

You can also come up with a list of things you would not do in a certain situation. The possibilities are vast and only limited by your imagination.

So next time you are in the car line at your child's school, practice decision-making. You'll be glad you did. **IAC**



## MEET A FUTURE MEMBER

**Nickname:** Baby Douglas  
**Occupation:** Full-time baby

# Baby Douglas

**A fresh perspective**

BY DOUG JENKINS, IAC 436255

**HI, MY NAME IS BABY DOUGLAS.** Not really, I guess, but that's what people call me. I think they call me that because I am a baby and also to tell me apart from my dad who is named Douglas, too. I guess this makes sense, but grown-ups confuse me sometimes. Most of you probably don't know me, but you may know my mom and dad, Doug and Chrissy Jenkins. My dad is a pilot, and he has also written a lot of other stuff for you to read. My mom is a judge and volunteer at aerobatic contests in Texas.

Before I go any further, I want to explain a couple of things. When I was born, the people I call Mom and Dad were my grandparents. Then, because of some stuff, they decided they would be my parents. So, when I say Mom and Dad that's who I am talking about. And, really, they have been my mom and dad since I was born. Also, since I am a baby, I can't write or type or even talk. So, I asked my dad to tell this story for me. He is typing it, but it is my story, really.

I am not even a year old yet, but I have already been to three aerobatic contests. I will go to one more before I turn 1. I bet this is a world record! Anyway, I wanted to tell you about my experiences at aerobatic contests, from my perspective. Short version, the people are cool, the airplanes are cool, and I have a lot of fun. They rock! Now for the long version. See, I take after my dad.

My first contest was the 2018 Lone Star Aerobatic Championships. I was barely 1 month old, which is super young so I don't remember a whole lot. I think I slept a bunch. Here is what I do remember. Nice people smiling at me, a lot. The sound of airplanes doing cool tricks. Don't worry, my dad taught me they are not "tricks" but are called figures and maneuvers — but when I was small I called them tricks. I only remember the sound of the airplanes because I was so small that my eyes didn't work very well. I remember sitting in my stroller and hearing my mom and dad saying numbers. Like I said, grown-ups confuse me sometimes. I remember my mom was nervous because this was her first contest as a judge.

What I remember the most was a dinner. It was called an awards banquet. There were a lot of people and they were all happy, even the ones who didn't win anything. They were happy just to be with these people in this place at this time. They all made a fuss over me. That was cool. I remember my mom smiling with pride when the man who was talking, I think his name was Curt, said (to everyone) that she had done a great job as a judge. My dad won what he calls the "Highly Coveted and Prestigious Grass Roots Medal." I have no idea what that is.

My second contest was the 2018 Hammerfest in Llano, Texas. By this time I was 5 whole months old. I still slept a lot. Since my eyes didn't work so well at

**"THE PEOPLE I HAVE GOTTEN TO KNOW IN THE FIRST YEAR OF MY LIFE ARE SUPER AWESOMELY SPECIAL. THEY ARE LIKE A BIG FAMILY. MOST OF THEM DON'T SEEM TO CARE IF THEY WIN OR LOSE, THEY JUST WANT TO BE AROUND THE ENERGY AND FUN THAT HAPPENS AT AEROBATIC CONTESTS."**

## MEET A FUTURE MEMBER

Lone Star I didn't remember many faces at Llano, but I remembered voices. There were a lot of the same people. That made me happy.

My mom and dad were super busy at this contest. My mom was the "volunteer coordinator," which is a super important person to be. She also was a judge! Wow. My dad was the "contest director," which seems like where you just get other people, like the volunteer coordinator, to do stuff for you. He also flew and judged. When my mom and dad volunteered to do those things they did not know they were going to be my mom and dad. So, you know what, everyone there helped out! It was awesome. Nice people watched me when Mom and Dad were busy. Other people helped them do the things they needed to do. I think that was when I really started to figure out that the people around me were special. And I don't mean just my mom and dad, I mean *everyone* at the contest. They all wanted to help. Oh, and they all told me how cute I am, which is true. My dad won the "Highly Coveted and Prestigious Grass Roots Medal" again. I know that I don't like to crawl on grass. That's all I know about that.

That was the end of the 2018 aerobatic contest season in Texas, but not the end of my hanging out with cool people. Every month a bunch of folks get together for dinner. I get

to go, too! Now I recognize faces and voices. I know the one guy without any hair also flies a biplane from the same airport as my dad. I know the lady has a Hatz, which sounds like something you wear, not fly. Grown-ups still confuse me. I know the guy who is always late is the chapter president, which sounds like a lot of work. Maybe that's why he's always late?

Over the winter I sometimes went to the hangar with my dad. Since I require constant attention he doesn't get to fly too much because he needs someone else to go to the hangar to watch me while he goes flying. Sometimes it is my mom, sometimes it is my grandpa (I call him Bobo), sometimes it is my grammy (I call her Gigi). Sometimes we meet the guy with no hair, and my mom and I drive out to watch him and my dad fly. My mom gets to talk to them while they are flying (somehow, through sorcery I think) and tell them what they are doing wrong. I think she kinda likes this.

My third contest was the 2019 Early Bird in Edna, Texas. So many of the same people were there it was super neat. They all still made a fuss over me and told me how cute I am, which is still true.



This is my family in Fredericksburg, the day after Hammerfest.



This is me giving *Daisy* some love.

My dad just said I could type for a little while. I am so excited. Here goes...8385equo n 298r9-w3qut qep 0-24r5930r. My dad says that's enough typing for now.

At this contest I was almost 11 months old so I remember a lot. My Gigi and Bobo were there too. I remember a nice man with a pink airplane. I remember another nice man who everyone said was going to be the "Nationals Contest Director." That sounds super complicated. He had a roll of super-fun blue tape. We played for a really long time! I remember I rode my stroller out to the judges line where I helped my mom and dad give scores. I remember a guy named Erik telling my mom stuff while people were flying. I thought this was not really necessary since I was there to help her. My dad named him SNAP. I don't know why.

Each time my dad went to fly, my mom and I would go to the airplane with him (the airplane's name is *Daisy*, how cool is that?) and give him and *Daisy* a kiss, for good luck. I don't think it worked, though, because he didn't win the "Highly Coveted and Prestigious Grass Roots Medal" this



This is me helping my mom judge.

time. Oh well. I think they felt sorry for him, though, so they gave him a plaque that said "First Place in Intermediate." That's not nearly as cool.

Anyway, here is the important part. The people I have gotten to know in the first year of my life are super awesomely special. They are like a big family. Most of them don't seem to care if they win or lose, they just want to be around the energy and fun that happens at aerobatic contests. There are even people who don't fly who show up just to help out. Why? Because the whole thing is just so cool! My mom says these people will be my tribe and my mentors as I grow up. I sure hope so.

So, if you were thinking about going to a contest and maybe you didn't because you weren't sure if you would like it or if you weren't sure if you should bring your family — you will like it and your family will, too. Oh, and I'd love to meet you. And I know you'd love to meet me, too, because did I mention how cute I am? I hope to see you at a contest soon! *IAC*

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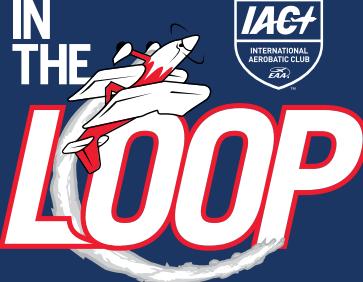


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